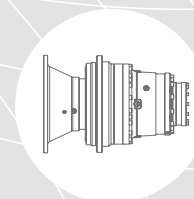
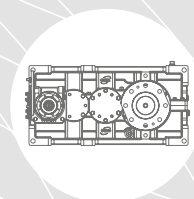
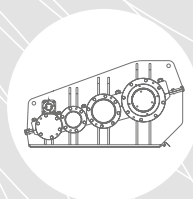




HIGH TECH Lifting





800 Series

RIDUTTORI PER SOLLEVAMENTO
GEAR UNITS FOR LIFTING APPLICATIONS
GETRIEBE FÜR DEN HUBBETRIEB



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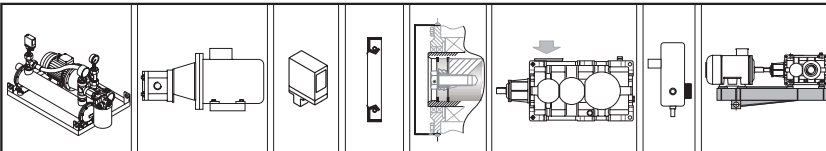
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RXP3-E - Lifting Application



Accessori e opzioni
Accessories and options
Zubehör und Optionen



Gestione Revisione Cataloghi GSM
Managing GSM Catalog Revisions
Management Wiederholt Kataloge GSM



| SIMBOLO SYMBOL SYMBOL | DEFINIZIONE | DEFINITION | DEFINITION | UNITA' DI MISURA MEASUREMENT UNIT MAßEINHEIT | |
|-----------------------------|--|--|---|--|----------------------------------|
| fa | Fattore correttivo dell'altitudine | Altitude factor | Höhenkorrekturwert | | |
| Fa₁₋₂ | Carico assiale | <i>Axial load</i> | Axialbelastung | N | 1N=0.1daN ≅ 0.1kg |
| fc | Coefficiente relativo alla temperatura dell'aria | Air temperature factor | Koeffizient bezüglich der Lufttemperatur | | |
| fd | Fattore correttivo del tempo di lavoro | Operation time factor | Korrekturfaktor der Arbeitszeit | | |
| ff | Fattore correttivo di aerazione con ventola | Fan cooling factor | Korrekturfaktor der Belüftung durch Lüfter | | |
| f_{Ga} | Fattore di affidabilità | Safety factor | Zuverlässigkeitsfaktor | | |
| fm | Fattore correttivo per la posizione di montaggio | Mounting position factor | Korrekturfaktor für einbaulage | | |
| f_n | Fattore correttivo delle prestazioni | Input speed factor | Korrekturfaktor der Leistungen | | |
| fp | Fattore correttivo della temperatura | Ambient temperature factor | Korrekturfaktor der Umgebungstemperatur | | |
| Fr₁₋₂ | Carico Radiale | <i>Radial load</i> | Radialbelastung | N | 1N=0.1daN ≅ 0.1kg |
| Fs | Fattore di servizio | <i>Service factor</i> | Betriebsfaktor | | |
| Fs' | Fattore di servizio riduttore | <i>Gearbox service factor</i> | Betriebsfaktor Getriebe | | |
| fv | Fattore correttivo | Duty cycle factor | Korrekturfaktor | | |
| fw | Coefficiente relativo alla temperatura dell'acqua | Water temperature factor | Koeffizient bezüglich der Wassertemperatur | | |
| IEC | Motori accoppiabili | <i>Motor options</i> | Passende Motoren | | |
| ir | Rapporto di trasmissione | <i>Ratio</i> | Übersetzungsverhältnis | | |
| J | Momento d'inerzia della macchina e del riduttore ridotto all'asse motore | Machine and gear unit inertial load reflected to motor shaft | An der Motorachse reduziertes Trägheitsmoment der Maschine und des Getriebe | Kgxm² | |
| J₀ | Momento d'inerzia delle masse rotanti sull'asse motore | Inertial load of rotating parts at motor shaft | Trägheitsmoment der an der Motorachse drehenden Massen | Kgxm² | |
| kg | Massa | <i>Mass</i> | Masse | kg | |
| n₁ | Velocità albero entrata | <i>Input speed</i> | Antriebsdrehzahl | min⁻¹ | 1 min ⁻¹ = 6.283 rad. |
| n₂ | Velocità albero in uscita | <i>Output speed</i> | Abtriebsdrehzahl | min⁻¹ | 1 min ⁻¹ = 6.283 rad. |
| P | Potenza motore | <i>Gear unit power</i> | Leistung Getriebe | kW | |
| P' | Potenza richiesta in uscita | <i>Output power</i> | Erforderliche Abtriebsleistung | kW | |
| P₁ | Potenza motoriduttore | <i>Gear motor power</i> | Leistung Getriebemotor | kW | 1kW = 1.36 HP (PS) |
| P_c | Potenza corretta | <i>Correct power</i> | Tatsächliche Leistung | kW | |
| P_N | Potenza nominale | Nominal power | Nennleistung | kW | |
| P_{ta} | Potenza termica addizionale | Additional thermal power | Thermische Zusatzgrenzleistung | kW | |
| P_{tN} | Potenza termica nominale | Thermal power rating | Termische Nenngrenzleistung | kW | |
| P_{t0} | Potenza limite termico | <i>Limit thermal capacity</i> | Thermische Leistungsgrenze | kW | |
| RD (η) | Rendimento dinamico | <i>Dynamic efficiency</i> | Dynamischer Wirkungsgrad | | |
| RS | Rendimento statico | <i>Static efficiency</i> | Statischer Wirkungsgrad | | |
| T_{1f} | Coppia frenante dinamica | Dynamic braking torque | Dynamisches Bremsmoment | Nm | |
| T_{1max} | Coppia motrice massima | Max drive torque | Max. Antriebsmoment | Nm | |
| T_{1s} | Coppia motrice di spunto | Starting torque | Anlaufantriebsdrehmoment | Nm | |
| T_c | Temperatura ambiente | <i>Ambient temperature</i> | Umgebungstemperatur | °C | |
| T_N | Coppia nominale | Nominal torque | Nenndrehmoment | Nm, kNm | |
| T_{Tbr} | Coppia frenatura motore Autofrenante | Motor braking torque | Motorbremsmoment | Nm, kNm | |
| T_{1a} | Coppia limite in ingresso del dispositivo antiretro | income limit torque for back-stop device | Grenzantriebsmoment der Rücklaufsperr | Nm, kNm | |
| Q_{rid} | Quantità olio di riempimento del riduttore | Gearbox oil quantity | Öfüllmenge des Getriebes | | |
| Q_{min} | Quantità olio minima | Minimum tank oil | Minimale Öfüllung im Tank | Nm, kNm | |
| M_{2s} | Coppia di slittamento calettatore | Shrink disc slipping torque | Schrumpfscheiben-Schlupfmoment | Nm, kNm | |



RXP/800/E

800 Series

RIDUTTORI PER SOLLEVAMENTO
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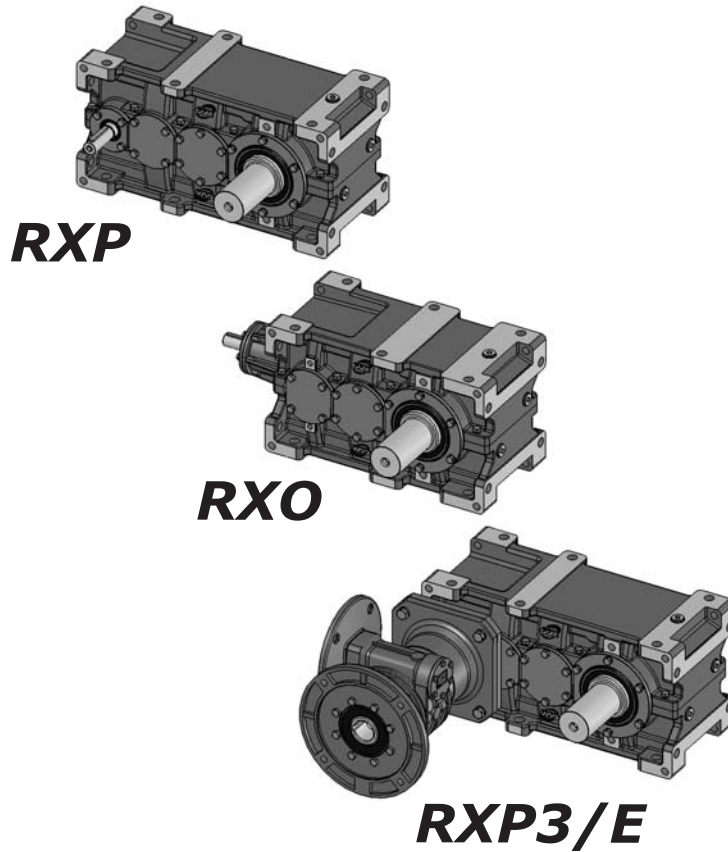
RXP3
E



A

A

800 Series



La serie RXP-E per sollevamento industriale deriva dalla gamma RX standard con l'aggiunta di un secondo riduttore differenziale: questi gruppi hanno degli alberi di ingresso e di uscita dimensionati per rispondere alle esigenze dei costruttori di apparati per sollevamento della meccanica medio-pesante.

Grazie ai criteri di progetto adottati, questi riduttori offrono un rapporto ottimale per quanto concerne la correlazione prestazioni/peso.

Il gruppo differenziale è un riduttore epicicloidale monostadio a doppio ingresso che si dispone tra il motore principale di comando ed il riduttore, per avere due distinte velocità all'albero lento di uscita.

Durante il funzionamento di uno dei due motori, l'altro rimane costantemente frenato.

La presenza del gruppo a vite senza fine interposto tra il motore secondario e la ruota planetaria e la possibilità di modificare il rapporto di trasmissione del gruppo vite senza fine, consente di ottenere sul secondario diverse velocità costanti in uscita e quindi di variare il rapporto tra la velocità primaria e la secondaria.

RXP-E series for industrial lifting takes origin from the standard RX to which has been given a secondary planetary gearbox.

These gearboxes have input and output shafts with wide dimensions in order to fulfil the expectations of heavy mechanical producers of lift systems, giving an optimum relationship between performances and weight.

The planetary differential gearbox has a double input that can be found between the main motor and the lift gearbox, with the purpose to obtain two different speeds to the output low shaft. While one motor is working, the other one is constantly braking.

The change of worm ratio inside the planetary differential gearbox gives the opportunity of obtaining different output speeds, and so varying the relation between primary and secondary speeds.

Die RXP-E-Serie für den industriellen Hub stammt aus der Standard RX Reihe mit einem zusätzlichen zweiten Differential-Getriebe: diese Gruppen verfügen über dimensionierte Eingangs- und Ausgangswellen um den Anforderungen der Hubmaschinenkonstruktoren für die mittelschwere Mechanik gerecht zu werden.

Aufgrund der angewendeten Konstruktionskriterien bieten diese Getriebe ein optimales Verhältnis hinsichtlich Leistung und Gewicht.

Die differentielle Einheit ist ein einstufiges Planetengetriebe mit zwei Eingängen für die Hauptmotorsteuerung und das Getriebe, um zwei separate Geschwindigkeiten an der langsam laufenden Ausgangswelle zu erhalten. Während des Betriebes einer der beiden Motoren wird der andere ständig gebremst.

Die Schnecken zwischen dem Motor und dem sekundären Planetenrad und die Möglichkeit das Übersetzungsverhältnis der Schnecken zu ändern ermöglichen es auf dem Zweiten unterschiedliche konstante Ausgangsgeschwindigkeiten zu erhalten und daher das Verhältnis zwischen der ersten und der zweiten Geschwindigkeit zu variieren.

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.

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.

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

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 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.

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

1.1 Construction features

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.

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.

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

| | | |
|---|-----------------|----|
| RD (%) Rendimento/Efficiency/Wirkungsgrad | RXP3 / E | 92 |
| Nota: rendimento dall'estremità principale del differenziale Note: efficiency calculated from differential main shaft end Hinweise: Wirkungsgrad am Hauptwellenende des Differentials | | |

1.1 Caratteristiche costruttive**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.

1.1 Construction features**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.

1.1 Construction features**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 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.



| | RXP3 / E | | |
|------------|----------|----------------------|-----------|
| | $i < 40$ | $40 \leq i \leq 100$ | $i > 100$ |
| 802 | 75 | 74 | 71 |
| 804 | 76 | 75 | 72 |
| 806 | 77 | 76 | 73 |
| 808 | 78 | 77 | 74 |
| 810 | 80 | 79 | 76 |
| 812 | 81 | 80 | 77 |
| 814 | 83 | 82 | 79 |
| 816 | 85 | 84 | 81 |
| 818 | 87 | 86 | 83 |
| 820 | 89 | 88 | 85 |
| 822 | 91 | 90 | 87 |
| 824 | 93 | 92 | 89 |

| 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

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 Gear unit 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 Auswahlkriterien

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, Anlauffrequenz, Drehzahl und Zuverlässigkeit) mit denen der Hubmechanismen kombiniert.

| Tab. 1 fs | | Durata / Duty life (2) / Standzeit (2) | | | | | | | | | |
|--|---------------|--|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|------------------------------------|------------------------------------|------------------------------------|------------------------------------|
| Condizioni di carico Load combinations Belastungsbedingungen (1) | fs ≥ Class | not regular use | not regular use | not regular use | not regular use | regular use | regular use | regular use | infrequent use | intensive use | infrequent use |
| | | 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) | 1.1 M7 (4 m) | 1.3 * M8 (5 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)

$$k = (km)^{1/3} = (\sum_{i=1...n} ((\frac{Pi}{P_{max}})^3 \cdot (\frac{ti}{T})))^{1/3}$$

- 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.

1.3 Criteri di selezione

(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.

(3) I fattori di servizio fs 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 kz 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.

(4) Nel caso in cui $Fr_2 \leq (Fr_{2max} / 2)$ si può considerare:
L3-T8, L4-T7 $fs \geq 1.3$;
L3-T9, L4-T8 $fs \geq 1.6$;
L4-T9 $fs \geq 1.8$

1.3 Gear unit selection

(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.

(3) Service factors fs 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 kz 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.

(4) If $Fr_2 \leq (Fr_{2max} / 2)$, then:
L3-T8, L4-T7 $fs \geq 1.3$;
L3-T9, L4-T8 $fs \geq 1.6$;
L4-T9 $fs \geq 1.8$

1.3 Auswahlkriterien

(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) Die angegebenen Betriebsfaktoren fs 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 kz 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) Im Fall, in dem $Fr_2 \leq (Fr_{2max} / 2)$ ist kann wie folgt berücksichtigt werden:
L3-T8, L4-T7 $fs \geq 1.3$;
L3-T9, L4-T8 $fs \geq 1.6$;
L4-T9 $fs \geq 1.8$



f_n

Fattore correttivo delle prestazioni
Input speed factor
Korrekturfaktor der Leistungen

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 $n_1 > 1450 \text{ min}^{-1}$

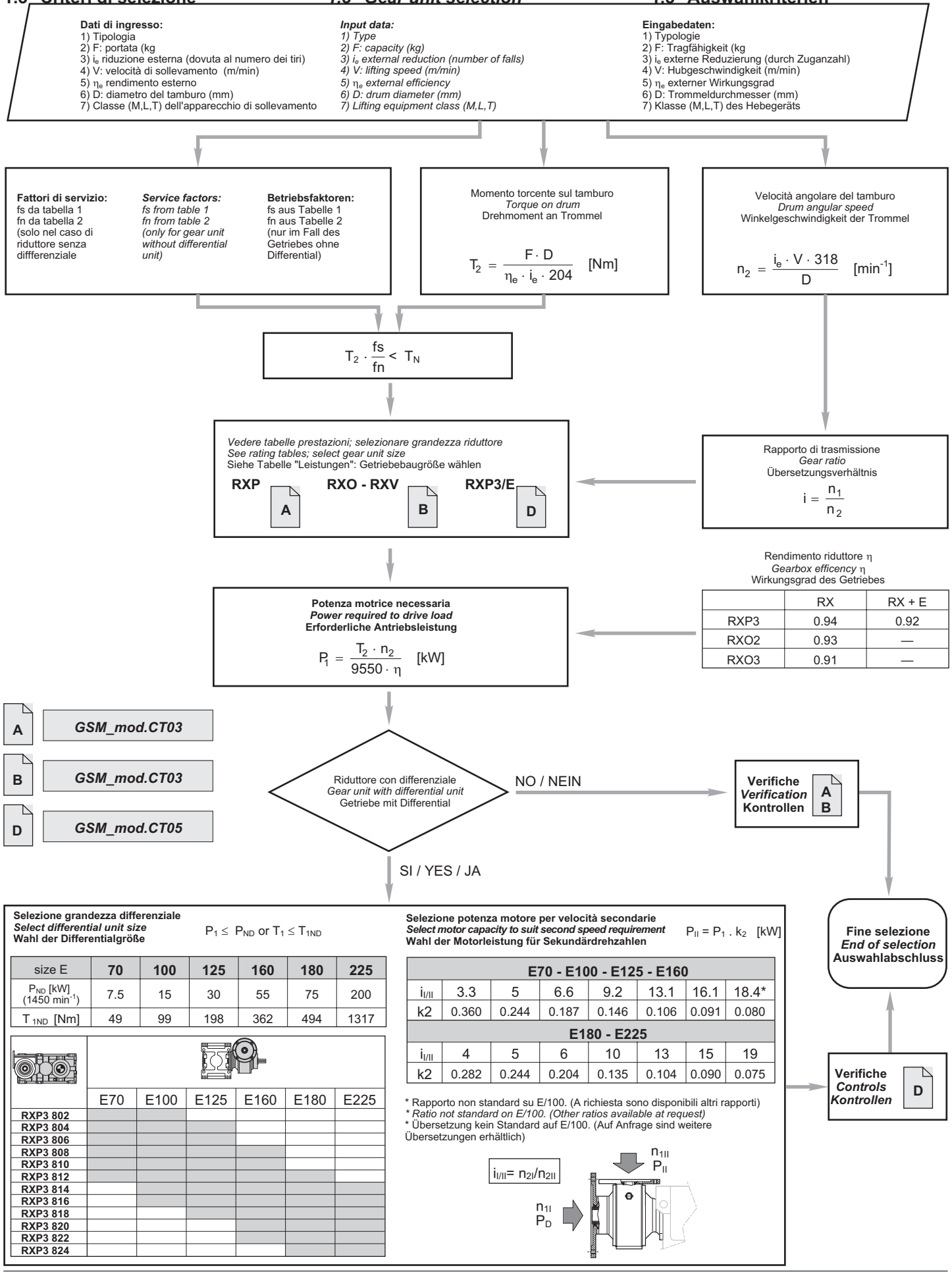
Korrekturfaktor der Nennleistungen unter Berücksichtigung der Eingangsdrehzahlen $n_1 > 1450 \text{ min}^{-1}$

| 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 |

1.3 Criteri di selezione

1.3 Gear unit selection

1.3 Auswahlkriterien



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) Verifica posizione di montaggio.
- 5) 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 mounting position.*
- 5) *Maximum overload.*

1.4 Überprüfungen

- 1) Compatibilità der Abmessungen mit verfügbaren Maßen (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) Überprüfung der Einbaulage.
- 5) Max. Überlastung.



$$T_{2max} \leq 2 \times T_N \text{ [Nm]}$$

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

$$T_{2max} = T_{2acc} = \left((0.45 \cdot (T_{1s} + T_{1max}) \cdot ir \cdot \eta) - T_2 \right) \cdot \left(\frac{J}{J + J_0 \cdot \eta} \right) + T_2 \text{ [Nm]}$$

Frenatura

Braking

Bremsung

$$T_{2max} = T_{2dec} = \left(\left(\frac{T_{1f} \cdot ir}{\eta} \right) - T_2 \right) \cdot \left(\frac{J}{J + \frac{J_0}{\eta}} \right) + T_2 \text{ [Nm]}$$

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) catalogo **GSM_mod. CT03.**

*When selecting in-line helical or helical bevel gear units without differential unit, follow the verification procedures outlined in the relevant sections (RXP, RXO) Catalogue **GSM_mod. CT03.***

Werden Parallelachsen-oder Kegelstrinradgetriebe ohne Differential gewählt, die weiteren Überprüfungen und Kontrollen vornehmen, die in den entsprechenden Abschnitten (RXP, RXO) Kataloge **GSM_mod. CT03** angegeben werden.

1.4 Verifiche

6) Verifica carichi radiali e assiali

RX 800 Series

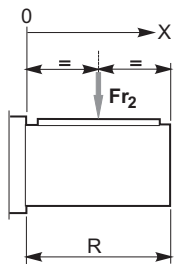
Qualora il collegamento tra riduttore e macchina motrice o operatrice sia effettuato con mezzi che generano carichi radiali sull'estremità d'albero veloce o lento, occorre fare le seguenti verifiche.

Calcolo Fr₂'

I carichi massimi Fr₂ sono calcolati con Fs=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 esecuzione Fn vedere sezione 1.12.

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

A - C

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 | 822 | 824 |
| A | 99 | 109 | 124 | 137 | 156 | 175 | 200 | 225 | 236 | 261 | 294 | 331 |
| C | 1.32 | 1.35 | 1.39 | 1.46 | 1.49 | 1.43 | 1.32 | 1.32 | 1.33 | 1.35 | 1.32 | — |

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 Fr

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.

1.4 Verification

6) 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 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; for configuration Fn look section 1.12.

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.

1.4 Überprüfungen

6) 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 Fr₂'

Die maximalen Belastungskräfte Fr₂ werden mit Fs=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; die Werte von Ausführung Fn, können Sie auf 1.12 finden.

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.

| | | | |
|---------------------------|---|---|---|
| Fr₂ [N] | Carico radiale ammissibile su albero uscita alla distanza X | Permissible output shaft OHL at distance X | An Abtriebswelle auf Distanz X zulässige Radialkraft |
| Fr₂ [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 |

1.4 Verifiche

1.4 Verification

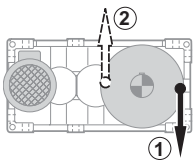
1.4 Überprüfungen



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

| | | | |
|--|--|--|--|
| Fr [N] Carico radiale approssimato <i>Approximate overhung load</i> Approx. Wert - Radialkraft | d [mm] Diametro pulegge, ruote <i>Pulley diameter, wheels</i> Durchmesser Räder, Riemenscheiben | k Fattore di collegamento <i>Connection factor</i> Anschlusswert | T [Nm] Momento torcente <i>Torque</i> Drehmoment |
|--|--|--|--|

| k = | 7000 | 5000 | 3000 | 2120 | 2000 |
|---|--|--|---|---|---|
| Trasmissioni <i>Drive member</i> Antriebe | Ruote di frizione (gomma su metallo) <i>Friction wheel drive (rubber on metal)</i> Kupplungsräder (Gummi auf Metall) | Cinghie trapezoidali <i>V belt drives</i> Keilriemen | Cinghie dentate <i>Toothed belts</i> Zahnriemen | Ingranaggi cilindrici <i>Spur gears</i> Zylinderzahnräder | Catene <i>Chain drives</i> 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.

Caso A)

Per carichi radiali minori di 0.25 Fr₂' è necessario verificare soltanto che contemporaneamente al carico radiale sia presente un carico assiale non superiore a 0.2 volte Fr₂';

Case A)

For overhung loads lower than 0.25 Fr₂', ensure that the thrust load applied simultaneously with OHL is not greater than 0.2 times Fr₂';

Fall A)

Bei Radialkräften unter 0.25 Fr₂' muss nur überprüft werden, dass gleichzeitig mit der Belastung durch die Radialkraft auch eine Axialkraft von nicht mehr als 0.2 Mal Fr₂' vorliegt.

Caso B)

Per carichi radiali maggiori di 0.25 Fr₂';
1) Calcolo abbreviato: Fr (output) < Fr₂' e che contemporaneamente al carico radiale sia presente un carico assiale non superiore a 0.2 volte Fr₂';

Case B)

*For overhung loads greater than 0.25 Fr₂';
1) Quick calculation method: Fr (output) < Fr₂' and thrust load applied simultaneously with OHL not greater than 0.2 times Fr₂';*

Fall B)

Bei Radialkräften über 0.25 Fr₂':
1) Verkürzte Berechnungsgleichung: Fr(output) < Fr₂' und dass gleichzeitig mit der Belastung durch die Radialkraft auch eine Axialkraft von nicht mehr als 0.2 Mal Fr₂' vorliegt.

2) Calcolo completo per il quale occorre fornire i seguenti dati:

- momento torcente applicato o potenza applicata
- n₂ (giri al minuto dell'albero dell'albero lento)
- carico radiale Fr (direzione, intensità, verso)
- senso di rotazione dell'albero
- grandezza e tipo del riduttore scelto
- tipo olio impiegato e sua viscosità
- esecuzione grafica assi:
- carico assiale presente Fa

2) *For the standard calculation method, the following information is required:*

- *applied torque or power*
- *n₂ (output shaft rpm)*
- *overhung load Fr (orientation, amount of loading, direction)*
- *direction of rotation of shaft*
- *size and type of selected gear unit*
- *oil type and viscosity*
- *shaft arrangement:*
- *actual thrust load Fa*

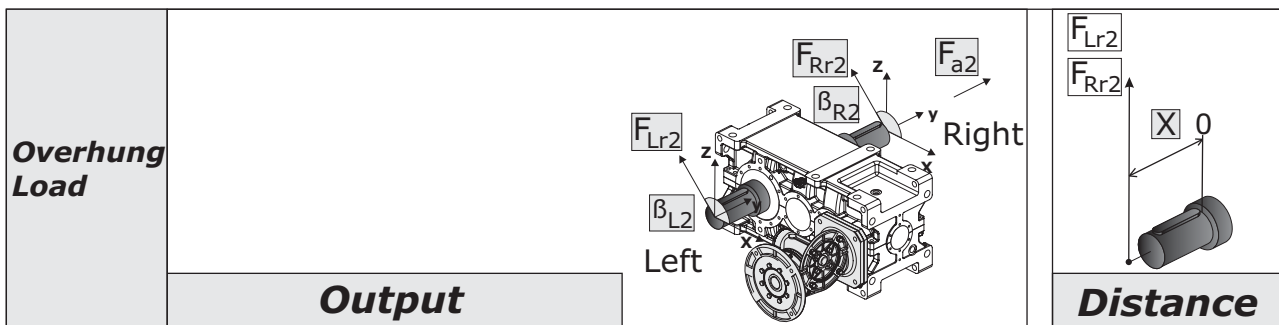
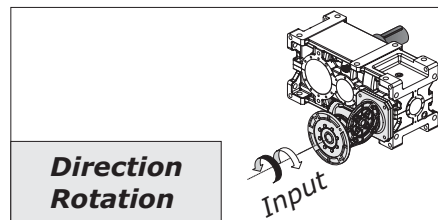
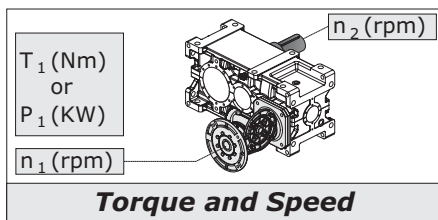
2) Vollständige Berechnungsgleichung für die folgende Daten erforderlich sind:

- appliziertes Drehmoment oder applizierte Leistung
- n₂ (Drehungen/Minute der Abtriebswelle)
- Radialkraft Fr (Richtung, Intensität, Seite)
- Drehrichtung der Welle
- 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.



1.5 Stato di fornitura

1.5.1 Protezione alla corrosione e protezione superficiale

General information

GSM propone diverse soluzioni protettive opzionali per motori e riduttori che lavorano in speciali condizioni ambientali.

Le misure protettive sono costituite da:

- Protezione corrosiva e protezione superficiale per motori e riduttori;
- Colore Standard RAL 5010

1.5.1.1 - Protezione Corrosiva

La protezione corrosiva è ottenuta con le seguenti specifiche come standard:

- Le targhette sono realizzate in acciaio inox;
- Applicazione di un prodotto anticorrosivo temporaneo per proteggere le superfici di accoppiamento delle flange e gli alberi uscita.

Nel caso di specifiche richieste è possibile applicare tutte le viti di fissaggio in acciaio inox.

1.5.1.2 - Verniciatura e protezione Superficiale

I riduttori preventivamente sabbiati vengono verniciati con vernice ad alto solido, internamente antiolio ed esternamente con fondo epossidico anticorrosivo di colore grigio o rosso ricoperto da finitura poliuretanica bicomponente di colore Blu RAL 5010 (TYP1).

La protezione ottenuta è idonea a resistere in ambienti mediamente corrosivi, industriali interni ed esterni e consente ulteriori finiture a scelta del cliente.

Nel caso si debbano prevedere impieghi in ambienti industriali più aggressivi o corrosivi o estremi o più genericamente di tipo marino, occorre adottare prodotti adeguati apposti con opportuno ciclo di verniciatura. In questi casi si suggerisce di concordare il ciclo in fase di ordine.

La GSM comunque propone già cicli di verniciatura speciali selezionati per ambienti di questo tipo (TYP2 - TYP3 - TYP4).

1.5 Scope of the supply

1.5.1 - Corrosion and surface protection

General information

GSM offers different protective solutions for motors and gearboxes which work in special weather condition

The protective measures are:

- Corrosion and surface protection for motors and gearboxes;
- Standard color RAL 5010

1.5.1.1 - Corrosion protection

The corrosion protection is the result of the following standard procedures:

- The name plates are made of inox steel;
- An anticorrosive temporary product is applied on the mechanized surfaces of flanges and output shafts

In case of special requests it is possible to use inox steel screws

1.5.1.2 - Painting and surface protection

Gearboxes, after being sand blasted, are painted with a specific paint, which has a double function. On the internal side it works as an anti-oil, while on the external side it works as a grey or red anticorrosive epoxy primer covered by a blue RAL 5010 (TYP 1) bi-component polyurethane finishing paint.

The above mentioned protection is suitable for internal and external industrial environments with corrosive effects on the average. It also gives to the customer the possibility to chose other finishing effects.

In case of use in aggressive or corrosive industrial or sea environments, it is necessary to use special products with the required painting cycle. We suggest you to specify these particular terms with our company.

GSM offers already special painting cycles, which have been created for these kind of environments (TYP2 – TYP3 – TYP 4).

1.5 Lieferzustand

1.5.1 - Korrosionsschutz und Oberflächenschutz

Allgemeine Information

GSM bietet optional verschiedene Schutzmöglichkeiten für Motoren und Getriebe an, die in besonderen Umweltbedingungen arbeiten

Die Schutzmaßnahmen bestehen aus:

- Korrosionsschutz und Oberflächenschutz für Motoren und Getriebe;
- Standardfarbe RAL 5010

1.5.1.1 - Korrosionsschutz

Der Korrosionsschutz ist bei den folgenden Spezifikationen standardmäßig:

- Die Typenschilder sind aus Edelstahl;
- Anwendung eines temporären Antikorrosionsproduktes als Oberflächenschutz für die Flansch und Abtriebswellenverbindungen

Im Falle spezifischer Anfragen können alle Befestigungsschrauben aus Edelstahl verwendet werden.

1.5.1.2 - Lackierung und Oberflächenschutz

Die vorbeugend sandgestrahlten Getriebe werden mit Farbe mit hohem Feststoffgehalt lackiert, innen gegen das Öl und außen gegen Korrosion mit Epoxid in grauer oder roter Farbe. Und werden abschließend mit Bikomponentenpolyurethan in der Farbe blau RAL 5010 (TYP 1) überzogen..

Der erreichte Schutz ist geeignet für Bereiche mit durchschnittlicher Korrosion, für den industriellen Innen- und Außeneinsatz geeignet und erlaubt eine zusätzliche Endbearbeitung gemäß Kundenwunsch.

Sollte der Einsatz in industriellen Bereichen erfolgen, die aggressiver oder korrosiver oder extremer oder allgemein den marinen Bereich betreffen, müssen hierfür geeignete Produkte mit den entsprechenden Lackierzyklen verwendet werden. In diesen Fällen wird vorgeschlagen zuzustimmen.

Die GSM schlägt hier jedoch bereits speziell ausgewählte Lackierzyklen für Bereiche dieser Art vor (TYP2 - TYP3 - TYP4).

1.5 Stato di fornitura

1.5 Scope of the supply

1.5 Lieferzustand

RX 800 Series

| Protezione superficiale Surface protection | Numero di strati Permutation of layers | Spessore Coat thickness | Adatto per Suitable for |
|--|--|---|---|
| TYP 1 "STANDARD" | 1x Primer 1x Two-component top coat | Circa/Approx. 120 micron A Secco/Dry | 1 - Impatto ambientale BASSO - (condizioni ambientali normali) Low environment impact (Normal ambient condition) 2 - Umidità relativa inferiore al 90% Relative humidity below 90 % 3 - Temperatura superficiale massima. 120 °C Surface temperature up to max. 120 °C 4 - Categoria di corrosività " C3-M " (DIN EN ISO 12,944-2) Corrosivity category " C3-M " (DIN EN ISO 12,944-2) |
| TYP 2 Standard Rinforzato Standard Reinforced | 1x Primer 1x Two-pack Intermediate 1x Two-pack top coat | Circa/Approx. 160 micron A Secco/Dry | 1 - Impatto ambientale MEDIO Medium environmental impact 2 - Umidità relativa massima 95 % Relative humidity max. 95 % 3 - Temperatura superficiale massima 120 °C Surface temperature up to max. 120 °C 4 - Categoria di corrosività " C4-M " (DIN EN ISO 12,944-2) Corrosivity category " C4-M " (DIN EN ISO 12,944-2) |
| TYP 3 Industriale Industrial | 1x Primer 2x Two-pack Intermediate 1x Two-pack top coat | Circa/Approx. 240 micron A Secco/Dry | 1 - Impatto ambientale ALTO - Applicazione industriale High environmental impact - Industrial Application 2 - Umidità relativa massima 100 % Relative humidity max. 100 % 3 - Temperatura superficiale massima 120 °C Surface temperature up to max. 120 °C 4 - Categoria di corrosività " C5I-M " (DIN EN ISO 12,944-2) Corrosivity category " C5I-M " (DIN EN ISO 12,944-2) |
| TYP 4 Marino Marine | 1x Zinc Primer 2x Two-pack Intermediate 2x Two-pack top coat | Circa/Approx. 320 micron A Secco/Dry | 1 - Alto impatto ambientale - Applicazione ambiente marino High environmental impact - Marine Application 2 - Umidità relativa massima 100 % Relative humidity max. 100 % 3 - Temperatura superficiale massima 120 °C Surface temperature up to max. 120 °C 4 - Categoria di corrosività " C5M-M " (DIN EN ISO 12,944-2) Corrosivity category " C5M-M " (DIN EN ISO 12,944-2) |

A richiesta é possibile fornire ciclo di verniciatura ,schede tecniche dei prodotti utilizzati e report di prova
If requested, we can supply you with painting procedures, data sheets of the products which have been used and testing reports
Auf Anfrage ist es möglich den Lackierzyklus, technische Leistungsblätter der benutzten Produkte und Testberichte zur Verfügung zu stellen

OPT2 - Opzioni - Verniciatura
Options - Painting and surface protection
Optionen - Lackierung und Oberflächenschutz

| Serie Series Baureihe | Verniciatura Interna Inner painting Innenlackierung | Verniciatura Esterna Outer painting Außenlackierung | | Piani lavorati Machined surfaces Bearbeitete Flächen | Alberi Shafts Wellen |
|-----------------------------|--|---|--|---|---|
| | | Tipo e Caratteristiche vernice Paint type and features Lacktyp und -eigenschaften | Verniciabile Can be painted Kann lackiert werden | | |
| TYP 1 | | | | | |
| RXP/E | fondo epossidico anticorrosivo di colore grigio o rosso Grey or red anticorrosive epoxy primer Epoxidkorrosionsschutz in grauer oder roter Farbe | ricoperto da finitura poliuretana bicomponente di colore Blu RAL 5010 (TYP1) Covered by a blue RAL 5010 (TYP 1) bi-component polyurethane finishing paint überzogen mit Bikomponentenpolyurethan in der Farbe blau RAL 5010 (TYP 1) | Si | Protetti con prodotto antiruggine. Protected by oxide protectant Mit Rostschutzpaste geschützt. | Protetti con prodotto antiruggine Protected by oxide protectant. Mit Rostschutzpaste geschützt. |

ATTENZIONE

In caso di verniciatura o asportazione del prodotto antiruggine si chiede di porre attenzione alla preventiva protezione:
- Delle superfici lavorate, al fine di evitare che una eventuale verniciatura delle stesse pregiudichi il successivo accoppiamento.
-Delle tenute e più in generale di ogni parte plastica e di gomma, al fine di non variarne le caratteristiche chimico fisiche pregiudicandone così l'efficienza.
-Alla targa di identificazione per evitare la perdita di tracciabilità.
-Al tappo sfiato ed al tappo di livello olio, al fine di evitarne l'occlusione.

ATTENTION

If the product must be painted or cleaning off any antirust paint, protect the machined surfaces and oil seals/gaskets in order to prevent any damage. It is also necessary to protect the identification plate, the oil level plug (if fitted) and the hole in the breather plug (if fitted) against obstruction.

ACHTUNG

Sollten die Produkte lackiert werden oder Abbau des Rostschutzmittels, muss darauf geachtet werden, dass die bearbeiteten und Dichtflächen dabei geschützt werden, so dass verhindert werden kann, dass die Lackierung die chemisch-physischen Eigenschaften verändert und die Wirkung der Ölabdichtungen einschränkt. In der gleichen Weise und aus gleichem Grund müssen das Typenschild und die Öleinfüllschraube sowie die Bohrung der Entlüftungsschraube (wo vorhanden) geschützt werden.

1.5 Stato di fornitura

1.5 Scope of the supply

1.5 Lieferzustand

1.5.3 MATERIALI COSTRUTTIVI

1.5.3 MATERIAL

1.5.3 KOSTRUKTIONSMATERIAL

1.5.3.1 Casse - Flange - Coperchi

1.5.3.1 Housings - Flanges - Covers

1.5.3.1 Gehäuse - Flanschen – Deckel

| | |
|-----------------------------|---|
| Serie Series Baureihe | Per ulteriori informazioni vedere 1.6.5 For more details, please read 1.6.5 Sie können Weitere Informationen siehe 1.6.5 |
| RXP/E | |

1.5.3.2 Materiale degli anelli di tenuta

1.5.3.2 Materials of Seals



1.15.2.2 Dichtungsstoffe



| | | |
|-----------------------------|---|---|
| Serie Series Baureihe | OPT Opzioni - Materiale degli anelli di tenuta Options - Materials of Seals Optionen - Dichtungsstoffe | |
| | — (Tenute STANDARD Oil Seals Standard Ölabdichtungen Standard) | Opzioni - Disponibile Options Available Optionen - verfügbar |
| RXP/E | Per ulteriori informazioni vedere SEZIONE U For more details, please read SECTION U Sie können Weitere Informationen siehe ABSCHNITT U | |

1.5.4 Lubrificazione

1.5.4 Lubrication

1.5.4 Schmierung

| | | |
|--|---|---|
|  | OPT1 - Opzioni - Stato fornitura olio Options - Scope of the supply - Options - OIL Optionen - Lieferzustand - Optionen - Öl | |
| E |  | Sigla ordine Designation order Bezeichnung Bestellung |
| | 70 | INOIL |
| | 100 | OUTOIL |
| | 125 | |
| | 160 | |
| | 180 | |
| 225 | | |

| | | |
|---|---|---|
|  | OPT1 - Opzioni - Stato fornitura olio Options - Scope of the supply - Options - OIL Optionen - Lieferzustand - Optionen - Öl | |
| RXP 800 |  | Sigla ordine Designation order Bezeichnung Bestellung |
| | all sizes | OUTOIL |

1.5 Stato di fornitura

1.5 Scope of the supply

1.5 Lieferzustand

1.5.4 Lubrificazione

1.5.4 Lubrication

1.5.4 Schmierung

ATTENZIONE:

Lo stato di fornitura è messo in evidenza con una targhetta adesiva posta sul riduttore.
Verificare la corrispondenza tra stato di

CAUTION:

*Gearbox state of supply is indicated on a nameplate applied on gearbox.
Ensure that nameplate data and state of supply correspond.*

ACHTUNG:

Der entsprechende Lieferzustand wird auf einem Aufkleber am Getriebe angegeben.
Überprüfen Sie die Übereinstimmung zwischen effektivem Lieferzustand und Auf-



| OPT1 - Opzioni - Stato fornitura olio- Options - Scope of the supply - Options - OIL Optionen - Lieferzustand - Optionen - Öl | | | | |
|---|---|--|---|-------------------------------------|
| Stato fornitura Scope of the supply Lieferzustand | Riduttore - Lubrificazione Gearbox - Lubrication Getriebe - Schmierung | Tipo Type Typ | NOTE Note Hinweis | Targhetta Nameplate Aufkleber |
| OUTOIL Riduttore Privo di Lubrificante <i>Gearbox with no lubricant</i> Getriebe ohne Schmiermittel | Si consiglia l'uso di oli a base sintetica. Vedere a tale proposito le indicazioni riportate paragrafo 1.8. The use of synthetic oil is recommended. see details in paragraph 1.8. Der Einsatz von synthetischem Öl wird empfohlen. Siehe diesbezüglich die Hinweise im Abschnitt 1.8. | | Se richiedi completi di lubrificante, verranno forniti con olio standard - "INOIL_STD" If customer requests supply of gearbox with lubricant, we shall supply - "INOIL_STD" Falls diese Getriebe mit Schmiermittelfüllung angefordert werden - "INOIL_STD" | |
| INOIL_STD Riduttore Completo di Lubrificante Standard STM <i>Gearbox with lubricant STM standard</i> Getriebe mit Standard Schmiermittel STM | E OMALA S4 WE 320 RX 800 AGIP BLASIA 220 | OilGear_TYPE CLP PG Synthetic PG OilGear_TYPE CLP Mineral | — | |
| INOIL_Food Riduttore Completo di Lubrificante "ALIMENTARE" <i>Gearbox with lubricant "FOOD-TYPE"</i> Getriebe mit Schmiermittel "LEBENSMITTEL" | RX 800 - E CASSIDA GL 320 | OilGear_TYPE CLP HCE Synthetic HCE NSF H1 | — | |
| ASOIL Riduttore Completo di Lubrificante Speciale - a richiesta <i>Gearbox with Special lubricant - On request</i> Getriebe mit Sondern-Schmiermittel - Auf Anfrage | A richiesta On request Auf Anfrage | OilGear_TYPE CLP PG Synthetic PG OilGear_TYPE CLP HC Synthetic PAO OilGear_TYPE CLP Mineral OilGear_TYPE CLP HCE Synthetic HCE NSF H1 Grease | — | |

Nota campo- ASOIL

Nella targhetta sono riportate le seguenti informazioni:
- Code_Plate;
- Sigla lubrificante;
- ISO VG;
- Type DIN;
- NSF;
- Altre prescrizioni.

Note range-ASOIL

The type plate contains the following information:
- Code_Plate
- Lubricant type
- ISO VG
- Type DIN
- NSF
- other details

Hinweis Bereich-ASOIL

Auf dem Typenschild finden Sie folgende Informationen:
- Code_Plate
- Schmiermitteltyp
- ISO VG
- Type DIN
- NSF
- andere Hinweise

1.5 Stato di fornitura**1.5.4 Lubrificazione****Riduttori forniti con il cuscinetto schermato**

Se ne consiglia il ringrassaggio indipendentemente dalle ore di esercizio effettuate, dopo almeno 2-3 anni.

Pertanto è stato predisposto un ingrassatore per provvedere all'opportuno ringrassaggio.

Le Caratteristiche tecniche generali del grasso utilizzato sono:

- Inspessente: base di Litio Complesso;
- NGLI: 2;
- Olio: HCE - con additivazione EP di viscosità minima ISO VG 220;
- Additivi: l'olio presente nel grasso deve avere caratteristiche di additivazione EP;

SPECIFICHE E APPROVAZIONI
DIN51502: **KP-HCE-2 P-40**

1.5 Scope of the supply**1.5.4 Lubrication****Worm gearboxes with a shielded bearing**

It is recommended to grease it at least every 2-3 years regardless of the operating hours.

To this end it is provided with a greaser.

Following are the general technical features of the lubrication grease:

- Thickener: Complex Lithium-based;
- NGLI: 2;
- Oil: HCE with EP additives with minimum viscosity as per ISO VG 220;
- Additives: the oil in the grease must feature EP additive;

SPECIFICATIONS AND APPROVALS
DIN51502: **KP-HCE-2 P-40**

1.5 Lieferzustand**1.5.4 Schmierung****Getrieben mit abgeschirmtem Lager geliefert werden**

Wir empfehlen, unabhängig von den erfolgten Betriebsstunden, mindestens alle 2-3 Jahre ein entsprechendes Nachschmieren.

Daher wurde ein angemessener Schmiernippel für das Nachschmieren vorgesehen.

Allgemeine technische Eigenschaften des verwendeten Fetts:

- Verdickungsmittel: auf Lithiumkomplex;
- NGLI: 2;
- Öl: HCE mit Zusatz von EP mit Mindestviskosität gemäß ISO VG 220;
- Additive: das im Fett enthaltene Öl muss die Eigenschaften der EP Additivierung aufweisen;

SPEZIFIKATIONEN
DIN51502: **KP-HCE-2 P-40**

1.6 Normative applicate**1.6.1 Specifiche prodotti non "ATEX"**

I riduttori della GSM SpA sono organi meccanici destinati all'uso industriale e all'incorporazione in apparecchiature meccaniche più complesse. Dunque non vanno considerati macchine indipendenti per una predeterminata applicazione ai sensi 2006/42/CE, né tantomeno dispositivi di sicurezza.

1.6 Standards applied**1.6.1 Specifications of non - "ATEX" products**

GSM SpA gearboxes are mechanical devices for industrial use and incorporation in more complex machines. Consequently, they should not be considered neither self-standing machines for a pre-determined application according to 2006/42/CE nor safety devices.

1.6 Angewendete Normen**1.6.1 Spezifikationen für produkte, die nicht der "ATEX"-norm entsprechen**

Bei den Getrieben der GSM SpA handelt es sich um Mechanikorgane, die für den industriellen Einsatz und einen Einbau in komplexere Einrichtungen bestimmt sind. Sie werden deshalb weder unter dem Aspekt unabhängiger, für eine bestimmte Anwendung vorgesehener Maschinen im Sinne der 2006/42/CE, noch als Sicherheitsvorrichtungen berücksichtigt.

1.6 Normative applicate

1.6.2 Specifiche prodotti "ATEX"

Campo applicabilità

La direttiva ATEX (2014/34/UE) si applica a prodotti elettrici e non elettrici destinati a essere introdotti e svolgere la loro funzione in atmosfera potenzialmente esplosiva. Le atmosfere potenzialmente esplosive vengono suddivise in gruppi e zone a seconda della probabilità di formazione. I prodotti GSM sono Conformi alla seguente classificazione:

- 1- Gruppo: II
2- Categoria: **Gas 2G** polveri **2D**
3- Zona: Gas **1 ; 2** – Polveri **21;22**

1.6 Standards applied

1.6.2 Specifications of "ATEX" products

Application field

ATEX set of provisions (2014/34/UE) is referred to electric and non-electric products which are used and run in a potentially explosive environment. The potentially explosive environments are divided into different groups and zones according to the probability of their formation. GSM products are in conformity with following classification:

- 1- Group : II
2- Type : **Gas 2G dust 2D**
3-Zone : Gas **1;2** – Dust **21;22**

1.6 Angewendete Normen

1.6.2 Spezifikationen für "ATEX"-produkte

Anwendungsbereich

Die ATEX-Richtlinie (2014/34/UE) wird bei elektrischen und nicht elektrischen Produkten angewendet, die dazu bestimmt sind, in potentiell explosionsfähigen Atmosphären eingesetzt und betrieben zu werden. Die potentiell explosionsfähigen Atmosphären werden in Abhängigkeit der Wahrscheinlichkeit in Gruppen und Zonen unterteilt. Die GSM-Produkte entsprechen der folgenden Klassifizierung:

- 1- Gruppe: II
2- Kategorie: **Gas 2G** Staub **2D**
3- Zone: Gas **1;2** - Staub **21;22**

| Massime temperature di superficiali / Max surface temperature allowed / Maximale Oberflächentemperaturen | | | | | |
|--|-----|-----|-----|-----|--------|
| Classe di temperatura / Temperature class / Temperaturklasse | T1 | T2 | T3 | T4 | T5(1) |
| Massima temp.di superficie / Max surface temperature / Max. Oberflächentemperaturen (°C) | 450 | 300 | 200 | 135 | 100(1) |
| Classi di temperatura ATEX dei prodotti GSM / ATEX temperature class of GSM products / ATEX Temperaturklassen der GSM-Produkte | | | | | |

I prodotti GSM sono marcati classe di temperatura **T4** per IIG (atmosfera gassosa) e **135° C** per IID (atmosfera polverosa).

Nota 4:

Nel caso di Classe di temperatura T5 occorre verificare la potenza limite termico declassata;

In tutti gli altri casi vale la potenza riportata a catalogo prevista per i singoli rapporti con fattore di servizio complessivo dell'applicazione pari a 1 e le considerazioni sul limite termico.

I prodotti del gruppo IID (atmosfera polverosa) vengono definiti dalla massima temperatura di superficie effettiva.

La massima temperatura di superficie è determinata in normali condizioni di installazione e ambientali (-20°C e +40°C) e senza depositi di polvere sugli apparecchi.

Qualunque scostamento da queste condizioni di riferimento può influenzare notevolmente lo smaltimento del calore e quindi la temperatura.

*GSM products are branded temperature class **T4** for IIG (gas environment) and **135°C** for IID (dust environment).*

Note 4:

In case of T5 Class of temperature the extreme down-graded thermic power should be checked.

In all the other instances, the power indicated on the catalogue for the single ratios with overall application service factor equal to 1 and the considerations on temperature limits apply.

The products of the family IID (dust environment) are defined by the max effective surface temperature.

Max surface temperature is determined in standard installation and environmental conditions (-20°C and +40°C) and in absence of dust on product surface.

Any other condition will modify the heat dissipation and consequently the temperature.

Die GSM-Produkte sind mit der Temperaturklasse **T4** für IIG (Atmosphäre mit gasförmiger Belastung) und **135° C** für IID (Atmosphäre mit staubförmiger Belastung) gekennzeichnet.

Hinweis 4:

Bei der Temperaturklasse T5 muss die zurückgestufte thermische Grenzleistung überprüft werden. In den anderen Fällen gilt die im Katalog für die einzelnen Übersetzungsverhältnisse angegebene Leistung mit Betriebsfaktor einschließlich Applikation entsprechend 1 und die Berücksichtigungen im Hinblick auf die thermische Grenzleistung.

Die der Gruppe IID (Atmosphäre mit staubförmiger Belastung) angehörigen Produkte werden ihrer effektiven maximalen Oberflächentemperatur gemäß definiert.

Die maximale Oberflächentemperatur wird in normalen Einbau- und Umgebungsbedingungen (-20°C und +40°C) und ohne auf den Vorrichtungen vorhandenen Staubablagerungen bestimmt.

Jegliche Abweichung von diesen Bezugsbedingungen kann sich erheblich auf die Wärmeableitung bzw. auf die Betriebstemperatur auswirken.

1.6.3. COME SI APPLICA

Al momento di una richiesta di offerta per prodotto conforme a normativa ATEX 2014/34/UE occorre compilare la **scheda acquisizione dati** (www.stmspa.com).

Effettuare le verifiche come prima descritto.

I riduttori certificati verranno consegnati con:
-una seconda targhetta contenente i dati ATEX;
-ove previsto un tappo sfiato, tappo sfiato con molla interna;

-se rispondente alla classe di temperatura T4 e T5 verrà allegato un indicatore di temperatura (132 °C nel caso di T4 e 99°C rispettivamente per la T5)

-Indicatore di temperatura : termometro a singolo rilevamento, una volta raggiunta la temperatura indicata si annerisce segnalando il raggiungimento di tale limite.

1.6.3. HOW IS IT APPLIED

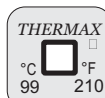
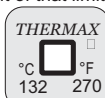
In case of request of offer relating to any product in conformity with the provisions ATEX/2014/34/UE, the specifications paper should be filled in (www.stmspa.com).

Perform the inspections as described above. Certified reducers will be delivered with:

- a second nameplate containing ATEX data;
- a breather valve with internal spring, where a breather is needed;

- if in accordance with classes of temperature T4 and T5, a temperature gauge will be included (132 °C in case of T4 and 99 °C in case of T5).

- Temperature gauge: single-reading thermometer, it blackens once temperature is reached, pointing out the achievement of that limit.



1.6.2. ANWENDUNGSWEISE

Bei einer Angebotsanfrage für der Richtlinie ATEX 2014/34/UE entsprechende Produkte muss das Datenerfassungsformular (www.stmspa.com) ausgefüllt werden.

Dazu die zuvor beschriebenen Kontrollen vornehmen. Die zertifizierten Getriebe werden wie folgt ausgestattet geliefert:

-mit einem zweiten Typenschild mit ATEX- Daten;
-wo vorgesehen, mit einem Entlüftungs- verschluss, Entlüftungsverschluss mit interner Feder;
-falls der Temperaturklasse T4 und T5 entsprechend, wird eine Temperaturanzeige vorgesehen (132 °C bei T4 und 99°C bei T5)

-Temperaturanzeige: einzelnes Erfassungsthermometer - bei Erreichen der angegebenen Temperatur wechselt die Farbe zur Anzeige der erreichten Temperatur in Schwarz.

1.6 Normative applicate**1.6.4 UE Direttive marcatura CE- ISO9001****Direttiva Bassa Tensione 2014/35/UE**

I motoriduttori, motorivii angolari, motovariatori e i motori elettrici GSM sono conformi alle prescrizioni della direttiva Bassa Tensione .

2014/30/UE Compatibilità elettromagnetica

I motoriduttori, motoriviiangolari, motovariatori e i motori elettrici GSM sono conformi alle specifiche della direttiva di Compatibilità Elettromagnetica.

Direttiva Macchine 2006/42/CE

I motoriduttori, motoriviiangolari, motovariatori e i motori elettrici GSM non sono macchine ma organi da installare o assemblare nelle macchine.

Marchio CE, dichiarazione del fabbricante e dichiarazione di conformità.

I motoriduttori, motovariatori e i motori elettrici hanno il marchio CE.

Questo marchio indica la loro conformità alla direttiva Bassa Tensione e alla direttiva Compatibilità Elettromagnetica.

Su richiesta, GSM può fornire la dichiarazione di conformità dei prodotti e la dichiarazione del fabbricante secondo la direttiva macchine.

ISO 9001

I prodotti GSM sono realizzati all'interno di un sistema di qualità conforme allo standard ISO 9001. A tal fine su richiesta è possibile rilasciare copia del certificato.

1.6.5 Normative riferimento Progettazione e Fabbricazione**Ingranaggi**

Gli ingranaggi cilindrici a dentatura elicoidale e le viti senza fine, sono rettificati dopo cementazione, tempra e rinvenimento finale.

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 GJL 250 UNI EN 1561 o in ghisa a grafite sferoidale

UNI EN 1563 2004 fino alla grandezza 824. Le grandezze in acciaio sono in S275J2 EN UNI 10025 composto elettrosaldato e disteso. I particolari accorgimenti adottati nel disegno della struttura permettono di ottenere un' elevata rigidezza.

1.6 Standards applied**1.6.4 UE Directives-CE mark-ISO 9001****Directive 2014/35/UE Low VoltageGSM**

geared motors, right angle drives with motor, motovariators and electric motors meet the specification of the low voltage directive.

2014/30/UE Electromagnetic Compatibility

GSM geared motors, right angle drives with motor, motovariators and electric motors correspond to the specifications of the EMC directive.

Machinery Directive 2006/42/CE

GSM geared motors, right angle drives with motor, motovariators and electric motors are not standalone machines, they are exclusively for installation into a machine or for assembly on a machine.

CE Mark, Conformity Declarations and Manufacturer's Declaration.

GSM geared motors, right angle drives with motor, motovariators and electric motors carry the CE Mark.

It indicates conformity to the low voltage directive and to electromagnetic compatibility directive.

On request GSM supplies both the conformity declarations and the manufacturer's declaration according to the machine directive.

ISO 9001

GSM products have been designed and manufactured according to ISO 9001 quality system standard.

On request a copy of the certification can be issued.

1.6.5 Standards applied**Gearing**

Helical gears and worm shafts are case hardened, hardened and tempered and ground finished.

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 824 are cast from GJL 250 UNI EN 1561 cast iron or from Spheroidal cast iron.

Sizes use casings fabricated from electrically welded stress relieved S275J2 steel EN UNI 10025.

Casing design incorporates special arrangements to provide superior rigidity.

1.6 Angewendete Normen**1.6.4 UE-Richtlinien - CE-Zeichen - ISO9001****Niederspannungsrichtlinie. 2014/35/UE**

Die Getriebemotoren, Winkelgetriebe, Verstellgetriebe und Elektromotoren der GSM entsprechen den Vorschriften der Niederspannungsrichtlinie.

2014/30/UE Elektromagnetische Verträglichkeit

Die Getriebemotoren, Winkelgetriebe, Verstellgetriebe und Elektromotoren der GSM entsprechen den Vorschriften der Richtlinie zur Elektromagnetischen Verträglichkeit.

Maschinenrichtlinie 2006/42/CE

Die Getriebemotoren, Winkelgetriebe, Verstellgetriebe und Elektromotoren der GSM sind keine Maschinen sondern Organe, die in Maschinen eingebaut oder an diesen montiert werden.

CE-Zeichen, Hersteller- und Konformitätserklärung

Die Getriebemotoren, Verstellgetriebe und Elektromotoren tragen das CE-Zeichen.

Dieses Zeichen weist auf ihre Konformität mit der Niederspannungsrichtlinie und der Richtlinie zur Elektromagnetischen Verträglichkeit hin.

Auf Anfrage kann die GSM die Konformitätserklärung und die Herstellererklärung gemäß Maschinenrichtlinie zu den Produkten liefern.

ISO 9001

Die GSM-Produkte werden in einem Qualitätssystem gemäß dem Standard ISO 9001 realisiert. Auf Anfrage kann daher eine Kopie der Zertifizierung geliefert werden.

1.6.5 Bezugsnormen Entwicklung und Produktion**Zahnräder**

Die das Evolventenprofil der Stirnrädergetriebe mit Schrägverzahnung und die Schnecken werden nach dem Einsatzhärten, dem Abschrecken und dem

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 824 werden im Gussverfahren aus GJL 250 UNI EN 1561 oder Sphäroguss UNI EN 1563 2004 gewonnen.

Die Baugrößen von Stahl werden aus elektroverschweißtem und entspanntem S275J2 EN UNI 10025 realisiert.

Die besonderen beim Entwurf der Struktur berücksichtigten Vorkehrungen verleihen ihr eine besondere Steifheit.

1.6 Normative applicate**Alberi**

Gli alberi lenti sono verificati a flesso-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.

Tutti i prodotti della GSM sono progettati nel rispetto delle seguenti normative:

Calcolo degli ingranaggi e cuscinetti

ISO 6336 - ISO10400 - DIN3991

La capacità di carico è stata calcolata a pressione superficiale e a rottura secondo la normativa ISO 6336 - ISO10400 - DIN3991 (a richiesta sono possibili verifiche secondo le norme AGMA 2001-C95 e AGMA 2003).

BS 721

Calcolo della capacità di carico delle viti e delle corone elicoidali.

ISO 281

Calcolo della durata a fatica dei cuscinetti volventi.

Alberi

DIN 743

Calcolo della durata a fatica degli alberi

Materiali

EN 10084

Acciaio da cementazione per ingranaggi e viti senza fine.

EN 10083

Acciaio da bonifica per alberi.

EN UNI 10025

Acciaio - Casse

UNI EN 1982 - UNI 5274

Bronzo per corone elicoidali.

UNI EN 1706

Alluminio e leghe di Alluminio

UNI EN 1561

Fusioni in ghisa grigia.

UNI EN 1563 2004

Getti di ghisa a grafite sferoidale

UNI 3097

Acciaio per cuscinetti per piste rotolamento.

1.6 Standards applied**Shafts**

Output shafts are 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.

All GSM products are designed following these standards:

Calculation of gearboxes and bearings

ISO 6336 - ISO10400 - DIN3991

The load capacity of gear sets is calculated at contact and root bending stress in accordance with standard ISO 6336 - ISO10400 - DIN3991

- (gears can be rated to AGMA 2001-C95 and AGMA 2003 on request).

BS 721:

Calculation of load capacity for worm gearing.

ISO 281:

Rolling bearings — Dynamic load ratings and rating life

Shafts

DIN743

Shafts — Dynamic load ratings and rating life

Materials

EN 10084

Case hardening steels for gears and worms

EN 10083

Quenched and Tempered Steels for shafts

EN UNI 10025

Steel - Casing

UNI EN 1982 - UNI 5274

Copper for helical worm-gears

UNI EN 1706

Aluminium alloy

UNI EN 1561

Grey iron casting

UNI EN 1563 2004

Spheroidal cast iron

UNI 3097

Ball and roller bearing steel

1.6 Angewendete Normen**Wellen**

Die Abtriebswellen 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.

Alle Produkte der GSM werden unter Einhaltung folgender Normen entwickelt:

Berechnung der Zahnräder und Lager

ISO 6336 - ISO10400 - DIN3991

Die Belastbarkeit wurde auf Oberflächendruck und Bruch der Richtlinie ISO 6336 - ISO10400 - DIN3991 - gemäß berechnet (auf Anfrage können Überprüfungen den Normen AGMA 2001-C95 und AGMA 2003 gemäß vorgenommen werden).

BS 721

Berechnung der Belastungsfähigkeit der Schnecken und Schrägzahnräder.

ISO 281

Berechnung der Belastungsdauer der Wälzlager.

Wellen

DIN743

Berechnung der Belastungsdauer der Wellen.

Material

EN 10084

Einsatzstahl für Zahnräder und Schnecken.

EN 10083

Vergütungsstahl für Wellen.

EN UNI 10025

Stahl - Gehäuse

UNI EN 1982 - UNI 5274

Bronze für Schrägzahnräder

UNI EN 1706

Aluminium und Aluminiumlegierungen

UNI EN 1561

Grauguss-Legierungen

UNI EN 1563 2004

Sphäroguss

UNI 3097

Stahl für Lagergleitbahnen

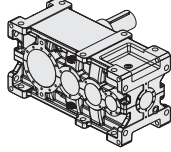
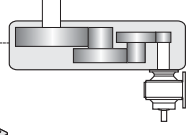



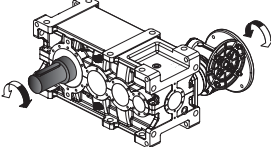
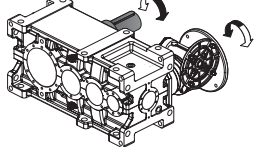
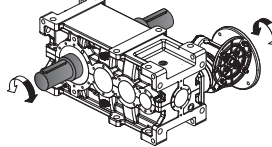
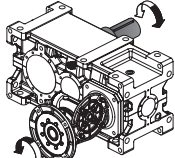
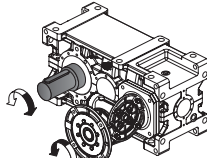
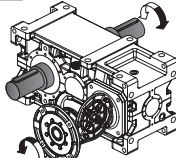
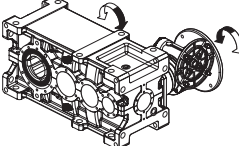
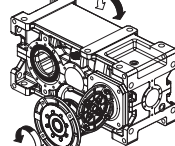
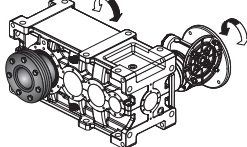
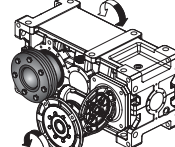
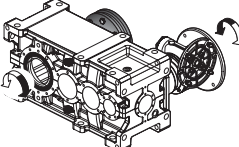
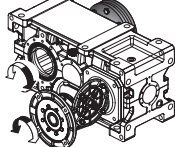
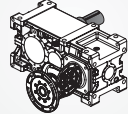
1.7 Designazione

1.7 Designation

1.7 Bezeichnung

| | | | | | | | | |
|--------------------------------------|------------------|---------------------------------|----------------------------|-----------------|----------------------------|--------------------------|-------------------------------------|---------------------------|
| CODE: Example of Order | RX | P | 3 | 802 | ABU | 40.2 | E100 | - |
| WEB: Reference Designation | Maschine 00-M | Centerline Orientation 01-CO | N° of reductions 02-NOR | Size 03-SIZE | Shaft arrangement 04-SA | Reduction ratio 05-IR | Differential unit size 06 DUSIZE | Housing material 07-CM |

| | | | | | | |
|---|----------|--|--|---|---|--------------|
|  | P | 3  | 802 804 806 808 810 812 814 816 818 820 822 824 |  | E70 E100 E125 E160 E180 E225 | - GS A |
|---|----------|--|--|---|---|--------------|

| | | | |
|---|---|--|--------------------------------------|
| A M1S  | AUD M1S  | ABU M1S  | A AUD ABU |
| B M1D  | BUS M1D  | BBU M1D  | B BUS BBU |
| C1 M1S  | C2 M1D  | | C1 C2 |
| C1S M1S  | C2S M1D  | | C1S C2S |
| C1D M1S  | C2D M1D  | RXP3-E  800 Series | C1D C2D |

1.7 Designazione

1.7 Designation

1.7 Bezeichnung



| | | | | | | | | | | | | | | | |
|----------|-----------|----------|----------|------------|------------|------------|------------|----------|------------|----------|----------|-----------------|------------|----------|----------|
| N | M1 | - | E | 9.2 | 100 | PAM | 100 | D | ECE | - | - | RXP3 802 | M1S | 1 | - |
|----------|-----------|----------|----------|------------|------------|------------|------------|----------|------------|----------|----------|-----------------|------------|----------|----------|

| | | | | | | | | | | | | | | | |
|--------------|--------------------|---------|-------------------------|--------------------------------|-------------------|--------------------|------------------|-------------------------------|-------------------------|-----------------------|------------------------------------|------------------------|------------------|----------------------------|---------------------------------|
| Output Shaft | Mounting positions | Options | Differenzial "Maschine" | Maximum to minimum speed ratio | Differenzial size | Input Version Main | Input Shaft Main | IEC type and Input Shaft Main | Input Version Secondary | Input Shaft Secondary | IEC type and Input Shaft Secondary | Coupled gear unit RXP3 | Mounting Version | Position Terminal Box Main | Position Terminal Box Secondary |
| 08-OS | 09-MP | 10 OPT | 11-EM | 12-SRIR | 13-ESIZE | 14-IVM | 15-ISM | 16-IECTM | 17-IVS | 18-ISS | 19-IECTS | 20 RSIZE | 21-MV | 22 PMTM | 23 PMTS |

M1
M2
M3
M4
M5
M6

U

70
100
125
160
180
225

M

S

RXP3 802

RXP3 824

1
2
3
4

1
2
3
4

Example for Shaft arrangement "B"

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

N

D

FD

Fn

C

UB

B Not supplied

CD

1.7 Designazione

1.7 Designation

1.7 Bezeichnung

00 M - Macchina

M - Maschine

M - Getriebe

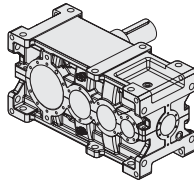
RX

01 CO - Posizione Assi

CO - Centerline Orientation

CO - Bauform getriebestufen

P



02 NOR - N° Stadi

NOR - N° of reductions

NOR - N° Anzahl der stufen

3

03 SIZE - Grandezza

SIZE - Size

SIZE - Größe

| | | | | | | | | | | | | |
|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | 802 | 804 | 806 | 808 | 810 | 812 | 814 | 816 | 818 | 820 | 822 | 824 |
| RXP3 | | | | | | | | | | | | |

04 SA - Esecuzione grafica

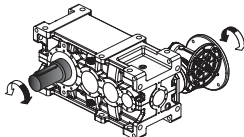
SA - Shaft arrangement

SA - Grafische Ausführung

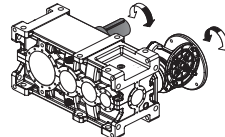
04 - SA

| | | |
|-----|-----|-----|
| A | AUD | ABU |
| B | BUS | BBU |
| C1 | C2 | |
| C1D | C1S | |
| C2D | C2S | |

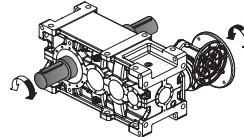
A M1S



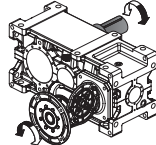
AUD M1S



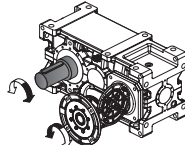
ABU M1S



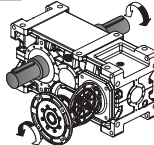
B M1D



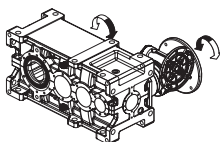
BUS M1D



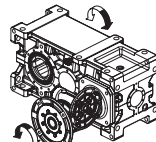
BBU M1D



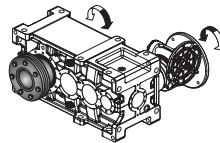
C1 M1S



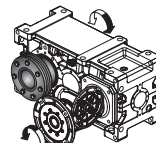
C2 M1D



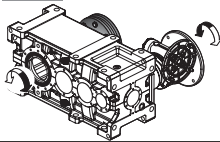
C1S M1S



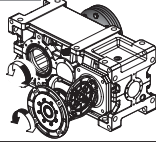
C2S M1D



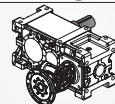
C1D M1S



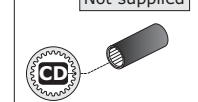
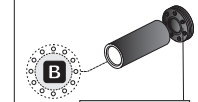
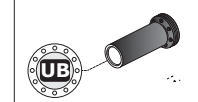
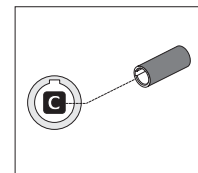
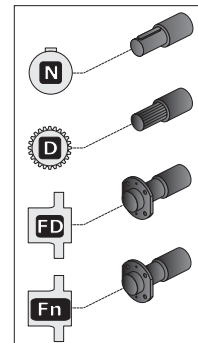
C2D M1D



RXP3-E



800 Series



1.7 Designazione

1.7 Designation

1.7 Bezeichnung

05 IR - Rapporto di riduzione

IR - Reduction ratio

IR - Übersetzungsverhältnis

(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.

(Siehe "Leistungen").
Bei allen Werten der Übersetzungen handelt es sich um approximative Wertangaben. Bei Applikationen, bei denen die exakte Wertangabe erforderlich ist, muss unser Technischer Kundendienst konsultiert werden.

06 DUSIZE - Grandezza differenziale

DUSIZE - Differential unit size

DUSIZE - Differentialgröße

| | | | | | |
|-----|------|------|------|------|------|
| E70 | E100 | E125 | E160 | E180 | E225 |
|-----|------|------|------|------|------|

07 CM - Materiale carcassa

CM - Housing material

CM - Gehäusematerial

| | | RXP 3 | | | | | | | | | | | |
|--|-----------|--------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Materiale carcassa / Housing material Gehäusematerial | | 802 | 804 | 806 | 808 | 810 | 812 | 814 | 816 | 818 | 820 | 822 | 824 |
| Ghisa meccanica / Engineering cast iron Maschinenguss | G | "Standard" | | | | | | | | | | | |
| Ghisa sferoidale / Spheroidal cast iron Sphäroguss | GS | "On request" | | | | | | | | | | | |
| Acciaio / Steel / Stahl | A | "On request" | | | | | | | | | | | |



1.7 Designazione








1.7 Designation

1.7 Bezeichnung

08 OS - Estremità uscita

OS - Output shaft

OS - Wellenende - Abtrieb






| |  |  |  |  |  |  |  | |
|------------|---|---|---|---|--|---|---|-------------------------|
| | Standard N | Standard C | Standard UB B | Standard CD | Standard D | Standard FD | Standard F... | Standard F1.. |
| 802 | (∅ 60xL112) | (∅ 60) | (∅ 60) | (60 x 55 DIN5482) | (FIAT 60) | (FIAT 60) | — | |
| 804 | (∅ 70xL125) | (∅ 70) | (∅ 70) | (70 x 64 DIN5482) | (FIAT 70) | (FIAT 70) | — | |
| 806 | (∅ 80xL140) | (∅ 80) | (∅ 80) | (80 x 74 DIN5482) | (FIAT 80) | (FIAT 80) | — | |
| 808 | (∅ 90xL160) | (∅ 90) | (∅ 90) | (90 x 84 DIN5482) | (FIAT 95) | (FIAT 95) | F1 | F101 |
| 810 | (∅ 100xL180) | (∅ 100) | (∅ 100) | (100 x 94 DIN5482) | (D. 105 DIN 5480) | (D. 105 DIN 5480) | F1 F2 | F101 F102 |
| 812 | (∅ 110xL200) | (∅ 110) | (∅ 110) | (110 x 3 x 35 DIN5480) | (D. 110 DIN 5480) | (D. 110 DIN 5480) | F2 F3 | F102 F103 |
| 814 | (∅ 125xL225) | (∅ 125) | (∅ 125) | (120 x 5 x 22 DIN5480) | (D. 130 DIN 5480) | (D. 130 DIN 5480) | F3 F4 | F103 F104 |
| 816 | (∅ 140xL250) | (∅ 140) | (∅ 140) | (140 x 5 x 26 DIN5480) | (D. 140 DIN 5480) | (D. 140 DIN 5480) | F4 F5 | F104 F105 |
| 818 | (∅ 160xL280) | (∅ 160) | (∅ 160) | (160 x 5 x 30 DIN5480) | (D. 160 DIN 5480) | (D. 160 DIN 5480) | F5 F6 | F105 F106 |
| 820 | (∅ 180xL315) | (∅ 180) | (∅ 180) | (180 x 8 x 21 DIN5480) | (D. 180 DIN 5480) | (D. 180 DIN 5480) | F6 F7 | F106 F107 |
| 822 | (∅ 200xL355) | (∅ 200) | (∅ 200) | — | (D. 200 DIN 5480) | (D. 200 DIN 5480) | F7 F8 | F107 F108 |
| 824 | (∅ 220xL400) | (∅ 220) | (∅ 220) | — | (D. 220 DIN 5480) | — | F8 F9 | F108 F108 |

Per ulteriori informazioni vedere 1.12 / For more details, please read 1.12 / Sie können Weitere Informationen siehe 1.12

FD
Non fornibili per classe di sollevamento M8

FD
Not available for lifting class M8.

FD
Für Hubklass M8 nicht lieferbar.

| RXP 3 | 802 | 804 | 806 | 808 | 810 | 812 | 814 | 816 | 818 | 820 | 822 | 824 |
|---|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|-----|------------|
|      | 495 549 | 494 542 | 518 568 | Ok! All | 485 537 | 487 540 | 495 549 | 494 542 | 518 568 | 512 561 | 537 | 487 531 |

Nei rapporti contrassegnati non è disponibile la versione uscita con albero cavo - "C"- "UB"- "B"- "CD" / Hollow output shaft "C"- "UB"- "B"- "CD" not available for ratios / Bei den gekennzeichneten Übersetzungsverhältnissen ist die Version „Abtrieb mit Hohlwelle "C"- "UB"- "B"- "CD" Nicht verfügbar

| | |
|--------------------|---|
| N | Sporgente Integrale / Output shaft / Vollwelle |
| C | Albero Cavo / Hollow Shaft / Holwelle |
| UB - B | Albero cavo con unità di bloccaggio / Hollow output shaft with shrink disc / Hohlwelle mit Schrumpfscheibe |
| CD | Albero lento cavo scanalato / Splined hollow shaft / Verzahnte Hohlwelle |
| D | Estremità albero lento scanalato senza flangia brocciata / Splined output shaft without broached flange / Abtriebswelle mit Keilende ohne geräumtem Flansch |
| FD | Estremità scanalata albero lento flangia brocciata / Splined output shaft and broached flange / Abtriebswelle mit Keilende und geräumtem Flansch |
| F1...F9 | Estremità scanalata albero lento con giunto <u>dentato</u> flangiato / Splined output shaft with flanged <u>splined</u> coupling / Abtriebswelle mit Keilende mit geflanschter Klauen kupplung |
| F101...F108 | Estremità scanalata albero lento con giunto flangiato a <u>rulli</u> bombati / Splined output shaft with flanged <u>barrel rollers</u> coupling / Abtriebswelle mit Keilende mit geflanschter Tonnenrollen kupplung |

1.7 Designazione

1.7 Designation

1.7 Bezeichnung

09 MP - Posizioni di montaggio

MP - Mounting positions

MP - Einbaulagen

Per ulteriori informazioni vedere 1.8 / For more details, please read 1.8 / Sie können Weitere Informationen siehe 1.8

10 OPT-ACC. - Opzioni

OPT-ACC. - Options

OPT-ACC. - Optionen

| ACC1 | Code | Per ulteriori informazioni vedere 1.12/For more details, please read 1.12/ Sie können Weitere Informationen siehe 1.12. | | | |
|------|-------|---|-----------------------|-----------------------------|--|
| | PROT. | | | | |
| | Code | | | | |
| ACC7 | AI | Accessori idraulici | Hydraulic accessories | Hydraulisches Zubehör | |
| ACC8 | DT. | Doppia tenuta... | Double seal... | Doppelte Dichtung... | |
| OPT | VT. | Paraoli in Viton... | Viton oil seals... | Ölabdichtungen aus Viton... | |
| | SL. | Paraoli in silicone... | Silicon oil seals... | Silikon-Dichtungsring... | |
| ACC9 | IS | Coperchio d'ispezione | Inspection cover | Inspektionsdeckel | |

Per ulteriori informazioni vedere SEZIONE U/For more details, please read SECTION U/Sie können Weitere Informationen siehe ABSCHNITT U

KIT

| ACC1 | Code | | | |
|------|------|--------------------------|---------------------|--------------------|
| | FF | FF - Kit | FF - Kit | FF - Kit |
| | RR | Kit rosetta di montaggio | Mounting washer kit | Kit Montagescheibe |

Per ulteriori informazioni vedere 1.12 / For more details, please read 1.12 / Sie können Weitere Informationen siehe 1.12

11 EM - Macchina "Differenziale"

EM - Differenzial "Maschine"

EM - Differenzialgetriebe



E

12 SRIR - Rapporto fra la velocità massima e

SRIR - Maximum to minimum speed ratio.

SRIR - Verhältnis zwischen geforderter max. und min. Drehzahl

| n_2/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 |

13 ESIZE - Grandezza differenziale

ESIZE - Differenzial size

ESIZE - Differenzialgröße

| E | 70 | 100 | 125 | 160 | 180 | 225 |
|---|----|-----|-----|-----|-----|-----|
|---|----|-----|-----|-----|-----|-----|

Nella tabella seguente sono riportati gli abbinamenti possibili tra differenziali e riduttori ad assi paralleli a 3 stadi di riduzione.

Listed in the table below are the possible combinations of differential units and triple-reduction in-line helical gear units.

In der nachstehenden Tabelle werden die zwischen Differential- und Parallelachsengetrieben mit 3 Übersetzungsstufen möglichen Passungen angegeben.

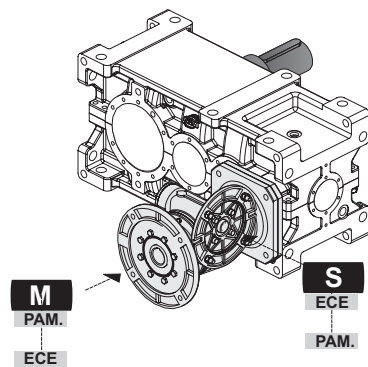
| Grandezza riduttore accoppiato Coupled gear unit Gepassetes Getriebe | Differenziale Differential unit Differential | | | | | |
|--|--|------|------|------|------|------|
| | E70 | E100 | E125 | E160 | E180 | E225 |
| RXP3 802 | | | | | | |
| RXP3 804 | | | | | | |
| RXP3 806 | | | | | | |
| RXP3 808 | | | | | | |
| RXP3 810 | | | | | | |
| RXP3 812 | | | | | | |
| RXP3 814 | | | | | | |
| RXP3 816 | | | | | | |
| RXP3 818 | | | | | | |
| RXP3 820 | | | | | | |
| RXP3 822 | | | | | | |
| RXP3 824 | | | | | | |

1.7 Designazione

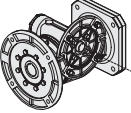
1.7 Designation

1.7 Bezeichnung

| M (Entrata Principale/ Main Input /Hauptantrieb) | | | | S (Entrata Secondaria / Secondary Input / Nebenantrieb) | | | |
|---|--|---|---|--|--|---|---|
| 14 IVM | 15 ISM | 16 IECTM | | 17 IVS | 18 ISS | 19 IECTS | |
| Versione Entrata Input Version Antriebsausführung | Albero Entrata Input Shaft Antriebswelle | Tipo IEC e Albero Entrata IEC type and Input Shaft IEC Typ und Antriebswelle | | Versione Entrata Input Version Antriebsausführung | Albero Entrata Input Shaft Antriebswelle | Tipo IEC e Albero Entrata IEC type and Input Shaft IEC Typ und Antriebswelle | |
| ECE | ECE | — | — | ECE | ECE | — | — |
| PAM..D | PAM | 80 90 ... | D | PAM..D | PAM | 80 90 ... | D |



| | | | |
|---|-----------------------------|-----------------------|-----------------------|
|  <p>ECE</p>  | Entrata con albero pieno | Solid input shaft | Antrieb mit Vollwelle |
|  <p>PAM...D</p>  | IEC - Accoppiamento diretto | IEC - Direct coupling | IEC - direkte Passung |

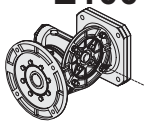
|  <p>E70</p> <p>S ECE PAM..</p> | ECE | | PAM...D | | | | | | | | | | | | | | | | | | | | | |
|--|-------|----|---------|---|-----|-----|------|------|------|-----|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|--|--|
| | U1 | S1 | IEC | | | | | | | | Grandezza riduttore accoppiato - RXP3 Coupled gear unit - RXP3 Gepassetes Getriebe - RXP3 | | | | | | | | | | | | | |
| | | | 3.3 | 5 | 6.6 | 9.2 | 13.1 | 16.1 | 18.4 | 802 | 804 | 806 | 808 | 810 | 812 | 814 | 816 | 818 | 820 | 822 | 824 | | | |
| | 19 j6 | 40 | 71 | | | | | | | | | | | | | | | | | | | | | |
| | | | 80 | | | | | | | | | | | | | | | | | | | | | |
| | | | 90 | | | | | | | | | | | | | | | | | | | | | |

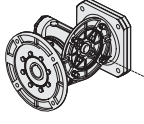
1.7 Designazione

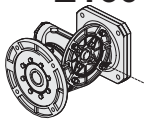
1.7 Designation

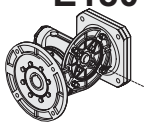
1.7 Bezeichnung

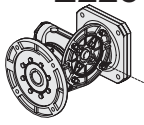


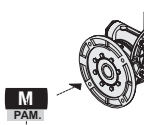
| | | | | | | | | | | | | | | | | | | | | | | |
|---|------------|-----|----------------|---|-----|-----|------|------|-------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|  <p>E100</p> <p>S ECE PAM.</p> | ECE | | PAM...D | | | | | | | | | | | | | | | | | | | |
| | U1 | S1 | IEC $i_{1/n}$ | | | | | | | Grandezza riduttore accoppiato - RXP3 Coupled gear unit - RXP3 Gepassetes Getriebe - RXP3 | | | | | | | | | | | | |
| | | | 3.3 | 5 | 6.6 | 9.2 | 13.1 | 16.1 | 18.4* | 802 | 804 | 806 | 808 | 810 | 812 | 814 | 816 | 818 | 820 | 822 | 824 | |
| | 28 j6 | 60 | 90 | | | | | | | | | | | | | | | | | | | |
| | | | 100 | | | | | | | | | | | | | | | | | | | |
| | | 112 | | | | | | | | | | | | | | | | | | | | |
| * Rapporto non standard / Ratio not standard / Übersetzung kein Standard | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|------------|-----|----------------|---|-----|-----|------|------|------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|  <p>E125</p> <p>S ECE PAM.</p> | ECE | | PAM...D | | | | | | | | | | | | | | | | | | | |
| | U1 | S1 | IEC $i_{1/n}$ | | | | | | | Grandezza riduttore accoppiato - RXP3 Coupled gear unit - RXP3 Gepassetes Getriebe - RXP3 | | | | | | | | | | | | |
| | | | 3.3 | 5 | 6.6 | 9.2 | 13.1 | 16.1 | 18.4 | 802 | 804 | 806 | 808 | 810 | 812 | 814 | 816 | 818 | 820 | 822 | 824 | |
| | 38 j6 | 80 | 100 | | | | | | | | | | | | | | | | | | | |
| | | | 112 | | | | | | | | | | | | | | | | | | | |
| | | 132 | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|------------|-----|----------------|---|-----|-----|------|------|------|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|  <p>E160</p> <p>S ECE PAM.</p> | ECE | | PAM...D | | | | | | | | | | | | | | | | | | | |
| | U1 | S1 | IEC $i_{1/n}$ | | | | | | | Grandezza riduttore accoppiato - RXP3 Coupled gear unit - RXP3 Gepassetes Getriebe - RXP3 | | | | | | | | | | | | |
| | | | 3.3 | 5 | 6.6 | 9.2 | 13.1 | 16.1 | 18.4 | 802 | 804 | 806 | 808 | 810 | 812 | 814 | 816 | 818 | 820 | 822 | 824 | |
| | 42 j6 | 100 | 100 | | | | | | | | | | | | | | | | | | | |
| | | | 112 | | | | | | | | | | | | | | | | | | | |
| | | 132 | | | | | | | | | | | | | | | | | | | | |
| | | 160 | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|------------|-----|----------------|---|---|----|----|----|----|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|  <p>E180</p> <p>S ECE PAM.</p> | ECE | | PAM...D | | | | | | | | | | | | | | | | | | | |
| | U1 | S1 | IEC $i_{1/n}$ | | | | | | | Grandezza riduttore accoppiato - RXP3 Coupled gear unit - RXP3 Gepassetes Getriebe - RXP3 | | | | | | | | | | | | |
| | | | 4 | 5 | 6 | 10 | 13 | 15 | 19 | 802 | 804 | 806 | 808 | 810 | 812 | 814 | 816 | 818 | 820 | 822 | 824 | |
| | 55 m6 | 100 | 100 | | | | | | | | | | | | | | | | | | | |
| | | | 112 | | | | | | | | | | | | | | | | | | | |
| | | 132 | | | | | | | | | | | | | | | | | | | | |
| | | 160 | | | | | | | | | | | | | | | | | | | | |
| | | 180 | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | |
|---|------------|-----|----------------|---|---|----|----|----|----|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|--|
|  <p>E225</p> <p>S ECE PAM.</p> | ECE | | PAM...D | | | | | | | | | | | | | | | | | | | |
| | U1 | S1 | IEC $i_{1/n}$ | | | | | | | Grandezza riduttore accoppiato - RXP3 Coupled gear unit - RXP3 Gepassetes Getriebe - RXP3 | | | | | | | | | | | | |
| | | | 4 | 5 | 6 | 10 | 13 | 15 | 19 | 802 | 804 | 806 | 808 | 810 | 812 | 814 | 816 | 818 | 820 | 822 | 824 | |
| | 60 m6 | 112 | 132 | | | | | | | | | | | | | | | | | | | |
| | | | 160 | | | | | | | | | | | | | | | | | | | |
| | | 180 | | | | | | | | | | | | | | | | | | | | |
| | | 200 | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | |
|--|------------|-----|----------------|-----|-----|-----|-----|-----|-----|---|-----|-----|-----|-----|--|--|--|--|--|--|--|--|--|
|  <p>E70</p> <p>M PAM. ECE</p> | ECE | | PAM...D | | | | | | | | | | | | | | | | | | | | |
| | U | S | IEC | | | | | | | Grandezza riduttore accoppiato - RXP3 Coupled gear unit - RXP3 Gepassetes Getriebe - RXP3 | | | | | | | | | | | | | |
| | | | 802 | 804 | 806 | 808 | 810 | 812 | 814 | 816 | 818 | 820 | 822 | 824 | | | | | | | | | |
| | 28 j6 | 50 | 90 | | | | | | | | | | | | | | | | | | | | |
| | | | 100 | | | | | | | | | | | | | | | | | | | | |
| | | | 112 | | | | | | | | | | | | | | | | | | | | |
| | | | 132 | | | | | | | | | | | | | | | | | | | | |
| | | | 132 | | | | | | | | | | | | | | | | | | | | |
| | | | 160 | | | | | | | | | | | | | | | | | | | | |
| | | | 160 | | | | | | | | | | | | | | | | | | | | |
| | | | 180 | | | | | | | | | | | | | | | | | | | | |
| | | | 180 | | | | | | | | | | | | | | | | | | | | |
| | | | 200 | | | | | | | | | | | | | | | | | | | | |
| | | 200 | | | | | | | | | | | | | | | | | | | | | |
| | | 225 | | | | | | | | | | | | | | | | | | | | | |
| | | - | | | | | | | | | | | | | | | | | | | | | |

1.7 Designazione

1.7 Designation

1.7 Bezeichnung

20 RSIZE - Grandezza riduttore accoppiato - RXP3

RSIZE - Coupled gear unit - RXP3

RSIZE - Gepassetes Getriebe - RXP3

| | | | | | | | | | | | |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| RXP3 802 | RXP3 804 | RXP3 806 | RXP3 808 | RXP3 810 | RXP3 812 | RXP3 814 | RXP3 816 | RXP3 818 | RXP3 820 | RXP3 822 | RXP3 824 |
|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|

21 MV - Versione di Montaggio

MV - Mounting Version

MV - Montagausführung

| | | | | | | | |
|-----|-----|-----|-----|-----|-----|-----|-----|
| M1D | M2D | M3D | M4D | M1S | M2S | M3S | M4S |
|-----|-----|-----|-----|-----|-----|-----|-----|

Lubrificazione:
Vedi paragrafo Lubrificazione.

Lubrication:
See paragraph Lubrication.

Schmierung:
Siehe Paragraph „Schmierung“

22 PMTM - Posizione della Morsettiera - Principale

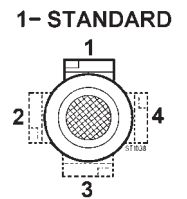
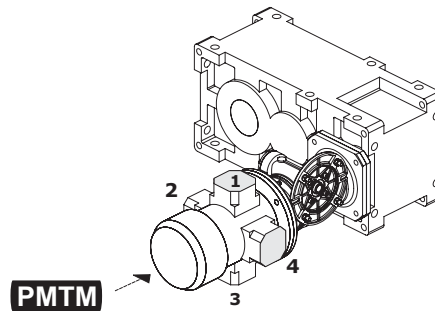
PMTM - Position Terminal Box - Main

PMTM - Haupt - Montagposition Klemmenkasten

[2, 3, 4] Posizione della morsettiera del motore se diversa da quella standard (1).

[2, 3, 4] Position of the motor terminal box if different from the standard one (1).

Montageposition Klemmenkasten [2, 3, 4], wenn abweichend von Standardposition [1] (für Motorgetriebe).



N.B.: Schema rappresentativo per Esecuzione Grafica B-BUS-BBU-C2-C2D-C2S:
NOTE: Diagram applies to Shaft arrangement B-BUS-BBU-C2-C2D-C2S:
HINWEIS: Schema für Grafische Ausführung B-BUS-BBU-C2-C2D-C2S gültig.

23 PMTS - Posizione della Morsettiera - Secondaria

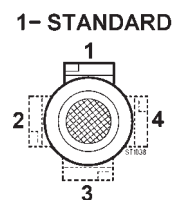
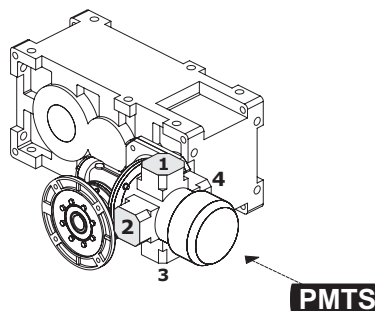
PMTS - Position Terminal Box - Secondary

PMTS - Neben - Montagposition Klemmenkasten

[2, 3, 4] Posizione della morsettiera del motore se diversa da quella standard (1).

[2, 3, 4] Position of the motor terminal box if different from the standard one (1).

Montageposition Klemmenkasten [2, 3, 4], wenn abweichend von Standardposition [1] (für Motorgetriebe).



1.8 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.

1.8 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.

1.8 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 |

1.8 Lubrificazione

Nel caso di lubrificazione forzata con pompa, qualora siano richieste ISO VG > 220 e/o temperature < 10°C, consultarci.

La tabella è valida per velocità periferiche normali; in caso di velocità > 13m/s, consultarci.

Se la temperatura ambiente T < 0°C ridurre di una gradazione la viscosità prevista in tabella, viceversa aumentarla di una se T > 40°C.

Le temperature ammissibili per gli oli minerali sono:
(-10 = T = 90)°C (fino a 100°C per periodi limitati).

Le temperature ammissibili per gli oli sintetici sono:
(-20 = T = 110)°C (fino a 120°C per periodi limitati).

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.

1.8 Lubrication

In case of forced lubrication by pump, when ISO VG > 220 and/or temperatures < 10°C, are requested, it is advisable to contact us.

The table is valid for normal peripheral speeds; in case of speed > 13 m/s, contact us.

If the environment temperature T < 0°C, decrease viscosity class by one, vice versa increase by one if T > 40°C.

Permissible temperatures for mineral oil are:

(-10 = T = 90)°C, up to 100°C for a short time.

Permissible temperatures for synthetic oil are:
(-20 = T = 110)°C, up to 120°C for a short time.

If the oil temperature is not permissible for mineral oil and for decreasing frequency of oil change, use synthetic oil with polyalphaolefins (PAOs).

1.8 Schmierung

Im Fall einer Zwangsschmierung über eine Pumpe, falls die ISO VG > 220 und/oder Temperaturen < 10°C gefordert werden, setzen Sie sich bitte mit uns in Verbindung.

Die Tabelle ist für normale Umfangsgeschwindigkeiten gültig. Bei Geschwindigkeiten > 13m/s, setzen Sie sich bitte mit uns in Verbindung.

Bei einer Umgebungstemperatur T < 0°C den von der Tabelle vorgesehenen Viskositätsgrad um eine Gradation mindern und, im entgegengesetzten Fall, bei einer Temperatur T > 40°C, um eine anheben.

Für Mineralöle zulässige Temperaturen:

(-10 = T = 90) °C (bis 100°C über begrenzte Zeiträume).

Für Synthetiköle zulässige Temperaturen:

(-20 = T = 110) °C (bis 120°C über begrenzte Zeiträume).

Bei Temperaturen, die diese für Mineralöle zulässigen Werte überschreiten und um die Auswechselzeiten verlängern zu können, sollte Synthetiköl auf Basis von Polyalphaolefinen verwendet werden.

| 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 S2 G 150 | OMALA S2 G 220 | OMALA S2 G 320 | Omala S4 GX 150 | Omala S4 GX 220 | Omala S4 GX 320 | OMALA S4 WE 150 | OMALA S4 WE 220 | OMALA S4 WE 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 | | | |
| FUCHS | | | | Cassida Fluid GL 150 | Cassida Fluid GL 220 | Cassida Fluid GL 320 | | | |

1.8 Lubrificazione

1.8 Lubrication

1.8 Schmierung

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.

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.

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.

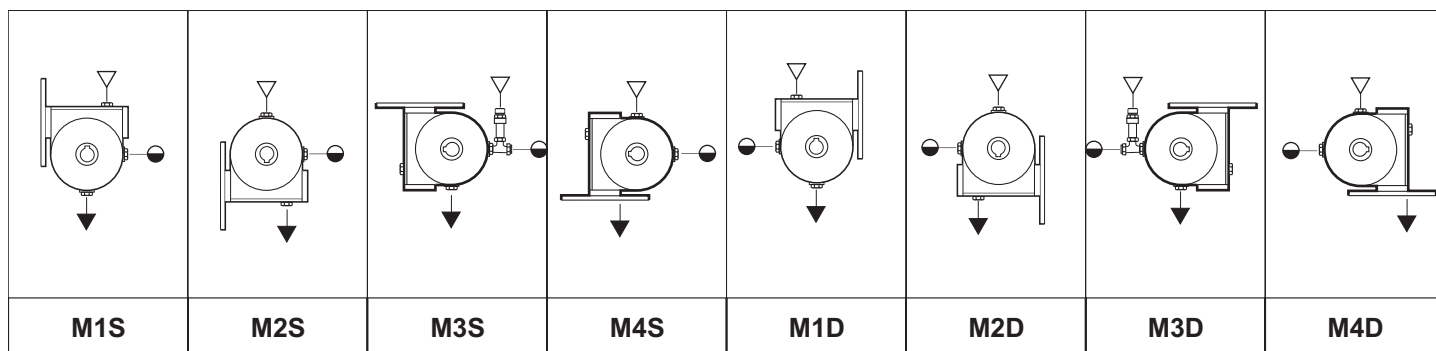
Allgemeines

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⁾ | | | | |
| 125 | 4.1 | | 2.9 ⁽¹⁾ | | | | |
| 160 | 6.0 | | 5.0 ⁽¹⁾ | | | | |
| 180 | 9.8 | | 7.8 ⁽¹⁾ | | | | |
| 225 | 14 | | 11.5 ⁽¹⁾ | | | Riduttori predisposti per lubrificazione ad olio Oil lubricated, supplied dry Getriebe sind für Ölschmierung ausgelegt | |

(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.

1.8 Lubrificazione

1.8 Lubrication

1.8 Schmierung

Lubrificazione RXP3

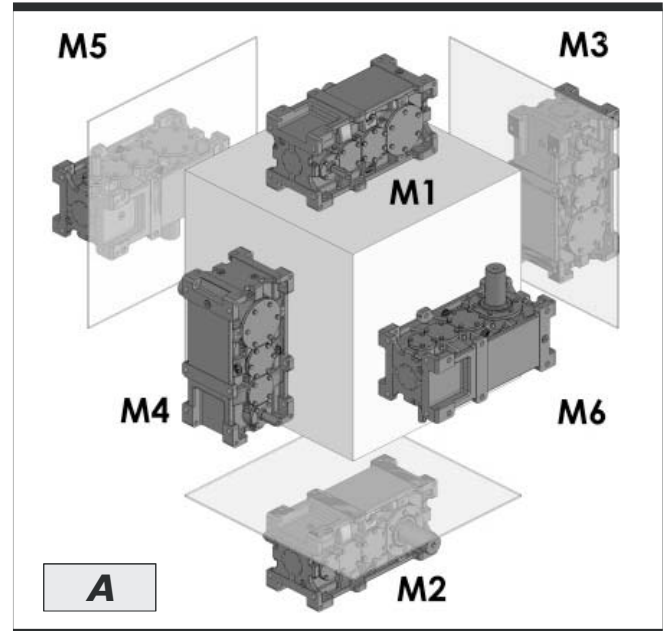
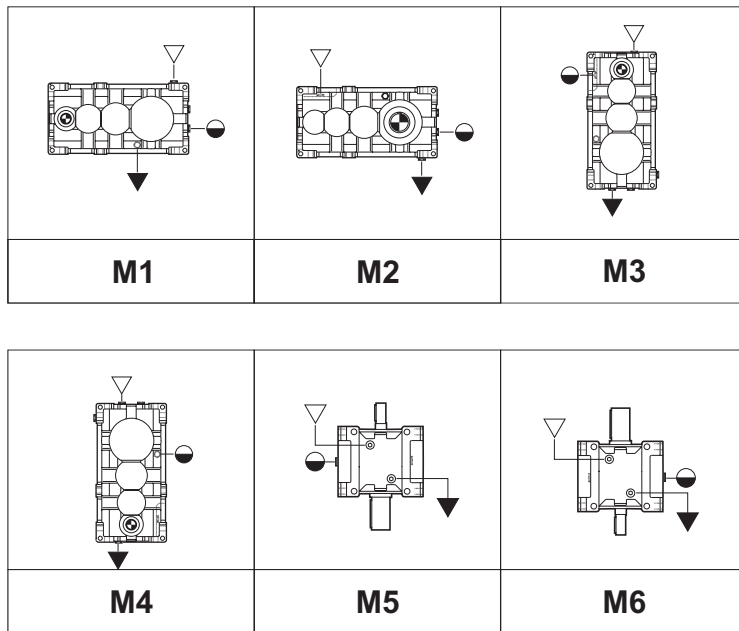
RXP3 lubrication

Schmierung RXP3

Posizioni di montaggio

Mounting positions

Einbaulagen



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

L'esecuzione grafica rappresentata è la A.
The noted version is A.
Die dargestellte Version ist A.

| | | 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 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.

Lubrificazione cuscinetti superiori RXP3 E

RXP3 E upper bearing lubrication

Schmierung der oberen Lager 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.

1.8 Lubrificazione

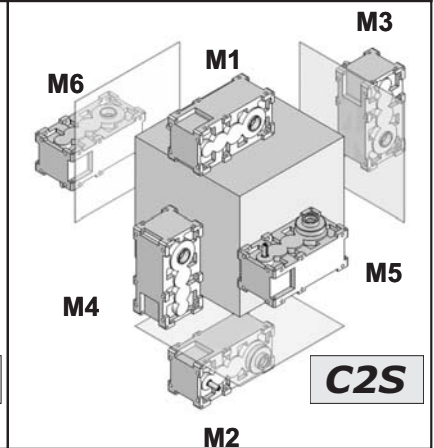
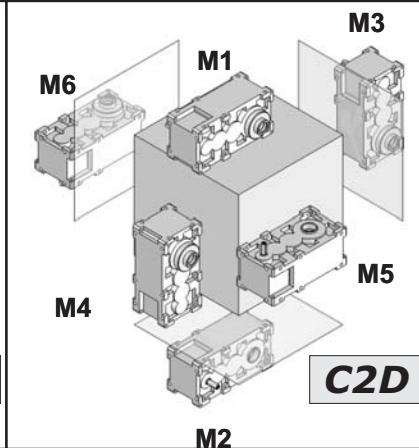
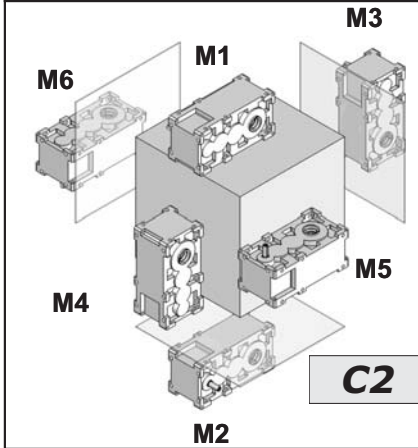
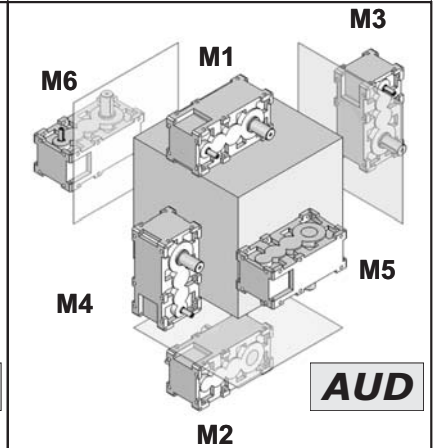
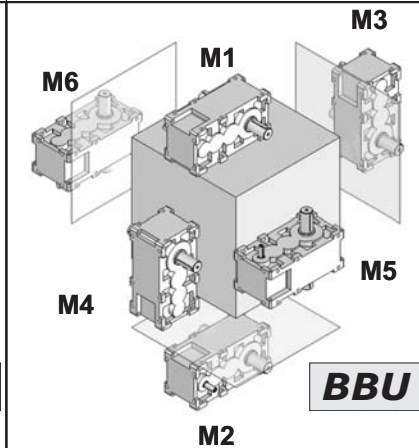
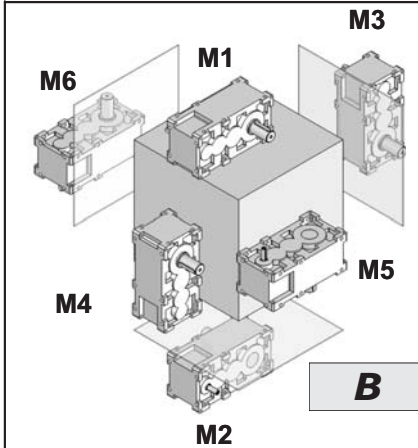
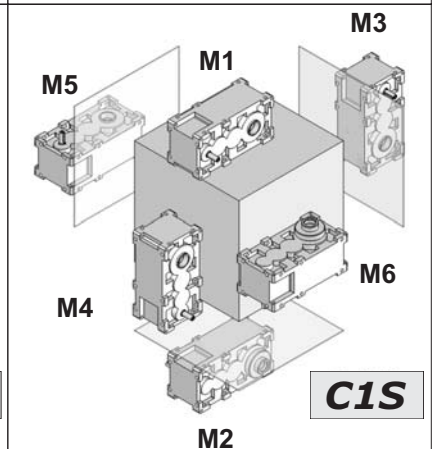
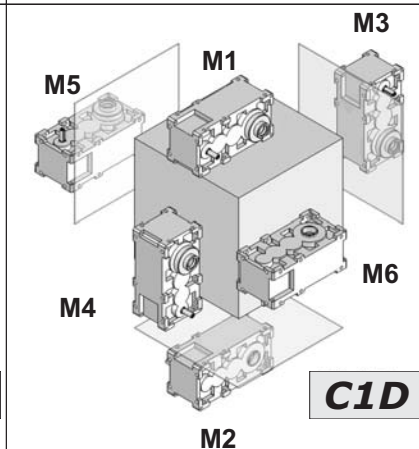
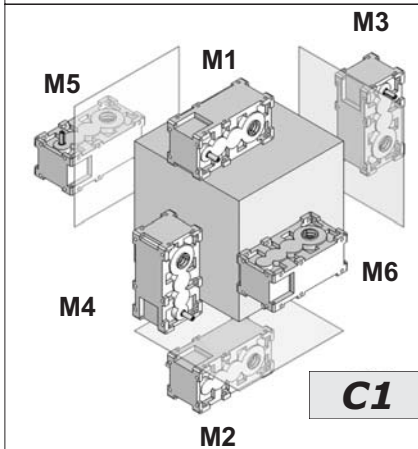
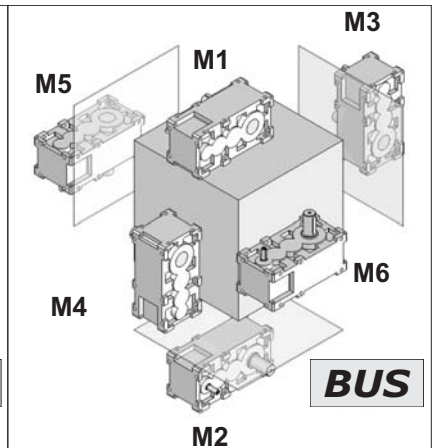
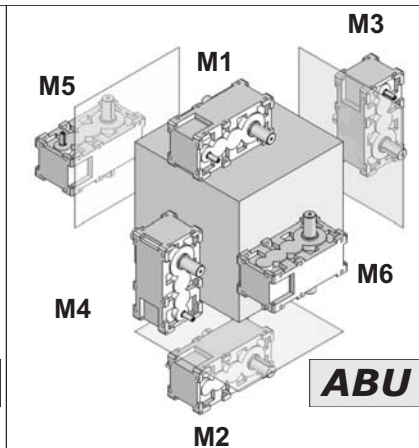
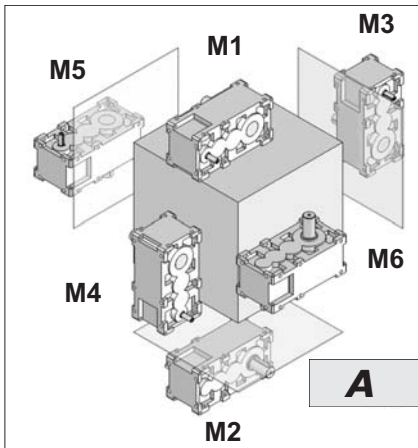
1.8 Lubrication

1.8 Schmierung

Lubrificazione RXP3

RXP3 lubrication

Schmierung RXP3



1.9 RXP3 applicato al differenziale

1.9 RXP3 coupled with differential unit

1.9 Am Differential appliziertes RXP3-Getriebe

| n ₁ min ⁻¹ | 99 802 | | | | | 138 804 | | | | | 243 806 | | | | | 273 808 | | | | |
|-------------------------------------|--------|-------------------------------------|----------------------|-----------------------|-----------------------|---------|-------------------------------------|----------------------|-----------------------|-----------------------|---------|-------------------------------------|----------------------|-----------------------|-----------------------|---------|-------------------------------------|----------------------|-----------------------|-----------------------|
| | 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 | 382 810 | | | | | 534 812 | | | | | 758 814 | | | | | 1045 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 | 542* | 2.7 | 11.9 | 38.5 | 70 | |

* Nei rapporti contrassegnati non è disponibile la versione uscita con albero cavo "C"-UB"-B"-CD".

* Hollow output shaft "C"-UB"-B"-CD" not available for ratios marked with this symbol.

* Bei den gekennzeichneten Übersetzungsverhältnissen ist die Version "Abtrieb mit Hohlwelle" "C"-UB"-B"-CD" nicht verfügbar.

1.9 RXP3 applicato al differenziale

1.9 RXP3 coupled with differential unit

1.9 Am Differential appliziertes RXP3-Getriebe



| n_1 min ⁻¹ | 1464 818 | | | | | G-2049 A-2106 820 | | | | | 3000 822 | | | | | G-4100 A-4000 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 | 108 | 29.4 | 49.3 | 298 | 53.1 | 150 | 33.6 | 45.8 | 418 | 80.3 | 188 | 31.2 | 46.5 | 613 | 116 | 210 |
| | 37.5 | 38.6 | 213 | 48.5 | 108 | 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 | 108 | 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 | 108 | 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 | 108 | 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 | 108 | 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 | 103 | 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 | 103 | 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 | 103 | 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 | 103 | 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 | 103 | 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 | 100 | 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 | 100 | 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 | 100 | 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 | 100 | 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 | 100 | 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 | 100 | 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 | 100 | 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 | 100 | 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 | 100 | 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 | 100 | 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 | 100 | 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 | 100 | 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 | 100 | 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 | 100 | 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 | 100 | 561* | 2.6 | 24 | 80.0 | 142 | 537* | 2.7 | 37 | 119 | 178 | 531* | 2.7 | 50 | 160 | 200 | |

* Nei rapporti contrassegnati non è disponibile la versione uscita con albero cavo "C"- "UB"- "B"- "CD".

* Hollow output shaft "C"- "UB"- "B"- "CD" not available for ratios marked with this symbol.

* Bei den gekennzeichneten Übersetzungsverhältnissen ist die Version "Abtrieb mit Hohlwelle" "C"- "UB"- "B"- "CD" nicht verfügbar.

1.9 Prestazioni differenziale

1.9 Differential unit ratings


1.9 Leistungen- Differentialgetriebe

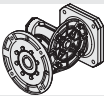
| | E70 | E100 | E125 | E160 | E180 | E225 |
|-----------------------|------------|-------------|-------------|-------------|-------------|-------------|
| | 14 | 43 | 65 | 110 | 215 | 330 |
| PD [kW] (1450 rpm) | 7.5 | 15 | 30 | 55 | 75 | 200 |
| T1D [Nm] | 49 | 99 | 198 | 362 | 494 | 1317 |

1.10 Momenti d'inerzia

1.10 Moments of inertia

1.10 Trägheitsmomente

| RXP 3  | | 802 | 804 | 806 | 808 | 810 | 812 | 814 | 816 | 818 | 820 | 822 | 824 |
|--|------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|
| ir | — | 31.7 | 33.5 | 33.5 | 29.4 | 31.7 | 31.2 | 31.7 | 33.5 | 33.5 | 29.4 | 31.7 | 31.2 |
| J1 | kgm ² | 0.00004 | 0.00006 | 0.00023 | 0.00027 | 0.0008 | 0.0012 | 0.0019 | 0.0034 | 0.0059 | 0.0112 | 0.0197 | 0.0347 |
| ir | — | 35.6 | 37.6 | 39.8 | 34.8 | 37.7 | 35.1 | 35.6 | 37.6 | 37.5 | 34.8 | 37.7 | 35.1 |
| J1 | kgm ² | 0.00004 | 0.00006 | 0.00021 | 0.00026 | 0.0007 | 0.0011 | 0.0018 | 0.0032 | 0.0056 | 0.0105 | 0.0185 | 0.0327 |
| ir | — | 40.2 | 42.4 | 42.2 | 39.2 | 42.6 | 39.6 | 40.2 | 42.4 | 42.2 | 39.2 | 42.6 | 39.6 |
| J1 | kgm ² | 0.00004 | 0.00006 | 0.00020 | 0.00024 | 0.0007 | 0.0011 | 0.0017 | 0.0031 | 0.0053 | 0.0099 | 0.0174 | 0.0308 |
| ir | — | 45.7 | 48.2 | 47.7 | 44.2 | 45.4 | 45.0 | 45.7 | 48.2 | 47.7 | 44.2 | 48.4 | 45.0 |
| J1 | kgm ² | 0.00004 | 0.00006 | 0.00018 | 0.00024 | 0.0006 | 0.0010 | 0.0016 | 0.0029 | 0.0050 | 0.0093 | 0.0164 | 0.0290 |
| ir | — | 52.4 | 51.5 | 54.3 | 47.1 | 51.8 | 51.6 | 52.4 | 51.5 | 54.4 | 47.1 | 51.8 | 51.6 |
| J1 | kgm ² | 0.00004 | 0.00006 | 0.00017 | 0.00023 | 0.0006 | 0.0009 | 0.0015 | 0.0027 | 0.0047 | 0.0087 | 0.0155 | 0.0273 |
| ir | — | 56.3 | 59.2 | 58.1 | 57.6 | 55.5 | 55.4 | 56.3 | 59.2 | 58.1 | 53.8 | 55.5 | 55.4 |
| J1 | kgm ² | 0.00004 | 0.00006 | 0.00016 | 0.00022 | 0.0005 | 0.0009 | 0.0014 | 0.0026 | 0.0045 | 0.0082 | 0.0146 | 0.0257 |
| ir | — | 60.6 | 63.8 | 67.1 | 66.6 | 64.2 | 64.4 | 60.6 | 63.8 | 57.1 | 61.9 | 64.2 | 64.4 |
| J1 | kgm ² | 0.00003 | 0.00006 | 0.00015 | 0.00021 | 0.0005 | 0.0008 | 0.0013 | 0.0024 | 0.0042 | 0.0077 | 0.0137 | 0.0242 |
| ir | — | 71.0 | 74.7 | 72.5 | 78.1 | 75.2 | 69.9 | 71.0 | 74.7 | 72.5 | 72.0 | 75.2 | 69.9 |
| J1 | kgm ² | 0.00003 | 0.00006 | 0.00014 | 0.00020 | 0.0005 | 0.0008 | 0.0013 | 0.0023 | 0.0040 | 0.0073 | 0.0129 | 0.0228 |
| ir | — | 77.3 | 81.3 | 85.5 | 85.0 | 81.9 | 83.3 | 77.3 | 81.3 | 85.5 | 78.1 | 81.9 | 83.3 |
| J1 | kgm ² | 0.00003 | 0.00006 | 0.00013 | 0.00019 | 0.0004 | 0.0007 | 0.0012 | 0.0021 | 0.0038 | 0.0069 | 0.0121 | 0.0215 |
| ir | — | 84.6 | 89.0 | 93.5 | 93.0 | 89.6 | 88.3 | 84.6 | 89.0 | 93.5 | 93.0 | 89.6 | 91.7 |
| J1 | kgm ² | 0.00003 | 0.00006 | 0.00012 | 0.00018 | 0.0004 | 0.0007 | 0.0011 | 0.0020 | 0.0035 | 0.0064 | 0.0114 | 0.0203 |
| ir | — | 101 | 102 | 102 | 105 | 98.0 | 99.6 | 101 | 96.3 | 96.1 | 105 | 98.0 | 99.8 |
| J1 | kgm ² | 0.00003 | 0.00006 | 0.00011 | 0.00018 | 0.0004 | 0.0006 | 0.0011 | 0.0019 | 0.0034 | 0.0061 | 0.0108 | 0.0191 |
| ir | — | 115 | 115 | 108 | 112 | 118 | 113 | 115 | 109 | 108 | 112 | 111 | 113 |
| J1 | kgm ² | 0.00003 | 0.00005 | 0.00010 | 0.00017 | 0.0003 | 0.0006 | 0.0010 | 0.0018 | 0.0032 | 0.0057 | 0.0101 | 0.0180 |
| ir | — | 132 | 123 | 122 | 128 | 135 | 130 | 132 | 123 | 122 | 128 | 126 | 130 |
| J1 | kgm ² | 0.00003 | 0.00005 | 0.00009 | 0.00016 | 0.0003 | 0.0005 | 0.0009 | 0.0017 | 0.0030 | 0.0054 | 0.0095 | 0.0169 |
| ir | — | 142 | 142 | 139 | 137 | 144 | 140 | 142 | 152 | 139 | 147 | 144 | 140 |
| J1 | kgm ² | 0.00003 | 0.00005 | 0.00009 | 0.00016 | 0.0003 | 0.0005 | 0.0009 | 0.0016 | 0.0028 | 0.0051 | 0.0090 | 0.0160 |
| ir | — | 153 | 152 | 172 | 158 | 167 | 162 | 153 | 163 | 172 | 171 | 167 | 162 |
| J1 | kgm ² | 0.00003 | 0.00005 | 0.00008 | 0.00015 | 0.0003 | 0.0005 | 0.0008 | 0.0015 | 0.0027 | 0.0048 | 0.0085 | 0.0150 |
| ir | — | 179 | 178 | 186 | 186 | 195 | 176 | 179 | 191 | 186 | 186 | 195 | 176 |
| J1 | kgm ² | 0.00003 | 0.00004 | 0.00008 | 0.00014 | 0.0003 | 0.0005 | 0.0008 | 0.0014 | 0.0025 | 0.0045 | 0.0080 | 0.0142 |
| ir | — | 195 | 194 | 219 | 202 | 213 | 192 | 195 | 208 | 219 | 202 | 213 | 210 |
| J1 | kgm ² | 0.00003 | 0.00004 | 0.00008 | 0.00013 | 0.0002 | 0.0004 | 0.0008 | 0.0013 | 0.0024 | 0.0042 | 0.0075 | 0.0133 |
| ir | — | 213 | 213 | 239 | 221 | 233 | 210 | 213 | 228 | 239 | 221 | 233 | 231 |
| J1 | kgm ² | 0.00003 | 0.00004 | 0.00007 | 0.00013 | 0.0002 | 0.0004 | 0.0007 | 0.0013 | 0.0022 | 0.0040 | 0.0071 | 0.0125 |
| ir | — | 243 | 270 | 240 | 236 | 255 | 239 | 243 | 270 | 247 | 243 | 255 | 248 |
| J1 | kgm ² | 0.00002 | 0.00004 | 0.00007 | 0.00012 | 0.0002 | 0.0004 | 0.0007 | 0.0012 | 0.0021 | 0.0037 | 0.0067 | 0.0119 |
| ir | — | 299 | 290 | 278 | 273 | 273 | 294 | 299 | 290 | 265 | 279 | 273 | 266 |
| J1 | kgm ² | 0.00002 | 0.00004 | 0.00006 | 0.00011 | 0.0002 | 0.0004 | 0.0006 | 0.0011 | 0.0020 | 0.0035 | 0.0063 | 0.0112 |
| ir | — | 322 | 340 | 300 | 320 | 316 | 343 | 322 | 340 | 306 | 325 | 316 | 309 |
| J1 | kgm ² | 0.00002 | 0.00003 | 0.00006 | 0.00011 | 0.0002 | 0.0003 | 0.0006 | 0.0011 | 0.0019 | 0.0034 | 0.0060 | 0.0107 |
| ir | — | 378 | 370 | 354 | 349 | 370 | 372 | 378 | 370 | 330 | 352 | 370 | 336 |
| J1 | kgm ² | 0.00002 | 0.00003 | 0.00006 | 0.00011 | 0.0002 | 0.0003 | 0.0006 | 0.0010 | 0.0018 | 0.0033 | 0.0058 | 0.0103 |
| ir | — | 411 | 405 | 387 | 420 | 403 | 405 | 411 | 405 | 389 | 384 | 403 | 400 |
| J1 | kgm ² | 0.00002 | 0.00003 | 0.00006 | 0.00010 | 0.0002 | 0.0003 | 0.0006 | 0.0010 | 0.0018 | 0.0032 | 0.0057 | 0.0101 |
| ir | — | 450 | 444 | 425 | 466 | 441 | 443 | 450 | 444 | 426 | 420 | 441 | 440 |
| J1 | kgm ² | 0.00002 | 0.00003 | 0.00006 | 0.00010 | 0.0002 | 0.0003 | 0.0006 | 0.0010 | 0.0017 | 0.0031 | 0.0055 | 0.0098 |
| ir | — | 495 | 494 | 518 | 512 | 485 | 488 | 495 | 494 | 518 | 512 | 485 | 488 |
| J1 | kgm ² | 0.00002 | 0.00003 | 0.00006 | 0.00009 | 0.0002 | 0.0003 | 0.0005 | 0.0010 | 0.0017 | 0.0030 | 0.0054 | 0.0095 |
| ir | — | 549 | 542 | 568 | 561 | 537 | 540 | 549 | 542 | 568 | 561 | 537 | 531 |
| J1 | kgm ² | 0.00002 | 0.00003 | 0.00005 | 0.00009 | 0.0002 | 0.0003 | 0.0005 | 0.0009 | 0.0017 | 0.0030 | 0.0053 | 0.0094 |

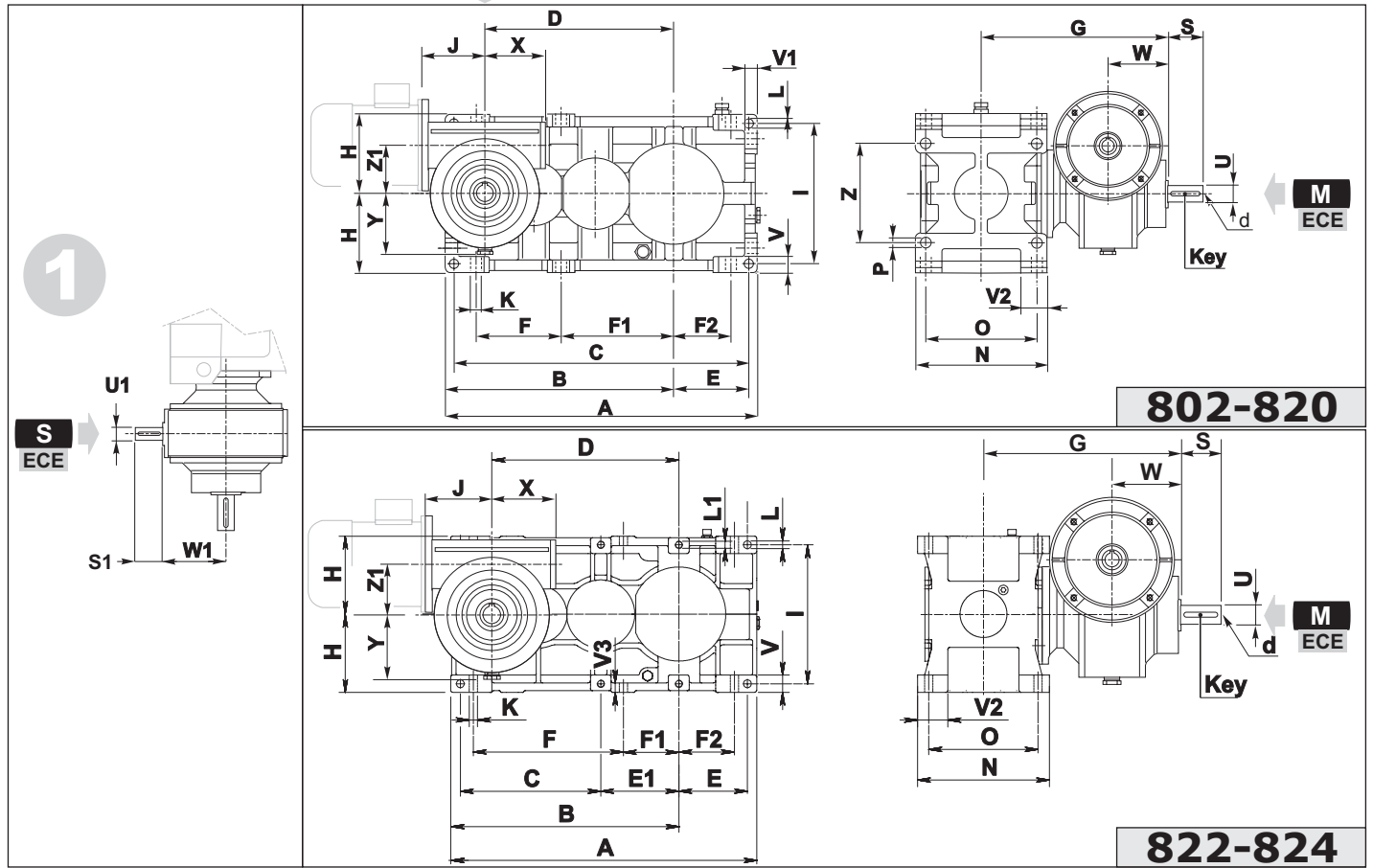
| E  | | 70 | 100 | 125 | 160 | 180 | 225 |
|--|------------------|-----------|------------|------------|------------|------------|------------|
| J1 | kgm ² | 0.0002 | 0.0013 | 0.0032 | 0.0072 | 0.0201 | 0.0478 |



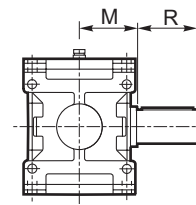
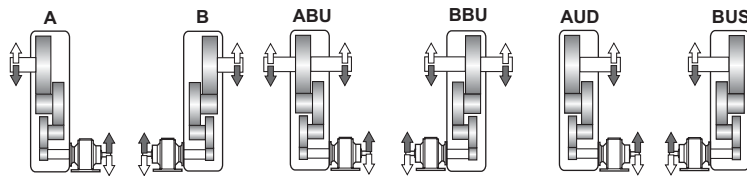
1.11 Dimensioni
Materiale Carcassa - "Ghisa"

1.11 Dimensions
Housing Material- "Cast Iron"

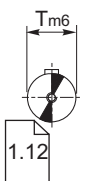
1.11 Abmessungen
Gehäusematerial - "Guss"



➔ **N D FD Fn**

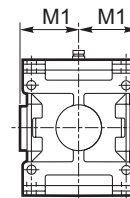
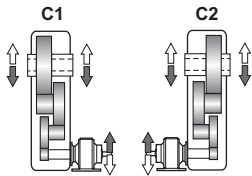


N



1.12

➔ **C**

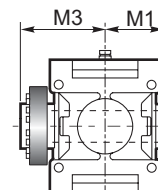
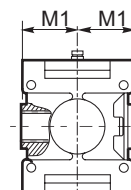
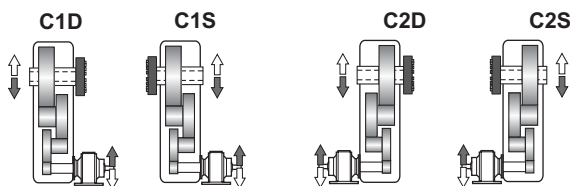


C



1.12

➔ **UB B CD**



UB



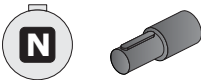
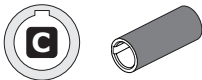
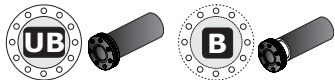
1.12


1.11 Dimensioni
Materiale Carcassa - "Ghisa"

1.11 Dimensions
Housing Material- "Cast Iron"

1.11 Abmessungen
Gehäusematerial - "Guss"

| | Dimensioni generali / Dimensions / Allgemeine Abmessungen | | | | | | | | | | | | | | | | | | | | Kg | | |
|------------|---|------|------|------|-------|-----|-----|-------|-------|------------------|-----|----|----|-----|------------------|-----|----|-----|------|-------|----|-----|------|
| | A | B | C | D | E | E1 | F | F1 | F2 | H _{h11} | I | K | L | L1 | 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 | 19 | 160 | 99 |
| 804 | 562 | 412 | 530 | 342 | 134 | — | 153 | 202.5 | 103.5 | 140 | 250 | 20 | 16 | — | 237 | 200 | 20 | 28 | 22.5 | 49 | 23 | 180 | 128 |
| 806 | 635 | 465 | 601 | 385 | 153 | — | 173 | 229 | 117 | 160 | 280 | 22 | 18 | — | 269 | 225 | 22 | 32 | 25 | 56.5 | 25 | 200 | 193 |
| 808 | 712 | 522 | 674 | 432 | 171 | — | 194 | 258 | 130 | 180 | 320 | 25 | 20 | — | 297 | 250 | 25 | 36 | 28 | 59.5 | 28 | 224 | 273 |
| 810 | 795 | 585 | 755 | 485 | 190 | — | 216 | 288 | 144 | 200 | 360 | 27 | 22 | — | 335 | 280 | 27 | 40 | 32 | 67.5 | 32 | 250 | 382 |
| 812 | 897 | 657 | 852 | 545 | 217.5 | — | 242 | 324.5 | 159.5 | 225 | 400 | 30 | 24 | — | 379 | 315 | 30 | 45 | 36 | 78.5 | 36 | 280 | 534 |
| 814 | 1000 | 735 | 950 | 610 | 240 | — | 271 | 363 | 179 | 250 | 450 | 33 | 27 | — | 427 | 355 | 33 | 50 | 40 | 89 | 40 | 320 | 758 |
| 816 | 1125 | 825 | 1069 | 685 | 272 | — | 305 | 407.5 | 202.5 | 280 | 500 | 36 | 30 | — | 479 | 400 | 36 | 56 | 45 | 96.5 | 45 | 360 | 1045 |
| 818 | 1270 | 930 | 1206 | 770 | 308 | — | 345 | 460 | 230 | 315 | 560 | 39 | 35 | — | 541 | 450 | 39 | 63 | 50 | 114.5 | 48 | 400 | 1464 |
| 820 | 1425 | 1045 | 1353 | 865 | 344 | — | 388 | 516.5 | 259.5 | 355 | 638 | 42 | 39 | — | 599 | 500 | 42 | 70 | 56 | 124 | 56 | 450 | 2049 |
| 822 | 1570 | 1170 | 1520 | 970 | 350 | 400 | 770 | 300 | 300 | 400 | 710 | 45 | 42 | M39 | 675 | 560 | - | 90 | - | 162 | 50 | - | 3000 |
| 824 | 1765 | 1315 | 810 | 1090 | 395 | 450 | 865 | 320 | 320 | 450 | 800 | 48 | 45 | M42 | 761 | 630 | - | 100 | - | 175 | 55 | - | 4100 |

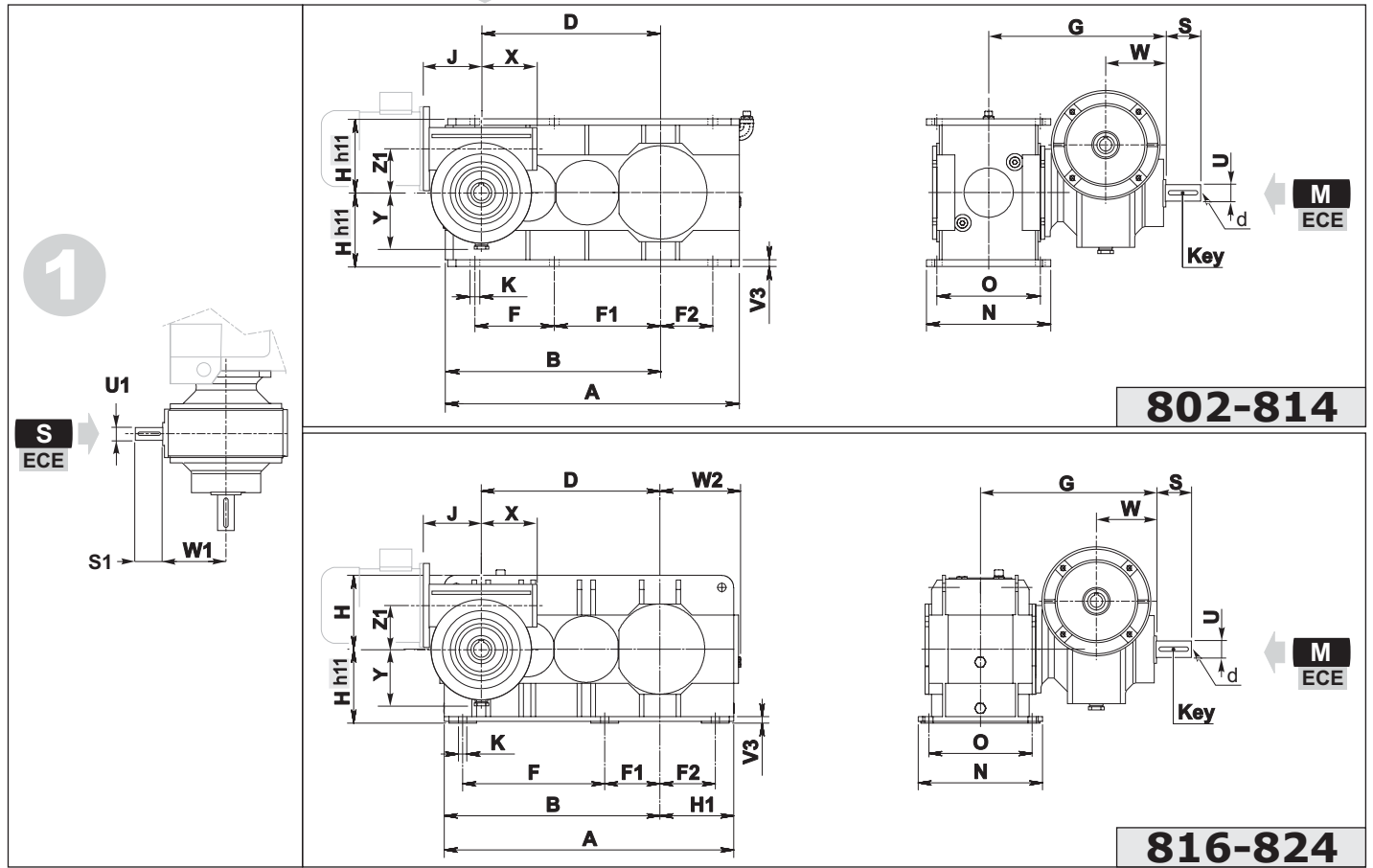
| | Albero uscita / Output shaft / Abtriebswelle | | | | | | | | |
|------------|---|-----|-----|---|-----|---|-----|-----|----|
| |  | | |  | |  | | | M3 |
| | T m6 | R | M | T H7 | M1 | T H7 | M1 | | |
| 802 | 60 | 112 | 109 | 60 | 109 | 60 | 109 | 170 | |
| 804 | 70 | 125 | 121 | 70 | 121 | 70 | 121 | 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 | 570 | |
| 824 | 220 | 400 | 383 | 220 | 383 | 220 | 383 | 617 | |

|  | | E70 | E100 | E125 | E160 | E180 | E225 |
|---|------------|--------|---------|----------|-----------|-----------|-----------|
| M ECE | 802 | 418.5 | 407.5 | | | | |
| | 804 | 430.5 | 419.5 | 478.5 | | | |
| | 806 | 448.5 | 437.5 | 496.5 | | | |
| | 808 | 462.5 | 451.5 | 510.5 | 590.5 | | |
| | 810 | 461.5 | 450.5 | 509.5 | 611.5 | | |
| | 812 | 482.5 | 471.5 | 530.5 | 633.5 | 648 | |
| | 814 | | 497 | 556 | 657.5 | 650 | 784 |
| | 816 | | 522.5 | 581.5 | 686.5 | 700 | 808 |
| | 818 | | | 611.5 | 684.5 | 624 | 840 |
| | 820 | | | | 714.5 | 649 | 880 |
| | 822 | | | | 530 | 679 | 750 |
| | 824 | | | | | 714 | 785 |
| S ECE | 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 |
| | U1 | 19 j6 | 28 j6 | 38 j6 | 42 j6 | 55 m6 | 60 m6 |
| | S1 | 40 | 60 | 80 | 100 | 100 | 112 |
| | W1 | 97 | 146 | 166 | 195 | 240 | 290 |
| X | 92 | 142 | 163 | 191 | 238 | 280 | |
| Y | 84 | 139 | 152 | 177 | 212 | 247 | |
| Z1 | 70 | 110 | 130 | 150 | 180 | 215 | |

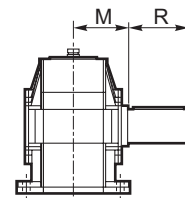
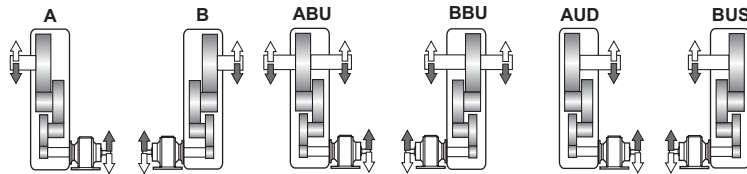
1.11 Dimensioni
Materiale Carcassa - "Acciaio"

1.11 Dimensions
Housing Material- "Steel"

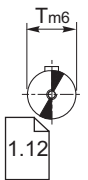
1.11 Abmessungen
Gehäusematerial - "Stahl"



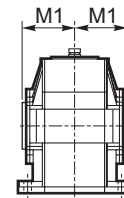
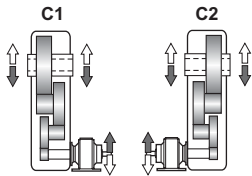
N D FD Fn



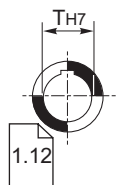
N



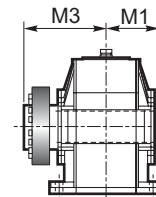
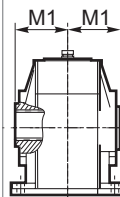
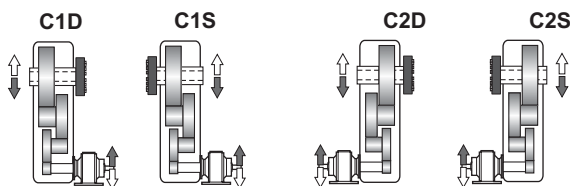
C



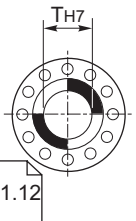
C



UB B CD



UB

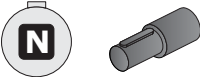
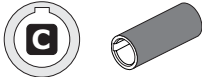
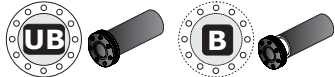



1.11 Dimensioni
Materiale Carcassa - "Acciaio"

1.11 Dimensions
Housing Material- "Steel"

1.11 Abmessungen
Gehäusematerial - "Stahl"

| | Dimensioni generali / Dimensions / Allgemeine Abmessungen | | | | | | | | | | | | | |
|-----|---|------|------|-----|-------|-------|-----|-----|----|-----|-----|----|-----|------|
| | A | B | D | F | F1 | F2 | H | H1 | K | N | O | V3 | W2 | kg |
| 802 | 498 | 368 | 305 | 136 | 182 | 90 | 125 | 125 | 18 | 213 | 180 | 10 | - | 99 |
| 804 | 562 | 412 | 342 | 153 | 202.5 | 103.5 | 140 | 140 | 20 | 237 | 200 | 12 | - | 128 |
| 806 | 635 | 465 | 385 | 173 | 229 | 117 | 160 | 160 | 22 | 269 | 225 | 15 | - | 193 |
| 808 | 712 | 522 | 432 | 194 | 258 | 130 | 180 | 180 | 25 | 297 | 250 | 15 | - | 273 |
| 810 | 795 | 585 | 485 | 216 | 288 | 144 | 200 | 200 | 27 | 335 | 280 | 20 | - | 382 |
| 812 | 897 | 657 | 545 | 242 | 324.5 | 159.5 | 225 | 225 | 30 | 379 | 315 | 20 | - | 534 |
| 814 | 1000 | 735 | 610 | 271 | 363 | 179 | 250 | 250 | 33 | 427 | 355 | 20 | - | 758 |
| 816 | 1105 | 825 | 685 | 305 | 407.5 | 202.5 | 280 | 280 | 36 | 479 | 400 | 30 | 318 | 1045 |
| 818 | 1245 | 930 | 770 | 345 | 460 | 230 | 315 | 315 | 39 | 541 | 450 | 30 | 357 | 1464 |
| 820 | 1400 | 1045 | 865 | 388 | 516.5 | 259.5 | 355 | 355 | 42 | 599 | 500 | 30 | 407 | 2106 |
| 822 | 1570 | 1170 | 970 | 770 | 300 | 300 | 400 | 400 | 45 | 675 | 560 | 35 | 437 | 3000 |
| 824 | 1635 | 1255 | 1090 | 865 | 320 | 320 | 450 | 380 | 48 | 761 | 630 | 37 | 480 | 4000 |

| | 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 | 570 | |
| 824 | 220 | 400 | 383 | 220 | 383 | 220 | 383 | 617 | |

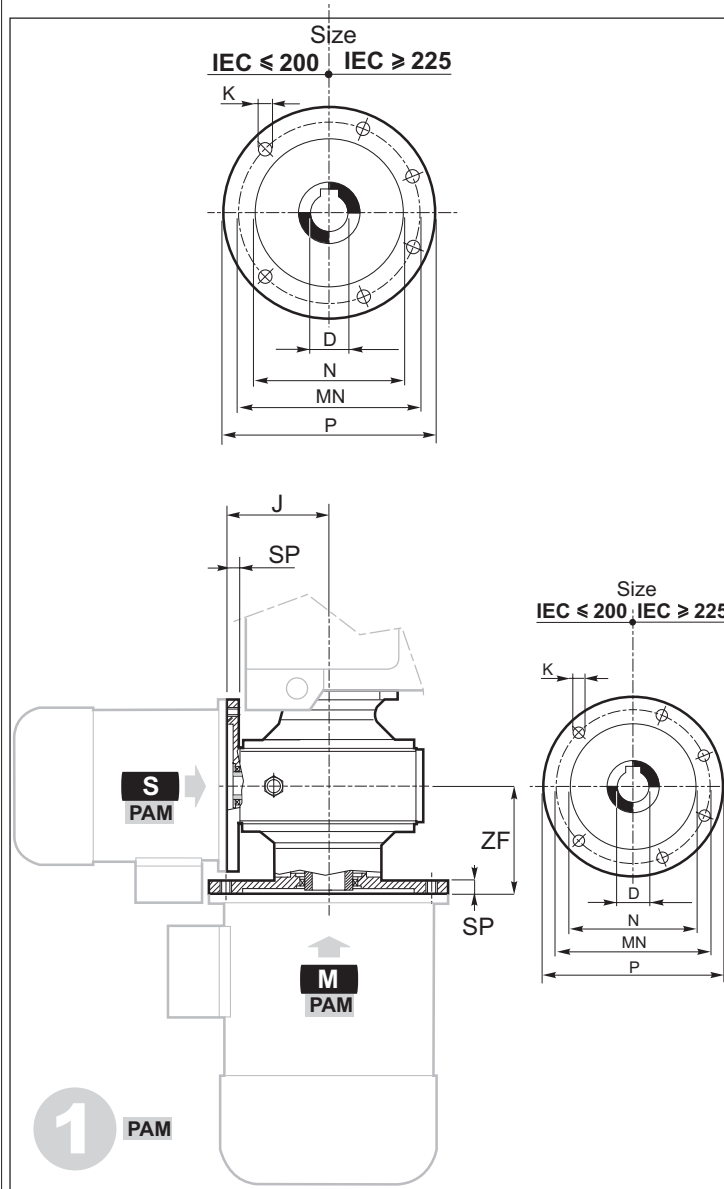
|  | | E70 | E100 | E125 | E160 | E180 | E225 |
|---|------------|--------|---------|----------|-----------|-----------|-----------|
| M ECE | 802 | 418.5 | 407.5 | | | | |
| | 804 | 430.5 | 419.5 | 478.5 | | | |
| | 806 | 448.5 | 437.5 | 496.5 | | | |
| | 808 | 462.5 | 451.5 | 510.5 | 590.5 | | |
| | 810 | 461.5 | 450.5 | 509.5 | 611.5 | | |
| | 812 | 482.5 | 471.5 | 530.5 | 633.5 | 648 | |
| | 814 | | 497 | 556 | 657.5 | 650 | 784 |
| | 816 | | 522.5 | 581.5 | 686.5 | 700 | 808 |
| | 818 | | | 611.5 | 684.5 | 624 | 840 |
| | 820 | | | | 714.5 | 649 | 880 |
| | 822 | | | | 530 | 679 | 750 |
| 824 | | | | | 714 | 785 | |
| S ECE | 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 |
| | U1 | 19 j6 | 28 j6 | 38 j6 | 42 j6 | 55 m6 | 60 m6 |
| | S1 | 40 | 60 | 80 | 100 | 100 | 112 |
| W1 | 97 | 146 | 166 | 195 | 240 | 290 | |
| X | 92 | 142 | 163 | 191 | 238 | 280 | |
| Y | 84 | 139 | 152 | 177 | 212 | 247 | |
| Z1 | 70 | 110 | 130 | 150 | 180 | 215 | |

1.11 Dimensioni

1.11 Dimensions

1.11 Abmessungen

PAM



| M PAM | IEC | Grandezza riduttore accoppiato - RXP3 Coupled gear unit - RXP3 Gepassetes Getriebe - RXP3 | | | | | | | | | | |
|-----------|-----|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | 802 | 804 | 806 | 808 | 810 | 812 | 814 | 816 | 818 | 820 | 822 |
| ZF | | | | | | | | | | | | |
| E70 | 90 | | | | | | | | | | | |
| | 100 | 121 | | | | | | | | | | |
| | 112 | | 121 | | | | | | | | | |
| | 132 | | | 121 | | | | | | | | |
| E100 | 132 | | | 157 | | | | | | | | |
| | 160 | | | | 157 | 157 | 157 | 157 | 157 | | | |
| E125 | 160 | | | | | | | | | | | |
| | 180 | | | | | 173 | 173 | 173 | 173 | 173 | | |
| E160 | 180 | | | | | | | | | | | |
| | 200 | | | | | | | | 204 | 204 | 204 | |
| E180 | 200 | | | | | | | | | | | |
| | 225 | | | | | | | | | 230 | 230 | 230 |

| S PAM | IEC | Grandezza riduttore accoppiato - RXP3 Coupled gear unit - RXP3 Gepassetes Getriebe - RXP3 | | | | | | | | | | |
|----------|-----|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| | | 802 | 804 | 806 | 808 | 810 | 812 | 814 | 816 | 818 | 820 | 822 |
| J | | | | | | | | | | | | |
| 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 | | | | | | | | | | | |
| | 160 | | | | | | | | 197 | 197 | 197 | 197 |
| E180 | 100 | | | | | | | | | | | |
| | 112 | | | | | | 245 | | | | | |
| | 132 | | | | | | | 245 | 245 | | | |
| | 160 | | | | | | | | | 245 | 245 | 245 |
| | 180 | | | | | | | | | | | |
| E225 | 132 | | | | | | | | 285 | 285 | | |
| | 160 | | | | | | | | | | 285 | 285 |
| | 180 | | | | | | | | | | | |
| | 200 | | | | | | | | | | | |

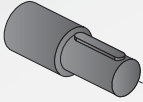

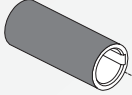
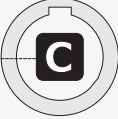
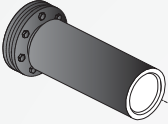

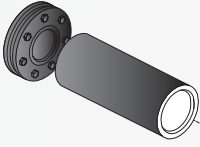
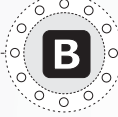
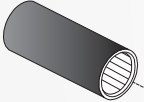

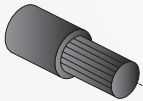

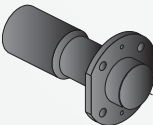

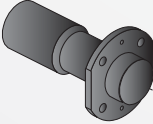

| IEC | P | MN | N G6 | Q | K | SP | D |
|-----|-----|-----|------|-----|------------|----|----|
| 71 | 160 | 130 | 110 | 4.5 | n° 4 x M8 | 12 | 14 |
| 80 | 200 | 165 | 130 | 4.5 | n° 4 x M10 | 12 | 19 |
| 90 | 200 | 165 | 130 | 4.5 | n° 4 x M10 | 12 | 24 |
| 100 | 250 | 215 | 180 | 5 | n° 4 x M12 | 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 | 400 | 350 | 300 | 6 | n° 4 x M16 | 20 | 55 |
| 225 | 450 | 400 | 350 | 6 | n° 4 x M16 | 20 | 60 |

1.12 - ESTREMITÀ USCITA
 1.12 - OUTPUT CONFIGURATIONS
 1.12 - ENDEN DER AUSGANGSWELLEN



STM
team

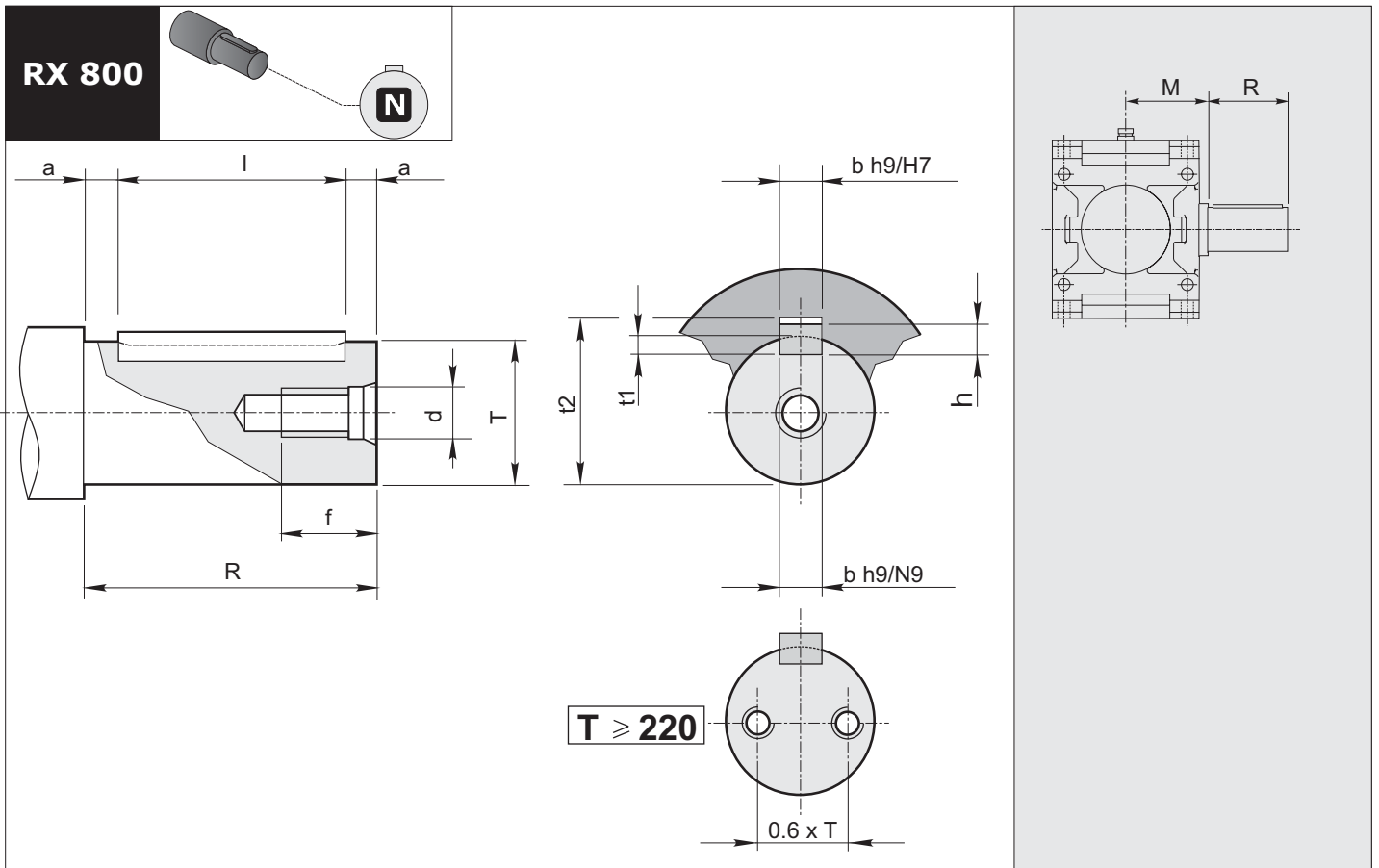
STM
team

| | | | |
|---|---|--|-----|
|  |  | Output shaft | A40 |
|  |  | Hollow shaft | A41 |
|  |  | Hollow output shaft with shrink disc | A42 |
|  |  | Hollow output shaft with shrink disc | A42 |
|  |  | Splined hollow shaft | A43 |
|  |  | Splined output shaft without broached flange | A44 |
|  |  | Splined output shaft and broached flange | A44 |
|  |  | Splined output shaft with flanged coupling | A45 |

1.12.1 - Sporgente Integrale

1.12.1 - Output shaft

1.12.1 - Vollwelle



| RX. Series | Ø Albero Ø Shaft Ø Welle | | Foro fil. testa Tapped hole Gewindebohrung Kopf | | Cava Keyway Nut | | | Estremità d'albero Shaft end Wellenende | | Linguetta Key Federkeil |
|------------|--------------------------------|-----|---|----|-----------------------|----------------|----------------|---|------|-------------------------------|
| | T | M | d | f | b | t ₁ | t ₂ | R a11 | a | bxhxl |
| 802 | 60 m6 | 109 | M12 | 35 | 18 | 7 | 64.4 | 112 | 6 | 18x11x100 |
| 804 | 70 m6 | 121 | M16 | 39 | 20 | 7.5 | 74.9 | 125 | 7.5 | 20x12x110 |
| 806 | 80 m6 | 137 | M16 | 39 | 22 | 9 | 85.4 | 140 | 7.5 | 22x14x125 |
| 808 | 90 m6 | 151 | M16 | 39 | 25 | 9 | 95.4 | 160 | 10 | 25x14x140 |
| 810 | 100 m6 | 170 | M20 | 46 | 28 | 10 | 106.4 | 180 | 10 | 28x16x160 |
| 812 | 110 m6 | 192 | M20 | 46 | 28 | 10 | 116.4 | 200 | 10 | 28x16x180 |
| 814 | 125 m6 | 216 | M20 | 46 | 32 | 11 | 132.4 | 225 | 12.5 | 32x18x200 |
| 816 | 140 m6 | 242 | M24 | 56 | 36 | 12 | 148.4 | 250 | 15 | 36x20x220 |
| 818 | 160 m6 | 273 | M24 | 56 | 40 | 13 | 169.4 | 280 | 15 | 40x22x250 |
| 820 | 180 m6 | 302 | M30 | 72 | 45 | 15 | 190.4 | 315 | 17.5 | 45x25x280 |
| 822 | 200 m6 | 340 | M30 | 72 | 45 | 15 | 210.4 | 355 | 17.5 | 45x25x320 |
| 824 | 220 m6 | 383 | N°2 M24 | 56 | 50 | 17 | 231.4 | 400 | 20 | 50x28x360 |

Estremità 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.

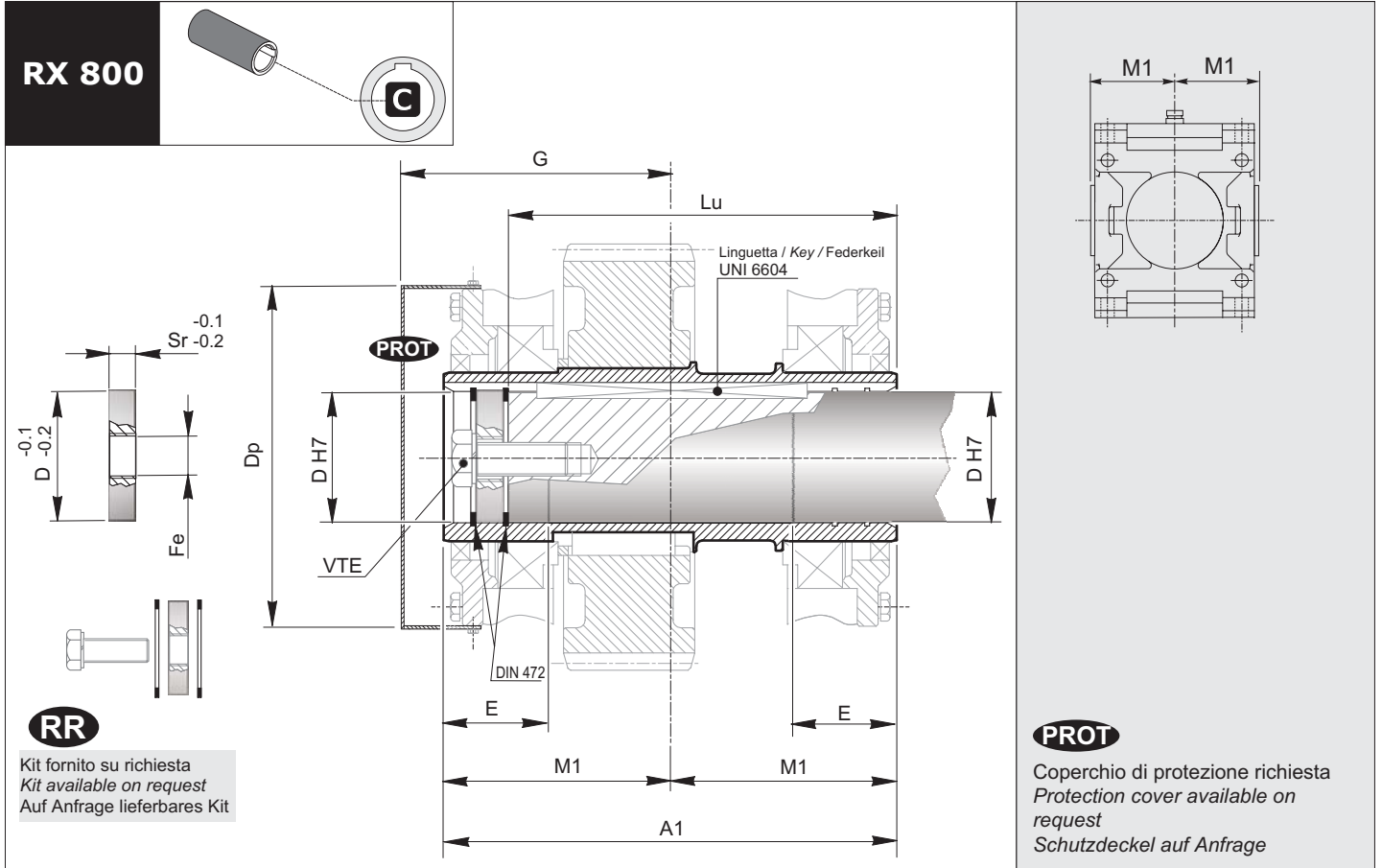
Cylindrical shaft ends in accordance with UNI 6397-68, DIN748, NFE 22.051, BS 4506-70, ISO/R 775/69, excluding section R-S.
Key according to UNI6604-69, DIN6885 Bl. 1-68, NFE 27.656 e 22.175, BS 4235.1-72, ISO/R 773/69, excluding section I.

Zylindrische Wellenenden gemäß UNI 6397-68, DIN748, NFE 22.051, BS 4506-70, ISO/R 775/69, ausgenommen Zuordnung R-S.
Federkeile UNI6604-69, DIN6885 Bl. 1-68, NFE 27.656 und 22.175, BS 4235.1-72, ISO/R 773/69, ausgenommen Zuordnung I.

1.12.2 - Albero cavo

1.12.2 - Hollow shaft

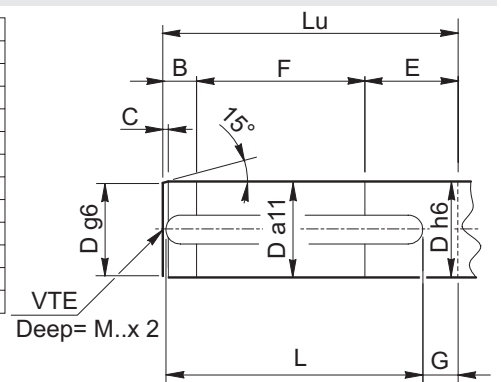
1.12.2 - Hohlwelle



| RX 800 Series | 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 | 680 | 340 | 200 | — | 160 | M42 | — | 616 | 30 |
| 824 | 766 | 383 | 220 | — | 180 | M42 | — | 693 | 30 |

Albero macchina / Machine shaft / Machine shaft

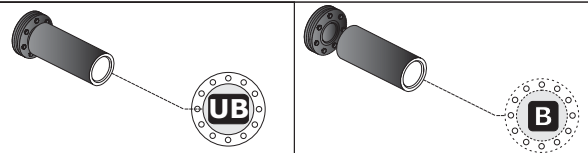
| | B | C | D | E | F | G | L | Lu | VTE |
|-----|------|-----|-----|-----|-----|----|-----|-------|-----|
| 802 | 21 | 3.5 | 60 | 55 | 108 | 22 | 160 | 184 | M20 |
| 804 | 26.5 | 4 | 70 | 61 | 120 | 25 | 180 | 207.5 | M20 |
| 806 | 33.5 | 4.5 | 80 | 68 | 138 | 36 | 200 | 239.5 | M20 |
| 808 | 36 | 5 | 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 | 100 | 12 | 200 | 165 | 351 | 46 | 560 | 616 | M33 |
| 824 | 112 | 14 | 220 | 185 | 396 | 50 | 630 | 693 | M33 |



1.12.3 - Albero uscita cavo con unità di bloccaggio
1.12.3 - Hollow output shaft with shrink disc

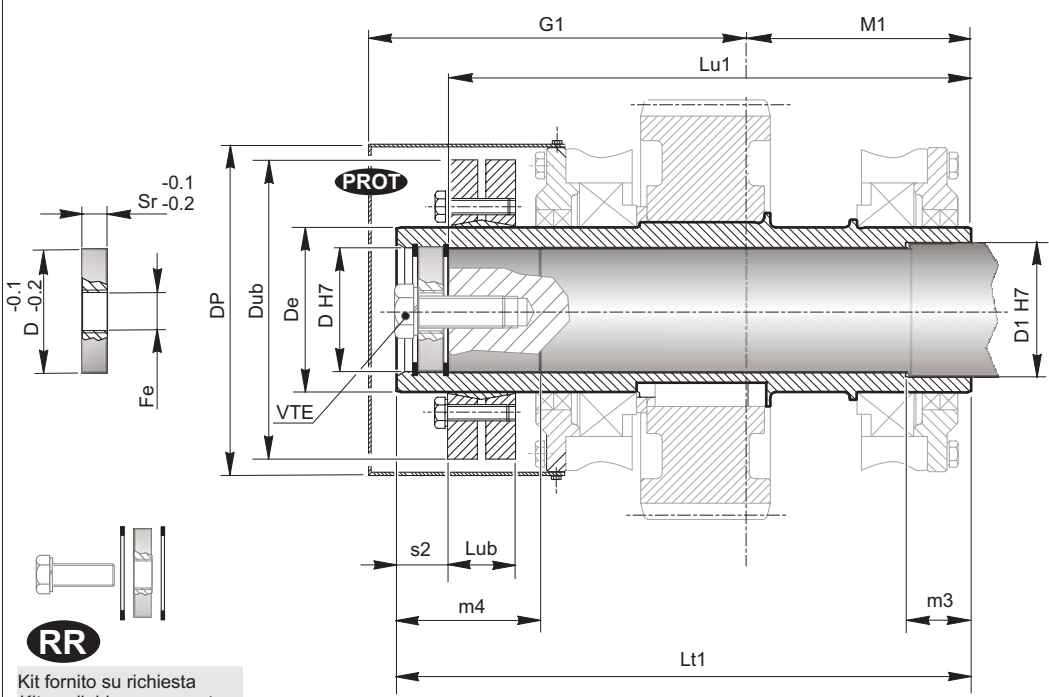
1.12.3 - Hohlwelle mit Schrumpfscheibe

RX 800



PROT

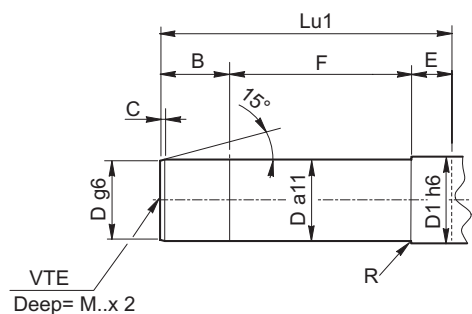
Coperchio di protezione richiesta
Protection cover available on request
Schutzdeckel auf Anfrage

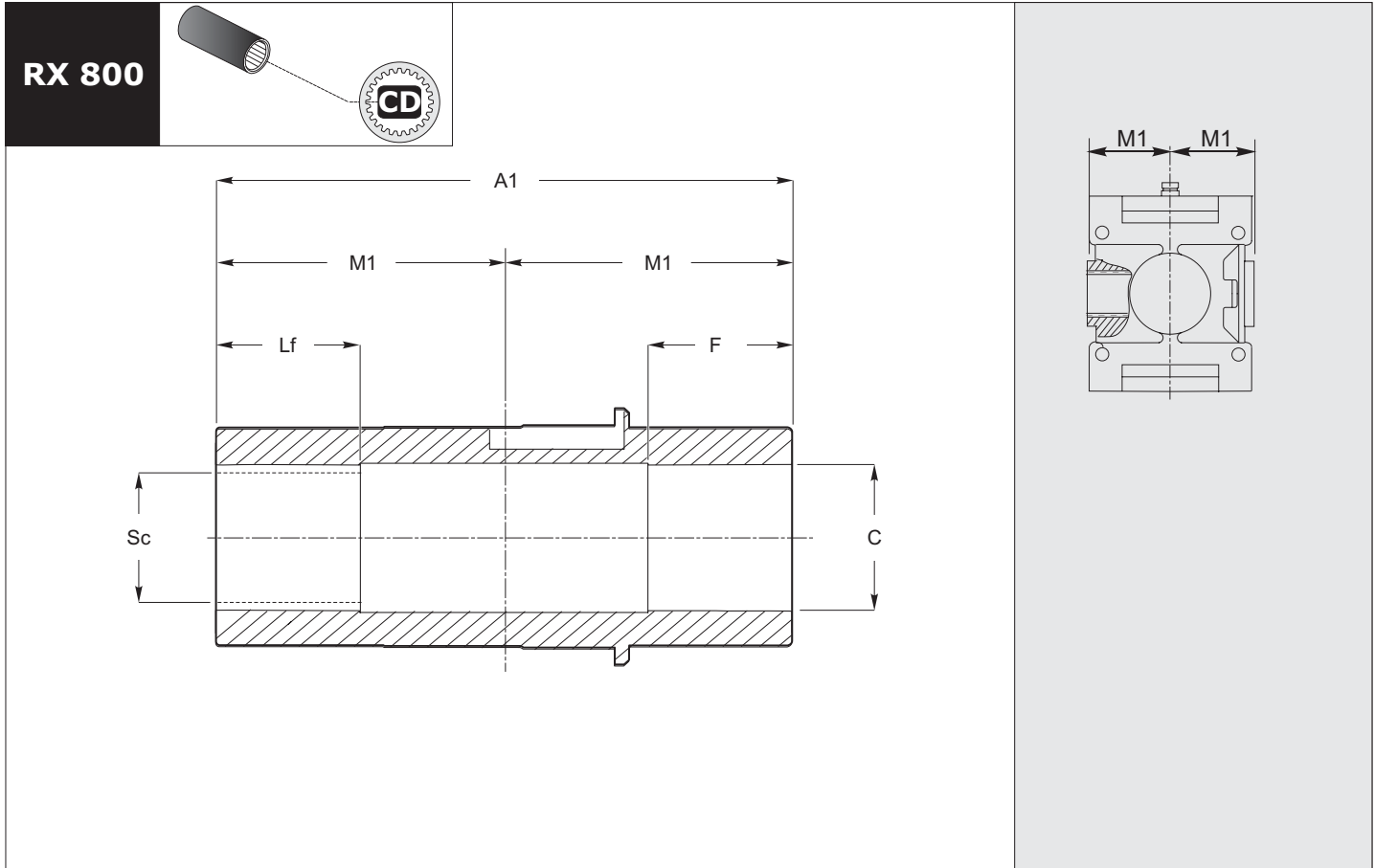


| RX 800 Series | D | D1 | De | Dp | Dub | Fe | G1 | Lt1 | Lub | Lu1 | M1 | M3 | m4 | m3 | Sr | s2 |
|---------------|-----|-----|-----|-----|-----|-----|-----|------|------|-----|-----|-----|-----|-----|----|----|
| 802 | 60 | 65 | 80 | 165 | 145 | M27 | 185 | 279 | 32.5 | 254 | 109 | 170 | 70 | 32 | 15 | 25 |
| 804 | 70 | 75 | 90 | 184 | 155 | M27 | 205 | 313 | 39 | 286 | 121 | 192 | 80 | 35 | 15 | 27 |
| 806 | 80 | 85 | 100 | 208 | 170 | M27 | 230 | 352 | 44 | 324 | 137 | 215 | 90 | 40 | 15 | 28 |
| 808 | 90 | 95 | 120 | 234 | 215 | M30 | 260 | 397 | 54 | 364 | 151 | 246 | 100 | 45 | 18 | 33 |
| 810 | 100 | 110 | 130 | 254 | 215 | M30 | 285 | 436 | 54 | 402 | 170 | 266 | 110 | 50 | 18 | 34 |
| 812 | 110 | 120 | 140 | 290 | 230 | M30 | 320 | 494 | 60.5 | 454 | 192 | 302 | 125 | 56 | 21 | 40 |
| 814 | 125 | 135 | 160 | 316 | 265 | M30 | 355 | 551 | 64.5 | 507 | 216 | 335 | 140 | 63 | 24 | 44 |
| 816 | 140 | 150 | 180 | 365 | 300 | M39 | 390 | 612 | 71 | 567 | 242 | 370 | 160 | 70 | 24 | 45 |
| 818 | 160 | 170 | 200 | 415 | 350 | M39 | 440 | 695 | 86 | 645 | 273 | 422 | 180 | 80 | 27 | 50 |
| 820 | 180 | 195 | 240 | 454 | 405 | M39 | 500 | 779 | 109 | 727 | 302 | 477 | 200 | 90 | 27 | 52 |
| 822 | 200 | 215 | 260 | 515 | 430 | M42 | 600 | 910 | 160 | 852 | 340 | 570 | 225 | 100 | 30 | 58 |
| 824 | 220 | 235 | 280 | — | 460 | M42 | — | 1000 | 172 | 938 | 383 | 617 | 253 | 110 | 30 | 62 |

Albero macchina / Machine shaft / Machine shaft

| | 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 | 67 | 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 | 167 | 11 | 200 | 215 | 80 | 605 | 852 | M33 | 6 | M33 |
| 824 | 200 | 14 | 220 | 235 | 90 | 648 | 938 | M33 | 6.5 | M33 |

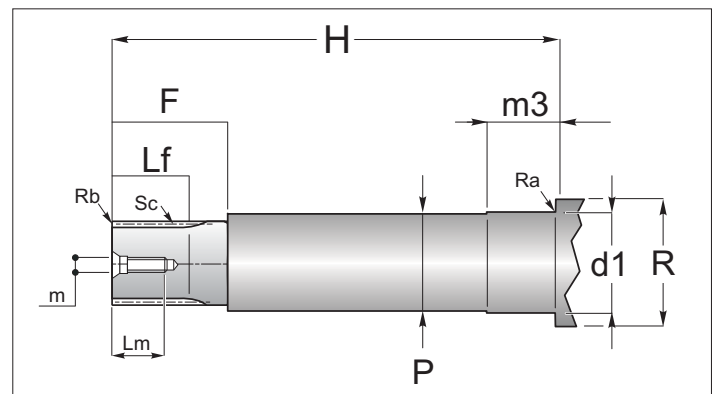




| RX 800 Series | A1 | M1 | C H7 | F | Lf | Sc |
|---------------|-----|-----|---------|-----|-----|------------------------|
| 802 | 218 | 109 | 62 | 70 | 70 | 60 x 55 - DIN5482 |
| 804 | 242 | 121 | 72 | 70 | 70 | 70 x 64 - DIN5482 |
| 806 | 274 | 137 | 82 | 90 | 90 | 80 x 74 - DIN5482 |
| 808 | 302 | 151 | 92 | 90 | 90 | 90 x 84 - DIN5482 |
| 810 | 340 | 170 | 102 | 110 | 110 | 100 x 94 - DIN5482 |
| 812 | 384 | 192 | 112 | 110 | 110 | 110 x 3 x 35 - DIN5480 |
| 814 | 432 | 216 | 122 | 120 | 120 | 120 x 5 x 22 - DIN5480 |
| 816 | 484 | 242 | 142 | 140 | 140 | 140 x 5 x 26 - DIN5480 |
| 818 | 546 | 273 | 162 | 160 | 160 | 160 x 5 x 30 - DIN5480 |
| 820 | 604 | 302 | 182 | 180 | 180 | 180 x 8 x 21 - DIN5480 |

Albero macchina / Machine shaft / Machine shaft

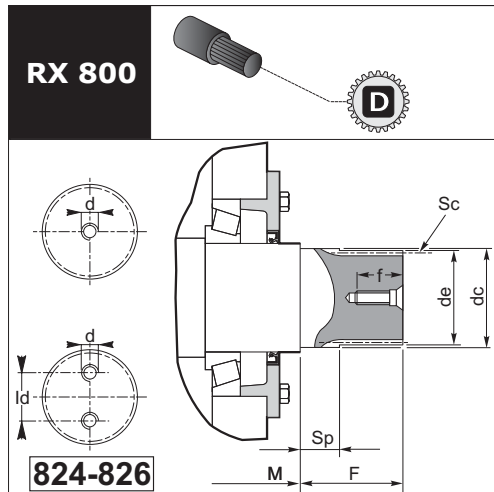
| | d1 h6 | m3 | H | HS | P | R | Ra | Rb | Sc | F | Lf | Lm | m |
|-----|--|----|---|----|---|---|----|----|----|---|----|----|---|
| 802 | Contattare il ns. servizio tecnico / Contact our technical dept / Wenden Sie sich an unseren technischen Service | | | | | | | | | | | | |
| 804 | | | | | | | | | | | | | |
| 806 | | | | | | | | | | | | | |
| 808 | | | | | | | | | | | | | |
| 810 | | | | | | | | | | | | | |
| 812 | | | | | | | | | | | | | |
| 814 | | | | | | | | | | | | | |
| 816 | | | | | | | | | | | | | |
| 818 | | | | | | | | | | | | | |
| 820 | | | | | | | | | | | | | |



1.12.5 - Estremità albero lento scanalato senza flangia brocciata

1.12.5 - Splined output shaft without broached flange

1.12.5 - Abtriebswelle mit Keilende ohne geräumtem Flansch



| | de (h10) | F | M | Foro fil. testa Tapped hole Gewindebohrung Kopf | | | Profilo scanalato / Splined profile / Keilprofil | | | | | |
|-----|----------|-----|-----|---|-----|----|--|----|------|----------|---------|----|
| | | | | d | Id | f | Sc | Z | mn | α | dc (f7) | Sp |
| 802 | 59.5 | 62 | 109 | M12 | | 35 | FIAT 60 | 22 | 2.6 | 30° | 60 | 22 |
| 804 | 69.3 | 69 | 121 | M16 | | 39 | FIAT 70 | 26 | 2.58 | 30° | 70 | 25 |
| 806 | 79.3 | 69 | 137 | M16 | | 39 | FIAT 80 | 27 | 2.82 | 30° | 80 | 20 |
| 808 | 94.3 | 74 | 151 | M16 | | 39 | FIAT 95 | 31 | 2.97 | 30° | 95 | 25 |
| 810 | 104.4 | 79 | 170 | M20 | | 46 | D. 105 DIN 5480 | 34 | 3 | 30° | 106 | 25 |
| 812 | 109.4 | 94 | 192 | M20 | | 46 | D. 110 DIN 5480 | 35 | 3 | 30° | 111 | 25 |
| 814 | 129 | 124 | 216 | M20 | | 46 | D. 130 DIN 5480 | 24 | 5 | 30° | 130 | 32 |
| 816 | 139 | 139 | 242 | M24 | | 56 | D. 140 DIN 5480 | 26 | 5 | 30° | 140 | 35 |
| 818 | 159 | 159 | 273 | M24 | | 56 | D. 160 DIN 5480 | 30 | 5 | 30° | 160 | 38 |
| 820 | 178.4 | 179 | 302 | M30 | | 71 | D. 180 DIN 5480 | 21 | 8 | 30° | 180 | 42 |
| 822 | 198.4 | 200 | 340 | M30 | | 71 | D. 200 DIN 5480 | 24 | 8 | 30° | 200 | 44 |
| 824 | 218.4 | 218 | 383 | M24 | 132 | 48 | D. 220 DIN 5480 | 26 | 8 | 30° | 220 | 48 |



FF -
Kit fornito su richiesta
Kit available on request
Auf Anfrage lieferbares Kit

1.12.6 - Estremità scanalata albero lento flangia brocciata

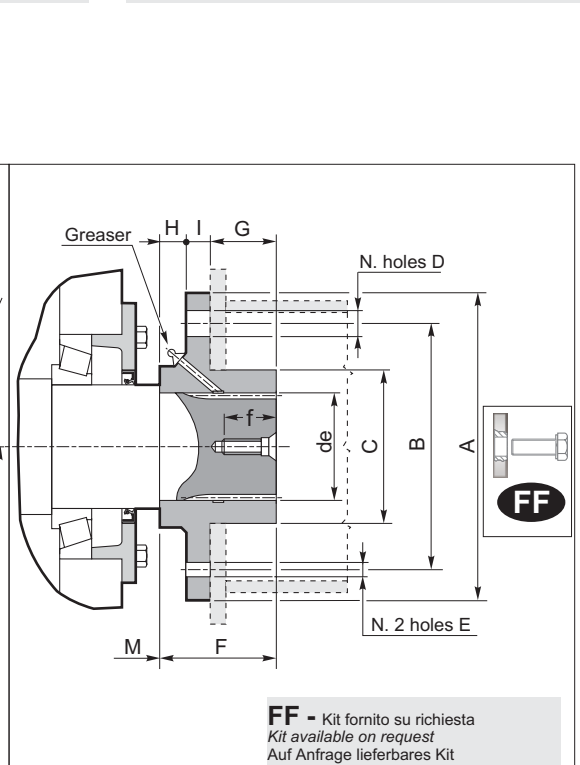
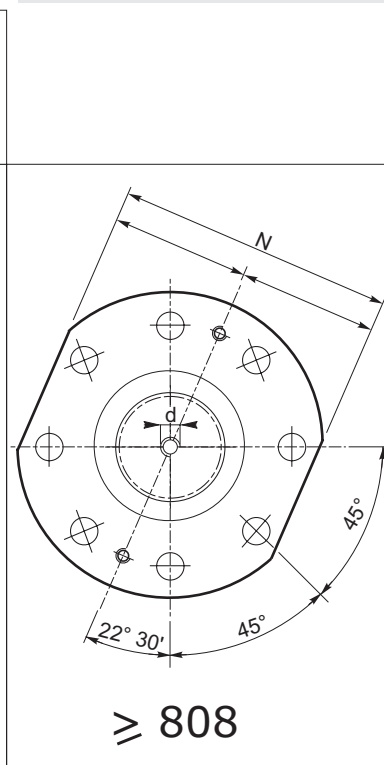
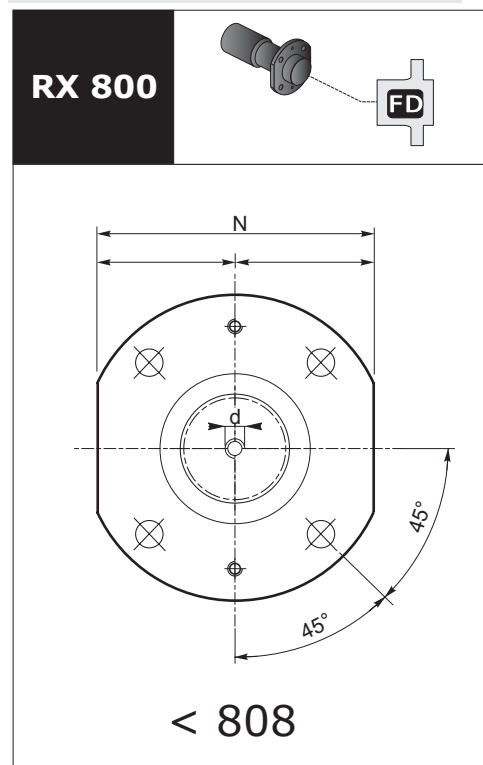
1.12.6 - Splined output shaft and broached flange

1.12.6 - Abtriebswelle mit Keilende und geräumtem Flansch

Non fornibili per classe di sollevamento M8.

Not available for lifting class M8.

Für Hubklass M8 nicht lieferbar.



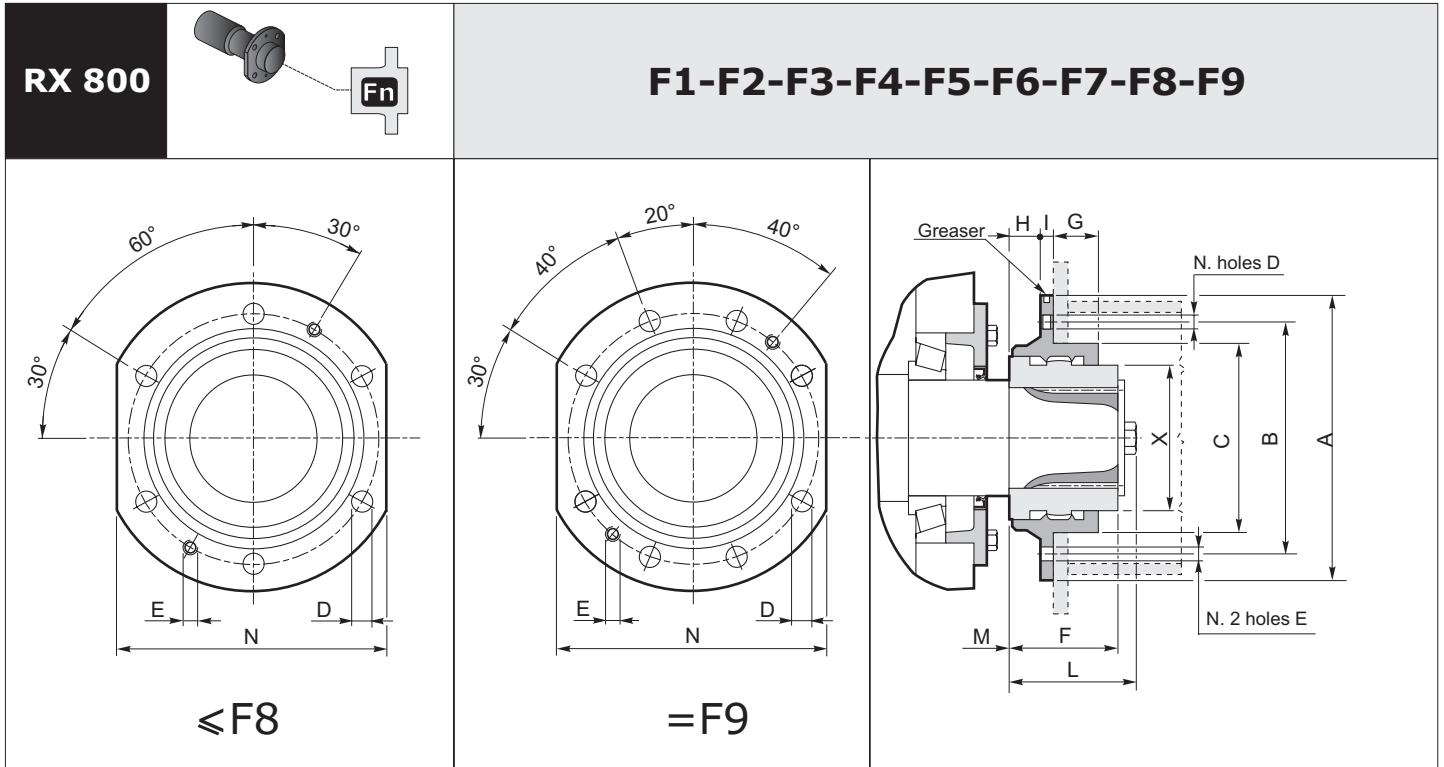
FF - Kit fornito su richiesta
Kit available on request
Auf Anfrage lieferbares Kit

| RX 800 Series | Dimensioni generali / General dimensions / Allgemeine Abmessungen | | | | | | | | | | | | | | |
|---------------|---|-----|-----|--------|---|----|--|------|-----|-----|-----|----|----|-----|------|
| | de | Ø A | Ø B | Ø C f8 | Foro fil. testa Tapped hole Gewindebohrung Kopf | | N° Fori holes Anzahl der Bohrungen | Ø D | E | F | G | H | I | M | N h9 |
| | | | | | d | f | | | | | | | | | |
| 802 | 60 | 180 | 140 | 90 | M12 | 35 | 4 | 17.5 | M8 | 63 | 38 | 9 | 16 | 109 | 160 |
| 804 | 70 | 200 | 160 | 100 | M16 | 39 | 4 | 17.5 | M10 | 70 | 43 | 11 | 16 | 121 | 180 |
| 806 | 80 | 220 | 180 | 110 | M16 | 39 | 4 | 19.5 | M10 | 70 | 40 | 12 | 18 | 137 | 200 |
| 808 | 95 | 240 | 190 | 130 | M16 | 39 | 8 | 19.5 | M10 | 75 | 40 | 15 | 20 | 151 | 220 |
| 810 | 105 | 250 | 200 | 145 | M20 | 46 | 8 | 21.5 | M12 | 80 | 40 | 20 | 20 | 170 | 230 |
| 812 | 110 | 280 | 225 | 150 | M20 | 46 | 8 | 21.5 | M12 | 95 | 52 | 20 | 23 | 192 | 250 |
| 814 | 130 | 355 | 280 | 180 | M20 | 46 | 8 | 23.5 | M14 | 125 | 80 | 20 | 25 | 216 | 315 |
| 816 | 140 | 400 | 315 | 200 | M24 | 56 | 8 | 23.5 | M14 | 140 | 90 | 22 | 28 | 242 | 355 |
| 818 | 160 | 450 | 355 | 225 | M24 | 56 | 8 | 29 | M16 | 160 | 103 | 25 | 32 | 273 | 400 |
| 820 | 180 | 500 | 400 | 250 | M30 | 71 | 8 | 32 | M16 | 180 | 118 | 28 | 34 | 302 | 450 |
| 822 | 200 | 560 | 450 | 280 | M30 | 71 | 8 | 35 | M18 | 200 | 132 | 32 | 36 | 340 | 500 |

1.12.7 - Estremità scanalata albero lento con giunto dentato flangiato

1.12.7 - *Splined output shaft with flanged splined coupling*

1.12.7 - Abtriebswelle mit Keilende mit geflanschter Klauenkupplung



Accoppiamenti riduttori giunti / Gear unit+coupling combinations / Passung von Getrieben-Kupplungen

| | F | L | M | Class M | Fr MAX (kN) | Tipo di giunto |
|-----|-----|-----|-----|---------|-------------|----------------|
| | | | | | | Coupling size |
| 808 | 105 | 117 | 151 | ≤ 7 | 44 | F1 |
| | | | | > 7 | | F1 |
| 810 | 105 | 117 | 170 | ≤ 7 | 44 | F1 |
| | | | | > 7 | | F2 |
| 812 | 125 | 137 | 192 | ≤ 7 | 49 | F2 |
| | | | | > 7 | | F3 |
| 814 | 125 | 150 | 216 | ≤ 7 | 58 | F3 |
| | | | | > 7 | | F4 |
| 816 | 140 | 168 | 242 | ≤ 7 | 70 | F4 |
| | | | | > 7 | | F5 |
| 818 | 160 | 188 | 273 | ≤ 6 | 80 | F5 |
| | | | | > 6 | | F6 |
| 820 | 180 | 215 | 302 | ≤ 6 | 130 | F6 |
| | | | | > 6 | | F7 |
| 822 | 200 | 235 | 340 | < 7 | 160 | F7 |
| | | | | ≥ 7 | | F8 |
| 824 | 220 | 250 | 383 | < 5 | 180 | F8 |
| | | | | ≥ 5 | | F9 |

| Tipo di giunto | Dimensioni generali / General dimensions / Allgemeine Abmessungen | | | | | | | | | | |
|----------------|---|-----|-----|------------------------------------|-----|-----|-----------|----|----|------|-----|
| | Ø A | Ø B | Ø C | N. Fori Holes Anzahl der Bohrungen | Ø D | E | G | H | I | N h9 | X |
| F1 | 320 | 280 | 200 | 6 | 18 | M16 | 42.5 - 47 | 30 | 15 | 280 | 149 |
| F2 | 340 | 300 | 220 | 6 | 18 | M16 | 46 - 54 | 30 | 15 | 300 | 165 |
| F3 | 380 | 340 | 260 | 6 | 18 | M16 | 52.5 - 58 | 30 | 15 | 340 | 195 |
| F4 | 400 | 360 | 280 | 6 | 18 | M16 | 59.5 - 65 | 30 | 15 | 360 | 222 |
| F5 | 420 | 380 | 310 | 6 | 18 | M16 | 62.5 - 67 | 30 | 15 | 380 | 253 |
| F6 | 450 | 400 | 340 | 6 | 23 | M20 | 66 - 73 | 40 | 20 | 400 | 266 |
| F7 | 510 | 460 | 400 | 6 | 23 | M20 | 70 - 75 | 40 | 20 | 460 | 317 |
| F8 | 550 | 500 | 420 | 6 | 23 | M20 | 80 - 82 | 40 | 20 | 500 | 330 |
| F9 | 580 | 530 | 450 | 8 | 23 | M20 | 90 - 92 | 40 | 20 | 530 | 368 |

Le estremità 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.

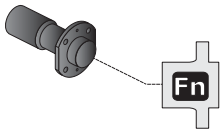
Die Keilenden mit Trommelflansch werden mit Schmierfett auf Basis PTFE (NLGI 2 ASTM D-217 auf 25°C 260-290) gefüllt geliefert. Diese Füllung muss im Fall von Handhabungen oder falschen Lagerungen und immer nach den ersten 1000 Stunden, danach alle 3000 Arbeitsstunden nachintegriert werden.

1.12.8 - Estremità scanalata albero lento con giunto flangiato a rulli

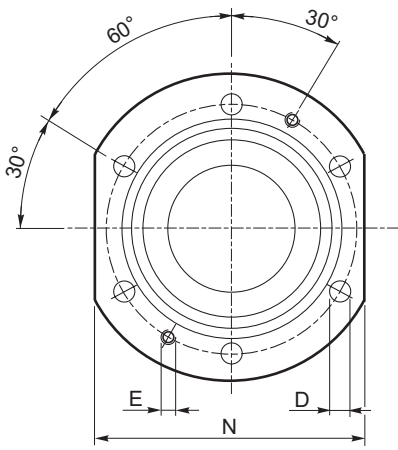
1.12.8 - Splined output shaft with flanged barrel rollers coupling.

1.12.8 - Abtriebswelle mit Keilende mit geflanschter Tonnenrollenkupplung.

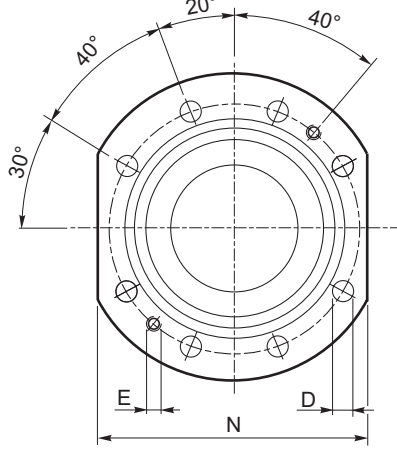
RX 800



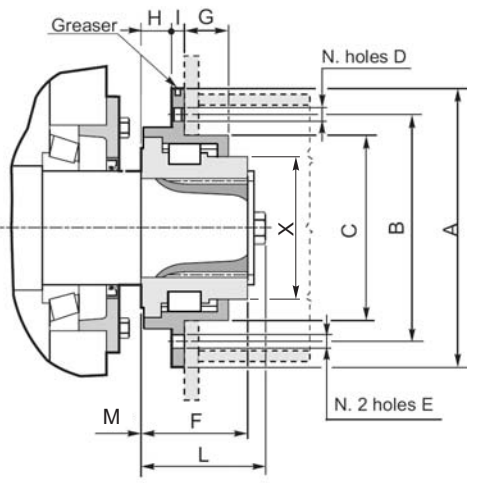
F101-F102-F103-F104-F105-F106-F107-F108



≤F106



>F106



Accoppiamenti riduttori giunti / Gear unit+coupling combinations / Passung von Getrieben-Kupplungen

| | F | L | M | Class M | Fr MAX (kN) | Tipo di giunto Coupling size Kupplungsgröße |
|-----|-----|-----|-----|---------|-------------|---|
| 808 | 105 | 117 | 151 | ≤ 7 | 42 | F101 |
| | | | | > 7 | 42 | F101 |
| 810 | 105 | 117 | 170 | ≤ 7 | 42 | F101 |
| | | | | > 7 | 52 | F102 |
| 812 | 125 | 137 | 192 | ≤ 7 | 52 | F102 |
| | | | | > 7 | 63 | F103 |
| 814 | 125 | 150 | 216 | ≤ 7 | 63 | F103 |
| | | | | > 7 | 79.5 | F104 |
| 816 | 140 | 168 | 242 | ≤ 7 | 79.5 | F104 |
| | | | | > 7 | 112.5 | F105 |
| 818 | 160 | 188 | 273 | ≤ 6 | 112.5 | F105 |
| | | | | > 6 | 123 | F106 |
| 820 | 180 | 215 | 302 | ≤ 6 | 123 | F106 |
| | | | | > 6 | 145 | F107 |
| 822 | 200 | 235 | 340 | < 7 | 145 | F107 |
| | | | | ≥ 7 | 202 | F108 |
| 824 | 220 | 250 | 383 | < 5 | 202 | F108 |
| | | | | ≥ 5 | 202 | F108 |

| Tipo di giunto Coupling size Kupplungsgröße | Dimensioni generali / General dimensions / Allgemeine Abmessungen | | | | | | | | | | |
|---|---|-----|-----------|---|-----|-----|----|----|----|---------|-----|
| | ∅ A | ∅ B | ∅ C f8 | N. Fori Holes Anzahl der Bohrungen | ∅ D | E | G | H | I | N h9 | X |
| F101 | 380 | 340 | 260 | 6 | 18 | M16 | 36 | 30 | 15 | 340 | 149 |
| F102 | 400 | 360 | 280 | 6 | 18 | M16 | 36 | 30 | 15 | 360 | 165 |
| F103 | 420 | 380 | 310 | 6 | 18 | M16 | 36 | 30 | 15 | 380 | 195 |
| F104 | 450 | 400 | 340 | 6 | 24 | M20 | 46 | 40 | 20 | 400 | 222 |
| F105 | 510 | 460 | 400 | 6 | 24 | M20 | 46 | 40 | 20 | 460 | 253 |
| F106 | 550 | 500 | 420 | 6 | 24 | M20 | 56 | 40 | 20 | 500 | 266 |
| F107 | 580 | 530 | 450 | 8 | 24 | M20 | 56 | 40 | 20 | 530 | 317 |








Le estremità 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.

Die Keilenden mit Trommelflansch werden mit Schmierfett auf Basis PTFE (NLGI 2 ASTM D-217 auf 25°C 260-290) gefüllt geliefert. Diese Füllung muss im Fall von Handhabungen oder falschen Lagerungen und immer nach den ersten 1000 Stunden, danach alle 3000 Arbeitsstunden nachintegriert werden.

U

ACC. - OPT - ACCESSORI E OPZIONI
ACC. - OPT - ACCESSORIES AND OPTIONS
ACC. - OPT - ZUBEHÖR UND OPTIONEN

| | | | | | | |
|--|---|-------------------------------|---|---|--|------------|
| ACC4-R |  | ACC4 | ACC4 - Accessori Vaso Espansione | ACC4 - Accessories Expansion tank | ACC4 - Zubehör Expansionsfaß | U2 |
| ACC5-R |  | ACC5 | ACC5 - Accessori con sistema scambiatore | ACC5 - Accessories - Cooling Unit | ACC5 - Zubehör Kühlanlage | U5 |
| |  | ACC6 | ACC6 - Accessori Lubrificazione Forzata BEARING | ACC6 - Accessories - Forced lubrication - BEARING | ACC6 - Zubehör Zwangsschmierung BEARING | U13 |
| | | ACC6A | ACC6A - Accessori Lubrificazione Forzata GEAR | ACC6A - Accessories - Forced lubrication - GEAR | ACC6A - Zubehör Zwangsschmierung GEAR | U16 |
| ACC7-R |  | ACC7A | Accessori idraulici Vibration Sensor | Hydraulic accessories Vibration Sensor | Hydraulikzubehör - Vibration Sensor | U18 |
| | | ACC7B | Accessori idraulici Vibration SWITCH | Hydraulic accessories Vibration SWITCH | Hydraulikzubehör - Vibration SWITCH | U19 |
| | | ACC7C | Accessori idraulici FILLING | Hydraulic accessories FILLING | Hydraulikzubehör - FILLING | U20 |
| | | ACC7D | Accessori idraulici PARTICLE MAGNETIC | Hydraulic accessories PARTICLE MAGNETIC | Hydraulikzubehör PARTICLE MAGNETIC | U21 |
| | | ACC7E | Accessori idraulici DRAIN | Hydraulic accessories DRAIN | Hydraulikzubehör - DRAIN | U22 |
| | | ACC7F | Accessori idraulici BREATHER | Hydraulic accessories BREATHER | Hydraulikzubehör BREATHER | U23 |
| | | ACC7G | Accessori idraulici LEVEL | Hydraulic accessories LEVEL | Hydraulikzubehör - LEVEL | U24 |
| | | ACC7H | Accessori idraulici HEATER | Hydraulic accessories HEATER | Hydraulikzubehör - HEATER | U25 |
| | | ACC7I1 | Accessori idraulici TEMPERATURE SENSOR | Hydraulic accessories TEMPERATURE SENSOR | Hydraulikzubehör TEMPERATURE SENSOR | U26 |
| | | ACC7I2 | Accessori idraulici TEMPERATURE SWITCH | Hydraulic accessories TEMPERATURE SWITCH | Hydraulikzubehör TEMPERATURE SWITCH | U27 |
| | | ACC7I3 | Accessori idraulici TEMPERATURE TERMOWELL | Hydraulic accessories TEMPERATURE TERMOWELL | Hydraulikzubehör TEMPERATURE TERMOWELL | U28 |
| | | ACC7L | Accessori idraulici FILTER | Hydraulic accessories FILTER | Hydraulikzubehör - FILTER | U29 |
| | | ACC7M1 | Accessori idraulici PRESSURE SENSOR | Hydraulic accessories PRESSURE SENSOR | Hydraulikzubehör PRESSURE SENSOR | U30 |
| | | ACC7M2 | Accessori idraulici PRESSURE SWITCH | Hydraulic accessories PRESSURE SWITCH | Hydraulikzubehör PRESSURE SWITCH | U31 |
| | | ACC7M3 | Accessori idraulici PRESSURE Differential gauge | Hydraulic accessories PRESSURE Differential gauge | Hydraulikzubehör PRESSURE Differential gauge | U32 |
| | | ACC7N1 | Accessori idraulici FLOW SENSOR | Hydraulic accessories FLOW SENSOR | Hydraulikzubehör - FLOW SENSOR | U33 |
| | | ACC7N2 | Accessori idraulici FLOW SWITCH | Hydraulic accessories FLOW SWITCH | Hydraulikzubehör - FLOW SWITCH | U34 |
| | | ACC7N3 | Accessori idraulici FLOW VISUAL | Hydraulic accessories FLOW VISUAL | Hydraulikzubehör - FLOW VISUAL | U35 |
| | | ACC7O | Accessori idraulici COOL | Hydraulic accessories COOL | Hydraulikzubehör - COOL | U37 |
| | | ACC7P | Accessori idraulici LEVEL-BREATHER | Hydraulic accessories LEVEL-BREATHER | Hydraulikzubehör LEVEL-BREATHER | U38 |
| ACC7Z | Accessori idraulici GENERIC | Hydraulic accessories GENERIC | Hydraulikzubehör GENERIC | U39 | | |
| ACC8-R |  | ACC8 | ACC8 - Accessori - Tipo Tenute | ACC8 - Accessories - Seal Type | ACC8 - Zubehör - Typ von Dichtung | U41 |
| | | ACC8A | Accessori - Static Seal COMPOUND | Accessories - Static Seal COMPOUND | Zubehör - Static Seal COMPOUND | U45 |
| OPT |  | OPT | OPT - Opzioni Materiale degli anelli di tenuta | OPT - Options - Materials of Seals | OPT - Optionen Dichtungsstoffe | U46 |
| ACC9-R |  | ACC9A | Accessori generali - Coperchio di ispezione | Accessories custom - Inspection Cover | Zubehör custom - Inspektionsdeckel | U49 |
| | | ACC9B | Accessori generali - Flangia freno | Accessories custom - Brake Flange | Zubehör custom - Bremsflansch | U49 |
| | | ACC9C | Accessori generali - Base motore | Accessories custom - Motor Mount | Zubehör custom - Motorbasis | U51 |
| ESTREMITÀ SUPPLEMENTARI ADDITIONAL SHAFT EXTENSIONS ZUSÄTZLICHE WELLENENDE | | | | | | U53 |



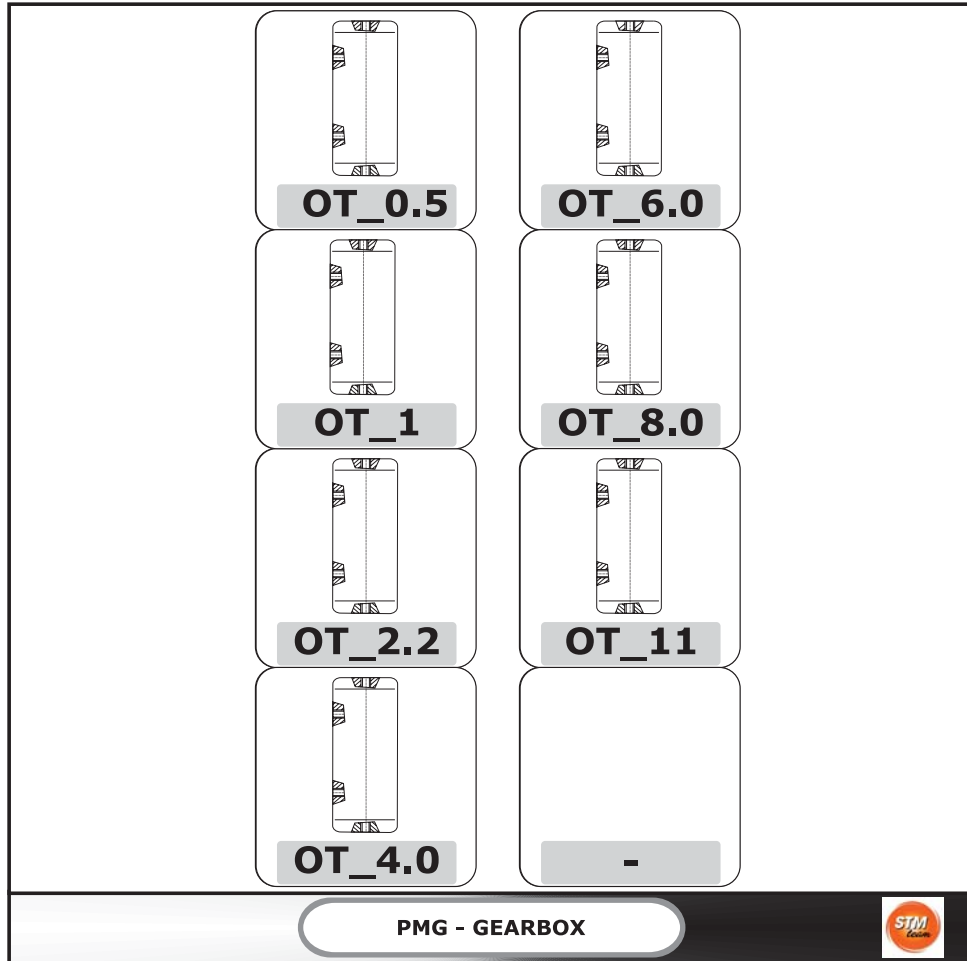


ACC4

**ACC4 - Accessori -
Vaso Espansione**

**ACC4 - Accessories -
Exspansion tank**

**ACC4 - Zubehör -
Expansionsfäß**



E' possibile richiedere diverse tipologie di dispositivi per consentire la dilatazione termica dell'olio.

Possono essere forniti i seguenti accessori e dispositivi:

It is possible to request various types of devices to allow the oil thermal expansion.

Some devices can optionally be provided:

Es können verschiedene Vorrichtungstypen angefordert werden, um die Wärmeausdehnung des Öls zu ermöglichen.

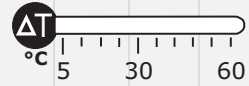
Folgende Zubehörteile und Vorrichtungen können geliefert werden:

| Code Designation | Code ORDER | I | GB | DE |
|------------------|------------|--------------------------------|----------------------------|----------------------------|
| OT_0.5 | | = Vaso espansione - 0.5 litri | = Exspansion tank 0.5 - l | = Expansionsfäß - 0.5 - l |
| OT_1 | | = Vaso espansione - 1.0 litri | = Exspansion tank 1.0 - l | = Expansionsfäß - 1.0 - l |
| OT_2.2 | | = Vaso espansione - 2.2 litri | = Exspansion tank 2.2 - l | = Expansionsfäß - 2.2 - l |
| OT_4.0 | | = Vaso espansione - 4.0 litri | = Exspansion tank 4.0 - l | = Expansionsfäß - 4.0 - l |
| OT_6.0 | | = Vaso espansione - 6.0 litri | = Exspansion tank 6.0 - l | = Expansionsfäß - 6.0 - l |
| OT_8.0 | | = Vaso espansione - 8.0 litri | = Exspansion tank 8.0 - l | = Expansionsfäß - 8.0 - l |
| OT_11 | | = Vaso espansione - 11.0 litri | = Exspansion tank 11.0 - l | = Expansionsfäß - 11.0 - l |



Scelta Grandezza OT
OT selection
OT Auswahl

Differenza temperatura tra temperatura funzionamento riduttore e temperatura ambiente - *Temperature difference in between the operating temperature and the ambient temperature*
-Temperaturschwankungen zwischen der Betriebstemperatur und der Raumtemperatur



| | | 5 | 10 | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 |
|-------|--|---|----|----|----|----|----|----|----|----|----|----|----|
| 1.0 | | | | | | | | | | | | | |
| 2.0 | | | | | | | | | | | | | |
| 3.0 | | | | | | | | | | | | | |
| 4.0 | | | | | | | | | | | | | |
| 5.0 | | | | | | | | | | | | | |
| 6.0 | | | | | | | | | | | | | |
| 7.0 | | | | | | | | | | | | | |
| 8.0 | | | | | | | | | | | | | |
| 9.0 | | | | | | | | | | | | | |
| 10.0 | | | | | | | | | | | | | |
| 11.0 | | | | | | | | | | | | | |
| 12.0 | | | | | | | | | | | | | |
| 13.0 | | | | | | | | | | | | | |
| 14.0 | | | | | | | | | | | | | |
| 15.0 | | | | | | | | | | | | | |
| 16.0 | | | | | | | | | | | | | |
| 17.0 | | | | | | | | | | | | | |
| 18.0 | | | | | | | | | | | | | |
| 19.0 | | | | | | | | | | | | | |
| 20.0 | | | | | | | | | | | | | |
| 21.0 | | | | | | | | | | | | | |
| 22.0 | | | | | | | | | | | | | |
| 23.0 | | | | | | | | | | | | | |
| 24.0 | | | | | | | | | | | | | |
| 25.0 | | | | | | | | | | | | | |
| 26.0 | | | | | | | | | | | | | |
| 27.0 | | | | | | | | | | | | | |
| 28.0 | | | | | | | | | | | | | |
| 29.0 | | | | | | | | | | | | | |
| 30.0 | | | | | | | | | | | | | |
| 31.0 | | | | | | | | | | | | | |
| 32.0 | | | | | | | | | | | | | |
| 33.0 | | | | | | | | | | | | | |
| 34.0 | | | | | | | | | | | | | |
| 35.0 | | | | | | | | | | | | | |
| 36.0 | | | | | | | | | | | | | |
| 37.0 | | | | | | | | | | | | | |
| 38.0 | | | | | | | | | | | | | |
| 39.0 | | | | | | | | | | | | | |
| 40.0 | | | | | | | | | | | | | |
| 41.0 | | | | | | | | | | | | | |
| 42.0 | | | | | | | | | | | | | |
| 45.0 | | | | | | | | | | | | | |
| 50.0 | | | | | | | | | | | | | |
| 60.0 | | | | | | | | | | | | | |
| 70.0 | | | | | | | | | | | | | |
| 80.0 | | | | | | | | | | | | | |
| 90.0 | | | | | | | | | | | | | |
| 100.0 | | | | | | | | | | | | | |
| 110.0 | | | | | | | | | | | | | |
| 120.0 | | | | | | | | | | | | | |
| 130.0 | | | | | | | | | | | | | |
| 140.0 | | | | | | | | | | | | | |
| 150.0 | | | | | | | | | | | | | |
| 160.0 | | | | | | | | | | | | | |
| 170.0 | | | | | | | | | | | | | |
| 180.0 | | | | | | | | | | | | | |
| 190.0 | | | | | | | | | | | | | |

05

1

2.2

4.0

6.0

8.0

11

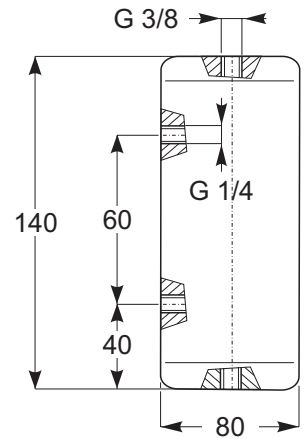


Litri Riduttore
Gearbox liters
Liter der
Getriebe

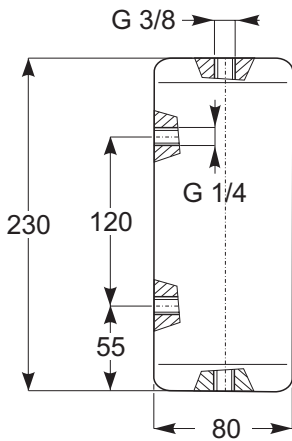




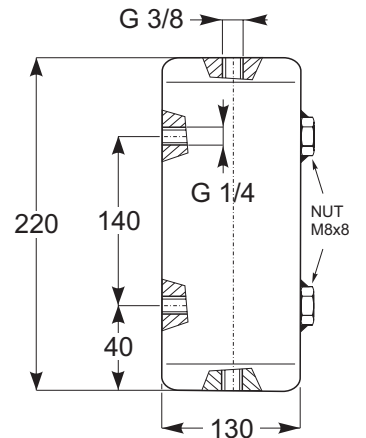
OT 05



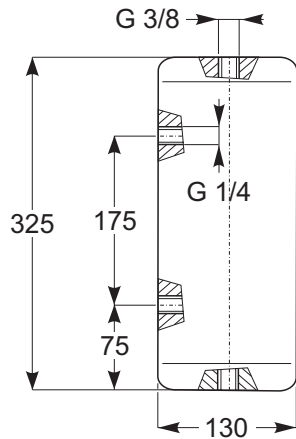
OT 1



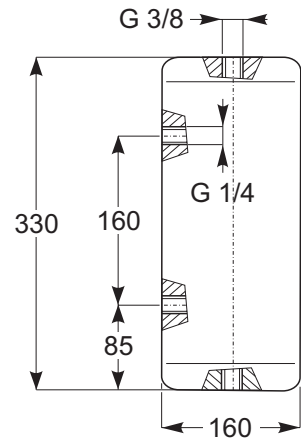
OT 2.2



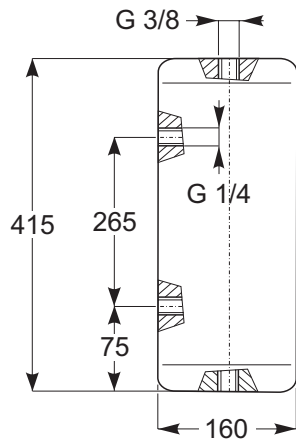
OT 4.0



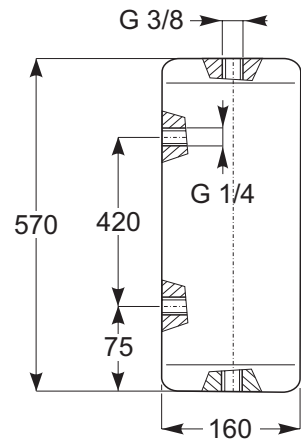
OT 6.0

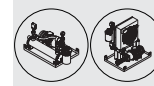


OT 8.0



OT 11





| | | | |
|-------------|---|--|------------------------------------|
| ACC5 | ACC5 - Accessori - sistema con scambiatore | ACC5 - Accessories - Cooling Unit | ACC5 - Zubehör - Kühlanlage |
|-------------|---|--|------------------------------------|

| | | | | |
|---|-------------|-------------|---------------|-------------|
| | | | | |
| - | RFW1 | RFW4 | RFA1 | RFA4 |
| | | | | |
| | RFW2 | RFW5 | RFA2 | RFA5 |
| | | da fare | | |
| | RFW3 | RFW6 | RFA3-A | RFA6 |
| | | da fare | | |
| | | RFW7 | RFA3-B | RFA7 |
| | | da fare | | |
| | | RFW8 | | |

PMG - GEARBOX

E' possibile richiedere diverse tipologie di dispositivi per consentire il raffreddamento dell'olio, utilizzando degli scambiatori di calori esterni al riduttore.

It is possible to request various types of devices to allow the cooling of the oil, by using heat exchangers outside the gearbox.

Es können verschiedene Vorrichtungstypen angefordert werden, um die Abkühlung des Öls unter Einsatz von extern am Getriebe angeordneten Wärmetauschern zu ermöglichen.

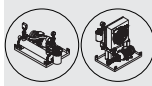
Possono essere forniti i seguenti accessori e dispositivi:

Some devices can optionally be provided:

Folgende Zubehörteile und Vorrichtungen können geliefert werden:

| Code Designation | Code ORDER | I | GB | DE |
|------------------|------------|--|------------------------------|---|
| RFW1 | | = RFW1 - sistema con scambiatore acqua-olio | = RFW1 - water/oil exchanger | = RFW1 - System mit Wasser-/Ölaustauscher |
| RFW2 | | = RFW2 - sistema con scambiatore acqua-olio | = RFW2 - water/oil exchanger | = RFW2 - System mit Wasser-/Ölaustauscher |
| RFW3 | | = RFW3 - sistema con scambiatore acqua-olio | = RFW3 - water/oil exchanger | = RFW3 - System mit Wasser-/Ölaustauscher |
| RFW4 | | = RFW4 - sistema con scambiatore acqua-olio | = RFW4 - water/oil exchanger | = RFW4 - System mit Wasser-/Ölaustauscher |
| RFW5 | | = RFW5 - sistema con scambiatore acqua-olio | = RFW5 - water/oil exchanger | = RFW5 - System mit Wasser-/Ölaustauscher |
| RFW6 | | = RFW6 - sistema con scambiatore acqua-olio | = RFW6 - water/oil exchanger | = RFW6 - System mit Wasser-/Ölaustauscher |
| RFW7 | | = RFW7 - sistema con scambiatore acqua-olio | = RFW7 - water/oil exchanger | = RFW7 - System mit Wasser-/Ölaustauscher |
| RFW8 | | = RFW8 - sistema con scambiatore acqua-olio | = RFW8 - water/oil exchanger | = RFW8 - System mit Wasser-/Ölaustauscher |
| RFA1 | | = RFA1 - sistema con scambiatore aria-olio | = RFA1 - air/oil exchanger | = RFA1 - System mit Luft-/Ölaustauscher |
| RFA2 | | = RFA2 - sistema con scambiatore aria-olio | = RFA2 - air/oil exchanger | = RFA2 - System mit Luft-/Ölaustauscher |
| RFA3-A | | = RFA3-A - sistema con scambiatore aria-olio | = RFA3-A - air/oil exchanger | = RFA3-A - System mit Luft-/Ölaustauscher |
| RFA3-B | | = RFA3-B - sistema con scambiatore aria-olio | = RFA3-B - air/oil exchanger | = RFA3-B - System mit Luft-/Ölaustauscher |
| RFA4 | | = RFA4 - sistema con scambiatore aria-olio | = RFA4 - air/oil exchanger | = RFA4 - System mit Luft-/Ölaustauscher |
| RFA5 | | = RFA5 - sistema con scambiatore aria-olio | = RFA5 - air/oil exchanger | = RFA5 - System mit Luft-/Ölaustauscher |
| RFA6 | | = RFA6 - sistema con scambiatore aria-olio | = RFA6 - air/oil exchanger | = RFA6 - System mit Luft-/Ölaustauscher |
| RFA7 | | = RFA7 - sistema con scambiatore aria-olio | = RFA7 - air/oil exchanger | = RFA7 - System mit Luft-/Ölaustauscher |





1.0 - Gruppo di raffreddamento

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.

1.0 - Cooling Unit

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.

1.0 - Kühlanlage

Die Kühlung mittels Wärmeaustauschers lässt sich in zwei Haupttypologien unterteilen: mit Wasser-/Ölaustauscher und Luft-/Ölaustauscher. Jede Kategorie ist in mehrere Größen unterteilt, die unterschiedliche Austauschleistungen aufweisen. Jedes Kühlaggregat wird in vom Getriebe getrennter Form geliefert; die Verbindungsleitungen zwischen Getriebe und Anlage gehen nicht zu Lasten der GSM.

RFW

1.1 - RFW - sistema con scambiatore acqua-olio

1.1.1 Generalità

Sempre più spesso è indispensabile raffreddare l'olio con acqua se si ha sufficiente disponibilità d'acqua pulita.

In alcuni casi, poi, non è possibile collegare lo scambiatore olio-acqua direttamente allo scarico a causa della presenza nel circuito di colpi d'ariete, e si è costretti a realizzare un circuito separato con una pompa autonoma di circolazione, tubazioni, pressostato ed impianto elettrico.

Per questi casi, ora sempre più frequenti, GSM S.p.A. ha provveduto inserendo nella propria produzione i gruppi autonomi di raffreddamento serie RFW, che risolvono nel migliore dei modi il compito di raffreddare l'olio, indipendentemente dall'impianto idraulico primario.

L'unità è stata studiata per raffreddare l'olio e consiste in un scambiatore a fascio tubiero che, ponendo a contatto l'olio messo in circolazione dalla motopompa con la serpentina dell'acqua, asporta il calore ceduto.

Tutte le parti metalliche sono protette da verniciatura a polvere per garantire una lunga durata agli agenti atmosferici.

Nell'esecuzione standard l'unità è fornita con tutti i particolari assemblati su un telaio.

1.1.2 Stato fornitura e caratteristiche tecniche

Le unità di raffreddamento serie RFW standard sono composte da:

- 1 - Uno scambiatore di calore acqua-olio;
- 2 - Una motopompa composta da un motore a 4 poli in forma B3/B5, alimentazione standard trifase 230-400V 50 hz e da una pompa ad ingranaggi o a vite;
- 3 - Manometro 0-16 bar montato fra pompa e scambiatore di calore;
- 4 - Termometro analogico 0-120 °C, montato in uscita dallo scambiatore;
- 5 - Pressostato di minima con contatti in scambio, montato fra pompa e scambiatore di calore;
- 6 - Filtro, in mandata al serbatoio, per la pulizia dell'olio scaricato;
- 7 - Indicatore elettrico di intasamento

A – Aspirazione della pompa;

M – Mandata della pompa.

1.1 - RFW - water/oil exchanger

1.1.1 General features

If sufficient clean water is available, it is often required to cool down oil with water. Moreover, in some cases it is not possible to connect oil-water exchanger directly to the drainage due to water hammers in the circuit, and user is thus forced to set up a separated circuit with independent circulation pump, tubing, pressure switch and electric system. These cases are very frequent nowadays, this is why GSM S.p.A. has added to its product range the independent cooling units of the RFW series, that best carry out the task of cooling down oil in an independent way with respect to the main hydraulic system. This unit is designed for cooling down oil and consists in a tube bundle heat exchanger that sinks heat released from oil (circulated by motor pump) thanks to contact with water coil.

All metal parts are powder-coated to ensure long lasting protection against weather conditions.

In the standard version, the unit features all parts assembled to a frame.

1.1.2 Supply scope and specifications

Standard cooling units of the RFW series consist of:

- 1 - A water-oil heat exchanger;
- 2 - A motor pump made of a 4-pole motor rated B3/B5, standard three-phase 230-400V 50 Hz power and a gear or screw pump;
- 3 - 0-16 bar Pressure gauge mounted between pump and heat exchanger;
- 4 - 0-120 °C Analogue thermometer mounted at exchanger outlet;
- 5 - Minimum pressure switch with switch contacts, mounted between pump and heat exchanger;
- 6 - Filter, at tank inlet, for cleaning drained oil;
- 7 - Electrical clogging indicator

A – Pump inlet;

M – Pump outlet.

1.1 - RFW - System mit Wasser-Ölaustauscher

1.1.1 Allgemeine Informationen

Immer häufiger ist es unerlässlich das Öl mit Wasser zu kühlen, wenn ausreichend Wasser verfügbar ist. In einigen Fällen ist ein direkter Anschluss des Öl-Wasser-Wärmeaustauschers an den Anschluss aufgrund von Widerstoßen im System nicht möglich und man ist dazu gezwungen einen separaten Kreislauf mit einer eigenständigen Umlaufpumpe, Leitungen, Druckwächter und elektrischer Anlage zu realisieren. Für diese immer häufiger auftretenden Fälle hat die GSM S.p.A. autonome Kühlaggregate der Serie RFW in ihr Programm aufgenommen, die die Aufgabe der Ölkühlung, von der hydraulischen Hauptanlage unabhängig, in der besten Art und Weise erfüllen. Diese Einheit wurde für das Kühlen des Öls entwickelt und stellt sich in einem Wärmeaustauscher mit Rohrbündel dar, der die abgestrahlte Wärme ableitet, indem er das von der Motorpumpe in den Umlauf gebrachte Öl mit der Wasserrohrschlange in Kontakt bringt. Alle Metallteile sind durch eine Pulverlack-lackierung geschützt, die einen lang anhaltenden Schutz gegen Umweltbelastungen gewährt.

In der Standardversion wird die Einheit bereits mit allen am Rahmen montierten Teilen geliefert.

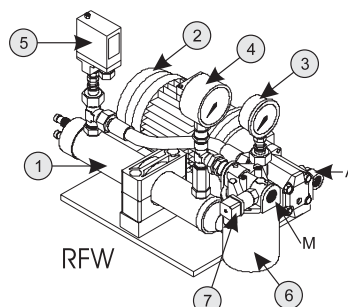
1.1.2 Lieferzustand und technische Eigenschaften

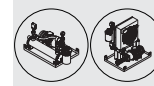
Die Kühleinheiten der Serie RFW Standard setzen sich aus folgenden Komponenten zusammen:

- 1 - einen Wasser-Öl-Wärmeaustauscher;
- 2 - einer Motorpumpe bestehend aus einem 4-poligem Motor in Bauform B3/B5, Standard-Drehstromversorgung 230-400V 50 Hz und einer Zahnrad- oder Schneckenpumpe;
- 3 - Manometer 0-16 bar, zwischen Pumpe und Wärmeaustauscher montiert;
- 4 - analoges Thermometer 0-120 °C, am Ausgang des Wärmeaustauschers montiert;
- 5 - Mindestdruckwächter mit Wechselkontakten, zwischen Pumpe Wärmeaustauscher montiert;
- 6 - Filter, im Zulauf zum Behälter, für die Reinigung des abgelassenen Öls
- 7 - elektrische Verstopfungsanzeige.

A – Ansaugung der Pumpe;

M – Zulauf der Pumpe.





1.0 - Gruppo di raffreddamento

1.0 - Cooling Unit

1.0 - Kühlanlage

1.1.3 Dimensionamento e Caratteristiche Funzionali

Per la scelta del gruppo di raffreddamento si rimanda alla Sezione A-B-C-D-E-F-G.

1.1.3 Sizes and Functional Features

Please refer to Section A-B-C-D-E-F-G for indications on how to choose the suitable cooling unit.

1.1.3 Bemaßung und Funktionseigenschaften

Für die Wahl des richtigen Kühlaggregats verweisen wir auf die Sektion A-B-C-D-E-F-G.

CARATTERISTICHE TECNICHE

Nella Tabella sottostante riportiamo le caratteristiche tecniche

SPECIFICATIONS

The specifications are given in the table below

TECHNISCHE EIGENSCHAFTEN

In der nachstehenden Tabelle werden die technischen Eigenschaften angegeben.

| Grandezza Size Baugröße Size | Peso Weight Gewicht [Kg] | Volume Olio Oil volume Ölvolumen [dm ³] | Motopompa Motor Pump Motorpumpe | | | | Scambiatore Exchanger Wärmeaustauscher | | | | Campo Applicazione Application Einsatzbereich | |
|---------------------------------------|-----------------------------------|--|---------------------------------------|------|----------|---------------|---|------------|--------|---------|---|--|
| | | | [*1] | [*2] | [*3] | [*4] | Connessione Olio Oil connection Ölanschluss | | [*7] | [*8] | Raffreddamento Cooling Kühlung | Lubrificazione Forzata Forced Lubrication Zwangsschmierung |
| | | | | | | | [*5] | [*6] | | | | |
| 1 | 13 | 0,4 | Ingranaggi Gear-type Zahnräder | 0.37 | 6 | 230/400 50 | G 1/2" | G 3/4" | G 1/2" | 8-30 | SI YES JA | SI YES JA |
| 2 | 15 | 0,6 | | 0.37 | 6 | | | | | 10-30 | | |
| 3 | 18 | 1,2 | | 0.55 | 16 | | 16-30 | | | | | |
| 4 | 44 | 3,0 | 1.5 | 30 | G 3/4" | | G 1" 1/4 | G 1" | 40-110 | | | |
| 5 | 70 | 4,5 | 2.2 | 80 | G 1" 1/4 | | G 1" 1/2 | G 1" | 80-110 | | | |
| 6 | On request | | Vite Screw-type Schnecke | 7.50 | 135.0 | | G 2" | On request | G 1" | 90-110 | | |
| 7 | On request | | | 7.50 | 200.0 | | G 2" | On request | G 1" | 180-220 | | |
| 8 | On request | | | 7.50 | 200.0 | | G 2" | On request | G 1" | 270-330 | | |

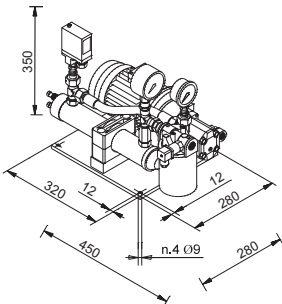
Legenda/Legend/Legende
 [*1] Tipo Pompa/Pump type/Pumpentyp
 [*2] Potenza /Power/Leistung [kW]
 [*3] Portata /Flow rate/Durchsatz [dm³ / min]
 [*4] Alimentazione /Power supply/Versorgung [V / Hz]
 [*5] Aspirazione /Inlet/Ansaugung
 [*6] Mandata /Outlet/Zulauf
 [*7] Connessione Acqua /Water connection/Wasseranschluss
 [*8] Portata Acqua /Water flow rate/Wasserdurchsatz [l / min]

1.1.4 Dimensioni

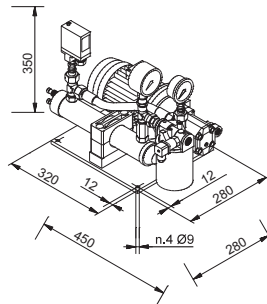
1.1.4 Dimensions

1.1.4 Maße

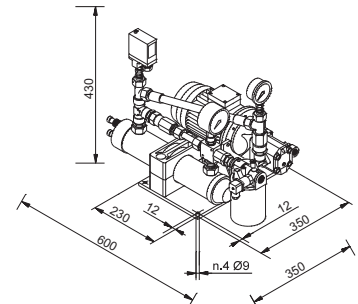
RFW 1



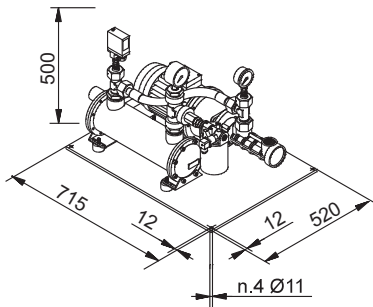
RFW 2



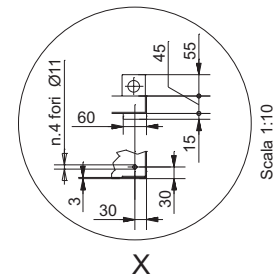
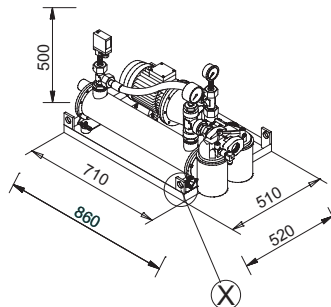
RFW 3



RFW 4



RFW 5



RFW 6

On request

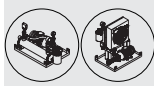
RFW 7

On request

RFW 8

On request





1.0 - Gruppo di raffreddamento

RFA

1.2 - RFA - sistema con scambiatore aria-olio

1.2.1 Generalità

Sempre più spesso è indispensabile raffreddare l'olio con l'aria, poiché non si ha sufficiente disponibilità d'acqua.

In alcuni casi poi, non è possibile collegare lo scambiatore aria-olio direttamente allo scarico a causa della presenza nel circuito di colpi d'ariete, e si è costretti a realizzare un circuito separato con una pompa autonoma di circolazione, tubazioni, termostato ed impianto elettrico.

La GSM S.p.A. ha provveduto inserendo nella propria produzione i gruppi autonomi di raffreddamento serie RFA, che risolvono nel migliore dei modi il compito di raffreddare l'olio, indipendentemente dall'impianto idraulico primario.

Un problema che oggi si fa sempre più pressante è il risparmio nei consumi d'energia.

Utilizzando per il raffreddamento acqua a perdere si spreca calore che l'olio ha ceduto all'acqua.

Utilizzando invece l'aria emessa dai gruppi RFA è possibile recuperare il calore ceduto dall'olio, scaldando l'ambiente in cui essi sono installati.

Oggi, il consumo dell'acqua per usi industriali ha costi sempre molto elevati ed in molti casi le aziende devono munirsi d'impianti refrigeranti in circuito chiuso dell'acqua di raffreddamento e nella maggior parte dei casi esse sono macchine frigorifere.

Il consumo d'energia di questi impianti è ingente ed è pari a circa il 30% della potenza da disperdere.

Con i gruppi autonomi serie RFA questo consumo scende al 6%, con un considerevole risparmio d'energia elettrica e quindi di costo d'esercizio, senza contare il costo iniziale notevolmente inferiore.

L'unità è stata studiata per raffreddare l'olio e consiste in un radiatore che è attraversato dal flusso d'aria generato da un ventilatore, il quale lambendo le alettature in alluminio della massa radiante asporta il calore ceduto dall'olio, che circola nel radiatore dal basso verso l'alto grazie alla pompa a vite di ricircolo. Il controllo del corretto funzionamento della macchina è regolato dai termostati che ne ottimizzano il funzionamento nel caso d'eventuali sbalzi di temperatura.

Tutte le parti metalliche sono protette da verniciatura a polvere per garantire una lunga durata agli agenti atmosferici.

Nell'esecuzione standard l'unità è fornita con tutti i particolari assemblati su un telaio palettizzabile

1.2.2 Stato fornitura e caratteristiche tecniche

Le unità di raffreddamento serie RFA standard sono composte da:

1. Uno scambiatore di calore aria-olio;
2. Una motopompa composta da un motore a 4 poli per le grandezze RFA1, RFA2, RFA3 e 2 poli per le grandezze RFA4, RFA5 in forma B3/B5, alimentazione standard trifase 230-400V 50 Hz.
Per i gruppi facenti parte dello schema A (RFA1 - RFA2 - RFA3) il motore della motopompa è il medesimo del motoventilatore.
3. SCHEMA A: Manometro 0-12 bar con funzione aggiuntiva di indicatore visivo di intasamento;
SCHEMA B: Manometro 0-16 bar montato fra pompa e scambiatore di calore ;
4. Termometro analogico 0-120 °C, montato in uscita dallo scambiatore.
5. Pressostato di minima con contatti in scambio, montato fra pompa e scambiatore di calore.
6. Filtro, in mandata al serbatoio, per la pulizia dell'olio scaricato.

1.0 - Cooling Unit

1.2 - RFA - air/oil exchanger

1.2.1 General features

When no sufficient water is available, it is more and more often indispensable to cool down oil with air.

Moreover, in some cases it is not possible to connect air-oil exchanger directly to the drainage due to water hammers in the circuit, and user is thus forced to set up a separated circuit with independent circulation pump, tubing, thermostat and electric system.

To meet the needs of these instances, GSM S.p.A. has added to its product range the independent cooling units of the RFA series, that best carry out the task of cooling down oil in an independent way with respect to the main hydraulic system.

Nowadays, energy-saving is a major issue and using water for cooling without recycling it means wasting the heat released by oil to water. While, using air issued by the RFA units, it is possible to recover the heat released by oil and use it to heat the room where they are installed. Water for industrial use is quite expensive and in many cases businesses need to set up closed-loop water cooling systems and most of the time they are refrigerating machines. Power consumption of these systems is huge, equal to about 30% of power to be wasted. With RFA series independent units this consumption is reduced to 6%, with a considerable saving in power and thus in running costs and with a remarkably lower starting cost. The unit is designed to cool down oil and consists in a radiator that is in the air flow generated by a fan; while oil is circulated in the radiator from bottom up by the recirculation screw pump, oil heat is dissipated by the air flow lapping on the aluminium fins of the radiator core. Machine correct operation is controlled by thermostats optimising its operation in case of any sudden change of temperature.

All metal parts are powder-coated to ensure long lasting protection against weather conditions.

In the standard version, the unit features all parts assembled to a frame which can be placed on a pallet.

1.2.2 Supply scope and specifications

Standard cooling units of the RFA series consist of:

1. An air-oil heat exchanger;
2. A motor pump made of a 4-pole motor for sizes RFA1, RFA2, RFA3 and 2-pole motor for sizes RFA4, RFA5 rated B3/B5, standard three-phase 230-400V 50 Hz power. For units belonging to diagram A (RFA1 - RFA2 - RFA3) motor pump motor is the same as motor fan one.
3. DIAGRAM A: 0-12 bar Pressure gauge mounted between pump and heat exchanger; with added function of oil flow blocking display
DIAGRAM B: 0-16 bar Pressure gauge mounted between pump and heat exchanger;
4. 0-120 °C Analogous thermometer mounted at exchanger outlet.
5. Minimum pressure switch with switch contacts, mounted between pump and heat exchanger.
6. Filter, at tank inlet, for cleaning drained oil.

1.0 - Kühlanlage

1.1 - RFA - System mit Luft-/Ölaustauscher

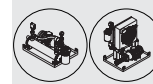
1.2.1 Allgemeine

Informationen immer häufiger ist es unerlässlich das Öl mit Luft zu kühlen, da man nicht ausreichend Wasser verfügbar hat. In einigen Fällen ist ein direkter Anschluss des Luft-Wasser- Wärmeaustauschers an den Anschluss aufgrund von Widerstößen im System nicht möglich und man ist dazu gezwungen einen separaten Kreislauf mit einer eigenständigen Umlaufpumpe, Leitungen, Thermostat und elektrischer Anlage zu realisieren. Die GSM S.p.A. hat autonome Kühlaggregate der Serie RFA in ihr Programm aufgenommen, die die Aufgabe der Ölkühlung, von der hydraulischen Hauptanlage unabhängig, in der besten Art und Weise erfüllen. Die Energieeinsparung ist heute ein Problem, dem immer mehr Bedeutung zukommt. Wird für die Kühlung nicht wiederverwendbares Wasser verwendet, geht die Wärme verloren, die das Öl ans Wasser abgegeben hat. Wird dagegen von den RFA-Aggregaten zugeführte Luft verwendet, kann die an der Öl abgegebene Wärme zurückgewonnen und für die Heizung des Raums verwendet werden, in dem sie installiert sind. Der Wasserkonsum für den industriellen Einsatz ist heute mit immer stärker steigenden Kosten verbunden und in vielen Fällen müssen sich die Firmen mit Kühlsystemen im geschlossenen Kühlwasserkreislauf ausrüsten, dabei handelt es sich in den meisten Fällen um Kühlmotoren. Der Energieverbrauch dieser Anlagen ist beachtlich und entspricht ungefähr 30% der verbrauchbaren Leistung. Mit den autonomen Aggregaten der Serie RFA sinkt dieser Konsum auf 6% ab, eine erhebliche Einsparung bei Strom also bei Betriebskosten, ohne dabei die erheblich geringeren Anschaffungskosten zu berücksichtigen. Die Einheit wurde für die Kühlung von Öl entwickelt und besteht aus einem Kühler, der von einem durch einen Ventilator erzeugten Luftstrom durchquert wird, der die Aluminiumrippen der Kühlmasse "umspült" und die vom Öl abgegebene Wärme abnimmt. Das Öl zirkuliert dank der Schneckenpumpe im Kühler von unten nach oben. Die Steuerung des korrekten Maschinenbetriebs wird von den Thermostaten geregelt, die den Betrieb im Fall von eventuellen Temperaturschwankungen optimiert. Alle Metallteile sind durch eine Pulver- lacklackierung geschützt, die einen lang anhaltenden Schutz gegen Umweltbelastungen gewährleistet. In der Standardversion wird die Einheit bereits mit allen an einem palettierbaren Rahmen montierten Teilen geliefert.

1.2.2 Lieferzustand und technische Eigenschaften

Die Kühleinheiten der Serie RFA Standard setzen sich wie folgt zusammen:

1. Ein Luft-Öl-Wärmeaustauscher;
2. Eine Motorpumpe bestehend aus einem 4-poligem Motor für die Baugrößen RFA1, RFA2, RFA3 oder 2-poligem Motor für die Baugrößen RFA4, RFA5 in Bauform B3/B5, Standard-Drehstromversorgung 230-400V 50 Hz. Bei den Aggregaten, die zum Schema A (RFA1 - RFA2 - RFA3) gehören werden Motorpumpe und Ventilator vom selben Motor betrieben.
3. SCHEMA A: Manometer 0-12 bar, zwischen Pumpe und Wärmeaustauscher montiert; mit Zusatzanzeige für blockierten Ölfloss
SCHEMA B: Manometer 0-16 bar, zwischen Pumpe und Wärmeaustauscher montiert;
4. Analoges Thermometer 0-120 °C, am Ausgang des Wärmeaustauschers montiert;
5. Mindestdruckwächter mit Umschaltkontakten, zwischen Pumpe und Wärmeaustauscher montiert;
6. Filter, im Zulauf zum Behälter, für die Reinigung des abgelassenen Öls;



1.0 - Gruppo di raffreddamento

1.0 - Cooling Unit

1.0 - Kühlanlage

- 7. Indicatore elettrico di intasamento del filtro olio.
- 8. Scatola Morsettiera;
- 9. Termostato di regolazione;

- 7. Electrical clogging indicator of oil filter.
- 8. Terminal board box;
- 9. Adjustment thermostat;

- 7. Elektrische Verstopfungsanzeige des Ölfilters
- 8. Klemmenkasten;
- 9. Regelthermostat;

A – Aspirazione della pompa;
M – Mandata della pompa.

A – Pump inlet;
M – Pump outlet.

A – Ansaugung der Pumpe;
M – Zulauf der Pumpe.

NOTE SPECIFICHE - SCHEMA A :
Il gruppo RFA3 è fornito con sonda di temperatura e termostato.

SPECIFIC NOTES - DIAGRAM A:
RFA3 unit is supplied together with temperature probe and thermostat.

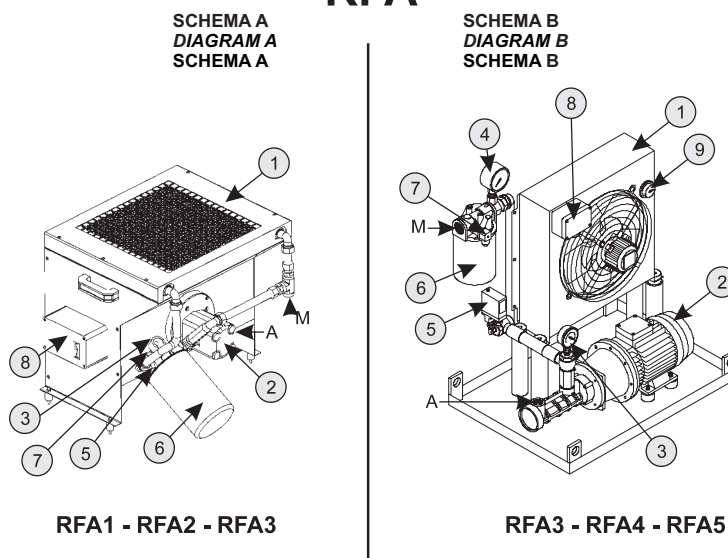
SPEZIFISCHE HINWEISE - SCHEMA A :
Das Aggregat RFA3 wird mit einer Temperatursonde und einem Thermostat geliefert.

ATTENZIONE:
Il gruppo RFA3 è fornito secondo lo schema A quando l'applicazione necessita di solo raffreddamento altrimenti è fornito RFA3 secondo lo schema B.

NOTICE:
RFA3 unit is supplied as per diagram A when the application only needs cooling, while in other cases RFA3 is supplied as per diagram B.

ACHTUNG:
Das Aggregat RFA3 wird dem Schema A gemäß geliefert, wenn die Applikation nur einer Kühlung bedarf, andernfalls wird das RFA3 dem Schema B entsprechend geliefert.

RFA



1.2.3 Dimensionamento e Caratteristiche Funzionali

Per la scelta del gruppo di raffreddamento si rimanda alla Sezione A-B-C-D-E-F-G.

1.2.3 Sizes and Functional Features

Please refer to Section A-B-C-D-E-F-G for indications on how to choose the suitable cooling unit.

1.2.3 Bemaßung und Funktionseigenschaften

Für die Wahl des richtigen Kühlaggregats verweisen wir auf die Sektion A-B-C-D-E-F-G.

CARATTERISTICHE TECNICHE

Nella Tabella sottostante riportiamo le caratteristiche tecniche

SPECIFICATIONS

The specifications are given in the table below

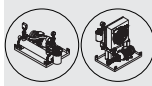
TECHNISCHE EIGENSCHAFTEN

In der nachstehenden Tabelle werden die technischen Eigenschaften angegeben.

| Schema Diagram Schema | Grandezza Size Baugröße | Peso Weight Gewicht [Kg] | Volume Olio Oil volume Ölvolumen [dm ³] | Motopompa Motor Pump Motorpumpe | | | | Scambiatore Exchanger Wärmeaustauscher | | | | | Campo Applicazione Application Einsatzbereich | | |
|-----------------------|-------------------------|--------------------------|---|---------------------------------|------|------|---|---|----------|------|------|------|---|---|-----------|
| | | | | [*1] | [*2] | [*3] | [*4] | Connessione Olio Oil connection Ölschluss | | [*7] | [*8] | [*9] | Raffreddamento Cooling Kühlung | Lubrificazione Forzata Forced lubrication Zwangschmier. | |
| A | 1 | 20 | 3.0 | Ingranaggi Gear-type Zahnräder | 0.55 | 6 | 400 / 50 Trifase Three-phase dreiphasig | G 1/2" | G 1/2" | 0.55 | 600 | 64 | SI YES JA | SI YES JA | |
| A | 2 | 27 | 3.6 | | 0.55 | 13 | | | | 0.75 | 850 | 68 | | NO NO NEIN | |
| A | 3-A | 61 | 5.5 | | 1.1 | 34 | | G 3/4" | G 1/2" | 1.1 | 2000 | 75 | | NO NO NEIN | |
| B | 3-B | 75 | 5.5 | Vite Screw-type Schnecke | 1.5 | 30 | | G 1" | G 1" 1/4 | 0.23 | 2700 | 72 | | SI YES JA | SI YES JA |
| B | 4 | 96 | 15 | | 3.0 | 112 | | G 1" 1/4 | G 1" 1/2 | 0.23 | 3500 | 72 | | | |
| B | 5 | 118 | 15 | | 3.0 | 112 | | | | 0.56 | 6300 | 75 | | | |
| B | 6 | 127 | 16 | | 3.0 | 160 | G 1" 1/4 | G 1" 1/2 | 0.9 | 7450 | 79 | | | | |
| B | 7 | 140 | 20 | | 3.0 | 160 | | | 0.9 | 9500 | 79 | | | | |

Legenda/Legend/Legende.

- [*1] Tipo Pompa/Pump type/Pumpentyp.
- [*2] Potenza /Power/Leistung [kW]
- [*3] Portata /Flow rate/Durchsatz [dm³ / min]
- [*4] Alimentazione /Power supply/Versorgung [V / Hz]
- [*5] Aspirazione /Inlet/Ansaugung
- [*6] Mandata /Outlet/Zulauf
- [*7] Potenza /Power/Leistung [kW]
- [*8] Portata Aria /Air flow rate/Luftdurchsatz [m³ / h]
- [*9] Rumorosità /Noise/Geräuschpegel [dB]



1.0 - Gruppo di raffreddamento

1.0 - Cooling Unit

1.0 - Kühlanlage

1.2.4 Dimensioni

Nelle tabelle sottostanti sono riportati gli ingombri dei gruppi:

- SCHEMA A: RFA 1, RFA 2, RFA3;
- SCHEMA B: RFA 3, RFA 4, RFA5, RFA6, RFA7;

1.2.4 Dimensions

The tables below show units overall dimensions:

- DIAGRAM A: RFA 1, RFA 2, RFA3;
- DIAGRAM B: RFA 3, RFA 4, RFA5, RFA6, RFA7;

1.2.4 Maße

In den nachstehenden Tabelle werden die Maße der Aggregate angegeben:

- SCHEMA A: RFA 1, RFA 2, RFA3;
- SCHEMA B: RFA 3, RFA 4, RFA5, RFA6, RFA7;

SCHEMA A

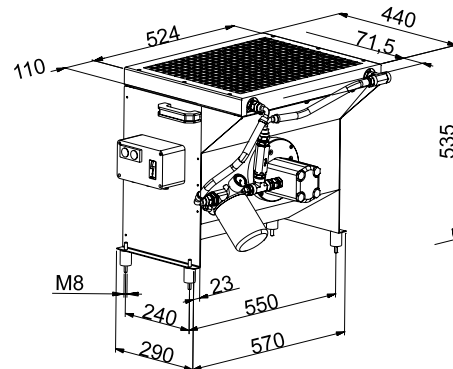
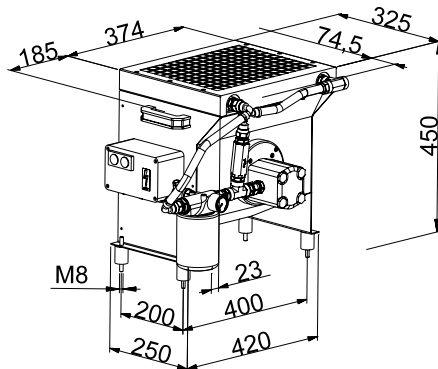
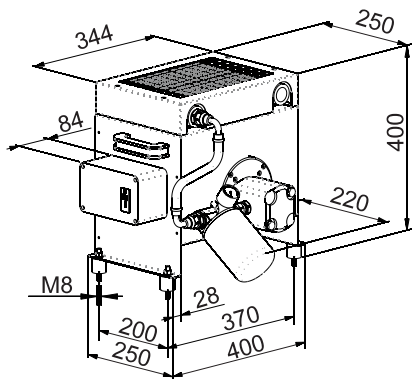
DIAGRAM A

SCHEMA A

RFA 1

RFA 2

RFA 3-A



SCHEMA B

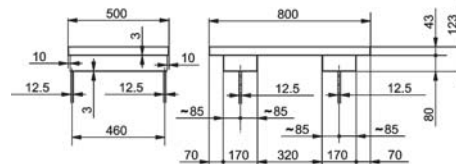
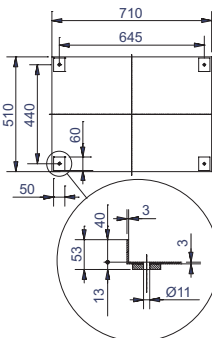
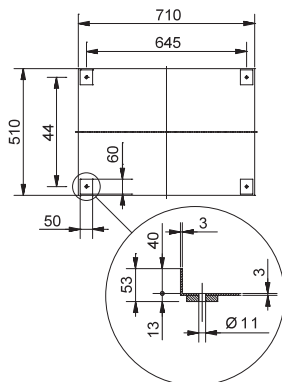
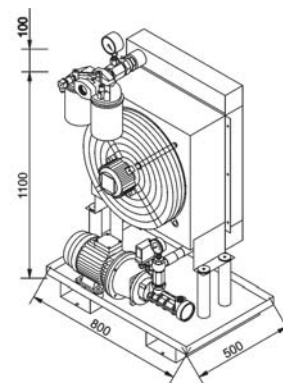
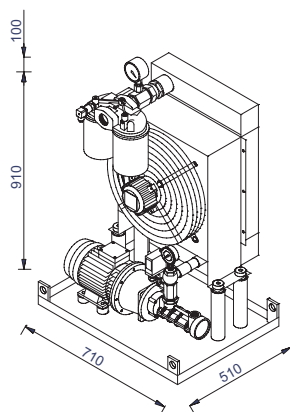
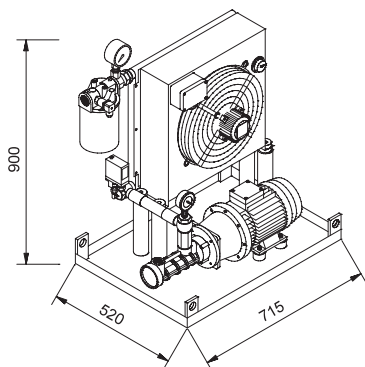
DIAGRAM B

SCHEMA B

RFA 3-B

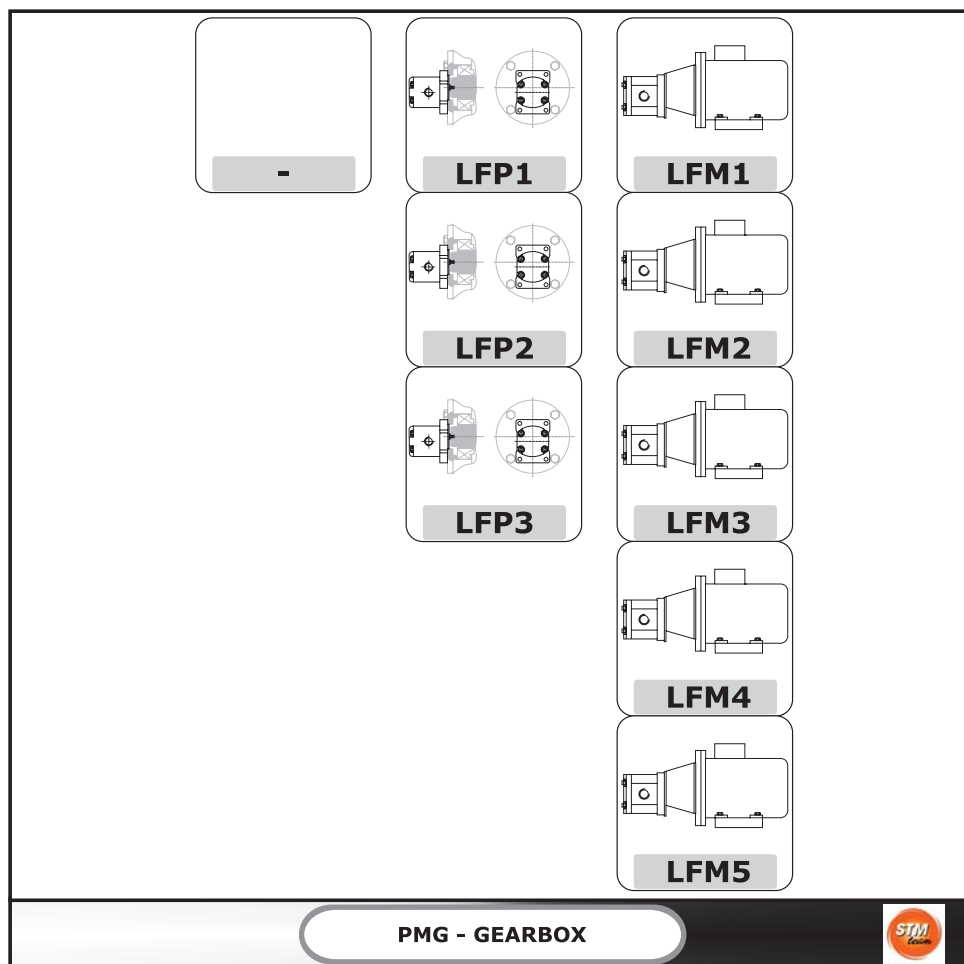
RFA 4

RFA 5





| | | | |
|-------------|--|--|--|
| ACC6 | ACC6 - Accessori - Lubrificazione Forzata - BEARING | ACC6 - Accessories - Forced lubrication - BEARING | ACC6 - Zubehör - Zwangsschmierung - BEARING |
|-------------|--|--|--|



E' possibile richiedere diverse tipologie di dispositivi per consentire la lubrificazione forzata dei cuscinetti.

It is possible to request various types of devices to allow the forced lubrication of the bearings.

Es können verschiedene Vorrichtungstypen angefordert werden, um die Zwangsschmierung der Lager zu ermöglichen.

Possono essere forniti i seguenti accessori e dispositivi:

Some devices can optionally be provided:

Folgende Zubehörteile und Vorrichtungen können geliefert werden:

| Code Designation | Code ORDER | I | GB | DE |
|------------------|------------|--------------------------------|----------------------------------|--------------------------|
| LFP1 | | = Pompa asservita - 0.5 l/min | = Shaft-driven pump - 0.5 l/min | = Nebenpumpe- 0.5 l/min |
| LFP2 | | = Pompa asservita - 5 l/min | = Shaft-driven pump - 5 l/min | = Nebenpumpe- 1.75 l/min |
| LFP3 | | = Pompa asservita - 1.75 l/min | = Shaft-driven pump - 1.75 l/min | = Nebenpumpe- 5 l/min |
| LFM1 | | = Motopompa - 0.5 l/min | = Motor pump - 0.5 l/min | = Motorpumpe - 0.5 l/min |
| LFM2 | | = Motopompa - 5 l/min | = Motor pump - 5 l/min | = Motorpumpe - 5 l/min |
| LFM3 | | = Motopompa - 10 l/min | = Motor pump - 10 l/min | = Motorpumpe - 10 l/min |
| LFM4 | | = Motopompa - 20 l/min | = Motor pump - 20 l/min | = Motorpumpe - 20 l/min |
| LFM5 | | = Motopompa - 30 l/min | = Motor pump - 30 l/min | = Motorpumpe - 30 l/min |





2.0 - Lubrificazione forzata

2.0 - Forced lubrication

2.0 - Zwangsschmierung

Lubrificazione cuscinetti superiori

Upper bearing lubrication

Schmierung der obenliegenden Lager

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.

Die Zwangsschmierung der obenliegenden Lager wird mit der Zwangsschmierung der Zahnräder, für die erforderlich sind, assoziiert.

2.1 - Applicabilità

2.1 - Application

2.1 - Applikation

RXP

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 | 822 | 824 | 826 | 828 | 830 | 832 |
| RXP3 | 1751 - n _{1max} | G (grease) | | LFM2 | | LFM2 | | | LFM3 | | | LFM4 | |
| | 1000 - 1750 | G (grease) | | | | LFM2 | | | LFM3 | | | LFM4 | |
| | 0 - 999 | G (grease) | | | | | | LFM2 | | | | | |
| RXP2 | 1751 - n _{1max} | G (grease) | | LFM2 | | LFM2 | | | LFM3 | | | | |
| | 1000 - 1750 | G (grease) | | | | LFM2 | | | LFM3 | | | | |
| | 0 - 999 | G (grease) | | | | | | | | | | | |
| RXP1 | 1751 - n _{1max} | G (grease) | | LFM2 | | | | | | | | | |
| | 1000 - 1750 | G (grease) | | LFM2 | | | | | | | | | |
| | 0 - 999 | G (grease) | | | | LFM2 | | | | | | | |

RXO - RXV

Pos. Mont. / Mntg. Pos. / Einbaulage M1- M5 - M6

| RXO RXV | M5 M6 M1 M5 M6 | n ₁ [min ⁻¹] | Grandezza / Size / Baugröße | | | | | | | | | | | |
|--------------|-------------------|--|-----------------------------|-----|------|-----|------|-----|------|------|-----|------|------|-----|
| | | | 802-810 | 812 | 814 | 816 | 818 | 820 | 822 | 824 | 826 | 828 | 830 | 832 |
| RXO3 RXV3 | | 0 - n _{1max} | G (grease) | | | | | | LFM3 | | | LFM4 | | |
| RXO2 RXV2 | | 1751 - n _{1max} | G (grease) | | LFM2 | | LFM2 | | | LFM3 | | | LFM4 | |
| | | 1000 - 1750 | G (grease) | | | | LFM2 | | | LFM3 | | | LFM4 | |
| | | 0 - 999 | G (grease) | | | | | | LFM2 | | | | | |
| RXO1 RXV1 | | 1751 - n _{1max} | G (grease) | | LFM2 | | LFM2 | | | LFM3 | | | | |
| | | 1000 - 1750 | G (grease) | | | | LFM2 | | | LFM3 | | | | |
| | | 0 - 999 | G (grease) | | | | | | | | | | | |

Pos. Mont. / Mntg. Pos. / Einbaulage M3 - M4

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

I valori di n₁ max sono riportati nel paragrafo (vedi sezione A verifiche, punto 4).

n₁ max values are listed at paragraph (see Section A verification, point 4).

Die Werte von n₁ max werden im Paragraph (siehe Abschnitt A „kontrollen“, Punkt 4, angegeben).



2.0 - Lubrificazione forzata

2.0 - Forced lubrication

2.0 - Zwangsschmierung

2.2 - Pompa asservita

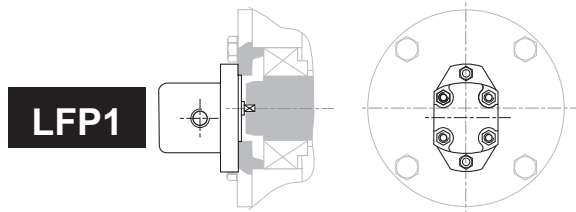
2.2 - Shaft-driven pump

2.2 - Nebenpumpe

Questo sistema si realizza accoppiando la pompa direttamente ad un albero del riduttore, dal quale prende il moto, e si suddivide in 3 tipologie.

The pump is coupled directly to and driven by a gear unit shaft. There are three different types of pumps available.

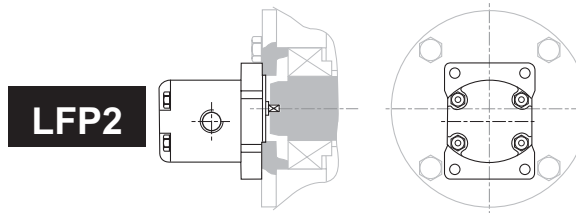
Dieses System wird durch die direkte Passung der Pumpe auf eine der Getriebewellen, von der sie dann auch angetrieben wird, gestellt. Hier unterscheidet man 3 Typen.



Pompa con portata di 0.5 l/min a 1500 rpm

Pump with 0.5 l/min capacity at 1500 rpm

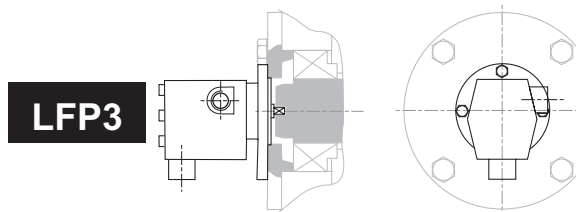
Pumpe mit Durchsatz von 0,5 l/min bei 1500 U/min



Pompa con portata di 5 l/min a 1500 rpm

Pump with 5 l/min capacity at 1500 rpm

Pumpe mit Durchsatz von 5 l/min bei 1500 U/min



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

Pump with 1.75 l/min capacity at 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.

Pumpe mit Durchsatz von 1,75 l/min bei 750 U/min

Diese Pumpe ist besonders für einen Betrieb bei niedriger Drehzahl geeignet. Sie wird z.B. in der ersten zylindrischen Übersetzungsstufe eines Kegelstirradgetriebes verwendet.

2.3 - Motopompa

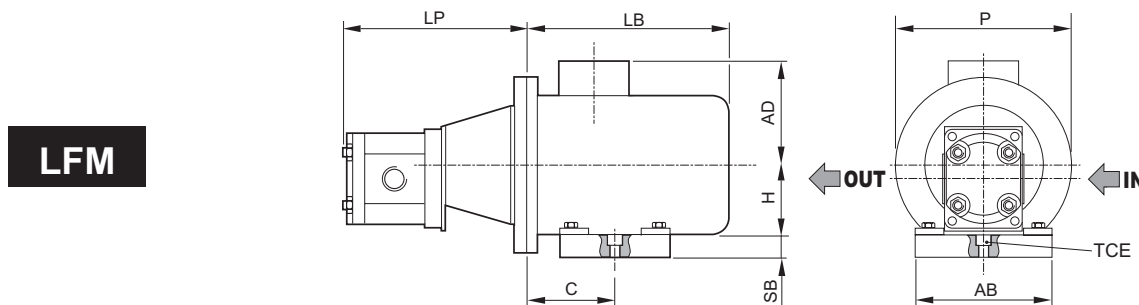
2.3 - Motor pump

2.3 - Motorpumpe

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.

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.

Dieses System wird durch die Passung eines Elektromotors an eine Hydraulikpumpe realisiert; es lässt sich in 5 Typologien unterteilen und kann auch getrennt vom Getriebe geliefert werden. In den nachstehenden Tabellen werden die wesentlichen technischen Eigenschaften und die Maße dieser Anlagen angegeben.



| | 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 | 90 | 71 | 220 | 130 | 160 | 15 | 1/4"GAS | 1/4"GAS | M8 |
| LFM2 | 5 | | | | 135 | 108 | 109 | 90 | 71 | 220 | 147 | 160 | 15 | 3/8"GAS | 3/8"GAS | M8 |
| LFM3 | 10 | 80A4 | 0.55 | 197 | 155 | 120 | 125 | 100 | 80 | 238 | 200 | 200 | 25 | 1/2"GAS | 1/2"GAS | M10 |
| LFM4 | 20 | 80B4 | 0.75 | | 155 | 120 | 125 | 100 | 80 | 238 | 210 | 200 | 25 | 3/4"GAS | 1/2"GAS | M10 |
| LFM5 | 30 | 90S4 | 1.1 | | 170 | 131 | 154 | 106 | 90 | 255 | 225 | 200 | 25 | 3/4"GAS | 1/2"GAS | M12 |


N.B.: la GSM si riserva di scegliere la tipologia più adatta di Pompa asservita e Motopompa per il buon funzionamento del riduttore.

NOTE: STM reserves the right to select the type of shaft-driven or motor pump deemed most appropriate for proper gear unit operation at its discretion.

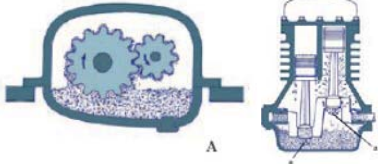
HINWEIS: Die STM behält sich das Recht vor, den für den guten Getriebebetrieb angemessenen Typ der Neben- oder Motorpumpe wählen zu können.



| | | | |
|--------------|--|--|--|
| ACC6A | ACC6A - Accessori - Lubrificazione Forzata - GEAR | ACC6A - Accessories - Forced lubrication - GEAR | ACC6A - Zubehör - Zwangsschmierung - GEAR |
|--------------|--|--|--|




LF.



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PMG - GEARBOX



Dove necessario è possibile fornire riduttori predisposti o completi di lubrificazione forzata. La lubrificazione forzata può essere effettuata con Pompa asservita o con Motopompa.

Where necessary, gear units are supplied with provisions for or incorporated forced lubrication. Both shaft-driven and motor-driven pumps are available.






















Wo erforderlich können die Getriebe für eine Zwangsschmierung ausgelegt oder bereits damit ausgestattet geliefert werden. Die Zwangsschmierung kann durch eine Neben- oder Motorpumpe gestellt werden.

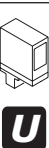
Maggiori informazioni sugli accessori disponibili e sulla loro applicabilità sono disponibili a richiesta.

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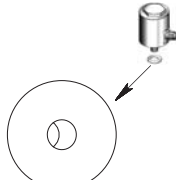

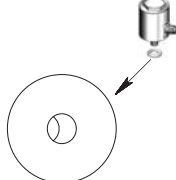
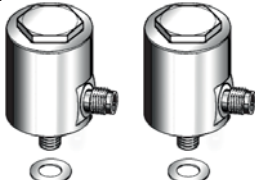
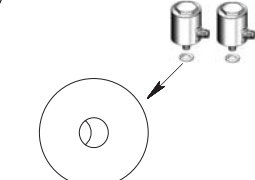
3.0 - Accessori idraulici**3.0 - Hydraulic accessories****3.0 - Hydraulikzubehör**

| | | | | | | |
|---|---|----------------------------------|---|---|--|------------|
| ACC7-R |  | ACC7A | Accessori idraulici - Vibration Sensor | Hydraulic accessories - Vibration Sensor | Hydraulikzubehör - Vibration Sensor | U18 |
| |  | ACC7B | Accessori idraulici - Vibration SWITCH | Hydraulic accessories - Vibration SWITCH | Hydraulikzubehör - Vibration SWITCH | U19 |
| |  | ACC7C | Accessori idraulici - FILLING | Hydraulic accessories - FILLING | Hydraulikzubehör - FILLING | U20 |
| |  | ACC7D | Accessori idraulici - PARTICLE MAGNETIC | Hydraulic accessories - PARTICLE MAGNETIC | Hydraulikzubehör - PARTICLE MAGNETIC | U21 |
| |  | ACC7E | Accessori idraulici - DRAIN | Hydraulic accessories - DRAIN | Hydraulikzubehör - DRAIN | U22 |
| |  | ACC7F | Accessori idraulici - BREATHER | Hydraulic accessories - BREATHER | Hydraulikzubehör - BREATHER | U23 |
| |  | ACC7G | Accessori idraulici - LEVEL | Hydraulic accessories - LEVEL | Hydraulikzubehör - LEVEL | U24 |
| |  | ACC7H | Accessori idraulici - HEATER | Hydraulic accessories - HEATER | Hydraulikzubehör - HEATER | U25 |
| |  | ACC7I1 | Accessori idraulici - TEMPERATURE SENSOR | Hydraulic accessories - TEMPERATURE SENSOR | Hydraulikzubehör - TEMPERATURE SENSOR | U26 |
| |  | ACC7I2 | Accessori idraulici - TEMPERATURE SWITCH | Hydraulic accessories - TEMPERATURE SWITCH | Hydraulikzubehör - TEMPERATURE SWITCH | U29 |
| |  | ACC7I3 | Accessori idraulici - TEMPERATURE TERMOWELL | Hydraulic accessories - TEMPERATURE TERMOWELL | Hydraulikzubehör - TEMPERATURE TERMOWELL | U30 |
| |  | ACC7L | Accessori idraulici - FILTER | Hydraulic accessories - FILTER | Hydraulikzubehör - FILTER | U31 |
| |  | ACC7M1 | Accessori idraulici - PRESSURE SENSOR | Hydraulic accessories - PRESSURE SENSOR | Hydraulikzubehör - PRESSURE SENSOR | U32 |
| |  | ACC7M2 | Accessori idraulici - PRESSURE SWITCH | Hydraulic accessories - PRESSURE SWITCH | Hydraulikzubehör - PRESSURE SWITCH | U33 |
| |  | ACC7M3 | Accessori idraulici - PRESSURE Differential gauge | Hydraulic accessories - PRESSURE Differential gauge | Hydraulikzubehör - PRESSURE Differential gauge | U34 |
| |  | ACC7N1 | Accessori idraulici - FLOW SENSOR | Hydraulic accessories - FLOW SENSOR | Hydraulikzubehör - FLOW SENSOR | U35 |
| |  | ACC7N2 | Accessori idraulici - FLOW SWITCH | Hydraulic accessories - FLOW SWITCH | Hydraulikzubehör - FLOW SWITCH | U36 |
| |  | ACC7N3 | Accessori idraulici - FLOW VISUAL | Hydraulic accessories - FLOW VISUAL | Hydraulikzubehör - FLOW VISUAL | U37 |
| |  | ACC7O | Accessori idraulici - COOL | Hydraulic accessories - COOL | Hydraulikzubehör - COOL | U39 |
| |  | ACC7P | Accessori idraulici - LEVEL-BREATHER | Hydraulic accessories - LEVEL-BREATHER | Hydraulikzubehör - LEVEL-BREATHER | U40 |
|  | ACC7Z | Accessori idraulici - GENERIC | Hydraulic accessories - GENERIC | Hydraulikzubehör - GENERIC | U41 | |





| | | | |
|--------------|---|---|--|
| ACC7A | Accessori idraulici - Vibration Sensor | Hydraulic accessories - Vibration Sensor | Hydraulikzubehör - Vibration Sensor |
|--------------|---|---|--|

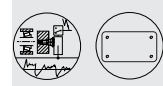
| | | |
|----------------------|--|--|
| - |  A_HZ1 |  A_PHZ1 |
| |  A_HZ2 |  A_PHZ2 |
| |  A_HZ |  A_PHZ |
| PMG - GEARBOX | | |



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Weitere Informationen zu den verfügbaren Zubehörteilen und deren Anwendungsmöglichkeiten erhalten Sie auf entsprechende Anfrage.

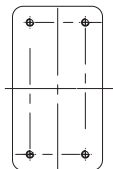


| | | | |
|--------------|---|---|--|
| ACC7B | Accessori idraulici - Vibration SWITCH | Hydraulic accessories - Vibration SWITCH | Hydraulikzubehör - Vibration SWITCH |
|--------------|---|---|--|

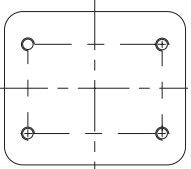
-



V_VS




B_PVS1



B_PVS2


PMG - GEARBOX



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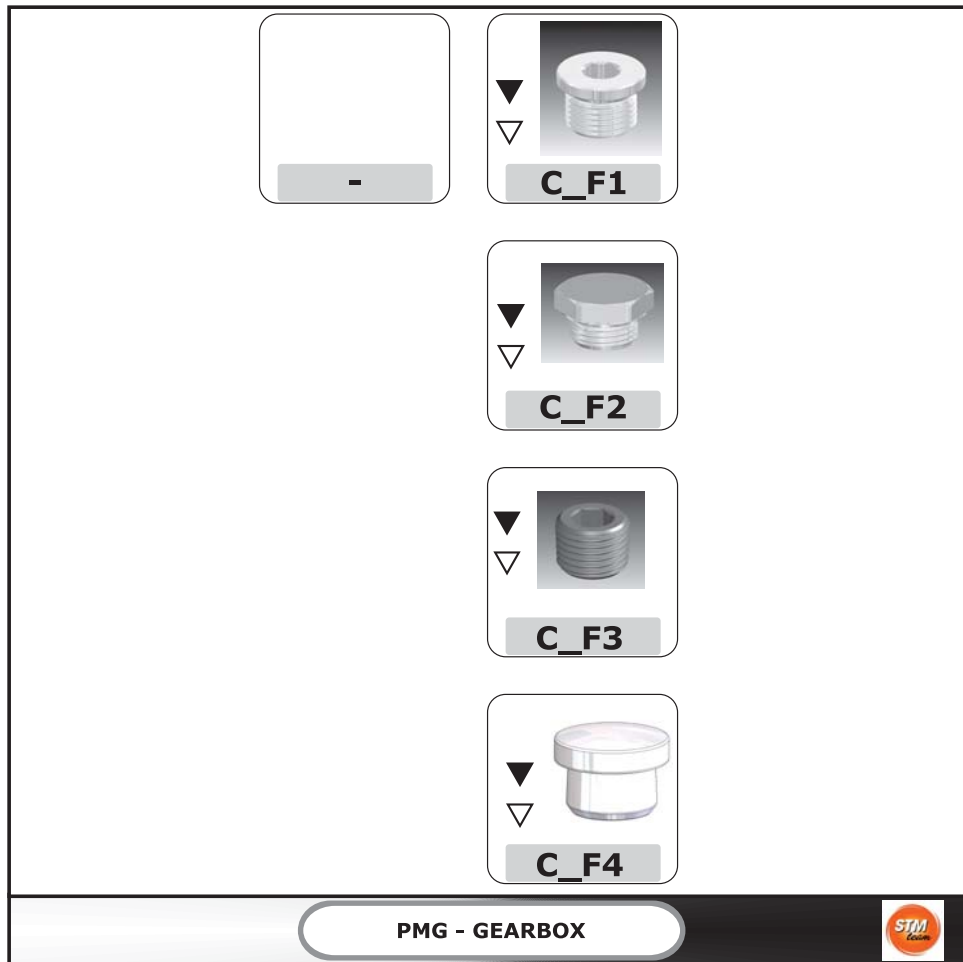
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GSM_mod.CT03-04-05-06 IGBD 0.1 

U19



ACC7C

Accessori idraulici -
FILLINGHydraulic accessories -
FILLINGHydraulikzubehör -
FILLING

Maggiori informazioni sugli accessori disponibili e sulla loro applicabilità sono disponibili a richiesta.

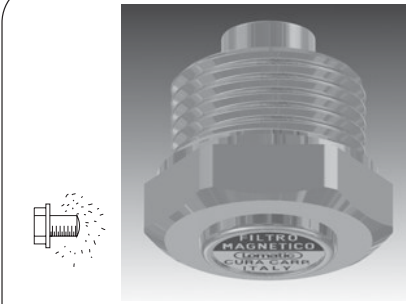
More information on the accessories available and on their applicability is available upon request.

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| | | | |
|--------------|--|--|---|
| ACC7D | Accessori idraulici - PARTICLE MAGNETIC | Hydraulic accessories - PARTICLE MAGNETIC | Hydraulikzubehör - PARTICLE MAGNETIC |
|--------------|--|--|---|

-



D_M1

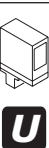
PMG - GEARBOX

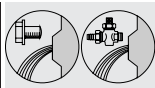


Maggiori informazioni sugli accessori disponibili e sulla loro applicabilità sono disponibili a richiesta.

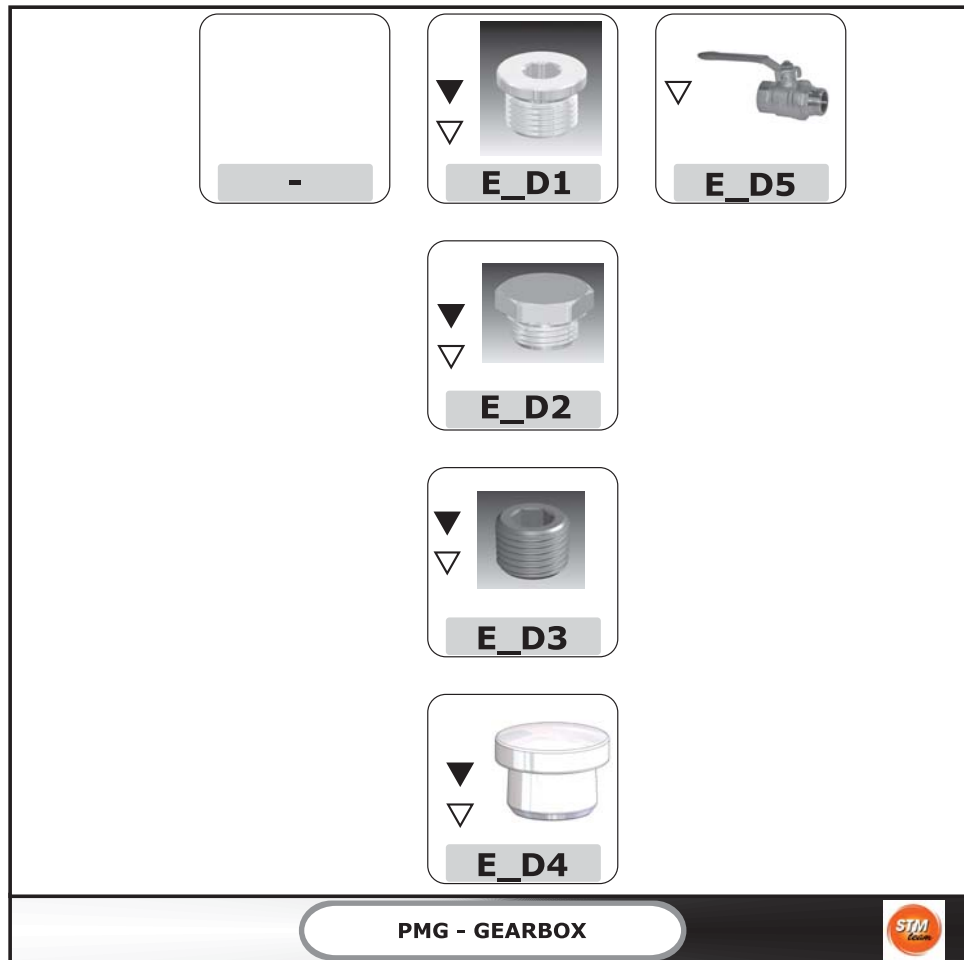
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| ACC7E | Accessori idraulici - DRAIN | <i>Hydraulic accessories - DRAIN</i> | Hydraulikzubehör - DRAIN |
|-------|--------------------------------|--|-----------------------------|
|-------|--------------------------------|--|-----------------------------|



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| | | | |
|--------------|---|---|--|
| ACC7F | Accessori idraulici - BREATHER | Hydraulic accessories - BREATHER | Hydraulikzubehör - BREATHER |
|--------------|---|---|--|

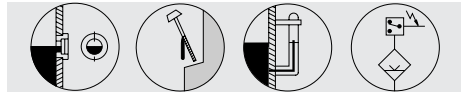


Maggiori informazioni sugli accessori disponibili e sulla loro applicabilità sono disponibili a richiesta.





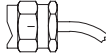





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| | | | |
|--------------|------------------------------------|--------------------------------------|---------------------------------|
| ACC7G | Accessori idraulici - LEVEL | Hydraulic accessories - LEVEL | Hydraulikzubehör - LEVEL |
|--------------|------------------------------------|--------------------------------------|---------------------------------|

| | | | | | |
|---|---|---|---|---|---|
| - |  G_L1A |  G_L3A |  G_L4A |  G_L5A |  G_L6A |
| |  G_L2A | |  G_L4B |  G_L5B | |
| | | | |  G_L5C | |
| | | | |  G_L5D | |

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| | | | |
|--------------|-------------------------------------|---------------------------------------|----------------------------------|
| ACC7H | Accessori idraulici - HEATER | Hydraulic accessories - HEATER | Hydraulikzubehör - HEATER |
|--------------|-------------------------------------|---------------------------------------|----------------------------------|



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| | | | |
|---------------|---|---|--|
| ACC711 | Accessori idraulici - TEMPERATURE SENSOR | Hydraulic accessories - TEMPERATURE SENSOR | Hydraulikzubehör - TEMPERATURE SENSOR |
|---------------|---|---|--|

| | | |
|----------------------|---|---|
| - |  I_TPT1A |  I_TPT2A |
| |  I_TPT1B |  I_TPT2B |
| |  I_TPT1C | |
| PMG - GEARBOX | | |



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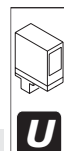
| | | | |
|---------------|---|---|--|
| ACC712 | Accessori idraulici - TEMPERATURE SWITCH | Hydraulic accessories - TEMPERATURE SWITCH | Hydraulikzubehör - TEMPERATURE SWITCH |
|---------------|---|---|--|

| | | |
|--|---|---|
| - |  I_TSW1A |  I_TSW2A |
| |  I_TSW1B |  I_TSW2B |
| <div style="border: 1px solid black; border-radius: 15px; display: inline-block; padding: 5px 20px;">PMG - GEARBOX</div> | |  |

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ACC713

Accessori idraulici -
TEMPERATURE
TERMOWELL

Hydraulic accessories -
TEMPERATURE
TERMOWELL

Hydraulikzubehör -
TEMPERATURE
TERMOWELL



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| | | | |
|--------------|---|---|--------------------------------------|
| ACC7L | Accessori idraulici - FILTER | Hydraulic accessories - FILTER | Hydraulikzubehör - FILTER |
|--------------|---|---|--------------------------------------|

-



L_FR1A

PMG - GEARBOX



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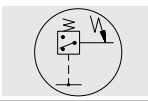
| | | | |
|---------------|--|--|---|
| ACC7M1 | Accessori idraulici - PRESSURE SENSOR | Hydraulic accessories - PRESSURE SENSOR | Hydraulikzubehör - PRESSURE SENSOR |
|---------------|--|--|---|

| | | |
|--|---|--|
| - |  M_PSR1A |  M_PSR1B |
| <div style="border: 1px solid black; border-radius: 15px; padding: 5px; display: inline-block;"> PMG - GEARBOX </div> | |  |



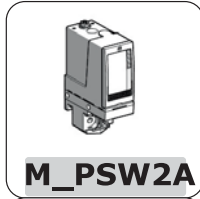


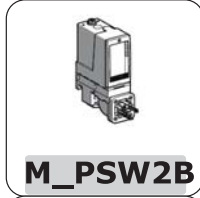





Maggiori informazioni sugli accessori disponibili e sulla loro applicabilità sono disponibili a richiesta.

More information on the accessories available and on their applicability is available upon request.

Weitere Informationen zu den verfügbaren Zubehörteilen und deren Anwendungsmöglichkeiten erhalten Sie auf entsprechende Anfrage.



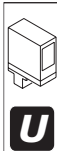
| | | | |
|---------------|--|--|---|
| ACC7M2 | Accessori idraulici - PRESSURE SWITCH | Hydraulic accessories - PRESSURE SWITCH | Hydraulikzubehör - PRESSURE SWITCH |
|---------------|--|--|---|

| | | | |
|----------------------|--|--|--|
| - |  M_PSW1A |  M_PSW1D |  M_PSW2A |
| |  M_PSW1B |  M_PSW1E |  M_PSW2B |
| |  M_PSW1C |  M_PSW1F |  M_PSW2C |
| | |  M_PSW1G | |
| PMG - GEARBOX | | |  |

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| | | | |
|---------------|--|--|---|
| ACC7M3 | Accessori idraulici - PRESSURE Differential gauge | Hydraulic accessories - PRESSURE Differential gauge | Hydraulikzubehör - PRESSURE Differential gauge |
|---------------|--|--|---|

-



M_PDG1A

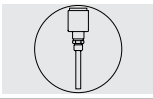
PMG - GEARBOX



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| | | | |
|---------------|--|--|---|
| ACC7N1 | Accessori idraulici - FLOW SENSOR | Hydraulic accessories - FLOW SENSOR | Hydraulikzubehör - FLOW SENSOR |
|---------------|--|--|---|

-



N_FSR1A

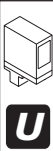
PMG - GEARBOX



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| | | | |
|---------------|--|--|---|
| ACC7N2 | Accessori idraulici - FLOW SWITCH | Hydraulic accessories - FLOW SWITCH | Hydraulikzubehör - FLOW SWITCH |
|---------------|--|--|---|

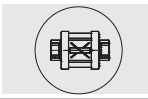
| | | |
|--|---|--|
|  <p style="font-size: 2em; font-weight: bold;">-</p> |  <p style="font-size: 1.5em; font-weight: bold;">N_FSW1A</p> |  <p style="font-size: 1.5em; font-weight: bold;">N_FSW2A</p> |
|  <p style="font-size: 1.5em; font-weight: bold;">N_FSW1B</p> | | |
| <div style="border: 1px solid black; border-radius: 15px; display: inline-block; padding: 5px 20px;"> PMG - GEARBOX </div> | | |



Maggiori informazioni sugli accessori disponibili e sulla loro applicabilità sono disponibili a richiesta.

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Weitere Informationen zu den verfügbaren Zubehörteilen und deren Anwendungsmöglichkeiten erhalten Sie auf entsprechende Anfrage.



| | | | |
|---------------|--|--|---|
| ACC7N3 | Accessori idraulici - FLOW VISUAL | Hydraulic accessories - FLOW VISUAL | Hydraulikzubehör - FLOW VISUAL |
|---------------|--|--|---|

-



N_FVDP1A

PMG - GEARBOX

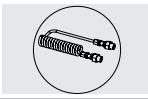


Maggiori informazioni sugli accessori disponibili e sulla loro applicabilità sono disponibili a richiesta.

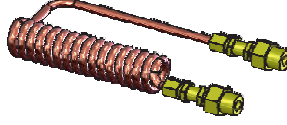
More information on the accessories available and on their applicability is available upon request.

Weitere Informationen zu den verfügbaren Zubehörteilen und deren Anwendungsmöglichkeiten erhalten Sie auf entsprechende Anfrage.





| | | | |
|--------------|---------------------------------------|---|------------------------------------|
| ACC70 | Accessori idraulici - COOL | Hydraulic accessories - COOL | Hydraulikzubehör - COOL |
|--------------|---------------------------------------|---|------------------------------------|

| | |
|----------------------|---|
| - |  O_CO1A |
| PMG - GEARBOX | |



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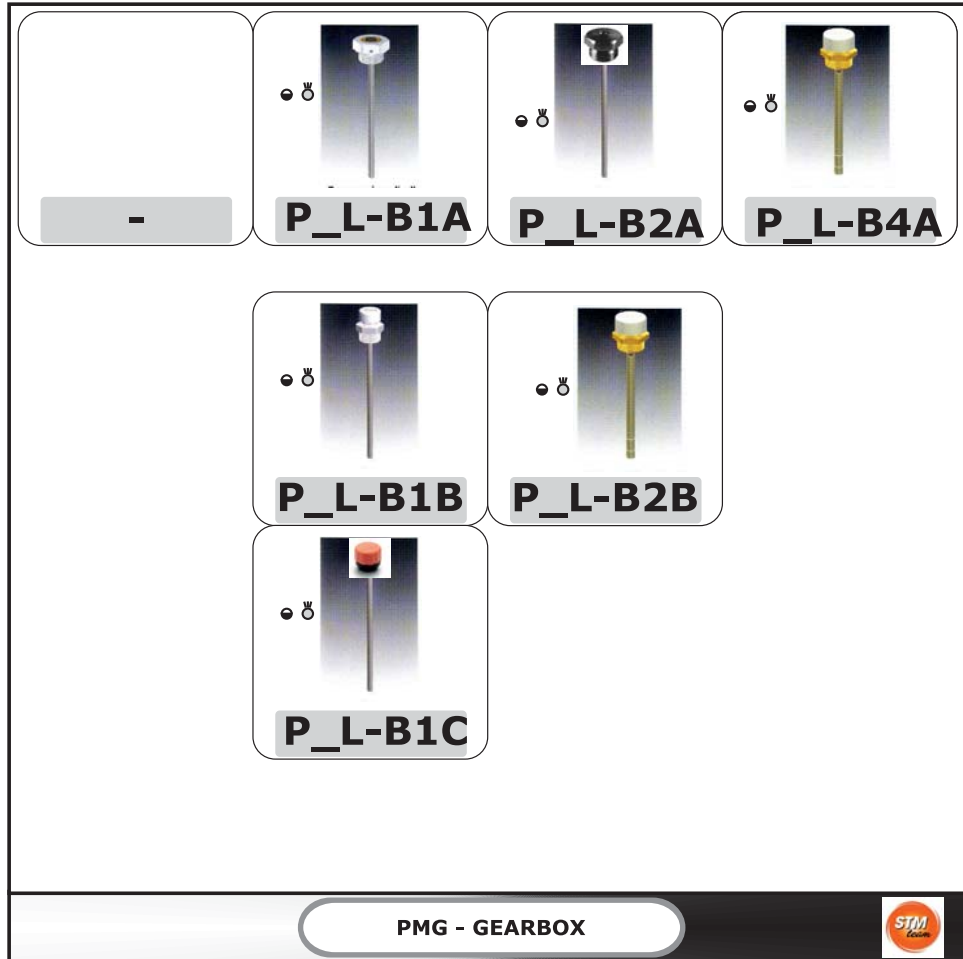


ACC7P

**Accessori idraulici -
LEVEL-BREATHER**

**Hydraulic accessories -
LEVEL-BREATHER**

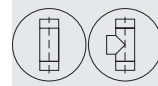
**Hydraulikzubehör -
LEVEL-BREATHER**



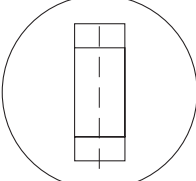
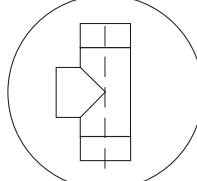

Maggiori informazioni sugli accessori disponibili e sulla loro applicabilità sono disponibili a richiesta.

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Weitere Informationen zu den verfügbaren Zubehörteilen und deren Anwendungsmöglichkeiten erhalten Sie auf entsprechende Anfrage.



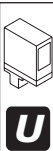
| | | | |
|--------------|--|--|---------------------------------------|
| ACC7Z | Accessori idraulici - GENERIC | Hydraulic accessories - GENERIC | Hydraulikzubehör - GENERIC |
|--------------|--|--|---------------------------------------|

| | | |
|----------------------|---|---|
| - |  Z_D1A |  Z_G1A |
| PMG - GEARBOX | |  |

Maggiori informazioni sugli accessori disponibili e sulla loro applicabilità sono disponibili a richiesta.

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Weitere Informationen zu den verfügbaren Zubehörteilen und deren Anwendungsmöglichkeiten erhalten Sie auf entsprechende Anfrage.





| | | | |
|-------------|---|---|--|
| ACC8 | ACC8 - Accessori - Tipo Tenute | ACC8 - Accessories - Seal Type | ACC8 - Zubehör - Typ von Dichtung |
|-------------|---|---|--|

| | | | | | | | | | | | |
|--|----------------|----------------|--------------|--|--------------|--|----------|--|----------------|----------------|---------------|
| <table border="1" style="width: 100%; border-collapse: collapse;"> <tr><td style="padding: 2px;">STM</td><td style="text-align: center;"></td></tr> <tr><td style="padding: 2px;">GSM A_PAM</td><td style="text-align: center;"></td></tr> <tr><td style="padding: 2px;">GSM B_ECE</td><td style="text-align: center;"></td></tr> <tr><td style="text-align: center; padding: 5px;">-</td><td></td></tr> </table> | STM | | GSM A_PAM | | GSM B_ECE | | - | | LB1 | DT1 | DW |
| STM | | | | | | | | | | | |
| GSM A_PAM | | | | | | | | | | | |
| GSM B_ECE | | | | | | | | | | | |
| - | | | | | | | | | | | |
| | LB2 | DT2 | | | | | | | | | |
| | LB | DT | | | | | | | | | |

PMG - GEARBOX

E' possibile richiedere diverse tipologie costruttive per realizzare la tenuta dinamica del riduttore.

It is possible to request various types of manufacturing to ensure the dynamic tightness of the gearbox.

Es können verschiedene Bauarten angefordert werden, um die dynamische Dichtigkeit des Getriebes zu erhalten.

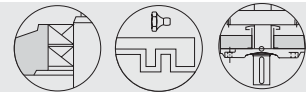
Possono essere forniti i seguenti accessori e dispositivi:

Some devices can optionally be provided:

Folgende Zubehörteile und Vorrichtungen können geliefert werden:

| Code Designation | Code ORDER | I | GB | DE |
|------------------|------------|--|--|--|
| LB1 | | = Doppio anello di tenuta con labbro parapolvere con tenuta a labirinto in Entrata | = Double dust lip seal with Labyrinth seal - Input Shaft | = Doppeldichtung mit Staublippe mit Labyrinth-Dichtung - Antriebswelle |
| LB2 | | = Doppio anello di tenuta con labbro parapolvere con tenuta a labirinto in Uscita | = Double dust lip seal with Labyrinth seal - Output Shaft | = Doppeldichtung mit Staublippe mit Labyrinth-Dichtung - Abtriebswelle |
| LB | | = Doppio anello di tenuta con labbro parapolvere con tenuta a labirinto in Albero Entrata + Albero Uscita | = Double dust lip seal with Labyrinth seal - Input shaft + Output shaft | = Doppeldichtung mit Staublippe mit Labyrinth-Dichtung - Antriebswelle + Abtriebswelle |
| DT1 | | = Doppio anello di tenuta con labbro parapolvere in Entrata | = Double dust lip seal - Input Shaft | = Doppeldichtung mit Staublippe - Antriebswelle |
| DT2 | | = Doppio anello di tenuta con labbro parapolvere e coperchio di protezione in Uscita | = Double dust lip seal with dust protection - Output Shaft | = Doppeldichtung mit Staublippe und Schutzabdeckung - Abtriebswelle |
| DT | | = Doppio anello di tenuta con labbro parapolvere e coperchio di protezione in Albero Entrata + Albero Uscita | = Double dust lip seal with dust protection - Input shaft + Output shaft | = Doppeldichtung mit Staublippe Antriebswelle und Schutzabdeckung + Abtriebswelle |
| DW | | = Dry-Well | = Dry-Well | = Dichtungsstoffe |





4.0 - Anelli di tenuta

4.0 - Seals

4.0 - Dichtringe

4.1 - Applicabilità

4.1 - Application

4.1 - Applikation

| | RXP1 | RXP2 - RXP3 | RXP4 | RX01 - RXV1 | RX02 - RXV2 RX03 - RXV3 |
|-----|--|-------------|------|-------------|----------------------------|
| DT1 | | | | | |
| DT2 | | | | | |
| DT | | | | | |
| LB1 | | | | | |
| LB2 | | | | | |
| LB | | | | | |
| DW | A richiesta / On request / Auf Anfrage | | | | |

4.2 - Albero Entrata

4.2 - Input shaft

4.2 - Antriebswelle

| INPUT - PAM | INPUT - ECE | | |
|--|---|---|---|
| Standard | Standard | Dust-proof | Radial labyrinth seal |
| <p>Un solo anello di tenuta con labbro parapolvere <i>One dust lip seal</i> <i>Ein einziger Dichtring mit Staublippe</i></p> | <p>Un solo anello di tenuta con labbro parapolvere e coperchio di protezione <i>One dust lip seal with dust protection</i> <i>Ein einziger Dichtring mit Staublippe und Schutzabdeckung</i></p> | <p>Doppio anello di tenuta con labbro parapolvere. <i>Double dust lip seal</i> <i>Doppeldichtung mit Staublippe</i></p> | <p>Doppio anello di tenuta con labbro parapolvere con tenuta a labirinto. <i>Double dust lip seal with Labyrinth seal</i> <i>Doppeldichtung mit Staublippe mit Labyrinth-Dichtung</i></p> |
| | <p>Ambiente abbastanza polveroso Medium dust load with abrasive particles Ziemlich staubiges Umfeld</p> | <p>Ambiente molto polveroso High dust load with abrasive particles Sehr staubiges Umfeld</p> | <p>Ambiente estremamente polveroso Very High dust load with abrasive particles Extrem staubiges Umfeld</p> |
| | | <p style="background-color: black; color: white; padding: 2px;">DT1 RXO-RXV</p> | <p style="background-color: black; color: white; padding: 2px;">LB1</p> |
| | <p>Grease Not regreaseable</p> | <p>Grease Not regreaseable</p> | <p>Grease Regreaseable</p> |
| | | <p>Doppio anello di tenuta con labbro parapolvere e coperchio protezione. <i>Double dust lip seal with dust protection</i> <i>Doppeldichtung mit Staublippe und Schutzabdeckung</i></p> <p>Ambiente molto polveroso. High dust load with abrasive particles Sehr staubiges Umfeld</p> <p style="background-color: black; color: white; padding: 2px;">DT1 RXP</p> | |
| | | <p>Grease Not regreaseable</p> | |



4.0 - Anelli di tenuta

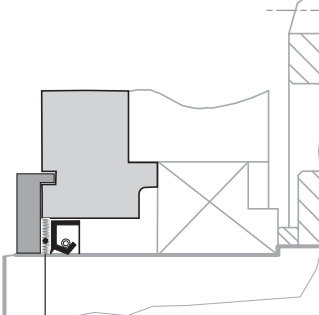
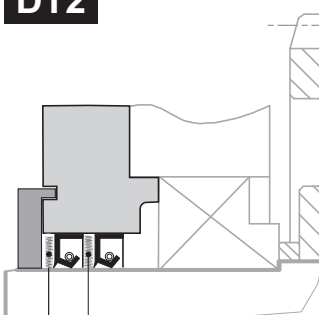
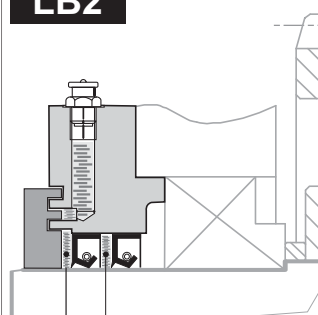
4.0 - Seals

4.0 - Dichtringe

4.3 - Albero Uscita

4.3 - Output shaft

4.3 - Abtriebswelle

| OUTPUT | | |
|--|--|---|
| Standard | Dust-proof | Radial labyrinth seal |
| <p>Un solo anello di tenuta con labbro parapolvere e coperchio di protezione <i>One dust lip seal with dust protection</i> <i>Ein einziger Dichttring mit Staublippe und Schutzabdeckung.</i></p> <p>Ambiente abbastanza polveroso Medium dust load with abrasive particles Ziemlich staubiges Umfeld</p> | <p>Doppio anello di tenuta con labbro parapolvere e coperchio di protezione <i>Double dust lip seal with dust protection</i> <i>Doppeldichtung mit Staublippe und Schutzabdeckung.</i></p> <p>Ambiente molto polveroso High dust load with abrasive particles Sehr staubiges Umfeld</p> | <p>Doppio anello di tenuta con labbro parapolvere con tenuta a labirinto. <i>Double dust lip seal with Labyrinth seal</i> <i>Doppeldichtung mit Staublippe mit Labyrinth-Dichtung</i></p> <p>Ambiente estremamente polveroso Very High dust load with abrasive particles</p> |
|  <p style="text-align: center;">Grease Not regreaseable</p> | <p style="text-align: center;">DT2</p>  <p style="text-align: center;">Grease Not regreaseable</p> | <p style="text-align: center;">LB2</p>  <p style="text-align: center;">Grease Regreaseable</p> |

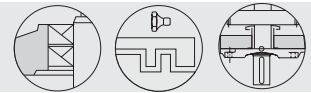
4.4 - Albero Entrata + Albero Uscita

4.4 - Input shaft + Output shaft

4.4 - Antriebswelle + Abtriebswelle

| | | | |
|-----------|---|--|---|
| DT | (DT1+DT2) Doppia tenuta in entrata ed in uscita | (DT1+DT2) Double seal at input and output end | (DT1+DT2) Doppeldichtung in An- und Abtrieb |
| LB | (LB1+LB2) Tenuta a labirinto in entrata ed in uscita | (LB1+LB2) <i>Labyrinth seal at input and output end</i> | (LB1+LB2) Labyrinthdichtung in An- und Abtrieb |





4.0 - Anelli di tenuta

4.0 - Seals

4.0 - Dichtringe

4.6 - Dry-Well

4.6 - Dry-Well

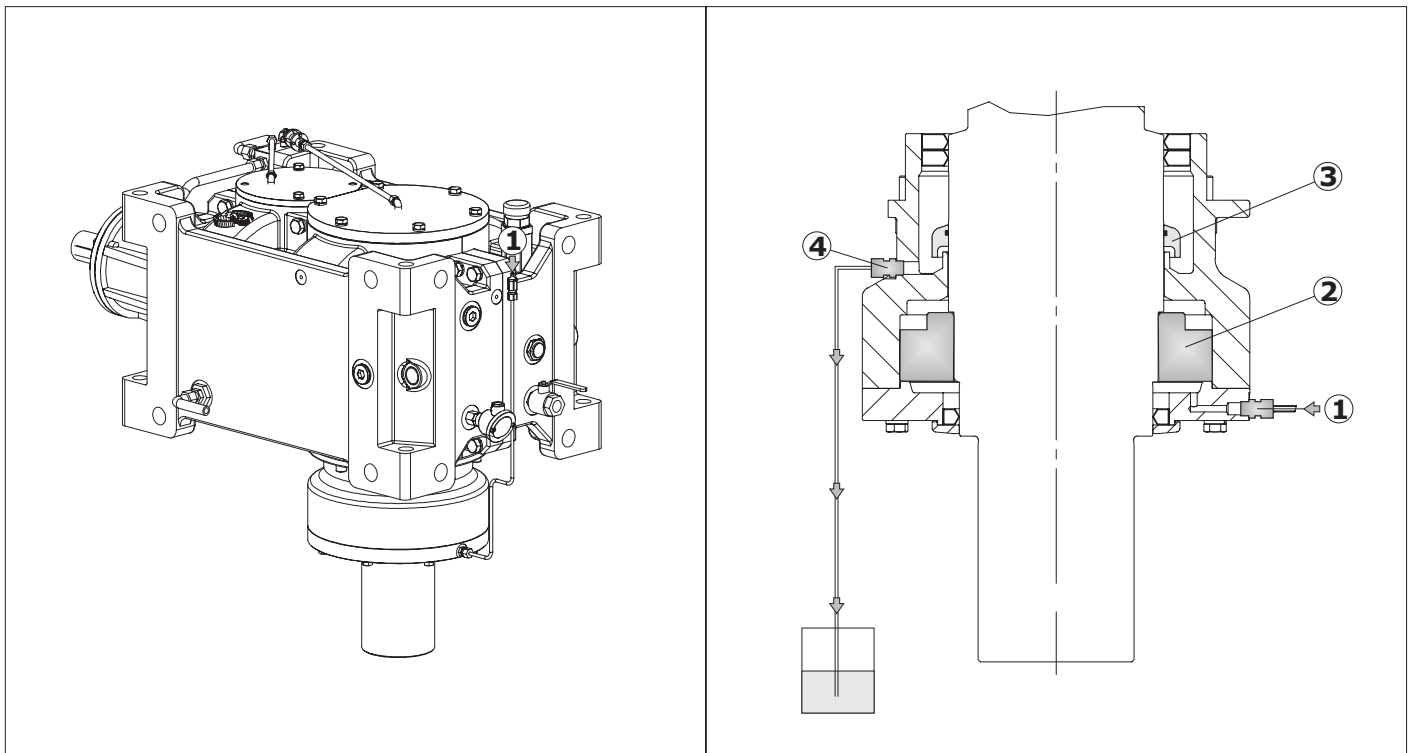
4.6 - Dichtungstoffe

DW

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). Si rende necessario verificare/ripristinare la carica di grasso al cuscinetto inferiore dell'asse lento.

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). Please note that the grease charge of the output shaft lower bearing must be checked/refilled.

Diese Vorrichtung gewährleistet die Abdichtung der hervorstehenden Abtriebswelle. Sie ist, in der Einbaulage M5 verfügbar und an eine Zwangsschmierung gebunden, nur für einige Baugrößen und ein paar Übersetzungen verfügbar (unseren Technischen Kundendienst befragen). Hier ist eine Kontrolle/Nachfüllung der Fettfüllung des unteren Lagers der Abtriebsachse erforderlich.



| | | | |
|---|---------------------------------|-------------------------|-------------------------|
| 1 | Ingrassatore - Cuscinetto | Grease nipple – Bearing | Schmierer – Lager |
| 2 | Cuscinetto | Bearing | Lager |
| 3 | Dispositivo Centrifugatore olio | Oil slinger device | Ölabweisringvorrichtung |
| 4 | Drenaggio olio - Sicurezza | Oil Drain - Security | Ölablass – Sicherheit |



4.0 - Anelli di tenuta

4.0 - Seals

4.0 - Dichtringe

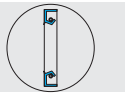
ACC8A**Accessori - Static Seal COMPOUND****Accessories - Static Seal COMPOUND****Zubehör - Static Seal COMPOUND****-****SP_1A****SL_1A****PMG - GEARBOX**

Maggiori informazioni sugli accessori disponibili e sulla loro applicabilità sono disponibili a richiesta.

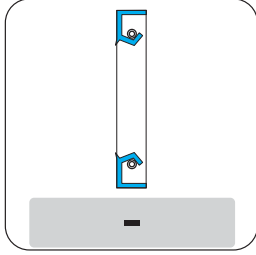
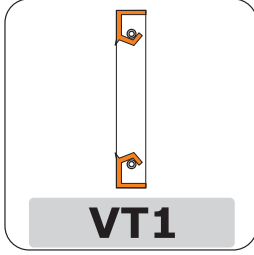
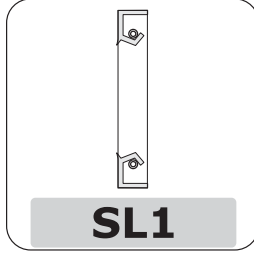
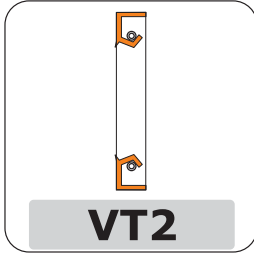
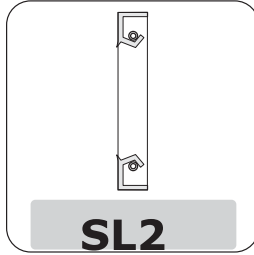
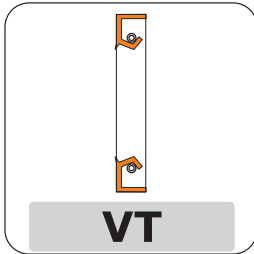
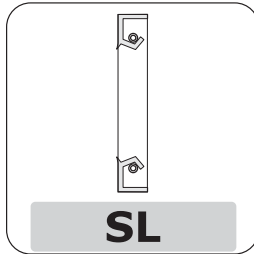

More information on the accessories available and on their applicability is available upon request.

Weitere Informationen zu den verfügbaren Zubehörteilen und deren Anwendungsmöglichkeiten erhalten Sie auf entsprechende Anfrage.





| OPT | OPT - Opzioni - Materiale degli anelli di tenuta | OPT - Options - Materials of Seals | OPT - Optionen - Dichtungsstoffe |
|-----|--|---------------------------------------|-------------------------------------|
|-----|--|---------------------------------------|-------------------------------------|

| | | |
|--|---|--|
|  - |  VT1 |  SL1 |
| |  VT2 |  SL2 |
| |  VT |  SL |
| PMG - GEARBOX | |  |

E' possibile richiedere materiali opzionali per gli anelli per la tenuta dinamica del riduttore.

It is possible to request optional materials for the dynamic sealing seal rings of gearbox.

Es können Dichtringe aus optionalen Materialien für die dynamische Dichtigkeit des Getriebes angefordert werden.

Possono essere forniti i seguenti accessori e dispositivi:

Some devices can optionally be provided:

Folgende Zubehörteile und Vorrichtungen können geliefert werden:

| Code Designation | Code ORDER | I | GB | DE |
|------------------|------------|--|---|---|
| VT1 | | = Paraoli in viton in entrata | = Viton oil seals at input end | = Ölabdichtungen aus Viton im Antrieb |
| VT2 | | = Paraoli in viton in uscita | = Viton oil seals at output end | = Ölabdichtungen aus Viton im Abtrieb |
| VT | | = Paraoli in viton in entrata ed in uscita | = Viton oil seals at input and output end | = Ölabdichtungen aus Viton im An- und Abtrieb |
| SL1 | | = Paraoli in silicone in entrata | = Input Silicon oil seals | = Eingehender Silikon-Dichtungsring |
| SL2 | | = Paraoli in silicone in uscita | = Output Silicon oil seals | = Ausgehender Silikon-Dichtungsring |
| SL | | = Tenute in Silicone in Entrata - Uscita | = Inpu and Output Silicon oil seals | = Ein- und ausgehende Silikon-Dichtungsringe |



4.0 - Anelli di tenuta

4.0 - Seals

4.0 - Dichtringe

4.1 - Applicabilità

4.1 - Application

4.1 - Applikation

| | RXP1 | RXP2 - RXP3 | RXP4 | RX01 - RXV1 | RX02 - RXV2 RX03 - RXV3 |
|------------|--|-------------|------|--|----------------------------|
| VT1 | A richiesta On request Auf Anfrage | | | | |
| VT2 | | | | | |
| VT | | | | A richiesta On request Auf Anfrage | |
| SL1 | | | | | |
| SL2 | | | | | |
| SL | | | | A richiesta On request Auf Anfrage | |

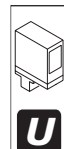
4.2 - Materiale degli anelli di tenuta

4.2 - Materials of Seals

4.2 - Dichtungsstoffe

| Serie Series Baureihe | OPT Opzioni - Materiale degli anelli di tenuta Options - Materials of Seals Optionen - Dichtungsstoffe | |
|-----------------------------|---|--|
| | — (Tenute STANDARD Oil Seals Standard Ölabdichtungen Standard) | Opzioni - Disponibile Options Available Optionen - verfügbar A richiesta On request Auf Anfrage |
| RX | — (NBR) | VT1 - VT2 - VT - SL1- SL2 - SL |

| | | | |
|-------------|---|---|---|
| NBR1 | Paraoli in NBR in entrata | NBR oil seals at input end | Ölabdichtungen aus NBR im Antrieb |
| NBR2 | Paraoli in NBR in uscita | NBR oil seals at output end | Ölabdichtungen aus NBR im Abtrieb |
| NBR | Paraoli in NBR in entrata ed in uscita | NBR oil seals at input and output end | Ölabdichtungen aus NBR im An- und Abtrieb |
| VT1 | Paraoli in viton in entrata | Viton oil seals at input end | Ölabdichtungen aus Viton im Antrieb |
| VT2 | Paraoli in viton in uscita | Viton oil seals at output end | Ölabdichtungen aus Viton im Abtrieb |
| VT | Paraoli in viton in entrata ed in uscita | Viton oil seals at input and output end | Ölabdichtungen aus Viton im An- und Abtrieb |
| SL1 | Paraoli in silicone in entrata | Input Silicon oil seals | Eingehender Silikon-Dichtungsring |
| SL2 | Paraoli in silicone in uscita | Output Silicon oil seals | Ausgehender Silikon-Dichtungsring |
| SL | Paraoli in silicone in entrata ed in uscita | Input and output oil seals | Ein- und ausgehende Silikon-Dichtungsringe |



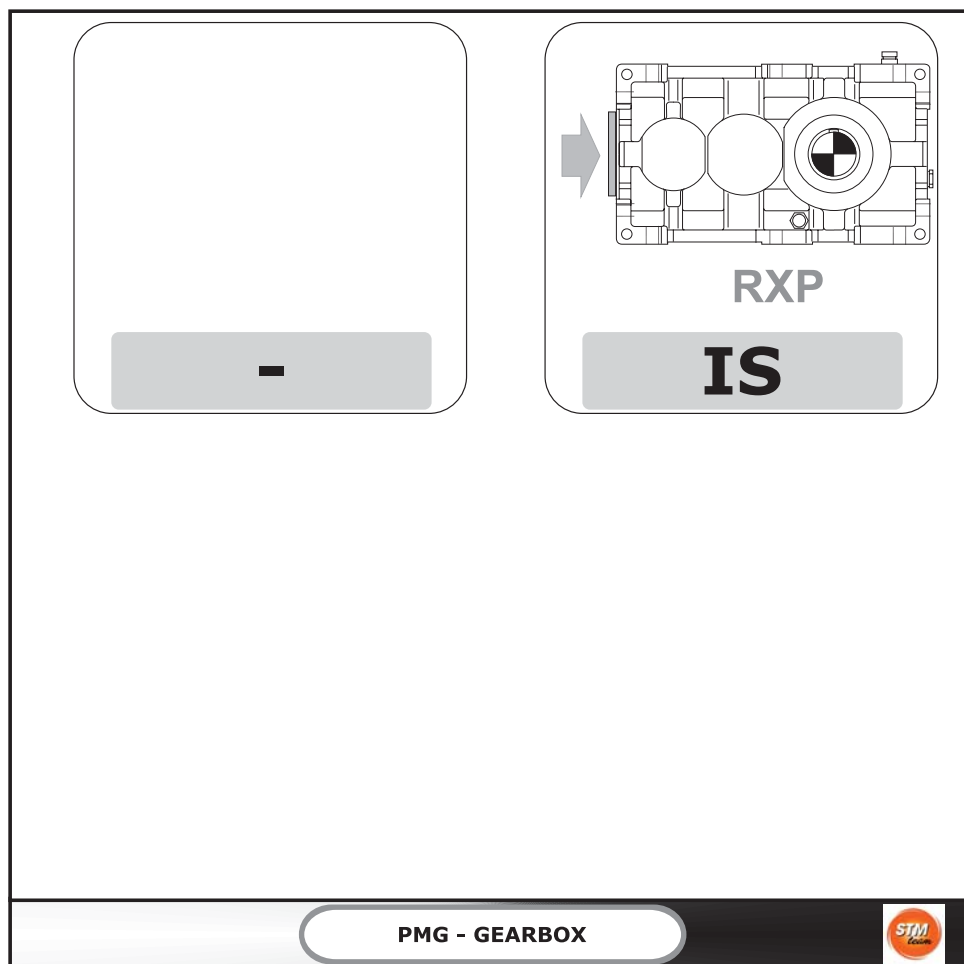


ACC9A

**Accessori generali -
Coperchio di
ispezione**

**Accessories custom-
Inspection Cover**

**Zübehör custom -
Inspektionsdeckel**



IS

Standard

Sono forniti standard su RXP e RXV coperchi d'ispezione lato entrata ortogonale.

Standard

Inspection covers at right-angle input end supplied on RXP and RXV as standard.

Standard

Bei den RXP- und RXV-Getrieben gehören die Inspektionsdeckel an der Winkelantriebsseite zur Standardausstattung.

Richiesta

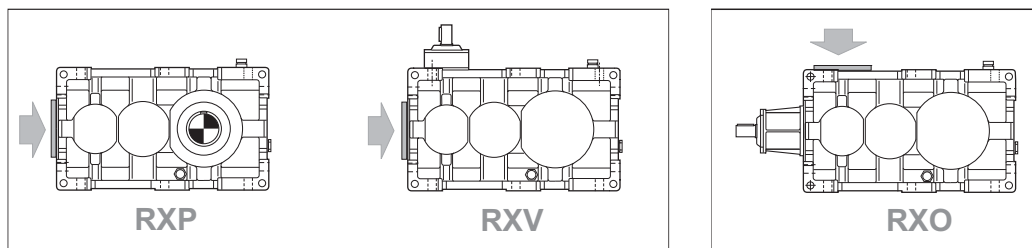
Per RXO e riduttori con cassa in acciaio sono fornibili a richiesta coperchi come da schema.

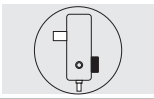
On request

For RXO and steel casing gear unit, inspection covers as shown available on request.

Auf Anfrage

Bei den RXO -Getrieben mit Stahlgehäuse können die Deckel auf Anfrage geliefert werden, siehe Schema.

Standard

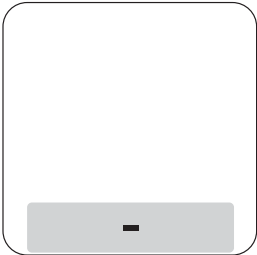
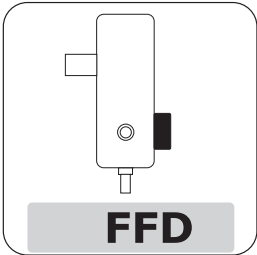
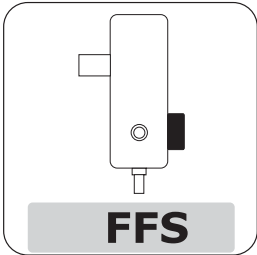



7.0 - Flangia freno (a disegno cliente)

7.0 - Brake flange (made to customer drawing)

7.0 - Bremsenflansch (gemäß Kundenzeichnung)

| | | | |
|--------------|---|--|--------------------------------------|
| ACC9B | Accessori generali - Flangia freno | Accessories custom - Brake Flange | Zübehör custom - Bremsflansch |
|--------------|---|--|--------------------------------------|

| | | |
|--|---|--|
|  <p>-</p> |  <p>FFD</p> |  <p>FFS</p> |
| <p>PMG - GEARBOX</p> | | |





7.0 - Flangia freno (a disegno cliente)

FF.

A richiesta è possibile una predisposizione per poter assemblare direttamente diverse tipologie di freno al riduttore.

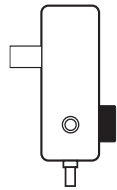
7.0 - Brake flange (made to customer drawing)

Custom mounting flanges to accommodate different types of brakes can be supplied on request.

7.0 - Bremsenflansch (gemäß Kundenzeichnung)

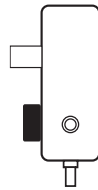
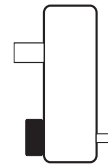
Auf Anfrage können die Getriebe so ausgelegt werden, dass unterschiedliche Bremstypen direkt am Getriebe montiert werden können.

FFD

RXO
RXV

RXP

FFS

RXO
RXV

RXP



8.0 - Base porta motore

8.0 - Motor mount

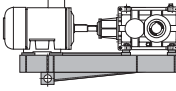
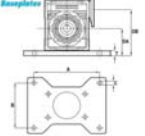
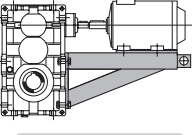
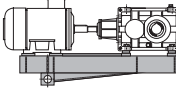

8.0 - Motorauflage

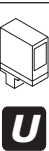
ACC9C

**Accessori generali -
Base motore**

**Accessories custom -
Motor Mount**

**Zübehör custom -
Motorbasis**

| | | |
|---|---|---|
| - |  BM1 |  BMPLATE |
| |  BM2 | |
| |  BM3 | |
| <p>PMG - GEARBOX</p>  | | |





8.0 - Base porta motore

8.1 - Applicabilità

8.0 - Motor mount

8.1 - Application

8.0 - Motorauflage

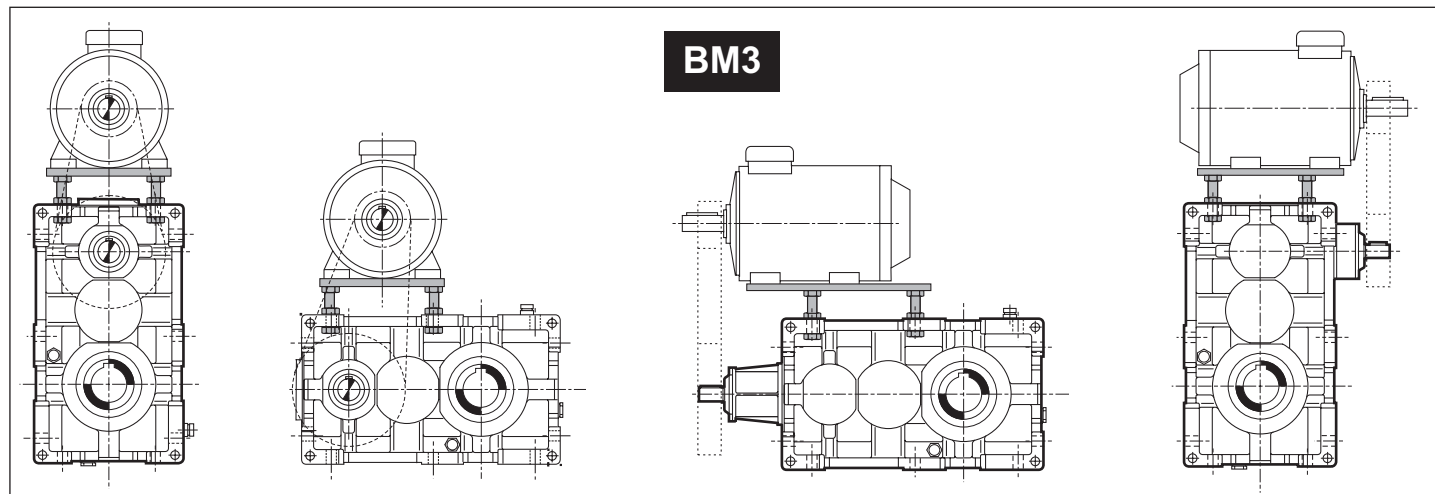
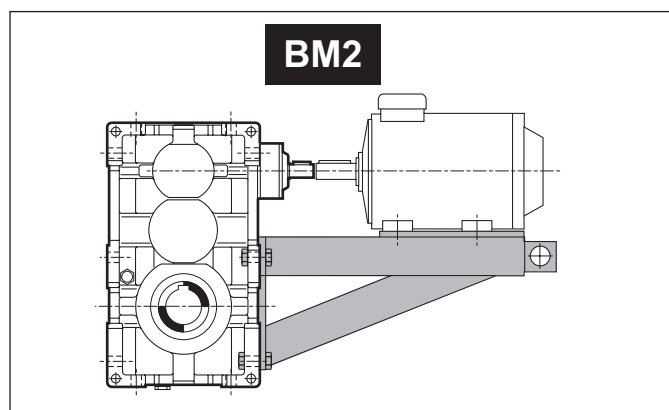
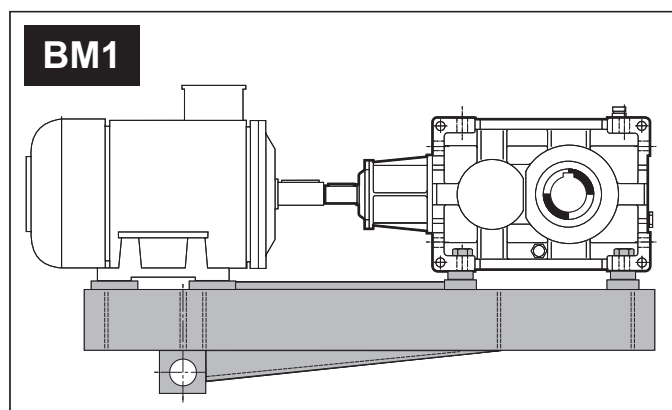
8.1 - Applikation

| | RXP | RXO | RXV |
|----------------|-----|-----|-----|
| BM1 - Size IEC | | | |
| BM2 - Size IEC | | | |
| BM3 - Size IEC | | | |

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.

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.

Auf Anfrage sind 3 Typologien von Motorauflagen verfügbar. Auf den folgenden Abbildungen werden die Bauformen der drei Hauptfamilien dieses Produkts illustriert. Die Typologien BM1 und BM2 können als Verbindungen zwischen Motor und Getriebe als hydrodynamische und elastische Kupplungen, eventuell mit Scheibenbremsen ausgestattet geliefert werden.



Bussolle in VKL

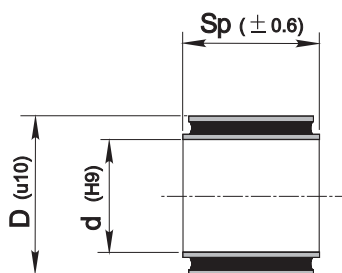
A richiesta le basi di tipologia BM1 e BM2 sono equipaggiabili con bussolle in VKL. A seguito le dimensioni delle bussolle in corrispondenza alla taglia del riduttore.

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-Buchsen

Auf Anfrage können die Typologien BM1 und BM2 mit VKL-Buchsen ausgestattet werden. Nachstehend die für die Getriebegrößen passenden Buchsenmaße.



| | D | d | Sp |
|-----|-----|-----|-----|
| 808 | 65 | 40 | 88 |
| 810 | | | |
| 812 | 80 | 50 | 110 |
| 814 | | | |
| 816 | 100 | 140 | 120 |
| 818 | | | |
| 820 | 110 | 160 | 180 |
| 822 | | | |

9.0 - ESTREMITÀ SUPPLEMENTARI

9.0 - ADDITIONAL SHAFT EXTENSIONS

9.0 - ZUSÄTZLICHE WELLENENDEN

A richiesta è possibile fornire riduttori con estremità supplementari, in tali casi deve essere indicata la designazione dell'ES (estremità supplementare) come indicato in seguito.

On request, gear units are available with additional shaft extensions; please specify the designation of the required ES (additional shaft extension) as outlined below.

Auf Anfrage können die Getriebe mit zusätzlichen Wellenenden geliefert werden, in diesen Fällen muss wie folgt die Bezeichnung ES (steht für zusätzliches Wellenende) angegeben werden.

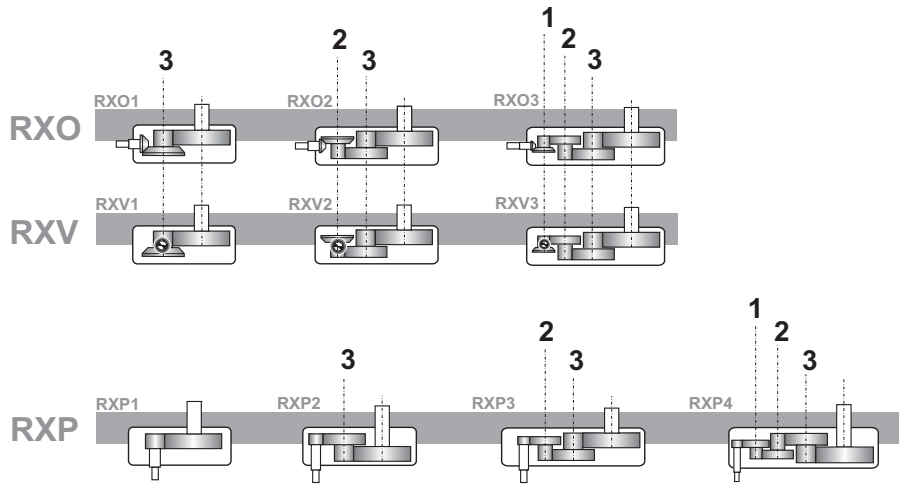
Designazione / Designation / Bezeichnung

| | | | | | |
|----------------------------------|----------------|---------------|---------------|---|--|
| RXO-RXV - [1] - [20] - Section B | RXO-RXV - [20] | RXO-RXV-[20a] | RXO-RXV-[20b] | RXO-RXV-[20c] | RXO-RXV-[20d] |
| RXP - [1] - [21] - Section A | RXP - [21] | RXP - [21a] | RXP - [21b] | RXP - [21c] | RXP - [21d] |
| | ES | 2 | DX | 506 | PAM132 |
| | ES | 1 - 2 - 3 | DX - SX | Rapporto reale dall'estremità supplementare | ECE ECES PAM.. PAM..G |

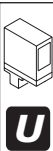
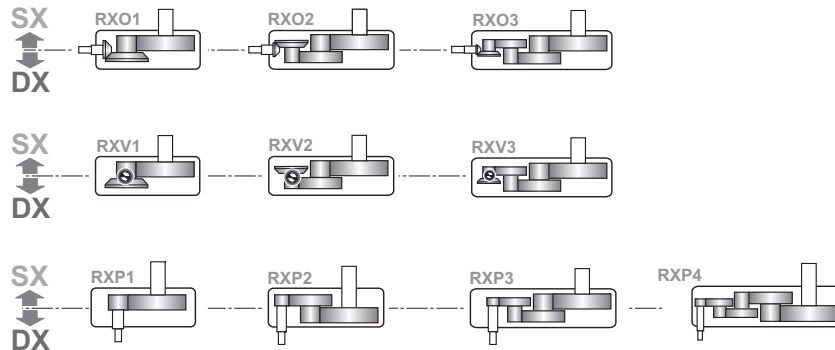
| | | | |
|-----------|---|--|--|
| 20 | ASE - Presenza di un'estremità supplementare | ASE - Additional shaft extension fitted | ASE - Ein zusätzliches Wellenende vorhanden |
| 21 | | | |

ES

| | | | |
|------------|---|---|---|
| 20a | AWASE - Asse dov' è presente l'estremità | AWASE - Axis where additional shaft extension is located | AWASE - Achse an der ein zusätzliches Wellenende vorhanden ist |
| 21a | | | |



| | | | |
|------------|--|---|--|
| 20b | ASES - Lato estremità supplementare supplementare | ASES - Additional shaft extension side | ASES - Seite des zusätzlichen Wellenendes |
| 21b | | | |



9.0 - ESTREMITÀ SUPPLEMENTARI

9.0 - ADDITIONAL SHAFT EXTENSIONS

9.0 - ZUSÄTZLICHE WELLENENDEN

20c IRASE - Rapporto reale del riduttore dalla estremità supplementare

IRASE - Actual gear ratio of gear unit from additional shaft extension

IRASE - Reelles Übersetzungsverhältnis am zusätzlichen Wellenende

Comunicato da GSM su richiesta.

Information available from GSM on request.

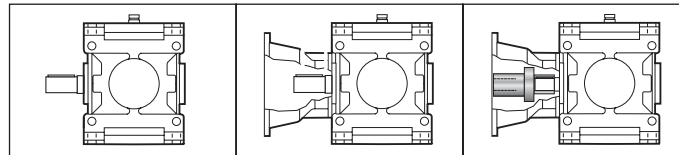
Gibt GSM auf Anfrage an.

20d ASET - Tipologia di estremità supplementare

ASET - Additional shaft extension type

ASET - Typ des zusätzlichen Wellenendes

21d



ECE

PAM..

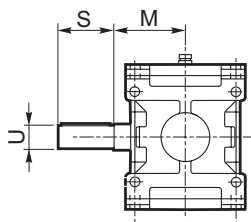
PAM..G

| | | | |
|---------------|--|--|---|
| 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 verfügbar) |
| 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 |

Dimensioni

Dimensions

Applizierbare Motoren

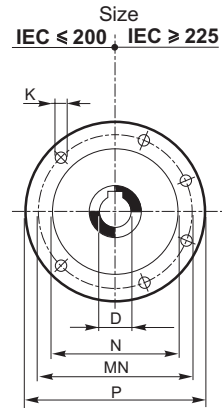
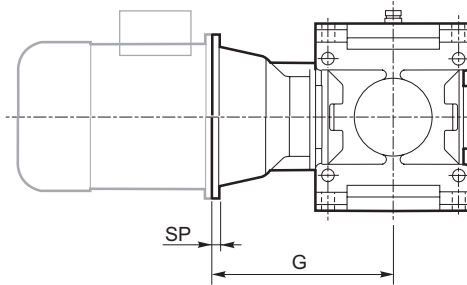
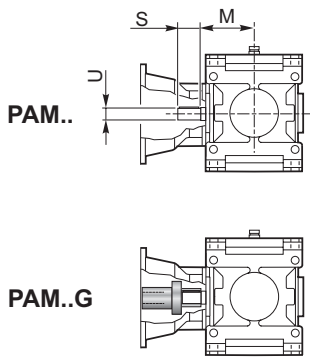


| Grandezza Size Größe | Tipo Type Typ | Asse / Axis / Achse | | | | | | | | |
|----------------------------|---------------------|---------------------|-----|-----|-------|-----|-----|--------|-----|-----|
| | | 1 | | | 2 | | | 3 | | |
| | | U | S | M | U | S | M | U | S | M |
| 802 | RXO1-RXV1 | — | — | — | — | — | — | 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 |

9.0 - ESTREMITÀ SUPPLEMENTARI

9.0 - ADDITIONAL SHAFT EXTENSIONS

9.0 - ZUSÄTZLICHE WELLENENDEN



Asse / Axis / Achse 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 / Achse 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 | 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.

Die weiteren Abmessungen der Getriebe können den jeweiligen Abschnitten RXP und RXO entnommen werden.

10.0 - CAMBI DI VELOCITÀ

A richiesta è possibile fornire riduttori con cambio di velocità, in tali casi, nelle designazioni dei riduttori RXP e RXO riportate nelle rispettive sezioni, in corrispondenza di ir (colonna [IR] deve essere riportato 2V, 3V, ... (numero di marce desiderato e rapporto reale delle rispettive marce) come indicato in seguito.

I riduttori con cambio di velocità presentano un gioco angolare in inversione di moto di diversi gradi angolari. Il gioco angolare è dovuto al profilo speciale a coda di rondine che GSM utilizza nella trasmissione del moto tra innesto e ingranaggio.

Nelle applicazioni con cicli ad inversione del moto nelle quali il gioco angolare richiesto sia inferiore a 20' contattare il nostro Servizio Tecnico.

10.0 - 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 [IR]) as outlined below.

The shift gearboxes have a backlash on reversal of angular motion of different degrees. The backlash is due to the special profile dovetail which uses GSM in the transmission of motion between the selector and gear.

In applications with inversion of cycles in which the backlash required is less than 20', please to contact our Technical Service

10.0 - SCHALTGETRIEBE

Auf Anfrage können Schaltgetriebe geliefert werden, in diesen Fällen muss unter den Bezeichnungen der RXP- und der RXO-Getriebe in den jeweiligen Abschnitten, unter der Angabe ir (Spalte [IR]) 2V, 3V, ... angegeben werden (Anzahl der gewünschten Gänge und reelles Übersetzungsverhältnis der Gänge); siehe nachstehende Angaben.

Die Wechselgetriebe verfügen über einen Umkehr-Winkelspielraum verschiedener Winkelgrade.

Der Winkelspielraum basiert auf dem speziellen Schwalbenschwanzprofil, das die GSM bei der Bewegungsübertragung zwischen der Kupplung und dem Getriebe nutzt.

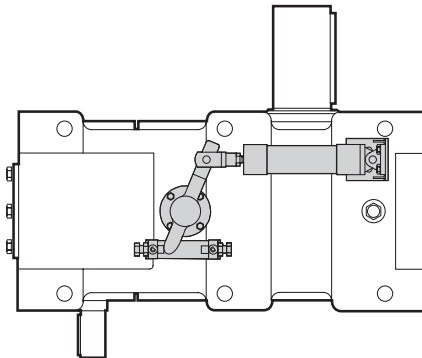
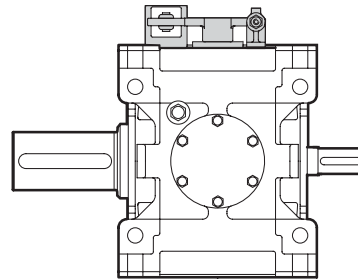
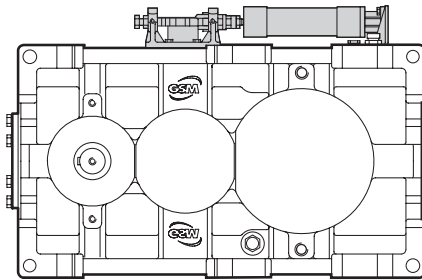
Bei Anwendungen mit Umkehrzyklen bei denen der erforderliche Winkelspielraum unter 20' liegt, setzen Sie sich bitte mit unserem Kundendienst in Verbindung

Designazione / Designation / Bezeichnung

| | | | |
|--|--|--|--|
| | IR | | |
| | 2V | | |
| | 2V-"ir"-"ir" 3V-"ir"-"ir"-"ir" ... | | |

Esempio / Example / Beispiel

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.

Die verfügbaren Konfigurationen, Leistungen und Abmessungen können in der Technischen Abteilung der STM angefragt werden.

Gestione Revisioni Cataloghi GSM
Managing GSM Catalog Revisions
Management Wiederholt Kataloge GSM



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Codice Catalogo

Catalog Code

Katalogcode

| | | | | |
|---|--|-----------|----------|---|
| GSM_mod.CT05 | I | GB | D | 0.1 |
| N° Identificativo <i>Identification Number</i> Kennnummer | Identificativo Lingua - <i>Language</i> - Sprache I - Italiano – <i>Italian</i> - Italienisch GB – Inglese – <i>English</i> - Englisch D – Tedesco – <i>German</i> - Deutsch | | | Indice di Revisione <i>Review</i> Bericht |

1) Ogni catalogo GSM in distribuzione e' provvisto di un codice che lo identifica che è riportato nell'ultima pagina dei cataloghi e a piè pagina di tutte le pagine del catalogo stesso. Per verificare la revisione attualmente in vostro possesso è necessario guardare l'ultima cifra che compone il codice del catalogo:

1) *Each GSM catalogue is identified by a code printed on the last page and reported in the page footer. The last digit in the catalogue code identifies catalogue revision:*

1) Jeder, sich im Umlauf befindliche GSM-Katalog ist mit einer Identifikationsnummer versehen, der auf der letzten Seite und in den Fußnoten jeder einzelnen Seite aufgeführt ist. Um zu überprüfen, über welche Revision Sie im Augenblick verfügen, müssen Sie Bezug auf die letzte Ziffer der Katalogkennnummer nehmen.

2) Il catalogo che contiene gli ultimi aggiornamenti è reperibile sul sito internet STM. Le modifiche riportate sono visibili consultando la tabella degli aggiornamenti che è allegata a questo documento. Sulle pagine che sono oggetto della modifica è riportato l'indice di revisione cambiato.



2) *Latest updated catalogues are available on STM's web site. Changes are listed in the updates table attached to this document. Any pages including a change are identified by a higher revision number.*

2) Der Katalog, der die letzten Aktualisierungen enthält, kann von der Internetseite der STM herunter geladen werden. Die eingefügten Neuerungen können der Tabelle der Aktualisierungen entnommen werden, die diesem Dokument anhängt. Die Seiten, die Änderungen unterlagen, sind mit der geänderten Revisionsnummer versehen.

3) Guardare con attenzione il simbolo inserito nella colonna "Classificazione Modifica". In questa colonna sarà inserito un simbolo che determina una classificazione delle modifiche apportate. Questo consente di identificare con estrema rapidità l'importanza della modifica apportata;

3) *Pay attention to the symbol in the "Change Classification" column. This symbol signifies the category and significance of any changes*

3) Besonders auf das in die Spalte „Änderungsklasse“ eingefügte Symbol achten. In dieser Spalte wird das Symbol eingefügt, das für die Klasse der applizierten Änderungen steht.

| Classificazione Classification Klasse | Definizione Specificante gli elementi di modifica Definition Change identifier Erklärende Definition der Änderungselemente | Simbolo Identificativo Symbol Identifikationssymbol |
|--|---|---|
| Chiave <i>Key</i> Schlüssel | Uscita e immissione di un prodotto <i>Product issuance and marketing</i> Ausgabe und Einführung eines Produkts |  |
| Importante <i>Major</i> Wichtig | Modifica che influenza gli ingombri/stato fornitura/installazione del prodotto <i>Change affecting overall dimensions/delivery condition/product installation</i> Änderung, die sich auf die Abmessungen/Lieferzustand/Produktinstallation auswirkt |  |
| Secondaria <i>Minor</i> Sekundär | Modifica che riguarda traduzioni/impaginazioni/inserimento descrizioni <i>Change to translations/layout/captions</i> Änderung, die Übersetzungen/den Umbruch/eingefügte Beschreibungen betrifft | — |

4) Qualora risultasse una diversità di quote tra disegno **2D** – **3D** scaricato dal sito internet e tabella del catalogo è necessario consultare il nostro servizio tecnico.


4) *In the event the dimensions in the 2D – 3D drawing downloaded from our site differ from those indicated in the catalogue table, contact our Engineering.*

4) Diese ermöglicht ein schnelles Erfassen der Wichtigkeit der angesetzten Änderung.

Attenzione
Verificare la revisione in vostro possesso e la tabella degli aggiornamenti apportati nella nuova revisione.

Warning
Check your catalogue revision status against the latest updates table.

Achtung
Überprüfen Sie die Revision, die sich in Ihren Händen befindet, und die Tabelle der in der neuen Revision eingefügten Aktualisierung.

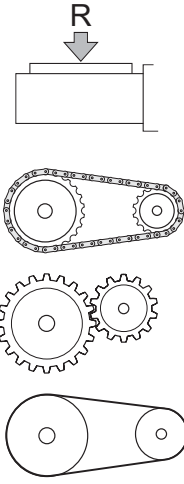
|  | | | Aggiornamenti apportati Updates made | | | | |
|---|--|--------------------------|---|----------------------------|--|-----------------------|---|
| Codice Code | Indice Revisione Index – Updates OLD | Sezione N° Section N° | Pagina Page OLD | Descrizione Description | Indice Revisione Index – Updates NEW | Pagina Page NEW | Classificazione Modifica Update classification |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |



Potenza richiesta / Required power / Benötigte Leistung

| | |
|--|--|
| $P = \frac{m \cdot g \cdot v}{6 \cdot 10^4}$ | Sollevamento <i>Lifting</i> Heben |
| $P = \frac{M \cdot n}{9550}$ | Rotazione <i>Rotation</i> Drehung |
| $P = \frac{F \cdot v}{6 \cdot 10^4}$ | Traslazione <i>Linear movement</i> Linearbewegung |
| $M = \frac{9550 \cdot P}{n}$ | Coppia <i>Torque</i> Drehmoment |
| $F = 1000 \cdot \frac{M}{r}$ | Forza <i>Force</i> Kraft |
| $v = \frac{2r \cdot \pi \cdot n}{1000}$ | Velocità lineare <i>Linear speed</i> Lineargeschwindigkeit |

Carichi radiali / Radial load / Radialkräfte



| | |
|---|---|
| $R = \frac{2000 \cdot T \cdot Kr}{d}$ | R (N) Carico radiale <i>Radial load</i> Radialkraft |
| $Kr = 1$ Ruota per catena <i>Chain-wheel</i> Kettenrad | T (Nm) Coppia sull'albero <i>Torque</i> Drehmoment |
| $Kr = 1.06$ Ingranaggio <i>Gear</i> Zahnrad | d (mm) Diametro della ruota <i>Diameter</i> Durchmesser |
| $Kr = 1.5-2.5-3.5$ | 1.5 - Cinghie dentate/Toothed belts/Zahnriemen 2.5 - Cinghie trapezoidali/V belt drives/Keilriemen 3.5 - Ruote di frizione (gomma su metallo) <i>Friction wheel drive (rubber on metal)</i> Kupplungsräder (Gummi auf Metall) |

Momento d'inerzia

Moment of inertia

Trägheitsmoment

$J = 98 \cdot p \cdot l \cdot D^4$ Cilindro pieno / *Solid cylinder* / Vollzylinder
 $J = 98 \cdot p \cdot l \cdot (D^4 - d^4)$ Cilindro cavo / *Hollow cylinder* / Hohlzylinder

Conversione di una massa in movimento lineare in un momento d'inerzia riferito all'albero del motore

Conversion of a mass having a linear movement into a moment of inertia related to the motor shaft.

Umwandlung einer Masse mit Linearbewegung in ein Trägheitsmoment, das auf die Motorwelle bezogen ist.

$$J = 91.2 \cdot m \cdot \frac{v^2}{n^2}$$


















Conversione di diversi momenti d'inerzia di massa a velocità diverse in un momento d'inerzia riferito all'albero motore.

Conversion of various mass moments of inertia having different speeds into a moment of inertia related to the motor shaft.

Umwandlung von verschiedenen Trägheitsmomenten mit unterschiedlichen Geschwindigkeiten in ein Trägheitsmoment, das auf die Motorwelle bezogen ist.

$$J_a = \frac{J_2 \cdot n_2^2 + J_3 \cdot n_3^2 \dots}{n_1^2}$$

| | | | | |
|---|----------------------|--------------------------|-----------------------|-----------------------|
| P | = Potenza motore | <i>Rated power</i> | Motorleistung | [kW] |
| m | = Massa | <i>Mass</i> | Masse | [kg] |
| v | = Velocità lineare | <i>Linear speed</i> | Lineargeschwindigkeit | [m/min] |
| F | = Forza | <i>Force</i> | Kraft | [N] |
| n | = Velocità di rotaz. | <i>Rotation speed</i> | Drehzahl | [min ⁻¹] |
| g | = 9.81 | <i>9.81</i> | 9.81 | [m/sec] |
| M | = Coppia del motore | <i>Motor torque</i> | Motor-Drehmoment | [Nm] |
| r | = Raggio | <i>Radius</i> | Radius | [mm] |
| J | = Inerzia | <i>Moment of inertia</i> | Trägheitsmoment | [kgm ²] |
| l | = Lunghezza | <i>Length</i> | Länge | [mm] |
| d | = Diametro interno | <i>Inner diameter</i> | Innendurchmesser | [mm] |
| D | = Diametro esterno | <i>Outer diameter</i> | Außendurchmesser | [mm] |
| p | = Peso specifico | <i>Specific weight</i> | Spezifisches Gewicht | [kg/dm ³] |












| | | |
|--|--|---|
|  |  PIEMONTE Strada del Cascinotto, 139/43B 10156 TORINO T: +39/011/22.38.463 F: +39/011/22.38.463 E-MAIL: info@labet.it |  LOMBARDIA Via Velleia, 1 20052 Monza (Mi) T: +39/039/83.79.41 F: +39/039/83.79.490 E-MAIL: sef@sefmotoriduttori.com |
|  SUD Via Ottaviano, 298/300 80040 San Gennaro Vesuviano (Na) T: +39/081/52.86.802 F: +39/081/52.86.803 E-MAIL: info@stmsud.it |  VENETO Via Manfredini, 54 45100 Loc. Granzette ROVIGO T: +39/0425/48.61.58 F: +39/0425/93.20.68 E-MAIL: stmveneto@stmspa.com |  SERVICE Via Enrico Fermi, 35 00044 Frascati (RM) T: +39/06/97.60.85.44 F: +39/06/97.60.85.45 E-MAIL: info@tecnodivesrl.it |
|  |  UKRAINE Belaia Tzerkov Yaroslava Mudrogo, ST66/13 09107 Region of Kiev T: +38/04463519369 F: +38/0446391037 E-MAIL: stm@stm.com.ua |  RUS Bolshaya Pochtovaya st. 30 105082 Mosca T: +74/957836809 F: +74/952672073 E-MAIL: ars@ttaars.ru |
|  AANDRIJFTECHNIEK NL Jan Vrijmanstraat, 12 1087MC, Amsterdam - The Netherlands T: + 31/20 3586361 F: +31/20 3586361 E-MAIL: stmaandrijftechnik@stmspa.com |  SWEDEN Stathogavagen, 48 60223 Norrkoping T: +46/11158340 F: +46/11158349 E-MAIL: info@stmSweden.se |  FINLAND Luoteisrinne, 5 02270 Espoo T: +35/8440674519 F: +35/8104256805 E-MAIL: info@stmfinland.fi |
|  DEUTSCHLAND Gewerbepark Markfeld 7a 83043 BAD AIBLING T: +49/8061/937680 F: +49/8061/9376829 E-MAIL: stmdeutschland@stmspa.com |  POWER TRANSMISSION UK UNIT 1 OASIS BUSINESS PARK ROAD ONE, WINSFORD Industrial Est - CW7 3RY - WINSFORD T: +44/1606/557200 F: +44/1606/557396 E-MAIL: info@stmuk.co.uk |  IBERIA Contrada Nacional 121, km 39,400 31390 Olite Navarra T: +34/948712017 F: +34/948712153 E-MAIL: martinena@martinenas.es |
|  SCHWEIZ Bösch 27 6331 Hünenberg SVIZZERA T: 0041 41 7832970 F: 0041 41 7832971 E-MAIL: info@eurodrives.ch |  TURKIYE 10026 - IZMIR Str. No: 54 AOSB CIGLI T: 0090.232.328 36 39 F: 0090.232.328 36 40 E-MAIL: info@novaguc.com | |



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| | | |
|--|---|--|
|  |  Rua Padre Raposo, 1293 Mooca (SP) T: +55/11/2605.1144 F: +55/11/2601.1559 E-MAIL: stmdobrasil@stmdobrasil.com |  Langeri, 3525 (Santos Lugares) 1676 Buenos Aires T: +54/11/41.15.63.85 F: +54/11/47.57.05.12 E-MAIL: comercial@stmteam.com.ar |
|  STM INDIA T: +91 99 42 559285 E-MAIL: k.saravanan@stmspa.com |  13/97 Bayfield Road East Bayswater - VIC 3153 T: +61/397617355 F: +61/397617222 E-MAIL: pbeveridge@hmaqgroup.com.au |  STM-AP (ASIA PACIFIC) PTE LTD 6 Penjuru Place #01-32 Penjuru Tech Hub, Singapore 608781 T: 65-6266 2022 F:65-6266 5955 E-MAIL: stm@stmap.com |
|  STM Korea #104-216, 41, Yutongdanji 1-ro, Gangseo-gu, Busan, 618-899 Rep. of KOREA T: +82-01-8536-6469 - +82-70-8730-1238 F: +82-51-955-2250 E-MAIL: stmapkorea@gmail.com |  Rm306, Blk A, Jingjiang Building, #35, Bagou Nan Rd, Haidian Dist. Beijing 100089, China T: 0086 10 8256 5319 F: 0086 10 8255 1142 E-MAIL: stm@stmchina.cn |  22 Lorna Rd, Anderbolt, Boksburg North PO Box 6300, Dunswart, 1508 Tel: +27 10 010 6879 F: +27 86 461 5898 E-MAIL: anthony@stmsa.co.za |
| <div style="border: 1px solid black; padding: 5px;"> <p>High Tech line GSM_mod.CT 05 IGBD0.1 07/15</p> </div> |  STM RIDUTTORI MEXICO S.A. DE C.V T: +52 33 36150087 E-MAIL: info@stmexico.com.mx |  3060 PLAZA DR. #107 19061 - GARNET VALLEY - PA T: 0016105580760 F: 0016505580762 E-MAIL: Info@youngpowertech.com |

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STM S.p.A.
Headquarter

Via del Maccabreccia, 39
40012 Lippo di Calderara di Reno (BO)
Tel. +39 051 37 65 711
Fax +39 051 64 66 178
www.stmspa.com - info@stmspa.com



Riduttori

GSM S.p.A.

Via Malavolti, 48
41122 Modena - Italy
Tel. +39 051 37 65 711
Fax +39 051 64 66 178
www.stmspa.com - info@stmspa.com

