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SIMBOLO SYMBOL SYMBOL	DEFINIZIONE	DEFINITION	Расшифровка	UNITA' DI MISURA MEASUREMENT UNIT Единицы измерения
	Dimensioni	<i>Dimensions</i>	Линейные размеры	mm
fa	Fattore correttivo dell'altitudine	<i>Altitude factor</i>	Фактор геодезической высоты	
Fa₁₋₂	Carico assiale	<i>Axial load</i>	Осевая нагрузка	N 1N=0.1daN0.1kg
fc	Coefficiente relativo alla temperatura dell'aria	<i>Air temperature factor</i>	Коэф. температуры окружающего воздуха	
fd	Fattore correttivo del tempo di lavoro	<i>Operation time factor</i>	Фактор времени операции	
ff	Fattore correttivo di aerazione con ventola	<i>Fan cooling factor</i>	Фактор охлаждения	
f_{Ga}	Fattore di affidabilità	<i>Safety factor</i>	Фактор безопасности	
fm	Fattore correttivo per la posizione di montaggio	<i>Mounting position factor</i>	Фактор монтажного положения	
f_n	Fattore correttivo delle prestazioni	<i>Input speed factor</i>	Фактор входной скорости	
fp	Fattore correttivo della temperatura	<i>Ambient temperature factor</i>	Фактор температуры окружающей среды	
Fr₁₋₂	Carico Radiale	<i>Radial load</i>	Радиальная нагрузка	N 1N=0.1daN0.1kg
Fs	Fattore di servizio	<i>Service factor</i>	Сервис-фактор	
Fs'	Fattore di servizio riduttore	<i>Gearbox service factor</i>	Сервис-фактор редуктора	
fv	Fattore correttivo	<i>Duty cycle factor</i>	Фактор цикличности нагрузки	
fw	Coefficiente relativo alla temperatura dell'acqua	<i>Water temperature factor</i>	Коэф. температуры воды	
IEC	Motori accoppiabili	<i>Motor options</i>	Присоединяемый двигатель	
ir	Rapporto di trasmissione	<i>Ratio</i>	Передаточное число	
kg	Massa	<i>Mass</i>	Масса	kg
n₁	Velocità albero entrata	<i>Input speed</i>	Скорость входного вала	min⁻¹ 1 min ⁻¹ = 6.283 rad.
n₂	Velocità albero in uscita	<i>Output speed</i>	Скорость выходного вала	min⁻¹ 1 min ⁻¹ = 6.283 rad.
P	Potenza motore	<i>Gear unit power</i>	Допустимая мощность	kW
P'	Potenza richiesta in uscita	<i>Output power</i>	Выходная мощность	kW
P₁	Potenza motoriduttore	<i>Gear motor power</i>	Мощность мотор-редуктора	kW 1kW = 1.36 HP (PS)
Pc	Potenza corretta	<i>Correct power</i>	Корректирующая мощность	kW
P_N	Potenza nominale	<i>Nominal power</i>	Номинальная мощность	kW
P_{ta}	Potenza termica addizionale	<i>Additional thermal power</i>	Допол. термическая мощность	kW
P_{tN}	Potenza termica nominale	<i>Thermal power rating</i>	Номин. термическая мощность	kW
P_{to}	Potenza limite termico	<i>Limit thermal capacity</i>	Максимальная термич. мощность	kW
RD ↓	Rendimento dinamico	<i>Dynamic efficiency</i>	Динамический КПД	
RS	Rendimento statico	<i>Static efficiency</i>	Статический КПД	
T_{1f}	Coppia frenante dinamica	<i>Dynamic braking torque</i>	Тормозной момент	Nm
T_{1max}	Coppia motrice massima	<i>Max drive torque</i>	Макс. крутящий момент	Nm
T_{1s}	Coppia motrice di spunto	<i>Starting torque</i>	Пусковой момент	Nm
Tc	Temperatura ambiente	<i>Ambient temperature</i>	Температура	°C
T_N	Coppia nominale	<i>Nominal torque</i>	Номинальный момент	Nm, kNm

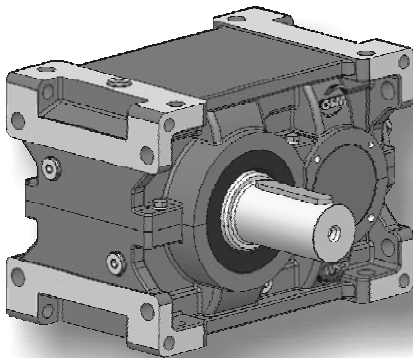
1.0 RIDUTTORI - MOTORIDUTTORI PARALLELI RXP
PARALLEL SHAFT GEARBOXES AND GEARED MOTORS RXP
ЦИЛИНДРИЧЕСКИЕ РЕДУКТОРЫ И МОТОР-РЕДУКТОРЫ RXP

RXP

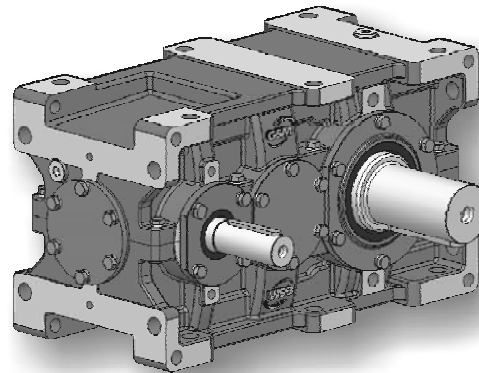
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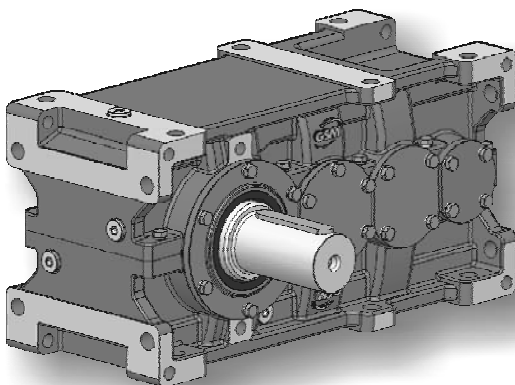
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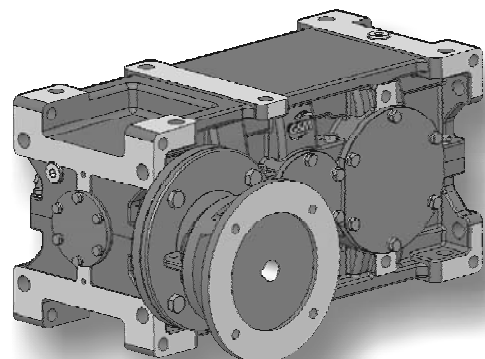
RXP1



RXP2



RXP3



RXP4

1.1 Caratteristiche costruttive

Generalità

Le dimensioni dei nostri riduttori e i rapporti di trasmissione seguono la serie dei numeri normali (serie di RENARD) Ra 20 UNI 2016.68.

I particolari accorgimenti adottati nella costruzione della carcassa esterna conferiscono ai nostri riduttori un'ampia versatilità di montaggio.

La grande scelta disponibile del tipo di esecuzione ci permette di soddisfare anche le esigenze più particolari. L'elevato numero di rapporti di trasmissione, $iN = (1.12 \text{ a } 1250)$, consente in alcuni casi di scegliere un riduttore di taglia inferiore. La suddivisione della carcassa in due parti e i coperchi fissati con viti consentono una facile manutenzione.

Ingranaggi

Gli ingranaggi cilindrici a dentatura elicoidale, sono rettificati sul profilo ad evolvente dopo cementazione, tempra e rinvenimento finale.

L'ottimizzazione geometrica dell'ingranaggio unitamente ad una accurata lavorazione, assicura bassi livelli di rumorosità e garantisce elevati rendimenti:

- 0.98 per un riduttore ad uno stadio di riduzione
- 0.96 per un riduttore a due stadi di riduzione
- 0.94 per un riduttore a tre stadi di riduzione
- 0.92 per un riduttore a quattro stadi di riduzione

Tutti gli ingranaggi sono costruiti in:

- 16CrNi4, 20CrNi4, 18NiCrMo5, 20MnCr5 UNI 7846-78

La capacità di carico è stata calcolata a pressione superficiale e a rottura secondo la normativa ISO 6336 (a richiesta sono possibili verifiche secondo le norme AGMA 2001-C95).

Alberi

Gli alberi lenti pieni sono realizzati in 39NiCrMo3 UNI 7845-78. Gli alberi veloci sono realizzati in 16 Cr Ni 4 UNI, 20MnCr5 UNI 7846-78 o in 39 Ni Cr Mo 3 UNI 7845-78. Sono verificati a flessione-torsione con elevato coefficiente di sicurezza. Le estremità d'albero cilindriche sono secondo UNI 6397-68, DIN 748, NF E 22.051, BS 4506-70, ISO/R 775-69, escluso corrispondenza R-S, con foro filettato in testa secondo DIN 1414. Linguette secondo UNI 6604-69, DIN 6885 BI, 1-68, NF E 27.656 22.175, BS 4235.1-72, ISO/R 773-69 escluso corrispondenza I.

1.1 Construction features

General description

Gear unit dimensions and transmission ratios follow a geometric progression based on the R20 series of preferred (or Renard) numbers in accordance with UNI 2016.68.

The casing incorporates special design features to provide the utmost mounting versatility.

Our exhaustive range of designs is guaranteed to meet the requirements of every application, no matter how specific. Our broad range of transmission ratios - $iN = (1.12 \text{ a } 1250)$ and high ratio density frequently allows selection of a smaller size. Split casing design and bolted covers ensure great ease of maintenance.

Gearing

Helical spur gear sets are first case hardened, hardened and tempered and finally their involute profile is ground.

Optimal gear geometry and high machining accuracy ensure low noise levels and higher efficiency:

- 0.98 for single reduction gear units
- 0.96 for double reduction gear units
- 0.94 for triple reduction gear units
- 0.92 for quadruple reduction gear units

All gear sets are in:

- 16CrNi4, 20CrNi4, 18NiCrMo5, 20MnCr5 UNI 7846-78

The load capacity of gear sets is calculated at contact and root bending stress in accordance with standard ISO 6336 (gears can be rated to AGMA 2001-C95 on request).

Shafts

Solid output shafts are manufactured from 39NiCrMo3 UNI 7845-78. Input shafts are made from 16 Cr Ni 4 UNI, 20MnCr5 UNI 7846-78 or 39 Ni Cr Mo 3 UNI 7845-78. Shaft calculations incorporate a high safety factor and are validated by bending and torsional stress analyses. Cylindrical shaft ends are in accordance with UNI 6397-68, DIN 748, NF E 22.051, BS 4506-70, ISO/R 775-69, excluding section R-S, with centre tapped hole at shaft end to DIN 1414. Keys are in accordance with UNI 6604-69, DIN 6885 BI, 1-68, NF E27.656 22.175, BS 4235.1-72, ISO/R 773-69 excluding section I.

Общее описание

Размеры и передаточные числа редукторов основаны на геометрической прогрессии с основанием в R20 серии по предпочтению или по Ренарду в соответствии с UNI2016.68.68 Корпус имеет особый дизайн для обеспечения максимальной универсальности при установке. Исчерпывающий модельный ряд гарантирует удовлетворение любых требований независимо от их особенностей. Широкий диапазон передаточных чисел $iN = (1.12 - 1250)$ и высокий коэффициент плотности, позволяет выбрать наименьший подходящий размер. Крепежные отверстия и дизайн корпуса обеспечивают легкость монтажа.

Зубчатая передача

Косозубые цилиндрические передачи после цементации, закалки и отпуска, корректируются на эвольвентный профиль. Оптимальная геометрия и высокая точность обработки обеспечивают низкий уровень шума и высокий КПД передачи:

- 0.98 для одноступенчатого редуктора
- 0.96 для двухступенчатого редуктора
- 0.94 для трехступенчатого редуктора
- 0.92 - четырехступенчатого редуктора

Все шестерни изготавливаются из:

- 16CrNi4, 20CrNi4, 18NiCrMo5, 20MnCr5 UNI 7846-78

Нагрузочная способность передачи рассчитывается по контакту и напряжению изгиба у основания зуба в соответствии с ISO 6336 (передача проверяется по AGMA 2001 C95, по запросу)

Валы

Цилиндрические выходные валы изготавливаются из стали 39NiCrMo3 UNI 7845-78 входные валы из стали 16 Cr Ni 4 UNI, 20MnCr5 UNI 7846-78 или 39 Ni Cr Mo 3 UNI 7845-78. Расчеты валов основаны на высоком коэффициенте безопасности и проходят проверку на изгиб и сжатие. Цилиндрические валы обрабатываются в соответствии с UNI6397-68, DIN 748, NF E 22.051, BS 4506-70, ISO/R 775-69, исключая раздел R-S, в центре на конце вала производится отверстие для DIN 1414. Шпонки с UNI 6604-69, DIN 6885BI, 1-68, NF E 27.656 22.175, BS 4235.1-72 ISO/R 773-69, исключая раздел I.

Cuscinetti

Tutti i cuscinetti sono del tipo a rulli conici o a rulli orientabili, di elevata qualità e dimensionati per garantire una lunga durata se lubrificati con il tipo di lubrificante previsto a catalogo.

Bearings

All bearings are high quality taper or self-aligning roller bearings suitably sized to ensure long service life provided the approved lubricants indicated in this catalogue are used.

Подшипники

Все подшипники высокого качества и имеют коническую или роликовую самоустанавливаемую форму, которая гарантирует длительный срок службы при условии, что вы будете использовать утверждённые смазочные материалы, указанные в данном каталоге.

Carcassa

La carcassa è ottenuta per fusione in GG 250 ISO 185 fino alla grandezza 820. Le altre grandezze sono in acciaio Fe430 EN UNI 10025 composto elettrosaldato e disteso. I particolari accorgimenti adottati nel disegno della struttura permettono di ottenere un' elevata rigidità.

Casing

Casings up to size 820 are cast from GG 250 ISO 185 cast iron. All other sizes use casings fabricated from electrically welded stress relieved Fe430 steel EN UNI 10025. Casing design incorporates special arrangements to provide superior rigidity.

Корпус

Корпуса, вплоть до 820 размера изготавливаются из чугуна GG 250 ISO 185. Все остальные размеры изготавливаются из стали Fe430. Дизайн корпуса включает специальные элементы, создающие максимальную жесткость конструкции.

1.2 Livelli di pressione sonora SPL [dB(A)]

Valori normali di produzione del livello medio di pressione sonora SPL (dB(A)) a velocità in entrata di 1450 giri/min (tolleranza +3 dB(A)). Valori misurati ad 1 m dalla superficie esterna del riduttore ed ottenuti su elaborazione di prove sperimentali. Per raffreddamento artificiale con ventola sommare ai valori di tabella: +2 dB(A) per ogni ventola. Per entrata ad un numero di giri diverso sommare i valori come in tabella. Per particolari esigenze è possibile fornire riduttori con livello medio di pressione sonora ridotto.

1.2 Mean sound pressure levels SPL [dB(A)]

Noise levels are mean sound pressure levels SPL (dB(A)) and refer to normal operation at an input speed of 1450 rpm (tolerance +3 dB (A)). Measurements are taken at 1 m from the external surface of the gear unit and ratings are obtained by processing test data. For fan-cooled applications, add 2dB (A) to table values for each fan. For different input speeds, add the appropriate values indicated in the table below. Gear units with lower noise levels to suit particular needs are available on request.

1.2 Средний уровень шума SPL [dB(A)]

Под уровнем шума подразумевается звуковое давление SPL (dB(A)), создаваемое при нормальной работе со входной скоростью 1450 об/мин. (отклонение +3 dB(A)). Измерения проводятся на расстоянии 1 метра от поверхности редуктора и результаты получают путем обработки экспериментальных данных. Для системы охлаждения добавьте 2dB(A) в таблицу значений для каждого вентилятора. Для различных входных скоростей добавьте соответственные значения, указанные в таблице ниже. Радиаторы с более низкими уровнями шума, с учетом конкретных потребностей также доступны по запросу.

	RXP1		RXP2		RXP3		
	i < 2.5	i > 2.5	i < 14	i > 14	i < 40	40<i<100	i > 100
802	80	76	75	72	72	70	67
804	81	77	76	73	73	71	68
806	83	79	77	74	74	72	69
808	84	80	78	75	75	73	70
810	86	82	80	77	77	75	72
812	87	83	81	78	78	76	73
814	89	85	83	80	80	78	75
816	91	87	85	82	82	80	77
818	93	89	87	84	84	82	79
820	95	91	89	86	86	84	81
822	97	93	91	88	88	86	83
824	99	95	93	90	90	88	85
826			95	92	92	90	87
828			96	93	93	91	89
830					96	94	91
832					97	95	92

n_1 [min ⁻¹]	2750	2400	2000	1750	1000	750	500	350
SPL [dB(A)]	8	6	4	2	-2	-3	-4	-6



1.3 Criteri di selezione

Fattore di servizio - Fs

Il fattore di Servizio Fs dipende:

- a) dalle condizioni di applicazione
- b) dalla durata di funzionamento h/d
- c) avviamenti /ora
- d) dal grado di affidabilità o margine di sicurezza voluto .

Il fattore di servizio per casi specifici può essere assunto direttamente, altrimenti può essere calcolato in base ai singoli fattori: fattore di durata di funzionamento f_s , dal numero di avviamenti /ora f_v e dal fattore di sicurezza o grado di affidabilità f_{Ga}

1.3 Gear unit selection

Service factor - Fs

Service factor Fs is determined on the basis of:

- a) *operating conditions of application*
- b) *operation per day (h/d)*
- c) *starts and stops per hour*
- d) *desired reliability or safety factor.*

Where service conditions allow it, the recommended service factor for a specific application may be used directly, otherwise the service factor must be calculated and the following factors must be considered: operation time factor f_s , duty cycle factor f_v and safety or reliability factor f_{Ga}

1.3 Подбор редуктора

Сервис-фактор - Fs

Коэффициент эксплуатации определяется по след. параметрам:

- a) условия работы устройства
- b) время работы в день(ч/сут)
- c) кол-во стартов\остановок в час.
- d) Требуемая надежность и коэфф. безопасности.

Там, где позволяют условия эксплуатации, рекомендуется принимать указанный сервис-фактор для конкретного применения, в ином случае сервис-фактор должен рассчитываться по параметрам:

фактор рабочего времени f_s , фактор цикличности нагрузки f_v и коэффициент безопасности или надежности f_{Ga} .

$$F_s = f_s \cdot f_v \cdot f_{Ga}$$

Le potenze e i momenti torcenti indicati a catalogo nominali sono validi per $F_s = 1$.

Power and torque ratings stated in the catalogue refer to service factor $F_s = 1$.

Номинальная мощность и крутящий момент указаны в каталоге из расчета сервис-фактора $F_s = 1$

f_s

Macchina motrice / Prime mover / Первичный двигатель	h/d	Macchina utilizzatrice Driven Machine Приводимая машина		
		U	M	S
Motori elettrici, Turbine, Motori oleodinamici <i>Electric motors, Turbines, Hydraulic motors</i> Электродвигатели, турбины, гидромоторы.	2	0.8	1.0	1.4
	4	0.9	1.12	1.6
	8	1.0	1.25	1.75
	16	1.25	1.5	2.0
	24	1.5	1.75	2.25
Motori alternativi 4-6 cilindri <i>Combustion engines with 4-6 cylinders</i> Двигатель внутреннего сгорания 4-6 цилиндровый	2	0.9	1.12	1.6
	4	1.0	1.25	1.75
	8	1.25	1.5	2.0
	16	1.5	1.75	2.25
	24	1.75	2.0	2.5
Motori alternativi 1-3 cilindri <i>Combustion engines with 1-3 cylinders</i> Двигатель внутреннего сгорания 1-3 цилиндровый	2	1.0	1.25	1.75
	4	1.25	1.5	2.0
	8	1.5	1.75	2.25
	16	1.75	2.0	2.5
	24	2.25	2.5	3.0

U = macchina a carico uniforme
M = macchina con urti moderati
S = macchina con urti severi

U = Uniform load
M = Moderate shock load
S = Heavy shock load

U= Постоянная нагрузка
M= Средняя нагрузка, толчки
S= Тяжелая нагрузка, сильные удары

h/d= ore di funzionamento giornaliero

h/d= hours of operation per day

h/d= Время эксплуатации в день

Per i moltiplicatori di velocità, moltiplicare i valori di F_s per 1.1

For speed multipliers, multiply F_s by 1.1

Для мультипликатора $F_s = 1,1$

	SETTORE DI APPLICAZIONE	APPLICATION SECTOR	Область применения
U M	AGITATORI	AGITATORS	Мешалки
	Con densita uniforme Con densita non uniforme	<i>Uniform product density</i> <i>Variable product density</i>	Однородная плотность продукта Неоднородная плотность продукта
U M	ALIMENTARE	ALIMENTARY	Пищевая
	Maceratori, bollitori, coclee Trituratrici, sbucciatrici, scatolettrici	<i>Mashers, boilers, screw feeders,</i> <i>blenders, peelers, cartoners</i>	Давилки, котлы, питатели цемента, блендеры, обдирочные станки, фасовочно-установочные автоматы
(1)U, M S	ARGANI	WINCHES	Лебёдки
	Sollevamento Trascinamento Bobinatori	<i>Lifting</i> <i>Dragging</i> <i>Reel winders</i>	Подъём Перемещение Бобины
U M S	CARTARIO	PAPER MILLS	Бумажное производство
	Avvolgitori, essiccatrici, pressatrici, Mescolatrici, estrusori, addensatrici Tagliatrici, lucidatrici	<i>Winders, dryers, couch rolls</i> <i>Mixers, extruders, thickeners</i> <i>Cutters, glazing cylinders</i>	Машины для намотки, сушилки Экструдеры, смесители, сгустители Режущий инструмент
S M	CHIMICO	CHEMICAL	Химическая
	Estrusori, stampatrici Importatrici	<i>Extruders, printing presses</i> <i>Mixers</i>	Экструдеры, печатные прессы Мешалки.
U M M	COMPRESSORI	COMPRESSORS	Компрессоры
	Centrifughi Rotativi Assiali	<i>Centrifugal</i> <i>Rotating</i> <i>Axial piston</i>	Центробежные Ротационные Поршневые
M S	DRAGHE	DREDGES	Экскаваторы
	Trasportatori Estratrici, teste fresatrici	<i>Conveyors</i> <i>Extractors, cutter head drives</i>	Ковшовые конвейеры Экстракторы, привод резца (головки)
M M S	EDILIZIA	BUILDING	Строительство
	Betoniere, coclee Frantoi, dosatrici Frantumatrici	<i>Cement mixers, screw feeders</i> <i>Crushers, batchers</i> <i>Stone breakers</i>	Бетономешалки Дробилки Камнедробилки
U M M	ELEVATORI	ELEVATORS	Элеваторы
	A nastro, scale mobili A tazza, montacarichi, skip Ascensori, ponteggi mobili	<i>Belt type, escalators</i> <i>Bucket conveyors, hoists, skip hoists</i> <i>Public lifts, mobile scaffolding</i>	Транспортер, эскалаторы Ковшовые конвейеры Лифты, фуникулеры, подмости
M M (1)U, M	GRU	CRANES	КРАНЫ
	Traslazione Rotazione Sollevamento	<i>Translation</i> <i>Slew</i> <i>Lifting</i>	Перемещение Поворот Подъем
M M M	LEGNO	WOOD	ДЕРЕВООБРАБАТЫВАЮЩАЯ
	Accatastatori Trasportatori Seghe, piallatrici, fresatrici	<i>Stackers</i> <i>Transporters</i> <i>Saws, thicknessers, routers</i>	Накопители Транспортеры Пилы, питатели, маршрутизаторы
M M S	MACCHINE UTENSILI	MACHINE TOOLS	СТАНКИ
	Alesatrici, brocciatrici, cesoiatrici Piegatrici, stampatrici Magli, laminatoi	<i>Boring machines, broaching machines,</i> <i>shearing machines</i> <i>Bending machines, press forgers</i> <i>Power hammers, rolling mills</i>	Бурильные машины, протяжные Ножницы, Пилы, питатели, маршрутизаторы Сгибающие машины, прессформы
U M	MESCOLATORI-MISCELATORI	MIXERS	МИКСЕРЫ
	Con densita uniforme Con densita non uniforme	<i>Uniform density product</i> <i>Variable density product</i>	Однородный продукт Неоднородный продукт
S M	MOVIMENTO TERRA	EARTH MOVING MACHINERY	ЭКСКАВАТОРЫ
	Escavatrici rotative a pale Trasportatori	<i>Rotating shovel excavators</i> <i>Transporters</i>	Бурильные установки Транспортеры
U M, S M, S	POMPE	PUMPS	НАСОСЫ
	Centrifughe Volumetriche a doppio effetto Volumetriche a semplice effetto	<i>Centrifugal</i> <i>Double acting volumetric</i> <i>Single acting volumetric</i>	Центрифуги Двухкамерные Двухкамерные
U M	TRASPORTATORI	CONVEYORS	Конвейеры
	Su rotaie A nastro	<i>On rails</i> <i>Belts</i>	Железнодорожные Ременные
M M U	TRATTAMENTO ACQUE	WATER TREATMENT	ВОДНАЯ ОБРАБОТКА
	Coclee, triturator Mescolatori, decantatori Ossigenatori	<i>Screw feeders, disintegrators</i> <i>Mixers, settlers</i> <i>Oxygenators</i>	Пищевые экструдеры Миксеры, дробилки Оксидгенатор
U M	VENTILATORI	FAN UNITS	ВЕНТИЛЯТОРЫ
	Di piccole dimensioni Di grandi dimensioni	<i>Small</i> <i>Large</i>	Малые Большие

1) Per la scelta del fs secondo F.E.M. /1.001/1987 consultare il capitolo "sollevamento".

1) For fs selection in accordance with F.E.M. /1.001/1987, please read Chapter "Lifting".

1)Для выбора fs в соответствии с F.E.M. /1.001/1987, прочтите главу "Подъемные"

Fattore correttivo - f_v

Fattore correttivo del fattore di servizio f_s per tenere conto degli avviamenti/ora. Il fattore di servizio f_s deve aumentare in caso di avviamenti frequenti con coppia di spunto notevolmente maggiore di quella di regime tenendo conto degli avviamenti per ora secondo la seguente tabella.

f_v

Avv/h - Starts/hour- Старт/час	U	M	S
Z < 5	1	1	1
5 < Z 30	1.2	1.12	1.06
30 < Z 63	1.33	1.2	1.12
Z > 63	1.5	1.33	1.2

Fattore affidabilità - f_{Ga}

Un margine di sicurezza o di affidabilità è già inserito nella prestazione di catalogo del riduttore. Se per particolari esigenze e necessaria un' affidabilità maggiore si aumenti il fattore di servizio ed in particolare si può dare i seguenti fattori:
 Grado di affidabilità normale: $f_{Ga} = 1$;
 Grado di affidabilità elevato (difficoltà di manutenzione, grande importanza del riduttore nel ciclo produttivo, sicurezza per le persone, ecc...): $f_{Ga} = 1.25 - 1.4$;
 Non occorre introdurre coefficienti correttivi nel caso che si alternino cicli di funzionamento con carichi applicati nei due sensi, poiché se ne è già tenuto conto nel progetto degli ingranaggi.

Duty cycle factor - f_v

This correction factor is used to adjust service f_s to reflect the number of starts per hour. Where an application involves frequent starts at a starting torque significantly greater than running torque, service factor f_s must be adjusted to account for the number of starts per hour using the factors indicated in following table.

Safety factor - f_{Ga}

*Catalogue ratings incorporate a safety or reliability factor as standard. If greater reliability is required to meet specific requirements, service factor must be increased using the following factors:
 Standard safety factor: $f_{Ga} = 1$;
 High safety factor (recommended for difficult maintenance situations, where gear unit performs a critical task in the overall production process or a task such to affect the safety of people, etc...): $f_{Ga} = 1.25 - 1.4$;
 Applications with alternating duty cycles where load is applied in both directions have been considered in gear calculations and require no correction factors.*

Фактор цикличности нагрузки - f_v

Этот поправочный коэффициент используется для корректировки фактора F_s чтобы отобразить кол-во запусков за час. В тех случаях, когда применение содержит частые запуски, а пусковой момент значительно больше, чем номинальный крутящий момент, фактор F_s должен быть скорректирован с учетом числа запусков в час, используя данные, указанные в табл.

Коэффициент безопасности - f_{Ga}

Каталог содержит стандартные коэфф. безопасности и надёжности. Если необходима большая безопасность, необходимая для удовлетворения конкретных потребностей, то сервис-фактор F_s должен быть увеличен с помощью след. факторов: Стандартный фактор безопасности $f_{Ga}=1$ Высокий коэффициент безопасности (рекомендуется для работы в сложных ситуациях, для влияния на безопасность людей и т.д.): $f_{Ga} = 1.25 - 1.4$;
 Применения с периодически чередующимися циклами, где нагрузка происходит в обоих направлениях, учтены при расчетах редуктора не требуют поправочного коэффициента.

Fattore correttivo delle prestazioni - f_N

Fattore correttivo delle prestazioni nominali per tenere conto delle velocità in entrata $n_1 > 1450 \text{ min}^{-1}$.

f_N

n_1 [min^{-1}]	$i_N < 8$		$8 < i_N < 80$		$i_N > 80$	
	T_N	P_N	T_N	P_N	T_N	P_N
2750	0.82	1.56	0.90	1.71	1.00	1.90
2400	0.85	1.41	0.92	1.52	1.00	1.66
2000	0.90	1.24	0.94	1.30	1.00	1.38
1750	0.94	1.13	0.97	1.17	1.00	1.21
1450	1.00	1.00	1.00	1.00	1.00	1.00

Input speed factor - f_N

This correction factor is used to adjust performance ratings to account for input speeds $n_1 > 1450 \text{ min}^{-1}$.

Фактор входной скорости - f_N

Этот поправочный коэффициент используется для расчёта скорости на входе более 1450 об/мин. $n_1 > 1450 \text{ min}^{-1}$

Procedura di selezione

Conosciuti i dati dell'applicazione calcolare:

- $i = n_1/n_2$ rapporto richiesto
- potenza nominale:

$$f_N \times P_N \geq P_1 \times f_S \times f_V \times f_{Ga}$$

oppure

- coppia nominale:

$$f_N \times T_N \geq T_2 \times f_S \times f_V \times f_{Ga}$$

Scegliere gli stadi, il rapporto, la grandezza, l'esecuzione, la forma costruttiva e verificare le dimensioni del riduttore e di eventuali accessori o particolari estremità. Nel calcolo si consideri un rendimento per stadio di 0.98.

Selection procedure

Locate application information and determine:

- required ratio $i = n_1/n_2$
- nominal power:

$$f_N \times P_N \geq P_1 \times f_S \times f_V \times f_{Ga}$$

or

- nominal torque:

$$f_N \times T_N \geq T_2 \times f_S \times f_V \times f_{Ga}$$

Select number of stages, ratio, size, shaft arrangement and design configuration and then check the dimensions of gear unit and any accessories or particular input/output configurations you have selected. Please consider 0.98 efficiency per stage in your calculations.

Процедура подбора

Выберите область применения и определите:

- передаточное отношение $i = n_1/n_2$
- номинальную мощность:

$$f_N \times P_N \geq P_1 \times f_S \times f_V \times f_{Ga}$$

oder

- Nenndrehmoment:

$$f_N \times T_N \geq T_2 \times f_S \times f_V \times f_{Ga}$$

Выберите число ступеней, передаточное отношение, размер, вариант сборки, а затем проверьте размеры редуктора и дополнительные опции или особенности входа/выхода, выбранного вами. Произведите расчеты исходя из КПД одной ступени редуктора 0.98.

1.4 Verifiche

1) Compatibilita dimensionale con ingombri disponibili (es diametro del tamburo) e delle estremita d'albero con giunti, dischi o pulegge.

2) Compatibilita del rapporto selezionato con l'esecuzione albero cavo.

3) Ammissibilita di carichi radiali e/o assiali esterni; i carichi radiali Fr₁ e Fr₂ ammissibili sono riportati nelle tabelle delle prestazioni e si intendono applicati in mezzzeria dell'estremita dell'albero. Per condizioni diverse consultare la pag. A19.

4) Massimo sovraccarico nel caso di:

- inversioni di moto per effetti inerziali,
- commutazioni da bassa ad alta polarita,
- avviamenti e frenature a pieno carico con grandi momenti d'inerzia (soprattutto nel caso di bassi rapporti),
- sovraccarichi, urti od altri effetti dinamici, deve essere verificata la condizione:

$$T_{max} \leq 2 \times T_N$$

5) Numero massimo di giri in entrata n_{1 max} (vedere tabelle seguenti):

1.4 Verification

1) Ensure that dimensions are compatible with space constraints (for instance, drum diameter) and shaft ends are compatible with any couplings, discs or pulleys to be used.

2) Ensure that selected ratio is available for the hollow shaft configuration.

3) Check that overhung and/or thrust loads do not exceed permissible loads; permissible overhung loads Fr₁ and Fr₂ at midpoint of shaft extension are listed in the rating tables. For any conditions other than those listed above, please read page A19.

4) Determine maximum overload in the event of:

- reversing due to inertia,
- switching from low to high polarity,
- starts and stops under full load with high moment of inertia (this is especially important for low ratios),
- overload, shock load or other dynamic load conditions, and determine whether this condition is verified:

$$T_{max} \leq 2 \times T_N$$

5) Check maximum input speed (rpm) n_{1 max} (see the following tables):

1.4 Проверка правильности выбора

1) Убедитесь в соответствии габаритных размеров с местом установки, а также конца валов с муфтами, дисками или шкивами.

2) Убедитесь, что для выбранного передаточного числа доступна конфигурация полого вала.

3) Убедитесь, что радиальная нагрузка и/или осевая нагрузка, не превышает допустимой; значения допустимых нагрузок Fr₁ и Fr₂ вала указаны в таблице. Для условий не перечисленных выше обратитесь на стр. A19

4) Определите максимальную нагрузку в случаях

- возможного реверса вследствие действия сил инерции
- перехода от низкой к высокой полярности
- во время запусков и остановок при полн. нагрузке, с большим моментом инерции (это особо важно для малых передаточных отношений)
- перегрузки, ударных нагрузок или других динамических нагрузок, и определите выполняется ли данное условие:

$$T_{max} \leq 2 \times T$$

5) Определите макс. входную скорость (об/мин) n_{1max} (см. следующую таблицу)



n_{1 max} (min⁻¹)

	in	802		804		806		808		810		812		814		816		818						
		splash oil	splash oil	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.					
RXP1	1.11-1.48	2000	1750	1500	2900	1250	2500	1250	2500	1000	2000	900	2000	800	1750	700	1500	2000	900	1750				
	1.5-2.16	2500	2000	1750		1500	2900	1500	2900	1250	2500	1000	2500	900	2000	800	1750		700	1500				
	2.28-3.23	2900	2500	2000	3500	1750	3500	1750	3500	1500	2900	1500	2900	1000	1750	2500	1500	2000	1000	2000				
	3.47-4.64	3500	2900	2500		2000		3500		2000	3500	2000		3500		1500	2900		1750	2900	1750	2500	1500	2500
	4.85-6.2		3500	2900		2900		2900		2900	2500	3500		2000		2900	2000		2900	2000	2900	2000	2500	
RXP2	4.44-5.72	2900	2500	2500	3500	2000	2900	2000	2900	1750	2500	1500	2500	1500	2500	1250	2000	2900	1500	2500				
	6-8.5					2500	3500	2500	3500	2000	2900	1750	2900	1750	2900	1750	2900		1500	2500				
	9-11.8	3500	2900	2900		2500	3500	2500	3500	2500	3500	2500	3500	2000	2900	2000	2900	1750	2900	1750	2900			
	12-16.6					3500	2900	2900	3500	3500	2500	3500	2900	3500	2500	3500	2500	3500	2000	2900	2000	2900		
	17-26					2900	2700	2400	2200	3500	1800	3500	1600	3000	1500	2500	1350	2500	1200	2000	2000			
RXP3	7.3-23.4	2900	2700	2400	3500	2200	3500	1800	3500	1600	3000	1500	2500	1350	2500	1200	2000	2000						
i > 23.5	3500	3500	2900	2900		2900	2900	2900		2500	3500	2500	3500	2100	2900	2000	2000	2900						
RXP4	i > 110	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	2900	3500	2900	3500	2900	3500	2900	3500					

	in	820		822		824		826		828		830		832			
		splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.		
RXP1	1.11-1.48	600	1250	500	1000	*											
	1.5-2.16	800	1500	600	1500												
	2.28-3.23	1000	2000	800	1750												
	3.47-4.64	1250	2500	1000	1750												
	4.85-6.2	1750		1500													
RXP2	4.44-5.72	1000	1750	800	1500			*									
	6-8.5	1500	2000	1000	2000											1000	2000
	9-11.8		2500	1000	2000											1000	2000
	12-16.6	2000	1500	2900	1500											2500	
	17-26		2000		2000												
RXP3	7.3-23.4	1050	2000	950	1750	850	1500	700	1200	*	*	*	*				
	i > 23.5	1750	2900	1750	2500	1450	2200	1250	1750	*	*	*	*				
RXP4	i > 110	2500	3500	2500	3500	2500	3500	2000	2900	*	*	*	*				

* Valori su richiesta / * Ratings supplied on request / * Доступен по запросу

6) Verifica Posizione di montaggio

6) Check mounting position

6) Проверьте монтажное положение

7) Adeguatezza della potenza termica del riduttore:

Nel caso di solo riduttore in servizio continuo o intermittente gravoso in ambienti a temperatura elevata e/o con difficoltà di scambio termico (es. acciaierie) è necessario verificare che la potenza termica nominale corretta dai fattori sia superiore alla potenza assorbita come evidenziato nella seguente equazione:

7) Ensure gear unit thermal power is suitable for the application:

If a gear unit is to be used in continuous or intermittent duty in environments where high temperatures and/or poor heat exchange are encountered (such as steelworks), check to ensure the thermal power obtained after application of the relevant correction factors is greater than absorbed power, i.e. that the following condition is verified:

7) Убедитесь, что термическая мощность редуктора подходит для условий эксплуатации: если редуктор будет работать постоянно в условиях повышенных температур и/или малого теплообмена (например, в металлургии), необходимо сравнить термическую мощность, полученную после введения соответствующих коэффициентов, с поглощающей способностью:

$$P_1 \leq P_{IN} \cdot fm \cdot fa \cdot fd \cdot fp \cdot ff \quad [kW]$$

Dove:

P_{IN} = potenza termica nominale
 fm = fattore correttivo per la posizione di montaggio
 fa = fattore correttivo dell'altitudine
 fd = fattore correttivo del tempo di lavoro
 fp = fattore correttivo della temperatura ambiente
 ff = fattore correttivo di aerazione con ventola

Where:

P_{ta} = thermal power rating
 fm = mounting position factor
 fa = altitude factor
 fd = operation time factor
 fp = ambient temperature factor
 ff = fan cooling factor

Где:

P_{IN} = nominale термическая мощность
 fm = фактор монтажной позиции
 fa = фактор геодезической высоты
 fd = фактор продолжительности включения
 fp = фактор температуры окружающей среды
 ff = фактор охлаждения

Qualora tale condizione non sia verificata occorre sostituire la ventola con un gruppo di raffreddamento con scambiatore di calore. Per selezionare il gruppo di raffreddamento adeguato occorre determinare la P_{ta} necessaria:

If this condition is not verified, opt for a heat exchanger instead of fan cooling. To select a suitable cooling unit, you need to determine required P_{ta} :

Если это условие не выполняется, оптимально использовать радиатор, вместо вентиляторного охлаждения. Чтобы выбрать необходимый блок охлаждения, необходимо определить номинальное значение P_{ta} :

$$P_{ta} \leq P_1 - (P_{IN} \cdot fm \cdot fa \cdot fd \cdot fp) \quad [kW]$$

dove:

P_{ta} = potenza termica addizionale

Dopo avere selezionato il gruppo di raffreddamento, ripetere la verifica aggiungendo alla precedente il valore massimo di P_{tamax} del range identificato espresso in tabella, adeguato con i coefficienti correttivi di temperatura acqua e aria:

Where:

P_{ta} = additional thermal power required

After selecting the cooling unit, check that the following condition is satisfied; as you can see, it considers the upper limit value P_{tamax} of the resulting tabulated range adjusted using the water and air temperature correction factors:

Где:

P_{ta} = рекомендуемая дополнительная термическая мощность
 После выбора системы охлаждения проверьте выполнение следующего условия, как видно, оно предельное табличное значение P_{tamax} , которое корректируется с помощью поправочных коэффициентов температуры воды или воздуха:

$$P_1 \leq (P_{IN} \cdot fm \cdot fa \cdot fd \cdot fp) + (P_{tamax} \cdot fw \cdot fc) \quad [kW]$$

dove:

P_{tamax} = potenza termica addizionale del range identificato espresso in tabella
 fw = coefficiente relativo alla temperatura dell'acqua (esclude fc)
 fc = coefficiente relativo alla temperatura dell'aria (esclude fw)

Where:

P_{tamax} = additional thermal power required obtained from resulting tabulated range
 fw = water temperature factor (excludes fc)
 fc = air temperature factor (excludes fw)

Где:

P_{tamax} = требуемая добавочная термическая мощность, полученная из таблицы
 fw = коэф. температуры воды (исключая коэф. fc)
 fc = коэф. температуры воздуха (исключая коэф. fw)

La P_{IN} è riferita ad un ambiente industriale aperto; nel caso di ambienti confinati scarsamente aerati consultarci.

P_{IN} refers to an open space industrial environment; in the event of a confined space environment with poor ventilation, please contact the factory.

P_{IN} относится к свободному пространству в производственной среде; в случае ограниченного пространства с плохой вентиляцией, пожалуйста, свяжитесь с заводом-производителем.

P_{tN}

	802	804	806	808	810	812	814	816	818	820	822	824	826	828	830	832
RXP1	49	62	82	104	127	160	195	240	304	373	445	553	—	—	—	—
RXP2	30	39	51	66	82	104	127	160	195	252	304	373	445	553	—	—
RXP3	24	30	40	52	65	82	102	127	165	205	248	306	368	445	553	665
RXP4	5.5	6.5	9	9	38*	49*	61*	77*	101	127	156	195	236	289	365	440

* NB. Valori non validi per posizioni di montaggio M3 e M5, in tali casi consultare il ns. servizio tecnico.

* NOTE Listed values do not apply to mounting positions M3 and M5; for these mounting positions, please contact our Engineering.

* Примечание: данные значения не применимы в отношении положения M3 и M5.

fm

fm.: fattore correttivo per la posizione di montaggio, velocità e rapporto.
(fm =1 nel caso in cui n₁ richieda la lubrificazione forzata)
(fm =1 nel caso in cui n₁= 0-749 min⁻¹)

fm.: correction factor accounting for mounting position, speed and ratio.
(fm =1 if n₁ requires forced lubrication)
(fm =1 if n₁= 0-749 rpm)

fm.: поправочный коэффициент для учёта монтажа, скорости и передачи.
(fm=1 если n₁ требует принудительной смазки)
(fm =1если n₁ = 0-749 об/мин.)

size	i	M1-M2-M6		M3-M5			M4		
		n ₁							
		0-n _{1max}	750-1250	1251-1750	1751-n _{1max}	750-1250	1251-1750	1751-n _{1max}	
RXP1	802-806	1	1	1	1	1	1	1	
	808-814		0.9	0.8	0.65	1	0.9	0.7	
			0.95	0.85	0.7	1	1	0.8	
	816-824		0.7	0.65	0.5	0.9	0.8	0.65	
			0.9	0.75	0.65	0.95	0.85	0.75	

size	i	M1- M2		M3-M6			M4-M5		
		n ₁							
		0-n _{1max}	750-1250	1251-1750	1751-n _{1max}	750-1250	1251-1750	1751-n _{1max}	
RXP2	802-806	1	1	1	1	1	1	1	
	808-814		0.95	0.85	0.7	0.85	0.75	0.6	
			1	0.9	0.75	0.9	0.8	0.65	
	816-820		0.85	0.75	0.6	0.7	0.65	0.5	
			0.9	0.8	0.65	0.75	0.7	0.55	
	822-828		0.75	0.7	0.55	0.7	0.6	0.5	
0.85		0.75	0.6	0.7	0.65	0.5			

size	i	M1- M2		M3-M6			M4-M5		
		n ₁							
		0-n _{1max}	750-1250	1251-1750	1751-n _{1max}	750-1250	1251-1750	1751-n _{1max}	
RXP3	802-806	1	1	1	1	1	1	1	
			0.95	0.85	0.7	0.9	0.8	0.65	
	808-814		1	1	0.8	1	0.9	0.75	
			0.9	0.8	0.65	0.85	0.75	0.6	
	816-820		1	0.9	0.75	0.95	0.85	0.7	
			0.85	0.75	0.6	0.75	0.7	0.55	
	822-832		0.95	0.85	0.7	0.9	0.8	0.65	

N.B. I valori di n_{1max} sono riportati al punto 5 (Verifiche).

NOTE n_{1max} values are listed at point 5 (Verification)

Примечание: значения n_{1max} указаны в пункте 5 (Проверка)

fa

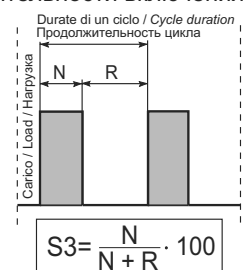
Fattore correttivo dell'altitudine
Altitude factor
Фактор геодезической высоты

m	0	750	1500	2250	3000
fa	1	0.95	0.90	0.85	0.81

fd

Fattore correttivo del tempo di lavoro
Operation time factor
Фактор продолжительности включения

S3%	fd
100	1
80	1.05
60	1.15
40	1.35
20	1.8



f_p

Fattore correttivo della temperatura ambiente. *Ambient temperature factor.*

Фактор температуры окружающей среды.

Temperatura ambiente <i>Ambient temperature</i> Диап. рабочих температур	50 °C	40 °C	30 °C	20 °C	10 °C	0 °C
f_p	0.63	0.75	0.87	1	1.12	1.25

f_f

Il fattore correttivo f_f della potenza termica che tiene conto dell'effetto refrigerante della ventola assume in accordo con le norme AGMA 6010.E88 i valori riportati nella tabella 8. L'impiego è limitato alle velocità maggiori o uguali a 700 min⁻¹.

Cooling fan factors f_f reported in table 8 are in accordance with AGMA 6010.E88 and can be used directly to adjust thermal power to reflect the use of a cooling fan. These factors must only be used for speeds equal to 700 rpm and higher.

Фактор охлаждения f_f указан в табл.8 и в соответствии с AGMA 6010.E88 может быть использован для корректировки термической мощности, для отражения использования систем охлаждения. Эти факторы должны использоваться при скорости на входе 700об/мин и выше.

Tipo / Type/ Тип	Tipo ventola / Fan type / Тип вент.	Note /Notes/ Заметки	f _f
RXP1	VE	—	1.5
	VS - VD		
RXP2 RXP3	VE	—	1.25
	V	—	1.5
	2V	—	1.75
	VS - VD	Lato motore / Motor side / Сторона мотора	1.25
Lato opposto motore / Opposite site / Противоположная сторона		1.5	

P_{ta} [kW]

Potenza termica addizionale

Additional thermal power

Дополнительная термическая мощность

Raffreddamento con scambiatore acqua-olio (T _{acqua} =15°C) <i>Cooling by water-oil exchanger (T_{water}=15°C)</i> Водно-масляный радиатор (Тводы =15°C)			
Gruppo Size	RXP1	RXP2	RXP3
1	134	68	45
2	135 233	69 116	46 78
3	234 349	117 175	79 116
4	350 1065	176 532	117 355
5	1066 2041	533 1021	366 680

Raffreddamento con scambiatore aria-olio (T _{aria} =20°C) <i>Cooling by air-oil exchanger (T_{air}=20°C)</i> Воздушно-масляный радиатор (Твоздуха=20°C)			
Gruppo Size	RXP1	RXP2	RXP3
1	225	113	75
2	226 423	114 212	76 140
3	424 894	213 445	141 298
4	895 1 157	446 578	299 386
5	1158 2041	579 1021	387 680

f_w

Coefficiente relativo alla temperatura dell'acqua
Water temperature factor
Коэффициент температуры воды

T _{water}	15°C	20° C	25° C	30° C
f_w	1	0.85	0.7	0.6

f_c

Coefficiente relativo alla temperatura dell'aria
Air temperature factor
Коэффициент температуры воздуха

T _{air}	15° C	20° C	25° C	30° C	35° C	40° C
f_c	1.12	1	0.88	0.75	0.65	0.5

8) Compatibilita esecuzione grafica e forma costruttiva.

A seguito alcune tabelle che riassumono la compatibilita tra esecuzione grafica, estremita di entrata ed uscita, ventola e antiretro.

8) Ensure that shaft arrangement and design configuration are compatible.

The following table provides an overview of available options in terms of shaft arrangements, input and output configurations, fan and backstop, and their compatibility.

8) Убедитесь в совместимости выбранного типа редуктора и вариантов сборки валов.

В следующей таблице показаны различные вариации исполнений валов, входные и выходные конфигурации, вентиляторы и упоры, и их совместимость.

		USCITA / OUTPUT / Выходной										ENTRATA / INPUT / Входной		
		STANDARD						BISPORGENTE DOUBLE EXTENDED ДВОЙНОЕ ИСПОЛНЕНИЕ				STANDARD	BISPORGENTE DOUBLE EXTENDED ДВОЙНОЕ ИСПОЛНЕНИЕ	
		Albero pieno Solid shaft Цилиндр. вал	Albero dentato Splined shaft Шлицевой вал	Flangia brocciata Broached flange Фланец с цилиндр. полумуфтой	Flangia dentata Splined flange Фланец со шлицевой полумуфтой	Albero cavo Hollow shaft Полый вал	Albero calettatore Shrink disc shaft Сжимной диск	Albero pieno Solid shaft Цилиндр. вал	Albero dentato Splined shaft Шлицевой вал	Flangia brocciata Broached flange Фланец с цилиндр. полумуфтой	Flangia dentata Splined flange Фланец со шлицевой полумуфтой	ECE/PAM	ECE/PAM	
N	D	FD	Fn	C	UB	B	N	D	FD	Fn				
ESECUZIONE GRAFICA SHAFT ARRANGEMENT РАСПОЛОЖЕНИЕ ВАЛОВ	A-AS													
	B-BS													
	ABE													
	BBE													
	AUD													
	ABU-ABUS													
	BBU													
	BEU													
	C1													
	C2													
	C3													
	C1D													
	C1S													
	C2D													
	C2S													
	C3D													
C3S														



RXP1

ESECZIONI GRAFICHE / SHAFT ARRANGEMENTS РАСПОЛОЖЕНИЕ ВАЛА: A - B			
A = N e/and/ и D B = FD e/and/ и Fn		Antiretro/ Backstop/Антиреверс	
		—	AR
VENTOLE FANS ВЕНТИЛЯТОРЫ	— VE	A+B A+B	A A
ECE			
ESECZIONI GRAFICHE / SHAFT ARRANGEMENTS РАСПОЛОЖЕНИЕ ВАЛА: AUD-BUS-ABU-BBU			
A = N e/and/ и D B = FD e/and/ и Fn		Antiretro/ Backstop/Антиреверс	
		—	AR
VENTOLE FANS ВЕНТИЛЯТОРЫ	— VE	A A	A
ECE			
ESECZIONI GRAFICHE / SHAFT ARRANGEMENTS РАСПОЛОЖЕНИЕ ВАЛА: C1-C2			
		Antiretro/Backstop/Антиреверс	
		—	AR
VENTOLE FANS ВЕНТИЛЯТОРЫ	— VE		
ECE			
ESECZIONI GRAFICHE / SHAFT ARRANGEMENTS РАСПОЛОЖЕНИЕ ВАЛА: C1D - C2S			
		Antiretro/Backstop/Антиреверс	
		—	AR
VENTOLE FANS ВЕНТИЛЯТОРЫ	— VE		
ECE			
ESECZIONI GRAFICHE / SHAFT ARRANGEMENTS РАСПОЛОЖЕНИЕ ВАЛА: C1S - C2D			
		Antiretro/Backstop/Антиреверс	
		—	AR
VENTOLE FANS ВЕНТИЛЯТОРЫ	— VE		
ECE			

ESECZIONI GRAFICHE / SHAFT ARRANGEMENTS РАСПОЛОЖЕНИЕ ВАЛА: ABE			
A = N e/and/ и D B = FD e/and/ и Fn		antiretro/ Backstop/Антиреверс	
		—	AR
VENTOLE FANS ВЕНТИЛЯТОРЫ	— VD VS	A+B A+B	
ECE			
ESECZIONI GRAFICHE / SHAFT ARRANGEMENTS РАСПОЛОЖЕНИЕ ВАЛА: BBE			
A = N e/and/ и D B = FD e/and/ и Fn		antiretro/ Backstop/Антиреверс	
		—	AR
VENTOLE FANS ВЕНТИЛЯТОРЫ	— VD VS	— — A+B	— — —
ECE			
ESECZIONI GRAFICHE / SHAFT ARRANGEMENTS РАСПОЛОЖЕНИЕ ВАЛА: C3			
		Antiretro/Backstop/Антиреверс	
		—	AR
VENTOLE FANS ВЕНТИЛЯТОРЫ	— VD VS		
ECE			
ESECZIONI GRAFICHE / SHAFT ARRANGEMENTS РАСПОЛОЖЕНИЕ ВАЛА: BEU - C1D - C3S			
		Antiretro/Backstop/Антиреверс	
		—	AR
VENTOLE FANS ВЕНТИЛЯТОРЫ	— VD VE		—
ECE			

RXP2

ESECZIONI GRAFICHE / SHAFT ARRANGEMENTS РАСПОЛОЖЕНИЕ ВАЛА: A - B- AUD - BUS - ABU BBU - C1 - C2 - C1D - C1S - C2D - C2S			
A = N e/and/ и D B = FD e/and/ и Fn		antiretro/ Backstop/Антиреверс	
		—	AR
VENTOLE FANS ВЕНТИЛЯТОРЫ	— VE V 2V		
ECE			
	— V		
PAM			

ESECZIONI GRAFICHE / SHAFT ARRANGEMENTS РАСПОЛОЖЕНИЕ ВАЛА: ABE - BBE - BEU - C3 - C3D - C3S			
A = N e/and/ и D B = FD e/and/ и Fn		Antiretro/ Backstop/Антиреверс	
		—	AR
VENTOLE	— VS VD 2V		—
	ECE		
	— VS		—
	ECE-PAM		
	— VD		—
	PAM-ECE		

RXP3

ESECZIONI GRAFICHE / SHAFT ARRANGEMENTS РАСПОЛОЖЕНИЕ ВАЛА: A - B- AUD - BUS - ABU BBU - C1 - C2 - C1D - C1S - C2D - C2S			
A = N e/and/ и D B = FD e/and/ и n		Antiretro/ Backstop/Антиреверс	
		—	AR
VENTOLE FANS ВЕНТИЛЯТОРЫ	— VE V 2V		
ECE			
	— V		
PAM			

ESECZIONI GRAFICHE / SHAFT ARRANGEMENTS РАСПОЛОЖЕНИЕ ВАЛА: ABE - BBE - BEU C3D - C3S			
A = N e/and/ и D B = FD e/and/ и Fn		antiretro/ Backstop/Антиреверс	
		—	AR
VENTOLE	— VS VD 2V		—
	ECE		
	— VS		—
	ECE-PAM		
	— VD		—
	PAM-ECE		

1.5 Designazione

1.5 Designation

1.5 Маркировка

	[1*]	[2*]	[3*]	[4*]	[5*]	[6*]	[7*]	[8*]	[9*]	[10*]	[11*]	[12*]	[13*]	
RX	P	2	802	ABU	10	ECE	V	AR	—	N	M1		ES	
Macchina Range Тип	Posizione assi Centreline orientation Расположение осей	N° stadi No. of Reductions № ступеней	Grandezza Size Габарит	Esecuzione grafica Shaft arrangement Расположение валов	ir	Estremità entrata Input configuration Входная конфигурация	Ventole raffreddamento Cooling fans Вентилятор	Antiretro Backstop Антиреверс	Materiale carcassa Casing material Материал корпуса	Estremità uscita Output configuration Выходная конфигурация	Posizione di montaggio Mounting position Монтажное положение	Opzioni Options Опции		
		1 2 3 4	802 ... 832	A-B-ABE-BB E-AUD-BUS ABU-BBU-BEU C1-C2-C3 C1D-C1S C2D-C2S C3D-C3S		ECE PAM.. PAM..G PAM..D PAM../ECE ECE/PAM.. ECES PAM..S	V* VE 2V* VD VS	ARB ARN	— A GS	N C UB B FD Fn D	M1 M2 M3 M4 M5 M6			

* Non disponibili per RXP1 / Not available on RXP1 / Не доступен для RXP1

Designazione motore elettrico

Electric motor designation

Обозначение электродвигателей

Se è richiesto un motoriduttore completo di motore è necessario riportare la designazione di quest'ultimo.

A tale proposito consultare il ns. catalogo dei motori elettrici Electronic Line.

For applications requiring a gearmotor, motor designation must be specified.

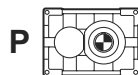
To this end, please refer to our Electronic Line electric motor catalogue.

В случае исполнения мотор-редуктора должна быть указана маркировка мотора. Для этого необходимо обратиться к каталогу электродвигателей.

[*1] Posizione assi

[*1] Centreline orientation

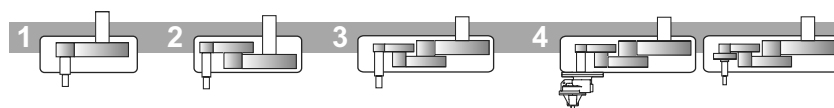
[*1] Расположение осей



[*2] N° stadi

[*2] No. of Reductions

[*2] № ступеней



[*4] Esecuzione grafica

(vedi pag. dimensionali)

[*4] Shaft arrangement

(please refer to dimension pages)

[*4] Расположение валов

(обратитесь к таблице размеров)

[*5] Rapporto di riduzione ir

(Vedi prestazioni). Tutti i valori dei rapporti sono approssimati. Per applicazioni dove necessita il valore esatto consultare il ns. servizio tecnico.

[*5] Reduction ratio ir

(See ratings). Ratios are approximate values. If you need exact values for a specific application, please contact our Engineering.

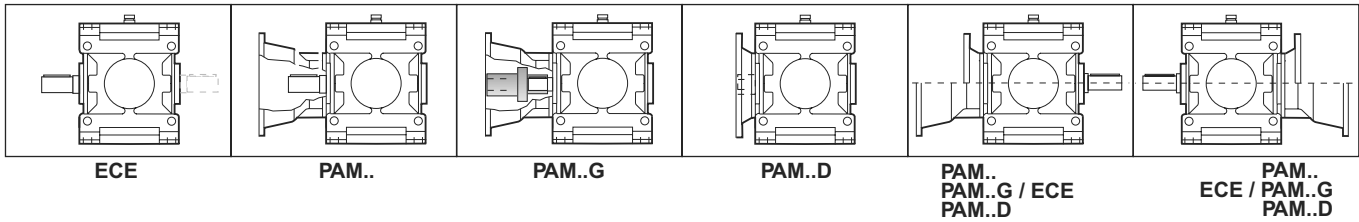
[*5] Передаточное число ir

(См. таблицу) Представлены номинальные значения. Если Вам необходимо конкретное значение для конкретного применения, пожалуйста, свяжитесь с нашими инженерами.

[*6] Estremita entrata

[*6] Input configuration

[*6] Входная конфигурация



	RXP1	RXP2 RXP3			
ECE			Entrata con albero pieno	<i>Solid input shaft</i>	Цилиндрический вал
ECES			Entrata con estremita speciale (disponibile a richiesta)	<i>Special input shaft end (available on request)</i>	Вал специального исполнения (доступен по запросу)
PAM..			Con campana senza giunto	<i>Motor bell without coupling</i>	Соединение мотора без муфты
PAM../ECE			Con campana senza giunto (o PAM..G o PAM..D) + albero pieno a dx	<i>Motor bell without coupling (PAM..G or PAM..D) + solid shaft on right side</i>	Соединение мотора без муфты (PAM..G или PAM..D) + цилиндрический вал с правой стороны
ECE/PAM..			Con campana senza giunto (o PAM..G o PAM..D) + albero pieno a sx	<i>Motor bell without coupling (PAM..G or PAM..D) + solid shaft on left side</i>	Соединение мотора без муфты (PAM..G или PAM..D) + цилиндрический вал с левой стороны
PAM..G			Con campana e giunto	<i>Motor bell and coupling</i>	Соединение с мотором муфтой.
PAM..D			Accoppiamento diretto	<i>Direct coupling</i>	Прямое соединение с мотором м муфтой
PAM..S			Accoppiamento speciale (disponibile a richiesta)	<i>Special coupling (available on request)</i>	Специальное соединение (доступно по запросу)

[*7] Ventole di raffreddamento

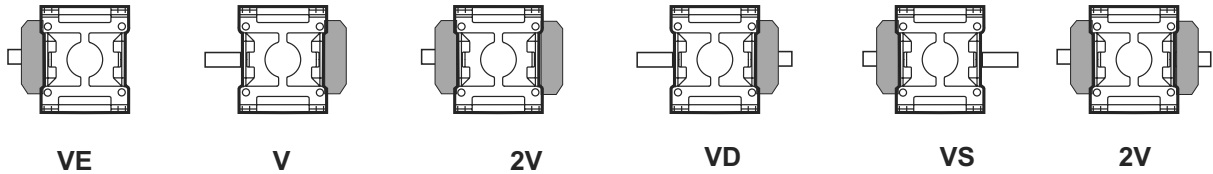
[*7] Cooling fans

[*7] Вентиляторы

(Fare riferimento al capitolo accessori G)

(Please refer to accessories chapter G)

(Пожалуйста, обратитесь к главе G)



[*8] Antiretro

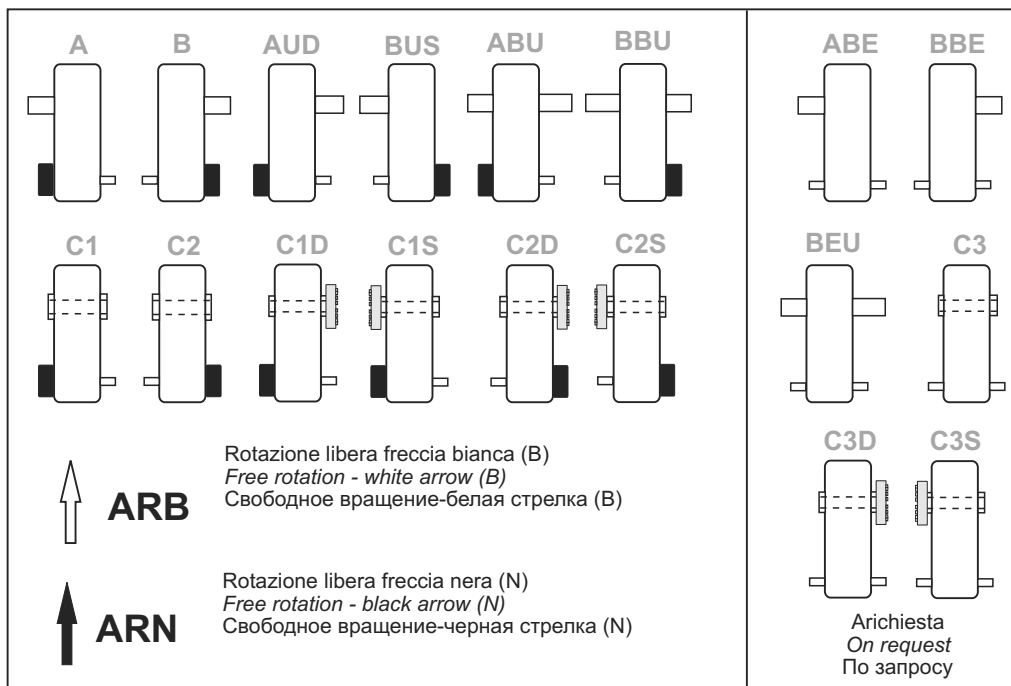
[*8] Backstop

[*8] Антиреверс

Indicare nella richiesta il senso di rotazione libero necessario riferendosi all'albero lento (freccia nera e bianca, vedere esecuzioni grafiche nelle pagine dimensionali).

Specify the required direction of free rotation as viewed from output shaft end (black and white arrow, see shaft arrangements in dimension pages).

Укажите направление свободного вращения как изображено, со стороны конца выходного вала (черная и белая стрелки, см.исполнения валов на страницах размеров)



[*9] Materiale carcassa

[*9] Housing material

[*9] Материал корпуса

Materiale carcassa Housing material Материал корпуса		802	804	806	808	810	812	814	816	818	820	822	824	826	828	830	832
Acciaio Steel Сталь	A													*	*	**	**
Ghisa sferoidale Spheroidal cast iron Чугун с шаровидным графитом	GS																
Ghisa meccanica Engineering cast iron Легированный чугун	-																

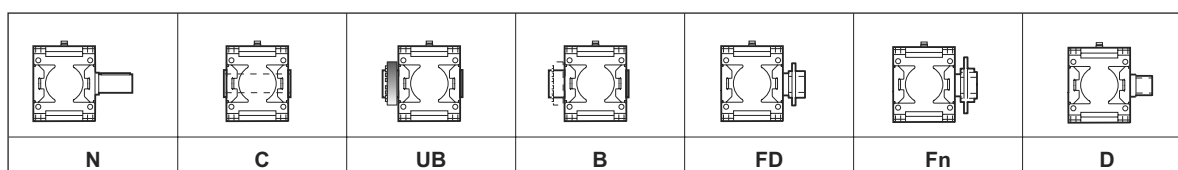
* Non disponibile per RXP1 / Not available on RXP1 / Не доступен на RXP1

** Non disponibile per RXP1 ed RXP2 / Not available on RXP1 and RXP2 / Не доступен на RXP1 и RXP2

[*10] Estremità uscita

[*10] Output Configuration

[*10] Выходная конфигурация



Per ulteriori informazioni vedere la sezione "Estremità entrata, uscita" (F).
Please read Section "Input and Output Configurations" (F) for more details.
Ознакомьтесь с главой "Конфигурации входных и выходных валов" (F).

Altre opzioni uscita a richiesta / Other output options available on request / Другие выход варианты доступны по запросу

US	uscita speciale	Special output	Специальный выходной вал
FNd FCd FBd FUd	flangia in uscita a dx	Output flange on right	Выходной фланец справа
FCs FBs FUs	flangia in uscita a sx	Output flange on left side	Выходной фланец слева
2FC	doppia flangia in uscita	Double output flange	Двойной выходной фланец
MX	supportazione rinforzata in uscita per agitatori	Heavy duty output bearing for agitator applications	Усиленный выходной подшипник для мешалок
TR	supportazione rinforzata in uscita x torri di raffreddamento	Heavy duty output bearing for cooling tower applications	Усиленный выходной подшипник для градирни
TS	supportazione rinforzata in uscita speciale	Special heavy duty output bearing	Специальный усиленный выходной подшипник
SND *	supportazione flangiata in uscita a dx con albero pieno	Flange bearing on the right at output end with solid shaft	Фланцевый подшипник справа и выходной цилиндрический вал на конце
SNS *	supportazione flangiata in uscita a sx con albero pieno	Flange bearing on the left at output end with solid shaft	Фланцевый подшипник слева и выходной цилиндрический вал на конце
SCD *	supportazione flangiata in uscita a dx con albero cavo	Flange bearing on the right at output end with hollow shaft	Фланцевый подшипник справа и выходной полый валом на конце
SCS *	supportazione flangiata in uscita a sx con albero cavo	Flange bearing on the left at output end with hollow shaft	Фланцевый подшипник слева и выходной полый вал на конце
SUD *	supportazione flangiata in uscita con calettatore	Flange bearing at output end with shrink disc	Фланцевый подшипник с сжимным диском на конце
SUS *	supportazione flangiata in uscita con albero predisposto x calettatore	Flange bearing at output end with shaft incorporating provisions for shrink disc	Фланцевый подшипник с выходным валом под сжимной диск
SBD	supportazione flangiata in uscita a destra con albero cavo e predisposto per calettatore	Flange bearing on the right at output end with hollow shaft and provisions for shrink disc	Фланцевый подшипник справа с полым валом и сжимным диском на конце
SBS	supportazione flangiata in uscita a sinistra con albero cavo e predisposto per calettatore	Flange bearing on the left at output end with hollow shaft and provisions for shrink disc	Фланцевый подшипник слева с полым валом и сжимным диском на конце
nU	riduttore con più alberi uscita	Gear unit with several output shafts	Редуктор с несколькими выходными валами

* solo per RXP2 - RXP3 / Only available on RXP2 - RXP3 / доступен только на RXP2 - RXP3

Per ulteriori informazioni vedere la sezione "Accessori e opzioni" (G).

Please read Section "Accessories and Options" for more details. (G).

Пожалуйста, прочитайте главу "Аксессуары и Опции" для большей информации (G).

[*11] Posizioni di montaggio

(vedi pag. A17)

[*11] Mounting positions

(see page A17)

[*11] Монтажные положения

(См. страницу A17)

[*12] Opzioni disponibili

(vedi pag. G1)

[*12] Available options

(see page G1)

[*12] Доступные опции

(См. страницу G1)

[*13] Estremità supplementare

(vedi pag. G17)

[*13] Additional Shaft Extension

(see page G17)

[*13] Дополнительные исполнения вала

(См. страницу G17)

1.6 Lubrificazione

Gli oli disponibili appartengono generalmente a tre grandi famiglie:

- 1) Oli minerali
- 2) Oli sintetici Poli-Alfa-Olefine
- 3) Oli sintetici Poli-Glicole

La scelta piú appropriata è generalmente legata alle condizioni di impiego. riduttori non particolarmente caricati e con un ciclo di impiego discontinuo, senza escursioni termiche importanti, possono certamente essere lubrificati con olio minerale.

Nei casi di impiego gravoso, quando i riduttori saranno prevedibilmente caricati molto ed in modo continuativo, con conseguente prevedibile innalzamento della temperatura, è bene utilizzare lubrificanti sintetici tipo polialfaolefine (PAO).

Gli oli di tipo poliglicole (PG) sono da utilizzare strettamente nel caso di applicazioni con forti strisciamenti fra i contatti, ad esempio nelle viti senza fine. Debbono essere impiegati con grande attenzione poiché non sono compatibili con gli altri oli e sono invece completamente miscibili con l'acqua. Questo fenomeno è particolarmente pericoloso poiché non si nota, ma deprime velocemente le caratteristiche lubrificanti dell'olio.

Oltre a questi già menzionati, ricordiamo che esistono gli oli per l'industria alimentare. Questi trovano specifico impiego nell'industria alimentare in quanto sono prodotti speciali non nocivi alla salute. Vari produttori forniscono oli appartenenti a tutte le famiglie con caratteristiche molto simili. Piú avanti proponiamo una tabella comparativa.

1.6 Lubrication

Available oils are typically grouped into three major classes:

- 1) Mineral oils
- 2) Poly-Alpha-Olefin synthetic oils
- 3) Polyglycol synthetic oils

Oil is normally selected in accordance with environmental and operating conditions. Mineral oil is the appropriate choice for moderate load, non-continuous duty applications free from temperature extremes.

In severe applications, where gear units are to operate under heavy loads in continuous duty and high temperatures are expected, synthetic Poly-Alpha-Olefin oils (PAO) are the preferred choice.

Polyglycol oils (PG) should only be used in applications involving high sliding friction, as is the case with worm shafts. These particular oils should be used with great care, as they are not compatible with other oils, but are totally mixable with water. The oil mixed with water cannot be told from uncontaminated oil, but will degrade very rapidly.

In addition to the oils mentioned above, there are food-grade oils. These are special oils harmless to human health for use in the food industry. Oils with similar characteristics are available from a number of manufacturers. A comparative overview table is provided at the next pages.

1.6 Смазка

Используемые масла делятся на три группы:

- 1) Минеральные масла
 - 2) Поли-Альфа-Олефиновые синтетические масла
 - 3) Полигликолевые синтетические масла
- Масла обычно выбираются в соответствии с условиями окружающей среды и условиями эксплуатации. Минеральные масла подходят для умеренных, периодических нагрузок, без экстремальных температурных значений. В суровых условиях, когда редукторы работают в условиях тяжелых нагрузок в постоянном режиме и при высоких температурах синтетические Поли-Альфа-Олефиновые масла (ПАО) являются предпочтительными.

Полигликолевые масла (ПГ) должны использоваться только в устройствах, связанных с высоким уровнем трения скольжения, как в случае с червячным валом. Это особое масло должно использоваться с особой осторожностью, потому что оно не совместимо с другими маслами и полностью смешивается с водой. Смесь масла и воды нельзя отличить от чистого масла, но свойства данной смеси заметно ухудшаются.

В дополнение к маслам упомянутым выше есть "пищевой" класс масел. Эти масла безвредны для человеческого организма и могут быть использованы в пищевой промышленности. Масла со схожими характеристиками доступны у большого числа производителей. Сравнительные таблицы находятся на следующих страницах.

Входная скорость n_1 (min ⁻¹)	Поглощаемая мощность (kW)	Система смазки	Вязкость ISO VG при t 40° (cSt)	
			i < 10	i > 10
2000 < n_1 < 5000	P < 7.5	Принудительная или разбрызгиванием	68	68
	7.5 < P < 22		68	150
	P > 22		150	220
1000 < n_1 < 2000	P < 7.5	Принудительная или разбрызгиванием	68	150
	7.5 < P < 37		150	220
	P > 37		220	320
300 < n_1 < 1000	P < 15	Принудительная или разбрызгиванием	68	150
	15 < P < 55		150	220
	P > 55		220	320
50 < n_1 < 300	P < 22	Принудительная или разбрызгиванием	150	220
	22 < P < 75		220	320
	P > 75		320	460
			460	680

Frequenza cambi olio [h]
Oil change intervals [h]
Интервалы смены масла [час]

Tipo olio Oil type Тип масла	Temperatura olio Oil temperature Температура масла		
	65°C	80°C	90°C
Minerale Mineral Минерал.	8000	3000	1000
Sintetico Synthetic Синтетич.	20000	15000	9000

Produttore Manufacturer Производитель	Oli Minerali Mineral oils Минеральное			Oli Sintetici Polialfaolefine (PAO) Poly-Alpha-Olefin synthetic oils (PAO) Поли-Альфо-Олефиновые масла(ПАО)			Oli Sintetici Poliglicoli (PG) Polyglycol synthetic oils(PG) Полиглицоловые масла(ПГ)		
	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG
	150	220	320	150	220	320	150	220	320
AGIP	Blasia 150	Blasia 220	Blasia 320	-	Blasia SX 220	Blasia SX 320	Blasia S 150	Blasia S 220	Blasia S 320
ARAL	Degol BG 150 Plus	Degol BG 220 Plus	Degol BG 320 Plus	Degol PAS 150	Degol PAS 220	Degol PAS 320	Degol GS 150	Degol GS 220	Degol GS 320
BP	Energol GR-XP 150	Energol GR-XP 220	Energol GR-XP 320	Energol EPX 150	Energol EPX 220	Energol EPX 320	Energol SG 150	Energol SG-XP 220	Energol SG-XP 320
CASTROL	Alpha SP 150	Alpha SP 220	Alpha SP 320	Alphasyn EP 150	Alphasyn EP 220	Alphasyn EP 320	Alphasyn PG 150	Alphasyn PG 220	Alphasyn PG 320
CHEVRON	Ultra Gear 150	Ultra Gear 220	Ultra Gear 320	Tegra Synthetic Gear 150	Tegra Synthetic Gear 220	Tegra Synthetic Gear 320	HiPerSYN 150	HiPerSYN 220	HiPerSYN 320
ESSO	Spartan EP 150	Spartan EP 220	Spartan EP 320	Spartan S EP 150	Spartan S EP 220	Spartan S EP 320	Glycolube 150	Glycolube 220	Glycolube 320
KLÛBER	KÛberoil GEM 1-150	KÛberoil GEM 1-220	KÛberoil GEM 1-320	KÛbersynth EG 4-150	KÛbersynth EG 4-220	KÛbersynth EG 4-320	KÛbersynth GH 6-150	KÛbersynth GH 6-220	KÛbersynth GH 6-320
MOBIL	Mobilgear XMP 150	Mobilgear XMP 220	Mobilgear XMP 320	Mobilgear SHC XMP 150	Mobilgear SHC XMP 220	Mobilgear SHC XMP 320	Glygoyle 22	Glygoyle 30	Glygoyle HE320
MOLIKOTE	L-0115	L-0122	L-0132	L-1115	L-1122	L-1132	-	-	-
OPTIMOL	Optigear BM 150	Optigear BM 220	Optigear BM 320	Optigear Synthetic A 150	Optigear Synthetic A 220	Optigear Synthetic A 320	Optiflex A 150	Optiflex A 220	Optiflex A 320
Q8	Goya 150	Goya 220	Goya 320	El Greco 150	El Greco 220	El Greco 320	Gade 150	Gade 220	Gade 320
SHELL	Omala 150	Omala 220	Omala 320	Omala HD 150	Omala HD 220	Omala HD 320	Tivela S 150	Tivela S 220	Tivela S 320
TEXACO	Meropa 150	Meropa 220	Meropa 320	Pinnacle EP 150	Pinnacle EP 220	Pinnacle EP 320	-	Synlube CLP 220	Synlube CLP 320
TOTAL	Carter EP 150	Carter EP 220	Carter EP 320	Carter SH 150	Carter SH 220	Carter SH 320	Carter SY 150	Carter SY 220	Carter SY 320
TRIBOL	1100/150	1100/220	1100/320	1510/150	1510/220	1510/320	800/150	800/220	800/320

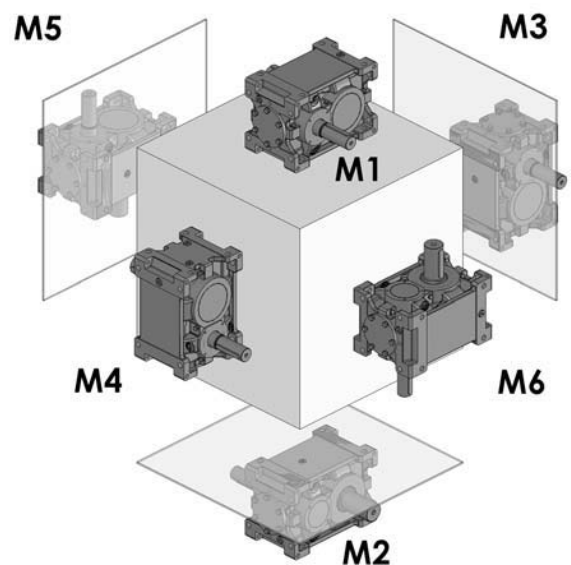
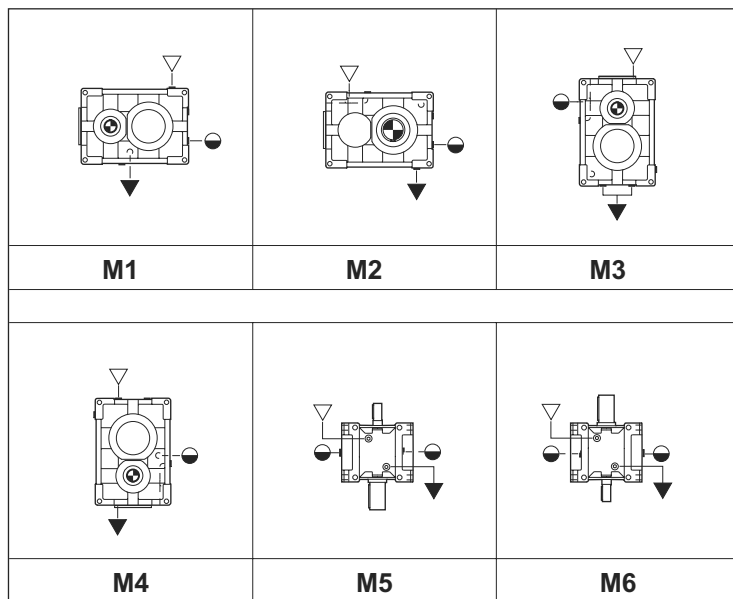
Lubrificanti sintetici per uso alimentare / Food-grade synthetic lubricants / Синтетические масла для пищевой промышленности

AGIP				Rocol Foodlube Hi-Torque 150	—	Rocol Foodlube Hi-Torque 320			
ESSO				—	Gear Oil FM 220	—			
KLÛBER				KÛberoil 4 UH1 N 150	KÛberoil 4 UH1 N 220	KÛberoil 4 UH1 N 320			
MOBIL				DTE FM 150	DTE FM 220	DTE FM 320			
SHELL				Cassida Fluid GL 150	Cassida Fluid GL 220	Cassida Fluid GL 320			

Posizioni di montaggio

Mounting positions

Монтажные положения



N.B. schema rappresentativo anche per 2 e 3 stadi
NOTE Diagram applies to double and triple reduction units as well
Примечание: Схема также относится к двухступенчатым и трехступенчатым редукторам.

- ▽ Carico / Filler plug / Заливная пробка
- ▼ Livello / Level plug / Сливная пробка
- Scarico / Drain plug / Пробка уровня

L'esecuzione grafica rappresentata è la A.
Per le altre esecuzioni grafiche vedere sezione POSIZIONI MONTAGGIO.
The noted version is A.
To see further alternatives please refer to section MOUNTING POSITIONS.
Указана сборка А
Чтобы увидеть остальные обратитесь к главе "МОНТАЖНЫЕ ПОЛОЖЕНИЯ".

		Quantita di lubrificante / Lubricant Quantity / Количество масла (l)														
		802	804	806	808	810	812	814	816	818	820	822	824	826	828	830
RXP1	M1 - M2	2.5	3.5	4.9	6.9	9.6	13	19	26	37	52	72	—	—	—	—
	M3	3.8	5.3	7.5	11	15	21	30	42	61	85	115	—	—	—	—
	M4	3.5	4.9	7	9.8	14	22	28	40	56	78	111	—	—	—	—
	M5 - M6	3.6	5	7.1	10	14	20	29	40	57	79	110	—	—	—	—
RXP2	M1 - M2	3.3	4.7	6.5	9	13	18	25	35	49	69	96	135	189	—	—
	M3	6.1	8.6	12	17	24	34	48	68	95	133	187	263	370	—	—
	M4	5.1	7.2	10	15	20	29	40	56	80	114	164	228	320	—	—
	M5 - M6	4.6	6.5	9.4	13	18	25	35	50	70	99	139	196	275	—	—
RXP3 RXP4	M1 - M2	3.9	5.5	7.6	11	15	21	29	41	58	81	113	158	221	310	433
	M3	8.1	11	15	22	32	44	62	87	125	175	246	345	485	682	950
	M4	6.6	9.2	13	18	26	36	50	71	102	144	201	285	400	561	789
	M5 - M6	5.1	7.3	10	14	20	28	40	56	79	111	156	218	306	430	604

Le quantita di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

Количество масла, указанное в таблице, приблизительное; чтобы гарантировать требуемое количества масла ориентируйтесь по показателю уровня на редукторе.

ATTENZIONE

Eventuali forniture con predisposizioni tappi diverse da quella indicata in tabella, dovranno essere concordate.

WARNING

Any plug arrangements other than that indicated in the table must be agreed upon.

ПРЕДУПРЕЖДЕНИЯ

Любые расположения пробок не отмеченные в таблице, должны быть согласованы.

Lubrificazione cuscinetti superiori

Upper bearing lubrication

Смазка верхних подшипников

La lubrificazione forzata dei cuscinetti superiori viene associata alla lubrificazione forzata degli ingranaggi nel caso quest'ultima sia necessaria.

Forced lubrication for upper bearings is normally associated with forced lubrication for the gears, where necessary.

Принудительная смазка верхних подшипников может ничем не отличаться от принудительной смазки шестерни, при необходимости.

Pos. Mont. M5 - M6

Mntg. Pos. M5 - M6

Монтажные положения M5 - M6

		Grandezza / Size / Габарит														
		802-810	812	814	816	818	820	822	824	826	828	830	832			
RXP3	n_{1max}	G			LFM2			LFM2			LFM3			LFM4		
	1000 - 1750	G			LFM2			LFM2			LFM3			LFM4		
	0 - 999	G			LFM2			LFM2			LFM3			LFM4		
RXP2	n_{1max}	G			LFM2			LFM2			LFM3			LFM4		
	1000 - 1750	G			LFM2			LFM2			LFM3			LFM4		
	0 - 999	G			LFM2			LFM2			LFM3			LFM4		
RXP1	n_{1max}	G			LFM2			LFM2			LFM3			LFM4		
	1000 - 1750	G			LFM2			LFM2			LFM3			LFM4		
	0 - 999	G			LFM2			LFM2			LFM3			LFM4		

	l/min	Motor	P (kW)	A
LFM1	0.5	71A4	0.25	172
LFM2	5			
LFM2	10	80A4	0.55	197
LFM4	20	80B4	0.75	
LFM5	30	90S4	1.1	214

LFM.: Motopompa (vedi sezione G accessori e opzioni).

LFM.: Motor pump (see Section G Accessories and Options).

LFM.: Электронасос (См. параграф G “Аксессуары и Опции”)

1.7 Verifica carichi radiali e assiali

Qualora il collegamento tra riduttore e macchina motrice o operatrice sia effettuato con mezzi che generano carichi radiali sull'estremità d'albero veloce o lento, occorre fare le seguenti verifiche.

Calcolo Fr_2' e Fr_1'

I carichi massimi Fr_1 e Fr_2 sono calcolati con $F_s=1$ ed a una distanza dalla battuta dell'albero di 0.5 S se albero veloce o 0.5 R se albero lento.

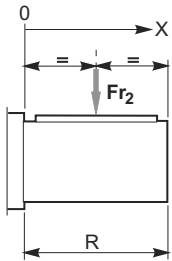
Tali valori sono riportati nelle tabelle delle prestazioni.

Per distanze variabili tra 0 e una distanza "X" bisogna utilizzare le tabelle seguenti:

Fr_2 con coefficiente A.

Fr_2 con coefficiente C nel caso di flange FD.

Fr_1 con coefficiente B.



$$Fr_2' = Fr_2 \cdot \frac{A}{A \cdot X \frac{R}{2}}$$

$$Fr_2' = Fr_2 \cdot C$$

solo per esecuzione FD
only for FD configuration
Только для конфигурации FD

1.7 Overhung and thrust load verification

When a gear unit is connected to prime mover or driven machine using overhung drive members that place a radial load on input or output shaft end, check the following loads.

Fr_2' e Fr_1' calculation

Load capacity ratings Fr_1 and Fr_2 consider a service factor $F_s=1$ and load location at a distance from shaft shoulder of 0.5 S for input shafts or 0.5 R for output shafts.

These values are reported in the rating tables.

Where load is applied at a distance from shoulder between 0 and an "X" distance, refer to the following tables:

Fr_2 with load location factor A.

Fr_2 with load location factor C if an FD flange is used.

Fr_1 with load location factor B.

Допустимая нагрузка выходного вала прил. на расстоянии X

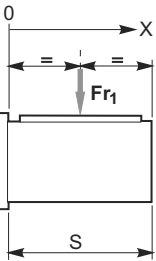
Fr_2' [N]	Carico radiale ammissibile su albero uscita alla distanza X	Permissible output shaft OHL at distance X	Допустимая нагрузка выходного вала прил. на расстоянии X
Fr_2 [N]	Carico radiale ammissibile su albero uscita indicato a catalogo	Output shaft OHL capacity as per catalogue rating	Допустимая нагрузка выходного вала табличные значения
X [mm]	Distanza dalla battuta dell'albero	Distance from shaft shoulder	Расстояние от плеча вала
R [mm]	Sporgenza dell'albero uscita	Output shaft projection	Длина выходного вала
A	Coefficiente da tabella	Load location factor from table	Коеф. места прилож. нагрузки из таблицы
C	Coefficiente da tabella	Load location factor from table	Коеф. места прилож. нагрузки из таблицы

Coefficienti correttivi del carico radiale di catalogo in uscita Fr_2 in funzione della distanza dalla battuta

Load location factors to adjust output OHL capacity rating Fr_2 based on distance from shoulder

Кoeffициент местоположения радиальной нагрузки Fr основан на расстоянии от плеча вала до места приложения нагрузки.

	RXP															
	802	804	806	808	810	812	814	816	818	820	822	824	826	828	830	832
A	99	109	124	137	156	175	200	225	236	261	294	331	385	405	447	507
C	1.32	1.35	1.39	1.46	1.49	1.43	1.32	1.32	1.33	1.35	1.32					



$$Fr_1' = Fr_1 \cdot \frac{B}{B \cdot X \frac{S}{2}}$$

Fr_1' [N]	Carico radiale ammissibile su albero entrata alla distanza X	Permissible input shaft OHL at distance X	Допустимая нагрузка входного вала прил. на расстоянии X
Fr_1 [N]	Carico radiale ammissibile su albero entrata indicato a catalogo	Input shaft OHL capacity as per catalogue rating	Допустимая нагрузка входного вала табличные значения
X [mm]	Distanza dalla battuta dell'albero	Distance from shaft shoulder	Расстояние от плеча вала
S [mm]	Sporgenza dell'albero entrata	Input shaft projection	Длина входного вала
B	Coefficiente da tabella	Load location factor from table	Коеф. места прилож. нагрузки из таблицы

Coefficienti correttivi del carico radiale di catalogo in entrata Fr_1 in funzione della distanza dalla battuta

Load location factors to adjust input OHL capacity rating Fr_1 based on distance from shoulder

Кoeffициент местоположения радиальной нагрузки Fr основан на расстоянии от плеча вала до места приложения нагрузки.

B	Size	802	804	806	808	810	812	814	816	818	820	822	824	826	828	830	832
	RXP2	68	75	85	95	105	120	136	152	172	190	210	240	260	300		
	RXP3	87	98	110	121	142	155	173	195	212	240	271	305	344	387	435	484



Calcolo Fr

Per calcolare il carico Fr agente sull'albero lento diamo formule approssimate per alcune trasmissioni piú comuni, per la determinazione del carico radiale su albero veloce o lento.

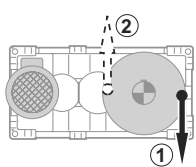
Fr calculation

Use the formula and the approximate factors for input or output overhung load determination referred to the most common drive members to calculate Fr load at output shaft.

Расчет Fr

Чтобы рассчитать радиальную Fr нагрузку на входной и выходной валы используйте ниже приведённые формулы и коэффициенты.

$Fr = k \cdot \frac{T}{d}$	Fr [N] Carico radiale approssimato Approximate overhung load Радиальная нагрузка	d [mm] Diametro pulegge, ruote Pulley diameter, wheels Диаметр шкива, колеса	k Fattore di collegamento Connection factor Тип соединения	T [Nm] Momento torcente Torque Момент	
k =	7000	5000	3000	2120	2000
Trasmissioni Drive member Ведущий узел	Ruote di frizione (gomma su metallo) Friction wheel drive (rubber on metal) Трение колеса (резина по металлу)	Cinghie trapezoidali V belt drives Клиновой ременный привод	Cinghie dentate Toothed belts Зубчатый ремень	Ingranaggi cilindrici Spur gears Цилиндрическая передача	Catene Chain drives Цепной привод



Nel caso di sollevamento con tamburo con tiro verso il basso è preferibile che la fune si avvolga dalla parte opposta al motore (1).
Nel caso piú gravoso del precedente, con tiro verso l'alto, viceversa è preferibile che la fune si avvolga dal lato motore (2).

In lifting applications using winch drums in a downward pull direction, it is best for the rope to wrap on the side opposite to the motor (1).
In the more severe case of upward pull direction, the rope should wrap on motor side (2).

Если используется барабанная лебедка в низходящем направлении, то лучше всего обернуть тросом сторону противоположную мотору.(1)
В более тяжелых условиях, например, при поднятии, трос должен быть обернут на стороне мотора.(2)

Verifiche

Caso A)
Per carichi radiali minori di 0.25 Fr_{1'} o Fr_{2'} e necessario verificare soltanto che contemporaneamente al carico radiale sia presente un carico assiale non superiore a 0.2 volte Fr_{1'} o Fr_{2'};

Caso B)
Per carichi radiali maggiori di 0.25 Fr_{1'} o Fr_{2'};
1) Calcolo abbreviato: Fr(input) < Fr_{1'} e Fr (output) < Fr_{2'} e che contemporaneamente al carico radiale sia presente un carico assiale non superiore a 0.2 volte Fr_{1'} o Fr_{2'};

2) Calcolo completo per il quale occorre fornire i seguenti dati:
- momento torcente applicato o potenza applicata
- n₁ e n₂ (giri al minuto dell'albero veloce e dell'albero lento)
- carico radiale Fr (direzione, intensita, verso)

Verification

Case A)
For overhung loads lower than 0.25 Fr_{1'} or Fr_{2'}, ensure that the thrust load applied simultaneously with OHL is not greater than 0.2 times Fr_{1'} or Fr_{2'};

Case B)
For overhung loads greater than 0.25 Fr_{1'} or Fr_{2'};
1) Quick calculation method: Fr(input) < Fr_{1'} and Fr (output) < Fr_{2'} and thrust load applied simultaneously with OHL not greater than 0.2 times Fr_{1'} or Fr_{2'};

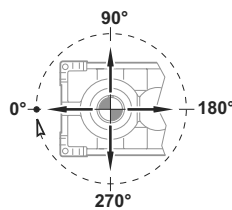
2) For the standard calculation method, the following information is required:
- applied torque or power
- n₁ and n₂ (input and output shaft min⁻¹)
- overhung load Fr (orientation, amount of loading, direction)

Проверка

Вариант A)
Для радиальной нагрузки меньше, чем 0,25 Fr_{1'} или Fr_{2'} убедитесь, что осевая нагрузка применяемая одновременно с радиальной не больше, чем Fr_{1'} или Fr_{2'} в 0.2 раза.

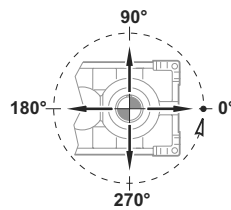
Вариант B)
Для рад. нагрузок больше, чем 0.25Fr_{1'} или Fr_{2'}
1) Быстрый метод расчета: Fr(вход) < Fr_{1'} и Fr (на выход) < Fr_{2'} и осевая нагрузка, применяемая одновременно с радиальной не больше, чем Fr_{1'} или Fr_{2'} в 0,2 раза.

2) Обычный метод расчета требует следующей информации:
- действующие нагрузки или мощность
- обороты входного и выходного вала
- радиальная нагрузка Fr (расположение, величина нагрузки, направление).

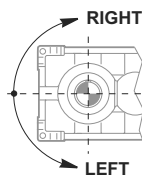


- senso di rotazione dell'albero

- size and type of selected gear unit

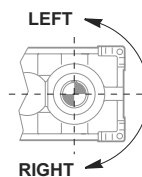


- Размер и тип выбранного редуктора



- grandezza e tipo del riduttore scelto
- tipo olio impiegato e sua viscosita
- esecuzione grafica assi:
- carico assiale presente Fa

- oil type and viscosity
- shaft arrangement:
- actual thrust load Fa



- Вязкость и тип масла
- Расположение вала
- Фактическая осевая нагрузка

Consultare il supporto Tecnico per la verifica.

Please contact our Engineering for a verification.

Пожалуйста, свяжитесь с нашими инженерами для проверки.

1.8 Prestazioni riduttori RXP1

1.8 RXP1 gear unit ratings

1.8 Характеристики редукторов RXP1

n ₁ min ⁻¹	802					804					806				
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN
1450	1.14	1277	191	1.4	10.1	1.11	1305	279	2.0	13.3	1.11	1305	363	2.6	16.5
1000		881	141	1.5			900	212	2.2			900	279	2.9	
500		440	71	1.5			450	106	2.2			450	149	3.1	
1450	1.26	1153	185	1.5	9.6	1.24	1174	263	2.1	12.9	1.24	1174	351	2.8	16.1
1000		795	136	1.6			810	199	2.3			810	268	3.1	
500		398	68	1.6			405	99	2.3			405	143	3.3	
1450	1.39	1040	178	1.6	9.4	1.38	1055	248	2.2	12.6	1.38	1055	327	2.9	15.7
1000		717	123	1.6			727	187	2.4			727	249	3.2	
500		359	61	1.6			364	93	2.4			364	136	3.5	
1450	1.55	936	160	1.6	9.3	1.53	946	232	2.3	12.5	1.53	946	303	3.0	15.6
1000		646	117	1.7			652	174	2.5			652	237	3.4	
500		323	59	1.7			326	87	2.5			326	125	3.6	
1450	1.82	796	145	1.7	8.7	1.81	799	205	2.4	11.7	1.71	846	289	3.2	14.7
1000		549	106	1.8			551	153	2.6			583	218	3.5	
500		275	53	1.8			276	77	2.6			292	118	3.8	
1450	2.16	671	129	1.8	8.5	2.04	711	190	2.5	11.5	2.04	711	258	3.4	14.4
1000		463	94	1.9			490	141	2.7			490	199	3.8	
500		231	47	1.9			245	71	2.7			245	105	4.0	
1450	2.29	633	128	1.9	8	2.30	629	175	2.6	10.9	2.30	629	235	3.5	13.7
1000		436	93	2.0			434	134	2.9			434	181	3.9	
500		218	47	2.0			217	67	2.9			217	97	4.2	
1450	2.59	560	114	1.9	7	2.45	591	170	2.7	9.6	2.45	591	227	3.6	12.1
1000		386	82	2.0			407	126	2.9			407	174	4.0	
500		193	41	2.0			204	63	2.9			204	91	4.2	
1450	2.95	492	105	2.0	7	2.80	518	155	2.8	9.6	2.80	518	205	3.7	12.1
1000		339	76	2.1			357	114	3.0			357	156	4.1	
500		169	38	2.1			179	57	3.0			179	84	4.4	
1450	3.16	459	98	2.0	7	3.00	483	145	2.8	9.6	3.00	483	196	3.8	12.1
1000		317	71	2.1			333	110	3.1			333	150	4.2	
500		158	36	2.1			167	55	3.1			167	80	4.5	
1450	3.65	398	89	2.1	7	3.47	418	129	2.9	9.6	3.47	418	174	3.9	12.1
1000		274	64	2.2			288	99	3.2			288	135	4.4	
500		137	32	2.2			144	49	3.2			144	71	4.6	
1450	3.94	368	83	2.1	5.7	4.07	357	114	3.0	8.2	4.07	357	152	4.0	10.7
1000		254	60	2.2			246	81	3.1			246	118	4.5	
500		127	30	2.2			123	42	3.2			123	60	4.6	
1450	4.64	312	67	2.0	7	4.43	327	98	2.8	9.6	4.43	327	143	4.1	12.1
1000		215	46	2.0			226	70	2.9			226	101	4.2	
500		108	24	2.1			113	36	3.0			113	52	4.3	
1450	5.08	286	55	1.8	8	4.85	299	83	2.6	10.8	4.85	299	121	3.8	13.5
1000		197	38	1.8			206	57	2.6			206	86	3.9	
500		98	20	1.9			103	30	2.7			103	44	4.0	
1450	5.58	260	47	1.7	8.9	5.33	272	70	2.4	12	5.33	272	102	3.5	15
1000		179	33	1.7			188	50	2.5			188	72	3.6	
500		90	17	1.8			94	25	2.5			94	37	3.7	
1450	6.18	235	38	1.5	9.7	5.91	245	58	2.2	12.9	5.91	245	84	3.2	16.1
1000		162	26	1.5			169	42	2.3			169	60	3.3	
500		81	14	1.6			85	21	2.3			85	31	3.4	
Potenze termiche / Thermal power / Термическая мощность PtN [kW] (senza raffreddamento / Without cooling / без охлаждения)															
49					62					82					



1.8 Prestazioni riduttori RXP1

1.8 RXP1 gear unit ratings

1.8 Характеристики редукторов RXP1

n_1 min ⁻¹	808					810					812				
	ir	n_2 min ⁻¹	P_N kW	T_N kNm	$\frac{Fr_2}{Fr_1}$ kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	$\frac{Fr_2}{Fr_1}$ kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	$\frac{Fr_2}{Fr_1}$ kN
1450	1.17	1238	489	3.7	22.4	1.17	1238	595	4.5	28.4	1.20	1208	1007	7.8	35.0
1000		854	374	4.1			854	456	5.0			833	775	8.7	
500		427	210	4.6			427	283	6.2			417	401	9.0	
1450	1.30	1113	464	3.9	21.4	1.30	1113	559	4.7	27.7	1.33	1088	953	8.2	34.4
1000		767	353	4.3			767	435	5.3			750	729	9.1	
500		384	197	4.8			384	267	6.5			375	377	9.4	
1450	1.45	999	427	4.0	20.7	1.45	999	523	4.9	26.8	1.48	977	898	8.6	34
1000		689	331	4.5			689	405	5.5			674	691	9.6	
500		344	184	5.0			344	250	6.8			337	356	9.9	
1450	1.62	895	402	4.2	19.9	1.62	895	488	5.1	26.5	1.66	876	833	8.9	33.3
1000		617	310	4.7			617	382	5.8			604	646	10.0	
500		309	175	5.3			309	234	7.1			302	332	10.3	
1450	1.81	799	376	4.4	19.4	1.81	799	461	5.4	26.1	1.85	783	778	9.3	32.6
1000		551	288	4.9			551	353	6.0			540	600	10.4	
500		276	162	5.5			276	218	7.4			270	309	10.7	
1450	2.04	711	349	4.6	18.8	2.04	711	425	5.6	25.4	2.08	697	723	9.7	32.1
1000		490	267	5.1			490	330	6.3			481	555	10.8	
500		245	149	5.7			245	202	7.7			240	288	11.2	
1450	2.30	629	323	4.8	18.2	2.304	629	390	5.8	24.8	2.35	618	666	10.1	31.4
1000		434	246	5.3			434	301	6.5			426	514	11.3	
500		217	137	5.9			217	185	8.0			213	264	11.6	
1450	2.62	554	296	5.0	16.8	2.62	554	355	6.0	24.1	2.67	544	604	10.4	29.8
1000		382	224	5.5			382	277	6.8			375	469	11.7	
500		191	126	6.2			191	169	8.3			188	240	12.0	
1450	3.00	483	263	5.1	16.8	3.00	483	325	6.3	24.1	2.85	509	576	10.6	29.8
1000		333	203	5.7			333	249	7.0			351	446	11.9	
500		167	114	6.4			167	153	8.6			175	229	12.2	
1450	3.22	450	250	5.2	16.8	3.22	450	308	6.4	24.1	3.28	442	520	11.0	29.8
1000		310	192	5.8			310	235	7.1			305	401	12.3	
500		155	108	6.5			155	146	8.8			153	207	12.7	
1450	3.75	387	223	5.4	16.8	3.47	418	290	6.5	24.1	3.53	411	492	11.2	29.8
1000		267	171	6.0			288	225	7.3			283	378	12.5	
500		133	95	6.7			144	137	8.9			142	195	12.9	
1450	4.07	357	210	5.5	15.1	4.07	357	255	6.7	19.6	4.13	351	435	11.6	28.7
1000		246	160	6.1			246	197	7.5			242	326	12.6	
500		123	87	6.6			123	120	9.1			121	168	13.0	
1450	4.43	327	196	5.6	17	4.43	327	238	6.8	21.8	4.50	322	396	11.5	24.9
1000		226	142	5.9			226	183	7.6			222	278	11.7	
500		113	75	6.2			113	101	8.4			111	144	12.1	
1450	4.85	299	173	5.4	19.1	4.85	299	221	6.9	24	4.92	295	334	10.6	28.7
1000		206	121	5.5			206	165	7.5			203	234	10.8	
500		103	63	5.7			103	86	7.8			102	122	11.2	
1450	5.33	272	145	5.0	20.8	5.33	272	195	6.7	25.9	5.42	268	277	9.7	31.2
1000		188	102	5.1			188	140	7.0			185	195	9.9	
500		94	53	5.3			94	73	7.3			92	102	10.3	
1450	5.91	245	121	4.6	22	5.91	245	165	6.3	27.4	6.00	242	227	8.8	33.2
1000		169	85	4.7			169	116	6.4			167	160	9.0	
500		85	44	4.9			85	61	6.7			83	83	9.3	
Potenze termiche / Thermal power / Термическая мощность PtN [kW] (senza raffreddamento / Without cooling / без охлаждения)															
04					127					160					

1.8 Prestazioni riduttori RXP1

1.8 RXP1 gear unit ratings

1.8 Характеристики редукторов RXP1

n ₁ min ⁻¹	814					816					818				
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN
1450	1.14	1277	1174	8.6	41.2	1.11	1305	2217	15.9	54.9	1.11	1305	3514	25.2	68.6
1000		881	904	9.6			900	1654	17.2			900	2424	25.2	
500		440	555	11.8			450	827	17.2			450	1212	25.2	
1450	1.26	1153	1109	9.0	39.9	1.24	1174	2095	16.7	54.2	1.24	1174	3311	26.4	66.6
1000		795	858	10.1			810	1566	18.1			810	2284	26.4	
500		398	527	12.4			405	783	18.1			405	1142	26.4	
1450	1.39	1040	1045	9.4	39.5	1.38	1055	1972	17.5	53.4	1.38	1055	3121	27.7	64.3
1000		717	805	10.5			727	1469	18.9			727	2153	27.7	
500		359	498	13.0			364	734	18.9			364	1076	27.7	
1450	1.63	888	949	10.0	38.4	1.53	946	1849	18.3	52.3	1.53	946	2920	28.9	61.7
1000		612	733	11.2			652	1380	19.8			652	2014	28.9	
500		306	451	13.8			326	690	19.8			326	1007	28.9	
1450	1.82	796	893	10.5	37.6	1.81	799	1665	19.5	51.5	1.71	846	2730	30.2	60.3
1000		549	686	11.7			551	1242	21.1			583	1882	30.2	
500		275	422	14.4			276	621	21.1			292	941	30.2	
1450	2.04	711	828	10.9	36.8	2.04	711	1542	20.3	50.6	2.04	711	2438	32.1	57.2
1000		491	639	12.2			490	1147	21.9			490	1681	32.1	
500		245	393	15.0			245	574	21.9			245	841	32.1	
1450	2.29	633	764	11.3	35.8	2.30	629	1419	21.1	49.6	2.30	629	2246	33.4	54.3
1000		436	587	12.6			434	1057	22.8			434	1549	33.4	
500		218	364	15.6			217	529	22.8			217	774	33.4	
1450	2.59	560	700	11.7	32.4	2.45	591	1357	21.5	44.6	2.62	554	2047	34.6	52.8
1000		386	540	13.1			407	1010	23.2			382	1412	34.6	
500		193	332	16.1			204	505	23.2			191	706	34.6	
1450	2.95	492	635	12.1	32.4	2.80	518	1239	22.4	44.6	2.80	518	1948	35.2	52.8
1000		339	493	13.6			357	920	24.1			357	1343	35.2	
500		169	302	16.7			179	460	24.1			179	672	35.2	
1450	3.16	459	603	12.3	32.4	3.22	450	1111	23.1	44.6	3.00	483	1854	35.9	52.8
1000		317	467	13.8			310	829	25.0			333	1279	35.9	
500		158	288	17.0			155	415	25.0			167	639	35.9	
1450	3.65	398	544	12.8	32.4	3.75	387	987	23.9	44.6	3.47	418	1656	37.1	52.8
1000		274	419	14.3			267	721	25.3			288	1142	37.1	
500		137	258	17.6			133	368	25.8			144	571	37.1	
1450	3.94	368	512	13.0	31.4	4.07	357	918	24.1	42	4.07	357	1341	35.2	42.7
1000		254	393	14.5			246	644	24.5			246	943	35.9	
500		127	242	17.8			123	334	25.4			123	487	37.1	
1450	4.64	312	447	13.4	27.9	4.43	327	784	22.4	37.8	4.43	327	1148	32.8	47.9
1000		215	345	15.0			226	550	22.8			226	806	33.4	
500		108	191	16.6			113	285	23.6			113	417	34.6	
1450	5.08	286	415	13.6	31.9	4.85	299	662	20.7	43.8	4.85	299	969	30.3	53.9
1000		197	311	14.8			206	465	21.1			206	681	30.9	
500		98	161	15.3			103	240	21.8			103	353	32.0	
1450	5.58	260	369	13.3	35.8	5.33	272	500	17.2	48.2	5.33	272	820	28.2	59.9
1000		179	260	13.6			188	387	19.3			188	579	28.8	
500		90	134	14.0			94	203	20.3			94	300	29.8	
1450	6.18	235	303	12.1	38.6	5.91	245	459	17.5	51.5	5.91	245	679	25.9	64.3
1000		162	213	12.3			169	325	18.0			169	477	26.4	
500		81	110	12.7			85	169	18.7			85	247	27.3	
Potenze termiche / Thermal power / Термическая мощность PtN [kW] (senza raffreddamento / Without cooling / без охлаждения)															
195					240					304					

1.8 Prestazioni riduttori RXP1

1.8 RXP1 gear unit ratings

1.8 Характеристики редукторов RXP1

n ₁ min ⁻¹	820					822					824				
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN
1450	1.17	1238	4828	36.5	93	1.17	1238	6653	50.3	119	1.20	1208	9297	72.0	
1000		854	3330	36.5			854	4588	50.3			833	6411	72.0	
500		427	1665	36.5			427	2294	50.3			417	3206	72.0	
1450	1.30	1113	4542	38.2	89.8	1.30	1113	6278	52.8	117.4	1.33	1088	8762	75.4	
1000		767	3133	38.2			767	4330	52.8			750	6043	75.4	
500		384	1566	38.2			384	2165	52.8			375	3021	75.4	
1450	1.45	999	4270	40.0	87.4	1.45	999	5898	55.2	115.4	1.48	977	8228	78.8	
1000		689	2944	40.0			689	4068	55.2			674	5675	78.8	
500		344	1472	40.0			344	2031	55.2			337	2837	78.8	
1450	1.62	895	3996	41.8	86	1.62	895	5516	57.7	113.8	1.66	876	7704	82.3	
1000		617	2756	41.8			617	3804	57.7			604	5313	82.3	
500		309	1378	41.8			309	1902	57.7			302	2657	82.3	
1450	1.81	799	3722	43.6	84.2	1.81	799	5140	60.2	112.3	1.85	783	7170	85.7	
1000		551	2567	43.6			551	3545	60.2			540	4945	85.7	
500		276	1284	43.6			276	1772	60.2			270	2473	85.7	
1450	2.04	711	3441	45.3	82.4	2.04	711	4755	62.6	110.6	2.08	697	6637	89.1	
1000		490	2373	45.3			490	3279	62.6			481	4577	89.1	
500		245	1186	45.3			245	1640	62.6			240	2289	89.1	
1450	2.30	629	3167	47.1	80.8	2.30	629	4377	65.1	108.9	2.35	618	6104	92.5	
1000		434	2184	47.1			434	3019	65.1			426	4210	92.5	
500		217	1092	47.1			217	1509	65.1			213	2105	92.5	
1450	2.62	554	2893	48.9	72.1	2.62	554	3993	67.5	101	2.67	544	5578	96.0	
1000		382	1995	48.9			382	2754	67.5			375	3847	96.0	
500		191	998	48.9			191	1377	67.5			188	1923	96.0	
1450	3.00	483	2619	50.7	72.1	3.00	483	3615	70.0	101	2.85	509	5578	96.0	
1000		333	1806	50.7			333	2493	70.0			351	3847	96.0	
500		167	903	50.7			167	1247	70.0			175	1923	96.0	
1450	3.22	450	2481	51.6	72.1	3.22	450	3424	71.2	101	3.28	442	4779	101	
1000		310	1711	51.6			310	2361	71.2			305	3296	101	
500		155	856	51.6			155	1181	71.2			153	1648	101	
1450	3.75	387	2120	51.3	72.1	3.47	418	3232	72.4	101	3.53	411	4513	103	
1000		267	1490	52.3			288	2229	72.4			283	3112	103	
500		133	759	53.3			144	1115	72.4			142	1556	103	
1450	4.07	357	1894	49.7	65.4	4.07	357	2621	68.8	95.3	4.13	351	3704	98.8	
1000		246	1332	50.7			246	1839	70.0			242	2585	100	
500		123	688	52.4			123	953	72.5			121	1344	104	
1450	4.43	327	1620	46.3	68.2	4.43	327	2239	64.0	88.8	4.50	322	3140	91.2	
1000		226	1139	47.2			226	1573	65.2			222	2223	93.6	
500		113	589	48.8			113	814	67.5			111	1152	97.0	
1450	4.85	299	1368	42.8	76.6	4.85	299	1892	59.2	97.6	4.92	295	2672	84.9	
1000		206	961	43.6			206	1328	60.3			203	1878	86.5	
500		103	497	45.1			103	687	62.4			102	972	89.6	
1450	5.33	272	1159	39.9	83.3	5.33	272	1601	55.1	104.9	5.42	268	2263	79.1	
1000		188	813	40.6			188	1126	56.2			185	1590	80.6	
500		94	421	42.0			94	582	58.1			92	823	83.4	
1450	5.91	245	960	36.6	88.2	5.91	245	1322	50.5	111.2	6.00	242	1872	72.5	
1000		169	673	37.2			169	930	51.5			167	1314	73.8	
500		85	349	38.6			85	484	53.3			83	680	76.4	
Potenze termiche / Thermal power / Термическая мощность PtN [kW] (senza raffreddamento / Without cooling / без охлаждения)															
373					445					553					

A richiesta / On request / По запросу

1.9 Prestazioni riduttori RXP2

1.9 RXP2 gear unit ratings

1.9 Характеристики редукторов RXP2

n_1 min ⁻¹	802					804					806				
	ir	n_2 min ⁻¹	P_N kW	T_N kNm	$\frac{Fr_2}{Fr_1}$ kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	$\frac{Fr_2}{Fr_1}$ kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	$\frac{Fr_2}{Fr_1}$ kN
1450	4.60	315	100	2.9	15 3	4.63	313	144	4.2	20 5.7	4.46	325	206	5.8	26.2 6.6
1000		217	73	3.1			216	99	4.2			224	142	5.8	
500		109	37	3.1			108	49	4.2			112	71	5.8	
1450	5.12	283	93	3.0	15 3	5.14	282	132	4.3	20 5.7	4.94	294	192	6.0	26.2 6.6
1000		195	66	3.1			194	93	4.4			202	133	6.0	
500		98	34	3.2			97	47	4.4			101	66	6.0	
1450	5.70	254	83	3.0	15 3.2	5.72	253	119	4.3	20 6	5.48	265	182	6.3	26.2 6.8
1000		175	59	3.1			175	84	4.4			183	125	6.3	
500		88	31	3.2			87	44	4.6			91	63	6.3	
1450	6.37	228	77	3.1	15 3.2	6.38	227	109	4.4	20 6	6.08	238	172	6.6	26.2 6.8
1000		157	53	3.1			157	75	4.4			164	118	6.6	
500		79	27	3.2			78	39	4.6			82	59	6.6	
1450	7.13	203	69	3.1	15 3.3	7.14	203	97	4.4	20 6.2	7.16	203	146	6.6	26.2 7.2
1000		140	47	3.1			140	69	4.5			140	102	6.7	
500		70	24	3.2			70	35	4.6			70	53	7.0	
1450	8.01	181	61	3.1	14 3.3	8.02	181	87	4.4	18.9 6.2	8.49	171	125	6.7	24.3 7.2
1000		125	42	3.1			125	61	4.5			118	87	6.8	
500		62	22	3.3			62	31	4.6			59	45	7.0	
1450	9.05	160	54	3.1	14 3.5	9.06	160	77	4.4	18.9 6.5	9.00	161	118	6.7	24.3 7.6
1000		110	39	3.2			110	54	4.5			111	82	6.8	
500		55	19.9	3.3			55	28	4.7			56	43	7.1	
1450	10.3	141	48	3.1	14 3.5	10.3	141	69	4.5	18.9 6.5	10.2	142	104	6.7	24.3 7.6
1000		97	34	3.2			97	48	4.5			98	74	6.9	
500		49	17.5	3.3			49	25	4.7			49	38	7.1	
1450	11.8	123	43	3.2	13 3.6	11.0	132	65	4.5	17.7 6.8	11.6	125	93	6.8	22.4 7.8
1000		85	30	3.2			91	46	4.6			86	65	6.9	
500		42	15.3	3.3			45	23	4.7			43	34	7.2	
1450	12.7	115	40	3.2	13 3.6	12.6	115	56	4.5	17.7 6.8	12.4	117	87	6.8	22.4 7.8
1000		79	28	3.2			79	40	4.6			81	61	6.9	
500		39	14.2	3.3			40	21	4.8			40	32	7.2	
1450	13.6	106	37	3.2	13 3.8	13.6	107	52	4.5	17.7 7	14.3	101	76	6.9	22.4 8
1000		73	26	3.2			73	37	4.6			70	53	7.0	
500		37	13.2	3.3			37	19.2	4.8			35	27	7.2	
1450	16.00	91	32	3.2	13 3.8	15.9	91	46	4.6	17.7 7	15.5	94	71	6.9	22.4 8
1000		63	23	3.3			63	31	4.6			65	49	7.0	
500		31	11.6	3.4			31	16.4	4.8			32	26	7.3	
1450	17.4	83	29	3.2	12 4	17.3	84	42	4.6	16 7.3	18.2	79	60	6.9	21 8.3
1000		57	21	3.3			58	30	4.7			55	42	7.1	
500		29	10.7	3.4			29	15.1	4.8			27	22	7.3	
1450	19.0	76	27	3.2	12 4	19.0	76	38	4.6	16 7.3	19.9	73	56	7.0	21 8.3
1000		53	18.9	3.3			53	27	4.7			50	39	7.1	
500		26	9.7	3.4			26	14.1	4.9			25	20	7.3	
1450	21.0*	69	24	3.2	12 4	20.9*	69	35	4.6	16 7.3	21.9	66	50	7.0	21 8.3
1000		48	17.2	3.3			48	25	4.7			46	35	7.1	
500		24	8.9	3.4			24	12.8	4.9			23	18.4	7.4	
1450	23.2*	62	22	3.3	4	23.1*	63	31	4.6	16 7.3	24.3*	60	46	7.0	21 8.3
1000		43	15.5	3.3			43	22	4.7			41	32	7.2	
500		22	8.0	3.4			22	11.5	4.9			21	16.6	7.4	
Potenze termiche / Thermal power / Термическая мощность P_{TN} [kW] (senza raffreddamento / Without cooling / без охлаждения)															
		0				39				51					

* Nei rapporti contrassegnati non è disponibile la versione uscita con albero cavo.

* Hollow output shaft not available for ratios marked with this symbol.

* Полный выходной вал недоступен для позиций отмеченных данным символом

1.9 Prestazioni riduttori RXP2

1.9 RXP2 gear unit ratings

1.9 Характеристики редукторов RXP2

n ₁ min ⁻¹	808					810					812				
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN
1450	4.44	326	285	8.0	47.5 9.1	4.52	321	385	11.0	60 11.4	4.53	320	471	13.5	66.2 14.9
1000		225	206	8.4			221	297	12.3			221	364	15.1	
500		113	103	8.4			111	152	12.6			110	210	17.4	
1450	4.94	293	285	8.9	47.5 9.1	5.03	288	374	11.9	60 11.4	5.04	288	474	15.1	66.2 14.9
1000		202	196	8.9			199	280	12.9			198	366	16.9	
500		101	98	8.9			99	143	13.2			99	198	18.3	
1450	5.50	264	267	9.3	47.5 9.5	5.60	259	356	12.6	60 11.7	5.61	258	468	16.6	66.2 15.2
1000		182	184	9.3			179	253	13.0			178	363	18.7	
500		91	92	9.3			89	132	13.5			89	186	19.1	
1450	6.13	236	242	9.4	47.5 9.5	6.24	232	324	12.8	60 11.7	6.27	231	439	17.4	66.2 15.2
1000		163	169	9.5			160	229	13.1			160	338	19.4	
500		82	86	9.7			80	118	13.5			80	174	20.0	
1450	7.26	200	207	9.5	47.5 9.8	6.98	208	292	12.9	60 12	7.02	207	412	18.3	66.2 15.6
1000		138	144	9.6			143	206	13.2			143	303	19.5	
500		69	75	10.0			72	106	13.6			71	157	20.2	
1450	8.16	178	184	9.5	43.8 9.8	8.31	175	248	13.0	55.9 12	7.89	184	381	19.0	62 15.6
1000		123	130	9.7			120	175	13.3			127	271	19.6	
500		61	67	10.0			60	90	13.7			63	140	20.3	
1450	9.22	157	165	9.6	43.8 10.3	9.38	155	221	13.1	55.9 12.8	8.91	163	344	19.4	62 16.3
1000		108	115	9.7			107	156	13.4			112	242	19.8	
500		54	60	10.1			53	80	13.8			56	125	20.5	
1450	9.82	148	155	9.6	43.8 10.3	9.99	145	209	13.2	55.9 12.8	10.1	143	305	19.5	62 16.3
1000		102	109	9.8			100	146	13.4			99	214	19.9	
500		51	56	10.1			50	76	13.9			49	111	20.6	
1450	11.2	129	137	9.7	40.1 10.5	11.4	127	183	13.2	52 13	11.6	125	269	19.7	57.9 18.5
1000		89	95	9.8			88	129	13.5			86	188	20.0	
500		45	50	10.2			44	67	14.0			43	97	20.7	
1450	12.0	121	128	9.7	40.1 10.5	12.2	119	172	13.3	52 13	12.5	116	250	19.7	57.9 18.5
1000		83	90	9.9			82	121	13.5			80	176	20.1	
500		42	46	10.2			41	63	14.0			40	91	20.8	
1450	13.9	104	112	9.8	40.1 10.8	14.1	103	150	13.4	52 13.3	14.5	100	217	19.9	57.9 18.8
1000		72	78	9.9			71	105	13.6			69	152	20.2	
500		36	40	10.3			35	54	14.1			34	79	21.0	
1450	16.3	89	95	9.8	40.1 10.8	16.6	88	129	13.5	52 13.3	15.7	92	201	20.0	57.9 16.8
1000		61	67	10.0			60	90	13.7			64	141	20.3	
500		31	35	10.4			30	47	14.2			32	73	21.0	
1450	17.7	82	88	9.9	38 11.2	18.0	80	118	13.5	48 13.5	17.1	85	185	20.0	53 16.8
1000		56	62	10.1			55	83	13.8			58	130	20.4	
500		28	32	10.4			28	43	14.3			29	67	21.1	
1450	19.4	75	81	9.9	38 11.2	19.7	73	109	13.6	48 13.5	18.7	77	170	20.1	53 17.2
1000		52	57	10.1			51	77	13.9			53	119	20.5	
500		26	30	10.5			25	40	14.3			27	62	21.2	
1450	21.3	68	74	10.0	38 11.2	21.7*	67	100	13.7	48 13.5	20.6*	70	155	20.2	53 17.2
1000		47	52	10.2			46	70	13.9			48	109	20.6	
500		23	27	10.5			23	36	14.4			24	56	21.3	
1450	23.6	61	67	10.0	38 11.2	24.1*	60	90	13.7	48 13.5	22.8*	63	141	20.3	53 17.2
1000		42	47	10.2			42	63	14.0			44	99	20.7	
500		21	24	10.6			21	33	14.5			22	51	21.4	
Potenze termiche / Thermal power / Термическая мощность P_{IN} [kW] (senza raffreddamento / Without cooling / без охлаждения)															
66					82					104					

* Nei rapporti contrassegnati non è disponibile la versione uscita con albero cavo.

* Hollow output shaft not available for ratios marked with this symbol.

* Полный выходной вал недоступен для позиций отмеченных данным символом

1.9 Prestazioni riduttori RXP2

1.9 RXP2 gear unit ratings

1.9 Характеристики редукторов RXP2

n ₁ min ⁻¹	814					816					818					820				
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN
1450	4.60	315	653	19.0	78.7 17.5	4.63	313	888	26.0	93.7 20.3	4.46	325	1284	36.2	110 27.7	4.44	326	2402	67.5	187.5 36.5
1000		217	505	21.3			216	686	29.1			224	991	40.5			225	1657	67.5	
500		109	288	24.3			108	402	34.1			112	564	46.1			113	828	67.5	
1450	5.12	283	652	21.1	78.7 17.5	5.14	282	883	28.7	93.7 20.3	4.94	294	1265	39.5	110 27.7	4.94	293	2266	70.8	187.5 36.5
1000		195	503	23.6			194	681	32.1			202	974	44.1			202	1563	70.8	
500		98	271	25.4			97	379	35.7			101	533	48.3			101	781	70.8	
1450	5.70	254	624	22.5	78.7 17.8	5.72	253	862	31.2	93.7 20.6	5.48	265	1233	42.7	110 28.5	5.50	264	2134	74.2	187.5 37.4
1000		175	490	25.6			175	667	35.0			183	952	47.8			182	1472	74.2	
500		88	254	26.6			87	355	37.3			91	503	50.5			91	736	74.2	
1450	6.37	228	584	23.5	78.7 17.8	6.38	227	805	32.5	93.7 20.6	6.42	226	1158	47.0	110 28.5	6.13	236	1942	75.3	187.5 37.4
1000		157	454	26.5			157	634	37.1			156	845	49.7			163	1364	76.7	
500		79	235	27.4			78	332	38.9			78	457	53.8			82	690	77.6	
1450	7.13	203	543	24.5	78.7 18.2	7.14	203	751	33.9	93.7 21	7.16	203	1099	49.7	110 29.2	7.26	200	1656	76.0	187.5 38.2
1000		140	408	26.7			140	583	38.2			140	854	56.0			138	1163	77.4	
500		70	211	27.6			70	302	39.5			70	427	56.0			69	602	80.1	
1450	8.01	181	501	25.4	73 18.2	8.02	181	692	35.1	87.6 21	8.01	181	1013	51.3	101 29.2	8.16	178	1481	76.4	176.4 38.2
1000		125	365	26.8			125	522	38.4			125	772	56.7			123	1040	77.8	
500		62	189	27.8			62	271	39.8			62	396	58.2			61	539	80.6	
1450	9.05	160	459	26.3	73 18.5	9.06	160	634	36.3	87.6 21.5	9.00	161	928	52.8	101 30	9.22	157	1320	76.9	176.4 39
1000		110	325	27.0			110	466	38.7			111	691	57.0			108	927	78.3	
500		55	168	27.9			55	241	40.0			56	357	59.0			54	480	81.1	
1450	10.3	141	410	26.7	73 18.5	10.3	141	577	37.5	87.6 21.5	10.2	142	845	54.4	101 30	9.82	148	1242	77.1	176.4 39
1000		97	288	27.2			97	413	38.9			98	615	57.4			102	873	78.6	
500		49	149	28.1			49	214	40.3			49	318	59.4			51	452	81.3	
1450	11.8	123	360	26.8	68.5 19	11.0	132	551	38.3	82.7 22	11.6	125	763	55.9	94.5 31	11.2	129	1096	77.6	167.8 40
1000		85	253	27.3			91	387	39.0			86	543	57.7			89	770	79.1	
500		42	131	28.3			45	200	40.4			43	281	59.8			45	399	81.9	
1450	12.7	115	336	26.9	68.5 19	12.6	115	483	38.6	82.7 22	12.4	117	725	56.9	94.5 31	12.9	113	960	78.2	167.8 40
1000		79	236	27.4			79	339	39.3			81	509	57.9			78	674	79.6	
500		39	122	28.4			40	176	40.7			40	264	60.0			39	349	82.5	
1450	13.6	106	313	27.0	68.5 19.5	13.6	107	450	38.7	82.7 22.5	14.3	101	633	57.3	94.5 32	15.0	97	831	78.8	167.8 41
1000		73	220	27.5			73	316	39.5			70	445	58.4			67	584	80.3	
500		37	114	28.5			37	163	40.8			35	230	60.4			33	302	83.1	
1450	16.0	91	269	27.2	68.5 19.5	15.9	91	387	39.0	82.7 22.5	15.5	94	588	57.5	94.5 32	16.3	89	769	79.1	167.8 41
1000		63	190	27.8			63	272	39.8			65	413	58.6			61	540	80.6	
500		31	98	28.7			31	141	41.2			32	214	60.6			31	280	83.4	
1450	17.4	83	249	27.4	63 20	17.4	84	357	39.2	75 23	18.2	79	503	58.0	88 33	17.7	82	709	79.4	150 42
1000		57	175	27.9			58	251	39.9			55	353	59.1			56	498	80.9	
500		29	91	28.9			29	130	41.3			27	183	61.1			28	258	83.8	
1450	19.0	76	228	27.5	63 20	19.0	76	328	39.4	75 23	19.9	73	462	58.2	88 33	19.4	75	651	79.8	150 42
1000		53	160	28.0			53	230	40.1			50	324	59.3			52	457	81.3	
500		26	83	29.0			26	119	41.5			25	168	61.4			26	237	84.2	
1450	21.0*	69	208	27.6	63 20	20.9*	69	300	39.6	75 23	21.9*	66	422	58.5	88 33	21.3*	68	595	80.2	150 42
1000		48	146	28.1			48	210	40.3			46	296	59.6			47	418	81.7	
500		24	76	29.1			24	109	41.7			23	153	61.7			23	216	84.6	
1450	23.2*	62	189	27.8	63 20	23.1*	63	272	39.8	75 23	24.3*	60	383	58.8	88 33	23.6*	61	539	80.6	150 42
1000		43	133	28.3			43	191	40.5			41	269	59.9			42	379	82.1	
500		22	69	29.3			22	99	41.9			21	139	62.0			21	196	85.0	

Potenze termiche / Thermal power / Термическая мощность P_{IN} [kW]
(senza raffreddamento / Without cooling / без охлаждения)

127

160

195

252

* Nei rapporti contrassegnati non è disponibile la versione uscita con albero cavo.

* Hollow output shaft not available for ratios marked with this symbol.

* Полный выходной вал недоступен для позиций отмеченных данным символом

1.11 Prestazioni riduttori RXP4

1.11 RXP4 gear unit ratings

1.11 Характеристики редукторов RXP4

n_1 min ⁻¹	810					812					814					816								
	ir	n_2 min ⁻¹	P_N kW	T_N kNm	$\frac{Fr_2}{Fr_1}$ kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	$\frac{Fr_2}{Fr_1}$ kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	$\frac{Fr_2}{Fr_1}$ kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	$\frac{Fr_2}{Fr_1}$ kN				
1450	120	12.1	14.8	11.0	44 0.7	130	11.1	27	21.9	53 0.8	113	12.8	32	22.5	63 0.8	120	12.1	55	41.0	75 1.2				
1000		8.3	10.2	11.0			7.7	18.8	21.9			8.8	22	22.5			8.3	38	41.0					
500		4.2	5.1	11.0			3.8	9.4	21.9			4.4	11.1	22.5			4.2	19.0	41.0					
1450	143	10.1	14.7	13.0	44 0.7	142	10.2	25	21.9	53 0.8	132	11.0	29	23.5	63 0.8	132	11.0	52	42.8	75 1.2				
1000		7.0	10.1	13.0			7.1	17.2	21.9			7.6	19.8	23.5			7.6	36	42.8					
500		3.5	5.1	13.0			3.5	8.6	21.9			3.8	9.9	23.5			3.8	18.1	42.8					
1450	161	9.0	12.5	12.5	44 0.7	155	9.4	23	21.9	53 0.8	158	9.2	27	26	63 0.8	160	9.1	41	40.5	75 1.2				
1000		6.2	8.6	12.5			6.5	15.7	21.9			6.3	18.4	26			6.3	28	40.5					
500		3.1	4.3	12.5			3.2	7.9	21.9			3.2	9.2	26			3.1	14.1	40.5					
1450	176	8.2	12.4	13.5	44 0.7	177	8.2	20	21.9	53 0.8	185	7.8	23	26	63 0.8	187	7.7	37	42.8	75 1.2				
1000		5.7	8.5	13.5			5.7	13.8	21.9			5.4	15.7	26			5.3	25	42.8					
500		2.8	4.3	13.5			2.8	6.9	21.9			2.7	7.8	26			2.7	12.7	42.8					
1450	198	7.3	11.0	13.5	44 0.7	206	7.1	17.2	21.9	53 0.8	206	7.1	23	29.9	63 0.8	204	7.1	34	42.8	75 1.2				
1000		5.0	7.6	13.5			4.9	11.9	21.9			4.9	16.2	29.9			4.9	23	42.8					
500		2.5	3.8	13.5			2.4	5.9	21.9			2.4	8.1	29.9			2.5	11.7	42.8					
1450	222	6.5	10.6	14.5	44 0.7	223	6.5	15.9	21.9	53 0.8	225	6.4	21	29.9	63 0.8	223	6.5	31	42.8	75 1.2				
1000		4.5	7.3	14.5			4.5	10.9	21.9			4.4	14.8	29.9			4.5	21	42.8					
500		2.3	3.6	14.5			2.2	5.5	21.9			2.2	7.4	29.9			2.2	10.7	42.8					
1450	264	5.5	9.0	14.8	44 0.7	243	6.0	14.6	21.9	53 0.8	247	5.9	19.6	29.9	63 0.8	255	5.7	27	42.8	75 1.2				
1000		3.8	6.2	14.8			4.1	10.0	21.9			4.1	13.5	29.9			3.9	18.7	42.8					
500		1.9	3.1	14.8			2.1	5.0	21.9			2.0	6.8	29.9			2.0	9.3	42.8					
1450	292	5.0	8.2	14.8	44 0.7	283	5.1	12.5	21.9	53 0.8	278	5.2	17.4	29.9	63 0.8	278	5.2	25	42.8	75 1.2				
1000		3.4	5.6	14.8			3.5	8.6	21.9			3.6	12.0	29.9			3.6	17.2	42.8					
500		1.7	2.8	14.8			1.8	4.3	21.9			1.8	6.0	29.9			1.8	8.6	42.8					
1450	320	4.5	7.5	14.8	44 0.7	307	4.7	11.5	21.9	53 0.8	326	4.4	14.8	29.9	63 0.8	332	4.4	21	42.8	75 1.2				
1000		3.1	5.2	14.8			3.3	8.0	21.9			3.1	10.2	29.9			3.0	14.4	42.8					
500		1.6	2.6	14.8			1.6	4.0	21.9			1.5	5.1	29.9			1.5	7.2	42.8					
1450	362	4.0	6.6	14.8	44 0.7	365	4.0	9.7	21.9	53 0.8	371	3.9	13.0	29.9	63 0.8	361	4.0	19.2	42.8	75 1.2				
1000		2.8	4.5	14.8			2.7	6.7	21.9			2.7	9.0	29.9			2.8	13.2	42.8					
500		1.4	2.3	14.8			1.4	3.3	21.9			1.3	4.5	29.9			1.4	6.6	42.8					
1450	397	3.7	6.0	14.8	44 0.7	390	3.7	9.1	21.9	53 0.8	405	3.6	11.9	29.9	63 0.8	395	3.7	17.5	42.8	75 1.2				
1000		2.5	4.2	14.8			2.6	6.3	21.9			2.5	8.2	29.9			2.5	12.1	42.8					
500		1.3	2.1	14.8			1.3	3.1	21.9			1.2	4.1	29.9			1.3	6.0	42.8					
1450	473	3.1	5.1	14.8	44 0.7	454	3.2	7.8	21.9	53 0.8	453	3.2	10.7	29.9	63 0.8	459	3.2	14.4	41.0	75 1.2				
1000		2.1	3.5	14.8			2.2	5.4	21.9			2.2	7.4	29.9			2.2	9.9	41.0					
500		1.1	1.7	14.8			1.1	2.7	21.9			1.1	3.7	29.9			1.1	5.0	41.0					
1450	518	2.8	4.6	14.8	44 0.7	492	2.9	7.2	21.9	53 0.8	494	2.9	9.8	29.9	63 0.8	500	2.9	13.8	42.8	75 1.2				
1000		1.9	3.2	14.8			2.0	5.0	21.9			2.0	6.7	29.9			2.0	9.5	42.8					
500		1.0	1.6	14.8			1.0	2.5	21.9			1.0	3.4	29.9			1.0	4.8	42.8					
1450	573	2.5	4.2	14.8	44 0.7	587	2.5	6.0	21.9	53 0.8	540	2.7	8.9	29.9	63 0.8	547	2.7	12.6	42.8	75 1.2				
1000		1.7	2.9	14.8			1.7	4.2	21.9			1.9	6.2	29.9			1.8	8.7	42.8					
500		0.87	1.4	14.8			0.85	2.1	21.9			0.93	3.1	29.9			0.91	4.4	42.8					
1450	650	2.2	3.7	14.8	44 0.7	648	2.2	5.5	21.9	53 0.8	658	2.2	7.3	29.9	63 0.8	639	2.3	10.4	41.0	75 1.2				
1000		1.5	2.5	14.8			1.5	3.8	21.9			1.5	5.1	29.9			1.6	7.2	41.0					
500		0.77	1.3	14.8			0.77	1.9	21.9			0.76	2.5	29.9			0.78	3.6	41.0					
1450	749	1.9	2.7	12.5	44 0.7	709	2.0	5.0	21.9	53 0.8	720	2.0	6.7	29.9	63 0.8	699	2.1	9.9	42.8	75 1.2				
1000		1.3	1.9	12.5			1.4	3.4	21.9			1.4	4.6	29.9			1.4	6.8	42.8					
500		0.67	0.93	12.5			0.71	1.7	21.9			0.69	2.3	29.9			0.72	3.4	42.8					
1450																760	1.9	9.1	42.8	75 1.2				
1000																						1.3	6.3	42.8
500																						0.66	3.1	42.8

Potenze termiche / Thermal power / Термическая мощность P_{IN} [kW]
(senza raffreddamento / Without cooling / без охлаждения)

38*

49*

61*

77*

1.11 Prestazioni riduttori RXP4

1.11 RXP4 gear unit ratings

1.11 Характеристики редукторов RXP4

Table with 4 main columns for gear unit types 818, 820, 822, and 824. Each column lists gear ratio (ir), input speed (n1), output speed (n2), input power (PN), input torque (TN), and output torque (Fr2/Fr1) for various speed ratings (1450, 1000, 500 rpm).

Potenze termiche / Termal power / Термическая мощность P_IN [kW]

(senza raffreddamento / Without cooling / без охлаждения)

101

127

156

195

* A richiesta / On request / По запросу

1.11 Prestazioni riduttori RXP4

1.11 RXP4 gear unit ratings

1.11 Характеристики редукторов RXP4

n_{1-1} min	826					828					830					832				
	ir	n_2 min ⁻¹	P_N kW	T_N kNm	Fr_2 Fr_1 kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	Fr_2 Fr_1 kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	Fr_2 Fr_1 kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	Fr_2 Fr_1 kN
1450	123	11.8	317	241	250*	125	11.6	443	342	280*	136	10.7	601	505	360*	118	12.3	947	692	460*
1000		8.1	219	241			8.0	306	342			7.4	414	505			8.5	653	692	
500		4.1	109	241			4.0	153	342			3.7	207	505			4.2	327	692	
1450	144	10.1	271	241	250*	146	9.9	378	342	280*	147	9.9	557	505	360*	137	10.6	814	692	460*
1000		7.0	187	241			6.8	261	342			6.8	384	505			7.3	561	692	
500		3.5	93	241			3.4	130	342			3.4	192	505			3.6	281	692	
1450	157	9.3	249	241	250*	159	9.1	348	342	280*	159	9.1	514	505	360*	162	8.9	689	692	460*
1000		6.4	171	241			6.3	240	342			6.3	354	505			6.2	475	692	
500		3.2	86	241			3.1	120	342			3.1	177	505			3.1	238	692	
1450	189	7.7	206	241	250*	174	8.3	318	342	280*	189	7.7	432	505	360*	178	8.2	630	692	460*
1000		5.3	142	241			5.8	219	342			5.3	298	505			5.6	434	692	
500		2.7	71	241			2.9	110	342			2.6	149	505			2.8	217	692	
1450	198	7.3	196	241	250*	201	7.2	274	342	280*	202	7.2	403	505	360*	203	7.2	552	692	460*
1000		5.0	135	241			5.0	189	342			4.9	278	505			4.9	381	692	
500		2.5	68	241			2.5	95	342			2.5	139	505			2.5	190	692	
1450	232	6.2	168	241	250*	236	6.1	234	342	280*	231	6.3	352	505	360*	220	6.6	509	692	460*
1000		4.3	116	241			4.2	162	342			4.3	243	505			4.6	351	692	
500		2.2	58	241			2.1	81	342			2.2	122	505			2.3	176	692	
1450	253	5.7	154	241	250*	257	5.6	215	342	280*	267	5.4	305	505	360*	239	6.1	467	692	460*
1000		4.0	106	241			3.9	148	342			3.7	210	505			4.2	322	692	
500		2.0	53	241			1.9	74	342			1.9	105	505			2.1	161	692	
1450	277	5.2	141	241	250*	281	5.2	197	342	280*	289	5.0	283	505	360*	288	5.0	388	692	460*
1000		3.6	97	241			3.6	136	342			3.5	195	505			3.5	268	692	
500		1.8	48	241			1.8	68	342			1.7	97	505			1.7	134	692	
1450	320	4.5	122	241	250*	309	4.7	179	342	280*	313	4.6	261	505	360*	327	4.4	342	692	460*
1000		3.1	84	241			3.2	123	342			3.2	180	505			3.1	236	692	
500		1.6	42	241			1.6	62	342			1.6	90	505			1.5	118	692	
1450	346	4.2	113	241	250*	348	4.2	159	342	280*	372	3.9	219	505	360*	355	4.1	315	692	460*
1000		2.9	78	241			2.9	110	342			2.7	151	505			2.8	217	692	
500		1.4	39	241			1.4	55	342			1.3	76	505			1.4	109	692	
1450	409	3.5	95	241	250*	414	3.5	133	342	280*	409	3.5	199	505	360*	386	3.8	289	692	460*
1000		2.4	66	241			2.4	92	342			2.4	137	505			2.6	200	692	
500		1.2	33	241			1.2	46	342			1.2	69	505			1.3	100	692	
1450	447	3.2	87	241	250*	456	3.2	121	342	280*	453	3.2	180	505	360*	465	3.1	240	692	460*
1000		2.2	60	241			2.2	84	342			2.2	124	505			2.1	166	692	
500		1.1	30	241			1.1	42	342			1.1	62	505			1.1	83	692	
1450	492	2.9	79	241	250*	505	2.9	109	342	280*	510	2.8	160	505	360*	515	2.8	217	692	460*
1000		2.0	55	241			2.0	75	342			2.0	110	505			1.9	150	692	
500		1.0	27	241			1.0	38	342			1.0	55	505			1.0	75	692	
1450	545	2.7	71	241	250*	556	2.6	99	342	280*	553	2.6	147	505	360*	564	2.6	198	692	460*
1000		1.8	49	241			1.8	69	342			1.8	102	505			1.8	137	692	
500		0.92	25	241			0.90	34	342			0.90	51	505			0.89	68	692	
1450	665	2.2	59	241	250*	673	2.2	82	342	280*	658	2.2	124	505	360*	620	2.3	180	692	460*
1000		1.5	40	241			1.5	57	342			1.5	85	505			1.6	124	692	
500		0.75	20	241			0.74	28	342			0.76	43	505			0.81	62	692	
1450	732	2.0	53	241	250*	741	2.0	75	342	280*	724	2.0	113	505	360*	687	2.1	163	692	460*
1000		1.4	37	241			1.3	51	342			1.4	78	505			1.5	112	692	
500		0.68	18.3	241			0.67	26	342			0.69	39	505			0.73	56	692	
1450											801	1.8	102	505	360*					
1000												1.2	70	505						
500												0.62	35	505						
Potenze termiche / Thermal power / Термическая мощность P_{TN} [kW]																				
(senza raffreddamento / Without cooling / без охлаждения)																				
	236					289					365					440				

* A richiesta / On request / По запросу

1.12 Motori applicabili

1.12 Compatible motors

1.12 Совместимость с моторами

		IEC															
		63	71	80	90	100	112	132	160	180	200	225	250	280	315	355	
RXP2	802							o			*						
	804								o		*	*					
	806								o	o		*					
	808									o	o		*	*			
	810										o	o		*			
	812											o	o	*	*		
	814												o	o	*	*	
	816													o	o	*	
	818														o	o	*
	820															o	*
RXP3	802			o	o	o	o	o	*	*	*						
	804				o	o	o	o	o*	*	*	*					
	806					o	o	o	o	*	*	*					
	808						o	o	o	o	*	*	*	*			
	810						o	o	o	o		*	*	*	*		
	812						o	o	o	o	o	o	*	*	*		
	814							o	o	o	o	o	*	*	*		
	816							o	o	o	o	o	o	*	*	*	
	818								o	o	o	o	o	o	*	*	
	820								o	o	o	o	o	o	*	*	
RXP4	802	o	o	o	o	o											
	804	o	o	o	o	o	o										
	806		o	o	o	o	o	o									
	808		o	o	o	o	o	o									
	810		o	o	o	o	o	o									
	812			o	o	o	o	o	o								
	814			o	o	o	o	o	o								
816							o	o	o	o							



PAM...D (opzionale per RXP2 e RXP3 / optional for RXP2 e RXP3 / опционально для RXP2 и RXP3)



PAM...G

* Accoppiamenti consentiti solamente in posizioni di montaggio M5 ed M6.

* Given motor/gearbox connections are possible only in presence of mounting positions M5 and M6.

* Данные соединения мотор\редукторов возможны только для монтажных положений M5 и M6

N.B: Per ulteriori accoppiamenti non previsti a catalogo consultare il ns. servizio tecnico commerciale.

NOTE: For coupling with motors not listed in this catalogue, please contact our Sales Engineers.

ПРИМЕЧАНИЕ: для совместимости с моторами не указанными в данном каталоге, свяжитесь с нашими инженерами продаж.

I motori autofrenanti di taglia maggiore o uguale a 160 accoppiati agli RXP3 devono essere supportati anche con l' ausilio dei propri piedi (B3-B5).

The brake motors above size 160 (included) coupled with RXP3 must be supported by their own mounting feet as well (B3-B5).

Двигатели с тормозом свыше 160 габарита (включительно) соединяемые с RXP3 должны также крепиться лапами (B3-B5).

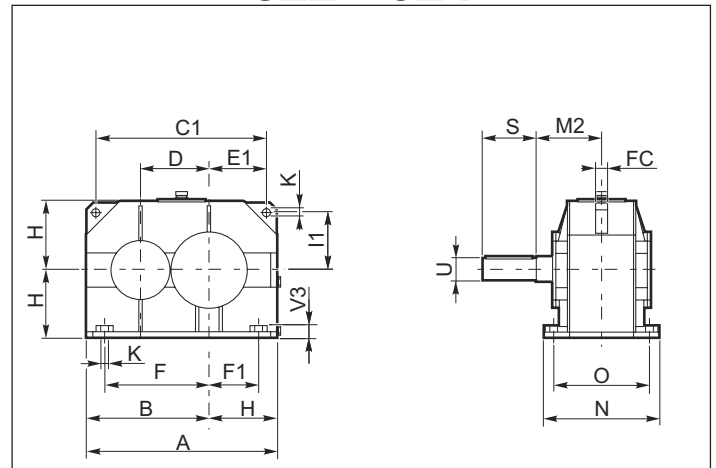
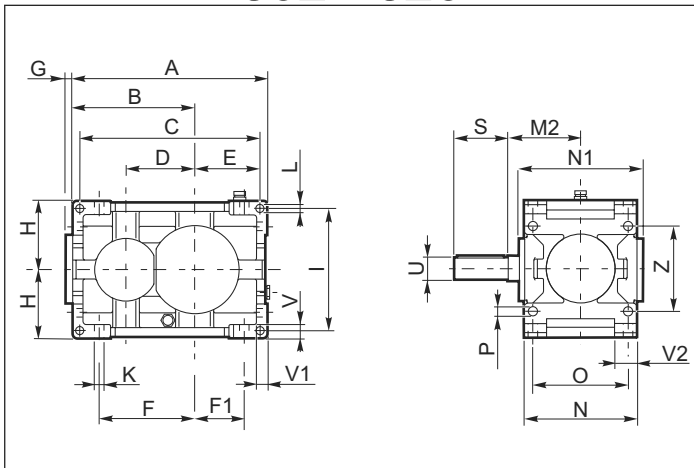
1.14 Dimensioni

802 - 820

1.14 Dimensions

1.14 Габаритные размеры

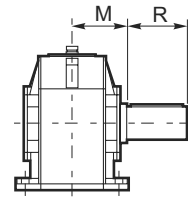
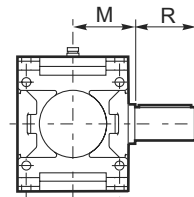
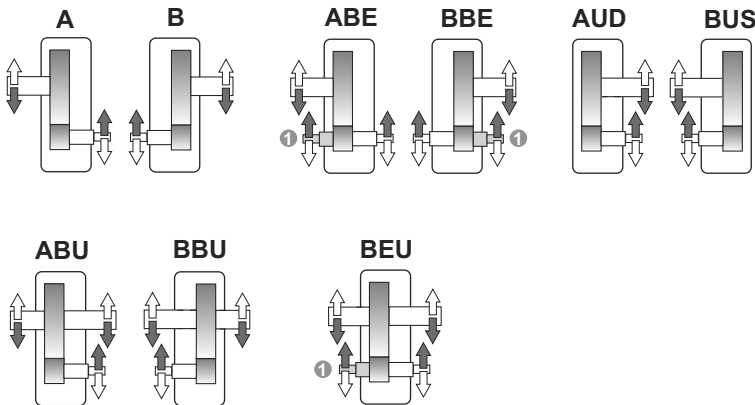
822 - 824



Esecuzione grafica / Shaft arrangement / Расположение валов

Albero uscita / Output shaft / Выходной вал

➔ **N D FD Fn**

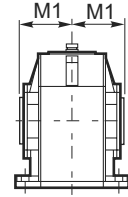
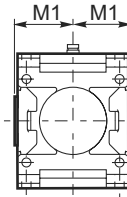
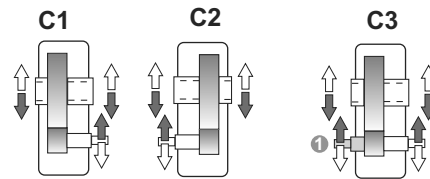


N

Tm6

F4

➔ **C**

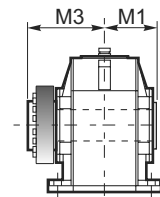
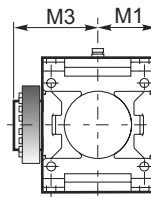
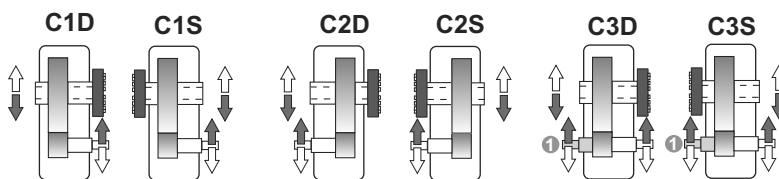


C

Th7

F5

➔ **UB B**






UB

Th7

F6

① ➔ F2 Estremita bisporgente / Double-extended shaft / Исполнение с двойным валом

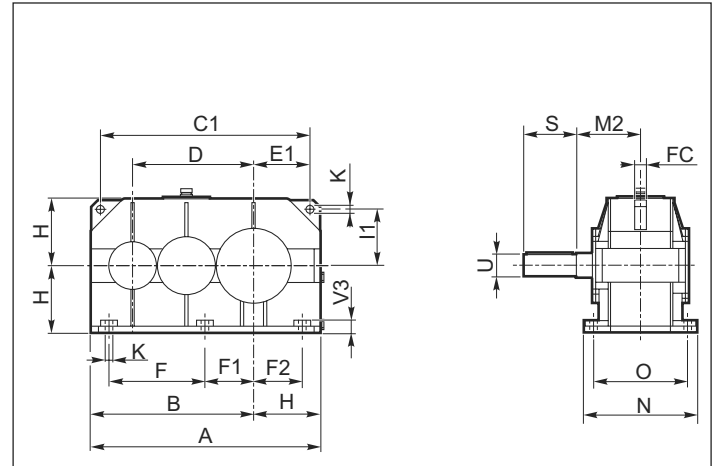
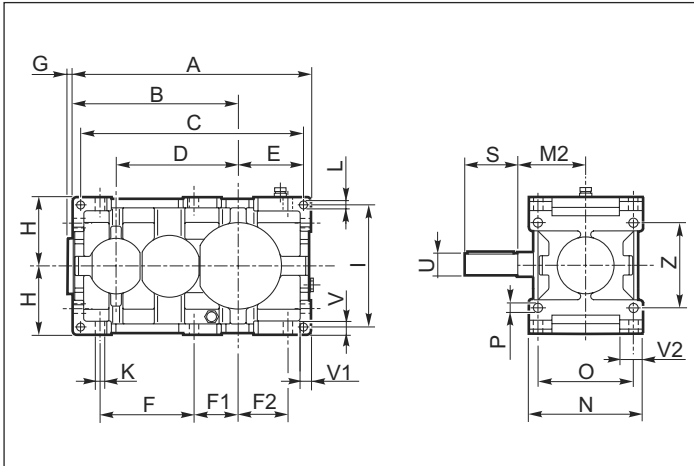
	Dimensioni generali / Dimensions / Габаритные размеры																									
	A	B	C	C1	D	E	E1	F	F1	FC	G	H h11	I	I1	K	L	N h11	N1	O	P	V	V1	V2	V3	Z	Kg
802	355	225	327	—	125	116	—	175	90	—	19	125	224	—	18	14	213	219	180	18	25	20	44.5	—	160	71
804	402	252	370	—	140	134	—	196	104	—	20	140	250	—	20	16	237	241	200	20	28	22.5	49	—	180	103
806	455	285	421	—	160	153	—	222	117	—	23	160	280	—	22	18	269	271	225	22	32	25	56.5	—	200	115
808	510	320	472	—	180	171	—	250	130	—	25	180	320	—	25	20	297	299	250	25	36	28	59.5	—	224	200
810	570	360	530	—	200	190	—	280	145	—	28	200	360	—	27	22	335	327	280	27	40	32	67.5	—	250	281
812	645	405	600	—	225	217.5	—	315	160	—	30	225	400	—	30	24	379	380	315	30	45	36	78.5	—	280	376
814	715	450	665	—	250	240	—	350	180	—	34	250	450	—	33	27	427	424	355	33	50	40	89	—	320	550
816	805	505	749	—	280	272	—	393	203	—	36	280	500	—	36	30	479	473	400	36	56	45	96.5	—	360	771
818	910	570	846	—	320	308	—	445	230	—	41	315	560	—	39	35	541	497	450	39	63	50	114.5	—	400	1079
820	1020	640	948	—	360	344	—	500	260	—	44	355	638	—	42	39	599	550	500	42	70	56	124	—	450	1511
822	1115	715	—	985	400	—	335	615	300	60	—	400	—	335	45	—	675	—	560	—	—	—	—	55	—	2115
824	1255	805	—	1125	450	—	385	675	320	60	—	450	—	385	48	—	761	—	630	—	—	—	—	60	—	2960

	Albero entrata / Input shaft / Входной вал			Albero uscita / Output shaft / Выходной вал								
	U	S	M2									
				T m6	R	M	T H7	M1	T H7	M1	M3	
802	45 kJ6	112	137	60	112	109	60	109	60	109	170	
804	50 k6	112	151	70	125	121	70	121	70	121	192	
806	55 m6	125	170	80	140	137	80	137	80	137	215	
808	60 m6	140	192	90	160	151	90	151	90	151	246	
810	65 m6	140	216	100	180	170	100	170	100	170	266	
812	70 m6	160	242	110	200	192	110	192	110	192	302	
814	80 m6	180	273	125	225	216	125	216	125	216	335	
816	90 m6	180	302	140	250	242	140	242	140	242	370	
818	100 m6	200	273	160	280	273	160	273	160	273	422	
820	110 m6	200	302	180	315	302	180	302	180	302	477	
822	125 m6	225	340	200	355	340	200	340	200	340	*	
824	140 m6	250	383	220	400	383	220	383	220	383	*	

* A richiesta / On request / По запросу

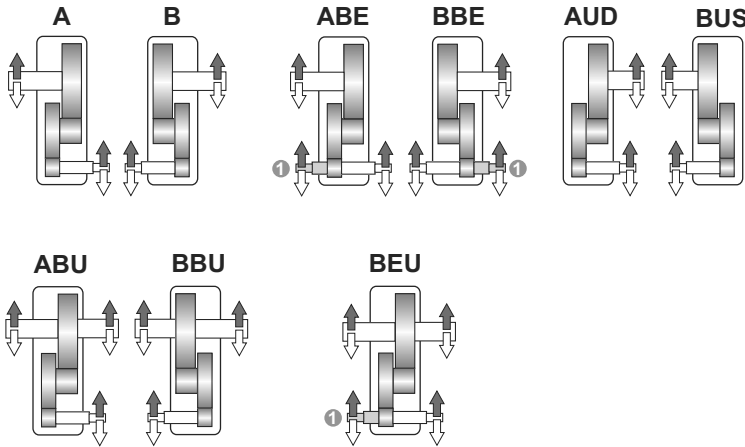
802 - 820

822 - 828

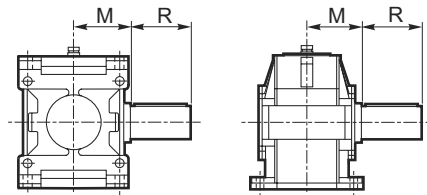


Esecuzione grafica / Shaft arrangement / Расположение валов

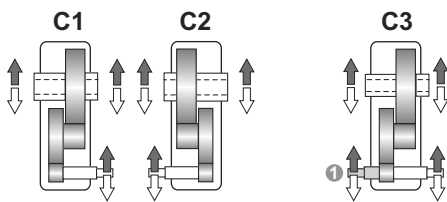
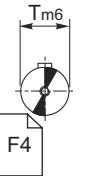
Albero uscita / Output shaft / Выходной вал



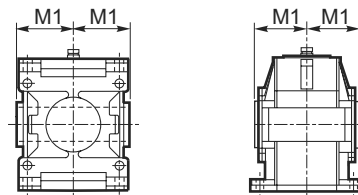
⇒ **N D FD Fn**



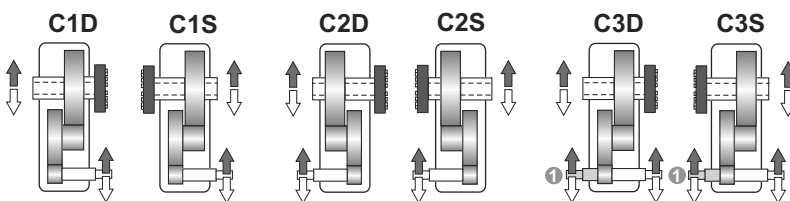
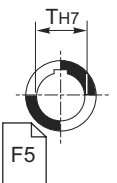
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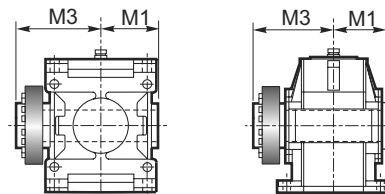
⇒ **C**



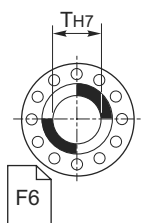
C



⇒ **UB B**



UB

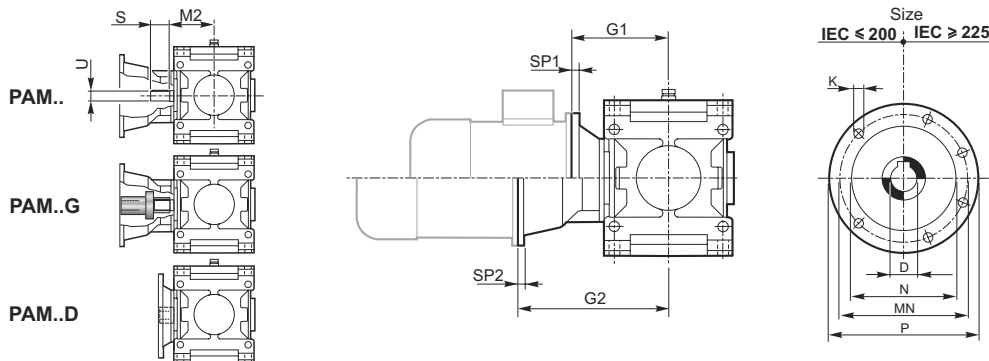


① ⇒ F2 Estremità bisorgente / Double-extended shaft / Исполнение с двойным валом

	Dimensioni generali / Dimensions / Габаритные размеры																				Kg					
	A	B	C	C1	D	E	E1	F	F1	F2	FC	G	H _{h11}	I	I1	K	L	N _{h11}	O	P		V	V1	V2	V3	Z
802	435	305	407	—	225	116	—	172.5	82.5	90	—	16	125	224	—	18	14	213	180	18	25	20	44.5	—	160	87
804	492	342	460	—	252	134	—	195	91	104	—	17	140	250	—	20	16	237	200	20	28	22.5	49	—	180	120
806	555	385	521	—	285	153	—	219.5	102.5	117	—	19	160	280	—	22	18	269	225	22	32	25	56.5	—	200	172
808	622	432	584	—	320	171	—	246	116	130	—	20	180	320	—	25	20	297	250	25	36	28	59.5	—	224	236
810	695	485	655	—	360	190	—	275	130	145	—	23	200	360	—	27	22	335	280	27	40	32	67.5	—	250	341
812	785	545	740	—	405	217.5	—	307.5	147.5	160	—	25	225	400	—	30	24	379	315	30	45	36	78.5	—	280	466
814	875	610	825	—	450	240	—	345	165	180	—	28	250	450	—	33	27	427	355	33	50	40	89	—	320	648
816	985	685	929	—	505	272	—	388	185	203	—	30	280	500	—	36	30	479	400	36	56	45	96.5	—	360	906
818	1110	770	1046	—	570	308	—	437.5	207.5	230	—	34	315	560	—	39	35	541	450	39	63	50	114.5	—	400	1270
820	1245	865	1173	—	640	344	—	492.5	232.5	260	—	36	355	638	—	42	39	599	500	42	70	56	124	—	450	1778
822	1370	970	—	1240	720	—	335	570	300	300	60	—	400	—	335	45	—	675	560	—	—	—	—	55	—	2488
824	1540	1090	—	1410	810	—	385	640	320	320	60	—	450	—	385	48	—	761	630	—	—	—	—	60	—	2961
826	1715	1215	—	1565	900	—	425	715	365	365	70	—	500	—	425	52	—	855	710	—	—	—	—	65	—	4145
828	1925	1365	—	1755	1010	—	475	805	415	415	2x50	—	560	—	475	56	—	965	800	—	—	—	—	80	—	5766

	Albero entrata / Input shaft / Входной вал			Albero uscita / Output shaft / Выходной вал									
	U	S	M2										
				T m6	R	M	T H7	M1	T H7	M1	M3		
802	32 kJ6	80	109	60	112	109	60	109	60	109	60	109	170
804	35 k6	80	121	70	125	121	70	121	70	121	70	121	192
806	45 k6	112	137	80	140	137	80	137	80	137	80	137	215
808	50 k6	112	151	90	160	151	90	151	90	151	90	151	246
810	55 m6	125	170	100	180	170	100	170	100	170	100	170	266
812	60 m6	140	192	110	200	192	110	192	110	192	110	192	302
814	65 m6	140	216	125	225	216	125	216	125	216	125	216	335
816	70 m6	160	242	140	250	242	140	242	140	242	140	242	370
818	80 m6	180	273	160	280	273	160	273	160	273	160	273	422
820	90 m6	180	302	180	315	302	180	302	180	302	180	302	477
822	100 m6	200	340	200	355	340	200	355	200	355	200	355	*
824	110 m6	200	383	220	400	383	220	400	220	400	220	400	*
826	125 m6	225	430	250	450	430	250	450	250	450	250	450	*
828	140 m6	250	485	280	500	485	280	500	280	500	280	500	*

* A richiesta / On request / По запросу

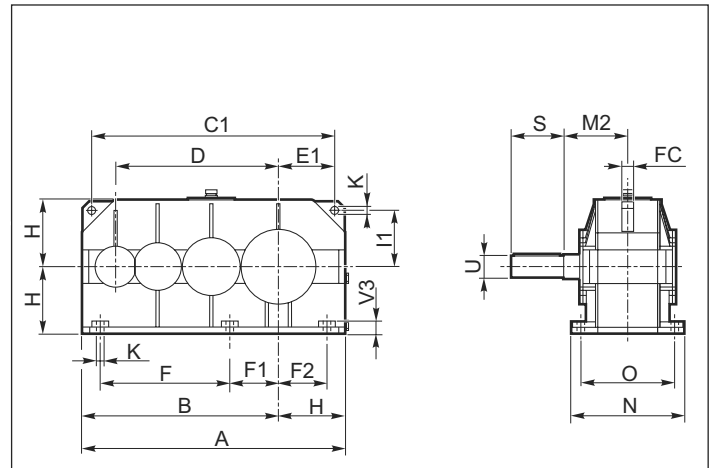
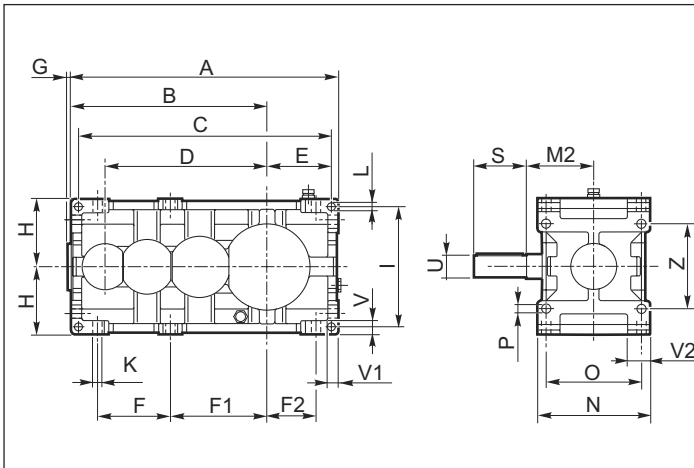


NB: Applicabilità motori al punto 1.12 / Possible assembly to IEC motors (see paragraph 1.12) / Возможные комбинации с IEC электродвигателями (см. параграф 1.12)

	IEC														
	71	80	90	100	112	132	160	180	200	225	250	280	315	355	
D H7	14	19	24	28	28	38	42	48	55	60	65	75	80	100	
P	160	200	200	250	250	300	350	350	400	450	550	550	660	800	
MN	130	165	165	215	215	265	300	300	350	400	500	500	600	740	
N G6	110	130	130	180	180	230	250	250	300	350	450	450	550	680	
K	M8	M10	M10	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20	
SP/SP2	12/12	12/12	12/12	14/14	14/14	16/16	18/18	18/18	20/20	20/20	20/20	20/20	24/24	30	
G1/G2	802					170/273	—/303	—/303	—/303						
	804						205/315	—/315	—/315	—/345					
	806						195/363	205/363	—/363	—/393					
	808							205/377	215/377	—/407	—/407	—/407			
	810								205/409	245/439	—/439	—/439			
	812									240/476	250/476	—/476	—/506		
	814										235/500	250/500	—/530	—/570	
	816											260/546	—/576	—/616	
	818											260/597	290/627	—/667	
	820												320/656	—/696	
822															
828															

802 - 820

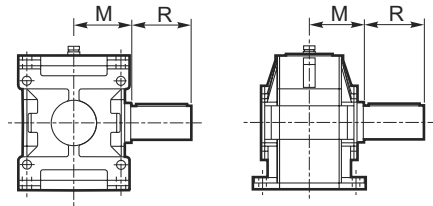
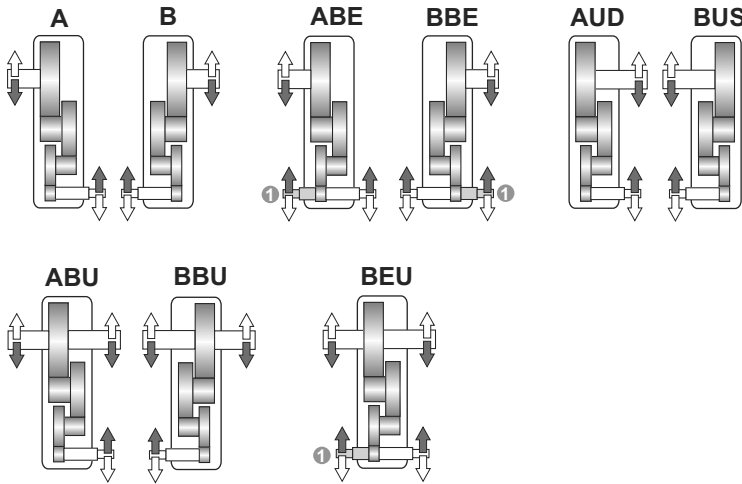
822 - 832



Esecuzione grafica / Shaft arrangement / Расположение валов

Albero uscita / Output shaft / Выходной вал

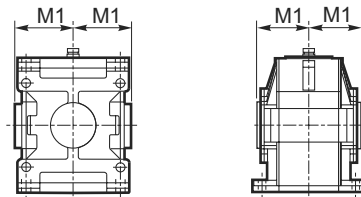
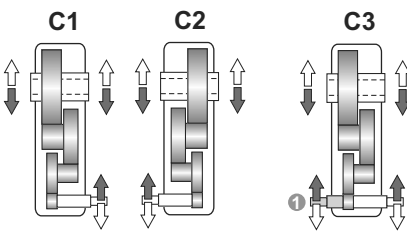
→ **N D FD Fn**



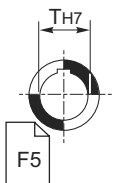
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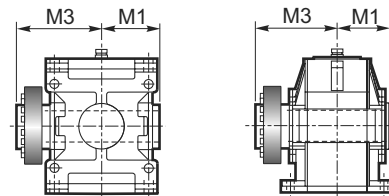
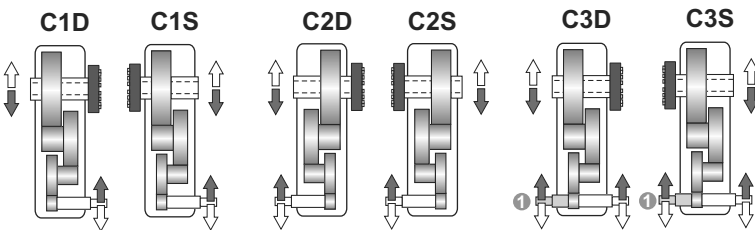
→ **C**



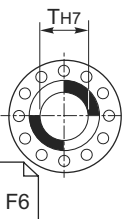
C



→ **UB B**



UB

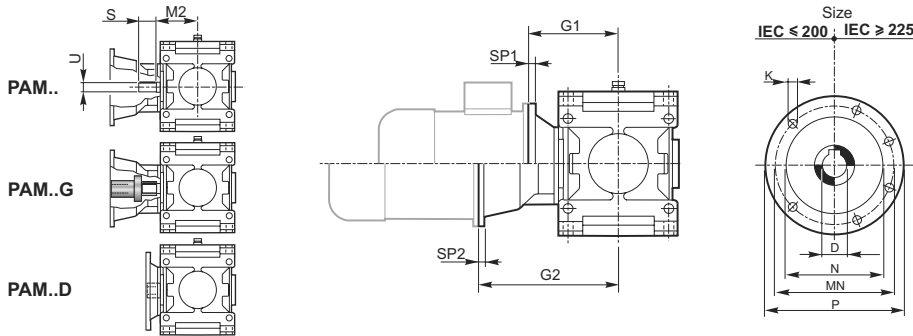


① → **F2** Estremità bisorgente / Double-extended shaft / Исполнение с двойным валом

Dimensioni generali / Dimensions / Габаритные размеры																										
	A	B	C	C1	D	E	E1	F	F1	F2	FC	G	H _{h11}	I	I1	K	L	N _{h11}	O	P	V	V1	V2	V3	Z	Kg
802	498	368	470	—	305	116	—	136	182	90	—	12	125	224	—	18	14	213	180	18	25	20	44.5	—	160	99
804	562	412	530	—	342	134	—	153	202.5	103.5	—	13	140	250	—	20	16	237	200	20	28	22.5	49	—	180	138
806	635	465	601	—	385	153	—	173	229	117	—	16	160	280	—	22	18	269	225	22	32	25	56.5	—	200	243
808	712	522	674	—	432	171	—	194	258	130	—	17	180	320	—	25	20	297	250	25	36	28	59.5	—	224	273
810	795	585	755	—	485	190	—	216	288	144	—	19	200	360	—	27	22	335	280	27	40	32	67.5	—	250	382
812	897	657	852	—	545	217.5	—	242	324.5	159.5	—	20	225	400	—	30	24	379	315	30	45	36	78.5	—	280	534
814	1000	735	950	—	610	240	—	271	363	179	—	23	250	450	—	33	27	427	355	33	50	40	89	—	320	758
816	1125	825	1069	—	685	272	—	305	407.5	202.5	—	25	280	500	—	36	30	479	400	36	56	45	96.5	—	360	1045
818	1270	930	1206	—	770	308	—	345	460	230	—	28	315	560	—	39	35	541	450	39	63	50	114.5	—	400	1464
820	1425	1045	1353	—	865	344	—	388	516.5	259.5	—	30	355	638	—	42	39	599	500	42	70	56	124	—	450	2049
822	1570	1170	—	1440	970	—	335	770	300	300	60	—	400	—	335	45	—	675	560	—	—	—	—	56	—	2346
824	1765	1315	—	1635	1090	—	385	865	320	320	60	—	450	—	385	48	—	761	630	—	—	—	—	60	—	3414
826	1970	1470	—	1820	1220	—	425	970	365	365	70	—	500	—	425	52	—	855	710	—	—	—	—	65	—	4780
828	2210	1650	—	2040	1370	—	475	1090	415	415	2x50	—	560	—	475	56	—	965	800	—	—	—	—	80	—	6691
830	2485	1855	—	2305	1540	—	540	1225	470	470	2x50	—	630	—	540	60	—	1085	900	—	—	—	—	80	—	9368
832	2795	2085	—	2615	1730	—	620	1375	540	540	2x50	—	710	—	620	60	—	1185	1000	—	—	—	—	100	—	13064

	Albero entrata / Input shaft / Входной вал			Albero uscita / Output shaft / Выходной вал								
	U	S	M2									
				T m6	R	M	T H7	M1	T H7	M1	M3	
802	24 j6	63	109	60	112	109	60	109	60	109	170	
804	28 j6	63	121	70	125	121	70	121	70	121	192	
806	32 k6	80	137	80	140	137	80	137	80	137	215	
808	35 k6	80	151	90	160	151	90	151	90	151	246	
810	45 k6	112	170	100	180	170	100	170	100	170	266	
812	50 k6	112	192	110	200	192	110	192	110	192	302	
814	55 m6	125	216	125	225	216	125	216	125	216	335	
816	60 m6	140	242	140	250	242	140	242	140	242	370	
818	65 m6	140	273	160	280	273	160	273	160	273	422	
820	70 m6	160	302	180	315	302	180	302	180	302	477	
822	80 m6	180	340	200	355	340	200	340	200	340	*	
824	90 m6	180	383	220	400	383	220	383	220	383	*	
826	100 m6	200	430	250	450	430	250	430	250	430	*	
828	110 m6	200	485	280	500	485	280	485	280	485	*	
830	125 m6	225	545	320	500	545	320	545	320	545	*	
832	140 m6	250	595	350	560	595	350	595	350	595	*	

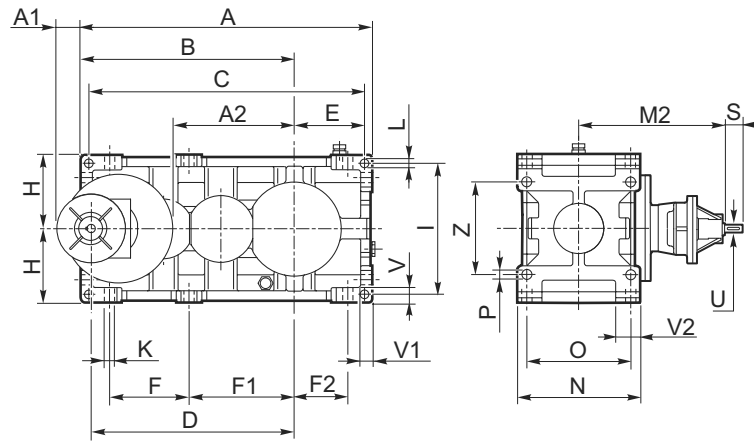
* A richiesta / On request / По запросу



NB: Applicabilità motori al punto 1.12 / Possible assembly to IEC motors (see paragraph 1.12) / Возможные комбинации с IEC электродвигателями (см. параграф 1.12)

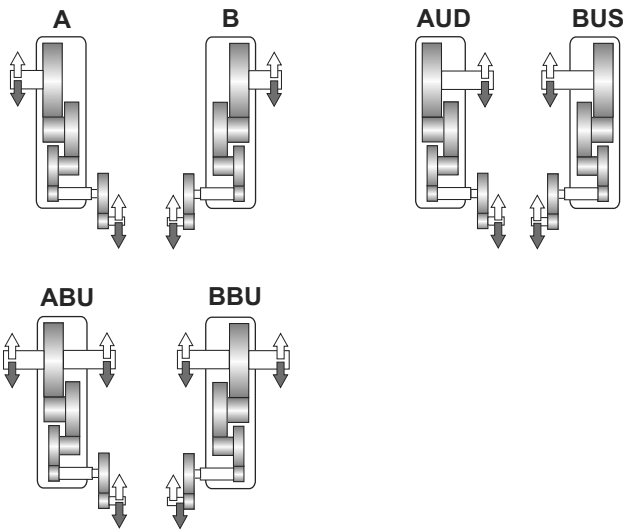
	IEC													
	80	90	100	112	132	160	180	200	225	250	280	315	355	
D H7	19	24	28	28	38	42	48	55	60	65	75	80	100	
P	200	200	250	250	300	350	350	400	450	550	550	660	800	
MN	165	165	215	215	265	300	300	350	400	500	500	600	740	
N G6	130	130	180	180	230	250	250	300	350	450	450	550	680	
K	M10	M10	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20	
SP1/SP2	12/12	12/12	14/14	14/14	16/16	18/18	18/18	20/20	20/20	20/20	20/20	24/24		
G1/G2	802	125/ —	125/226	125/236	125/236	195/256	— 286	— 286	— 286					
	804		135/ —	135/248	135/248	160/268	160/298	— 298	— 298	— 328				
	806			155/281	155/281	160/301	200/331	— 331	— 331	— 361				
	808			160/ —	160/ —	160/315	190/345	190/345	— 345	— 375	— 375	— 375		
	810			175/ —	175/ —	175/366	190/396	190/396	— 396	— 426	— 426	— 426	— 456	
	812			205/ —	205/ —	210/388	220/418	220/418	220/418	250/448	— 448	— 448	— 478	
	814					225/ —	225/455	225/455	230/455	250/485	— 485	— 485	— 515	
	816					245/ —	245/496	245/496	250/496	260/526	260/526	— 526	— 556	— 596
	818						280/ —	280/ —	280/527	280/557	290/557	290/557	— 587	— 627
	820						320/ —	320/ —	320/ —	320/606	320/606	320/606	— 636	— 676
822														
832														

802 - 816

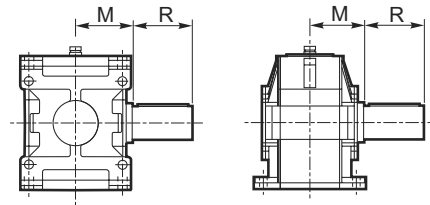


Esecuzione grafica / Shaft arrangement / Расположение валов

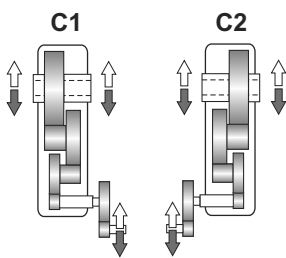
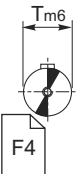
Albero uscita / Output shaft / Выходной вал



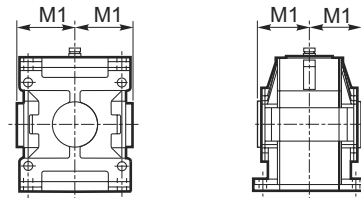
➔ **N D FD Fn**



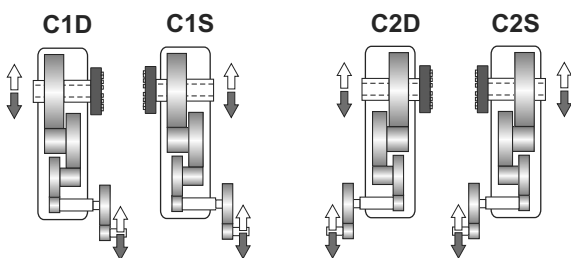
N



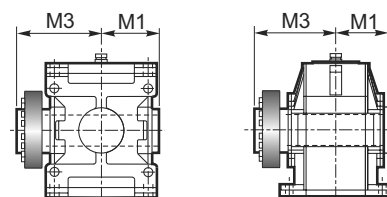
➔ **C**



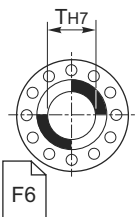
C



➔ **UB B**

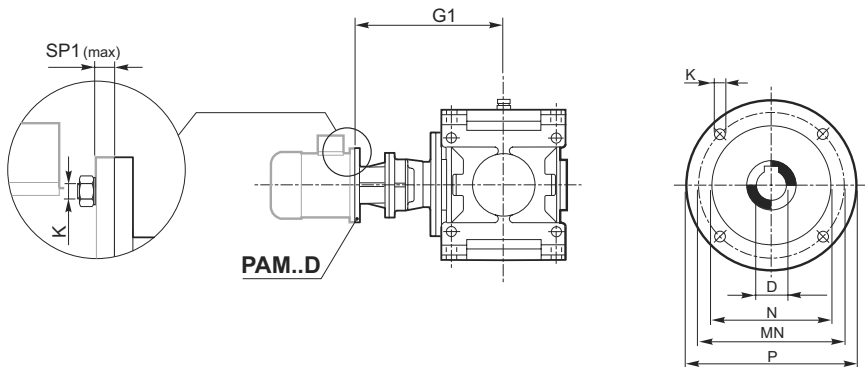


UB



Dimensioni generali / Dimensions / Габаритные размеры																											
	A	B	C	C1	D	D1	E	E1	F	F1	F2	FC	G	H _{h11}	I	H	K	L	N _{h11}	O	P	V	V1	V2	V3	Z	Kg
802	498	368	470	—	347	—	116	—	136	182	90	—	12	125	224	—	18	14	213	180	18	25	20	44.5	—	160	102
804	562	412	530	—	390	—	134	—	153	202.5	103.5	—	13	140	250	—	20	16	237	200	20	28	22.5	49	—	180	143
806	635	465	601	—	446	—	153	—	173	229	117	—	16	160	280	—	22	18	269	225	22	32	25	56.5	—	200	259
808	712	522	674	—	493	—	171	—	194	258	130	—	17	180	320	—	25	20	297	250	25	36	28	59.5	—	224	289
810	795	585	755	—	546	—	190	—	216	288	144	—	19	200	360	—	27	22	335	280	27	40	32	67.5	—	250	403
812	897	657	852	—	621	—	217.5	—	242	324.5	159.5	—	20	225	400	—	30	24	379	315	30	45	36	78.5	—	280	555
814	1000	735	950	—	686	—	240	—	271	363	179	—	23	250	450	—	33	27	427	355	33	50	40	89	—	320	779
816	1125	825	1069	—	780	—	272	—	305	407.5	202.5	—	25	280	500	—	36	30	479	400	36	56	45	96.5	—	360	1085

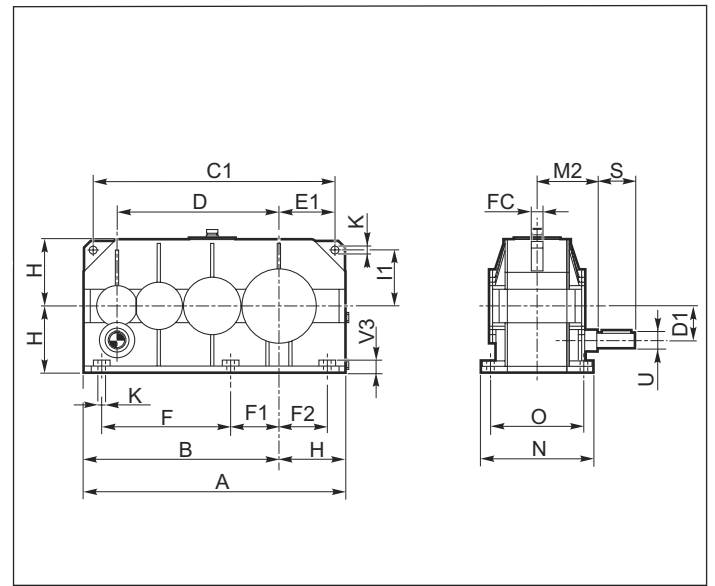
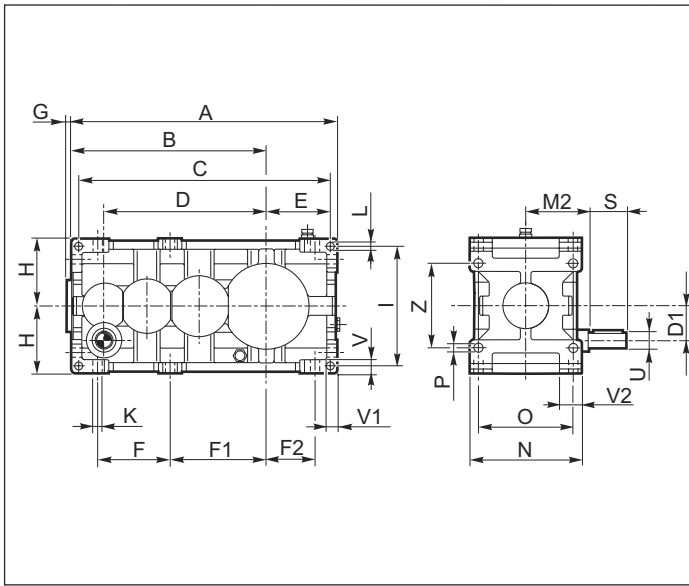
	Albero entrata / Input shaft / Входной вал		Albero uscita / Output shaft / Выходной вал										
	A1	A2	U	S	M2								
						T m6	R	M	T H7	M1	T H7	M1	M3
802	51	205	16 j6	40	266	60	112	109	60	109	60	109	170
804	48	262	16 j6	40	296	70	125	121	70	121	70	121	192
806	61	285	19 j6	40	348	80	140	137	80	137	80	137	215
808	51	307	19 j6	40	353	90	160	151	90	151	90	151	246
810	41	360	19 j6	40	368	100	180	170	100	170	100	170	266
812	64	395	24 j6	50	428	110	200	192	110	192	110	192	302
814	51	460	24 j6	50	443	125	225	216	125	216	125	216	335
816	80	535	28 j6	60	529	140	250	242	140	242	140	242	370



	IEC									
	63	71	80	90	100	112	132	160	180	200
D H7	11	14	19	24	28	28	38	42	48	55
P	140	160	200	200	250	250	300	350	350	400
MN	115	130	165	165	215	215	265	300	300	350
N G6	95	110	130	130	180	180	230	250	250	300
K	M8	M8	M10	M10	M12	M12	M12	M16	M16	M16
SP1	10	10	12	12	14	14	14	15	15	15
G1	802	250	250	270	270	280				
	804	267	267	287	287	297				
	806		314	329	329	339	339	363		
	808		319	334	334	344	344	368		
	810		334	349	349	359	359	383		
	812			409	409	420	420	440	470	
	814			424	424	435	435	455	485	
816							536	545	545	550

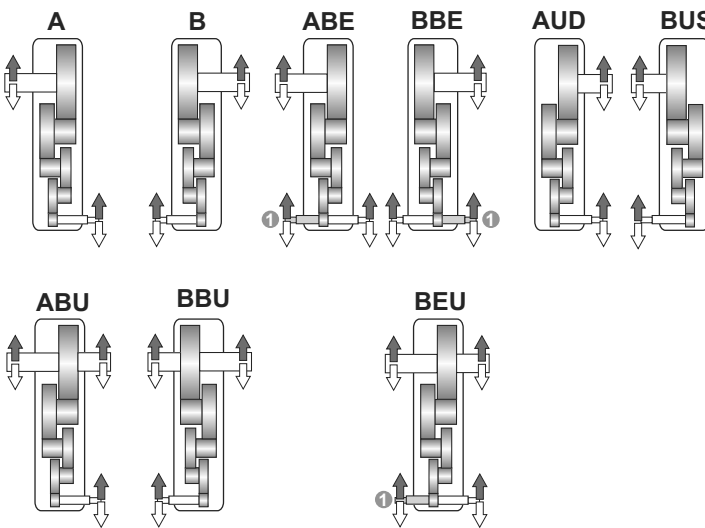
818 - 820

822 - 832

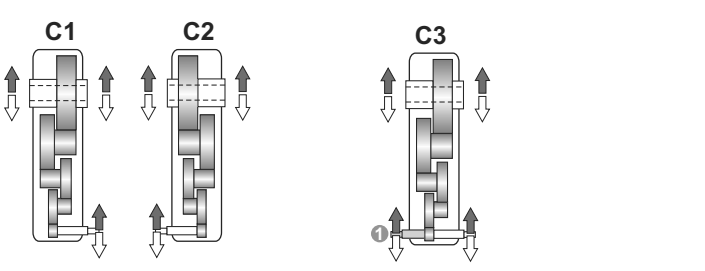
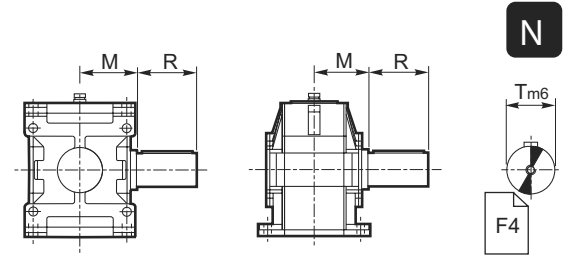


Esecuzione grafica / Shaft arrangement / Расположение валов

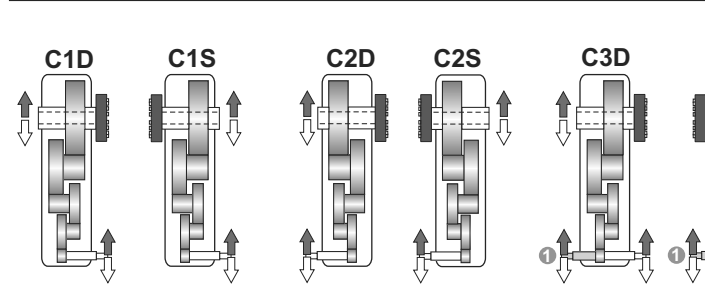
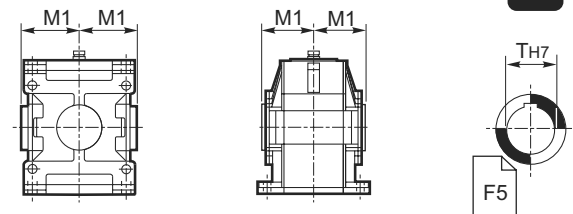
Albero uscita / Output shaft / Выходной вал



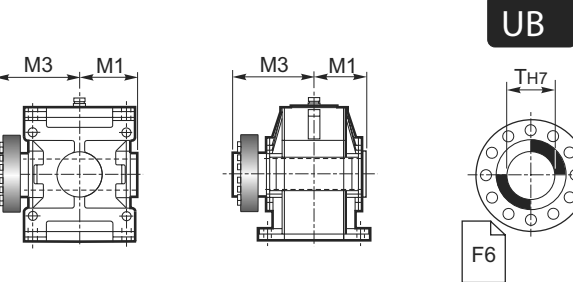
➔ **N D FD Fn**



➔ **C**






➔ **UB B**



① ➔ **F2** Estremità bisorgente / Double extended shaft / Исполнение с двойным валом

Dimensioni generali / Dimensions / Габаритные размеры																											
	A	B	C	C1	D	D1	E	E1	F	F1	F2	FC	G	H h11	I	I1	K	L	N h11	O	P	V	V1	V2	V3	Z	Kg
818	1270	930	1206	—	770	125	308	—	345	460	230	—	28	315	560	—	39	35	541	450	39	63	50	114.5	—	400	1524
820	1425	1045	1353	—	865	140	344	—	388	516.5	259.5	—	30	355	638	—	42	39	599	500	42	70	56	124	—	450	2204
822	1570	1170	—	1440	970	160	—	—	770	300	300	60	—	400	—	335	45	—	675	560	—	—	—	—	55	—	2520
824	1765	1315	—	1635	1090	180	—	—	865	320	320	60	—	450	—	385	48	—	761	630	—	—	—	—	60	—	3527
826	1970	1470	—	1820	1220	200	—	—	970	365	365	70	—	500	—	425	52	—	855	710	—	—	—	—	65	—	4938
828	2210	1650	—	2040	1370	225	—	—	1090	415	415	2x50	—	560	—	475	56	—	965	800	—	—	—	—	80	—	6912
830	2485	1855	—	2305	1540	250	—	—	1225	470	470	2x50	—	630	—	540	60	—	1085	900	—	—	—	—	80	—	9678
832	2795	2085	—	2615	1730	280	—	—	1375	540	540	2x50	—	710	—	620	60	—	1185	1000	—	—	—	—	100	—	13558

	Albero entrata / Input shaft / Входной вал			Albero uscita / Output shaft / Выходной вал									
	U	S	M2										
				T m6	R	M	T H7	M1	T H7	M1	M3		
818	45 k6	112	273	160	280	273	160	273	160	273	160	273	422
820	50 k6	112	302	180	315	302	180	302	180	302	180	302	477
822	55 m6	125	340	200	355	340	200	340	200	340	200	340	A richiesta On request По запросу
824	60 m6	140	383	220	400	383	220	383	220	383	220	383	
826	65 m6	140	430	250	450	430	250	430	250	430	250	430	
828	70 m6	160	485	280	500	485	280	485	280	485	280	485	
830	80 m6	180	545	320	500	545	320	545	320	545	320	545	
832	90 m6	180	595	350	560	595	350	595	350	595	350	595	

Predisposizioni per attacco motore IEC a richiesta
Provisions for IEC motor coupling available on request
Дополнительные соединения с IEC моторами доступны по запросу

1.0 RIDUTTORI - MOTORIDUTTORI ORTOGONALI
HELICAL BEVEL GEARBOXES AND GEARED MOTORS
ЦИЛИНДРОКОНИЧЕСКИЕ РЕДУКТОРЫ И МОТОР-РЕДУКТОРЫ

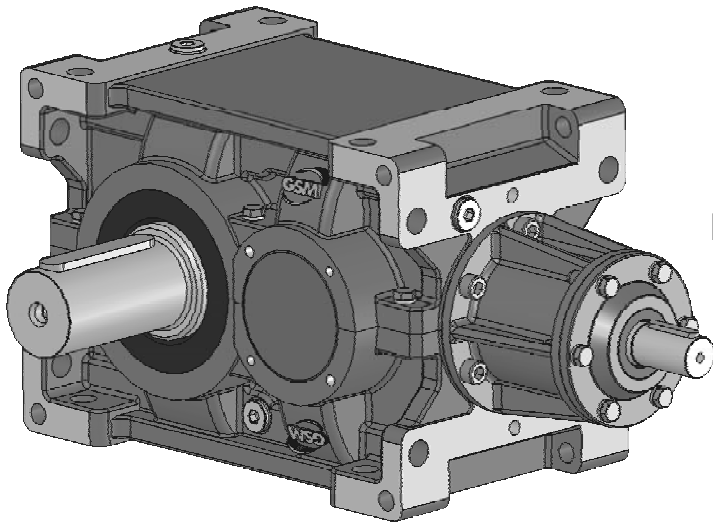
RXO
RXV

Pag.
Page
Стр.

B

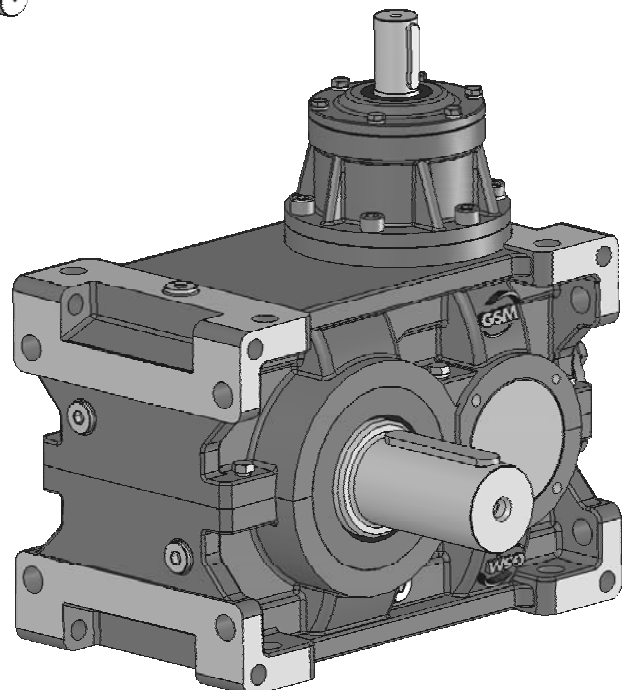
RXO - RXV

1.1	Caratteristiche costruttive	<i>Construction features</i>	Особенности конструкции	B2
1.2	Livelli di pressione sonora SPL [dB(A)]	<i>Mean sound pressure levels SPL [dB(A)]</i>	Средний уровень шума SPL [dB(A)]	B3
1.3	Criteri di selezione	<i>Gear unit selection</i>	Выбор редуктора	B4
1.4	Verifiche	<i>Verification</i>	Проверка правильности выбора	B7
1.5	Designazione	<i>Designation</i>	Маркировка	B12
1.6	Lubrificazione	<i>Lubrication</i>	Смазка	B15
1.7	Verifica carichi radiali e assiali	<i>Overhung and thrust load verification</i>	Проверка нагрузок на валы	B19
1.8	Prestazioni riduttori RXP1	<i>RXP1 gear unit ratings</i>	Характеристики редукторов RXP1	B21
1.9	Prestazioni riduttori RXP2	<i>RXP2 gear unit ratings</i>	Характеристики редукторов RXP2	B25
1.10	Prestazioni riduttori RXP3	<i>RXP3 gear unit ratings</i>	Характеристики редукторов RXP3	B29
1.11	Motori applicabili	<i>Compatible motors</i>	Совместимость с моторами	B33
1.12	Momenti d'inerzia	<i>Moments of inertia</i>	Моменты инерции	B34
1.13	Dimensioni	<i>Dimensions</i>	Габаритные размеры	B36



RXO

RXV



1.1 Caratteristiche costruttive**Generalità**

Le dimensioni dei nostri riduttori e i rapporti di trasmissione seguono la serie dei numeri normali (serie di RENARD) Ra 20 UNI 2016.68. I particolari accorgimenti adottati nella costruzione della carcassa esterna conferiscono ai nostri riduttori un'ampia versatilità di montaggio.

La grande scelta disponibile del tipo di esecuzione ci permette di soddisfare anche le esigenze più particolari. L'elevato numero di rapporti di trasmissione.

$i_N = (1.12 \text{ ч } 1250)$, consente in alcuni casi di scegliere un riduttore di taglia inferiore. La suddivisione della carcassa in due parti e i coperchi fissati con viti consentono una facile manutenzione.

Ingranaggi

Gli ingranaggi cilindrici a dentatura elicoidale, sono rettificati sul profilo ad evolvente dopo cementazione, tempra e rinvenimento finale. Gli ingranaggi conici a dentatura Gleason sono rodati, (o rettificati a seconda della grandezza del riduttore), dopo cementazione tempra e rinvenimento finale.

L'ottimizzazione geometrica dell'ingranaggio unitamente ad una accurata lavorazione, assicura bassi livelli di rumorosità e garantisce elevati rendimenti:

- 0.95 per un riduttore a due stadi di riduzione
- 0.93 per un riduttore a tre stadi di riduzione
- 0.91 per un riduttore a quattro stadi di riduzione

Tutti gli ingranaggi sono costruiti in:

- 16CrNi4, 20CrNi4, 18NiCrMo5, 20MnCr5 UNI 7846-78.

La capacità di carico è stata calcolata a pressione superficiale e a rottura secondo la normativa ISO 6336 (a richiesta sono possibili verifiche secondo le norme AGMA 2001-C95).

Alberi

Gli alberi lenti pieni sono realizzati in 39NiCrMo3 UNI 7845-78. Gli alberi veloci sono realizzati in 16 Cr Ni 4 UNI, 20MnCr5 UNI 7846-78 o in 39 Ni Cr Mo 3 UNI 7845-78. Sono verificati a flessione-torsione con elevato coefficiente di sicurezza. Le estremità d'albero cilindriche sono secondo UNI 6397-68, DIN 748, NF E 22.051, BS 4506-70, ISO/R 775-69, escluso corrispondenza R-S, con foro filettato in testa secondo DIN 1414.. Linguette secondo UNI 6604-69, DIN 6885 BI, 1-68, NF E 27.656 22.175, BS 4235.1-72, ISO/R 773-69 escluso corrispondenza I.

1.1 Construction features**General description**

Gear unit dimensions and transmission ratios follow a geometric progression based on the Ra20 series of preferred (or Renard) numbers in accordance with UNI 2016.68. The casing incorporates special design features to provide the utmost mounting versatility.

Our exhaustive range of designs is guaranteed to meet the requirements of every application, no matter how specific. Our broad range of transmission ratios.

$i_N = (1.12 \text{ ч } 1250)$ and high ratio density frequently allows selection of a smaller size. Split casing design and bolted covers ensure great ease of maintenance.

Gearing

Helical spur gear sets are first case hardened, hardened and tempered and finally their involute profile is ground. Gleason bevel gear sets are first case hardened, hardened and tempered and finally broken in (or ground, depending on gear unit size). Optimal gear geometry and high machining accuracy ensure low noise levels and higher efficiency:

- 0.95 for double reduction gear units
- 0.93 for triple reduction gear units
- 0.91 for quadruple reduction gear units

All gear sets are in:

- 16CrNi4, 20CrNi4, 18NiCrMo5, 20MnCr5 UNI 7846-78.

The load capacity of gear sets is calculated at contact and root bending stress in accordance with standard ISO 6336 (gears can be rated to AGMA 2001-C95 on request).

Shafts

Solid output shafts are manufactured from 39NiCrMo3 UNI 7845-78. Input shafts are made from 16 Cr Ni 4 UNI, 20MnCr5 UNI 7846-78 or 39 Ni Cr Mo 3 UNI 7845-78. Shaft calculations incorporate a high safety factor and are validated by bending and torsional stress analyses. Cylindrical shaft ends are in accordance with UNI 6397-68, DIN 748, NF E 22.051, BS 4506-70, ISO/R 775-69, excluding section R-S, with centre tapped hole at shaft end to DIN 1414. Keys are in accordance with UNI 6604-69, DIN 6885 BI, 1-68, NF E27.656 22.175, BS 4235.1-72, ISO/R 773-69 excluding section I.

1.1 Особенности конструкции**Общее описание**

Размеры и передаточные числа редукторов основаны на геометрической прогрессии с основанием в R20 серии по предпочтению или по Ренарду в соответствии с UNI2016.68.68 Корпус имеет особый дизайн для обеспечения максимальной универсальности при установке. Исчерпывающий модельный ряд гарантирует удовлетворение любых требований независимо от их особенностей. Широкий диапазон передаточных чисел $i_N = (1.12 - 1250)$ и высокий коэффициент плотности, позволяет выбрать наименьший подходящий размер. Крепежные отверстия и дизайн корпуса обеспечивают легкость монтажа.

Зубчатая передача

Косозубые цилиндрические передачи после цементации, закалки и отпуска, корректируются на эвольвентный профиль. Оптимальная геометрия и высокая точность обработки обеспечивают низкий уровень шума и высокий КПД передачи:

- 0.95 для двухступенчатого редуктора
- 0.93 для трехступенчатого редуктора
- 0.91 - четырехступенчатого редуктора

Все шестерни изготавливаются из:

- 16CrNi4, 20CrNi4, 18NiCrMo5, 20MnCr5 UNI 7846-78

Нагрузочная способность передачи рассчитывается по контакту и напряжению изгиба у основания зуба в соответствии с ISO 6336 (передача проверяется по AGMA 2001 C95, по запросу)

Валы

Цилиндрические выходные валы изготавливаются из стали 39NiCrMo3 UNI 7845-78 входные валы из стали 16 Cr Ni 4 UNI, 20MnCr5 UNI 7846-78 или 39 Ni Cr Mo 3 UNI 7845-78. Расчеты валов основаны на высоком коэффициенте безопасности и проходят проверку на изгиб и сжатие. Цилиндрические валы обрабатываются в соответствии с UNI6397-68, DIN 748, NFE 22.051, BS 4506-70, ISO/R 775-69, исключая раздел R-S, в центре на конце вала производится отверстие для DIN 1414. Шпонки с UNI 6604-69, DIN 6885BI, 1-68, NF E 27.656 22.175, BS 4235.1-72 ISO/R 773-69, исключая раздел I.

Cuscinetti

Tutti i cuscinetti sono del tipo a rulli conici o a rulli orientabili, di elevata qualità e dimensionati per garantire una lunga durata se lubrificati con il tipo di lubrificante previsto a catalogo.

Carcassa

La carcassa è ottenuta per fusione in GG 250 ISO 185 fino alla grandezza 820.

Le altre grandezze sono in acciaio Fe430 EN UNI 10025 composto elettrosaldato e disteso.

I particolari accorgimenti adottati nel disegno della struttura permettono di ottenere un' elevata rigidità.

Bearings

All bearings are high quality taper or self-aligning roller bearings suitably sized to ensure long service life provided the approved lubricants indicated in this catalogue are used.

Casing

Casings up to size 820 are cast from GG 250 ISO 185 cast iron.

All other sizes use casings fabricated from electrically welded stress relieved Fe430 steel EN UNI 10025.

Casing design incorporates special arrangements to provide superior rigidity.

Подшипники

Все подшипники высокого качества и имеют коническую или роликовую самоустанавливаемую форму, которая гарантирует длительный срок службы при условии, что будут использоваться утверждённые смазочные материалы, указанные в данном каталоге.

Корпус

Корпуса, вплоть до 820 размера изготавливаются из чугуна GG 250 ISO 185. Все остальные размеры изготавливаются из стали Fe430. Дизайн корпуса включает специальные элементы, создающие максимальную жесткость конструкции.

1.2 Livelli di pressione sonora SPL [dB(A)]

Valori normali di produzione del livello medio di pressione sonora SPL (dB(A)) a velocità in entrata di 1450 min⁻¹ (tolleranza +3 dB(A)). Valori misurati ad 1 m dalla superficie esterna del riduttore ed ottenuti su elaborazione di prove sperimentali eseguite. Per raffreddamento artificiale con ventola sommare ai valori di tabella: +2 dB(A) per ogni ventola. Per entrata ad un numero di giri diverso sommare i valori come in tabella.

Per particolari esigenze è possibile fornire riduttori con livello medio di pressione sonora ridotto.

1.2 Mean sound pressure levels SPL [dB(A)]

Noise levels are mean sound pressure levels SPL (dB(A)) and refer to normal operation at an input speed of 1450 rpm (tolerance +3 dB(A)). Measurements are taken at 1 m from the external surface of the gear unit and ratings are obtained by processing test data.

For fan-cooled applications, add 2dB(A) to table values for each fan. For different input speeds, add the appropriate values indicated in the table below.

Gear units with lower noise levels to suit particular needs are available on request.

1.2 Средний уровень шума SPL [dB(A)]

Под уровнем шума подразумевается звуковое давление SPL (dB(A)), создаваемое при нормальной работе с входной скоростью 1450об/мин. (отклонение +3 dB(A)). Измерения проводятся на расстоянии 1 метра от поверхности редуктора, и результаты получают путем обработки экспериментальных данных. Для системы охлаждения добавьте 2dB(A) в таблицу значений для каждого вентилятора. Для различных входных скоростей добавьте соответственные значения, указанные в таблице ниже. Радиаторы с более низкими уровнями шума, с учетом конкретных потребностей также доступны по запросу.

	RXO1		RXO2 - RXV2		RXO3 - RXV3	
	i < 2.5	i > 2.5	i < 50	i > 50	i < 250	i > 250
802	78	73	73	68	69	64
804	79	74	74	69	70	65
806	81	76	76	71	72	67
808	82	77	77	72	73	68
810	84	79	79	74	75	70
812	85	80	80	75	76	71
814	87	82	82	77	78	73
816	89	84	84	79	80	75
818	91	86	86	81	82	78
820	93	88	88	83	84	80
822	95	90	90	85	86	82
824	97	92	92	87	88	84
826			94	89	90	86
828			96	91	92	88
830					94	90
832					95	91

n ₁ [min ⁻¹]	2750	2400	2000	1750	1000	750	500	350
SPL [dB(A)]	8	6	4	2	-2	-3	-4	-6



1.3 Criteri di selezione

1.3 Gear unit selection

1.3 Подбор редуктора

Fattore di servizio - Fs

Il fattore di Servizio Fs dipende:

- a) dalle condizioni di applicazione
- b) dalla durata di funzionamento h/d
- c) avviamenti /ora
- d) dal grado di affidabilità o margine di sicurezza voluto .

Il fattore di servizio per casi specifici può essere assunto direttamente, altrimenti può essere calcolato in base ai singoli fattori: fattore di durata di funzionamento fs, dal numero di avviamenti /ora fv e dal fattore di sicurezza o grado di affidabilità fGa.

Service factor - Fs

Service factor Fs is determined on the basis of:

- a) operating conditions of application
- b) operation per day (h/d)
- c) starts and stops per hour
- d) desired reliability or safety factor.

Where service conditions allow it, the recommended service factor for a specific application may be used directly, otherwise the service factor must be calculated and the following factors must be considered: operation time factor fs, duty cycle factor fv and safety or reliability factor fGa.

Сервис-фактор - Fs

Коэффициент эксплуатации определяется по след. параметрам:

- a) условия работы устройства
- b) время работы в день(ч/сут)
- c) кол-во стартов\остановок в час.
- d) Требуемая надежность и коэфф. безопасности.

Там, где позволяют условия эксплуатации, рекомендуется принимать указанный сервис-фактор для конкретного применения, в ином случае сервис-фактор должен рассчитываться по параметрам: фактор рабочего

$$F_s = f_s \times f_v \times f_{Ga}$$

Le potenze e i momenti torcenti indicati a catalogo nominali sono validi per Fs=1.

Power and torque ratings stated in the catalogue refer to service factor Fs=1.

Номинальная мощность и крутящий момент указаны в каталоге из расчета сервис-фактора Fs=1

fs

Macchina motrice / Prime mover / Первичный двигатель	h/d	Macchina utilizzatrice Driven Machine Приводимая машина		
		U	M	S
Motori elettrici, Turbine, Motori oleodinamici Electric motors, Turbines, Hydraulic motors Электродвигатели, турбины, гидромоторы.	2	0.8	1.0	1.4
	4	0.9	1.12	1.6
	8	1.0	1.25	1.75
	16	1.25	1.5	2.0
	24	1.5	1.75	2.25
Motori alternativi 4-6 cilindri Combustion engines with 4-6 cylinders Двигатель внутреннего сгорания 4-6 цилиндровый	2	0.9	1.12	1.6
	4	1.0	1.25	1.75
	8	1.25	1.5	2.0
	16	1.5	1.75	2.25
	24	1.75	2.0	2.5
Motori alternativi 1-3 cilindri Combustion engines with 1-3 cylinders Двигатель внутреннего сгорания 1-3 цилиндровый	2	1.0	1.25	1.75
	4	1.25	1.5	2.0
	8	1.5	1.75	2.25
	16	1.75	2.0	2.5
	24	2.25	2.5	3.0

U= macchina a carico uniforme
M= macchina con urti moderati
S= macchina con urti severi

U= Uniform load
M= Moderate shock load
S= Heavy shock load

U = Постоянная нагрузка
M = Средняя нагрузка, толчки
S = Тяжелая нагрузка, сильные удары

h/d= ore di funzionamento giornaliero

h/d=
hours of operation per day

h/d= Время эксплуатации в день

Per i moltiplicatori di velocita, moltiplicare i valori di Fs per 1.1

For speed multipliers, multiply Fs by 1.1

Для мультипликатора Fs= 1,1

	SETTORE DI APPLICAZIONE	APPLICATION SECTOR	Область применения
U M	AGITATORI	AGITATORS	Мешалки
	Con densita uniforme Con densita non uniforme	Uniform product density Variable product density	Однородная плотность продукта Неоднородная плотность продукта
U M	ALIMENTARE	ALIMENTARY	Пищевая
	Maceratori, bollitori, coclee Trituratrici, sbucciatrici, scatoiatrici	Mashers, boilers, screw feeders, blenders, peelers, cartoners	Давилки, котлы, питатели цемента, блендеры, обдирочные станки, фасовочно-установочные автоматы
(1)U, M S	ARGANI	WINCHES	Лебёдки
	Sollevamento Trascinamento Bobinatori	Lifting Dragging Reel winders	Подъём Перемещение Бобины
U M S	CARTARIO	PAPER MILLS	Бумажное производство
	Avvolgitori, essiccatrici, pressatrici, Mescolatrici, estrusori, addensatrici Tagliatrici, lucidatrici	Winders, dryers, couch rolls Mixers, extruders, thickeners Cutters, glazing cylinders	Машины для намотки, сушилки Экструдеры, смесители, сгустители Режущий инструмент
S M	CHIMICO	CHEMICAL	Химическая
	Estrusori, stampatrici Importatrici	Extruders, printing presses Mixers	Экструдеры, печатные прессы Мешалки.
U M M	COMPRESSORI	COMPRESSORS	Компрессоры
	Centrifughi Rotativi Assiali	Centrifugal Rotating Axial piston	Центробежные Ротационные Поршневые
M S	DRAGHE	DREDGES	Экскаваторы
	Trasportatori Estratrici, teste fresatrici	Conveyors Extractors, cutter head drives	Ковшовые конвейеры Экстракторы, привод резца (головки)
M M S	EDILIZIA	BUILDING	Строительство
	Betoniere, coclee Frantoi, dosatrici Frantumatrici	Cement mixers, screw feeders Crushers, batchers Stone breakers	Бетономешалки Дробилки Камнедробилки
U M M	ELEVATORI	ELEVATORS	Элеваторы
	A nastro, scale mobili A tazza, montacarichi, skip Ascensori, ponteggi mobili	Belt type, escalators Bucket conveyors, hoists, skip hoists Public lifts, mobile scaffolding	Транспортер, эскалаторы Ковшовые конвейеры Лифты, фуникулеры, подмости
M M (1)U, M	GRU	CRANES	КРАНЫ
	Traslazione Rotazione Sollevamento	Translation Slew Lifting	Перемещение Поворот Подъём
M M M	LEGNO	WOOD	ДЕРЕВООБРАБАТЫВАЮЩАЯ
	Accatastatori Trasportatori Seghe, piallatrici, fresatrici	Stackers Transporters Saws, thicknessers, routers	Накопители Транспортеры Пилы, питатели, маршрутизаторы
M M S	MACCHINE UTENSILI	MACHINE TOOLS	СТАНКИ
	Alesatrici, brocciatrici, cesoiatrici Piegatrici, stampatrici Magli, laminatoi	Boring machines, broaching machines, shearing machines Bending machines, press forgers Power hammers, rolling mills	Бурильные машины, протяжные Ножницы, Пилы, питатели, маршрутизаторы Сгибающие машины, прессформы
U M	MESCOLATORI-MISCELATORI	MIXERS	МИКСЕРЫ
	Con densita uniforme Con densita non uniforme	Uniform density product Variable density product	Однородный продукт Неоднородный продукт
S M	MOVIMENTO TERRA	EARTH MOVING MACHINERY	ЭКСКАВАТОРЫ
	Escavatrici rotative a pale Trasportatori	Rotating shovel excavators Transporters	Бурильные установки Транспортеры
U M, S M, S	POMPE	PUMPS	НАСОСЫ
	Centrifughe Volumetriche a doppio effetto Volumetriche a semplice effetto	Centrifugal Double acting volumetric Single acting volumetric	Центрифуги Двухкамерные Двухкамерные
U M	TRASPORTATORI	CONVEYORS	Конвейеры
	Su rotaie A nastro	On rails Belts	Железнодорожные Ременные
M M U	TRATTAMENTO ACQUE	WATER TREATMENT	ВОДНАЯ ОБРАБОТКА
	Coclee, triturator Mescolatori, decantatori Ossigenatori	Screw feeders, disintegrators Mixers, settlers Oxygenators	Пищевые экструдеры Миксеры, дробилки Оксидгенатор
U M	VENTILATORI	FAN UNITS	ВЕНТИЛЯТОРЫ
	Di piccole dimensioni Di grandi dimensioni	Small Large	Малые Большие

1) Per la scelta del fs secondo F.E.M. /1.001/1987 consultare il capitolo "sollevamento".

1) For fs selection in accordance with F.E.M. /1.001/1987, please read Chapter "Lifting".

1)Для выбора fs в соответствии с F.E.M. /1.001/1987, прочтите главу "Подъемные"

Fattore correttivo - f_v

Fattore correttivo del fattore di servizio F_s , per tenere conto degli avviamenti/ora. Il fattore di servizio F_s deve aumentare in caso di avviamenti frequenti con coppia di spunto notevolmente maggiore di quella di regime tenendo conto degli avviamenti per ora secondo la seguente tabella.

f_v

Avv/h - Starts/minute- Старт\час	U	M	S
Z < 5	1	1	1
5 < Z < 30	1.2	1.12	1.06
30 < Z < 63	1.33	1.2	1.12
63 < Z	1.5	1.33	1.2

Fattore affidabilità - f_{Ga}

Un margine di sicurezza o di affidabilità è già inserito nella prestazione di catalogo del riduttore. Se per particolari esigenze è necessaria un' affidabilità maggiore si aumenti il fattore di servizio ed in particolare si può dare i seguenti fattori:

Grado di affidabilità normale: $f_{Ga} = 1$;
 Grado di affidabilità elevato (difficoltà di manutenzione, grande importanza del riduttore nel ciclo produttivo, sicurezza per le persone, ecc...): $f_{Ga} = 1.25 - 1.4$;
 Non occorre introdurre coefficienti correttivi nel caso che si alternino cicli di funzionamento con carichi applicati nei due sensi, poiché se ne è già tenuto conto nel progetto degli ingranaggi.

Fattore correttivo delle prestazioni - f_N

Fattore correttivo delle prestazioni nominali per tenere conto delle velocità in entrata $n_1 > 1450 \text{ min}^{-1}$.

f_n

n_1 [min^{-1}]	$i_N < 8$		$8 < i_N < 80$		$i_N < 80$	
	T_N	P_N	T_N	P_N	T_N	P_N
2750	0.82	1.56	0.90	1.71	1.00	1.90
2400	0.85	1.41	0.92	1.52	1.00	1.66
2000	0.90	1.24	0.94	1.30	1.00	1.38
1750	0.94	1.13	0.97	1.17	1.00	1.21
1450	1.00	1.00	1.00	1.00	1.00	1.00

Procedura di selezione

Conosciuti i dati dell' applicazione calcolare:

- $i = n_1/n_2$ rapporto richiesto

- potenza nominale:

$$f_n \times P_N = P_1 \times f_s \times f_v \times f_{Ga}$$

oppure

- coppia nominale:

$$f_n \times T_N = T_2 \times f_s \times f_v \times f_{Ga}$$

Scegliere gli stadi, il rapporto, la grandezza, l'esecuzione, la forma costruttiva e verificare le dimensioni del riduttore e di eventuali accessori o particolari estremità. Nel calcolo si consideri un rendimento per stadio di 0.98.

Duty cycle factor - f_v

This correction factor is used to adjust service F_s to reflect the number of starts per hour. Where an application involves frequent starts at a starting torque significantly greater than running torque, service factor f_s must be adjusted to account for the number of starts per hour using the factors indicated in following table.

Safety factor - f_{Ga}

Catalogue ratings incorporate a safety or reliability factor as standard. If greater reliability is required to meet specific requirements, service factor must be increased using the following factors:

*Standard safety factor: $f_{Ga} = 1$;
 High safety factor (recommended for difficult maintenance situations, where gear unit performs a critical task in the overall production process or a task such to affect the safety of people, etc...): $f_{Ga} = 1.25 - 1.4$;
 Applications with alternating duty cycles where load is applied in both directions have been considered in gear calculations and require no correction factors.*

Input speed factor - f_N

This correction factor is used to adjust performance ratings to account for input speeds $n_1 > 1450 \text{ min}^{-1}$.

Selection procedure

Locate application information and determine:

- required ratio $i = n_1/n_2$

- nominal power:

$$f_n \times P_N = P_1 \times f_s \times f_v \times f_{Ga}$$

or

- nominal torque:

$$f_n \times T_N = T_2 \times f_s \times f_v \times f_{Ga}$$

Select number of stages, ratio, size, shaft arrangement and design configuration and then check the dimensions of gear unit and any accessories or particular input/output configurations you have selected. Please consider 0.98 efficiency per stage in your calculations.

Фактор цикличности нагрузки - f_v

Этот поправочный коэффициент используется для корректировки фактора F_s чтобы отобразить кол-во запусков за час. В тех случаях, когда применение содержит частые запуски, а пусковой момент значительно больше, чем номинальный крутящий момент, фактор F_s должен быть скорректирован с учетом числа запусков в час, используя данные, указанные в табл.

Коэффициент безопасности - f_{Ga}

Каталог содержит стандартные коэф. безопасности и надёжности. Если необходима большая безопасность, необходимая для удовлетворения конкретных потребностей, то сервис-фактор F_s должен быть увеличен с помощью след. факторов: Стандартный фактор безопасности $f_{Ga}=1$ Высокий коэффициент безопасности (рекомендуется для работы в сложных ситуациях, для влияния на безопасность людей и т.д.): $f_{Ga} = 1.25 - 1.4$;
 Применения с периодически чередующимися циклами, где нагрузка происходит в обоих направлениях, учтены при расчетах редуктора не требуют поправочного коэффициента.

Фактор входной скорости - f_N

Этот поправочный коэффициент используется для расчёта скорости на входе более 1450 об/мин . $n_1 > 1450 \text{ min}^{-1}$

Процедура подбора

Выберите область применения и определите:

- $i = n_1/n_2$ передаточное отношение

- номинальную мощность:

$$f_n \times P_N = P_1 \times f_s \times f_v \times f_{Ga}$$

или

- крутящий момент

$$f_n \times T_N = T_2 \times f_s \times f_v \times f_{Ga}$$

Выберите число ступеней, передаточное отношение, размер, вариант сборки, а затем проверьте размеры редуктора и дополнительные опции или особенности входа/выхода, выбранного вами. Произведите расчеты исходя из КПД одной ступени редуктора 0.98.

1.4 Verifiche

1) Compatibilità dimensionale con ingombri disponibili (es diametro del tamburo) e delle estremità d'albero con giunti, dischi o pulegge.

2) Compatibilità del rapporto selezionato con l'esecuzione albero cavo.

3) Ammissibilità di carichi radiali e/o assiali esterni; i carichi radiali F_{r1} e F_{r2} ammissibili sono riportati nelle tabelle delle prestazioni e si intendono applicati in mezz'ora dell'estremità dell'albero. Per condizioni diverse consultare la pag. A19.

4) Massimo sovraccarico nel caso di:

- inversioni di moto per effetti inerziali,
- commutazioni da bassa ad alta polarità,
- avviamenti e frenature a pieno carico con grandi momenti d'inerzia (soprattutto nel caso di bassi rapporti),
- sovraccarichi, urti od altri effetti dinamici, deve essere verificata la condizione:

$$T_{max} = 2 \times T_N$$

5) Numero massimo di giri in entrata n_{1max} (vedere tabelle seguenti):

n_{1max} (min⁻¹)

	in	802		804		806		808		810		812		814		816		818		820	
		splash oil	splash oil	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.
RXO1	4.3-13.3	3500	3500	2900	3500	2900	3500	2500	2900	2500	2900	2000	2500	1750	2500	1500	2000	1500	2000	1500	2000
RXV1	13.4-28.6			3500		3500		2900	3500	2500	3500	2900	3500	2900	3500	2500	2900	2500	2900	2000	2900
RXO2	19-54.6	3500	3500	3500	3500	3500	3500	3500	3500	2900	3500	2900	3500	2500	2900	2500	2900	2500	2900	2000	2500
RXV2	54.6-130.5			3500		3500		3500	3500	3500	3500	3500	3500	2900	3500	2900	3500	2500	2900	2500	2900
RXO3	108-240	3500	3500	3500	3500	3500	3500	3500	3500	3500	3500	2900	3500	2500	3500	2500	3500	2500	3500	2500	3500
RXV3	i>240			3500		3500		3500	3500	3500	3500	3500	3500	3500		3500		2900		3500	

	in	822		824		826		828		830		932	
		splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.
RXO1	4.3-13.3	1500	2000	*									
RXV1	13.4-28.6	1750	2500	*									
RXO2	19-54.6	2000	2500	2000	2500	*		*					
RXV2	54.6-130.5		2900		2900								
RXO3	108-240	2500	2900	2500	2900	2000	2500	*		*		*	
RXV3	i>240						2900	2900					

* Valori su richiesta / Ratings supplied on request / Доступен по запросу

1.4 Verification

1) Ensure that dimensions are compatible with space constraints (for instance, drum diameter) and shaft ends are compatible with any couplings, discs or pulleys to be used.

2) Ensure that selected ratio is available for the hollow shaft configuration.

3) Check that overhung and/or thrust loads do not exceed permissible loads; permissible overhung loads F_{r1} and F_{r2} at midpoint of shaft extension are listed in the rating tables. For any conditions other than those listed above, please read page A19.

4) Determine maximum overload in the event of:

- reversing due to inertia,
- switching from low to high polarity,
- starts and stops under full load with high moment of inertia (this is especially important for low ratios),
- overload, shock load or other dynamic load conditions, and determine whether this condition is verified:

$$T_{max} = 2 \times T_N$$

5) Check maximum input speed (rpm) n_{1max} (see the following tables):

1.4 Проверка правильности выбора

1) Убедитесь в соответствии габаритных размеров с местом установки, а также конца валов с муфтами, дисками или шкивами.

2) Убедитесь, что для выбранного передаточного числа доступна конфигурация полого вала.

3) Убедитесь, что радиальная нагрузка и/или осевая нагрузка, не превышает допустимой; значения допустимых нагрузок F_{r1} и F_{r2} вала указаны в таблице. Для условий не перечисленных выше обратитесь на стр. A19

4) Определите максимальную нагрузку в случаях

- возможного реверса вследствие действия сил инерции
- перехода от низкой к высокой полярности
- во время запусков и остановок при полн. нагрузке, с большим моментом инерции (это особо важно для малых передаточных отношений)
- перегрузки, ударных нагрузок или других динамических нагрузок, и определите выполняется ли данное условие:

$$T_{max} = 2 \times T_N$$

5) Определите макс. входную скорость (об/мин) n_{1max} (см. следующую таблицу)



6) Verifica Posizione di montaggio

6) Check mounting position

6) Проверьте монтажное положение

7) Adeguatezza della potenza termica del riduttore:

Nel caso di solo riduttore in servizio continuo o intermittente gravoso in ambienti a temperatura elevata e/o con difficoltà di scambio termico (es. acciaierie) è necessario verificare che la potenza termica nominale corretta dai fattori sia superiore alla potenza assorbita come evidenziato nella seguente equazione:

7) Ensure gear unit thermal power is suitable for the application:

If a gear unit is to be used in continuous or intermittent duty in environments where high temperatures and/or poor heat exchange are encountered (such as steelworks), check to ensure the thermal power obtained after application of the relevant correction factors is greater than absorbed power, i.e. that the following condition is verified:

7) Убедитесь, что термическая мощность редуктора подходит для условий эксплуатации: если редуктор будет работать постоянно в условиях повышенных температур и/или малого теплообмена (например, в металлургии), необходимо сравнить термическую мощность, полученную после введения соответствующих коэффициентов, с поглощающей способностью:

$$P_1 = P_{tN} \cdot f_m \cdot f_a \cdot f_d \cdot f_p \cdot f_f \quad [\text{kW}]$$

Dove:

P_{tN} = potenza termica nominale
 f_m = fattore correttivo per la posizione di montaggio
 f_a = fattore correttivo dell'altitudine
 f_d = fattore correttivo del tempo di lavoro
 f_p = fattore correttivo della temperatura ambiente
 f_f = fattore correttivo di aerazione con ventola

Where:

P_{tN} = thermal power rating
 f_m = mounting position factor
 f_a = altitude factor
 f_d = operation time factor
 f_p = ambient temperature factor
 f_f = fan cooling factor

Где:

P_{tN} = nominale термическая мощность
 f_m = фактор монтажной позиции
 f_a = фактор геодезической высоты
 f_d = фактор продолжительности включения
 f_p = фактор температуры окружающей среды
 f_f = фактор охлаждения

Qualora tale condizione non sia verificata occorre sostituire la ventola con un gruppo di raffreddamento con scambiatore di calore. Per selezionare il gruppo di raffreddamento adeguato occorre determinare la P_{ta} necessaria:

If this condition is not verified, opt for a heat exchanger instead of fan cooling. To select a suitable cooling unit, you need to determine required P_{ta} :

Если это условие не выполняется, оптимально использовать радиатор, вместо вентиляторного охлаждения. Чтобы выбрать необходимый блок охлаждения, необходимо определить номинальное значение P_{ta} :

$$P_{ta} = P_1 - (P_{tN} \cdot f_m \cdot f_a \cdot f_d \cdot f_p) \quad [\text{kW}]$$

dove:

P_{ta} = potenza termica addizionale

Dopo avere selezionato il gruppo di raffreddamento, ripetere la verifica aggiungendo alla precedente il valore massimo di P_{tmax} del range identificato espresso in tabella, adeguato con i coefficienti correttivi di temperatura acqua e aria:

Where:

P_{ta} = additional thermal power required

After selecting the cooling unit, check that the following condition is satisfied; as you can see, it considers the upper limit value P_{tmax} of the resulting tabulated range adjusted using the water and air temperature correction factors:

Где:

P_{ta} = рекомендуемая дополнительная термическая мощность
 После выбора системы охлаждения проверьте выполнение следующего условия, как видно, оно предельное табличное значение P_{tmax} , которое корректируется с помощью поправочных коэффициентов температуры воды или воздуха:

$$P_1 = (P_{tN} \cdot f_m \cdot f_a \cdot f_d \cdot f_p) + (P_{tmax} \cdot f_w \cdot f_c) \quad [\text{kW}]$$

dove:

P_{tmax} = potenza termica addizionale del range identificato espresso in tabella

f_w = coefficiente relativo alla temperatura dell'acqua (esclude f_c)
 f_c = coefficiente relativo alla temperatura dell'aria (esclude f_w)

La P_{tN} è riferita ad un ambiente industriale aperto; nel caso di ambienti confinati scarsamente aerati consultarci.

Where:

P_{tmax} = additional thermal power required obtained from resulting tabulated range

f_w = water temperature factor (excludes f_c)
 f_c = air temperature factor (excludes f_w)

P_{tN} refers to an open space industrial environment; in the event of a confined space environment with poor ventilation, please contact the factory.

Где :

P_{tmax} = требуемая добавочная термическая мощность, полученная из таблицы
 f_w = коэф. температуры воды (исключая коэф. f_c)
 f_c = коэф. температуры воздуха (исключая коэф. f_w)
 P_{tN} относится к свободному пространству в производственной среде; в случае ограниченного пространства с плохой вентиляцией, пожалуйста, свяжитесь с заводом-производителем.

P_{tN}

	802	804	806	808	810	812	814	816	818	820	822	824	826	828	830	832
RXO1	30	39	51	66	82	104	127	158	203	252	304	368	—	—	—	—
RXO2	24	30	40	52	65	82	102	127	165	205	248	306	368	445	—	—
RXO3	14	17	23	30	38	49	61	77	101	127	156	195	235	289	365	440

fm

fm.: fattore correttivo per la posizione di montaggio, velocità e rapporto.
(fm=1 nel caso in cui n₁ richiede la lubrificazione forzata)
(fm=1 nel caso in cui n₁= 0-749 min⁻¹)

fm.: correction factor accounting for mounting position, speed and ratio.
(fm=1 if n₁ requires forced lubrication)
(fm=1 if n₁= 0-749 min⁻¹)

fm.: поправочный коэффициент для учёта монтажа, скорости и передачи.
(fm=1 если n требует принудительной смазки)
(fm=1 если n = 0-749 об/мин.)

size		i	n1						
			0-n _{1max}	750-1250	1251-1750	1751-n _{1max}	750-1250	1251-1750	1751-n _{1max}
			M1-M2-M6	M3-M5			M4		
RXO1 RXV1	802-806	4.4-25.9	1	1	1	1	1	1	1
	808-814	4.4-11.7		0.9	0.8	0.65	1	0.9	0.7
		13.3-28.5		0.95	0.85	0.7	1	1	0.8
	816-824	4.4-11.7		0.7	0.65	0.5	0.9	0.8	0.65
		13.7-27.6		0.9	0.75	0.65	0.95	0.85	0.75

size		i	n1						
			0-n _{1max}	750-1250	1251-1750	1751-n _{1max}	750-1250	1251-1750	1751-n _{1max}
			M1-M2	M3-M6			M4-M5		
RXO2 RXV2	802-806	19.4-124	1	1	1	1	1	1	1
	808-814	19.1-41.4		0.95	0.85	0.7	0.85	0.75	0.6
		43.6-123		1	0.9	0.75	0.9	0.8	0.65
	816-820	19.3-39.3		0.85	0.75	0.6	0.7	0.65	0.5
		44.1-124		0.9	0.8	0.65	0.75	0.7	0.55
	822-828	19.4-40		0.75	0.7	0.55	0.7	0.6	0.5
		42.2-132	0.85	0.75	0.6	0.7	0.65	0.5	

size		i	n1						
			0-n _{1max}	750-1250	1251-1750	1751-n _{1max}	750-1250	1251-1750	1751-n _{1max}
			M1-M2	M3-M6			M4-M5		
RXO3 RXV3	802-806	110-700	1	1	1	1	1	1	1
	808-814	110-231		0.95	0.85	0.7	0.9	0.8	0.65
		243-700		1	1	0.8	1	0.9	0.75
	816-820	109-257		0.9	0.8	0.65	0.85	0.75	0.6
		264-697		1	0.9	0.75	0.95	0.85	0.7
	822-832	108-253		0.85	0.75	0.6	0.75	0.7	0.55
		268-731		0.95	0.85	0.7	0.9	0.8	0.65

N.B. I valori di n_{1max} sono riportati al punto 5 (Verifiche).

NOTE n_{1max} values are listed at point 5 (Verification).

Примечание: значения n_{1max} указаны в пункте 5 (Проверка)

fa

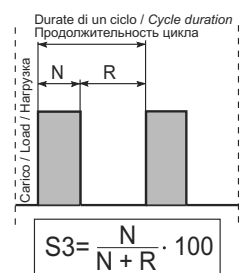
Fattore correttivo dell'altitudine
Altitude factor
Фактор геодезической высоты

	m	0	750	1500	2250	3000
fa	1	0.95	0.9	0.85	0.81	

fd

Fattore correttivo del tempo di lavoro
Operation time factor
Фактор продолжительности включения

S3%	fd
100	1
80	1.05
60	1.15
40	1.35
20	1.8



fp

Fattore correttivo della temperatura ambiente. *Ambient temperature factor.*

Фактор температуры окружающей среды.

Temperatura ambiente <i>Ambient temperature</i> Umgebungstemperatur	50 °C	40 °C	30 °C	20 °C	10 °C	0 °C
fp	0.63	0.75	0.87	1	1.12	1.25

ff

Il fattore correttivo ff della potenza termica che tiene conto dell'effetto refrigerante della ventola assume in accordo con le norme AGMA 6010.E88 i valori riportati nella tabella 8. L'impiego è limitato alle velocità maggiori o uguali a 700 min⁻¹.

Cooling fan factors ff reported in table 8 are in accordance with AGMA 6010. E88 and can be used directly to adjust thermal power to reflect the use of a cooling fan. These factors must only be used for speeds equal to 700 rpm and higher.

Фактор охлаждения ff указан в табл.8 и в соответствии с AGMA 6010.E88 может быть использован для корректировки термической мощности, для отражения использования систем охлаждения. Эти факторы должны использоваться при скорости на входе 700об/мин и выше.

Tipo / Type/ Тип	Tipo ventola / Fan type /Вентилятор	Note / Notes / Заметки	ff
RXO RXV	VE	—	1.7

N.B. La Ventola è applicabile solo RXO1 e RXO2
NOTE: The fan is available only for RXO1 and RXO2
HINWEIS: Ventilatoren sind nur für RXO1 und RXO2

Pta [kW]

Potenza termica addizionale / *Additional thermal power* / Дополнительная термическая мощность

Raffreddamento con scambiatore acqua-olio (Tacqua=15°C) <i>Cooling by water-oil exchanger (Twater=15°C)</i> Водно-масляный радиатор (Тводы =15°C)		
Gruppo Size Габарит	RXO1 RXV1	RXO2 RXV2
1	68	45
2	69-116	46 - 78
3	117-175	79 - 116
4	176-532	117 - 355
5	533-1021	356 - 680

Raffreddamento con scambiatore aria-olio (Taria=20°C) <i>Cooling by air-oil exchanger (Tair=20°C)</i> Воздушно-масляный радиатор (Твоздуха=20°C)		
Gruppo Size Габарит	RXO1 RXV1	RXO2 RXV2
1	113	75
2	114-212	76 - 140
3	213-445	141 - 298
4	446-578	299 - 386
5	579-1021	387 - 680

fw

Coefficiente relativo alla temperatura dell'acqua
Water temperature factor
Коэффициент температуры воды

Twater	15°C	20° C	25° C	30° C
fw	1	0,85	0,7	0,6

fc

Coefficiente relativo alla temperatura dell'aria
Air temperature factor
Коэффициент температуры воздуха

Tair	15° C	20° C	25° C	30° C	35° C	40° C
fc	1,12	1	0,88	0,75	0,65	0,5

8) Compatibilita esecuzione grafica e forma costruttiva.

A seguito una tabella che riassume la compatibilita tra esecuzione grafica, estremita di entrata ed uscita, ventola e antiretro.

8) Ensure that shaft arrangement and design configuration are compatible.

The following table provides an overview of available options in terms of shaft arrangements, input and output configurations, fan and backstop, and their compatibility.

8) Убедитесь в совместимости выбранного типа редуктора и вариантов сборки валов. В следующей таблице показаны различные вариации исполнений валов, входные и выходные конфигурации, вентиляторы и упоры, и их совместимость.

RX01

ESECUZIONI GRAFICHE / SHAFT ARRANGEMENTS / РАСПОЛОЖЕНИЕ ВАЛОВ : A - AS				
A = N e / and/ und D		Antiretro/ Backstop/Антиреверс		
B = FD / and/ und Fn		—	ARS	ARD
ENTRATA INPUT ВХОДНОЙ	ECE	A+B		A+B
	PAM			
ESECUZIONI GRAFICHE / SHAFT ARRANGEMENTS / РАСПОЛОЖЕНИЕ ВАЛОВ : B - BS				
A = N / and/ und D		Antiretro/ Backstop/Антиреверс		
B = FD / and/ und Fn		—	ARS	ARD
ENTRATA INPUT ВХОДНОЙ	ECE	A+B		A+B
	PAM		A+B	
ESECUZIONI GRAFICHE / SHAFT ARRANGEMENTS / РАСПОЛОЖЕНИЕ ВАЛОВ : ABU - ABUS				
A = N / and/ und D		Antiretro / Backstop/Антиреверс		
B = FD / and/ und Fn		—	ARS	ARD
ENTRATA INPUT ВХОДНОЙ	ECE	A+B	A	A
	PAM			
ESECUZIONI GRAFICHE / SHAFT ARRANGEMENTS / РАСПОЛОЖЕНИЕ ВАЛОВ C1 - C2				
		Antiretro / Backstop/Антиреверс		
		—	ARS	ARD
ENTRATA INPUT ВХОДНОЙ	ECE			
	PAM			
ESECUZIONI GRAFICHE / SHAFT ARRANGEMENTS / РАСПОЛОЖЕНИЕ ВАЛОВ : C1D - C2D				
		Antiretro / Backstop/Антиреверс		
		—	ARS	ARD
ENTRATA INPUT ВХОДНОЙ	ECE			
	PAM			
ESECUZIONI GRAFICHE / SHAFT ARRANGEMENTS / РАСПОЛОЖЕНИЕ ВАЛОВ : C1S - C2S				
		Antiretro / Backstop/Антиреверс		
		—	AR	ARD
ENTRATA INPUT ВХОДНОЙ	ECE			
	PAM			



1.5 Designazione

1.5 Designation

1.5 Маркировка

	[1*]	[2*]	[3*]	[4*]	[5*]	[6*]	[7*]	[8*]	[9*]	[10*]	[11*]	[12*]	[13*]
RX	O	2	802	ABU	10	ECE	VE	ARSB	—	N	M1		ES
Macchina Range Тип	Posizione assi Centreline orientation Расположение осей	N° coppie cil. Pairs of cyl. Anz. # Ступеней	Grandezza Size Габарит	Esecuzione grafica Shaft arrangement Расположение валов	i_n	Estremità entrata Input configuration Входная конфигурация	Ventole raffreddamento Cooling fans Вентилятор	Antiretro Backstop Антиреверс	Materiale carcassa Housing material Материал корпуса	Estremità uscita Output configuration Выходная конфигурация	posizione di montaggio Mounting position Монтажное положение	Opzioni Options Опции	
RX	O V	1 2 3 4	802 ... 832	A-B-AS-B S ABU-ABU S C1-C2 C1D-C1S C2D-C2S		ECE PAM.. PAM..G ECES PAM..S ECE/ECE ECE/PAM... PAM.../ECE PAM.../PAM...	VE	ARSB ARSN ARDB ARDN	— A GS	N C UB B FD Fn D	M1 M2 M3 M4 M5 M6		

Designazione motore elettrico

Se è richiesto un motoriduttore completo di motore è necessario riportare la designazione di quest'ultimo.
A tale proposito consultare il ns. catalogo dei motori elettrici Electronic Line.

Electric motor designation

For applications requiring a gearmotor, motor designation must be specified.
To this end, please refer to our Electronic Line electric motor catalogue.

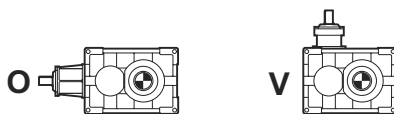
Обозначение электродвигателей

В случае исполнения мотор-редуктора должна быть указана маркировка мотора.
Для этого необходимо обратиться к каталогу электродвигателей.

[*1] Posizione assi

[*1] Centreline orientation

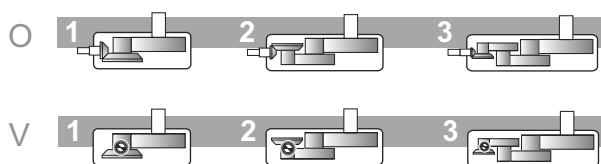
[*1] Расположение осей



[*2] N° stadi

[*2] No. of Reductions

[*2] № ступеней



[*4] Esecuzione grafica

(Vedi pagine dimensionali)

[*4] Shaft arrangement

(Please refer to dimension pages)

[*4] Расположение валов

(обратитесь к таблице размеров)

[*5] Rapporto di riduzione i

(Vedi tabelle prestazioni)

[*5] Reduction ratio i

(See rating tables).

[*5] Передаточное число i_r

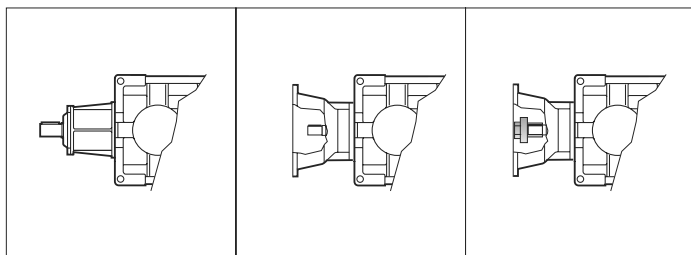
(См.таблицу)

[*6] Estremita entrata

[*6] Input configuration

[*6] Входная конфигурация

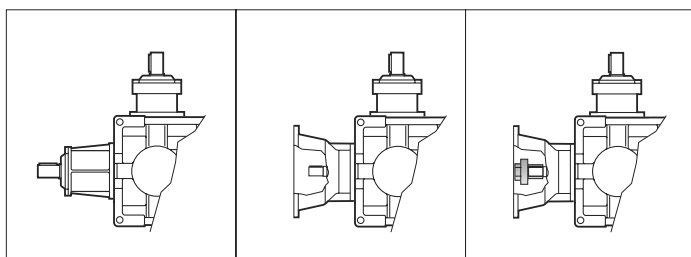
RXO



ECE

PAM...

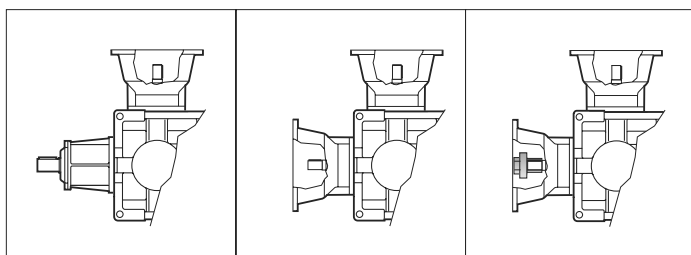
PAM...G



ECE / ECE

PAM... / ECE

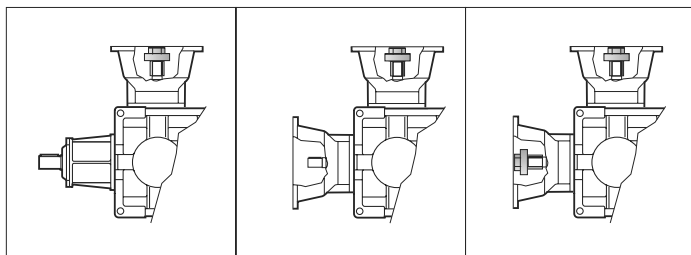
PAM...G / ECE



ECE / PAM...

PAM... / PAM...

PAM...G / PAM...

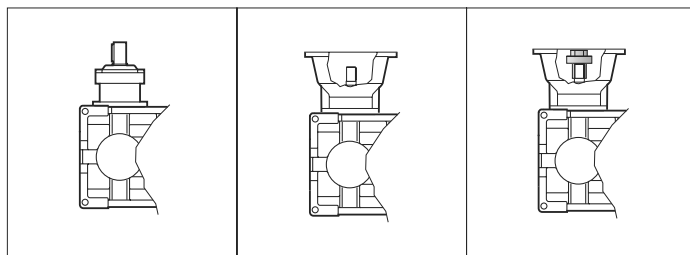


ECE / PAM...G

PAM... / PAM...G

PAM...G / PAM...G

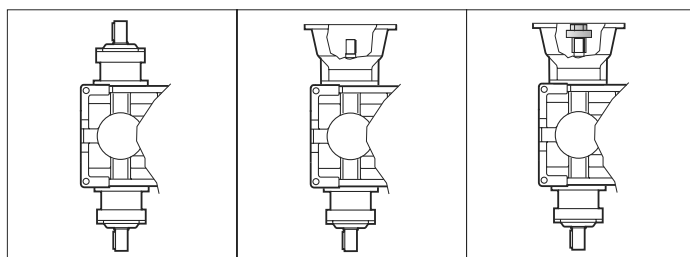
RXV



ECE

PAM...

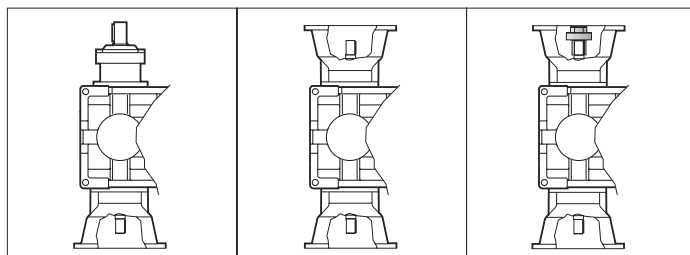
PAM...G



ECE / ECE

PAM... / ECE

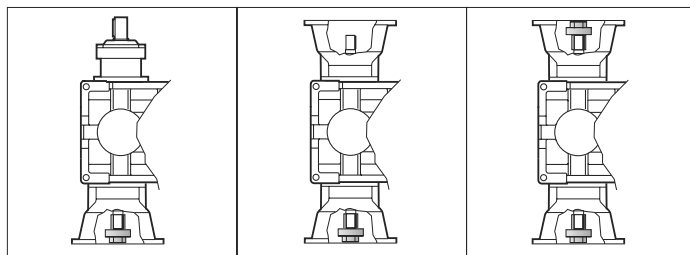
PAM...G / ECE



ECE / PAM...

PAM... / PAM...

PAM...G / PAM...



ECE / PAM...G

PAM... / PAM...G

PAM...G / PAM...G

ECE	Entrata con albero pieno	Solid input shaft	Цилиндрический вал
PAM..	Con campana senza giunto	Motor bell without coupling	Соединение с мотором без муфты
PAM..G	Con campana e giunto	Motor bell and coupling	Вал специального исполнения
ECES	Entrata con estremita speciale	Special input shaft end	Вал специального исполнения
PAM..S	Accoppiamento speciale	Special coupling	Специальная муфта

[*7] Ventole di raffreddamento

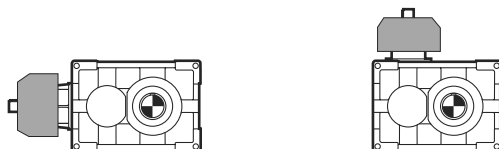
[*7] V Cooling fans

[*7] Вентиляторы

(Fare riferimento al capitolo accessori G)

(Please refer to accessories chapter G)

(Пожалуйста, обратитесь к главе G)



VE

[*8] Antiretro

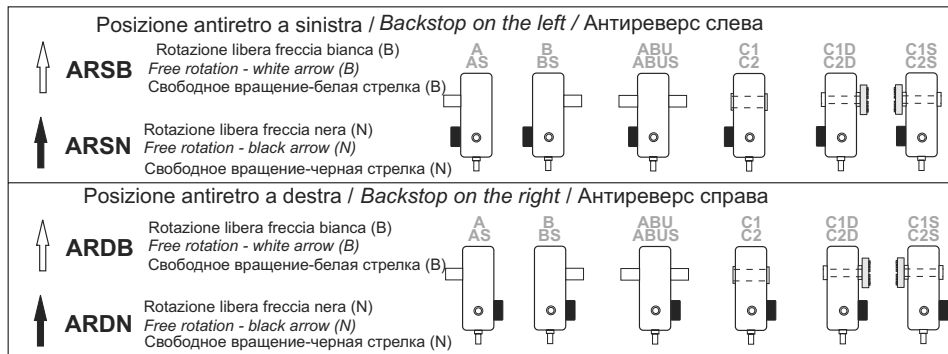
[*8] Backstop

[*8] Антиреверс

Fare riferimento al capitolo (sezione accessori)

Please refer to relevant chapter (accessories section)

Пожалуйста, обратитесь к соответствующей главе (Раздел Аксессуары)



[*9] Materiale carcassa

[*9] Housing material

[*9] Материал корпуса

Materiale carcassa Housing material Материал корпуса		802	804	806	808	810	812	814	816	818	820	822	824	826	828	830	832	
Acciaio / Steel / Сталь	A														*	*	**	**
Ghisa sferoidale / Spheroidal cast iron / Чугун с шаровидным графитом	GS																	
Ghisa meccanica / Engineering cast iron / Легированный чугун	—																	

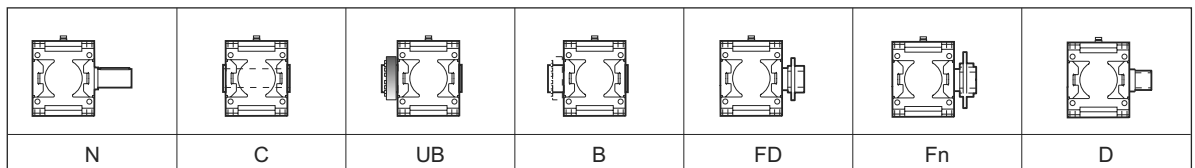
* Non disponibile per RXO1 / Not available on RXO1 / Не доступен на RXO1

** Non disponibile per RO1 e RXO2 / Not available on RXO1 and RXO2 / Не доступно на RXO1 и RXO2

[*10] Estremita uscita

[*10] Output Configuration

[*10] Выходная конфигурация



Per ulteriori informazioni vedere la sezione "Estremita entrata, uscita" (F).

Please read Section "Input and Output Configurations" (F) for more details.

Ознакомьтесь с главой "Конфигурации входных и выходных валов (F)".

Altre opzioni uscita a richiesta

Other output options available on request

Другие варианты доступны по запросу

US	uscita speciale	Special output	Специальный
F..d	flangia in uscita a dx	Output flange on right side	Фланец справа
F..s	flangia in uscita a sx	Output flange on left side	Фланец слева
2F..	doppia flangia in uscita	Double output flange	Двойной выходной фланец
MX	Supportazione rinforzata in uscita per agitatori	Heavy duty output bearing for agitator applications	Усиленный выходной подшипник для мешалок
Tr	supportazione rinforzata in uscita x torri di raffreddamento	Heavy duty output bearing for cooling tower applications	Усиленный выходной подшипник для градирни
Ts	supportazione rinforzata in uscita speciale	Special heavy duty output bearing	Специальный усиленный выходной подшипник
SND *	supportazione flangiata in uscita a dx con albero pieno	Flange bearing on the right at output end with solid shaft	Фланцевый подшипник справа и выходной цилиндрический вал на конце
SNS *	supportazione flangiata in uscita a sx con albero pieno	Flange bearing on the left at output end with solid shaft	Фланцевый подшипник слева и выходной цилиндрический вал на конце
SCD *	supportazione flangiata in uscita a dx con albero cavo	Flange bearing on the right at output end with hollow shaft	Фланцевый подшипник справа и полый выходной вал
SCS *	supportazione flangiata in uscita a sx con albero cavo	Flange bearing on the left at output end with hollow shaft	Фланцевый подшипник слева и полый выходной вал
SUD *	supportazione flangiata in uscita con calettatore	Flange bearing at output end with shrink disc	Фланцевый подшипник со сжимным диском на конце
SUS *	supportazione flangiata in uscita con albero predisposto x calettatore	Flange bearing at output end with shaft incorporating provisions for shrink disc	Фланцевый подшипник с выходным валом под сжимной диск
SBD	Supportazione flangiata in uscita a destra con albero cavo e predisposto per calettatore	Flange bearing on the right at output end with hollow shaft and provisions for shrink disc	Фланцевый подшипник справа с полым валом и сжимным диском на конце
SBS	Supportazione flangiata in uscita a sinistra con albero cavo e predisposto per calettatore	Flange bearing on the left at output end with hollow shaft and provisions for shrink disc	Фланцевый подшипник слева с полым валом и сжимным диском на конце
nU	Riduttore con piú alberi uscita	Gear unit with several output shafts	Редуктор с несколькими выходными валами

* solo per RXO2 - RXO3 / Only available on RXO2 - RXO3 / не доступно для RXO2 - RXO3

Per ulteriori informazioni vedere la sezione "Accessori e opzioni" (G).

Please read Section "Accessories and options" (G) for more details.

Пожалуйста, прочитайте главу "Аксессуары и Опции" для большей информации (G).

[*11] Posizioni di montaggio

[*11] Mounting positions

[*11] Монтажные положения

[*12] Opzioni disponibili

[*12] Available options

[*12] Доступные опции

(vedi pag. G1)

(see page G1)

(см. страницу G1)

[*13] Estremità supplementare

[*13] Additional Shaft Extension

[*13] Дополн. исполнения валов

(vedi pag. G17)

(see page G17)

(см. страницу G17)

1.6 Lubrificazione

Gli oli disponibili appartengono generalmente a tre grandi famiglie:

- 1) Oli minerali
- 2) Oli sintetici Poli-Alfa-Olefine
- 3) Oli sintetici Poli-Glicole

La scelta più appropriata e generalmente legata alle condizioni di impiego, riduttori non particolarmente caricati e con un ciclo di impiego discontinuo, senza escursioni termiche importanti, possono certamente essere lubrificati con olio minerale.

Nei casi di impiego gravoso, quando i riduttori saranno prevedibilmente caricati molto ed in modo continuativo, con conseguente prevedibile innalzamento della temperatura, è bene utilizzare lubrificanti sintetici tipo polialfaolefine (PAO).

Gli oli di tipo poliglicole (PG) sono da utilizzare strettamente nel caso di applicazioni con forti strisciamenti fra i contatti, ad esempio nelle viti senza fine. Debbono essere impiegati con grande attenzione poiché non sono compatibili con gli altri oli e sono invece completamente miscibili con l'acqua. Questo fenomeno è particolarmente pericoloso poiché non si nota, ma deprime velocemente le caratteristiche lubrificanti dell'olio.

Oltre a questi già menzionati, ricordiamo che esistono gli oli per l'industria alimentare. Questi trovano specifico impiego nell'industria alimentare in quanto sono prodotti speciali non nocivi alla salute.

Vari produttori forniscono oli appartenenti a tutte le famiglie con caratteristiche molto simili. Più avanti proponiamo una tabella comparativa.

1.6 Lubrication

Available oils are typically grouped into three major classes:

- 1) Mineral oils
- 2) Poly-Alpha-Olefin synthetic oils
- 3) Polyglycol synthetic oils

Oil is normally selected in accordance with environmental and operating conditions. Mineral oil is the appropriate choice for moderate load, non-continuous duty applications free from temperature extremes.

In severe applications, where gear units are to operate under heavy loads in continuous duty and high temperatures are expected, synthetic Poly-Alpha-Olefin oils (PAO) are the preferred choice.

Polyglycol oils (PG) should only be used in applications involving high sliding friction, as is the case with worm shafts. These particular oils should be used with great care, as they are not compatible with other oils, but are totally mixable with water. The oil mixed with water cannot be told from uncontaminated oil, but will degrade very rapidly.

In addition to the oils mentioned above, there are food-grade oils.

These are special oils harmless to human health for use in the food industry.

Oils with similar characteristics are available from a number of manufacturers. A comparative overview table is provided at the next pages.

1.6 Смазка

Используемые масла делятся на три группы:

- 1) Минеральные масла
- 2) Поли-Альфа-Олефиновые синтетические масла
- 3) Полиглицоловые синтетические масла

Масла обычно выбираются в соответствии с условиями окружающей среды и условиями эксплуатации.

Минеральные масла подходят для умеренных, периодических нагрузок, без экстремальных температурных значений.

В суровых условиях, когда редукторы работают в условиях тяжелых нагрузок в постоянном режиме и при высоких температурах синтетические Поли-

Альфа-Олефиновые масла (ПАО) являются предпочтительными.

Полиглицоловые масла (ПГ) должны использоваться только в устройствах, связанных с высоким уровнем трения скольжения, как в случае с червячным валом. Это особое масло должно использоваться с особой осторожностью,

потому что оно не совместимо с другими маслами и полностью смешивается с водой. Смесь масла и воды нельзя отличить от чистого масла, но свойства

данной смеси заметно ухудшаются.

В дополнение к маслам упомянутым выше есть "пищевой" класс масел. Эти масла безвредны для человеческого

организма и могут быть использованы в пищевой промышленности. Масла со схожими характеристиками доступны у большого числа производителей.

Сравнительные таблицы находятся на следующих страницах.

Входная скорость n_1 (min ⁻¹)	Потребляемая мощность (kW)	Система смазки	Вязкость ISO VG at 40° (cSt)	
			i < 10	i < 10
2000 < n1 5000	P < 7.5	Forced or Oil splash	68	68
	7.5P22		68	150
	P > 22		150	220
1000 < n1 2000	P < 7.5	Forced or Oil splash	68	150
	7.5P37		150	220
	P > 37		220	320
300 < n1 1000	P < 15	Forced Oil splash	68	150
			150	220
	15P55	Forced Oil splash	150	220
			220	320
	P > 55		220	320
50 < n1 300	P < 22	Forced Oil splash	150	220
			220	320
	22P75	Forced Oil splash	220	320
			320	460
	P > 75		320	460
		460	680	

Frequenza cambi olio
Oil change intervals [H]
Интервалы смены масла [час]

Типо olio Oil type Тип масла	Temperatura olio Oil temperature Температура масла		
	65°C	80°C	90°C
Minerale Mineral Минеральное	8000	3000	1000
Sintetico Synthetic Синтетическое	20000	15000	9000

Manufacturer Производитель	Oli Minerali Mineral oils Минеральное			Oli Sintetici Polialfaolefine (PAO) Poly-Alpha-Olefin synthetic oils (PAO) Поли-Альфа-Олефиновые масла(ПАО)			Oli Sintetici Poliglicoli (PG) Polyglycol synthetic oils(PG) Полигликолевые масла(ПГ)		
	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG
	150	220	320	150	220	320	150	220	320
AGIP	Blasia 150	Blasia 220	Blasia 320	-	Blasia SX 220	Blasia SX 320	Blasia S 150	Blasia S 220	Blasia S 320
ARAL	Degol BG 150 Plus	Degol BG 220 Plus	Degol BG 320 Plus	Degol PAS 150	Degol PAS 220	Degol PAS 320	Degol GS 150	Degol GS 220	Degol GS 320
BP	Energol GR-XP 150	Energol GR-XP 220	Energol GR-XP 320	Enersyn EPX 150	Enersyn EPX 220	Enersyn EPX 320	Enersyn SG 150	Enersyn SG-XP 220	Enersyn SG-XP 320
CASTROL	Alpha SP 150	Alpha SP 220	Alpha SP 320	Alphasyn EP 150	Alphasyn EP 220	Alphasyn EP 320	Alphasyn PG 150	Alphasyn PG 220	Alphasyn PG 320
CHEVRON	Ultra Gear 150	Ultra Gear 220	Ultra Gear 320	Tegra Synthetic Gear 150	Tegra Synthetic Gear 220	Tegra Synthetic Gear 320	HiPerSYN 150	HiPerSYN 220	HiPerSYN 320
ESSO	Spartan EP 150	Spartan EP 220	Spartan EP 320	Spartan S EP 150	Spartan S EP 220	Spartan S EP 320	Glycolube 150	Glycolube 220	Glycolube 320
KLÛBER	KÛberoil GEM 1-150	KÛberoil GEM 1-220	KÛberoil GEM 1-320	KÛbersynth EG 4-150	KÛbersynth EG 4-220	KÛbersynth EG 4-320	KÛbersynth GH 6-150	KÛbersynth GH 6-220	KÛbersynth GH 6-320
MOBIL	Mobilgear XMP 150	Mobilgear XMP 220	Mobilgear XMP 320	Mobilgear SHC XMP 150	Mobilgear SHC XMP 220	Mobilgear SHC XMP 320	Glygoyle 22	Glygoyle 30	Glygoyle HE320
MOLIKOTE	L-0115	L-0122	L-0132	L-1115	L-1122	L-1132	-	-	-
OPTIMOL	Optigear BM 150	Optigear BM 220	Optigear BM 320	Optigear Synthetic A 150	Optigear Synthetic A 220	Optigear Synthetic A 320	Optiflex A 150	Optiflex A 220	Optiflex A 320
Q8	Goya 150	Goya 220	Goya 320	El Greco 150	El Greco 220	El Greco 320	Gade 150	Gade 220	Gade 320
SHELL	Omala 150	Omala 220	Omala 320	Omala HD 150	Omala HD 220	Omala HD 320	Tivela S 150	Tivela S 220	Tivela S 320
TEXACO	Meropa 150	Meropa 220	Meropa 320	Pinnacle EP 150	Pinnacle EP 220	Pinnacle EP 320	-	Synlube CLP 220	Synlube CLP 320
TOTAL	Carter EP 150	Carter EP 220	Carter EP 320	Carter SH 150	Carter SH 220	Carter SH 320	Carter SY 150	Carter SY 220	Carter SY 320
TRIBOL	1100/150	1100/220	1100/320	1510/150	1510/220	1510/320	800/150	800/220	800/320

Lubrificanti sintetici per uso alimentare / Food-grade synthetic lubricants / Синтетические масла для пищевой промышленности

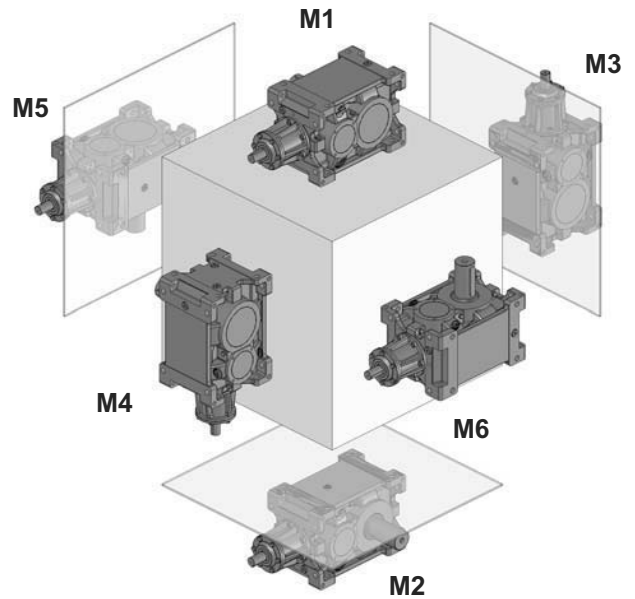
AGIP				Rocol Foodlube Hi-Torque 150	-	Rocol Foodlube Hi-Torque 320			
ESSO				-	Gear Oil FM 220	-			
KLÛBER				KÛberoil 4 UH1 N 150	KÛberoil 4 UH1 N 220	KÛberoil 4 UH1 N 320			
MOBIL				DTE FM 150	DTE FM 220	DTE FM 320			
SHELL				Cassida Fluid GL 150	Cassida Fluid GL 220	Cassida Fluid GL 320			

Posizioni di montaggio

Mounting positions

Монтажные положения

RXO		
M1	M2	M3
M4	M5	M6

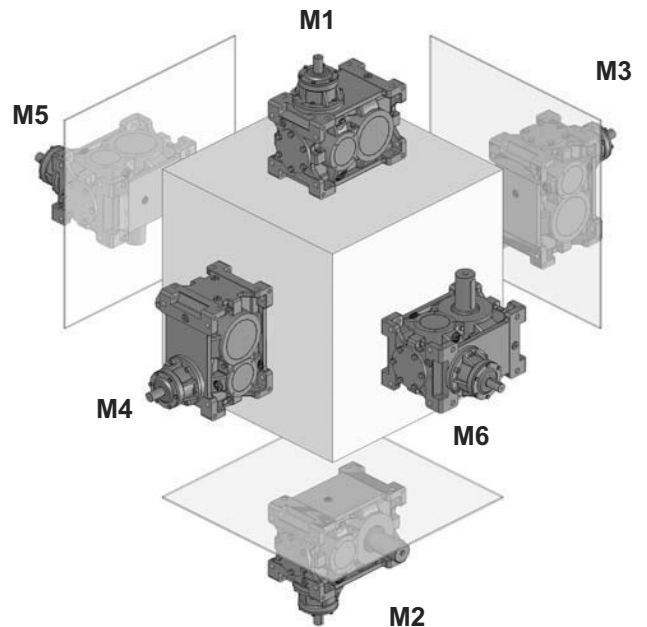


L'esecuzione grafica rappresentata è la A.
Per le altre esecuzioni grafiche vedere sezione POSIZIONI MONTAGGIO.

The noted version is A.
To see further alternatives please refer to section MOUNTING POSITIONS.

Указана сборка А.
Чтобы увидеть остальные обратитесь к главе "МОНТАЖНЫЕ ПОЛОЖЕНИЯ".

RXV		
M1	M2	M3
M4	M5	M6



- ▽ Carico / Filler plug / Заливная пробка
- ▼ Livello / Level plug / Сливная пробка
- Scarico / Drain plug / Пробка урвня

L'esecuzione grafica rappresentata è la A.
Per le altre esecuzioni grafiche vedere sezione POSIZIONI MONTAGGIO.

The noted version is A.
To see further alternatives please refer to section MOUNTING POSITIONS.

Указана сборка А.
Чтобы увидеть остальные обратитесь к главе "МОНТАЖНЫЕ ПОЛОЖЕНИЯ".

		Quantita di lubrificante / Lubricant Quantity / Количество масла (l)														
		802	804	806	808	810	812	814	816	818	820	822	824	826	828	830
RXO1 RXV1	M1 - M2	2.5	3.5	4.9	6.9	9.6	13	19	26	37	52	72	—	—	—	—
	M3	3.8	5.3	7.5	11	15	21	30	42	61	85	115	—	—	—	—
	M4	3.5	4.9	7	9.8	14	22	28	40	56	78	111	—	—	—	—
	M5 - M6	3.6	5	7.1	10	14	20	29	40	57	79	110	—	—	—	—
RXO2 RXV2	M1 - M2	3.3	4.7	6.5	9	13	18	25	35	49	69	96	135	189	—	—
	M3	6.1	8.6	12	17	24	34	48	68	95	133	187	263	370	—	—
	M4	5.1	7.2	10	15	20	29	40	56	80	114	164	228	320	—	—
	M5 - M6	4.6	6.5	9.4	13	18	25	35	50	70	99	139	196	275	—	—
RXO3 RXV3	M1 - M2	3.9	5.5	7.6	11	15	21	29	41	58	81	113	158	221	310	433
	M3	8.1	11	15	22	32	44	62	87	125	175	246	345	485	682	950
	M4	6.6	9.2	13	18	26	36	50	71	102	144	201	285	400	561	789
	M5 - M6	5.1	7.3	10	14	20	28	40	56	79	111	156	218	306	430	604

Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

ATTENZIONE

Eventuali forniture con predisposizioni tappi diverse da quella indicata in tabella, dovranno essere concordate.

Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

WARNING

Any plug arrangements other than that indicated in the table must be agreed upon.

Количество масла, указанное в таблице, приблизительное; чтобы гарантировать требуемое количества масла ориентируйтесь по показателю уровня

ВНИМАНИЕ
Любые расположения пробок не отмеченные в таблице, должны быть согласованы.

Lubrificazione cuscinetti superiori

La lubrificazione forzata dei cuscinetti superiori viene associata alla lubrificazione forzata degli ingranaggi nel caso quest'ultima sia necessaria.

Upper bearing lubrication

Forced lubrication for upper bearings is normally associated with forced lubrication for the gears, where necessary.

Смазка верхних подшипников

Принудительная смазка верхних подшипников может ничем не отличаться от принудительной смазки шестерни, при необходимости.

Pos. Mont. / Mntg. Pos. / Монтажные положения M5 - M6

		n ₁ [min ⁻¹]	Grandezza / Size/ Габарит													
			802-810	812	814	816	818	820	822	824	826	828	830	832		
RXO3 RXV3	0 - n _{1max}		G						LFM3			LFM4				
	1751 - n _{1max}		G		LFM2		LFM2				LFM3			LFM4		
RXO2 RXV2	1000 - 1750		G						LFM2			LFM3				
	0 - 999		G						LFM2			LFM3				
RXO1 RXV1	1751 - n _{1max}		G		LFM2				LFM2			LFM3				
	1000 - 1750		G						LFM2			LFM3				
	0 - 999		G						LFM2			LFM3				

Pos. Mont. / Mntg. Pos. / Монтажные положения M3 - M4

		n ₁ [min ⁻¹]	Grandezza / Size/ Габарит													
			802-808	810	812	814	816	818	820	822	824	826	828	830	832	
RXO1 RXV1	1751 - n _{1max}		G		LFM1				LFM2							
	1000 - 1750		G		LFM1				LFM2							
	0 - 999		G		LFM1				LFM2							
RXO2 RXV2	1751 - n _{1max}		G		LFM1				LFM2							
	1000 - 1750		G		LFM1				LFM2							
	0 - 999		G		LFM1				LFM2							
RXO3 RXV3	0 - n _{1max}		G		G				LFM2				LFM3			

I valori di n_{1max} sono riportati nel paragrafo Verifiche, punto 5.

n_{1max} values are listed at paragraph Verification, point 5.

Значения n_{1max} указаны в главе "Проверка", Пункт 5.

	l/min	Motor	P (kW)	A
LFM1	0.5	71A4	0.25	172
LFM2	5			
LFM2	10	80A4	0.55	197
LFM4	20	80B4	0.75	
LFM5	30	90S4	1.1	214

LFM.: Motopompa (vedi sezione G accessori e opzioni).

LFM.: Motor pump (see Section Accessories and Options G).

LFM.: Электронасос (См. параграф G "Аксессуары и Опции")

1.7 Verifica carichi radiali e assiali

Qualora il collegamento tra riduttore e macchina motrice o operatrice sia effettuato con mezzi che generano carichi radiali sull'estremità d'albero veloce o lento, occorre fare le seguenti verifiche.

Calcolo Fr_2' e Fr_1'

I carichi massimi Fr_1 e Fr_2 sono calcolati con $F_s=1$ ed a una distanza dalla battuta dell'albero di 0.5 S se albero veloce o 0.5 R se albero lento.

Tali valori sono riportati nelle tabelle delle prestazioni.

Per distanze variabili tra 0 e una distanza "X" bisogna utilizzare le tabelle seguenti:

Fr_2 con coefficiente A.

Fr_2 con coefficiente C nel caso di flange FD.

Fr_1 con coefficiente B.

1.7 Overhung and thrust load verification

When a gear unit is connected to prime mover or driven machine using overhung drive members that place a radial load on input or output shaft end, check the following loads.

Fr_2' e Fr_1' calculation

Load capacity ratings Fr_1 and Fr_2 consider a service factor $F_s=1$ and load location at a distance from shaft shoulder of 0.5 S for input shafts or 0.5 R for output shafts.

These values are reported in the rating tables.

Where load is applied at a distance from shoulder between 0 and an "X" distance, refer to the following tables:

Fr_2 with load location factor A.

Fr_2 with load location factor C if an FD flange is used.

Fr_1 with load location factor B.

1.7 Проверка нагрузок на валы

Когда редуктор присоединён к первичному двигателю или движущей машине с применением передающих устройств, создающих радиальную нагрузку на входной или выходной вал, то проверьте следующие нагрузки.

Расчеты Fr_2' и Fr_1'

Определение допустимой нагрузки Fr_1 и Fr_2 основано на сервис факторе $F_s=1$, месте нагрузки на расстоянии от плеча вала 0.5S для входного вала или 0.5R для выходного.

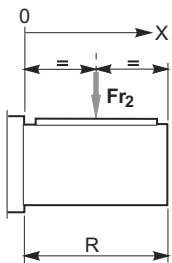
Эти значения находятся в таблице.

В тех случаях, когда нагрузка приложена между плечом 0 и "X", обратитесь к следующей таблице:

Fr_2 с коэф. приложения нагрузки в "A".

Fr_2 с коэф. приложения нагрузки в "C" если использован фланец FD.

Fr_1 с коэф. приложения нагрузки в "B".



$$Fr_2' = Fr_2 \cdot \frac{A}{A \cdot X \cdot \frac{R}{2}}$$

$$Fr_2' = Fr_2 \cdot C$$

solo per esecuzione FD
only for FD configuration
Только для конфигурации FD

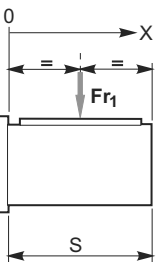
Fr_2' [N]	Carico radiale ammissibile su albero uscita alla distanza X	Permissible output shaft OHL at distance X	Допустимая нагрузка выходного вала прил. на расстоянии X
Fr_2 [N]	Carico radiale ammissibile su albero uscita indicato a catalogo	Output shaft OHL capacity as per catalogue rating	Допустимая нагрузка выходного вала
X [mm]	Distanza dalla battuta dell'albero	Distance from shaft shoulder	Расстояние от плеча вала
R [mm]	Sporgenza dell'albero uscita	Output shaft projection	Длина вала
A	coefficiente da tabella	Load location factor from table	Коэф. места прилож. нагрузки из таблицы

Coefficienti correttivi del carico radiale di catalogo in uscita Fr_2 in funzione della distanza dalla battuta

Load location factors to adjust output OHL capacity rating Fr_2 based on distance from shoulder

Коэффициент местоположения радиальной нагрузки Fr основан на расстоянии от плеча вала до места приложения нагрузки.

	RXP															
	802	804	806	808	810	812	814	816	818	820	822	824	826	828	830	832
A	99	109	124	137	156	175	200	225	236	261	294	331	385	405	447	507
C	1.32	1.35	1.39	1.46	1.49	1.43	1.32	1.32	1.33	1.35	1.32					



$$Fr_1' = Fr_1 \cdot \frac{B}{B \cdot X \cdot \frac{S}{2}}$$

Fr_1' [N]	Carico radiale ammissibile su albero entrata alla distanza X	Permissible input shaft OHL at distance X	Допустимая нагрузка входного вала прил. на расстоянии X
Fr_1 [N]	Carico radiale ammissibile su albero entrata indicato a catalogo	Input shaft OHL capacity as per catalogue rating	Допустимая нагрузка входного вала
X [mm]	Distanza dalla battuta dell'albero	Distance from shaft shoulder	Расстояние от плеча вала
S [mm]	Sporgenza dell'albero entrata	Input shaft projection	Длина входного вала
B	coefficiente da tabella	Load location factor from table	Коэф. места прилож. нагрузки из таблицы

Coefficienti correttivi del carico radiale di catalogo in entrata Fr_1 in funzione della distanza dalla battuta

Load location factors to adjust input OHL capacity rating Fr_1 based on distance from shoulder

Коэффициент местоположения радиальной нагрузки Fr основан на расстоянии от плеча вала до места приложения нагрузки.

B	Size	802	804	806	808	810	812	814	816	818	820	822	824	826	828	830	832
	RXP2	68	75	85	95	105	120	136	152	172	190	210	240	260	300		
RXP3	87	98	110	121	142	155	173	195	212	240	271	305	344	387	435	484	



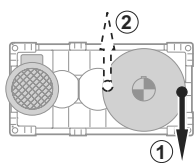
Calcolo Fr

Per calcolare il carico Fr agente sull'albero lento diamo formule approssimate per alcune trasmissioni piú comuni, per la determinazione del carico radiale su albero veloce o lento.

$$Fr = k \cdot \frac{T}{d}$$

Fr [N]	Carico radiale approssimato <i>Approximate radial load</i> Радиальная нагрузка	d [mm]	Diametro pulegge, ruote <i>Pulley diameter, wheels</i> Диаметр шкива, колеса	k	Fattore di collegamento <i>Connection factor</i> Тип соединения	T [Nm]	Momento torcente <i>Torque</i> Момент
------------------	--	------------------	--	----------	---	------------------	---

k =	7000	5000	3000	2120	2000
Trasmissioni <i>Drive member</i> Ведущий узел	Ruote di frizione (gomma su metallo) <i>Friction wheel drive (rubber on metal)</i> Трение колеса (резина по металлу)	Cinghie trapezoidali <i>Toothed belts</i> Клиновой ременный привод	Cinghie dentate <i>Toothed belts</i> Зубчатый ремень	Ingranaggi cilindrici <i>Spur gears</i> Цилиндрическая передача	Catene <i>Chain drives</i> Цепной привод



Nel caso di sollevamento con tamburo con tiro verso il basso è preferibile che la fune si avvolga dalla parte opposta al motore (1).
Nel caso piú gravoso del precedente, con tiro verso l'alto, viceversa è preferibile che la fune si avvolga dal lato motore (2).

*In lifting applications using winch drums in a downward pull direction, it is best for the rope to wrap on the side opposite to the motor (1).
In the more severe case of upward pull direction, the rope should wrap on motor side (2).*

Чтобы рассчитать радиальную Fr нагрузку на входной и выходной валы используйте ниже приведённые формулы и коэффициенты.

Verifiche

Caso A)
Per carichi radiali minori di 0.25 Fr_{1'} o Fr_{2'} e necessario verificare soltanto che contemporaneamente al carico radiale sia presente un carico assiale non superiore a 0.2 volte Fr_{1'} o Fr_{2'};

Caso B)
Per carichi radiali maggiori di 0.25 Fr_{1'} o Fr_{2'};
1) Calcolo abbreviato: Fr (input) < Fr_{1'} e Fr (output) < Fr_{2'} e che contemporaneamente al carico radiale sia presente un carico assiale non superiore a 0.2 volte Fr_{1'} o Fr_{2'};
2) Calcolo completo per il quale occorre fornire i seguenti dati:
- momento torcente applicato o potenza applicata
- n₁ e n₂ (giri al minuto dell'albero veloce e dell'albero lento)
- carico radiale Fr (direzione, intensità, verso)

Verification

Case A)
For overhung loads lower than 0.25 Fr_{1'} or Fr_{2'}, ensure that the thrust load applied simultaneously with OHL is not greater than 0.2 times Fr_{1'} or Fr_{2'};

Case B)
For overhung loads greater than 0.25 Fr_{1'} or Fr_{2'};
1) *Quick calculation method: Fr (input) < Fr_{1'} and Fr (output) < Fr_{2'} and thrust load applied simultaneously with OHL not greater than 0.2 times Fr_{1'} or Fr_{2'};*
2) *For the standard calculation method, the following information is required:*
- *n₁ and n₂ (input and output shaft rpm)*
- *overhung load Fr (orientation, amount of loading, direction)*

Проверка

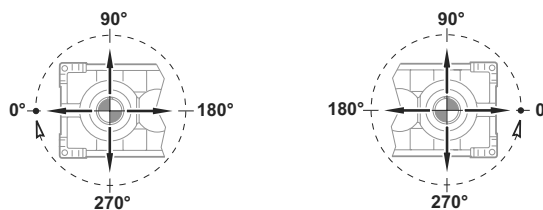
Вариант А)
Для радиальной нагрузки меньше, чем 0,25 Fr_{1'} или Fr_{2'} убедитесь, что осевая нагрузка применяемая одновременно с радиальной не больше, чем Fr_{1'} или Fr_{2'} в 0.2 раза.

Вариант В)
Для рад. нагрузок больше, чем 0.25Fr_{1'} или Fr_{2'} 1) Быстрый метод расчета: Fr₁(вход) < Fr_{2'} и Fr₁(на выход) < Fr_{2'} и осевая нагрузка, применяемая одновременно с радиальной не больше, чем Fr_{1'} или Fr_{2'} в 0,2 раза.
2) Обычный метод расчета требует следующей информации:
- действующие нагрузки или мощность
- обороты входного и выходного вала
- радиальная нагрузка Fr (расположение, величина нагрузки, направление).

-senso di rotazione dell'albero

-direction of rotation of shaft

- Направление вращения вала



- grandezza e tipo del riduttore scelto
- tipo olio impiegato e sua viscosità
- esecuzione grafica assi:
- carico assiale presente Fa

- size and type of selected gear unit
- oil type and viscosity
- shaft arrangement:
- actual thrust load Fa

- Размер и тип выбранного редуктора
- Вязкость и тип масла
- Расположение вала
- Фактическая осевая нагрузка

Consultare il supporto Tecnico per la verifica.

Please contact our Engineering for a verification.

Пожалуйста, свяжитесь с нашими инженерами

1.8 Prestazioni riduttori RX01

1.8 RX01 gear unit ratings

1.8 Характеристики редукторов RX01

n ₁ min ⁻¹	802					804					806							
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN			
1450	4.40	329	40	1.1	10.2 2.9	4.39	331	58	1.6	13.6 3.6	4.93	294	84	2.6	16.3 4.6			
1000		227	33	1.3			228	45	1.8			203	47	2.1		203	65	2.9
500		114	18.8	1.5			114	26	2.1			101	27	2.4		101	37	3.3
1450	5.22	278	40	1.3	9.7 3.0	4.93	294	58	1.8	13.0 3.8	5.57	260	83	2.9	15.3 4.9			
1000		192	32	1.5			203	47	2.1			180	45	2.3		180	63	3.2
500		96	19.0	1.8			101	27	2.4			90	27	2.7		90	37	3.7
1450	5.54	262	40	1.4	9.1 3.2	5.57	260	60	2.1	12.2 4.0	5.93	244	83	3.1	14.7 5.1			
1000		181	32	1.6			169	46	2.5			169	63	3.4		169	63	3.4
500		90	18.9	1.9			84.3	26	2.8			84	36	3.9		84	36	3.9
1450	6.26	232	41	1.6	8.3 3.3	5.93	244	59	2.2	11.5 4.2	6.77	214	83	3.5	16.2 5.4			
1000		160	32	1.8			148	46	2.8			148	63	3.9		148	63	3.9
500		80	17.6	2.0			73.9	24	3.0			73.9	37	4.5		73.9	37	4.5
1450	7.13	203	40	1.8	9.6 3.5	6.77	214	59	2.5	12.9 4.4	7.25	200	81	3.7	12.5 5.6			
1000		140	31	2.0			138	46	3.0			138	64	4.2		138	64	4.2
500		70	16.2	2.1			69.0	24	3.1			69	35	4.6		69	35	4.6
1450	7.63	190	42	2.0	7.4 3.6	7.25	200	59	2.7	10.0 4.6	8.39	173	82	4.3	9.5 5.9			
1000		131	30	2.1			119	42	3.2			119	62	4.7		119	62	4.7
500		66	15.1	2.1			60	21	3.2			60	32	4.8		60	32	4.8
1450	8.81	165	40	2.2	7.0 3.8	8.39	173	59	3.1	8.3 4.8	9.83	148	75	4.6	11.6 6.1			
1000		113	27	2.2			148	50	3.1			102	36	3.2		102	53	4.7
500		57	13.7	2.2			51	18.5	3.3			51	27	4.8		51	27	4.8
1450	9.52	152	37	2.2	9.3 3.9	9.83	148	50	3.1	10.4 5.0	10.7	135	64	4.3	13.5 6.4			
1000		105	25	2.2			93	31	3.0			93	45	4.4		93	45	4.4
500		53	12.7	2.2			47	15.9	3.1			47	23	4.5		47	23	4.5
1450	11.2	129	30	2.1	10.3 4.1	10.7	135	43	2.9	11.9 5.2	12.6	115	48	3.8	18.8 7.1			
1000		89	21	2.1			79	23	2.6			79	34	3.9		79	34	3.9
500		45	10.8	2.2			40	11.8	2.7			40	17.4	4.0		40	17.4	4.0
1450	13.3	109	24	2.0	11.1 4.2	12.6	115	33	2.6	15.0 5.4	14.8	98	48	4.4	20.6 7.6			
1000		75.4	17.4	2.1			68	23	3.1			68	34	4.5		68	34	4.5
500		37.7	9.1	2.2			34	11.9	3.2			34	17.5	4.7		34	17.5	4.7
1450	14.3	101	25	2.2	12.1 4.4	14.8	98	32	3.0	16.4 5.6	16.1	90	44	4.4	18.8 7.1			
1000		69.8	16.9	2.2			62	21	3.0			62	31	4.5		62	31	4.5
500		34.9	8.5	2.2			31	10.9	3.2			31	15.7	4.6		31	15.7	4.6
1450	16.9	86	19.9	2.1	10.9 4.5	16.1	90	30	3.0	14.9 6.2	17.6	82	36	4.0	18.1 7.4			
1000		59	13.7	2.1			57	17.5	2.8			57	26	4.1		57	26	4.1
500		30	7.2	2.2			28	9.1	2.9			28	13.4	4.3		28	13.4	4.3
1450	18.5	79	16.4	1.9	10.4 4.7	17.6	82	25	2.8	14.3 5.8	20.7	70	23	3.0	20.6 7.6			
1000		54	11.9	2.0			48	11.7	2.2			48	16.5	3.1		48	16.5	3.1
500		27	6.0	2.0			24	6.1	2.3			24	8.5	3.2		24	8.5	3.2
1450	20.1	72	11.9	1.5	12.1 4.8	20.7	70	16.9	2.2	16.4 6.0	22.6	64	23	3.3	22.7 7.9			
1000		50	8.2	1.5			44	11.7	2.4			44	16.1	3.3		44	16.1	3.3
500		25	4.4	1.6			22	6.1	2.5			22	8.5	3.5		22	8.5	3.5
1450	23.7	61	12.1	1.8	13.6 5.0	22.6	64	17.0	2.4	18.2 6.2	24.7	59	23	3.6	22.5 8.1			
1000		42	8.4	1.8			44	11.7	2.4			44	16.1	3.3		44	16.1	3.3
500		21	4.4	1.9			22	6.1	2.5			22	8.5	3.5		22	8.5	3.5
1450	25.9	56	11.7	1.9	13.1 5.1	24.7	59	16.8	2.6	17.8 6.4	24.7	40	16.5	3.7	22.5 8.1			
1000		39	8.5	2.0			40	12.0	2.7			40	16.5	3.7		40	16.5	3.7
500		19.3	4.3	2.0			20	6.2	2.8			20	8.5	3.8		20	8.5	3.8
Potenze termiche - Thermal power - Термическая мощность (senza raffreddamento / Without cooling / без охлаждения)																		
30					39					51								



1.8 Prestazioni riduttori RX01

1.8 RX01 gear unit ratings

1.8 Характеристики редукторов RX01

n ₁ min ⁻¹	808					810					812				
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN
1450	4.39	331	116	3.2	22.9 6.6	4.39	331	149	4.1	28.6 7.9	4.48	324	196	5.5	35.0 10.2
1000		228	88	3.5			228	105	4.2			223	153	6.2	
500		114	44	3.5			114	53	4.2			112	76	6.2	
1450	4.93	294	113	3.5	22.1 6.8	4.93	294	149	4.6	27.6 8.3	5.03	288	197	6.2	33.7 10.5
1000		203	89	4.0			203	105	4.7			199	153	7.0	
500		101	45	4.0			101	52	4.7			99	77	7.0	
1450	5.57	260	115	4.0	20.9 7.1	5.57	260	149	5.2	26.3 8.6	5.67	256	197	7.0	32.1 10.9
1000		180	88	4.5			180	105	5.3			176	153	7.9	
500		90	44	4.5			90	52	5.3			88	77	7.9	
1450	6.33	229	116	4.6	20.3 7.3	6.33	229	149	5.9	25.4 8.9	6.44	225	198	8.0	30.0 11.2
1000		158	89	5.1			158	104	6.0			155	152	8.9	
500		79	44	5.1			79	52	6.0			78	77	9.0	
1450	7.25	200	115	5.2	22.9 7.6	7.25	200	148	6.7	28.7 9.2	6.89	211	197	8.5	33.3 11.6
1000		138	88	5.8			138	105	6.9			145	152	9.5	
500		69	44	5.8			69	52	6.9			73	77	9.6	
1450	7.79	186	115	5.6	18.9 7.8	7.79	186	148	7.2	23.9 9.6	7.92	183	198	9.8	26.4 11.9
1000		128	89	6.3			128	105	7.4			126	153	11.0	
500		64	45	6.3			64	52	7.4			63	76	11.0	
1450	9.06	160	115	6.5	15.8 8.1	8.39	173	148	7.8	20.1 9.9	8.53	170	198	10.6	23.0 12.3
1000		110	81	6.7			119	105	8.0			117	152	11.8	
500		55	41	6.7			60	53	8.0			59	77	11.9	
1450	9.83	148	106	6.5	17.5 8.3	9.83	148	146	9.0	22.6 10.2	9.99	145	199	12.4	27.3 12.6
1000		102	75	6.7			102	103	9.2			100	144	13.1	
500		51	38	6.8			51	52	9.3			50	73	13.3	
1450	10.7	135	91	6.1	19.5 8.6	10.7	135	125	8.4	25.3 10.5	10.9	133	176	12.0	28.1 13.0
1000		93	64	6.2			93	87	8.5			92	124	12.2	
500		47	33	6.4			47	45	8.8			46	64	12.7	
1450	11.7	124	68	5.0	27.6 8.8	11.7	124	105	7.7	34.4 10.9	11.9	122	149	11.1	40.8 13.3
1000		85	48	5.1			85	74	7.9			84	105	11.3	
500		43	25	5.3			43	39	8.2			42	54	11.7	
1450	14.8	98	68	6.3	29.3 9.1	14.8	98	93	8.6	36.4 11.2	15.0	96	133	12.5	41.9 13.7
1000		68	48	6.4			68	66	8.8			67	93	12.7	
500		34	25	6.7			34	34	9.1			33	48	13.2	
1450	16.1	90	61	6.2	25.7 9.3	16.1	90	84	8.5	33.6 11.5	16.4	89	120	12.3	40.8 14.0
1000		62	43	6.3			62	59	8.7			61	84	12.5	
500		31	23	6.6			31	31	9.0			31	43	12.9	
1450	17.6	82	53	5.8	27.0 9.6	17.6	82	72	7.9	32.7 11.8	17.9	81	101	11.3	39.6 14.4
1000		57	37	5.9			57	50	8.0			56	71	11.5	
500		28	19.1	6.1			28	26	8.3			28	37	11.9	
1450	20.7	70	33	4.3	29.3 9.8	20.7	70	45	5.9	36.4 12.2	21.1	69	65	8.6	41.9 14.7
1000		48	23	4.4			48	32	6.1			47	45	8.7	
500		24	11.9	4.5			24	16.7	6.3			24	24	9.0	
1450	22.6	64	33	4.7	31.6 10.1	22.6	64	46	6.5	39.1 12.5	23.0	63	65	9.3	47.4 15.1
1000		44	23	4.8			44	32	6.6			44	46	9.5	
500		22	12.2	5.0			22	16.6	6.8			22	24	9.8	
1450	24.7	59	33	5.1	30.9 10.3	24.7	59	46	7.1	38.8 12.8	25.1	58	65	10.2	45.6 15.4
1000		40	23	5.2			40	32	7.2			40	46	10.4	
500		20	12.0	5.4			20	16.7	7.5			20	23	10.7	
1450	27.2	53	32	5.4	29.3 10.6	27.2	53	43	7.4	36.4 13.1					
1000		37	22	5.5			37	30	7.5						
500		18	11.5	5.7			18	15.8	7.8						
Potenze termiche - Thermal power - Термическая мощность (senza raffreddamento / Without cooling / без охлаждения)															
66					82					104					

1.8 Prestazioni riduttori RXO1

1.8 RXO1 gear unit ratings

1.8 Характеристики редукторов RXO1

n ₁ min ⁻¹	814					816					818				
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN
1450	4.40	329	265	7.3	42.3 10.3	4.39	331	379	10.4	55.5 11.0	4.93	294	502	15.5	68.1 19.7
1000		227	205	8.2			228	284	11.3			203	386	17.3	
500		114	109	8.7			114	142	11.3			101	224	20.1	
1450	4.93	294	266	8.2	41.0 11.0	4.93	294	376	11.6	53.9 11.7	5.57	260	502	17.5	65.4 20.5
1000		203	206	9.2			203	286	12.8			180	386	19.5	
500		101	110	9.8			101	143	12.8			90	223	22.6	
1450	5.54	262	265	9.2	39.2 11.6	5.57	260	376	13.1	51.6 12.5	6.33	229	502	19.9	63.6 21.3
1000		181	205	10.3			169	284	15.3			158	386	22.2	
500		90	109	11.0			84	142	15.3			79	224	25.7	
1450	6.26	232	265	10.4	36.9 12.2	5.93	244	377	14.0	50.2 13.2	6.77	214	500	21.2	73.5 22.1
1000		160	204	11.6			169	284	15.3			148	386	23.7	
500		79.9	109	12.4			84	142	15.3			74	224	27.5	
1450	7.13	203	264	11.8	44.1 12.8	6.77	214	377	16.0	58.0 14.0	7.25	200	500	22.7	64.2 22.9
1000		140	204	13.2			148	284	17.5			138	386	25.4	
500		70	110	14.2			74	142	17.5			69	224	29.5	
1450	7.63	190	266	12.7	38.7 13.5	7.79	186	377	18.4	50.6 14.7	8.39	173	501	26.3	57.6 23.7
1000		131	205	14.2			128	285	20.1			119	386	29.4	
500		70	110	15.2			64	142	20.1			59.6	224	34.1	
1450	8.81	165	264	14.6	28.7 14.1	9.06	160	377	21.4	45.3 15.5	9.83	148	501	30.8	45.4 24.5
1000		113	205	16.4			110	284	23.4			102	386	34.5	
500		57	109	17.5			55	142	23.4			51	224	40.0	
1450	9.52	152	265	15.8	32	9.83	148	377	23.2	36.1 16.2	10.7	135	501	33.6	53.8 25.3
1000		105	205	17.7			102	285	25.4			93	359	34.9	
500		53	109	18.9			51	142	25.4			47	186	36.1	
1450	11.2	129	233	16.4	30.8 15.3	10.7	135	349	23.4	42.4 17.0	12.9	113	360	29.1	75.5 26.1
1000		89	164	16.7			93	246	23.9			78	253	29.6	
500		45	85	17.3			47	127	24.7			39	131	30.6	
1450	13.3	109	183	15.2	44.4 16.0	11.7	124	294	21.6	62.0 17.7	14.8	98	347	32.1	84.3 26.9
1000		75	139	16.7			85	208	22.1			68	267	35.9	
500		38	72	17.3			43	107	22.8			34	140	37.5	
1450	14.3	101	183	16.4	49.0 16.6	13.6	106	261	22.3	66.9 18.5	16.1	90	346	34.9	73.9 27.7
1000		70	138	17.9			73	197	24.4			62	243	35.6	
500		35	69	17.9			37	102	25.3			31	126	36.9	
1450	16.9	86	159	16.8	45.2 17.2	16.1	90	237	23.9	58.2 19.2	17.6	82	293	32.3	72.6 28.5
1000		59	112	17.1			62	166	24.3			57	206	32.9	
500		30	58	17.7			31	86	25.2			28	107	34.1	
1450	18.5	79	134	15.5	41.8 18.8	17.6	82	200	22.1	60.0 20.0	19.4	75	244	29.7	84.3 29.3
1000		54	94	15.8			57	141	22.5			52	171	30.2	
500		27	49	16.3			28	73	23.3			26	89	31.3	
1450	20.1	72	96	12.1	49.0 18.5	20.7	70	137	17.8	66.9 20.7	22.6	64	187	26.5	90.9 30.1
1000		50	68	12.4			48	96	18.1			44	132	27.0	
500		25	35	12.8			24	50	18.8			22	68	28.0	
1450	23.7	61	96	14.3	54.0 19.1	22.6	64	137	19.4	73.0 21.5	24.7	59	187	29.0	90.1 30.9
1000		42	68	14.6			44	96	19.7			40	132	29.6	
500		21	35	15.1			22	50	20.4			20	68	30.6	
1450	25.9	56	96	15.6	54.3 19.7	24.7	59	137	21.2	71.1 22.2	27.2	53	177	30.2	84.3 31.7
1000		39	68	15.9			40	96	21.6			37	124	30.7	
500		19.3	35	16.5			20	50	22.4			18.4	64	31.8	
1450	28.5	51	81	14.4	49.0 20.3	27.2	53	121	20.6	66.9 23.0	27.2	53	177	30.2	84.3 31.7
1000		35	57	14.7			37	85	21.0			37	124	30.7	
500		17.6	29	15.2			18.4	44	21.7			18.4	64	31.8	
Potenze termiche - Thermal power - Термическая мощность (senza raffreddamento / Without cooling / без охлаждения)															
127					158					203					



1.8 Prestazioni riduttori RX01

1.8 RX01 gear unit ratings

1.8 Характеристики редукторов RX01

n ₁ min ⁻¹	820					822					824				
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN
1450	4.47	325	690	19.3	95.1 28.0	4.41	329	1036	28.6	119.5 37.4	4.57	317	1926	55.1	119.5 37.4
1000		224	532	21.6			227	799	32.0			219	1328	55.1	
500		112	318	25.8			113	466	37.3			109	664	55.1	
1450	5.02	289	690	21.7	92.9 28.9	4.95	293	980	30.4	118.0 35.7	5.13	283	1926	61.9	118.0 35.7
1000		199	533	24.3			202	756	34.0			195	1328	61.9	
500		100	318	29.0			101	466	41.9			97	664	61.9	
1450	5.67	256	692	24.6	89.9 29.7	5.60	259	979	34.3	114.4 36.8	5.79	250	1927	69.9	114.4 36.8
1000		176	534	27.5			179	756	38.4			173	1329	69.9	
500		88	318	32.8			89	466	47.4			86	664	69.9	
1450	6.45	225	691	27.9	85.9 30.5	6.36	228	981	39.1	109.4 37.8	6.58	220	1927	79.4	109.4 37.8
1000		155	533	31.2			157	756	43.7			152	1329	79.4	
500		78	318	37.2			79	465	53.7			76	665	79.4	
1450	7.38	196	692	32.0	99.9 31.3	7.29	199	980	44.7	127.9 38.9	7.03	206	1926	84.8	127.9 38.9
1000		135	532	35.7			137	756	50.0			142	1328	84.8	
500		68	318	42.6			69	465	61.6			71	664	84.8	
1450	7.93	183	690	34.3	88.4 32.2	7.83	185	979	48.0	114.2 39.39	8.09	179	1927	97.6	114.2 39.39
1000		126	533	38.4			128	756	53.7			124	1329	97.6	
500		63	318	45.8			64	465	66.1			62	665	97.6	
1450	9.23	157	692	40.0	80.0 33.0	9.11	159	978	55.8	104.3 41.0	8.71	167	1926	105	104.3 41.0
1000		108	533	44.7			110	754	62.4			115	1328	105	
500		54	318	53.3			55	464	76.8			57	664	105	
1450	10.0	145	691	43.3	69.9 33.8	9.88	147	980	60.6	92.1 42.0	10.2	142	1926	123	92.1 42.0
1000		100	532	48.4			101	755	67.7			98	1328	123	
500		50	318	57.8			51	464	83.3			49	664	123	
1450	10.9	133	691	47.2	78.4 34.6	10.8	135	975	65.7	102.8 43.1	11.1	131	1323	92.0	102.8 43.1
1000		92	498	49.3			93	698	68.2			90	946	95.4	
500		46	258	51.1			46	361	70.6			45	490	98.8	
1450	11.7	124	484	35.5	110.5 35.5	12.4	117	650	50.6	139.8 44.1	12.8	114	888	71.0	139.8 44.1
1000		85	373	39.7			80	500	56.5			78	685	79.4	
500		43	199	42.3			40	282	63.6			39	386	89.5	
1450	13.6	106	484	41.3	117.2 36.3	14.6	100	637	58.1	149.8 45.2	14.9	97	884	82.7	149.8 45.2
1000		73	373	46.2			69	490	64.9			67	681	92.4	
500		37	199	49.2			34	281	74.5			33	386	105	
1450	16.1	90	484	48.8	104.5 37.1	15.9	91	678	67.4	137.0 46.2	16.3	89	959	97.7	137.0 46.2
1000		62	344	50.3			63	482	69.5			61	676	99.9	
500		31	178	52.1			32	250	72.0			31	350	103	
1450	17.6	82	414	45.7	107.8 37.9	17.4	83	580	63.1	136.6 47.3	17.8	81	813	90.6	136.6 47.3
1000		57	291	46.5			58	408	64.3			56	571	92.3	
500		28	151	48.2			29	211	66.5			28	295	95.5	
1450	19.4	75	345	41.9	117.2 38.8	19.1	76	484	57.9	149.8 48.3	19.6	74	677	83.1	149.8 48.3
1000		52	242	42.7			52	340	59.0			51	476	84.6	
500		26	125	44.2			26	176	61.0			26	246	87.6	
1450	22.6	64	267	37.8	126.3 39.6	22.5	64	367	51.8	158.9 49.4	22.9	63	514	73.7	158.9 49.4
1000		44	188	38.5			44	257	52.7			44	361	75.1	
500		22	97	39.9			22	133	54.6			22	187	77.7	
1450	24.7	59	267	41.4	123.4 40.4	24.7	59	366	56.6	157.4 50.4	25.1	58	513	80.6	157.4 50.4
1000		40	188	42.2			40	258	57.7			40	361	82.1	
500		20	97	43.7			20	133	59.7			19.9	187	85.0	
1450	27.2	53	247	42.6	117.2 41.2	27.2	53	346	58.9	149.8 51.5	27.6	53	489	84.5	149.8 51.5
1000		37	176	43.4			37	243	60.0			36	344	86.1	
500		18.4	91	44.9			18.4	126	62.1			18.4	178	89.1	
Potenze termiche - Thermal power - Термическая мощность (senza raffreddamento / Without cooling / без охлаждения)															
252					304					368					

1.9 Prestazioni riduttori RXO2

1.9 RXO2 gear unit ratings

1.9 Характеристики редукторов RXO2

n ₁ min ⁻¹	802					804					806						
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN		
1450	19.4	75	27	3.2	12 1.8	19.4	75	39	4.6	16 2.0	20.5	71	56	7.0	21 3.1		
1000		52	18.6	3.2			52	27	4.7			49	39	7.1			
500		26	9.3	3.2			26	13.6	4.7			24	20	7.4			
1450	21.9	66	24	3.2	12 1.8	21.9	66	34	4.6	16 2.0	21.8	67	52	7.0	20 3.1		
1000		46	17.0	3.3			46	24	4.7			46	37	7.1			
500		23	8.7	3.4			23	12.6	4.9			23	19.1	7.4			
1450	24.9	58	22	3.3	12 1.9	24.9	58	31	4.7	15 2.2	24.6	59	46	7.0	19 3.2		
1000		40	14.9	3.3			40	22	4.8			41	33	7.2			
500		20	7.7	3.4			20	11.1	4.9			20	16.9	7.4			
1450	28.5	51	18.9	3.3	12 1.9	30.6	47	25	4.7	15 2.2	28.0	52	41	7.1	19 3.2		
1000		35	13.4	3.4			33	17.7	4.8			36	29	7.2			
500		17.6	6.9	3.5			16.4	9.2	5.0			17.9	15.1	7.5			
1450	30.6	47	17.6	3.3	11 2	32.9	44	23	4.7	15 2.2	30.0	48	39	7.1	19 3.4		
1000		33	12.5	3.4			30	16.4	4.8			33	27	7.2			
500		16.3	6.4	3.5			15.2	8.5	5.0			16.7	14.1	7.5			
1450	32.9	44	16.3	3.3	11 2	38.5	38	20	4.8	15 2.3	34.6	42	34	7.2	19 3.4		
1000		30	11.6	3.4			26	14.3	4.9			29	24	7.3			
500		15.2	6.0	3.5			13.0	7.3	5.0			14.4	12.3	7.6			
1450	38.6	38	13.9	3.3	11 2.1	41.9	35	18.7	4.8	15 2.3	37.4	39	31	7.2	19 3.6		
1000		26	9.9	3.4			24	13.1	4.9			27	22	7.3			
500		13.0	5.1	3.5			11.9	6.7	5.0			13.4	11.4	7.6			
1450	46.0	32	12.1	3.4	11 2.1	45.9	32	17.1	4.8	15 2.3	44.1	33	27	7.2	19 3.6		
1000		22	8.3	3.4			22	12.0	4.9			23	18.9	7.4			
500		10.9	4.3	3.5			10.9	6.1	5.0			11.3	9.7	7.6			
1450	49.6	29	11.2	3.4	11 2.1	49.5	29	15.8	4.8	15 2.3	52.1	28	23	7.3	19 3.6		
1000		20	7.7	3.4			20	11.1	4.9			19.2	16.0	7.4			
500		10.1	4.0	3.5			10.1	5.7	5.0			9.6	8.2	7.6			
1450	58.1	25	9.5	3.4	11 2.1	58.0	25	13.8	4.9	15 2.3	56.3	26	21	7.3	19 3.6		
1000		17.2	6.8	3.5			17.2	9.7	5.0			17.8	15.0	7.5			
500		8.6	3.4	3.5			8.6	4.9	5.0			8.9	7.6	7.6			
1450	63.3	23	8.8	3.4	11 2.2	63.1	23	12.7	4.9	15 2.5	66.3	22	18.2	7.4	19 3.8		
1000		15.8	6.2	3.5			15.8	8.9	5.0			15.1	12.7	7.5			
500		7.9	3.1	3.5			7.9	4.5	5.0			7.5	6.4	7.6			
1450	69.2	21	8.0	3.4	11 2.2	69.1	21	11.6	4.9	15 2.5	72.5	20	16.4	7.4	19 3.8		
1000		14.4	5.7	3.5			14.5	8.1	5.0			13.8	11.8	7.6			
500		7.2	2.8	3.5			7.2	4.1	5.0			6.9	5.9	7.6			
1450	81.5	17.8	7.0	3.5	11 2.2	81.3	17.8	9.8	4.9	15 2.5	79.8	18.2	15.3	7.5	19 3.8		
1000		12.3	4.8	3.5			12.3	6.9	5.0			12.5	10.7	7.6			
500		6.1	2.4	3.5			6.1	3.5	5.0			6.3	5.4	7.6			
1450	88.7	16.3	6.4	3.5	11 2.2	88.5	16.4	9.2	5.0	15 2.5	93.0	15.6	13.1	7.5	19 3.8		
1000		11.3	4.4	3.5			11.3	6.4	5.0			10.8	9.2	7.6			
500		5.6	2.2	3.5			5.7	3.2	5.0			5.4	4.6	7.6			
1450	97.1	14.9	5.9	3.5	11 2.2	96.8	15.0	8.4	5.0	15 2.5	102	14.3	12.2	7.6	19 3.8		
1000		10.3	4.1	3.5			10.3	5.8	5.0			9.8	8.4	7.6			
500		5.1	2.0	3.5			5.2	2.9	5.0			4.9	4.2	7.6			
1450	107*	13.6	5.3	3.5	11 2.2	107*	13.6	7.7	5.0	15 2.5	112	13.0	11.1	7.6	19 3.8		
1000		9.4	3.7	3.5			9.4	5.3	5.0			8.9	7.6	7.6			
500		4.7	1.8	3.5			4.7	2.6	5.0			4.5	3.8	7.6			
1450	118*	12.2	4.8	3.5	11 2.2	118*	12.3	6.9	5.0	15 2.5	124	11.7	10.0	7.6	19 3.8		
1000		8.5	3.3	3.5			8.5	4.8	5.0			8.1	6.9	7.6			
500		4.2	1.7	3.5			4.2	2.4	5.0			4.0	3.5	7.6			
Potenze termiche - Thermal power - Термическая мощность (senza raffreddamento / Without cooling / без охлаждения)																	
					24						30						40

* Nei rapporti contrassegnati non è disponibile la versione uscita con albero cavo.

* Hollow output shaft not available for ratios marked with this symbol.

* Полный выходной вал недоступен для позиций отмеченных данным символом

1.9 Prestazioni riduttori RXO2

1.9 RXO2 gear unit ratings

1.9 Характеристики редукторов RXO2

n ₁ min ⁻¹	808					810					812				
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN
1450	19.7	74	82	9.9	38 5.8	20.1	72	110	13.6	48 6.8	19.1	76	172	20.1	51 9.3
1000		51	58	10.1			50	78	13.9			52	121	20.5	
500		25	30	10.5			25	40	14.4			26	63	21.3	
1450	22.3	65	73	10.0	36 5.8	22.7	64	99	13.7	46 6.8	21.5	67	154	20.3	51 9.3
1000		45	52	10.2			44	69	14.0			46	108	20.7	
500		22	27	10.5			22	36	14.4			23	56	21.4	
1450	23.7	61	69	10.0	34 6.1	24.2	60	93	13.7	44 7.0	24.5	59	136	20.4	49 9.5
1000		42	48	10.2			41	65	14.0			41	96	20.8	
500		21	25	10.6			21	34	14.5			20	49	21.5	
1450	27.1	54	61	10.1	34 6.1	27.6	53	82	13.8	44 7.0	28.0	52	119	20.5	49 9.5
1000		37	43	10.3			36	58	14.1			36	84	20.9	
500		18.5	22	10.6			18.1	30	14.6			18	44	21.7	
1450	29.0	50	57	10.1	34 6.3	29.5	49	77	13.9	44 7.2	30.1	48	112	20.6	49 9.7
1000		34	40	10.3			34	54	14.1			33	78	21.0	
500		17.2	21	10.7			16.9	28	14.6			17.8	41	21.7	
1450	33.5	43	50	10.2	34 6.3	34.1	42	67	14.0	44 7.2	35.0	41	97	20.8	49 9.7
1000		30	35	10.4			29	47	14.2			29	68	21.2	
500		14.9	18.1	10.8			14.6	24	14.7			14.3	35	21.9	
1450	39.3	37	43	10.3	34 6.6	40.0	36	57	14.1	44 7.5	41.4	35	82	20.9	49 10.0
1000		25	30	10.5			25	40	14.4			24	58	21.3	
500		12.7	15.4	10.8			12.5	21	14.8			12.1	30	21.9	
1450	46.8	31	36	10.4	34 6.6	43.6	33	53	14.2	44 7.5	45.3	32	76	21.0	49 10.0
1000		21	25	10.6			23	37	14.4			22	53	21.4	
500		10.7	13.0	10.8			11.5	19.1	14.8			11.0	27	21.9	
1450	50.5	29	34	10.4	34 6.6	51.4	28	45	14.3	44 7.5	52.7	28	66	21.2	49 10.0
1000		19.8	24	10.6			19.5	32	14.5			19.0	46	21.6	
500		9.9	12.0	10.8			9.7	16.2	14.8			9.5	23	21.9	
1450	59.2	25	29	10.5	34 6.6	60.2	24	39	14.4	44 7.5	57.2	25	61	21.3	49 10.0
1000		16.9	20	10.7			16.6	27	14.7			17.5	43	21.7	
500		8.5	10.3	10.8			8.3	13.8	14.8			8.7	22	21.9	
1450	64.4	23	27	10.5	34 6.9	65.6	22	36	14.4	44 7.7	62.3	23	56	21.4	49 10.4
1000		15.5	18.7	10.7			15.3	25	14.7			16.1	39	21.8	
500		7.8	9.4	10.8			7.6	12.7	14.8			8.0	19.8	21.9	
1450	70.5	21	25	10.6	34 6.9	71.7	20	33	14.5	44 7.7	68.1	21	51	21.5	49 10.4
1000		14.2	17.2	10.8			13.9	23	14.8			14.7	36	21.9	
500		7.1	8.6	10.8			7.0	11.6	14.8			7.3	18.1	21.9	
1450	77.6	18.7	22	10.6	34 6.9	84.4	17.2	28	14.6	44 7.7	80.2	18.1	44	21.7	49 10.4
1000		12.9	15.7	10.8			11.8	19.7	14.8			12.5	31	21.9	
500		6.4	7.8	10.8			5.9	9.9	14.8			6.2	15.4	21.9	
1450	90.3	16.0	19.3	10.7	34 6.9	92.0	15.8	26	14.7	44 7.7	87.3	16.6	41	21.7	49 10.4
1000		11.1	13.4	10.8			10.9	18.1	14.8			11.5	28	21.9	
500		5.5	6.7	10.8			5.4	9.1	14.8			5.7	14.1	21.9	
1450	98.9	14.7	17.8	10.8	34 6.9	101	14.4	24	14.8	44 7.7	95.6	15.2	37	21.8	49 10.4
1000		10.1	12.3	10.8			9.9	16.5	14.8			10.5	26	21.9	
500		5.1	6.1	10.8			5.0	8.3	14.8			5.2	12.9	21.9	
1450	109	13.3	16.1	10.8	34 6.9	111*	13.1	22	14.8	44 7.7	105*	13.8	34	21.9	49 10.4
1000		9.2	11.2	10.8			9.0	15.0	14.8			9.5	23	21.9	
500		4.6	5.6	10.8			4.5	7.5	14.8			4.8	11.7	21.9	
1450	121	12.0	14.6	10.8	34 6.9	123*	11.8	19.7	14.8	44 7.7	117*	12.4	31	21.9	49 10.4
1000		8.3	10.1	10.8			8.2	13.6	14.8			8.6	21	21.9	
500		4.1	5.0	10.8			4.1	6.8	14.8			4.3	10.6	21.9	
Potenze termiche - Thermal power - Термическая мощность (senza raffreddamento / Without cooling / без охлаждения)															
52					65					82					

* Nei rapporti contrassegnati non è disponibile la versione uscita con albero cavo.

* Hollow output shaft not available for ratios marked with this symbol.

* Полный выходной вал недоступен для позиций отмеченных данным символом

1.10 Prestazioni riduttori RX03

1.10 RX03 gear unit ratings

1.10 Характеристики редукторов RX03

n ₁ min ⁻¹	802					804					806					808							
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ / Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ / Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ / Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ / Fr ₁ kN			
1450	110	13.2	5.3	3.5	11 1.9	118	12.3	7.1	5.0	15 2.2	114	12.7	11.1	7.6	19.0 3.3	120	12.1	15.0	10.8	34.0 6.1			
1000		9.1	3.6	3.5			8.5	4.9	5.0			8.8	7.7	7.6			8.3	10.3	10.8				
500		4.5	1.8	3.5			4.2	2.4	5.0			4.4	3.8	7.6			4.2	5.2	10.8				
1450	121	12.0	4.8	3.5	11 1.9	129	11.3	6.5	5.0	15 2.2	124	11.7	10.2	7.6	19.0 3.3	131	11.1	13.8	10.8	34.0 6.1			
1000		8.3	3.3	3.5			7.8	4.5	5.0			8.1	7.0	7.6			7.7	9.5	10.8				
500		4.1	1.7	3.5			3.9	2.2	5.0			4.0	3.5	7.6			3.8	4.8	10.8				
1450	147	9.9	4.0	3.5	11 1.9	142	10.2	5.9	5.0	15 2.2	136	10.7	9.3	7.6	19.0 3.3	143	10.2	12.6	10.8	34.0 6.1			
1000		6.8	2.7	3.5			7.1	4.1	5.0			7.4	6.4	7.6			7.0	8.7	10.8				
500		3.4	1.4	3.5			3.5	2.0	5.0			3.7	3.2	7.6			3.5	4.3	10.8				
1450	168	8.6	3.5	3.5	11 1.9	163	8.9	5.1	5.0	15 2.2	168	8.6	7.5	7.6	19.0 3.3	165	8.8	10.9	10.8	34.0 6.1			
1000		5.9	2.4	3.5			6.1	3.5	5.0			6.0	5.2	7.6			6.1	7.5	10.8				
500		3.0	1.2	3.5			3.1	1.8	5.0			3.0	2.6	7.6			3.0	3.8	10.8				
1450	181	8.0	3.2	3.5	11 1.9	175	8.3	4.7	5.0	15 2.2	181	8.0	7.0	7.6	19.0 3.3	194	7.5	9.3	10.8	34.0 6.1			
1000		5.5	2.2	3.5			5.7	3.3	5.0			5.5	4.8	7.6			5.2	6.4	10.8				
500		2.8	1.1	3.5			2.8	1.6	5.0			2.8	2.4	7.6			2.6	3.2	10.8				
1450	195	7.4	3.0	3.5	11 1.9	205	7.1	4.1	5.0	15 2.2	214	6.8	5.9	7.6	19.0 3.3	211	6.9	8.5	10.8	34.0 6.1			
1000		5.1	2.1	3.5			4.9	2.8	5.0			4.7	4.1	7.6			4.7	5.9	10.8				
500		2.6	1.0	3.5			2.4	1.4	5.0			2.3	2.0	7.6			2.4	2.9	10.8				
1450	228	6.4	2.6	3.5	11 1.9	224	6.5	3.7	5.0	15 2.2	234	6.2	5.4	7.6	19.0 3.3	231	6.3	7.8	10.8	34.0 6.1			
1000		4.4	1.8	3.5			4.5	2.6	5.0			4.3	3.7	7.6			4.3	5.4	10.8				
500		2.2	0.88	3.5			2.2	1.3	5.0			2.1	1.9	7.6			2.2	2.7	10.8				
1450	248	5.8	2.3	3.5	11 1.9	264	5.5	3.2	5.0	15 2.2	257	5.6	4.9	7.6	19.0 3.3	254	5.7	7.1	10.8	34.0 6.1			
1000		4.0	1.6	3.5			3.8	2.2	5.0			3.9	3.4	7.6			3.9	4.9	10.8				
500		2.0	0.81	3.5			1.9	1.1	5.0			1.9	1.7	7.6			2.0	2.4	10.8				
1450	272	5.3	2.1	3.5	11 2.2	309	4.7	2.7	5.0	15 2.5	273	5.3	4.6	7.6	19.0 3.8	291	5.0	6.2	10.8	34.0 6.9			
1000		3.7	1.5	3.5			3.2	1.9	5.0			3.7	3.2	7.6			3.4	4.3	10.8				
500		1.8	0.74	3.5			1.6	0.93	5.0			1.8	1.6	7.6			1.7	2.1	10.8				
1450	293	4.9	2.0	3.5	11 2.2	337	4.3	2.5	5.0	15 2.5	321	4.5	3.9	7.6	19.0 3.8	317	4.6	5.7	10.8	34.0 6.9			
1000		3.4	1.4	3.5			3.0	1.7	5.0			3.1	2.7	7.6			3.2	3.9	10.8				
500		1.7	0.69	3.5			1.5	0.85	5.0			1.6	1.4	7.6			1.6	2.0	10.8				
1450	343	4.2	1.7	3.5	11 2.2	368	3.9	2.3	5.0	15 2.5	351	4.1	3.6	7.6	19.0 3.8	347	4.2	5.2	10.8	34.0 6.9			
1000		2.9	1.2	3.5			2.7	1.6	5.0			2.8	2.5	7.6			2.9	3.6	10.8				
500		1.5	0.59	3.5			1.4	0.78	5.0			1.4	1.2	7.6			1.4	1.8	10.8				
1450	409	3.5	1.4	3.5	11 2.2	370	3.9	2.2	5.0	15 2.5	387	3.8	3.3	7.6	19.0 3.8	382	3.8	4.7	10.8	34.0 6.9			
1000		2.4	0.98	3.5			2.7	1.6	5.0			2.6	2.3	7.6			2.6	3.2	10.8				
500		1.2	0.49	3.5			1.4	0.78	5.0			1.3	1.1	7.6			1.3	1.6	10.8				
1450	481	3.0	1.2	3.5	11 2.2	434	3.3	1.9	5.0	15 2.5	451	3.2	2.8	7.6	19.0 3.8	445	3.3	4.0	10.8	34.0 6.9			
1000		2.1	0.83	3.5			2.3	1.3	5.0			2.2	1.9	7.6			2.2	2.8	10.8				
500		1.0	0.42	3.5			1.2	0.66	5.0			1.1	0.97	7.6			1.1	1.4	10.8				
1450	524	2.8	1.1	3.5	11 2.2	517	2.8	1.6	5.0	15 2.5	493	2.9	2.6	7.6	19.0 3.8	487	3.0	3.7	10.8	34.0 6.9			
1000		1.9	0.77	3.5			1.9	1.1	5.0			2.0	1.8	7.6			2.1	2.5	10.8				
500		0.95	0.38	3.5			0.97	0.56	5.0			1.0	0.89	7.6			1.0	1.3	10.8				
1450	574	2.5	1.0	3.5	11 2.2	568*	2.6	1.5	5.0	15 2.5	542	2.7	2.3	7.6	19.0 3.8	536	2.7	3.4	10.8	34.0 6.9			
1000		1.7	0.70	3.5			1.8	1.0	5.0			1.8	1.6	7.6			1.9	2.3	10.8				
500		0.87	0.35	3.5			0.88	0.51	5.0			0.92	0.80	7.6			0.93	1.2	10.8				
1450	631*	2.3	0.92	3.5	12 2.5	629*	2.3	1.3	5.0	16.0 2.9	600*	2.4	2.1	7.6	21.0 4.4	593	2.4	3.0	10.8	38.0 7.8			
1000		1.6	0.64	3.5			1.6	0.91	5.0			1.7	1.5	7.6			1.7	2.1	10.8				
500		0.79	0.32	3.5			0.79	0.46	5.0			0.83	0.73	7.6			0.84	1.04	10.8				
1450	700*	2.1	0.83	3.5	12 2.5	697*	2.1	1.2	5.0	16.0 2.9	661*	2.2	1.9	7.6	21.0 4.4	653*	2.2	2.8	10.8	38.0 7.8			
1000		1.4	0.57	3.5			1.4	0.82	5.0			1.5	1.3	7.6			1.5	1.9	10.8				
500		0.71	0.29	3.5			0.72	0.41	5.0			0.76	0.66	7.6			0.77	0.95	10.8				
Potenze termiche - Thermal power - Термическая мощность (senza raffreddamento / Without cooling / без охлаждения)																							
14						17						23						30					

* Nei rapporti contrassegnati non è disponibile la versione uscita con albero cavo.

* Hollow output shaft not available for ratios marked with this symbol.

* Полый выходной вал недоступен для позиций отмеченных данным символом

1.10 Prestazioni riduttori RXO3

1.10 RXO3 gear unit ratings

1.10 Характеристики редукторов RXO3

n ₁ min	818					820					822					824				
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ Fr ₁ kN
1450	109	13.3	97	63.2	80.0 17.5	112	13.0	129	86.8	142 20.4	120	12.1	166	119	178 28.5	108	13.4	272	177	200 37.0
1000		9.2	67	63.2			8.9	89	86.8			8.4	114	119			9.2	188	177	
500		4.6	33	63.2			4.5	45	86.8			4.2	57	119			4.6	94	177	
1450	119	12.2	88	63.2	80.0 17.5	122	11.9	119	86.8	142 20.4	131	11.1	151	119	178 28.5	119	12.2	248	177	200 37.0
1000		8.4	61	63.2			8.2	82	86.8			7.6	104	119			8.4	177	177	
500		4.2	30	63.2			4.1	41	86.8			3.8	52	119			4.2	86	177	
1450	131	11.1	80	63.2	80.0 17.5	147	9.9	99	86.8	142 20.4	144	10.1	138	119	178 28.5	145	10.0	204	177	200 37.0
1000		7.6	55	63.2			6.8	68	86.8			7.0	95	119			6.9	141	177	
500		3.8	28	63.2			3.4	34	86.8			3.5	47	119			3.5	70	177	
1450	149	9.7	70	63.2	80.0 17.5	169	8.6	86	86.8	142 20.4	154	9.4	129	119	178 28.5	166	8.8	178	177	200 37.0
1000		6.7	49	63.2			5.9	59	86.8			6.5	89	119			6.0	123	177	
500		3.3	24	63.2			3.0	30	86.8			3.3	44	119			3.0	61	177	
1450	185	7.9	57	63.2	80.0 17.5	196	7.4	74	86.8	142 20.4	165	8.8	120	119	178 28.5	178	8.1	166	177	200 37.0
1000		5.4	39	63.2			5.1	51	86.8			6.1	83	119			5.6	114	177	
500		2.7	19.6	63.2			2.5	25	86.8			3.0	41	119			2.8	57	177	
1450	199	7.3	53	63.2	80.0 17.5	213	6.8	68	86.8	142 20.4	191	7.6	104	119	178 28.5	207	7.0	142	177	200 37.0
1000		5.0	36	63.2			4.7	47	86.8			5.2	72	119			4.8	98	177	
500		2.5	18.2	63.2			2.3	23	86.8			2.6	36	119			2.4	49	177	
1450	235	6.2	45	63.2	80.0 17.5	232	6.3	62	86.8	142 20.4	223	6.5	89	119	178 28.5	225	6.5	131	177	200 37.0
1000		4.3	31	63.2			4.3	43	86.8			4.5	61	119			4.5	91	177	
500		2.1	15.4	63.2			2.2	21	86.8			2.2	31	119			2.2	45	177	
1450	257	5.6	41	63.2	80.0 17.5	254	5.7	57	86.8	142 20.4	243	6.0	81	119	178 28.5	249	5.8	118	177	200 37.0
1000		3.9	28	63.2			3.9	39	86.8			4.1	56	119			4.0	82	177	
500		1.9	14.1	63.2			2.0	19.6	86.8			2.1	28	119			2.0	41	177	
1450	278	5.2	38	63.2	80.0 19.0	296	4.9	49	86.8	142 21.8	287	5.1	69	119	178 31.3	268	5.4	110	177	200 39.0
1000		3.6	26	63.2			3.4	34	86.8			3.5	48	119			3.7	76	177	
500		1.8	13.1	63.2			1.7	16.9	86.8			1.7	24	119			1.9	38	177	
1450	300	4.8	35	63.2	80.0 19.0	320	4.5	45	86.8	142 21.8	336	4.3	59	119	178 31.3	312	4.7	95	177	200 39.0
1000		3.3	24	63.2			3.1	31	86.8			3.0	41	119			3.2	65	177	
500		1.7	12.1	63.2			1.6	15.6	86.8			1.5	20	119			1.6	33	177	
1450	354	4.1	30	63.2	80.0 19.0	349	4.2	41	86.8	142 21.8	366	4.0	54	119	178 31.3	338	4.3	87	177	200 39.0
1000		2.8	21	63.2			2.9	29	86.8			2.7	37	119			3.0	60	177	
500		1.4	10.3	63.2			1.4	14.3	86.8			1.4	18.7	119			1.5	30	177	
1450	387	3.7	27	63.2	80.0 19.0	382	3.8	38	86.8	142 21.8	401	3.6	49	119	178 31.3	403	3.6	73	177	200 39.0
1000		2.6	18.8	63.2			2.6	26	86.8			2.5	34	119			2.5	50	177	
500		1.3	9.4	63.2			1.3	13.1	86.8			1.2	17.1	119			1.2	25	177	
1450	421	3.4	25	63.2	80.0 19.0	449	3.2	32	86.8	142 21.8	472	3.1	42	119	178 31.3	437	3.3	67	177	200 39.0
1000		2.4	17.2	63.2			2.2	22	86.8			2.1	29	119			2.3	47	177	
500		1.2	8.6	63.2			1.1	11.1	86.8			1.1	14.5	119			1.1	23	177	
1450	496	2.9	21	63.2	80.0 19.0	489	3.0	30	86.8	142 21.8	513	2.8	39	119	178 31.3	474	3.1	62	177	200 39.0
1000		2.0	14.6	63.2			2.0	20	86.8			1.9	27	119			2.1	43	177	
500		1.0	7.3	63.2			1.0	10.2	86.8			0.97	13.3	119			1.1	21	177	
1450	543	2.7	19.4	63.2	80.0 19.0	536	2.7	27	86.8	142 21.8	562	2.6	35	119	178 31.3	565	2.6	52	177	200 39.0
1000		1.8	13.4	63.2			1.9	18.6	86.8			1.8	24	119			1.8	36	177	
500		0.92	6.7	63.2			0.93	9.3	86.8			0.89	12.2	119			0.89	18.0	177	
1450	597*	2.4	17.6	63.2	88.0 21.2	589*	2.5	25	86.8	150 24.5	618	2.3	32	119	188 34.1	622	2.3	47	177	210 44.3
1000		1.7	12.2	63.2			1.7	16.9	86.8			1.6	22	119			1.6	33	177	
500		0.84	6.1	63.2			0.85	8.5	86.8			0.81	11.0	119			0.80	16.4	177	
1450	661*	2.2	15.9	63.2	88.0 21.2	653*	2.2	22	86.8	150 24.5	685*	2.1	29	119	188 34.1	689*	2.1	43	177	210 44.3
1000		1.5	11.0	63.2			1.5	15.3	86.8			1.5	19.9	119			1.5	30	177	
500		0.76	5.5	63.2			0.77	7.6	86.8			0.73	10.0	119			0.73	14.8	177	

Potenze termiche - Thermal power - Термическая мощность
(senza raffreddamento / Without cooling / без охлаждения)

101

127

156

195

* Nei rapporti contrassegnati non è disponibile la versione uscita con albero cavo.

* Hollow output shaft not available for ratios marked with this symbol.

* Полый выходной вал недоступен для позиций отмеченных данным символом



		IEC													
		71	80	90	100	112	132	160	180	200	225	250	280	315	355
RXO1 - RXV1	802				■	■	■	■	■	■					
	804						■	■	■	■	■				
	806							■	■	■	■				
	808							■	■	■	■	■	■		
	810								■	■	■	■	■	■	
	812									■	■	■	■	■	■
	814										■	■	■	■	■
	816											■	■	■	■
	818												■	■	■
	820													■	■
RXO2 - RXV2	802			■	■	■	■	■	■	■					
	804				■	■	■	■	■	■	■				
	806				■	■	■	■	■	■	■				
	808						■	■	■	■	■	■	■		
	810							■	■	■	■	■	■	■	
	812								■	■	■	■	■	■	■
	814									■	■	■	■	■	■
	816										■	■	■	■	■
	818											■	■	■	■
	820												■	■	■
RXO3 - RXV3	802	■	■	■	■	■	■	■	■	■					
	804		■	■	■	■	■	■	■	■					
	806		■	■	■	■	■	■	■	■					
	808		■	■	■	■	■	■	■	■					
	810			■	■	■	■	■	■	■	■				
	812			■	■	■	■	■	■	■	■				
	814				■	■	■	■	■	■	■	■			
	816				■	■	■	■	■	■	■	■	■		
	818							■	■	■	■	■	■	■	
	820								■	■	■	■	■	■	■



1.12 Momenti d'inerzia

1.12 Moments of inertia

1.12 Моменты инерции

		RX03 - RXV3															
		802	804	806	808	810	812	814	816	818	820	822	824	826	828	830	832
ir	-	110.1	117.7	113.9	119.9	112.1	118.6	110.1	117.7	108.9	111.9	119.6	108.4	110.1	112.1	112.6	111.9
J1	kgm ²	0.0001	0.0015	0.0012	0.0014	0.0027	0.0042	0.0072	0.0129	0.0240	0.0414	0.0744	0.1312	0.2334	0.4142	0.7379	1.3133
ir	-	120.5	128.7	124.0	130.5	122.6	130.5	120.5	128.7	119.2	121.8	130.8	118.6	120.5	122.7	123.9	123.2
J1	kgm ²	0.0001	0.0010	0.0010	0.0012	0.0023	0.0038	0.0065	0.0115	0.0212	0.0368	0.0660	0.1166	0.2074	0.3683	0.6558	1.1673
ir	-	146.9	141.7	135.7	142.8	134.8	144.6	146.9	141.7	131.2	146.6	143.9	144.6	146.9	149.6	137.3	136.4
J1	kgm ²	0.0001	0.0007	0.0008	0.0010	0.0020	0.0033	0.0058	0.0103	0.0187	0.0328	0.0586	0.1037	0.1843	0.3275	0.5829	1.0375
ir	-	168.3	163.0	167.8	165.2	153.8	165.7	168.3	163.0	149.4	168.7	153.8	165.7	168.3	159.9	155.7	155.0
J1	kgm ²	0.0001	0.0005	0.0006	0.0009	0.0017	0.0029	0.0052	0.0092	0.0165	0.0292	0.0520	0.0921	0.1638	0.2912	0.5181	0.9221
ir	-	180.8	175.5	181.2	193.5	164.8	177.9	180.8	175.5	184.7	196.4	164.8	177.9	180.8	183.9	178.0	177.6
J1	kgm ²	0.0001	0.0003	0.0005	0.0008	0.0015	0.0026	0.0046	0.0082	0.0146	0.0259	0.0461	0.0819	0.1456	0.2589	0.4605	0.8196
ir	-	194.7	205.5	213.6	210.8	190.7	207.1	194.7	205.5	199.4	212.9	190.7	207.1	194.7	198.0	205.6	190.8
J1	kgm ²	0.0001	0.0002	0.0004	0.0007	0.0013	0.0023	0.0041	0.0073	0.0129	0.0230	0.0409	0.0728	0.1294	0.2302	0.4093	0.7285
ir	-	228.1	223.7	233.6	230.6	223.4	224.6	228.1	223.7	235.1	231.9	223.4	224.6	228.1	231.9	222.0	222.0
J1	kgm ²	0.0001	0.0002	0.0004	0.0006	0.0012	0.0021	0.0036	0.0065	0.0115	0.0205	0.0364	0.0647	0.1151	0.2046	0.3638	0.6475
ir	-	248.4	264.0	256.9	253.8	243.3	244.5	248.4	245.2	257.1	253.8	243.3	249.3	248.4	252.5	240.5	240.7
J1	kgm ²	0.0001	0.0002	0.0003	0.0006	0.0010	0.0018	0.0032	0.0057	0.0102	0.0182	0.0323	0.0575	0.1023	0.1819	0.3234	0.5756
ir	-	272.0	309.2	272.6	291.2	286.9	267.7	272.0	264.0	277.9	295.5	286.9	267.7	272.0	271.7	303.4	279.6
J1	kgm ²	0.0001	0.0002	0.0011	0.0003	0.0005	0.0009	0.0016	0.0029	0.0051	0.0162	0.0288	0.0511	0.0909	0.1617	0.2875	0.5117
ir	-	293.0	336.6	321.4	317.1	336.2	311.6	293.0	309.2	300.0	320.4	336.2	311.6	293.0	292.5	327.5	325.4
J1	kgm ²	0.0001	0.0002	0.0003	0.0005	0.0009	0.0015	0.0027	0.0048	0.0085	0.0151	0.0268	0.0476	0.0846	0.1505	0.2677	0.4765
ir	-	343.3	368.3	351.5	347.0	366.1	368.0	343.3	368.3	353.7	348.9	366.1	337.9	343.3	342.6	354.9	352.9
J1	kgm ²	0.0001	0.0001	0.0003	0.0004	0.0008	0.0014	0.0025	0.0044	0.0078	0.0139	0.0248	0.0441	0.0784	0.1394	0.2478	0.4410
ir	-	409.1	370.3	386.5	381.9	400.6	402.6	409.1	370.3	386.8	381.8	400.6	402.6	373.8	373.0	422.3	420.5
J1	kgm ²	0.0001	0.0001	0.0002	0.0004	0.0007	0.0013	0.0023	0.0041	0.0072	0.0128	0.0228	0.0405	0.0721	0.1282	0.2280	0.4058
ir	-	481.5	433.6	450.8	444.8	471.5	437.0	481.5	433.6	420.8	449.4	471.5	437.0	481.5	480.5	465.3	458.2
J1	kgm ²	0.0001	0.0001	0.0002	0.0004	0.0007	0.0012	0.0021	0.0037	0.0066	0.0117	0.0208	0.0370	0.0658	0.1171	0.2028	0.3371
ir	-	524.3	516.5	493.0	486.7	513.4	516.0	524.3	472.1	496.1	489.4	513.4	473.9	524.3	523.1	504.2	496.9
J1	kgm ²	0.0001	0.0001	0.0002	0.0003	0.0006	0.0011	0.0019	0.0034	0.0060	0.0106	0.0188	0.0335	0.0596	0.1059	0.1884	0.3353
ir	-	573.8	568.3	542.1	535.6	561.8	564.7	573.8	568.3	542.5	535.5	561.8	564.7	573.8	572.3	600.0	592.1
J1	kgm ²	0.0001	0.0001	0.0002	0.0003	0.0006	0.0011	0.0019	0.0034	0.0060	0.0106	0.0188	0.0335	0.0596	0.1059	0.1884	0.3353
ir	-	631.4	629.5	600.2	593.5	618.3	621.5	631.4	629.6	596.6	589.3	618.3	621.5	631.4	629.6	659.8	651.6
J1	kgm ²	0.0001	0.0001	0.0002	0.0003	0.0006	0.0010	0.0018	0.0032	0.0056	0.0100	0.0178	0.0317	0.0564	0.1003	0.1784	0.3175
ir	-	699.6	697.4	660.6	653.0	685.1	688.6	699.6	697.4	660.6	653.0	685.1	688.6	699.6	697.4	730.6	722.0
J1	kgm ²	0.0001	0.0001	0.0002	0.0003	0.0005	0.0010	0.0017	0.0030	0.0053	0.0095	0.0169	0.0300	0.0533	0.0948	0.1685	0.2999

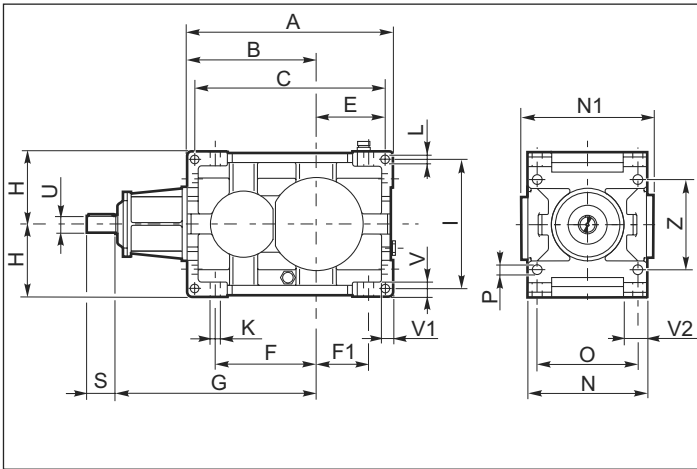


1.13 Dimensioni

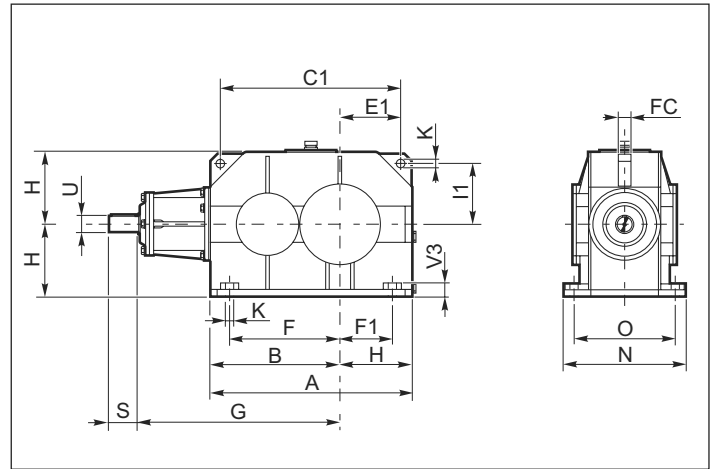
1.13 Dimensions

1.13 Abmessungen

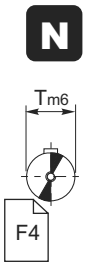
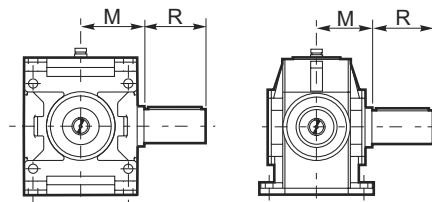
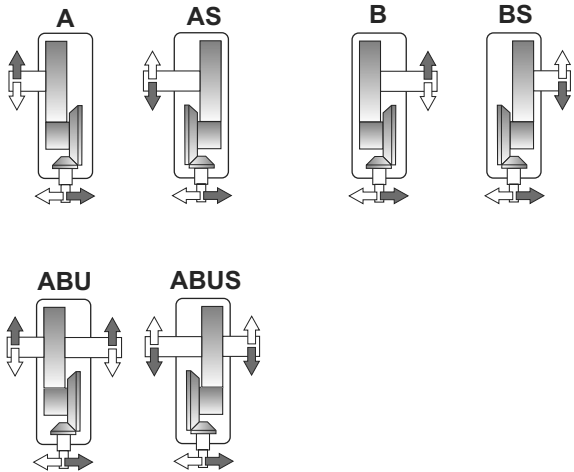
802 - 820



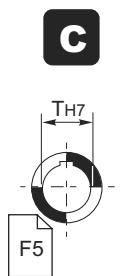
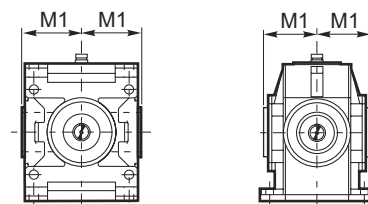
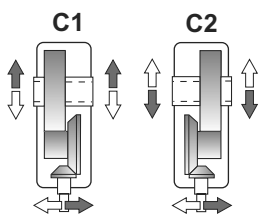
822 - 824



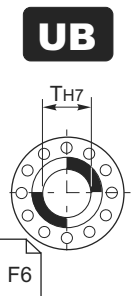
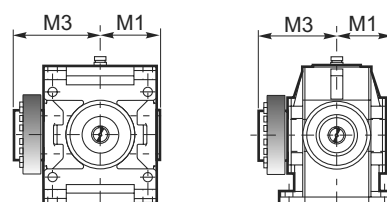
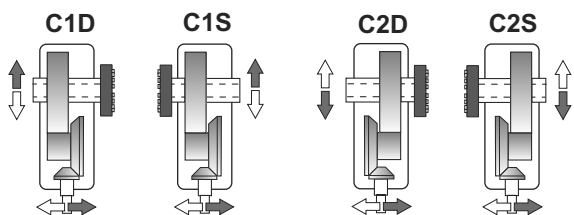
⇒ **N D FD Fn**



⇒ **C**



⇒ **UB B**

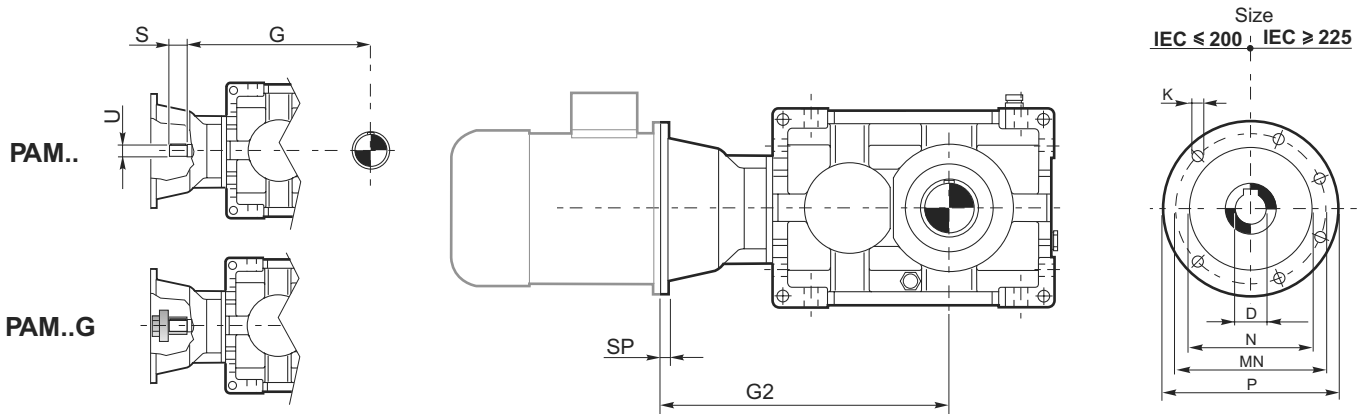


	Dimensioni generali / Dimensions/ Allgemeine Abmessungen																				Kg		
	A	B	C	C1	E	E1	F	F1	H _{h11}	I	I1	K	L	N _{h11}	N1 _{h11}	O	P	V	V1	V2		V3	Z
802	355	225	327	—	116	—	175	90	125	224	—	18	14	213	219	180	18	25	20	44.5	—	160	80
804	402	252	370	—	134	—	196	104	140	250	—	20	16	237	241	200	20	28	22.5	49	—	180	111
806	455	285	421	—	153	—	222	117	160	280	—	22	18	269	271	225	22	32	25	56.5	—	200	157
808	510	320	472	—	171	—	250	130	180	320	—	25	20	297	299	250	25	36	28	59.5	—	224	218
810	570	360	530	—	190	—	280	145	200	360	—	27	22	335	327	280	27	40	32	67.5	—	250	307
812	645	405	600	—	217.5	—	315	160	225	400	—	30	24	379	380	315	30	45	36	78.5	—	280	429
814	715	450	665	—	240	—	350	180	250	450	—	33	27	427	424	355	33	50	40	89	—	320	600
816	805	505	749	—	272	—	393	203	280	500	—	36	30	479	473	400	36	56	45	96.5	—	360	840
818	910	570	846	—	308	—	445	230	315	560	—	39	35	541	497	450	39	63	50	114.5	—	400	1197
820	1020	640	948	—	344	—	500	260	355	638	—	42	39	599	550	500	42	70	56	124	—	450	1647
822	1115	715	—	985	—	335	615	300	400	—	335	45	—	675	—	560	—	—	—	—	55	—	2306
824	1255	805	—	1125	—	385	675	320	450	—	385	45	—	761	—	630	—	—	—	—	60	—	2744

B
RX0 - RXV

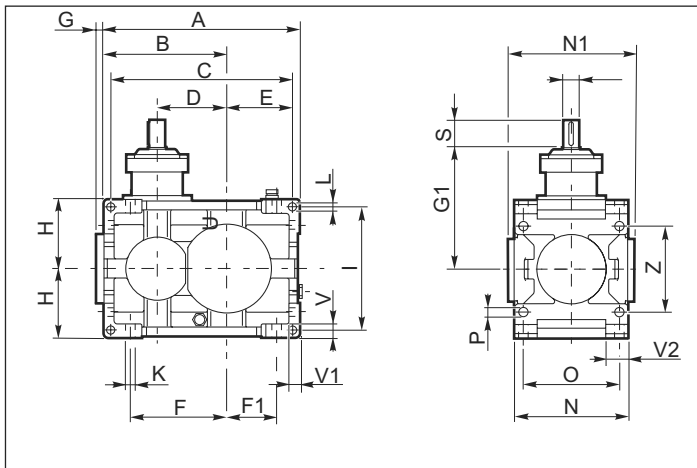
	Albero entrata / Input shaft / Antriebswelle			Albero uscita / Output shaft / Abtriebswelle								
	U	S	G									
				T m6	R	M	T H7	M1	T H7	M1	M3	
802	28 j6	50	350	60	112	109	60	109	60	109	170	
804	32 k6	56	390	70	125	121	70	121	70	121	192	
806	35 k6	63	440	80	140	137	80	137	80	137	215	
808	40 k6	70	495	90	160	151	90	151	90	151	246	
810	45 k6	80	555	100	180	170	100	170	100	170	266	
812	50 m6	90	625	110	200	192	110	192	110	192	302	
814	55 m6	100	700	125	225	216	125	216	125	216	335	
816	60 m6	112	780	140	250	242	140	242	140	242	370	
818	70 m6	125	880	160	280	273	160	273	160	273	422	
820	80 m6	140	990	180	315	302	180	302	180	302	477	
822	90 m6	160	1110	200	355	340	200	340	200	340	*	
824	100 m6	180	1250	220	400	383	220	383	220	383	*	

*A richiesta / On request / Auf Anfrage

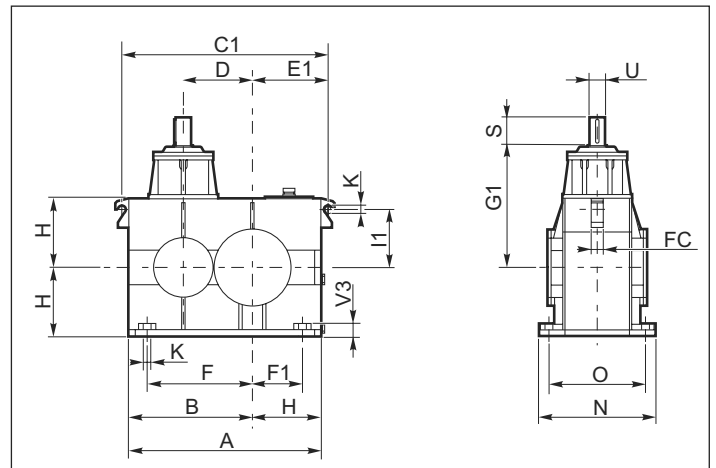


	IEC													
	71	80	90	100	112	132	160	180	200	225	250	280	315	355
DH7	14	19	24	28	28	38	42	48	55	60	65	75	80	100
P	160	200	200	250	250	300	350	350	400	450	550	550	660	800
MN	130	165	165	215	215	265	300	300	350	400	500	500	600	740
NG6	110	130	130	180	180	230	250	250	300	350	450	450	550	680
K	M8	M10	M10	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20
SP	12	12	12	14	14	16	18	18	20	20	20	20	24	30
G2	802			464	464	484	514	514	514					
	804					530	560	560	560	560				
	806					587	617	617	617	647				
	808						679	679	679	709	709	709		
	810							749	749	779	779	779	809	
	812							829	829	859	859	859	889	
	814									944	944	944	974	1014
	816										1036	1036	1036	1066
818											1149	1149	1179	1219
820												1274	1304	1344
822-824	A richiesta / On request / Auf Anfrage													

802 - 820

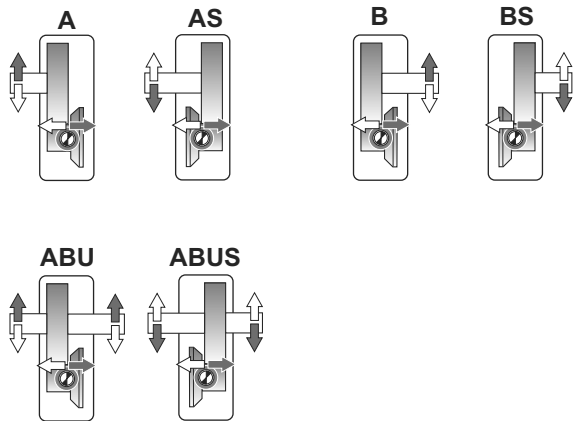


822 - 824

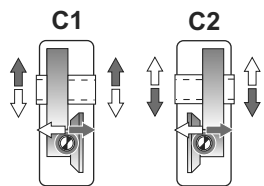
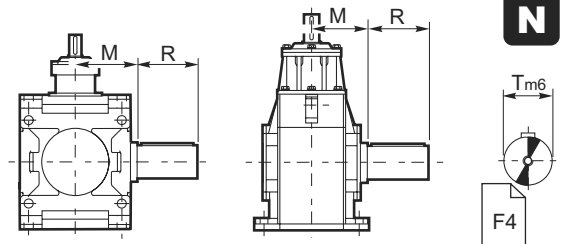


Esecuzione grafica / Shaft arrangement / Grafische Ausführung

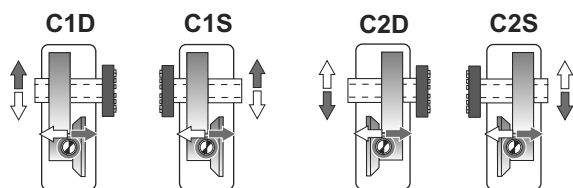
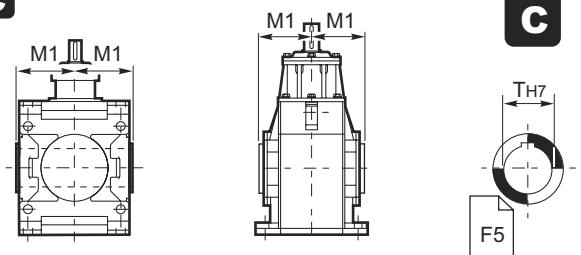
Albero uscita / Output shaft / Abtriebswelle



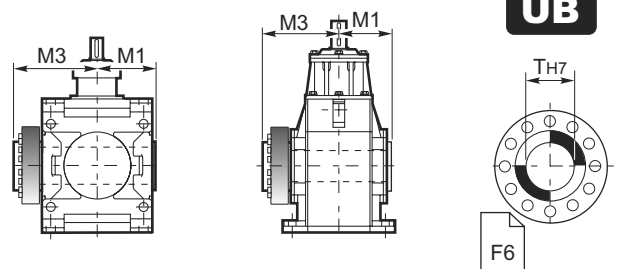
→ **N D FD Fn**



→ **C**



→ **UB B**

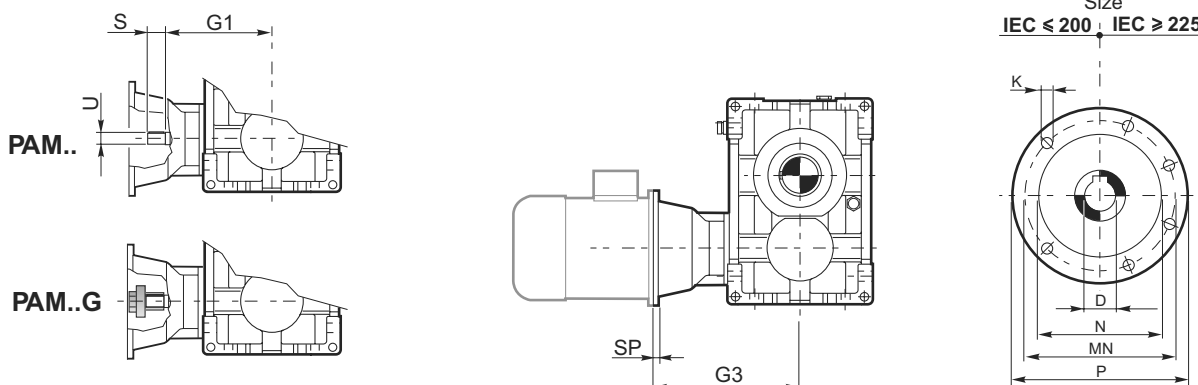


	Dimensioni generali / Dimensions/ Allgemeine Abmessungen																						Kg			
	A	B	C	C1	D	E	E1	F	F1	FC	G	H _{h11}	I	I1	K	L	N _{h11}	N1	O	P	V	V1		V2	V3	Z
802	355	225	327	—	125	116	—	175	90	—	19	125	224	—	18	14	213	219	180	18	25	20	44.5	—	160	80
804	402	252	370	—	140	134	—	196	104	—	20	140	250	—	20	16	237	241	200	20	28	22.5	49	—	180	111
806	455	285	421	—	160	153	—	222	117	—	23	160	280	—	22	18	269	271	225	22	32	25	56.5	—	200	157
808	510	320	472	—	180	171	—	250	130	—	25	180	320	—	25	20	297	299	250	25	36	28	59.5	—	224	218
810	570	360	530	—	200	190	—	280	145	—	28	200	360	—	27	22	335	327	280	27	40	32	67.5	—	250	307
812	645	405	600	—	225	217.5	—	315	160	—	30	225	400	—	30	24	379	380	315	30	45	36	78.5	—	280	429
814	715	450	665	—	250	240	—	350	180	—	34	250	450	—	33	27	427	424	355	33	50	40	89	—	320	600
816	805	505	749	—	280	272	—	393	203	—	36	280	500	—	36	30	479	473	400	36	56	45	96.5	—	360	840
818	910	570	846	—	320	308	—	445	230	—	41	315	560	—	39	35	541	497	450	39	63	50	114.5	—	400	1197
820	1020	640	948	—	360	344	—	500	260	—	44	355	638	—	42	39	599	550	500	42	70	56	124	—	450	1647
822	1115	715	—	985	400	—	335	615	300	60	—	400	—	335	45	—	675	—	560	—	—	—	—	55	—	2306
824	1255	805	—	1125	450	—	385	675	320	60	—	450	—	385	48	—	761	—	630	—	—	—	—	60	—	2744



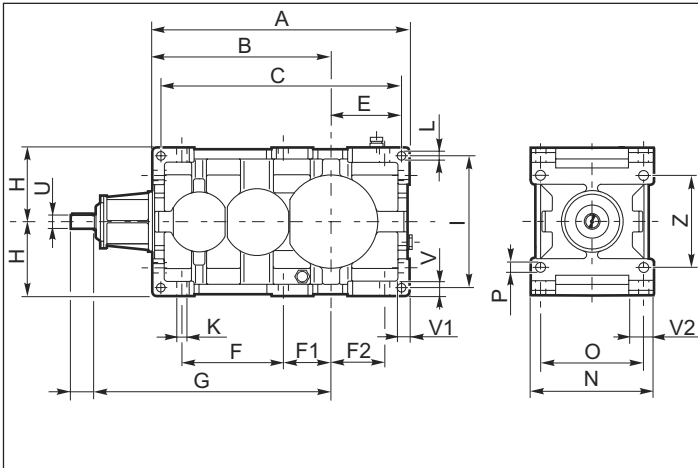
	Albero entrata / Input shaft / Antriebswelle			Albero uscita / Output shaft / Abtriebswelle									
	U	S	G1	R		M		T H7		M1		M3	
				T m6	R	M	T H7	M1	T H7	M1	M3		
802	28 j6	50	225	60	112	109	60	109	60	109	60	109	170
804	32 k6	56	250	70	125	121	70	121	70	121	70	121	192
806	35 k6	63	280	80	140	137	80	137	80	137	80	137	215
808	40 k6	70	315	90	160	151	90	151	90	151	90	151	246
810	45 k6	80	355	100	180	170	100	170	100	170	100	170	266
812	50 m6	90	400	110	200	192	110	192	110	192	110	192	302
814	55 m6	100	450	125	225	216	125	216	125	216	125	216	335
816	60 m6	112	500	140	250	242	140	242	140	242	140	242	370
818	70 m6	125	560	160	280	273	160	273	160	273	160	273	422
820	80 m6	140	630	180	315	302	180	302	180	302	180	302	477
822	90 m6	160	710	200	355	340	200	340	200	340	200	340	*
824	100 m6	180	800	220	400	383	220	383	220	383	220	383	*

* A richiesta / On request / Auf Anfrage

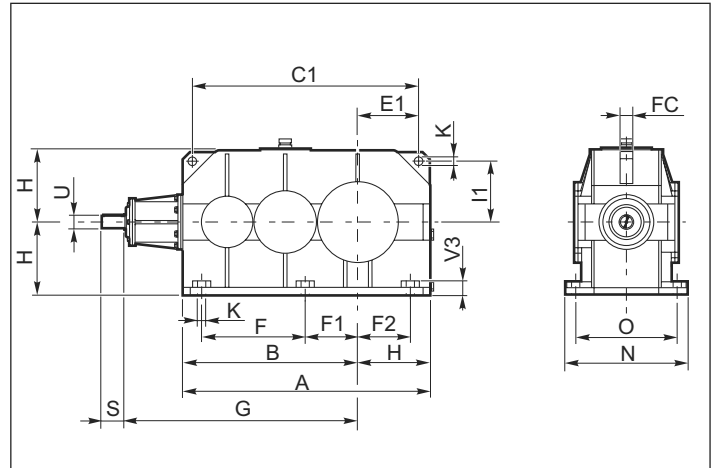


	IEC													
	71	80	90	100	112	132	160	180	200	225	250	280	315	355
DH7	14	19	24	28	28	38	42	48	55	60	65	75	80	100
P	160	200	200	250	250	300	350	350	400	450	550	550	660	800
MN	130	165	165	215	215	265	300	300	350	400	500	500	600	740
NG6	110	130	130	180	180	230	250	250	300	350	450	450	550	680
K	M8	M10	M10	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20
SP	12	12	12	14	14	16	18	18	20	20	20	20	24	30
G3	802			339	339	359	389	389	389					
	804					390	420	420	420	450				
	806					427	457	457	457	487				
	808						499	499	499	529	529	529		
	810							549	549	579	579	579	609	
	812							604	604	634	634	634	664	
	814									694	694	694	724	764
	816									756	756	756	786	826
818										829	829	859	899	
820											914	944	984	
822-824	A richiesta / On request / Auf Anfrage													

802 - 820

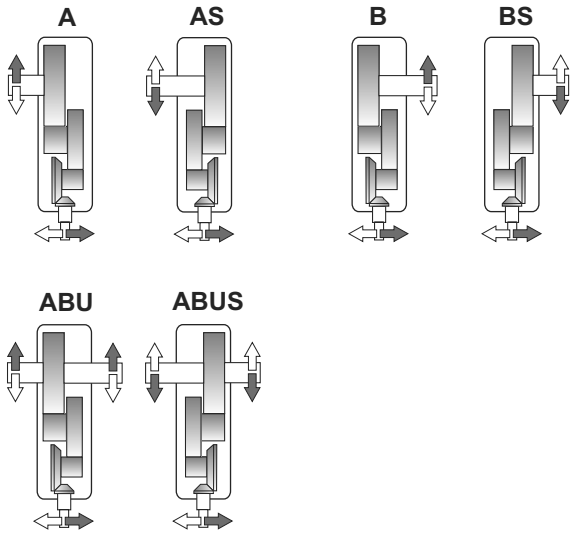


822 - 828

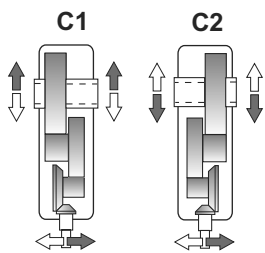
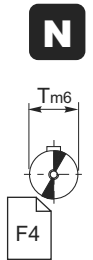
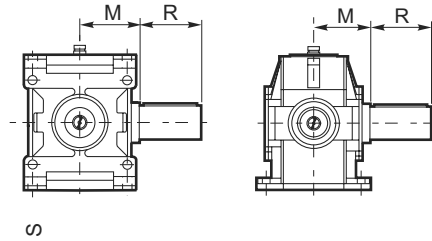


Esecuzione grafica / Shaft arrangement / Grafische Ausführung

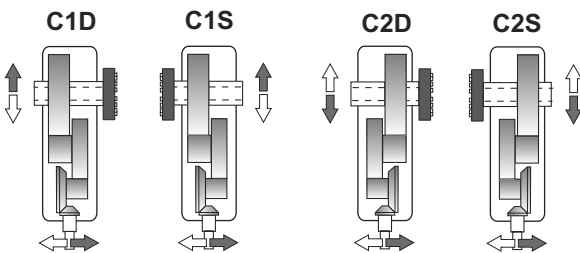
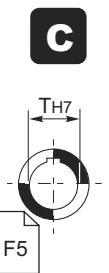
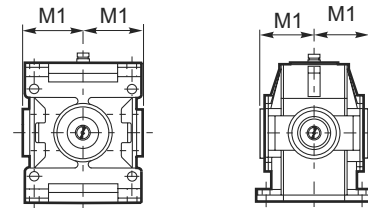
Albero uscita / Output shaft / Abtriebswelle



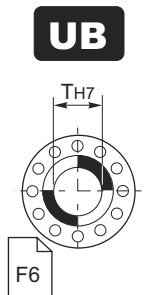
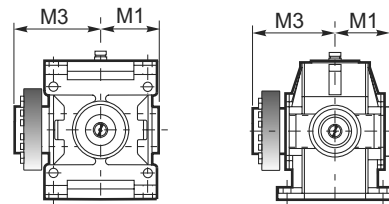
→ **N D FD Fn**



→ **C**






→ **UB B**

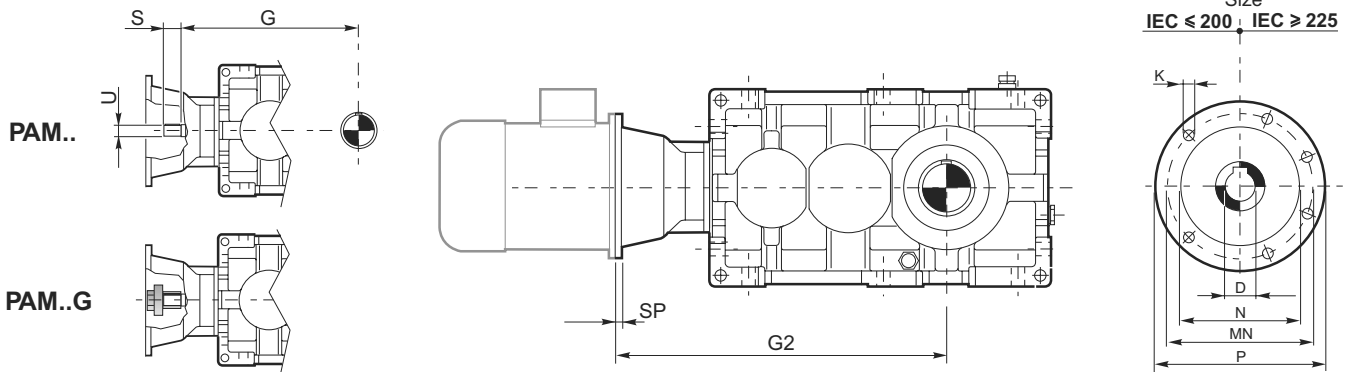


Dimensioni generali / Dimensions/ Allgemeine Abmessungen																								
	A	B	C	C1	E	E1	F	F1	F2	FC	H _{h11}	I	I1	K	L	N _{h11}	O	P	V	V1	V2	V3	Z	Kg
802	435	305	407	—	116	—	172.5	82.5	90	—	125	224	—	18	14	213	180	18	25	20	44.5	—	160	94
804	492	342	460	—	134	—	195	91	104	—	140	250	—	20	16	237	200	20	28	22.5	49	—	180	131
806	555	385	521	—	153	—	219.5	102.5	117	—	160	280	—	22	18	269	225	22	32	25	56.5	—	200	183
808	622	432	584	—	171	—	246	116	130	—	180	320	—	25	20	297	250	25	36	28	59.5	—	224	250
810	695	485	655	—	190	—	275	130	145	—	200	360	—	27	22	335	280	27	40	32	67.5	—	250	359
812	785	545	740	—	217.5	—	307.5	147.5	160	—	225	400	—	30	24	379	315	30	45	36	78.5	—	280	502
814	875	610	825	—	240	—	345	165	180	—	250	450	—	33	27	427	355	33	50	40	89	—	320	703
816	985	685	929	—	272	—	388	185	203	—	280	500	—	36	30	479	400	36	56	45	96.5	—	360	984
818	1110	770	1046	—	308	—	437.5	207.5	230	—	315	560	—	39	35	541	450	39	63	50	114.5	—	400	1377
820	1245	865	1173	—	344	—	492.5	232.5	260	—	355	638	—	42	39	599	500	42	70	56	124	—	450	1929
822	1370	970	—	1240	—	335	570	300	300	60	400	—	335	45	—	675	560	—	—	—	—	55	—	2699
824	1540	1090	—	1410	—	385	640	320	320	60	450	—	385	48	—	761	630	—	—	—	—	60	—	3213
826	1715	1215	—	1565	—	425	715	365	365	70	500	—	425	52	—	855	710	—	—	—	—	65	—	4497
828	1925	1365	—	1755	—	475	805	415	415	2x50	560	—	475	56	—	965	800	—	—	—	—	80	—	6296

B
RXO - RXV

	Albero entrata / Input shaft / Antriebswelle			Albero uscita / Output shaft / Abtriebswelle								
	U	S	G									
				T m6	R	M	T H7	M1	T H7	M1	M3	
802	22 j6	40	405	60	112	109	60	109	60	109	170	
804	24 k6	45	452	70	125	121	70	121	70	121	192	
806	28 k6	50	510	80	140	137	80	137	80	137	215	
808	32 k6	56	570	90	160	151	90	151	90	151	246	
810	35 k6	63	640	100	180	170	100	170	100	170	266	
812	40 k6	70	720	110	200	192	110	192	110	192	302	
814	45 k6	80	805	125	225	216	125	216	125	216	335	
816	50 k6	90	905	140	250	242	140	242	140	242	370	
818	55 m6	100	1020	160	280	273	160	273	160	273	422	
820	60 m6	112	1140	180	315	302	180	302	180	302	477	
822	70 m6	125	1280	200	355	340	200	340	200	340	*	
824	80 m6	140	1440	220	400	383	220	383	220	383	*	
826	90 m6	160	1610	250	450	430	250	430	250	430	*	
828	100 m6	180	1810	280	500	485	280	485	280	485	*	

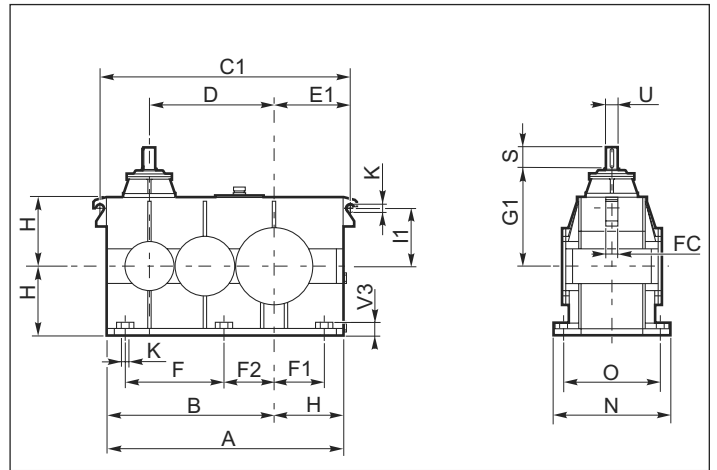
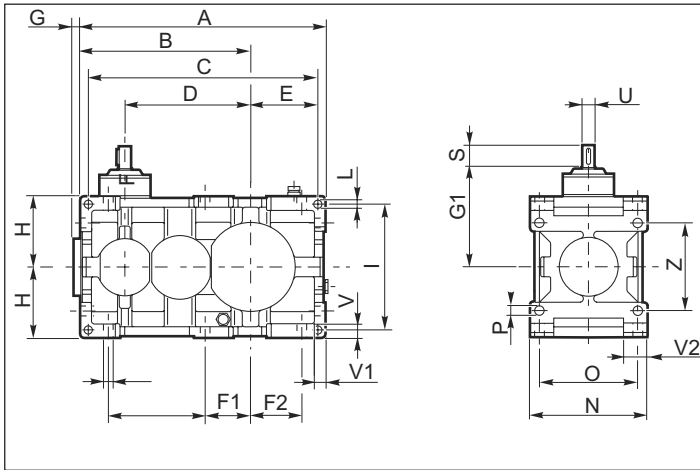
*A richiesta / On request / Auf Anfrage



		IEC													
		71	80	90	100	112	132	160	180	200	225	250	280	315	355
DH7		14	19	24	28	28	38	42	48	55	60	65	75	80	100
P		160	200	200	250	250	300	350	350	400	450	550	550	660	800
MN		130	165	165	215	215	265	300	300	350	400	500	500	600	740
NG6		110	130	130	180	180	230	250	250	300	350	450	450	550	680
K		M8	M10	M10	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20
SP		12	12	12	14	14	16	18	18	20	20	20	20	24	30
G2	802			499	509	509	529	559	559	559					
	804				561	561	581	611	611	611	641				
	806				624	624	644	674	674	674	704				
	808						710	740	740	740	770	770	770		
	810						787	817	817	817	847	847	847	877	
	812						874	904	904	904	934	934	934	964	
	814							999	999	999	1029	1029	1029	1059	
	816							1109	1109	1109	1139	1139	1139	1169	1209
818										1234	1264	1264	1264	1294	1334
820											1396	1396	1396	1426	1466
822-826		A richiesta / On request / Auf Anfrage													

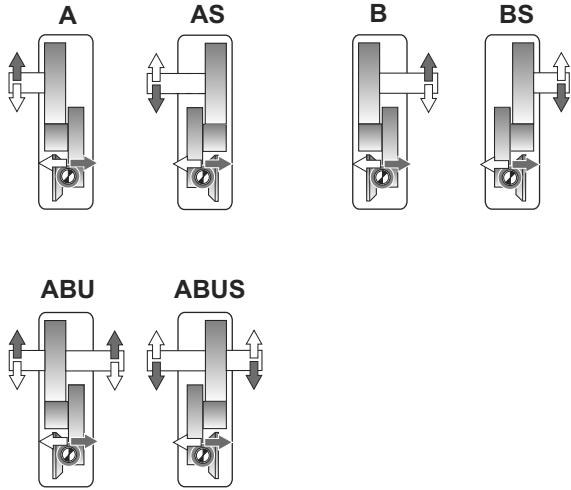
802 - 820

822 - 828

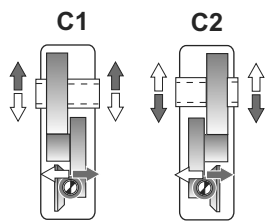
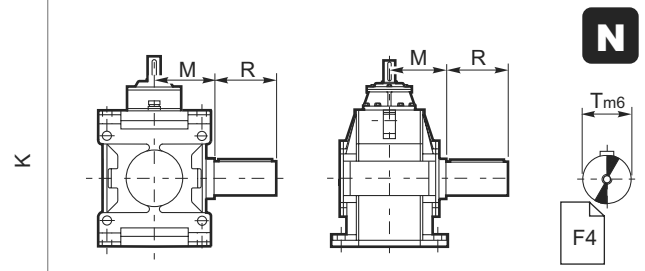


Esecuzione grafica / Shaft arrangement / Grafische Ausführung

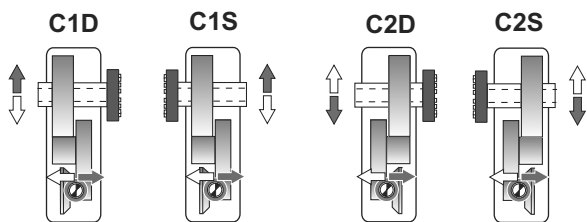
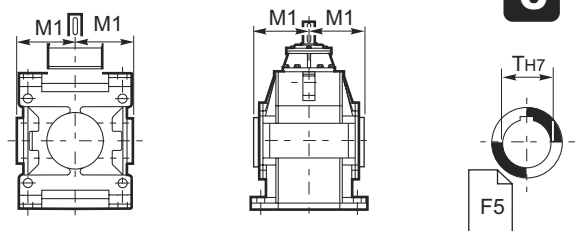
Albero uscita / Output shaft / Abtriebswelle



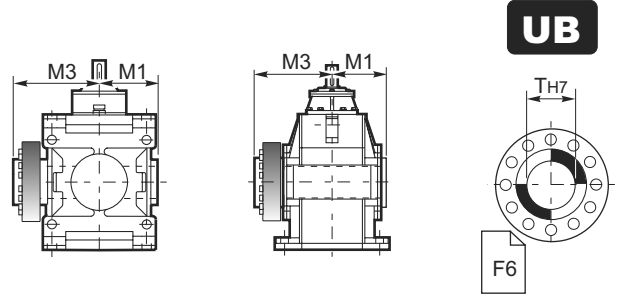
→ **N D FD Fn**



→ **C**



→ **UB B**

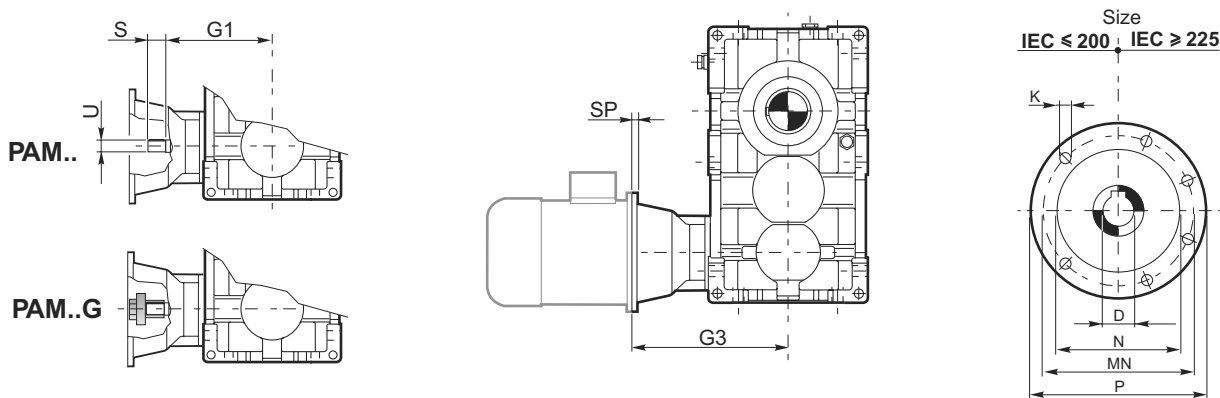


Dimensioni generali / Dimensions/ Allgemeine Abmessungen																										
	A	B	C	C1	D	E	E1	F	F1	F2	FC	G	H _{h11}	I	I1	K	L	N _{h11}	O	P	V	V1	V2	V3	Z	Kg
802	435	305	407	—	225	116	—	172.5	82.5	90	—	16	125	224	—	18	14	213	180	18	25	20	44.5	—	160	94
804	492	342	460	—	252	134	—	195	91	104	—	17	140	250	—	20	16	237	200	20	28	22.5	49	—	180	131
806	555	385	521	—	285	153	—	219.5	102.5	117	—	19	160	280	—	22	18	269	225	22	32	25	56.5	—	200	183
808	622	432	584	—	320	171	—	246	116	130	—	20	180	320	—	25	20	297	250	25	36	28	59.5	—	224	250
810	695	485	655	—	360	190	—	275	130	145	—	23	200	360	—	27	22	335	280	27	40	32	67.5	—	250	359
812	785	545	740	—	405	217.5	—	307.5	147.5	160	—	25	225	400	—	30	24	379	315	30	45	36	78.5	—	280	502
814	875	610	825	—	450	240	—	345	165	180	—	28	250	450	—	33	27	427	355	33	50	40	89	—	320	703
816	985	685	929	—	505	272	—	388	185	203	—	30	280	500	—	36	30	479	400	36	56	45	96.5	—	360	984
818	1110	770	1046	—	570	308	—	437.5	207.5	230	—	34	315	560	—	39	35	541	450	39	63	50	114.5	—	400	1377
820	1245	865	1173	—	640	344	—	492.5	232.5	260	—	36	355	638	—	42	39	599	500	42	70	56	124	—	450	1929
822	1370	970	—	1240	720	—	335	570	300	300	60	—	400	—	335	45	—	675	560	—	—	—	—	55	—	2699
824	1540	1090	—	1410	810	—	385	640	320	320	60	—	450	—	385	48	—	761	630	—	—	—	—	60	—	3213
826	1715	1215	—	1565	900	—	425	715	365	365	70	—	500	—	425	52	—	855	710	—	—	—	—	65	—	4497
828	1925	1365	—	1755	1010	—	475	805	415	415	2x50	—	560	—	475	56	—	965	800	—	—	—	—	80	—	6296



	Albero entrata / Input shaft / Antriebswelle			Albero uscita / Output shaft / Abtriebswelle									
	U	S	G1										
				T m6	R	M	T H7	M1	T H7	M1	M3		
802	22 j6	40	180	60	112	109	60	109	60	109	60	109	170
804	24 k6	45	200	70	125	121	70	121	70	121	70	121	192
806	28 k6	50	225	80	140	137	80	137	80	137	80	137	215
808	32 k6	56	250	90	160	151	90	151	90	151	90	151	246
810	35 k6	63	280	100	180	170	100	170	100	170	100	170	266
812	40 k6	70	315	110	200	192	110	192	110	192	110	192	302
814	45 k6	80	355	125	225	216	125	216	125	216	125	216	335
816	50 k6	90	400	140	250	242	140	242	140	242	140	242	370
818	55 m6	100	450	160	280	273	160	273	160	273	160	273	422
820	60 m6	112	500	180	315	302	180	302	180	302	180	302	477
822	70 m6	125	560	200	355	340	200	340	200	340	200	340	*
824	80 m6	140	630	220	400	383	220	383	220	383	220	383	*
826	90 m6	160	710	250	450	430	250	430	250	430	250	430	*
828	100 m6	180	800	280	500	485	280	485	280	485	280	485	*

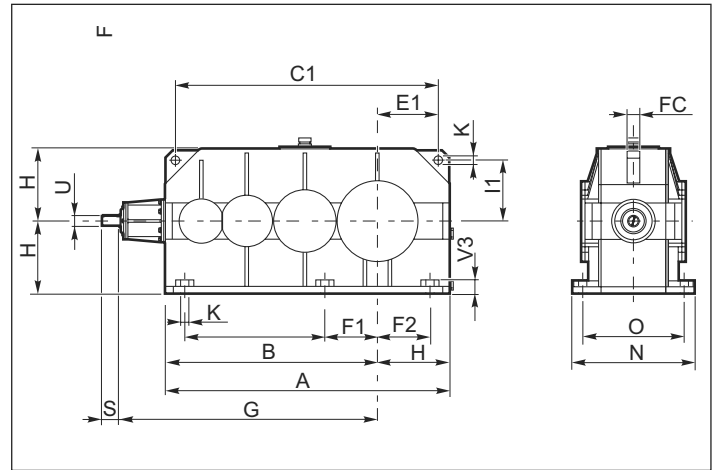
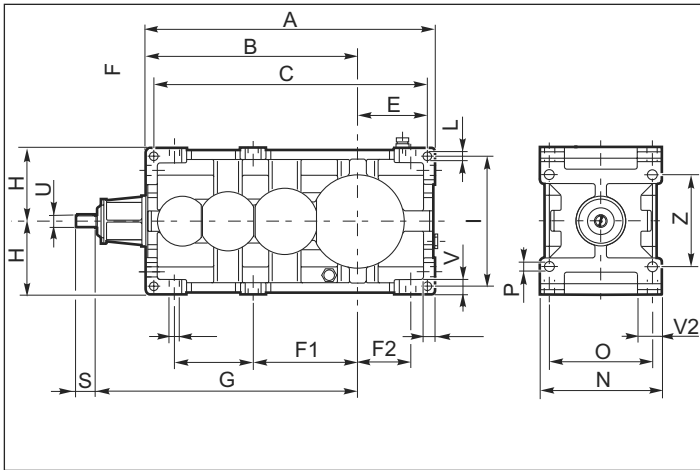
*A richiesta / On request / Auf Anfrage



		IEC													
		71	80	90	100	112	132	160	180	200	225	250	280	315	355
DH7		14	19	24	28	28	38	42	48	55	60	65	75	80	100
P		160	200	200	250	250	300	350	350	400	450	550	550	660	800
MN		130	165	165	215	215	265	300	300	350	400	500	500	600	740
NG6		110	130	130	180	180	230	250	250	300	350	450	450	550	680
K		M8	M10	M10	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20
SP		12	12	12	14	14	16	18	18	20	20	20	20	24	30
G3	802			274	284	284	304	334	334	334					
	804				309	309	329	359	359	359	389				
	806				339	339	359	389	389	389	419				
	808						390	420	420	420	450	450	450		
	810						427	457	457	457	487	487	487	517	
	812						469	499	499	499	529	529	529	559	
	814							549	549	549	579	579	579	609	
	816							604	604	604	634	634	634	664	704
	818									664	694	694	694	724	764
820										756	756	756	786	826	
822-826		A richiesta / On request / Auf Anfrage													

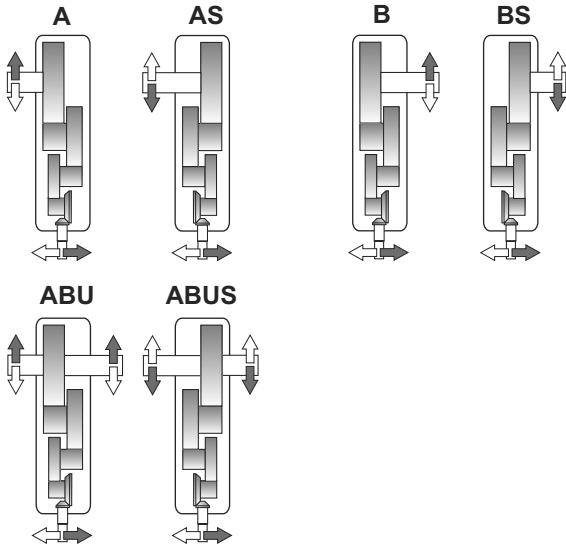
802 - 820

822 - 832

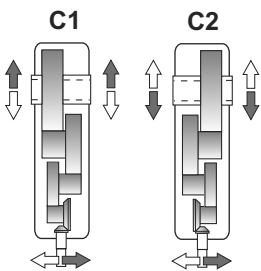
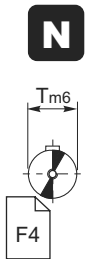
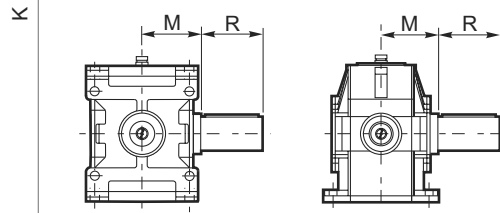


Esecuzione grafica / Shaft arrangement / Grafische Ausführung

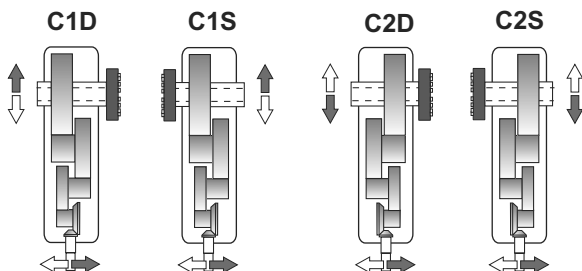
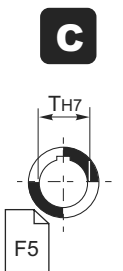
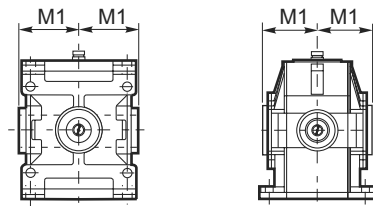
Albero uscita / Output shaft / Abtriebswelle



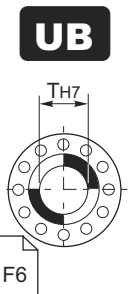
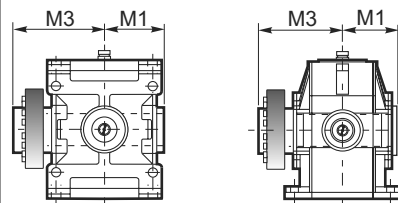
➔ **N D FD Fn**



➔ **C**



➔ **UB B**

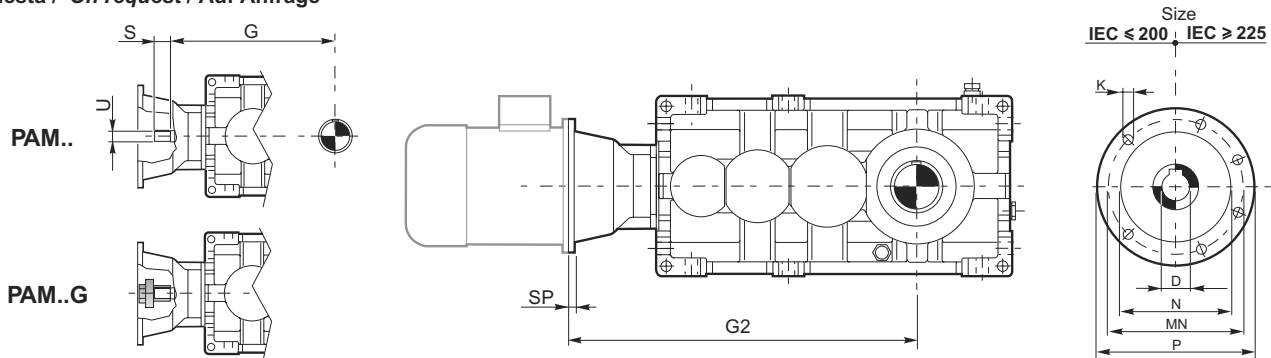


	Dimensioni generali / Dimensions/ Allgemeine Abmessungen																							
	A	B	C	C1	E	E1	F	F1	F2	FC	H _{h11}	I	I1	K	L	N _{h11}	O	P	V	V1	V2	V3	Z	Kg
802	498	368	470	—	116	—	136	182	90	—	125	224	—	18	14	213	180	18	25	20	44.5	—	160	101
804	562	412	530	—	134	—	153	202.5	103.5	—	140	250	—	20	16	237	200	20	28	22.5	49	—	180	143
806	635	465	601	—	153	—	173	229	117	—	160	280	—	22	18	269	225	22	32	25	56.5	—	200	207
808	712	522	674	—	171	—	194	258	130	—	180	320	—	25	20	297	250	25	36	28	59.5	—	224	282
810	795	585	755	—	190	—	216	288	144	—	200	360	—	27	22	335	280	27	40	32	67.5	—	250	394
812	897	657	852	—	217.5	—	242	324.5	159.5	—	225	400	—	30	24	379	315	30	45	36	78.5	—	280	551
814	1000	735	950	—	240	—	271	363	179	—	250	450	—	33	27	427	355	33	50	40	89	—	320	772
816	1125	825	1069	—	272	—	305	407.5	202.5	—	280	500	—	36	30	479	400	36	56	45	96.5	—	360	1080
818	1270	930	1206	—	308	—	345	460	230	—	315	560	—	39	35	541	450	39	63	50	114.5	—	400	1513
820	1425	1045	1353	—	344	—	388	516.5	259.5	—	355	638	—	42	39	599	500	42	70	56	124	—	450	2118
822	1570	1170	—	1440	—	335	770	300	300	60	400	—	335	45	—	675	560	—	—	—	—	56	—	2520
824	1765	1315	—	1635	—	385	865	320	320	60	450	—	385	48	—	761	630	—	—	—	—	60	—	3527
826	1970	1470	—	1820	—	425	970	365	365	70	500	—	425	52	—	855	710	—	—	—	—	65	—	4938
828	2210	1650	—	2040	—	475	1090	415	415	2x50	560	—	475	56	—	965	800	—	—	—	—	80	—	6912
830	2485	1855	—	2305	—	540	1225	470	470	2x50	630	—	540	60	—	1085	900	—	—	—	—	80	—	9678
832	2795	2085	—	2615	—	620	1375	540	540	2x50	710	—	620	60	—	1185	1000	—	—	—	—	100	—	13558

B
RXO - RXV

	Albero entrata / Input shaft / Antriebswelle			Albero uscita / Output shaft / Abtriebswelle									
	U	S	G										
				T m6	R	M	T H7	M1	T H7	M1	M3		
802	18 j6	32	445	60	112	109	60	109	60	109	60	109	170
804	20 j6	36	502	70	125	121	70	121	70	121	70	121	192
806	22 j6	40	565	80	140	137	80	137	80	137	80	137	215
808	24 j6	45	632	90	160	151	90	151	90	151	90	151	246
810	28 j6	50	710	100	180	170	100	170	100	170	100	170	266
812	32 k6	56	795	110	200	192	110	192	110	192	110	192	302
814	35 k6	63	890	125	225	216	125	216	125	216	125	216	335
816	40 k6	70	1000	140	250	242	140	242	140	242	140	242	370
818	45 k6	80	1125	160	280	273	160	273	160	273	160	273	422
820	50 k6	90	1265	180	315	302	180	302	180	302	180	302	477
822	55 m6	100	1420	209	355	340	200	340	200	340	200	340	*
824	60 m6	112	1590	220	400	383	220	383	220	383	220	383	*
826	70 m6	125	1780	250	450	430	250	430	250	430	250	430	*
828	80 m6	140	2000	280	500	485	280	485	280	485	280	485	*
830	90 m6	160	2250	320	500	545	320	545	320	545	320	545	*
832	100 m6	180	2530	350	560	595	350	595	350	595	350	595	*

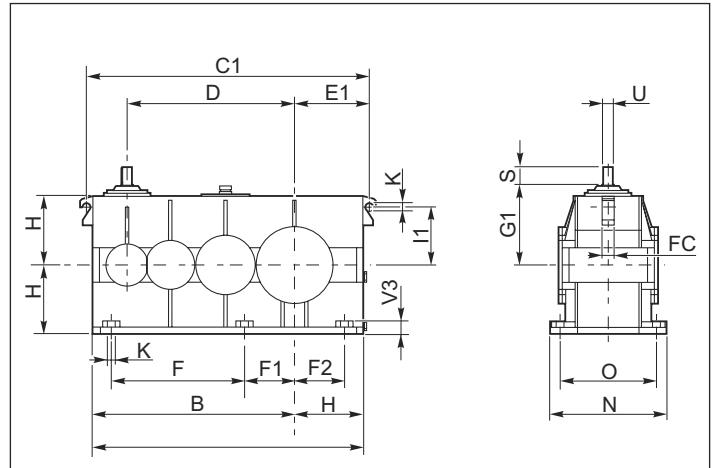
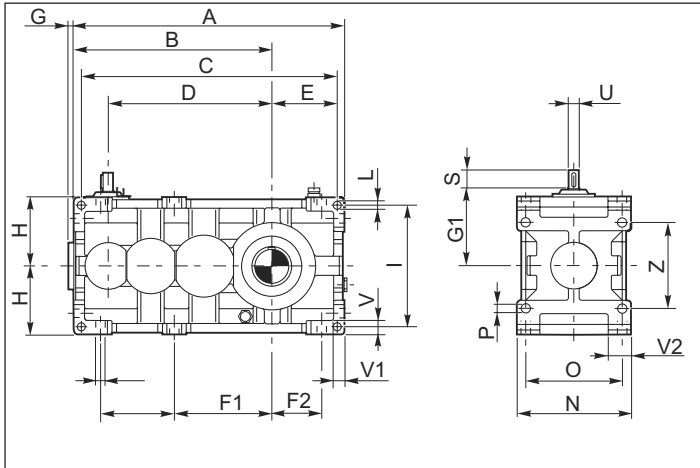
*A richiesta / On request / Auf Anfrage



	IEC														
	71	80	90	100	112	132	160	180	200	225	250	280	315	355	
DH7	14	19	24	28	28	38	42	48	55	60	65	75	80	100	
P	160	200	200	250	250	300	350	350	400	450	550	550	660	800	
MN	130	165	165	215	215	265	300	300	350	400	500	500	600	740	
NG6	110	130	130	180	180	230	250	250	300	350	450	450	550	680	
K	M8	M10	M10	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20	
SP	12	12	12	14	14	16	18	18	20	20	20	20	24	30	
G2	802	511	521	531	541	541	561								
	804		582	592	602	602	622								
	806		649	659	669	669	689	719							
	808		721	731	741	741	761	791							
	810			814	824	824	844	874	874						
	812			915	915	915	935	965	965	965					
	814				1017	1017	1037	1067	1067	1067	1097				
	816				1134	1134	1154	1184	1184	1184	1214	1214			
	818						1289	1319	1319	13019	1349	1349	1349		
820						1439	1469	1469	1469	1499	1499	1499	1529		
822-832	A richiesta / On request / Auf Anfrage														

802 - 820

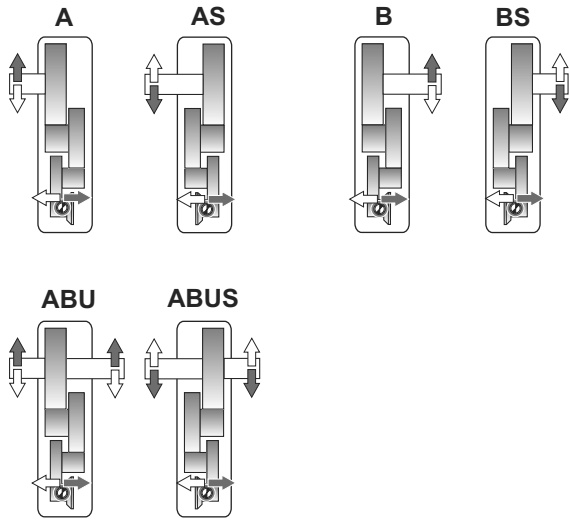
822 - 832



A

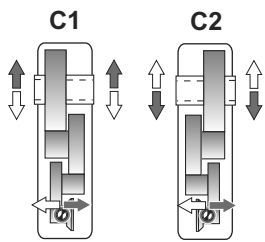
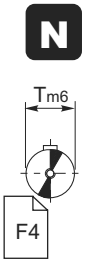
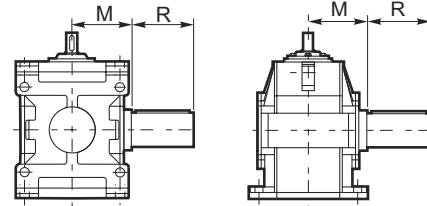
Esecuzione grafica / Shaft arrangement / Grafische Ausführung

Albero uscita / Output shaft / Abtriebswelle

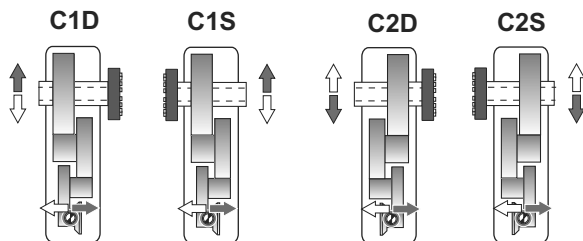
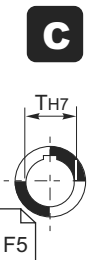
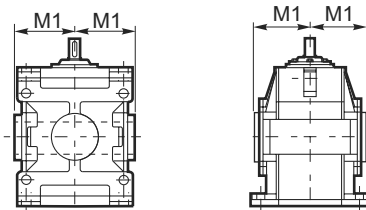


⇒ **N D FD Fn**

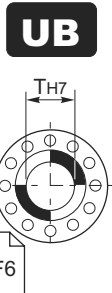
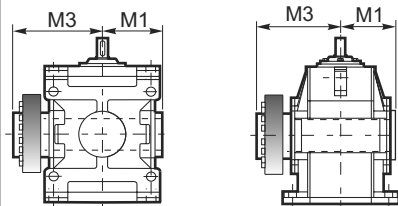
K



⇒ **C**



⇒ **UB B**

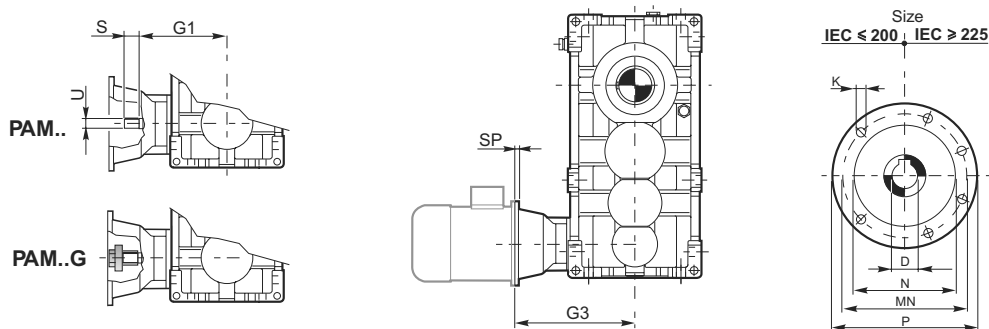


Dimensioni generali / Dimensions/ Allgemeine Abmessungen																										
	A	B	C	C1	D	E	E1	F	F1	F2	FC	G	H h11	I	I1	K	L	N h11	O	P	V	V1	V2	V3	Z	Kg
802	498	368	470	—	305	116	—	136	182	90	—	12	125	224	—	18	14	213	180	18	25	20	44.5	—	160	101
804	562	412	530	—	342	134	—	153	202.5	103.5	—	13	140	250	—	20	16	237	200	20	28	22.5	49	—	180	143
806	635	465	601	—	385	153	—	173	229	117	—	16	160	280	—	22	18	269	225	22	32	25	56.5	—	200	207
808	712	522	674	—	432	171	—	194	258	130	—	17	180	320	—	25	20	297	250	25	36	28	59.5	—	224	282
810	795	585	755	—	485	190	—	216	288	144	—	19	200	360	—	27	22	335	280	27	40	32	67.5	—	250	394
812	897	657	852	—	545	217.5	—	242	324.5	159.5	—	20	225	400	—	30	24	379	315	30	45	36	78.5	—	280	551
814	1000	735	950	—	610	240	—	271	363	179	—	23	250	450	—	33	27	427	355	33	50	40	89	—	320	772
816	1125	825	1069	—	685	272	—	305	407.5	202.5	—	25	280	500	—	36	30	479	400	36	56	45	96.5	—	360	1080
818	1270	930	1206	—	770	308	—	345	460	230	—	28	315	560	—	39	35	541	450	39	63	50	114.5	—	400	1513
820	1425	1045	1353	—	865	344	—	388	516.5	259.5	—	30	355	638	—	42	39	599	500	42	70	56	124	—	450	2118
822	1570	1170	—	1440	970	—	335	770	300	300	60	—	400	—	335	45	—	675	560	—	—	—	—	56	—	2520
824	1765	1315	—	1635	1090	—	385	865	320	320	60	—	450	—	385	48	—	761	630	—	—	—	—	60	—	3527
826	1970	1470	—	1820	1220	—	425	970	365	365	70	—	500	—	425	52	—	855	710	—	—	—	—	65	—	4938
828	2210	1650	—	2040	1370	—	475	1090	415	415	2x50	—	560	—	475	56	—	965	800	—	—	—	—	80	—	6912
830	2485	1855	—	2305	1540	—	540	1225	470	470	2x50	—	630	—	540	60	—	1085	900	—	—	—	—	80	—	9678
832	2795	2085	—	2615	1730	—	620	1375	540	540	2x50	—	710	—	620	60	—	1185	1000	—	—	—	—	100	—	13558



	Albero entrata / Input shaft / Antriebswelle			Albero uscita / Output shaft / Abtriebswelle								
	U	S	G1									
				T m6	R	M	T H7	M1	T H7	M1	M3	
802	18 j6	32	140	60	112	109	60	109	60	109	170	
804	20 j6	36	160	70	125	121	70	121	70	121	192	
806	22 j6	40	180	80	140	137	80	137	80	137	215	
808	24 j6	45	200	90	160	151	90	151	90	151	246	
810	28 j6	50	225	100	180	170	100	170	100	170	266	
812	32 k6	56	250	110	200	192	110	192	110	192	302	
814	35 k6	63	280	125	225	216	125	216	125	216	335	
816	40 k6	70	315	140	250	242	140	242	140	242	370	
818	45 k6	80	355	160	280	273	160	273	160	273	422	
820	50 k6	90	400	180	315	302	180	302	180	302	477	
822	55 m6	100	450	209	355	340	200	340	200	340	*	
824	60 m6	112	500	220	400	383	220	383	220	383	*	
826	70 m6	125	560	250	450	430	250	430	250	430	*	
828	80 m6	140	630	280	500	485	280	485	280	485	*	
830	90 m6	160	710	320	500	545	320	545	320	545	*	
832	100 m6	180	800	350	560	595	350	595	350	595	*	

* A richiesta / On request / Auf Anfrage

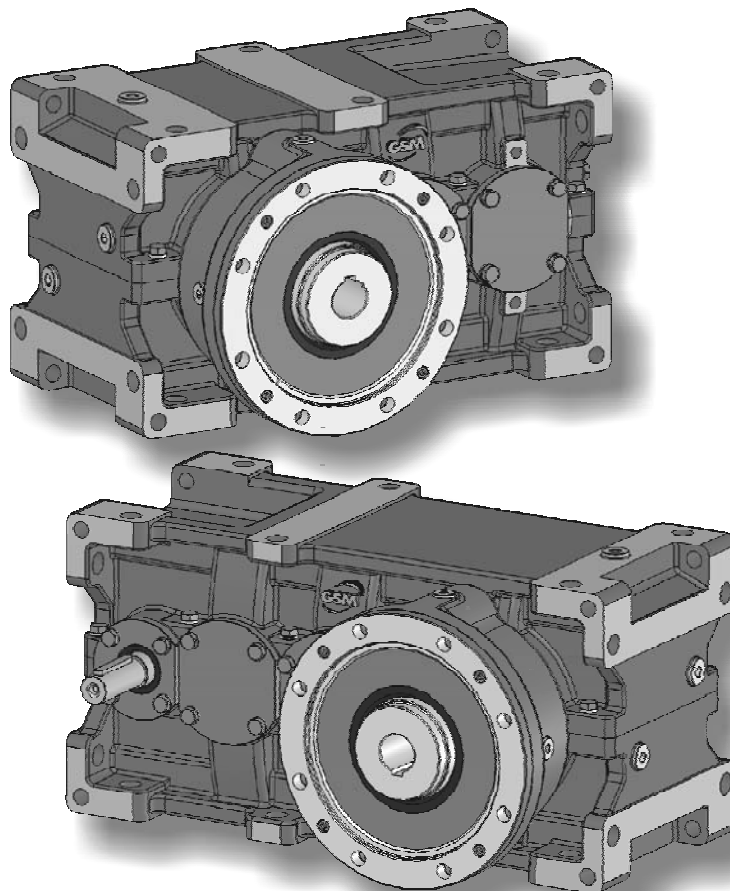


	IEC														
	71	80	90	100	112	132	160	180	200	225	250	280	315	355	
DH7	14	19	24	28	28	38	42	48	55	60	65	75	80	100	
P	160	200	200	250	250	300	350	350	400	450	550	550	660	800	
MN	130	165	165	215	215	265	300	300	350	400	500	500	600	740	
NG6	110	130	130	180	180	230	250	250	300	350	450	450	550	680	
K	M8	M10	M10	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20	
SP	12	12	12	14	14	16	18	18	20	20	20	20	24	30	
G3	802	206	216	226	236	236	256								
	804		240	250	260	260	280								
	806		264	274	284	284	304	334							
	808		289	299	309	309	329	359							
	810			329	339	339	359	389	389						
	812			370	370	370	390	420	420	420					
	814				407	407	427	457	457	457	487				
	816				449	449	469	499	499	499	529	529			
818						519	549	549	549	579	579	579			
820						574	604	604	604	634	634	634	664		
822-832	A richiesta / On request / Auf Anfrage														

**1.0 RIDUTTORI - MOTORIDUTTORI PER ESTRUSORI RXP - EST
EXTRUDER GEAR UNITS - GEARMOTORS RXP - EST
GETRIEBE – GETRIEBEMOTOREN FÜR EXTRUDER RXP – EST**

**RXP
EST**

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1.1 Caratteristiche costruttive

Generalità

Le dimensioni dei nostri riduttori e i rapporti di trasmissione seguono la serie dei numeri normali (serie di RENARD) Ra 20 UNI 2016.68.

I particolari accorgimenti adottati nella costruzione della carcassa esterna conferiscono ai nostri riduttori un'ampia versatilità di montaggio.

La grande scelta disponibile del tipo di esecuzione ci permette di soddisfare anche le esigenze più particolari. L'elevato numero di rapporti di trasmissione, $i_N = (1.12 \div 1250)$, consente in alcuni casi di scegliere un riduttore di taglia inferiore. La suddivisione della carcassa in due parti e i coperchi fissati con viti consentono una facile manutenzione.

Ingranaggi

Gli ingranaggi cilindrici a dentatura elicoidale, sono rettificati sul profilo ad evolvente dopo cementazione, tempra e rinvenimento finale.

L'ottimizzazione geometrica dell'ingranaggio unitamente ad una accurata lavorazione, assicura bassi livelli di rumorosità e garantisce elevati rendimenti:

- 0.96 per un riduttore a due stadi di riduzione
- 0.94 per un riduttore a tre stadi di riduzione

Tutti gli ingranaggi sono costruiti in:

- 16CrNi4, 20CrNi4, 18NiCrMo5, 20MnCr5 UNI 7846-78

La capacità di carico è stata calcolata a pressione superficiale e a rottura secondo la normativa ISO 6336 (a richiesta sono possibili verifiche secondo le norme AGMA 2001-C95).

Alberi

Gli alberi lenti pieni sono realizzati in 39NiCrMo3 UNI 7845-78. Gli alberi veloci sono realizzati in 16 Cr Ni 4 UNI, 20MnCr5 UNI 7846-78 o in 39 Ni Cr Mo 3 UNI 7845-78. Sono verificati a flessione-torsione con elevato coefficiente di sicurezza. Le estremità d'albero cilindriche sono secondo UNI 6397-68, DIN 748, NF E 22.051, BS 4506-70, ISO/R 775-69, escluso corrispondenza R-S, con foro filettato in testa secondo DIN 1414. Linguetta secondo UNI 6604-69, DIN 6885 BI, 1-68, NF E 27.656 22.175, BS 4235.1-72, ISO/R 773-69 escluso corrispondenza I.

1.1 Construction features

General description

Gear unit dimensions and transmission ratios follow a geometric progression based on the Ra 20 series of preferred (or Renard) numbers in accordance with UNI 2016.68.

The casing incorporates special design features to provide the utmost mounting versatility.

Our exhaustive range of designs is guaranteed to meet the requirements of every application, no matter how specific. Our broad range of transmission ratios - $i_N = (1.12 \div 1250)$ and high ratio density frequently allows selection of a smaller size. Split casing design and bolted covers ensure great ease of maintenance.

Gearing

Helical spur gear sets are first case hardened, hardened and tempered and finally their involute profile is ground.

Optimal gear geometry and high machining accuracy ensure low noise levels and higher efficiency:

- 0.96 for double reduction gear units
- 0.94 for triple reduction gear units

All gear sets are in:

- 16CrNi4, 20CrNi4, 18NiCrMo5, 20MnCr5 UNI 7846-78

The load capacity of gear sets is calculated at contact and root bending stress in accordance with standard ISO 6336 (gears can be rated to AGMA 2001-C95 on request).

Shafts

Solid output shafts are manufactured from 39NiCrMo3 UNI 7845-78. Input shafts are made from 16 Cr Ni 4 UNI, 20MnCr5 UNI 7846-78 or 39 Ni Cr Mo 3 UNI 7845-78. Shaft calculations incorporate a high safety factor and are validated by bending and torsional stress analyses. Cylindrical shaft ends are in accordance with UNI 6397-68, DIN 748, NF E 22.051, BS 4506-70, ISO/R 775-69, excluding section R-S, with centre tapped hole at shaft end to DIN 1414. Keys are in accordance with UNI 6604-69, DIN 6885 BI, 1-68, NF E27.656 22.175, BS 4235.1-72, ISO/R 773-69 excluding section I.

1.1 Konstruktionsmerkmale

Allgemeines

Die Baugrößen und Übersetzungen unserer Getriebe sind der normalen Nummernserie (RENARD Reihe) Ra 20 UNI 2016.68 gemäß ausgelegt.

Die besonderen Konstruktionsmerkmale der Gehäuse ermöglichen die Montage unserer Getriebe in den unterschiedlichsten Einbaulagen.

Das breite Angebot an Ausführungstypen versetzt uns in die Lage, auch den ausgefallenen Anforderungen unserer Kunden entsprechen zu können. Die zahlreichen Übersetzungsverhältnisse, $i_N = (1.12 \div 1250)$ räumen in einigen Fällen die Möglichkeit ein, ein kleineres Getriebe wählen zu können. Die zweiteiligen Gehäuse und die mit Schrauben befestigten Deckel erlauben eine einfache Wartung.

Zahnräder

Das Evolventenprofil der Stirnrädergetriebe mit Schrägverzahnung wird nach dem Einsatzhärten, dem Abschrecken und dem Anlassen entsprechend geschliffen.

Die geometrische Optimierung des Zahnrads verbunden mit einer akkuraten Bearbeitung gewährleistet niedrige Geräuschentwicklung und einen hohen Wirkungsgrad:

- 0.96 bei Getrieben mit zwei Getriebestufen
- 0.94 bei Getrieben mit drei Getriebestufen

Alle Zahnräder werden aus folgenden Material gefertigt:

- 16CrNi4, 20CrNi4, 18NiCrMo5, 20MnCr5 UNI 7846-78

Die Belastbarkeit wurde der Richtlinie ISO 6336 gemäß auf Oberflächendruck und Bruch berechnet (auf Anfrage können Überprüfungen den Normen AGMA 2001-C95 gemäß vorgenommen werden).

WELLEN

Die vollen Abtriebswellen sind aus 39NiCrMo3 UNI 7845-78 realisiert. Die Antriebswellen dagegen aus 16 Cr Ni 4 UNI, 20MnCr5 UNI 7846-78 oder aus 39 Ni Cr Mo 3 UNI 7845-78. Sie werden unter Berücksichtigung eines hohen Sicherheitskoeffizienten auf Biegung-Windung getestet. Die Enden der zylindrischen Wellen entsprechen den Normen UNI 6397-68, DIN 748, NF E 22.051, BS 4506-70, ISO/R 775-69, ausgenommen Zuordnung R-S, mit Gewindebohrung in der Wellenspitze DIN 1414. Die Federkeile entsprechen UNI 6604-69, DIN 6885 BI, 1-68, NF E 27.656 22.175, BS 4235.1-72, ISO/R 773-69, ausgenommen Zuordnung I.

Cuscinetti

I cuscinetti sono del tipo a rulli conici o a rulli orientabili, di elevata qualità e dimensionati per garantire una lunga durata se lubrificati con il tipo di lubrificante previsto a catalogo.

Cuscinetti reggispinta di marca primaria della serie 294. E; varie grandezze sono utilizzabili su ogni taglia di riduttore.

Carcassa

La carcassa è ottenuta per fusione in GG 250 ISO 185 fino alla grandezza 820. Le altre grandezze sono in acciaio Fe430 EN UNI 10025 composto elettrosaldato e disteso. I particolari accorgimenti adottati nel disegno della struttura permettono di ottenere un' elevata rigidezza.

Altre Caratteristiche

- Attacco vite personalizzabile (semplice e doppia cava linguetta, attacco scanalato DIN 5480 e 5482, ...).
- Lubrificazione forzata a richiesta su supporto reggispinta.
- Dimensioni e posizione flangiatura personalizzabile.

1.2 Livelli di pressione sonora SPL [dB(A)]

Valori normali di produzione del livello medio di pressione sonora SPL (dB (A)) a velocità in entrata di 1450 giri/min (tolleranza +3 db (A)). Valori misurati ad 1 m dalla superficie esterna del riduttore ed ottenuti su elaborazione di prove sperimentali eseguite. Per raffreddamento artificiale con ventola sommare ai valori di tabella: +2 db (A) per ogni ventola. Per entrata ad un numero di giri diverso sommare i valori come in tabella. Per particolari esigenze è possibile fornire riduttori con livello medio di pressione sonora ridotto.

Bearings

Bearings are high quality taper or self-aligning roller bearings suitably sized to ensure long service life provided the approved lubricants indicated in this catalogue are used.

Top brand thrust bearings series 294.E are available in different sizes to fit all gear unit sizes.

Casing

Casings up to size 820 are cast from GG 250 ISO 185 cast iron. All other sizes use casings fabricated from electrically welded stress relieved Fe430 steel EN UNI 10025. Casing design incorporates special arrangements to provide superior rigidity.

Other features

- *Customised screw connection (simple or double keyway, spline to DIN 5480 and 5482, ...).*
- *Forced lubrication on thrust bearing block available on request.*
- *Customised flange dimensions and position.*

1.2 Mean sound pressure levels SPL [dB(A)]

Noise levels are mean sound pressure levels SPL (dB (A)) and refer to normal operation at an input speed of 1450 rpm (tolerance +3 dB (A)). Measurements are taken at 1 m from the external surface of the gear unit and ratings are obtained by processing test data. For fan-cooled applications, add 2 dB (A) to table values for each fan. For different input speeds, add the appropriate values indicated in the table below. Gear units with lower noise levels to suit particular needs are available on request.

Lager

Bei allen Lagern handelt es sich um hochwertige Kegelrollenlager mit orientierungsfähigen Rollen und in Maßen, die so ausgelegt sind, dass sie bei Einsatz der gemäß Katalogangaben vorgesehenen Schmiermittel eine lange Lebensdauer garantieren.

Drucklager erster Qualität der Serie 294. E; an den jeweiligen Getriebegrößen können verschiedene Größen verwendet werden.

Gehäuse

Die Gehäuse der Getriebe bis Baugröße 820 werden im Gussverfahren aus GG 250 ISO 185 gewonnen; die anderen Baugrößen werden aus elektroverschweißtem und entspanntem Kombistahl Fe430 EN UNI 10025 realisiert. Die besonderen beim Entwurf der Struktur berücksichtigten Vorkehrungen verleihen ihr eine besondere Steifheit.

Weitere eigenschaften

- auf individuelle Ansprüche anpassbarer Schneckenanschluss (einfach und doppelt mit Federkeilnut, Keilanschluss DIN 5480 und 5482, ...).
- Zwangsschmierung auf Drucklagersitz auf Anfrage.
- Maße und Position der Flanschen individuell anpassbar.

1.2 Schalldruckpegel SPL [dB(A)]

Normale Werte des durchschnittlichen Schalldruckpegels SPL (dB (A)) bei einer Antriebsdrehzahl von 1450 U/min (Toleranz +3 dB (A)). Werte, die aus den Auswertungen der durchgeführten experimentellen Tests, bei denen die Messung in 1 m Entfernung von der Getriebeoberfläche erfolgte, resultieren. Bei Vorliegen einer Zusatzluftkühlung durch Lüfter muss ein Korrekturwert von +2 dB (A) pro Lüfterrad zum Tabellenwert addiert werden. Bei abweichender Antriebsdrehzahl sind die Werte gemäß Tabellenangaben zu addieren. Im Fall besonderer Anforderungen können Getriebe mit einem reduzierten durchschnittlichen Schalldruckpegel geliefert werden.

	RXP2		RXP3		
	i ≤ 14	i > 14	i < 40	40 ≤ i ≤ 100	i > 100
802	75	72	72	70	67
804	76	73	73	71	68
806	77	74	74	72	69
808	78	75	75	73	70
810	80	77	77	75	72
812	81	78	78	76	73
814	83	80	80	78	75
816	85	82	82	80	77
818	87	84	84	82	79
820	89	86	86	84	81
822	91	88	88	86	83
824	93	90	90	88	85
826	95	92	92	90	87
828	96	93	93	91	89
830			96	94	91
832			97	95	92

n ₁ [min ⁻¹]	2750	2400	2000	1750	1000	750	500	350
Δ SPL [dB(A)]	8	6	4	2	-2	-3	-4	-6

1.3 Criteri di selezione

Fattore di servizio - F_s

Il fattore di Servizio F_s dipende:

- a) dalle condizioni di applicazione
- b) dalla durata di funzionamento h/d
- c) avviamenti /ora
- d) dal grado di affidabilità o margine di sicurezza voluto .

Il fattore di servizio assunto per riduttori per estrusione è generalmente $F_s = 1.5$. Dove il funzionamento è continuo sino ad arrivare a due o tre turni giornalieri il fattore di servizio è rispettivamente $F_s = 1.75$ e $F_s = 2$. Le potenze e i momenti torcenti indicati a catalogo nominali sono validi per $F_s=1$.

Fattore correttivo delle prestazioni - f_N

Fattore correttivo delle prestazioni nominali per tenere conto delle velocità in entrata $n_1 > 1450 \text{ min}^{-1}$.

1.3 Gear unit selection

Service factor - F_s

Service factor F_s is determined on the basis of:

- a) operating conditions of application
- b) operation per day (h/d)
- c) starts and stops per hour
- d) desired reliability or safety factor.

Usually, a service factor $F_s=1.5$ is selected for extruder gear units. Service factors for continuous duty up to two or three daily shifts are $F_s=1.75$ and $F_s=2$, respectively. Power and torque ratings stated in the catalogue refer to service factor $F_s=1$.

Input speed factor - f_N

This correction factor is used to adjust performance ratings to account for input speeds $n_1 > 1450 \text{ rpm}$.

1.3 Auswahlkriterien

Betriebsfaktor - F_s

Der Betriebsfaktor F_s hängt von folgenden Kriterien ab:

- a) Einsatzbedingungen
- b) Betriebsdauer h/d
- c) Anläufe / Stunde
- d) Zuverlässigkeitsgrad oder gewünschter Sicherheitsbereich.

Der für die in der Extrusion eingesetzten Getriebe angesetzte Betriebsfaktor ist allgemein $F_s = 1.5$.

In Fällen, in denen ein Dauerbetrieb, bis zwei und drei Tagesschichten, vorgesehen ist, entspricht der Betriebsfaktor jeweils $F_s = 1.75$ und $F_s = 2$.

Die im Katalog als Nennwerte angegebenen Leistungen und Drehmomente sind für $F_s = 1$ gültig.

Korrekturfaktor der leistungen - f_N

Korrekturfaktor der Nennleistungen unter Berücksichtigung der Eingangsdrehzahl $n_1 > 1450 \text{ min}^{-1}$.

f_N

n_1 [min^{-1}]	$i_N \leq 8$		$8 < i_N < 80$		$i_N \geq 80$	
	T_N	P_N	T_N	P_N	T_N	P_N
2750	0.82	1.56	0.90	1.71	1.00	1.90
2400	0.85	1.41	0.92	1.52	1.00	1.66
2000	0.90	1.24	0.94	1.30	1.00	1.38
1750	0.94	1.13	0.97	1.17	1.00	1.21
1450	1.00	1.00	1.00	1.00	1.00	1.00

Procedura di selezione

Conosciuti i dati dell' applicazione calcolare:

- $i = n_1/n_2$ rapporto richiesto
- potenza nominale:

$$f_N \times P_N \geq P_1 \times F_s$$

oppure

-coppia nominale:

$$f_N \times T_N \geq T_2 \times F_s$$

Scegliere gli stadi, il rapporto, la grandezza, l'esecuzione, la forma costruttiva e verificare le dimensioni del riduttore e di eventuali accessori o particolari estremità.

Nel calcolo si consideri un rendimento per stadio di 0.98.

Selection procedure

Locate application information and determine:

- required ratio $i = n_1/n_2$
- nominal power:

$$f_N \times P_N \geq P_1 \times F_s$$

or

- nominal torque:

$$f_N \times T_N \geq T_2 \times F_s$$

Select number of stages, ratio, size, shaft arrangement and design configuration and then check the dimensions of gear unit and any accessories or particular input/output configurations you have selected.

Please consider 0.98 efficiency per stage in your calculations.

Auswahlverfahren

Sind die Daten der Anwendung bekannt, ist wie folgt zu kalkulieren:

- $i = n_1/n_2$ gefordertes Übersetzungsverhältnis
- Nennleistung:

$$f_N \times P_N \geq P_1 \times F_s$$

oder

- Nenndrehmoment:

$$f_N \times T_N \geq T_2 \times F_s$$

Die Stufen, Übersetzung, Größe, Ausführung sowie Bauform wählen und die Größe des Getriebes und des eventuellen Zubehörs oder besondere Wellenenden überprüfen.

Bei der Berechnung ist pro Stufe einen Wirkungsgrad von 0.98 zu berücksichtigen.

1.4 Verifiche

1) Compatibilità dimensionale con ingombri disponibili, estremità di entrata e di uscita.

2) Ammissibilità di carichi radiali e/o assiali esterni (i carichi radiali F_{r1} ammissibili sono riportati nelle tabelle delle prestazioni nella sezione dei riduttori RXP) inoltre per la verifica del reggispinta occorre conoscere:
 - velocità e senso di rotazione
 - spinta assiale statica e dinamica ricavabile dal diametro del nocciolo e dalla pressione di lavoro
 - dimensioni della flangia e del codolo vite

3) Adeguatezza del rapporto di trasmissione.

4) Massimo sovraccarico nel caso di:
 - inversioni di moto per effetti inerziali,
 - commutazioni da bassa ad alta polarità,
 - avviamenti e frenature a pieno carico con grandi momenti d'inerzia (soprattutto nel caso di bassi rapporti),
 - sovraccarichi, urti od altri effetti dinamici, deve essere verificata la condizione:

$$T_{max} \leq 2 \times T_N$$

5) Numero massimo di giri in entrata $n_{1 max}$ (vedere tabella seguente):

1.4 Verification

1) Ensure that dimensions are compatible with space constraints and input and output configuration.

2) Check that overhung and/or thrust loads do not exceed permissible loads (permissible overhung loads F_{r1} are listed in the section that covers RXP gear units); the following information is also necessary to check thrust bearing selection:
 - speed and direction of rotation
 - static and dynamic thrust force calculated on the basis of core diameter and operating pressure
 - dimensions of screw flange and screw stub shaft

3) Ensure that transmission ratio is suitable for the application:

4) Determine maximum overload in the event of:
 - reversing due to inertia,
 - switching from low to high polarity,
 - starts and stops under full load with high moment of inertia (this is especially important for low ratios),
 - overload, shock load or other dynamic load conditions, and determine whether this condition is verified:

$$T_{max} \leq 2 \times T_N$$

5) Check maximum input speed $n_{1 max}$ (see the following table):

1.4 Überprüfungen

1) Kompatibilität der Abmessungen mit verfügbaren Maßen und der Wellenenden mit den Kupplungen, Scheiben oder Riemenscheiben.

2) Zulässigkeit der externen Radial- und/oder Axialkräfte (die zulässigen Radialkräfte F_{r1} werden in den Leistungstabellen im Abschnitt der RXP-Getriebe angegeben. Darüber hinaus muss man für die Überprüfung des Drucklagers folgende Daten verfügbar haben:

- Drehzahl und -richtung
- statische und dynamischer Axial Schub, der sich aus dem Durchmesser des Kerns und dem Arbeitsdruck ergibt
- Maß des Flanschs und des Schnecken-schafts.

3) Angemessenheit des Übersetzungsverhältnisses.

4) Maximale Überlast im Fall von:
 - Drehrichtungs-Umkehr aufgrund von Trägheitseffekten,
 - Umschaltung von niedriger auf hohe Polarität,
 - Anläufe und Bremsungen unter Vollast mit hohen Trägheitsmomenten (vor allem bei niedrigen Übersetzungsverhältnissen),
 - Überlasten, Stöße oder andere dynamische Effekte.

Es muss die Bedingung:
 $T_{max} \leq 2 \times T_N$ überprüft werden:

5) Max. Antriebsdrehzahl $n_{1 max}$ (siehe nachstehende Tabellen):

$n_{1 max}$ (min⁻¹)

	i_n	802		804		806		808		810		812		814		816		818		820	
		splash oil	splash oil	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.	splash oil	forced lubric.
RXP2	4.44-5.72	2900	2500	2500	3500	2000	2900	2000	2900	1750	2500	1500	2500	1500	2500	1250	2000	1000	1750		
	6-8.5					2000	2900	1750	2900	1750	2900	1500	2500	1500	2000	2900	1500	2000			
	9-11.8	3500	2900	2900	3500	2500	3500	2500	3500	2500	3500	2000	3500	2500	3500	2000	2900	1500	2500		
	12-16.6					3500	3500	3500	3500	2900	3500	2500	3500	2000	3500	2500	3500	2000	2900	2000	2900
	17-26					3500	3500	3500	3500	2900	3500	2900	3500	2500	3500	2500	3500	2500	3500	2000	2900
RXP3	7.3-23.4	2900	2700	2400	3500	2200	3500	1800	3500	1600	3000	1500	2500	1350	2500	1200	2000	1050	2000		
	$i > 23.5$	3500	3500	2900	3500	2900	3500	2900	3500	2500	3500	2500	3500	2100	2900	2000	2900	1750	2900		



6) Verifica Posizione di montaggio

7) Adeguatezza della potenza termica del riduttore:

Nel caso di solo riduttore in servizio continuo o intermittente gravoso in ambienti a temperatura elevata e/o con difficoltà di scambio termico (es. acciaierie) è necessario verificare che la potenza termica nominale corretta dai fattori sia superiore alla potenza assorbita come evidenziato nella seguente equazione:

6) Check mounting position

7) Ensure gear unit thermal power is suitable for the application:

If a gear unit is to be used in continuous or intermittent duty in environments where high temperatures and/or poor heat exchange are encountered (such as steelworks), check to ensure the thermal power obtained after application of the relevant correction factors is greater than absorbed power, i.e. that the following condition is verified:

6) Prüfen der Einbaulage

7) Angemessene thermische Grenzleistung des Getriebes:

Wird ein einziges Getriebe im Dauerbetrieb oder harten Schaltbetrieb in einer Umgebung mit hohen Temperaturen und/oder einem schweren Wärmeaustausch (z.B. Stahlwerke) eingesetzt, muss geprüft werden, dass die thermische, von den jeweiligen Faktoren korrigierte Nenngrenzleistung über der Aufnahmeleistung liegt, wie es in der folgenden Gleichung dargestellt wird:

$$P_1 \leq P_{tN} \cdot fm \cdot fa \cdot fd \cdot fp \quad [\text{kW}]$$

Dove:

P_{tN} = potenza termica nominale
 fm = fattore correttivo per la posizione di montaggio
 fa = fattore correttivo dell'altitudine
 fd = fattore correttivo del tempo di lavoro
 fp = fattore correttivo della temperatura ambiente

Qualora tale condizione non sia verificata occorre applicare un gruppo di raffreddamento con scambiatore di calore. Per selezionare il gruppo di raffreddamento adeguato occorre determinare la P_{ta} necessaria:

Where:

P_{tN} = thermal power rating
 fm = mounting position factor
 fa = altitude factor
 fd = operation time factor
 fp = ambient temperature factor

If this condition is not verified, opt for a heat exchanger. To select a suitable cooling unit, you need to determine required P_{ta} :

Hier ist:

P_{tN} = termische Nenngrenzleistung
 fm = Korrekturfaktor für Einbaulage
 fa = Höhenkorrekturwert
 fd = Korrekturfaktor der Arbeitszeit
 fp = Korrekturfaktor der Umgebungstemperatur

Sollte diese Bedingung nicht gegeben sein, muss anstelle des Lüfters ein Kühlaggregat mit Wärmeaustauscher appliziert werden. Vor der Wahl des angemessenen Kühlaggregats muss zunächst die erforderliche P_{ta} bestimmt werden:

$$P_{ta} \leq P_1 - (P_{tN} \cdot fm \cdot fa \cdot fd \cdot fp) \quad [\text{kW}]$$

dove:

P_{ta} = potenza termica addizionale

Dopo avere selezionato il gruppo di raffreddamento, ripetere la verifica aggiungendo alla precedente il valore massimo di P_{tmax} del range identificato espresso in tabella, adeguato con i coefficienti correttivi di temperatura acqua e aria:

Where:

P_{ta} = additional thermal power required

After selecting the cooling unit, check that the following condition is satisfied; as you can see, it considers the upper limit value P_{tmax} of the resulting tabulated range adjusted using the water and air temperature correction factors:

Hier ist:

P_{ta} = termische Zusatzgrenzleistung

Nach erfolgter Wahl der Kühlgruppe, die Kontrolle wiederholen und dabei dem vorgehenden Wert den max. Wert des P_{tmax} des in der Tabelle angegebenen Bereichs zurechnen und durch die Korrekturkoeffizienten der Wasser- und Lufttemperatur anpassen:

$$P_1 \leq (P_{tN} \cdot fm \cdot fa \cdot fd \cdot fp) + (P_{tmax} \cdot fw \cdot fc) \quad [\text{kW}]$$

dove:

P_{tmax} = potenza termica addizionale del range identificato espresso in tabella
 fw = coefficiente relativo alla temperatura dell'acqua (esclude fc)
 fc = coefficiente relativo alla temperatura dell'aria (esclude fw)

La P_{tN} è riferita ad un ambiente industriale aperto; nel caso di ambienti confinati scarsamente aerati consultarci.

Where:

P_{tmax} = additional thermal power required obtained from resulting tabulated range
 fw = water temperature factor (excludes fc)
 fc = air temperature factor (excludes fw)

P_{tN} refers to an open space industrial environment; in the event of a confined space environment with poor ventilation, please contact the factory.

Hier ist:

P_{tmax} = termische Zusatzgrenzleistung des identifizierten, in der Tabelle angegebenen Bereichs
 fw = Koeffizient bezüglich der Wassertemperatur (schließt fc aus)
 fc = Koeffizient bezüglich der Lufttemperatur (schließt fw aus)

Die P_{tN} bezieht sich immer auf einen Einsatz im industriellen offenen Umfeld; sollten Umgebungen mit geringer Belüftung daran angrenzen, bitten wir Sie, sich mit uns in Verbindung zu setzen.

P_{tN}

	802	804	806	808	810	812	814	816	818	820
RXP2	30	39	51	66	82	104	127	160	195	252
RXP3	24	30	40	52	65	82	102	127	165	205

fm

fm: fattore correttivo per la posizione di montaggio, velocità e rapporto.
(fm=1 nel caso in cui n₁ richieda la lubrificazione forzata)
(fm=1 nel caso in cui n₁= 0-749 min⁻¹)

fm.: correction factor accounting for mounting position, speed and ratio.
(fm=1 if n₁ requires forced lubrication)
(fm=1 if n₁= 0-749 rpm)

fm: Korrekturfaktor für Einbaulage, Drehzahl und Übersetzungsverhältnis.
(fm=1 falls n₁ eine Zwangsschmierung erfordert)
(fm=1 bei n₁= 0-749 min⁻¹)



size		i	M1	M3-M6			M4-M5		
			0-n _{1max}	n ₁					
				750-1250	1251-1750	1751-n _{1max}	750-1250	1251-1750	1751-n _{1max}
RXP2	802-806	4.46-21.9	1	1	1	1	1	1	1
		4.44-11.8		0.95	0.85	0.7	0.85	0.75	0.6
	12.0-21.7	1		0.9	0.75	0.9	0.8	0.65	
	808-814	4.44-11.6		0.85	0.75	0.6	0.7	0.65	0.5
		12.4-21.9		0.9	0.8	0.65	0.75	0.7	0.55
	816-820	4.52-11.8		0.75	0.7	0.55	0.7	0.6	0.5
12.2-23.2		0.85	0.75	0.6	0.7	0.65	0.5		

size		i	M1	M3-M6			M4-M5		
			0-n _{1max}	n ₁					
				750-1250	1251-1750	1751-n _{1max}	750-1250	1251-1750	1751-n _{1max}
RXP3	802-806	19.3-142	1	1	1	1	1	1	1
		19.3-41.7		0.95	0.85	0.7	0.9	0.8	0.65
	44.0-140	1		1	0.8	1	0.9	0.75	
	808-814	19.5-43.0		0.9	0.8	0.65	0.85	0.75	0.6
		46.4-142		1	0.9	0.75	0.95	0.85	0.7
	816-820	19.3-43.0		0.85	0.75	0.6	0.75	0.7	0.55
44.0-144		0.95	0.85	0.7	0.9	0.8	0.65		

N.B. I valori di n_{1max} sono riportati al punto 5 (Verifiche).

NOTE n_{1max} values are listed at point 5 (Verification).

HINWEIS: Die Werte n_{1max} werden unter Punkt 5 "Überprüfungen" angegeben.

fa

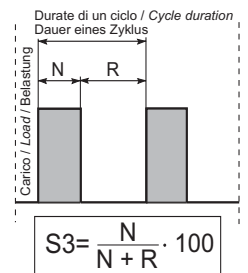
Fattore correttivo dell'altitudine
Altitude factor
Korrekturwert der Höhe

m	0	750	1500	2250	3000
fa	1	0.95	0.9	0.85	0.81

fd

Fattore correttivo del tempo di lavoro
Operation time factor
Korrekturwert der Betriebszeit

S3%	fd
100	1
80	1.05
60	1.15
40	1.35
20	1.8



fp

Fattore correttivo della temperatura ambiente. *Ambient temperature factor.*

Korrekturfaktor der Umgebungstemperatur.

Temperatura ambiente <i>Ambient temperature</i> Umgebungstemperatur	50 °C	40 °C	30 °C	20 °C	10 °C	0 °C
fp	0.63	0.75	0.87	1	1.12	1.25

Pta [kW]

Potenza termica addizionale

Additional thermal power

Thermische Zusatzgrenzleistung

Raffreddamento con scambiatore acqua-olio (Tacqua=15°C) <i>Cooling by water-oil exchanger (Twater=15°C)</i> Kühlung durch Wasser-/Ölaustauscher (TWasser=15°C)		
Gruppo Size Größe	RXP2	RXP3
1	≤ 68	≤ 45
2	69 ÷ 116	46 ÷ 78
3	117 ÷ 175	79 ÷ 116
4	176 ÷ 532	117 ÷ 355
5	533 ÷ 1021	356 ÷ 680

Raffreddamento con scambiatore aria-olio (Taria=20°C) <i>Cooling by air-oil exchanger (Tair=20°C)</i> Kühlung durch Luft-/Ölaustauscher (TLuft=20°C)		
Gruppo Size Größe	RXP2	RXP3
1	≤ 113	≤ 75
2	114 ÷ 212	76 ÷ 140
3	213 ÷ 445	141 ÷ 298
4	446 ÷ 578	299 ÷ 386
5	579 ÷ 1021	387 ÷ 680

fw

Coefficiente relativo alla temperatura dell'acqua
Water temperature factor
Koeffizient bezüglich der Wassertemperatur

Twater	15°C	20° C	25° C	30° C
fw	1	0,85	0,7	0,6

fc

Coefficiente relativo alla temperatura dell'aria
Air temperature factor
Koeffizient bezüglich der Lufttemperatur

Tair	15° C	20° C	25° C	30° C	35° C	40° C
fc	1,12	1	0,88	0,75	0,65	0,5

1.5 Designazione

1.5 Designation

1.5 Bezeichnung

	[1*]	[2*]	[3*]	[4*]	[5*]	[6*]	[7*]	[8*]	[9*]	[10*]
RX	P	2	802	AUD	10	ECE	—	EST	M1	
Macchina Range Version	Posizione assi Centreline orientation Achsenposition	N° stadi No. of Reductions Stufen	Grandezza Size Baugröße	Esecuzione grafica Shaft arrangement Grafische Ausführung	In	Estremità entrata Input configuration Wellenende – Antrieb	Materiale carcassa Casing material Gehäusematerial	Estremità uscita Output configuration Wellenende – Abtrieb	Posizione di montaggio Mounting position Einbaulage	Opzioni Options Optionen
RX	P	2 3	802 ... 820	A-B AUD-BUS		ECE ECES PAM.. PAM..G PAM..D	— A GS	EST ESTS	M1 M2 M3 M4 M5 M6	

Designazione motore elettrico

Electric motor designation

Bezeichnung des Elektromotors

Se è richiesto un motoriduttore completo di motore è necessario riportare la designazione di quest'ultimo.
A tale proposito consultare il ns. catalogo dei motori elettrici Electronic Line.

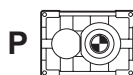
For applications requiring a gearmotor, motor designation must be specified.
To this end, please refer to our Electronic Line electric motor catalogue.

Wird ein Getriebemotor komplett mit Elektromotor angefordert, müssen dessen Daten angegeben werden.
Diesbezüglich verweisen wir auf unseren Katalog der Elektromotoren "Electronic Line".

[*1] Posizione assi

[*1] Centreline orientation

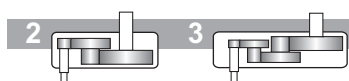
[*1] Achsenposition



[*2] N° stadi

[*2] No. of Reductions

[*2] Anzahl der Stufen



[*3] Grandezza

[*3] Size

[*3] Baugrößen

Le grandezze disponibili vanno dalla 802 alla 820.

Available in sizes 802 through 820.

Die verfügbaren Baugrößen reichen von 802 bis 820.

[*4] Esecuzione grafica

[*4] Shaft arrangement

[*4] Grafische Ausführung

(Vedi pag. dimensionali)

(Please refer to dimension pages)

(Siehe Seite mit Maßangaben)

[*5] Rapporto di riduzione i

[*5] Reduction ratio i

[*5] Übersetzungsverhältnis i

(Vedi prestazioni)

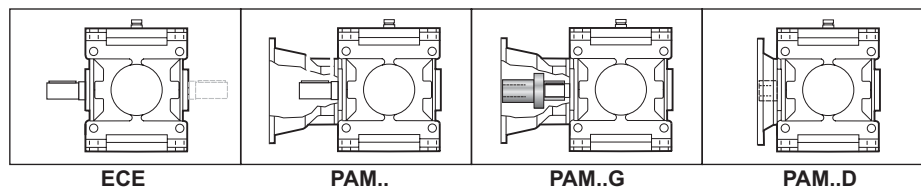
(See ratings)

(Siehe "Leistungen")

[*6] Estremità entrata

[*6] Input configuration

[*6] Wellenende - Antrieb



ECE	Entrata con albero pieno	Solid input shaft	Antrieb mit Vollwelle
ECES	Entrata con estremità speciale (disponibile a richiesta)	Special input shaft end (available on request)	Antrieb mit speziellem Wellenende (auf Anfrage erhältlich)
PAM..	Con campana senza giunto	Motor bell without coupling	mit Glocke ohne Kupplung
PAM..G	Con campana e giunto	Motor bell and coupling	mit Glocke und Kupplung
PAM..D	Accoppiamento diretto	Direct coupling	direkte Passung
PAM..S	Accoppiamento speciale (disponibile a richiesta)	Special coupling (available on request)	Spezialpassung (auf Anfrage erhältlich)

[*7] Materiale carcassa

[*7] Housing material

[*7] MGehäusematerial

Materiale carcassa Housing material Gehäusematerial		802	804	806	808	810	812	814	816	818	820
Acciaio Steel Stahl	A										
Ghisa sferoidale Spheroidal cast iron Sphäroguss	GS										
Ghisa meccanica Engineering cast iron Maschinenguss	—										

[*8] Estremità uscita

[*8] Output configuration

[*8] Wellenende - Abtrieb

EST ESTS	Tipo cuscinetto reggispinta Thrust bearing type Typ des Drucklagers										
	29415	29417	29420	29424	29428	29430	29434	29436	29440	29452	
RXP	802	804	806	808	810	812	814	816	818	820	

[*9] Posizioni di montaggio

[*9] Mounting positions

[*9] Einbaulagen

(vedi pag. C12)

(see page C12)

(siehe Seite C12)

[*10] Opzioni disponibili

[*10] Available options

[*10] Verfügbare Optionen

IS	Coperchio d'ispezione	Inspection cover	Inspektionsdeckel
LF	Predisposizione per lubrificazione forzata	Provisions for forced lubrication	Auslegung für Zwangsschmierung
LFMn	Lubrificazione forzata con motopompa (Std)	Forced lubrication with motor pump (Std)	Zwangsschmierung mit Motorpumpe (Std)
LFPn	Lubrificazione forzata con pompa asservita (a rich.)	Forced lubrication with shaft driven pump (on request)	Zwangsschmierung mit Nebenpumpe (auf Anfr.)
RFWn	Raffreddamento acqua-olio	Water/oil cooling	Wasser-/Ölkühlung
RFAAn	Raffreddamento aria-olio	Air/oil cooling	Luft-/Ölkühlung
AI	Accessori idraulici	Hydraulic accessories	Hydraulisches Zubehör
VT	Paraoli in Viton in entrata e in uscita	Viton oil seals at input and output end	Ölabdichtungen aus Viton am An- und Abtrieb
VT1	Paraoli in Viton in entrata	Viton oil seals at input end	Ölabdichtungen aus Viton am Antrieb
VT2	Paraoli in Viton in uscita	Viton oil seals at output end	Ölabdichtungen aus Viton am Abtrieb
DT1	Doppia tenuta in entrata	Double seal at input end	Doppelte Dichtung am Antrieb

Per ulteriori informazioni vedere la sezione "Accessori e opzioni"(G).

Please read Section "Accessories and Options" for more details. (G).

Weitere Informationen finden Sie im Abschnitt "Zubehör und Optionen" (G).

1.6 Lubrificazione

Gli oli disponibili appartengono generalmente a tre grandi famiglie:

- 1) Oli minerali
- 2) Oli sintetici Poli-Alfa-Olefine
- 3) Oli sintetici Poli-Glicole

La scelta più appropriata è generalmente legata alle condizioni di impiego. riduttori non particolarmente caricati e con un ciclo di impiego discontinuo, senza escursioni termiche importanti, possono certamente essere lubrificati con olio minerale.

Nei casi di impiego gravoso, quando i riduttori saranno prevedibilmente caricati molto ed in modo continuativo, con conseguente prevedibile innalzamento della temperatura, è bene utilizzare lubrificanti sintetici tipo polialfaolefine (PAO).

Gli oli di tipo poliglicole (PG) sono da utilizzare strettamente nel caso di applicazioni con forti strisciamenti fra i contatti, ad esempio nelle viti senza fine. Debbono essere impiegati con grande attenzione poiché non sono compatibili con gli altri oli e sono invece completamente miscibili con l'acqua. Questo fenomeno è particolarmente pericoloso poiché non si nota, ma deprime velocemente le caratteristiche lubrificanti dell'olio.

Oltre a questi già menzionati, ricordiamo che esistono gli oli per l'industria alimentare. Questi trovano specifico impiego nell'industria alimentare in quanto sono prodotti speciali non nocivi alla salute.

Vari produttori forniscono oli appartenenti a tutte le famiglie con caratteristiche molto simili. Più avanti proponiamo una tabella comparativa.

1.6 Lubrication

Available oils are typically grouped into three major classes:

- 1) Mineral oils
- 2) Poly-Alpha-Olefin synthetic oils
- 3) Polyglycol synthetic oils

Oil is normally selected in accordance with environmental and operating conditions. Mineral oil is the appropriate choice for moderate load, non-continuous duty applications free from temperature extremes.

In severe applications, where gear units are to operate under heavy loads in continuous duty and high temperatures are expected, synthetic Poly-Alpha-Olefin oils (PAO) are the preferred choice.

Polyglycol oils (PG) should only be used in applications involving high sliding friction, as is the case with worm shafts. These particular oils should be used with great care, as they are not compatible with other oils, but are totally mixable with water. The oil mixed with water cannot be told from uncontaminated oil, but will degrade very rapidly.

In addition to the oils mentioned above, there are food-grade oils. These are special oils harmless to human health for use in the food industry.

Oils with similar characteristics are available from a number of manufacturers. A comparative overview table is provided at the next pages.

1.6 Schmierung

Die verfügbaren Öle gehören im Allgemeinen drei großen Familien an:

- 1) Mineralöle
- 2) Polyalphaolefine-Synthetiköle
- 3) Polyglykol-Synthetiköle

Die angemessene Wahl ist im Allgemeinen an die Einsatzbedingungen gebunden. Getriebe, die keinen besonders schweren Belastungen ausgesetzt sind und einem unregelmäßigen Einsatzzyklus unterliegen, ohne starke thermische Ausschläge, können problemlos mit Mineralöl geschmiert werden.

Bei einem Einsatz unter harten Bedingungen, d.h. wenn die Getriebe stark und andauernd belastet werden, woraus sich ein sicherer Temperaturanstieg ergibt, sollten Synthetiköle, Typ Polyalphaolefine (PAO), verwendet werden.

Die Öle, Typ Polyglykole (PG), sind ausschließlich für einen Einsatz ausgelegt, bei denen es zu starken Reibungen zwischen den in Kontakt stehenden Elementen kommt, z.B. bei Schnecken. Bei ihrem Einsatz in besondere Aufmerksamkeit erforderlich, da sie nicht mit anderen Ölen kompatibel sind, sich jedoch vollständig mit Wasser vermischen lassen. Diese Tatsache erweist sich daher als besonders gefährlich, da sie sich nicht feststellen lässt, jedoch die Schmiereigenschaften des Öls bereits nach kurzer Zeit unterdrückt.

Über die bereits genannten Öle hinaus, gibt es auch Öle, die speziell für die Lebensmittelindustrie ausgelegt sind. Diese finden demzufolge dort ihren Einsatz, da es sich dabei um spezielle Produkte handelt, die für die Gesundheit unschädlich sind. Die den jeweiligen Familien angehörigen Ölsorten werden von verschiedenen Herstellern angeboten; sie weisen jeweils sehr ähnliche Eigenschaften auf. Auf der folgenden Seite finden Sie eine entsprechende Vergleichstabelle.

Input speed n_1 (min ⁻¹)	Absorbed power (IW)	Lubrication system	Viscosity ISO VG at 40° (cSt)	
			$i \leq 10$	$i > 10$
2000 < $n_1 \leq 5000$	$P < 7.5$	Forced or Oil splash	68	68
	$7.5 \leq P \leq 22$		68	150
	$P > 22$		150	220
1000 < $n_1 \leq 2000$	$P < 7.5$	Forced or Oil splash	68	150
	$7.5 \leq P \leq 37$		150	220
	$P > 37$		220	320
300 < $n_1 \leq 1000$	$P < 15$	Forced Oil splash	68	150
	$15 \leq P \leq 55$	Forced Oil splash	150	220
		Forced Oil splash	150	220
		Forced Oil splash	220	320
	$P > 55$	Forced Oil splash	220	320
			320	460

Tipo olio Oil type Öltyp	Temperatura olio Oil temperature Öltemperatur		
	65°C	80°C	90°C
Minerale Mineral Mineralöl	8000	3000	1000
Sintetico Synthetic Synthetiköl	20000	15000	9000

Frequenza cambi olio
Oil change intervals [H]
Frequenz - Ölwechsel

Produttore Manufacturer Hersteller	Oli Minerali Mineral oils Mineralöle			Oli Sintetici Polialfaolefine (PAO) Poly-Alpha-Olefin synthetic oils (PAO) Polyalphaolefine- Synthetiköle (PAO)			Oli Sintetici Poliglicoli (PG) Polyglycol synthetic oils (PG) Polyglykol-Synthetiköle (PG)		
	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG
	150	220	320	150	220	320	150	220	320
AGIP	Blasia 150	Blasia 220	Blasia 320	-	Blasia SX 220	Blasia SX 320	Blasia S 150	Blasia S 220	Blasia S 320
ARAL	Degol BG 150 Plus	Degol BG 220 Plus	Degol BG 320 Plus	Degol PAS 150	Degol PAS 220	Degol PAS 320	Degol GS 150	Degol GS 220	Degol GS 320
BP	Energol GR-XP 150	Energol GR-XP 220	Energol GR-XP 320	Energol EPX 150	Energol EPX 220	Energol EPX 320	Energol SG 150	Energol SG-XP 220	Energol SG-XP 320
CASTROL	Alpha SP 150	Alpha SP 220	Alpha SP 320	Alphasyn EP 150	Alphasyn EP 220	Alphasyn EP 320	Alphasyn PG 150	Alphasyn PG 220	Alphasyn PG 320
CHEVRON	Ultra Gear 150	Ultra Gear 220	Ultra Gear 320	Tegra Synthetic Gear 150	Tegra Synthetic Gear 220	Tegra Synthetic Gear 320	HiPerSYN 150	HiPerSYN 220	HiPerSYN 320
ESSO	Spartan EP 150	Spartan EP 220	Spartan EP 320	Spartan S EP 150	Spartan S EP 220	Spartan S EP 320	Glycolube 150	Glycolube 220	Glycolube 320
KLÜBER	Klüberoil GEM 1-150	Klüberoil GEM 1-220	Klüberoil GEM 1-320	Klübersynth EG 4-150	Klübersynth EG 4-220	Klübersynth EG 4-320	Klübersynth GH 6-150	Klübersynth GH 6-220	Klübersynth GH 6-320
MOBIL	Mobilgear XMP 150	Mobilgear XMP 220	Mobilgear XMP 320	Mobilgear SHC XMP 150	Mobilgear SHC XMP 220	Mobilgear SHC XMP 320	Glygoyle 22	Glygoyle 30	Glygoyle HE320
MOLIKOTE	L-0115	L-0122	L-0132	L-1115	L-1122	L-1132	-	-	-
OPTIMOL	Optigear BM 150	Optigear BM 220	Optigear BM 320	Optigear Synthetic A 150	Optigear Synthetic A 220	Optigear Synthetic A 320	Optiflex A 150	Optiflex A 220	Optiflex A 320
Q8	Goya 150	Goya 220	Goya 320	El Greco 150	El Greco 220	El Greco 320	Gade 150	Gade 220	Gade 320
SHELL	Omala 150	Omala 220	Omala 320	Omala HD 150	Omala HD 220	Omala HD 320	Tivela S 150	Tivela S 220	Tivela S 320
TEXACO	Meropa 150	Meropa 220	Meropa 320	Pinnacle EP 150	Pinnacle EP 220	Pinnacle EP 320	-	Synlube CLP 220	Synlube CLP 320
TOTAL	Carter EP 150	Carter EP 220	Carter EP 320	Carter SH 150	Carter SH 220	Carter SH 320	Carter SY 150	Carter SY 220	Carter SY 320
TRIBOL	1100/150	1100/220	1100/320	1510/150	1510/220	1510/320	800/150	800/220	800/320

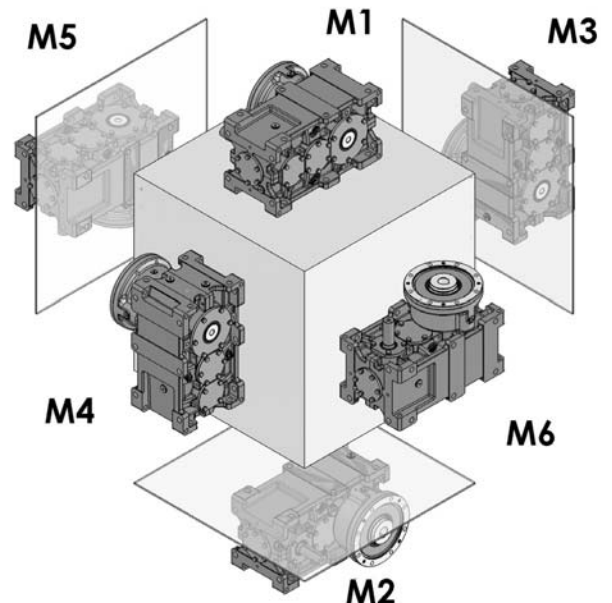
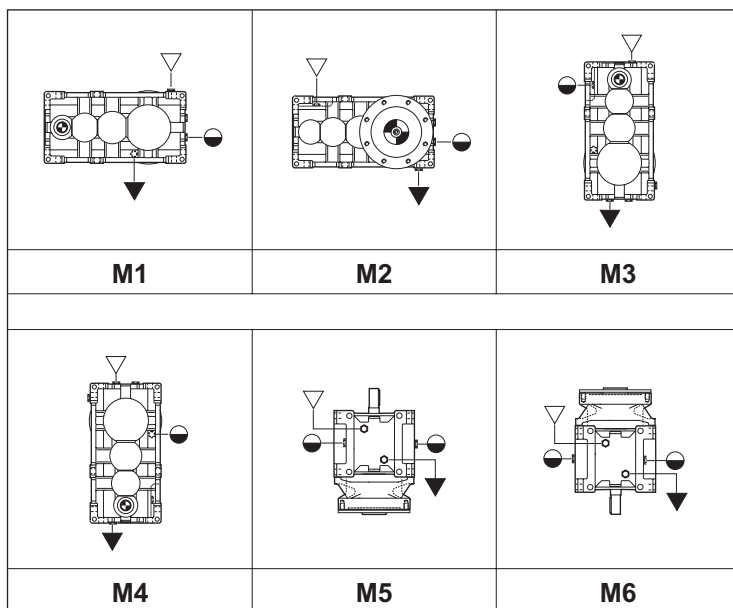
Lubrificantii sintetici per uso alimentare / Food-grade synthetic lubricants / Schmiermittel Synthetik für Lebensmittelbereich

AGIP				Rocol Foodlube Hi-Torque 150	—	Rocol Foodlube Hi-Torque 320			
ESSO				—	Gear Oil FM 220	—			
KLÜBER				Klüberoil 4 UH1 N 150	Klüberoil 4 UH1 N 220	Klüberoil 4 UH1 N 320			
MOBIL				DTE FM 150	DTE FM 220	DTE FM 320			
SHELL				Cassida Fluid GL 150	Cassida Fluid GL 220	Cassida Fluid GL 320			

Posizioni di montaggio

Mounting positions

Einbaulagen



N.B. schema rappresentato anche per 2 stadi
NOTE Diagram applies to double reduction units as well
HINWEIS: Schema auch für 2 und 3 Stufen gültig

- ▽ Carico / Filler plug / Einfüllschraube
- ▼ Livello / Level plug / Schauglas
- Scarico / Drain plug / Ablassschraube

L'esecuzione grafica rappresentata è la BUS.
Per le altre esecuzioni grafiche vedere sezione POSIZIONI MONTAGGIO.
The noted version is BUS.
To see further alternatives please refer to section MOUNTING POSITIONS.
Die dargestellte Version ist BUS.
Für die anderen Versionen siehe MONTAGEPOSITIONEN.

		Quantità di lubrificante / Lubricant Quantity / Schmiermittelmenge (l)									
		802	804	806	808	810	812	814	816	818	820
RXP2	M1 - M2	3.3	4.7	6.5	9	13	18	25	35	49	69
	M3	6.1	8.6	12	17	24	34	48	68	95	133
	M4	5.1	7.2	10	15	20	29	40	56	80	114
	M5 - M6	4.6	6.5	9.4	13	18	25	35	50	70	99
RXP3	M1 - M2	3.9	5.5	7.6	11	15	21	29	41	58	81
	M3	8.1	11	15	22	32	44	62	87	125	175
	M4	6.6	9.2	13	18	26	36	50	71	102	144
	M5 - M6	5.1	7.3	10	14	20	28	40	56	79	111

Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

Bei den Ölmengenangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den am Getriebe gekennzeichneten Füllstand genommen werden.

ATTENZIONE

Eventuali forniture con predisposizioni tappi diverse da quella indicata in tabella, dovranno essere concordate.

WARNING

Any plug arrangements other than that indicated in the table must be agreed upon.

ACHTUNG

Eventuelle Lieferungen mit einer von den Tabellenangaben abweichenden Anordnung der Stopfen, müssen zuvor abgestimmt werden.

Lubrificazione cuscinetti superiori

Upper bearing lubrication

Lubrificazione cuscinetti superiori

La lubrificazione forzata dei cuscinetti superiori viene associata alla lubrificazione forzata degli ingranaggi nel caso quest'ultima sia necessaria.

Forced lubrication for upper bearings is normally associated with forced lubrication for the gears, where necessary.

Forced lubrication for upper bearings is normally associated with forced lubrication for the gears, where necessary.

Pos. Mont. M5 - M6

Mntg. Pos. M5 - M6

Einbaulage M5 - M6

	n ₁ [min ⁻¹]	Grandezza / Size / Baugröße					
		802-810	812	814	816	818	820
RXP3	1751 - n _{1max}	G		LFM2		LFM2	
	1000 - 1750	G					
	0 - 999	G					
RXP2	1751 - n _{1max}	G		LFM2			LFM2
	1000 - 1750	G					
	0 - 999	G					

I valori di n_{1max} sono riportati nel paragrafo Verifiche, punto 5).

n_{1max} values are listed at paragraph Verification point 5).

n_{1max} values are listed at paragraph Verification point 5).

	l/min	Motor	P (kW)	A
LFM1	0.5	71A4	0.25	172
LFM2	5			
LFM2				

LFM.: Motopompa (vedi sezione accessori e opzioni).

LFM.: Motor pump (see Section Accessories and Options).

LFM.: Motorpumpe (siehe Abschnitt Zubehör und Optionen).

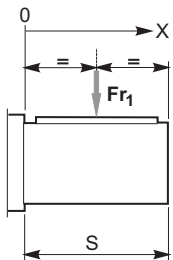
1.7 Verifica carichi radiali e assiali

Qualora il collegamento tra riduttore e macchina motrice sia effettuato con mezzi che generano carichi radiali sull'estremità d'albero veloce, occorre fare le seguenti verifiche.

Calcolo Fr_1'

I carichi massimi F_{r1} sono calcolati con $F_s=1$ ed a una distanza dalla battuta dell'albero di $0.5 S$ se albero veloce o $0.5 R$ se albero lento.

Per distanze variabili tra 0 e una distanza "X" bisogna utilizzare le tabelle seguenti.



$$Fr_1' = Fr_1 \cdot \left(\frac{B}{B + X - \frac{S}{2}} \right)$$

1.7 Overhung and thrust load verification

When a gear unit is connected to prime mover or driven machine using overhung drive members that place a radial load on input or output shaft end, check the following loads.

Fr_1' calculation

Load capacity ratings F_{r1} consider a service factor $F_s=1$ and load location at a distance from shaft shoulder of $0.5 S$ for input shafts or $0.5 R$ for output shafts.

Where load is applied at a distance from shoulder between 0 and an "X" distance, refer to the following tables.

1.7 Überprüfung der Radial- und Axialkräfte

Erfolgt die Verbindung zwischen Getriebe und Kraft- oder Arbeitsmaschine mit Vorrichtungen, die Radialkräfte auf das Ende der Antriebswelle ausüben, sind folgende Überprüfungen erforderlich.

Berechnung von Fr_1'

Die maximalen Belastungskräfte F_{r1} werden mit $F_s=1$ und auf einem Abstand vom Wellenansatz von $0.5 S$ im Fall der Antriebswelle oder $0.5 R$ im Fall der Abtriebswelle berechnet.

Bei zwischen 0 und einer Distanz "X" variierenden Abständen müssen folgende Tabellen verwendet werden.

X [mm]	Distanza dalla battuta dell'albero	Distance from shaft shoulder	Distanz vom Wellenansatz
Fr_1' [N]	Carico radiale ammissibile su albero entrata alla distanza X	Permissible input shaft OHL at distance X	An Antriebswelle auf Distanz X zulässige Radialkraft
Fr_1 [N]	Carico radiale ammissibile su albero entrata indicato a catalogo	Input shaft OHL capacity as per catalogue rating	An Antriebswelle gemäß Katalogangaben zulässige Radialkraft
S [mm]	Sporgenza dell'albero entrata	Input shaft projection	Überstand der Antriebswelle
B	Coefficiente da tabella	Load location factor from table	Koeffizient aus Tabelle

Coefficienti correttivi del carico radiale di catalogo in entrata F_{r1} in funzione della distanza dalla battuta
 Load location factors to adjust input OHL capacity rating Fr_1 based on distance from shoulder
 Korrekturkoeffizient der Radialkraft am Antrieb Fr_1 gemäß Katalog in Abhängigkeit des Ansatzabstands

	Size	802	804	806	808	810	812	814	816	818	820
B	RXP2	68	75	85	95	105	120	136	152	172	190
	RXP3	87	98	110	121	142	155	173	195	212	240

Calcolo Fr

Per calcolare il carico Fr agente sull'albero veloce diamo formule approssimate per alcune trasmissioni più comuni.

Fr calculation

Use the formula and the approximate factors for the most common drive members to calculate Fr load at input shaft.

Berechnung von Fr

Für die Berechnung der auf die Antriebswelle wirkenden Last Fr geben wir nachstehend approximative Formeln, die bei den am häufigsten verwendeten Antriebsarten verwendet werden können.

$Fr = k \cdot \frac{T}{d}$	Fr [N] Carico radiale approssimato Approximate overhung load Approx. Wert - Radialkraft	d [mm] Diametro pulegge, ruote Pulley diameter, wheels Durchmesser Räder, Riemenscheiben	k Fattore di collegamento Connection factor Anschlusswert	T [Nm] Momento torcente Torque Drehmoment	
k =	7000	5000	3000	2120	2000
Trasmissioni Drive member Antriebe	Ruote di frizione (gomma su metallo) Friction wheel drive (rubber on metal) Kupplungsräder (Gummi auf Metall)	Cinghie trapezoidali V belt drives Keilriemen	Cinghie dentate Toothed belts Zahnriemen	Ingranaggi cilindrici Spur gears Zylinderzahnäder	Catene Chain drives Ketten

Verifiche

Caso A)

Per carichi radiali minori di $0.25 Fr_1'$ è necessario verificare soltanto che contemporaneamente al carico radiale sia presente un carico assiale non superiore a 0.2 volte Fr_1' ;

Caso B)

Per carichi radiali maggiori di $0.25 Fr_1'$

1) Calcolo abbreviato: $Fr (input) < Fr_1'$ e che contemporaneamente al carico radiale sia presente un carico assiale non superiore a 0.2 volte Fr_1' ;

2) Calcolo completo per il quale occorre fornire i seguenti dati:

- momento torcente applicato o potenza applicata
- n_1 (giri al minuto dell'albero veloce)
- carico radiale Fr (direzione, intensità, verso)

Verification

Case A)

For overhung loads lower than $0.25 Fr_1'$, ensure that the thrust load applied simultaneously with OHL is not greater than 0.2 times Fr_1' ;

Case B)

For overhung loads greater than $0.25 Fr_1'$

1) Quick calculation method: $Fr (input) < Fr_1'$ and thrust load applied simultaneously with OHL not greater than 0.2 times Fr_1' ;

2) For the standard calculation method, the following information is required:

- applied torque or power
- n_1 (input shaft rpm)
- overhung load Fr (orientation, amount of loading, direction)

Überprüfungen

Fall A)

Bei Radialkräften unter $0.25 Fr_1'$ muss nur überprüft werden, dass gleichzeitig mit der Belastung durch die Radialkraft auch eine Axialkraft von nicht mehr als 0.2 Mal Fr_1' vorliegt.

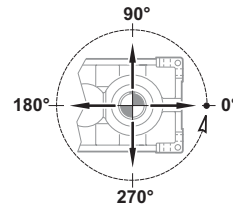
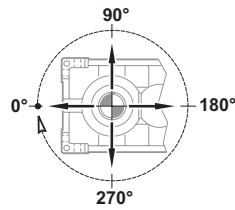
Fall B)

Bei Radialkräften über $0.25 Fr_1'$

1) Verkürzte Berechnungsgleichung: $Fr (input) < Fr_1'$ und dass gleichzeitig mit der Belastung durch die Radialkraft auch eine Axialkraft von nicht mehr als 0.2 Mal Fr_1' vorliegt.

2) Vollständige Berechnungsgleichung für die folgende Daten erforderlich sind:

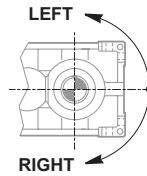
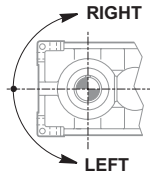
- appliziertes Drehmoment oder applizierte Leistung
- n_1 (Drehungen/Minute der Antriebswelle)
- Radialkraft Fr (Richtung, Intensität, Seite)



-senso di rotazione dell'albero

-direction of rotation of shaft

- Drehrichtung der Welle



- grandezza e tipo del riduttore scelto

- tipo olio impiegato e sua viscosità

- esecuzione grafica assi:
- carico assiale presente F_a

- size and type of selected gear unit

- oil type and viscosity

- shaft arrangement:
- actual thrust load F_a

- Baugröße und Typ des gewählten Getriebes

- verwendeter Öltyp und dessen Viskositätsgrad

- grafische Achsausführung
- vorliegende Axialkraft F_a

Consultare il supporto Tecnico per la verifica.

Please contact Engineering for a verification.

Für eine Überprüfung die Technischen Unterlagen konsultieren.



1.8 Prestazioni riduttori RXP2

1.8 RXP2 gear unit ratings

1.8 Leistungen der RXP1-Getriebe

n_1 min ⁻¹	802					804					806				
	ir	n_2 min ⁻¹	P_N kW	T_N kNm	F_{a2} F_{r1} kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	F_{a2} F_{r1} kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	F_{a2} F_{r1} kN
1450	4.60	315	100	2.9	69 3	4.63	313	144	4.2	79 5.7	4.46	325	206	5.8	98 6.6
1000		217	73	3.1			216	99	4.2			224	142	5.8	
500		109	37	3.1			108	49	4.2			112	71	5.8	
1450	5.24	277	91	3.0	71 3	5.14	282	132	4.3	82 5.7	4.94	294	192	6.0	101 6.6
1000		191	65	3.1			194	93	4.4			202	133	6.0	
500		95	33	3.2			97	47	4.4			101	66	6.0	
1450	5.70	254	83	3.0	74 3.2	5.72	253	119	4.3	86 6	5.48	265	182	6.3	105 6.8
1000		175	59	3.1			175	84	4.4			183	125	6.3	
500		88	31	3.2			87	44	4.6			91	63	6.3	
1450	6.37	228	77	3.1	77 3.2	6.38	227	109	4.4	89 6	6.08	238	172	6.6	109 6.8
1000		157	53	3.1			157	75	4.4			164	118	6.6	
500		79	27	3.2			78	39	4.6			82	59	6.6	
1450	7.13	203	69	3.1	80 3.3	7.14	203	97	4.4	93 6.2	7.16	203	146	6.6	113 7.2
1000		140	47	3.1			140	69	4.5			140	102	6.7	
500		70	24	3.2			70	35	4.6			70	53	7.0	
1450	8.01	181	61	3.1	83 3.3	8.02	181	87	4.4	96 6.2	8.49	171	125	6.7	117 7.2
1000		125	42	3.1			125	61	4.5			118	87	6.8	
500		62	22	3.3			62	31	4.6			59	45	7.0	
1450	9.05	160	54	3.1	86 3.5	9.06	160	77	4.4	99 6.5	9.00	161	118	6.7	122 7.6
1000		110	39	3.2			110	54	4.5			111	82	6.8	
500		55	19.9	3.3			55	28	4.7			56	43	7.1	
1450	10.3	141	48	3.1	89 3.5	10.3	141	69	4.5	103 6.5	10.2	142	104	6.7	126 7.6
1000		97	34	3.2			97	48	4.5			98	74	6.9	
500		49	17.5	3.3			49	25	4.7			49	38	7.1	
1450	11.8	123	43	3.2	92 3.6	11.0	132	65	4.5	106 6.8	11.6	125	93	6.8	130 7.8
1000		85	30	3.2			91	46	4.6			86	65	6.9	
500		42	15.3	3.3			45	23	4.7			43	34	7.2	
1450	12.7	115	40	3.2	95 3.6	12.6	115	56	4.5	110 6.8	12.4	117	87	6.8	134 7.8
1000		79	28	3.2			79	40	4.6			81	61	6.9	
500		39	14.2	3.3			40	21	4.8			40	32	7.2	
1450	13.6	106	37	3.2	96 3.8	13.6	107	52	4.5	113 7	14.3	101	76	6.9	139 8
1000		73	26	3.2			73	37	4.6			70	53	7.0	
500		37	13.2	3.3			37	19.2	4.8			35	27	7.2	
1450	16.0	91	32	3.2	102 3.8	15.9	91	46	4.6	118 7	15.5	94	71	6.9	145 8
1000		63	23	3.3			63	31	4.6			65	49	7.0	
500		31	11.6	3.4			31	16.4	4.8			32	26	7.3	
1450	17.4	83	29	3.2	106 4	17.3	84	42	4.6	123 7.3	18.2	79	60	6.9	150 8.3
1000		57	21	3.3			58	30	4.7			55	42	7.1	
500		29	10.7	3.4			29	15.1	4.8			27	22	7.3	
1450	19.0	76	27	3.2	109 4	19.0	76	38	4.6	126 7.3	19.9	73	56	7.0	154 8.3
1000		53	18.9	3.3			53	27	4.7			50	39	7.1	
500		26	9.7	3.4			26	14.1	4.9			25	20	7.3	
1450	21.0	69	24	3.2	114 4	20.9	69	35	4.6	132 7.3	21.9	66	50	7.0	160 8.3
1000		48	17.2	3.3			48	25	4.7			46	35	7.1	
500		24	8.9	3.4			24	12.8	4.9			23	18.4	7.4	
1450	23.2	62	22	3.3	117 4	23.1	63	31	4.6	135 7.3	24.3	60	46	7.0	165 8.3
1000		43	15.5	3.3			43	22	4.7			41	32	7.2	
500		22	8.0	3.4			22	11.5	4.9			21	16.6	7.4	
Potenze termiche / Thermal power / Thermische Grenzleistung PtN [kW] (senza raffreddamento / Without cooling / ohne Kühlung)															
30					39					51					

1.8 Prestazioni riduttori RXP2

1.8 RXP2 gear unit ratings

1.8 Leistungen der RXP1-Getriebe

n ₁ min ⁻¹	808					810					812				
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fa ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fa ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fa ₂ Fr ₁ kN
1450	4.44	326	285	8.0	135 9.1	4.52	321	385	11.0	158 11.4	4.53	320	471	13.5	217 14.9
1000		225	206	8.4			221	297	12.3			221	364	15.1	
500		113	103	8.4			111	152	12.6			110	210	17.4	
1450	4.94	293	285	8.9	140 9.1	5.03	288	374	11.9	163 11.4	5.04	288	474	15.1	224 14.9
1000		202	196	8.9			199	280	12.9			198	366	16.9	
500		101	98	8.9			99	143	13.2			99	198	18.3	
1450	5.50	264	267	9.3	144 9.5	5.60	259	356	12.6	169 11.7	5.61	258	468	16.6	231 15.2
1000		182	184	9.3			179	253	13.0			178	363	18.7	
500		91	92	9.3			89	132	13.5			89	186	19.1	
1450	6.13	236	242	9.4	149 9.5	6.24	232	324	12.8	175 11.7	6.27	231	439	17.4	239 15.2
1000		163	169	9.5			160	229	13.1			160	338	19.4	
500		82	86	9.7			80	118	13.5			80	174	20.0	
1450	7.26	200	207	9.5	155 9.8	6.98	208	292	12.9	181 12	7.02	207	412	18.3	247 15.6
1000		138	144	9.6			143	206	13.2			143	303	19.5	
500		69	75	10.0			72	106	13.6			71	157	20.2	
1450	8.16	178	184	9.5	160 9.8	8.31	175	248	13.0	188 12	7.89	184	381	19.0	256 15.6
1000		123	130	9.7			120	175	13.3			127	271	19.6	
500		61	67	10.0			60	90	13.7			63	140	20.3	
1450	9.22	157	165	9.6	166 10.3	9.38	155	221	13.1	194 12.8	8.91	163	344	19.4	266 16.3
1000		108	115	9.7			107	156	13.4			112	242	19.8	
500		54	60	10.1			53	80	13.8			56	125	20.5	
1450	9.82	148	155	9.6	171 10.3	9.99	145	209	13.2	201 12.8	10.1	143	305	19.5	274 16.3
1000		102	109	9.8			100	146	13.4			99	214	19.9	
500		51	56	10.1			50	76	13.9			49	111	20.6	
1450	11.2	129	137	9.7	177 10.5	11.4	127	183	13.2	208 13	11.6	125	269	19.7	284 18.5
1000		89	95	9.8			88	129	13.5			86	188	20.0	
500		45	50	10.2			44	67	14.0			43	97	20.7	
1450	12.0	121	128	9.7	183 10.5	12.2	119	172	13.3	214 13	12.5	116	250	19.7	293 18.5
1000		83	90	9.9			82	121	13.5			80	176	20.1	
500		42	46	10.2			41	63	14.0			40	91	20.8	
1450	13.9	104	112	9.8	189 10.8	14.1	103	150	13.4	222 13.3	14.5	100	217	19.9	303 18.8
1000		72	78	9.9			71	105	13.6			69	152	20.2	
500		36	40	10.3			35	54	14.1			34	79	21.0	
1450	16.3	89	95	9.8	198 10.8	16.6	88	129	13.5	232 13.3	15.7	92	201	20.0	317 16.8
1000		61	67	10.0			60	90	13.7			64	141	20.3	
500		31	35	10.4			30	47	14.2			32	73	21.0	
1450	17.7	82	88	9.9	205 11.2	18.0	80	118	13.5	240 13.5	17.1	85	185	20.0	328 16.8
1000		56	62	10.1			55	83	13.8			58	130	20.4	
500		28	32	10.4			28	43	14.3			29	67	21.1	
1450	19.4	75	81	9.9	211 11.2	19.7	73	109	13.6	246 13.5	18.7	77	170	20.1	337 17.2
1000		52	57	10.1			51	77	13.9			53	119	20.5	
500		26	30	10.5			25	40	14.3			27	62	21.2	
1450	21.3	68	74	10.0	219 11.2	21.7	67	100	13.7	257 13.5	20.6	70	155	20.2	351 17.2
1000		47	52	10.2			46	70	13.9			48	109	20.6	
500		23	27	10.5			23	36	14.4			24	56	21.3	
1450	23.6	61	67	10.0	226 11.2	24.1	60	90	13.7	254 13.5	22.8	63	141	20.3	361 17.2
1000		42	47	10.2			42	63	14.0			44	99	20.7	
500		21	24	10.6			21	33	14.5			22	51	21.4	
Potenze termiche / Thermal power / Thermische Grenzleistung PtN [kW] (senza raffreddamento / Without cooling / ohne Kühlung)															
		66				82				104					



1.8 Prestazioni riduttori RXP2

1.8 RXP2 gear unit ratings

1.8 Leistungen der RXP1-Getriebe

n ₁ min ⁻¹	814					816					818					820				
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fa ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fa ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fa ₂ Fr ₁ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fa ₂ Fr ₁ kN
1450	4.60	315	653	19.0	252 17.5	4.63	313	888	26.0	280 20.3	4.46	325	1284	36.2	347 27.7	4.44	326	2402	67.5	447 36.5
1000		217	505	21.3			216	686	29.1			224	991	40.5			225	1657	67.5	
500		109	288	24.3			108	402	34.1			112	564	46.1			113	828	67.5	
1450	5.12	283	652	21.1	260 17.5	5.14	282	883	28.7	289 20.3	4.94	294	1265	39.5	360 27.7	4.94	293	2266	70.8	465 36.5
1000		195	503	23.6			194	681	32.1			202	974	44.1			202	1563	70.8	
500		98	271	25.4			97	379	35.7			101	533	48.3			101	781	70.8	
1450	5.70	254	624	22.5	269 17.8	5.72	253	862	31.2	300 20.6	5.48	265	1233	42.7	374 28.5	5.50	264	2134	74.2	482 37.4
1000		175	490	25.6			175	667	35.0			183	952	47.8			182	1472	74.2	
500		88	254	26.6			87	355	37.3			91	503	50.5			91	736	74.2	
1450	6.37	228	584	23.5	279 17.8	6.38	227	805	32.5	310 20.6	6.42	226	1158	47.0	389 28.5	6.13	236	1942	75.3	499 37.4
1000		157	454	26.5			157	634	37.1			156	845	49.7			163	1364	76.7	
500		79	235	27.4			78	332	38.9			78	457	53.8			82	690	77.6	
1450	7.13	203	543	24.5	289 18.2	7.14	203	751	33.9	321 21	7.16	203	1099	49.7	404 29.2	7.26	200	1656	76.0	517 38.2
1000		140	408	26.7			140	583	38.2			140	854	56.0			138	1163	77.4	
500		70	211	27.6			70	302	39.5			70	427	56.0			69	602	80.1	
1450	8.01	181	501	25.4	299 18.2	8.02	181	692	35.1	333 21	8.01	181	1013	51.3	418 29.2	8.16	178	1481	76.4	536 38.2
1000		125	365	26.8			125	522	38.4			125	772	56.7			123	1040	77.8	
500		62	189	27.8			62	271	39.8			62	396	58.2			61	539	80.6	
1450	9.05	160	459	26.3	310 18.5	9.06	160	634	36.3	345 21.5	9.00	161	928	52.8	433 30	9.22	157	1320	76.9	555 39
1000		110	325	27.0			110	466	38.7			111	691	57.0			108	927	78.3	
500		55	168	27.9			55	241	40.0			56	357	59.0			54	480	81.1	
1450	10.3	141	410	26.7	320 18.5	10.3	141	577	37.5	356 21.5	10.2	142	845	54.4	447 30	9.82	148	1242	77.1	573 39
1000		97	288	27.2			97	413	38.9			98	615	57.4			102	873	78.6	
500		49	149	28.1			49	214	40.3			49	318	59.4			51	452	81.3	
1450	11.8	123	360	26.8	331 19	11.0	132	551	38.3	368 22	11.6	125	763	55.9	463 31	11.2	129	1096	77.6	593 40
1000		85	253	27.3			91	387	39.0			86	543	57.7			89	770	79.1	
500		42	131	28.3			45	200	40.4			43	281	59.8			45	399	81.9	
1450	12.7	115	336	26.9	342 19	12.6	115	483	38.6	380 22	12.4	117	725	56.9	478 31	12.9	113	960	78.2	612 40
1000		79	236	27.4			79	339	39.3			81	509	57.9			78	674	79.6	
500		39	122	28.4			40	176	40.7			40	264	60.0			39	349	82.5	
1450	13.6	106	313	27.0	354 19.5	13.6	107	450	38.7	393 22.5	14.3	101	633	57.3	494 32	15.0	97	831	78.8	633 41
1000		73	220	27.5			73	316	39.5			70	445	58.4			67	584	80.3	
500		37	114	28.5			37	163	40.8			35	230	60.4			33	302	83.1	
1450	16.0	91	269	27.2	369 19.5	15.9	91	387	39.0	410 22.5	15.5	94	588	57.5	516 32	16.3	89	769	79.1	659 41
1000		63	190	27.8			63	272	39.8			65	413	58.6			61	540	80.6	
500		31	98	28.7			31	141	41.2			32	214	60.6			31	280	83.4	
1450	17.4	83	249	27.4	382 20	17.4	84	357	39.2	425 23	18.2	79	503	58.0	535 33	17.7	82	709	79.4	682 42
1000		57	175	27.9			58	251	39.9			55	353	59.1			56	498	80.9	
500		29	91	28.9			29	130	41.3			27	183	61.1			28	258	83.8	
1450	19.0	76	228	27.5	399 20	19.0	76	328	39.4	437 23	19.9	73	462	58.2	550 33	19.4	75	651	79.8	704 42
1000		53	160	28.0			53	230	40.1			50	324	59.3			52	457	81.3	
500		26	83	29.0			26	119	41.5			25	168	61.4			26	237	84.2	
1450	21.0	69	208	27.6	409 20	20.9	69	300	39.6	457 23	21.9	66	422	58.5	574 33	21.3	68	595	80.2	732 42
1000		48	146	28.1			48	210	40.3			46	296	59.6			47	418	81.7	
500		24	76	29.1			24	109	41.7			23	153	61.7			23	216	84.6	
1450	23.2	62	189	27.8	421 20	23.1	63	272	39.8	468 23	24.3	60	383	58.8	589 33	23.6	61	539	80.6	754 42
1000		43	133	28.3			43	191	40.5			41	269	59.9			42	379	82.1	
500		22	69	29.3			22	99	41.9			21	139	62.0			21	196	85.0	

Potenze termiche / Thermal power / Thermische Grenzleistung PtN [kW]
(senza raffreddamento / Without cooling / ohne Kühlung)

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1.10 Motori applicabili

1.10 Compatible motors

1.10 Applizierbare Motoren

		IEC														
		63	71	80	90	100	112	132	160	180	200	225	250	280	315	355
RXP2	802							o			*					
	804								o		*	*				
	806								o	o		*				
	808									o	o		*	*		
	810										o	o		*		
	812											o	o	*	*	
	814												o	o	*	*
	816													o		*
	818													o	o	*
	820														o	*
RXP3	802			o	o	o	o	o	*	*	*					
	804				o	o	o	o	o*	*	*	*				
	806					o	o	o	o	*	*	*				
	808					o	o	o	o	o	*	*	*	*		
	810					o	o	o	o	o		*	*	*	*	
	812					o	o	o	o	o	o	o	*	*	*	
	814							o	o	o	o	o	*	*	*	
	816							o	o	o	o	o	o	*	*	*
	818								o	o	o	o	o	o	*	*
	820								o	o	o	o	o	o	*	*



PAM...D (opzionale per RXP2 e RXP3 / optional for RXP2 e RXP3 / Optional für RXP2 e RXP3)



PAM... - PAM...G

* Accoppiamenti consentiti solamente in posizioni di montaggio M5 ed M6.

* Given motor/gearbox connections are possible only in presence of mounting positions M5 and M6.

* Die obengenannten motor/getriebe verbindungen sind nur bei einbau M5 und M6 moeglich.

N.B: Per ulteriori accoppiamenti non previsti a catalogo consultare il ns. servizio tecnico commerciale.

NOTE: For coupling with motors not listed in this catalogue, please contact our Sales Engineers.

HINWEIS: Für weitere, nicht im Katalog enthaltene Passungen, bitten wir Sie sich mit unseren Technischen Kundendienst in Verbindung zu setzen.

I motori autofrenanti di taglia maggiore o uguale a 160 accoppiati agli RXP3 devono essere supportati anche con l' ausilio dei propri piedi (B3-B5).

The brake motors above size 160 (included) coupled with RXP3 must be supported by their own mounting feet as well (B3-B5).

Bremsmotoren ab Groesse 160 (inbegriffen) die am getriebe RXP3 angebaut werden, muessen eigene Fuesse haben (B3-B5).

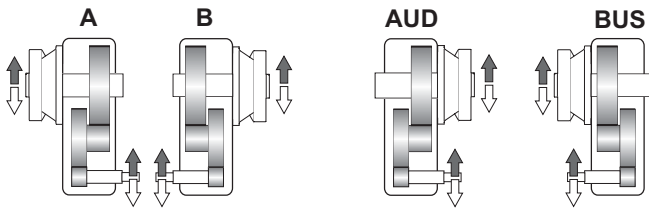
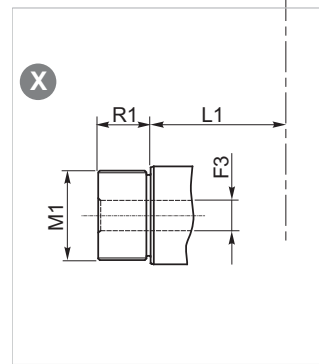
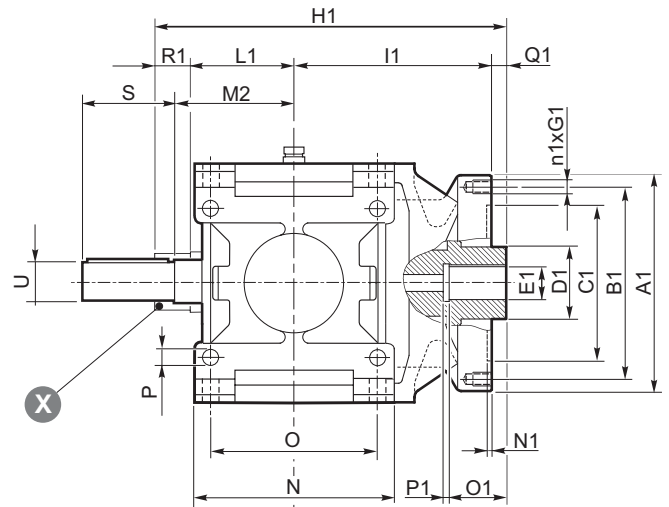
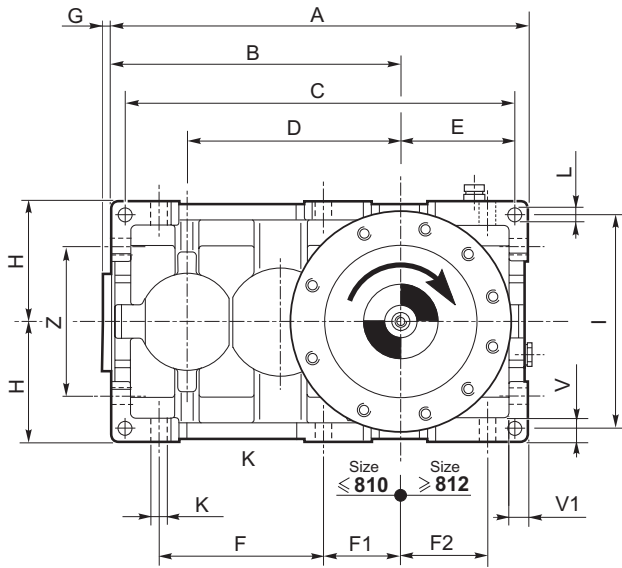


1.11 Dimensioni

1.11 Dimensions

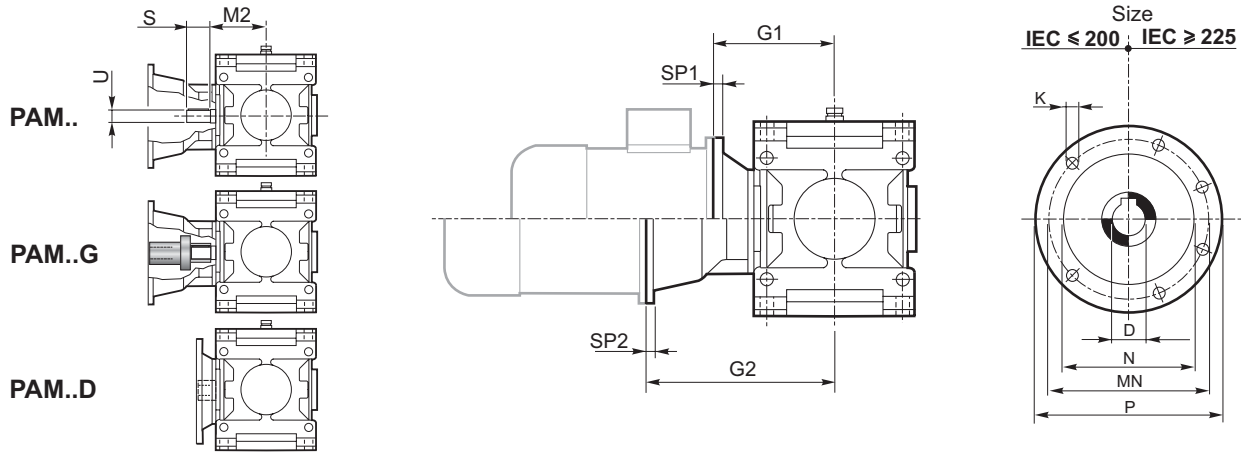
1.11 Abmessungen

802 - 820



	Riduttore/ Gear unit / Getriebe																					
	A	B	C	D	E	F	F1	F2	G	H h11	I	K	L	M2	N h11	O	P	S	U	V	V1	Z
802	435	305	407	225	116	172.5	82.5	90	16	125	224	18	14	109	213	180	18	80	32 k6	25	20	160
804	492	342	460	252	134	195	91	103.5	17	140	250	20	16	121	237	200	20	80	35 k6	28	22.5	180
806	555	385	521	285	153	219.5	102.5	117	19	160	280	22	18	137	269	225	22	112	45 k6	32	25	200
808	622	432	584	320	171	246	116	130	20	180	320	25	20	151	297	250	25	112	50 k6	36	28	224
810	695	485	655	360	190	275	130	145	23	200	360	27	22	170	335	280	27	125	55 m6	40	32	250
812	785	545	740	405	217.5	307.5	147.5	159.5	25	225	400	30	24	192	379	315	30	140	60 m6	45	36	280
814	875	610	825	450	240	345	165	180	28	250	450	33	27	216	427	355	33	140	65 m6	50	40	320
816	985	685	929	505	272	388	185	202.5	30	280	500	36	30	242	479	400	36	160	70 m6	56	45	360
818	1110	770	1046	570	308	437.5	207.5	230	34	315	560	39	35	273	541	450	39	180	80 m6	63	50	400
820	1245	865	1173	640	344	492.5	232.5	259.5	36	355	638	42	39	302	599	500	42	180	90 m6	70	56	450

	Riduttore/ Gear unit / Getriebe																		thrust max load	Kg
	A1	B1	C1	D1	E1	F3	G1	H1	I1	L1	M1	M3	N1	n1	O1	P1	Q1	R1		
802	230	205	180	80	32	24	M12x25	312	205	113	M50x1.5	—	5	8	72	8	8	30	29415	100
804	260	230	200	90	38	27	M12x25	333	230	124	M50x1.5	—	5	8	72	8	8	30	29417	144
806	300	260	230	110	42	29	M16x35	391	260	140	M65x2	—	6	8	72	8	17	40	29420	199
808	350	300	260	130	48	34	M20x40	429	290	157	M65x2	—	6	8	100	10	17	40	29424	278
810	380	330	290	140	60	42	M20x40	491	320	175	M85x2	—	6	8	100	10	18	50	29428	385
812	400	350	310	160	70	55	M20x40	596	355	188	M85x2	—	6	12	130	10	18	50	29430	538
814	450	400	365	170	80	55	M24x50	669	405	212	M85x2	—	8	12	130	10	20	50	29434	743
816	500	450	400	180	90	60	M24x50	733	445	240	M90x2	—	8	12	150	10	20	50	29436	1022
818	600	500	450	190	100	60	M24x50	804	490	270	M90x2	—	8	12	168	12	20	50	29440	1430
820	680	600	520	200	110	80	M30x60	886	560	302	M120x2	—	10	12	188	12	24	50	29452	1992

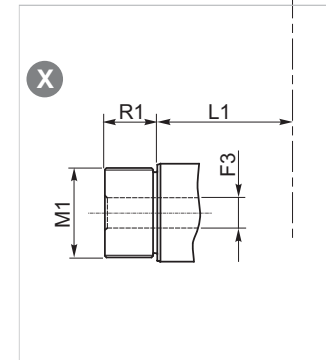
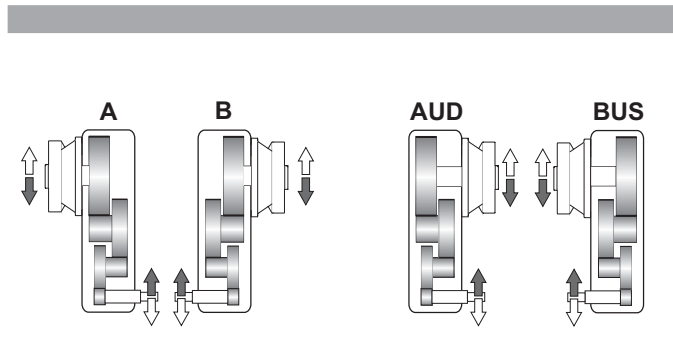
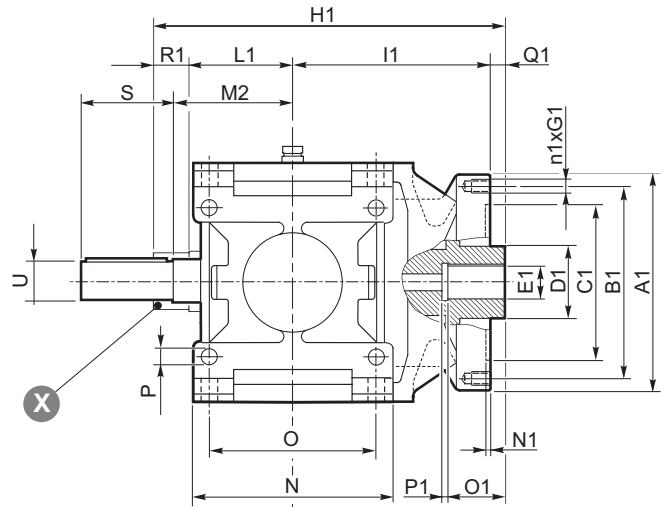
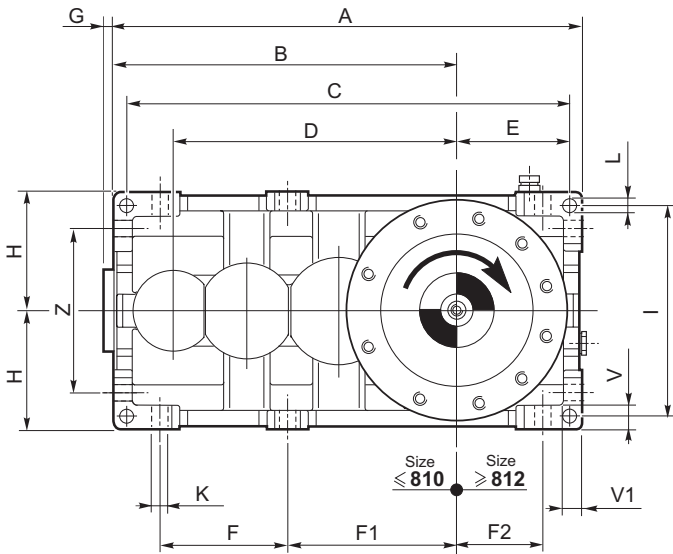


NB: Applicabilità motori al punto 1.10 / Possible assembly to IEC motors (see paragraph 1.10) / Möglicher einbau auf IEC elektromotoren (siehe 1.10)

		IEC													
		14	19	24	28	28	38	42	48	55	60	65	75	80	100
D H7		14	19	24	28	28	38	42	48	55	60	65	75	80	100
P		160	200	200	250	250	300	350	350	400	450	550	550	660	800
MN		130	165	165	215	215	265	300	300	350	400	500	500	600	740
N G6		110	130	130	180	180	230	250	250	300	350	450	450	550	680
K		M8	M10	M10	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20
SP/SP2		12/12	12/12	12/12	14/14	14/14	16/16	18/18	18/18	20/20	20/20	20/20	20/20	24/24	
G1/G2	802						170/273	— /303	— /303	— /303					
	804							205/315	— /315	— /315	— /345				
	806							195/363	205/363	— /363	— /393				
	808								205/377	215/377	— /407	— /407	— /407		
	810									205/409	245/439	— /439	— /439		
	812										240/476	250/476	— /476	— /506	
	814											235/500	250/500	— /530	— /570
	816												260/546	— /576	— /616
	818												260/597	290/627	— /667
	820													320/656	— /696

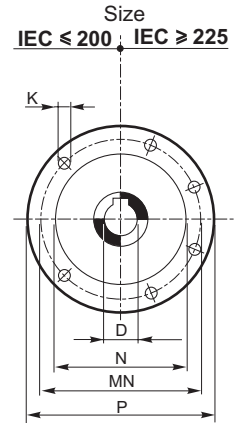
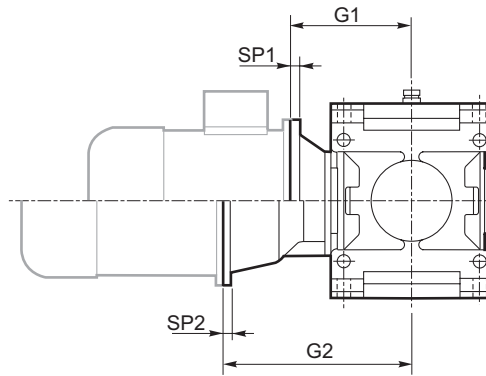
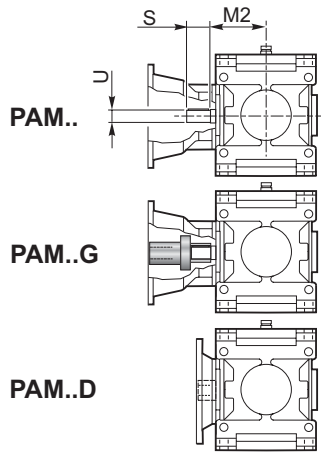


802 - 820



	Riduttore/ Gear unit / Getriebe																					
	A	B	C	D	E	F	F1	F2	G	H	I	K	L	M2	N	O	P	S	U	V	V1	Z
802	498	368	470	305	116	136	182	90	12	125	224	18	14	109	213	180	18	63	24 j6	25	20	160
804	562	412	530	342	134	153	202.5	103.5	13	140	250	20	16	121	237	200	20	63	28 j6	28	22.5	180
806	635	465	601	385	153	173	229	117	16	160	280	22	18	137	269	225	22	80	32 k6	32	25	200
808	712	522	674	432	171	194	258	130	17	180	320	25	20	151	297	250	25	80	35 k6	36	28	224
810	795	585	755	485	190	216	288	145	19	200	360	27	22	170	335	280	27	112	45 k6	40	32	250
812	897	657	852	545	217.5	242	324.5	159.5	20	225	400	30	24	192	379	315	30	112	50 k6	45	36	280
814	1000	735	950	610	240	271	363	180	23	250	450	33	27	216	427	355	33	125	55 m6	50	40	320
816	1125	825	1069	685	272	305	407.5	202.5	25	280	500	36	30	242	479	400	36	140	60 m6	56	45	360
818	1270	930	1206	770	308	345	460	230	28	315	560	39	35	273	541	450	39	140	65 m6	63	50	400
820	1425	1045	1353	865	344	388	516.5	259.5	30	355	638	42	39	302	599	500	42	160	70 m6	70	56	450

	Riduttore/ Gear unit / Getriebe																	thrust max load	Kg	
	A1	B1	C1	D1	E1	F3	G1	H1	I1	L1	M1	M3	N1	n1	O1	P1	Q1			R1
802	230	205	180	80	32	24	M12x25	312	205	113	M50x1.5	—	5	8	72	8	8	30	29415	110
804	260	230	200	90	38	27	M12x25	333	230	124	M50x1.5	—	5	8	72	8	8	30	29417	157
806	300	260	230	110	42	29	M16x35	391	260	140	M65x2	—	6	8	72	8	17	40	29420	218
808	350	300	260	130	48	34	M20x40	429	290	157	M65x2	—	6	8	100	10	17	40	29424	310
810	380	330	290	140	60	42	M20x40	491	320	175	M85x2	—	6	8	100	10	18	50	29428	423
812	400	350	310	160	70	55	M20x40	596	355	188	M85x2	—	6	12	130	10	18	50	29430	591
814	450	400	365	170	80	55	M24x50	669	405	212	M85x2	—	8	12	130	10	20	50	29434	817
816	500	450	400	180	90	60	M24x50	733	445	240	M90x2	—	8	12	150	10	20	50	29436	1126
818	600	500	450	190	100	60	M24x50	804	490	270	M90x2	—	8	12	168	12	20	50	29440	1576
820	680	600	520	200	110	80	M30x60	886	560	302	M120x2	—	10	12	188	12	24	50	29452	2195



NB: Applicabilità motori al punto 1.10 / Possible assembly to IEC motors (see paragraph 1.10) / Moeglicher einbau auf IEC elektromotoren (siehe 1.10)

D H7	19	24	28	28	38	42	48	55	60	65	75	80	100	
P	200	200	250	250	300	350	350	400	450	550	550	660	800	
MN	165	165	215	215	265	300	300	350	400	500	500	600	740	
N G6	130	130	180	180	230	250	250	300	350	450	450	550	680	
K	M10	M10	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20	
SP1/SP2	12/12	12/12	14/14	14/14	16/16	18/18	18/18	20/20	20/20	20/20	20/20	24/24		
G1/G2	802	125/ —	125/226	125/236	125/236	195/256	— 286	— 286	— 286					
	804		135/ —	135/248	135/248	160/268	160/298	— 298	— 298	— 328				
	806			155/281	155/281	160/301	200/331	— 331	— 331	— 361				
	808			160/ —	160/ —	160/315	190/345	190/345	— 345	— 375	— 375	— 375		
	810			175/ —	175/ —	175/366	190/396	190/396	— 396	— 426	— 426	— 426	— 456	
	812			205/ —	205/ —	210/388	220/418	220/418	220/418	250/448	— 448	— 448	— 478	
	814					225/ —	225/455	225/455	230/455	250/485	— 485	— 485	— 515	
	816					245/ —	245/496	245/496	250/496	260/526	260/526	— 526	— 556	— 596
	818						280/ —	280/ —	280/527	280/557	290/557	290/557	— 587	— 627
	820						320/ —	320/ —	320/ —	320/606	320/606	320/606	— 636	— 676



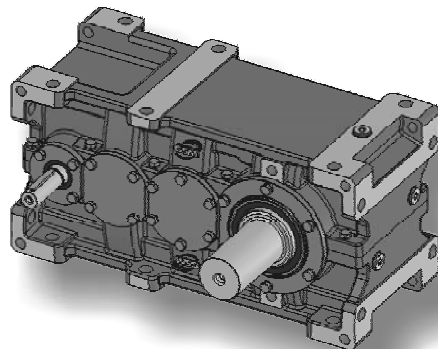
1.0 RIDUTTORI PER SOLLEVAMENTO
GEAR UNITS FOR LIFTING APPLICATIONS
GETRIEBE FÜR DEN HUBBETRIEB

RXP..LIFT

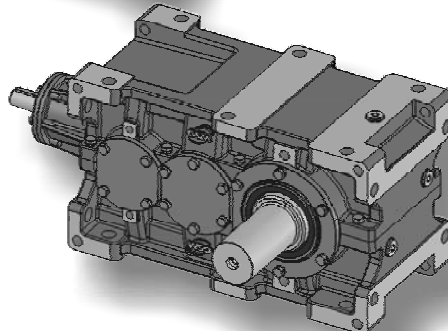
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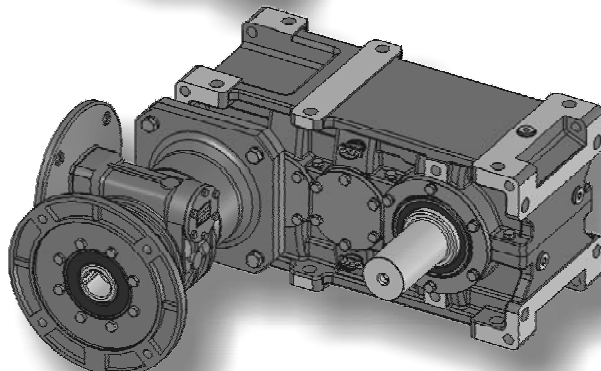
RXP



RXO



RXP/E



1.1 Caratteristiche costruttive

Generalità

Le dimensioni dei nostri riduttori e i rapporti di trasmissione seguono la serie dei numeri normali (serie di RENARD) Ra 20 UNI 2016.68. I particolari accorgimenti adottati nella costruzione della carcassa esterna conferiscono ai nostri riduttori un'ampia versatilità di montaggio.

La grande scelta disponibile del tipo di esecuzione ci permette di soddisfare anche le esigenze più particolari. L'elevato numero di rapporti di trasmissione, consente in alcuni casi di scegliere un riduttore di taglia inferiore. La suddivisione della carcassa in due parti e i coperchi fissati con viti consentono una facile manutenzione.

Il gruppo costituito da riduttore accoppiato a differenziale si presenta come compatta ed economica soluzione per le esigenze di doppia velocità: consente infatti di ottenere con due motorizzazioni due velocità distinte di sollevamento; una principale (alta velocità), l'altra secondaria per gli accostamenti (bassa velocità), stanti fra loro in un rapporto fisso intero selezionabile a richiesta fra 4 e 19. Il gruppo, realizzato appositamente per il funzionamento intermittente tipico del settore di applicazione, richiede che l'entrata non comandata venga frenata.

Ingranaggi

Gli ingranaggi cilindrici a dentatura elicoidale e le viti senza fine, sono rettificati dopo cementazione, tempra e rinvenimento finale.

L'ottimizzazione geometrica dell'ingranaggio unitamente ad una accurata lavorazione, assicura bassi livelli di rumorosità e garantisce elevati rendimenti:

- 0.92 per un riduttore a tre stadi di riduzione con differenziale in ingresso (rendimento dall'estremità principale del differenziale)

Tutti gli ingranaggi sono costruiti in:

- 16CrNi4, 20CrNi4, 18NiCrMo5, 20MnCr5 UNI 7846-78

La capacità di carico è stata calcolata a pressione superficiale e a rottura secondo la normativa ISO 6336 (a richiesta sono possibili verifiche secondo le norme AGMA 2001-C95)

La ruota a vite è in G-CuAl11Fe4 UNI 5274. L'ingranaggio a vite è stato verificato secondo le BS 721.

Alberi

Gli alberi lenti pieni sono realizzati in 39NiCrMo3 UNI 7845-78. Gli alberi veloci sono realizzati in 16 Cr Ni 4 UNI, 20MnCr5 UNI 7846-78 o in 39 Ni Cr Mo 3 UNI 7845-78.

1.1 Construction features

General description

Gear unit dimensions and transmission ratios follow a geometric progression based on the R20 series of preferred (or Renard) numbers in accordance with UNI 2016.68.

The casing incorporates special design features to provide the utmost mounting versatility.

Our exhaustive range of designs is guaranteed to meet the requirements of every application, no matter how specific. Our broad range of transmission ratios frequently allows selection of a smaller size. Split casing design and bolted covers ensure great ease of maintenance.

The gear unit is coupled with a differential unit to provide a compact, cost-effective solution for those applications that require two different lifting speeds, with a second approach (low) speed at a fixed ratio to main (high) speed. Speed ratios are whole numbers available in a range from 4 to 19. These units are expressly designed for intermittent duty - typically encountered in lifting applications - and require a brake on the non-driven input end.

Gearing

Helical spur gears and worm shafts are case hardened, hardened and tempered and ground finished.

Optimal gear geometry and high machining accuracy ensure low noise levels and higher efficiency:

- 0.92 for triple reduction gear unit with differential unit on input end (efficiency calculated from differential main shaft end)

All gear sets are in:

- 16CrNi4, 20CrNi4, 18NiCrMo5, 20MnCr5 UNI 7846-78

Load capacity is calculated at contact and root bending stress in accordance with standard ISO 6336 (gears can be rated to AGMA 2001-C95 on request).

Worm shafts are made from G-CuAl11Fe4 UNI 5274.

Worm gear calculations are validated to BS 721.

Shafts

Solid output shafts are manufactured from 39NiCrMo3 UNI 7845-78. Input shafts are made from 16 Cr Ni 4 UNI, 20MnCr5 UNI 7846-78 or 39 Ni Cr Mo 3 UNI 7845-78.

1.1 Konstruktionsmerkmale

Allgemeines

Die Baugrößen und Übersetzungen unserer Getriebe sind der normalen Nummernserie (RENARD Reihe) Ra 20 UNI 2016.68 gemäß ausgelegt.

Die besonderen Konstruktionsmerkmale der Gehäuse ermöglichen die Montage unserer Getriebe in den unterschiedlichsten Einbaulagen.

Das breite Angebot an Ausführungstypen versetzt uns in die Lage, auch den ausgefallenen Anforderungen unserer Kunden entsprechen zu können.

Die zahlreichen Übersetzungsverhältnisse räumen in einigen Fällen die Möglichkeit ein, ein kleineres Getriebe wählen zu können. Die zweiteiligen Gehäuse und die mit Schrauben befestigten Deckel erlauben eine einfache Wartung.

Die aus Getriebe und Differential bestehende Einheit ist eine kompakte und wirtschaftliche Lösung für Anwendungen, in denen zwei Geschwindigkeiten gefordert werden: Sie ermöglicht bei Einsatz von zwei Motorisierungen den Erhalt zwei unterschiedlicher Hubgeschwindigkeiten. Eine Hauptgeschwindigkeit (hoch) und eine sekundäre Geschwindigkeit für die Annäherungssteuerungen (niedrig). Diese stehen untereinander in einer festgelegten Verhältniseinheit, die auf Anfrage zwischen 4 und 19 gewählt werden kann. Diese Einheit, extra für den in diesem Applikationsbereich typischen Schaltbetrieb realisiert, erfordert ein Abbremsen des nicht gesteuerten Antriebs.

Zahnräder

Die das Evolventenprofil der Stirnrädergetriebe mit Schrägverzahnung und die Schnecken werden nach dem Einsatzhärten, dem Abschrecken und dem Anlassen geschliffen.

Die geometrische Optimierung des Zahnrads verbunden mit einer akkuraten Bearbeitung gewährleistet niedrige Geräuschentwicklung und einen hohen Wirkungsgrad:

- 0.92 bei Getrieben mit drei Getriebestufen und Differential am Antrieb (Wirkungsgrad am Hauptwellenende des Differentials)

Alle Zahnräder werden aus folgenden Material gefertigt:

- 16CrNi4, 20CrNi4, 18NiCrMo5, 20MnCr5 UNI 7846-78

Die Belastbarkeit wurde der Richtlinie ISO 6336 gemäß auf Oberflächendruck und Bruch berechnet (auf Anfrage können Überprüfungen den Normen AGMA 2001-C95 gemäß vorgenommen werden). Das Schneckenrad ist aus G-CuAl11Fe4 UNI5274 gefertigt und wurde gemäß BS 721 geprüft.

Wellen

Die vollen Abtriebswellen sind aus 39NiCrMo3 UNI 7845-78 realisiert. Die Antriebswellen dagegen aus 16 Cr Ni 4 UNI, 20MnCr5 UNI 7846-78 oder aus 39 Ni Cr Mo 3 UNI 7845-78.

Sono verificati a flessione-torsione con elevato coefficiente di sicurezza.

Le estremità d'albero cilindriche sono secondo UNI 6397-68, DIN 748, NF E 22.051, BS 4506-70, ISO/R 775-69, escluso corrispondenza R-S, con foro filettato in testa secondo DIN 1414.

Linguette secondo UNI 6604-69, DIN 6885 BI, 1-68, NF E 27.656 22.175, BS 4235.1-72, ISO/R 773-69 escluso corrispondenza I.

Cuscinetti

Tutti i cuscinetti sono del tipo a rulli conici o a rulli orientabili, di elevata qualità e dimensionati per garantire una lunga durata se lubrificati con il tipo di lubrificante previsto a catalogo.

Carcassa

La carcassa è ottenuta per fusione in GG 250 ISO 185 fino alla grandezza 820. Le altre grandezze sono in acciaio Fe430 EN UNI 10025 composto elettrosaldato e disteso. I particolari accorgimenti adottati nel disegno della struttura permettono di ottenere un' elevata rigidità.

1.2 Livelli di pressione sonora SPL [dB(A)]

Valori normali di produzione del livello medio di pressione sonora SPL (dB (A)) a velocità in entrata di 1450 giri/min (tolleranza +3 dB (A)). Valori misurati ad 1 m dalla superficie esterna del riduttore ed ottenuti su elaborazione di prove sperimentali eseguite. Per particolari esigenze è possibile fornire riduttori con livello medio di pressione sonora ridotto.

Shaft calculations incorporate a high safety factor and are validated by bending and torsional stress analyses.

Cylindrical shaft ends are in accordance with UNI 6397-68, DIN 748, NF E 22.051, BS 4506-70, ISO/R 775-69, excluding section R-S, with centre tapped hole at shaft end to DIN 1414.

Keys are in accordance with UNI 6604-69, DIN 6885 BI, 1-68, NF E 27.656 22.175, BS 4235.1-72, ISO/R 773-69 excluding section I.

Bearings

All bearings are high quality taper or self-aligning roller bearings suitably sized to ensure long service life provided the approved lubricants indicated in this catalogue are used.

Casing

Casings up to size 820 are cast from GG 250 ISO 185 cast iron. All other sizes use casings fabricated from electrically welded stress relieved Fe430 steel EN UNI 10025. Casing design incorporates special arrangements to provide superior rigidity.

1.2 Mean sound pressure levels SPL [dB(A)]

Noise levels are mean sound pressure levels SPL (dB (A)) and refer to normal operation at an input speed of 1450 rpm (tolerance +3 dB (A)). Measurements are taken at 1 m from the external surface of the gear unit and ratings are obtained by processing test data.

Gear units with lower noise levels to suit particular needs are available on request.

Sie werden unter Berücksichtigung eines hohen Sicherheitskoeffizienten auf Biegung-Windung getestet.

Die Enden der zylindrischen Wellen entsprechen den Normen UNI 6397-68, DIN 748, NF E 22.051, BS 4506-70, ISO/R 775-69, ausgenommen Zuordnung R-S, mit Gewindebohrung in der Wellenspitze DIN 1414. Die Federkeile entsprechen UNI 6604-69, DIN 6885 BI, 1-68, NF E 27.656 22.175, BS 4235.1-72, ISO/R 773-69, ausgenommen Zuordnung I.

Lager

Bei allen Lagern handelt es sich um hochqualitative Kegelrollenlager mit orientierungsfähigen Rollen und in Maßen, die so ausgelegt sind, dass sie bei Einsatz der gemäß Katalogangaben vorgesehenen Schmiermittel eine lange Lebensdauer garantieren.

Gehäuse

Die Gehäuse der Getriebe bis Baugröße 820 werden im Gussverfahren aus GG 250 ISO 185 gewonnen; die anderen Baugrößen sind aus elektroverschweißtem und entspanntem Kombistahl Fe430 EN UNI 10025 realisiert.

Die besonderen, beim Entwurf der Struktur berücksichtigten Vorkehrungen verleihen ihr eine besondere Steifheit.

1.2 Schalldruckpegel SPL [dB(A)]

Normale Werte des durchschnittlichen Schalldruckpegels SPL (dB (A)) bei einer Antriebsdrehzahl von 1450 U/min (Toleranz +3 dB (A)). Werte, die aus den Auswertungen der erfolgten experimentellen Tests, bei denen die Messung in 1 m Entfernung von der Getriebeoberfläche erfolgte, resultieren. Im Fall besonderer Anforderungen können Getriebe mit einem reduzierten durchschnittlichen Schalldruckpegel geliefert werden.

	RXPI/E		
	i < 40	40 ≤ i ≤ 100	i > 100
802	69	67	64
804	70	68	65
806	71	69	66
808	72	70	67
810	74	72	69
812	75	73	70
814	77	75	72
816	79	77	74
818	81	79	76
820	83	81	78

n ₁ [min ⁻¹]	2750	2400	2000	1750	1000	750	500	350
Δ SPL [dB(A)]	8	6	4	2	-2	-3	-4	-6

D



1.3 Selezione

I fattori di servizio da adottare per i diversi regimi di carico e durate (classi dei meccanismi) sono riportati inella tabella seguente nell'elaborazione della quale sono stati combinati i specifici criteri di selezione dei riduttori (durata, sovraccarichi, tipo di motorizzazione, frequenza avviamenti, velocità e affidabilità) con quelli dei meccanismi di sollevamento indicati dalle norme FEM 1.00/III'87 e ISO 4301/1.

1.3 Selection

Listed in the following table are the service factors according to load combinations and duty life (mechanism classification). These service factors are based on a combination of gear unit selection criteria (operation time, overload, type of motor drive, starts/stops per hour, speed and safety factor) and the specific selection criteria for lifting mechanisms in accordance with FEM 1.00/III'87 and ISO 4301/1.

1.3 Auswahl

Die für die verschiedenen Belastungen und Standzeiten anzusetzenden Betriebsfaktoren (Klassen der Mechanismen) werden in der folgenden Tabelle angegeben. Bei der Ausarbeitung dieser Tabelle wurden die spezifischen, von den Normen FEM 1.00/III'87 und ISO 4301/1 vorgegebenen Kriterien für die Getriebewahl (Standzeit, Überlastungen, Motorisierungstyp, Anlauf-frequenz, Drehzahl und Zuverlässigkeit) mit denen der Hubmechanismen kombiniert.

Tab. 1

fs		Durata / Duty life (2) / Standzeit (2)									
		not regular use	not regular use	not regular use	not regular use	regular use	regular use	regular use	infrequent use	intensive use	infrequent use
Condizioni di carico Load combinations Belastungsbedingungen (1)	T0 > 200 h	T1 > 200 h ≤ 400 h	T2 > 400 h ≤ 800 h	T3 > 800 h ≤ 1600 h	T4 > 1600 h ≤ 3200 h	T5 > 3200 h ≤ 6300 h	T6 > 6300 h ≤ 12500 h	T7 > 12500 h ≤ 25000 h	T8 > 25000 h ≤ 50000 h	T9 > 50000 h ≤ 100000 h	
		L1 Light km ≤ 0.125 k ≤ 0.5	fs ≥ Class	0.8 M1 (1 Dm)	0.8 M1 (1 Dm)	0.8 M1 (1 Dm)	0.8 M2 (1 Cm)	0.8 M3 (1 Bm)	0.8 M4 (1 Am)	0.8 M5 (2 m)	0.9 M6 (3 m)
	Starts/h	90	90	90	120	150	180	240	300	360	≥ 360
	duty serv	15%	15%	15%	20%	25%	30%	40%	50%	60%	60%
	kz ≥	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.74	0.60	0.51
L2 Moderate 0.125 < km ≤ 0.25 0.5 < k ≤ 0.63	fs ≥ Class	0.8 M1 (1 Dm)	0.8 M1 (1 Dm)	0.8 M2 (1 Cm)	0.8 M3 (1 Bm)	0.8 M4 (1 Am)	0.8 M5 (2 m)	0.9 M6 (3 m)	1.1 M7 (4 m)	1.3 * M8 (5 m)	1.3 * M8 (5 m)
	Starts/h	90	90	120	150	180	240	300	360	≥ 360	≥ 360
	duty serv	15%	15%	20%	25%	30%	40%	50%	60%	60%	60%
	kz ≥	0.83	0.83	0.83	0.83	0.83	0.83	0.74	0.60	0.51	0.44
L3 Heavy 0.25 < km ≤ 0.5 0.63 < k ≤ 0.8	fs ≥ Class	0.8 M1 (1 Dm)	0.8 M2 (1 Cm)	0.8 M3 (1 Bm)	0.9 M4 (1 Am)	0.9 M5 (2 m)	1 M6 (3 m)	1.1 M7 (4 m)	1.3 * M8 (5 m)	1.6 * M8 (5 m)	2.0 * M8 (5 m)
	Starts/h	90	120	150	180	240	300	360	≥ 360	≥ 360	≥ 360
	duty serv	15%	20%	25%	30%	40%	50%	60%	60%	60%	60%
	kz ≥	0.83	0.83	0.83	0.74	0.74	0.67	0.56	0.48	0.44	0.37
L4 Very heavy 0.5 < km ≤ 1 0.8 < k ≤ 1	fs ≥ Class	0.8 M2 (1 Cm)	0.8 M3 (1 Bm)	0.9 M4 (1 Am)	0.9 M5 (2 m)	1 M6 (3 m)	1.1 M7 (4 m)	1.3 * M8 (5 m)	1.6 * M8 (5 m)	2.0 * M8 (5 m)	2.2 * M8 (5 m)
	Starts/h	120	150	180	240	300	360	≥ 360	≥ 360	≥ 360	≥ 360
	duty serv	20%	25%	30%	40%	50%	60%	60%	60%	60%	60%
	kz ≥	0.83	0.83	0.74	0.74	0.67	0.56	0.48	0.44	0.37	0.33

* Non fornibili con estremità FD / FD configuration not available for this class / Nicht mit Wellenende FD lieferbar

Note:
(1)

Notes:
(1)

Hinweise:
(1)

$$k = (km)^{1/3} = (\sum_{i=1...n} ((\frac{P_i}{P_{max}})^3 \cdot (\frac{t_i}{T}))^{1/3}$$

- k: fattore di spettro equivalente medio.
- km: fattore di spettro.
- ti: durata media di ciascun livello di carico (i = 1...n).
- T: durata totale di uso.
- Pi: ampiezza di ciascun livello di carico.
- P_{max}: ampiezza del max livello di carico.
- L1: meccanismi soggetti solitamente a bassi carichi e raramente al max carico.
- L2: meccanismi soggetti solitamente a carichi moderati e raramente al max carico.
- L3: meccanismi soggetti normalmente a carichi pesanti e frequentemente al max carico.
- L4: meccanismi soggetti regolarmente al max carico.

- k: mean equivalent load spectrum factor.
- km: load spectrum factor.
- ti: average duration of each load (i = 1...n).
- T: total duty life.
- Pi: duration (portion of spectrum) of each load.
- P_{max}: duration of full load (rated capacity).
- L1: Usually light load, occasional full load.
- L2: Usually moderate load, occasional full load.
- L3: Usually heavy load, frequently full load.
- L4: Usually full load.

- k: Äquivalenter mittlerer Spektrumsfaktor.
- km: Spektrumsfaktor
- ti: durchschnittliche Dauer/Belastungsni veau (i = 1...n).
- T: Gesamte Einsatzdauer.
- Pi: Amplitude/ Belastungsniveau
- P_{max}: Amplitude des max. Belastungsniveau
- L1: Normalerweise unter niedriger Belastung und nur selten unter max. Belastung stehende Mechanismen.
- L2: Normalerweise unter durchschnittlicher Belastung und selten unter max. Belastung stehende Mechanismen.
- L3: Normalerweise unter schweren Belastung und häufig unter max. Belastung stehende Mechanismen.
- L4: Regulär unter max. Belastung stehende Mechanismen.

(2) Le durate sono teoriche convenzionali, non possono essere prese come garanzia e possono essere ricavate dall'utilizzazione media giornaliera, dal n° di giorni lavorativi e dagli anni previsti di funzionamento.

(2) *Duty life means projected equipment life calculated on the basis of average daily operating time, number of working days and expected service life in years according to rating conventions and no warranty is implied or given.*

(2) Bei den Angaben der Standzeiten handelt es sich um herkömmliche theoretische Werte, die daher nicht als Garantien stehen. Sie können aus dem durchschnittlichen täglichen Einsatz, der Anzahl der Arbeitstage und den für den Betrieb vorgesehenen Jahren errechnet werden.

(3) I fattori di servizio f_s indicati sono validi solo per apparecchi di sollevamento tengono conto del n° di avviamenti max indicato e di una coppia max sul riduttore durante gli intervalli di avviamento e frenatura T_{2max} , limitata dal fattore di picco k_z secondo quanto specificato al punto Verifiche.
Per la selezione di riduttori per le traslazioni e le rotazioni di gru e carrelli fare riferimento alle sezioni RXP e RXO.

(3) *Service factors f_s are valid for lifting equipment only; they are based on the max starts per hour indicated in the table and consider a max torque T_{2max} at gear unit during starting and braking up to a limit imposed by peak factor k_z as outlined at paragraph Verification.
Gear unit selection for track and slew drive applications in cranes and trolleys is discussed in sections RXP and RXO.*

(3) Die angegebenen Betriebsfaktoren f_s sind nur für einen Einsatz an Hubvorrichtungen gültig, dabei wird die angegebene max. Anzahl der Anläufe und ein max. Drehmoment des Getriebes während der Anläufe und Bremsungen T_{2max} berücksichtigt, das vom Spitzenfaktor k_z gemäß Angaben unter dem Punkt „Überprüfungen“ eingeschränkt wird.

Bei der Wahl der für einen Verfah- und Rotationsbetrieb von Kränen vorgesehenen Getriebe ist Bezug auf die Anschnitte RXP und RXO zu nehmen.

(4) Nel caso in cui $Fr_2 \leq (Fr_{2max} / 2)$ si può considerare:
L3-T8, L4-T7 $f_s \geq 1.3$;
L3-T9, L4-T8 $f_s \geq 1.6$;
L4-T9 $f_s \geq 1.8$

(4) *If $Fr_2 \leq (Fr_{2max} / 2)$, then:
L3-T8, L4-T7 $f_s \geq 1.3$;
L3-T9, L4-T8 $f_s \geq 1.6$;
L4-T9 $f_s \geq 1.8$*

(4) Im Fall, in dem $Fr_2 \leq (Fr_{2max} / 2)$ ist kann wie folgt berücksichtigt werden:
L3-T8, L4-T7 $f_s \geq 1.3$;
L3-T9, L4-T8 $f_s \geq 1.6$;
L4-T9 $f_s \geq 1.8$

Fattore correttivo delle prestazioni - f_N

Input speed factor - f_N

Korrekturfaktor der leistungen - f_N

Fattore correttivo delle prestazioni nominali per tenere conto delle velocità in entrata $n_1 > 1450 \text{ min}^{-1}$.

This correction factor is used to adjust performance ratings to account for input speeds $n_1 > 1450 \text{ rpm}$.

Korrekturfaktor der Nennleistungen unter Berücksichtigung der Eingangsdrehzahlen $n_1 > 1450 \text{ min}^{-1}$.

Tab. 2

f_N

n_1 [min^{-1}]	$i_N \leq 8$		$8 < i_N < 80$		$i_N \geq 80$	
	T_N	P_N	T_N	P_N	T_N	P_N
2750	0.82	1.56	0.90	1.71	1.00	1.90
2400	0.85	1.41	0.92	1.52	1.00	1.66
2000	0.90	1.24	0.94	1.30	1.00	1.38



Dati di ingresso:

- 1) Tipologia
- 2) F: portata (kg)
- 3) i_e riduzione esterna (dovuta al numero dei tiri)
- 4) V: velocità di sollevamento (m/min)
- 5) η_e rendimento esterno
- 6) D: diametro del tamburo (mm)
- 7) Classe (M,L,T) dell'apparecchio di sollevamento

Input data:

- 1) Type
- 2) F: capacity (kg)
- 3) i_e external reduction (number of falls)
- 4) V: lifting speed (m/min)
- 5) η_e external efficiency
- 6) D: drum diameter (mm)
- 7) Lifting equipment class (M,L,T)

Eingabedaten:

- 1) Typologie
- 2) F: Tragfähigkeit (kg)
- 3) i_e externe Reduzierung (durch Zuganzahl)
- 4) V: Hubgeschwindigkeit (m/min)
- 5) η_e externer Wirkungsgrad
- 6) D: Trommeldurchmesser (mm)
- 7) Klasse (M,L,T) des Hebegeräts

Fattori di servizio:
Fs da tabella 1
Fn da tabella 2
(solo nel caso di riduttore senza differenziale)

Service factors:
Fs from table 1
Fn from table 2
(only for gear unit without differential unit)

Betriebsfaktoren:
Fs aus Tabelle 1
Fn aus Tabelle 2
(nur im Fall des Getriebes ohne Differential)

Momento torcente sul tamburo
Torque on drum
Drehmoment an Trommel

$$T_2 = \frac{F \cdot D}{\eta_e \cdot i_e \cdot 204} \text{ [Nm]}$$

Velocità angolare del tamburo
Drum angular speed
Winkelgeschwindigkeit der Trommel

$$n_2 = \frac{i_e \cdot V \cdot 318}{D} \text{ [min}^{-1}\text{]}$$

$$T_2 \cdot \frac{FS}{Fn} < T_N$$

Vedere tabelle prestazioni; selezionare grandezza riduttore
See rating tables; select gear unit size
Siehe Tabelle "Leistungen"; Getriebebaugröße wählen

RXP A25 RXO - RXV B21 RXP3/E D18

Rapporto di trasmissione
Gear ratio
Übersetzungsverhältnis

$$i = \frac{n_1}{n_2}$$

Rendimento riduttore η
Gearbox efficiency η
Wirkungsgrad des Getriebes

	RX	RX + E
RXP3	0.94	0.92
RXO2	0.93	—
RXO3	0.91	—

Potenza motrice necessaria
Power required to drive load
Erforderliche Antriebsleistung

$$P_1 = \frac{T_2 \cdot n_2}{9550 \cdot \eta} \text{ [kW]}$$

Riduttore con differenziale
Gear unit with differential unit
Getriebe mit Differential

NO / NEIN

Verifiche
Verification
Kontrollen

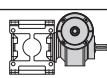
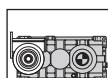
A7
B7

SI / YES / JA

Selezione grandezza differenziale
Select differential unit size
Wahl der Differentialgröße

$$P_1 \leq P_{ND} \text{ OR } T_1 \leq T_{1ND}$$

size E	70	100	125	160	180	225
P_{ND} [kW] (1450 min ⁻¹)	7.5	15	30	55	75	200
T_{1ND} [Nm]	49	99	198	362	494	1317



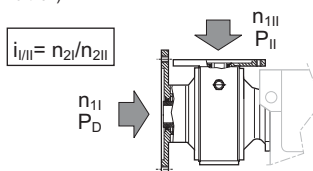
	E70	E100	E125	E160	E180	E225
RXP3 802						
RXP3 804						
RXP3 806						
RXP3 808						
RXP3 810						
RXP3 812						
RXP3 814						
RXP3 816						
RXP3 818						
RXP3 820						
RXP3 822						
RXP3 824						

Selezione potenza motore per velocità secondarie
Select motor capacity to suit second speed requirement
Wahl der Motorleistung für Sekundärdrehzahlen

$$P_{II} = P_1 \cdot k_2 \text{ [kW]}$$

	E70 - E100 - E125 - E160						
$i_{II/II}$	3.3	5	6.6	9.2	13.1	16.1	18.4*
k_2	0.360	0.244	0.187	0.146	0.106	0.091	0.080
	E180 - E225						
$i_{II/II}$	4	5	6	10	13	15	19
k_2	0.282	0.244	0.204	0.135	0.104	0.090	0.075

* Rapporto non standard su E/100. (A richiesta sono disponibili altri rapporti)
* Ratio not standard on E/100. (Other ratios available at request)
* Übersetzung kein Standard auf E/100. (Auf Anfrage sind weitere Übersetzungen erhältlich)



Fine selezione
End of selection
Auswahlabschluss

Verifiche
Controls
Kontrollen

D7

1.4 Verifiche

- 1) Compatibilità dimensionale con ingombri disponibili (es diametro del tamburo) e delle estremità d'albero con giunti, dischi o pulegge.
- 2) Compatibilità del rapporto selezionato con l'esecuzione albero cavo.
- 3) Compatibilità geometrica come da tabella in designazione.
- 4) Ammissibilità di carichi radiali e/o assiali esterni; i carichi radiali Fr_2 e Fr_1 ammissibili sono riportati nelle tabelle delle prestazioni.
- 5) Verifica posizione di montaggio.
- 6) Massimo sovraccarico.

1.4 Verification

- 1) Ensure that dimensions are compatible with space constraints (for instance, drum diameter) and shaft ends are compatible with any couplings, discs or pulleys to be used.
- 2) Ensure that selected ratio is available for the hollow shaft configuration.
- 3) Check geometric compatibility as per designation table.
- 4) Check that overhung and/or thrust loads do not exceed permissible loads; permissible overhung loads Fr_2 and Fr_1 are listed in the rating tables.
- 5) Check mounting position.
- 6) Maximum overload.

1.4 Überprüfungen

- 1) Compatibilità delle dimensioni con i disponibili misure (z.B. Trommeldurchmesser) und der Wellenenden mit den Kupplungen, Scheiben oder Riemenscheiben.
- 2) Kompatibilität des gewählten Übersetzungsverhältnisses mit der Ausführung der Hohlwelle.
- 3) Geometrische Kompatibilität gemäß Bezeichnungstabelle.
- 4) Zulässigkeit der externen Radial- und/oder Axialkräfte; die zulässigen Radialkräfte Fr_2 und Fr_1 werden in den Leistungstabellen angegeben.
- 5) Überprüfung der Einbaulage.
- 6) Max. Überlastung.

$$T_{2max} \leq \left(\frac{T_2}{k_2} \right) \text{ [Nm]}$$

Nel caso di frenature e/o avviamenti T_{2max} può essere considerata come quella parte della coppia accelerante (T_{2acc}) o decelerante (T_{2dec}) che passa attraverso l'asse lento del riduttore:

For braking and/or starting, T_{2max} may be considered as that portion of acceleration (T_{2acc}) or deceleration torque (T_{2dec}) passing through the gear unit output (low speed) shaft:

Bei Bremsungen und/oder Anläufen kann T_{2max} als der Teil des Beschleunigungsmoments (T_{2acc}) oder Abbremsmoment (T_{2dec}), der durch die Abtriebsachse des Getriebes läuft, angesehen werden:

Avviamento

Starting

Anlauf

$$T_{2max} = T_{2acc} = \left((0.45 \cdot (T_{1s} + T_{1max}) \cdot i \cdot \eta) - T_2 \right) \cdot \left(\frac{J}{J + J_0 \cdot \eta} \right) + T_2 \text{ [Nm]}$$

Frenatura

Braking

Bremsung

$$T_{2max} = T_{2dec} = \left(\left(\frac{T_{1f} \cdot i}{\eta} \right) - T_2 \right) \cdot \left(\frac{J}{J + \frac{J_0}{\eta}} \right) + T_2 \text{ [Nm]}$$

dove:

- J: momento d'inerzia della macchina e del riduttore ridotto all'asse motore (kgm^2)
- J_0 : momento d'inerzia delle masse rotanti sull'asse motore (kgm^2)
- T_{1f} : coppia frenante dinamica (Nm)
- T_{1s} : coppia motrice di spunto (Nm)
- T_{1max} : coppia motrice max (Nm)

Where:

- J: machine and gear unit inertial load reflected to motor shaft (kgm^2)
- J_0 : inertial load of rotating parts at motor shaft (kgm^2)
- T_{1f} : dynamic braking torque (Nm)
- T_{1s} : starting torque (Nm)
- T_{1max} : max drive torque (Nm)

Hier ist:

- J: An der Motorachse reduziertes Trägheitsmoment der Maschine und des Getriebes (kgm^2)
- J_0 : Trägheitsmoment der an der Motorachse drehenden Massen (kgm^2)
- T_{1f} : dynamisches Bremsmoment (Nm)
- T_{1s} : Anlaufantriebsdrehmoment (Nm)
- T_{1max} : Max. Antriebsmoment (Nm)

N.B Il differenziale E70 consente un funzionamento continuo.
Per applicazioni di questo tipo consultare il ns. servizio tecnico commerciale.

NOTE Differential unit E70 allows for continuous operation.
Please consult our Sales Engineers when selecting units for continuous duty applications.

HINWEIS: Das Differential E70 ermöglicht einen Dauerbetrieb. Für Applikationen dieser Art Beratung bei unserem Technischen Kundendienst einholen.

Nel caso di scelta di riduttori ad assi paralleli o ortogonali senza differenziale attenersi alle ulteriori verifiche riportate nelle sezioni di pertinenza (RXP, RXO).

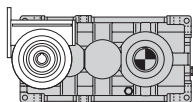
When selecting in-line helical or helical bevel gear units without differential unit, follow the verification procedures outlined in the relevant sections (RXP, RXO).

Werden Parallelachsen- oder Kegelstrinradgetriebe ohne Differential gewählt, die weiteren Überprüfungen und Kontrollen vornehmen, die in den entsprechenden Abschnitten (RXP, RXO) angegeben werden.



1.5 Designazione riduttori RXP3/E

Nei riduttori con differenziale è necessario indicare la designazione dei due prodotti come indicato di seguito.



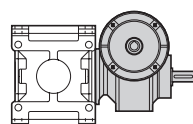
			[1*]	[2*]	[3*]	[4*]	[5*]	[6*]	[7*]	[8*]
RX	P	3	802	ABU	10	E100	—	N	M1	
Macchina Range Version	Posizione assi Centreline orientation Achsenposition	N° stadi No. of Reductions Stufen	Grandezza Size Baugröße	Esecuzione grafica Shaft arrangement Grafische Ausführung	In	Grandezza differenziale Differential unit size Differentialgröße	Materiale carcassa Casing material Gehäusematerial	Estremità uscita Output configuration Wellenende - Abtrieb	Posizione di montaggio Mounting position Einbaulage	Opzioni Options Optionen
RX	P	3	802 ... 820	A-B-AUD-BUS ABU-BBU C1-C2		E70 E100 E125 E160 E180 E225	— A GS	N C UB B FD FN D	M1 M2 M3 M4 M5 M6	

1.5 RXP3/E gear unit designation

Specify the designations of both gear unit and differential unit as outlined below.

1.5 Bezeichnung - RXP3/E-Getriebe

Bei Getrieben mit Differential muss die Bezeichnung der beiden Produkte gemäß der nachstehenden Angaben angegeben werden.



	[9*]							[10*]	[11*]	[12*]	[13*]	
E	9.2							100	PAM132	PAM80	RXP3 820	M1S
Tipo Type Typ	n_1/n_2							Grandezza differenziale Differential unit size Differentialgröße	Entrata principale Main input Hauptantrieb	Entrata secondaria Secondary input Nebenantrieb	Grandezza riduttore Gear unit size Getriebegröße	Posizione di montaggio Mounting position Einbaulage
E	3.3	5	6.6	9.2	13.1	16.1	18.4	70-100-125-160	ECE PAM..	ECE PAM..		M1S
	4	5	6	10	13	15	19	180-225				M1D
												M2S
												M2D
												M3S
												M3D
												M4S
												M4D

N.B.
Per la designazione dei riduttori senza differenziale (RXO, RXV, RXP) consulta le sezioni corrispondenti.

NOTE
For the designations of gear units without differential unit (RXO, RXV, RXP), please refer to the relevant sections.

HINWEIS:
Bezüglich der Bezeichnung der Getriebe ohne Differential (RXO, RXV, RXP) verweisen wir auf die entsprechenden Abschnitte.

Designazione motore elettrico

Se è richiesto un motoriduttore completo di motore è necessario riportare la designazione di quest' ultimo.
A tale proposito consultare il ns. catalogo dei motori elettrici Electronic Line.

Electric motor designation

For applications requiring a gearmotor, motor designation must be specified.
To this end, please refer to our Electronic Line electric motor catalogue.

Bezeichnung des Elektromotors

Wird ein Getriebemotor komplett mit Elektromotor angefordert, müssen dessen Daten angegeben werden.
Diesbezüglich verweisen wir auf unseren Katalog der Elektromotoren "Electronic Line".

[*1] Grandezza riduttore

Le grandezze dei riduttori ad assi paralleli vanno da 802 a 824; vedere il punto [4] per accoppiabilità riduttore differenziale.

[*1] Gear unit size

In-line helical gear units are available in sizes 802 through 824; please see item [4] for gear+differential unit combinations.

[*1] Getriebegröße

Die Baugrößen der Parallelachsengetriebe reichen von 802 bis 824. Siehe bezüglich der Passungsmöglichkeiten des Getriebes mit Differential auch Punkt [4].

[*2] Esecuzione grafica
(vedi pag. dimensionali)

[*2] Shaft arrangement
(please refer to dimension pages)

[*2] Grafische Ausführung
(siehe Seite mit Maßangaben)

[*3] Rapporto di riduzione i
(Vedi prestazioni)

[*3] Reduction ratio i
(See ratings)

[*3] Übersetzungsverhältnis i
(Siehe "Leistungen")

[*4] Grandezza differenziale

Nella tabella seguente sono riportati gli abbinamenti possibili tra differenziali e riduttori ad assi paralleli a 3 stadi di riduzione.

[*4] Differential unit size

Listed in the table below are the possible combinations of differential units and triple-reduction in-line helical gear units.

[*4] Differentialgröße

In der nachstehenden Tabelle werden die zwischen Differential- und Parallelachsengetrieben mit 3 Übersetzungsstufen möglichen Passungen angegeben.

Riduttore accoppiato Coupled gear unit Gepasstes Getriebe	Differenziale Differential unit Differential					
	E70	E100	E125	E160	E180	E225
RXP3 802						
RXP3 804						
RXP3 806						
RXP3 808						
RXP3 810						
RXP3 812						
RXP3 814						
RXP3 816						
RXP3 818						
RXP3 820						
RXP3 822						
RXP3 824						

[*5] Materiale carcassa

[*5] Casing material

[*5] Gehäusematerial

Materiale carcassa Casing material Gehäusematerial		802	804	806	808	810	812	814	816	818	820	822	824
Acciaio Steel Stahl	A												
Ghisa sferoidale Spheroidal cast iron Sphäroguss	GS												
Ghisa meccanica Engineering cast iron Maschinenguss	—												

[*6] Estremità uscita

[*6] Output Configuration

[*6] Wellenende - Abtrieb

N	C	UB	B	* FD	Fn	D

* Non fornibile per classe di sollevamento M8 / Not available for lifting class M8 / Für Hubklass M8 nicht lieferbar

[*7] Posizioni di montaggio

(vedi pag. D14)

[*7] Mounting positions

(see page D14)

[*7] Einbaulagen

(siehe Seite D14)

[*8] Opzioni disponibili

(vedi pag. G1)

[*8] Available options

(see page G1)

[*8] Verfügbare Optionen

(siehe Seite G1)

[*9] Rapporto fra la velocità massima e minima richieste.

[*9] Maximum to minimum speed ratio.

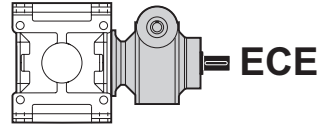
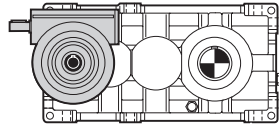
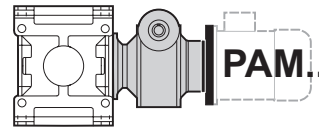
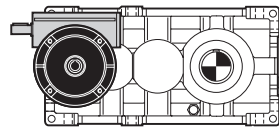
[*9] Verhältnis zwischen geforderter max. und min. Drehzahl

n ₂₁ /n ₂₁₁							Grandezza / Size / Größe
3.3	5	6.6	9.2	13.1	16.1	18.4	E70 - E100 E125 - E160
4	5	6	10	13	15	19	E180 - E225

[*10] Entrata principale

[*10] Main input

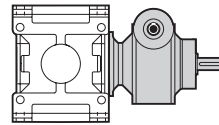
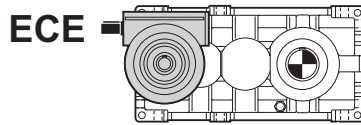
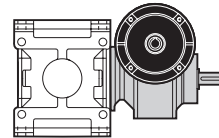
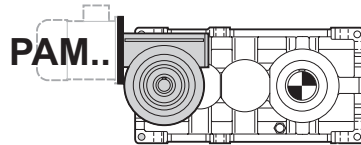
[*10] Hauptantrieb



[*11] Entrata secondaria

[*11] Secondary input

[*11] Nebenantrieb



[*12] Grandezza riduttore
Vedi punto [6] e [1].

[*12] Gear unit size
See items [6] and [1].

[*12] Getriebegröße
Siehe Punkt [6] und [1]

[*13] Posizioni di montaggio
Vedi paragrafo Lubrificazione.

[*13] Mounting positions
See paragraph Lubrication.

[*13] Einbaulage
Siehe Paragraph „Schmierung“

1.6 Lubrificazione

Gli oli disponibili appartengono generalmente a tre grandi famiglie:

- 1) Oli minerali
- 2) Oli sintetici Poli-Alfa-Olefine
- 3) Oli sintetici Poli-Glicole

La scelta più appropriata è generalmente legata alle condizioni di impiego. riduttori non particolarmente caricati e con un ciclo di impiego discontinuo, senza escursioni termiche importanti, possono certamente essere lubrificati con olio minerale.

Nei casi di impiego gravoso, quando i riduttori saranno prevedibilmente caricati molto ed in modo continuativo, con conseguente prevedibile innalzamento della temperatura, è bene utilizzare lubrificanti sintetici tipo polialfaolefine (PAO).

Gli oli di tipo poliglicole (PG) sono da utilizzare strettamente nel caso di applicazioni con forti strisciamenti fra i contatti, ad esempio nelle viti senza fine. Debbono essere impiegati con grande attenzione poiché non sono compatibili con gli altri oli e sono invece completamente miscibili con l'acqua. Questo fenomeno è particolarmente pericoloso poiché non si nota, ma deprime velocemente le caratteristiche lubrificanti dell'olio.

Oltre a questi già menzionati, ricordiamo che esistono gli oli per l'industria alimentare. Questi trovano specifico impiego nell'industria alimentare in quanto sono prodotti speciali non nocivi alla salute.

Vari produttori forniscono oli appartenenti a tutte le famiglie con caratteristiche molto simili. Più avanti proponiamo una tabella comparativa.

1.6 Lubrication

Available oils are typically grouped into three major classes:

- 1) Mineral oils
- 2) Poly-Alpha-Olefin synthetic oils
- 3) Polyglycol synthetic oils

Oil is normally selected in accordance with environmental and operating conditions. Mineral oil is the appropriate choice for moderate load, non-continuous duty applications free from temperature extremes.

In severe applications, where gear units are to operate under heavy loads in continuous duty and high temperatures are expected, synthetic Poly-Alpha-Olefin oils (PAO) are the preferred choice.

Polyglycol oils (PG) should only be used in applications involving high sliding friction, as is the case with worm shafts. These particular oils should be used with great care, as they are not compatible with other oils, but are totally mixable with water. The oil mixed with water cannot be told from uncontaminated oil, but will degrade very rapidly.

In addition to the oils mentioned above, there are food-grade oils. These are special oils harmless to human health for use in the food industry.

Oils with similar characteristics are available from a number of manufacturers.

A comparative overview table is provided at the next pages.

1.6 Schmierung

Die verfügbaren Öle gehören im Allgemeinen drei großen Familien an:

- 1) Mineralöle
- 2) Polyalphaolefine-Synthetiköle
- 3) Polyglykol-Synthetiköle

Die angemessene Wahl ist im Allgemeinen an die Einsatzbedingungen gebunden. Getriebe, die keinen besonders schweren Belastungen ausgesetzt sind und einem unregelmäßigen Einsatzzyklus unterliegen, ohne starke thermische Ausschläge, können problemlos mit Mineralöl geschmiert werden.

Bei einem Einsatz unter harten Bedingungen, d.h. wenn die Getriebe stark und andauernd belastet werden, woraus sich ein sicherer Temperaturanstieg ergibt, sollten Synthetiköle, Typ Polyalphaolefine (PAO), verwendet werden.

Die Öle, Typ Polyglykole (PG), sind ausschließlich für einen Einsatz ausgelegt, bei denen es zu starken Reibungen zwischen den in Kontakt stehenden Elementen kommt, z.B. bei Schnecken. Bei ihrem Einsatz in besondere Aufmerksamkeit erforderlich, da sie nicht mit anderen Ölen kompatibel sind, sich jedoch vollständig mit Wasser vermischen lassen. Diese Tatsache erweist sich daher als besonders gefährlich, da sie sich nicht feststellen lässt, jedoch die Schmiereigenschaften des Öls bereits nach kurzer Zeit unterdrückt.

Über die bereits genannten Öle hinaus, gibt es auch Öle, die speziell für die Lebensmittelindustrie ausgelegt sind. Diese finden demzufolge dort ihren Einsatz, da es sich dabei um spezielle Produkte handelt, die für die Gesundheit unschädlich sind.

Die den jeweiligen Familien angehörigen Ölarten werden von verschiedenen Herstellern angeboten; sie weisen jeweils sehr ähnliche Eigenschaften auf.

Auf der folgenden Seite finden Sie eine entsprechende Vergleichstabelle.

Input speed n_1 (min ⁻¹)	Absorbed power (kW)	Viscosity ISO VG at 40° (cSt)	
		Differenziale Differential unit Differential	Riduttore Gear unit Getriebe
1000 < n_1 ≤ 2000	P < 7.5	220	220
	7.5 ≤ P ≤ 37		320
	P > 37		460

Frequenza cambi olio [h]
Oil change intervals [H]
Frequenz – Ölwechs el [h]

Tipo olio Oil type Öltyp	Temperatura olio Oil temperature Öltemperatur		
	65°C	80°C	90°C
Minerale Mineral Mineralöl	8000	3000	1000
Sintetica Synthetic Synthetiköl	20000	15000	9000

Produttore Manufacturer Hersteller	Oli Minerali Mineral oils Mineralöle			Oli Sintetici Polialfaolefine (PAO) Poly-Alpha-Olefin synthetic oils (PAO) Polyalphaolefine- Synthetiköle (PAO)			Oli Sintetici Poliglicoli (PG) Polyglycol synthetic oils (PG) Polyglykol-Synthetiköle (PG)		
	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG
	150	220	320	150	220	320	150	220	320
AGIP	Blasia 150	Blasia 220	Blasia 320	-	Blasia SX 220	Blasia SX 320	Blasia S 150	Blasia S 220	Blasia S 320
ARAL	Degol BG 150 Plus	Degol BG 220 Plus	Degol BG 320 Plus	Degol PAS 150	Degol PAS 220	Degol PAS 320	Degol GS 150	Degol GS 220	Degol GS 320
BP	Energol GR-XP 150	Energol GR-XP 220	Energol GR-XP 320	Energol EPX 150	Energol EPX 220	Energol EPX 320	Energol SG 150	Energol SG-XP 220	Energol SG-XP 320
CASTROL	Alpha SP 150	Alpha SP 220	Alpha SP 320	Alphasyn EP 150	Alphasyn EP 220	Alphasyn EP 320	Alphasyn PG 150	Alphasyn PG 220	Alphasyn PG 320
CHEVRON	Ultra Gear 150	Ultra Gear 220	Ultra Gear 320	Tegra Synthetic Gear 150	Tegra Synthetic Gear 220	Tegra Synthetic Gear 320	HiPerSYN 150	HiPerSYN 220	HiPerSYN 320
ESSO	Spartan EP 150	Spartan EP 220	Spartan EP 320	Spartan S EP 150	Spartan S EP 220	Spartan S EP 320	Glycolube 150	Glycolube 220	Glycolube 320
KLÜBER	Klüberoil GEM 1-150	Klüberoil GEM 1-220	Klüberoil GEM 1-320	Klübersynth EG 4-150	Klübersynth EG 4-220	Klübersynth EG 4-320	Klübersynth GH 6-150	Klübersynth GH 6-220	Klübersynth GH 6-320
MOBIL	Mobilgear XMP 150	Mobilgear XMP 220	Mobilgear XMP 320	Mobilgear SHC XMP 150	Mobilgear SHC XMP 220	Mobilgear SHC XMP 320	Glygoyle 22	Glygoyle 30	Glygoyle HE320
MOLIKOTE	L-0115	L-0122	L-0132	L-1115	L-1122	L-1132	-	-	-
OPTIMOL	Optigear BM 150	Optigear BM 220	Optigear BM 320	Optigear Synthetic A 150	Optigear Synthetic A 220	Optigear Synthetic A 320	Optiflex A 150	Optiflex A 220	Optiflex A 320
Q8	Goya 150	Goya 220	Goya 320	El Greco 150	El Greco 220	El Greco 320	Gade 150	Gade 220	Gade 320
SHELL	Omala 150	Omala 220	Omala 320	Omala HD 150	Omala HD 220	Omala HD 320	Tivela S 150	Tivela S 220	Tivela S 320
TEXACO	Meropa 150	Meropa 220	Meropa 320	Pinnacle EP 150	Pinnacle EP 220	Pinnacle EP 320	-	Synlube CLP 220	Synlube CLP 320
TOTAL	Carter EP 150	Carter EP 220	Carter EP 320	Carter SH 150	Carter SH 220	Carter SH 320	Carter SY 150	Carter SY 220	Carter SY 320
TRIBOL	1100/150	1100/220	1100/320	1510/150	1510/220	1510/320	800/150	800/220	800/320

Lubrificanti sintetici per uso alimentare / Food-grade synthetic lubricants / Schmiermittel Synthetik für Lebensmittelbereich

AGIP				Rocol Foodlube Hi-Torque 150	—	Rocol Foodlube Hi-Torque 320			
ESSO				—	Gear Oil FM 220	—			
KLÜBER				Klüberoil 4 UH1 N 150	Klüberoil 4 UH1 N 220	Klüberoil 4 UH1 N 320			
MOBIL				DTE FM 150	DTE FM 220	DTE FM 320			
SHELL				Cassida Fluid GL 150	Cassida Fluid GL 220	Cassida Fluid GL 320			

Lubrificazione differenziale

Generalità

Si consiglia l'uso di oli a base sintetica. Nella tab. 2.2 sono riportati i quantitativi di olio necessari per il corretto funzionamento dei riduttori.

Prescrizioni in fase di ordine e stato di fornitura

I riduttori delle grandezze 70 sono forniti completi di olio sintetico di viscosità ISO 320.

I riduttori delle grandezze 100, 125, 160, 180, 225 sono forniti predisposti per lubrificazione ad olio ma privi di lubrificante il quale potrà essere fornito a richiesta. **È sempre necessario** specificare la posizione di montaggio.

Differential unit lubrication

General information

The use of synthetic oil is recommended. The correct oil quantities for proper gear unit operation are reported in tab. 2.2.

Information required on order - Delivery condition

Size 70 gear units are factory filled with ISO 320 synthetic oil.

Sizes 100, 125, 160, 180 and 225 are oil lubricated, but are supplied dry. Lubricant is available on request. **Always specify the desired mounting position.**

Schmierung des Differentials

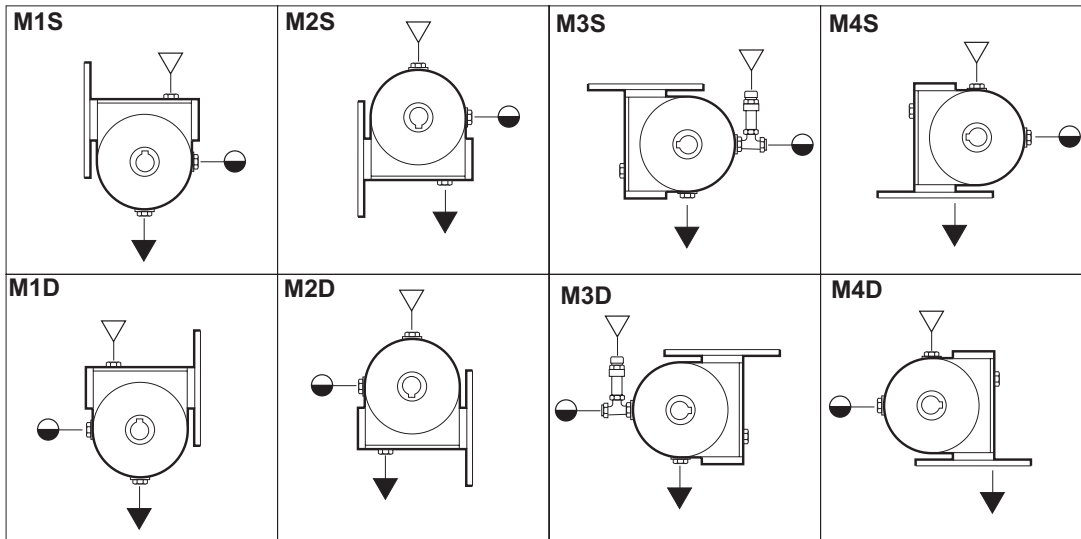
Allgemeines

Es wird der Einsatz von synthetischem Öl empfohlen. In der Tabelle Tab. 2.2 werden die für einen störungsfreien Betrieb der Getriebe erforderlichen Ölfüllmengen angegeben.

Vorgaben für Bestellung und Lieferzustand

Die Getriebe in den Baugrößen 70 werden komplett mit Synthetiköl mit einer Viskosität ISO 320 geliefert.

Die Getriebe in den Baugrößen 100, 125, 160, 180 und 225 sind bei der Lieferung für die Ölschmierung vorbereitet, enthalten jedoch kein Schmiermittel. Dieses kann jedoch auf Anfrage geliefert werden. Bei diesen Getrieben **muss immer** die Einbaulage angegeben werden.



Quantità di lubrificante / Lubricant Quantity / Schmiermittelmenge (l)							
E	Posizioni di montaggio Mounting Positions Einbaulage (S,I,D,F)						Stato di fornitura Delivery condition Lieferzustand
	M1	M2	M3	M4	M5	M6	
70	0.700						Riduttori forniti completi di lubrificante sintetico Factory filled with synthetic oil Getriebe werden mit Synthetiköl geliefert
100	2.6		2.1 ⁽¹⁾			Riduttori predisposti per lubrificazione ad olio Oil lubricated, supplied dry Getriebe sind für Ölschmierung ausgelegt	
125	4.1		2.9 ⁽¹⁾				
160	6.0		5.0 ⁽¹⁾				
180	9.8		7.8 ⁽¹⁾				
225	14		11.5 ⁽¹⁾				

(1) Quantità indicative; durante il riempimento attenersi alla spia di livello.

(1) Indicative quantities, check the oil sight glass during filling.

(1) Ungefähre Mengen; beim Füllen auf das Schauglas Bezug nehmen.

A) In tutte le grandezze di differenziale è necessario in fase d'ordine indicare la posizione di montaggio sia se i riduttori sono richiesti con olio sia privi di lubrificante. Particolare attenzione va posta per i riduttori da gr. 100 a gr. 125 montati nelle posizioni M3 e M4 che sono forniti con il cuscinetto schermato.

A) For differential units, mounting position must always be specified for all sizes, regardless of gear unit delivery condition (factory filled or dry). Particular attention is required for gear unit sizes 100 to 125 designated for mounting positions M3 and M4, as they use a shielded bearing.

A) Für alle Baugrößen der Differentialgetriebe muss in der Auftragsphase die Einbaulage angegeben werden. Dies gilt sowohl für Bestellung von mit Öl gefüllten Getrieben als auch für Getriebe ohne Schmiermittel. Besondere Aufmerksamkeit sollte den Getrieben der Größen 100 bis 125 zukommen, die in den Einbaulagen M3 und M4 montiert werden und mit abgeschirmtem Lager geliefert werden.

B) Per i differenziali delle grandezze 100, 125, 160, 180, 225 nelle posizioni M1 non fare riferimento alla spia di livello ma attenersi ai quantitativi indicati. (La quantità d'olio necessaria supera il livello del differenziale).

B) For size 100, 125, 160, 180, 225 differential units in mounting position M1, disregard the sight glass and fill with the specified quantity of oil. (Correct oil level exceeds level mark on differential unit sight glass).

B) Bei den Differentialgetrieben der Baugrößen 100, 125, 160, 180, 225 in den Einbaulagen M1 ist nicht auf das Schauglas, sondern auf die angegebenen Mengen Bezug zu nehmen. (Die erforderliche Ölmenge übersteigt den Füllstand des Differentialgetriebes).

C) Il tappo di sfiato è allegato solo nei riduttori che hanno più di un tappo olio.

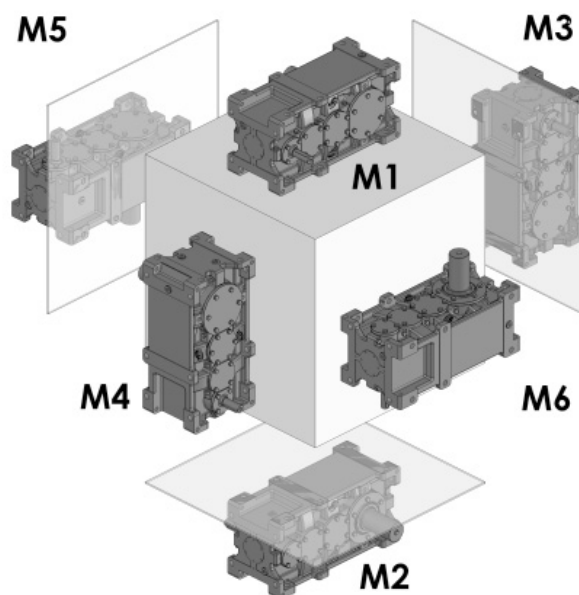
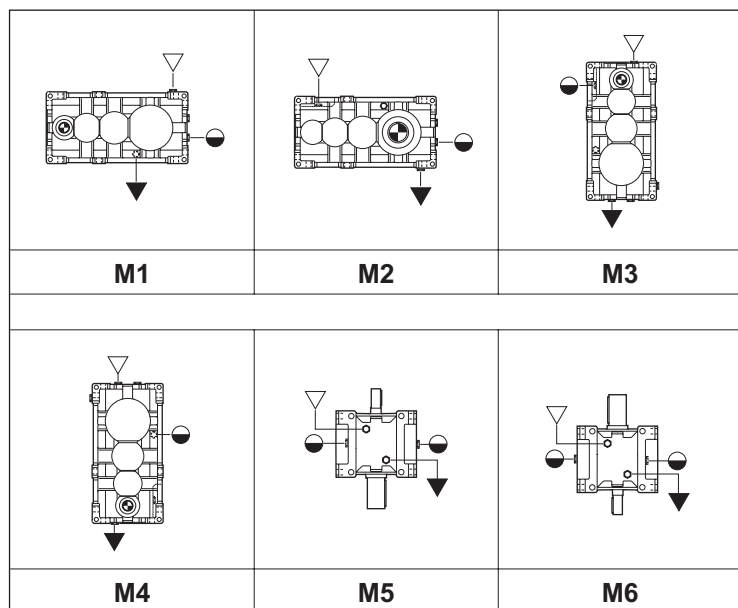
C) A breather plug is only supplied when gear unit has more than one oil plugs.

C) Die Entlüftungsschraube ist lediglich bei den Getrieben vorhanden, die über mehr als einen Ölfüllstopfen verfügen.

Posizioni di montaggio

Mounting positions

Einbaulagen



- ▽ Carico / Breather plug / Fill / Entlüftungsschraube
- ▼ Livello / Level / Schauglas
- Scarico / Drain / Ablassschraube

L'esecuzione grafica rappresentata è la A.
 Per le altre esecuzioni grafiche vedere sezione POSIZIONI MONTAGGIO.
 The noted version is A.
 To see further alternatives please refer to section MOUNTING POSITIONS.
 Die dargestellte Version ist A.
 Für die anderen Versionen siehe MONTAGEPOSITIONEN.

		Quantità di lubrificante / Lubricant Quantity / Schmiermittelmenge (l)											
		802	804	806	808	810	812	814	816	818	820	822	824
RXP3	M1 - M2	3.9	5.5	7.6	11	15	21	29	41	58	81	113	158
	M3	8.1	11	15	22	32	44	62	87	125	175	246	345
	M4	6.6	9.2	13	18	26	36	50	71	102	144	201	285
	M5 - M6	5.1	7.3	10	14	20	28	40	56	79	111	156	218

Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

Bei den Ölmenangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den am Getriebe gekennzeichneten Füllstand genommen werden.

ATTENZIONE

Eventuali forniture con predisposizioni tappi diverse da quella indicata in tabella, dovranno essere concordate.

WARNING

Any plug arrangements other than that indicated in the table must be agreed upon.

ACHTUNG

Eventuelle Lieferungen mit einer von den Tabellenangaben abweichenden Anordnung der Stopfen, müssen zuvor abgestimmt werden.

Lubrificazione cuscinetti superiori RXP3+E

RXP3+E upper bearing lubrication

Schmierung der obenliegenden Lager RXP3+E

In caso di montaggio in posizione M5 ed M6 per le grandezze da 802 a 820 la lubrificazione dei cuscinetti superiori del riduttore ad assi paralleli viene assicurata tramite grasso lunga vita ed anelli nilos. Per le grandezze superiori consultare il ns. servizio tecnico commerciale.

In-line helical gear unit sizes 802 through 820 designated for mounting positions M5 and M6 have upper bearings charged with long-life grease and Nilos rings. For larger sizes, please contact our Sales Engineers.

Bei einer Einbaulage in der Position M5 und M6 wird die Schmierung der oberen Lager des Parallelachsengetriebe bei den Baugrößen 802 bis 820 durch den Einsatz eines "long life"-Fetts mit Nilos-Ringen gesichert. Für darüber liegende Baugrößen ist Beratung bei unseren Technischen Kundendienst einzuholen.

1.7 Verifica carichi radiali e assiali

Qualora il collegamento tra riduttore e macchina operatrice sia effettuato con mezzi che generano carichi radiali sull'estremità d'albero lento, occorre fare le seguenti verifiche.

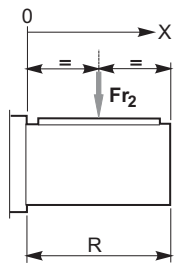
Calcolo Fr₂'

I carichi massimi Fr₂ sono calcolati con Fs=1 ed a una distanza dalla battuta dell'albero lento di 0.5 R.

Per distanze variabili tra 0 e una distanza "X" bisogna utilizzare le tabelle seguenti:

Fr₂ con coefficiente A ;

Fr₂ con coefficiente C nel caso di flange FD.



$$Fr_2' = Fr_2 \cdot \left(\frac{A}{A + X - \frac{R}{2}} \right)$$

$$Fr_2' = Fr_2 \cdot C$$

use only for FD, FDn execution
use only for FD, FDn configuration

1.7 Overhung and thrust load verification

When a gear unit is connected to prime mover or driven machine using overhung drive members that place a radial load on input or output shaft end, check the following loads.

Fr₂' calculation

Load capacity ratings Fr₂ consider a service factor Fs=1 and load location at a 0.5 R distance from output shaft shoulder.

Where load is applied at a distance from shoulder between 0 and an "X" distance, refer to the following tables:

Fr₂ with load location factor A;

Fr₂ with load location factor C if an FD flange is used.

1.7 Überprüfung der Radial- und Axialkräfte

Erfolgt die Verbindung zwischen Getriebe und Arbeitsmaschine mit Vorrichtungen, die Radialkräfte auf das Ende der Abtriebswelle ausüben, sind folgende Überprüfungen erforderlich.

Berechnung von Fr₂'

Die maximalen Belastungskräfte Fr₂ werden mit Fs=1 und auf einem Abstand vom Wellenansatz von 0.5 R im Fall der Abtriebswelle berechnet.

Bei zwischen 0 und einer Distanz "X" variierenden Abständen müssen folgende Tabellen verwendet werden:

Fr₂ mit Koeffizient A;

Fr₂ mit Koeffizient C bei FD-Flanschen.

Fr ₂ ' [N]	Carico radiale ammissibile su albero uscita alla distanza X	Permissible output shaft OHL at distance X	An Abtriebswelle auf Distanz X zulässige Radialkraft
Fr ₂ [N]	Carico radiale ammissibile su albero uscita indicato a catalogo	Output shaft OHL capacity as per catalogue rating	An Abtriebswelle gemäß Katalogangaben zulässige Radialkraft
X [mm]	Distanza dalla battuta dell'albero	Distance from shaft shoulder	Distanz vom Wellenansatz
R [mm]	Sporgenza dell'albero uscita	Output shaft projection	Überstand der Abtriebswelle
A	Coefficiente da tabella	Load location factor from table	Koeffizient aus Tabelle
C	Coefficiente da tabella	Load location factor from table	Koeffizient aus Tabelle

Coefficienti correttivi del carico radiale di catalogo in uscita Fr₂ in funzione della distanza dalla battuta
Load location factors to adjust output OHL capacity rating Fr₂ based on distance from shoulder
Korrekturkoeffizient der Radialkraft am Abtrieb Fr₂ gemäß Katalog in Abhängigkeit des Ansatzabstands

	RXP									
	802	804	806	808	810	812	814	816	818	820
A	99	109	124	137	156	175	200	225	236	261
C	1.32	1.35	1.39	1.46	1.49	1.43	1.32	1.32	1.33	1.35

Calcolo Fr

Per calcolare il carico Fr agente sull'albero lento diamo formule approssimate per alcune trasmissioni più comuni, per la determinazione del carico radiale su albero veloce o lento.

Fr calculation

Use the formula and the approximate factors for input or output overhung load determination referred to the most common drive members to calculate Fr load at output shaft.

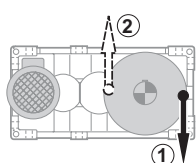
Berechnung der Fr

Für die Berechnung der an der Abtriebswelle wirkenden Belastungen Fr geben wir approximative Formeln an, die für einige der allgemeinen Antriebsformen zum Bestimmen der auf die An- oder Abtriebswelle einwirkenden Radialkraft verwendet werden können.

$$Fr = k \cdot \frac{T}{d}$$

Fr [N]	Carico radiale approssimato Approximate overhung load Approx. Wert - Radialkraft	d [mm]	Diametro pulegge, ruote Pulley diameter, wheels Durchmesser Räder, Riemenscheiben	k	Fattore di collegamento Connection factor Anschlusswert	T [Nm]	Momento torcente Torque Drehmoment
--------	--	--------	--	---	---	--------	--

k =	7000	5000	3000	2120	2000
Trasmissioni Drive member Antriebe	Ruote di frizione (gomma su metallo) Friction wheel drive (rubber on metal) Kupplungsräder (Gummi auf Metall)	Cinghie trapezoidali V belt drives Keilriemen	Cinghie dentate Toothed belts Zahnriemen	Ingranaggi cilindrici Spur gears Zylinderzahnräder	Catene Chain drives Ketten



Nel caso di sollevamento con tamburo con tiro verso il basso è preferibile che la fune si avvolga dalla parte opposta al motore (1).
Nel caso più gravoso del precedente, con tiro verso l'alto, viceversa è preferibile che la fune si avvolga dal lato motore (2).

In lifting applications using winch drums in a downward pull direction, it is best for the rope to wrap on the side opposite to the motor (1).
In the more severe case of upward pull direction, the rope should wrap on motor side (2).

Bei Hebeverfahren mit einer Trommel mit Zugkraft nach unten, sollte das Seil auf der dem Motor (1) entgegen gesetzten Seite aufgerollt werden.
Im Fall eines härteren Einsatzes als den zuvor genannten, mit Zugkraft nach oben, sollte das Seil dagegen an der Motorseite (2) aufgewickelt werden.

Verifiche

Caso A)
Per carichi radiali minori di $0.25 Fr_2'$ è necessario verificare soltanto che contemporaneamente al carico radiale sia presente un carico assiale non superiore a 0.2 volte Fr_2' ;

Caso B)
Per carichi radiali maggiori di $0.25 Fr_2'$;
1) Calcolo abbreviato: Fr (output) $< Fr_2'$ e che contemporaneamente al carico radiale sia presente un carico assiale non superiore a 0.2 volte Fr_2' ;

2) Calcolo completo per il quale occorre fornire i seguenti dati:
- momento torcente applicato o potenza applicata
- n_2 (giri al minuto dell'albero dell'albero lento)
- carico radiale Fr (direzione, intensità, verso)

Verification

Case A)
For overhung loads lower than $0.25 Fr_2'$, ensure that the thrust load applied simultaneously with OHL is not greater than 0.2 times Fr_2' ;

Case B)
For overhung loads greater than $0.25 Fr_2'$;
1) Quick calculation method: Fr (output) $< Fr_2'$ and thrust load applied simultaneously with OHL not greater than 0.2 times Fr_2' ;

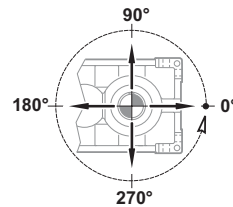
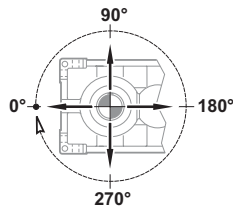
2) For the standard calculation method, the following information is required:
- applied torque or power
- n_2 (output shaft rpm)
- overhung load Fr (orientation, amount of loading, direction)

Überprüfungen

Fall A)
Bei Radialkräften unter $0.25 Fr_2'$ muss nur überprüft werden, dass gleichzeitig mit der Belastung durch die Radialkraft auch eine Axialkraft von nicht mehr als 0.2 Mal Fr_2' vorliegt.

Fall B)
Bei Radialkräften über $0.25 Fr_2'$:
1) Verkürzte Berechnungsgleichung: Fr (output) $<Fr_2'$ und dass gleichzeitig mit der Belastung durch die Radialkraft auch eine Axialkraft von nicht mehr als 0.2 Mal Fr_2' vorliegt.

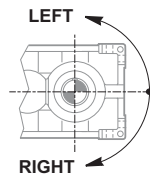
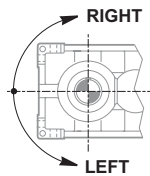
2) Vollständige Berechnungsgleichung für die folgende Daten erforderlich sind:
- appliziertes Drehmoment oder applizierte Leistung
- n_2 (Drehungen/Minute der Abtriebswelle)
- Radialkraft Fr (Richtung, Intensität, Seite)



-senso di rotazione dell'albero

-direction of rotation of shaft

- Drehrichtung der Welle



- grandezza e tipo del riduttore scelto
- tipo olio impiegato e sua viscosità
- esecuzione grafica assi:
- carico assiale presente F_a

-size and type of selected gear unit
- oil type and viscosity
- shaft arrangement:
- actual thrust load F_a

- Baugröße und Typ des gewählten Getriebes
- verwendeter Öltyp und dessen Viskositätsgrad
- grafische Achsausführung
- vorliegende Axialkraft F_a

Consultare il supporto Tecnico per la verifica.

Please contact our Engineering for a verification.

Für eine Überprüfung die Technischen Unterlagen konsultieren.

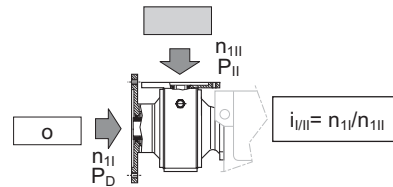
1.8 Prestazioni differenziale

1.8 Differential unit ratings

1.8 Leistungen- Differentialgetriebe

			E70 - E100 - E125 - E160							
			i_{III}	3.3	5	6.6	9.2	13.1	16.1	18.4*
			E180 - E225							
			i_{III}	4	5	6	10	13	15	19
	P_D [kW] (1450 min ⁻¹)	T_{1D} [Nm]	IEC	Applicabilità IEC / IEC compatibility / Applikationsmöglichkeit IEC						
E70	7.5	49	71							
			80							
			90	o	o	o	o	o	o	o
			100	o	o	o	o	o	o	o
			112	o	o	o	o	o	o	o
			132	o	o	o	o	o	o	o
E100	15	99	90							
			100							
			112							
			132	o	o	o	o	o	o	o
E125	30	198	160	o	o	o	o	o	o	o
			100							
			112							
			132							
E160	55	362	160	o	o	o	o	o	o	o
			180	o	o	o	o	o	o	o
			100							
			112							
E180	75	494	132							
			160							
			180							
			200	o	o	o	o	o	o	o
E225	200	1317	225	o	o	o	o	o	o	o
			132							
			160							
			180							
			200							

* Rapporto non standard su E/100. (A richiesta sono disponibili altri rapporti)
 * Ratio not standard on E/100. (Other ratios available at request)
 * Übersetzung kein Standard auf E/100. (Auf Anfrage sind weitere Übersetzungen erhältlich)



	E70	E100	E125	E160	E180	E225
RXP3 802						
RXP3 804						
RXP3 806						
RXP3 808						
RXP3 810						
RXP3 812						
RXP3 814						
RXP3 816						
RXP3 818						
RXP3 820						
RXP3 822						
RXP3 824						

1.9 RXP3 applicato al differenziale

1.9 RXP3 coupled with differential unit

1.9 Am Differential appliziertes RXP3-Getriebe

n ₁ min ⁻¹	802					804					806					808				
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ kN
1450	31.7	45.8	14.0	2.7	12	33.5	43.3	19.7	4.0	16	33.5	43.2	27	5.6	21	29.4	49.3	37	6.6	38
	35.6	40.7	14.0	3.0	12	37.6	38.6	19.7	4.5	16	39.8	36.5	27	6.6	21	34.8	41.6	37	7.8	38
	40.2	36.0	13.8	3.4	12	42.4	34.2	18.7	4.8	16	42.2	34.4	27	7.0	21	39.2	37.0	37	8.8	38
	45.7	31.7	12.2	3.4	12	48.2	30.1	16.5	4.8	16	47.7	30.4	25	7.3	21	44.2	32.8	37	9.9	38
	52.4	27.7	10.7	3.4	12	51.5	28.2	15.5	4.8	16	54.3	26.7	22	7.3	21	47.1	30.8	36	10.4	38
	56.3	25.8	10.0	3.4	12	59.2	24.5	13.6	4.9	16	58.1	24.9	21	7.4	21	57.6	25.2	30	10.5	38
	60.6	23.9	9.3	3.4	11.5	63.8	22.7	12.7	4.9	15.5	67.1	21.6	18.2	7.4	20	66.6	21.8	26	10.6	36
	71.0	20.4	8.0	3.5	11.5	74.7	19.4	10.9	4.9	15.5	72.5	20.0	16.9	7.4	20	78.1	18.6	23	10.7	36
	77.3	18.8	7.5	3.5	11.5	81.3	17.8	10.1	5.0	15.5	85.5	17.0	14.5	7.5	20	85.0	17.1	21	10.7	36
	84.6	17.1	6.8	3.5	11.5	89.0	16.3	9.3	5.0	15.5	93.5	15.5	13.2	7.5	20	93.0	15.6	19.2	10.8	36
	101	14.3	5.7	3.5	11	102	14.2	8.1	5.0	15	102	14.2	12.3	7.6	19	105	13.8	17.0	10.8	34
	115	12.6	5.0	3.5	11	115	12.6	7.2	5.0	15	108	13.4	11.6	7.6	19	112	13.0	15.9	10.8	34
	132	11.0	4.4	3.5	11	123	11.8	6.7	5.0	15	122	11.9	10.3	7.6	19	128	11.4	14.0	10.8	34
	142	10.2	4.1	3.5	11	142	10.2	5.8	5.0	15	139	10.4	9.0	7.6	19	137	10.6	13.0	10.8	34
	153	9.5	3.8	3.5	11	152	9.5	5.4	5.0	15	172	8.4	7.3	7.6	19	158	9.2	11.3	10.8	34
	179	8.1	3.2	3.5	11	178	8.1	4.6	5.0	15	186	7.8	6.8	7.6	19	185	7.8	9.6	10.8	34
	195	7.4	3.0	3.5	11	194	7.5	4.3	5.0	15	219	6.6	5.7	7.6	19	202	7.2	8.8	10.8	34
	213	6.8	2.7	3.5	11	213	6.8	3.9	5.0	15	239	6.1	5.2	7.6	19	221	6.6	8.1	10.8	34
	243	6.0	2.4	3.5	11	270	5.4	3.1	5.0	15	240	6.0	5.2	7.6	19	236	6.1	7.5	10.8	34
	299	4.8	1.9	3.5	11	290	5.0	2.8	5.0	15	278	5.2	4.5	7.6	19	273	5.3	6.5	10.8	34
322	4.5	1.8	3.5	11	340	4.3	2.4	5.0	15	300	4.8	4.2	7.6	19	320	4.5	5.6	10.8	34	
378	3.8	1.5	3.5	11	370	3.9	2.2	5.0	15	354	4.1	3.5	7.6	19	349	4.2	5.1	10.8	34	
411	3.5	1.4	3.5	11	405	3.6	2.0	5.0	15	387	3.8	3.2	7.6	19	420	3.5	4.2	10.8	34	
450	3.2	1.3	3.5	11	444	3.3	1.7	4.5	15	425	3.4	2.9	7.6	19	465	3.1	3.8	10.8	34	
495	2.9	1.2	3.5	11	494	2.9	1.7	5.0	15	518	2.8	2.4	7.6	19	512	2.8	3.5	10.8	34	
549	2.6	1.1	3.5	11	542	2.7	1.4	4.5	15	568	2.6	1.9	6.7	19	561	2.6	2.9	9.8	34	

n ₁ min ⁻¹	810					812					814					816				
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ kN	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ kN
1450	31.7	45.8	52	10.0	48	31.2	46.5	77	14.5	53	31.7	45.8	112	21.5	63	33.5	43.3	155	31.5	75
	37.7	38.4	52	11.9	48	35.1	41.4	77	16.3	53	35.6	40.7	112	24.2	63	37.6	38.6	155	35.4	75
	42.6	34.0	52	13.5	48	39.6	36.6	77	18.4	53	40.2	36.0	112	27.4	63	42.4	34.2	155	39.9	75
	45.4	32.0	52	14.2	48	45.0	32.2	77	20.9	53	45.7	31.7	104	28.8	63	48.2	30.1	142	41.3	75
	51.8	28.0	46	14.3	48	51.6	28.1	68	21.2	53	52.4	27.7	91	29.0	63	51.5	28.2	133	41.5	75
	55.5	26.1	43	14.4	48	55.4	26.2	63	21.3	53	56.3	25.8	85	29.1	63	59.2	24.5	116	41.8	75
	64.2	22.6	37	14.5	46	64.4	22.5	55	21.5	51	60.6	23.9	79	29.2	60	63.8	22.7	108	41.9	72
	75.2	19.3	32	14.6	46	69.9	20.7	51	21.5	51	71.0	20.4	68	29.4	60	74.7	19.4	93	42.2	72
	81.9	17.7	29	14.6	46	83.3	17.4	43	21.7	51	77.3	18.8	63	29.5	60	81.3	17.8	86	42.4	72
	89.6	16.2	27	14.7	46	88.3	16.4	41	21.8	51	84.6	17.1	58	29.7	60	89.0	16.3	79	42.6	72
	98.0	14.8	25	14.8	44	99.8	14.5	36	21.9	49	101	14.3	49	29.9	58	96.3	15.1	73	42.8	70
	118	12.3	21	14.8	44	113	12.8	32	21.9	49	115	12.6	43	29.9	58	109	13.3	65	42.8	70
	135	10.8	18.2	14.8	44	130	11.2	28	21.9	49	132	11.0	37	29.9	58	123	11.7	57	42.8	70
	144	10.1	16.9	14.8	44	140	10.4	26	21.9	49	142	10.2	35	29.9	58	152	9.6	47	42.8	70
	167	8.7	14.6	14.8	44	162	8.9	22	21.9	49	153	9.5	32	29.9	58	163	8.9	43	42.8	70
	195	7.4	12.5	14.8	44	176	8.2	21	21.9	49	179	8.1	28	29.9	58	191	7.6	37	42.8	70
	213	6.8	11.5	14.8	44	192	7.6	18.8	21.9	49	195	7.4	25	29.9	58	208	7.0	34	42.8	70
	233	6.2	10.5	14.8	44	210	6.9	17.2	21.9	49	213	6.8	23	29.9	58	228	6.4	31	42.8	70
	255	5.7	9.6	14.8	44	239	6.1	15.1	21.9	49	243	6.0	20	29.9	58	270	5.4	26	42.8	70
	273	5.3	9.0	14.8	44	294	4.9	12.3	21.9	49	299	4.8	16.5	29.9	58	290	5.0	24	42.8	70
316	4.6	7.7	14.8	44	343	4.2	10.5	21.9	49	322	4.5	15.3	29.9	58	340	4.3	21	42.8	70	
370	3.9	6.6	14.8	44	372	3.9	9.7	21.9	49	378	3.8	13.1	29.9	58	370	3.9	19.1	42.8	70	
403	3.6	6.1	14.8	44	405	3.6	8.9	21.9	49	411	3.5	12.0	29.9	58	405	3.6	17.4	42.8	70	
441	3.3	5.5	14.8	44	443	3.3	8.2	21.9	49	450	3.2	11.0	29.9	58	444	3.3	14.3	38.5	70	
485	3.0	5.0	14.8	44	487	3.0	7.4	21.9	49	495	2.9	10.0	29.9	58	494	2.9	14.3	42.8	70	
537	2.7	4.5	14.8	44	540	2.7	6.7	21.9	49	549	2.6	9.0	29.9	58	533	2.7	11.9	38.5	70	

1.9 RXP3 applicato al differenziale

1.9 RXP3 coupled with differential unit

1.9 Am Differential appliziertes RXP3-Getriebe

n_1 min ⁻¹	818					820					822					824				
	ir	n_2 min ⁻¹	P_N kW	T_N kNm	Fr_2 kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	Fr_2 kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	Fr_2 kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	Fr_2 kN
1450	33.5	43.2	213	43.3	88	29.4	49.3	298	53.1	150	31.7	45.8	418	80.3	188	31.2	46.5	613	116	210
	37.5	38.6	213	48.5	88	34.8	41.6	297	62.8	150	37.7	38.4	418	95.5	188	35.1	41.4	613	130	210
	42.2	34.4	213	54.5	88	39.2	37.0	297	70.6	150	42.6	34.0	418	108	188	39.6	36.6	613	147	210
	47.7	30.4	211	60.9	88	44.2	32.8	297	79.8	150	48.4	29.9	390	114	188	45.0	32.2	613	167	210
	54.3	26.7	186	61.3	88	47.1	30.8	293	83.6	150	51.8	28.0	366	115	188	51.6	28.1	549	171	210
	58.1	24.9	175	61.5	88	53.8	27.0	258	84.1	150	55.5	26.1	343	115	188	55.4	26.2	513	172	210
	67.1	21.6	152	62.0	83	61.9	23.4	226	84.7	145	64.2	22.6	298	116	182	64.4	22.5	444	173	205
	72.5	20.0	142	62.2	83	72.0	20.1	196	85.4	145	75.2	19.3	257	117	182	69.9	20.7	411	174	205
	85.5	17.0	121	62.7	83	78.1	18.6	181	85.7	145	81.9	17.7	236	117	182	83.3	17.4	349	176	205
	93.5	15.5	111	63.0	83	93.0	15.6	153	86.5	145	89.6	16.2	217	118	182	91.7	15.8	317	176	205
	96.1	15.1	108	63.1	83	105	13.8	136	86.8	142	98.0	14.8	199	118	178	99.8	14.5	293	177	200
	108	13.4	97	63.2	80	112	13.0	128	86.8	142	111	13.1	177	119	178	113	12.8	258	177	200
	122	11.9	85	63.2	80	128	11.4	112	86.8	142	126	11.5	156	119	178	130	11.2	225	177	200
	139	10.4	75	63.2	80	147	9.9	97	86.8	142	144	10.1	136	119	178	140	10.4	209	177	200
	172	8.4	61	63.2	80	171	8.5	84	86.8	142	167	8.7	118	119	178	162	8.9	180	177	200
	186	7.8	56	63.2	80	185	7.8	77	86.8	142	195	7.4	101	119	178	176	8.2	166	177	200
	219	6.6	48	63.2	80	202	7.2	71	86.8	142	213	6.8	92	119	178	210	6.9	139	177	200
	239	6.1	44	63.2	80	221	6.6	65	86.8	142	233	6.2	84	119	178	231	6.3	126	177	200
	247	5.9	42	63.2	80	243	6.0	59	86.8	142	255	5.7	77	119	178	247	5.9	118	177	200
	265	5.5	39	63.2	80	279	5.2	51	86.8	142	273	5.3	72	119	178	266	5.5	110	177	200
306	4.7	34	63.2	80	325	4.5	44	86.8	142	316	4.6	62	119	178	309	4.7	94	177	200	
330	4.4	32	63.2	80	352	4.1	41	86.8	142	370	3.9	53	119	178	335	4.3	87	177	200	
389	3.7	27	63.2	80	384	3.8	37	86.8	142	403	3.6	49	119	178	400	3.6	73	177	200	
425	3.4	25	63.2	80	420	3.5	34	86.8	142	441	3.3	45	119	178	440	3.3	66	177	200	
518	2.8	20	63.2	80	512	2.8	28	86.8	142	485	3.0	40	119	178	487	3.0	60	177	200	
568	2.6	16.4	56.5	80	561	2.6	24	80.0	142	537	2.7	37	119	178	531	2.7	50	160	200	

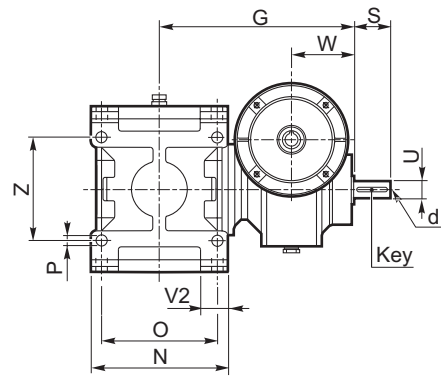
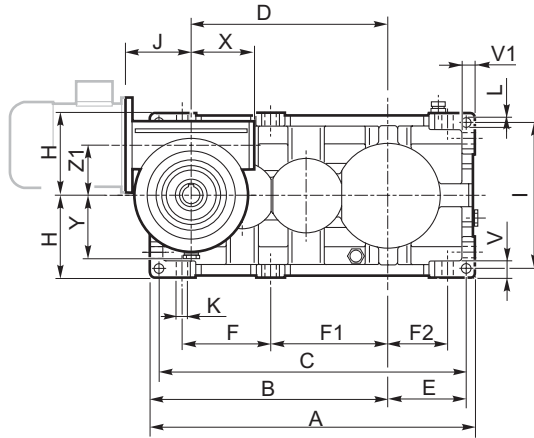


1.10 Dimensioni

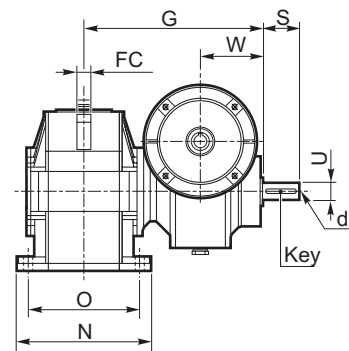
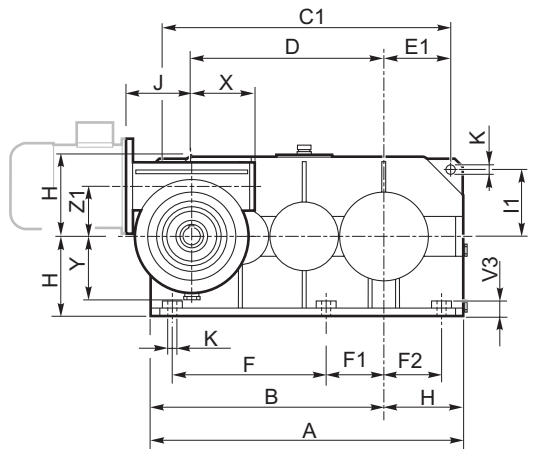
1.10 Dimensions

1.10 Abmessungen

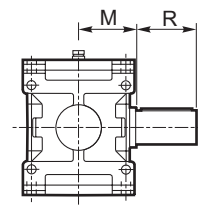
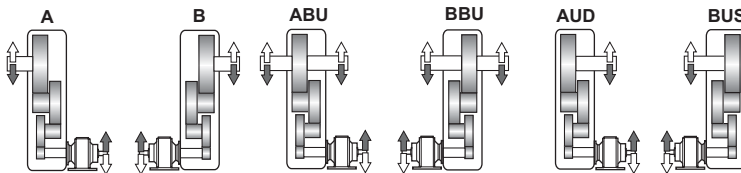
802 - 820



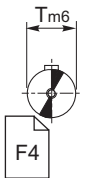
822 - 824



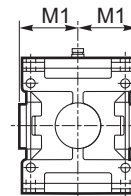
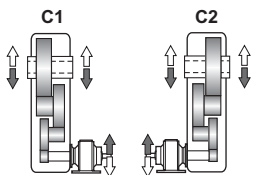
⇒ **N D FD Fn**



N



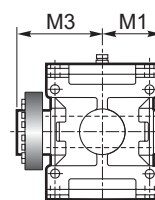
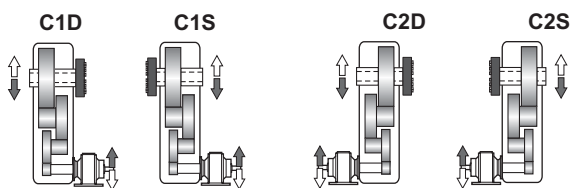
⇒ **C**



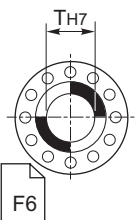
C






⇒ **UB B**





UB



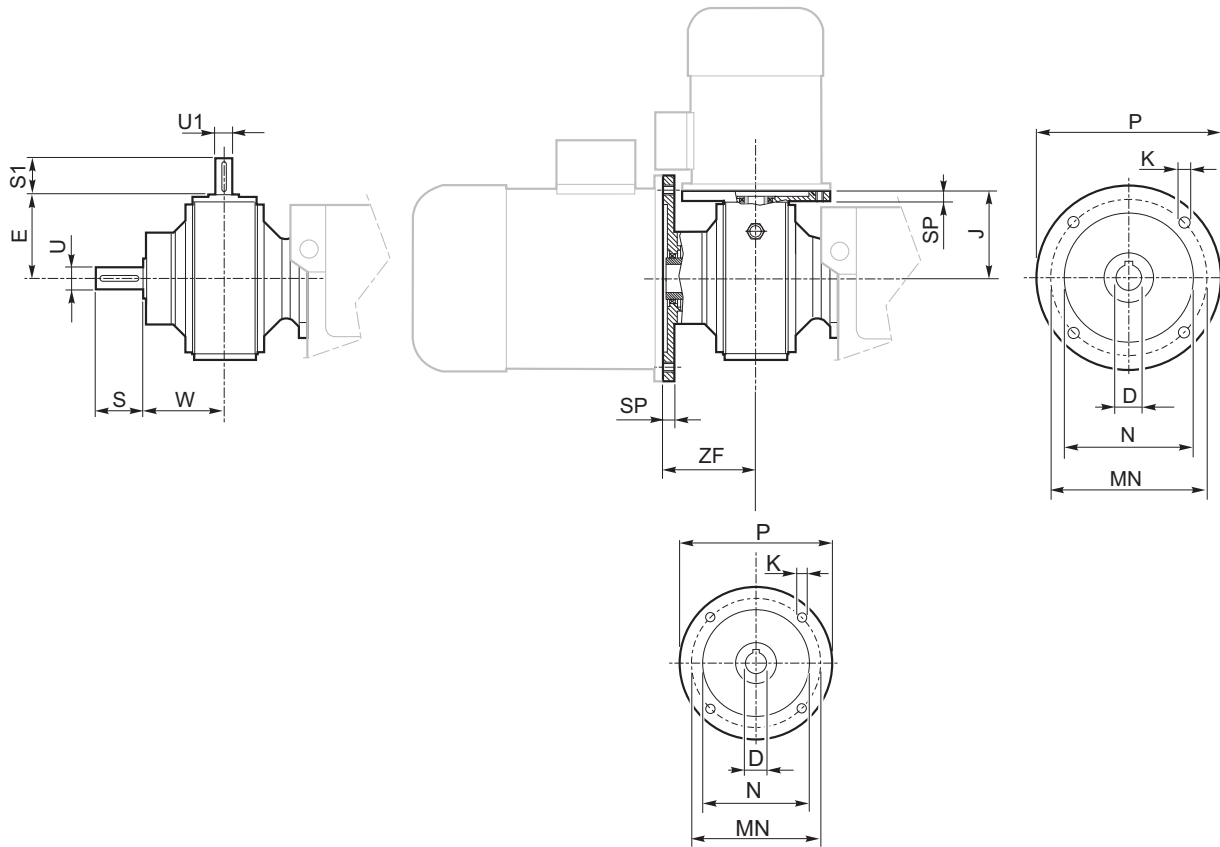
	A	B	C	C1	D	E	E1	F	F1	F2	FC	H _{h11}	I	I1	K	L	N _{h11}	O	P	V	V1	V2	V3	Z
802	498	368	470	—	305	116	—	136	182	90	—	125	224	—	18	14	213	180	18	25	20	44.5	—	160
804	562	412	530	—	342	134	—	153	202.5	103.5	—	140	250	—	20	16	237	200	20	28	22.5	49	—	180
806	635	465	601	—	385	153	—	173	229	117	—	160	280	—	22	18	269	225	22	32	25	56.5	—	200
808	712	522	674	—	432	171	—	194	258	130	—	180	320	—	25	20	297	250	25	36	28	59.5	—	224
810	795	585	755	—	485	190	—	216	288	144	—	200	360	—	27	22	335	280	27	40	32	67.5	—	250
812	897	657	852	—	545	217.5	—	242	324.5	159.5	—	225	400	—	30	24	379	315	30	45	36	78.5	—	280
814	1000	735	950	—	610	240	—	271	363	179	—	250	450	—	33	27	427	355	33	50	40	89	—	320
816	1125	825	1069	—	685	272	—	305	407.5	202.5	—	280	500	—	36	30	479	400	36	56	45	96.5	—	360
818	1270	930	1206	—	770	308	—	345	460	230	—	315	560	—	39	35	541	450	39	63	50	114.5	—	400
820	1425	1045	1353	—	865	344	—	388	516.5	259.5	—	355	638	—	42	39	599	500	42	70	56	124	—	150
822	1570	1170	—	1440	970	—	335	770	300	300	60	400	—	335	45	—	675	560	—	—	—	—	56	—
824	1765	1315	—	1635	1090	—	385	865	320	320	60	450	—	385	48	—	761	630	—	—	—	—	60	—

	Albero uscita / Output shaft / Abtriebswelle								
									
	T m6	R	M	T H7	M1	T H7	M1	M3	
802	60	112	109	60	109	60	109	170	
804	70	125	121	70	121	70	121	192	
806	80	140	137	80	137	80	137	215	
808	90	160	151	90	151	90	151	246	
810	100	180	170	100	170	100	170	266	
812	110	200	192	110	192	110	192	302	
814	125	225	216	125	216	125	216	335	
816	140	250	242	140	242	140	242	370	
818	160	280	273	160	273	160	273	422	
820	180	315	302	180	302	180	302	477	
822	209	355	340	200	340	200	340	*	
824	220	400	383	220	383	220	383	*	

* A richiesta / On request / Auf Anfrage

								kg
		E70	E100	E125	E160	E180	E225	
		14	43	65	110	215	330	
G	802	418.5	407.5					99
G	804	430.5	419.5	478.5				138
G	806	448.5	437.5	496.5				243
G	808	462.5	451.5	510.5	590.5			273
G	810	461.5	450.5	509.5	611.5			382
G	812	482.5	471.5	530.5	633.5	648		534
G	814		497	556	657.5	650	784	758
G	816		522.5	581.5	686.5	700	808	1045
G	818			611.5	684.5	624	840	1464
G	820				714.5	649	880	2049
G	822				530	679	750	2346
G	824					714	785	3414
d		M6x18	M8x21	M10x27	M16x39	M16x39	M16x39	
Key		8x7x40	10x8x70	14x9x100	16x10x100	20x12x110	22x14x125	
U		28 j6	38 k6	48 k6	55 m6	70 m6	80 m6	
S		50	80	110	110	125	140	
W		120	138	154	172	240	290	
X		92	142	163	191	238	280	
Y		84	139	152	177	212	247	
Z1		70	110	130	150	180	215	





	E	S1	U1
E70	97	40	19 j6
E100	146	60	28 j6
E125	166	80	38 j6
E160	195	100	42 j6
E180	240	100	55 m6
E225	290	112	60 m6

IEC	P	MN	N G6	Q	K	SP	D
71	160	130	110	4.5	n° 4 x M8	12	14
80	200	165	130	4.5	n° 4 x M10	12	19
90	200	165	130	4.5	n° 4 x M10	12	24
100	250	215	180	5	n° 4 x M12	14	28
112	250	215	180	5	n° 4 x M12	14	28
132	300	265	230	5	n° 4 x M12	16	38
160	350	300	250	6	n° 4 x M16	18	42
180	350	300	250	6	n° 4 x M16	18	48
200	450	350	300	6	n° 4 x M16	20	55
225	450	400	350	6	n° 4 x M16	20	60

IEC	J												
	802	804	806	808	810	812	814	816	818	820	822	824	
E70	71												
	80	100	100	100	100	100	100						
	90												
E100	90	145	145										
	100			145	145	145	145	145	145				
	112												
E125	100												
	112		163	163	163								
	132				163	163	163	163	163				
E160	100												
	112				190	190							
	132					190	190	190	190	190			
	160							197	197	197			
E180	100												
	112					245							
	132						245	245	245	245	245	245	
	160												
E225	180												
	132						285						
	160							285					
	180								285	285	285	285	
200													

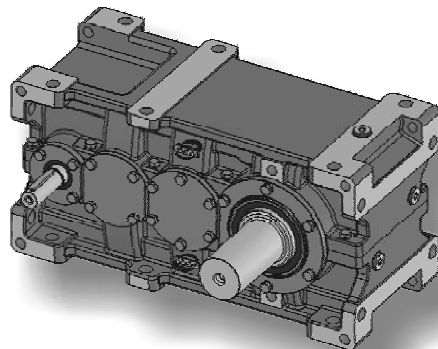
IEC	ZF												
	802	804	806	808	810	812	814	816	818	820	822	824	
E70	90												
	100	121	121										
	112			121	121	121	121						
	132												
E100	132			157	157	157	157	157	157				
	160												
E125	160					173	173	173	173	173			
	180												
E160	180									204	204	204	
	200												
E180	200									230	230	230	230
	225												

1.0 RIDUTTORI PER SOLLEVAMENTO GEAR UNITS FOR LIFTING APPLICATIONS GETRIEBE FÜR DEN HUBBETRIEB

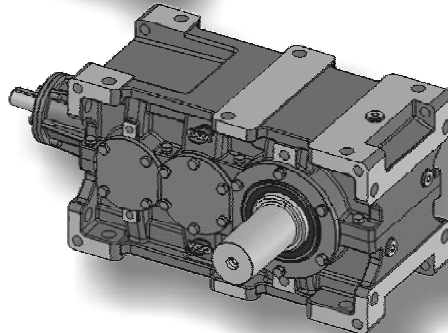
RXP..LIFT

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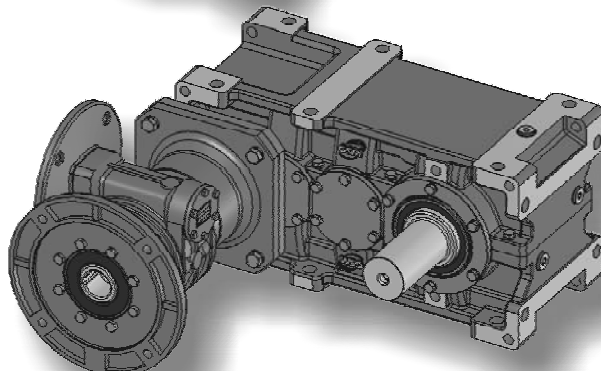
RXP



RXO



RXP/E



D



1.1 Caratteristiche costruttive

Generalità

Le dimensioni dei nostri riduttori e i rapporti di trasmissione seguono la serie dei numeri normali (serie di RENARD) Ra 20 UNI 2016.68. I particolari accorgimenti adottati nella costruzione della carcassa esterna conferiscono ai nostri riduttori un'ampia versatilità di montaggio.

La grande scelta disponibile del tipo di esecuzione ci permette di soddisfare anche le esigenze più particolari. L'elevato numero di rapporti di trasmissione, consente in alcuni casi di scegliere un riduttore di taglia inferiore. La suddivisione della carcassa in due parti e i coperchi fissati con viti consentono una facile manutenzione.

Il gruppo costituito da riduttore accoppiato a differenziale si presenta come compatta ed economica soluzione per le esigenze di doppia velocità: consente infatti di ottenere con due motorizzazioni due velocità distinte di sollevamento; una principale (alta velocità), l'altra secondaria per gli accostamenti (bassa velocità), stanti fra loro in un rapporto fisso intero selezionabile a richiesta fra 4 e 19. Il gruppo, realizzato appositamente per il funzionamento intermittente tipico del settore di applicazione, richiede che l'entrata non comandata venga frenata.

Ingranaggi

Gli ingranaggi cilindrici a dentatura elicoidale e le viti senza fine, sono rettificati dopo cementazione, tempra e rinvenimento finale.

L'ottimizzazione geometrica dell'ingranaggio unitamente ad una accurata lavorazione, assicura bassi livelli di rumorosità e garantisce elevati rendimenti:

- 0.92 per un riduttore a tre stadi di riduzione con differenziale in ingresso (rendimento dall'estremità principale del differenziale)

Tutti gli ingranaggi sono costruiti in:

- 16CrNi4, 20CrNi4, 18NiCrMo5, 20MnCr5 UNI 7846-78

La capacità di carico è stata calcolata a pressione superficiale e a rottura secondo la normativa ISO 6336 (a richiesta sono possibili verifiche secondo le norme AGMA 2001-C95)

La ruota a vite è in G-CuAl11Fe4 UNI 5274. L'ingranaggio a vite è stato verificato secondo le BS 721.

Alberi

Gli alberi lenti pieni sono realizzati in 39NiCrMo3 UNI 7845-78. Gli alberi veloci sono realizzati in 16 Cr Ni 4 UNI, 20MnCr5 UNI 7846-78 o in 39 Ni Cr Mo 3 UNI 7845-78.

1.1 Construction features

General description

Gear unit dimensions and transmission ratios follow a geometric progression based on the R20 series of preferred (or Renard) numbers in accordance with UNI 2016.68.

The casing incorporates special design features to provide the utmost mounting versatility.

Our exhaustive range of designs is guaranteed to meet the requirements of every application, no matter how specific. Our broad range of transmission ratios frequently allows selection of a smaller size. Split casing design and bolted covers ensure great ease of maintenance.

The gear unit is coupled with a differential unit to provide a compact, cost-effective solution for those applications that require two different lifting speeds, with a second approach (low) speed at a fixed ratio to main (high) speed. Speed ratios are whole numbers available in a range from 4 to 19. These units are expressly designed for intermittent duty - typically encountered in lifting applications - and require a brake on the non-driven input end.

Gearing

Helical spur gears and worm shafts are case hardened, hardened and tempered and ground finished.

Optimal gear geometry and high machining accuracy ensure low noise levels and higher efficiency:

- 0.92 for triple reduction gear unit with differential unit on input end (efficiency calculated from differential main shaft end)

All gear sets are in:

- 16CrNi4, 20CrNi4, 18NiCrMo5, 20MnCr5 UNI 7846-78

Load capacity is calculated at contact and root bending stress in accordance with standard ISO 6336 (gears can be rated to AGMA 2001-C95 on request).

Worm shafts are made from G-CuAl11Fe4 UNI 5274.

Worm gear calculations are validated to BS 721.

Shafts

Solid output shafts are manufactured from 39NiCrMo3 UNI 7845-78. Input shafts are made from 16 Cr Ni 4 UNI, 20MnCr5 UNI 7846-78 or 39 Ni Cr Mo 3 UNI 7845-78.

1.1 Konstruktionsmerkmale

Allgemeines

Die Baugrößen und Übersetzungen unserer Getriebe sind der normalen Nummernserie (RENARD Reihe) Ra 20 UNI 2016.68 gemäß ausgelegt.

Die besonderen Konstruktionsmerkmale der Gehäuse ermöglichen die Montage unserer Getriebe in den unterschiedlichsten Einbaulagen.

Das breite Angebot an Ausführungstypen versetzt uns in die Lage, auch den ausgefallenen Anforderungen unserer Kunden entsprechen zu können.

Die zahlreichen Übersetzungsverhältnisse räumen in einigen Fällen die Möglichkeit ein, ein kleineres Getriebe wählen zu können. Die zweiteiligen Gehäuse und die mit Schrauben befestigten Deckel erlauben eine einfache Wartung.

Die aus Getriebe und Differential bestehende Einheit ist eine kompakte und wirtschaftliche Lösung für Anwendungen, in denen zwei Geschwindigkeiten gefordert werden: Sie ermöglicht bei Einsatz von zwei Motorisierungen den Erhalt zwei unterschiedlicher Hubgeschwindigkeiten. Eine Hauptgeschwindigkeit (hoch) und eine sekundäre Geschwindigkeit für die Annäherungssteuerungen (niedrig). Diese stehen untereinander in einer festgelegten Verhältniseinheit, die auf Anfrage zwischen 4 und 19 gewählt werden kann. Diese Einheit, extra für den in diesem Applikationsbereich typischen Schaltbetrieb realisiert, erfordert ein Abbremsen des nicht gesteuerten Antriebs.

Zahnräder

Die das Evolventenprofil der Stirnrädergetriebe mit Schrägverzahnung und die Schnecken werden nach dem Einsatzhärten, dem Abschrecken und dem Anlassen geschliffen.

Die geometrische Optimierung des Zahnrads verbunden mit einer akkuraten Bearbeitung gewährleistet niedrige Geräuschentwicklung und einen hohen Wirkungsgrad:

- 0.92 bei Getrieben mit drei Getriebestufen und Differential am Antrieb (Wirkungsgrad am Hauptwellenende des Differentials)

Alle Zahnräder werden aus folgenden Material gefertigt:

- 16CrNi4, 20CrNi4, 18NiCrMo5, 20MnCr5 UNI 7846-78

Die Belastbarkeit wurde der Richtlinie ISO 6336 gemäß auf Oberflächendruck und Bruch berechnet (auf Anfrage können Überprüfungen den Normen AGMA 2001-C95 gemäß vorgenommen werden). Das Schneckenrad ist aus G-CuAl11Fe4 UNI5274 gefertigt und wurde gemäß BS 721 geprüft.

Wellen

Die vollen Abtriebswellen sind aus 39NiCrMo3 UNI 7845-78 realisiert. Die Antriebswellen dagegen aus 16 Cr Ni 4 UNI, 20MnCr5 UNI 7846-78 oder aus 39 Ni Cr Mo 3 UNI 7845-78.

Sono verificati a flessione-torsione con elevato coefficiente di sicurezza.

Le estremità d'albero cilindriche sono secondo UNI 6397-68, DIN 748, NF E 22.051, BS 4506-70, ISO/R 775-69, escluso corrispondenza R-S, con foro filettato in testa secondo DIN 1414.

Linguette secondo UNI 6604-69, DIN 6885 BI, 1-68, NF E 27.656 22.175, BS 4235.1-72, ISO/R 773-69 escluso corrispondenza I.

Cuscinetti

Tutti i cuscinetti sono del tipo a rulli conici o a rulli orientabili, di elevata qualità e dimensionati per garantire una lunga durata se lubrificati con il tipo di lubrificante previsto a catalogo.

Carcassa

La carcassa è ottenuta per fusione in GG 250 ISO 185 fino alla grandezza 820. Le altre grandezze sono in acciaio Fe430 EN UNI 10025 composto elettrosaldato e disteso. I particolari accorgimenti adottati nel disegno della struttura permettono di ottenere un' elevata rigidità.

1.2 Livelli di pressione sonora SPL [dB(A)]

Valori normali di produzione del livello medio di pressione sonora SPL (dB (A)) a velocità in entrata di 1450 giri/min (tolleranza +3 dB (A)). Valori misurati ad 1 m dalla superficie esterna del riduttore ed ottenuti su elaborazione di prove sperimentali eseguite. Per particolari esigenze è possibile fornire riduttori con livello medio di pressione sonora ridotto.

Shaft calculations incorporate a high safety factor and are validated by bending and torsional stress analyses.

Cylindrical shaft ends are in accordance with UNI 6397-68, DIN 748, NF E 22.051, BS 4506-70, ISO/R 775-69, excluding section R-S, with centre tapped hole at shaft end to DIN 1414.

Keys are in accordance with UNI 6604-69, DIN 6885 BI, 1-68, NF E 27.656 22.175, BS 4235.1-72, ISO/R 773-69 excluding section I.

Bearings

All bearings are high quality taper or self-aligning roller bearings suitably sized to ensure long service life provided the approved lubricants indicated in this catalogue are used.

Casing

Casings up to size 820 are cast from GG 250 ISO 185 cast iron. All other sizes use casings fabricated from electrically welded stress relieved Fe430 steel EN UNI 10025. Casing design incorporates special arrangements to provide superior rigidity.

1.2 Mean sound pressure levels SPL [dB(A)]

Noise levels are mean sound pressure levels SPL (dB (A)) and refer to normal operation at an input speed of 1450 rpm (tolerance +3 dB (A)). Measurements are taken at 1 m from the external surface of the gear unit and ratings are obtained by processing test data.

Gear units with lower noise levels to suit particular needs are available on request.

Sie werden unter Berücksichtigung eines hohen Sicherheitskoeffizienten auf Biegung-Windung getestet.

Die Enden der zylindrischen Wellen entsprechen den Normen UNI 6397-68, DIN 748, NF E 22.051, BS 4506-70, ISO/R 775-69, ausgenommen Zuordnung R-S, mit Gewindebohrung in der Wellenspitze DIN 1414. Die Federkeile entsprechen UNI 6604-69, DIN 6885 BI, 1-68, NF E 27.656 22.175, BS 4235.1-72, ISO/R 773-69, ausgenommen Zuordnung I.

Lager

Bei allen Lagern handelt es sich um hochqualitative Kegelrollenlager mit orientierungsfähigen Rollen und in Maßen, die so ausgelegt sind, dass sie bei Einsatz der gemäß Katalogangaben vorgesehenen Schmiermittel eine lange Lebensdauer garantieren.

Gehäuse

Die Gehäuse der Getriebe bis Baugröße 820 werden im Gussverfahren aus GG 250 ISO 185 gewonnen; die anderen Baugrößen sind aus elektroverschweißtem und entspanntem Kombistahl Fe430 EN UNI 10025 realisiert.

Die besonderen, beim Entwurf der Struktur berücksichtigten Vorkehrungen verleihen ihr eine besondere Steifheit.

1.2 Schalldruckpegel SPL [dB(A)]

Normale Werte des durchschnittlichen Schalldruckpegels SPL (dB (A)) bei einer Antriebsdrehzahl von 1450 U/min (Toleranz +3 dB (A)). Werte, die aus den Auswertungen der erfolgten experimentellen Tests, bei denen die Messung in 1 m Entfernung von der Getriebeoberfläche erfolgte, resultieren. Im Fall besonderer Anforderungen können Getriebe mit einem reduzierten durchschnittlichen Schalldruckpegel geliefert werden.

	RXPI/E		
	i < 40	40 ≤ i ≤ 100	i > 100
802	69	67	64
804	70	68	65
806	71	69	66
808	72	70	67
810	74	72	69
812	75	73	70
814	77	75	72
816	79	77	74
818	81	79	76
820	83	81	78

n ₁ [min ⁻¹]	2750	2400	2000	1750	1000	750	500	350
Δ SPL [dB(A)]	8	6	4	2	-2	-3	-4	-6

D



1.3 Selezione

I fattori di servizio da adottare per i diversi regimi di carico e durate (classi dei meccanismi) sono riportati inella tabella seguente nell'elaborazione della quale sono stati combinati i specifici criteri di selezione dei riduttori (durata, sovraccarichi, tipo di motorizzazione, frequenza avviamenti, velocità e affidabilità) con quelli dei meccanismi di sollevamento indicati dalle norme FEM 1.00/III'87 e ISO 4301/1.

1.3 Selection

Listed in the following table are the service factors according to load combinations and duty life (mechanism classification). These service factors are based on a combination of gear unit selection criteria (operation time, overload, type of motor drive, starts/stops per hour, speed and safety factor) and the specific selection criteria for lifting mechanisms in accordance with FEM 1.00/III'87 and ISO 4301/1.

1.3 Auswahl

Die für die verschiedenen Belastungen und Standzeiten anzusetzenden Betriebsfaktoren (Klassen der Mechanismen) werden in der folgenden Tabelle angegeben. Bei der Ausarbeitung dieser Tabelle wurden die spezifischen, von den Normen FEM 1.00/III'87 und ISO 4301/1 vorgegebenen Kriterien für die Getriebewahl (Standzeit, Überlastungen, Motorisierungstyp, Anlauf-frequenz, Drehzahl und Zuverlässigkeit) mit denen der Hubmechanismen kombiniert.

Tab. 1

fs		Durata / Duty life (2) / Standzeit (2)									
		not regular use	not regular use	not regular use	not regular use	regular use	regular use	regular use	infrequent use	intensive use	infrequent use
Condizioni di carico Load combinations Belastungsbedingungen (1)	T0 > 200 h	T1 > 200 h ≤ 400 h	T2 > 400 h ≤ 800 h	T3 > 800 h ≤ 1600 h	T4 > 1600 h ≤ 3200 h	T5 > 3200 h ≤ 6300 h	T6 > 6300 h ≤ 12500 h	T7 > 12500 h ≤ 25000 h	T8 > 25000 h ≤ 50000 h	T9 > 50000 h ≤ 100000 h	
		L1 Light km ≤ 0.125 k ≤ 0.5	fs ≥ Class	0.8 M1 (1 Dm)	0.8 M1 (1 Dm)	0.8 M1 (1 Dm)	0.8 M2 (1 Cm)	0.8 M3 (1 Bm)	0.8 M4 (1 Am)	0.8 M5 (2 m)	0.9 M6 (3 m)
	Starts/h	90	90	90	120	150	180	240	300	360	≥ 360
	duty serv	15%	15%	15%	20%	25%	30%	40%	50%	60%	60%
	kz ≥	0.83	0.83	0.83	0.83	0.83	0.83	0.83	0.74	0.60	0.51
L2 Moderate 0.125 < km ≤ 0.25 0.5 < k ≤ 0.63	fs ≥ Class	0.8 M1 (1 Dm)	0.8 M1 (1 Dm)	0.8 M2 (1 Cm)	0.8 M3 (1 Bm)	0.8 M4 (1 Am)	0.8 M5 (2 m)	0.9 M6 (3 m)	1.1 M7 (4 m)	1.3 * M8 (5 m)	1.3 * M8 (5 m)
	Starts/h	90	90	120	150	180	240	300	360	≥ 360	≥ 360
	duty serv	15%	15%	20%	25%	30%	40%	50%	60%	60%	60%
	kz ≥	0.83	0.83	0.83	0.83	0.83	0.83	0.74	0.60	0.51	0.44
L3 Heavy 0.25 < km ≤ 0.5 0.63 < k ≤ 0.8	fs ≥ Class	0.8 M1 (1 Dm)	0.8 M2 (1 Cm)	0.8 M3 (1 Bm)	0.9 M4 (1 Am)	0.9 M5 (2 m)	1 M6 (3 m)	1.1 M7 (4 m)	1.3 * M8 (5 m)	1.6 * M8 (5 m)	2.0 * M8 (5 m)
	Starts/h	90	120	150	180	240	300	360	≥ 360	≥ 360	≥ 360
	duty serv	15%	20%	25%	30%	40%	50%	60%	60%	60%	60%
	kz ≥	0.83	0.83	0.83	0.74	0.74	0.67	0.56	0.48	0.44	0.37
L4 Very heavy 0.5 < km ≤ 1 0.8 < k ≤ 1	fs ≥ Class	0.8 M2 (1 Cm)	0.8 M3 (1 Bm)	0.9 M4 (1 Am)	0.9 M5 (2 m)	1 M6 (3 m)	1.1 M7 (4 m)	1.3 * M8 (5 m)	1.6 * M8 (5 m)	2.0 * M8 (5 m)	2.2 * M8 (5 m)
	Starts/h	120	150	180	240	300	360	≥ 360	≥ 360	≥ 360	≥ 360
	duty serv	20%	25%	30%	40%	50%	60%	60%	60%	60%	60%
	kz ≥	0.83	0.83	0.74	0.74	0.67	0.56	0.48	0.44	0.37	0.33

* Non fornibili con estremità FD / FD configuration not available for this class / Nicht mit Wellenende FD lieferbar

Note:
(1)

Notes:
(1)

Hinweise:
(1)

$$k = (km)^{1/3} = (\sum_{i=1...n} ((\frac{P_i}{P_{max}})^3 \cdot (\frac{t_i}{T})))^{1/3}$$

- k: fattore di spettro equivalente medio.
- km: fattore di spettro.
- ti: durata media di ciascun livello di carico (i = 1...n).
- T: durata totale di uso.
- Pi: ampiezza di ciascun livello di carico.
- P_{max}: ampiezza del max livello di carico.
- L1: meccanismi soggetti solitamente a bassi carichi e raramente al max carico.
- L2: meccanismi soggetti solitamente a carichi moderati e raramente al max carico.
- L3: meccanismi soggetti normalmente a carichi pesanti e frequentemente al max carico.
- L4: meccanismi soggetti regolarmente al max carico.

- k: mean equivalent load spectrum factor.
- km: load spectrum factor.
- ti: average duration of each load (i = 1...n).
- T: total duty life.
- Pi: duration (portion of spectrum) of each load.
- P_{max}: duration of full load (rated capacity).
- L1: Usually light load, occasional full load.
- L2: Usually moderate load, occasional full load.
- L3: Usually heavy load, frequently full load.
- L4: Usually full load.

- k: Äquivalenter mittlerer Spektrumsfaktor.
- km: Spektrumsfaktor
- ti: durchschnittliche Dauer/Belastungsniveau (i = 1...n).
- T: Gesamte Einsatzdauer.
- Pi: Amplitude/ Belastungsniveau
- P_{max}: Amplitude des max. Belastungsniveau
- L1: Normalerweise unter niedriger Belastung und nur selten unter max. Belastung stehende Mechanismen.
- L2: Normalerweise unter durchschnittlicher Belastung und selten unter max. Belastung stehende Mechanismen.
- L3: Normalerweise unter schweren Belastung und häufig unter max. Belastung stehende Mechanismen.
- L4: Regulär unter max. Belastung stehende Mechanismen.

(2) Le durate sono teoriche convenzionali, non possono essere prese come garanzia e possono essere ricavate dall'utilizzazione media giornaliera, dal n° di giorni lavorativi e dagli anni previsti di funzionamento.

(2) *Duty life means projected equipment life calculated on the basis of average daily operating time, number of working days and expected service life in years according to rating conventions and no warranty is implied or given.*

(2) Bei den Angaben der Standzeiten handelt es sich um herkömmliche theoretische Werte, die daher nicht als Garantien stehen. Sie können aus dem durchschnittlichen täglichen Einsatz, der Anzahl der Arbeitstage und den für den Betrieb vorgesehenen Jahren errechnet werden.

(3) I fattori di servizio f_s indicati sono validi solo per apparecchi di sollevamento tengono conto del n° di avviamenti max indicato e di una coppia max sul riduttore durante gli intervalli di avviamento e frenatura T_{2max} , limitata dal fattore di picco k_z secondo quanto specificato al punto Verifiche.
Per la selezione di riduttori per le traslazioni e le rotazioni di gru e carrelli fare riferimento alle sezioni RXP e RXO.

(3) *Service factors f_s are valid for lifting equipment only; they are based on the max starts per hour indicated in the table and consider a max torque T_{2max} at gear unit during starting and braking up to a limit imposed by peak factor k_z as outlined at paragraph Verification.
Gear unit selection for track and slew drive applications in cranes and trolleys is discussed in sections RXP and RXO.*

(3) Die angegebenen Betriebsfaktoren f_s sind nur für einen Einsatz an Hubvorrichtungen gültig, dabei wird die angegebene max. Anzahl der Anläufe und ein max. Drehmoment des Getriebes während der Anläufe und Bremsungen T_{2max} berücksichtigt, das vom Spitzenfaktor k_z gemäß Angaben unter dem Punkt „Überprüfungen“ eingeschränkt wird.

Bei der Wahl der für einen Verfah- und Rotationsbetrieb von Kränen vorgesehenen Getriebe ist Bezug auf die Anschnitte RXP und RXO zu nehmen.

(4) Nel caso in cui $Fr_2 \leq (Fr_{2max} / 2)$ si può considerare:
L3-T8, L4-T7 $f_s \geq 1.3$;
L3-T9, L4-T8 $f_s \geq 1.6$;
L4-T9 $f_s \geq 1.8$

(4) *If $Fr_2 \leq (Fr_{2max} / 2)$, then:
L3-T8, L4-T7 $f_s \geq 1.3$;
L3-T9, L4-T8 $f_s \geq 1.6$;
L4-T9 $f_s \geq 1.8$*

(4) Im Fall, in dem $Fr_2 \leq (Fr_{2max} / 2)$ ist kann wie folgt berücksichtigt werden:
L3-T8, L4-T7 $f_s \geq 1.3$;
L3-T9, L4-T8 $f_s \geq 1.6$;
L4-T9 $f_s \geq 1.8$

Fattore correttivo delle prestazioni - f_N

Input speed factor - f_N

Korrekturfaktor der leistung - f_N

Fattore correttivo delle prestazioni nominali per tenere conto delle velocità in entrata $n_1 > 1450 \text{ min}^{-1}$.

This correction factor is used to adjust performance ratings to account for input speeds $n_1 > 1450 \text{ rpm}$.

Korrekturfaktor der Nennleistungen unter Berücksichtigung der Eingangsdrehzahlen $n_1 > 1450 \text{ min}^{-1}$.

Tab. 2

f_N

n_1 [min^{-1}]	$i_N \leq 8$		$8 < i_N < 80$		$i_N \geq 80$	
	T_N	P_N	T_N	P_N	T_N	P_N
2750	0.82	1.56	0.90	1.71	1.00	1.90
2400	0.85	1.41	0.92	1.52	1.00	1.66
2000	0.90	1.24	0.94	1.30	1.00	1.38



Dati di ingresso:

- 1) Tipologia
- 2) F: portata (kg)
- 3) i_e riduzione esterna (dovuta al numero dei tiri)
- 4) V: velocità di sollevamento (m/min)
- 5) η_e rendimento esterno
- 6) D: diametro del tamburo (mm)
- 7) Classe (M,L,T) dell'apparecchio di sollevamento

Input data:

- 1) Type
- 2) F: capacity (kg)
- 3) i_e external reduction (number of falls)
- 4) V: lifting speed (m/min)
- 5) η_e external efficiency
- 6) D: drum diameter (mm)
- 7) Lifting equipment class (M,L,T)

Eingabedaten:

- 1) Typologie
- 2) F: Tragfähigkeit (kg)
- 3) i_e externe Reduzierung (durch Zuganzahl)
- 4) V: Hubgeschwindigkeit (m/min)
- 5) η_e externer Wirkungsgrad
- 6) D: Trommeldurchmesser (mm)
- 7) Klasse (M,L,T) des Hebegeräts

Fattori di servizio:

Fs da tabella 1
Fn da tabella 2
(solo nel caso di riduttore senza differenziale)

Service factors:

Fs from table 1
Fn from table 2
(only for gear unit without differential unit)

Betriebsfaktoren:

Fs aus Tabelle 1
Fn aus Tabelle 2
(nur im Fall des Getriebes ohne Differential)

Momento torcente sul tamburo
Torque on drum
Drehmoment an Trommel

$$T_2 = \frac{F \cdot D}{\eta_e \cdot i_e \cdot 204} \text{ [Nm]}$$

Velocità angolare del tamburo
Drum angular speed
Winkelgeschwindigkeit der Trommel

$$n_2 = \frac{i_e \cdot V \cdot 318}{D} \text{ [min}^{-1}\text{]}$$

$$T_2 \cdot \frac{FS}{Fn} < T_N$$

Vedere tabelle prestazioni; selezionare grandezza riduttore
See rating tables; select gear unit size
Siehe Tabelle "Leistungen"; Getriebebaugröße wählen

RXP A25 RXO - RXV B21 RXP3/E D18

Rapporto di trasmissione
Gear ratio
Übersetzungsverhältnis

$$i = \frac{n_1}{n_2}$$

Rendimento riduttore η
Gearbox efficiency η
Wirkungsgrad des Getriebes

	RX	RX + E
RXP3	0.94	0.92
RXO2	0.93	—
RXO3	0.91	—

Potenza motrice necessaria
Power required to drive load
Erforderliche Antriebsleistung

$$P_1 = \frac{T_2 \cdot n_2}{9550 \cdot \eta} \text{ [kW]}$$

Riduttore con differenziale
Gear unit with differential unit
Getriebe mit Differential

NO / NEIN

Verifiche
Verification
Kontrollen

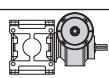
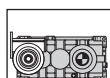
A7
B7

SI / YES / JA

Selezione grandezza differenziale
Select differential unit size
Wahl der Differentialgröße

$$P_1 \leq P_{ND} \text{ OR } T_1 \leq T_{1ND}$$

size E	70	100	125	160	180	225
P_{ND} [kW] (1450 min ⁻¹)	7.5	15	30	55	75	200
T_{1ND} [Nm]	49	99	198	362	494	1317



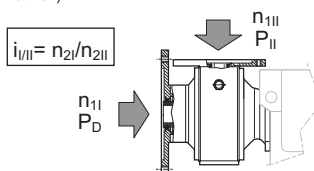
	E70	E100	E125	E160	E180	E225
RXP3 802						
RXP3 804						
RXP3 806						
RXP3 808						
RXP3 810						
RXP3 812						
RXP3 814						
RXP3 816						
RXP3 818						
RXP3 820						
RXP3 822						
RXP3 824						

Selezione potenza motore per velocità secondarie
Select motor capacity to suit second speed requirement
Wahl der Motorleistung für Sekundärdrehzahlen

$$P_{II} = P_1 \cdot k_2 \text{ [kW]}$$

	E70 - E100 - E125 - E160						
$i_{II/II}$	3.3	5	6.6	9.2	13.1	16.1	18.4*
k2	0.360	0.244	0.187	0.146	0.106	0.091	0.080
	E180 - E225						
$i_{II/II}$	4	5	6	10	13	15	19
k2	0.282	0.244	0.204	0.135	0.104	0.090	0.075

* Rapporto non standard su E/100. (A richiesta sono disponibili altri rapporti)
* Ratio not standard on E/100. (Other ratios available at request)
* Übersetzung kein Standard auf E/100. (Auf Anfrage sind weitere Übersetzungen erhältlich)



Fine selezione
End of selection
Auswahlabschluss

Verifiche
Controls
Kontrollen

D7

1.4 Verifiche

- 1) Compatibilità dimensionale con ingombri disponibili (es diametro del tamburo) e delle estremità d'albero con giunti, dischi o pulegge.
- 2) Compatibilità del rapporto selezionato con l'esecuzione albero cavo.
- 3) Compatibilità geometrica come da tabella in designazione.
- 4) Ammissibilità di carichi radiali e/o assiali esterni; i carichi radiali Fr_2 e Fr_1 ammissibili sono riportati nelle tabelle delle prestazioni.
- 5) Verifica posizione di montaggio.
- 6) Massimo sovraccarico.

1.4 Verification

- 1) Ensure that dimensions are compatible with space constraints (for instance, drum diameter) and shaft ends are compatible with any couplings, discs or pulleys to be used.
- 2) Ensure that selected ratio is available for the hollow shaft configuration.
- 3) Check geometric compatibility as per designation table.
- 4) Check that overhung and/or thrust loads do not exceed permissible loads; permissible overhung loads Fr_2 and Fr_1 are listed in the rating tables.
- 5) Check mounting position.
- 6) Maximum overload.

1.4 Überprüfungen

- 1) Compatibilità delle dimensioni con i disponibili misure (z.B. Trommeldurchmesser) und der Wellenenden mit den Kupplungen, Scheiben oder Riemenscheiben.
- 2) Kompatibilität des gewählten Übersetzungsverhältnisses mit der Ausführung der Hohlwelle.
- 3) Geometrische Kompatibilität gemäß Bezeichnungstabelle.
- 4) Zulässigkeit der externen Radial- und/oder Axialkräfte; die zulässigen Radialkräfte Fr_2 und Fr_1 werden in den Leistungstabellen angegeben.
- 5) Überprüfung der Einbaulage.
- 6) Max. Überlastung.

$$T_{2max} \leq \left(\frac{T_2}{k_2} \right) \text{ [Nm]}$$

Nel caso di frenature e/o avviamenti T_{2max} può essere considerata come quella parte della coppia accelerante (T_{2acc}) o decelerante (T_{2dec}) che passa attraverso l'asse lento del riduttore:

For braking and/or starting, T_{2max} may be considered as that portion of acceleration (T_{2acc}) or deceleration torque (T_{2dec}) passing through the gear unit output (low speed) shaft:

Bei Bremsungen und/oder Anläufen kann T_{2max} als der Teil des Beschleunigungsmoments (T_{2acc}) oder Abbremsmoment (T_{2dec}), der durch die Abtriebsachse des Getriebes läuft, angesehen werden:

Avviamento

Starting

Anlauf

$$T_{2max} = T_{2acc} = \left((0.45 \cdot (T_{1s} + T_{1max}) \cdot i \cdot \eta) - T_2 \right) \cdot \left(\frac{J}{J + J_0 \cdot \eta} \right) + T_2 \text{ [Nm]}$$

Frenatura

Braking

Bremsung

$$T_{2max} = T_{2dec} = \left(\left(\frac{T_{1f} \cdot i}{\eta} \right) - T_2 \right) \cdot \left(\frac{J}{J + \frac{J_0}{\eta}} \right) + T_2 \text{ [Nm]}$$

dove:

- J: momento d'inerzia della macchina e del riduttore ridotto all'asse motore (kgm^2)
- J_0 : momento d'inerzia delle masse rotanti sull'asse motore (kgm^2)
- T_{1f} : coppia frenante dinamica (Nm)
- T_{1s} : coppia motrice di spunto (Nm)
- T_{1max} : coppia motrice max (Nm)

Where:

- J: machine and gear unit inertial load reflected to motor shaft (kgm^2)
- J_0 : inertial load of rotating parts at motor shaft (kgm^2)
- T_{1f} : dynamic braking torque (Nm)
- T_{1s} : starting torque (Nm)
- T_{1max} : max drive torque (Nm)

Hier ist:

- J: An der Motorachse reduziertes Trägheitsmoment der Maschine und des Getriebes (kgm^2)
- J_0 : Trägheitsmoment der an der Motorachse drehenden Massen (kgm^2)
- T_{1f} : dynamisches Bremsmoment (Nm)
- T_{1s} : Anlaufantriebsdrehmoment (Nm)
- T_{1max} : Max. Antriebsmoment (Nm)

N.B Il differenziale E70 consente un funzionamento continuo.
Per applicazioni di questo tipo consultare il ns. servizio tecnico commerciale.

NOTE Differential unit E70 allows for continuous operation.
Please consult our Sales Engineers when selecting units for continuous duty applications.

HINWEIS: Das Differential E70 ermöglicht einen Dauerbetrieb. Für Applikationen dieser Art Beratung bei unserem Technischen Kundendienst einholen.

Nel caso di scelta di riduttori ad assi paralleli o ortogonali senza differenziale attenersi alle ulteriori verifiche riportate nelle sezioni di pertinenza (RXP, RXO).

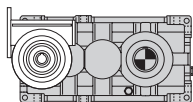
When selecting in-line helical or helical bevel gear units without differential unit, follow the verification procedures outlined in the relevant sections (RXP, RXO).

Werden Parallelachsen- oder Kegelstrinradgetriebe ohne Differential gewählt, die weiteren Überprüfungen und Kontrollen vornehmen, die in den entsprechenden Abschnitten (RXP, RXO) angegeben werden.



1.5 Designazione riduttori RXP3/E

Nei riduttori con differenziale è necessario indicare la designazione dei due prodotti come indicato di seguito.



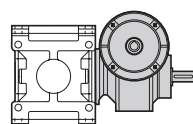
			[1*]	[2*]	[3*]	[4*]	[5*]	[6*]	[7*]	[8*]
RX	P	3	802	ABU	10	E100	—	N	M1	
Macchina Range Version	Posizione assi Centreline orientation Achsenposition	N° stadi No. of Reductions Stufen	Grandezza Size Baugröße	Esecuzione grafica Shaft arrangement Grafische Ausführung	In	Grandezza differenziale Differential unit size Differentialgröße	Materiale carcassa Casing material Gehäusematerial	Estremità uscita Output configuration Wellenende - Abtrieb	Posizione di montaggio Mounting position Einbaulage	Opzioni Options Optionen
RX	P	3	802 ... 820	A-B-AUD-BUS ABU-BBU C1-C2		E70 E100 E125 E160 E180 E225	— A GS	N C UB B FD FN D	M1 M2 M3 M4 M5 M6	

1.5 RXP3/E gear unit designation

Specify the designations of both gear unit and differential unit as outlined below.

1.5 Bezeichnung - RXP3/E-Getriebe

Bei Getrieben mit Differential muss die Bezeichnung der beiden Produkte gemäß der nachstehenden Angaben angegeben werden.



	[9*]							[10*]	[11*]	[12*]	[13*]	
E	9.2							100	PAM132	PAM80	RXP3 820	M1S
Tipo Type Typ	n_1/n_2							Grandezza differenziale Differential unit size Differentialgröße	Entrata principale Main input Hauptantrieb	Entrata secondaria Secondary input Nebenantrieb	Grandezza riduttore Gear unit size Getriebegröße	Posizione di montaggio Mounting position Einbaulage
E	3.3	5	6.6	9.2	13.1	16.1	18.4	70-100-125-160	ECE PAM..	ECE PAM..		M1S
	4	5	6	10	13	15	19	180-225				M1D
												M2S
												M2D
												M3S
												M3D
												M4S
												M4D

N.B.
Per la designazione dei riduttori senza differenziale (RXO, RXV, RXP) consulta le sezioni corrispondenti.

NOTE
For the designations of gear units without differential unit (RXO, RXV, RXP), please refer to the relevant sections.

HINWEIS:
Bezüglich der Bezeichnung der Getriebe ohne Differential (RXO, RXV, RXP) verweisen wir auf die entsprechenden Abschnitte.

Designazione motore elettrico

Se è richiesto un motoriduttore completo di motore è necessario riportare la designazione di quest' ultimo.
A tale proposito consultare il ns. catalogo dei motori elettrici Electronic Line.

Electric motor designation

For applications requiring a gearmotor, motor designation must be specified.
To this end, please refer to our Electronic Line electric motor catalogue.

Bezeichnung des Elektromotors

Wird ein Getriebemotor komplett mit Elektromotor angefordert, müssen dessen Daten angegeben werden.
Diesbezüglich verweisen wir auf unseren Katalog der Elektromotoren "Electronic Line".

[*1] Grandezza riduttore

Le grandezze dei riduttori ad assi paralleli vanno da 802 a 824; vedere il punto [4] per accoppiabilità riduttore differenziale.

[*1] Gear unit size

In-line helical gear units are available in sizes 802 through 824; please see item [4] for gear+differential unit combinations.

[*1] Getriebegröße

Die Baugrößen der Parallelachsengetriebe reichen von 802 bis 824. Siehe bezüglich der Passungsmöglichkeiten des Getriebes mit Differential auch Punkt [4].

[*2] Esecuzione grafica
(vedi pag. dimensionali)

[*2] Shaft arrangement
(please refer to dimension pages)

[*2] Grafische Ausführung
(siehe Seite mit Maßangaben)

[*3] Rapporto di riduzione i
(Vedi prestazioni)

[*3] Reduction ratio i
(See ratings)

[*3] Übersetzungsverhältnis i
(Siehe "Leistungen")

[*4] Grandezza differenziale

Nella tabella seguente sono riportati gli abbinamenti possibili tra differenziali e riduttori ad assi paralleli a 3 stadi di riduzione.

[*4] Differential unit size

Listed in the table below are the possible combinations of differential units and triple-reduction in-line helical gear units.

[*4] Differentialgröße

In der nachstehenden Tabelle werden die zwischen Differential- und Parallelachsengetrieben mit 3 Übersetzungsstufen möglichen Passungen angegeben.

Riduttore accoppiato Coupled gear unit Gepasstes Getriebe	Differenziale Differential unit Differential					
	E70	E100	E125	E160	E180	E225
RXP3 802						
RXP3 804						
RXP3 806						
RXP3 808						
RXP3 810						
RXP3 812						
RXP3 814						
RXP3 816						
RXP3 818						
RXP3 820						
RXP3 822						
RXP3 824						

[*5] Materiale carcassa

Materiale carcassa Casing material Gehäusematerial		802	804	806	808	810	812	814	816	818	820	822	824
Acciaio Steel Stahl	A												
Ghisa sferoidale Spheroidal cast iron Sphäroguss	GS												
Ghisa meccanica Engineering cast iron Maschinenguss	—												

[*6] Estremità uscita

[*6] Output Configuration

[*6] Wellenende - Abtrieb

N	C	UB	B	* FD	Fn	D

* Non fornibile per classe di sollevamento M8 / Not available for lifting class M8 / Für Hubklass M8 nicht lieferbar

[*7] Posizioni di montaggio

(vedi pag. D14)

[*7] Mounting positions

(see page D14)

[*7] Einbaulagen

(siehe Seite D14)

[*8] Opzioni disponibili

(vedi pag. G1)

[*8] Available options

(see page G1)

[*8] Verfügbare Optionen

(siehe Seite G1)

[*9] Rapporto fra la velocità massima e minima richieste.

[*9] Maximum to minimum speed ratio.

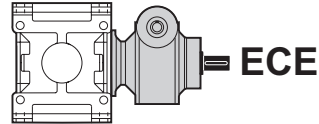
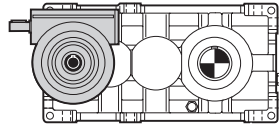
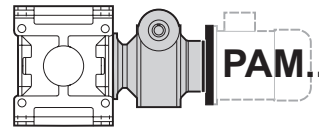
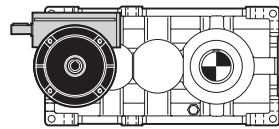
[*9] Verhältnis zwischen geforderter max. und min. Drehzahl

n ₂ /n ₂₁							Grandezza / Size / Größe
3.3	5	6.6	9.2	13.1	16.1	18.4	E70 - E100 E125 - E160
4	5	6	10	13	15	19	E180 - E225

[*10] Entrata principale

[*10] Main input

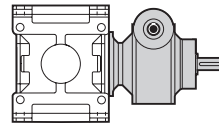
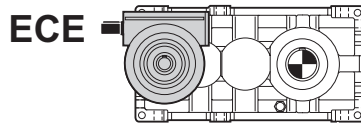
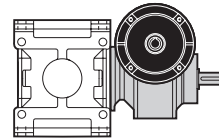
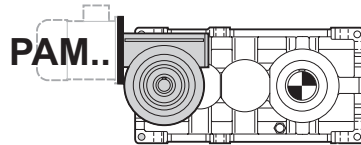
[*10] Hauptantrieb



[*11] Entrata secondaria

[*11] Secondary input

[*11] Nebenantrieb



[*12] Grandezza riduttore
Vedi punto [6] e [1].

[*12] Gear unit size
See items [6] and [1].

[*12] Getriebegröße
Siehe Punkt [6] und [1]

[*13] Posizioni di montaggio
Vedi paragrafo Lubrificazione.

[*13] Mounting positions
See paragraph Lubrication.

[*13] Einbaulage
Siehe Paragraph „Schmierung“

1.6 Lubrificazione

Gli oli disponibili appartengono generalmente a tre grandi famiglie:

- 1) Oli minerali
- 2) Oli sintetici Poli-Alfa-Olefine
- 3) Oli sintetici Poli-Glicole

La scelta più appropriata è generalmente legata alle condizioni di impiego. riduttori non particolarmente caricati e con un ciclo di impiego discontinuo, senza escursioni termiche importanti, possono certamente essere lubrificati con olio minerale.

Nei casi di impiego gravoso, quando i riduttori saranno prevedibilmente caricati molto ed in modo continuativo, con conseguente prevedibile innalzamento della temperatura, è bene utilizzare lubrificanti sintetici tipo polialfaolefine (PAO).

Gli oli di tipo poliglicole (PG) sono da utilizzare strettamente nel caso di applicazioni con forti strisciamenti fra i contatti, ad esempio nelle viti senza fine. Debbono essere impiegati con grande attenzione poiché non sono compatibili con gli altri oli e sono invece completamente miscibili con l'acqua. Questo fenomeno è particolarmente pericoloso poiché non si nota, ma deprime velocemente le caratteristiche lubrificanti dell'olio.

Oltre a questi già menzionati, ricordiamo che esistono gli oli per l'industria alimentare. Questi trovano specifico impiego nell'industria alimentare in quanto sono prodotti speciali non nocivi alla salute.

Vari produttori forniscono oli appartenenti a tutte le famiglie con caratteristiche molto simili. Più avanti proponiamo una tabella comparativa.

1.6 Lubrication

Available oils are typically grouped into three major classes:

- 1) Mineral oils
- 2) Poly-Alpha-Olefin synthetic oils
- 3) Polyglycol synthetic oils

Oil is normally selected in accordance with environmental and operating conditions. Mineral oil is the appropriate choice for moderate load, non-continuous duty applications free from temperature extremes.

In severe applications, where gear units are to operate under heavy loads in continuous duty and high temperatures are expected, synthetic Poly-Alpha-Olefin oils (PAO) are the preferred choice.

Polyglycol oils (PG) should only be used in applications involving high sliding friction, as is the case with worm shafts. These particular oils should be used with great care, as they are not compatible with other oils, but are totally mixable with water. The oil mixed with water cannot be told from uncontaminated oil, but will degrade very rapidly.

In addition to the oils mentioned above, there are food-grade oils. These are special oils harmless to human health for use in the food industry.

Oils with similar characteristics are available from a number of manufacturers.

A comparative overview table is provided at the next pages.

1.6 Schmierung

Die verfügbaren Öle gehören im Allgemeinen drei großen Familien an:

- 1) Mineralöle
- 2) Polyalphaolefine-Synthetiköle
- 3) Polyglykol-Synthetiköle

Die angemessene Wahl ist im Allgemeinen an die Einsatzbedingungen gebunden. Getriebe, die keinen besonders schweren Belastungen ausgesetzt sind und einem unregelmäßigen Einsatzzyklus unterliegen, ohne starke thermische Ausschläge, können problemlos mit Mineralöl geschmiert werden.

Bei einem Einsatz unter harten Bedingungen, d.h. wenn die Getriebe stark und andauernd belastet werden, woraus sich ein sicherer Temperaturanstieg ergibt, sollten Synthetiköle, Typ Polyalphaolefine (PAO), verwendet werden.

Die Öle, Typ Polyglykole (PG), sind ausschließlich für einen Einsatz ausgelegt, bei denen es zu starken Reibungen zwischen den in Kontakt stehenden Elementen kommt, z.B. bei Schnecken. Bei ihrem Einsatz in besondere Aufmerksamkeit erforderlich, da sie nicht mit anderen Ölen kompatibel sind, sich jedoch vollständig mit Wasser vermischen lassen. Diese Tatsache erweist sich daher als besonders gefährlich, da sie sich nicht feststellen lässt, jedoch die Schmiereigenschaften des Öls bereits nach kurzer Zeit unterdrückt.

Über die bereits genannten Öle hinaus, gibt es auch Öle, die speziell für die Lebensmittelindustrie ausgelegt sind. Diese finden demzufolge dort ihren Einsatz, da es sich dabei um spezielle Produkte handelt, die für die Gesundheit unschädlich sind.

Die den jeweiligen Familien angehörigen Ölarten werden von verschiedenen Herstellern angeboten; sie weisen jeweils sehr ähnliche Eigenschaften auf.

Auf der folgenden Seite finden Sie eine entsprechende Vergleichstabelle.

Input speed n_1 (min ⁻¹)	Absorbed power (kW)	Viscosity ISO VG at 40° (cSt)	
		Differenziale Differential unit Differential	Riduttore Gear unit Getriebe
1000 < n_1 ≤ 2000	P < 7.5	220	220
	7.5 ≤ P ≤ 37		320
	P > 37		460

Frequenza cambi olio [h]
Oil change intervals [H]
Frequenz – Ölwechs el [h]

Tipo olio Oil type Öltyp	Temperatura olio Oil temperature Öltemperatur		
	65°C	80°C	90°C
Minerale Mineral Mineralöl	8000	3000	1000
Sintetica Synthetic Synthetiköl	20000	15000	9000

Produttore Manufacturer Hersteller	Oli Minerali Mineral oils Mineralöle			Oli Sintetici Polialfaolefine (PAO) Poly-Alpha-Olefin synthetic oils (PAO) Polyalphaolefine- Synthetiköle (PAO)			Oli Sintetici Poliglicoli (PG) Polyglycol synthetic oils (PG) Polyglykol-Synthetiköle (PG)		
	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG
	150	220	320	150	220	320	150	220	320
AGIP	Blasia 150	Blasia 220	Blasia 320	-	Blasia SX 220	Blasia SX 320	Blasia S 150	Blasia S 220	Blasia S 320
ARAL	Degol BG 150 Plus	Degol BG 220 Plus	Degol BG 320 Plus	Degol PAS 150	Degol PAS 220	Degol PAS 320	Degol GS 150	Degol GS 220	Degol GS 320
BP	Energol GR-XP 150	Energol GR-XP 220	Energol GR-XP 320	Energol EPX 150	Energol EPX 220	Energol EPX 320	Energol SG 150	Energol SG-XP 220	Energol SG-XP 320
CASTROL	Alpha SP 150	Alpha SP 220	Alpha SP 320	Alphasyn EP 150	Alphasyn EP 220	Alphasyn EP 320	Alphasyn PG 150	Alphasyn PG 220	Alphasyn PG 320
CHEVRON	Ultra Gear 150	Ultra Gear 220	Ultra Gear 320	Tegra Synthetic Gear 150	Tegra Synthetic Gear 220	Tegra Synthetic Gear 320	HiPerSYN 150	HiPerSYN 220	HiPerSYN 320
ESSO	Spartan EP 150	Spartan EP 220	Spartan EP 320	Spartan S EP 150	Spartan S EP 220	Spartan S EP 320	Glycolube 150	Glycolube 220	Glycolube 320
KLÜBER	Klüberoil GEM 1-150	Klüberoil GEM 1-220	Klüberoil GEM 1-320	Klübersynth EG 4-150	Klübersynth EG 4-220	Klübersynth EG 4-320	Klübersynth GH 6-150	Klübersynth GH 6-220	Klübersynth GH 6-320
MOBIL	Mobilgear XMP 150	Mobilgear XMP 220	Mobilgear XMP 320	Mobilgear SHC XMP 150	Mobilgear SHC XMP 220	Mobilgear SHC XMP 320	Glygoyle 22	Glygoyle 30	Glygoyle HE320
MOLIKOTE	L-0115	L-0122	L-0132	L-1115	L-1122	L-1132	-	-	-
OPTIMOL	Optigear BM 150	Optigear BM 220	Optigear BM 320	Optigear Synthetic A 150	Optigear Synthetic A 220	Optigear Synthetic A 320	Optiflex A 150	Optiflex A 220	Optiflex A 320
Q8	Goya 150	Goya 220	Goya 320	El Greco 150	El Greco 220	El Greco 320	Gade 150	Gade 220	Gade 320
SHELL	Omala 150	Omala 220	Omala 320	Omala HD 150	Omala HD 220	Omala HD 320	Tivela S 150	Tivela S 220	Tivela S 320
TEXACO	Meropa 150	Meropa 220	Meropa 320	Pinnacle EP 150	Pinnacle EP 220	Pinnacle EP 320	-	Synlube CLP 220	Synlube CLP 320
TOTAL	Carter EP 150	Carter EP 220	Carter EP 320	Carter SH 150	Carter SH 220	Carter SH 320	Carter SY 150	Carter SY 220	Carter SY 320
TRIBOL	1100/150	1100/220	1100/320	1510/150	1510/220	1510/320	800/150	800/220	800/320

Lubrificanti sintetici per uso alimentare / Food-grade synthetic lubricants / Schmiermittel Synthetik für Lebensmittelbereich

AGIP				Rocol Foodlube Hi-Torque 150	—	Rocol Foodlube Hi-Torque 320			
ESSO				—	Gear Oil FM 220	—			
KLÜBER				Klüberoil 4 UH1 N 150	Klüberoil 4 UH1 N 220	Klüberoil 4 UH1 N 320			
MOBIL				DTE FM 150	DTE FM 220	DTE FM 320			
SHELL				Cassida Fluid GL 150	Cassida Fluid GL 220	Cassida Fluid GL 320			

Lubrificazione differenziale

Differential unit lubrication

Schmierung des Differentials

Generalità

Si consiglia l'uso di oli a base sintetica. Nella tab. 2.2 sono riportati i quantitativi di olio necessari per il corretto funzionamento dei riduttori.

General information

The use of synthetic oil is recommended. The correct oil quantities for proper gear unit operation are reported in tab. 2.2.

Allgemeines

Es wird der Einsatz von synthetischem Öl empfohlen. In der Tabelle Tab. 2.2 werden die für einen störungsfreien Betrieb der Getriebe erforderlichen Ölfüllmengen angegeben.

Prescrizioni in fase di ordine e stato di fornitura

I riduttori delle grandezze 70 sono forniti completi di olio sintetico di viscosità ISO 320.

I riduttori delle grandezze 100, 125, 160, 180, 225 sono forniti predisposti per lubrificazione ad olio ma privi di lubrificante il quale potrà essere fornito a richiesta. È sempre necessario specificare la posizione di montaggio.

Information required on order - Delivery condition

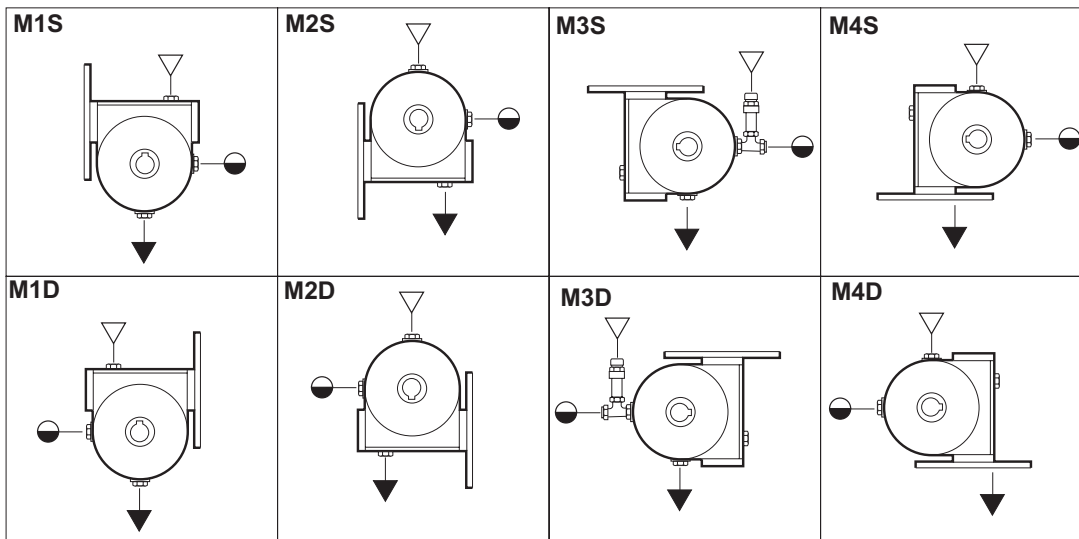
Size 70 gear units are factory filled with ISO 320 synthetic oil.

Sizes 100, 125, 160, 180 and 225 are oil lubricated, but are supplied dry. Lubricant is available on request. Always specify the desired mounting position.

Vorgaben für Bestellung und Lieferzustand

Die Getriebe in den Baugrößen 70 werden komplett mit Synthetiköl mit einer Viskosität ISO 320 geliefert.

Die Getriebe in den Baugrößen 100, 125, 160, 180 und 225 sind bei der Lieferung für die Ölschmierung vorbereitet, enthalten jedoch kein Schmiermittel. Dieses kann jedoch auf Anfrage geliefert werden. Bei diesen Getrieben muss immer die Einbaulage angegeben werden.



Quantità di lubrificante / Lubricant Quantity / Schmiermittelmenge (l)							
E	Posizioni di montaggio Mounting Positions Einbaulage (S,I,D,F)						Stato di fornitura Delivery condition Lieferzustand
	M1	M2	M3	M4	M5	M6	
70	0.700						Riduttori forniti completi di lubrificante sintetico Factory filled with synthetic oil Getriebe werden mit Synthetiköl geliefert
100	2.6		2.1 ⁽¹⁾			Riduttori predisposti per lubrificazione ad olio Oil lubricated, supplied dry Getriebe sind für Ölschmierung ausgelegt	
125	4.1		2.9 ⁽¹⁾				
160	6.0		5.0 ⁽¹⁾				
180	9.8		7.8 ⁽¹⁾				
225	14		11.5 ⁽¹⁾				

(1) Quantità indicative; durante il riempimento attenersi alla spia di livello.

(1) Indicative quantities, check the oil sight glass during filling.

(1) Ungefähre Mengen; beim Füllen auf das Schauglas Bezug nehmen.

A) In tutte le grandezze di differenziale è necessario in fase d'ordine indicare la posizione di montaggio sia se i riduttori sono richiesti con olio sia privi di lubrificante. Particolare attenzione va posta per i riduttori da gr. 100 a gr. 125 montati nelle posizioni M3 e M4 che sono forniti con il cuscinetto schermato.

A) For differential units, mounting position must always be specified for all sizes, regardless of gear unit delivery condition (factory filled or dry). Particular attention is required for gear unit sizes 100 to 125 designated for mounting positions M3 and M4, as they use a shielded bearing.

A) Für alle Baugrößen der Differentialgetriebe muss in der Auftragsphase die Einbaulage angegeben werden. Dies gilt sowohl für Bestellung von mit Öl gefüllten Getrieben als auch für Getriebe ohne Schmiermittel. Besondere Aufmerksamkeit sollte den Getrieben der Größen 100 bis 125 zukommen, die in den Einbaulagen M3 und M4 montiert werden und mit abgeschirmtem Lager geliefert werden.

B) Per i differenziali delle grandezze 100, 125, 160, 180, 225 nelle posizioni M1 non fare riferimento alla spia di livello ma attenersi ai quantitativi indicati. (La quantità d'olio necessaria supera il livello del differenziale).

B) For size 100, 125, 160, 180, 225 differential units in mounting position M1, disregard the sight glass and fill with the specified quantity of oil. (Correct oil level exceeds level mark on differential unit sight glass).

B) Bei den Differentialgetrieben der Baugrößen 100, 125, 160, 180, 225 in den Einbaulagen M1 ist nicht auf das Schauglas, sondern auf die angegebenen Mengen Bezug zu nehmen. (Die erforderliche Ölmenge übersteigt den Füllstand des Differentialgetriebes).

C) Il tappo di sfiato è allegato solo nei riduttori che hanno più di un tappo olio.

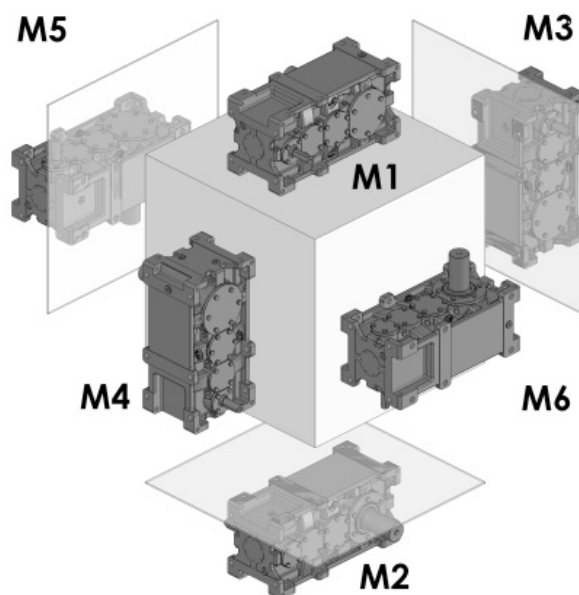
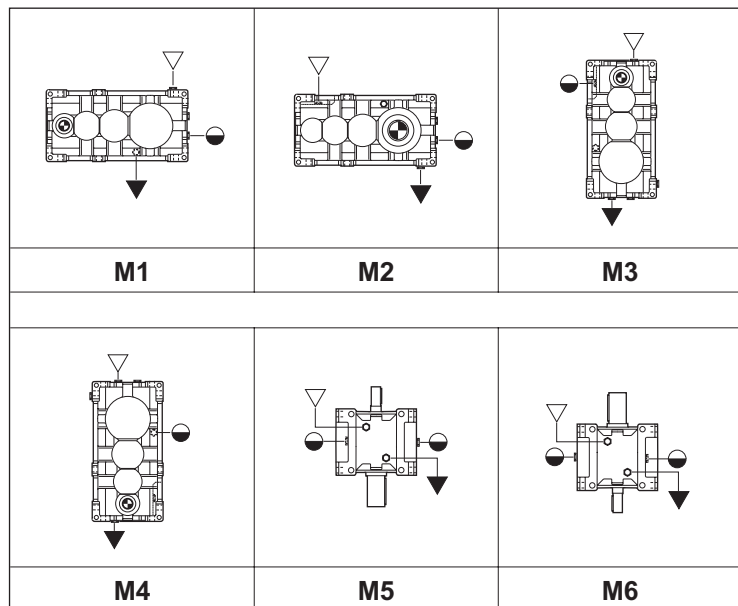
C) A breather plug is only supplied when gear unit has more than one oil plugs.

C) Die Entlüftungsschraube ist lediglich bei den Getrieben vorhanden, die über mehr als einen Ölfüllstopfen verfügen.

Posizioni di montaggio

Mounting positions

Einbaulagen



- ▽ Carico / Breather plug / Fill / Entlüftungsschraube
- ▼ Livello / Level / Schauglas
- Scarico / Drain / Ablassschraube

L'esecuzione grafica rappresentata è la A.
 Per le altre esecuzioni grafiche vedere sezione POSIZIONI MONTAGGIO.
 The noted version is A.
 To see further alternatives please refer to section MOUNTING POSITIONS.
 Die dargestellte Version ist A.
 Für die anderen Versionen siehe MONTAGEPOSITIONEN.

		Quantità di lubrificante / Lubricant Quantity / Schmiermittelmenge (l)											
		802	804	806	808	810	812	814	816	818	820	822	824
RXP3	M1 - M2	3.9	5.5	7.6	11	15	21	29	41	58	81	113	158
	M3	8.1	11	15	22	32	44	62	87	125	175	246	345
	M4	6.6	9.2	13	18	26	36	50	71	102	144	201	285
	M5 - M6	5.1	7.3	10	14	20	28	40	56	79	111	156	218

Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

Bei den Ölmengenangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den am Getriebe gekennzeichneten Füllstand genommen werden.

ATTENZIONE

Eventuali forniture con predisposizioni tappi diverse da quella indicata in tabella, dovranno essere concordate.

WARNING

Any plug arrangements other than that indicated in the table must be agreed upon.

ACHTUNG

Eventuelle Lieferungen mit einer von den Tabellenangaben abweichenden Anordnung der Stopfen, müssen zuvor abgestimmt werden.

Lubrificazione cuscinetti superiori RXP3+E

RXP3+E upper bearing lubrication

Schmierung der obenliegenden Lager RXP3+E

In caso di montaggio in posizione M5 ed M6 per le grandezze da 802 a 820 la lubrificazione dei cuscinetti superiori del riduttore ad assi paralleli viene assicurata tramite grasso lunga vita ed anelli nilos. Per le grandezze superiori consultare il ns. servizio tecnico commerciale.

In-line helical gear unit sizes 802 through 820 designated for mounting positions M5 and M6 have upper bearings charged with long-life grease and Nilos rings. For larger sizes, please contact our Sales Engineers.

Bei einer Einbaulage in der Position M5 und M6 wird die Schmierung der oberen Lager des Parallelachsengetriebe bei den Baugrößen 802 bis 820 durch den Einsatz eines "long life"-Fetts mit Nilos-Ringen gesichert. Für darüber liegende Baugrößen ist Beratung bei unseren Technischen Kundendienst einzuholen.

1.7 Verifica carichi radiali e assiali

Qualora il collegamento tra riduttore e macchina operatrice sia effettuato con mezzi che generano carichi radiali sull'estremità d'albero lento, occorre fare le seguenti verifiche.

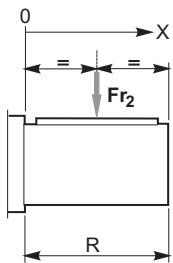
Calcolo Fr₂'

I carichi massimi Fr₂ sono calcolati con Fs=1 ed a una distanza dalla battuta dell'albero lento di 0.5 R.

Per distanze variabili tra 0 e una distanza "X" bisogna utilizzare le tabelle seguenti:

Fr₂ con coefficiente A ;

Fr₂ con coefficiente C nel caso di flange FD.



$$Fr_2' = Fr_2 \cdot \left(\frac{A}{A + X - \frac{R}{2}} \right)$$

$$Fr_2' = Fr_2 \cdot C$$

use only for FD, FDn execution
use only for FD, FDn configuration

1.7 Overhung and thrust load verification

When a gear unit is connected to prime mover or driven machine using overhung drive members that place a radial load on input or output shaft end, check the following loads.

Fr₂' calculation

Load capacity ratings Fr₂ consider a service factor Fs=1 and load location at a 0.5 R distance from output shaft shoulder.

Where load is applied at a distance from shoulder between 0 and an "X" distance, refer to the following tables:

Fr₂ with load location factor A;

Fr₂ with load location factor C if an FD flange is used.

1.7 Überprüfung der Radial- und Axialkräfte

Erfolgt die Verbindung zwischen Getriebe und Arbeitsmaschine mit Vorrichtungen, die Radialkräfte auf das Ende der Abtriebswelle ausüben, sind folgende Überprüfungen erforderlich.

Berechnung von Fr₂'

Die maximalen Belastungskräfte Fr₂ werden mit Fs=1 und auf einem Abstand vom Wellenansatz von 0.5 R im Fall der Abtriebswelle berechnet.

Bei zwischen 0 und einer Distanz "X" variierenden Abständen müssen folgende Tabellen verwendet werden:

Fr₂ mit Koeffizient A;

Fr₂ mit Koeffizient C bei FD-Flanschen.

Fr ₂ ' [N]	Carico radiale ammissibile su albero uscita alla distanza X	Permissible output shaft OHL at distance X	An Abtriebswelle auf Distanz X zulässige Radialkraft
Fr ₂ [N]	Carico radiale ammissibile su albero uscita indicato a catalogo	Output shaft OHL capacity as per catalogue rating	An Abtriebswelle gemäß Katalogangaben zulässige Radialkraft
X [mm]	Distanza dalla battuta dell'albero	Distance from shaft shoulder	Distanz vom Wellenansatz
R [mm]	Sporgenza dell'albero uscita	Output shaft projection	Überstand der Abtriebswelle
A	Coefficiente da tabella	Load location factor from table	Koeffizient aus Tabelle
C	Coefficiente da tabella	Load location factor from table	Koeffizient aus Tabelle

Coefficienti correttivi del carico radiale di catalogo in uscita Fr₂ in funzione della distanza dalla battuta
Load location factors to adjust output OHL capacity rating Fr₂ based on distance from shoulder
Korrekturkoeffizient der Radialkraft am Abtrieb Fr₂ gemäß Katalog in Abhängigkeit des Ansatzabstands

	RXP									
	802	804	806	808	810	812	814	816	818	820
A	99	109	124	137	156	175	200	225	236	261
C	1.32	1.35	1.39	1.46	1.49	1.43	1.32	1.32	1.33	1.35

Calcolo Fr

Per calcolare il carico Fr agente sull'albero lento diamo formule approssimate per alcune trasmissioni più comuni, per la determinazione del carico radiale su albero veloce o lento.

Fr calculation

Use the formula and the approximate factors for input or output overhung load determination referred to the most common drive members to calculate Fr load at output shaft.

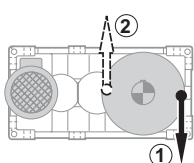
Berechnung der Fr

Für die Berechnung der an der Abtriebswelle wirkenden Belastungen Fr geben wir approximative Formeln an, die für einige der allgemeinen Antriebsformen zum Bestimmen der auf die An- oder Abtriebswelle einwirkenden Radialkraft verwendet werden können.

$$Fr = k \cdot \frac{T}{d}$$

Fr [N]	Carico radiale approssimato Approximate overhung load Approx. Wert - Radialkraft	d [mm]	Diametro pulegge, ruote Pulley diameter, wheels Durchmesser Räder, Riemenscheiben	k	Fattore di collegamento Connection factor Anschlusswert	T [Nm]	Momento torcente Torque Drehmoment
--------	--	--------	--	---	---	--------	--

k =	7000	5000	3000	2120	2000
Trasmissioni Drive member Antriebe	Ruote di frizione (gomma su metallo) Friction wheel drive (rubber on metal) Kupplungsräder (Gummi auf Metall)	Cinghie trapezoidali V belt drives Keilriemen	Cinghie dentate Toothed belts Zahnriemen	Ingranaggi cilindrici Spur gears Zylinderzahnräder	Catene Chain drives Ketten



Nel caso di sollevamento con tamburo con tiro verso il basso è preferibile che la fune si avvolga dalla parte opposta al motore (1).
Nel caso più gravoso del precedente, con tiro verso l'alto, viceversa è preferibile che la fune si avvolga dal lato motore (2).

In lifting applications using winch drums in a downward pull direction, it is best for the rope to wrap on the side opposite to the motor (1).
In the more severe case of upward pull direction, the rope should wrap on motor side (2).

Bei Hebeverfahren mit einer Trommel mit Zugkraft nach unten, sollte das Seil auf der dem Motor (1) entgegen gesetzten Seite aufgerollt werden.
Im Fall eines härteren Einsatzes als den zuvor genannten, mit Zugkraft nach oben, sollte das Seil dagegen an der Motorseite (2) aufgewickelt werden.

Verifiche

Caso A)
Per carichi radiali minori di $0.25 Fr_2'$ è necessario verificare soltanto che contemporaneamente al carico radiale sia presente un carico assiale non superiore a 0.2 volte Fr_2' ;

Caso B)
Per carichi radiali maggiori di $0.25 Fr_2'$;
1) Calcolo abbreviato: Fr (output) $< Fr_2'$ e che contemporaneamente al carico radiale sia presente un carico assiale non superiore a 0.2 volte Fr_2' ;

2) Calcolo completo per il quale occorre fornire i seguenti dati:
- momento torcente applicato o potenza applicata
- n_2 (giri al minuto dell'albero dell'albero lento)
- carico radiale Fr (direzione, intensità, verso)

Verification

Case A)
For overhung loads lower than $0.25 Fr_2'$, ensure that the thrust load applied simultaneously with OHL is not greater than 0.2 times Fr_2' ;

Case B)
For overhung loads greater than $0.25 Fr_2'$;
1) Quick calculation method: Fr (output) $< Fr_2'$ and thrust load applied simultaneously with OHL not greater than 0.2 times Fr_2' ;

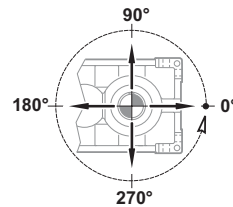
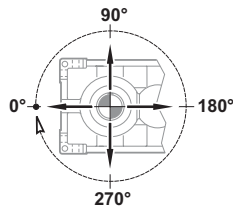
2) For the standard calculation method, the following information is required:
- applied torque or power
- n_2 (output shaft rpm)
- overhung load Fr (orientation, amount of loading, direction)

Überprüfungen

Fall A)
Bei Radialkräften unter $0.25 Fr_2'$ muss nur überprüft werden, dass gleichzeitig mit der Belastung durch die Radialkraft auch eine Axialkraft von nicht mehr als 0.2 Mal Fr_2' vorliegt.

Fall B)
Bei Radialkräften über $0.25 Fr_2'$:
1) Verkürzte Berechnungsgleichung: Fr (output) $<Fr_2'$ und dass gleichzeitig mit der Belastung durch die Radialkraft auch eine Axialkraft von nicht mehr als 0.2 Mal Fr_2' vorliegt.

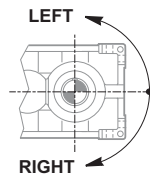
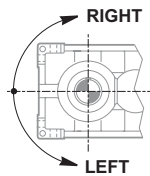
2) Vollständige Berechnungsgleichung für die folgende Daten erforderlich sind:
- appliziertes Drehmoment oder applizierte Leistung
- n_2 (Drehungen/Minute der Abtriebswelle)
- Radialkraft Fr (Richtung, Intensität, Seite)



-senso di rotazione dell'albero

-direction of rotation of shaft

- Drehrichtung der Welle



- grandezza e tipo del riduttore scelto
- tipo olio impiegato e sua viscosità
- esecuzione grafica assi:
- carico assiale presente Fa

-size and type of selected gear unit
- oil type and viscosity
- shaft arrangement:
- actual thrust load Fa

- Baugröße und Typ des gewählten Getriebes
- verwendeter Öltyp und dessen Viskositätsgrad
- grafische Achsausführung
- vorliegende Axialkraft Fa

Consultare il supporto Tecnico per la verifica.

Please contact our Engineering for a verification.

Für eine Überprüfung die Technischen Unterlagen konsultieren.

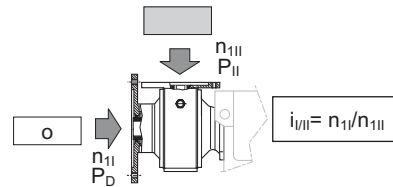
1.8 Prestazioni differenziale

1.8 Differential unit ratings

1.8 Leistungen- Differentialgetriebe

			E70 - E100 - E125 - E160							
			i_{III}	3.3	5	6.6	9.2	13.1	16.1	18.4*
			E180 - E225							
			i_{III}	4	5	6	10	13	15	19
	P_D [kW] (1450 min ⁻¹)	T_{1D} [Nm]	IEC	Applicabilità IEC / IEC compatibility / Applikationsmöglichkeit IEC						
E70	7.5	49	71							
			80							
			90	o	o	o	o	o	o	o
			100	o	o	o	o	o	o	o
			112	o	o	o	o	o	o	o
			132	o	o	o	o	o	o	o
E100	15	99	90							
			100							
			112							
			132	o	o	o	o	o	o	o
E125	30	198	160	o	o	o	o	o	o	o
			100							
			112							
			132							
E160	55	362	160	o	o	o	o	o	o	o
			180	o	o	o	o	o	o	o
			100							
			112							
E180	75	494	132							
			160							
			180							
			200	o	o	o	o	o	o	o
E225	200	1317	225	o	o	o	o	o	o	o
			132							
			160							
			180							
			200							

* Rapporto non standard su E/100. (A richiesta sono disponibili altri rapporti)
 * Ratio not standard on E/100. (Other ratios available at request)
 * Übersetzung kein Standard auf E/100. (Auf Anfrage sind weitere Übersetzungen erhältlich)



	E70	E100	E125	E160	E180	E225
RXP3 802						
RXP3 804						
RXP3 806						
RXP3 808						
RXP3 810						
RXP3 812						
RXP3 814						
RXP3 816						
RXP3 818						
RXP3 820						
RXP3 822						
RXP3 824						

1.9 RXP3 applicato al differenziale

1.9 RXP3 coupled with differential unit

1.9 Am Differential appliziertes RXP3-Getriebe

n_1 min ⁻¹	802					804					806					808				
	ir	n_2 min ⁻¹	P_N kW	T_N kNm	Fr_2 kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	Fr_2 kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	Fr_2 kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	Fr_2 kN
1450	31.7	45.8	14.0	2.7	12	33.5	43.3	19.7	4.0	16	33.5	43.2	27	5.6	21	29.4	49.3	37	6.6	38
	35.6	40.7	14.0	3.0	12	37.6	38.6	19.7	4.5	16	39.8	36.5	27	6.6	21	34.8	41.6	37	7.8	38
	40.2	36.0	13.8	3.4	12	42.4	34.2	18.7	4.8	16	42.2	34.4	27	7.0	21	39.2	37.0	37	8.8	38
	45.7	31.7	12.2	3.4	12	48.2	30.1	16.5	4.8	16	47.7	30.4	25	7.3	21	44.2	32.8	37	9.9	38
	52.4	27.7	10.7	3.4	12	51.5	28.2	15.5	4.8	16	54.3	26.7	22	7.3	21	47.1	30.8	36	10.4	38
	56.3	25.8	10.0	3.4	12	59.2	24.5	13.6	4.9	16	58.1	24.9	21	7.4	21	57.6	25.2	30	10.5	38
	60.6	23.9	9.3	3.4	11.5	63.8	22.7	12.7	4.9	15.5	67.1	21.6	18.2	7.4	20	66.6	21.8	26	10.6	36
	71.0	20.4	8.0	3.5	11.5	74.7	19.4	10.9	4.9	15.5	72.5	20.0	16.9	7.4	20	78.1	18.6	23	10.7	36
	77.3	18.8	7.5	3.5	11.5	81.3	17.8	10.1	5.0	15.5	85.5	17.0	14.5	7.5	20	85.0	17.1	21	10.7	36
	84.6	17.1	6.8	3.5	11.5	89.0	16.3	9.3	5.0	15.5	93.5	15.5	13.2	7.5	20	93.0	15.6	19.2	10.8	36
	101	14.3	5.7	3.5	11	102	14.2	8.1	5.0	15	102	14.2	12.3	7.6	19	105	13.8	17.0	10.8	34
	115	12.6	5.0	3.5	11	115	12.6	7.2	5.0	15	108	13.4	11.6	7.6	19	112	13.0	15.9	10.8	34
	132	11.0	4.4	3.5	11	123	11.8	6.7	5.0	15	122	11.9	10.3	7.6	19	128	11.4	14.0	10.8	34
	142	10.2	4.1	3.5	11	142	10.2	5.8	5.0	15	139	10.4	9.0	7.6	19	137	10.6	13.0	10.8	34
	153	9.5	3.8	3.5	11	152	9.5	5.4	5.0	15	172	8.4	7.3	7.6	19	158	9.2	11.3	10.8	34
	179	8.1	3.2	3.5	11	178	8.1	4.6	5.0	15	186	7.8	6.8	7.6	19	185	7.8	9.6	10.8	34
	195	7.4	3.0	3.5	11	194	7.5	4.3	5.0	15	219	6.6	5.7	7.6	19	202	7.2	8.8	10.8	34
	213	6.8	2.7	3.5	11	213	6.8	3.9	5.0	15	239	6.1	5.2	7.6	19	221	6.6	8.1	10.8	34
	243	6.0	2.4	3.5	11	270	5.4	3.1	5.0	15	240	6.0	5.2	7.6	19	236	6.1	7.5	10.8	34
	299	4.8	1.9	3.5	11	290	5.0	2.8	5.0	15	278	5.2	4.5	7.6	19	273	5.3	6.5	10.8	34
322	4.5	1.8	3.5	11	340	4.3	2.4	5.0	15	300	4.8	4.2	7.6	19	320	4.5	5.6	10.8	34	
378	3.8	1.5	3.5	11	370	3.9	2.2	5.0	15	354	4.1	3.5	7.6	19	349	4.2	5.1	10.8	34	
411	3.5	1.4	3.5	11	405	3.6	2.0	5.0	15	387	3.8	3.2	7.6	19	420	3.5	4.2	10.8	34	
450	3.2	1.3	3.5	11	444	3.3	1.7	4.5	15	425	3.4	2.9	7.6	19	465	3.1	3.8	10.8	34	
495	2.9	1.2	3.5	11	494	2.9	1.7	5.0	15	518	2.8	2.4	7.6	19	512	2.8	3.5	10.8	34	
549	2.6	1.1	3.5	11	542	2.7	1.4	4.5	15	568	2.6	1.9	6.7	19	561	2.6	2.9	9.8	34	

n_1 min ⁻¹	810					812					814					816				
	ir	n_2 min ⁻¹	P_N kW	T_N kNm	Fr_2 kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	Fr_2 kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	Fr_2 kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	Fr_2 kN
1450	31.7	45.8	52	10.0	48	31.2	46.5	77	14.5	53	31.7	45.8	112	21.5	63	33.5	43.3	155	31.5	75
	37.7	38.4	52	11.9	48	35.1	41.4	77	16.3	53	35.6	40.7	112	24.2	63	37.6	38.6	155	35.4	75
	42.6	34.0	52	13.5	48	39.6	36.6	77	18.4	53	40.2	36.0	112	27.4	63	42.4	34.2	155	39.9	75
	45.4	32.0	52	14.2	48	45.0	32.2	77	20.9	53	45.7	31.7	104	28.8	63	48.2	30.1	142	41.3	75
	51.8	28.0	46	14.3	48	51.6	28.1	68	21.2	53	52.4	27.7	91	29.0	63	51.5	28.2	133	41.5	75
	55.5	26.1	43	14.4	48	55.4	26.2	63	21.3	53	56.3	25.8	85	29.1	63	59.2	24.5	116	41.8	75
	64.2	22.6	37	14.5	46	64.4	22.5	55	21.5	51	60.6	23.9	79	29.2	60	63.8	22.7	108	41.9	72
	75.2	19.3	32	14.6	46	69.9	20.7	51	21.5	51	71.0	20.4	68	29.4	60	74.7	19.4	93	42.2	72
	81.9	17.7	29	14.6	46	83.3	17.4	43	21.7	51	77.3	18.8	63	29.5	60	81.3	17.8	86	42.4	72
	89.6	16.2	27	14.7	46	88.3	16.4	41	21.8	51	84.6	17.1	58	29.7	60	89.0	16.3	79	42.6	72
	98.0	14.8	25	14.8	44	99.8	14.5	36	21.9	49	101	14.3	49	29.9	58	96.3	15.1	73	42.8	70
	118	12.3	21	14.8	44	113	12.8	32	21.9	49	115	12.6	43	29.9	58	109	13.3	65	42.8	70
	135	10.8	18.2	14.8	44	130	11.2	28	21.9	49	132	11.0	37	29.9	58	123	11.7	57	42.8	70
	144	10.1	16.9	14.8	44	140	10.4	26	21.9	49	142	10.2	35	29.9	58	152	9.6	47	42.8	70
	167	8.7	14.6	14.8	44	162	8.9	22	21.9	49	153	9.5	32	29.9	58	163	8.9	43	42.8	70
	195	7.4	12.5	14.8	44	176	8.2	21	21.9	49	179	8.1	28	29.9	58	191	7.6	37	42.8	70
	213	6.8	11.5	14.8	44	192	7.6	18.8	21.9	49	195	7.4	25	29.9	58	208	7.0	34	42.8	70
	233	6.2	10.5	14.8	44	210	6.9	17.2	21.9	49	213	6.8	23	29.9	58	228	6.4	31	42.8	70
	255	5.7	9.6	14.8	44	239	6.1	15.1	21.9	49	243	6.0	20	29.9	58	270	5.4	26	42.8	70
	273	5.3	9.0	14.8	44	294	4.9	12.3	21.9	49	299	4.8	16.5	29.9	58	290	5.0	24	42.8	70
	316	4.6	7.7	14.8	44	343	4.2	10.5	21.9	49	322	4.5	15.3	29.9	58	340	4.3	21	42.8	70
	370	3.9	6.6	14.8	44	372	3.9	9.7	21.9	49	378	3.8	13.1	29.9	58	370	3.9	19.1	42.8	70
	403	3.6	6.1	14.8	44	405	3.6	8.9	21.9	49	411	3.5	12.0	29.9	58	405	3.6	17.4	42.8	70
	441	3.3	5.5	14.8	44	443	3.3	8.2	21.9	49	450	3.2	11.0	29.9	58	444	3.3	14.3	38.5	70
	485	3.0	5.0	14.8	44	487	3.0	7.4	21.9	49	495	2.9	10.0	29.9	58	494	2.9	14.3	42.8	70
537	2.7	4.5	14.8	44	540	2.7	6.7	21.9	49	549	2.6	9.0	29.9	58	533	2.7	11.9	38.5	70	

1.9 RXP3 applicato al differenziale

1.9 RXP3 coupled with differential unit

1.9 Am Differential appliziertes RXP3-Getriebe

n_1 min ⁻¹	818					820					822					824				
	ir	n_2 min ⁻¹	P_N kW	T_N kNm	Fr_2 kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	Fr_2 kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	Fr_2 kN	ir	n_2 min ⁻¹	P_N kW	T_N kNm	Fr_2 kN
1450	33.5	43.2	213	43.3	88	29.4	49.3	298	53.1	150	31.7	45.8	418	80.3	188	31.2	46.5	613	116	210
	37.5	38.6	213	48.5	88	34.8	41.6	297	62.8	150	37.7	38.4	418	95.5	188	35.1	41.4	613	130	210
	42.2	34.4	213	54.5	88	39.2	37.0	297	70.6	150	42.6	34.0	418	108	188	39.6	36.6	613	147	210
	47.7	30.4	211	60.9	88	44.2	32.8	297	79.8	150	48.4	29.9	390	114	188	45.0	32.2	613	167	210
	54.3	26.7	186	61.3	88	47.1	30.8	293	83.6	150	51.8	28.0	366	115	188	51.6	28.1	549	171	210
	58.1	24.9	175	61.5	88	53.8	27.0	258	84.1	150	55.5	26.1	343	115	188	55.4	26.2	513	172	210
	67.1	21.6	152	62.0	83	61.9	23.4	226	84.7	145	64.2	22.6	298	116	182	64.4	22.5	444	173	205
	72.5	20.0	142	62.2	83	72.0	20.1	196	85.4	145	75.2	19.3	257	117	182	69.9	20.7	411	174	205
	85.5	17.0	121	62.7	83	78.1	18.6	181	85.7	145	81.9	17.7	236	117	182	83.3	17.4	349	176	205
	93.5	15.5	111	63.0	83	93.0	15.6	153	86.5	145	89.6	16.2	217	118	182	91.7	15.8	317	176	205
	96.1	15.1	108	63.1	83	105	13.8	136	86.8	142	98.0	14.8	199	118	178	99.8	14.5	293	177	200
	108	13.4	97	63.2	80	112	13.0	128	86.8	142	111	13.1	177	119	178	113	12.8	258	177	200
	122	11.9	85	63.2	80	128	11.4	112	86.8	142	126	11.5	156	119	178	130	11.2	225	177	200
	139	10.4	75	63.2	80	147	9.9	97	86.8	142	144	10.1	136	119	178	140	10.4	209	177	200
	172	8.4	61	63.2	80	171	8.5	84	86.8	142	167	8.7	118	119	178	162	8.9	180	177	200
	186	7.8	56	63.2	80	185	7.8	77	86.8	142	195	7.4	101	119	178	176	8.2	166	177	200
	219	6.6	48	63.2	80	202	7.2	71	86.8	142	213	6.8	92	119	178	210	6.9	139	177	200
	239	6.1	44	63.2	80	221	6.6	65	86.8	142	233	6.2	84	119	178	231	6.3	126	177	200
	247	5.9	42	63.2	80	243	6.0	59	86.8	142	255	5.7	77	119	178	247	5.9	118	177	200
	265	5.5	39	63.2	80	279	5.2	51	86.8	142	273	5.3	72	119	178	266	5.5	110	177	200
306	4.7	34	63.2	80	325	4.5	44	86.8	142	316	4.6	62	119	178	309	4.7	94	177	200	
330	4.4	32	63.2	80	352	4.1	41	86.8	142	370	3.9	53	119	178	335	4.3	87	177	200	
389	3.7	27	63.2	80	384	3.8	37	86.8	142	403	3.6	49	119	178	400	3.6	73	177	200	
425	3.4	25	63.2	80	420	3.5	34	86.8	142	441	3.3	45	119	178	440	3.3	66	177	200	
518	2.8	20	63.2	80	512	2.8	28	86.8	142	485	3.0	40	119	178	487	3.0	60	177	200	
568	2.6	16.4	56.5	80	561	2.6	24	80.0	142	537	2.7	37	119	178	531	2.7	50	160	200	

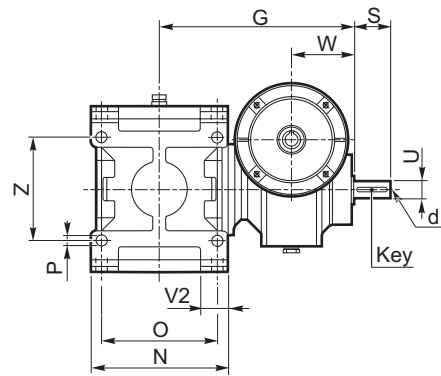
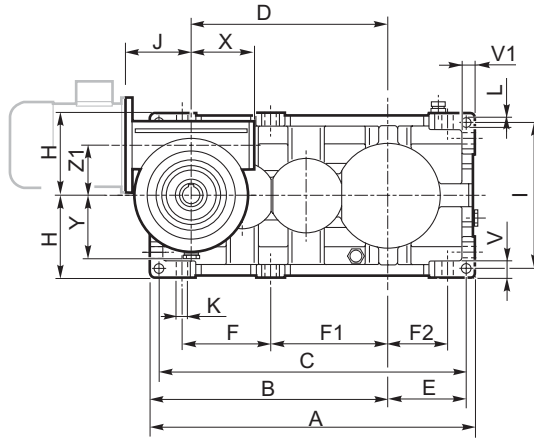


1.10 Dimensioni

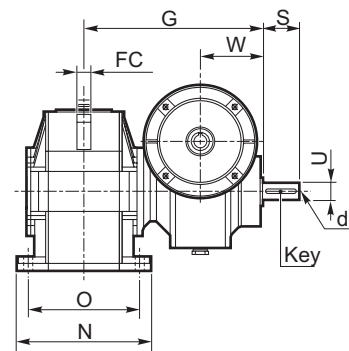
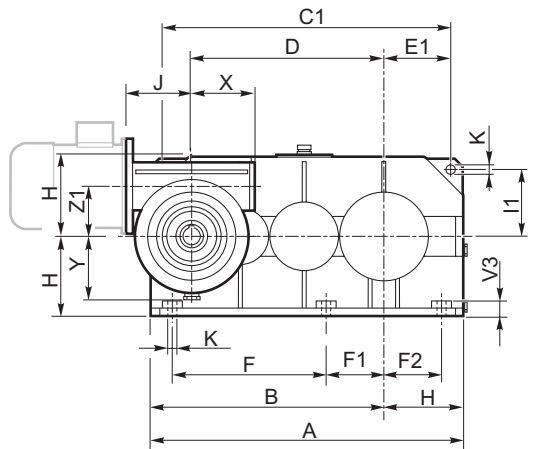
1.10 Dimensions

1.10 Abmessungen

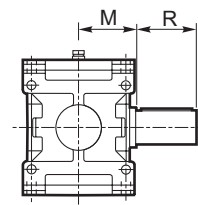
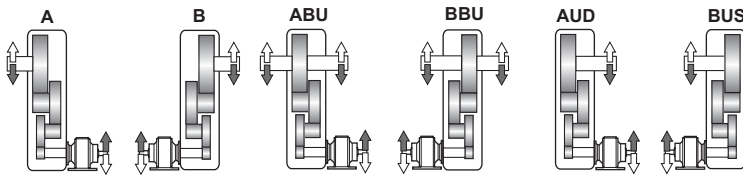
802 - 820



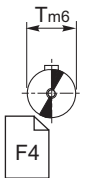
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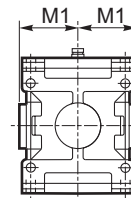
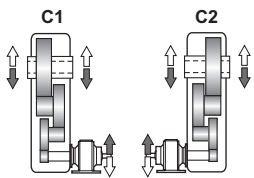
⇒ **N D FD Fn**



N



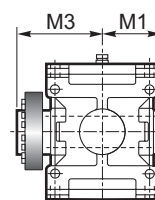
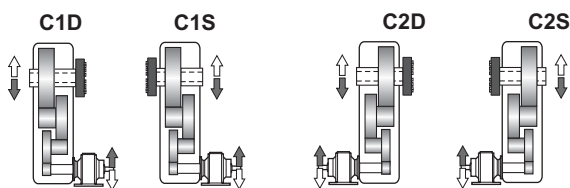
⇒ **C**



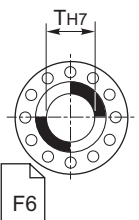
C






⇒ **UB B**



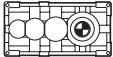

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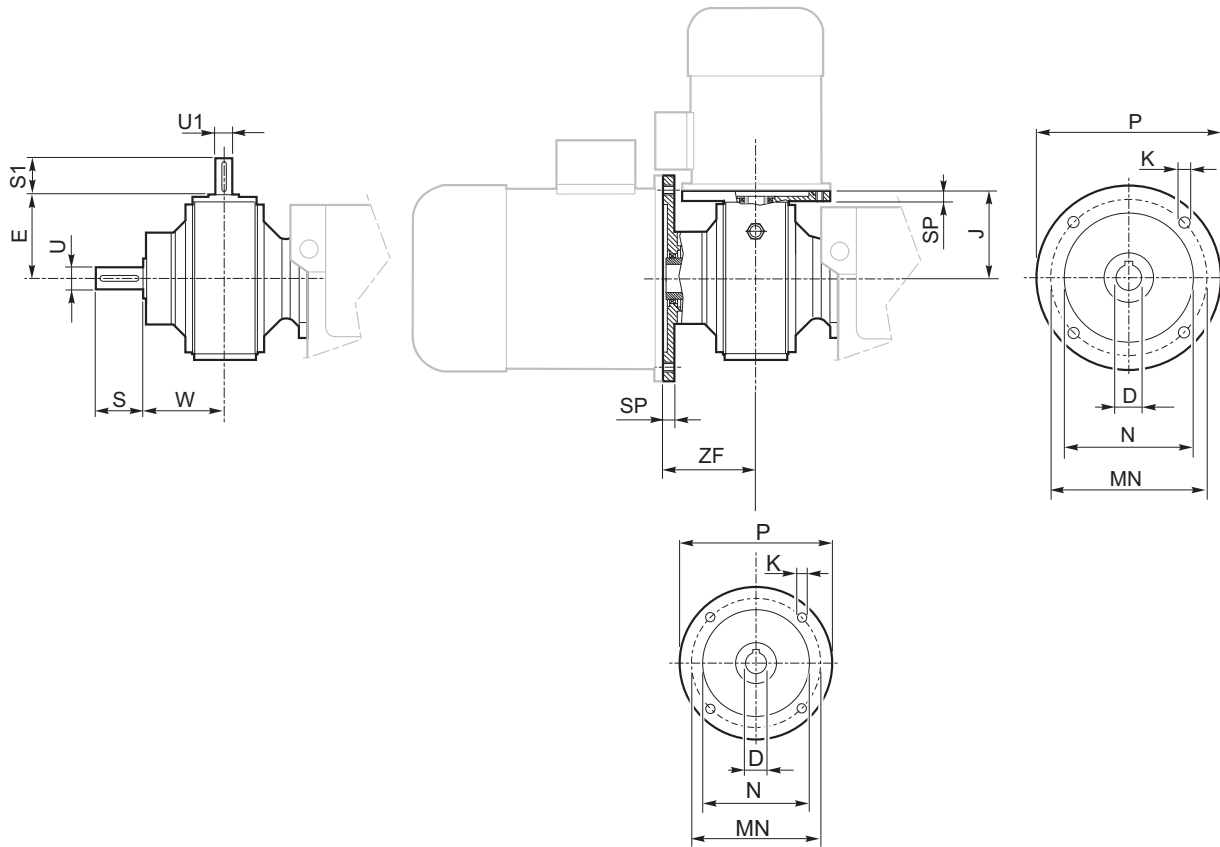
	A	B	C	C1	D	E	E1	F	F1	F2	FC	H _{h11}	I	I1	K	L	N _{h11}	O	P	V	V1	V2	V3	Z
802	498	368	470	—	305	116	—	136	182	90	—	125	224	—	18	14	213	180	18	25	20	44.5	—	160
804	562	412	530	—	342	134	—	153	202.5	103.5	—	140	250	—	20	16	237	200	20	28	22.5	49	—	180
806	635	465	601	—	385	153	—	173	229	117	—	160	280	—	22	18	269	225	22	32	25	56.5	—	200
808	712	522	674	—	432	171	—	194	258	130	—	180	320	—	25	20	297	250	25	36	28	59.5	—	224
810	795	585	755	—	485	190	—	216	288	144	—	200	360	—	27	22	335	280	27	40	32	67.5	—	250
812	897	657	852	—	545	217.5	—	242	324.5	159.5	—	225	400	—	30	24	379	315	30	45	36	78.5	—	280
814	1000	735	950	—	610	240	—	271	363	179	—	250	450	—	33	27	427	355	33	50	40	89	—	320
816	1125	825	1069	—	685	272	—	305	407.5	202.5	—	280	500	—	36	30	479	400	36	56	45	96.5	—	360
818	1270	930	1206	—	770	308	—	345	460	230	—	315	560	—	39	35	541	450	39	63	50	114.5	—	400
820	1425	1045	1353	—	865	344	—	388	516.5	259.5	—	355	638	—	42	39	599	500	42	70	56	124	—	150
822	1570	1170	—	1440	970	—	335	770	300	300	60	400	—	335	45	—	675	560	—	—	—	—	56	—
824	1765	1315	—	1635	1090	—	385	865	320	320	60	450	—	385	48	—	761	630	—	—	—	—	60	—

	Albero uscita / Output shaft / Abtriebswelle								
									
	T m6	R	M	T H7	M1	T H7	M1	M3	
802	60	112	109	60	109	60	109	170	
804	70	125	121	70	121	70	121	192	
806	80	140	137	80	137	80	137	215	
808	90	160	151	90	151	90	151	246	
810	100	180	170	100	170	100	170	266	
812	110	200	192	110	192	110	192	302	
814	125	225	216	125	216	125	216	335	
816	140	250	242	140	242	140	242	370	
818	160	280	273	160	273	160	273	422	
820	180	315	302	180	302	180	302	477	
822	209	355	340	200	340	200	340	*	
824	220	400	383	220	383	220	383	*	

* A richiesta / On request / Auf Anfrage

								kg
		E70	E100	E125	E160	E180	E225	
		14	43	65	110	215	330	
G	802	418.5	407.5					99
	804	430.5	419.5	478.5				138
	806	448.5	437.5	496.5				243
	808	462.5	451.5	510.5	590.5			273
	810	461.5	450.5	509.5	611.5			382
	812	482.5	471.5	530.5	633.5	648		534
	814		497	556	657.5	650	784	758
	816		522.5	581.5	686.5	700	808	1045
	818			611.5	684.5	624	840	1464
	820				714.5	649	880	2049
822				530	679	750	2346	
824					714	785	3414	
d		M6x18	M8x21	M10x27	M16x39	M16x39	M16x39	
Key		8x7x40	10x8x70	14x9x100	16x10x100	20x12x110	22x14x125	
U		28 j6	38 k6	48 k6	55 m6	70 m6	80 m6	
S		50	80	110	110	125	140	
W		120	138	154	172	240	290	
X		92	142	163	191	238	280	
Y		84	139	152	177	212	247	
Z1		70	110	130	150	180	215	





	E	S1	U1
E70	97	40	19 j6
E100	146	60	28 j6
E125	166	80	38 j6
E160	195	100	42 j6
E180	240	100	55 m6
E225	290	112	60 m6

IEC	P	MN	N G6	Q	K	SP	D
71	160	130	110	4.5	n° 4 x M8	12	14
80	200	165	130	4.5	n° 4 x M10	12	19
90	200	165	130	4.5	n° 4 x M10	12	24
100	250	215	180	5	n° 4 x M12	14	28
112	250	215	180	5	n° 4 x M12	14	28
132	300	265	230	5	n° 4 x M12	16	38
160	350	300	250	6	n° 4 x M16	18	42
180	350	300	250	6	n° 4 x M16	18	48
200	450	350	300	6	n° 4 x M16	20	55
225	450	400	350	6	n° 4 x M16	20	60

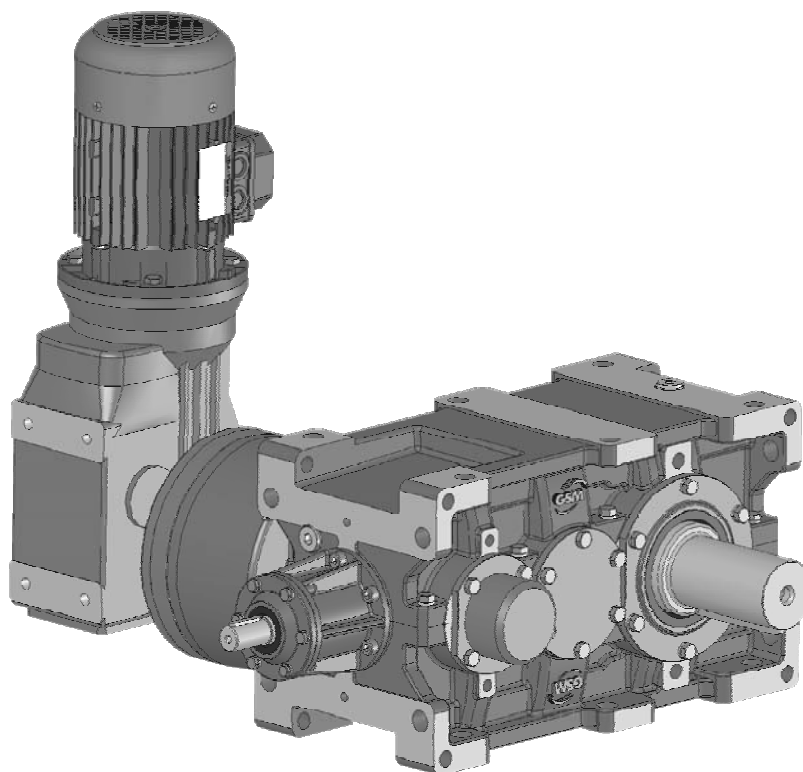
IEC	J											
	802	804	806	808	810	812	814	816	818	820	822	824
E70	71											
	80	100	100	100	100	100						
	90											
E100	90	145	145									
	100			145	145	145	145	145				
	112											
E125	100											
	112		163	163	163							
	132											
E160	100											
	112			190	190							
	132											
	160							197	197	197		
E180	100											
	112					245						
	132						245	245	245	245	245	245
	160											
E225	180											
	132						285					
	160							285				
	180								285	285	285	285
200												

IEC	ZF											
	802	804	806	808	810	812	814	816	818	820	822	824
E70	90											
	100	121	121									
	112			121	121	121	121					
	132											
E100	132			157	157	157	157	157				
	160											
E125	160					173	173	173	173			
	180											
E160	180								204	204	204	
	200											
E180	200									230	230	230
	225											230

1.0 RIDUTTORI PER ELEVATORI A "TAZZE" GEAR UNITS FOR BUCKET ELEVATOR GETRIEBE FÜR "BECHERWERKE"

RXO./O.

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1.1 Caratteristiche costruttive

Generalità

Le dimensioni dei nostri riduttori e i rapporti di trasmissione seguono la serie dei numeri normali (serie di RENARD) Ra 20 UNI 2016.68. I particolari accorgimenti adottati nella costruzione della carcassa esterna conferiscono ai nostri riduttori un'ampia versatilità di montaggio.

La grande scelta disponibile del tipo di esecuzione ci permette di soddisfare anche le esigenze più particolari. L'elevato numero di rapporti di trasmissione, $i_N = (1.12 \div 1250)$, consente in alcuni casi di scegliere un riduttore di taglia inferiore. La suddivisione della carcassa in due parti e i coperchi fissati con viti consentono una facile manutenzione.

Ingranaggi

Gli ingranaggi cilindrici a dentatura elicoidale, sono rettificati sul profilo ad evolvente dopo cementazione, tempra e rinvenimento finale.

Gli ingranaggi conici a dentatura Gleason sono rodati (o rettificati a seconda della grandezza del riduttore), dopo cementazione, tempra e rinvenimento.

L'ottimizzazione geometrica dell'ingranaggio unitamente ad una accurata lavorazione, assicura bassi livelli di rumorosità e garantisce elevati rendimenti:

- 0.95 per un riduttore a due stadi di riduzione
- 0.93 per un riduttore a tre stadi di riduzione
- 0.91 per un riduttore a quattro stadi di riduzione

Tutti gli ingranaggi sono costruiti in:

- 16CrNi4, 20CrNi4, 18NiCrMo5, 20MnCr5 UNI 7846-78

La capacità di carico è stata calcolata a pressione superficiale e a rottura secondo le seguenti normative:

- ISO 6336
- DIN 3990
- AGMA 2001-C95

Alberi

Gli alberi lenti pieni sono realizzati in 39NiCrMo3 UNI 7845-78. Gli alberi veloci sono realizzati in 16 Cr Ni 4 UNI, 20MnCr5 UNI 7846-78 o in 39 Ni Cr Mo 3 UNI 7845-78. Sono verificati a flessione-torsione con elevato coefficiente di sicurezza. Le estremità d'albero cilindriche sono secondo UNI 6397-68, DIN 748, NF E 22.051, BS 4506-70, ISO/R 775-69, escluso corrispondenza R-S, con foro filettato in testa secondo DIN 1414.. Linguetta secondo UNI 6604-69, DIN 6885 BI, 1-68, NF E 27.656 22.175, BS 4235.1-72, ISO/R 773-69 escluso corrispondenza I.

1.1 Construction features

General Description

Gear unit dimensions and transmission ratios follow a geometric progression based on the R20 series of preferred (or Renard) numbers in accordance with UNI 2016.68. The casing incorporates special design features to provide the utmost mounting versatility.

Our exhaustive range of designs is guaranteed to meet the requirements of every application, no matter how specific. Our broad range of transmission ratios - $i_N = (1.12 \div 1250)$ and high ratio density frequently allows selection of a smaller size. Split casing design and bolted covers ensure great ease of maintenance.

Gearing

Helical spur gear sets are first case hardened, hardened and tempered and finally their involute profile is ground.

Gleason bevel gear sets are first case hardened, hardened and tempered and finally broken in (or ground, depending on gear unit size).

Optimal gear geometry and high machining accuracy ensure low noise levels and higher efficiency:

- 0.95 for double reduction gear units
- 0.93 for triple reduction gear units
- 0.91 for quadruple reduction gear units

All gear sets are in:

- 16CrNi4, 20CrNi4, 18NiCrMo5, 20MnCr5 UNI 7846-78

Load capacity is calculated at contact and root bending stress in accordance with the following standards:

- ISO 6336
- DIN 3990
- AGMA 2001-C95

Shafts

Solid output shafts are manufactured from 39NiCrMo3 UNI 7845-78. Input shafts are made from 16 Cr Ni 4 UNI, 20MnCr5 UNI 7846-78 or 39 Ni Cr Mo 3 UNI 7845-78. Shaft calculations incorporate a high safety factor and are validated by bending and torsional stress analyses. Cylindrical shaft ends are in accordance with UNI 6397-68, DIN 748, NF E 22.051, BS 4506-70, ISO/R 775-69, excluding section R-S, with centre tapped hole at shaft end to DIN 1414. Keys are in accordance with UNI 6604-69, DIN 6885 BI, 1-68, NF E 27.656 22.175, BS 4235.1-72, ISO/R 773-69 excluding section I.

1.1 Construction features

Allgemeines

Die Baugrößen und Übersetzungen unserer Getriebe sind der normalen Nummerreihe (RENARD Reihe) Ra 20 UNI 2016.68 gemäß ausgelegt.

Die besonderen Konstruktionsmerkmale der Gehäuse ermöglichen die Montage unserer Getriebe in den unterschiedlichsten Einbaulagen.

Das breite Angebot an Ausführungstypen versetzt uns in die Lage, auch den ausgefallenen Anforderungen unserer Kunden entsprechen zu können. Die zahlreichen Übersetzungsverhältnisse, $i_N = (1.12 \div 1250)$ räumen in einigen Fällen die Möglichkeit ein, ein kleineres Getriebe wählen zu können. Die zweiteiligen Gehäuse und die mit Schrauben befestigten Deckel erlauben eine einfache Wartung.

Zahnräder

Das Evolventenprofil der Stirnrädergetriebe mit Schrägverzahnung wird nach dem Einsatzhärten, dem Abschrecken und dem Anlassen entsprechend geschliffen.

Die Kegelzahnräder mit Gleason-Verzahnung sind bereits eingelaufen (oder in Abhängigkeit der Getriebegröße geschliffen), dies erfolgt nach dem Einsatzhärten, Abschrecken und Anlassen. Die geometrische Optimierung des Zahnrads verbunden mit einer akkuraten Bearbeitung gewährleistet niedrige Geräuschentwicklung und einen hohen Wirkungsgrad:

- 0.95 bei Getrieben mit zwei Getriebestufen
- 0.93 bei Getrieben mit drei Getriebestufen
- 0.91 bei Getrieben mit vier Getriebestufen

Alle Zahnräder werden aus folgendem Material gefertigt:

- 16CrNi4, 20CrNi4, 18NiCrMo5, 20MnCr5 UNI 7846-78

Die Belastbarkeit wurde auf Oberflächenbruch und Bruch den folgenden Richtlinien gemäß berechnet:

- ISO 6336
- DIN 3990
- AGMA 2001-C95

Wellen

Die vollen Abtriebswellen sind aus 39NiCrMo3 UNI 7845-78 realisiert. Die Antriebswellen dagegen aus 16 Cr Ni 4 UNI, 20MnCr5 UNI 7846-78 oder aus 39 Ni Cr Mo 3 UNI 7845-78. Sie werden unter Berücksichtigung eines hohen Sicherheitskoeffizienten auf Biegung-Windung getestet. Die Enden der zylindrischen Wellen entsprechen den Normen UNI 6397-68, DIN 748, NF E 22.051, BS 4506-70, ISO/R 775-69, ausgenommen Zuordnung R-S, mit Gewindebohrung in der Wellenspitze DIN 1414. Die Federkeile entsprechen UNI 6604-69, DIN 6885 BI, 1-68, NF E 27.656 22.175, BS 4235.1-72, ISO/R 773-69, ausgenommen Zuordnung I.

Cuscinetti

Tutti i cuscinetti sono del tipo a rulli conici o a rulli orientabili, di elevata qualità e dimensionati per garantire una lunga durata se lubrificati con il tipo di lubrificante previsto a catalogo.

Carcassa

La carcassa è ottenuta per fusione in GG 250 ISO 185 fino alla grandezza 820. Le altre grandezze sono in acciaio Fe430 EN UNI 10025 composto elettrosaldato e disteso.

I particolari accorgimenti adottati nel disegno della struttura permettono di ottenere un' elevata rigidezza.

1.2 Livelli di pressione sonora SPL [dB(A)]

Valori normali di produzione del livello medio di pressione sonora SPL (dB(A)) a velocità in entrata di 1450 min⁻¹ (tolleranza +3 db(A)). Valori misurati ad 1 m dalla superficie esterna del riduttore ed ottenuti su elaborazione di prove sperimentali eseguite. Per raffreddamento artificiale con ventola sommare ai valori di tabella: +2 db(A) per ogni ventola. Per entrata ad un numero di giri diverso sommare i valori come in tabella. Per particolari esigenze è possibile fornire riduttori con livello medio di pressione sonora ridotto.

Bearings

All bearings are high quality taper or self-aligning roller bearings suitably sized to ensure long service life provided the approved lubricants indicated in this catalogue are used.

Casing

Casings up to size 820 are cast from GG 250 ISO 185 cast iron. All other sizes use casings fabricated from electrically welded stress relieved Fe430 steel EN UNI 10025.

Casing design incorporates special arrangements to provide superior rigidity.

1.2 Mean sound pressure levels SPL [dB(A)]

Noise levels are mean sound pressure levels SPL (dB(A)) and refer to normal operation at an input speed of 1450 rpm (tolerance +3 dB (A)). Measurements are taken at 1 m from the external surface of the gear unit and ratings are obtained by processing test data. For fan-cooled applications, add 2dB (A) to table values for each fan. For different input speeds, add the appropriate values indicated in the table below. Gear units with lower noise levels to suit particular needs are available on request.

Lager

Bei allen Lagern handelt es sich um hochwertige Kegelrollenlager mit orientierungsfähigen Rollen und in Maßen, die so ausgelegt sind, dass sie bei Einsatz der gemäß Katalogangaben vorgesehenen Schmiermittel eine lange Lebensdauer garantieren.

Gehäuse

Die Gehäuse der Getriebe bis Baugröße 820 werden im Gussverfahren aus GG 250 ISO 185 gewonnen; die anderen Baugrößen sind aus elektroverschweißtem und entspanntem Kombistahl Fe430 EN UNI 10025 realisiert.

Die besonderen beim Entwurf der Struktur berücksichtigten Vorkehrungen verleihen ihr eine besondere Steifheit.

1.2 Schalldruckpegel SPL [dB(A)]

Normale Werte des durchschnittlichen Schalldruckpegels SPL (dB(A)) bei einer Antriebsdrehzahl von 1450 U/min (Toleranz +3 dB(A)). Werte, die aus den Auswertungen der erfolgten experimentellen Tests, bei denen die Messung in 1 m Entfernung von der Getriebeoberfläche erfolgte, resultieren.

Bei Vorliegen einer Zusatzluftkühlung durch Lüfter muss ein Korrekturwert von +2 dB(A) pro Lüfterrad zum Tabellenwert addiert werden. Bei abweichender Antriebsdrehzahl sind die Werte gemäß Tabellenangaben zu addieren. Im Fall besonderer Anforderungen können Getriebe mit einem reduzierten durchschnittlichen Schalldruckpegel geliefert werden.



	RXO2 - RXV2	
	i ≤ 50	i > 50
802	73	68
804	74	69
806	76	71
808	77	72
810	79	74
812	80	75
814	82	77
816	84	79
818	86	81
820	88	83
822	90	85
824	92	87
826	94	89
828	96	91

n ₁ [min ⁻¹]	2750	2400	2000	1750	1000	750	500	350
Δ SPL [dB(A)]	8	6	4	2	-2	-3	-4	-6

1.3 Criteri di selezione

Fattore di servizio - Fs

Il fattore di Servizio Fs dipende:

- a) dalle condizioni di applicazione
- b) dalla durata di funzionamento h/d
- c) avviamenti /ora
- d) dal grado di affidabilità o margine di sicurezza voluto.

Il fattore di servizio assunto per i riduttori per Elevatori a "Tazze" è generalmente $F_s=1.5$. Dove il funzionamento è continuo sino ad arrivare a 2 o 3 turni giornalieri il fattore di servizio è rispettivamente $F_s=1.75$ e $F_s=2.0$.

Le potenze e i momenti torcenti indicati a catalogo nominali sono validi per $F_s=1$.

Procedura di selezione

1) SCELTA RIDUTTORE PRIMARIO

Conosciuti i dati dell' applicazione calcolare:

- $i = n_1/n_2$ rapporto richiesto
- T_2 Momento Torcente sull'albero uscita
- P_1 potenza motrice necessaria (Nel calcolo si consideri un rendimento di 0.96).

Scegliere il rapporto, la grandezza del riduttore primario verificando :

- a) la potenza nominale:
 $P_N \geq P_1 \times F_s$
oppure

- b) la coppia nominale:
 $T_N \geq T_2 \times F_s$

Infine scegliere l' esecuzione grafica, la forma costruttiva e verificare le dimensioni del riduttore e di eventuali accessori o particolari estremità.

1.3 Gear unit selection

Service factor - Fs

Service factor F_s is determined on the basis of:

- a) operating conditions of application
- b) operation per day (h/d)
- c) starts and stops per hour
- d) desired reliability or safety factor.

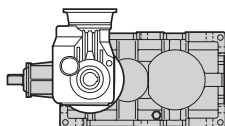
Usually, a service factor $F_s=1.5$ is selected for bucket elevator gear units.

Service factors for continuous duty up to two or three daily shifts are $F_s=1.75$ and $F_s=2.0$, respectively.

Power and torque ratings stated in the catalogue refer to service factor $F_s=1$.

Selection procedure

1) MAIN GEAR UNIT SELECTION



Locate application information and determine:

- required ratio $i = n_1/n_2$
- torque at output shaft T_2
- power P_1 required to drive load (Please consider 0.96 efficiency per stage in your calculations).

Select ratio and size of main gear unit and check:

- a) nominal power:
 $P_N \geq P_1 \times F_s$
or

- b) nominal torque:
 $T_N \geq T_2 \times F_s$

Select shaft arrangement and design configuration and then check the dimensions of gear unit and any accessories or particular input/output configurations you have selected.

1.3 Auswahlkriterien

Betriebsfaktor - Fs

Der Betriebsfaktor F_s hängt von folgenden Kriterien ab:

- a) Einsatzbedingungen
- b) Betriebsdauer h/d
- c) Anläufe / Stunde
- d) Zuverlässigkeitsgrad oder gewünschter Sicherheitsbereich.

Der bei den Getrieben für "Becherwerk" angewendete Betriebsfaktor entspricht allgemein $F_s=1.5$. Beim Einsatz im Dauerbetrieb mit 2 bis 3 Tagesschichten ist der Betriebsfaktor jeweils $F_s=1.75$ und $F_s=2.0$.

Die im Katalog angegebenen Nennleistungen und -drehmomente sind für $F_s=1$ gültig.

Auswahlverfahren

1) WAHL DES HAUPTGETRIEBES

Sind die Daten der Applikation bekannt, ist wie folgt zu berechnen:

- $i = n_1/n_2$ erforderliche Übersetzung
- T_2 Drehmoment an Abtriebswelle
- P_1 erforderliche Antriebsleistung (bei Berechnung einen Wirkungsgrad von 0.96 berücksichtigen).

Die Übersetzung und die Größe des Hauptgetriebes wählen und dabei prüfen:

- a) Nennleistung:
 $P_N \geq P_1 \times F_s$
oder

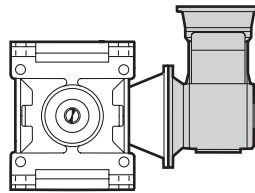
- b) Nenndrehmoment
 $T_N \geq T_2 \times F_s$

Schließlich die grafische Ausführung sowie die Bauform wählen und die Maße des Getriebes und des Zubehörs oder besondere Wellenenden überprüfen.

2) SCELTA "AUXILIARY DRIVE"

2) AUXILIARY DRIVE SELECTION

2) WAHL "AUXILIARY DRIVE"



Calcolare la potenza motrice P_2 necessaria utilizzando la seguente formula:

Determine required drive power P_2 by the following formula:

Unter Anwendung der folgenden Formel die erforderliche Antriebsleistung P_2 berechnen:

$$P_2 = P_1 \cdot K_2 \quad [\text{kW}]$$

Il valore di k_2 si ricava dalla tabella delle prestazioni. Infine determinare il rapporto di riduzione i_{es} corrispondente al rapporto di riduzione del riduttore primario selezionato al punto 1).

Look up k_2 in the rating tables. Finally, determine reduction ratio i_{es} to suit the reduction ratio of the main gear unit selected at step 1).

Der Wert k_2 kann der Leistungstabelle entnommen werden. Schließlich das Übersetzungsverhältnis i_{es} des gemäß Punkt 1) gewählten Hauptgetriebes bestimmen.

N.B.
La selezione è conforme se e solo se la velocità n_1 del primario e del auxiliary drive sono di 1450 rpm.

NOTE
Speed n_1 of both main and auxiliary drive gear units must be 1450 rpm; this is a pre-requisite for correct selection.

HINWEIS
Die Wahl ist nur dann konform, wenn die Drehzahl n_1 des Hauptantriebs und des Nebenantriebs 1450 UpM beträgt.

1.4 Verifiche

1) Compatibilità dimensionale con ingombri disponibili (es diametro del tamburo) e delle estremità d'albero con giunti, dischi o pullegge.

1.4 Verification

1) Ensure that dimensions are compatible with space constraints (for instance, drum diameter) and shaft ends are compatible with any couplings, discs or pulleys to be used.

1.4 Überprüfungen

1) Kompatibilità der Abmessungen mit verfügbaren Maßen (z.B. Trommeldurchmesser) und der Wellenenden mit den Kupplungen, Scheiben oder Riemenscheiben.

2) Ammissibilità di carichi radiali e/o assiali esterni; i carichi radiali F_{r1} e F_{r2} ammissibili sono riportati nelle tabelle delle prestazioni e si intendono applicati in mezzzeria dell'estremità dell'albero. Per condizioni diverse consultare la pag. E15.

2) Check that overhung and/or thrust loads do not exceed permissible loads; permissible overhung loads F_{r1} and F_{r2} at midpoint of shaft extension are listed in the rating tables. For any conditions other than those listed above, please read page. E15.

2) Zulässigkeit der externen Radial- und/oder Axialkräfte; die zulässigen Radialkräfte F_{r1} und F_{r2} werden in den Leistungstabellen angegeben und verstehen sich als auf die Wellenmitte wirkend. Im Fall anderer Bedingungen verweisen wir auf Seite E15.

3) Massimo sovraccarico nel caso di:

- inversioni di moto per effetti inerziali,
- commutazioni da bassa ad alta polarità,
- avviamenti e frenature a pieno carico con grandi momenti d'inerzia (soprattutto nel caso di bassi rapporti),
- sovraccarichi, urti od altri effetti dinamici, deve essere verificata la condizione:

3) Determine maximum overload in the event of:

- reversing due to inertia,
- switching from low to high polarity,
- starts and stops under full load with high moment of inertia (this is especially important for low ratios),
- overload, shock load or other dynamic load conditions, and determine whether this condition is verified:

3) Maximale Überlast im Fall von:

- Drehrichtungs-Umkehr aufgrund von Trägheitseffekten,
- Umschaltung von niedriger auf hohe Polarität,
- Anläufe und Bremsungen unter Vollast mit hohen Trägheitsmomenten (vor allem bei niedrigen Übersetzungsverhältnissen),
- Überlasten, Stöße oder andere dynamische Effekte.

$$T_{max} \leq 2 \times T_N$$

$$T_{max} \leq 2 \times T_N$$

Es muss die Bedingung:

$$T_{max} \leq 2 \times T_N \text{ überprüft werden.}$$



5) Verifica Posizione di montaggio

5) Check mounting position

6) Prüfen der Einbaulage

6) Adeguatezza della potenza termica del riduttore:

Nel caso di solo riduttore in servizio continuo o intermittente gravoso in ambienti a temperatura elevata e/o con difficoltà di scambio termico (es. acciaierie) è necessario verificare che la potenza termica nominale corretta dai fattori sia superiore alla potenza assorbita come evidenziato nella seguente equazione:

6) Ensure gear unit thermal power is suitable for the application:

If a gear unit is to be used in continuous or intermittent duty in environments where high temperatures and/or poor heat exchange are encountered (such as steelworks), check to ensure the thermal power obtained after application of the relevant correction factors is greater than absorbed power, i.e. that the following condition is verified:

7) Angemessene thermische Grenzleistung des Getriebes:

Wird ein einziges Getriebe im Dauerbetrieb oder harten Schaltbetrieb in einer Umgebung mit hohen Temperaturen und/oder einem schwierigen Wärmeaustausch (z.B. Stahlwerke) eingesetzt, muss geprüft werden, dass die thermische, von den jeweiligen Faktoren korrigierte Nenngrenzleistung über der Aufnahmeleistung liegt, wie es in der folgenden Gleichung dargestellt wird:

$$P_1 \leq P_{tN} \cdot fa \cdot fd \cdot fp \cdot ff \quad [\text{kW}]$$

Dove:

P_{tN} = potenza termica nominale
 fa = fattore correttivo dell'altitudine
 fd = fattore correttivo del tempo di lavoro
 fp = fattore correttivo della temperatura ambiente
 ff = fattore correttivo di aerazione con ventola

Where:

P_{tN} = thermal power rating
 fa = altitude factor
 fd = operation time factor
 fp = ambient temperature factor
 ff = fan cooling factor

Hier ist:

P_{tN} = termische Nenngrenzleistung
 fa = Höhenkorrekturfaktor
 fd = Korrekturfaktor der Arbeitszeit
 fp = Korrekturfaktor der Umgebungstemperatur
 ff = Korrekturfaktor der Belüftung durch Lüfter

Qualora tale condizione non sia verificata occorre sostituire la ventola con un gruppo di raffreddamento con scambiatore di calore. Per selezionare il gruppo di raffreddamento adeguato occorre determinare la P_{ta} necessaria:

If this condition is not verified, opt for a heat exchanger instead of fan cooling. To select a suitable cooling unit, you need to determine required P_{ta} :

Sollte diese Bedingung nicht gegeben sein, muss anstelle des Lüfters ein Kühlaggregat mit Wärmeaustauscher appliziert werden. Vor der Wahl des angemessenen Kühlaggregats muss zunächst die erforderliche P_{ta} bestimmt werden:

$$P_{ta} \leq P_1 - (P_{tN} \cdot fa \cdot fd \cdot fp) \quad [\text{kW}]$$

dove:

P_{ta} = potenza termica addizionale

Dopo avere selezionato il gruppo di raffreddamento, ripetere la verifica aggiungendo alla precedente il valore massimo di P_{tamax} del range identificato espresso in tabella, adeguato con i coefficienti correttivi di temperatura acqua e aria:

Where:

P_{ta} = additional thermal power required

After selecting the cooling unit, check that the following condition is satisfied; as you can see, it considers the upper limit value P_{tamax} of the resulting tabulated range adjusted using the water and air temperature correction factors:

Hier ist:

P_{ta} = termische Zusatzgrenzleistung

Nach erfolgter Wahl der Kühlgruppe, die Kontrolle wiederholen und dabei dem vorausgehenden Wert dem max. Wert des P_{tamax} des in der Tabelle angegebenen Bereichs zurechnen und durch die Korrektorkoeffizienten der Wasser- und Lufttemperatur anpassen:

$$P_1 \leq (P_{tN} \cdot fm \cdot fa \cdot fd \cdot fp) + (P_{tamax} \cdot fw \cdot fc) \quad [\text{kW}]$$

dove:

P_{tamax} = potenza termica addizionale del range identificato espresso in tabella

fw = coefficiente relativo alla temperatura dell'acqua (esclude fc)
 fc = coefficiente relativo alla temperatura dell'aria (esclude fw)

La P_{tN} è riferita ad un ambiente industriale aperto; nel caso di ambienti confinati scarsamente aerati consultarci.

Where:

P_{tamax} = additional thermal power required obtained from resulting tabulated range

fw = water temperature factor (excludes fc)
 fc = air temperature factor (excludes fw)

P_{tN} refers to an open space industrial environment; in the event of a confined space environment with poor ventilation, please contact the factory.

Hier ist:

P_{tamax} = termische Zusatzgrenzleistung des identifizierten, in der Tabelle angegebenen Bereichs

fw = Koeffizient bezüglich der Wassertemperatur (schließt fc aus)
 fc = Koeffizient bezüglich der Lufttemperatur (schließt fw aus)

Die P_{tN} bezieht sich immer auf einen Einsatz im industriellen offenen Umfeld; sollten Umgebungen mit geringer Belüftung daran angrenzen, bitten wir Sie, sich mit uns in Verbindung zu setzen.

P_{tN}

	802	804	806	808	810	812	814	816	818	820	822	824	826	828	830	832
RX02	24	30	40	52	65	82	102	127	165	205	248	306	368	445	—	—

fa

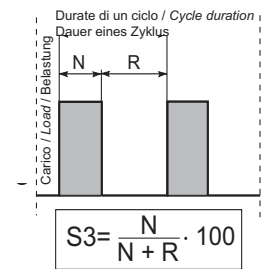
Fattore correttivo dell'altitudine
Altitude factor
Korrekturwert der Höhe

m	0	750	1500	2250	3000
fa	1	0.95	0.9	0.85	0.81

fd

Fattore correttivo del tempo di lavoro
Operation time factor
Korrekturwert der Betriebszeit

S3%	fd
100	1
80	1.05
60	1.15
40	1.35
20	1.8



fp

Fattore correttivo della temperatura ambiente.
Ambient temperature factor.

Korrekturfaktor der Umgebungstemperatur

Temperatura ambiente Ambient temperature Umgebungstemperatur	50 °C	40 °C	30 °C	20 °C	10 °C	0 °C
fp	0.63	0.75	0.87	1	1.12	1.25

ff

Il fattore correttivo ff della potenza termica che tiene conto dell'effetto refrigerante della ventola assume in accordo con le norme AGMA 6010.E88 i valori riportati nella tabella 8. L'impiego è limitato alle velocità maggiori o uguali a 700 min⁻¹.

Cooling fan factor ff reported in table 8 are in accordance with AGMA 6010.E88 and can be used directly to adjust thermal power to reflect the use of a cooling fan. These factors must only be used for speeds equal to 700 rpm and higher.

In Übereinstimmung mit den Normen AGMA 6010.E88 nimmt der Korrekturwert ff der thermischen Grenzleistung, der den Kühleffekt des Lüfters berücksichtigt, die in der Tabelle 8 angegebenen Werte an. Der Einsatz beschränkt sich auf die Drehzahlen die 700 min⁻¹ betragen oder darüber liegen.

Tipo Type Typ	Tipo ventola Fan type Lüftertyp	Note Notes Hinweise	ff
RXO RXV	VE	—	1.7

Pta [kW]

Potenza termica addizionale

Additional thermal power

Thermische Zusatzgrenzleistung

Raffreddamento con scambiatore acqua-olio (Tacqua=15°C) Cooling by air-oil exchanger (Tair=20°C) Kühlung durch Wasser-/Öltaustauscher (TWasser=15°C)	
Gruppo Size Größe	RXO2 RXV2
1	≤ 45
2	46 ÷ 78
3	79 ÷ 116
4	117 ÷ 355
5	356 ÷ 680

Raffreddamento con scambiatore aria-olio (Taria=20°C) Cooling by air-oil exchanger (Tair=20°C) Kühlung durch Luft-/Öltaustauscher (TLuft=20°C)	
Gruppo Size Größe	RXO2 RXV2
1	≤ 75
2	76 ÷ 140
3	141 ÷ 298
4	299 ÷ 386
5	387 ÷ 680

fw

Coefficiente relativo alla temperatura dell'acqua
Water temperature factor
Koeffizient bezüglich der Wassertemperatur

Twater	15°C	20°C	25°C	30°C
fw	1	0.85	0.7	0.6

fc

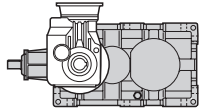
Coefficiente relativo alla temperatura dell'aria
Air temperature factor
Koeffizient bezüglich der Lufttemperatur

Tair	15°C	20°C	25°C	30°C	35°C	40°C
fc	1,12	1	0.88	0.75	0.65	0.5



1.5 Designazione riduttori RXO.../...O...

Nel riduttore con sistema AUXILIARY DRIVE deve essere indicata la designazione del riduttore secondario e la designazione del riduttore primario come indicato di seguito.



1.5 Designation of gear units RXO.../...O...

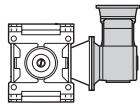
For gear units with AUXILIARY DRIVE system, both main and auxiliary gear units must be designated as follows.

1.5 Bezeichnung der Getriebe RXO.../...O....

Bei einem Getriebe mit dem System AUXILIARY DRIVE muss die Bezeichnung des Nebengetriebes und die des Hauptgetriebes gemäß nachstehenden Angaben angegeben werden.

	[1*]	[2*]	[3*]	[4*]	[5*]	[6*]	[7*]	[8*]	[9*]	[10*]	[11*]	[12*]	[13*]
RX	O	2	802	ABU	28	ECE	VE	ARDB	–	N	M1		O 71
Macchina Range Version	Posizione assi Centreline orientation Achsenpositionen	N° stadi No. of Reductions Stufen	Grandezza Size Baugröße	Esecuzione grafica Shaft arrangement Grafische Ausführung	<i>i</i>	Estremità entrata Input configuration Wellenende – Antrieb	Ventole raffreddamento Cooling fans Lüfter	Antiretro Backstop Rücklaufsperre	Materiale carcassa Housing material Gehäuse material	Estremità uscita Output configuration Wellenende – Abtrieb	Posizione di montaggio Mounting position Einbaulage	Opzioni Options Optionen	Entata Supplementare Auxiliary drive Zusatzantrieb
RX	O V	2	802 ... 828	A - AS B - BS C1-C2 C1D-C1S C2D-C2S		ECE PAM.. PAM..G ECES PAM..S	VE	ARSB ARSN ARDB ARDN	– AGS	N C UB B FD Fn D	M1		

[13*]	[14*]	[15*]	[16*]	[17*]	[18*]
O	71	2	DX	506	PAM132
Tipo Entrata Supplementare Auxiliary drive type Typ – Zusatzantrieb	Grandezza Size Baugröße	Asse Riferimento Reference Centreline Bezugsachse	Posizione Position Position	<i>i</i> _{es}	Estremità entrata Input configuration Antriebswellenende
O	71	2	DX	506	PAM..



Designazione motore elettrico

Se è richiesto un motoriduttore completo di motore è necessario riportare la designazione di quest'ultimo. A tale proposito consultare il ns. catalogo dei motori elettrici Electronic Line.

Electric motor designation

For applications requiring a gearmotor, motor designation must be specified. To this end, please refer to our Electronic Line electric motor catalogue.

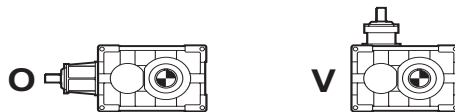
Bezeichnung des Elektromotors

Wird ein Getriebemotor komplett mit Elektromotor angefordert, müssen dessen Daten angegeben werden. Diesbezüglich verweisen wir auf unseren Katalog der Elektromotoren "Electronic Line".

[*1] Posizione assi

[*1] Centreline orientation

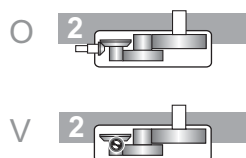
[*1] Achsenposition



[*2] N° stadi

[*2] No. of Reductions

[*2] Anzahl der Stufen



[*4] Esecuzione grafica

(vedi pagine dimensionali)

[*4] Shaft arrangement

(please refer to dimension pages)

[*4] Grafische Ausführung

(siehe Seite mit Maßangaben)

[*5] Rapporto di riduzione i

(Vedi tabelle prestazioni)

[*5] Reduction ratio i

(See rating tables)

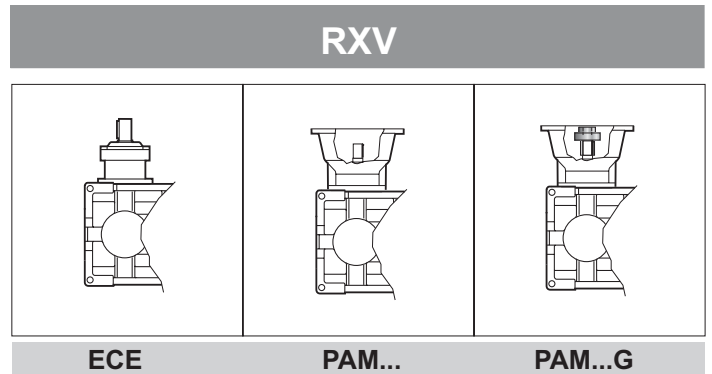
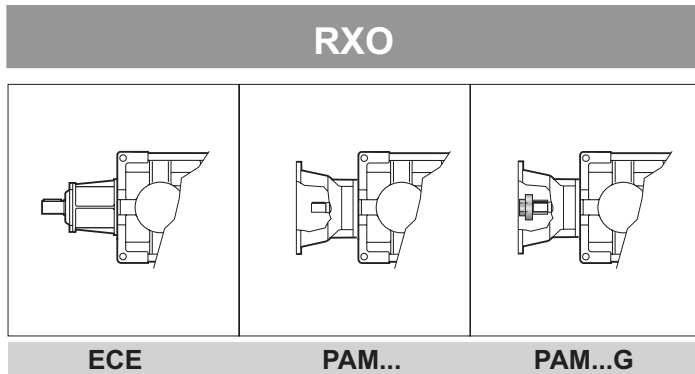
[*5] Übersetzungsverhältnis i

(Siehe Leistungstabelle)

[*6] Estremità entrata

[*6] Input configuration

[*6] Wellenende - Antrieb



ECE	Entrata con albero pieno	Solid input shaft	Antrieb mit Vollwelle
PAM..	Con campana senza giunto	Motor bell without coupling	mit Glocke ohne Kupplung
PAM..G	Con campana e giunto	Motor bell and coupling	mit Glocke und Kupplung
ECES	Entrata con estremità speciale	Special input shaft end	Antrieb mit speziellem Wellenende
PAM..S	Accoppiamento speciale	Special coupling	Spezialpassung (auf Anfrage erhältlich)

[*7] Ventole di raffreddamento

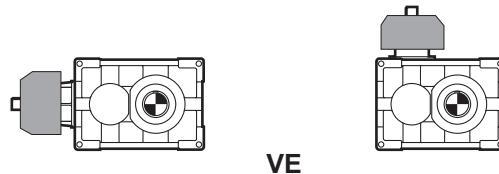
[*7] Cooling fans

[*7] Kühllüfterräder

Fare riferimento al capitolo accessori (G)

Please refer to accessories chapter (G)

Siehe Kapitel "Zubehör" (G)



[*8] Antiretro

[*8] Backstop

[*8] Rücklaufsperr

Fare riferimento al capitolo sezione accessori G

Please refer to relevant chapter accessories section G

Siehe Kapitel "Zubehör" G

Posizione antiretro a sinistra / Backstop on the left / Position der Rücklaufsperr - links			
↑ ARSB	Rotazione libera freccia bianca (B) Free rotation - white arrow (B) Freie Drehung - weißer Pfeil (B)	A..O..DX AS..O..DX	C1..O..DX C2..O..DX
↑ ARSN	Rotazione libera freccia nera (N) Free rotation - black arrow (N) Freie Drehung - schwarzer Pfeil (N)		
Posizione antiretro a destra / Backstop on the right / Position der Rücklaufsperr - rechts			
↑ ARDB	Rotazione libera freccia bianca (B) Free rotation - white arrow (B) Freie Drehung - weißer Pfeil (B)	B..O..SX BS..O..SX	C1..O..SX C2..O..SX
↑ ARDN	Rotazione libera freccia nera (N) Free rotation - black arrow (N) Freie Drehung - schwarzer Pfeil (N)		

[*9] Materiale carcassa

[*9] Casing material

[*9] Gehäusematerial

Materiale carcassa / Casing material / Gehäusematerial		802	804	806	808	810	812	814	816	818	820	822	824	826	828
Acciaio / Steel / Stahl	A														
Ghisa sferoidale / Spheroidal cast iron / Sphäroguss	GS														
Ghisa meccanica / Engineering cast iron / Maschinenguss	—														



[*10] Estremità uscita

[*10] Output configuration

[*10] Wellenende - Abtrieb

N	C	UB	B	FD	Fn	D

Altre opzioni uscita a richiesta

Other output options available on request

Weitere, auf Anfrage erhältliche Abtriebsoptionen

US	Uscita speciale / Special output / Spezialabtrieb		Indicare le personalizzazioni richieste Specify required custom configurations Bitte spezielle Anforderungen angeben
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Per ulteriori informazioni vedere la sezione Estremità

Please read Section "Input and Output Configurations" for more details.

Weitere Informationen finden Sie im Abschnitt "Wellenenden".

[*11] Posizioni di montaggio

[*11] Mounting positions

[*11] Einbaulagen

Vedi pagina E14

Refer to page E14

Siehe betreffende Seiten E14

[*12] Opzioni disponibili

[*12] Available options

[*12] Verfügbare Optionen

(vedi pag. G1)

(see page G1)

(Siehe Seite G1)

[*13] Tipo Entrata Supplementare

[*13] Auxiliary drive type

[*13] Zusätzlicher Antriebstyp

O - Entrata Supplementare, con riduttore ortogonale

O - Auxiliary drive with helical bevel gear unit

O - Zusätzlicher Antrieb mit Kegelstirnrad-getriebe

[*14] Grandezza

[*14] Size

[*14] Baugröße

Riduttore Principale Main gear unit Hauptgetriebe									Riduttore Accoppiato Auxiliary drive gear unit Gepasstes Getriebe	
		O71	O90	O112	O125	O140	O160	O180		O200
	RXO2 802									
	RXO2 804									
	RXO2 806									
	RXO2 808									
	RXO2 810									
	RXO2 812									
	RXO2 814									
	RXO2 816									
	RXO2 818									
	RXO2 820									
	RXO2 822									
	RXO2 824									
	RXO2 826									
RXO2 828										

[*15] Asse Riferimento

[*15] Reference centreline

[*15] Zusätzlicher Bezugsachse

(2 - Asse di Riferimento dell'entrata supplementare.

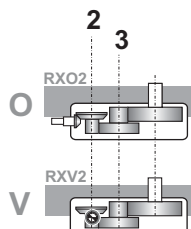
(2 - Reference centreline of auxiliary drive unit.

(2 - Bezugsachse des zusätzlichen Antriebs.

(3 - Non Applicabile)

(3 - Not applicable)

(3 - nicht applizierbar)



[*16] Posizione

Con riferimento alla esecuzione grafica scelta la posizione della Entrata Supplementare può assumere le seguenti posizioni:

- SX** - Posizione a Sinistra.
- DX** - Posizione a Destra.

La tabella seguente consente di definire la posizione della ES rispetto alla esecuzione grafica.

[*16] Position

Depending on selected shaft arrangement, the Auxiliary Drive unit can be installed on the left or on the right:

- SX** - Left.
- DX** - Right.

Auxiliary drive positions according to shaft arrangement are reported in the following table.

[*16] Position

Unter Bezugnahme auf die gewählte grafische Ausführung kann der zusätzliche Antrieb in folgenden Positionen vorgesehen werden:

- SX** - links.
- DX** - rechts.

Die folgende Tabelle gibt die Möglichkeit einer Definition des zusätzlichen Antriebs in Bezug auf die grafische Ausführung.

		Esecuzione Grafica / Shaft arrangement / Position des zusätzlichen Antriebs [4*]									
		A	AS	B	BS	C1	C2	C1D	C1S	C2D	C2S
Posizione Entrata Supplementare <i>Auxiliary Drive Position</i> Position des zusätzlichen Antriebs	SX										
	DX										

[*17] Rapporto di riduzione i_{es}

Vedi tabelle prestazioni

[*17] Reduction ratio i_{es}

See rating tables

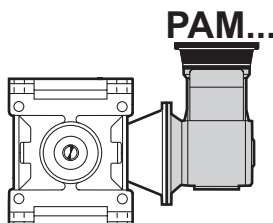
[*17] Übersetzungsverhältnis i_{es}

Siehe Leistungstabelle

[*18] Estremità entrata

[*18] Input configuration

[*18] Wellenende - Antrieb



1.6 Lubrificazione

Gli oli disponibili appartengono generalmente a tre grandi famiglie:

- 1) Oli minerali
- 2) Oli sintetici Poli-Alfa-Olefine
- 3) Oli sintetici Poli-Glicole

La scelta più appropriata è generalmente legata alle condizioni di impiego, riduttori non particolarmente caricati e con un ciclo di impiego discontinuo, senza escursioni termiche importanti, possono certamente essere lubrificati con olio minerale.

Nei casi di impiego gravoso, quando i riduttori saranno prevedibilmente caricati molto ed in modo continuativo, con conseguente prevedibile innalzamento della temperatura, è bene utilizzare lubrificanti sintetici tipo polialfaolefine (PAO).

Gli oli di tipo poliglicole (PG) sono da utilizzare strettamente nel caso di applicazioni con forti strisciamenti fra i contatti, ad esempio nelle viti senza fine. Debbono essere impiegati con grande attenzione poiché non sono compatibili con gli altri oli e sono invece completamente miscibili con l'acqua. Questo fenomeno è particolarmente pericoloso poiché non si nota, ma deprime velocemente le caratteristiche lubrificanti dell'olio.

Oltre a questi già menzionati, ricordiamo che esistono gli oli per l'industria alimentare. Questi trovano specifico impiego nell'industria alimentare in quanto sono prodotti speciali non nocivi alla salute.

Vari produttori forniscono oli appartenenti a tutte le famiglie con caratteristiche molto simili. Più avanti proponiamo una tabella comparativa.

1.6 Lubrication

Available oils are typically grouped into three major classes:

- 1) Mineral oils
- 2) Poly-Alpha-Olefin synthetic oils
- 3) Polyglycol synthetic oils

Oil is normally selected in accordance with environmental and operating conditions. Mineral oil is the appropriate choice for moderate load, non-continuous duty applications free from temperature extremes.

In severe applications, where gear units are to operate under heavy loads in continuous duty and high temperatures are expected, synthetic Poly-Alpha-Olefin oils (PAO) are the preferred choice.

Polyglycol oils (PG) should only be used in applications involving high sliding friction, as is the case with worm shafts. These particular oils should be used with great care, as they are not compatible with other oils, but are totally mixable with water. The oil mixed with water cannot be told from uncontaminated oil, but will degrade very rapidly.

In addition to the oils mentioned above, there are food-grade oils. These are special oils harmless to human health for use in the food industry.

Oils with similar characteristics are available from a number of manufacturers. A comparative overview table is provided at the next pages.

1.6 Schmierung

Die verfügbaren Öle gehören im Allgemeinen drei großen Familien an:

- 1) Mineralöle
- 2) Polyalphaolefine-Synthetiköle
- 3) Polyglykol-Synthetiköle

Die angemessene Wahl ist im Allgemeinen an die Einsatzbedingungen gebunden. Getriebe, die keinen besonders schweren Belastungen ausgesetzt sind und einem unregelmäßigen Einsatzzyklus unterliegen, ohne starke thermische Ausschläge, können problemlos mit Mineralöl geschmiert werden.

Bei einem Einsatz unter harten Bedingungen, d.h. wenn die Getriebe stark und andauernd belastet werden, woraus sich ein sicherer Temperaturanstieg ergibt, sollten Synthetiköle, Typ Polyalphaolefine (PAO), verwendet werden.

Die Öle, Typ Polyglykole (PG), sind ausschließlich für einen Einsatz ausgelegt, bei denen es zu starken Reibungen zwischen den in Kontakt stehenden Elementen kommt, z.B. bei Schnecken. Bei ihrem Einsatz in besondere Aufmerksamkeit erforderlich, da sie nicht mit anderen Ölen kompatibel sind, sich jedoch vollständig mit Wasser vermischen lassen. Diese Tatsache erweist sich daher als besonders gefährlich, da sie sich nicht feststellen lässt, jedoch die Schmiereigenschaften des Öls bereits nach kurzer Zeit unterdrückt.

Über die bereits genannten Öle hinaus, gibt es auch Öle, die speziell für die Lebensmittelindustrie ausgelegt sind. Diese finden demzufolge dort ihren Einsatz, da es sich dabei um spezielle Produkte handelt, die für die Gesundheit unschädlich sind. Die den jeweiligen Familien angehörigen Ölsorten werden von verschiedenen Herstellern angeboten; sie weisen jeweils sehr ähnliche Eigenschaften auf. Auf der folgenden Seite finden Sie eine entsprechende Vergleichstabelle.

Input speed n ₁ (min .-)	Absorbed power (IW)	Lubrication system	Viscosity ISO VG at 40° (cSt)	
			i ≤ 10	i > 10
2000 < n ₁ ≤ 5000	P < 7.5	Forced or Oil splash	68	68
	7.5 ≤ P ≤ 22		68	150
	P > 22		150	220
1000 < n ₁ ≤ 2000	P < 7.5	Forced or Oil splash	68	150
	7.5 ≤ P ≤ 37		150	220
	P > 37		220	320
300 < n ₁ ≤ 1000	P < 15	Forced Oil splash	68	150
	15 ≤ P ≤ 55	Forced Oil splash	150	220
			220	320
P > 55	Forced Oil splash	220	320	
50 < n ₁ ≤ 300	P < 22	Forced Oil splash	150	220
			220	320
	22 ≤ P ≤ 75	Forced Oil splash	220	320
			320	460
	P > 75	Forced Oil splash	320	460
			460	680

Tipo olio Oil type Öltyp	Temperatura olio Oil temperature Öltemperatur		
	65°C	80°C	90°C
Minerale Mineral Mineralöl	8000	3000	1000
Sintetica Synthetic Synthetiköl	20000	15000	9000

Frequenza cambi olio
Oil change intervals [H]
Oil change intervals [H]

Produttore Manufacturer Hersteller	Oli Minerali Mineral oils Mineralöle			Oli Sintetici Polialfaolefine (PAO) Poly-Alpha-Olefin synthetic oils (PAO) Polyalphaolefine- Synthetiköle (PAO)			Oli Sintetici Poliglicoli (PG) Polyglycol synthetic oils (PG) Polyglykol-Synthetiköle (PG)		
	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG
	150	220	320	150	220	320	150	220	320
AGIP	Blasia 150	Blasia 220	Blasia 320	-	Blasia SX 220	Blasia SX 320	Blasia S 150	Blasia S 220	Blasia S 320
ARAL	Degol BG 150 Plus	Degol BG 220 Plus	Degol BG 320 Plus	Degol PAS 150	Degol PAS 220	Degol PAS 320	Degol GS 150	Degol GS 220	Degol GS 320
BP	Energol GR-XP 150	Energol GR-XP 220	Energol GR-XP 320	Energol EPX 150	Energol EPX 220	Energol EPX 320	Energol SG 150	Energol SG-XP 220	Energol SG-XP 320
CASTROL	Alpha SP 150	Alpha SP 220	AlphaSP 320	Alphasyn EP 150	Alphasyn EP 220	Alphasyn EP 320	Alphasyn PG 150	Alphasyn PG 220	Alphasyn PG 320
CHEVRON	Ultra Gear 150	Ultra Gear 220	Ultra Gear 320	Tegra Synthetic Gear 150	Tegra Synthetic Gear 220	Tegra Synthetic Gear 320	HiPerSYN 150	HiPerSYN 220	HiPerSYN 320
ESSO	Spartan EP 150	Spartan EP 220	Spartan EP 320	Spartan S EP 150	Spartan S EP 220	Spartan S EP 320	Glycolube 150	Glycolube 220	Glycolube 320
KLÜBER	Klüberoil GEM 1-150	Klüberoil GEM 1-220	Klüberoil GEM 1-320	Klüberosynth EG 4-150	Klüberosynth EG 4-220	Klüberosynth EG 4-320	Klüberosynth GH 6-150	Klüberosynth GH 6-220	Klüberosynth GH 6-320
MOBIL	Mobilgear XMP 150	Mobilgear XMP 220	Mobilgear XMP 320	Mobilgear SHC XMP 150	Mobilgear SHC XMP 220	Mobilgear SHC XMP 320	Glygoyle 22	Glygoyle 30	Glygoyle HE320
MOLIKOTE	L-0115	L-0122	L-0132	L-1115	L-1122	L-1132	-	-	-
OPTIMOL	Optigear BM 150	Optigear BM 220	Optigear BM 320	Optigear Synthetic A 150	Optigear Synthetic A 220	Optigear Synthetic A 320	Optiflex A 150	Optiflex A 220	Optiflex A 320
Q8	Goya 150	Goya 220	Goya 320	El Greco 150	El Greco 220	El Greco 320	Gade 150	Gade 220	Gade 320
SHELL	Omala 150	Omala 220	Omala 320	Omala HD 150	Omala HD 220	Omala HD 320	Tivela S 150	Tivela S 220	Tivela S 320
TEXACO	Meropa 150	Meropa 220	Meropa 320	Pinnacle EP 150	Pinnacle EP 220	Pinnacle EP 320	-	Synlube CLP 220	Synlube CLP 320
TOTAL	Carter EP 150	Carter EP 220	Carter EP 320	Carter SH 150	Carter SH 220	Carter SH 320	Carter SY 150	Carter SY 220	Carter SY 320
TRIBOL	1100/150	1100/220	1100/320	1510/150	1510/220	1510/320	800/150	800/220	800/320

Lubrificanti sintetici per uso alimentare / Food-grade synthetic lubricants / Schmiermittel Synthetik für Lebensmittelbereich

AGIP				Rocol Foodlube Hi-Torque 150	—	Rocol Foodlube Hi-Torque 320			
ESSO				—	Gear Oil FM 220	—			
KLÜBER				Klüberoil 4 UH1 N 150	Klüberoil 4 UH1 N 220	Klüberoil 4 UH1 N 320			
MOBIL				DTE FM 150	DTE FM 220	DTE FM 320			
SHELL				Cassida Fluid GL 150	Cassida Fluid GL 220	Cassida Fluid GL 320			



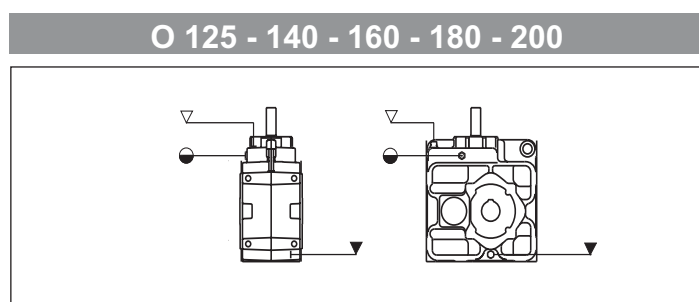
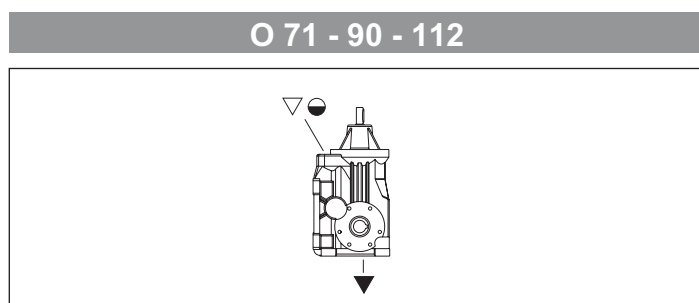
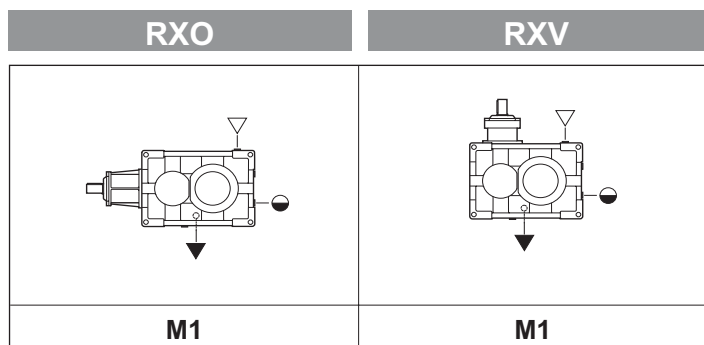
Posizioni di montaggio

Mounting positions

Einbaulagen

Riduttore Primario
Main Gear Unit
Hauptgetriebe

Entrata Supplementare
Auxiliary Drive
Zusätzlicher Antrieb



- ▽ Carico / Carico / Filler plug / Einfüllschraube
- ▼ Livello / Level plug / Schauglas
- Scarico / Drain plug / Ablassschraube

Riduttore Primario Main Gear Unit Hauptantrieb		Quantità di lubrificante Lubricant Quantity Schmiermittelmenge (l)	Entrata Supplementare Auxiliary Drive Zusätzlicher Antrieb	Quantità di lubrificante Lubricant Quantity Schmiermittelmenge (l)
RXO2 RXV2	802	3.3	O 71	1.95
	804	4.7		
	806	6.5		
	808	9	O 90	3.3
	810	13		
	812	18	O 112	6.7
	814	25		
	816	35	O 125	6
	818	49		
	820	69	O 140	10
	822	96		
	824	135	O 160	14
	826	189		
828	—	O 180	22	
		O 200	30	

Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

Bei den Ölmengeangaben handelt es sich um approximative Werte; für den Erhalt einer korrekten Schmierung muss Bezug auf den am Getriebe gekennzeichneten Füllstand genommen werden.

ATTENZIONE

Eventuali forniture con predisposizioni tappi diverse da quella indicata in tabella, dovranno essere concordate.

WARNING

Any plug arrangements other than that indicated in the table must be agreed upon.

ACHTUNG

Eventuelle Lieferungen mit einer von den Tabellenangaben abweichenden Anordnung der Stopfen müssen zuvor abgestimmt werden.

1.7 Verifica carichi radiali e assiali

Qualora il collegamento tra riduttore e macchina motrice o operatrice sia effettuato con mezzi che generano carichi radiali sull'estremità d'albero veloce o lento, occorre fare le seguenti verifiche.

Calcolo Fr_2' e Fr_1'

I carichi massimi Fr_1 e Fr_2 sono calcolati con $F_s=1$ ed a una distanza dalla battuta dell'albero di 0.5 S se albero veloce o 0.5 R se albero lento.

Tali valori sono riportati nelle tabelle delle prestazioni.

Per distanze variabili tra 0 e una distanza "X" bisogna utilizzare le tabelle seguenti:

Fr_2 con coefficiente A.

Fr_2 con coefficiente C nel caso di flange FD.

Fr_1 con coefficiente B.

1.7 Overhung and thrust load verification

When a gear unit is connected to prime mover or driven machine using overhung drive members that place a radial load on input or output shaft end, check the following loads.

Fr_2' e Fr_1' calculation

Load capacity ratings Fr_1 and Fr_2 consider a service factor $F_s=1$ and load location at a distance from shaft shoulder of 0.5 S for input shafts or 0.5 R for output shafts.

These values are reported in the rating tables.

Where load is applied at a distance from shoulder between 0 and an "X" distance, refer to the following tables:

Fr_2 with load location factor A.

Fr_2 with load location factor C if an FD flange is used.

Fr_1 with load location factor B.

1.7 Überprüfung der Radial- und Axialkräfte

Erfolgt die Verbindung zwischen Getriebe und Kraft- oder Arbeitsmaschine mit Vorrichtungen, die Radialkräfte auf das Ende der Antriebs- oder Abtriebswelle ausüben, sind folgende Überprüfungen erforderlich.

Berechnung von Fr_2' e Fr_1'

Die maximalen Belastungskräfte Fr_1 und Fr_2 werden mit $F_s=1$ und auf einem Abstand vom Wellenansatz von 0.5 S im Fall der Antriebswelle oder 0.5 R im Fall der Abtriebswelle berechnet.

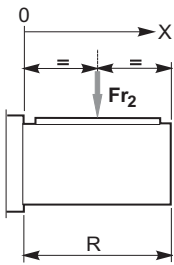
Diese Werte werden in den Leistungstabellen angegeben.

Bei zwischen 0 und einer Distanz "X" variierenden Abständen müssen folgende Tabellen verwendet werden:

Fr_2 mit Koeffizient A.

Fr_2 mit Koeffizient C bei FD-Flanschen.

Fr_1 mit Koeffizient B.



$$Fr_2' = Fr_2 \cdot \left(\frac{A}{A + X - \frac{R}{2}} \right)$$

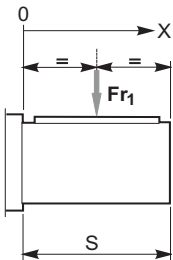
$$Fr_2' = Fr_2 \cdot C$$

solo per esecuzione FD
only for FD, configuration
Nur für Ausführungen FD

Fr_2' [N]	Carico radiale ammissibile su albero uscita alla distanza X	Permissible output shaft OHL at distance X	An Abtriebswelle auf Distanz X zulässige Radialkraft
Fr_2 [N]	Carico radiale ammissibile su albero uscita indicato a catalogo	Output shaft OHL capacity as per catalogue rating	An Abtriebswelle gemäß Katalogangaben zulässige Radialkraft
X [mm]	Distanza dalla battuta dell'albero	Distance from shaft shoulder	Distanz vom Wellenansatz
R [mm]	Sporgenza dell'albero uscita	Output shaft projection	Überstand der Abtriebswelle
A	Coefficiente da tabella	Load location factor from table	Koeffizient aus Tabelle

Coefficienti correttivi del carico radiale di catalogo in uscita Fr_2 in funzione della distanza dalla battuta
Load location factors to adjust output OHL capacity rating Fr_2 based on distance from shoulder
Korrekturkoeffizient der Radialkraft am Abtrieb Fr_2 gemäß Katalog in Abhängigkeit des Ansatzabstands

	RXP															
	802	804	806	808	810	812	814	816	818	820	822	824	826	828	830	832
A	99	109	124	137	156	175	200	225	236	261	294	331	385	405	447	507
C	1.32	1.35	1.39	1.46	1.49	1.43	1.32	1.32	1.33	1.35	1.32					



$$Fr_1' = Fr_1 \cdot \left(\frac{B}{B + X - \frac{S}{2}} \right)$$

Fr_1' [N]	Carico radiale ammissibile su albero entrata alla distanza X	Permissible input shaft OHL at distance X	An Abtriebswelle auf Distanz X zulässige Radialkraft
Fr_1 [N]	Carico radiale ammissibile su albero entrata indicato a catalogo	Input shaft OHL capacity as per catalogue rating	An Abtriebswelle gemäß Katalogangaben zulässige Radialkraft
X [mm]	Distanza dalla battuta dell'albero	Distance from shaft shoulder	Distanz vom Wellenansatz
S [mm]	Sporgenza dell'albero entrata	Input shaft projection	Überstand der Abtriebswelle
B	Coefficiente da tabella	Load location factor from table	Koeffizient aus Tabelle

Coefficienti correttivi del carico radiale di catalogo in entrata Fr_1 in funzione della distanza dalla battuta
Load location factors to adjust input OHL capacity rating Fr_1 based on distance from shoulder
Korrekturkoeffizient der Radialkraft am Antrieb Fr_1 gemäß Katalog in Abhängigkeit des Ansatzabstands

	Size	802	804	806	808	810	812	814	816	818	820	822	824	826	828	830	832
	B	RXP2	68	75	85	95	105	120	136	152	172	190	210	240	260	300	
	RXP3	87	98	110	121	142	155	173	195	212	240	271	305	344	387	435	484



Calcolo Fr

Per calcolare il carico Fr agente sull'albero lento diamo formule approssimate per alcune trasmissioni più comuni, per la determinazione del carico radiale su albero veloce o lento.

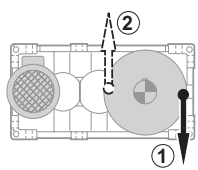
Fr calculation

Use the formula and the approximate factors for input or output overhung load determination referred to the most common drive members to calculate Fr load at output shaft.

Berechnung der Fr

Für die Berechnung der an der Abtriebswelle wirkenden Belastungen Fr geben wir approximative Formeln an, die für einige der allgemeinen Antriebsformen zum Bestimmen der auf die An- oder Abtriebswelle einwirkenden Radialkraft verwendet werden können.

$Fr = k \cdot \frac{T}{d}$	Fr [N] Carico radiale approssimato Approximate overhung load Approx. Wert - Radialkraft	d [mm] Diametro pulegge, ruote Pulley diameter, wheels Durchmesser Räder, Riemenscheiben	k Fattore di collegamento Connection factor Anschlusswert	T [Nm] Momento torcente Torque Drehmoment	
	7000 Ruote di frizione (gomma su metallo) Friction wheel drive (rubber on metal) Kupplungsräder (Gummi auf Metall)	5000 Cinghie trapezoidali V belt drives Keilriemen	3000 Cinghie dentate Toothed belts Zahnriemen	2120 Ingranaggi cilindrici Spur gears Zylinderzahnräder	2000 Catene Chain drives Ketten
k = Trasmissioni Drive member Antriebe	7000 Ruote di frizione (gomma su metallo) Friction wheel drive (rubber on metal) Kupplungsräder (Gummi auf Metall)	5000 Cinghie trapezoidali V belt drives Keilriemen	3000 Cinghie dentate Toothed belts Zahnriemen	2120 Ingranaggi cilindrici Spur gears Zylinderzahnräder	2000 Catene Chain drives Ketten



Nel caso di sollevamento con tamburo con tiro verso il basso è preferibile che la fune si avvolga dalla parte opposta al motore (1).
Nel caso più gravoso del precedente, con tiro verso l'alto, viceversa è preferibile che la fune si avvolga dal lato motore (2).

In lifting applications using winch drums in a downward pull direction, it is best for the rope to wrap on the side opposite to the motor (1).
In the more severe case of upward pull direction, the rope should wrap on motor side (2).

Beim Hebeverfahren mit einer Trommel mit Zugkraft nach unten sollte das Seil auf der dem Motor (1) entgegengesetzten Seite aufgerollt werden.
Im Fall eines härteren Einsatzes als den zuvor genannten, mit Zugkraft nach oben, sollte das Seil dagegen an der Motorseite (2) aufgewickelt werden.

Verifiche

Caso A)
Per carichi radiali minori di 0.25 Fr₁' o Fr₂' è necessario verificare soltanto che contemporaneamente al carico radiale sia presente un carico assiale non superiore a 0.2 volte Fr₁' o Fr₂';

Caso B)
Per carichi radiali maggiori di 0.25 Fr₁' o Fr₂';
1) Calcolo abbreviato: Fr (input) < Fr₁' e Fr (output) < Fr₂' e che contemporaneamente al carico radiale sia presente un carico assiale non superiore a 0.2 volte Fr₁' o Fr₂';

2) Calcolo completo per il quale occorre fornire i seguenti dati:
- momento torcente applicato o potenza applicata
- n₁ e n₂ (giri al minuto dell'albero veloce e dell'albero lento)
- carico radiale Fr (direzione, intensità, verso)

Verification

Case A)
For overhung loads lower than 0.25 Fr₁' or Fr₂', ensure that the thrust load applied simultaneously with OHL is not greater than 0.2 times Fr₁' or Fr₂';

Case B)
For overhung loads greater than 0.25 Fr₁' or Fr₂';
1) Quick calculation method: Fr (input) < Fr₁' and Fr (output) < Fr₂' and thrust load applied simultaneously with OHL not greater than 0.2 times Fr₁' or Fr₂';

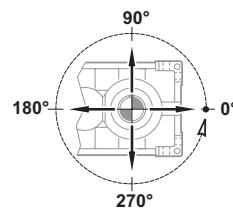
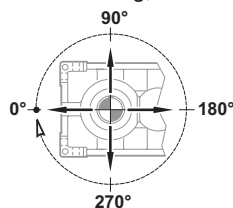
2) For the standard calculation method, the following information is required:
- applied torque or power
- n₁ and n₂ (input and output shaft rpm)
- overhung load Fr (orientation, amount of loading, direction)

Überprüfungen

Fall A)
Bei Radialkräften unter 0.25 Fr₁' oder Fr₂' muss nur überprüft werden, dass gleichzeitig mit der Belastung durch die Radialkraft auch eine Axialkraft von nicht mehr als 0.2 Mal Fr₁' oder Fr₂' vorliegt.

Fall B)
Bei Radialkräften über 0.25 Fr₁' oder Fr₂':
1) Verkürzte Berechnungsgleichung: Fr (input) < Fr₁' und Fr (output) < Fr₂' und dass gleichzeitig mit der Belastung durch die Radialkraft auch eine Axialkraft von nicht mehr als 0.2 Mal Fr₁' oder Fr₂' vorliegt.

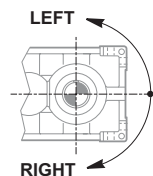
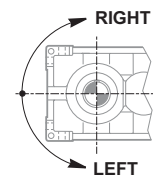
2) Vollständige Berechnungsgleichung für die folgende Daten erforderlich sind:
- appliziertes Drehmoment oder applizierte Leistung
- n₁ und n₂ (Drehungen/Minute der Antriebs- und Abtriebswelle)
- Radialkraft Fr (Richtung, Intensität, Seite)



-senso di rotazione dell'albero

-direction of rotation of shaft

- Drehrichtung der Welle



- grandezza e tipo del riduttore scelto
- tipo olio impiegato e sua viscosità

- size and type of selected gear unit
- oil type and viscosity

- esecuzione grafica assi:

- shaft arrangement:

- carico assiale presente Fa
Consultare il supporto Tecnico per la verifica.

- actual thrust load Fa
Please contact our Engineering for a verification.

- Baugröße und Typ des gewählten Getriebes
- verwendeter Öltyp und dessen Viskositätsgrad
- grafische Achsenausführung
- vorliegende Axialkraft Fa
Für eine Überprüfung die Technischen Unterlagen konsultieren.

1.8 Prestazioni riduttore

1.8 Gear unit ratings

1.8 Getriebeleistungen

802	Riduttore primario / Main gear unit / Hauptantrieb					Entrata Supplementare / Auxiliary Drive / Zusätzlicher Antrie			
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	F _{r2} /F _{r1} kN	ir _{es}	n ₃ min ⁻¹	P ₂ kW	K2
n ₁ min ⁻¹ 1450	28.5	51	18.8	3.3	11/1.9	502.1	2.9	1.21	0.064
	30.6	47	17.6	3.3	11/2.0	539.3	2.7	1.13	0.064
	32.9	44	16.4	3.3	11/2.0	505.8	2.9	1.21	0.074
	38.6	38	14.1	3.3	11/2.1	488.9	3.0	1.26	0.089
	46.0	32	12.0	3.4	11/2.1	515.9	2.8	1.21	0.101
	49.6	29	11.1	3.4	11/2.1	505.8	2.9	1.24	0.111
	58.1	25	9.6	3.4	11/2.1	488.9	3.0	1.29	0.135
	63.3	23	8.8	3.4	11/2.2	532.4	2.7	1.19	0.135
Potenza termica / Thermal power / Thermische Leistung (senza raffreddamento / Without cooling / ohne Kühlung) 24									

804	Riduttore primario / Main gear unit / Hauptantrieb					Entrata Supplementare / Auxiliary Drive / Zusätzlicher Antrie			
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	F _{r2} /F _{r1} kN	ir _{es}	n ₃ min ⁻¹	P ₂ kW	K2
n ₁ min ⁻¹ 1450	30.6	47	25	4.7	15/2.25	538.6	2.7	1.62	0.064
	32.9	44	23	4.7	15/2.25	505.1	2.9	1.73	0.074
	38.5	38	20	4.8	15/2.25	487.9	3.0	1.80	0.089
	41.9	35	19	4.8	15/2.35	531.1	2.7	1.66	0.089
	45.9	32	17	4.8	15/2.35	514.6	2.8	1.72	0.101
	49.5	29	16	4.8	15/2.35	505.1	2.9	1.76	0.111
	58.0	25	14	4.9	15/2.35	487.9	3.0	1.84	0.135
	63.1	23	13	4.9	15/2.5	531.1	2.7	1.70	0.135
Potenza termica / Thermal power / Thermische Leistung (senza raffreddamento / Without cooling / ohne Kühlung) 30									

806	Riduttore primario / Main gear unit / Hauptantrieb					Entrata Supplementare / Auxiliary Drive / Zusätzlicher Antrie			
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	F _{r2} /F _{r1} kN	ir _{es}	n ₃ min ⁻¹	P ₂ kW	K2
n ₁ min ⁻¹ 1450	28.0	52	41	7.1	19/3.25	489.1	3.0	2.63	0.064
	30.0	48	39	7.1	19/3.4	523.5	2.8	2.47	0.064
	34.6	42	34	7.2	19/3.4	528.7	2.7	2.46	0.073
	37.4	39	31	7.2	19/3.4	502.7	2.9	2.60	0.083
	44.1	33	27	7.2	19/3.6	525.3	2.8	2.51	0.094
	52.1	28	23	7.3	19/3.6	528.7	2.7	2.51	0.110
	56.3	26	21	7.3	19/3.6	502.7	2.9	2.65	0.125
	66.3	22	18	7.4	19/3.8	525.3	2.8	2.56	0.141
Potenza termica / Thermal power / Thermische Leistung (senza raffreddamento / Without cooling / ohne Kühlung) 40									

808	Riduttore primario / Main gear unit / Hauptantrieb					Entrata Supplementare / Auxiliary Drive / Zusätzlicher Antrie			
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	F _{r2} /F _{r1} kN	ir _{es}	n ₃ min ⁻¹	P ₂ kW	K2
n ₁ min ⁻¹ 1450	27.1	54	61	10.1	34/6.1	472.6	3.1	3.88	0.064
	29.0	50	57	10.1	34/6.1	506.4	2.9	3.64	0.064
	33.5	43	50	10.2	34/6.3	512.3	2.8	3.62	0.073
	39.3	37	43	10.3	34/6.6	468.5	3.1	3.99	0.094
	46.8	31	36	10.4	34/6.6	498.2	2.9	3.79	0.105
	50.5	29	34	10.4	34/6.6	512.3	2.8	3.70	0.110
	59.2	25	29	10.5	34/6.6	468.5	3.1	4.08	0.141
	64.4	23	27	10.5	34/6.9	510.2	2.8	3.76	0.141
Potenza termica / Thermal power / Thermische Leistung (senza raffreddamento / Without cooling / ohne Kühlung) 52									

1.8 Prestazioni riduttore

1.8 Gear unit ratings

1.8 Getriebeleistungen

810	Riduttore primario / Main gear unit / Hauptantrieb					Entrata Supplementare / Auxiliary Drive / Zusätzlicher Antrie			
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ /Fr ₁ kN	ir _{es}	n ₃ min ⁻¹	P ₂ kW	K2
n ₁ min ⁻¹ 1450	27.6	53	82	13.8	44/7.0	492.5	2.9	5.11	0.062
	29.5	49	77	13.9	44/7.0	527.7	2.7	4.78	0.062
	34.1	42	67	14.0	44/7.2	539.8	2.7	4.71	0.071
	40.0	36	57	14.1	44/7.5	486.8	3.0	5.27	0.092
	43.6	33	53	14.2	44/7.5	530.1	2.7	4.86	0.092
	51.4	28	45	14.3	44/7.5	539.8	2.7	4.81	0.106
	60.2	24	39	14.4	44/7.5	486.8	3.0	5.37	0.138
	65.6	22	36	14.4	44/7.7	530.1	2.7	4.96	0.138
Potenza termica / Thermal power / Thermische Leistung (senza raffreddamento / Without cooling / ohne Kühlung) 65									

812	Riduttore primario / Main gear unit / Hauptantrieb					Entrata Supplementare / Auxiliary Drive / Zusätzlicher Antrie			
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ /Fr ₁ kN	ir _{es}	n ₃ min ⁻¹	P ₂ kW	K2
n ₁ min ⁻¹ 1450	28.0	52	119	20.5	49/9.5	501.1	2.9	7.46	0.062
	30.1	48	112	20.6	49/9.7	538.2	2.7	6.97	0.062
	35.0	41	97	20.8	49/9.7	475.6	3.0	7.94	0.082
	41.4	35	82	20.9	49/10	503.4	2.9	7.57	0.092
	45.3	32	76	21.0	49/10	479.7	3.0	7.98	0.105
	52.7	28	66	21.2	49/10	475.6	3.0	8.11	0.124
	57.2	25	61	21.3	49/10	515.8	2.8	7.51	0.124
	62.3	23	56	21.4	49/10.4	503.4	2.9	7.72	0.138
Potenza termica / Thermal power / Thermische Leistung (senza raffreddamento / Without cooling / ohne Kühlung) 82									

814	Riduttore primario / Main gear unit / Hauptantrieb					Entrata Supplementare / Auxiliary Drive / Zusätzlicher Antrie			
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ /Fr ₁ kN	ir _{es}	n ₃ min ⁻¹	P ₂ kW	K2
n ₁ min ⁻¹ 1450	28.5	51	161	28.0	58/11.7	542.1	2.7	8.71	0.054
	30.6	47	150	28.1	58/12.0	488.6	3.0	9.70	0.065
	32.9	44	140	28.3	58/12.0	526.3	2.8	9.04	0.065
	38.6	38	120	28.5	58/12.2	488.9	3.0	9.80	0.082
	46.0	32	102	28.7	58/12.2	542.6	2.7	8.91	0.088
	49.6	29	95	28.8	58/12.2	526.3	2.8	9.22	0.097
	58.1	25	82	29.1	58/12.2	488.9	3.0	10.01	0.123
	63.3	23	75	29.2	58/12.4	532.4	2.7	9.23	0.123
Potenza termica / Thermal power / Thermische Leistung (senza raffreddamento / Without cooling / ohne Kühlung) 102									

816	Riduttore primario / Main gear unit / Hauptantrieb					Entrata Supplementare / Auxiliary Drive / Zusätzlicher Antrie			
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ /Fr ₁ kN	ir _{es}	n ₃ min ⁻¹	P ₂ kW	K2
n ₁ min ⁻¹ 1450	26.6	55	246	40.0	70/14.8	505.7	2.9	13.33	0.054
	30.6	47	215	40.3	70/15.1	488.0	3.0	13.91	0.065
	32.9	44	201	40.5	70/15.1	525.5	2.8	12.96	0.065
	38.5	38	173	40.8	70/15.5	487.9	3.0	14.08	0.082
	45.9	32	146	41.2	70/15.5	541.2	2.7	12.80	0.088
	49.5	29	136	41.3	70/15.5	525.5	2.8	13.23	0.097
	58.0	25	117	41.6	70/15.5	487.9	3.0	14.37	0.123
	63.1	23	108	41.8	70/15.7	531.1	2.7	13.25	0.123
Potenza termica / Thermal power / Thermische Leistung (senza raffreddamento / Without cooling / ohne Kühlung) 127									

1.8 Prestazioni riduttore

1.8 Gear unit ratings

1.8 Getriebeleistungen

818	Riduttore primario / Main gear unit / Hauptantrieb					Entrata Supplementare / Auxiliary Drive / Zusätzlicher Antrie			
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ /Fr ₁ kN	ir _{es}	n ₃ min ⁻¹	P ₂ kW	K2
n ₁ min ⁻¹ 1450	28.0	52	345	59.2	80/17.1	523.8	2.8	19.03	0.055
	30.0	48	323	59.4	80/17.6	470.2	3.1	21.28	0.066
	34.6	42	282	59.9	80/17.6	543.0	2.7	18.56	0.066
	37.4	39	262	60.1	80/17.6	464.1	3.1	21.80	0.083
	44.1	33	224	60.6	80/18.0	510.7	2.8	19.97	0.089
	52.1	28	191	61.1	80/18.0	543.0	2.7	18.94	0.099
	56.3	26	178	61.3	80/18.0	464.1	3.1	22.25	0.125
	66.3	22	152	61.8	80/18.9	510.7	2.8	20.38	0.134
Potenza termica / Thermal power / Thermische Leistung (senza raffreddamento / Without cooling / ohne Kühlung) 165									

820	Riduttore primario / Main gear unit / Hauptantrieb					Entrata Supplementare / Auxiliary Drive / Zusätzlicher Antrie			
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ /Fr ₁ kN	ir _{es}	n ₃ min ⁻¹	P ₂ kW	K2
n ₁ min ⁻¹ 1450	27.1	54	489	81.1	142/19.8	506.2	2.9	26.98	0.055
	31.1	47	428	81.7	142/20.2	488.5	3.0	28.16	0.066
	36.3	40	370	82.3	142/20.2	525.0	2.8	26.40	0.071
	39.3	37	343	82.7	142/20.7	488.0	3.0	28.51	0.083
	46.8	31	290	83.4	142/20.7	542.8	2.7	25.86	0.089
	54.5	27	251	84.0	142/20.7	525.0	2.8	26.94	0.107
	59.2	25	233	84.4	142/20.7	488.0	3.0	29.10	0.125
	64.4	23	215	84.7	142/21.6	531.4	2.7	26.84	0.125
Potenza termica / Thermal power / Thermische Leistung (senza raffreddamento / Without cooling / ohne Kühlung) 205									

822	Riduttore primario / Main gear unit / Hauptantrieb					Entrata Supplementare / Auxiliary Drive / Zusätzlicher Antrie			
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ /Fr ₁ kN	ir _{es}	n ₃ min ⁻¹	P ₂ kW	K2
n ₁ min ⁻¹ 1450	27.6	53	657	111.0	178/27.9	524.4	2.8	35.62	0.054
	29.5	49	615	111.3	178/27.9	471.5	3.1	39.75	0.065
	34.1	42	536	112.2	178/28.8	545.4	2.7	34.61	0.065
	40.0	36	461	113.0	178/29.7	506.6	2.9	37.56	0.082
	43.6	33	425	113.5	178/29.7	513.9	2.8	37.19	0.088
	52.5	28	356	114.6	178/29.7	540.7	2.7	35.67	0.100
	60.2	24	313	115.4	178/29.7	506.6	2.9	38.33	0.123
	65.6	22	288	115.9	178/30.6	513.9	2.8	37.95	0.132
Potenza termica / Thermal power / Thermische Leistung (senza raffreddamento / Without cooling / ohne Kühlung) 248									

824	Riduttore primario / Main gear unit / Hauptantrieb					Entrata Supplementare / Auxiliary Drive / Zusätzlicher Antrie			
	ir	n ₂ min ⁻¹	P _N kW	T _N kNm	Fr ₂ /Fr ₁ kN	ir _{es}	n ₃ min ⁻¹	P ₂ kW	K2
n ₁ min ⁻¹ 1450	28.6	51	949	166.2	200/36	504.6	2.9	55.44	0.058
	30.7	47	887	166.8	200/36.9	542.0	2.7	51.81	0.058
	35.7	41	768	168.0	200/36.9	494.5	2.9	57.19	0.075
	38.7	37	711	168.7	200/37.8	498.5	2.9	56.97	0.080
	46.1	31	602	170.2	200/37.8	517.2	2.8	55.40	0.092
	52.7	28	530	171.3	200/37.8	494.5	2.9	58.32	0.110
	57.2	25	491	172.0	200/37.8	498.5	2.9	58.08	0.118
	68.1	21	415	173.6	200/39.6	517.2	2.8	56.50	0.136
Potenza termica / Thermal power / Thermische Leistung (senza raffreddamento / Without cooling / ohne Kühlung) 306									



1.8 Prestazioni riduttore

1.8 Gear unit ratings

1.8 Getriebeleistungen

826	Riduttore primario / <i>Main gear unit</i> / Hauptantrieb					Entrata Supplementare / <i>Auxiliary Drive</i> / Zusätzlicher Antrie			
	<i>i_r</i>	<i>n₂</i> min ⁻¹	<i>P_N</i> kW	<i>T_N</i> kNm	<i>Fr₂/Fr₁</i> kN	<i>i_{res}</i>	<i>n₃</i> min ⁻¹	<i>P₂</i> kW	<i>K₂</i>
1450	28.6	51	1288	226.1	235/42.3	538.6	2.7	70.66	0.055
	30.7	47	1204	226.9	235/44.1	489.9	3.0	77.96	0.065
	33.1	44	1122	227.8	235/44.1	527.7	2.7	72.67	0.065
	38.8	37	965	229.6	235/45.9	496.9	2.9	77.79	0.081
	42.3	34	890	230.6	235/45.9	504.5	2.9	76.93	0.086
	50.9	28	746	232.7	235/45.9	534.3	2.7	73.31	0.098
	57.2	25	667	234.1	235/45.9	496.9	2.9	79.31	0.119
	62.3	23	615	235.1	235/47.7	504.5	2.9	78.44	0.128
Potenza termica / <i>Thermal power</i> / Thermische Leistung (senza raffreddamento / <i>Without cooling</i> / ohne Kühlung) 368									

828	Riduttore primario / <i>Main gear unit</i> / Hauptantrieb					Entrata Supplementare / <i>Auxiliary Drive</i> / Zusätzlicher Antrie			
	<i>i_r</i>	<i>n₂</i> min ⁻¹	<i>P_N</i> kW	<i>T_N</i> kNm	<i>Fr₂/Fr₁</i> kN	<i>i_{res}</i>	<i>n₃</i> min ⁻¹	<i>P₂</i> kW	<i>K₂</i>
1450	27.1	53	1926	320.3	272/53.1	502.4	2.9	107.32	0.056
	31.2	46	1687	322.5	272/54.9	489.3	3.0	110.95	0.066
	33.6	43	1572	323.7	272/54.9	526.8	2.8	103.42	0.066
	39.3	37	1353	326.3	272/56.7	495.8	2.9	110.78	0.082
	46.8	31	1146	329.2	272/56.7	484.2	3.0	114.44	0.100
	49.2	29	1093	330.0	272/56.7	526.8	2.8	105.44	0.096
	57.6	25	941	332.6	272/56.7	495.8	2.9	112.92	0.120
	62.8	23	868	334.0	272/58.5	503.4	2.9	111.69	0.129
Potenza termica / <i>Thermal power</i> / Thermische Leistung (senza raffreddamento / <i>Without cooling</i> / ohne Kühlung) 445									

1.9 Momenti d'inerzia

1.9 Moments of inertia

1.9 Trägheitsmomente

		RX02 - RXV2													
		802	804	806	808	810	812	814	816	818	820	822	824	826	828
ir	-	19.4	19.4	20.5	19.7	20.1	19.1	19.4	19.4	19.4	19.7	20.1	19.4	19.5	19.8
J1	kgm ²	0.0016	0.0029	0.0050	0.0083	0.0150	0.0271	0.0479	0.0850	0.1512	0.2690	0.4785	0.8503	1.5118	2.6814
ir	-	21.9	21.9	21.8	22.3	22.7	21.5	21.9	21.9	21.8	22.3	22.7	21.9	22.0	22.3
J1	kgm ²	0.0014	0.0027	0.0046	0.0078	0.0141	0.0252	0.0447	0.0793	0.1411	0.2510	0.4465	0.7936	1.4111	2.5028
ir	-	24.9	24.9	24.6	23.7	24.2	24.5	24.9	24.9	24.6	23.7	25.8	24.9	25.0	25.4
J1	kgm ²	0.0013	0.0024	0.0042	0.0073	0.0132	0.0235	0.0417	0.0740	0.1317	0.2342	0.4167	0.7407	1.3170	2.3360
ir	-	28.5	30.6	28.0	27.1	27.6	28.0	28.5	26.6	28.0	27.1	27.6	28.6	28.6	27.1
J1	kgm ²	0.0012	0.0022	0.0039	0.0069	0.0123	0.0219	0.0389	0.0691	0.1229	0.2186	0.3888	0.6913	1.2293	2.1804
ir	-	30.6	32.9	30.0	29.0	29.5	30.1	30.6	30.6	30.0	31.1	29.5	30.7	30.7	31.2
J1	kgm ²	0.0011	0.0020	0.0036	0.0065	0.0115	0.0204	0.0363	0.0645	0.1147	0.2040	0.3628	0.6452	1.1474	2.0351
ir	-	33.0	38.5	34.6	33.5	34.1	35.0	33.0	32.9	34.6	36.3	34.1	35.7	33.1	33.6
J1	kgm ²	0.0011	0.0019	0.0034	0.0060	0.0107	0.0190	0.0339	0.0602	0.1071	0.1904	0.3386	0.6022	1.0709	1.8995
ir	-	38.6	41.9	37.4	39.3	40.0	41.4	38.6	38.5	37.4	39.3	40.0	38.7	38.8	39.3
J1	kgm ²	0.0010	0.0018	0.0032	0.0056	0.0100	0.0178	0.0316	0.0562	0.1000	0.1777	0.3161	0.5621	0.9995	1.7728
ir	-	46.0	45.9	44.1	46.8	43.6	45.3	46.0	45.9	44.1	46.8	43.6	46.1	42.3	46.8
J1	kgm ²	0.0009	0.0017	0.0030	0.0053	0.0093	0.0166	0.0295	0.0525	0.0933	0.1659	0.2950	0.5246	0.9329	1.6547
ir	-	49.6	49.5	52.1	50.5	51.4	52.7	49.6	49.5	52.1	54.5	52.5	52.7	50.9	49.2
J1	kgm ²	0.0009	0.0016	0.0028	0.0049	0.0087	0.0155	0.0275	0.0489	0.0870	0.1546	0.2750	0.4890	0.8696	1.5424
ir	-	58.1	58.0	56.3	59.2	60.2	57.2	58.1	58.0	56.3	59.2	60.2	57.2	57.2	57.6
J1	kgm ²	0.0008	0.0014	0.0026	0.0045	0.0081	0.0143	0.0255	0.0454	0.0806	0.1434	0.2550	0.4535	0.8064	1.4303
ir	-	63.3	63.1	66.3	64.4	65.6	62.3	63.3	63.1	66.3	64.4	65.6	68.1	62.3	62.8
J1	kgm ²	0.0007	0.0013	0.0024	0.0042	0.0074	0.0132	0.0235	0.0418	0.0743	0.1322	0.2350	0.4179	0.7431	1.3180
ir	-	69.2	69.1	72.5	70.5	71.7	68.1	69.2	69.1	72.5	70.5	71.7	75.0	68.2	68.7
J1	kgm ²	0.0007	0.0012	0.0022	0.0038	0.0068	0.0121	0.0215	0.0382	0.0680	0.1209	0.2150	0.3823	0.6799	1.2059
ir	-	81.5	81.3	79.8	77.6	84.4	80.2	81.5	81.3	78.9	83.0	79.0	80.2	75.1	81.2
J1	kgm ²	0.0007	0.0012	0.0021	0.0037	0.0065	0.0153	0.0205	0.0365	0.0648	0.1153	0.2050	0.3646	0.6483	1.1499
ir	-	88.7	88.5	93.0	90.3	92.0	87.3	88.7	88.5	93.0	90.3	92.0	95.6	88.6	88.4
J1	kgm ²	0.0006	0.0011	0.0020	0.0035	0.0062	0.0110	0.0195	0.0347	0.0617	0.1097	0.1950	0.3468	0.6166	1.0937
ir	-	97.1	96.8	101.7	98.9	100.6	95.6	97.1	96.8	101.7	98.9	100.6	105.2	106.7	96.7
J1	kgm ²	0.0006	0.0010	0.0019	0.0033	0.0059	0.0104	0.0185	0.0329	0.0585	0.1040	0.1850	0.3290	0.5850	1.0376
ir	-	106.9	106.6	111.9	108.8	110.7	105.2	106.9	106.6	111.9	108.8	110.7	116.5	118.2	106.4
J1	kgm ²	0.0006	0.0010	0.0018	0.0031	0.0055	0.0098	0.0175	0.0311	0.0553	0.0984	0.1750	0.3112	0.5534	0.9816
ir	-	118.4	118.0	123.9	120.5	122.7	116.5	118.4	118.0	123.9	120.5	122.7	130.2	132.0	117.8
J1	kgm ²	0.0006	0.0010	0.0017	0.0031	0.0055	0.0097	0.0173	0.0308	0.0547	0.0973	0.1730	0.3076	0.5471	0.9704

Se è richiesto il momento d'inerzia dell'entrata supplementare contattare il servizio tecnico GSM.

If you need to know the moment of inertia of the auxiliary drive unit, please contact STM Engineering.

Falls die Wertangabe des Trägheitsmoments am zusätzlichen Antrieb erforderlich sein sollte, kann sie bei der Technischen Abteilung der STM angefragt werden.



1.10 Motori applicabili

1.10 Compatible motors

1.10 Applizierbare Motoren

		IEC													
		71	80	90	100	112	132	160	180	200	225	250	280	315	355
RX02 - RXV2	802														
	804														
	806														
	808														
	810														
	812														
	814														
	816														
	818														
	820														
	822.. 828	A richiesta / On request / Auf Anfrage													

Possibili accoppiamenti con motori IEC Possible couplings with IEC motors Mögliche Verbindungen mit IEC-Motoren		
	IEC	ir
		Tutti / All / Alle
O 71	63	11/140 (B5)
	71	14/160 (B5) 14/200 - 14/140 - 14/120
	80	19/200 (B5) - 19/120 (B14) 19/160 - 19/140
	90	24/200 (B5) - 24/140 (B14) 24/160 - 24/120
	100	28/250 (B5) - 28/160 (B14)
	112	28/250 (B5) - 28/160 (B14)
O 90	71	14/160 (B5)
	80	19/200 (B5)
	90	24/200 (B5) 24/300 - 24/250
	100	28/250 (B5) - 28/160 (B14) 28/200 - 28/300
	112	28/250 (B5) - 28/160 (B14) 28/200 - 28/300
	132	38/300 (B5) - 38/200 (B14) 38/250
O 112	80	19/200 (B5)
	90	24/200 (B5)
	100	28/250 (B5) 28/350 - 28/300
	112	28/250 (B5) 28/350 - 28/300
	132	38/300 (B5) 38/350 - 38/250
	160	42/350 (B5) 42/300 - 42/250

		Possibili accoppiamenti con motori IEC <i>Possible couplings with IEC motors</i> Mögliche Verbindungen mit IEC-Motoren
IEC		ir Tutti / <i>All</i> / <i>Alle</i>
		11/140 (B5)
		14/160 (B5)
		19/200 (B5)
O 125	90	24/200 (B5)
	100	28/250 (B5)
	112	28/250 (B5)
	132	38/300 (B5)
	160	42/350 (B5)
	180	48/350 (B5)
	200	55/400 (B5)
O 140	100	28/250 (B5)
	112	28/250 (B5)
	132	38/300 (B5)
	160	42/350 (B5)
	180	48/350 (B5)
	200	55/400 (B5)
	225	55/450 - 60/450 (B5)
O 160	100	28/250 (B5)
	112	28/250 (B5)
	132	38/300 (B5)
	160	42/350 (B5)
	180	48/350 (B5)
	200	55/400 (B5)
	225	55/450 - 60/450 (B5)
	250	60/550 - 65/550 (B5)
O 180	132	38/300 (B5)
	160	42/350 (B5)
	200	55/400 (B5)
	225	55/450 - 60/450 (B5)
	250	60/550 - 65/550 (B5)
	280	65/550 - 75/550 (B5)
O 200	132	38/300 (B5)
	160	42/350 (B5)
	180	48/350 (B5)
	200	55/400 (B5)
	225	55/450 - 60/450 (B5)
	250	60/550 - 65/550 (B5)
	280	65/550 - 75/550 (B5)

Legenda:

19/200 (B5) 19/160

19/200 : combinazioni albero/flangia standard
(B5) : forma costruttiva motore IEC
19/160 : combinazione albero/flangia a richiesta

Key:

19/200 (B5) 19/160

19/200 : standard shaft/flange combination
(B5) : IEC motor constructive shape
19/160 : shaft/flange combinations upon request

Legende:

19/200 (B5) 19/160

19/200 : Standardkombinationen Welle/Flansch
(B5) : Konstruktionsform IEC-Motor
19/160 : Sonderkombinationen Welle/Flansch

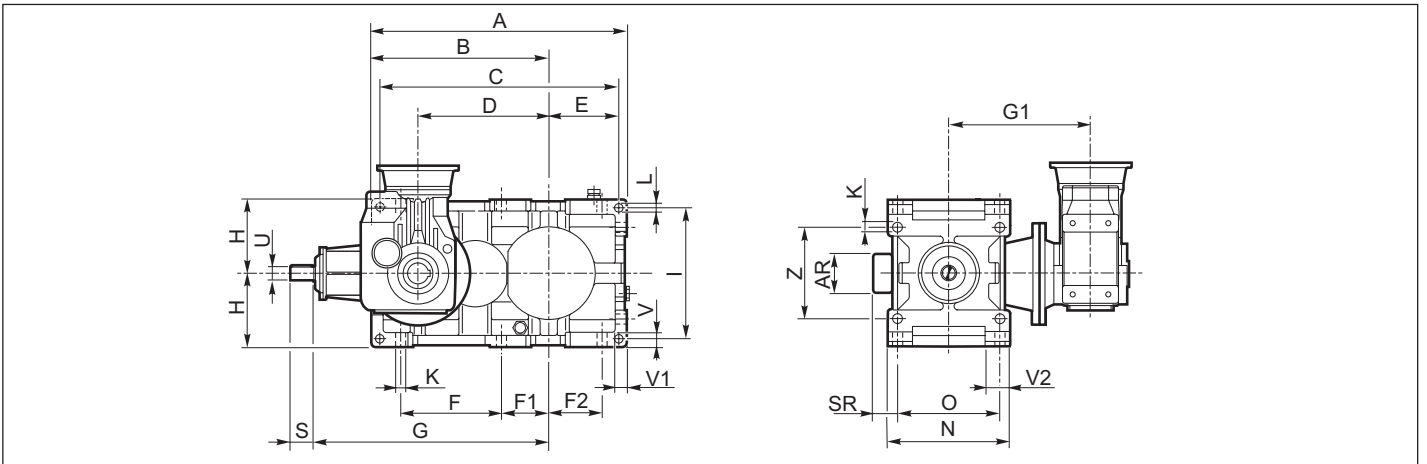


1.11 Dimensioni

1.11 Dimensions

1.11 Abmessungen

802 - 812

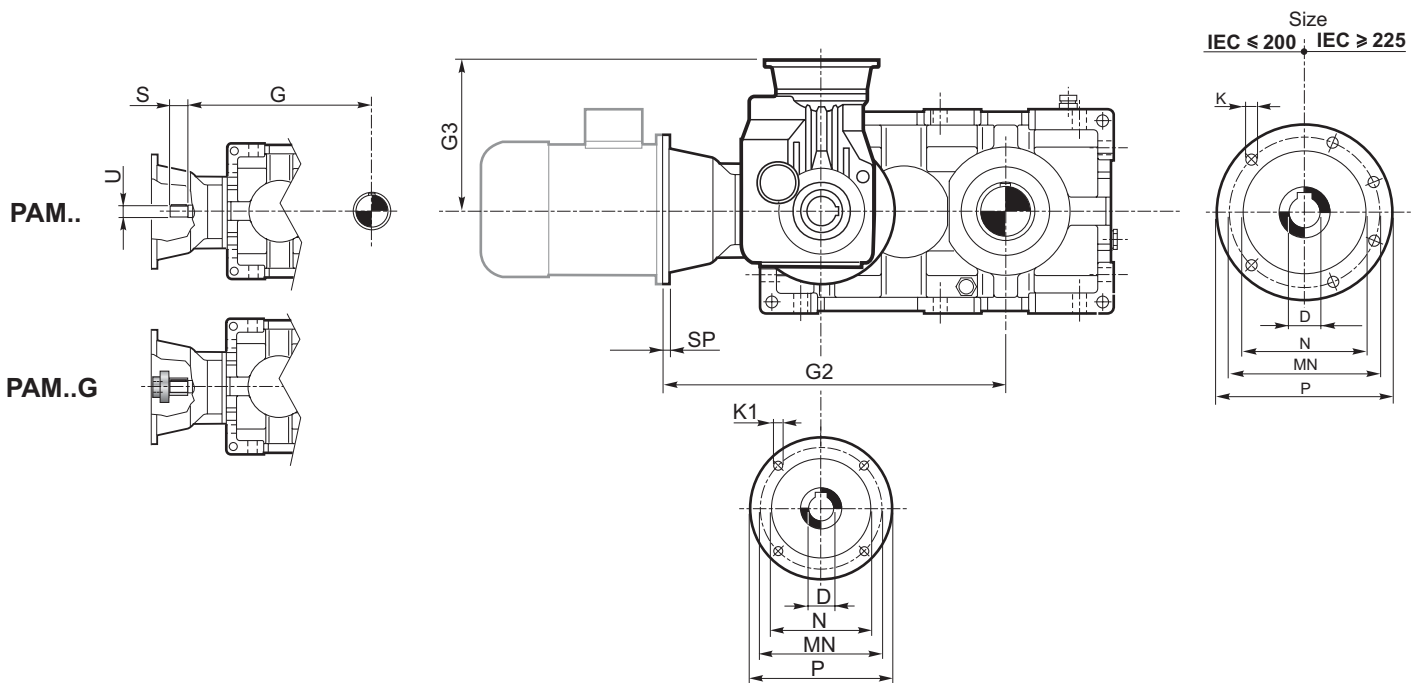


Esecuzione grafica / Shaft arrangement / Grafische Ausführung **Albero uscita / Output shaft / Abtriebswelle**

<p>A..DX AS..DX B..SX BS..SX</p> <p>ABU..DX ABUS..SX</p>	<p>⇒ N D FD Fn</p>
<p>C1..DX C2..DX C1..SX C2..SX</p>	<p>⇒ C</p>
<p>C1D..DX C1S..SX C2D..DX C2S..SX</p>	<p>⇒ UB B</p>

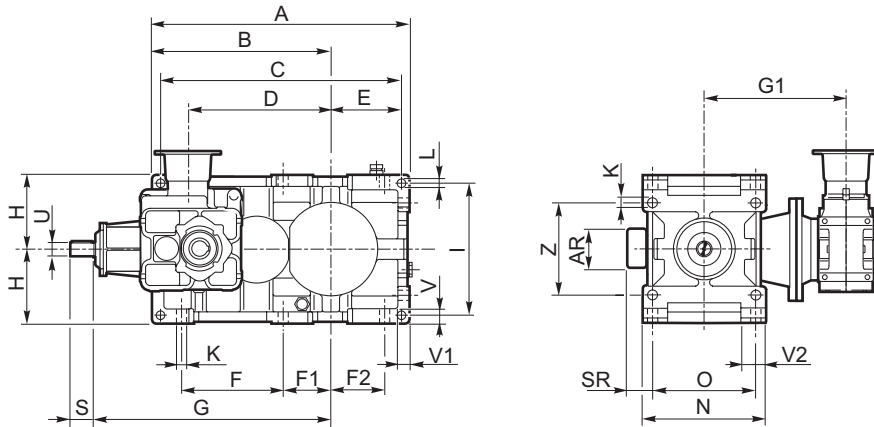
	Dimensioni generali / Dimensions / Allgemeine Abmessungen																					
	A	AR	B	C	D	E	F	F1	F2	G1	H _{h11}	I	L	N _{h11}	O	K	SR	V	V1	V2	Z	Kg
802	435	72	305	407	225	116	172.5	82.5	90	313	125	224	14	213	180	18	41	25	20	44.5	160	112
804	492	80	342	460	252	134	195	91	104	331	140	250	16	237	200	20	57	28	22.5	49	180	149
806	555	90	385	521	285	153	219.5	102.5	117	377	160	280	18	269	225	22	66	32	25	56.5	200	227
808	622	100	432	584	320	171	246	116	130	398	180	320	20	297	250	25	57	36	28	59.5	224	294
810	695	110	485	655	360	190	275	130	145	476	200	360	22	335	280	27	58	40	32	67.5	250	427
812	785	120	545	740	405	217.5	307.5	147.5	160	508	225	400	24	379	315	30	63	45	36	78.5	280	570

	Albero entrata / Input shaft / Antriebswelle			Albero uscita / Output shaft / Abtriebswelle								
	U	S	G									
				T m6	R	M	T H7	M1	T H7	M1	M3	
802	22 j6	40	405	60	112	109	60	109	60	109	170	
804	24 k6	45	452	70	125	121	70	121	70	121	192	
806	28 k6	50	510	80	140	137	80	137	80	137	215	
808	32 k6	56	570	90	160	151	90	151	90	151	246	
810	35 k6	63	640	100	180	170	100	170	100	170	266	
812	40 k6	70	720	110	200	192	110	192	110	192	302	



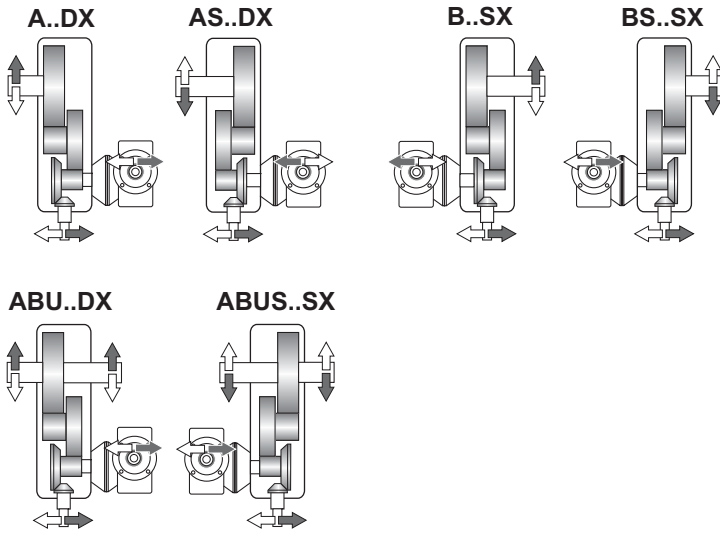
	IEC														
	63	71	80	90	100	112	132	160	180	200	225	250	280	315	355
D H7	11	14	19	24	28	28	38	42	48	55	60	65	75	80	100
P (IECB5)	140	160	200	200	250	250	300	350	350	400	450	550	550	660	800
P (IECB14)	—	—	120	140	160	160	200	—	—	—	—	—	—	—	—
MN	110	130	165	165	215	215	265	300	300	350	400	500	500	600	740
N G6	95	110	130	130	180	180	230	250	250	300	350	450	450	550	680
K		M8	M10	M10	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20
K1															
SP		12	12	12	14	14	16	18	18	20	20	20	20	24	30
G2	802				499	509	509	529	559	559	559				
	804					561	561	581	611	611	611	641			
	806					624	624	644	674	674	674	704			
	808							710	740	740	740	770	770	770	
	810							787	817	817	817	847	847	847	877
	812							874	904	904	904	934	934	934	964
G3	802	217	217	237	237	247	247								
	804	217	217	B5-B14	B5-B14	B5-B14	B5-B14								
	806		249	264	264	274	274	300							
	808		249	264	264	B5-B14	B5-B14	B5-B14							
	810			304	304	319	319	340	370						
	812			304	304	319	319	340	370						

814 - 820

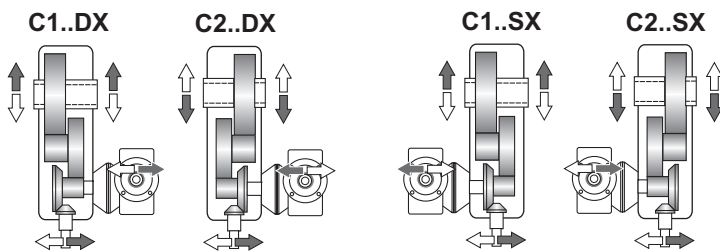
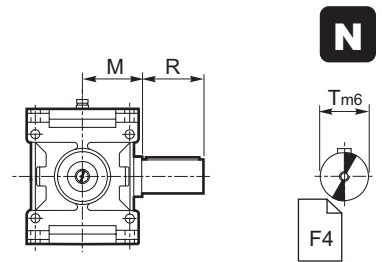


Esecuzione grafica / Shaft arrangement / Grafische Ausführung

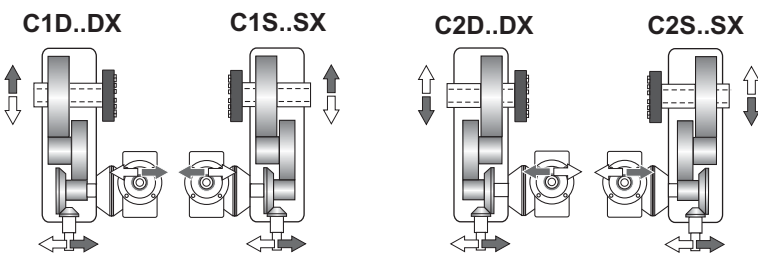
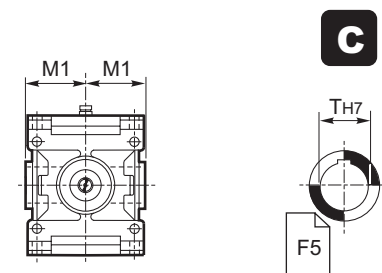
Albero uscita / Output shaft / Abtriebswelle



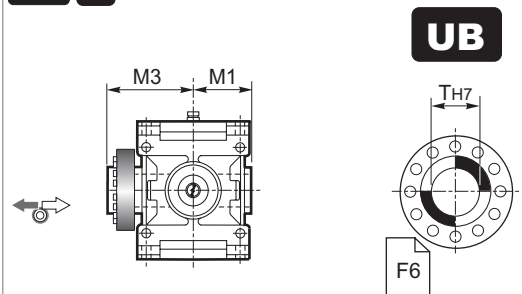
⇒ **N D FD Fn**



⇒ **C**

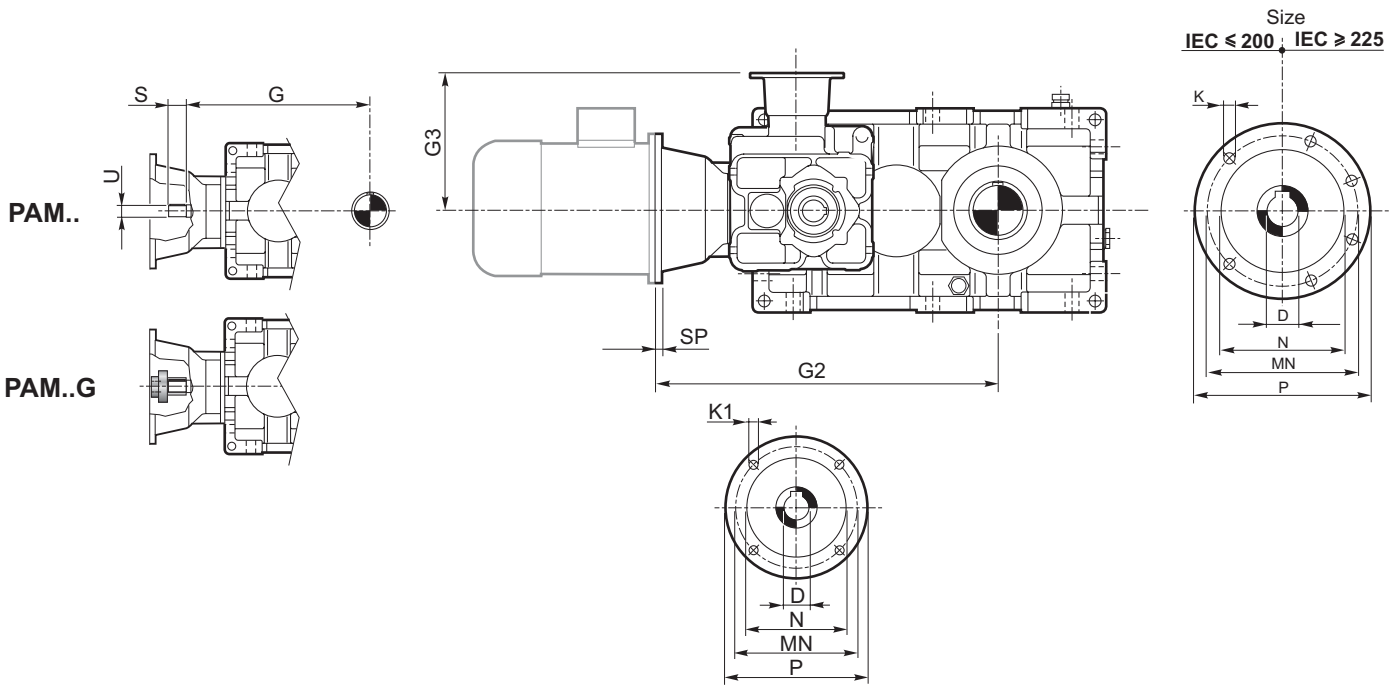


⇒ **UB B**



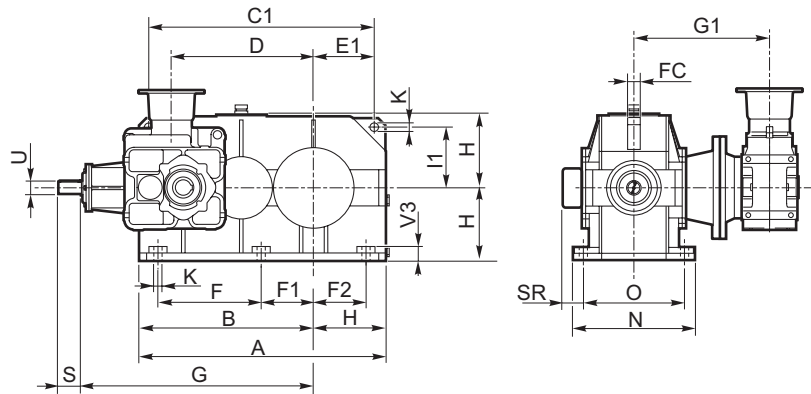
Dimensioni generali / Dimensions / Allgemeine Abmessungen																						
	A	AR	B	C	D	E	F	F1	F2	G1	H _{h11}	I	L	N _{h11}	O	K	SR	V	V1	V2	Z	Kg
814	875	130	610	825	495	240	345	165	180	607	250	450	27	427	355	33	86	50	40	89	320	803
816	985	150	685	929	550	272	388	185	203	645	280	500	30	479	400	36	81	56	45	96.5	360	1084
818	1110	170	770	1046	610	308	437.5	207.5	230	717	315	560	35	541	450	39	67	63	50	114.5	400	1517
820	1245	180	865	1173	680	344	492.5	232.5	260	761	355	638	39	599	500	42	97	70	56	124	450	2069

	Albero entrata / Input shaft / Antriebswelle			Albero uscita / Output shaft / Abtriebswelle								
	U	S	G									
				T m6	R	M	T H7	M1	T H7	M1	M3	
814	45 k6	80	805	125	225	216	125	216	125	216	335	
816	50 k6	90	905	140	250	242	140	242	140	242	370	
818	55 m6	100	1020	160	280	273	160	273	160	273	422	
820	60 m6	112	1140	180	315	302	180	302	180	302	477	



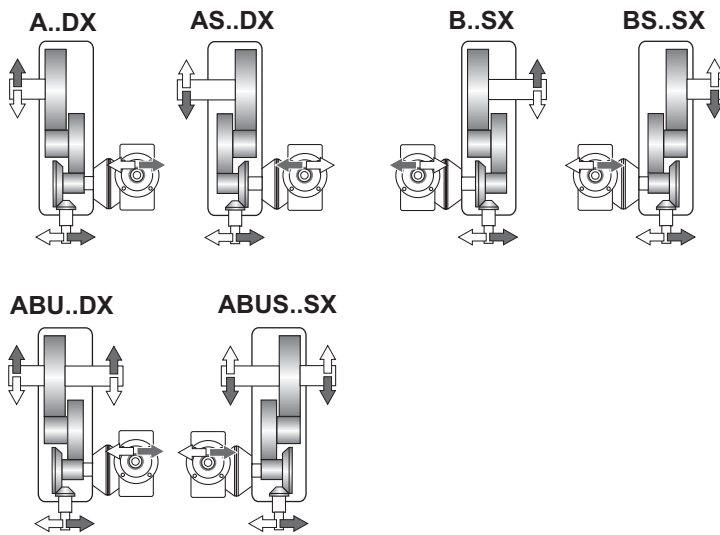
	IEC														
	63	71	80	90	100	112	132	160	180	200	225	250	280	315	355
D H7	11	14	19	24	28	28	38	42	48	55	60	65	75	80	100
P (IECB5)	140	160	200	200	250	250	300	350	350	400	450	550	550	660	800
MN	110	130	165	165	215	215	265	300	300	350	400	500	500	600	740
N G6	95	110	130	130	180	180	230	250	250	300	350	450	450	550	680
K		M8	M10	M10	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20
K1															
SP		12	12	12	14	14	16	18	18	20	20	20	20	24	30
G2	814							999	999	999	1029	1029	1029	1059	
	816							1109	1109	1109	1139	1139	1139	1169	1209
	818									1234	1264	1264	1264	1294	1334
	820										1396	1396	1396	1426	1466
G3	814			357	357	367	367	387	417	417	417				
	816			357	357	367	367	387	417	417	417				
	818					401.5	401.5	421.5	451.5	451.5	451.5	481.5			
	820					401.5	401.5	421.5	451.5	451.5	451.5	481.5			

822 - 828

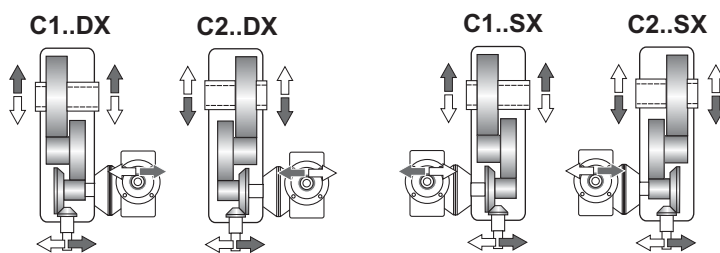
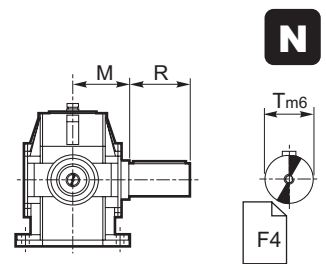


Esecuzione grafica / Shaft arrangement / Grafische Ausführung

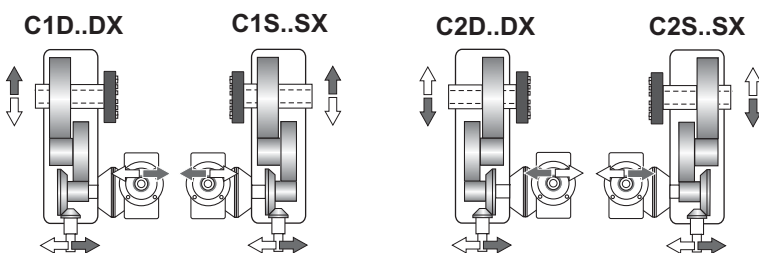
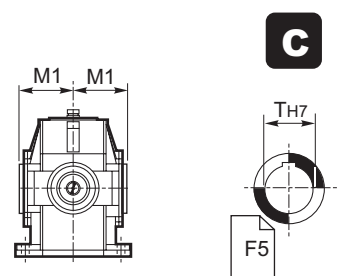
Albero uscita / Output shaft / Abtriebswelle



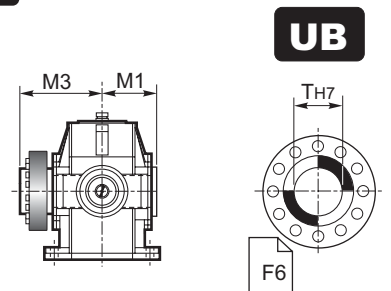
⇒ **N D FD Fn**



⇒ **C**



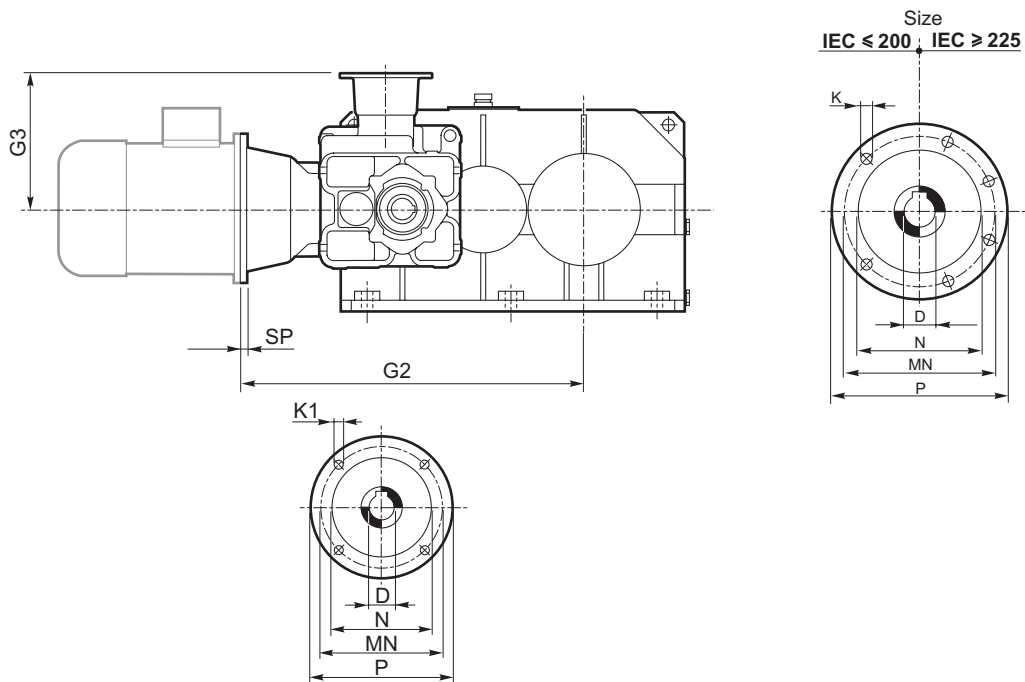
⇒ **UB B**



	Dimensioni generali / Dimensions / Allgemeine Abmessungen																		
	A	AR	B	D	C1	E1	F	F1	F2	FC	G1	H _{h11}	I1	K	N _{h11}	O	SR	V3	Kg
822	1370	*	970	780	1240	335	570	300	300	60	734	400	335	45	675	560	*	55	2879
824	1540	*	1090	878	1410	385	640	320	320	60	847	450	385	48	761	630	*	60	3483
826	1715	*	1215	975	1565	425	715	365	365	70	914	500	425	52	855	710	*	65	4837
828	1925	*	1365	1085	1755	475	805	415	415	2x50	994	560	475	56	965	800	*	80	6636

	Albero entrata / Input shaft / Antriebswelle			Albero uscita / Output shaft / Abtriebswelle								
	U	S	G									
				T m6	R	M	T H7	M1	T H7	M1	M3	
822	70 m6	125	1280	200	355	340	200	340	200	340	*	
824	80 m6	140	1400	220	400	383	220	383	220	383	*	
826	90 m6	160	1610	250	450	430	250	430	250	430	*	
828	100 m6	180	1820	280	500	485	280	485	280	785	*	

* A richiesta / On request / Auf Anfrage



	IEC															
	63	71	80	90	100	112	132	160	180	200	225	250	280	315	355	
D H7	11	14	19	24	28	28	38	42	48	55	60	65	75	80	100	
P (IECB5)	140	160	200	200	250	250	300	350	350	400	450	550	550	660	800	
MN	110	130	165	165	215	215	265	300	300	350	400	500	500	600	740	
N G6	95	110	130	130	180	180	230	250	250	300	350	450	450	550	680	
K		M8	M10	M10	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20	
K1																
SP		12	12	12	14	14	16	18	18	20	20	20	20	24	30	
G2	822-826	A richiesta / On request / Auf Anfrage														
G3	822				425	425	445	475	475	475	505	505	505			
	824						415	433	433	433	463	464	464			
	826							443	461	461	461	491	492	492		
	828								443	461	461	461	491	492	492	

1.0 ESTREMITA ENTRATA, USCITA

INPUT AND OUTPUT CONFIGURATIONS

КОНФИГУРАЦИИ ВХОДНЫХ И ВЫХОДНЫХ ВАЛОВ

		Pag. Page Стр.
ECE	Estremita d'albero entrata <i>Input shaft end</i> Входной цилиндрический вал	F2
N	Estremita d'albero uscita <i>Output shaft end</i> Выходной цилиндрический вал	F4
C	Albero cavo <i>Hollow output shaft</i> Выходной полый вал	F5
UB	Albero cavo con unita di bloccaggio <i>Hollow output shaft with shrink disc</i> Выходной полый вал со сжимным диском	F6
B		
FD	Estremita scanalata albero lento flangia brocciata <i>Splined output shaft and broached flange</i> Выходной шлицевый вал с продлённым фланцем	F7
D	Estremita albero lento scanalato senza flangia brocciata <i>Splined output shaft without broached flange</i> Выходной шлицевый вал без продлённого фланца	F7
Fn	Estremita scanalata albero lento con giunto dentato flangiato <i>Splined output shaft with flanged splined coupling</i> Выходной шлицевый вал с продленным фланцем соединенных муфтой	F8

F

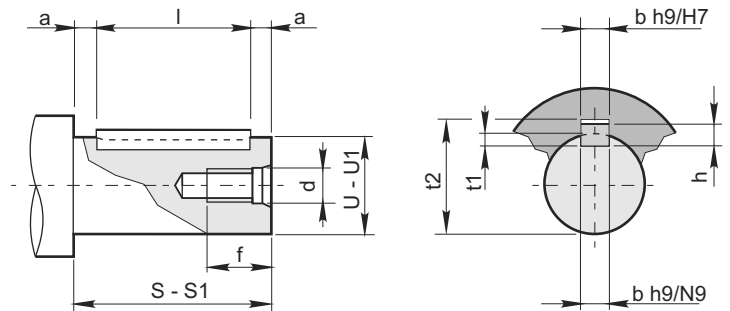
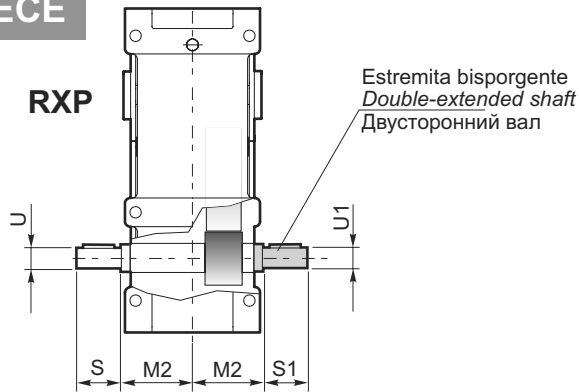


Estremita d'albero entrata

Input shaft end

Входной цилиндрический вал

ECE



	RXP1						RXP2						RXP3			RXP4		
	ir	U	S	U1	S1	M2	ir	U	S	U1	S1	M2	U - U1	S - S1	M2	U	S	M2
802	< 4.6	45 k6	112	45 k6	112	137	< 20.9	32 k6	80	32 k6	80	109	24 j6	63	109	16	40	266
	4.6			35 k6	63		20.9			28 k6	50							
804	< 4.4	50 k6	112	50 k6	112	151	< 20.9	35 k6	80	35 k6	80	121	28 j6	63	121	16	40	296
	4.4			40 k6	70		20.9			32 k6	56							
806	< 4.8	55 m6	125	55 m6	125	170	< 18.2	45 k6	112	45 k6	112	137	32 k6	80	137	19	40	348
	4.8			45 k6	80		18.2			35 k6	63							
808	< 5.3	60 m6	140	60 m6	140	192	< 17.7	50 k6	112	50 k6	112	151	35 k6	80	151	19	40	353
	5.3			50 k6	90		17.7			40 k6	70							
810	< 5.3	65 m6	140	65 m6	140	216	< 19.7	55 m6	125	55 m6	125	170	45 k6	112	170	19	40	368
	5.3			55 m6	100		19.7			45 k6	80							
812	< 5.4	70 m6	160	70 m6	160	242	< 20.6	60 m6	140	60 m6	140	192	50 k6	112	192	24	50	428
	5.4			60 m6	112		20.6			50 k6	90							
814	< 5.5	80 m6	180	80 m6	180	273	< 20.9	65 m6	140	65 m6	140	216	55 m6	125	216	24	50	443
	5.5			70 m6	125		20.9			55 m6	100							
816	< 5.3	90 m6	180	90 m6	180	302	< 20.9	70 m6	160	70 m6	160	242	60 m6	140	242	28	60	539
	5.3			80 m6	140		20.9			60 m6	112							
818	< 5.9	100 m6	200	100 m6	200	273	< 21.9	80 m6	180	80 m6	180	273	65 m6	140	273	45	112	273
	5.9			90 m6	160		21.9			70 m6	125							
820	—	110 m6	200	110 m6	200	302	< 21.3	90 m6	180	90 m6	180	302	70 m6	160	302	50	112	302
				80 m6	140		21.3											
822	—	125 m6	225	125	225	340	—	100 m6	200	100	200	340	80 m6	180	340	55	125	340
824	—	140 m6	250	140	250	383	—	110 m6	200	110	200	383	90 m6	180	383	60	140	383
826							—	125 m6	225	125	225	430	100 m6	200	430	65	140	430
828							—	140 m6	250	140	250	485	110 m6	200	485	70	160	485
830													125 m6	225	545	80	180	545
832													140 m6	250	595	50	180	595

U - U1	Foro fil. testa Tapped hole Резьбовое отверстие		Cava / Keyway/ Шпоночный паз			Estremita d'albero Shaft end Конец вала		Linguetta Key Шпонка	Estremita d'albero Shaft end Конец вала		Linguetta Key Шпонка
	d	f	b	t ₁	t ₂	S a11	a	bxhxl	S1 a11	a	bxhxl
16 j6	M6	15	5	3	18.3	40	4	5x7x32	—	—	—
19 j6	M6	15	6	3.5	21.8	40	4	6x7x32	—	—	—
24 j6	M8	22	8	4	27.3	63*	3.5*	8x7x56*	—	—	—
						50**	5**	8x7x40**			
28 j6	M8	22	8	4	31.3	63*	3.5*	8x7x56	50	2.5	8x7x45
						60**	5**	8x7x50**			
32 k6	M8	22	10	5	35.3	80	5	10x8x70	56	3	10x8x50
35 k6	M10	27	10	5	38.3	80	5	10x8x70	63	4	10x8x55
40 k6	M10	27	12	5	43.3				70	5	12x8x60
45 k6	M10	27	14	5.5	48.8	112	6	14x9x100	80	5	14x9x70
50 k6	M12	35	14	5.5	53.8	112	6	14x9x100	90	5	14x9x80
55 m6	M12	35	16	6	59.3	125	7.5	16x10x110	100	5	16x10x90
60 m6	M12	35	18	7	64.4	140	7.5	18x11x125	112	6	18x11x100
65 m6	M16	39	18	7	69.4	140	7.5	18x11x125			
70 m6	M16	39	20	7.5	74.9	160	10	20x12x140	125	7.5	20x12x110
80 m6	M16	39	22	9	85.4	180	10	22x14x160	140	7.5	22x14x125
90 m6	M16	39	25	9	95.4	180	15	25x14x150	160	10	25x14x140
100 m6	M20	46	28	10	106.4	200	15	28x16x170	200	15	28x16x170
110 m6	M20	46	28	10	116.4	200	15	28x16x180	200	15	28x16x180
125 m6	M20	46	32	11	132.4	225	22.5	32x18x180	225	22.5	32x18x180
140 m6	M24	56	36	12	148.4	250	25	36x20x200	250	25	36x20x200

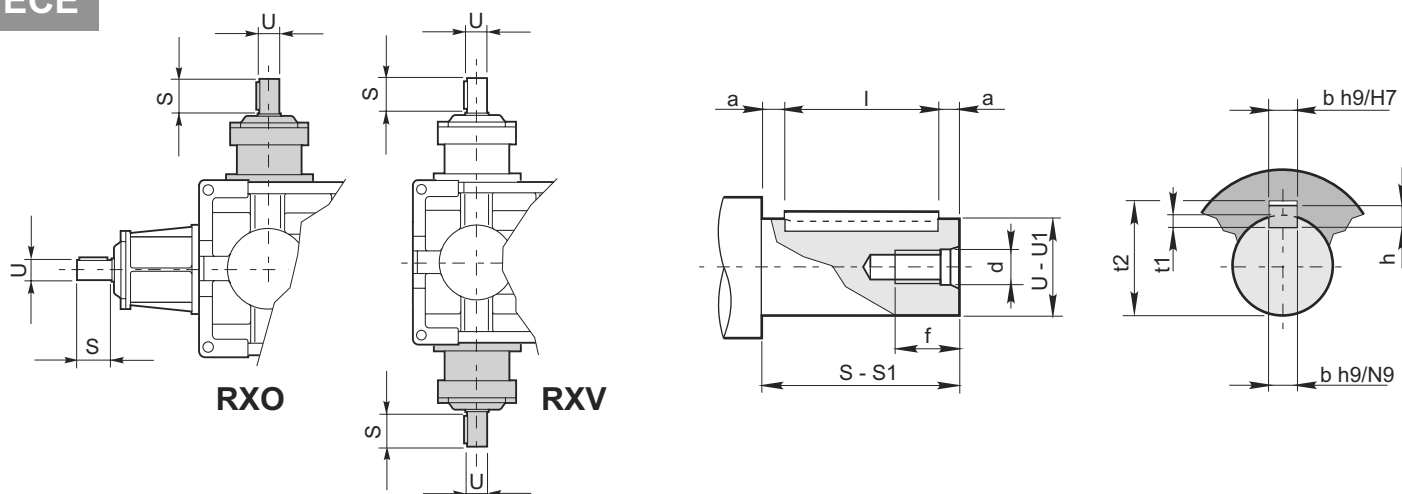
* (RXP3)
** (RXP4)

Estremita d'albero entrata

Input shaft end

Входной цилиндрический вал

ECE

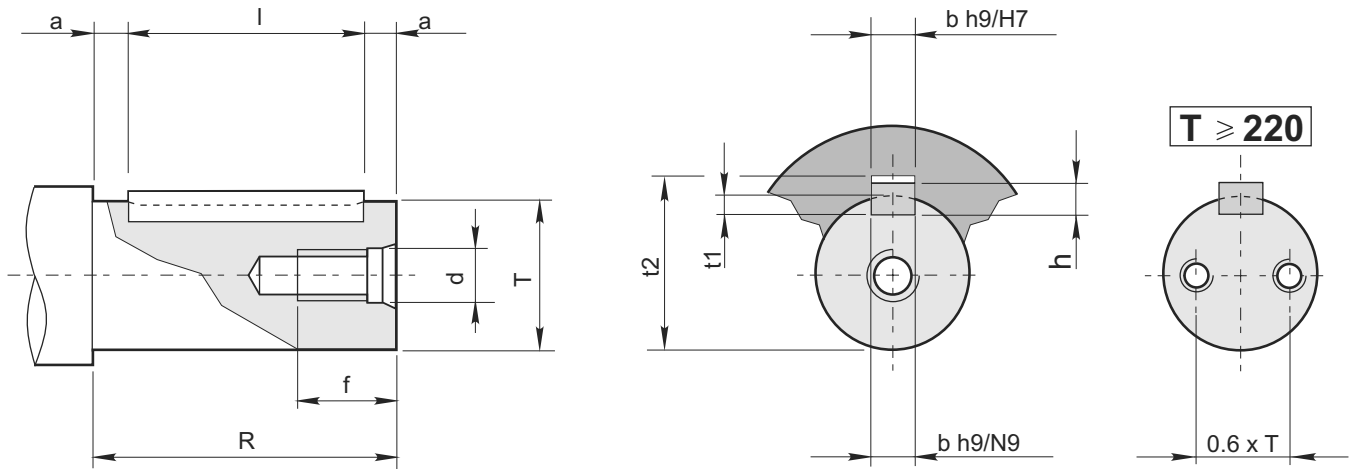


	RXO1		RXO2		RXO3	
	U	S	U	S	U	S
802	28 j6	50	22 j6	40	18 j6	32
804	32 k6	56	24 j6	45	20 j6	36
806	35 k6	63	28 j6	50	22 j6	40
808	40 k6	70	32 k6	56	24 j6	45
810	45 k6	80	35 k6	63	28 j6	50
812	50 m6	90	40 k6	70	32 k6	56
814	55 m6	100	45 k6	80	35 k6	63
816	60 m6	112	50 m6	90	40 k6	70
818	70 m6	125	55 m6	100	45 k6	80
820	80 m6	140	60 m6	112	50 m6	90
822	90 m6	160	70 m6	125	55 m6	100
824	100 m6	180	80 m6	140	60 m6	112
826			90 m6	160	70 m6	125
828			100 m6	180	80 m6	140
830					90 m6	160
832					100 m6	180



U	Foro fil. testa Tapped hole Резьбовое отверстие		Cava / Keyway/ Шпоночный паз			Estremita d'albero Shaft end Конец вала		Linguetta Key Шпонка
	d	f	b	t ₁	t ₂	S a11	a	bxhxl
18 j6	M6	18	6	3.5	20.8	32	2	6x6x28
20 j6	M6	18	6	3.5	22.8	36	2	6x6x32
22 j6	M6	18	6	3.5	24.8	40	2.5	6x6x35
24 j6	M8	22	8	4	27.3	45	2.5	8x7x40
28 j6	M8	22	8	4	31.3	50	2.5	8x7x45
32 k6	M8	22	10	5	35.3	56	3	10x8x50
35 k6	M10	27	10	5	38.3	63	4	10x8x55
40 k6	M10	27	12	5	43.3	70	5	12x8x60
45 k6	M10	27	14	5.5	48.8	80	5	14x9x70
50 k6	M12	35	14	5.5	53.8	90	5	14x9x80
55 m6	M12	35	16	6	59.3	100	5	16x10x90
60 m6	M12	35	18	7	64.4	112	6	18x11x100
70 m6	M16	39	20	7.5	74.9	125	7.5	20x12x110
80 m6	M16	39	22	9	85.4	140	7.5	22x14x125
90 m6	M16	39	25	9	95.4	160	10	25x14x140
100 m6	M20	46	28	10	106.4	180	10	28x16x160

N



RX.	Albero Shaft Вал	Foro fil. testa Tapped hole Резьбовое отверстие		Cava / Keyway/ Шпоночный паз			Estremita d'albero Shaft end Конец вала		Linguetta Key Шпонка
		T	d	f	b	t ₁	t ₂	R a11	
802	60 m6	M12	35	18	7	64.4	112	6	18x11x100
804	70 m6	M16	39	20	7.5	74.9	125	7.5	20x12x110
806	80 m6	M16	39	22	9	85.4	140	7.5	22x14x125
808	90 m6	M16	39	25	9	95.4	160	10	25x14x140
810	100 m6	M20	46	28	10	106.4	180	10	28x16x160
812	110 m6	M20	46	28	10	116.4	200	10	28x16x180
814	125 m6	M20	46	32	11	132.4	225	12.5	32x18x200
816	140 m6	M24	56	36	12	148.4	250	15	36x20x220
818	160 m6	M24	56	40	13	169.4	280	15	40x22x250
820	180 m6	M30	72	45	15	190.4	315	17.5	45x25x280
822	200 m6	M30	72	45	15	210.4	355	17.5	45x25x320
824	220 m6	N°2 M24	56	50	17	231.4	400	20	50x28x360
826	250 m6	N°2 M24	56	56	20	262.4	450	25	56x32x400
828	280 m6	N°2 M24	56	63	20	292.4	500	25	63x32x450
830	320 m6	N°2 M30	72	70	22	334.4	500	25	70x36x450
832	350 m6	N°2 M30	72	80	25	365.4	560	30	80x40x500

Estremita d'albero cilindriche secondo UNI 6397-68, DIN748, NFE 22.051, BS 4506-70, ISO/R 775/69, escluso corrispondenza R-S. Linguette secondo UNI6604-69, DIN6885 Bl. 1-68, NFE 27.656 e 22.175, BS 4235.1-72, ISO/R 773/69, escluso corrispondenza I.

Cylindrical shaft ends in accordance with UNI 6397-68, DIN748, NFE 22.051, BS 4506-70, ISO/R 775/69, excluding section R-S. Key according to UNI6604-69, DIN6885 Bl. 1-68, NFE 27.656 e 22.175, BS 4235.1-72, ISO/R 773/69, excluding section I.

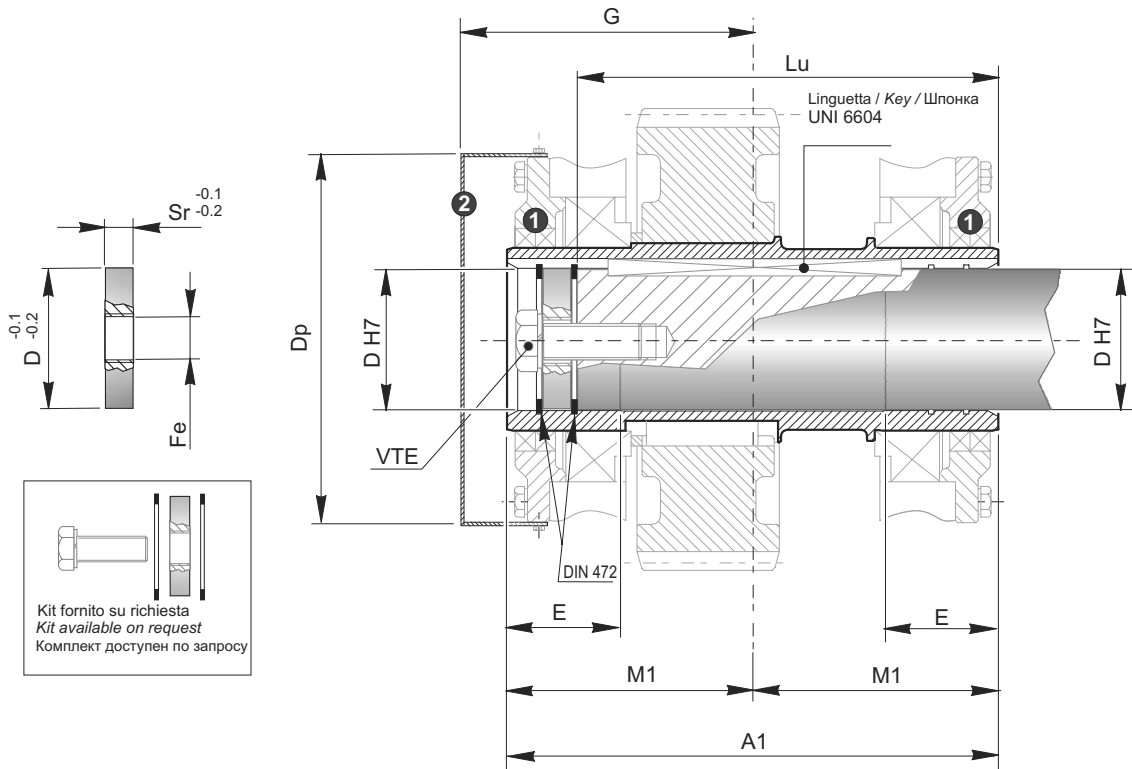
Цилиндрические концы валом исполнены в UNI 6397-68, DIN748, NFE 22.051, BS 4506-70, ISO/R 775/69, исключая секцию R-S. Шпонка в соответствии с UNI6604-69, DIN6885 Bl. 1-68, NFE 27.656 e 22.175, BS 4235.1-72, ISO/R 773/69, исключая секцию I.

Albero cavo

Hollow shaft

Полый вал

C



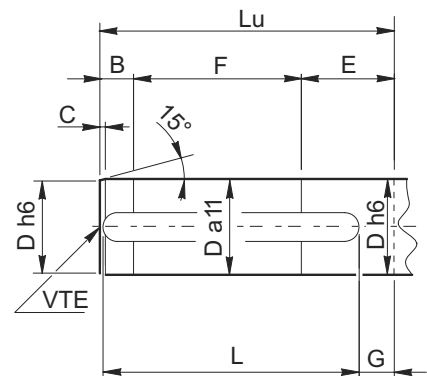
1 Doppia tenuta a richiesta
Double seal available on request
Двойное уплотнение доступно по запросу

2 Coperchio di protezione richiesta
Protection cover available on request
Защитное покрытие доступно по запросу

	A1	M1	D	Dp	E	Fe	G	Lu	Sr
802	218	109	60	165	50	M27	120	184	15
804	242	121	70	184	56	M27	135	207.5	15
806	274	137	80	208	63	M27	150	239.5	15
808	302	151	90	234	70	M30	170	261	18
810	340	170	100	254	80	M30	190	299	18
812	384	192	110	290	90	M30	210	339	21
814	432	216	125	316	100	M30	235	384	24
816	484	242	140	365	110	M39	260	431	24
818	546	273	160	415	125	M39	295	490	27
820	604	302	180	454	140	M39	325	548	27
822	A richiesta / On request / По запросу								
824									
826									
828									
830									
832									

Albero macchina / Machine shaft / Вал механизма

	B	C	D	E	F	G	L	Lu	VTE
802	21	3.5	60	55	108	22	160	184	M20
804	26.5	4	70	61	120	25	180	207.5	M20
806	33.5	4.5	80	68	138	36	200	239.5	M20
808	36	5	90	77	148	37	220	261	M24
810	44	5.5	100	85	170	43	250	299	M24
812	50	6	110	95	194	15	320	339	M24
814	61	7	125	105	218	57	320	384	M24
816	62	8	140	115	254	62	360	431	M30
818	74	9	160	130	286	36	450	490	M30
820	89	10	180	145	314	42	500	548	M30
822	A richiesta / On request / По запросу								
824									
826									
828									
830									
832									

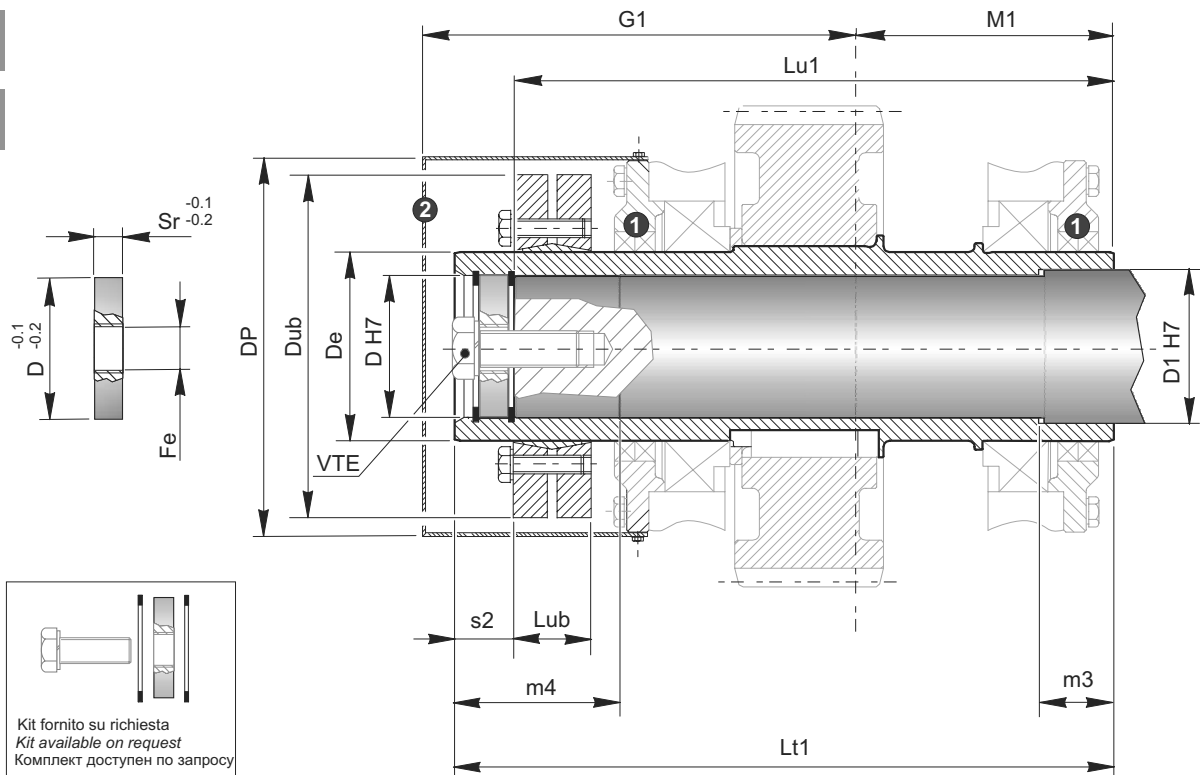


Albero cavo con unita di bloccaggio

Hollow output shaft with shrink disc

Полый выходной вал со сжимным диском

UB
B



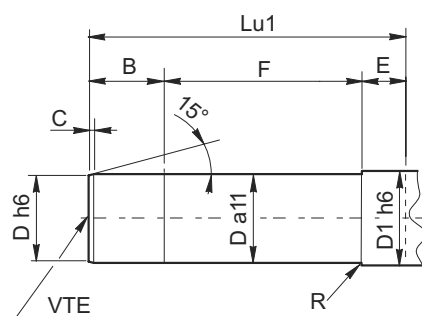
Kit fornito su richiesta
Kit available on request
Комплект доступен по запросу

- 1 Doppia tenuta a richiesta / Double seal available on request / Двойное уплотнение доступно по запросу
- 2 Coperchio di protezione richiesta / Protection cover available on request / Защитное покрытие доступно по запросу

	D	D1	De	Dp	Dub	Fe	G1	Lt1	Lub	Lu1	M1	m4	m3	Sr	s2
802	60	65	80	165	145	M27	185	279	32.5	254	109	70	32	15	25
804	70	75	90	184	155	M27	205	313	39	286	121	80	35	15	27
806	80	85	100	208	170	M27	230	352	44	324	137	90	40	15	28
808	90	95	120	234	215	M30	260	397	54	364	151	100	45	18	33
810	100	110	130	254	215	M30	285	436	54	402	170	110	50	18	34
812	110	120	140	290	230	M30	320	494	60.5	454	192	125	56	21	40
814	125	135	160	316	265	M30	355	551	64.5	507	216	140	63	24	44
816	140	150	180	365	300	M39	390	612	71	567	242	160	70	24	45
818	160	170	200	415	350	M39	440	695	86	645	273	180	80	27	50
820	180	195	240	454	405	M39	500	779	109	727	302	200	90	27	52
822	A richiesta / On request / По запросу														
824															
826															
828															
830															
832															

Albero macchina / Machine shaft/ Вал механизма

	B	C	D	D1	E	F	Lu1	M	R	VTE
802	50	3.5	60	65	28	176	254	M20	2	M20
804	58	4	70	75	30	198	286	M20	2.2	M20
806	6	4.5	80	85	32	225	324	M20	2.5	M20
808	72	5	90	95	35	257	364	M24	2.8	M24
810	81	5.5	100	110	40	281	402	M24	3	M24
812	90	6	110	120	45	319	454	M24	3.5	M24
814	101	7	125	135	50	356	507	M24	4	M24
816	120	8	140	150	56	391	567	M30	4.5	M30
818	135	9	160	170	63	447	645	M30	5	M30
820	153	10	180	195	71	503	727	M30	5.5	M30
822	A richiesta / On request / По запросу									
824										
826										
828										
830										
832										



Estremita scanalata albero lento flangia brocciata

Splined output shaft and broached flange

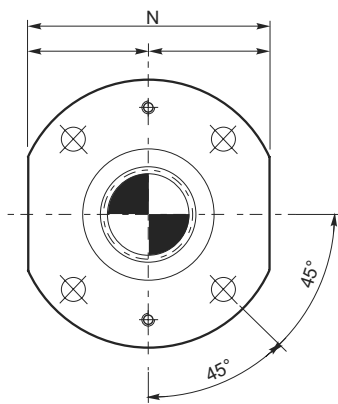
Выходной шлицевый вал и продлённый фланец

Non fornibili per classe di sollevamento M8.

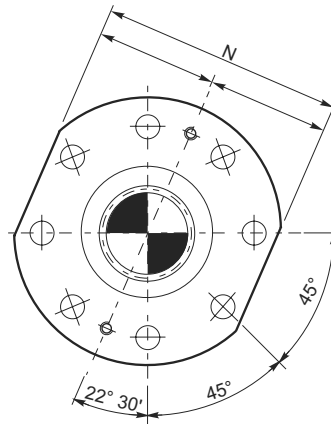
Not available for lifting class M8.

Не доступен для подъёмного класса M8

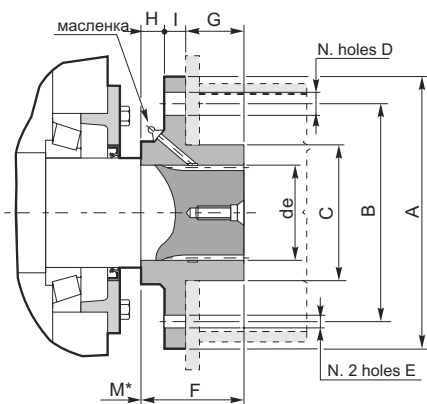
FD



Size < 808



Size 808



	Dimensioni generali / General dimensions / Основные размеры											
	de	A	B	C f8	N° Fori holes отверстия	D	E	F	G	H	I	N h9
802	60	180	140	90	4	17.5	M8	63	38	9	16	160
804	70	200	160	100	4	17.5	M10	70	43	11	16	180
806	80	220	180	110	4	19.5	M10	70	40	12	18	200
808	95	240	190	130	8	19.5	M10	75	40	15	20	220
810	105	250	200	145	8	21.5	M12	80	40	20	20	230
812	110	280	225	150	8	21.5	M12	95	52	20	23	250
814	130	355	280	180	8	23.5	M14	125	80	20	25	315
816	140	400	315	200	8	23.5	M14	140	90	22	28	355
818	160	450	355	225	8	29	M16	160	103	25	32	400
820	180	500	400	250	8	32	M16	180	118	28	34	450
822	200	560	450	280	8	35	M18	200	132	32	36	500

* N.B. La dimensione M и riportata nelle pagine dimensionali dei riduttori.

* NOTE For dimension M, see gear unit dimension pages.

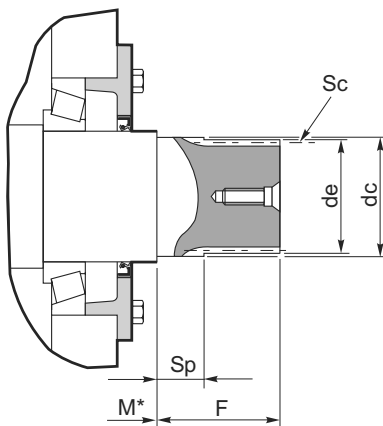
* Примечание: размера M, см. на странице размеров редуктора.

Estremita albero lento scanalato senza flangia brocciata

Splined output shaft without broached flange

Выходной шлицевый вал без продлённого вала

D



	de (h10)	F	Profilo scanalato / Splined profile / Шлицевой профиль					
			Sc	Z	mn	α	dc (f7)	Sp
802	59.5	63	FIAT 60	22	2.6	30°	60	22
804	69.3	70	FIAT 70	26	2.58	30°	70	25
806	79.3	70	FIAT 80	27	2.82	30°	80	20
808	94.3	75	FIAT 95	31	2.97	30°	95	25
810	104.4	80	D. 105 DIN 5480	34	3	30°	106	25
812	109.4	95	D. 110 DIN 5480	35	3	30°	111	25
814	129	125	D. 130 DIN 5480	24	5	30°	130	32
816	139	140	D. 140 DIN 5480	26	5	30°	140	35
818	159	160	D. 160 DIN 5480	30	5	30°	160	38
820	178.4	180	D. 180 DIN 5480	21	8	30°	180	42
822	198.4	200	D. 200 DIN 5480	24	8	30°	200	44

Estremita scanalata albero lento con giunto dentato flangiato

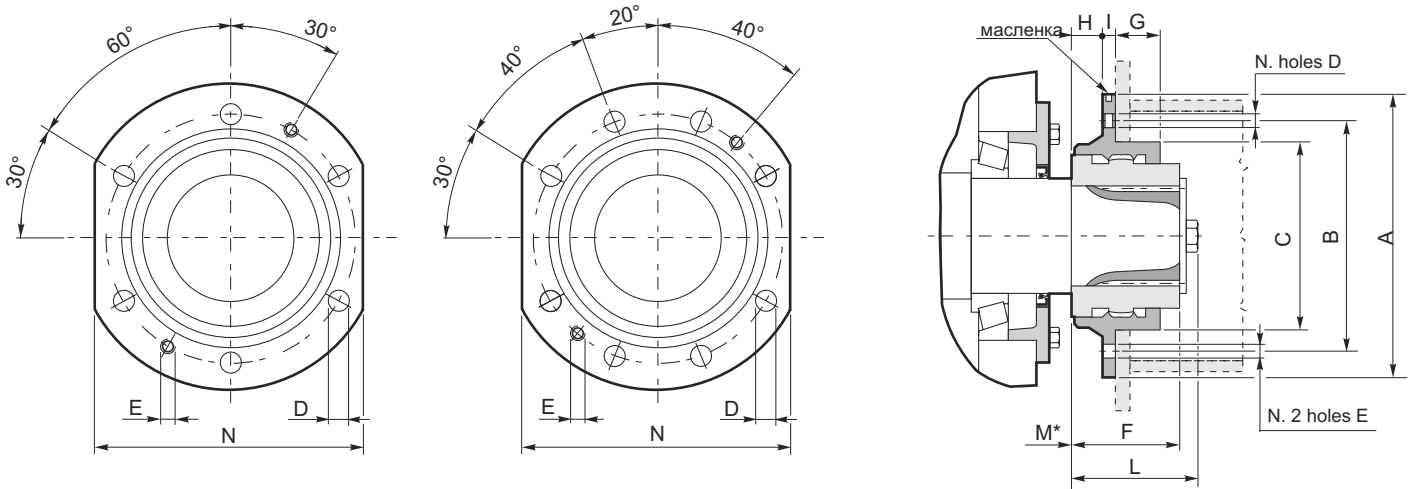
Splined output shaft with flanged splined coupling

Выходной шлицевый вал с продленным фланцем соединенных муфтой

F_n

Size 8

Size = 9



Accoppiamenti riduttori giunti / Gear unit+coupling combinations / Редуктор и варианты соединений

	F	L	Class M	Tipo di giunto Coupling size Размер соединения
808	105	117	7	1
			7	1
810	105	127	7	1
			7	2
812	125	147	7	2
			7	3
			7	3
814	125	147	7	3
			7	4
816	140	168	7	4
			7	5
818	160	188	6	5
			6	6
820	180	208	6	6
			6	7
822	200	228	< 7	7
			7	8
824	220	252	5	8
			5	9
			5	9
826	250	282	5	9
			5	arichiesta on request auf Anfrage

Tipo di giunto Coupling size Размер соедин.	Dimensioni generali / General dimensions / Основные размеры										
	A	B	C f8	N. Fori Holes Отверстия	D	E	G	H	I	N h9	F _r MAX (kN)
1	320	280	200	6	18	M16	42.5 - 47	30	15	280	44
2	340	300	220	6	18	M16	46 - 54	30	15	300	49
3	380	340	260	6	18	M16	52.5 - 58	30	15	340	58
4	400	360	280	6	18	M16	59.5 - 65	30	15	360	70
5	420	380	310	6	18	M16	62.5 - 67	30	15	380	80
6	450	400	340	6	23	M20	66 - 73	40	20	400	130
7	510	460	400	6	23	M20	70 - 75	40	20	460	160
8	550	500	420	6	23	M20	80 - 82	40	20	500	180

Le estremita scanalate con flange supporto tamburo vengono fornite provviste di grasso lubrificante a base PTFE (NLGI 2 ASTM D-217 a 25° C 260-290); questo deve essere reintegrato, in caso di manipolazioni o errati stoccaggi, sempre dopo le prime 1000 ore e successivamente ogni 3000 ore di lavoro.

Splined extensions with drum mounting flange are charged with PTFE grease (NLGI 2 ASTM D-217 at 25° C 260-290) at the factory. Refill with grease after servicing, before operation if unit has been stored improperly, after the first 1000 operating hours and every 3000 operating hours afterwards.

Удлиненные шлицы с установленной ребордой барабана меняются с PTFE смазкой (NLGI 2 ASTM D-217 на 25° C 260-290) на заводе. Дозаправка смазки после обслуживания, перед работой, если единица была установлена неправильно, после 1000 и каждые 3000 рабочих часов

* N.B. La dimensione M è riportata nelle pagine dimensionali dei riduttori.

* NOTE For dimension M, see gear unit dimension pages.

* Примечание: размер M см. на странице габарита редуктора

1.0 ACCESSORI E OPZIONI / ACCESSORIES AND OPTIONS / АКСССУАРЫ И ОПЦИИ

TABELLA RIASSUNTIVA OPZIONI DISPONIBILI / SUMMARY TABLE OF AVAILABLE OPTIONS / Таблица доступных опций

Campo Type Тип	Particella descrittiva Designation element Обознач. элемента	Applicabilita Application Применения					Descrizione	Description	Descrizione
		RXP1	RXP2 RXP3	RXP4	RXO1 RXV1	RXO2 RXO3 RXV2 RXV3			
Antiretro Backstop Антиреверс	AR						Antiretro, (per riduttori ad assi paralleli)	Backstop (for in-line helical gear units)	Антиреверс. (Для соосных цилиндрических редукторов)
	ARD								
	ARS								
Ventole Fans Вентиляторы	VE						Ventola su estremita in entrata	Fan at input end	Вентилятор на входном валу
	V						Ventola lato opposto ad estremita in entrata	Fan on opposite side to input end	Вентилятор на противоположной стороне входного вала
	2V						Ventola su estremita in entrata e lato opposto	Fan at input end and on opposite side	Вентилятор на входном конце и на противоположной стороне
	VD	*	*				Ventola su estremita di dx, (per ABE,BBE,BEU,C3,C3S,C3D)	Fan on right end (for ABE,BBE,BEU,C3,C3S,C3D)	Вентилятор на валу справа (для ABE,BBE,BEU,C3,C3S,C3D)
	VS	*	*				Ventola su estremita di sx, (per ABE,BBE,BEU,C3,C3S,C3D)	Fan on left end (for ABE,BBE,BEU,C3,C3S,C3D)	Вентилятор на валу слева (для ABE,BBE,BEU,C3,C3S,C3D)
Opzioni Options Опции	RFWn						Gruppo di raffreddamento acqua-olio	Water/oil cooling unit	Водно/масляное охлаждение
	RFA n						Gruppo di raffreddamento aria-olio	Air/oil cooling unit	Воздушно/масляное охлаждение
	RFWPn	**	**	**	**	**	Gruppo di raffreddamento acqua-olio con pompa asservita	Water/oil cooling unit with shaft-driven pump	Водно/масляное охлаждение с помпой приводимой от вала
	RFAPn	**	**	**	**	**	Gruppo di raffreddamento aria-olio con pompa asservita	Air/oil cooling unit with shaft-driven pump	Воздушно/масляное охлаждение с помпой приводимой от вала
	LF						Predisposto per lubrificazione forzata	Preset for forced lubrication	Система принудительной смазки
	LFPn						Lubrificazione forzata con pompa asservita	Forced lubrication with shaft-driven pump	Принудительная смазка с помпой приводимой от вала
	LFMn						Lubrificazione forzata con motopompa	Forced lubrication with motor pump	Принудительная смазка с помпой от мот.
	DT1						Doppia tenuta in entrata	Double seal at input end	Двойное уплотнение на входном валу
	DT2						Doppia tenuta in uscita	Double seal at output end	Двойное уплотнение на выходном валу
	DT						Doppia tenuta in entrata ed in uscita	Double seal at input and output end	Двойное уплотнение на вых. и вх. валах
	LB1						Tenuta a labirinto in entrata	Labyrinth seal at input end	Лабиринтное уплотнение на вход. валу
	LB2						Tenuta a labirinto in uscita	Labyrinth seal at output end	Лабиринтное уплотнение на вых. валу
	LB						Tenuta a labirinto in entrata ed in uscita	Labyrinth seal at input and output end	Лабиринтное уплотнение на вход. и выходном валу
	VT1	**					Paraoli in viton in entrata	Viton oil seals at input end	Резиновый сальник на входном валу
	VT2	**					Paraoli in viton in uscita	Viton oil seals at output end	Резиновый сальник на выходном валу
	VT	**					Paraoli in viton in entrata ed in uscita	Viton oil seals at input and output end	Резиновый сальник на входн. и вых. валу.
	DW	**	**	**	**	**	Dry-Well	Dry-Well	Dry-Well
	PROT	**			**	**	Coperchio di protezione	Protection cover	Защитное покрытие
	IS	***	***	***	***	***	Coperchio di ispezione, (di serie su RXP ed RXV con cassa in ghisa)	Inspection cover (standard on RXP and RXV with cast iron casing)	Смотровое окно(по умолчанию на RXP и RXV с чугунным корпусом)
	FFD						Flangia freno lato dx, (a disegno cliente)	Brake flange on right side (made to customer drawing)	Фланец под тормоз справа (изготавливается по чертежу заказчика)
	FFS						Flangia freno lato sx, (a disegno cliente)	Brake flange on left side (made to customer drawing)	Фланец под тормоз слева (изготавливается по чертежу заказчика)
	BM1gr						Base motore tipo 1, (specificare grandezza motore)	Motor mount type 1, (specify motor size)	Крепление мотора №1 (определяется по размеру мотора)
	BM2gr						Base motore tipo 2, (specificare grandezza motore)	Motor mount type 2, (specify motor size)	Крепление мотора №2 (определяется по размеру мотора)
	BM3gr						Base motore tipo 3, (specificare grandezza motore)	Motor mount type 3, (specify motor size)	Крепление мотора №3 (определяется по размеру мотора)
	s						Customizzazione generica	Special custom version	Специальная заказная версия
AI						Accessori idraulici	Hydraulic accessories	Гидравлические аксессуары	
Opzioni in uscita Output options Выходные опции	US						Uscita speciale	Special output	Специальный выход
	F..d						Flangia in uscita a dx	Output flange on right side	Выходной фланец с правой стороны
	F..s						Flangia in uscita a sx	Output flange on left side	Выходной фланец с левой стороны
	2F..						Doppia flangia in uscita	Double output flange and solid shaft	Двойной выходной фланец и цил. вал
	MX						Supportazione rinforzata in uscita per agitatori	Heavy duty output bearing for agitator applications	Опорный фланцевый подшипник для мешалок
	TR						Supportazione rinforzata in uscita per torri di raffreddamento	Heavy duty output bearing for cooling tower applications	Опорный фланцевый подшипник для градирни
	TS						Supportazione rinforzata in uscita speciale	Special heavy duty output bearing	Специальный опорный выходной подшипник
	S.D						Supportazione flangiata in uscita a dx	Flange bearing on the right at output end	Фланцевый подшипник справа на конце
	S.S						Supportazione flangiata in uscita a sx	Flange bearing on the left at output end	Фланцевый подшипник слева на конце
nU						Riduttore con piuc alberi di uscita	Gear unit with more than one output shaft	Редуктор с более чем одним вых. валом	
Kit a parte Kits supplied separately Extra-Kits							Kit braccio di reazione	Torque arm kit	Комплект крепления реактивного кронштейна
							Kit rosetta di montaggio	Mounting washer kit	Комплект для крепления шайбой

* Solo nel caso di riduttori bisporgenti in entrata

**A richiesta

***Solo su RXO con cassa in ghisa e riduttori con cassa in acciaio

* Only gear units with double extended shaft on input end

**On request

***Only on RXO units with cast iron casing and steel casing gear units

* Только редукторы с двойным валом с выходным концом

**По запросу

***Только для RXO редукторов с чугунным корпусом или для редукторов со стальными корпусами.

Antiretro

I dispositivi antiritorno possono essere montati su tutti i riduttori. Hanno adeguata capacità di carico rapportata alle prestazioni del riduttore. Sono montati direttamente sugli alberi pignoni. La lubrificazione è fornita dall'olio del riduttore salvo forme costruttive particolari. L'inversione del senso libero avviene molto semplicemente dall'esterno ruotando le ruote libere di 180°.

Nella tabella sono indicate le dimensioni d'ingombro di massima, la loro posizione di montaggio, nonché la coppia resistente del dispositivo riferita all'entrata del riduttore.

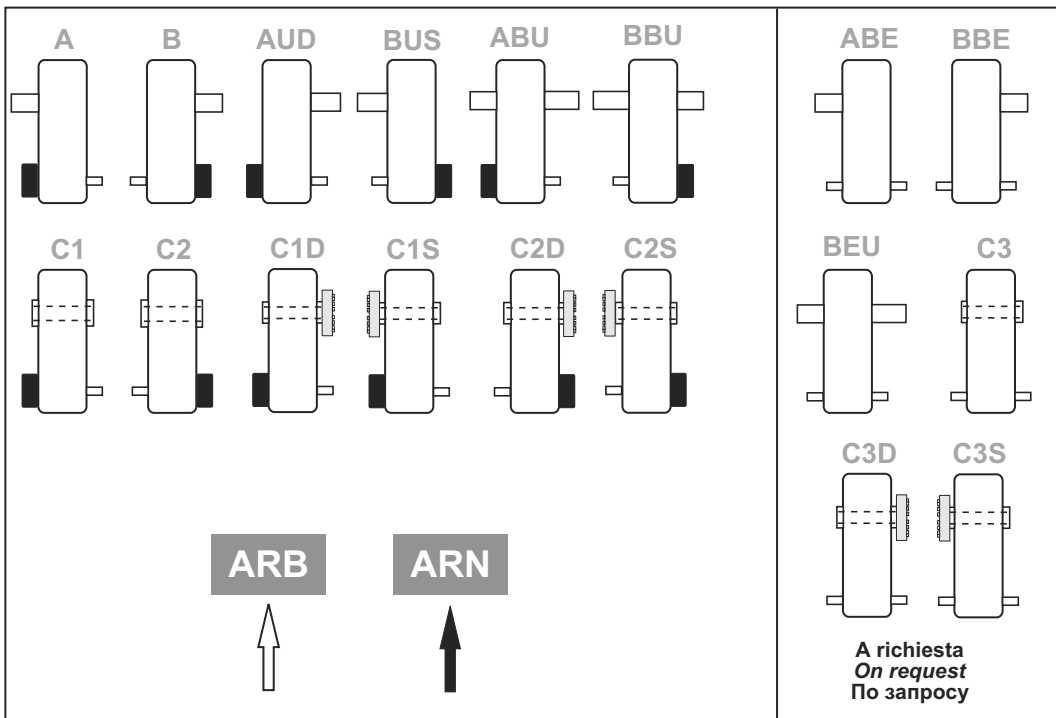
Backstop

All gear units can be fitted with a backstop. Backstops are supplied with appropriate load capacity for gear unit rating. They are fitted directly on the pinion shafts. Lubrication is provided by gear unit oil (except for some special gear unit configurations). Free rotation is easily reversed by rotating the free wheels through 180° with no need to disassemble the unit.

The table reports overall dimensions, mounting positions and backstop stall torque referred to gear unit input.

Антиреверс

Все редукторы могут оснащаться антиреверсами. "Антиреверс" устанавливается на вал-шестерню входного вала. Смазка обеспечивается маслом редуктора (исключая специальные конфигурации редукторов). Свободное вращение легко возвращается поворотом колеса на 180°, без необходимости разбирать редуктор. Ниже приведена таблица габаритов, расположения и критических моментов срабатывания стопора относительно входного вала редуктора.



	RXP1				
	NR	SR	AR	D	T _{1max} [Nm]
802	109.5	60	90	125	1088
804	120.5	60	100	140	1088
806	135.5	60	110	160	1219
808	149.5	60	120	180	2131
810	163.5	90	130	200	3863
812	190	90	150	225	3863
814	212	90	170	250	5061
816	236.5	110	180	280	8000
818	248.5	110	200	320	10233
820 ... 826	A richiesta / On request / По запросу				

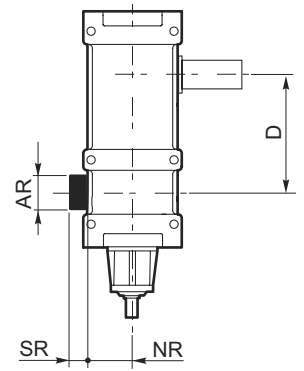
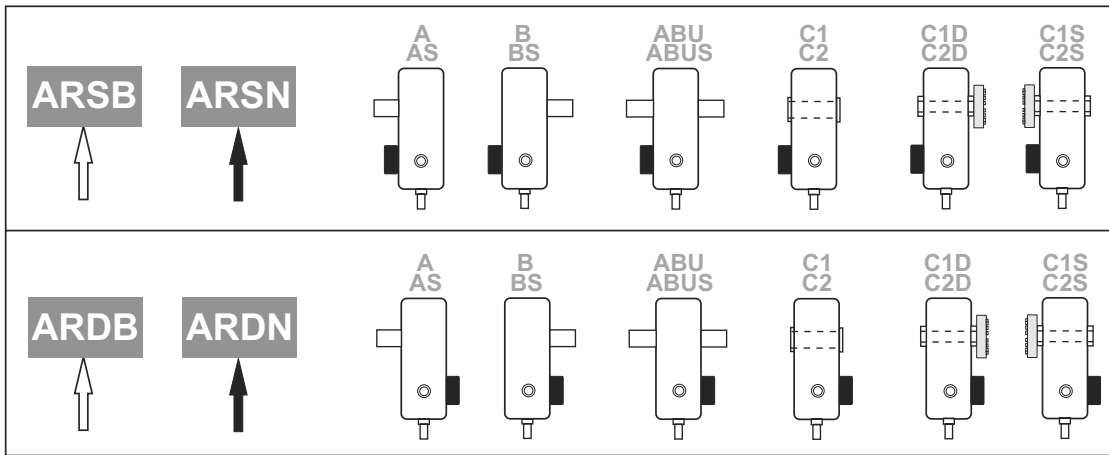
	RXP2				
	NR	SR	AR	D	T _{1max} [Nm]
802	90	41	72	225	378
804	100	57	80	252	463
806	112.5	66	90	285	1088
808	125	57	100	320	1088
810	140	58	110	360	1219
812	157.5	63	120	405	2131
814	177.5	86	130	450	3863
816	200	81	150	505	3863
818	225	67	170	570	5061
820	250	97	180	640	8000
822 ... 828	A richiesta / On request / По запросу				

	RXP3				
	NR	SR	AR	D	T _{1max} [Nm]
802	90	8	56	305	126
804	100	9	63	342	126
806	112.5	10	72	385	236
808	125	11	80	432	378
810	140	12	90	485	551
812	157.5	14	100	545	875
814	177.5	16	110	610	1000
816	200	18	120	685	1088
818	225	20	130	770	1972
820	250	22	150	865	3155
822 ... 832	A richiesta / On request / По запросу				

T_{1max} [Nm] = Coppia massima del dispositivo antiritorno riferita all'entrata del riduttore.

T_{1max} [Nm] = Maximum torque of backstop referred to gear unit input.

T_{1max} [Nm] = Макс. крутящий момент на входном валу редуктора.



	RX01 - RXV1											
	NR	SR	AR	D	T_{1max} [Nm]							
					$i < 11$	$i < 12$	$i < 13$	$11,1 < i < 19,6$	$12,1 < i < 19,6$	$13,1 < i < 19,6$	$i > 19,7$	
802	109.5	60	90	125	—	462	—	—	—	307	—	219
804	120.5	60	100	140	—	462	—	—	—	307	—	219
806	135.5	60	110	160	—	517	—	—	—	344	—	245
808	149.5	60	120	180	937	—	—	601	—	—	—	429
810	163.5	90	130	200	—	1639	—	—	—	1090	—	777
812	190	90	150	225	—	1639	—	—	—	1090	—	777
814	212	90	170	250	—	2148	—	—	—	1427	—	1018
816	236.5	110	180	280	—	3395	—	—	—	2256	—	1609
818	248.5	110	200	320	—	—	4343	—	—	—	2886	2058
820 ... 826	A richiesta / On request / По запросу											

	RX02 - RXV2									
	NR	SR	AR	D	T_{1max} [Nm]					
					$i < 47,5$	$47,6 < i < 77$	$47,6 < i < 82$	$i > 77,1$	$i > 82,1$	
802	90	41	72	225	160	—	107	—	—	76
804	100	57	80	252	196	—	131	—	—	93
806	112.5	66	90	285	462	—	307	—	—	219
808	125	57	100	320	462	—	307	—	—	219
810	140	58	110	360	517	—	344	—	—	245
812	157.5	63	120	405	904	601	—	—	429	—
814	177.5	86	130	450	1639	1090	—	—	777	—
816	200	81	150	505	1639	1090	—	—	777	—
818	225	67	170	570	2148	1427	—	—	1018	—
820	250	97	180	640	3395	—	2256	—	—	1609
822 ... 828	A richiesta / On request / По запросу									

	RX03 - RXV3											
	NR	SR	AR	D	T_{1max} [Nm]							
					$i < 240$	$i < 263$	$240,1 < i < 369$	$263 < i < 369$	$263 < i < 410$	$i > 369,1$	$i > 410,1$	
802	90	8	56	305	—	53	—	—	—	36	—	25
804	100	9	63	342	—	53	—	—	36	—	25	—
806	112.5	10	72	385	—	100	—	—	—	67	—	47
808	125	11	80	432	—	160	—	—	—	107	—	76
810	140	12	90	485	—	234	—	—	—	155	—	111
812	157.5	14	100	545	—	371	—	—	—	247	—	176
814	177.5	16	110	610	—	424	—	—	—	282	—	201
816	200	18	120	685	462	—	307	—	—	—	219	—
818	225	20	130	770	—	837	—	—	—	556	—	397
820	250	22	150	865	—	1339	—	—	—	890	—	634
822 ... 832	A richiesta / On request / По запросу											

T_{1max} [Nm] = Coppia massima del dispositivo antiritorno riferita all'entrata del riduttore.

T_{1max} [Nm] = Maximum torque of backstop referred to gear unit input.

T_{1max} [Nm] = Макс. крутящий момент на входном валу редуктора.

Raffreddamento artificiale

Quando la potenza continuativa assorbita dall'impianto in cui opera il riduttore supera il valore della potenza termica, ci si deve porre il problema di asportare la quantità di calore in eccesso mediante raffreddamento artificiale: con ventola o eventualmente con scambiatore di calore.

Cooling options

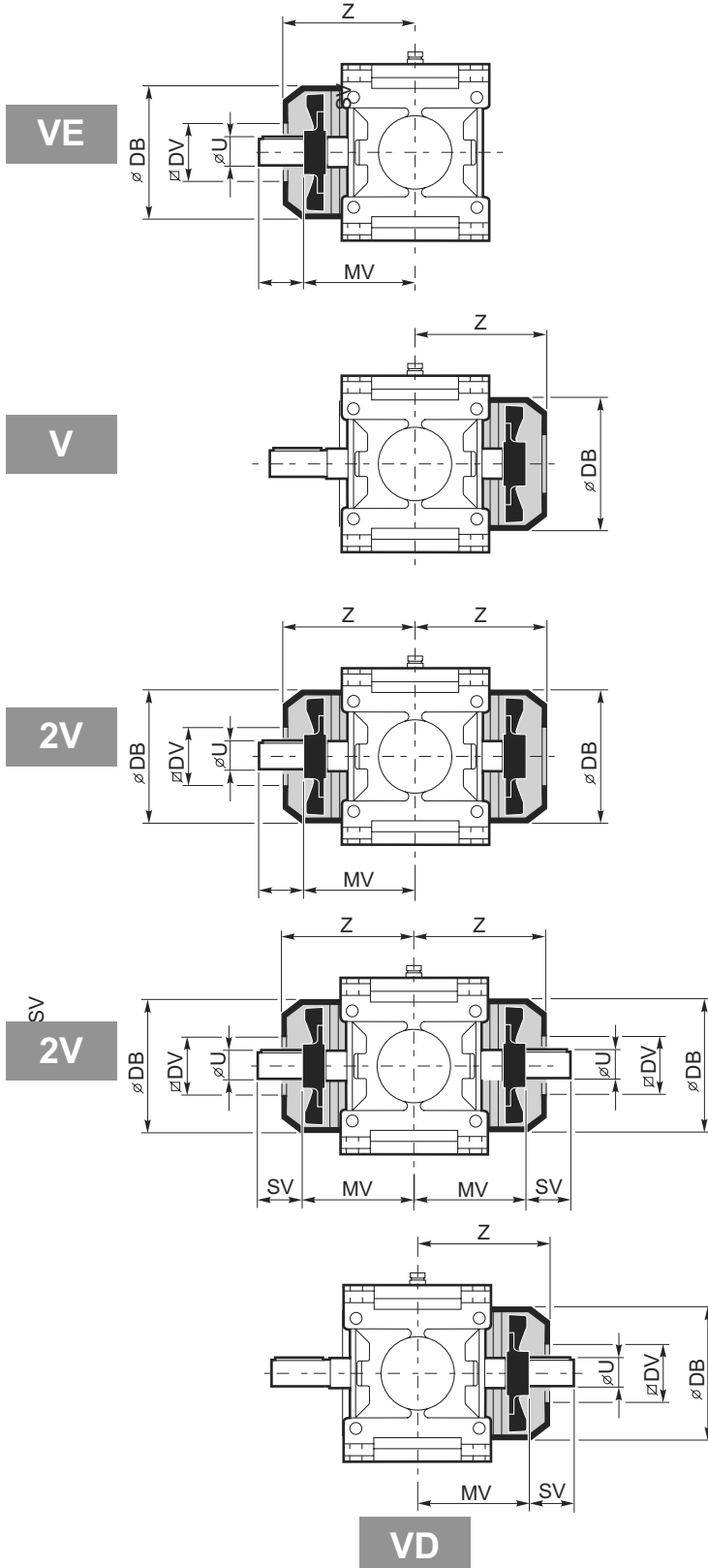
When the continuous power absorption of the plant the gear unit is incorporated in exceeds thermal power rating, excess heat must be removed by means of one or more cooling fans or a heat exchanger.

Системы охлаждения

В случаях, когда при продолжительной работе приводимая мощность больше или равна номинальной термической мощн. необходимо отвести избыточное тепло редуктора аккумулированное тепло принудительным охлаждением (вентилятор), либо теплообменником.

Sistema con ventola

Fan cooling



Охлаждение вентилятором

	RXP1					
	Z	MV	DB	∅DV	SV	U
802	209	163	220	98	86	45 k6
804	220	177	220	98	86	50 k6
806	257	208	260	118	87	55 m6
808	271	230	260	118	102	60 m6
810	312	254	310	138	102	65 m6
812	338	280	310	138	122	70 m6
814	380	311	358	196	142	80 m6
816	401	340	358	196	142	90 m6
818	460	390	394	214	150	100 m6
820	490	433	394	214	150	110 m6

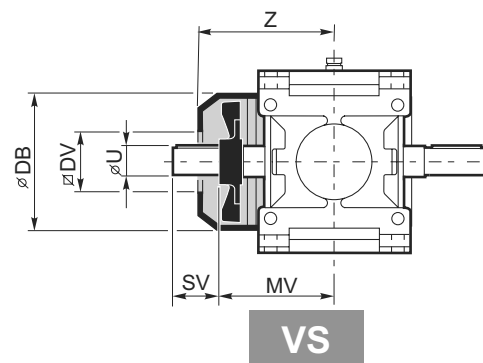
Applicabilita / Application / Применение: VE-VD-VS

	RXP2					
	Z	MV	DB	∅DV	SV	U
806	201	156	176	89	93	45 k6
808	214	170	176	89	93	50 m6
810	244	196	220	98	99	55 m6
812	263	218	220	98	114	60 m6
814	312	255	260	118	101	65 m6
816	337	280	260	118	122	70 m6
818	391	311	310	138	142	80 m6
820	417	340	310	138	142	90 m6

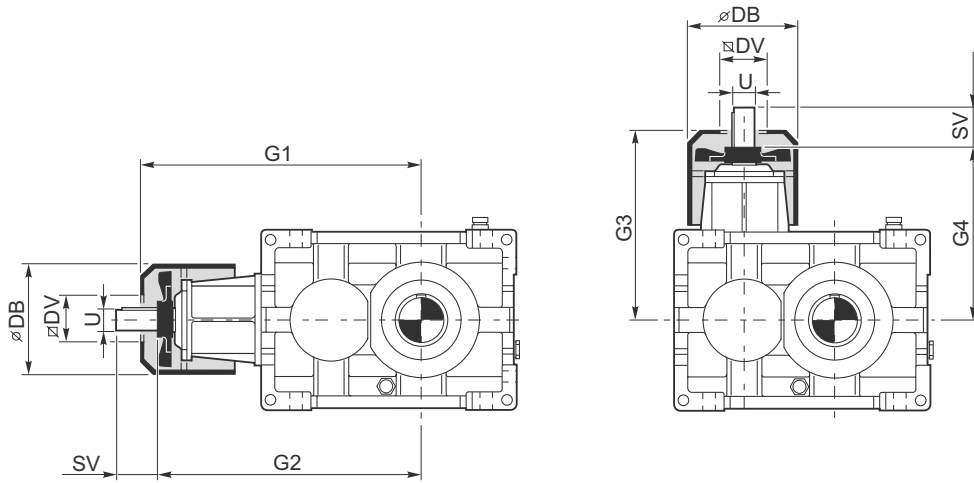
Applicabilita / Application / Применение: VE-V-2V-VD-VS

	RXP3					
	Z	MV	DB	∅DV	SV	U
806	203	156	176	89	61	32 k6
808	217	170	176	89	61	35 k6
810	234	189	176	89	93	45 k6
812	251	211	176	89	93	50 m6
814	286	242	220	98	99	55 m6
816	314	268	220	98	114	60 m6
818	366	309	260	118	101	65 m6
820	390	333	260	118	122	70 m6

Applicabilita / Application / Применение: VE-V-2V-VD-VS

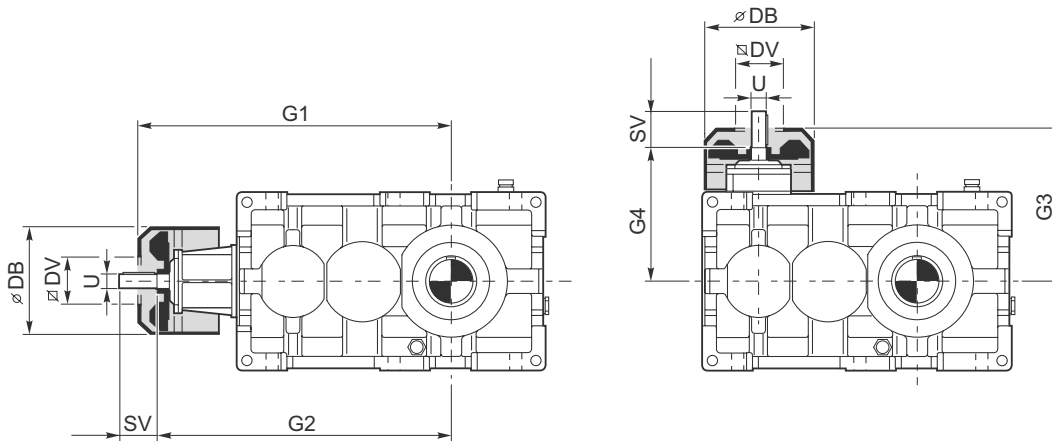


VE



	RXO1 - RXV1												
	G1	G2	G3	G4	DB	∅ DV	SV						U
							i<11	i<12	i<13	i>11	i>12	i>13	
802	403	369	278	244	176	89		31			31		28 i6
804	454	416	314	276	220	98		30			30		32 k6
806	504	466	343	306	220	98		37			37		35 k6
808	557	521	377	341	220	98	70			44			40 k6
810	633	585	433	385	260	118		80			50		45 k6
812	702	655	477	430	260	118		90			60		50 m6
814	793	738	543	488	310	138		100			62		55 m6
816	871	818	591	538	310	138		112			74		60 m6
818	1009	930	689	610	394	214			125			75	70 m6
820	1116	1040	756	680	394	214	140			90			80 m6

VE



	RXO2 - RXV2									
	G1	G2	G3	G4	DB	∅ DV	SV RX02 i 47.5	SV RX02 i 47.5	U	
806	563	529	281	244	176	89	31	31	28 k6	
808	634	596	314	276	220	98	30	30	32 k6	
810	704	666	344	306	220	98	37	37	35 k6	
812	782	746	377	341	220	98	70	44	40 k6	
814	883	843	433	393	260	118	80	42	45 k6	
816	983	943	477	438	260	118	90	52	50 k6	
818	1113	1058	543	488	310	138	100	62	55 m6	
820	1231	1178	591	538	310	138	112	74	60 m6	

G



Sistema con scambiatore di calore

Il raffreddamento con scambiatore di calore può essere suddiviso in due tipologie principali: con scambiatore acqua-olio e con scambiatore aria olio, ogni categoria è divisa in più grandezze, con potenze di scambio diversificate.

Ogni gruppo di raffreddamento è fornito separatamente al riduttore; i tubi di collegamento tra riduttore ed impianto non sono a carico GSM.

A seguito due immagini che illustrano le principali differenze tra un RFW, (sistema con scambiatore acqua-olio), ed un RFA, (sistema con scambiatore aria-olio).

Ulteriori informazioni tecniche e dimensionali a richiesta.

Heat exchanger

Water/oil and air/oil heat exchangers are available in a range of different sizes and heat exchange capacities.

Each cooling unit is supplied separate from the gear unit; pipes or hoses for connection to plant must be provided by GSM.

Major differences between RFW (water/oil exchanger) and RFA cooling system (air/oil exchanger) are shown in the two pictures below.

Additional technical and dimensional information are available on request.

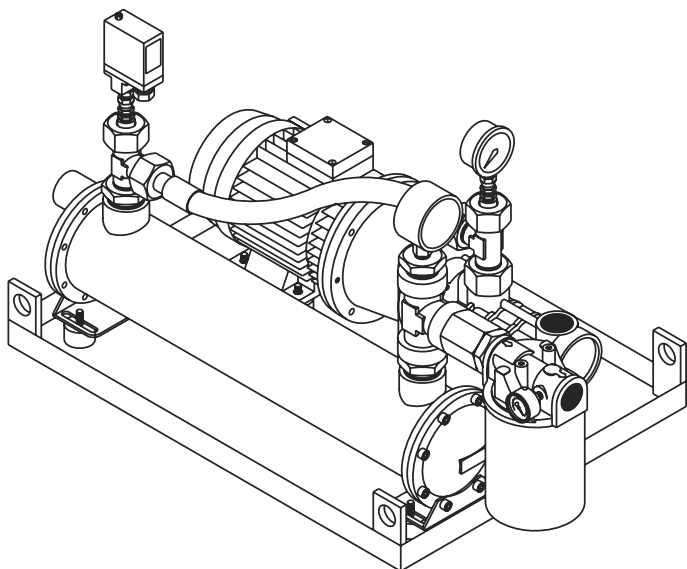
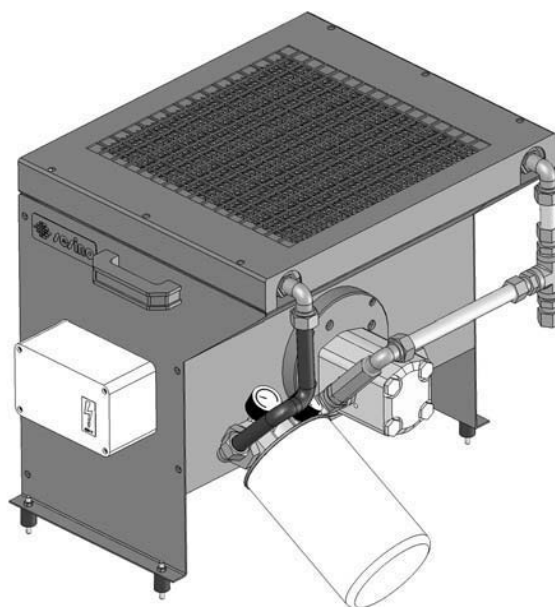
Теплообменник

Водно-масляные и воздушно-масляные радиаторы доступны в ряду размеров с разными обменными способностями.

Каждый охлаждающий элемент устанавливается отдельно от редуктора; трубы или шланги для присоединения к установке предоставляются GSM

Главные различия между RFW (водно-масляный радиатор) и RFA (воздушно-масляный радиатор) системами охлаждения показаны на рисунках ниже.

Дополнительная техническая информация и дополнительная информация о размерах доступны по запросу.

RFW**RFA**

Lubrificazione forzata

Dove necessario e possibile fornire riduttori predisposti o completi di lubrificazione forzata. La lubrificazione forzata può essere effettuata con Pompa asservita o con Motopompa.

Forced lubrication

Where necessary, gear units are supplied with provisions for or incorporated forced lubrication. Both shaft-driven and motor-driven pumps are available.

Принудительная смазка

При необходимости редуктор может быть снабжен оборудованием для принудительной смазки. Имеются также насосы принудительной смазки приводимые от электродвигателя и/или от вала редуктора.

Pompa asservita

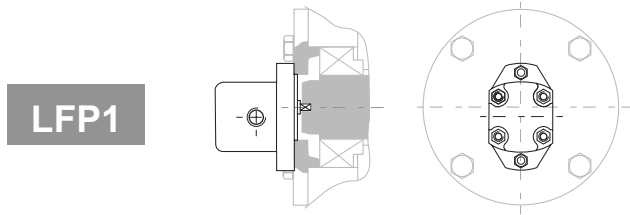
Questo sistema si realizza accoppiando la pompa direttamente ad un albero del riduttore, dal quale prende il moto, e si suddivide in 3 tipologie.

Shaft-driven pump

The pump is coupled directly to and driven by a gear unit shaft. There are three different types of pumps available.

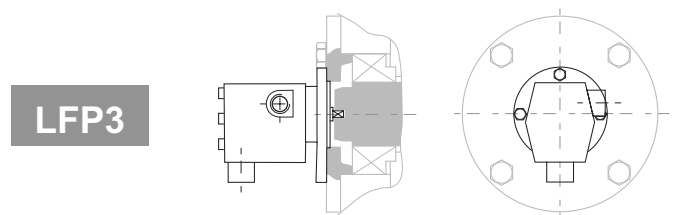
Помпы приводимые от вала

Помпа присоединяется и приводится напрямую от вала редуктора. Существует три различных типа помп.



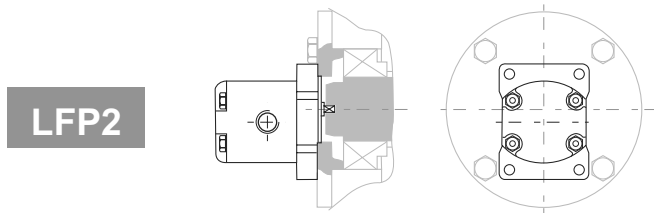
LFP1

Pompa con portata di 0.5 l/min a 1500 rpm
Pump with 0.5 l/min capacity at 1500 rpm
Помпа с 0.5 л/мин производительностью на 1500 об/мин.



LFP3

Pompa con portata di 1.75 l/min a 750 rpm
Questa pompa è particolarmente indicata per un funzionamento a basso numero di giri, viene ad esempio utilizzata nel primo stadio di riduzione cilindrico di un riduttore ortogonale



LFP2

Pompa con portata di 5 l/min a 1500 rpm
Pump with 5 l/min capacity at 1500 rpm
Помпа 5 л/мин вместимостью на 1500 об/мин.

Pompa con portata di 1.75 l/min a 750 rpm
This pump is especially suited for low speed operation. A typical application is the first reduction spur gear set of a helical bevel gear unit.

Помпа с 1.75 л/мин производительностью на 750 об/мин.
Эта помпа особенно подходит для работы на низкой скорости. Типично для одноступенчатых цилиндрических передач, а также цилиндрико-конических редукторов.

Motopompa

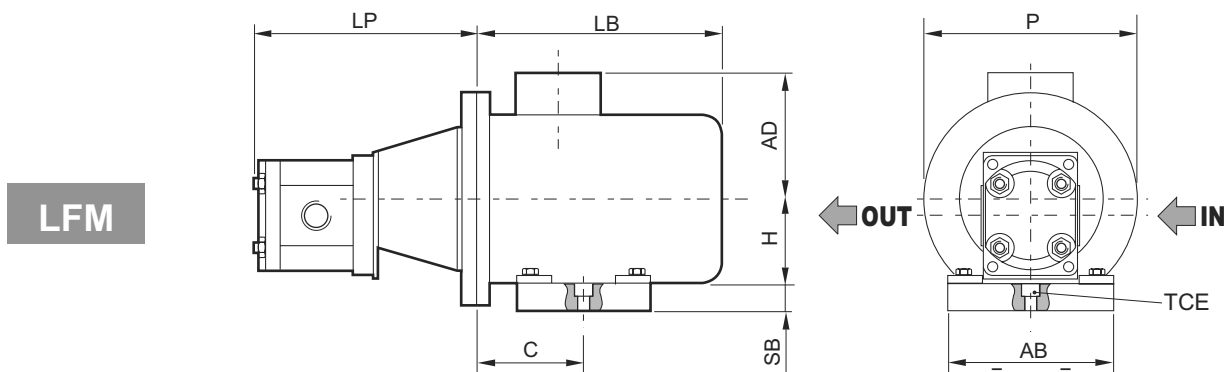
Questo sistema si realizza accoppiando un motore elettrico ad una pompa idraulica; si suddivide in 5 tipologie ed è fornibile anche separatamente al riduttore. Nelle tabelle sottostanti sono indicate le principali caratteristiche tecniche e le dimensioni di questi impianti.

Motor pump

This is a hydraulic pump coupled with an electric motor. Available in five different types, motor pumps are also offered as a separate product. Listed in the tables below are the most significant specifications and dimensions.

Мотопомпа

Это гидравлическая помпа соединенная с электромотором. Доступна в пяти различных конфигурациях, также вы можете заказать электромотор, как отдельный узел. Ниже перечислены наиболее важные спецификации и размеры.



LFM

	l/min	Motor	P(kW)	A	AB	AD	BB	C	H	LB	LP	P	SB	IN	OUT	VTCE
LFM1	0.5	71A4	0.25	172	135	108	109	45	71	220	130	160	15	1/4"GAS	1/4"GAS	M8
LFM2	5				135	108	109	45	71	220	147	160	15	3/8"GAS	3/8"GAS	M8
LFM3	10	80A4	0.55	197	155	120	125	50	80	238	200	200	25	1/2"GAS	1/2"GAS	M10
LFM4	20	80B4	0.75		155	120	125	50	80	238	210	200	25	3/4"GAS	1/2"GAS	M10
LFM5	30	90S4	1.1		170	131	154	56	90	255	225	200	25	3/4"GAS	1/2"GAS	M12



Anelli di tenuta

Seals

Манжеты

Esecuzione STANDARD

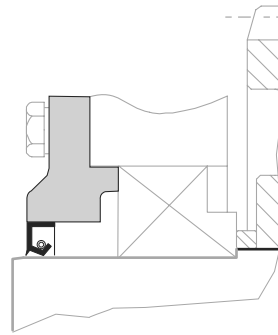
Un solo anello di tenuta con labbro parapolvere

STANDARD seal

One dust lip seal

Стандартное уплотнение

Одно пылезащитное манжетное уплотнение



DT1

Doppia tenuta in entrata

Double seal at input end

Двойное уплотнение на входном валу

DT2

Doppia tenuta in uscita

Double seal at output end

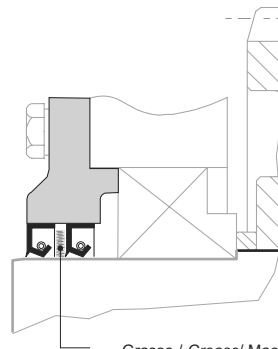
Двойное уплотнение на выходном валу

DT

Doppia tenuta in entrata ed in uscita

Double seal at input and output end

Двойное уплотнение на входном и выходном валах



Grasso / Grease / Масляная рубашка

LB1

Tenuta a labirinto in entrata

Labyrinth seal at input end

Лабиринтное уплотнение на входном валу

LB2

Tenuta a labirinto in uscita

Labyrinth seal at output end

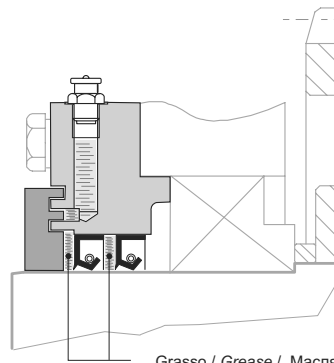
Лабиринтное уплотнение на выходном валу

LB

Tenuta a labirinto in entrata ed in uscita

Labyrinth seal at input and output end

Лабиринтное уплотнение на входном и выходном валах



Grasso / Grease / Масляная рубашка

Tutte le suddette descrizioni possono essere implementate da queste particelle:

All of the above items are implemented by these designation elements:

Все вышеперечисленные элементы указываются следующими обозначениями.

VT1

Paraoli in viton in entrata

Viton oil seals at input end

Манжеты из фторированного каучука на входном валу

VT2

Paraoli in viton in uscita

Viton oil seals at output end

Манжеты из фторированного каучука на выходном валу

VT

Paraoli in viton in entrata ed in uscita

Viton oil seals at input and output end

Манжеты из фторированного каучука на входном и выходном валах

Coperchio di protezione

Protection cover

Защитное покрытие

PROT

Coperchio di protezione per estremità rotanti a richiesta.

On request, an output shaft protection cover can be supplied.

Редукторы могут быть снабжены защитным покрытием по запросу.

DW

Dry-Well

Questo dispositivo garantisce la tenuta dell'albero lento sporgente. E' disponibile, in posizione di montaggio M5 ed associato ad una lubrificazione forzata, solo per alcune taglie e qualche rapporto (interpellare il ns. servizio tecnico).

Dry-Well

The dry-well feature prevents oil leakage at the solid output shaft. It is available for some particular sizes and ratios in mounting position M5 and in combination with forced lubrication (please contact our Engineering for more details).

Dry-Well

“Dry-Well” opция предотвращает утечку масла через цилиндрический вых. вал. Доступно для конкретных размеров, монтажных положений M5 и систем принудительной смазки(свяжитесь с нашими инженерами для запроса)

IS

Coperchio d'ispezione

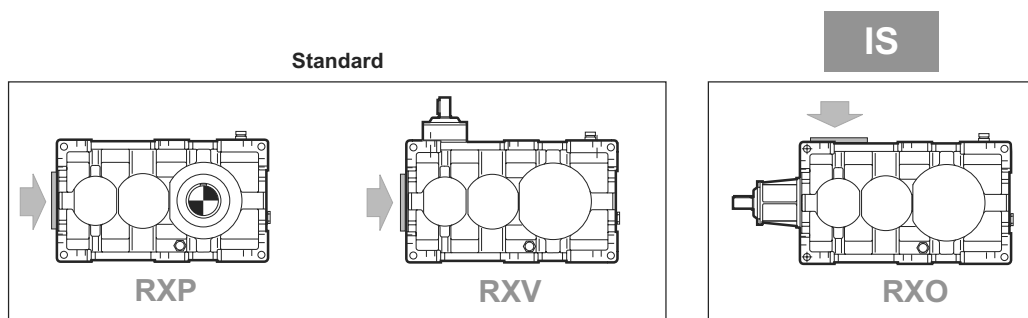
Sono forniti standard su RXP e RXV coperchi d'ispezione lato entrata ortogonale. Per RXO e riduttori con cassa in acciaio sono fornibili a richiesta coperchi come da schema.

Inspection cover

Inspection covers at right-angle input end supplied on RXP and RXV as standard. For RXO and steel casing gear unit, inspection covers as shown available on request.

Смотровое отверстие

Смотровое отверстие справа от входного входного вала устанавливается на RXP и RXV по умолчанию. Расположение для RXO и стального корпуса редуктора, как показано, доступно по запросу.



Flangia freno (a disegno cliente)

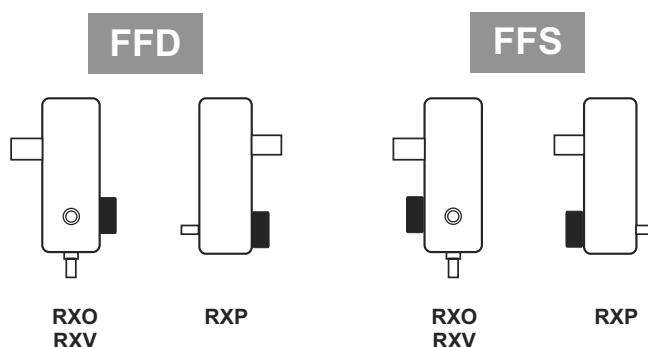
A richiesta и possibile una predisposizione per poter assemblare direttamente diverse tipologie di freno al riduttore.

Brake flange (made to customer drawing)

Custom mounting flanges to accommodate different types of brakes can be supplied on request.

Фланец для тормоза (по чертежам заказчика)

Монтажные фланцы для размещения различных типов тормозов могут быть установлены по запросу.



Base porta motore

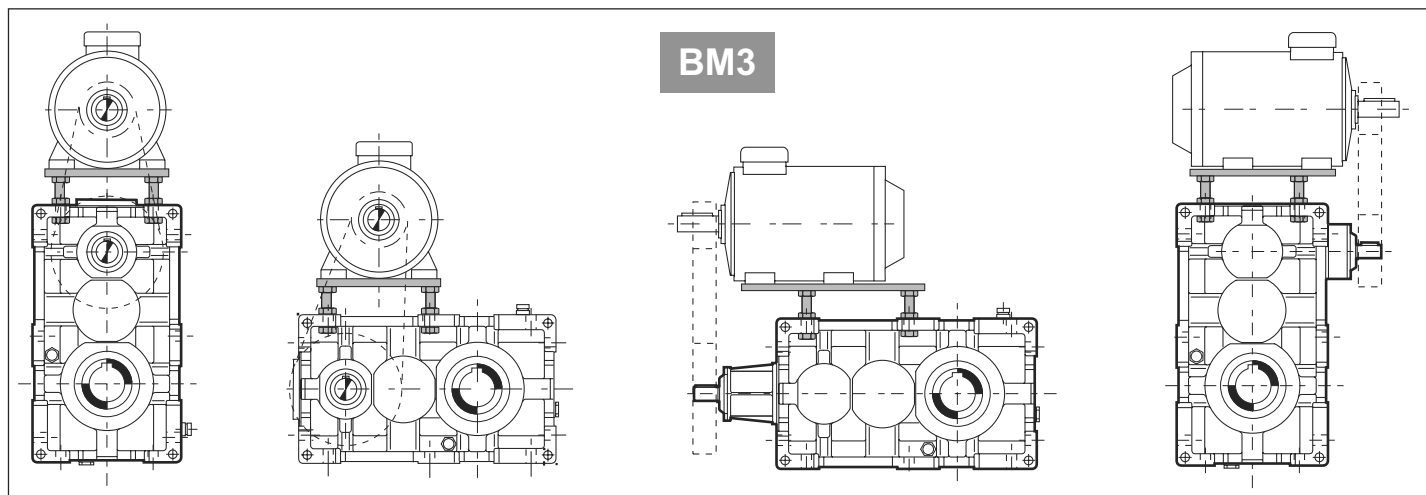
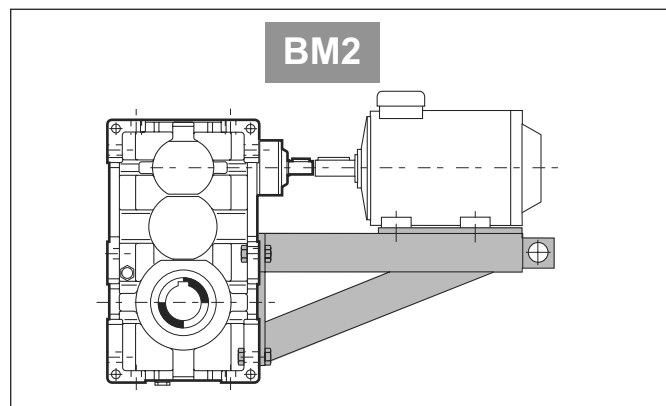
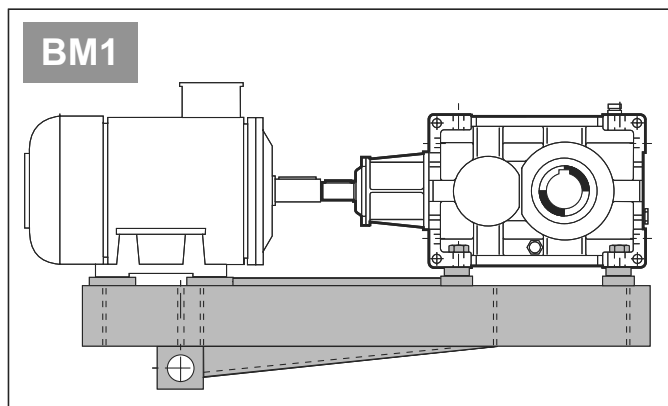
A richiesta sono disponibili 3 tipologie di basi porta motore. Nelle figure a seguito sono illustrate le forme costruttive delle 3 famiglie principali di questo prodotto. Nelle tipologie BM1 e BM2 sono fornibili come connessioni tra motore e riduttore giunti idrodinamici e giunti elastici, eventualmente equipaggiati con dischi a freno.

Motor mount

Three types of motor mounts are available on request. The diagrams below show three major families of motor mount products. On request, fluid and flexible couplings, also equipped with brake discs, are provided with types BM1 and BM2.

Крепления мотора

Доступно несколько типов монтажных опор двигателя. Схемы ниже показывают три наиболее частые. Монтажных опор двигателя. По запросу дополняются креплениями для колодочных тормозов.



Bussole in VKL

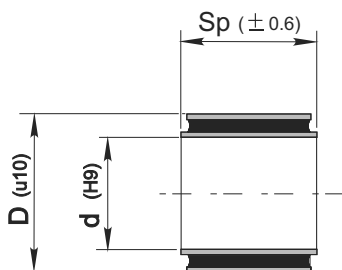
A richiesta le basi di tipologia BM1 e BM2 sono equipaggiabili con bussole in VKL. A seguito le dimensioni delle bussole in corrispondenza alla taglia del riduttore.

VKL bush

On request, motor mounts BM1 and BM2 can be equipped with VKL bushes. Bush dimensions for the different gear unit sizes are given in the table.

VKL-Втулка

Монтажные положения BM1 и BM2 могут быть оснащены VKL втулками. Размеры втулок для различных размеров редукторов указаны в след. таблице.



	D	d	Sp
808	65	40	88
810			
812	80	50	110
814			
816			
818	100	140	120
820	110	160	180
822			

Personalizzazione generica

Special custom version

Специальная заказная версия

S

La GSM si riserva di inserire questa particella per indicare una personalizzazione particolare non indicata a catalogo; (ad esempio RXP3/818 S per indicare un riduttore con cassa in acciaio e dimensioni diverse da quelle previste a catalogo.

This designation element may be used at STM's discretion to identify special custom versions not listed in the catalogue; for instance, RXP3/818 S would be used to identify a steel casing gear unit with non-standard dimensions.

Обозначения этого раздела могут быть использованы в STM для идентификации индивидуальных заказных версий не указанных в каталоге; например, RXP3/818 S будет использоваться для определения стального корпуса редуктора с нестандартными размерами.

Accessori idraulici

Hydraulic accessories

Гидравлические аксессуары

Ai



Rubinetto olio
Oil tap
Масляный кран



Filtro olio
Oil filter
Масляный фильтр



Asta livello olio
Oil dipstick
Масляный щуп



Visore livello olio
Oil sight glass
Указатель уровня масла



Sfiato antipolvere
Dust/breather plug
Сапун



Tappi ausiliari
Auxiliary plugs
Дополнительные пробки



Livellostato visivo
Level switch with sight window
Уровневое реле со смотровым стеклом



Livellostato a galleggiante
Float level switch
Поплавковое уровневое реле



Termostato
Temp. switch
Термостат



Pressostato
Pressure switch
Датчик давления



Flussostato visivo
Flow switch and sight flow indicator
Реле расхода и визуальный расходомер



Flussostato
Flow switch
Реле расхода



Sonda PT100
PT100 sensor
PT100 сенсор



Riscaldatore
Heater
Обогреватель



Filtro elettrico
Electric filter
Электрический фильтр



Serpentina di raffreddamento
Cooling coil
Охлаждающий змеевик



Uscita speciale

Special output

Специальный выход

US

Sono fornibili a richiesta estremità in uscita diverse da quelle indicate a catalogo

Output configurations other than those listed in the catalogue available on request

Выходные конфигурации не указанные в каталоге доступны по запросу.

Flange di uscita

Output flanges

Выходные фланцы

Sono previste flange da impiegare qualora si desideri il fissaggio diretto del riduttore alla macchina. La soluzione è molto compatta, la battuta dell'albero lento non è modificata rispetto allo standard.

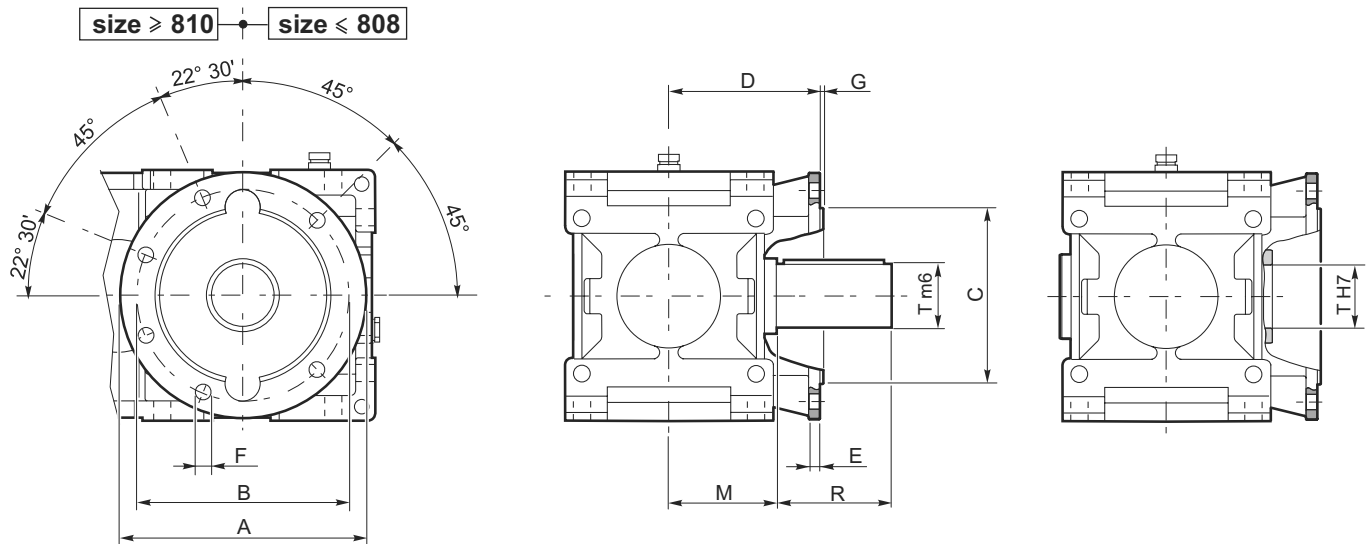
Output flanges are available for flange-mount configuration. This provides a compact design; standard output shaft shoulder dimensions are unchanged.

Выходные фланцы доступны по запросу для конфигурации фланц. крепления. Это обеспечивает удобный дизайн и неизменность размеров "плеча" выходного вала.

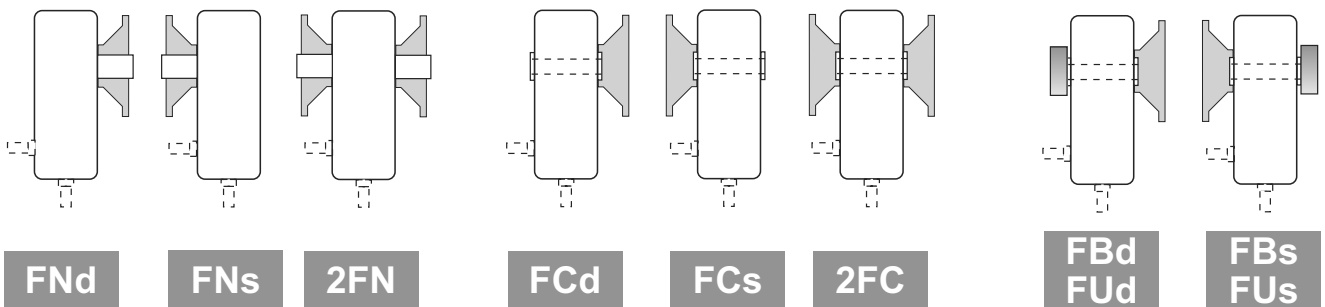
N.B.: tale soluzione non è disponibile per RXO1, RXV1 e RXP1.

NOTE: This configuration is not available for RXO1, RXV1 and RXP1.

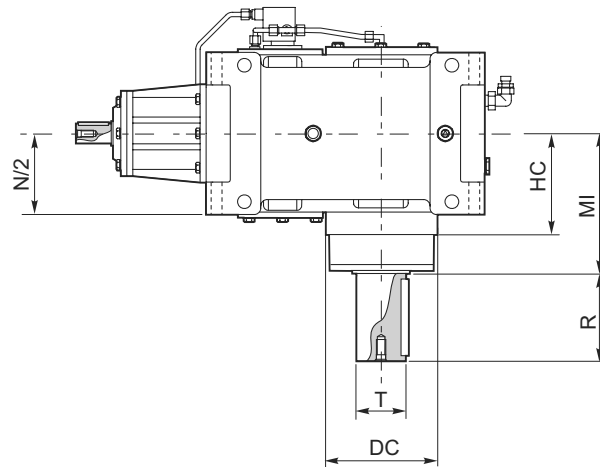
Примечание: Эти конфигурации не доступны для RXO1, RXV1 и RXP1.



	A	B	C h7	D	E	F	G	M	T	R
802	250	215	180	155	14	18	5	109	60	112
804	300	265	230	175	14	18	5	121	70	125
806	350	300	250	195	16	20	5	137	80	140
808	350	300	250	215	16	22	5	151	90	160
810	400	350	300	240	16	22	5	170	100	180
812	450	400	350	270	16	24	5	192	110	200
814	550	500	450	300	18	27	7	216	125	225
816	550	500	450	340	20	30	7	242	140	250
818	660	600	550	375	22	33	7	273	160	280
820	660	600	550	410	22	36	7	302	180	315



MX



	T (m6)	R	MI	N/2	HC	DC (h7)
804	70	125	200	118.5	143	185
806	80	140	225	134.5	160	210
808	90	160	250	148.5	176	235
810	100	180	280	167.5	192	255
812	110	200	315	189.5	220	290
814	125	225	355	213.5	245	320
816	140	250	400	239.5	271	370
818	160	280	450	270.5	300	420
820	180	315	500	299.5	315	450

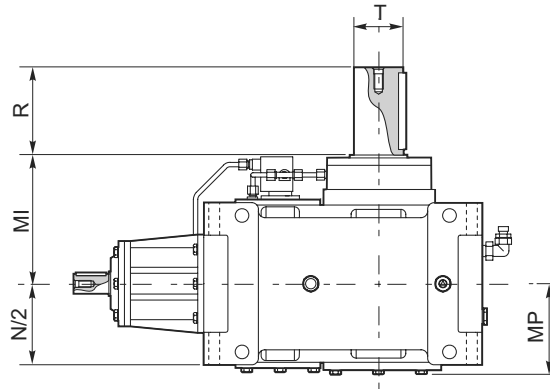
N.B.: La stessa tipologia di applicazione è disponibile anche per RXP ed RXO di diversi stadi di riduzione e forme costruttive. Le grandezze 804 ed 806 non sono fornibili con pompa asservita.

NOTE: The same configuration is also available for RXP and RXO units in different reduction and design versions. Sizes 804 and 806 are not available with shaft-driven pump.

Примечание: Те же конфигурации доступны для RXP и RXO редукторов с различными передаточными числами и в различных исполнениях корпуса. Для размеров 804 и 806 не доступны мотопомпы.



TR



	T (m6)	R	MI	N/2	MP (RX1) *
804	70	125	200	118.5	140
806	80	140	225	134.5	155
808	90	160	250	148.5	170
810	100	180	280	167.5	190
812	110	200	315	189.5	210
814	125	225	355	213.5	235
816	140	250	400	239.5	270
818	160	280	450	270.5	300
820	180	315	500	299.5	315

N.B.: La stessa tipologia di applicazione è disponibile anche per RXP ed RXO di diversi stadi di riduzione e forme costruttive. Le grandezze 804 ed 806 non sono fornibili con pompa asservita.

NOTE: The same configuration is also available for RXP and RXO units in different reduction and design versions. Sizes 804 and 806 are not available with shaft-driven pump.

Примечание: Те же конфигурации доступны для RXP и RXO редукторов с различными передаточными числами и в различных исполнениях корпуса. Для размеров 804 и 806 не доступны мотопомпы.

* Quota maggiore di N/2 solo per RX.1.

* Dimension greater than N/2 only for RX.1.

* Размеры больше, чем N/2 только для RX.1

TS

Supportazione rinforzata in uscita speciale

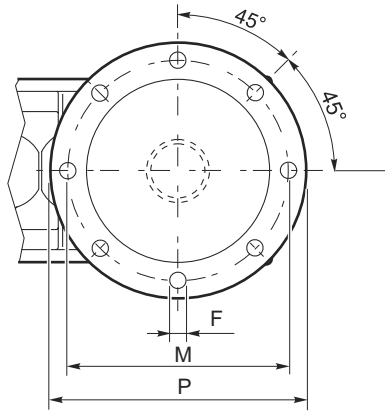
Sono fornibili a richiesta supportazioni rinforzate in uscita diverse da quelle indicate a catalogo

Special heavy duty output bearing

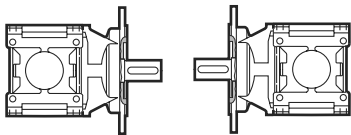
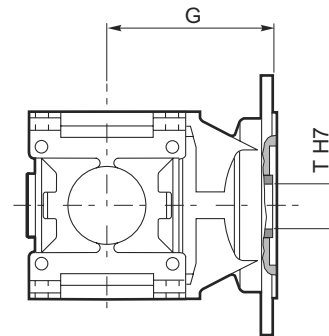
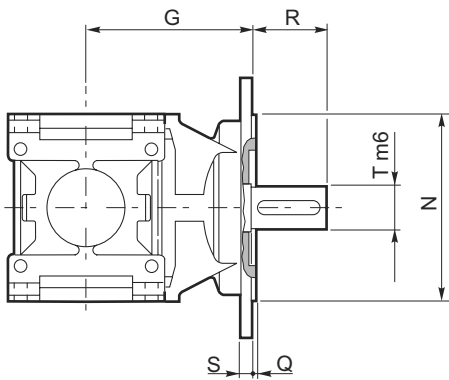
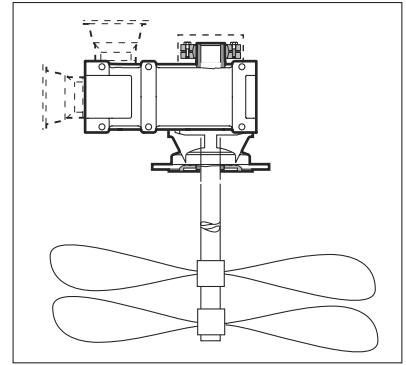
Output configurations other than those listed in the catalogue available on request

Специальный усиленный опорный подшипник

Выходные конфигурации не перечисленные в данном каталоге доступны по требованию.

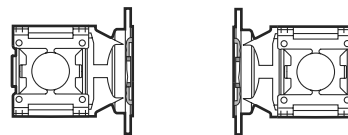


: Esempio di applicazione
 : Application example
 : Пример применения



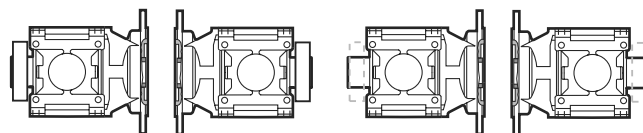
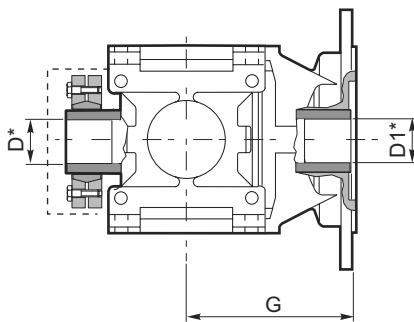
SND

SNS



SCD

SCS



SUD

SUS

SBD

SBS

* Le dimensioni dell'albero cavo con unita di bloccaggio sono riportate a pag. F6.

* Dimensions of hollow shaft with shrink disc are provided at page. F6.

* Размеры полого вала со сжимным диском указаны на странице F6

	F	G	M	N	P	Q	R	S	T
802	16	228	300	250	350	4	112	16	60
804	16	248	300	250	350	4	125	18	70
806	18	268	350	300	400	5	140	18	80
808	18	303	400	350	450	5	160	20	90
810	20	333	450	400	500	6	180	20	100
812	20	372	500	450	550	6	200	22	110
814	22	407	550	500	600	7	225	22	125
816	25	452	600	550	650	7	250	25	140
818	27	502	650	600	700	8	280	25	160
820	30	551	750	650	800	8	315	28	180

N.B.: Tali soluzioni non sono applicabili per RXO1, RXV1 e RXP1.

NOTE: These configurations are not available for RXO1, RXV1 and RXP1.

Примечание: Данные конфигурации не доступны для RXO1, RXV1 и RXP1

nU

Riduttori con piú alberi uscita

A richiesta è possibile fornire riduttori con piú assi di uscita. Tipica è l'applicazione dei laminatoi dove si hanno 2 assi di uscita controrotanti; in questo caso la descrizione sarà 2U.

Gear unit with several output shafts

Gear units with more than one output shafts are available on request. A typical application is a rolling mill requiring a gear unit with two counter-rotating shafts; the corresponding designation will be 2U.

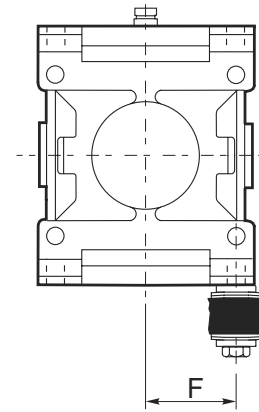
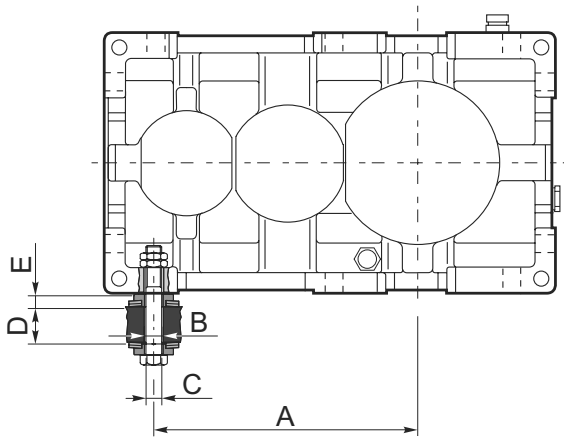
Редуктор с несколькими выходными валами

Возможны исполнения редукторов с несколькими выходными валами. Частое применение - прокатный стан, которому необходим редуктор с двумя противоположными сторонами вращения; соответствующее обозначение будет 2U

Kit bullone di reazione

Torque arm kit

Комплект крепления реактивного кронштейна



	A			B	C	D		E	F	Molle a tazza Belleville washers Тарельчатые пружины	
	RXP1 RX01 RXV1	RXP2 RX02 RXV2	RXP3 RX03 RXV3			MIN	MAX			N. 4 Molle a tazza 4 Belleville washers 4 Тарельчатые пружины	Y (*)
802	175	225	318	20	M16	25	38	13	90	50x25.4x2.5	0.6
804	196	286	355.5	20	M16	25	38	13	100	50x25.4x2.5	0.6
806	222	322	402	24	M20	29	45	16	112.5	63x31x3.5	0.8
808	250	362	452	24	M20	29	45	16	125	63x31x3.5	0.8
810	280	405	504	30	M24	29	45	19	140	70x35.5x4	0.8
812	315	455	566.5	30	M24	29	45	19	157.5	70x35.5x4	0.8
814	350	510	634	36	M30	37	70	23	177.5	100x51x5	1
816	393	573	712.5	39	M33	37	70	23	200	100x51x5	1
818	445	645	805	39	M33	45	70	23	225	100x51x5	1
820	500	725	904.5	42	M36	45	80	29	250	125x61x6	1.3

(*) Valore di compressione delle molle

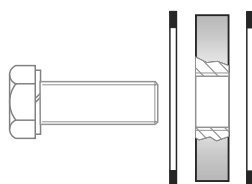
(*) Spring compression value

(*) Коэффициент пружинного сжатия

Kit rosetta di montaggio

Mounting washer kit

Комплект для крепления шайбой



ESTREMITA SUPPLEMENTARI

A richiesta è possibile fornire riduttori con estremita supplementari, in tali casi deve essere indicata la designazione dell'ES (estremita supplementare) come indicato in seguito.

ADDITIONAL SHAFT EXTENSIONS

On request, gear units are available with additional shaft extensions; please specify the designation of the required ES (additional shaft extension) as outlined below.

Дополнительные исполнения вала

Также доступны редукторы с дополнительными исполнениями валов; определите обозначение необходимой ES (дополнительное расширение вала) как указано ниже.

Designazione / Designation/ Bezeichnung

	[13*]	[14*]	[15*]	[16*]	[17*]
	ES	2	DX	506	PAM132
	Estremita supplementare Additional shaft extension Дополнительные исполнения вала	Asse Axis Оси	Posizione estremita supplementare Additional shaft extension position Позиция для вала с дополнительным расширением	i_{es}	Tipologia di entrata Input configuration Входная конфигурация
	ES	1 - 2 - 3	DX - SX	Rapporto reale dall'estremita supplementare	ECE ECES PAM.. PAM..G

[13*] Presenza di un'estremita supplementare

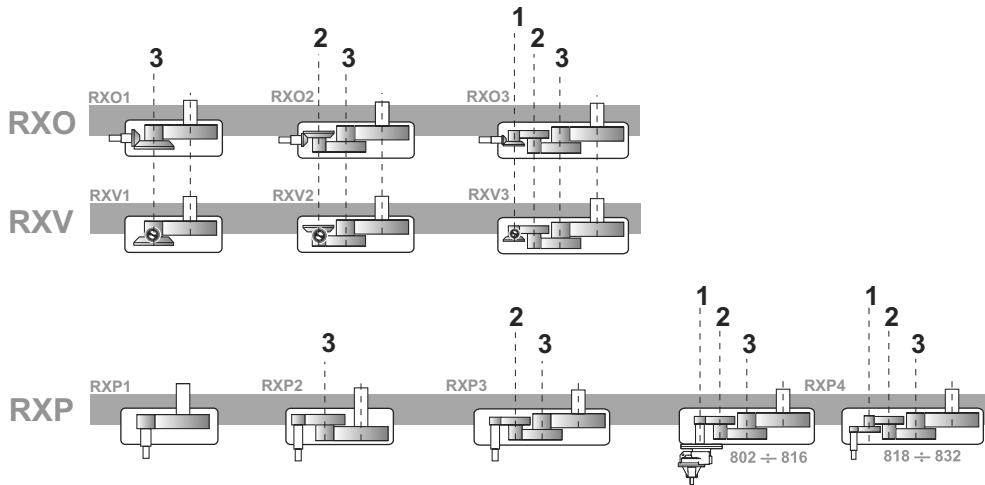
[13*] Additional shaft extension fitted

[13*] Изготовление дополнительного исполнения вала

[14*] Asse dov'è presente l'estremita supplementare

[14*] Axis where additional shaft extension is located

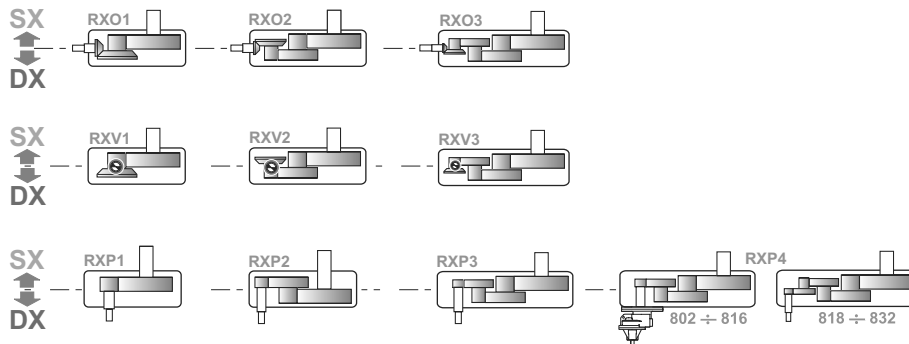
[14*] Оси с дополнительными исполнениями вала.



[15*] Lato estremita supplementare

[15*] Additional shaft extension side

[15*] Выходная сторона дополнительного вала



[16*] Rapporto reale del riduttore dalla estremita supplementare

[16*] Actual gear ratio of gear unit from additional shaft extension

[16*] Передаточное число редуктора с дополнительным валом

Comunicato da GSM su richiesta.

Information available from GSM on request.

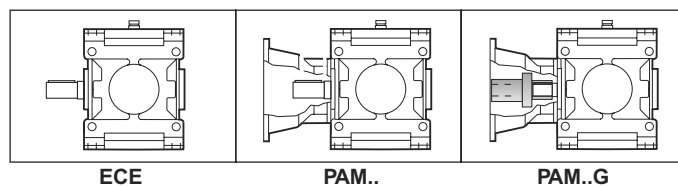
Уточняется у GSM по запросу.



[17*] Tipologia di estremità supplementare

[17*] Additional shaft extension type

[17*] Тип дополнительного вала

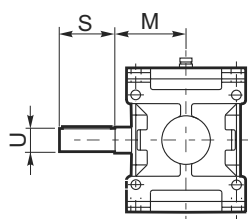


ECE	Entrata con albero pieno	Solid input shaft	Цилиндрический входной вал
ECES	Entrata con estremità speciale (disponibile a richiesta)	Special input shaft end (available on request)	Специальный конец входного вала (доступен по запросу)
PAM..	Con campana senza giunto	Motor bell without coupling	Крепление двигателя без муфты
PAM..G	Con campana e giunto	Motor bell and coupling	Крепление двигателя с муфтой

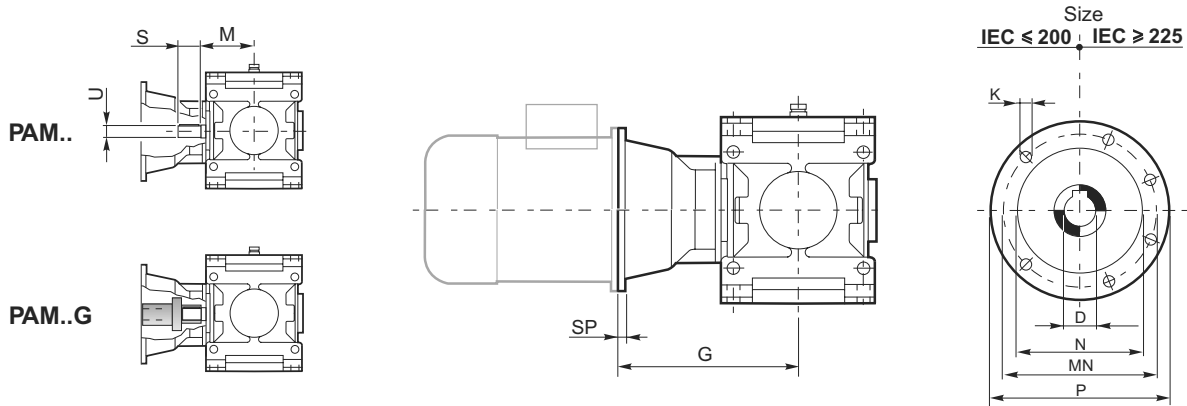
Dimensioni

Dimensions

Габарит



Grandezza Size Размер	Tipo Type Тип	Asse / Axis/ Оси								
		1			2			3		
		U	S	M	U	S	M	U	S	M
802	RXO1-RXV1	—	—	—	—	—	—	35 k6	63	137
	RXP2	—	—	—	—	—	—	35 k6	63	109
	RXO2-RXV2-RXP3	—	—	—	28 j6	50	109	35 k6	63	109
	RXO3-RXV3-RXP4	22 j6	40	109	28 j6	50	109	35 k6	63	109
804	RXO1-RXV1	—	—	—	—	—	—	40 k6	70	151
	RXP2	—	—	—	—	—	—	40 k6	70	121
	RXO2-RXV2-RXP3	—	—	—	32 k6	56	121	40 k6	70	121
	RXO3-RXV3-RXP4	24 j6	45	121	32 k6	56	121	40 k6	70	121
806	RXO1-RXV1	—	—	—	—	—	—	45 k6	80	170
	RXP2	—	—	—	—	—	—	45 k6	80	137
	RXO2-RXV2-RXP3	—	—	—	35 k6	63	137	45 k6	80	137
	RXO3-RXV3-RXP4	28 j6	50	137	35 k6	63	137	45 k6	80	137
808	RXO1-RXV1	—	—	—	—	—	—	50 k6	90	192
	RXP2	—	—	—	—	—	—	50 k6	90	151
	RXO2-RXV2-RXP3	—	—	—	40 k6	70	151	50 k6	90	151
	RXO3-RXV3-RXP4	32 k6	56	151	40 k6	70	151	50 k6	90	151
810	RXO1-RXV1	—	—	—	—	—	—	55 m6	100	216
	RXP2	—	—	—	—	—	—	55 m6	100	170
	RXO2-RXV2-RXP3	—	—	—	45 k6	80	170	55 m6	100	170
	RXO3-RXV3-RXP4	35 k6	63	170	45 k6	80	170	55 m6	100	170
812	RXO1-RXV1	—	—	—	—	—	—	60 m6	112	242
	RXP2	—	—	—	—	—	—	60 m6	112	192
	RXO2-RXV2-RXP3	—	—	—	50 k6	90	192	60 m6	112	192
	RXO3-RXV3-RXP4	40 k6	70	192	50 k6	90	192	60 m6	112	192
814	RXO1-RXV1	—	—	—	—	—	—	70 m6	125	273
	RXP2	—	—	—	—	—	—	70 m6	125	216
	RXO2-RXV2-RXP3	—	—	—	55 m6	100	216	70 m6	125	216
	RXO3-RXV3-RXP4	45 k6	80	216	55 m6	100	216	70 m6	125	216
816	RXO1-RXV1	—	—	—	—	—	—	80 m6	140	302
	RXP2	—	—	—	—	—	—	80 m6	140	242
	RXO2-RXV2-RXP3	—	—	—	60 m6	112	242	80 m6	140	242
	RXO3-RXV3-RXP4	50 k6	90	242	60 m6	112	242	80 m6	140	242
818	RXO1-RXV1	—	—	—	—	—	—	90 m6	160	273
	RXP2	—	—	—	—	—	—	90 m6	160	273
	RXO2-RXV2-RXP3	—	—	—	70 m6	125	273	90 m6	160	273
	RXO3-RXV3-RXP4	55 m6	100	273	70 m6	125	273	90 m6	160	273
820	RXO1-RXV1	—	—	—	—	—	—	100 m6	180	302
	RXP2	—	—	—	—	—	—	100 m6	180	302
	RXO2-RXV2-RXP3	—	—	—	80 m6	140	302	100 m6	180	302
	RXO3-RXV3-RXP4	60 m6	112	302	80 m6	140	302	100 m6	180	302



Asse / Axis/ Оси 1

		IEC												
		80	90	100	112	132	160	180	200	225	250	280	315	355
D H7		19	24	28	28	38	42	48	55	60	65	75	80	100
P		200	200	250	250	300	350	350	400	450	550	550	660	800
MN		165	165	215	215	265	300	300	350	400	500	500	600	740
N G6		130	130	180	180	230	250	250	300	350	450	450	550	680
K		M10	M10	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20
SP		12	12	14	14	16	18	18	20	20	20	20	24	30
G	802		203	213	213	233	263	263	263					
	804			230	230	250	280	280	280	310				
	806			251	251	271	301	301	301	331				
	808			271	271	291	321	321	321	351	351	351		
	810					317	347	347	347	377	377	377	407	
	812					346	376	376	376	406	406	406	436	
	814						410	410	410	440	440	440	470	
	816						446	446	446	476	476	476	506	546
	818								487	517	517	517	547	587
820									558	558	558	588	628	

Asse / Axis/ Оси 2

		IEC												
		80	90	100	112	132	160	180	200	225	250	280	315	355
D H7		19	24	28	28	38	42	48	55	60	65	75	80	100
P		200	200	250	250	300	350	350	400	450	550	550	660	800
MN		165	165	215	215	265	300	300	350	400	500	500	600	740
N G6		130	130	180	180	230	250	250	300	350	450	450	550	680
K		M10	M10	M12	M12	M12	M16	M16	M16	M16	M16	M16	M16	M20
SP		12	12	14	14	16	18	18	20	20	20	20	24	30
G	802				223	243	273	273	273					
	804						291	291	291	321				
	806						314	314	314	344				
	808						335	335	335	365	365	365		
	810								364	394	394	394		
	812									426	426	426	456	
	814									460	460	460	490	530
	816										498	498	528	568
	818										542	542	572	612
820											616	616	656	

Le altre dimensioni dei riduttori potranno essere reperite nelle corrispondenti sezioni RXP e RXO.

For gear unit dimensions not covered here, please see the relevant RXP and RXO sections.

Для редукторов не указанных выше см. таблицы размеров в главах RXP и RXO

CAMBI DI VELOCITA

A richiesta e possibile fornire riduttori con cambio di velocita, in tali casi, nelle designazioni dei riduttori RXP e RXO riportate nelle rispettive sezioni, in corrispondenza di ir (colonna [5*]) deve essere riportato 2V, 3V, ... (numero di marce desiderato e rapporto reale delle rispettive marce) come indicato in seguito.

GEAR SHIFT

Gear-shift drives are available on request; when designating RXP and RXO gear units as outlined in the relevant sections, specify number of speeds and actual gear ratios (2V, 3V, ...) under item ir (column [5]) as outlined below.*

Переключение передач

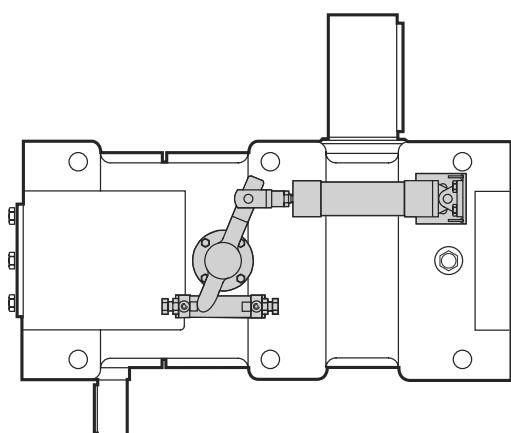
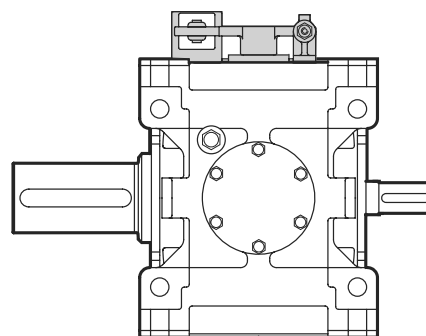
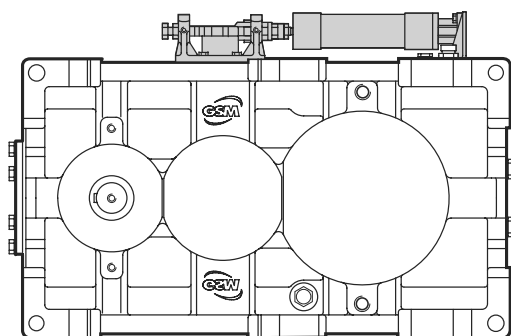
Возможны устройства изменения скорости в таких случаях в маркировке указывают количество скоростей и действительные передаточные числа колёс (2V, 3V) под указанным общим передаточным отношением [колонка 5*], как указано ниже

Designazione / Designation / Обозначение

	[5*]		
	2V		
	ir		
	2V 3V 4V ...		

Esempio / Example/ Пример

RXP2/814/2V 7-14/ECES/N/M1




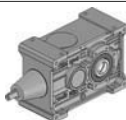
Per configurazioni disponibili, prestazioni e dimensioni contattare il servizio tecnico commerciale GSM.

Please contact GSM Sales Engineers for detailed information on available configurations, ratings and dimensions.

Свяжитесь с инженерами GSM для получения детальной информации на доступные конфигурации, параметры и размеры.

**1.0 RIDUTTORI - MOTORIDUTTORI ORTOGONALI E PARALLELI Serie
HELICAL BEVEL AND PARALLEL SHAFT GEARBOXES AND GEARED
MOTORS Series
ЦИЛИНДРОКОНИЧЕСКИЕ И ЦИЛИНДРИЧЕСКИЕ РЕДУКТОРЫ,
МОТОР-РЕДУКТОРЫ Серии**

RX700

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<hr/>				
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<hr/>				
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<hr/>				
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5.0	Flangia uscita	<i>Output flange</i>	Выходной фланец	H51
6.0	Accessori e opzioni	<i>Accessories and options</i>	Опции и аксессуары	H51

1.1 Caratteristiche costruttive

Generalita

La progettazione dei riduttori ad assi paralleli e ortogonali della serie 700 è stata imposta su una struttura monolitica particolarmente rigida che ne conferisce un'elevata robustezza unitamente ad un'ampia versatilità di montaggio. La grande scelta di esecuzioni disponibili e l'elevato numero di rapporti ci permette di soddisfare anche le esigenze più particolari.

Ingranaggi

Gli ingranaggi cilindrici a dentatura elicoidale, costruiti in acciaio 18NiCrMo5 e 20MnCr5 UNI 7846-78, sono rettificati sul profilo ad evolvente dopo cementazione, tempra e rinvenimento finale; gli ingranaggi conici a dentatura Gleason sono rodati. L'ottimizzazione geometrica degli ingranaggi unitamente ad una accurata lavorazione, assicura bassi livelli di rumorosità e garantisce elevati rendimenti:

N° stadi No. of reductions № ступеней	RXP	RXO
1	0.98	0.95
2	0.96	0.93
3	0.94	—

La capacità di carico è stata calcolata a pressione superficiale e a rottura secondo la normativa ISO 6336.

Alberi

Gli alberi lenti pieni sono realizzati in 39NiCrMo3 UNI 7845-78 e i cavi in C40 UNI 5332. Gli alberi veloci sono realizzati in 20MnCr5 o in 18NiCrMo5 UNI 7846-78 e sono verificati a flessione-torsione con elevato coefficiente di sicurezza.

Cuscinetti

Tutti i cuscinetti sono del tipo a rulli conici, di elevata qualità e dimensionati per garantire una lunga durata se lubrificati con il tipo di lubrificante previsto a catalogo.

Carcassa

La carcassa, monolitica, è ottenuta per fusione in GG 200 ISO 185. I particolari accorgimenti adottati nel disegno della struttura permettono di ottenere un'elevata rigidità.

1.1 Construction features

General description

The bevel helical and parallel shaft RX700 series has been designed on a highly rigid monobloc structure to enrich the product with an absolute sturdiness as well as a wide assembly versatility. The large range of executions and the wide number of available reduction ratios enables full satisfaction of any possible need.

Gearing

The helical toothing cylindrical gears are made of steel 18NiCrMo5 and 20MnCr5 UNI 7846-78 and are ground on the involute profile after heat treatment, case hardening and tempering. In addition, the helical gears with Gleason toothing are already run in. The geometrical optimization of the gears, together with an accurate machining, grant low noise levels and a very high efficiency.

The load capacity of gear sets is calculated at contact and root bending stress in accordance with standard ISO 6336.

Shafts

Solid output shafts are manufactured from 39NiCrMo3 UNI 7845-78 and hollow shafts C40 UNI 5332. Input shafts are made from 20MnCr5 or 18NiCrMo5 UNI 7846-78 and its calculations incorporate a high safety factor and are validated by bending and torsional stress analyses.

Bearings

All bearings are high quality taper roller bearings suitably sized to ensure long service life provided the approved lubricants indicated in this catalogue are used.

Casing

Casings are cast from GG 200 ISO 185 cast iron. Casing design incorporates special arrangements to provide superior rigidity.

1.1 Особенности конструкции

Общее описание

Цилиндроконические и цилиндрические редукторы серии Rx700 спроектированы высокопрочной моноблочной основой для достижения максимальной жесткости. Широкий ряд исполнений и множество передаточных чисел способны удовлетворить любую потребность.

Зубчатая передача

Косозубые цилиндрические передачи производятся из стали 18NiCrMo5 и 20MnCr5 UNI 7846-78 после цементации, закалки и отпуска, корректируются на эвольвентный профиль. Оптимальная геометрия и высокая точность обработки обеспечивают низкий уровень шума и высокий КПД передачи.

Нагрузочная способность передачи рассчитывается по контакту и напряжению изгиба у основания зуба в соответствии с ISO 6336.

Валы

Цилиндрические выходные валы изготавливаются из стали 39NiCrMo3 UNI 7845-78 входные валы из стали 16CrNi4 UNI, 20MnCr5 UNI 7846-78 или 39NiCrMo3 UNI 7845-78. Расчеты валов основаны на высоком коэффициенте безопасности и проходят проверку на изгиб и сжатие.

Подшипники

Все подшипники высокого качества и имеют коническую или роликовую самоустанавливаемую форму, которая гарантирует длительный срок службы при условии, что вы будете использовать утверждённые смазочные материалы, указанные в данном каталоге.

Корпус

Корпус отливается из GG 200 ISO 185 чугуна. Дизайн корпуса включает специальные элементы, создающие максимальную жесткость конструкции.

1.2 Criteri di selezione

Velocità in entrata

Tutte le prestazioni dei riduttori sono calcolate in base a 2850, 1450, 1000 e 500 giri in entrata.

Velocità inferiori a 1400 min⁻¹ ottenute con l'ausilio di riduzioni esterne o di azionamenti, sono sicuramente favorevoli al buon funzionamento del riduttore, il quale può operare con temperature di funzionamento inferiori a vantaggio di tutto il cinematismo.

Per velocità inferiori a 900 min⁻¹ consultare il nostro Servizio Tecnico Commerciale.

Fattore di servizio - Fs

Il fattore di Servizio Fs dipende:

- a) dalle condizioni di applicazione
- b) dalla durata di funzionamento h/d
- c) avviamenti /ora
- d) dal grado di affidabilità o margine di sicurezza voluto.

Il fattore di servizio per casi specifici può essere assunto direttamente, altrimenti può essere calcolato in base ai singoli fattori: fattore di durata di funzionamento f_s , dal numero di avviamenti /ora f_v , e dal fattore di sicurezza o grado di affidabilità f_{Ga} .

1.3 Gear unit selection

Input speed

All performances of gearboxes are calculated according to 2850, 1450, 1000 and 500 input rpm.

Speeds lower than 1400 min⁻¹ obtained by means of external reductions or drives, surely contribute to the good working of the gearbox which can operate at lower working temperatures to the advantage of the whole kinematic movement (in particular in case of the worm gearboxes).

In case of input speed below 900 min⁻¹ please refer to our Technical Commercial Office.

Service factor - Fs

Service factor Fs is determined on the basis of:

- a) operating conditions of application
- b) operation per day (h/d)
- c) starts and stops per hour
- d) desired reliability or safety factor.

Where service conditions allow it, the recommended service factor for a specific application may be used directly, otherwise the service factor must be calculated and the following factors must be considered: operation time factor f_s , duty cycle factor f_v , and safety or reliability factor f_{Ga} .

1.3 Подбор редуктора

Входная скорость

Все исполнения коробок передач рассчитываются согласно 2850, 1450, 1000 и 500 об.мин. на входе. Скорости ниже, чем 1400 мин⁻¹ получают при помощи дополнительных редукторов или шкивов, что безусловно способствует хорошей работе редуктора, а также работе на низких рабочих температурах для использования всей кинематической энергии (в частности, в случае применения червячного редуктора).

В случае, если входная скорость меньше, чем 900 мин⁻¹. Обратитесь к нашему техническому персоналу.

Сервис фактор - Fs

Коэффициент эксплуатации определяется по след. параметрам:

- a) условия работы устройства
- b) время работы в день(ч/сут)
- c) кол-во стартов/остановок в час.
- d) Требуемая надежность и коэфф. безопасности.

Там, где позволяют условия эксплуатации рекомендуется принимать указанный сервис-фактор для конкретного применения, в ином случае сервис-фактор должен рассчитываться по параметрам: фактор рабочего времени f_s , фактор цикличности нагрузки f_v и коэффициент безопасности или надежности f_{Ga} .

$$F_s = f_s \cdot f_v \cdot f_{Ga}$$

Le potenze e i momenti torcenti indicati a questa pagina sono validi per $f_s = 1$.

Power and torque ratings stated in the catalogue refer to service factor $f_s = 1$.

Номинальная мощность и крутящий момент указаны в каталоге из расчета сервис-фактора $F_s = 1$.

f_s

Macchina motrice / Prime mover / Первичный двигатель	h/d	Macchina utilizzatrice / Driven Machine / Приводимая машина		
		U	M	S
Motori elettrici, Turbine, Motori oleodinamici Electric motors, Turbines, Hydraulic motors Электродвигатели, турбины, гидромоторы.	2	0.8	1.0	1.4
	4	0.9	1.12	1.6
	8	1.0	1.25	1.75
	16	1.25	1.5	2.0
	24	1.5	1.75	2.25
Motori alternativi 4-6 cilindri Combustion engines with 4-6 cylinders Двигатель внутреннего сгорания 4-6 цилиндровый	2	0.9	1.12	1.6
	4	1.0	1.25	1.75
	8	1.25	1.5	2.0
	16	1.5	1.75	2.25
	24	1.75	2.0	2.5
Motori alternativi 1-3 cilindri Combustion engines with 1-3 cylinders Двигатель внутреннего сгорания 1-3 цилиндровый	2	1.0	1.25	1.75
	4	1.25	1.5	2.0
	8	1.5	1.75	2.25
	16	1.75	2.0	2.5
	24	2.25	2.5	3.0

U = macchina a carico uniforme
M = macchina con urti moderati
S = macchina con urti severi
h/d = ore di funzionamento giornaliero
 Per i moltiplicatori di velocità, moltiplicare i valori di F_s per 1.1

U = Uni form load
M = Moderate shock load
S = Heavy shock load
h/d = hours of operation per day
 For speed multipliers, multiply F_s by 1.1

U = Постоянная нагрузка
M = Средняя нагрузка, толчки
S = Тяжелая нагрузка, сильные удары
h/d = Время эксплуатации в день
 Для мультипликатора $F_s = 1,1$

	SETTORE DI APPLICAZIONE	APPLICATION SECTOR	Область применения
U M	AGITATORI	AGITATORS	Мешалки
	Con densita uniforme Con densita non uniforme	<i>Uniform product density Variable product density</i>	Однородная плотность продукта Неоднородная плотность продукта
U M	ALIMENTARE	ALIMENTARY	Пищевая
	Maceratori, bollitori, coclee Trituratrici, sbucciatrici, scatoiatrici	<i>Mashers, boilers, screw feeders, blenders, peelers, cartoners</i>	Давилки, котлы, питатели цемента, блендеры, обдирочные станки, фасовочно-установочные автоматы
(1)U, M S	ARGANI	WINCHES	Лебёдки
	Sollevamento Trascinamento Bobinatori	<i>Lifting Dragging Reel winders</i>	Подъём Перемещение Ветрянные маятники
U M S	CARTARIO	PAPER MILLS	Бумажное производство
	Avvolgitori, essiccatrici, pressatrici, Mescolatrici, estrusori, addensatrici Tagliatrici, lucidatrici	<i>Winders, dryers, couch rolls Mixers, extruders, thickeners Cutters, glazing cylinders</i>	Машины для намотки, сушилки Экструдеры, смесители ,сгустители Режущий инструмент
S M	CHIMICO	CHEMICAL	Химическая
	Estrusori, stampatrici Importatrici	<i>Extruders, printing presses Mixers</i>	Экструдеры, печатные прессы Мешалки.
U M M	COMPRESSORI	COMPRESSORS	Компрессоры
	Centrifughi Rotativi Assiali	<i>Centrifugal Rotating Axial piston</i>	Центробежные Ротационные Поршневые
M S	DRAGHE	DREDGES	Экскаваторы
	Trasportatori Estrattrici, teste fresatrici	<i>Conveyors Extractors, cutter head drives</i>	Ковшовые конвейеры Экстракторы, привод реза (головки)
M M S	EDILIZIA	BUILDING	Строительство
	Betoniere, coclee Frantoi, dosatrici Frantumatrici	<i>Cement mixers, screw feeders Crushers, batchers Stone breakers</i>	Бетономешалки Дробилки Камнедробилки
U M M	ELEVATORI	ELEVATORS	Элеваторы
	A nastro, scale mobili A tazza, montacarichi, skip Ascensori, ponteggi mobili	<i>Belt type, escalators Bucket conveyors, hoists, skip hoists Public lifts, mobile scaffolding</i>	Транспортер,эскалаторы Ковшовые конвейеры Лифты, фуникулеры, подмости
M M (1)U,M	GRU	CRANES	КРАНЫ
	Traslazione Rotazione Sollevamento	<i>Translation Slew Lifting</i>	Перемещение Поворот Подъем
M M M	LEGNO	WOOD	ДЕРЕВООБРАБАТЫВАЮЩАЯ
	Accatastatori Trasportatori Seghe, piallatrici, fresatrici	<i>Stackers Transporters Saws, thicknessers, routers</i>	Накопители Транспортеры Пилы, питатели, маршрутизаторы
M M S	MACCHINE UTENSILI	MACHINE TOOLS	СТАНКИ
	Alesatrici, brocciatrici, cesoiatrici Piegatrici, stampatrici Magli, laminatoi	<i>Boring machines, broaching machines, shearing machines Bending machines, press forgers Power hammers, rolling mills</i>	Бурильные машины, протяжные Ножницы, Пилы, питатели, маршрутизаторы Сгибающие машины, прессформы
U M	MESCOLATORI-MISCELATORI	MIXERS	МИКСЕРЫ
	Con densita uniforme Con densita non uniforme	<i>Uniform density product Variable density product</i>	Однородный продукт Неоднородный продукт
S M	MOVIMENTO TERRA	EARTH MOVING MACHINERY	ЭКСКАВАТОРЫ
	Escavatrici rotative a pale Trasportatori	<i>Rotating shovel excavators Transporters</i>	Бурильные установки Транспортеры
U M,S M,S	POMPE	PUMPS	НАСОСЫ
	Centrifughe Volumetriche a doppio effetto Volumetriche a semplice effetto	<i>Centrifugal Double acting volumetric Single acting volumetric</i>	Центрифуги Двухкамерные Двухкамерные
U M	TRASPORTATORI	CONVEYORS	Конвейеры
	Su rotaie A nastro	<i>On rails Belts</i>	Железнодорожные Ременные
M M U	TRATTAMENTO ACQUE	WATER TREATMENT	ВОДНАЯ ОБРАБОТКА
	Coclee, trituratori Mescolatori, decantatori Ossigenatori	<i>Screw feeders, disintegrators Mixers, settlers Oxygenators</i>	Пищевые экструдеры Миксеры, дробилки Оксидженатор
U M	VENTILATORI	FAN UNITS	ВЕНТИЛЯТОРЫ
	Di piccole dimensioni Di grandi dimensioni	<i>Small Large</i>	Малые Большие

Fattore correttivo - f_v

Fattore correttivo del fattore di servizio f_s per tenere conto degli avviamenti/ora. Il fattore di servizio f_s deve aumentare in caso di avviamenti frequenti con coppia di spunto notevolmente maggiore di quella di regime tenendo conto degli avviamenti per ora secondo la seguente tabella.

f_v

Duty cycle factor - f_v

This correction factor is used to adjust service f_s to reflect the number of starts per hour. Where an application involves frequent starts at a starting torque significantly greater than running torque, service factor f_s must be adjusted to account for the number of starts per hour using the factors indicated in following table.

Avv/h - Starts/hour - Старт/час	U	M	S
$Z \cdot 5$	1	1	1
$5 < Z \cdot 30$	1.2	1.12	1.06
$30 < Z \cdot 63$	1.33	1.2	1.12
$Z > 63$	1.5	1.33	1.2

Фактор цикличности нагрузки - f_v

Этот поправочный коэффициент используется для корректировки фактора F_s чтобы отобразить кол-во запусков за час. В тех случаях, когда применение содержит частые запуски, а пусковой момент значительно больше, чем номинальный крутящий момент фактор F_s должен быть скорректирован с учетом числа запусков в час, используя данные, указанные в Табл.

Fattore affidabilita - f_{Ga}

Un margine di sicurezza o di affidabilita f_{Ga} gia inserito nella prestazione di catalogo del riduttore. Se per particolari esigenze e necessaria un' affidabilita maggiore si aumenti il fattore di servizio ed in particolare si put dare i seguenti fattori:
 Grado di affidabilita normale: $f_{Ga} = 1$;
 Grado di affidabilita elevato (difficolta di manutenzione, grande importanza del riduttore nel ciclo produttivo, sicurezza per le persone, ecc...): $f_{Ga} = 1.25 - 1.4$;
 Non occorre introdurre coefficienti correttivi nel caso che si alternino cicli di funzionamento con carichi applicati nei due sensi, poichu se ne e gia tenuto conto nel progetto degli ingranaggi.

Safety factor - f_{Ga}

*Catalogue ratings incorporate a safety or reliability factor as standard. If greater reliability is required to meet specific requirements, service factor must be increased using the following factors:
 Standard safety factor: $f_{Ga} = 1$;
 High safety factor (recommended for difficult maintenance situations, where gear unit performs a critical task in the over all production process or a task such to affect the safety of people, etc...): $f_{Ga} = 1.25 - 1.4$;
 Applications with alternating duty cycles where load is applied in both directions have been considered in gear calculations and require no correction factors.*

Коэффициент безопасности- f_{Ga}

Каталог содержит стандартные коэфф. безопасности и надёжности. Если необходима большая безопасность, необходимая для удовлетворения конкретных потребностей, то сервис-фактор F_s должен быть увеличен с помощью след. факторов: Стандартный фактор безопасности $f_{Ga}=1$
 Высокий коэффициент безопасности (рекомендуется для работы в сложных ситуациях, для влияния на безопасность людей и т.д.): $f_{Ga} = 1.25 - 1.4$;
 Применения с периодически чередующимися циклами, где нагрузка происходит в обоих направлениях не требуют поправочного коэффициента.

Procedura di selezione

Conosciuti i dati dell'applicazione calcolare:

- $i = n_1/n_2$ rapporto richiesto

- potenza nominale:

$$P_N \cdot P_1 \times f_s \times f_v \times f_{Ga}$$

oppure

- coppia nominale:

$$T_N \cdot T_2 \times f_s \times f_v \times f_{Ga}$$

Scegliere gli stadi, il rapporto, la grandezza, l'esecuzione, la forma costruttiva e verificare le dimensioni del riduttore e di eventuali accessori o particolari estremita.

Selection procedure

Locate application information and determine:

- required ratio $i = n_1/n_2$

- nominal power:

$$P_N \cdot P_1 \times f_s \times f_v \times f_{Ga}$$

or

- nominal torque:

$$T_N \cdot T_2 \times f_s \times f_v \times f_{Ga}$$

Select number of stages, ratio, size, shaft arrangement and design configuration and then check the dimensions of gear unit and any accessories or particular input/output configurations you have selected.

Процедура подбора

Выберите область применения и определите:

- передаточное отношение $i = n_1/n_2$

- номинальную мощность:

$$P_N \cdot P_1 \times f_s \times f_v \times f_{Ga}$$

или

- Номинальный крутящий момент :

$$T_N \cdot T_2 \times f_s \times f_v \times f_{Ga}$$

Выберите число ступеней, передаточное отношение, размер, вариант сборки, а затем проверьте размеры редуктора дополнительные опции или особенности входа\выхода, выбранного вами.



1.3 Verifiche

1) Compatibilità dimensionale con ingombri disponibili (es diametro del tamburo) e delle estremità d'albero con giunti, dischi o pulegge.

2) Compatibilità del rapporto selezionato con l'esecuzione albero cavo.

3) Ammissibilità di carichi radiali e/o assiali esterni; carichi radiali F_{r1} e F_{r2} ammissibili sono riportati nelle tabelle delle prestazioni e si intendono applicati in mezzzeria dell'estremità dell'albero. Per condizioni diverse consultare la pag. H15.

6) Verifica posizione di montaggio

7) Adeguatezza della potenza termica del riduttore:

Nel caso di solo riduttore in servizio continuo o intermittente gravoso in ambienti a temperatura elevata e/o con difficoltà di scambio termico (es. acciaierie) è necessario verificare che la potenza termica nominale corretta dai fattori sia superiore alla potenza assorbita come evidenziato nella seguente equazione:

1.4 Verification

1) *Ensure that dimensions are compatible with space constraints (for instance, drum diameter) and shaft ends are compatible with any couplings, discs or pulleys to be used.*

2) *Ensure that selected ratio is available for the hollow shaft configuration.*

3) *Check that overhung and/or thrust loads do not exceed permissible loads; permissible overhung loads F_{r1} and F_{r2} at midpoint of shaft extension are listed in the rating tables. For any conditions other than those listed above, please read page H15.*

6) *Check mounting position*

7) *Ensure gear unit thermal power is suitable for the application:*

If a gear unit is to be used in continuous or intermittent duty in environments where high temperatures and/or poor heat exchange are encountered (such as steel-works), check to ensure the thermal power obtained after application of the relevant correction factors is greater than absorbed power, i.e. that the following condition is verified:

1.4 Проверка правильности выбора

1) Убедитесь, в совместимости габаритных размеров с местом установки, также конца валов с муфтами, дисками или шкивами.

2) Убедитесь, что для выбранного передаточного числа доступна конфигурация полого вала.

3) Убедитесь, что нагрузка и/или осевая нагрузка, не превышает допустимую; допустимая нагрузка F_{r1} и F_{r2} на середину вала указана в таблице. Для условий не перечисленных выше обратитесь на стр. H15

6) Проверьте монтажное положение

7) Убедитесь, что термическая мощность редуктора подходит для условий эксплуатации: если редуктор будет работать постоянно или периодически, то необходимо следить за сохранностью окружающей среды, в местах где встречаются высокие температуры и/или плохой теплообмен (например металлургия). Проверьте термическую мощность полученную после применения соответствующих поправочных коэффициентов:

$$P_1 \cdot P_{tN} \cdot fa \cdot fd \cdot fp \cdot ff \text{ [kW]}$$

Dove:

P_{tN} = potenza termica nominale
 fa = fattore correttivo dell'altitudine
 fd = fattore correttivo del tempo di lavoro
 fp = fattore correttivo della temperatura ambiente
 ff = fattore di aerazione

Where:

P_{tN} = thermal power rating
 fa = altitude factor
 fd = operation time factor
 fp = ambient temperature factor
 ff = aeration factor

Где:

P_{tN} = фактор термической мощности
 fa = фактор геодезической высоты
 fd = фактор времени операции
 fp = фактор температуры окружающей среды
 ff = фактор охлаждения

Qualora tale condizione non si avverifica a ta occorre consultarci.

In case such operation condition is not verified please get in touch with us.

В случае, если данное условие не проверяется, пожалуйста, свяжитесь с нами.

P_{tN} [kW]

N° stadi No. of reductions Число ступеней	RXP				RXO			
	704	708	712	716	704	708	712	716
1	14	20	30	48	6	8.5	13.5	18
2	—	18	27	40	—	11	16	22
3	—	12	19	25	—	—	—	—

f_a

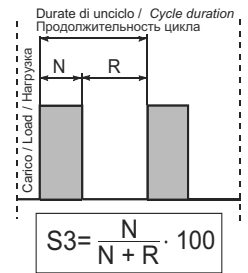
Fattore correttivo dell'altitudine
Altitude factor
Фактор геодезической высоты

m	0	750	1500	2250	3000
f_a	1	0.95	0.90	0.85	0.81

f_d

Fattore correttivo del tempo di lavoro
Operation time factor
Фактор времени операции.

S3%	f_d
100	1
80	1.05
60	1.15
40	1.35
20	1.8



f_p

Fattore correttivo della temperatura ambiente.
Ambient temperature factor.

Диапазон рабочих температур.

Temperatura ambiente <i>Ambient temperature</i> Диап. рабочих температур	50 °C	40 °C	30 °C	20 °C	10 °C	0 °C
f_p	0.63	0.75	0.87	1	1.12	1.25

f_f

Fattore di aerazione

Aeration factor.

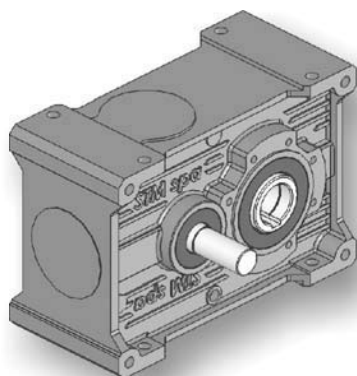
Фактор охлаждения

f_f	1	Riduttore senza ventilazione forzata <i>Non ventilated gearbox</i> Не вентилируемый редуктор
	1.4	Riduttore con ventilazione forzata <i>Gearbox with forced ventilation</i> Редуктор с принудительной вентиляцией

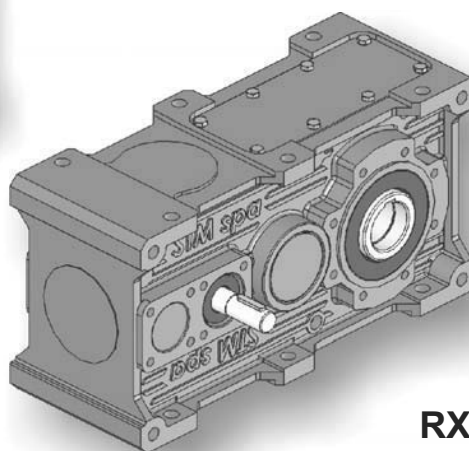
2.0 RIDUTTORI - MOTORIDUTTORI PARALLELI RXP
PARALLEL SHAFT GEARBOXES AND GEARED MOTORS RXP
ЦИЛИНДРИЧЕСКИЕ РЕДУКТОРЫ И МОТОР-РЕДУКТОРЫ RXP

RXP

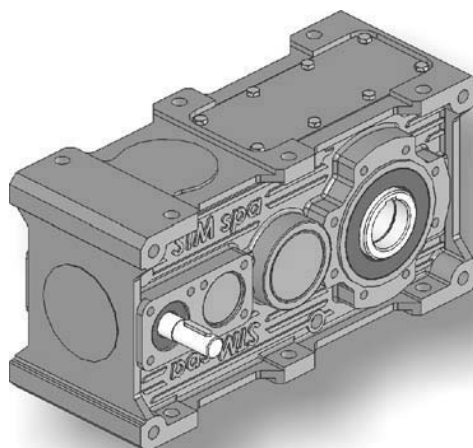
RXP1



RXP2



RXP3



RX700

2.1 Designazione

2.1 Designation

2.1 Маркировка

	[1*]	[2*]	[3*]	[4*]	[5*]	[6*]	[7*]	[8*]	[9*]	[10*]	[11*]
RX	P	2	702	C1	10	ECE	ARB	C	Fd	M1	
Macchina Range Тип	Posizione assi Centreline orientation Расположение осей	N° stadi No. of Reductions Число ступеней	Grandezza Size Размер	Esecuzione grafica Shaft arrangement Расположение вала	Ir	Estremità entrata Input configuration Входная конфигурация	Antiretro Backstop Антиреверс	Estremità uscita Output configuration Выходная конфигурация	Flangia uscita Output flange Выходной фланец	Posizione di montaggio Mounting position Монт. положение	Opzioni Option Опции
RX	P	1 2 3	704 708 712 716	A-B AUD- BUS ABU- BBU C1-C2 C1D-C2S ABE-BBE-BEU C3-C3D ⁽¹⁾	10	ECE PAM.. PAM..G	ARB ARN	- (N) - (C) - (UB) C.. B..	— F	M1 M2 M3 M4 M5 M6	

⁽¹⁾ ABE - BBE - BEU - C3 - C3D: esecuzioni grafiche a richiesta / Shaft arrangements on request / Расположения валов по запросу

Designazione motore elettrico

Electric motor designation

Обозначение электродвигателей

Se si richiede un motoriduttore completo di motore e necessario riportare la designazione di quest'ultimo.
A tale proposito consultare il ns. catalogo dei motori elettrici Electronic Line.

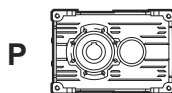
For applications requiring a gearmotor, motor designation must be specified.
To this end, please refer to our Electronic Line electric motor catalogue.

В случае исполнения мотор-редуктора должна быть указана маркировка мотора.
Для этого необходимо обратиться к каталогу электродвигателей.

[*1] Posizione assi

[*1] Centreline orientation

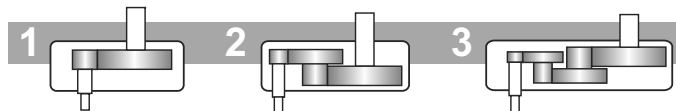
[*1] Расположение осей



[*2] N° stadi

[*2] No. of Reductions

[*2] Число ступеней



[*4] Esecuzione grafica

[*4] Shaft arrangement

[*4] Расположение валов

(vedi pag. dimensionali)

(please refer to dimension pages)

(обратитесь к таблице размеров)

[*5] Rapporto di riduzione ir

[*5] Reduction ratio ir

[*5] Передаточное число ir

(Vedi prestazioni). Tutti i valori dei rapporti sono approssimati. Per applicazioni dove necessita il valore esatto consultare il ns. servizio tecnico.

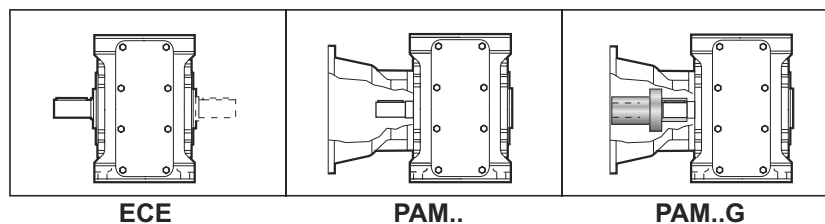
(See ratings). Ratios are approximate values. If you need exact values for a specific application, please contact our Engineering.

(См. таблицу) Представлены номинальные значения. Если Вам необходимо конкретное значение для конкретного применения, пожалуйста, свяжитесь с нашими инженерами.

[*6] Estremità entrata

[*6] Input configuration

[*6] Входная конфигурация



	RXP1	RXP2 RXP3			
ECE			Entrata con albero pieno	Solid input shaft	Цилиндрический вал
PAM..			Con campana senza giunto	Motor bell without coupling	Соединение мотора без муфты
PAM..G			Con campana e giunto	Motor bell and coupling	Соединение мотора с муфтой

[*7] Antiretro

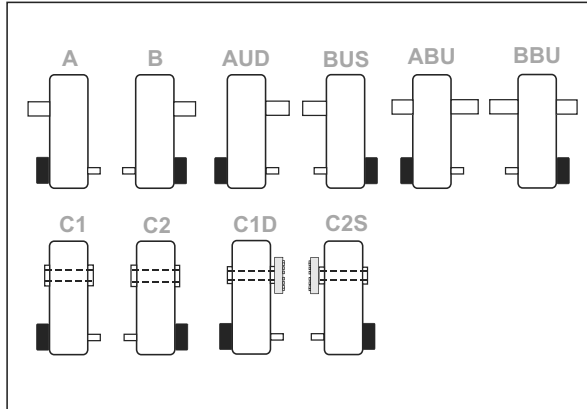
Indicare nella richiesta il senso di rotazione libero necessario riferendosi all'albero lento (freccia nera e bianca, vedere esecuzioni grafiche nelle pagine dimensionali).

[*7] Backstop

Specify the required direction of free rotation as viewed from output shaft end (black and white arrow, see shaft arrangements in dimension pages).

[*7] Антиреверс

Укажите направление свободного вращения как изображено, со стороны конца выходного вала (черная и белая стрелки, см. исполнения валов на страницах размеров)



↑ **ARB**

Rotazione libera freccia bianca (B)
Free rotation - white arrow (B)
Свободное вращение-белая стрелка (B)

↑ **ARN**

Rotazione libera freccia nera (N)
Free rotation - black arrow (N)
Свободное вращение-черная стрелка (N)

[*8] Estremità uscita

[*8] Output Configuration

[*8] Выходная конфигурация

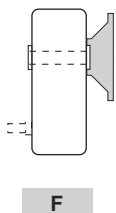
N	— (C) Standard C.. Opzionale/Optional/Необязат.	UB	B

Per ulteriori informazioni vedere la sezione "Estremità entrata, uscita" (H48).
Please read Section "Input and Output Configurations" (H48) for more details.
Ознакомьтесь с главой "Конфигурации входных и выходных валов" (H48).

[*9] Flangia uscita

[*9] Out put flange

[*8] Выходной фланец



—	Senza Flangia	Without flange	Без фланца
F	Flangia in uscita: Fornita SEMPRE opposta a configurazione presente in entrata.		

[*10] Posizioni di montaggio

(vedi pag. H14)

[*10] Mount ing positions

(see page H14)

[*10] Монтажные положения

(см. страницу H14)

[*11] Opzioni disponibili

(vedi pag. H51)

[*11] Available options

(see page H51)

[*11] Доступные опции

(см. страницу H51)

2.2 Lubrificazione

Gli oli disponibili appartengono generalmente a tre grandi famiglie:

- 1) Oli minerali
- 2) Oli sintetici Poli-Alfa-Olefine
- 3) Oli sintetici Poli-Glicole

La scelta più appropriata è generalmente legata alle condizioni di impiego. riduttori non particolarmente caricati e con un ciclo di impiego discontinuo, senza escursioni termiche importanti, possono certamente essere lubrificati con olio minerale.

Nei casi di impiego gravoso, quando i riduttori saranno prevedibilmente caricati molto ed in modo continuativo, con conseguente prevedibile innalzamento della temperatura, è bene utilizzare lubrificanti sintetici tipo polialfaolefine (PAO).

Gli oli di tipo poliglicole (PG) sono da utilizzare strettamente nel caso di applicazioni con forti strisciamenti fra i contatti, ad esempio nelle viti senza fine. Debbono essere impiegati con grande attenzione poiché non sono compatibili con gli altri oli e sono invece completamente miscibili con l'acqua. Questo fenomeno è particolarmente pericoloso poiché non si nota, ma deprime velocemente le caratteristiche lubrificanti dell'olio.

Oltre a questi già menzionati, ricordiamo che esistono gli oli per l'industria alimentare. Questi trovano specifico impiego nell'industria alimentare in quanto sono prodotti speciali non nocivi alla salute. Vari produttori forniscono oli appartenenti a tutte le famiglie con caratteristiche molto simili. Più avanti proponiamo una tabella comparativa.

2.2 Lubrication

Available oils are typically grouped into three major classes:

- 1) Mineral oils
- 2) Poly-Alpha-Olefin synthetic oils
- 3) Polyglycol synthetic oils

Oil is normally selected in accordance with environmental and operating conditions. Mineral oil is the appropriate choice for moderate load, non-continuous duty applications free from temperature extremes.

In severe applications, where gear units are to operate under heavy loads in continuous duty and high temperatures are expected, synthetic Poly-Alpha-Olefin oils (PAO) are the preferred choice.

Polyglycol oils (PG) should only be used in applications involving high sliding friction, as is the case with worm shafts. These particular oils should be used with great care, as they are not compatible with other oils, but are totally mixable with water. The oil mixed with water can not be told from uncontaminated oil, but will degrade very rapidly.

In addition to the oils mentioned above, there are food-grade oils. These are special oils harmless to human health for use in the food industry. Oils with similar characteristics are available from a number of manufacturers. A comparative overview table is provided at the next pages.

2.2 Смазка

Используемые масла делятся на три группы:

- 1) Минеральные масла
- 2) Поли-Альфа-Олефиновые синт. масла
- 3) Полиглицоловые синтетические масла

Масла обычно выбираются в согласии с условиями окружающей среды и условиями эксплуатации. Минеральные масла подходят для умеренных, периодических нагрузок, без экстремальных температурных значений. В суровых условиях, когда редукторы работают в условиях тяжелых нагрузок в постоянном режиме и при высоких температурах синтетическое Поли-Альфа-Олефиновые масла (ПАО) являются предпочтительными.

Полиглицоловые масла (ПГ) должны использоваться только в приложениях связанных с высоким уровнем трения скольжения, как в случае с червячным валом. Это особое масло должно использоваться с особой осторожностью, потому что оно не совместимо с другими маслами, хотя полностью растворимо в них.

В дополнение к маслам упомянутым выше есть "пищевой" класс масел. Эти масла безвредны для человеческого организма и могут быть использованы в пищевой промышленности. Масла со схожими характеристиками доступны у большого числа производителей. Сравнительные таблицы находятся на следующих страницах.

Входная скорость n_1 (min .r)	Потребляемая мощность (kW)	Систем смазки	Вязкость ISO VG at 40° (cSt)	
			i · 10	i > 10
2000 < n_1 · 5000	P < 7.5	Forced or Oil splash	68	68
	7.5 · P · 22		68	150
	P > 22		150	220
1000 < n_1 · 2000	P < 7.5	Forced or Oil splash	68	150
	7.5 · P · 37		150	220
	P > 37		220	320
300 < n_1 · 1000	P < 15	Forced Oil splash	68	150
	15 · P · 55		150	220
		220	320	
		Forced Oil splash	220	320
	320		460	
50 < n_1 · 300	P < 22	Forced Oil splash	150	220
	22 · P · 75		220	320
		320	460	
		Forced Oil splash	320	460
	P > 75		460	680

Se la temperatura ambiente $T < 0^{\circ}\text{C}$ ridurre di una gradazione la viscosità prevista in tabella, viceversa aumentarla di una se $T > 40^{\circ}\text{C}$.

If the environment temperature $T < 0^{\circ}\text{C}$, decrease viscosity class by one, vice versa increase by one if $T > 40^{\circ}\text{C}$.

Если температура окружающей среды $< 0^{\circ}\text{C}$ уменьшите вязкость масла на один. и увеличьте в обратном случае, например, если $T > 40^{\circ}\text{C}$

Le temperature ammissibili per gli oli minerali sono:
($-10 = T = 90$) $^{\circ}\text{C}$ (fino a 100°C per periodi limitati).

Permissible temperatures for mineral oil are:
($-10 = T = 90$) $^{\circ}\text{C}$, up to 100°C for a short time.

Допустимые температуры для мин. масла:
($-10 = T = 90$) $^{\circ}\text{C}$, до 100°C на короткий период.

Le temperature ammissibili per gli oli sintetici sono:
($-20 = T = 110$) $^{\circ}\text{C}$ (fino a 120°C per periodi limitati).

Permissible temperatures for synthetic oil are:
($-20 = T = 110$) $^{\circ}\text{C}$, up to 120°C for a short time.

Допустимые температуры для синт. масла:
($-20 = T = 110$) $^{\circ}\text{C}$ до 120°C на короткий период.

Per temperature dell'olio esterne a quelle ammissibili per il minerale e per aumentare l'intervallo di sostituzione del lubrificante adottare olio sintetico a base di polialfaolefine.

If the oil temperature is not permissible for mineral oil and for decreasing frequency of oil change, use synthetic oil with polyalphaolefins (PAOs).

Если температура масла не допустима для мин. масла и если значительно увеличились случаи смены масла, используйте синтетические масла с Поли-Альфа-Олефинами.

Produttore Manufacturer Изготовитель	Oli Minerali Mineral oils Минеральные масла			Oli Sintetici Polialfaolefine (PAO) Poly-Alpha-Olefin synthetic oils (PAO) Поли-Альфа-Олефиновые масла(ПАО)			Oli Sintetici Poliglicoli (PG) Polyglycol synthetic oils(PG) Полигликолевые масла(ПГ)		
	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG
	150	220	320	150	220	320	150	220	320
AGIP	Blasia 150	Blasia 220	Blasia 320	-	Blasia SX 220	Blasia SX 320	Blasia S 150	Blasia S 220	Blasia S 320
ARAL	Degol BG 150 Plus	Degol BG 220 Plus	Degol BG 320 Plus	Degol PAS 150	Degol PAS 220	Degol PAS 320	Degol GS 150	Degol GS 220	Degol GS 320
BP	Energol GR-XP 150	Energol GR-XP 220	Energol GR-XP 320	Energol EPX 150	Energol EPX 220	Energol EPX 320	Energol SG 150	Energol SG-XP 220	Energol SG-XP 320
CASTROL	Alpha SP 150	Alpha SP 220	Alpha SP 320	Alphasyn EP 150	Alphasyn EP 220	Alphasyn EP 320	Alphasyn PG 150	Alphasyn PG 220	Alphasyn PG 320
CHEVRON	Ultra Gear 150	Ultra Gear 220	Ultra Gear 320	Tegra Synthetic Gear 150	Tegra Synthetic Gear 220	Tegra Synthetic Gear 320	HiPerSYN 150	HiPerSYN 220	HiPerSYN 320
ESSO	Spartan EP 150	Spartan EP 220	Spartan EP 320	Spartan S EP 150	Spartan S EP 220	Spartan S EP 320	Glycolube 150	Glycolube 220	Glycolube 320
KLBBER	Klbbberoil GEM 1-150	Klbbberoil GEM 1-220	Klbbberoil GEM 1-320	Klbbbersynth EG 4-150	Klbbbersynth EG 4-220	Klbbbersynth EG 4-320	Klbbbersynth GH 6-150	Klbbbersynth GH 6-220	Klbbbersynth GH 6-320
MOBIL	Mobilgear XMP 150	Mobilgear XMP 220	Mobilgear XMP 320	Mobilgear SHC XMP 150	Mobilgear SHC XMP 220	Mobilgear SHC XMP 320	Glygoyle 22	Glygoyle 30	Glygoyle HE320
MOLIKOTE	L-0115	L-0122	L-0132	L-1115	L-1122	L-1132	-	-	-
OPTIMOL	Optigear BM 150	Optigear BM 220	Optigear BM 320	Optigear Synthetic A 150	Optigear Synthetic A 220	Optigear Synthetic A 320	Optiflex A 150	Optiflex A 220	Optiflex A 320
Q8	Goya 150	Goya 220	Goya 320	El Greco 150	El Greco 220	El Greco 320	Gade 150	Gade 220	Gade 320
SHELL	Omala 150	Omala 220	Omala 320	Omala HD 150	Omala HD 220	Omala HD 320	Tivela S 150	Tivela S 220	Tivela S 320
TEXACO	Meropa 150	Meropa 220	Meropa 320	Pinnacle EP 150	Pinnacle EP 220	Pinnacle EP 320	-	Synlube CLP 220	Synlube CLP 320
TOTAL	Carter EP 150	Carter EP 220	Carter EP 320	Carter SH 150	Carter SH 220	Carter SH 320	Carter SY 150	Carter SY 220	Carter SY 320
TRIBOL	1100/150	1100/220	1100/320	1510/150	1510/220	1510/320	800/150	800/220	800/320

Lubrificanti sintetici per uso alimentare / Food-grade synthetic lubricants / Синтетические масла для пищевой промышленности

AGIP				Rocol Foodlube Hi-Torque 150	—	Rocol Foodlube Hi-Torque 320			
ESSO				—	Gear Oil FM 220	—			
KLBBER				Klbbberoil 4 UH1 N 150	Klbbberoil 4 UH1 N 220	Klbbberoil 4 UH1 N 320			
MOBIL				DTE FM 150	DTE FM 220	DTE FM 320			
SHELL				Cassida Fluid GL 150	Cassida Fluid GL 220	Cassida Fluid GL 320			

Nella tabella sottostante riportiamo gli intervalli di sostituzione del lubrificante consigliati, validi indicativamente in assenza di inquinamento esterno e di sovraccarichi. Informazioni più precise potranno ottenersi dal proprio fornitore di lubrificanti ad esempio attraverso analisi periodiche dell'olio.

Table for suggested oil change intervals indicatively valid in absence of pollution and overload, is reported below. More precise information can be obtained by your lubricant supplier for example through periodical analysis of the oil.

Таблица с предположительной частотой смены масла, при отсутствии вероятности загрязнения окружающей среды и перегрузок, перечислены ниже. Больше необходимой информации можно получить у вашего поставщика, например через периодический анализ смены масла.

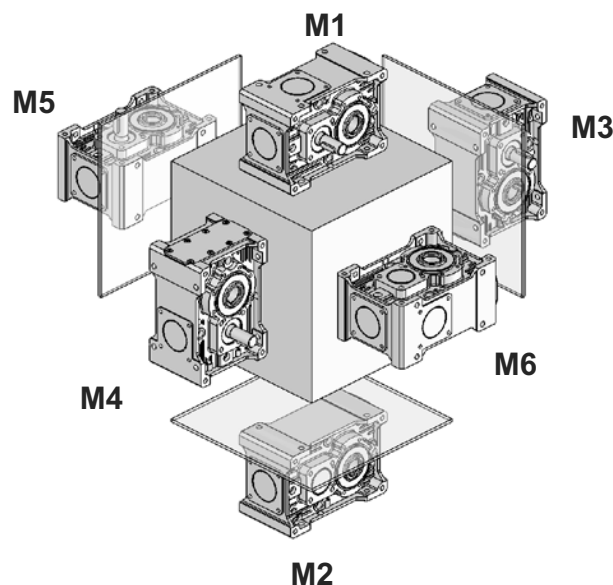
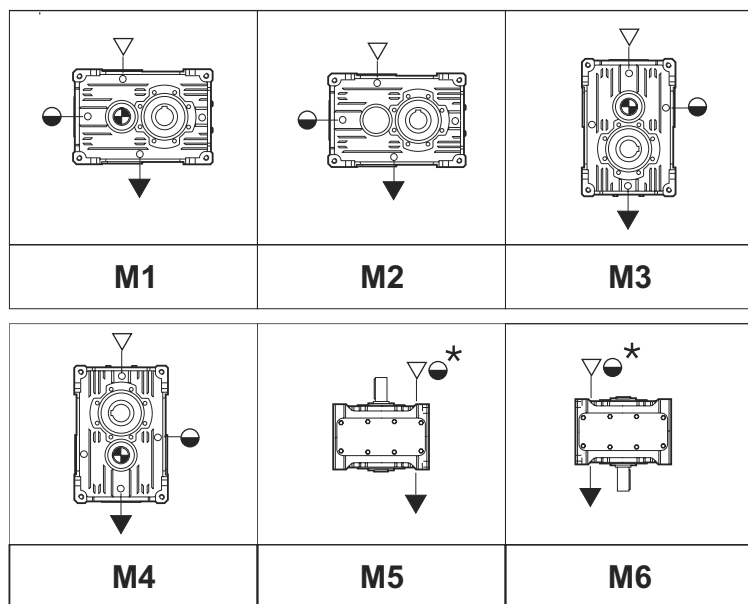
Frequenza cambi olio [h] - Oil change intervals [h] - Интервалы смены масла [ч]

Tipo olio Oil type Тип масла	Temperatura olio - Oil temperature - Температура масла		
	65°C	80°C	90°C
Minerale <i>Minera</i> Минеральное	8000	3000	1000
Sintetico <i>Synthetic</i> Синтетическое	20000	15000	9000

Posizioni di montaggio

Mounting positions

Монтажные положения



N.B. schema rappresentativo anche per 2 e 3 stadi
 NOTE: Diagram applies to double and triple reduction units as well
 Примечание: Схема также относится к двухступенчатым и трехступенчатым редукторам.

L'esecuzione grafica rappresentata è la A.
 Per le altre esecuzioni grafiche vedere sezione POSIZIONI MONTAGGIO.
 The noted version is A.
 To see further alternatives please refer to section MOUNTING POSITIONS.
 Указана сборка А.
 Чтобы увидеть дальнейшие альтернативы обратитесь к главе "Монтажные положения".

- * Fare riferimento al quantitativo
- * Please refer to the quantity
- * Обратите внимание на количество

- ▽ Carico / Filler plug / Заливная пробка
- ▼ Scarico / Drain plug / Сливная пробка
- Livello / Level plug / Пробка уровня

Quantità di lubrificante / Lubricant quantity / Количество масла [Kg]										
		Posizione di montaggio Mounting position Монтажное положение						Stato di fornitura State of supply Состояние подачи	N° tappi No. of plugs Количество пробок	Posizione di montaggio Mounting position Монтажное положение
		M1	M2	M3	M4	M5	M6			
RXP1	704	0.600						Riduttori forniti completi di lubrificante sintetico Gearboxes supplied with synthetic oil Коробки передач с подачей синтетических масел	8	Non necessaria Not necessary Необязательно
	708	1.00	1.00	1.40	1.20	1.30	1.30			
	712	2.10	2.10	2.50	2.50	2.60	2.60			
	716	4.00	4.00	4.40	4.40	4.50	4.50			
RXP2	708	1.10	1.10	1.40	1.40	1.20	1.20	Riduttori predisposti per lubrificazione ad olio* Gearboxes supplied ready for oil lubrication Коробки передач с подачей маслянной смазки	8	Necessaria Necessary Обязательно
	712	2.20	2.20	2.50	2.50	2.60	2.60			
	716	-	-	-	-	-	-			
RXP3	708	1.10	1.10	1.40	1.40	1.20	1.20			
	712	2.15	2.15	2.50	2.50	2.60	2.60			
	716	-	-	-	-	-	-			

Le quantità di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

Количество масла указанное в таблице приблизительно; чтобы гарантировать требуемое количества масла ориентируйтесь по показателю уровня на редукторе

*Su richiesta possono essere forniti completi di lubrificante sintetico del tipo Tivela Oil S320 (Shell).

*On request they can be supplied oil filled with synthetic lubricant Tivela Oil S320 by Shell.

По запросу они могут поставляться заправленные синтетическим маслом Trivella S320 (Shell).

ATTENZIONE

Il tap po di sfiato и allegato solo nei riduttori che hanno piц di un tappo olio.

Eventuali forniture con predisposizioni tаpi diverse da quella indicata in tabella, dovranno essere concordate.

Nei riduttori dove и necessario specificare la posizione di montaggio, la posizione richiesta и indicata nella targhetta del riduttore.

WARNING

A breather plug is supplied only with gearboxes that have more than one oil plug.

The supply of gearboxes with different plug pre-arrangements has to be agreed with the manufacturer.

The gearboxes that need a specific assembling position have the indication of it on the label of the gearbox.

ОСТОРОЖНО

Перепускная пробка поддерживается редукторами с несколькими пробками.

Поддержка коробок передач с различными расположениями пробок должна согласовываться с производителем.

Коробки передач, которым нужно специальное монтажное положение имеют данные указания на наклейке редуктора

2.3 Carichi radiali e assiali

Come carico assiale ammissibile contemporaneo si ha:

$$F_{a1-2} = 0.2 \times F_{r1-2}$$

I carichi radiali indicati nelle tabelle si intendono applicati a meta della sporgenza dell'albero standard e sono riferiti ai riduttori operanti con fattore di servizio 1. Per le sporgenze fornite in alternativa, fare riferimento alla sporgenza standard.

Valori intermedi relativi a velocita non riportate possono essere ottenuti per interpolazione considerando perche F_{r1} a 500 min^{-1} e F_{r2} a 15 min^{-1} rappresentano i carichi massimi consentiti.

Per i carichi non agenti sulla mezzeria dell'albero lento o veloce si ha:

a 0.3 della sporgenza:

$$F_{rx} = 1.25 \times F_{r1-2}$$

a 0.8 dalla sporgenza:

$$F_{rx} = 0.8 \times F_{r1-2}$$

2.3 Axial and overhung loads

Contemporary permissible axial load is given by the following formula:

$$F_{a1-2} = 0.2 \times F_{r1-2}$$

The radial loads shown in the tables are applied on the centre line of the standard shaft extension and are related to gearboxes working with service factor 1. With reference to alternative values of shaft extension, refer to standard shaft extension.

Intermediate values of speeds that are not listed can be obtained through interpolation but it must be considered that F_{r1} at 500 min^{-1} and F_{r2} at 15 min^{-1} represent the maximum allowable loads.

For loads which are not applied on the centre line of the output or input shaft, following values will be obtained:

at 0.3 from extension:

$$F_{rx} = 1.25 \times F_{r1-2}$$

at 0.8 from extension:

$$F_{rx} = 0.8 \times F_{r1-2}$$

2.3 Осевая и внешняя радиальная нагрузка

Допустимая нагрузка определяется по данной формуле:

$$F_{a1-2} = 0.2 \times F_{r1-2}$$

Радиальная нагрузка указанная в таблице применяется к середине вала и связана с коробкой передач с сервис фактором 1. С отношением к альтернативным исполнениям вала, относительно стандартных исполнений вала. Промежуточные значения скорости, не перечисленные выше, могут быть получены путем интерполяции, но надо учитывать, что F_{r1} на 500 min^{-1} и F_{r2} на 15 min^{-1} являются максимальной допустимой нагрузкой.

Для нагрузок не применяемых к центру входного или выходного вала, подойдут следующие значения:

на 0.3 от удлинения:

$$F_{rx} = 1.25 \times F_{r1-2}$$

на 0.8 от удлинения:

$$F_{rx} = 0.8 \times F_{r1-2}$$



Calcolo Fr

Per calcolare il carico Fr agente sull'albero lento diamo formule approssimate per alcune trasmissioni piú comuni, per la determinazione del carico radiale su albero veloce o lento.

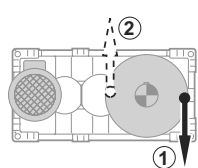
Fr calculation

Use the formula and the approximate factors for input or output overhung load determination referred to the most common drive members to calculate Fr load at output shaft.

Расчет Fr

Чтобы рассчитать радиальную Fr нагрузку на входной и выходной валы используйте ниже приведённые формулы и коэффициенты.

$Fr = k \cdot \frac{T}{d}$	Fr [N] Carico radiale approssimato Approximate overhung load Радиальная нагрузка	d [mm] Diametro pulegge, ruote Pulley diameter, wheels Диаметр шкива, колеса	k Fattore di collegamento Connection factor Тип соединения	T [Nm] Momento torcente Torque Крутящий момент	
k =	7000	5000	3000	2120	2000
Trasmissioni Drive member Ведущая деталь	Ruote di frizione (gomma su metallo) Friction wheel drive (rubber on metal) Трение колеса (резина по металлу)	Cinghie trapezoidali V belt drives Клиновой ременный привод	Cinghie dentate Toothed belts Зубчатый ремень	Ingranaggi cilindrici Spur gears Цилиндрическая передача	Catene Chain drives Цепной привод



Nel caso di sollevamento con tamburo con tiro verso il basso è preferibile che la fune si avvolga dalla parte opposta al motore (1).
Nel caso piú gravoso del precedente, con tiro verso l'alto, viceversa è preferibile che la fune si avvolga dal lato motore (2).

In lifting applications using winch drums in a downward pull direction, it is best for the rope to wrap on the side opposite to the motor (1).
In the more severe case of upward pull direction, the rope should wrap on motor side (2).

Если используется барабанная лебедка в низходящем направлении, то лучше всего обернуть тросом сторону противоположную мотору.
В более тяжелых условиях, например при поднятии, трос должен быть обернут на стороне мотора.

Verifiche

Caso A)
Per carichi radiali minori di $0.25Fr_1'$ o Fr_2' è necessario verificare soltanto che contemporaneamente al carico radiale sia presente un carico assiale non superiore a 0.2 volte Fr_1' o Fr_2' ;

Caso B)
Per carichi radiali maggiori di $0.25Fr_1'$ o Fr_2' ;
1) Calcolo abbreviato: $Fr(\text{input}) < Fr_1'$ e $Fr(\text{output}) < Fr_2'$ e che contemporaneamente al carico radiale sia presente un carico assiale non superiore a 0.2 volte Fr_1' o Fr_2' ;

2) Calcolo completo per il quale occorre fornire i seguenti dati:
- momento torcente applicato o potenza applicata
- n_1 e n_2 (giri al minuto dell'albero veloce e dell'albero lento)
- carico radiale Fr (direzione, intensità, verso)

Verification

Case A)
For overhung loads lower than $0.25 Fr_1'$ or Fr_2' , ensure that the thrust load applied simultaneously with OHL is not greater than 0.2 times Fr_1' or Fr_2' ;

Case B)
For overhung loads greater than $0.25 Fr_1'$ or Fr_2' ;
1) Quick calculation method: $Fr(\text{input}) < Fr_1'$ and $Fr(\text{output}) < Fr_2'$ and thrust load applied simultaneously with OHL not greater than 0.2 times Fr_1' or Fr_2' ;

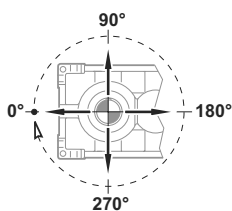
2) For the standard calculation method, the following information is required:
- applied torque or power
- n_1 and n_2 (input and output shaft min^{-1})
- overhung load Fr (orientation, amount of loading, direction)

Проверка

Вариант А)
Для радиал. нагрузки меньше, чем $0.25 Fr_1'$ или Fr_2' убедитесь, что осевая нагрузка применяемая одновременно с радиальной не больше, чем Fr_1' или Fr_2' в 0.2 раза.

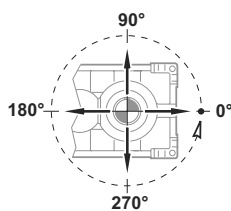
Вариант В)
Для рад. нагрузок больше, чем $0.25 Fr_1'$; Fr_2'
1) Быстрый метод расчета: $Fr(\text{вход}) < Fr_1'$ и $Fr(\text{на выход}) < Fr_2'$ и осевая нагрузка, применяемая одновременно с радиальной не больше, чем Fr_1' или Fr_2' в 0,2 раза.

2) Обычный метод расчета требует следующей информации:
- действующие нагрузки или мощность
- (обороты входного и выходного вала)
- радиальная нагрузка Fr (расположение, величина нагрузки, направление).

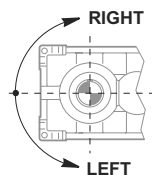


- senso di rotazione dell'albero

- size and type of selected gear unit

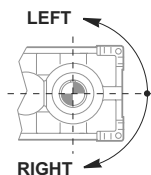


- размер и тип выбранного редуктора



- grandezza e tipo del riduttore scelto
- tipo olio impiegato e sua viscosità
- esecuzione grafica assi:
- carico assiale presente Fa

- oil type and viscosity
- shaft arrangement:
- actual thrust load Fa



- вязкость и тип масла
- расположение вала
- фактическая осевая нагрузка

Consultare il supporto Tecnico per la verifica.

Please contact our Engineering for a verification.

Пожалуйста, свяжитесь с нашими инженерами для проверки.

2.4 Prestazioni riduttori RXP1

2.4 RXP1 gearboxes performances

2.4 Исполнение редукторов RXP1

n_{1-1} min	704						708					
	ir	n_2 min ⁻¹	P_N kW	T_N Nm	Fr_1 N	Fr_2 N	ir	n_2 min ⁻¹	P_N kW	T_N Nm	Fr_1 N	Fr_2 N
2850	3.3	859.5	16.8	183.2	150	2300	5.1	559.8	21.9	366.3	500	4000
1450		437.3	9.3	200.0	500	2800		284.8	12.2	400.0	800	4500
1000		301.6	6.5	203.0	650	2900		196.4	8.5	406.0	1000	4500
500		150.8	3.4	210.0	650	2900		98.2	4.3	406.0	1000	4500
2850	5.3	537.0	10.5	183.2	200	2600	5.8	491.4	18.3	348.0	600	4250
1450		273.2	5.8	200.0	550	2900		250.0	10.2	380.0	900	4500
1000		188.4	4.1	203.0	650	2900		172.4	7.1	385.7	1000	4500
500		154.9	2.1	210.0	650	2900		86.2	3.6	385.7	1000	4500
2850	6.5	441.5	8.6	183.2	250	2700	7.4	382.8	13.5	329.7	700	4500
1450		224.6	4.8	200.0	600	2900		194.8	7.5	360.0	1000	4500
1000		154.9	3.4	203.0	650	2900		134.3	5.2	365.4	1000	4500
500		77.5	1.7	210.0	650	2900		67.2	2.6	365.4	1000	4500
Potenze termiche / Thermal power / Термическая мощность P_{IN} [kW] (senza raffreddamento / Without cooling / без охлаждения)												
14						20						

n_{1-1} min	712						716					
	ir	n_2 min ⁻¹	P_N kW	T_N Nm	Fr_1 N	Fr_2 N	ir	n_2 min ⁻¹	P_N kW	T_N Nm	Fr_1 N	Fr_2 N
2850	5.1	559.8	43.8	732.6	1300	6450	5.1	559.8	82.2	1373.7	2000	6450
1450		284.8	24.3	800.0	1600	7150		284.8	45.6	1500.0	2500	10150
1000		196.4	17.0	812.0	1600	7150		196.4	32.0	1522.5	2500	10150
500		98.2	8.5	812.0	1600	7150		98.2	17.0	1624.0	2500	10150
2850	5.9	483.1	37.8	732.6	1400	6800	5.9	483.1	68.5	1327.9	1900	6800
1450		245.8	21.0	800.0	1600	7150		245.8	38.1	1450.0	2500	10700
1000		169.5	14.7	812.0	1600	7150		169.5	26.7	1471.8	2500	10700
500		84.7	7.4	812.0	1600	7150		84.7	13.8	1522.5	2500	10700
2850	7.4	382.8	30.0	732.6	1500	7150	7.7	371.7	50.9	1282.1	1800	7150
1450		194.8	16.6	800.0	160	7150		189.1	28.3	1400.0	2500	11250
1000		134.3	11.7	812.0	1600	7150		130.4	19.8	1421.0	2500	11250
500		67.2	5.8	812.0	1600	7150		65.2	10.6	1522.5	2500	11250
Potenze termiche / Thermal power / Термическая мощность P_{IN} [kW] (senza raffreddamento / Without cooling / без охлаждения)												
30						48						

n_{1-1} min	708						712					
	ir	n_2 min ⁻¹	P_N kW	T_N Nm	Fr_1 N	Fr_2 N	ir	n_2 min ⁻¹	P_N kW	T_N Nm	Fr_1 N	Fr_2 N
2850	10.6	268.7	13.4	457.9	440	4750	10.7	265.9	25.0	860.8	900	7500
1450		136.7	7.5	500.0	880	5600		135.3	13.9	940.0	1450	9000
1000		94.3	5.2	507.5	880	6300		93.3	9.7	954.1	1450	10000
500		47.1	2.6	507.5	880	7500		46.7	4.9	954.1	1450	11800
2850	12.1	235.9	11.8	457.9	440	5300	12.4	229.4	22.0	879.2	900	8000
1450		120.0	6.5	500.0	880	6000		116.7	12.2	960.0	1450	9500
1000		82.8	4.6	507.5	880	6700		80.5	8.6	974.4	1450	10600
500		41.4	2.3	507.5	880	7500		40.3	4.3	974.4	1450	11800
2850	15.5	183.8	9.2	457.9	440	5300	15.7	181.8	17.8	897.5	900	8500
1450		93.5	5.1	500.0	880	6300		92.5	9.9	980.0	1450	10000
1000		64.5	3.6	507.5	880	7500		63.8	6.9	994.7	1450	11200
500		32.2	1.8	507.5	880	7500		31.9	3.5	994.7	1450	11800
2850	18.5	154.4	8.3	494.5	440	5600	21.1	134.8	13.5	915.8	900	9000
1450		78.6	4.6	540.0	880	6700		68.6	7.5	100.0	1450	10600
1000		54.2	3.2	548.1	880	7500		47.3	5.2	1015.0	1450	11800
500		27.1	1.6	548.1	880	7500		23.6	2.6	1015.0	1450	11800
2850	21.0	135.6	7.6	512.8	440	5600	25.9	110.0	11.5	961.6	900	9500
1450		69.0	4.2	560.0	880	6700		55.9	6.4	1050.0	1450	11200
1000		47.6	2.9	568.4	880	7500		38.6	4.5	1065.8	1450	11800
500		23.8	1.5	568.4	880	7500		19.3	2.2	1065.8	1450	11800
2850	23.9	119.3	6.9	531.2	440	6000	30.9	92.2	10.1	1007.4	900	10000
1450		60.7	3.8	580.0	880	7500		46.9	5.6	1100.0	1450	11800
1000		41.9	2.7	588.7	880	7500		32.3	3.9	1116.5	1450	11800
500		20.9	1.3	588.7	880	7500		16.2	2.0	1116.5	1450	11800
2850	27.2	104.7	5.9	512.8	440	6300	37.9	75.2	8.3	1007.4	900	10600
1450		53.3	3.3	560.0	880	7500		38.3	4.6	1100.0	1450	11800
1000		36.7	2.3	568.4	880	7500		26.4	3.2	1116.5	1450	11800
500		18.4	1.1	568.4	880	7500		13.2	1.6	1116.5	1450	11800
2850	34.9	81.6	4.2	476.2	440	6700	43.2	66.0	7.6	1053.2	900	10600
1450		41.5	2.4	520.0	880	7500		33.6	4.2	1150.0	1450	11800
1000		28.6	1.6	527.8	880	7500		23.2	2.9	1167.3	1450	11800
500		14.3	0.8	527.8	880	7500		11.6	1.5	1167.3	1450	11800
2850	44.1	64.6	3.2	457.9	440	7500						
1450		32.9	1.8	500.0	880	7500						
1000		22.7	1.3	507.5	880	7500						
500		11.3	0.6	507.5	880	7500						
2850	50.9	56.0	2.8	457.9	440	7500						
1450		28.5	1.6	500.0	880	7500						
1000		19.7	1.1	507.5	880	7500						
500		9.8	0.5	507.5	880	7500						
Potenze termiche / Thermal power / Термическая мощность P_{IN} [kW] (senza raffreddamento / Without cooling / без охлаждения)												
18						27						

2.4 Prestazioni riduttori RXP2

2.4 RXP2 gearboxes performances

2.4 Исполнение редуктора RXP2

n_{1-1} min	716											
	ir	n_2 min ⁻¹	P_N kW	T_N Nm	Fr_1 N	Fr_2 N						
2850	8,7	329,3	59,2	1648,4	1100	11500						
1450		167,6	32,9	1800,0	2200	13500						
1000		115,6	23,0	1827,0	2200	15500						
500		57,8	11,5	1827,0	2200	18000						
2850	10,4	273,7	50,6	1694,2	1100	12000						
1450		139,2	28,1	1850,0	2200	15000						
1000		96,0	19,7	1877,8	2200	16000						
500		48,0	9,8	1877,8	2200	19000						
2850	12,1	236,2	46,0	1785,8	1100	12500						
1450		120,2	25,6	1950,0	2200	15500						
1000		82,9	17,9	1979,3	2200	17000						
500		41,4	8,9	1979,3	2200	19000						
2850	15,7	181,7	35,4	1785,8	1100	13200						
1450		92,5	19,7	1950,0	2200	16000						
1000		63,8	13,8	1979,3	2200	18000						
500		31,9	6,9	1979,3	2200	19000						
2850	21,5	132,3	27,8	1923,2	1100	15000						
1450		67,3	15,4	2100,0	2200	18000						
1000		46,4	10,8	2131,5	2200	19000						
500		23,2	5,4	2131,5	2200	19000						
2850	25,9	110,0	23,6	1968,9	1100	15500						
1450		55,9	13,1	2150,0	2200	19000						
1000		38,6	9,2	2182,3	2200	19000						
500		19,3	4,6	2182,3	2200	19000						
2850	30,0	94,9	21,3	2060,5	1100	16000						
1450		48,3	11,8	2250,0	2200	19000						
1000		33,3	8,3	2283,8	2200	19000						
500		16,6	4,1	2283,8	2200	19000						
2850	34,8	81,9	18,0	2014,7	1100	17000						
1450		41,7	10,0	2200,0	2200	19000						
1000		28,7	7,0	2233,0	2200	19000						
500		14,4	3,5	2233,0	2200	19000						
2850	39,0	73,0	15,7	1968,9	1100	17000						
1450		37,2	8,7	2150,0	2200	19000						
1000		25,6	6,1	2182,3	2200	19000						
500		12,8	3,0	2182,3	2200	19000						
2850	45,2	63,0	13,2	1923,2	1100	18000						
1450		32,1	7,3	2100,0	2200	19000						
1000		22,1	5,1	2131,5	2200	19000						
500		11,1	2,6	2131,5	2200	19000						
Potenze termiche / Thermal power / Термическая мощность P_{IN} [kW] (senza raffreddamento / Without cooling / без охлаждения)												
40												

2.4 Prestazioni riduttori RXP3

2.4 RXP3 gearboxes performances

2.4 Исполнение редуктора RXP3

n_{1-1} min	708						712					
	ir	n_2 min ⁻¹	P_N kW	T_N Nm	Fr_1 N	Fr_2 N	ir	n_2 min ⁻¹	P_N kW	T_N Nm	Fr_1 N	Fr_2 N
2850	48.8	58.4	3.9	595.3	250	7500	50.0	570	7.6	1190.5	300	11800
1450		29.7	2.2	650.0	500	7500		29.0	4.2	1300.0	630	11800
1000		20.5	1.5	659.8	500	7500		20.0	2.9	1319.5	630	11800
500		10.3	0.8	659.8	500	7500		10.0	1.5	1319.5	630	11800
2850	61.6	46.3	3.1	595.3	250	7500	61.2	46.6	6.4	1236.3	300	11800
1450		23.6	1.7	650.0	500	7500		23.7	3.6	1350.0	630	11800
1000		16.2	1.2	659.8	500	7500		16.3	2.5	1370.3	630	11800
500		8.1	0.6	659.8	500	7500		8.2	1.2	1370.3	630	11800
2850	78.5	36.3	2.3	567.8	250	7500	76.7	37.2	5.1	1236.3	300	11800
1450		18.5	1.3	620.0	500	7500		18.9	2.8	1350.0	630	11800
1000		12.7	0.9	629.3	500	7500		13.0	2.0	1370.3	630	11800
500		6.4	0.4	629.3	500	7500		6.5	1.0	1370.3	630	11800
2850	97.0	29.4	2.0	622.7	250	7500	99.1	28.8	4.1	1282.1	300	11800
1450		15.0	1.1	680.0	500	7500		14.6	2.3	1400.0	630	11800
1000		10.3	0.8	690.2	500	7500		10.1	1.6	1421.0	630	11800
500		5.2	0.4	690.2	500	7500		5.0	0.8	1421.0	630	11800
2850	122.4	23.3	1.7	641.1	250	7500	124.0	23.0	3.3	1282.1	300	11800
1450		11.8	0.9	700.0	500	7500		11.7	1.8	1400.0	630	11800
1000		8.2	0.6	710.5	500	7500		8.1	1.3	1421.0	630	11800
500		4.1	0.3	710.5	500	7500		4.0	0.6	1421.0	630	11800
2850	158.8	18.0	1.3	641.1	250	7500	156.5	18.2	2.6	1282.1	300	11800
1450		9.1	0.7	700.0	500	7500		9.3	1.4	1400.0	630	11800
1000		6.3	0.5	710.5	500	7500		6.4	1.0	1421.0	630	11800
500		3.1	0.2	710.5	500	7500		3.2	0.5	1421.0	630	11800
2850	203.8	14.0	1.0	641.1	250	7500	205.2	13.9	2.0	1282.1	300	11800
1450		7.1	0.6	700.0	500	7500		7.1	1.1	1400.0	630	11800
1000		4.9	0.4	710.5	500	7500		4.9	0.8	1421.0	630	11800
500		2.5	0.2	710.5	500	7500		2.4	0.4	1421.0	630	11800
2850	253.2	11.3	0.8	641.1	250	7500	259.0	11.0	1.6	1282.1	300	11800
1450		5.7	0.4	700.0	500	7500		5.6	0.9	1400.0	630	11800
1000		3.9	0.3	710.5	500	7500		3.9	0.6	1421.0	630	11800
500		2.0	0.2	710.5	500	7500		1.9	0.3	1421.0	630	11800
2850	290.3	9.8	0.7	641.1	250	7500	295.0	9.7	1.4	1282.1	300	11800
1450		5.0	0.4	700.0	500	7500		4.9	0.8	1400.0	630	11800
1000		3.4	0.3	710.5	500	7500		3.4	0.5	1421.0	630	11800
500		1.7	0.1	710.5	500	7500		1.7	0.3	1421.0	630	11800
2850	334.9	8.5	0.6	641.1	250	7500						
1450		4.3	0.3	700.0	500	7500						
1000		3.0	0.2	710.5	500	7500						
500		1.5	0.1	711.5	500	7500						
Potenze termiche / Thermal power / Термическая мощность P_N [kW] (senza raffreddamento / Without cooling / без охлаждения)												
12						19						

2.4 Prestazioni riduttori RXP3

2.4 RXP3 gearboxes performances

2.4 Исполнение редуктора RXP3

n ₁ min ⁻¹	716											
	ir	n ₂ min ⁻¹	P _N kW	T _N Nm	Fr ₁ N	Fr ₂ N						
2850	57,8	49,3	11,8	2152,1	500	19000						
1450		25,1	6,6	2350,0	1000	19000						
1000		17,3	4,6	2385,3	1000	19000						
500		8,7	2,3	2385,3	1000	19000						
2850	69,5	41,0	10,5	2289,5	500	19000						
1450		20,9	5,8	2500,0	1000	19000						
1000		14,4	4,1	2537,5	1000	19000						
500		7,2	2,0	2537,5	1000	19000						
2850	80,6	35,4	9,4	2381,1	500	19000						
1450		18,0	5,2	2600,0	1000	19000						
1000		12,4	3,6	2639,0	1000	19000						
500		6,2	1,8	2639,0	1000	19000						
2850	92,2	30,9	8,5	2472,6	500	19000						
1450		15,7	4,7	2700,0	1000	19000						
1000		10,9	3,3	2740,5	1000	19000						
500		5,4	1,7	2740,5	1000	19000						
2850	106,8	26,7	7,4	2472,6	500	19000						
1450		13,6	4,1	2700,0	1000	19000						
1000		9,4	2,9	2740,5	1000	19000						
500		4,7	1,4	2740,5	1000	19000						
2850	123,8	23,0	6,6	2564,2	500	19000						
1450		11,7	3,7	2800,0	1000	19000						
1000		8,1	2,6	2842,0	1000	19000						
500		4,0	1,3	2842,0	1000	19000						
2850	138,8	20,5	5,7	2472,6	500	19000						
1450		10,4	3,1	2700,0	1000	19000						
1000		7,2	2,2	2740,5	1000	19000						
500		3,6	1,1	2740,5	1000	19000						
2850	165,5	17,2	5,3	2747,4	500	19000						
1450		8,8	2,9	3000,0	1000	19000						
1000		6,0	2,0	3045,0	1000	19000						
500		3,0	1,0	3045,0	1000	19000						
2850	191,8	14,9	4,5	2747,4	500	19000						
1450		7,6	2,5	3000,0	1000	19000						
1000		5,2	1,8	3045,0	1000	19000						
500		2,6	0,9	3045,0	1000	19000						
2850	249,2	11,4	3,3	2564,2	500	19000						
1450		5,8	1,8	2800,0	1000	19000						
1000		4,0	1,3	2842,0	1000	19000						
500		2,0	0,6	2842,0	1000	19000						
2850	288,8	9,9	2,8	2564,2	500	19000						
1450		5,0	1,6	2800,0	1000	19000						
1000		3,5	1,1	2842,0	1000	19000						
500		1,7	0,5	2842,0	1000	19000						
Potenze termiche / Thermal power / Термическая мощность P _{IN} [kW] (senza raffreddamento / Without cooling / без охлаждения)												
25												

RX700

2.4.1 Motori Applicabili

2.4.1 Compatible motors

2.4.1 Совместимость с моторами

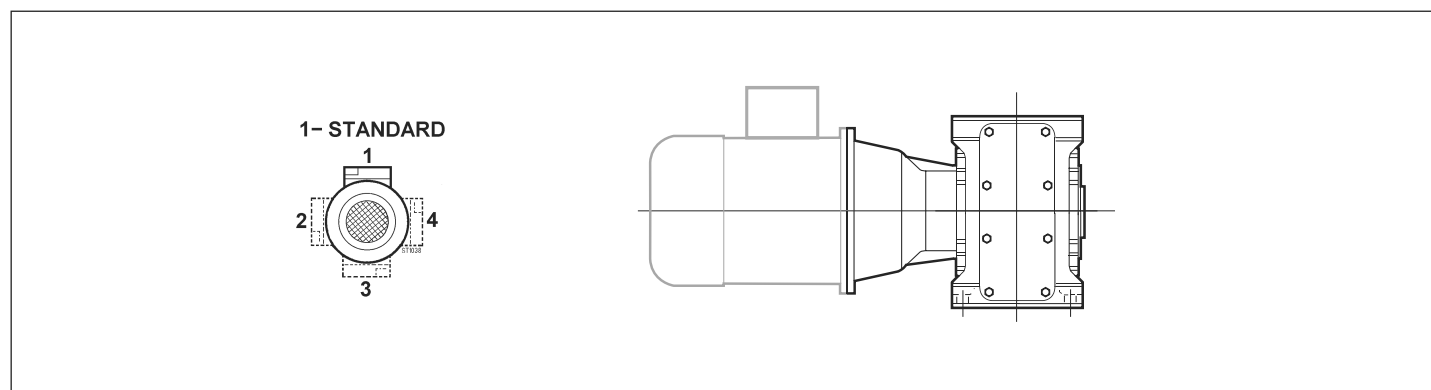
		IEC								
		63 (B5)	71 (B5)	80 (B5)	90 (B5)	100 (B5)	112 (B5)	132 (B5)	160 (B5)	180 (B5)
RXP2	708									
	712									
	716									
RXP3	708									
	712									

N.B: Per ulteriori accoppiamenti non previsti catalogo consultare il servizio tecnico commerciale.

NOTE: For coupling with motors not listed in this catalogue, please contact our Sales Engineers.

Примечание: Для соединения с моторами не указанными в данном каталоге обратитесь к нашим инженерам продаж.

Posizione morsettiera
Terminal board position
Положение клеммной коробки

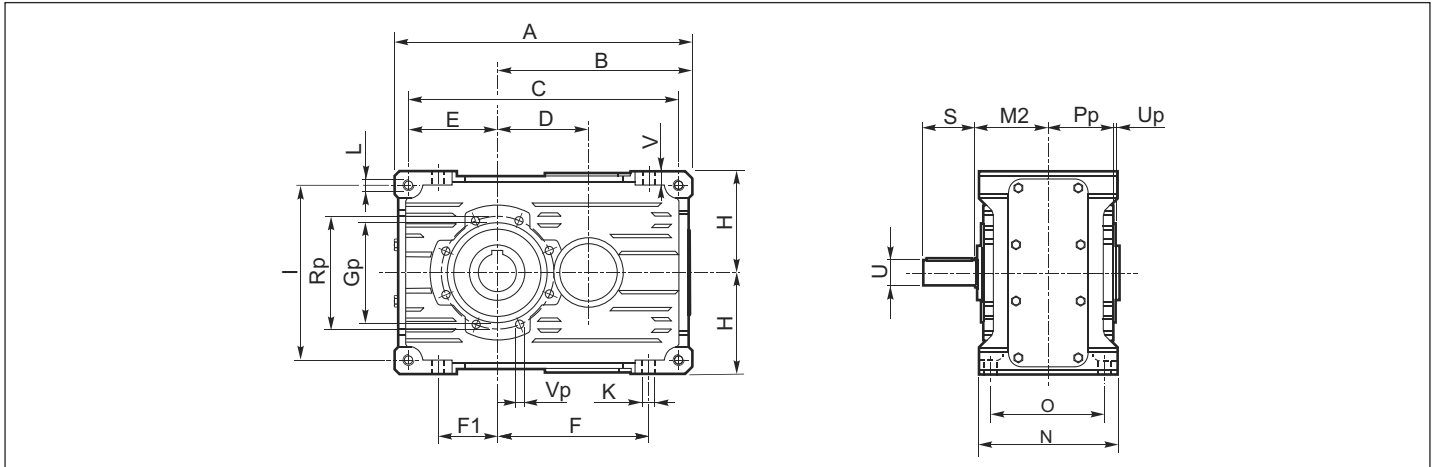


2.5 Dimensioni

2.5 Dimensions

2.5 Габарит

704 - 708 - 712 - 716

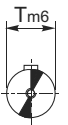
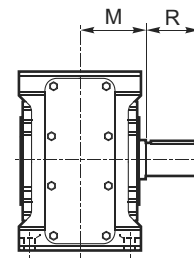
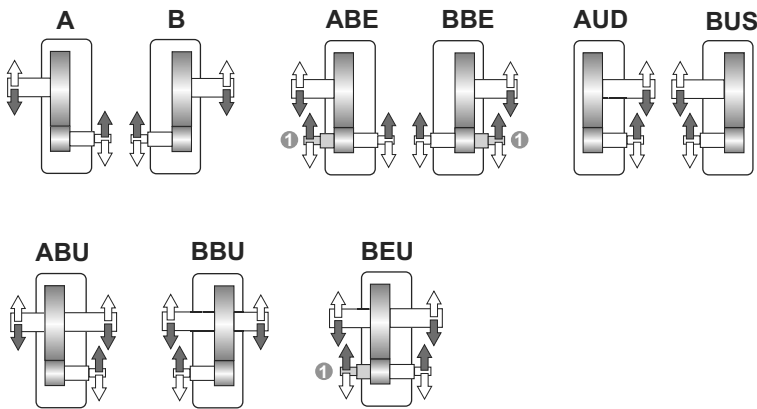


Esecuzione grafica / Shaft arrangement / Выходной вал

Albero uscita / Output shaft / Выходной вал

⇒ **N**

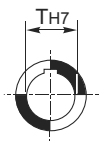
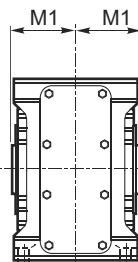
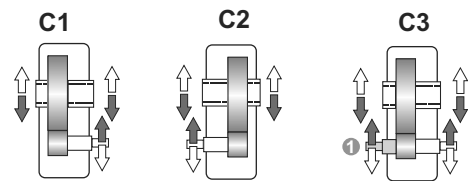
N



H54

⇒ **C**

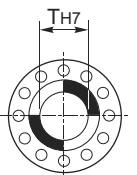
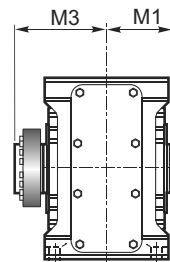
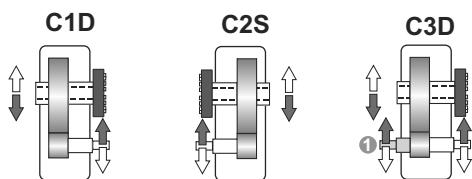
C



H55

⇒ **UB B**




UB



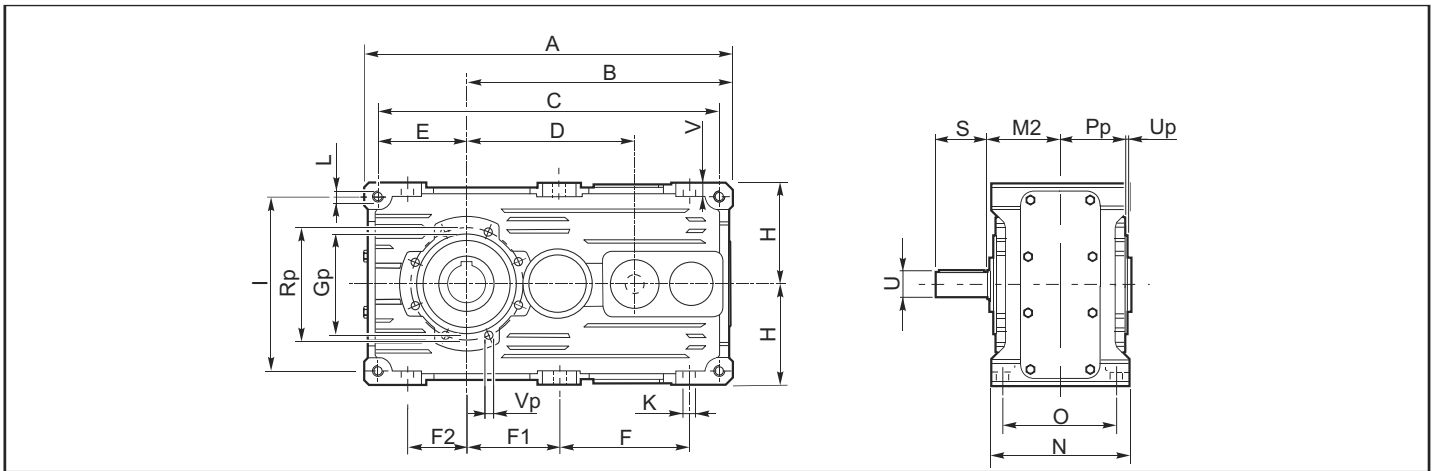
H56

① ⇒ H52 Estremita bisorgente (a richiesta)
Double-extended shaft (on request)
Двойной вал (по запросу)

	Dimensioni generali / Dimensions / Габарит																			
	A	B	C	D	E	F	F1	H _{h11}	I	K	L	N _{h11}	O	V	Gp	Pp	Rp	Up	Vp	kg ECE
704	206	135	186	65	61	102	38	71	122	9	M8	112	90	10	75	51	85	3	6	12
708	262	172	237	80	77.5	134	52	90	155	11	M10	127	104	12	90	58.5	105	3	8	18
712	326	214	296	100	97	166	64	112	194	13	M12	150	125	15	110	70.5	125	3	8	31
716	407	267	371	127	122	209	82	140	244	15	M14	175	145	16	130	81	150	3	10	52

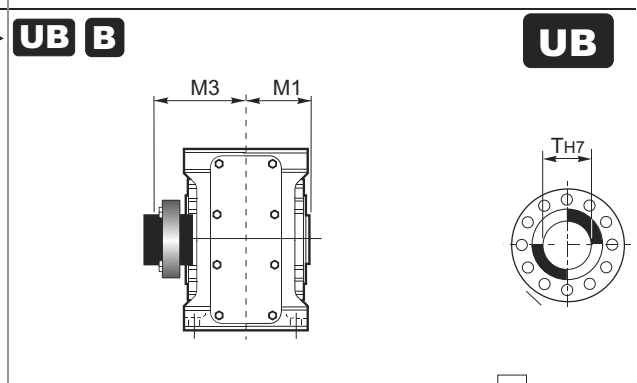
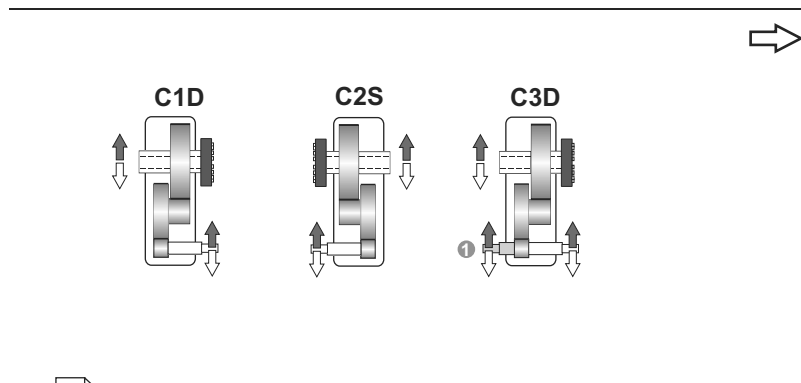
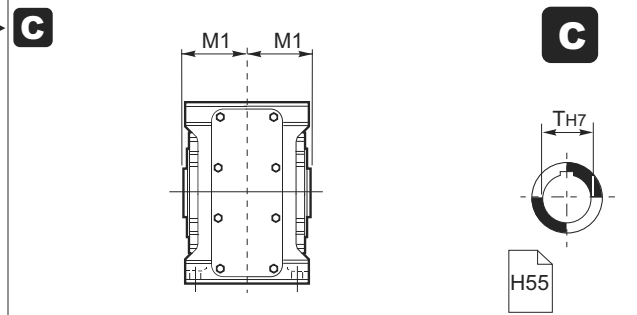
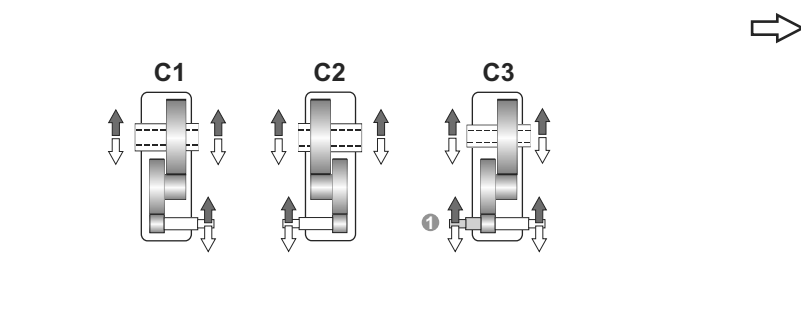
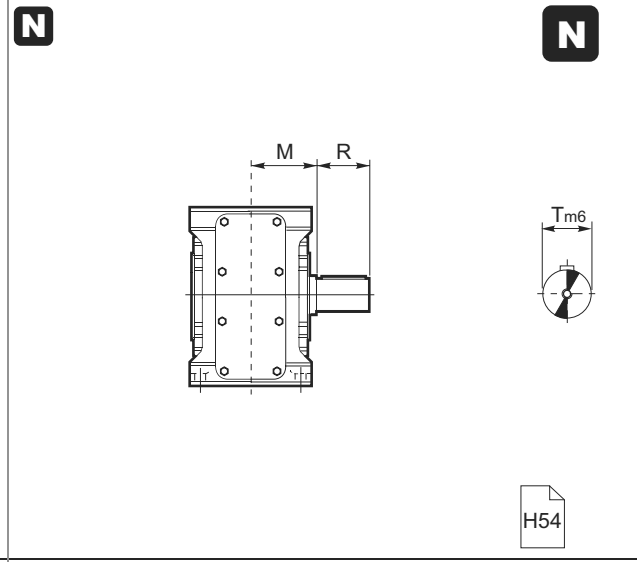
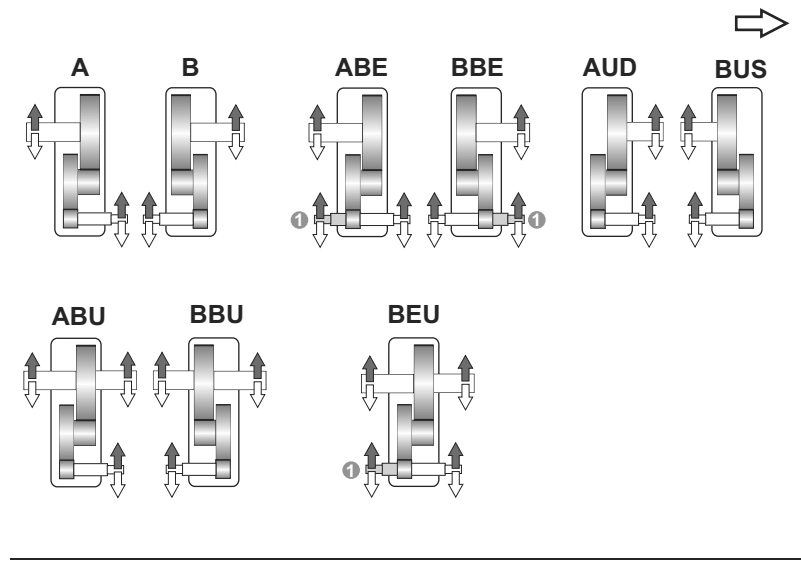
	Albero entrata / Input shaft / Входной вал			Albero uscita / Output shaft / Выходной вал							
	U	S	M2								
				T	R	M	T H7	M1	T H7	M1	M3
704	19 j6	40	57.5	24 j6	50	62.5	24 (28)	57.5	25	57.5	82.5
708	24 j6	50	65	32 k6	60	71	32 (30) (35)	65	35	65	95
712	28 j6	60	77.5	42 k6	80	85.5	42 (40) (45)	77.5	45	77.5	112.5
716	38 k6	80	90	55 k6	100	100	55 (50)	90	55	90	125

708 - 712 - 716



Esecuzione grafica / Shaft arrangement / Расположение вала




Albero uscita / Output shaft / Выходной вал

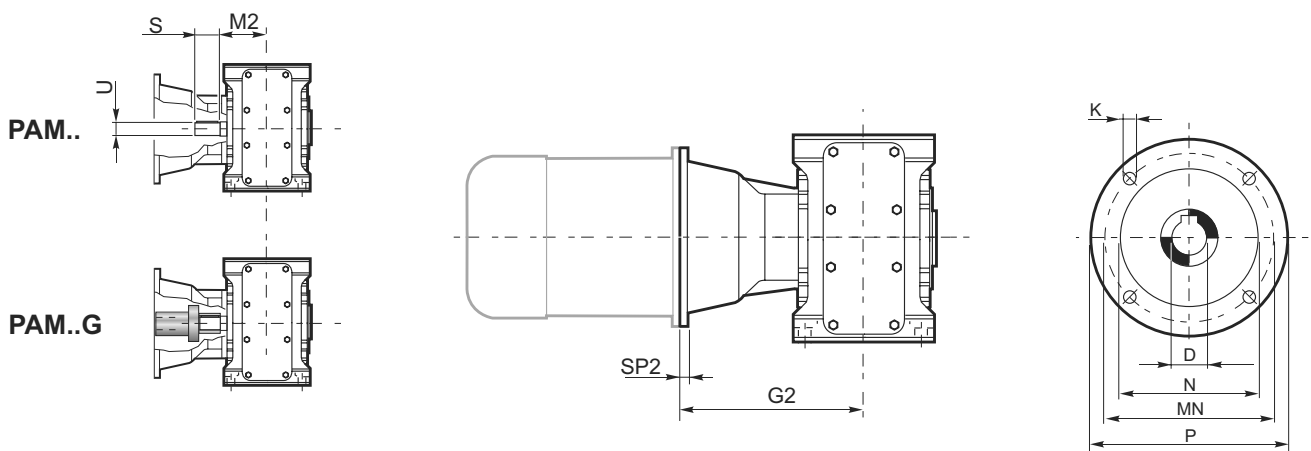


1 H52 Estremita bisporgente (a richiesta)
Double-extended shaft (on request)
Двойной вал (по запросу)

H56

	Dimensioni generali / Dimensions / Габарит																					
	A	B	C	D	E	F	F1	F2	H _{h11}	I	K	L	N _{h11}	O	V	Gp	Pp	Rp	Up	Vp	kg ECE	kg PAM
708	306	226	281	141	67.5	106	82	42	80	135	11	M10	127	104	12	90	58.5	105	3	8	18	21
712	384	284	354	180	85	134	102	52	100	170	13	M12	150	125	15	110	70.5	125	3	8	34	39
716	479	354	443	227	107	169	127	67	125	214	15	M14	175	145	16	130	81	150	3	10	62	72

	Albero entrata / Input shaft / Входной вал			Albero uscita / Output shaft / Выходной вал							
	U	S	M2								
				T m6	R	M	T H7	M1	T H7	M1	M3
708	19 k6	40	65	32 k6	60	71	32 (30) (35)	65	35	65	95
712	24 k6	50	77.5	42 k6	80	85.5	42 (40) (45)	77.5	45	77.5	112.5
716	28 k6	60	90	55 k6	100	100	55 (50)	90	55	90	125

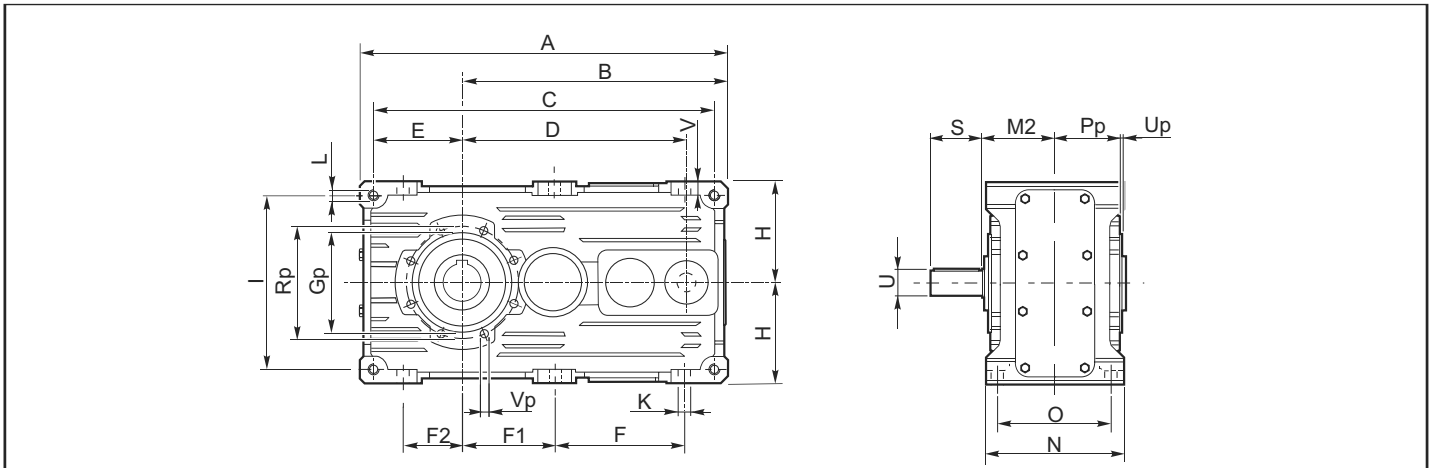


NB: Applicabilità motori al punto 2.4.1 / Possible assembly to IEC motors (see paragraph 2.4.1) / Возможна сборка IEC двигателей (см. параграф 2.4.1)

	IEC					
	71	80	90	100	112	132
D H7	11	19	24	28	28	38
P	140	200	200	250	250	300
MN	115	165	165	215	215	265
N G6	95	130	130	180	180	230
K	M8	M10	M10	M12	M12	M12
SP2	A richiesta / On request / По запросу					
G2	708	139	160	160	170	170
	712		183.5	183.5	193.5	193.5
	716				216	216
						213.5
						237

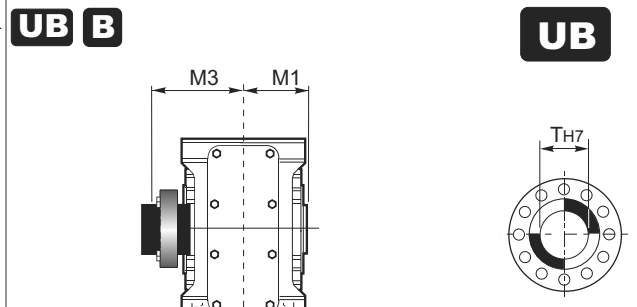
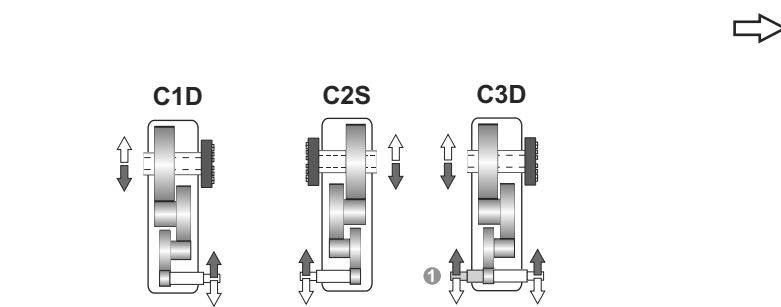
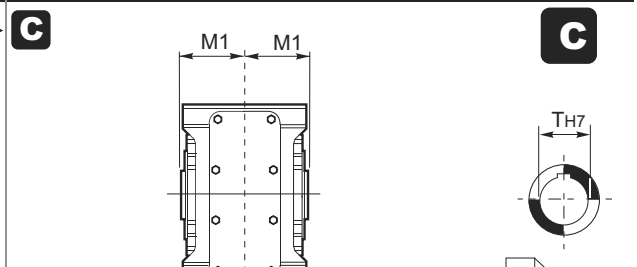
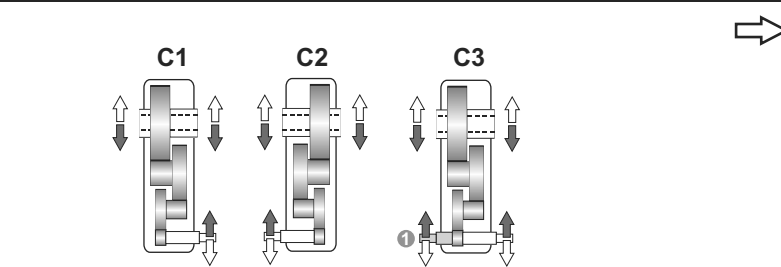
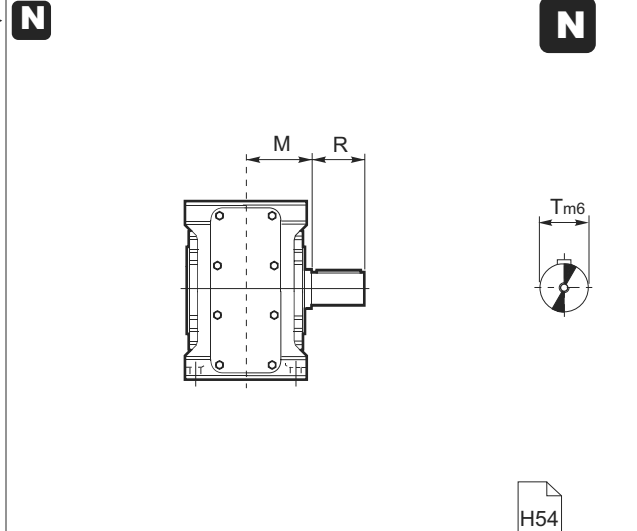
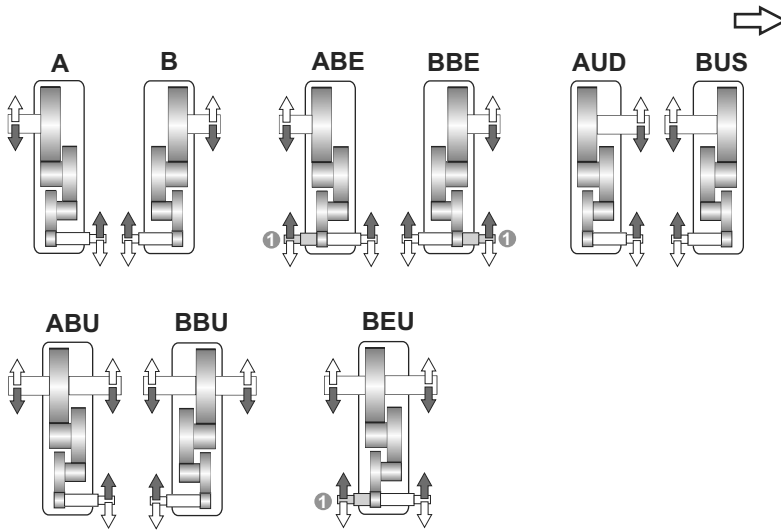
RX700

708 - 712 - 716



Esecuzione grafica / Shaft arrangement / Расположение вала




Albero uscita / Output shaft / Выходной вал

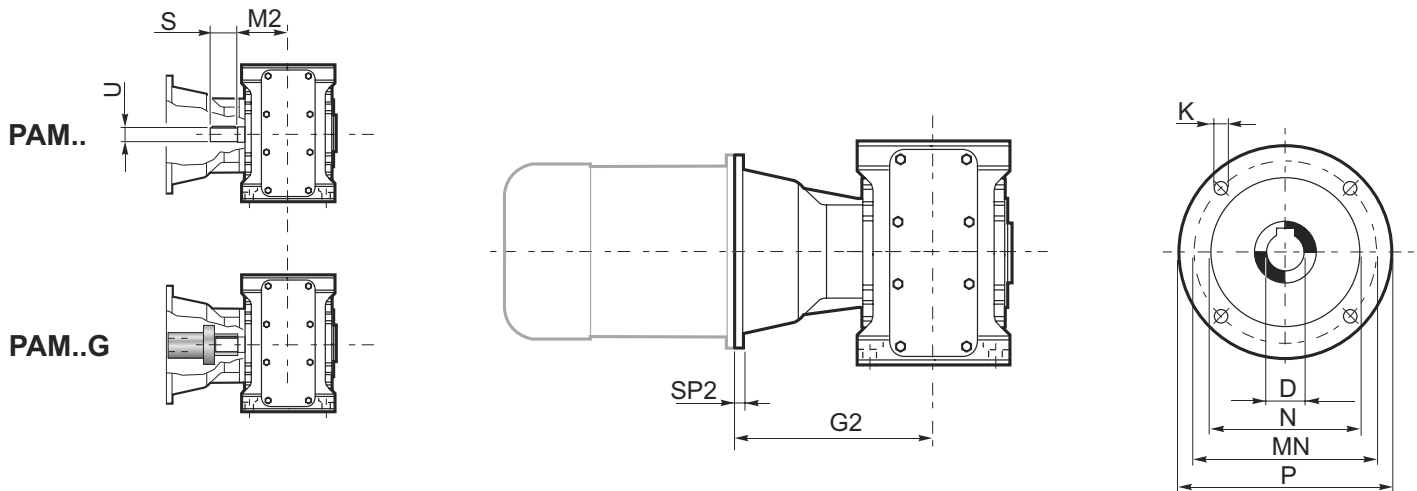


1 ↗ H52 Estremita bisporgente (a richiesta)
Double-extended shaft (on request)
Двойной вал (по запросу)

H56

	Dimensioni generali / Dimensions / Габарит																					
	A	B	C	D	E	F	F1	F2	H _{h11}	I	K	L	N _{h11}	O	V	Gp	Pp	Rp	Up	Vp	kg ECE	kg PAM
708	306	226	281	189	67.5	106	82	42	80	135	11	M10	127	104	12	90	58.5	105	3	8	20	23
712	384	284	354	241	85	134	102	52	100	170	13	M12	150	125	15	110	70.5	125	3	8	38	43
716	479	354	443	303	107	169	127	67	125	214	15	M14	175	145	16	130	81	150	3	10	68	78

	Albero entrata / Input shaft / Входной вал			Albero uscita / Output shaft / Выходной вал							
	U	S	M2								
				T m6	R	M	T H7	M1	T H7	M1	M3
708	14 k6	30	65	32 k6	60	71	32 (30) (35)	65	35	65	95
712	19 k6	40	77.5	42 k6	80	85.5	42 (40) (45)	77.5	45	77.5	112.5
716	24 k6	50	90	55 k6	100	100	55 (50)	90	55	90	125



NB: Applicabilità motori al punto 2.4.1 / Possible assembly to IEC motors (see paragraph 2.4.1) / Возможна сборка IEC двигателей (см. параграф 2.4.1)

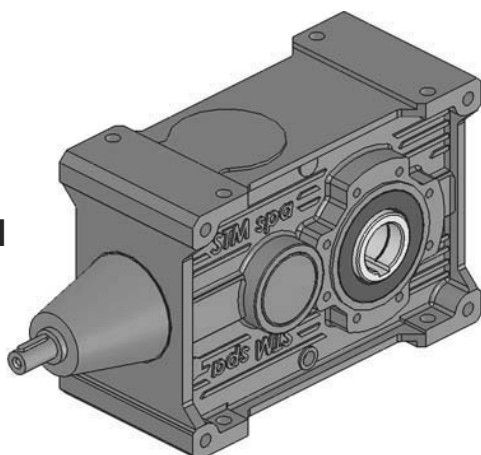
	IEC						
	63	71	80	90	100	112	132
D H7	11	11	19	24	28	28	38
P	140	140	200	200	250	250	300
MN	115	115	165	165	215	215	265
N G6	95	95	130	130	180	180	230
K	M8	M8	M10	M10	M12	M12	M12
SP2	A richiesta / On request / По запросу						
G2	708	122	129	150	150		
	712		151.5	172.5	172.5	182.5	182.5
	716			196	196	206	206
							226

RX700

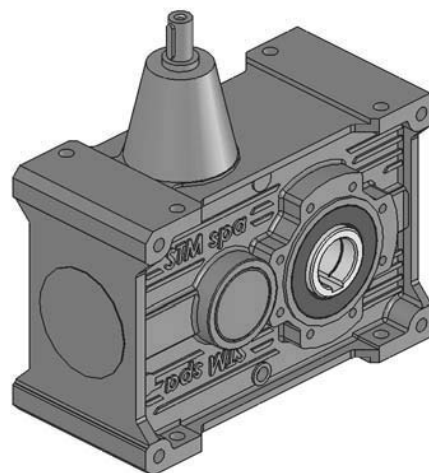
3.0 RIDUTTORI - MOTORIDUTTORI ORTOGONALI RXO - RXV
HELICAL BEVEL GEARBOXES AND GEARED MOTORS RXO - RXV
ЦИЛИНДРОКОНИЧЕСКИЕ РЕДУКТОРЫ И МОТОР-РЕДУКТОРЫ

RXO

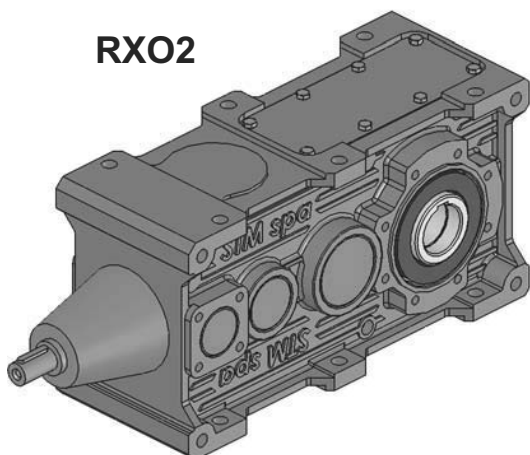
RXO1



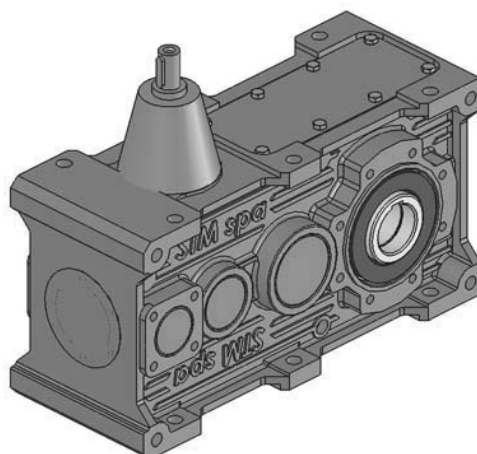
RXV1



RXO2



RXV2



RX700

3.1 Designazione

3.1 Designation

3.1 Маркировка

	[1*]	[2*]	[3*]	[4*]	[5*]	[6*]	[7*]	[8*]	[9*]	[10*]	[11*]
RX	O	1	704	C1	10	ECE	AR	C	Fd	M1	
Macchina Range Тип	Posizione assi Centreline orientation Расположение осей	N°Coppie cil. Pairs of cyl. Число ступеней	Grandezza Size Габарит	Esecuzione grafica Shaft arrangement Расположение валов	ir	Estremita entrata Input configuration Входная конфигурация	Antiretro Backstop Антиреверс	Estremita uscita Output configuration Выходная конфигурация	Flangia uscita Output flange Выходной фланец	Posizione di montaggio Mounting position Монтажное положение	Opzioni Option Опции
RX	O V	1 2	704 708 712 716	C1-C2 C1D-C2S C2D-C2S A-AS B-BS ABU - ABUS	10	ECE PAM.. PAM..G PAM..D ECE / ECE ECE / PAM.. PAM.. / ECE PAM.. / PAM..	— ARDB ARDN ARSB ARSN	— -(N) -(C) -(UB) C.. B..	— Fd Fs 2F	M1 M2 M3 M4 M5 M6	

Designazione motore elettrico

Electric motor designation

Обозначение электродвигателей

Se è richiesto un motoriduttore completo di motore è necessario riportare la designazione di quest'ultimo.
A tale proposito consultare il ns. catalogo dei motori elettrici Electronic Line.

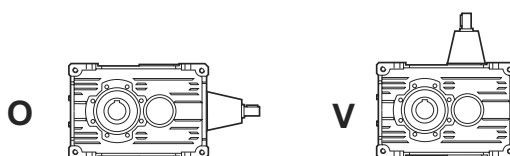
For applications requiring a gearmotor, motor designation must be specified.
To this end, please refer to our Electronic Line electric motor catalogue.

В случае исполнения мотор-редуктора it должна быть указана маркировка мотора. Для этого необходимо обратиться к каталогу электродвигателей.

[*1] Posizione assi

[*1] Centreline orientation

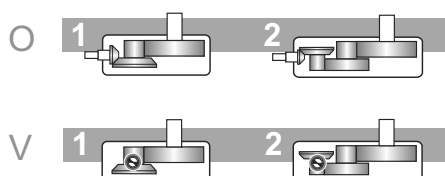
[*1] Расположение осей



[*2] Coppie cilindriche

[*2] Pairs of cylindrical

[*2] Число ступеней



[*4] Grandezza

[*4] Size

[*4] Габарит

	RXO1-RXV1	RXO2 - RXV2
Grandezza / Size / Габарит	704 - 708 - 712 - 716	708 - 712 - 716

[*4] Esecuzione grafica

[*4] Shaft arrangement

[*4] Расположение вала

(vedi pag. dimensionali)

(please refer to dimension pages)

(см. страницы размеров)

[*5] Rapporto di riduzione ir

[*5] Reduction ratio ir

[*5] Передаточное число ir

(Vedi prestazioni). Tutti i valori dei rapporti sono approssimati. Per applicazioni dove necessita il valore esatto consultare il ns. servizio tecnico.

(See ratings). Ratios are approximate values. If you need exact values for a specific application, please contact our Engineering.

(См. таблицу) Представлены номинальные значения. Если Вам необходимо конкретное значение для конкретного применения, пожалуйста, свяжитесь с нашими инженерами.

RXO

ECE	PAM...	PAM...G PAM...D
ECE/ ECE	PAM.../ ECE	PAM...G / ECE PAM...D / ECE
ECE / PAM...	PAM... / PAM...	PAM...G / PAM... PAM...D / PAM...
ECE / PAM...G ECE / PAM...D	PAM... / PAM...G PAM... / PAM...D	PAM...G / PAM...G PAM...G / PAM...D PAM...D / PAM...D PAM...D / PAM...G

RXV

ECE	PAM...	PAM...G PAM...D
ECE/ ECE	PAM.../ ECE	PAM...G / ECE PAM...D / ECE
ECE / PAM...	PAM... / PAM...	PAM...G / PAM... PAM...D / PAM...
ECE / PAM...G ECE / PAM...D	PAM... / PAM...G PAM... / PAM...D	PAM...G / PAM...G PAM...G / PAM...D PAM...D / PAM...D PAM...D / PAM...G

RX700

1 Estremita supplementare (a richiesta)
Double-extended shaft (on request)
Двойной вал(по запросу)

	RXO1 RXV1	RXO2 RXV2			
ECE			Entrata con albero pieno	<i>Solid input shaft</i>	Цилиндрический вал
PAM..			Con campana senza giunto	<i>Motor bell without coupling</i>	Соединение мотора без муфты
PAM..G			Con campana e giunto	<i>Motor bell and coupling</i>	Соединение мотора с муфтой
PAM..D			Accoppiamento Diretto		

[*7] Anti re tro

Indicare nella richiesta il senso di rotazione libero necessario riferendosi all'albero lento (freccia nera e bianca, vedere esecuzioni grafiche nelle pagine dimensionali).

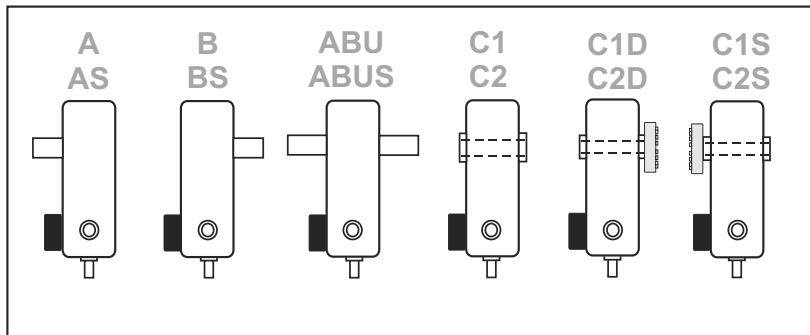
[*7] Back stop

Specify the required direction of freerota - tion as viewed from output shaft end (black and white arrow, see shaft arrangements in dimension pages).

[*7] Антиреверс

Укажите направление свободного вращения как изображено, со стороны конца выходного вала (черная и белая стрелки, см. исполнения валов на страницах размеров)

Posizione antiretro a sinistra / Backstop on the left / Антиреверс слева



ARSB

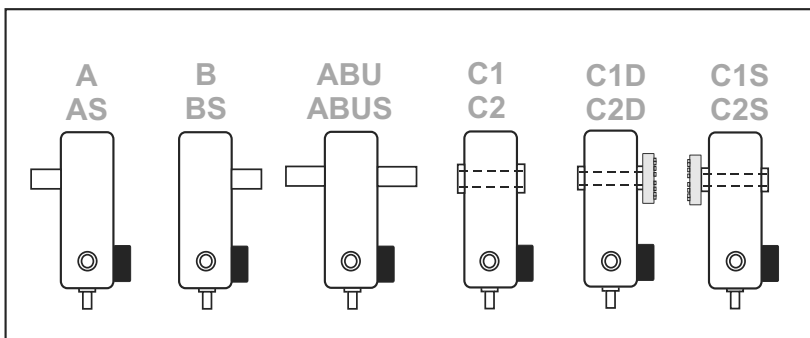
Rotazione libera freccia bianca (B)
Free rotation - white arrow (B)
Свободное вращение-белая стрелка (B)



ARSN

Rotazione libera freccia nera (N)
Free rotation - black arrow (N)
Свободное вращение-черная стрелка (N)

Posizione antiretro a destra / Backstop on the right / Антиреверс справа



ARDB

Rotazione libera freccia bianca (B)
Free rotation - white arrow (B)
Свободное вращение-белая стрелка (B)



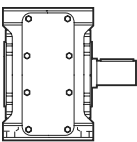
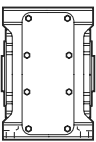
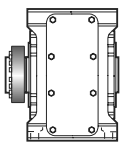
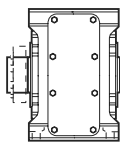
ARDN

Rotazione libera freccia nera (N)
Free rotation - black arrow (N)
Свободное вращение-черная стрелка (N)

[*8] Estremità uscita

[*8] Output Configuration

[*8] Выходная конфигурация

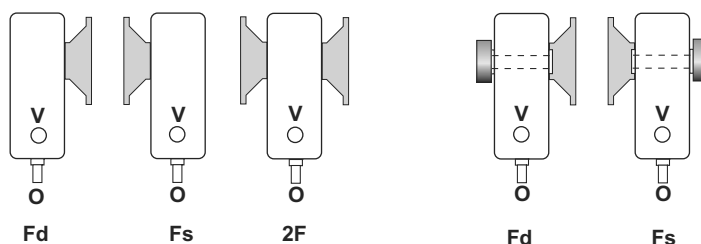
			
N	— (C) Standard C.. Opzionale/Optional/Необязат.	UB	B

Per ulteriori informazioni vedere la sezione "Estremità entrata, uscita" (H46).
Please read Section "Input and Output Configurations" (H46) for more details.
Ознакомьтесь с главой "Конфигурации входных и выходных валов" (H46).

[*9] Flangia uscita

[*8] Out put flange

[*8] Выходной фланец



—	Senza Flangia	<i>Without flange</i>	Без фланца
Fd	Flangia in uscita a destra	<i>Output flange on right side</i>	Выходной фланец справа
Fs	Flangia in uscita a sinistra	<i>Output flange on left side</i>	Выходной фланец слева
ZF	2 Flange in uscita	<i>Double output flange</i>	Двойной выходной фланец

[*10] Posizioni di montaggio

(vedi pag. H34)

[*10] Mounting positions

(see page H34)

[*10] Монтажное положение

(см. страницу H34)

[*11] Opzioni disponibili

(vedi pag. H51)

[*11] Available options

(see page H51)

[*11] Доступные опции

(см. страницу H51)

3.2 Lubrificazione

Gli oli di sponibili appartengono generalmente a tre grandi famiglie:

- 1) Oli minerali
- 2) Oli sintetici Poli-Alfa-Olefine
- 3) Oli sintetici Poli-Glicole

La scelta piú appropriata è generalmente legata alle condizioni di impiego. riduttori non particolarmente caricati e con un ciclo di impiego discontinuo, senza escursioni termiche importanti, possono certamente essere lubrificati con olio minerale.

Nei casi di impiego gravoso, quando i riduttori saranno prevedibilmente caricati molto ed in modo continuativo, con conseguente prevedibile innalzamento della temperatura, è bene utilizzare lubrificanti sintetici tipo polialfa olefine (PAO).

Gli oli di tipo poliglicole (PG) sono da utilizzare strettamente nel caso di applicazioni con forti strisciamenti fra i contatti, ad esempio nelle viti senza fine. Debbono essere impiegati con grande attenzione poiché non sono compatibili con gli altri oli e sono invece completamente miscibili con l'acqua. Questo fenomeno è particolarmente pericoloso poiché non si nota, ma deprime velocemente le caratteristiche lubrificanti dell'olio.

Oltre a questi già menzionati, ricordiamo che esistono gli oli per l'industria alimentare. Questi trovano specifico impiego nell'industria alimentare in quanto sono prodotti speciali non nocivi alla salute. Vari produttori forniscono oli appartenenti a tutte le famiglie con caratteristiche molto simili. Piú avanti proponiamo una tabella comparativa.

3.2 Lubrication

Available oils are typically grouped into three major classes:

- 1) Mineral oils
- 2) Poly-Alpha-Olefin synthetic oils
- 3) Polyglycol synthetic oils

Oil is normally selected in accordance with environmental and operating conditions. Mineral oil is the appropriate choice for moderate load, non-continuous duty applications free from temperature extremes.

In severe applications, where gear units are to operate under heavy loads in continuous duty and high temperatures are expected, synthetic Poly-Alpha-Olefin oils (PAO) are the preferred choice.

Polyglycol oils (PG) should only be used in applications involving high sliding friction, as is the case with worm shafts. These particular oils should be used with great care, as they are not compatible with other oils, but are totally mixable with water. The oil mixed with water can't be told from uncontaminated oil, but will degrade very rapidly.

In addition to the oils mentioned above, there are food-grade oils. These are special oils harmless to human health for use in the food industry. Oils with similar characteristics are available from a number of manufacturers. A comparative overview table is provided at the next pages.

3.2 Смазка

Используемые масла делятся на три группы:

- 1) Минеральные масла
- 2) Поли-Альфа-Олефиновые синт. масла
- 3) Полиглицоловые синтетические масла

Масла обычно выбираются в согласии с условиями окруж. среды и условиями эксплуатации. Минеральные масла подходят для умеренных, периодических нагрузок, без экстремальных температурных значений. В суровых условиях, когда редукторы работают в условиях тяжелых нагрузок в постоянном режиме и при высоких температурах синтетическое Поли-Альфа-Олефиновые масла (ПАО) являются предпочтительными.

Полиглицоловые масла (ПГ) должны использоваться только в приложениях связанных с высоким уровнем трения скольжения, как в случае с червячным валом. Это особое масло должно использоваться с особой осторожностью, потому что оно не совместимо с другими маслами, хотя полностью растворимо в них.

В дополнение к маслам упомянутым выше есть "пищевой" класс масел. Эти масла безвредны для человеческого организма и могут быть использованы в пищевой промышленности. Масла со схожими характеристиками доступны у большого числа производителей. Сравнительные таблицы находятся на следующих страницах.

Input speed n_1 (min. -1)	Absorbed power (kW)	Lubrication system	Viscosity ISO VG at 40° (cSt)	
			$i \cdot 10$	$i > 10$
$2000 < n_1 \cdot 5000$	$P < 7.5$	Forced or Oil splash	68	68
	$7.5 \cdot P \cdot 22$		68	150
	$P > 22$		150	220
$1000 < n_1 \cdot 2000$	$P < 7.5$	Forced or Oil splash	68	150
	$7.5 \cdot P \cdot 37$		150	220
	$P > 37$		220	320
$300 < n_1 \cdot 1000$	$P < 15$	Forced Oil splash	68	150
	$15 \cdot P \cdot 55$		150	220
		Forced Oil splash	220	320
			Forced Oil splash	220
	Forced Oil splash	320	460	
$50 < n_1 \cdot 300$	$P < 22$	Forced Oil splash	150	220
	$22 \cdot P \cdot 75$		220	320
		Forced Oil splash	220	320
			Forced Oil splash	320
	Forced Oil splash	320		460
	$P > 75$	Forced Oil splash	460	680

Se la temperatura ambiente $T < 0^{\circ}\text{C}$ ridurre di una gradazione la viscosità prevista in tabella, viceversa aumentarla di una se $T > 40^{\circ}\text{C}$.

If the environment temperature $T < 0^{\circ}\text{C}$, decrease viscosity class by one, vice versa increase by one if $T > 40^{\circ}\text{C}$.

Если температура окружающей среды $< 0^{\circ}\text{C}$ уменьшите вязкость масла на один. и увеличьте в обратном случае, например, если $T > 40^{\circ}\text{C}$

Le temperature ammissibili per gli oli minerali sono:
($-10 = T = 90$) $^{\circ}\text{C}$ (fino a 100°C per periodi limitati).

Permissible temperatures for mineral oil are:
($-10 = T = 90$) $^{\circ}\text{C}$, up to 100°C for a short time.

Допустимые температуры для мин. масла:
($-10 = T = 90$) $^{\circ}\text{C}$, до 100°C на короткий период.

Le temperature ammissibili per gli oli sintetici sono:
($-20 = T = 110$) $^{\circ}\text{C}$ (fino a 120°C per periodi limitati).

Permissible temperatures for synthetic oil are:
($-20 = T = 110$) $^{\circ}\text{C}$, up to 120°C for a short time.

Допустимые температуры для синт. масла:
($-20 = T = 110$) $^{\circ}\text{C}$ до 120°C на короткий период.

Per temperature dell'olio esterne a quelle ammissibili per il minerale e per aumentare l'intervallo di sostituzione del lubrificante adottare olio sintetico a base di polialfaolefine.

If the oil temperature is not permissible for mineral oil and for decreasing frequency of oil change, use synthetic oil with polyalphaolefins (PAOs).

Если температура масла не допустима для мин. масла и если значительно увеличились случаи смены масла, используйте синтетические Поли-Альфа-Олефиновые масла.

Produttore Manufacturer Изготовитель	Oli Minerali Mineral oils Минеральные масла			Oli Sintetici Polialfaolefine (PAO) Poly-Alpha-Olefin synthetic oils (PAO) Поли-Альфа-Олефиновые масла(ПАО)			Oli Sintetici Poliglicoli (PG) Polyglycol synthetic oils(PG) Полигликолевые масла(ПГ)		
	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG	ISO VG
	150	220	320	150	220	320	150	220	320
AGIP	Blasia 150	Blasia 220	Blasia 320	-	Blasia SX 220	Blasia SX 320	Blasia S 150	Blasia S 220	Blasia S 320
ARAL	Degol BG 150 Plus	Degol BG 220 Plus	Degol BG 320 Plus	Degol PAS 150	Degol PAS 220	Degol PAS 320	Degol GS 150	Degol GS 220	Degol GS 320
BP	Energol GR-XP 150	Energol GR-XP 220	Energol GR-XP 320	Energol EPX 150	Energol EPX 220	Energol EPX 320	Energol SG 150	Energol SG-XP 220	Energol SG-XP 320
CASTROL	Alpha SP 150	Alpha SP 220	Alpha SP 320	Alphasyn EP 150	Alphasyn EP 220	Alphasyn EP 320	Alphasyn PG 150	Alphasyn PG 220	Alphasyn PG 320
CHEVRON	Ultra Gear 150	Ultra Gear 220	Ultra Gear 320	Tegra Synthetic Gear 150	Tegra Synthetic Gear 220	Tegra Synthetic Gear 320	HiPerSYN 150	HiPerSYN 220	HiPerSYN 320
ESSO	Spartan EP 150	Spartan EP 220	Spartan EP 320	Spartan S EP 150	Spartan S EP 220	Spartan S EP 320	Glycolube 150	Glycolube 220	Glycolube 320
KLBBER	Klbbberoil GEM 1-150	Klbbberoil GEM 1-220	Klbbberoil GEM 1-320	Klbbbersynth EG 4-150	Klbbbersynth EG 4-220	Klbbbersynth EG 4-320	Klbbbersynth GH 6-150	Klbbbersynth GH 6-220	Klbbbersynth GH 6-320
MOBIL	Mobilgear XMP 150	Mobilgear XMP 220	Mobilgear XMP 320	Mobilgear SHC XMP 150	Mobilgear SHC XMP 220	Mobilgear SHC XMP 320	Glygoyle 22	Glygoyle 30	Glygoyle HE320
MOLIKOTE	L-0115	L-0122	L-0132	L-1115	L-1122	L-1132	-	-	-
OPTIMOL	Optigear BM 150	Optigear BM 220	Optigear BM 320	Optigear Synthetic A 150	Optigear Synthetic A 220	Optigear Synthetic A 320	Optiflex A 150	Optiflex A 220	Optiflex A 320
Q8	Goya 150	Goya 220	Goya 320	El Greco 150	El Greco 220	El Greco 320	Gade 150	Gade 220	Gade 320
SHELL	Omala 150	Omala 220	Omala 320	Omala HD 150	Omala HD 220	Omala HD 320	Tivela S 150	Tivela S 220	Tivela S 320
TEXACO	Meropa 150	Meropa 220	Meropa 320	Pinnacle EP 150	Pinnacle EP 220	Pinnacle EP 320	-	Synlube CLP	Synlube CLP 320
TOTAL	Carter EP 150	Carter EP 220	Carter EP 320	Carter SH 150	Carter SH 220	Carter SH 320	Carter SY 150	Carter SY 220	Carter SY 320
TRIBOL	1100/150	1100/220	1100/320	1510/150	1510/220	1510/320	800/150	800/220	800/320

Lubrificanti sintetici per uso alimentare / Food-grade synthetic lubricants / Синтетические масла для пищевой промышленности

AGIP				Rocol Foodlube Hi-Torque 150	—	Rocol Foodlube Hi-Torque 320			
ESSO				—	Gear Oil FM 220	—			
KLBBER				Klbbberoil 4 UH1 N 150	Klbbberoil 4 UH1 N 220	Klbbberoil 4 UH1 N 320			
MOBIL				DTE FM 150	DTE FM 220	DTE FM 320			
SHELL				Cassida Fluid GL 150	Cassida Fluid GL 220	Cassida Fluid GL 320			

Nella tabella sottostante riportiamo gli intervalli di sostituzione del lubrificante consigliati, validi indicativamente in assenza di inquinamento esterno e di sovraccarichi. Informazioni più precise potranno ottenersi dal proprio fornitore di lubrificanti ad esempio attraverso analisi periodiche dell'olio.

Table for suggested oil change intervals indicatively valid in absence of pollution and overload, is reported below. More precise information can be obtained by your lubricant supplier for example through periodical analysis of the oil.

Таблица с предположительной частотой смены масла, при отсутствии вероятности загрязнения окружающей среды и перегрузок, перечислены ниже.

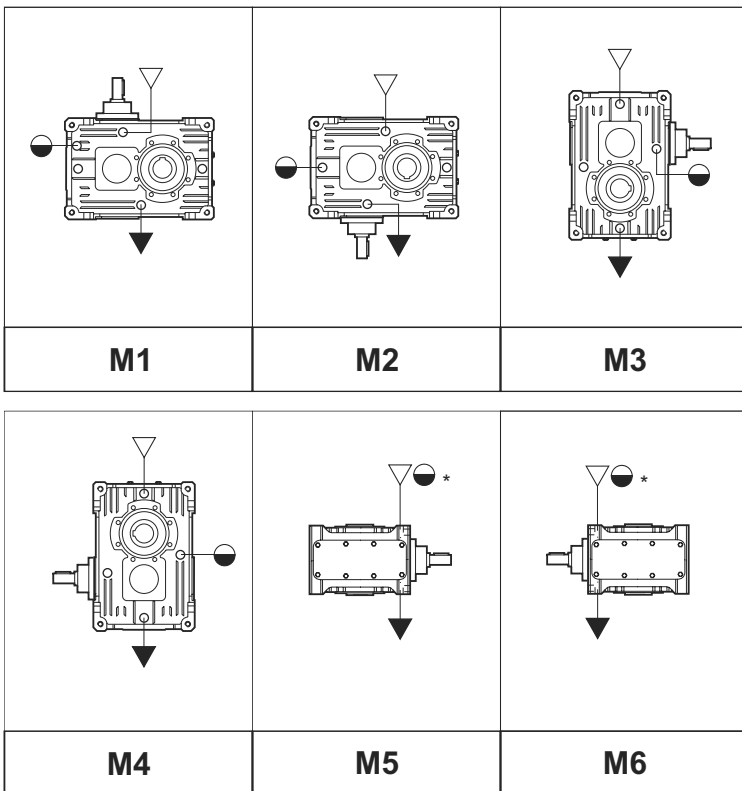
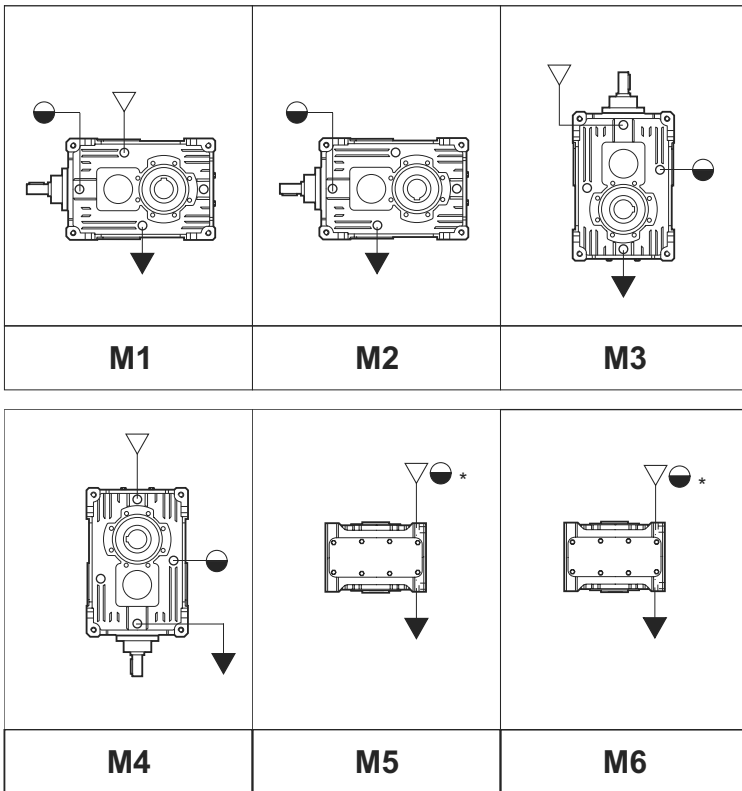
Frequenza cambi olio [h] - Oil change in ter vals [h] -Интервалы смены масла [ч]

Tipo olio Oil type Тип масла	Temperatura olio - Oil temperature - Температура масла		
	65°C	80°C	90°C
Minerale <i>Mineral</i> Минеральное	8000	3000	1000
Sintetico <i>Synthetic</i> Синтетическое	20000	15000	9000

Posizioni di montaggio

Mounting positions

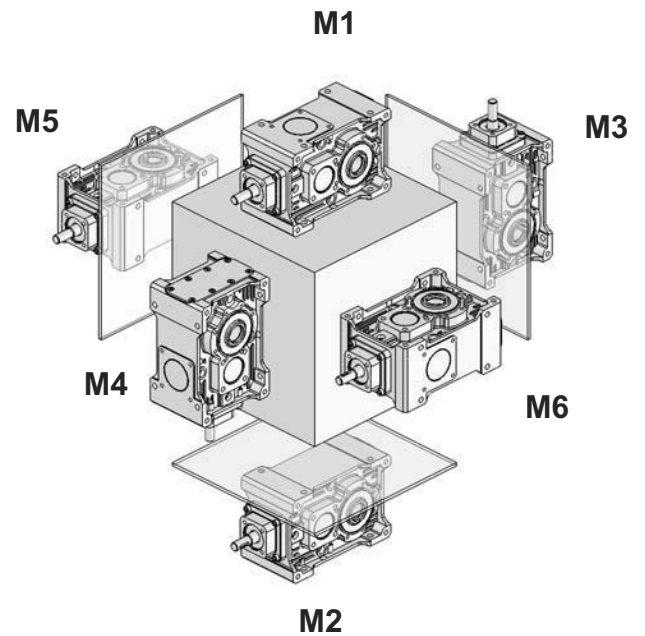
Монтажное положение



N.B. schema rappresentativo anche per 2 stadi
 NOTE Diagram applies to double reduction units as well
 Примечание: Схема также относится к двухступенчатым и трехступенчатым редукторам.

* Fare riferimento al quantitativo
 * Please refer to the quantity
 * Обратите внимание на количество

RXO

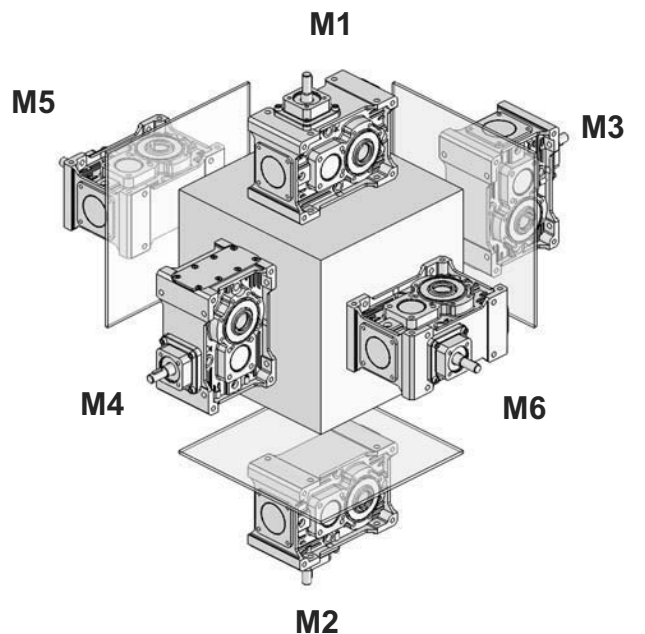


L'esecuzione grafica rappresentata è la C1-C2.
 Per le altre esecuzioni grafiche vedere sezione POSIZIONI MONTAGGIO.

The noted version is C1-C2.
 To see further alternatives please refer to section MOUNTING POSITIONS.

Указаны версии C1-C2
 Чтобы увидеть дальнейшие альтернативы обратитесь к главе "Монтажные положения".

RXV



L'esecuzione grafica rappresentata è la C1-C2.
 Per le altre esecuzioni grafiche vedere sezione POSIZIONI MONTAGGIO.

The noted version is C1-C2.
 To see further alternatives please refer to section MOUNTING POSITIONS.

Указаны версии C1-C2
 Чтобы увидеть дальнейшие альтернативы обратитесь к главе "Монтажные положения".

▽ Carico / Filler plug / Заливная пробка
 ▼ Scarico / Drain plug / Сливная пробка
 ● Livello / Level plug / Пробка уровня

Quantita di lubrificante / Lubricant quantity / Количество масла [Kg]										
		Posizione di montaggio Mounting position Монтажное положение						Stato di fornitura State of supply Состояние подачи	N° tappi No. of plugs Количество пробок	Posizione di montaggio Mounting position Монтажное положение
		M1	M2	M3	M4	M5	M6			
RXO1	704	0.600						Riduttori forniti completi di lubrificante sintetico Gearboxes supplied with synthetic oil Коробки передач с подачей синтетических масел	8	Non necessaria Not necessary Необязательно
	708	1.00	1.00	1.40	1.20	1.30	1.30	Riduttori predisposti per lubrificazione ad olio* Gearboxes supplied ready for oil lubrication Коробки передач с подачей маслянной смазки	8	Necessaria Necessary Обязательно
	712	2.20	2.20	2.50	2.50	2.60	2.60			
	716	4.00	4.00	4.40	4.40	4.50	4.50			
RXO2	708	1.10	1.10	1.40	1.40	1.20	1.20	Riduttori predisposti per lubrificazione ad olio* Gearboxes supplied ready for oil lubrication Коробки передач с подачей маслянной смазки	8	Necessaria Necessary Обязательно
	712	2.20	2.20	2.50	2.50	2.60	2.60			
	716	-	-	-	-	-	-			

Quantita di lubrificante / Lubricant quantity / Количество масла [Kg]										
		Posizione di montaggio Mounting position Монтажное положение						Stato di fornitura State of supply Состояние подачи	N° tappi No. of plugs Количество пробок	Posizione di montaggio Mounting position Монтажное положение
		M1	M2	M3	M4	M5	M6			
RXV1	704	0.600						Riduttori forniti completi di lubrificante sintetico Gearboxes supplied with synthetic oil Коробки передач с подачей синтетических масел	8	Non necessaria Not necessary Необязательно
	708	1.00	1.00	1.40	1.20	1.30	1.30	Riduttori predisposti per lubrificazione ad olio* Gearboxes supplied ready for oil lubrication Коробки передач с подачей маслянной смазки	8	Necessaria Necessary Обязательно
	712	2.20	2.20	2.50	2.50	2.60	2.60			
	716	4.00	4.00	4.40	4.40	4.50	4.50			
RXV2	708	1.10	1.10	1.40	1.40	1.20	1.20	Riduttori predisposti per lubrificazione ad olio* Gearboxes supplied ready for oil lubrication Коробки передач с подачей маслянной смазки	8	Necessaria Necessary Обязательно
	712	2.20	2.20	2.50	2.50	2.60	2.60			
	716	-	-	-	-	-	-			

Le quantita di olio sono approssimative; per una corretta lubrificazione occorre fare riferimento al livello segnato sul riduttore.

Oil quantities listed in the table are approximate; to ensure correct lubrication, please refer to the level mark on the gear unit.

Количество масла указанное в таблице приблизительно; чтобы гарантировать требуемое количества масла ориентируйтесь по показателю уровня на редукторе

*Su richiesta possono essere forniti completi di lubrificante sintetico del tipo Tivela Oil S320 (Shell).

*On request they can be supplied oil filled with synthetic lubricant Tivela Oil S320 by Shell.

По запросу они могут поставляться заправленные синтетическим маслом Trivella S320 (Shell).

3.3 Carichi radiali e assiali

Come carico assiale ammissibile contemporaneo si ha:

$$F_{a1-2} = 0.2 \times F_{r1-2}$$

Per i carichi non agenti sulla mezzeria dell'albero lento o veloce si ha:

a 0.3 della sporgenza:
 $F_{rx} = 1.25 \times F_{r1-2}$
 a 0.8 dalla sporgenza:
 $F_{rx} = 0.8 \times F_{r1-2}$

3.3 Axial and overhung loads

Contemporary permissible axial load is given by the following formula:

$$F_{a1-2} = 0.2 \times F_{r1-2}$$

For loads which are not applied on the centreline of the output or input shaft, following values will be obtained:

at 0.3 from extension:
 $F_{rx} = 1.25 \times F_{r1-2}$
at 0.8 from extension:
 $F_{rx} = 0.8 \times F_{r1-2}$

3.3 Осевая и внешняя радиальная нагрузка

Допустимая нагрузка определяется по данной формуле:

$$F_{a1-2} = 0.2 \times F_{r1-2}$$

Для нагрузок не приложенных к центру входного или выходного вала, подойдут следующие значения:

на 0.3 от удлинения:
 $F_{rx} = 1.25 \times F_{r1-2}$
 на 0.8 от удлинения:
 $F_{rx} = 0.8 \times F_{r1-2}$

Calcolo Fr

Per calcolare il carico Fr agente sull'albero lento diamo formule approssimate per alcune trasmissioni piú comuni, per la determinazione del carico radiale su albero veloce o lento.

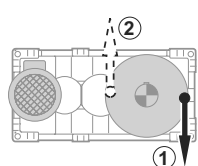
Fr calculation

Use the formula and the approximate factors for input or output overhung load determination referred to the most common drive members to calculate Fr load at output shaft.

Расчет Fr

Чтобы рассчитать радиальную Fr нагрузку на входной и выходной валы используйте ниже приведённые формулы и коэффициенты.

$Fr = k \cdot \frac{T}{d}$	Fr [N] Carico radiale approssimato Approximate overhung load Радиальная нагрузка	d [mm] Diametro pulegge, ruote Pulley diameter, wheels Диаметр шкива, колеса	k Fattore di collegamento Connection factor Тип соединения	T [Nm] Momento torcente Torque Крутящий момент	
k =	7000	5000	3000	2120	2000
Trasmissioni Drive member Ведущая деталь	Ruote di frizione (gomma su metallo) Friction wheel drive (rubber on metal) Трение колеса (резина по металлу)	Cinghie trapezoidali V belt drives Клиновой ременный привод	Cinghie dentate Toothed belts Зубчатый ремень	Ingranaggi cilindrici Spur gears Цилиндрическая передача	Catene Chain drives Цепной привод



Nel caso d sollevamento con tamburo con tiro verso il basso è preferibile che la fune si avvolga dalla parte opposta al motore (1).
Nel caso piú grave so del precedente, con tiro verso l'alto, viceversa è preferibile che la fune si avvolga dallato motore (2).

In lifting applications using winch drums in a downward pull direction, it is best for the rope to wrap on the side opposite to the motor (1).
In the more severe case of upward pull direction, the rope should wrap on motor side (2).

Если используется барабанная лебедка в низходящем направлении, то лучше всего обернуть тросом сторону противоположную мотору.
В более тяжелых условиях, например при поднятии, трос должен быть обернут на стороне мотора.

Verifiche

Caso A)
Per carichi radiali minori di 0.25Fr_{1'} o Fr_{2'} è necessario verificare soltanto che contemporaneamente al carico radiale sia presente un carico assiale non superiore a 0.2 volte Fr_{1'} o Fr_{2'};

Caso B)
Per carichi radiali maggiori di 0.25Fr_{1'} o Fr_{2'};
1) Calcolo abbreviato: Fr(input) < Fr_{1'} e Fr (output) < Fr_{2'} e che contemporaneamente al carico radiale sia presente un carico assiale non superiore a 0.2 volte Fr_{1'} o Fr_{2'};

2) Calcolo completo per il quale occorre fornire i seguenti dati:
- momento torcente applicato o potenza applicata
- n₁ e n₂(giri al minuto dell'albero veloce e dell'albero lento)
- carico radiale Fr (direzione, intensità, verso)

Verification

Case A)
For overhung loads lower than 0.25 Fr_{1'} or Fr_{2'}, ensure that the thrust load applied simultaneously with OHL is not greater than 0.2 times Fr_{1'} or Fr_{2'};

Case B)
For overhung loads greater than 0.25 Fr_{1'} or Fr_{2'};
1) Quick calculation method: Fr(input) < Fr_{1'} and Fr (output) < Fr_{2'} and thrust load applied simultaneously with OHL not greater than 0.2 times Fr_{1'} or Fr_{2'};

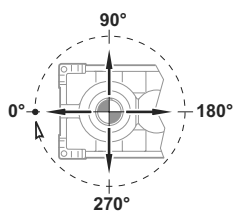
2) For the standard calculation method, the following information is required:
- applied torque or power
- n₁ and n₂ (input and output shaft min⁻¹)
- overhung load Fr (orientation, amount of loading, direction)

Проверка

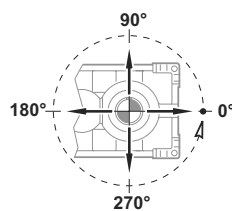
Вариант А)
Для радиал. нагрузки меньше, чем 0.25 Fr_{1'} или Fr_{2'} убедитесь, что осевая нагрузка применяемая одновременно с радиальной не больше, чем Fr_{1'} или Fr_{2'} в 0.2 раза.

Вариант В)
Для рад. нагрузок больше, чем 0.25 Fr_{1'}; Fr_{2'}
1) Быстрый метод расчета: Fr(вход) < Fr_{1'} и Fr (на выход) < Fr_{2'} и осевая нагрузка, применяемая одновременно с радиальной не больше, чем Fr_{1'} или Fr_{2'} в 0,2 раза.

2) Обычный метод расчета требует следующей информации:
- действующие нагрузки или мощность
- (обороты входного и выходного вала)
- радиальная нагрузка Fr (расположение, величина нагрузки, направление).

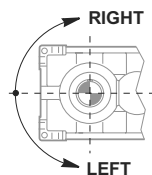


- senso di rotazione dell'albero

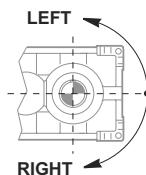


- size and type of selected gear unit

- размер и тип выбранного редуктора



- grandezza e tipo del riduttore scelto
- tipo olio impiegato e sua viscosità
- esecuzione grafica assi:
- carico assiale presente Fa



- oil type and viscosity
- shaft arrangement:
- actual thrust load Fa

- вязкость и тип масла
- расположение вала
- фактическая осевая нагрузка

Consultare il supporto Tecnico per la verifica.

Please contact our Engineering for a verification.

Пожалуйста, свяжитесь с нашими инженерами для проверки.

n_1 min ⁻¹	704						708					
	ir	n_2 min ⁻¹	P_N kW	T_N Nm	Fr_1 N	Fr_2 N	ir	n_2 min ⁻¹	P_N kW	T_N Nm	Fr_1 N	Fr_2 N
2850	9.5	299.8	7.0	210.6	300	3000	11.9	238.6	11.1	421.3	500	5000
1450		152.5	3.9	230.0	630	3350		121.4	6.2	460.0	1000	6000
1000		105.2	2.7	233.5	630	4000		83.7	4.3	466.9	1000	6700
500		52.6	1.4	233.5	630	4750		41.9	2.2	466.9	1000	8000
2850	13.8	206.3	4.8	210.6	300	3150	14.6	194.7	9.4	439.6	500	5000
1450		105.0	2.7	230.0	630	3750		99.1	5.2	480.0	1000	6300
1000		72.4	1.9	233.5	630	4250		68.3	3.7	487.2	1000	7100
500		36.2	0.9	233.5	630	5000		34.2	1.8	487.2	1000	8000
2850	15.2	187.3	4.7	228.9	300	3350	16.7	170.9	8.6	457.9	500	5000
1450		95.3	2.6	250.0	630	4000		87.0	4.8	500.0	1000	6700
1000		65.7	1.8	253.8	630	4500		60.0	3.4	507.5	1000	7100
500		32.9	0.9	253.8	630	5000		30.0	1.7	507.5	1000	8000
2850	18.5	154.0	3.7	219.8	300	3550	21.2	134.4	6.8	457.9	500	6000
1450		78.4	2.1	240.0	630	4250		68.4	3.8	500.0	1000	7100
1000		54.0	1.5	243.6	630	4750		47.1	2.6	507.5	1000	7500
500		27.0	0.7	243.6	630	5000		23.6	1.3	507.5	1000	8000
2850	22.1	128.9	3.4	238.1	250	3750	24.2	117.9	6.1	467.1	400	6000
1450		65.6	1.9	260.0	500	4500		60.0	3.4	510.0	800	7100
1000		45.2	1.3	263.9	500	5000		41.4	2.4	517.7	800	8000
500		22.6	0.7	263.9	500	5000		20.7	1.2	517.7	800	8000
2850	26.9	106.0	2.7	228.9	250	4000	31.0	91.9	4.8	476.2	400	6300
1450		53.9	1.5	250.0	500	4750		46.7	2.7	520.0	800	7500
1000		37.2	1.0	253.8	500	5000		32.2	1.9	527.8	800	8000
500		18.6	0.5	253.8	500	5000		16.1	0.9	527.8	800	8000
2850	36.4	78.3	2.0	228.9	250	4250	39.8	71.7	3.8	476.2	400	6700
1450		39.8	1.1	250.0	500	5000		36.5	2.1	520.0	800	8000
1000		27.5	0.8	253.8	500	5000		25.1	1.5	527.8	800	8000
500		13.7	0.4	253.8	500	5000		12.6	0.7	527.8	800	8000
2850	44.3	64.4	1.7	238.1	200	4500	51.0	55.8	3.0	494.5	300	7100
1450		32.8	0.9	260.0	400	5000		28.4	1.7	540.0	630	8000
1000		22.6	0.7	263.9	400	5000		19.6	1.2	548.1	630	8000
500		11.3	0.3	263.9	400	5000		9.8	0.6	548.1	630	8000
2850	52.2	54.6	1.4	228.9	200	4500	57.0	50.0	2.5	457.9	300	7100
1450		27.8	0.8	250.0	400	5000		25.4	1.4	500.0	630	8000
1000		19.2	0.5	253.8	400	5000		17.5	1.0	507.5	630	8000
500		9.6	0.3	253.8	400	5000		8.8	0.5	507.5	630	8000
2850	63.5	44.9	1.1	228.9	200	4500	73.2	38.9	2.0	457.9	300	7100
1450		22.8	0.6	250.0	400	5000		19.8	1.1	500.0	630	8000
1000		15.8	0.4	253.8	400	5000		13.7	0.8	507.5	630	8000
500		7.9	0.2	253.8	400	5000		6.8	0.4	507.5	630	8000
Potenze termiche / Thermal power / Термическая мощность P_{IN} [kW] (senza raffreddamento / Without cooling / без охлаждения)												
6						8.5						

3.4 Prestazioni riduttori RX01

3.4 RX01 gearboxes performances 3.4 Исполнение редуктора RX01

n_{1-1} min	712						716					
	ir	n_2 min ⁻¹	P_N kW	T_N Nm	Fr_1 N	Fr_2 N	ir	n_2 min ⁻¹	P_N kW	T_N Nm	Fr_1 N	Fr_2 N
2850	12.2	234.3	23.7	915.8	800	8000	12.2	234.3	44.9	1740.0	1250	12500
1450		119.2	13.1	1000.0	1600	10000		119.2	25.0	1900.0	2500	16000
1000		82.2	9.2	1015.0	1600	10600		82.2	17.5	1928.5	2500	17000
500		41.1	4.6	1015.0	1600	11800		41.1	8.7	1928.5	2500	20000
2850	14.6	194.7	19.7	915.8	800	8000	14.6	194.7	39.3	1831.6	1250	12500
1450		99.1	10.9	1000.0	1600	10000		99.1	21.8	2000.0	2500	16000
1000		68.3	7.6	1015.0	1600	11200		68.3	15.3	2030.0	2500	18000
500		34.2	3.8	1015.0	1600	12500		34.2	7.6	2030.0	2500	20000
2850	17.0	168.0	18.7	1007.4	800	8000	17.0	168.0	33.9	1831.6	1250	14000
1450		85.5	10.4	1100.0	1600	10000		85.5	18.8	2000.0	2500	16000
1000		59.0	7.3	1116.5	1600	11200		59.0	13.2	2030.0	2500	19000
500		29.5	3.6	1116.5	1600	12500		29.5	6.6	2030.0	2500	20000
2850	21.2	134.4	14.9	1007.4	800	8500	21.2	134.4	28.5	1923.2	1250	15000
1450		68.4	8.3	1100.0	1600	10600		68.4	15.8	2100.0	2500	17000
1000		47.1	5.8	1116.5	1600	11800		47.1	11.1	2131.5	2500	20000
500		23.6	2.9	1116.5	1600	12500		23.6	5.5	2131.5	2500	20000
2850	24.6	115.9	11.7	915.8	650	10000	24.6	115.9	24.6	1923.2	1000	15000
1450		59.0	6.5	1000.0	1250	11200		59.0	13.7	2100.0	2000	18000
1000		40.7	4.6	1015.0	1250	12500		40.7	9.6	2131.5	2000	20000
500		20.3	2.3	1015.0	1250	12500		20.3	4.8	2131.5	2000	20000
2850	31.0	91.9	9.3	915.8	650	10000	31.9	89.2	18.0	1831.6	1000	16000
1450		46.7	5.2	1000.0	1250	11800		45.4	10.0	2000.0	2000	19000
1000		32.2	3.6	1015.0	1250	12500		31.3	7.0	2030.0	2000	20000
500		16.1	1.8	1015.0	1250	12500		15.7	3.5	2030.0	2000	20000
2850	40.5	70.4	7.1	915.8	650	10600	40.5	70.4	14.2	1831.6	1000	17000
1450		35.8	4.0	1000.0	1250	12500		35.8	7.9	2000.0	2000	20000
1000		24.7	2.8	1015.0	1250	12500		24.7	5.5	2030.0	2000	20000
500		12.4	1.4	1015.0	1250	12500		12.4	2.8	2030.0	2000	20000
2850	51.0	55.8	5.6	915.8	500	11200	52.6	54.2	10.9	1831.6	800	18000
1450		28.4	3.1	1000.0	1000	12500		27.6	6.1	2000.0	1600	20000
1000		19.6	2.2	1015.0	1000	12500		19.0	4.3	2030.0	1600	20000
500		9.8	1.1	1015.0	1000	12500		9.5	2.1	2030.0	1600	20000
2850	58.0	49.1	5.0	915.8	500	11200	58.0	49.1	9.9	1831.6	800	18000
1450		25.0	2.8	1000.0	1000	12500		25.0	5.5	2000.0	1600	20000
1000		17.2	1.9	1015.0	1000	12500		17.2	3.9	2030.0	1600	20000
500		8.6	1.0	1015.0	1000	12500		8.6	1.9	2030.0	1600	20000
2850	73.2	38.9	3.9	915.8	500	12500	75.4	37.8	7.6	1831.6	800	18000
1450		19.8	2.2	1000.0	1000	12500		19.2	4.2	2000.0	1600	20000
1000		13.7	1.5	1015.0	1000	12500		13.3	3.0	2030.0	1600	20000
500		6.8	0.8	1015.0	1000	12500		6.6	1.5	2030.0	1600	20000
Potenze termiche / Thermal power / Термическая мощность P_{TN} [kW] (senza raffreddamento / Without cooling / без охлаждения)												
13.5						18						

RX700

3.4 Prestazioni riduttori RX02

3.4 RX02 gearboxes performances 3.4 Исполнение редуктора RX02

n_{1-1} min	708						712						
	ir	n_2 min ⁻¹	P_N kW	T_N Nm	Fr_1 N	Fr_2 N	ir	n_2 min ⁻¹	P_N kW	T_N Nm	Fr_1 N	Fr_2 N	
2850	68.5	41.6	3.0	641.1	350	8000	60.8	46.9	5.8	1099	500	12500	
1450		21.2	1.7	700.0	630	8000		23.8	3.2	1200	1000	12500	
1000		14.6	1.2	710.5	630	8000		16.4	2.3	1218	1000	12500	
500	86.4	7.3	0.6	710.5	630	8000	74.5	8.2	1.1	1218	1000	12500	
2850		33.0	2.4	641.1	350	8000		38.2	4.9	1145	500	12500	
1450		16.8	1.3	700.0	630	8000		19.5	2.7	1250	1000	12500	
1000	99.5	11.6	0.9	710.5	630	8000	98.4	13.4	1.9	1269	1000	12500	
500		5.8	0.5	710.5	630	8000		6.7	1.0	1269	1000	12500	
2850		28.6	2.1	641.1	350	8000		29.0	3.9	1191	500	12500	
1450	124.9	14.6	1.1	700.0	630	8000	125.2	14.7	2.2	1300	1000	12500	
1000		10.0	0.8	710.5	630	8000		10.2	1.5	1320	1000	12500	
500		5.0	0.4	710.5	630	8000		5.1	0.8	1320	1000	12500	
2850	143.1	22.8	1.7	659.4	250	8000	142.6	22.8	3.1	1209	400	12500	
1450		11.6	0.9	720.0	500	8000		11.6	1.7	1320	800	12500	
1000		8.0	0.7	730.8	500	8000		8.0	1.2	1340	800	12500	
500	186.6	4.0	0.3	730.8	500	8000	168.1	4.0	0.6	1340	800	12500	
2850		19.9	1.5	668.5	250	8000		20.0	2.8	1236	400	12500	
1450		10.1	0.8	730.0	500	8000		10.2	1.5	1350	800	12500	
1000	235.6	7.0	0.6	741.0	500	8000	202.5	7.0	1.1	1370	800	12500	
500		3.5	0.3	741.0	500	8000		3.5	0.5	1370	800	12500	
2850		15.3	1.1	668.5	250	8000		17.0	2.4	1282	400	12500	
1450	263.7	7.8	0.6	730.0	500	8000	234.7	8.6	1.4	1400	800	12500	
1000		5.4	0.4	741.0	500	8000		6.0	1.0	1421	800	12500	
500		2.7	0.2	741.0	500	8000		3.0	0.5	1421	800	12500	
2850	302.4	12.1	0.9	668.5	200	8000	259.9	14.1	2.0	1282	400	12500	
1450		6.2	0.5	730.0	400	8000		7.2	1.1	1400	800	12500	
1000		4.2	0.4	741.0	400	8000		4.9	0.8	1421	800	12500	
500	343.5	2.1	0.2	741.0	400	8000	296.1	2.5	0.4	1421	800	12500	
2850		10.8	0.8	668.5	200	8000		12.1	1.8	1282	315	12500	
1450		5.5	0.5	730.0	400	8000		6.2	1.0	1400	630	12500	
1000	378.2	3.8	0.3	741.0	400	8000	304.1	4.3	0.7	1421	630	12500	
500		1.9	0.2	741.0	400	8000		2.1	0.3	1421	630	12500	
2850		9.4	0.7	677.7	200	8000		11.0	1.6	1282	315	12500	
1450	433.6	4.8	0.4	740.0	400	8000	372.7	5.6	0.9	1400	630	12500	
1000		3.3	0.3	751.1	400	8000		3.8	0.6	1421	630	12500	
500		1.7	0.1	751.1	400	8000		1.9	0.3	1421	630	12500	
2850	500.2	8.3	0.6	641.1	200	8000	424.6	9.6	1.4	1282	315	12500	
1450		4.2	0.3	700.0	400	8000		4.9	0.8	1400	630	12500	
1000		2.9	0.2	710.5	400	8000		3.4	0.5	1421	630	12500	
500	302.4	1.5	0.1	710.5	400	8000	304.1	1.7	0.3	1421	630	12500	
2850		7.5	0.5	641.1	200	8000		9.4	1.3	1209	315	12500	
1450		3.8	0.3	700.0	400	8000		4.8	0.7	1320	630	12500	
1000	433.6	2.6	0.2	710.5	400	8000	372.7	3.3	0.5	1340	630	12500	
500		1.3	0.1	710.5	400	8000		1.6	0.2	1340	630	12500	
2850		6.6	0.4	604.4	200	8000		7.6	1.0	1209	315	12500	
1450	500.2	3.3	0.2	660.0	400	8000	424.6	3.9	0.6	1320	630	12500	
1000		2.3	0.2	669.9	400	8000		2.7	0.4	1340	630	12500	
500		1.2	0.1	669.9	400	8000		1.3	0.2	1340	630	12500	
2850	500.2	5.7	0.4	604.4	200	8000	424.6	6.7	0.9	1209	315	12500	
1450		2.9	0.2	660.0	400	8000		3.4	0.5	1320	630	12500	
1000		2.0	0.2	669.9	400	8000		2.4	0.4	1340	630	12500	
500	500.2	1.0	0.1	669.9	400	8000	424.6	1.2	0.2	1340	630	12500	
Potenze termiche / Thermal power / Термическая мощность P_{IN} [kW] (senza raffreddamento / Without cooling / без охлаждения)													
11						16							

3.4 Prestazioni riduttori RX02

3.4 RX02 gearboxes performances 3.4 Исполнение редуктора RX02

$n_{1\text{min}}$	716										
	ir	n_2 min ⁻¹	P_N kW	T_N Nm	Fr_1 N	Fr_2 N					
2850	61,9	46,0	11,4	2198	800	20000					
1450		23,4	6,3	2400	1600	20000					
1000		16,1	4,4	2436	1600	20000					
500	74,5	8,1	2,2	2436	1600	20000					
2850		38,2	10,3	2381	800	20000					
1450		19,5	5,7	2600	1600	20000					
1000	100,1	13,4	4,0	2639	1600	20000					
500		6,7	2,0	2639	1600	20000					
2850		28,5	7,9	2473	800	20000					
1450	125,2	14,5	4,4	2700	1600	20000					
1000		10,0	3,1	2741	1600	20000					
500		5,0	1,5	2741	1600	20000					
2850	145,0	22,8	6,6	2564	625	20000					
1450		11,6	3,7	2800	1250	20000					
1000		8,0	2,6	2842	1250	20000					
500	177,7	4,0	1,3	2842	1250	20000					
2850		19,6	6,1	2747	625	20000					
1450		10,0	3,4	3000	1250	20000					
1000	206,0	6,9	2,4	3045	1250	20000					
500		3,4	1,2	3045	1250	20000					
2850		16,0	5,0	2747	625	20000					
1450	238,7	8,2	2,8	3000	1250	20000					
1000		5,6	1,9	3045	1250	20000					
500		2,8	1,0	3045	1250	20000					
2850	267,6	13,8	4,3	2747	625	20000					
1450		7,0	2,4	3000	1250	20000					
1000		4,9	1,7	3045	1250	20000					
500	310,2	2,4	0,8	3045	1250	20000					
2850		11,9	3,6	2656	500	20000					
1450		6,1	2,0	2900	1000	20000					
1000	342,3	4,2	1,4	2944	1000	20000					
500		2,1	0,7	2944	1000	20000					
2850		10,6	3,1	2564	500	20000					
1450	383,8	5,4	1,7	2800	1000	20000					
1000		3,7	1,2	2842	1000	20000					
500		1,9	0,6	2842	1000	20000					
2850	444,8	9,2	2,7	2564	500	20000					
1450		4,7	1,5	2800	1000	20000					
1000		3,2	1,0	2842	1000	20000					
500	383,8	1,6	0,5	2842	1000	20000					
2850		8,3	2,4	2564	500	20000					
1450		4,2	1,3	2800	1000	20000					
1000	342,3	2,9	0,9	2842	1000	20000					
500		1,5	0,5	2842	1000	20000					
2850		7,4	2,1	2518	500	20000					
1450	383,8	3,8	1,2	2750	1000	20000					
1000		2,6	0,8	2791	1000	20000					
500		1,3	0,4	2791	1000	20000					
2850	444,8	6,4	1,8	2473	500	20000					
1450		3,3	1,0	2700	1000	20000					
1000		2,2	0,7	2741	1000	20000					
500		1,1	0,3	2741	1000	20000					
Potenze termiche / Thermal power / Термическая мощность P_N [kW] (senza raffreddamento / Without cooling / без охлаждения)											
22											

3.4.1 Motori Applicabili

3.4.1 Compatible motors

3.4.1 Совместимость с моторами

PAM..
PAM...G

		IEC								
		63 (B5)	71 (B5)	80 (B5)	90 (B5)	100 (B5)	112 (B5)	132 (B5)	160 (B5)	180 (B5)
RXO1-RXV1	704									
	708									
	712									
	716					PAM100 PAM100G	PAM112 PAM112G	— PAM132G	— PAM160G	— PAM180G
RXO2-RXV2	708									
	712									
	716									

PAM...D

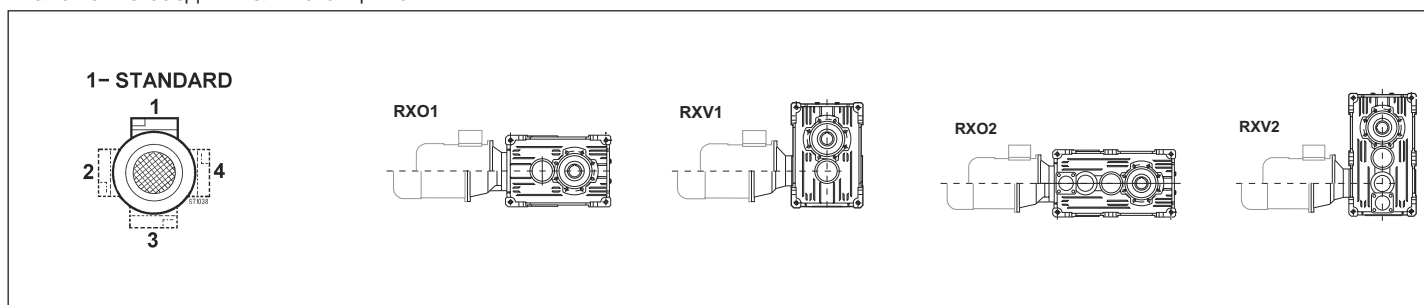
	IEC	ir
		Tutti/All / Все
RXO-V1 704 RXO-V2 708	90	24/200 (B5) - 24/140 (B14) - 24/160 - 24/120
	80	19/200 (B5) - 19/120 (B14) - 19/160 - 19/140
	71	14/160 (B5) - 14/200 - 14/140 - 14/120
	63	11/140 (B5) - 11/200 - 11/160 - 11/120
RXO-V1 708 RXO-V2 712	112	28/250 (B5) - 28/160 (B14) - 28/200 - 28/140 - 28/120
	100	28/250 (B5) - 28/160 (B14) 28/200 - 28/140 - 28/120
	90	24/200 (B5) - 24/140 (B14) 24/250 - 24/160 - 24/120
	80	19/200 (B5) - 19/120 (B14) 19/250 - 19/160 - 19/140
	71	14/160 (B5) - 14/250 - 14/200 - 14/140 - 14/120
RXO-V1 712 RXO-V2 716	132	38/300 (B5) - 38/200 (B14) - 38/250
	112	28/250 (B5) - 28/300 - 28/200
	100	28/250 (B5) - 28/300 - 28/200
	90	24/200 (B5) - 24/300 - 24/250
	80	19/200 (B5) - 19/300 - 19/250
RXO-V1 716	132	38/300 (B5) - 38/200 (B14) - 38/250
	112	28/250 (B5) - 28/300 - 28/200
	100	28/250 (B5) - 28/300 - 28/200
	90	24/200 (B5) - 24/300 - 24/250

N.B: Per ulteriori accoppiamenti non pre vi sta ca ta lo goon sul tæril ns. ser vi id tec ni cœom mer cia le.

NOTE: For coupling with motors not listed in this catalogue, please contact our Sales Engineers.

ПРИМЕЧАНИЕ: Для соединения с моторами не указанными в данном каталоге обратитесь к нашим инженерам продаж.

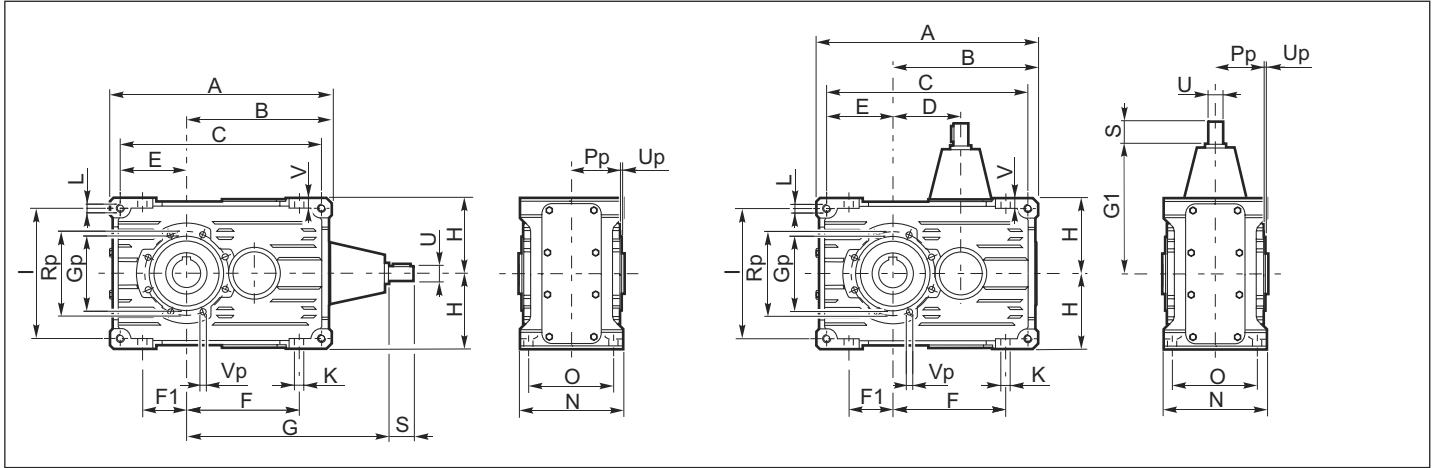
Posizione morsettiera
Terminal board position
Положение соединительного щитка



3.5 Dimensioni

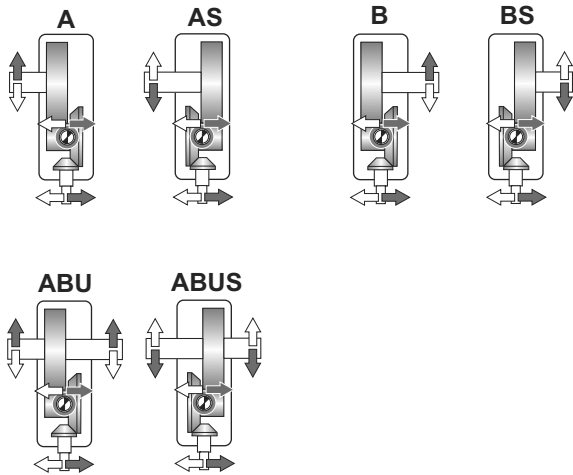
3.5 Dimensions

3.5 Габарит



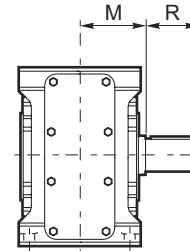
Esecuzione grafica / Shaft arrangement / Расположение вала

Albero uscita / Output shaft / Выходной вал

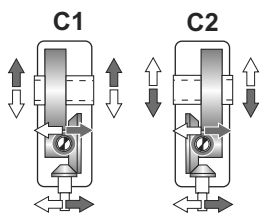


ND

N

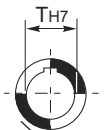
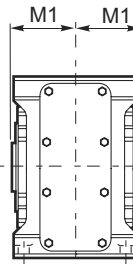


H54

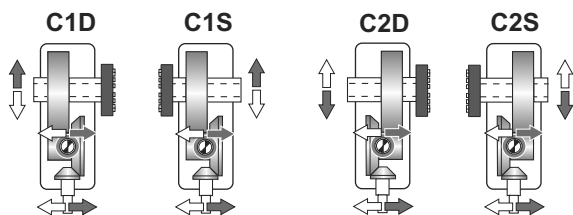


C

C

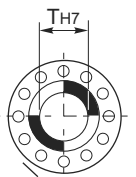
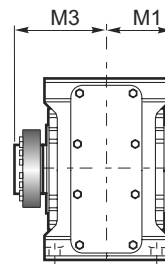


H55



UB B

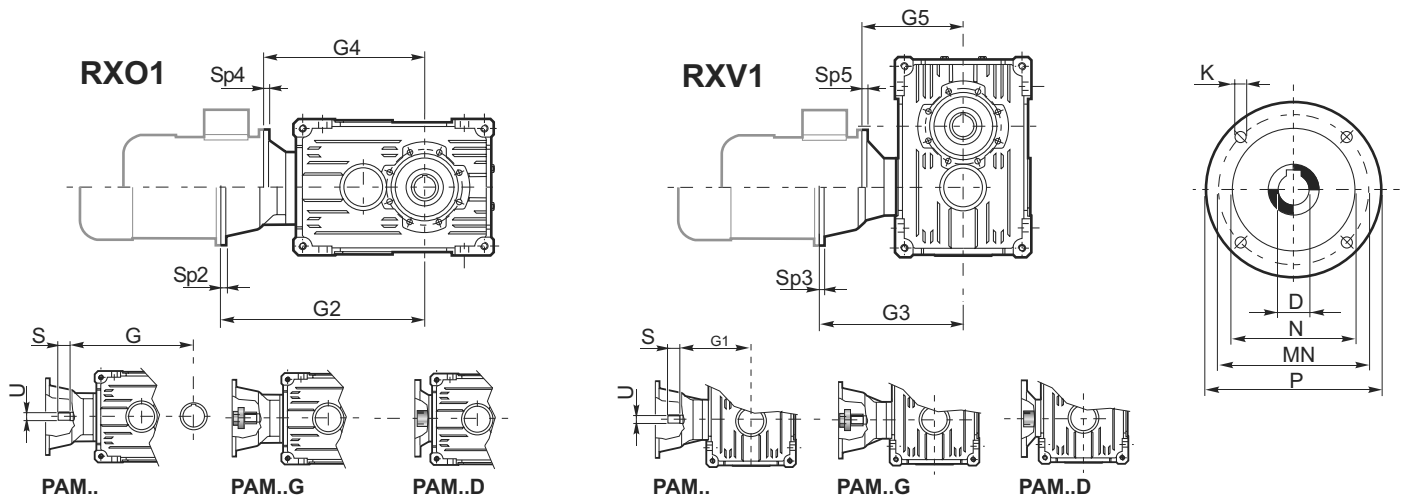
UB



H56

	Dimensioni generali / Dimensions / Габарит																				
	A	B	C	D	E	F	F1	H _{h11}	I	K	L	N _{h11}	O	V	Gp	Pp	Rp	Up	Vp	kg _{ECE}	kg _{PAM}
704	206	135	186	65	61	102	38	71	122	9	M8	112	90	10	75	51	85	3	6	12.5	15.5
708	262	172	237	80	77.5	134	52	90	155	11	M10	127	104	12	90	58.5	105	3	8	20	25
712	326	214	296	100	97	166	64	112	194	13	M12	150	125	15	110	70.5	125	3	8	34	40
716	407	267	371	127	122	209	82	140	244	15	M14	175	145	16	130	81	150	3	10	58	70

	Albero entrata / Input shaft / Входной вал				Albero uscita / Output shaft / Выходной вал							
	U	S	G	G1								
					T	R	M	T H7	M1	T H7	M1	M3
704	14 j6	30	175	110	24 j6	50	62.5	24 (28)	57.5	25	57.8	82.5
708	19 j6	40	210	130	32 k6	60	71	32 (30) (35)	65	35	65	95
712	24 j6	50	260	160	42 k6	80	85.5	42 (40) (45)	77.5	45	77.5	112.5
716	28 j6	60	317	190	55 k6	100	100	55 (50)	90	55	90	125



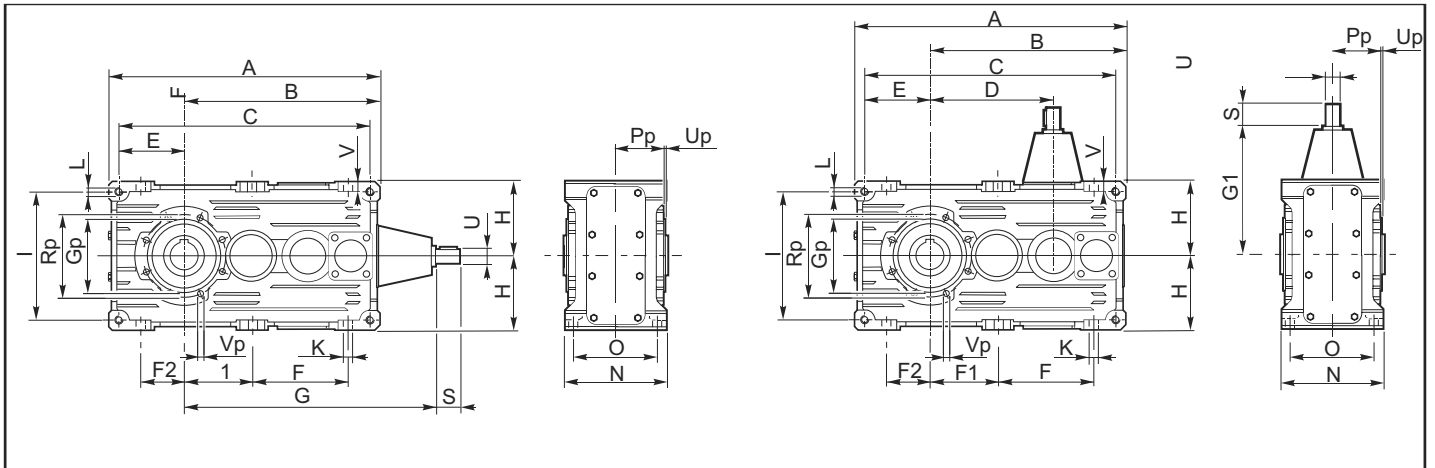
NB: Applicabilita motori al punto 3.4.1 / Possible assembly to IEC motors (see paragraph 3.4.1) / Возможна сборка IEC двигателей (см. параграф 3.4.1)

	IEC																			
	63	71	80	90	100	112	132	160	180	200										
	B5	B5	B5	B14	B5	B14	B5	B14	B5	B14	B5	B14	B5	B5	B14					
D H7	11	14	19	19	24	24	28	28	28	28	38	38	42	48	55					
P	140	160	200	120	200	140	250	160	250	160	300	200	350	350	400					
MN	115	130	165	100	165	115	215	130	215	130	265	165	300	300	350					
N G6	95	110	130	80	130	95	180	110	180	110	230	130	250	250	300					
K	M8	M8	M10	M6	M10	M8	M12	M8	M12	M8	M12	M10	M16	M16	M16					
SP2/SP3/SP4/SP5	A richiesta / On request / По запросу																			

RX01	704	PAM...G	G2	232	239	260	—	260	—								
		PAM..D	G4	205	205	205	205	205	205								
		PAM...G	G2	284	305	—	305	—	315	—	315	—					
	708	PAM..D	G4	244	244	244	244	244	244	244	244	244					
		PAM...G	G2	365	—	365	—	375	—	375	—	395	—				
	712	PAM..D	G4	311	—	311	—	311	—	311	—	311	311				
		PAM...G	G2	443	—	443	—	443	—	443	—	—	—	—	—	—	
	716	PAM..G	G2	443	—	443	—	443	—	443	—	396	—	405	405	—	
		PAM..D	G4	366	—	366	—	366	—	366	—	366	366	—	—	—	
		PAM...G	G2	167	174	195	—	195	—								
	RXV1	704	PAM..D	G5	140	140	140	140	140	140							
			PAM...G	G3	204	225	—	225	—	235	—	235	—				
PAM..D			G5	164	164	164	164	164	164	164	164	164					
708		PAM...G	G3	265	—	265	—	275	—	275	—	295	—				
		PAM..D	G5	211	—	211	—	211	—	211	—	211	211				
712		PAM...G	G3	316	—	316	—	316	—	316	—	—	—	—	—	—	
		PAM..G	G3	316	—	316	—	316	—	316	—	269	—	278	278	—	
		PAM..D	G5	239	—	239	—	239	—	239	—	239	239	—	—	—	

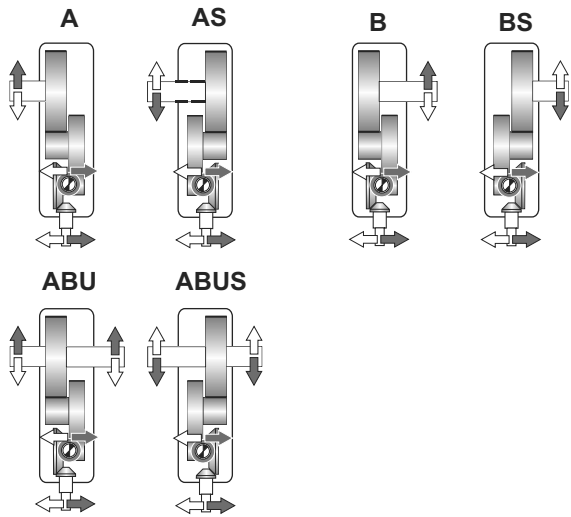
RX700

708 - 712 - 716



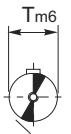
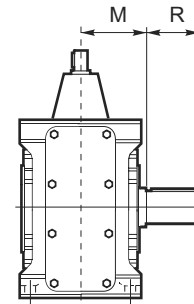
Esecuzione grafica / Shaft arrangement / Расположение вала

Albero uscita / Output shaft / Выходной вал

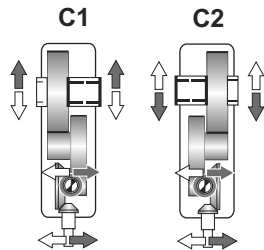


→ **N D**

N

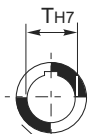
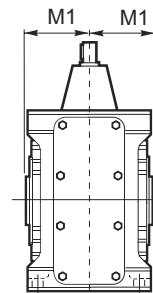


H54

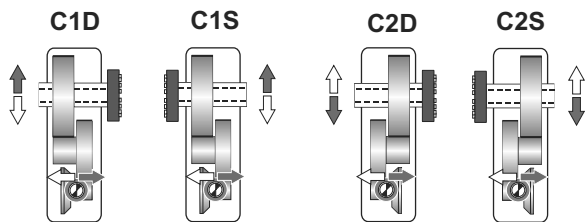


→ **C**

C

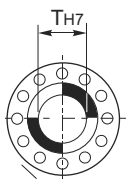
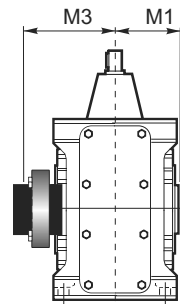


H55






→ **UB B**

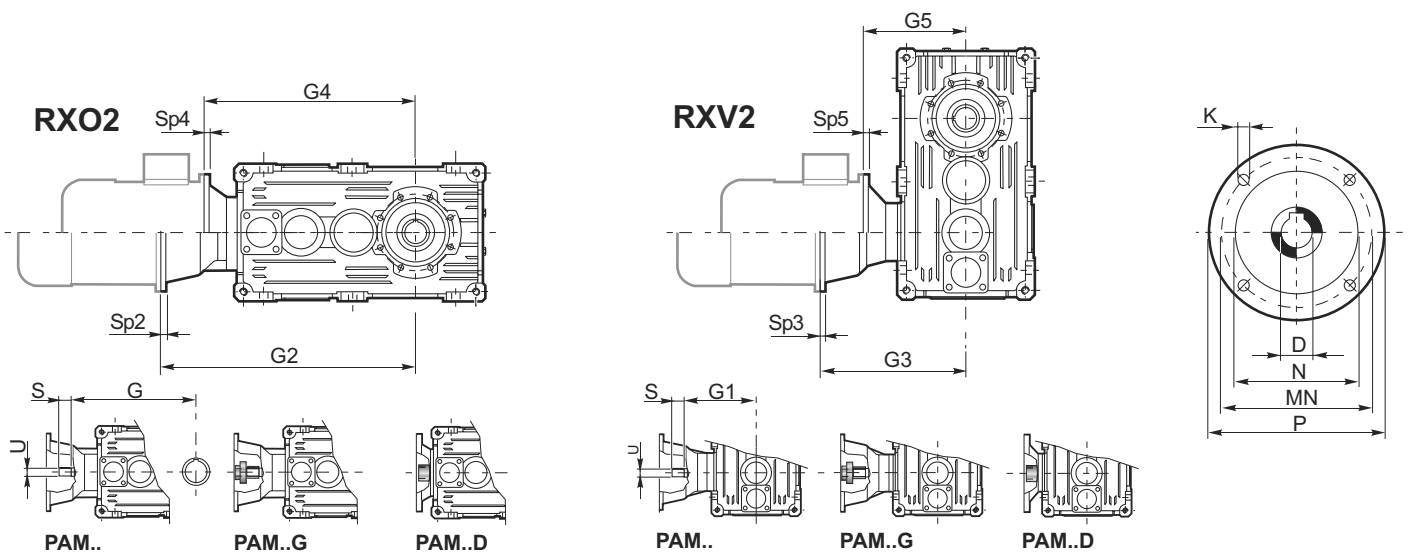
UB



H56

	Dimensioni generali / Dimensions / Габарит																					
	A	B	C	D	E	F	F1	F2	H _{h11}	I	K	L	N _{h11}	O	V	Gp	Pp	Rp	Up	Vp	kg ECE	kg PAM
708	306	226	281	141	67.5	106	82	42	80	135	11	M10	127	104	12	90	58.5	105	3	8	19	22
712	384	284	354	180	85	134	102	52	100	170	13	M12	150	125	15	110	70.5	125	3	8	36	41
716	479	354	443	227	107	169	127	67	125	214	15	M14	175	145	16	130	81	150	3	10	66	76

	Albero entrata / Input shaft / Входной вал				Albero uscita / Output shaft / Выходной вал								
	U	S	G	G1									
					T	R	M	T H7	M1	T H7	M1	M3	
708	14 k6	30	251	110	32 k6	60	71	32 (30) (35)	65	35	65	95	
712	19 k6	40	310	130	42 k6	80	85.5	42 (40) (45)	77.5	45	77.5	112.5	
716	24 k6	50	387	160	55 k6	100	100	55 (50)	90	55	90	125	



NB: Applicabilità motori al punto 3.4.1 / Possible assembly to IEC motors (see paragraph 3.4.1) / Возможна сборка IEC двигателей (см. параграф 3.4.1)

	IEC														
	63	71	80		90		100		112		132		160	180	200
	B5	B5	B5	B14	B5	B14	B5	B14	B5	B14	B5	B14	B5	B5	B14
D H7	11	14	19	19	24	24	28	28	28	28	38	38	42	48	55
P	140	160	200	120	200	140	250	160	250	160	300	200	350	350	400
MN	115	130	165	100	165	115	215	130	215	130	265	165	300	300	350
N G6	95	110	130	80	130	95	180	110	180	110	230	130	250	250	300
K	M8	M8	M10	M6	M10	M8	M12	M8	M12	M8	M12	M10	M16	M16	M16
SP2/SP3/SP4/SP5	A richiesta / On request / По запросу														

RX02	708	PAM...PAM..G	G2	308	315	336	—	336	—							
		PAM...PAM..D	G4	281	281	281	281	281	281							
		PAM...PAM..G	G2		384	405	—	405	—	415	—	415	—			
	PAM...PAM..D	G4		344	344	344	344	344	344	344	344					
	716	PAM...PAM..G	G2		492	—	492	—	502	—	502	—	522	—		
		PAM...PAM..D	G4		438	—	438	—	438	—	438	—	438	438		
RXV2	708	PAM...PAM..G	G3	167	174	195	—	195	—							
		PAM...PAM..D	G5	140	140	140	140	140	140							
		PAM...PAM..G	G3		204	225	—	225	—	235	—	235	—			
	PAM...PAM..D	G5		164	164	164	164	164	164	164	164	164				
	716	PAM...PAM..G	G3		265	—	265	—	275	—	275	—	295	—		
		PAM...PAM..D	G5		211	—	211	—	211	—	211	—	211	211		

4.0 Estremita entrata e uscita

4.0 Input and output configurations

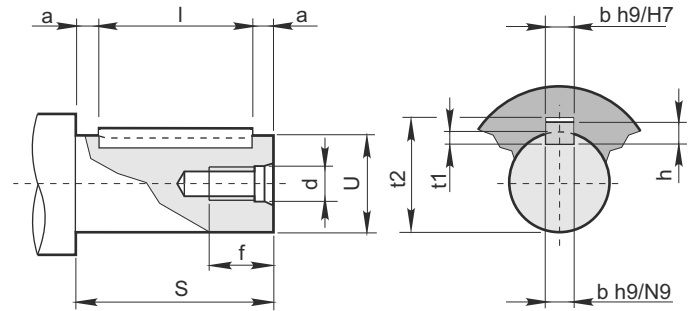
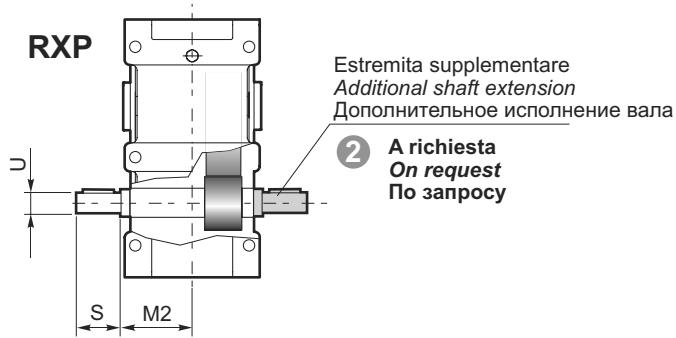
4.0 Входная и выходная конфигурация

Estremita d'albero entrata RXP

RXP Input shaft end

Конец входного вала RXP

ECE



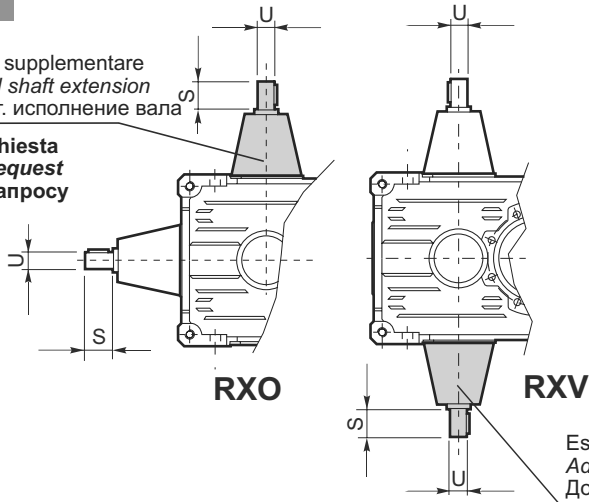
	RXP1			RXP2			RXP3		
	U	S	M2	U	S	M2	U	S	M2
704	19 j6	40	57.5						
708	24 j6	50	65	19 j6	40	65	14	30	65
712	28 j6	60	77.5	24 j6	50	77.5	19	40	77.5
716	38 k6	80	90	28 j6	60	90	24 j6	50	90

U	Foro fil. testa Tapped hole Резьбовое отверстие		Cava / Key way / Шпоночный паз			Estremita d'albero / Shaft end / Конец вала		
	d	f	b	t1	t2	S a11	a	bxhxl
14 j6	M6	14	5	3	16.3	30	2.5	5X5X25
19 j6	M6	15	6	3.5	21.8	40	5	6X6X30
24 j6	M8	20	8	4	27.3	50	5	8X7X40
28 j6	M8	20	8	4	31.3	60	5	8X7X50
38 k6	M10	27	10	5	41.3	70	5	10X8X60

ECE

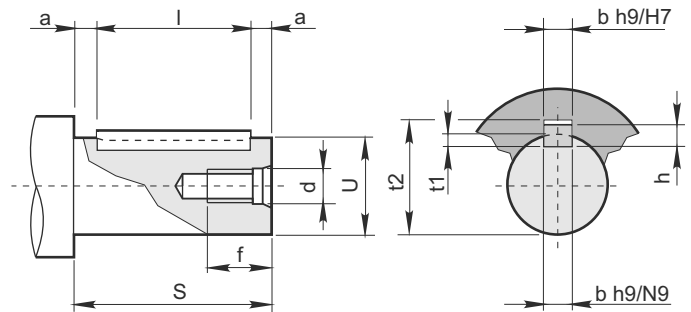
Estremita supplementare
Additional shaft extension
Дополнит. исполнение вала

1 A richiesta
On request
По запросу



Estremita supplementare
Additional shaft extension
Дополнительное исполнение вала

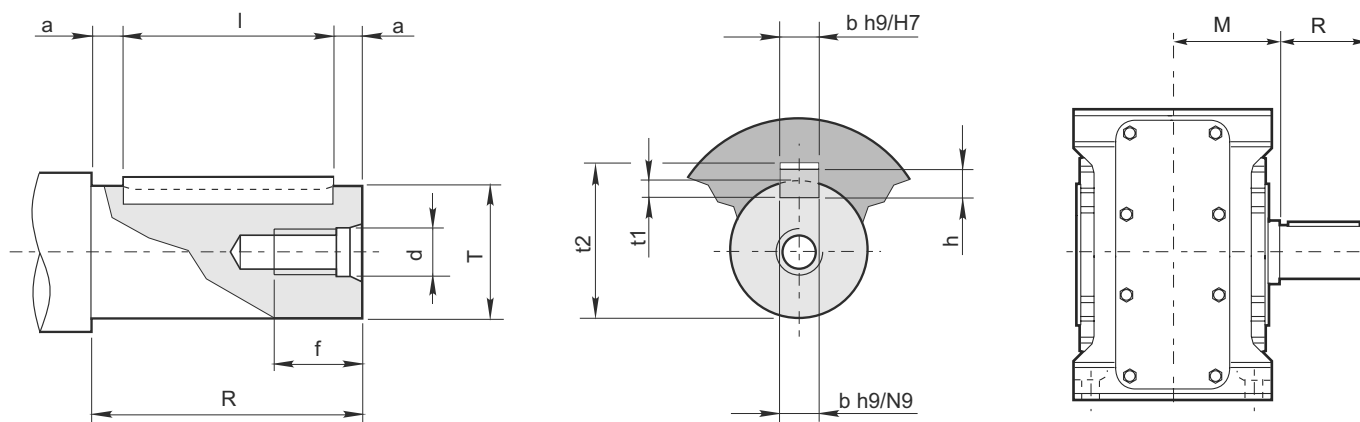
1 A richiesta
On request
По запросу



	RXO1		RXO2	
	U	S	U	S
704	14 j6	30		
708	19 j6	40	14 j6	30
712	24 j6	50	19 j6	40
716	28 k6	60	24 j6	50

U	Foro fil. testa Tapped hole Резьбовое отверстие		Cava / Keyway / Шпоночный паз			Estremita d'albero / Shaft end / Конец вала		
	d	f	b	t1	t2	S a11	a	bxhxl
14 j6	M6	14	5	3	16.3	30	2.5	5X5X25
19 j6	M6	15	6	3.5	21.8	40	5	6X6X30
24 j6	M8	20	8	4	27.3	50	5	8X7X40
28 j6	M8	20	8	4	31.3	60	5	8X7X50

N



RXP RXO RXV	Ш Albero Ш Shaft Ш Шафт		Foro fil. testa Tapped hole Резьбовое отверстие		Cava / Keyway / Шпоночный паз			Estremita d'albero / Shaft end / Конец вала		
	T	M	d	f	b	t1	t2	R a11	a	b x h x l
704	24 j6	62.5	M8	20	8	4	27.3	50	5	8X7X40
708	32 k6	71	M8	22	10	5	35.3	60	5	10x8x50
712	42 k6	85.5	M10	27	12	5	45.3	80	5	12x8x70
716	55 k6	100	M12	35	16	6	59.3	100	5	16x10x90

Albero uscita cavo

Hollow output shaft

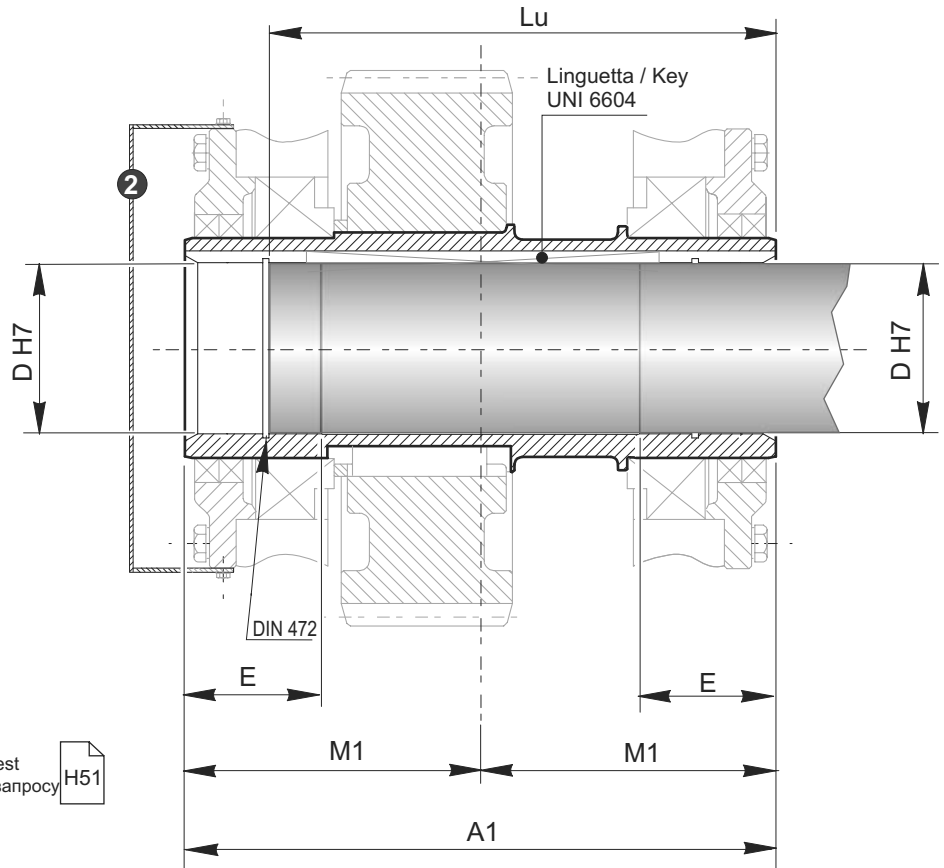
Полый выходной вал

C Standard

C.. Opzionale / *Optional* / Необязательный



2 Coperchio di protezione a richiesta
Protection cover available on request
Защитное покрытие доступно по запросу



RXP RXO RXV	A1	D	E	Lu	M1
704	115	24 (28)	32.5	101.2	57.5
708	130	32 (30) (35)	35	113.7 (113.7) (113.4)	65
712	155	42 (40) (45)	42.5	138.15	77.5
716	180	55 (50)	50	160.35	90

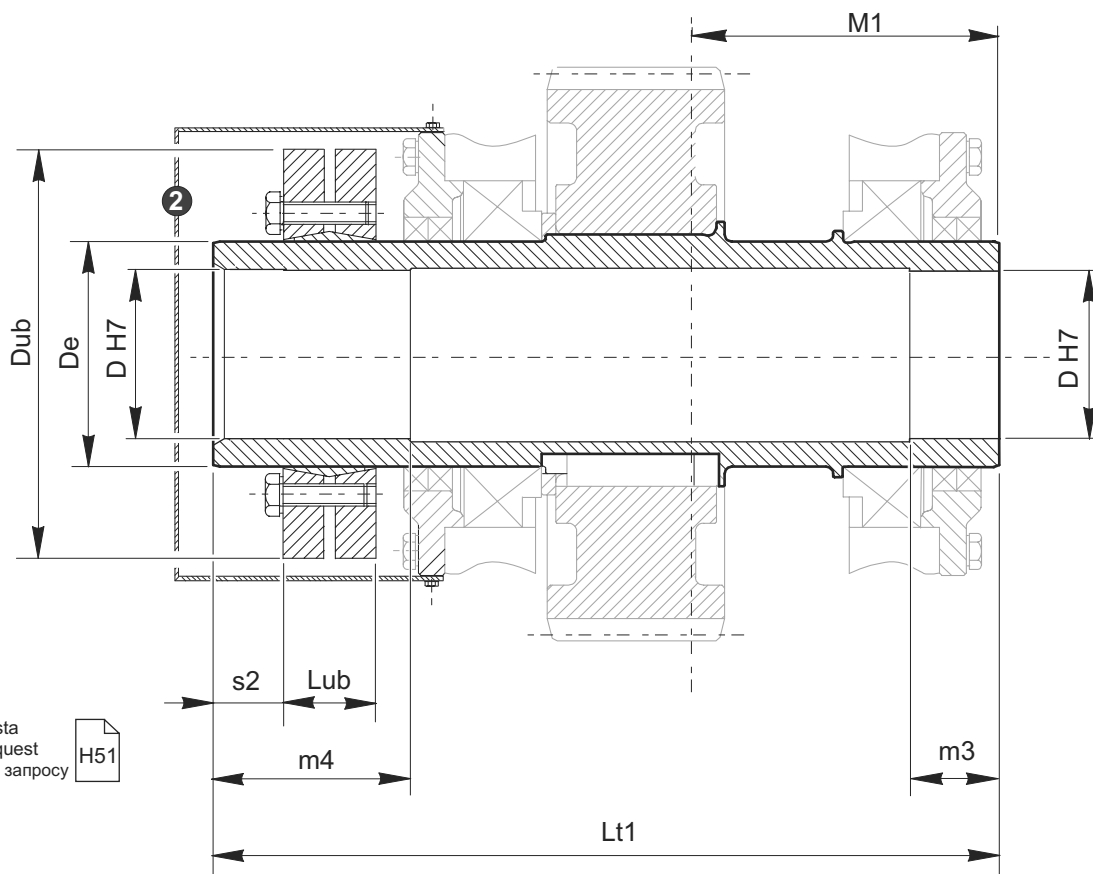
Albero uscita cavo con unita di bloccaggio

Hollow output shaft with shrink disc

Полый выходной вал со сжимным диском

UB

B



2 Coperchio di protezione a richiesta
Protection cover available on request
Защитное покрытие доступно по запросу

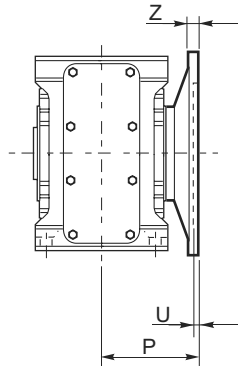
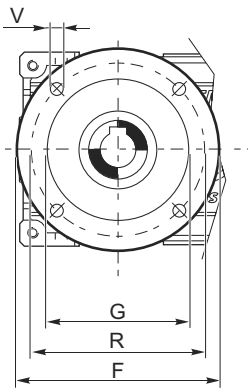
H51

RXP RXO RXV	D	De	Dub	Lt1	Lub	M1	m4	m3	s2
704	25	30	60	140	21.5	57.5	40	35	-
708	35	44	80	160	25.5	65	40	30	-
712	45	55	100	190	30.5	77.5	45	30	-
716	55	68	115	215	30.5	90	60	50	-

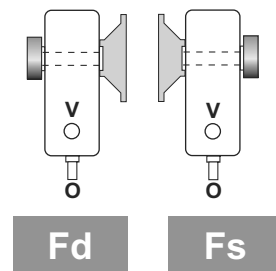
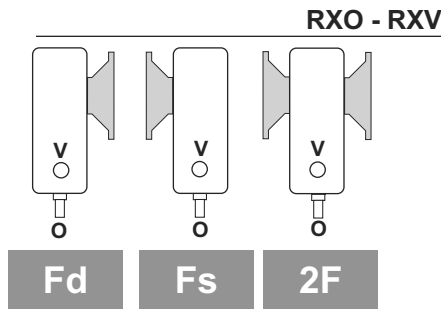
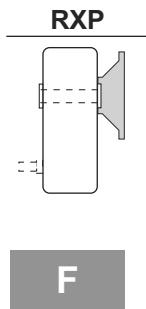
5.0 Flangia uscita

5.0 Output flange

5.0 Выходной фланец



	RXP - RXO - RXV			
	704	708	712	716
F	160	200	250	300
G F8	110	130	180	230
R	130	165	215	265
P	87	100	125	150
U	4	4.5	5	5
V	9	11	13	15
Z	8	11	14	16



6.0 Accessori e opzioni

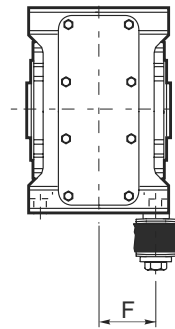
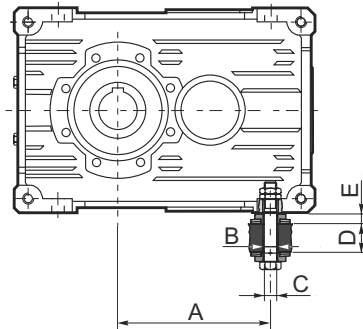
6.0 Accessories and options

6.0 Аксессуары и опции

Kit bullone di reazione

Torque arm kit

Комплект крепления реактивного кронштейна



	A			B	C	D		E	F	Molle a tazza Belleville washers Tellerfedern	
	RXP1 RXO1 RXV1	RXP2 RXO2 RXV2	RXP3			MIN	MAX			N.2 Molle a Tazza 2 Belleville washers 2 Tellerfedern	Y
704	102	.	.	9	M8	13	23	8.5	45	31.5x16.3x1.25	0.5
708	134	188	188	11	M10	16	28	9.2	52	31.5x16.3x1.75	0.5
712	166	236	236	13	M12	18	32	10	62.5	40x20.4x2	0.5
716	209	296	296	15	M14	20	35	12	72.5	40x20.4x2.5	0.5

Coperchio di protezione

Protection cover

Защитное покрытие

PROT

Coperchio di protezione per stremite rotanti a richiesta.

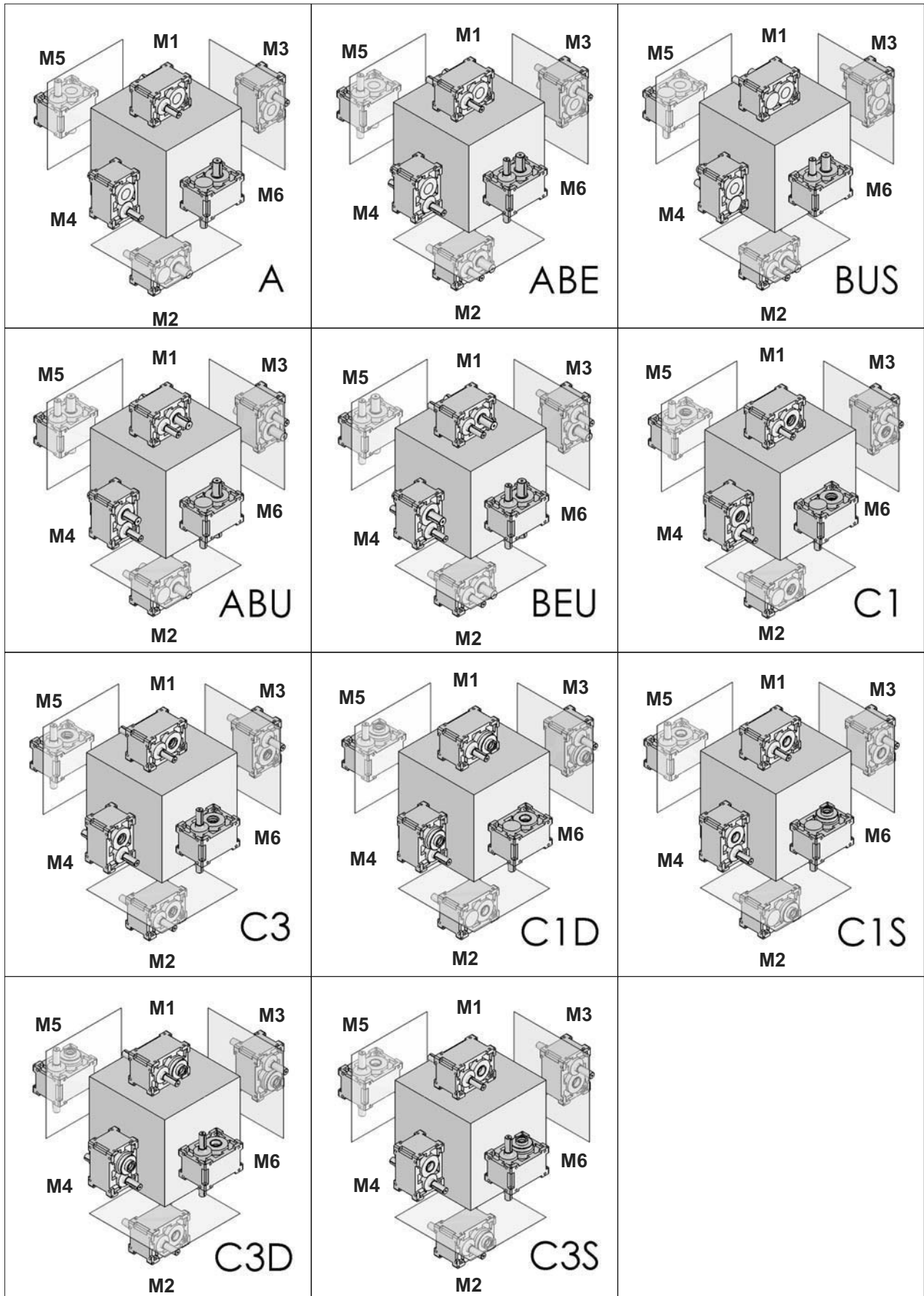
On request, an output shaft protection cover can be supplied.

Защитное покрытие на выходной вал доступно по запросу

RX700

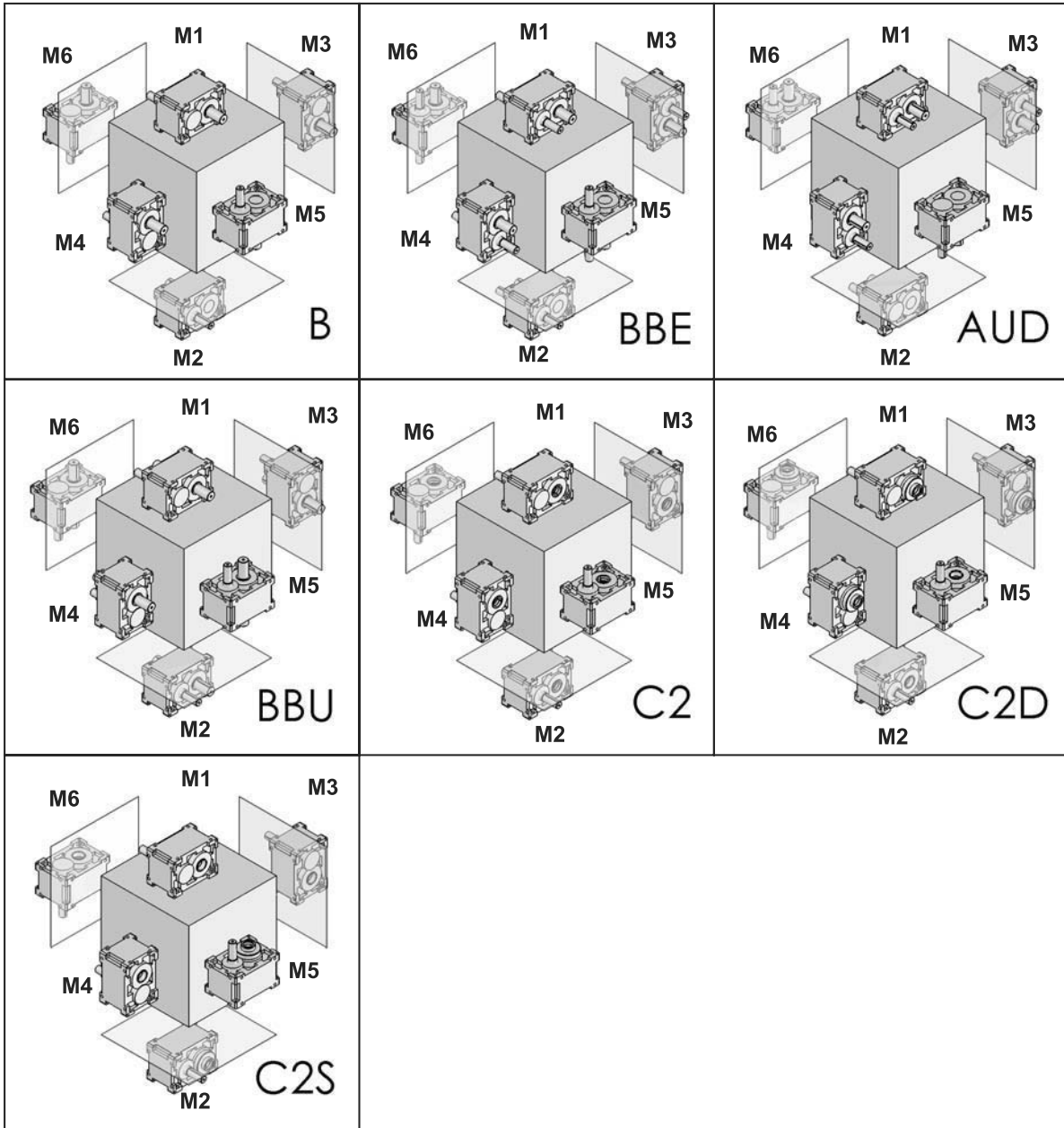
RXP1 - RXP2 - RXP3 - RXP4

Esecuzione grafica / Shaft arrangement / Расположение вала A..

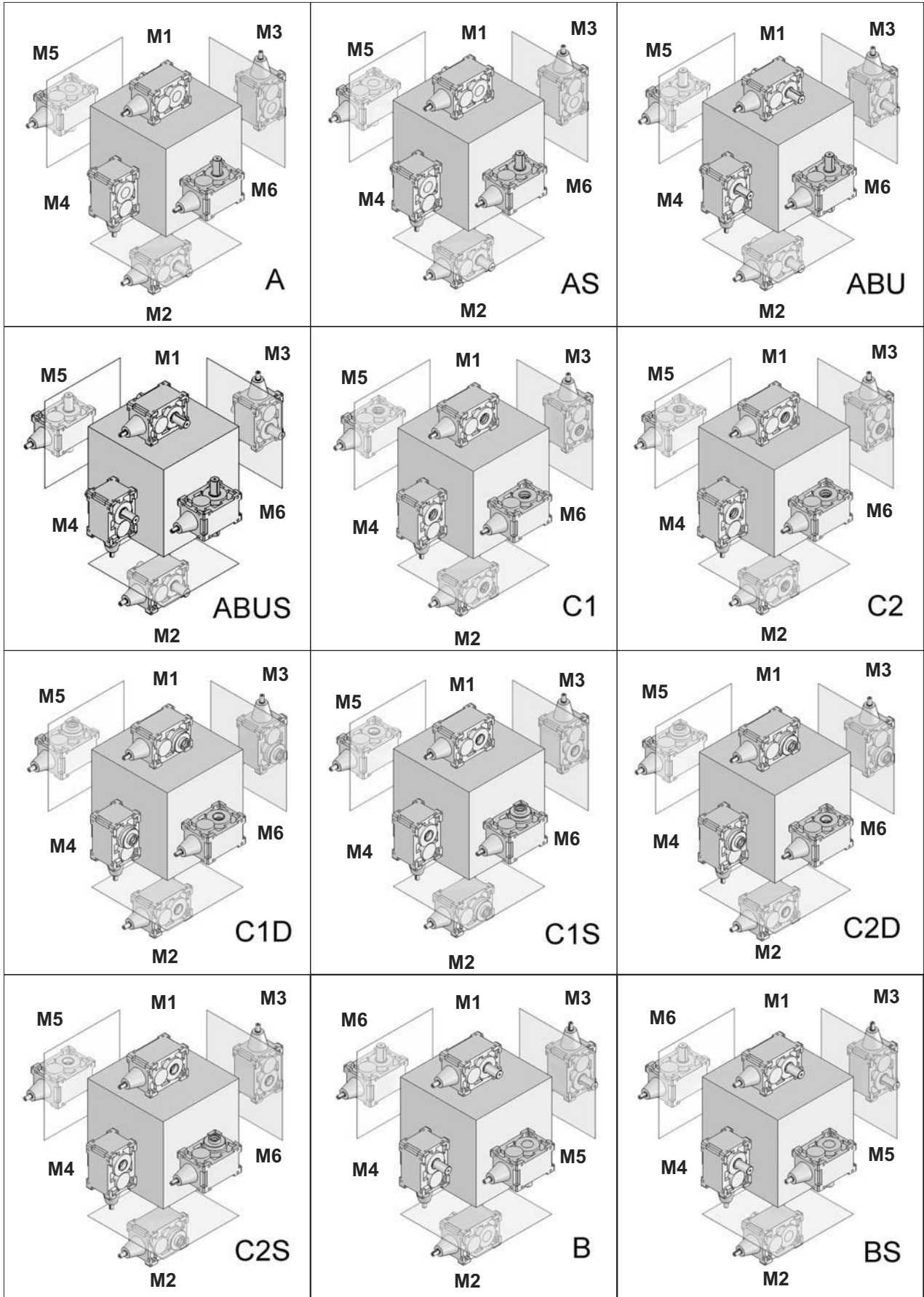


RXP1 - RXP2 - RXP3 - RXP4

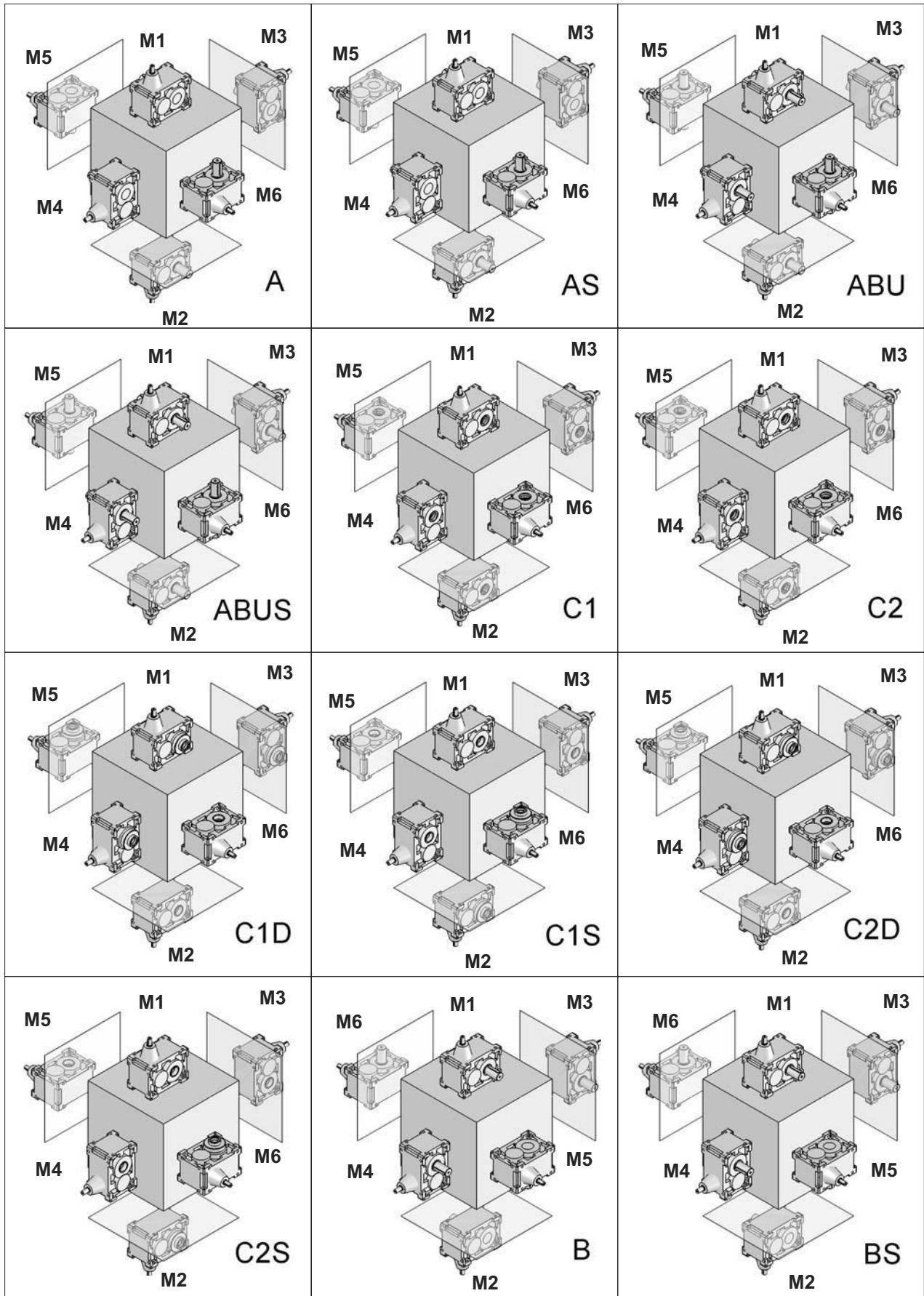
Esecuzione grafica / Shaft arrangement / Исполнение валов B..



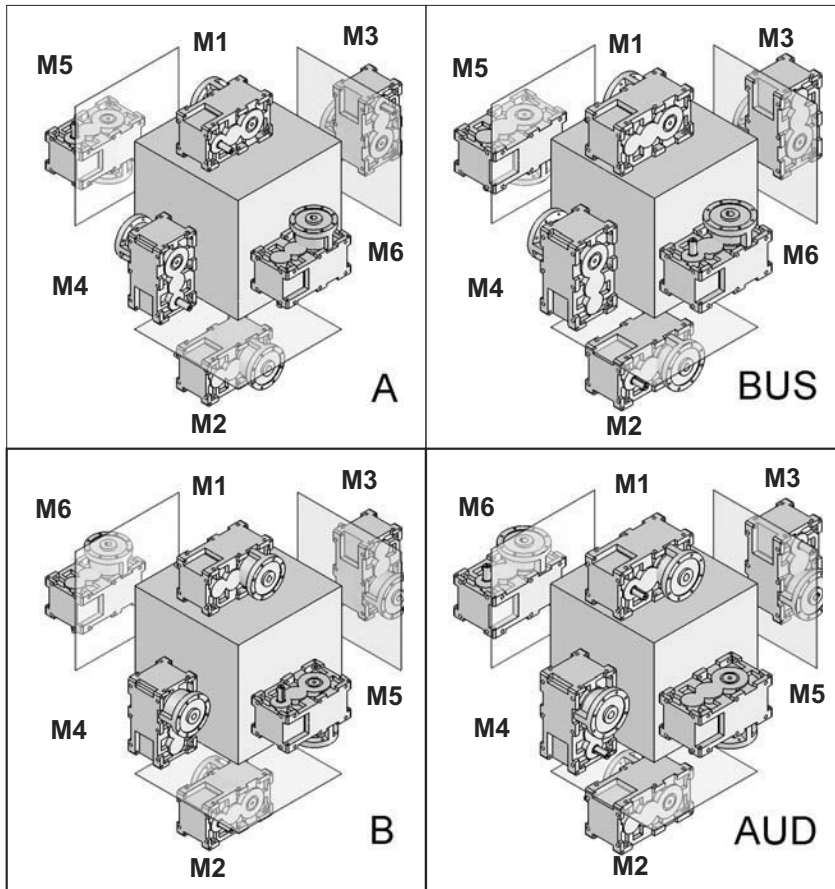
RX01 - RX02 - RX03



RXV1 - RXV2 - RXV3



RXP/EST



RX..LIFT

