

# Réducteurs roue et vis de forme carrée M

M square worm gearboxes

Un produit compact et modulaire  
A modular and compact product

## Carcasse aluminium usinée en une seule pièce

### Single-piece aluminum alloy housing

Is vacuum impregnated (MIL-STD 276) for protection and sealing.

No secondary finish required but readily accepts paint. Combines light weight with high tensile strength. Precision machined for alignment of bearings and gearing.

## Arbre d'entrée et vis sans fin en acier

### Single piece alloy steel input shaft and worm shaft.

High helix angle worm is case-hardened (Rc 58-60), ground, teeth are profiled and radiused, for noise reduction and enhanced efficiency.

## Roulements sur-dimensionnés

### Oversized bearings

Support positively-retained, high speed shaft for higher shock load capacity - ideal for frequent starting and reversing application. Premium, Nitrile® high temperature seals each end.

## Bride modulaire Flange

Fully modular to IEC and compact integrated motor. NEMA C flange.

## Joints en Nitrile haute température

### Premium, high temperature

Nitrile® output seals

## Roue bronze

### Bronze alloy worm gears.

CuSn12Ni (C91700) Nickel bronze worm gears are centrifugally cast onto an iron hub for maximum strength and superior life. Removable hollow shaft with key for safe torque transmissions.

## Roulements sur-dimensionnés

### Over-size bearing

For radial load capability and maximum hollow output shaft diameter.

## Arbre creux standard

### Standard hollow output shaft mounting

Reduces total drive envelope size, weight and cost. Single and double solid output shaft is available.

## Flasques latérales avec portées de roulements usinées et impregnées

### Impregnated and machined bearing caps

With exterior machined surfaces enable a variety of mounting accessories. Extra-deep thread engagement provided for greater support strength. Zinc plated hardware.

## Painting

Cast iron gearboxes are painted RAL 7046

## Vent Free Design.

No breather or vents to leak! Factory lubricated for life with synthetic, semi-fluid gear lubricant with an operating range of -15°C to 130°C.

oil free



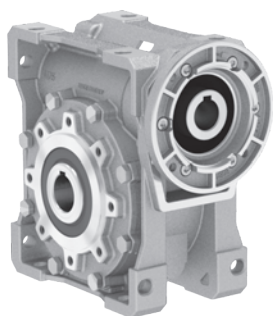
vent free



World wide sales network.

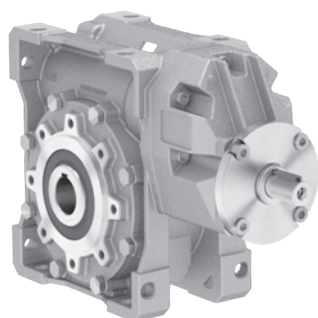
## Fiche technique spécifique en page .....

Specific type datasheet on page .....



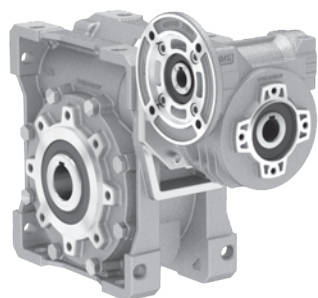
**Types / Tipi /**  
Tipen / Types /  
Tipos

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|-----------------------------------------------------------|--------------------|--------------------|---------------------|---------------------|---------------------|---------------------|----------------------|----------------------|
| 2-5                                                       | 2-7                | 2-9                | 2-11                | 2-13                | 2-15                | 2-17                | 2-19                 | 2-21                 |
|                                                           |                    |                    |                     |                     |                     |                     |                      |                      |
| <b>M30</b><br>21Nm                                        | <b>M45</b><br>47Nm | <b>M50</b><br>88Nm | <b>M63</b><br>160Nm | <b>M75</b><br>270Nm | <b>M85</b><br>364Nm | <b>M11</b><br>725Nm | <b>M13</b><br>1050Nm | <b>M15</b><br>1550Nm |



**Types / Tipi /**  
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Tipos

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|-----------------------------------------------------------|--------------------|---------------------|---------------------|---------------------|---------------------|
| 2-23                                                      | 2-25               | 2-27                | 2-29                | 2-31                | 2-33                |
|                                                           |                    |                     |                     |                     |                     |
| <b>P4M</b><br>55Nm                                        | <b>P5M</b><br>88Nm | <b>P6M</b><br>187Nm | <b>P7M</b><br>310Nm | <b>P8M</b><br>440Nm | <b>P1M</b><br>803Nm |



**Types / Tipi /**  
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Tipos

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| 2-35                                                      | 2-37               | 2-39                | 2-41                | 2-43                | 2-45                | 2-47                | 2-49                 |
|                                                           |                    |                     |                     |                     |                     |                     |                      |
| <b>33M</b><br>38Nm                                        | <b>43M</b><br>72Nm | <b>53M</b><br>138Nm | <b>63M</b><br>270Nm | <b>64M</b><br>290Nm | <b>74M</b><br>420Nm | <b>84M</b><br>596Nm | <b>15M</b><br>1174Nm |

Type - Tipo - Typ  
Type - Tipo

Size - Grandezza  
Grösse - Taille  
Tamaño

Mounting - Montaggio - Montage Fixation  
Fixation - Tipo de montaje

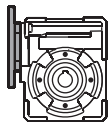
**P**

**M45**

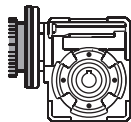
**FC**

**Worm gearboxes**

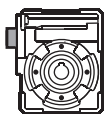
Riduttori a vite senza fine  
Schneckengetriebe  
Reducteurs a vis sans fin  
Reductores de corona sin fin



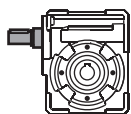
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**M**

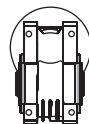


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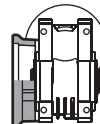


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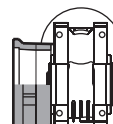
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M45  
M50  
M63  
M75  
M85  
M11  
M13  
M15**



**FB**

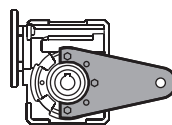


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**FL**

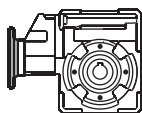
**F1  
F2  
F3  
F4**



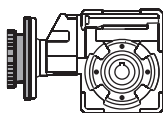
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**Worm gearboxes with primary reduction**

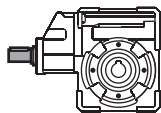
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Schneckengetriebe mit Stirradstufe am Eintrieb  
Reducteurs a vis sans fin avec pré-réduction  
Reductores corona sin fin con prereductora de engranajes



**P**

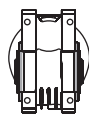


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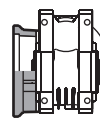


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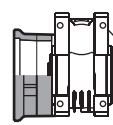
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P5M  
P6M  
P7M  
P8M  
P1M**



**FB**

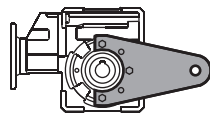


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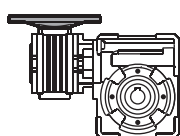
**F1  
F2  
F3  
F4**



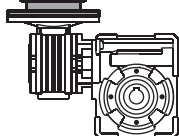
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**Combined worm gearboxes**

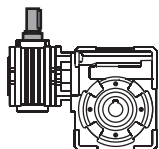
Riduttori a vite senza fine combinati  
Schneckengetriebekombinationen  
Reducteurs a double train de vis sans fin  
Reductores combinados corona sin fin



**P**

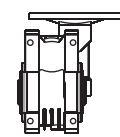


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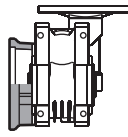


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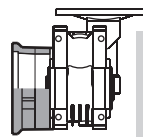
**33M  
43M  
53M  
63M  
64M  
74M  
84M  
15M**



**FB**

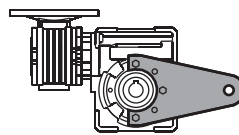


**FC**



**FL**

**F1  
F2  
F3  
F4**

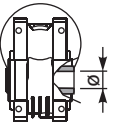
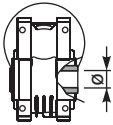
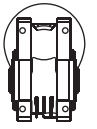
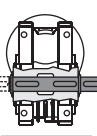
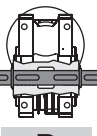
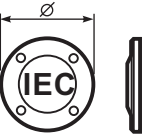
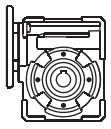
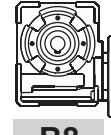
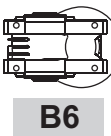
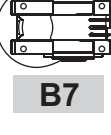
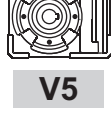
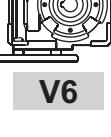
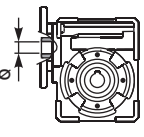
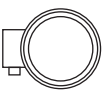
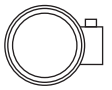


**BR**



On request we can deliver our products according to the ATEX  
A richiesta possiamo fornire i nostri prodotti secondo le normative ATEX  
Auf Anfrage können wir unsere Produkte den Richtlinien ATEX entsprechend liefern  
Sur demande nos produits peuvent se conformer à la réglementation ATEX  
A pedido, se pueden enviar nuestros productos de acuerdo con las normas ATEX.

# CODIFICA / HOW TO ORDER / TYPENBEZEICHNUNGEN / CODIFICATION / CODIFICACIÓN

| Ratio<br>Rapporto<br>Untersetzung<br>Reduction<br>Relación                                                                                               | Hub<br>Mozzo corona<br>Hohlwelle<br>Arbre creux<br>Núcleo corona                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Output shaft<br>Albero lento<br>Abtriebswelle<br>Arbre de sortie<br>Eje salida                                                                                                                                                                                                                        | Motor size<br>Grandezza motore<br>Motor Grösse<br>Grandeur moteur<br>Tamaño motor                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Mounting position<br>Posizione montaggio<br>Einbaulage<br>Position de montage<br>Posición de montaje                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Input bore<br>Foro entrata<br>Eingangshohlwelle<br>Trou d'entree<br>Eje hueco de entrada                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Mountin position<br>Esecuzione montaggio<br>Einbaulage<br>Exécution de montage<br>Posición de montaje                                                                                                                                                                                                           | Terminal box position<br>Posizione morsettiere<br>Klemmkastenlage<br>Position boîte a bornes<br>Posición caja de bornes                                                                                                                                                                                                                                                                                                                                                                                                                  |
|----------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>10</b>                                                                                                                                                | <b>C</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <b>Ø</b>                                                                                                                                                                                                                                                                                              | <b>-Q</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>B3</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | <b>ST</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | <b>---</b>                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| See technical data table<br>Vedi tabella dati tecnici.<br>Technisches Datenblatt beachten<br>Voir tableau données techniques<br>Ver tabla datos técnicos |  <p><b>STANDARD</b></p> <p><b>C</b></p> <p>M30⇒Ø14<br/>M45⇒Ø18<br/>M50⇒Ø25<br/>M63⇒Ø25<br/>M75⇒Ø28<br/>M85⇒Ø35<br/>M11⇒Ø42<br/>M13⇒Ø45<br/>M15⇒Ø50</p> <p><b>I</b></p> <p>Stainless steel hub<br/>Mozzo in acciaio Inox<br/>Edelstahlhohlwelle<br/>Moyeu en acier Inox<br/>Núcleo corona de acero Inox</p> <p><b>SPECIAL SERIES:<br/>SERIE SPECIALE:</b></p> <p><b>S</b></p> <p>M45⇒Ø19<br/>M50⇒Ø24</p> <p><b>X</b></p> <p>Stainless steel hub<br/>Mozzo in acciaio Inox<br/>Edelstahlhohlwelle<br/>Moyeu en acier Inox<br/>Núcleo corona de acero Inox</p> <p></p> <p><b>INCH</b></p> <p><b>U</b></p> <p>M45⇒Ø0.750"<br/>M50⇒Ø1.000"<br/>M63⇒Ø1.125"<br/>M85⇒Ø1.500"</p> <p><b>Z</b></p> <p>Stainless steel hub<br/>Mozzo in acciaio Inox<br/>Edelstahlhohlwelle<br/>Moyeu en acier Inox<br/>Núcleo corona de acero Inox</p> |  <p><b>Ø</b></p>  <p><b>S</b></p>  <p><b>D</b></p> |  <p><b>-M</b><br/>without flange<br/>Senza flangia</p> <p><b>B5</b></p> <p><b>-A=56 (Ø120)</b><br/><b>-B=63 (Ø140)</b><br/><b>-C=71 (Ø160)</b><br/><b>-D=80 (Ø200)</b><br/><b>-E=90 (Ø200)</b><br/><b>-F=100 (Ø250)</b><br/><b>-G=132 (Ø300)</b><br/><b>-H=160 (Ø350)</b></p> <p><b>B14</b></p> <p><b>-O=56 (Ø80)</b><br/><b>-P=63 (Ø90)</b><br/><b>-Q=71 (Ø105)</b><br/><b>-R=80 (Ø120)</b><br/><b>-T=90 (Ø140)</b><br/><b>-U=100 (Ø160)</b><br/><b>-V=132 (Ø200)</b></p> <p><b>Brushless</b></p> <p><b>BA=40/63-M5</b><br/><b>BB=50/70-M5</b><br/><b>BC=60/75-M5</b><br/><b>BD=70/90-M6</b><br/><b>BE=80/100-M6</b><br/><b>BF=95/115-M8</b><br/><b>BG=110/145-M8</b><br/><b>BH=130/165-M8</b></p> <p><b>-0=Type R</b><br/><b>-S=Type R</b><br/>S series</p> |  <p><b>B3</b></p>  <p><b>B8</b></p>  <p><b>B6</b></p>  <p><b>B7</b></p>  <p><b>V5</b></p>  <p><b>V6</b></p> |  <p><b>ST</b><br/><b>Standard bore *</b><br/><b>Kit R standard</b></p> <p><b>Foro standard *</b><br/><b>Kit R standard</b></p> <p><b>Input bore without Reduction Bushing</b></p> <p><b>-O = 9mm</b><br/><b>-P = 11mm</b><br/><b>-Q = 14mm</b><br/><b>-R = 19mm</b><br/><b>-T = 24mm</b><br/><b>-U = 28mm</b><br/><b>-V = 38mm</b></p> <p><b>COUPLING</b></p> <p><b>STANDARD (IEC)</b></p> <p><b>-A = 9mm</b><br/><b>-B = 11mm</b><br/><b>-C = 14mm</b><br/><b>-D = 19mm</b><br/><b>-E = 24mm</b><br/><b>-F = 28mm</b></p> <p><b>BRUSHLESS *</b></p> <p><b>-1 = 9mm</b><br/><b>-2 = 11mm</b><br/><b>-3 = 14mm</b><br/><b>-4 = 19mm</b><br/><b>-5 = 22mm</b><br/><b>-6 = 24mm</b></p> <p>Ready for input coupling<br/>Predisposto per giunto</p> <p> <b>-0</b><br/><b>Type B</b><br/>Tipo B</p> <p> <b>-0</b><br/><b>Type R</b><br/>Tipo R</p> | <p>Only for combined units<br/>See technical data table</p> <p>Solo per i riduttori combinati<br/>Vedi tabella dati tecnici.</p> <p>Ausführungen für Getriebekombinationen it</p> <p>Uniquement pour combinés.<br/>Voir tableau données techniques</p> <p>Sólo para combinados<br/>ver tabla datos técnicos</p> | <p>With Type M specify terminal box position<br/>Con tipo M specificare posizione morsettiere</p> <p> <b>A</b></p> <p> <b>B</b><br/><b>STANDARD</b></p> <p> <b>C</b></p> <p> <b>D</b></p> |

\* With reduction bushing where applicable  
Con bussola di riduzione dove prevista



POTENZA RICHIESTA / REQUIRED POWER / ERFORDERLICHE LEISTUNG / PUISSANCE NECESSAIRE / POTENCIA NECESARIA

Lifting / sollevamento / hubantriebe / levage / elevación

$$P [KW] = \frac{M [Kg] \cdot g [9.81] \cdot v [m / s]}{1000}$$

Rotation / rotazione / drehung / rotation / rotation

$$P [KW] = \frac{M [Nm] \cdot n [rpm]}{9550}$$

Linear movement / traslazione / linearbewegung / translation / translacion

$$P [KW] = \frac{F [N] \cdot v [m / s]}{1000}$$

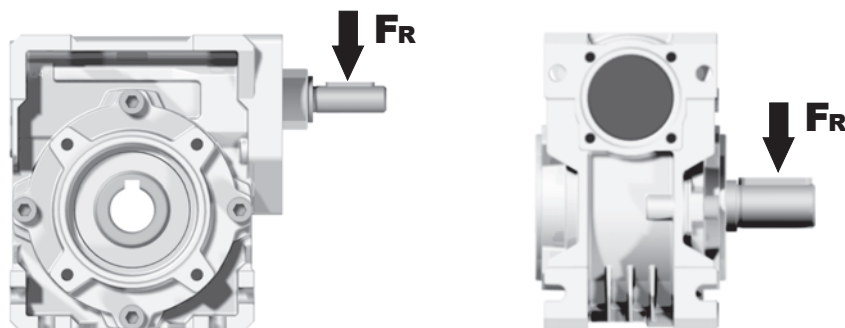
TORQUE / COPPIA / DREHMOMENT / COUPLE / PAR

$$M [Nm] = \frac{9550 \cdot P [KW]}{n [rpm]}$$

$$M [lb in] = \frac{63030 \cdot P [HP]}{n [rpm]}$$

RADIAL LOADS / CARICHI RADIALI / RADIALE - UND AXIALLASTEN / CHARGES RADIALES / CARGA RADIAL Y AXIAL

- Radial load generated by external transmissions keyed onto input and/or output shafts.
- Forza radiale generata da organi di trasmissione calettati sugli alberi di ingresso e/o uscita.
- Belastungen der Antriebs- bzw. Abtriebswellen durch von aussen eingebrachte Radiallasten.
- Charge radiale générée par la transmissions calés sur les entrées et / ou des arbres de sortie
- Cargas radiales, generada por transmisiones externas, aplicadas sobre los ejes de entrada y/o salida



| $F_R [N] = \frac{M [Nm] \cdot 2000}{d [mm]} \cdot f_k$ |                                                                                                                                                                                                                                                                                                                                                                                                                                                      | $F_R [N] = \frac{M [lb\ in] \cdot 8.9}{d [in]} \cdot f_k$ |  |
|--------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|--|
| M                                                      | Momento torcente / Output torque / Abtriebsdrehmoment / Couple / Par torsion                                                                                                                                                                                                                                                                                                                                                                         |                                                           |  |
| d                                                      | Diametro primitivo / Diam. of driving element / Durchmesser der Abtriebseinheit / Diamètre primitif / Diámetro primitivo                                                                                                                                                                                                                                                                                                                             |                                                           |  |
| f <sub>k</sub>                                         | Coefficiente di trasformazione / Factor / Faktor / Coefficient de transmission / Coeficiente de transmisión<br>1.15 Ingranaggi / Gearwheels / Zahnrad / Engrenage / Engranaje<br>1.25 Catena / Chain sprockets / Antriebskette / Chaîne / Cadena<br>1.75 Cinghia Trapezoidale / Narrow v-belt pulley / Keilriemen / Courroie trap. / Correa trapezoidal<br>2.50 Cinghia piatta / Flat-belt pulley / Flachzahnriem. / Courroie crantée / Correa plana |                                                           |  |

- If your application requires higher radial loads, contact our technical office. Higher load may be possible.
- Nel caso la vostra applicazione richieda carichi radiali superiori consultare il nostro ufficio tecnico, valori maggiori possono essere accettati.
- Wenn Ihre Anwendung höhere Radialbelastungen erfordert, so wenden Sie sich bitte an unser technischen Büro.
- Si votre application demande des charges radiales supérieures, s'adresser à notre bureau technique.
- En el caso en que una aplicación exija una carga radial superior a la especificada en el catálogo, consultar a nuestra oficinas técnica.

How to select a gearbox / Come selezionare un riduttore / Wie wählt man ein Getriebe  
Comment sélectionner un réducteur / Cómo seleccionar un reductor

|                                                                                          |                                                                                                    |                                                                                                            |
|------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|
| <b>B</b>                                                                                 | Output speed<br>Velocità in uscita<br>Abtriebsdrehzahl<br>Vitesse de sortie<br>Velocidad de salida | Nominal power<br>Potenza nominale<br>Max. mögliche Leistung<br>Poissance nominale<br>Potencia nominal      |
| Gear size<br>Grandezza riduttore<br>Getriebegröße<br>Taille réducteur<br>Tamaño reductor | Motor power<br>Potenza motore<br>Motorleistung<br>Puissance moteur<br>Potencia motor               | <b>A</b>                                                                                                   |
|                                                                                          |                                                                                                    | Nominal torque<br>Momento torcente nominale<br>Nenn Drehmoment<br>Couple nominal<br>Par de torsión nominal |
|                                                                                          |                                                                                                    | Flange code<br>Codice flangia<br>Flanschttype<br>Code bride<br>Código bridas                               |
|                                                                                          |                                                                                                    | Dynamic efficiency<br>Rendimento dinamico<br>Dynamischer<br>Rendement dynamique<br>Rendimiento dinámico    |
|                                                                                          |                                                                                                    | Input speed<br>Velocità in entrata<br>Eintriebsdrehzahl<br>Vitesse en entrée<br>Velocidad de entrada       |

**M45** M Square - Gear  
**47Nm**

Rating - Aluminum WORM GEARBOXES

QUICK SELECTION / Selezione veloce

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    | Available<br>B14 motor flanges |     |    | Dynamic efficiency<br>RD | Tooth Module<br>[mm] | Ratios code |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|--------------------------------|-----|----|--------------------------|----------------------|-------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -B                            | -C | -O                             | -P  | -Q |                          |                      |             |
|                                               |              |                                 |                                   |                        |                                   |                                    | 63                            | 71 | 56                             | 63  | 71 |                          |                      |             |
| 200                                           | 7            | 0.37                            | 14                                | 2.9                    | 1.07                              | 41                                 | B                             |    | B-C                            | B-C |    | 80                       | 2.2                  | 01          |
| 140                                           | 10           | 0.37                            | 20                                | 2.2                    | 0.82                              | 44                                 | B                             |    | B-C                            | B-C |    | 79                       | 2.2                  | 02          |
| 100                                           | 14           | 0.37                            | 27                                | 1.6                    | 0.60                              | 44                                 | B                             |    | B-C                            | B-C |    | 77                       | 2.4                  | 03          |

|          |                                                                       |                                                                                                                 |                                                                                                     |                                                                                      |                                               |
|----------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------|
| <b>C</b> | Ratio<br>Rapporto<br>Untersetzung<br>Rapport de réduction<br>Relación | Transmitted torque<br>Momento torcente trasmesso<br>Mögliche Drehmomente<br>Couple de sortie<br>Par transmitido | Service factor<br>Fattore di servizio<br>Betriebsfaktor<br>Facteur de service<br>Factor de servicio | Nominal module<br>Modulo nominale<br>Nenn modul<br>Module nominale<br>Módulo nominal | Notes<br>Note<br>Anmerkungen<br>Note<br>Notas |
|----------|-----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------|-----------------------------------------------|

| fs                                                                                                               |      |                     |                                            |         |          |
|------------------------------------------------------------------------------------------------------------------|------|---------------------|--------------------------------------------|---------|----------|
| Type of load and starts per hour<br>Tipo di carico e avviamenti per ora                                          |      |                     | Oper. hours per day<br>Ore di funz. giorn. |         |          |
|                                                                                                                  |      |                     | <2 h                                       | 2 - 8 h | 8 - 16 h |
| Continuous or intermittent<br>appl. with start / hour<br>Applicazione cont. o interm.<br>con n.ro operazioni/ora | 10   | Uniform / Uniforme  | 0.9                                        | 1       | 1.25     |
|                                                                                                                  |      | Moderate / Moderato | 1                                          | 1.25    | 1.5      |
|                                                                                                                  |      | Heavy / Forte       | 1.25                                       | 1.5     | 1.75     |
| Intermittent application<br>with start / hour<br>Applicazione intermittente<br>con n.ro operazioni/ora           | > 10 | Uniform / Uniforme  | 1.25                                       | 1.5     | 1.75     |
|                                                                                                                  |      | Moderate / Moderato | 1.5                                        | 1.75    | 2        |
|                                                                                                                  |      | Heavy / Forte       | 1.75                                       | 2       | 2.25     |

|          |                                                                                                                                                                                                                                |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>D</b> | Motor flange available<br>Flange disponibili<br>Erhältliche Motorflansche<br>Bridas disponibles<br>Bridas disponibles                                                                                                          |
| B)       | Mounting with reduction ring<br>Montaggio con boccia di riduzione<br>Reduzierhülsen<br>Montage avec douille de réduction<br>Montaje con casquillo de reducción                                                                 |
| C)       | Motor flangeholes position/terminal box position<br>Posizione fori flangia/basetta motore<br>Bohrungsposition am Motorflansch/-sockel<br>Position trous bride/barrette à bornes moteur<br>Posición agujeros brida / base motor |
| B)       | Available without reduction bushes<br>Disponibile anche senza boccia<br>Auch ohne Reduzierbuchse verfügbar<br>Disponible aussi sans douille de réduction<br>Disponible tambien sin casquillo                                   |

|          |                                                                        |                                                                                                  |                                                                                              |                                                                                                   |                                                                                                    |
|----------|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| <b>A</b> | Select required torque<br>(according to service factor)                | Seleziona la coppia desiderata (comprensiva del fattore di servizio)                             | Max. Drehmoment in Bezug zum Betriebsfaktor                                                  | Sélectionner le couple souhaité (comprenant le facteur de service)                                | Seleccionar el par deseado (incluyendo el factor de servicio)                                      |
| <b>B</b> | Select output speed                                                    | Seleziona la velocità in uscita                                                                  | Ausgewählte Abtriebsdrehzahl                                                                 | Sélectionner la vitesse de sortie                                                                 | Seleccionar la velocidad de salida                                                                 |
| <b>C</b> | On the same line of selected geared motor, you can find the gear ratio | Sulla riga corrispondente alla motorizzazione prescelta si può rilevare il rapporto di riduzione | Auf der gleichen Linie wie die ausgewählte Motorleistung steht auch die Getriebeuntersetzung | Sur la ligne correspondante à la motorisation pré-choisie on peut relever le rapport de réduction | En la línea correspondiente al motor preseleccionado es posible encontrar la relación de reducción |
| <b>D</b> | Select motor flange available (if requested)                           | Scegli la flangia disponibile (se richiesta)                                                     | Erhältliche Motorflansche (auf Anfrage)                                                      | Choisir la bride disponible (si elle est demandée)                                                | Seleccionar la brida disponible (sobre pedido)                                                     |



## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    | Available<br>B14 motor flanges |    | Dynamic efficiency<br>RD | Tooth Module<br>[mm] | Ratios code |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|--------------------------------|----|--------------------------|----------------------|-------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -A                            | -B | -O                             | -P |                          |                      |             |
|                                               |              |                                 |                                   |                        |                                   |                                    | 56                            | 63 | 56                             | 63 |                          |                      |             |
| 280                                           | 5            | 0.18                            | 5                                 | 3.8                    | 0.68                              | 19                                 | B                             |    | B-C                            |    | 82                       | 1.26                 | 01          |
| 200                                           | 7            | 0.18                            | 7                                 | 2.8                    | 0.50                              | 19                                 | B                             |    | B-C                            |    | 80                       | 1.44                 | 02          |
| 140                                           | 10           | 0.18                            | 10                                | 2.0                    | 0.36                              | 19                                 | B                             |    | B-C                            |    | 78                       | 1.44                 | 03          |
| 93                                            | 15           | 0.18                            | 13                                | 1.4                    | 0.25                              | 19                                 | B                             |    | B-C                            |    | 73                       | 1.44                 | 04          |
| 70                                            | 20           | 0.18                            | 17                                | 1.1                    | 0.20                              | 19                                 | B                             |    | B-C                            |    | 70                       | 1.09                 | 05          |
| 47                                            | 30           | 0.12                            | 15                                | 1.4                    | 0.17                              | 21                                 | B                             |    | B-C                            |    | 62                       | 1.44                 | 06          |
| 35                                            | 40           | 0.12                            | 19                                | 1.1                    | 0.13                              | 20                                 | B                             |    | B-C                            |    | 57                       | 1.09                 | 07          |
| 23                                            | 61           | 0.09                            | 19                                | 1.1                    | 0.10                              | 20                                 | B                             |    | B-C                            |    | 50                       | 0.72                 | 08          |
| 17.5                                          | 80           | 0.06                            | 16                                | 1.0                    | 0.06                              | 16                                 | B                             |    | B-C                            |    | 48                       | 0.56                 | 09          |
| 14                                            | 100          | 0.06*                           | 16                                | 0.5                    | 0.03                              | 8                                  | B                             |    | B-C                            |    | 40                       | 0.45                 | 10          |

**Motor Flanges Available**  
Flange Motore Disponibili

**B) Supplied with Reduction Bushing**  
Fornito con Bussola di Riduzione

**B) Available on Request without reduction bushing**  
Disponibile a Richiesta senza Bussola di Riduzione

**C) Motor Flange Holes Position**  
Posizione Fori Flangia Motore

\* Power higher than the maximum one which can be supported by the gearbox. Select according to the torque  $M_{2R}$   
Potenza superiore a quella massima sopportabile dal riduttore. Selezionare in base al momento torcente  $M_{2R}$

**EN** Unit **M30** is supplied with synthetic oil, providing "long life" lubrication. For mounting position V5-V6 please contact us.  
See table 1 for lubrication and recommended quantity.  
In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo **M30** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.  
Vedi tab.1 per oli e quantità consigliati.  
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe **M30** mit synthetischem Öl befüllt.  
Bei Einbaulage V5 oder V6 bitten wir um Rücksprache.  
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **M30** est fourni lubrifié à vie avec de l'huile synthétique. Concernant les positions V5.V6, contactez notre service d'assistance technique.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño **M30** se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico.  
Ver tabla 1, para cantidades y aceites recomendados.  
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

## LUBRICATION M30 Oil Quantity 0.03Lt.

**SHELL** Omala S4 WE 320

**ENI** Telium VSF 320

For all details on lubrication and plugs check our website

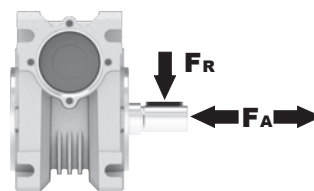
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

tab. 1

## RADIAL AND AXIAL LOADS

### Output shaft

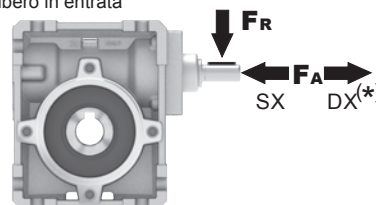
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | $F_A$<br>[N] | $F_R$<br>[N] |
|-------------------------------|--------------|--------------|
| 200                           | 120          | 600          |
| 150                           | 140          | 700          |
| 100                           | 160          | 800          |
| 75                            | 180          | 900          |
| 50                            | 200          | 1000         |
| 25                            | 250          | 1250         |
| 15                            | 280          | 1400         |

### Input shaft

albero in entrata



| $n_1$<br>[min <sup>-1</sup> ] | $F_A$<br>[N] | $F_R$<br>[N] |
|-------------------------------|--------------|--------------|
| 1400                          | 20           | 100          |

\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

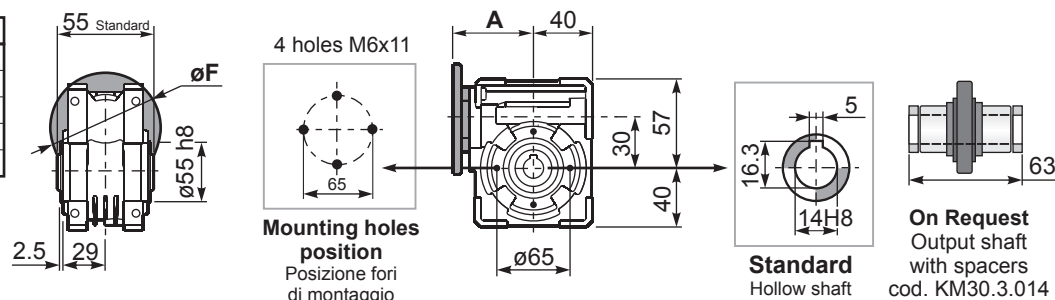
tab. 2

## PM30FB...

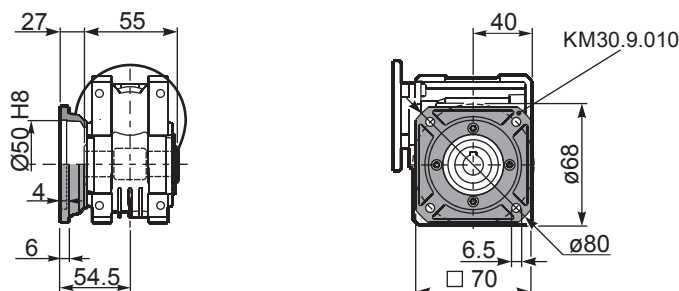
Basic wormbox  
Riduttore baseGearbox  
weight  
peso riduttore

1.15 kg

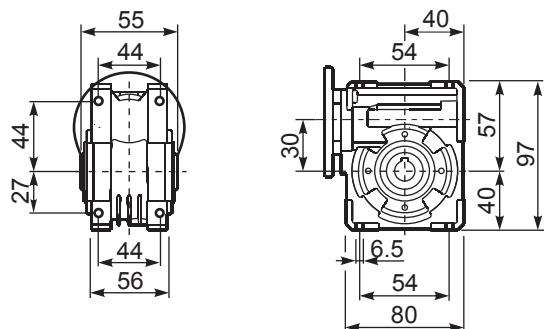
| M. flanges | Kit code   | øF  | A    |
|------------|------------|-----|------|
| 56B5       | K030.4.041 | 120 | 61.5 |
| 63B5       | K030.4.042 | 140 | 62.5 |
| 56B14      | K030.4.046 | 80  | 61.5 |
| 63B14      | K030.4.045 | 90  | 62.5 |



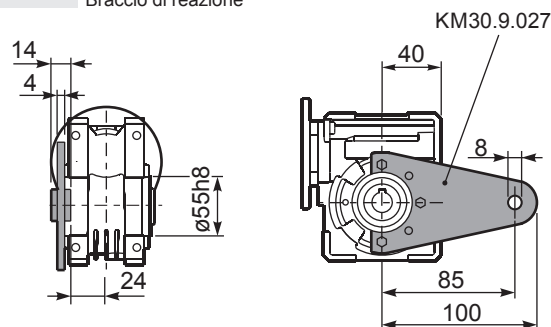
## PM30FC...

Square flange  
Flangia quadrata

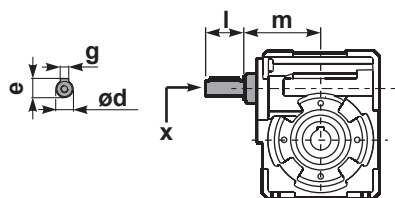
## PM30FB...

Feet  
Piedini

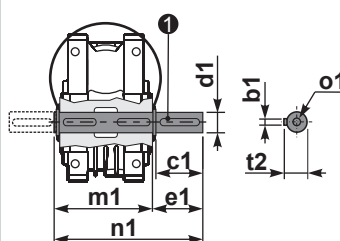
## PM30BR...

Reaction arm  
Braccio di reazione

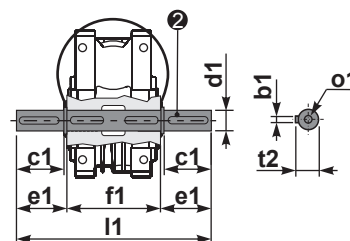
## RM30FB...

Input shaft  
Albero in entrata

## PM30.....S...

Single Shaft  
Albero lento semplice

## PM30.....D...

Double Shaft  
Albero lento bisp.

① kit cod. K030.5.028 type B

② kit cod. K030.5.029 type B

|        | ød   | e    | g | l  | m  | x | kit code         |
|--------|------|------|---|----|----|---|------------------|
| type B | 9 h6 | 10.2 | 3 | 20 | 58 | - | K030.5.006 PAM63 |
| type S | -    | -    | - | -  | -  | - | -                |

|        | b1 | c1 | d1                                     | e1   | f1 | l1  | m1 | n1   | t2 | o1    |
|--------|----|----|----------------------------------------|------|----|-----|----|------|----|-------|
| type B | 5  | 25 | 14 <sup>-0.005</sup> <sub>-0.020</sub> | 35.5 | 55 | 126 | 59 | 94.5 | 16 | M5x14 |
| type S | -  | -  | -                                      | -    | -  | -   | -  | -    | -  | -     |



## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available B5 motor flanges |    | Available B14 motor flanges |     |    | Dynamic efficiency<br>RD | Tooth Module<br>[mm] | Ratios code |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|----------------------------|----|-----------------------------|-----|----|--------------------------|----------------------|-------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -B                         | -C | -O                          | -P  | -Q |                          |                      |             |
|                                               |              |                                 |                                   |                        |                                   |                                    | 63                         | 71 | 56                          | 63  | 71 |                          |                      |             |
| 200                                           | 7            | 0.37                            | 14                                | 2.9                    | 1.07                              | 41                                 | B                          |    | B-C                         | B-C |    | 80                       | 2.2                  | 01          |
| 140                                           | 10           | 0.37                            | 20                                | 2.2                    | 0.82                              | 44                                 | B                          |    | B-C                         | B-C |    | 79                       | 2.2                  | 02          |
| 100                                           | 14           | 0.37                            | 27                                | 1.6                    | 0.60                              | 44                                 | B                          |    | B-C                         | B-C |    | 77                       | 2.4                  | 03          |
| 67                                            | 21           | 0.37                            | 36                                | 1.2                    | 0.44                              | 42                                 | B                          |    | B-C                         | B-C |    | 67                       | 1.6                  | 04          |
| 50                                            | 28           | 0.37                            | 46                                | 1.0                    | 0.38                              | 47                                 | B                          |    | B-C                         | B-C |    | 65                       | 2.5                  | 05          |
| 38                                            | 37           | 0.25                            | 40                                | 1.0                    | 0.26                              | 41                                 | B                          |    | B-C                         | B-C |    | 63                       | 1.8                  | 06          |
| 30                                            | 46           | 0.25                            | 46                                | 0.9                    | 0.22                              | 41                                 | B                          |    | B-C                         | B-C |    | 59                       | 1.5                  | 07          |
| 23                                            | 60           | 0.18                            | 41                                | 1.0                    | 0.18                              | 41                                 | B                          |    | B-C                         | B-C |    | 56                       | 1.2                  | 08          |
| 20                                            | 70           | 0.12                            | 31                                | 1.0                    | 0.12                              | 30                                 | B                          |    | B-C                         | B-C |    | 54                       | 1.0                  | 09          |
| 13.7                                          | 102          | 0.09                            | 31                                | 0.9                    | 0.09                              | 29                                 | B                          |    | B-C                         | B-C |    | 49                       | 0.72                 | 10          |

**Motor Flanges Available**  
Flange Motore Disponibili

**B) Supplied with Reduction Bushing**  
Fornito con Bussola di Riduzione

**B) Available on Request without reduction bushing**  
Disponibile a Richiesta senza Bussola di Riduzione

**C) Motor Flange Holes Position**  
Posizione Fori Flangia Motore

\* Power higher than the maximum one which can be supported by the gearbox. Select according to the torque  $M_{2R}$   
Potenza superiore a quella massima sopportabile dal riduttore. Selezionare in base al momento torcente  $M_{2R}$

**EN** Unit **M45** is supplied with synthetic oil, providing "long life" lubrication. For mounting position V5-V6 please contact us.  
See table 1 for lubrication and recommended quantity.  
In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo **M45** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.  
Vedi tab.1 per oli e quantità consigliati.  
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe **M45** mit synthetischem Öl befüllt.  
Bei Einbaulage V5 oder V6 bitten wir um Rücksprache.  
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **M45** est fourni lubrifié à vie avec de l'huile synthétique. Concernant les positions V5.V6, contactez notre service d'assistance technique.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño **M45** se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico.  
Ver tabla 1, para cantidades y aceites recomendados.  
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

## LUBRICATION M45 Oil Quantity 0.09 Lt.

**SHELL** Omala S4 WE 320

**ENI** Telium VSF 320

For all details on lubrication and plugs check our website

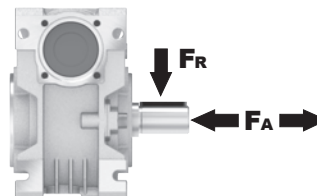
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

tab. 1

## RADIAL AND AXIAL LOADS

### Output shaft

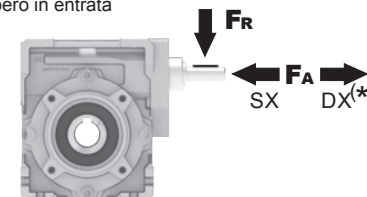
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 200                           | 180       | 900       |
| 150                           | 200       | 1000      |
| 100                           | 220       | 1100      |
| 75                            | 240       | 1200      |
| 50                            | 260       | 1400      |
| 25                            | 300       | 1800      |
| 15                            | 400       | 2000      |

### Input shaft

albero in entrata



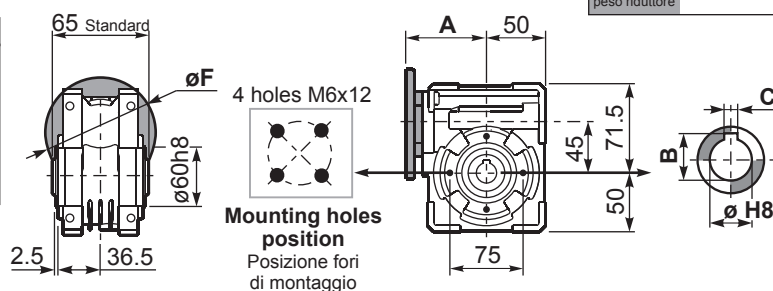
| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 42        | 210       |

\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

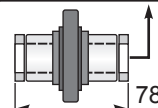
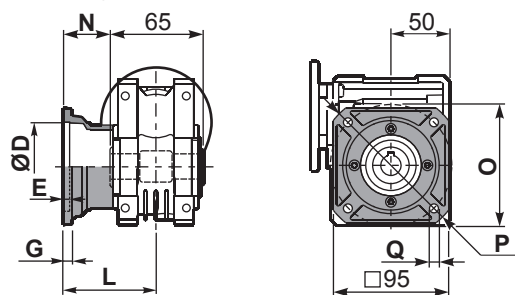
tab. 2

**PM45FB...** Basic wormbox  
Riduttore base

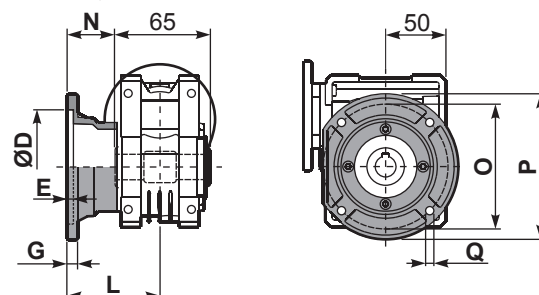
| M. flanges   | Kit code   | øF  | A    |
|--------------|------------|-----|------|
| <b>63B5</b>  | K050.4.041 | 138 | 80   |
| <b>71B5</b>  | K050.4.042 | 160 | 77.5 |
| <b>56B14</b> | KC40.4.049 | 80  | 77.5 |
| <b>63B14</b> | K050.4.047 | 90  | 80   |
| <b>71B14</b> | K050.4.045 | 105 | 77.5 |

Gearbox weight  
peso riduttore **2.30 kg**

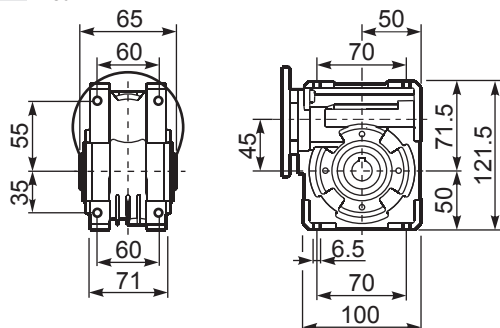
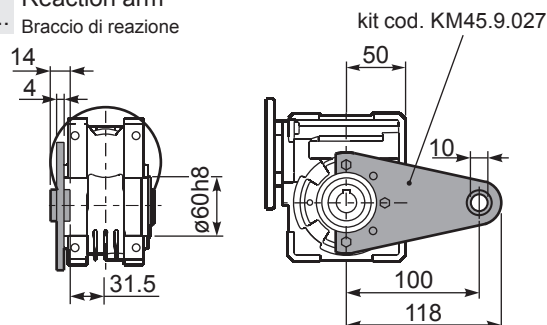
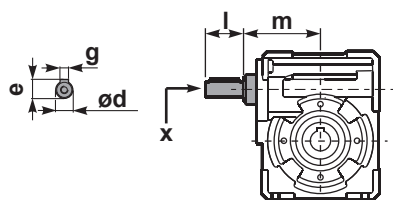
| ø H8                    | B    | C | *Spacer code |
|-------------------------|------|---|--------------|
| <b>18</b><br>Standard   | 20.8 | 6 | KM45.3.018   |
| <b>19</b><br>on request | 21.8 | 6 | KM45.3.019   |
| <b>20</b><br>on request | 22.8 | 6 | KM45.3.020   |

\*On Request  
output shaft with spacers**PM45FC...** Square flange  
Flangia quadrata

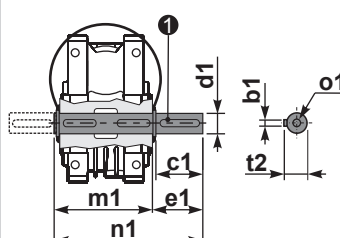
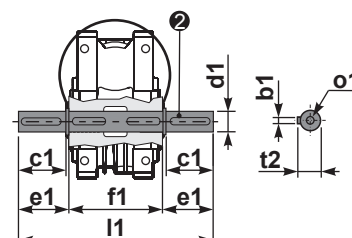
| type B    | øD    | E | G | L  | N    | O  | P   | Q | kit code   |
|-----------|-------|---|---|----|------|----|-----|---|------------|
| <b>FC</b> | 60 H8 | 4 | 7 | 67 | 34.5 | 75 | 110 | 9 | KM45.9.010 |
| <b>FL</b> | 60 H8 | 4 | 7 | 97 | 64.5 | 75 | 110 | 9 | KM45.9.011 |

**PM45F1...** Round flange  
Flangia rotonda

| type S    | øD   | E | G | L  | N    | O   | P   | Q   | kit code   |
|-----------|------|---|---|----|------|-----|-----|-----|------------|
| <b>F1</b> | 95H8 | 5 | 9 | 80 | 47.5 | 115 | 140 | 9.5 | KM45.9.012 |
| <b>F2</b> | -    | - | - | -  | -    | -   | -   | -   | -          |

**PM45FB...** Feet  
Piedini**PM45BR...** Reaction arm  
Braccio di reazione**RM45FB...** Input shaft  
Albero in entrata

|        | ød    | e    | g | l  | m  | x | kit code                         |
|--------|-------|------|---|----|----|---|----------------------------------|
| type B | 11 h6 | 12.5 | 4 | 30 | 74 | - | ① K045.5.006 PAM71<br>② -<br>③ - |
| type S | -     | -    | - | -  | -  | - | ② -<br>③ -                       |

**PM45.....S...** Single Shaft  
Albero lento semplice① kit cod. K045.5.028 type B  
kit cod. KS045.5.030 type S**PM45.....D...** Double Shaft  
Albero lento bisp.

|        | b1 | c1 | d1                                     | e1   | f1 | l1  | m1 | n1    | t2   | o1    |
|--------|----|----|----------------------------------------|------|----|-----|----|-------|------|-------|
| type B | 6  | 32 | 18 <sup>-0.005</sup> <sub>-0.020</sub> | 43   | 65 | 151 | 70 | 113   | 20.5 | M6x18 |
| type S | 6  | 40 | 19 <sup>-0.005</sup> <sub>-0.020</sub> | 58.5 | -  | -   | 70 | 128.5 | 21.5 | M8x20 |





## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    |    | Available<br>B14 motor flanges |     |    |    | Dynamic efficiency | Tooth Module<br><br>[mm] | Ratio code<br> |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|----|--------------------------------|-----|----|----|--------------------|-------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -B                            | -C | -D | -O                             | -P  | -Q | -R | RD                 |                                                                                                             |                                                                                                   |
| 200                                           | 7            | 0.75                            | 29                                | 2.6                    | 1.92                              | 75                                 | B                             | B  |    |                                | B-C | B  |    | 82                 | 2.5                                                                                                         | 01                                                                                                |
| 140                                           | 10           | 0.75                            | 41                                | 1.9                    | 1.43                              | 78                                 | B                             | B  |    |                                | B-C | B  |    | 80                 | 2.4                                                                                                         | 02                                                                                                |
| 100                                           | 14           | 0.75                            | 57                                | 1.4                    | 1.05                              | 79                                 | B                             | B  |    |                                | B-C | B  |    | 79                 | 2.6                                                                                                         | 03                                                                                                |
| 78                                            | 18           | 0.75                            | 69                                | 1.1                    | 0.81                              | 75                                 | B                             | B  |    |                                | B-C | B  |    | 75                 | 2.0                                                                                                         | 04                                                                                                |
| 54                                            | 26           | 0.55                            | 67                                | 1.1                    | 0.58                              | 71                                 | B                             | B  |    |                                | B-C | B  |    | 69                 | 2.7                                                                                                         | 05                                                                                                |
| 47                                            | 30           | 0.55                            | 79                                | 1.1                    | 0.61                              | 88                                 | B                             | B  |    |                                | B-C | B  |    | 70                 | 2.5                                                                                                         | 12                                                                                                |
| 39                                            | 36           | 0.37                            | 63                                | 1.3                    | 0.48                              | 82                                 | B                             |    |    | B-C                            | B-C |    |    | 69                 | 2.1                                                                                                         | 06                                                                                                |
| 33                                            | 43           | 0.37                            | 72                                | 1.1                    | 0.42                              | 82                                 | B                             |    |    | B-C                            | B-C |    |    | 66                 | 1.8                                                                                                         | 07                                                                                                |
| 28                                            | 50           | 0.37                            | 78                                | 1.0                    | 0.36                              | 76                                 | B                             |    |    | B-C                            | B-C |    |    | 62                 | 1.5                                                                                                         | 13                                                                                                |
| 23                                            | 60           | 0.25                            | 59                                | 1.2                    | 0.30                              | 71                                 | B                             |    |    | B-C                            | B-C |    |    | 58                 | 1.3                                                                                                         | 08                                                                                                |
| 21                                            | 68           | 0.25                            | 66                                | 1.0                    | 0.25                              | 66                                 | B                             |    |    | B-C                            | B-C |    |    | 57                 | 1.2                                                                                                         | 09                                                                                                |
| 17.5                                          | 80           | 0.18                            | 53                                | 1.2                    | 0.22                              | 65                                 | B                             |    |    | B-C                            | B-C |    |    | 54                 | 1.0                                                                                                         | 10                                                                                                |
| 14                                            | 100          | 0.12                            | 41                                | 1.3                    | 0.16                              | 55                                 | B                             |    |    | B-C                            | B-C |    |    | 50                 | 0.8                                                                                                         | 11                                                                                                |

Motor Flanges Available  
Flange Motore Disponibili

B) Supplied with Reduction Bushing  
Fornito con Bussola di Riduzione

B) Available on Request without reduction bushing  
Disponibile a Richiesta senza Bussola di Riduzione

C) Motor Flange Holes Position  
Posizione Fori Flangia Motore

**EN** Unit **M50** is supplied with synthetic oil, providing "long life" lubrication. For mounting position V5-V6 please contact us.  
See table 1 for lubrication and recommended quantity.  
In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo **M50** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.  
Vedi tab.1 per oli e quantità consigliati.  
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe **M50** mit synthetischem Öl befüllt.  
Bei Einbaulage V5 oder V6 bitten wir um Rücksprache.  
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **M50** est fourni lubrifié à vie avec de l'huile synthétique. Concernant les positions V5.V6, contactez notre service d'assistance technique.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño **M50** se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico.  
Ver tabla 1, para cantidades y aceites recomendados.  
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

## LUBRICATION M50 Oil Quantity 0.14 Lt.

SHELL Omala S4 WE 320

ENI Telium VSF 320

For all details on lubrication and plugs check our website

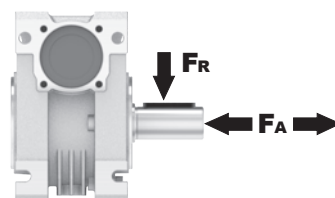
tab. 1

Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

## RADIAL AND AXIAL LOADS

### Output shaft

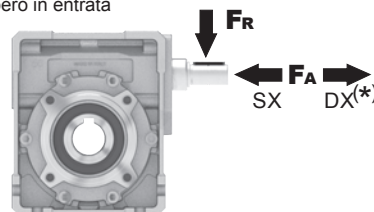
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 200                           | 240       | 1200      |
| 150                           | 280       | 1400      |
| 100                           | 300       | 1500      |
| 75                            | 340       | 1700      |
| 50                            | 380       | 1900      |
| 25                            | 480       | 2500      |
| 15                            | 560       | 2800      |

### Input shaft

albero in entrata



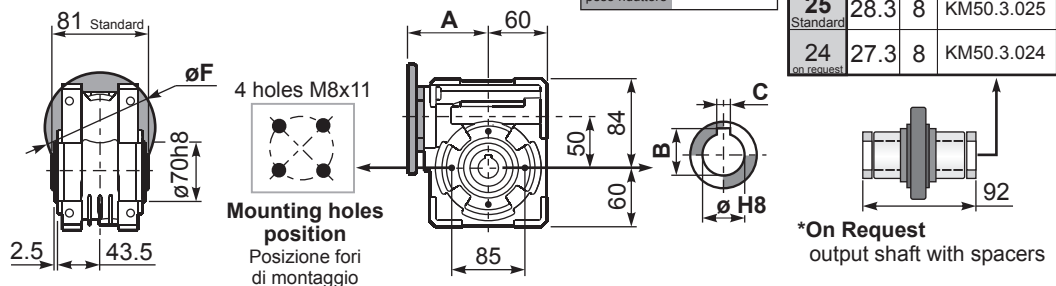
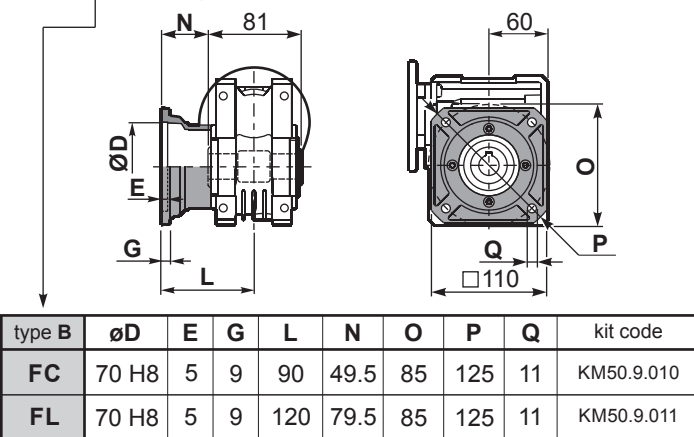
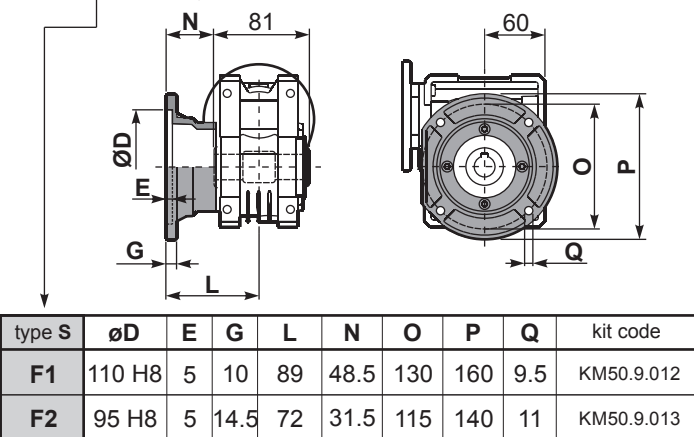
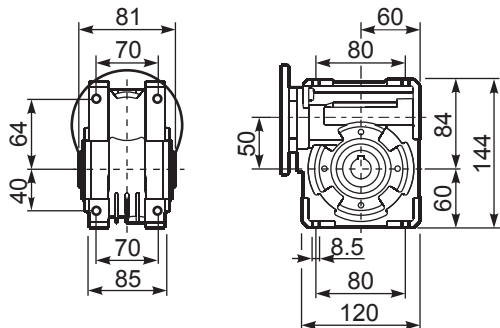
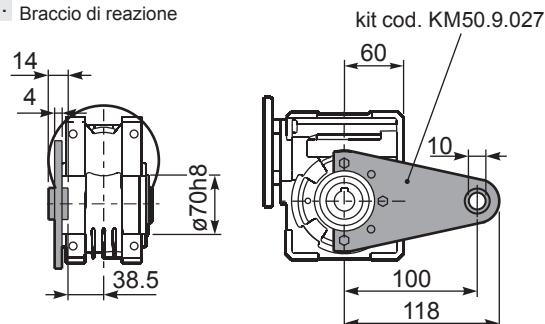
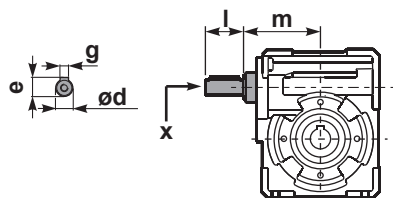
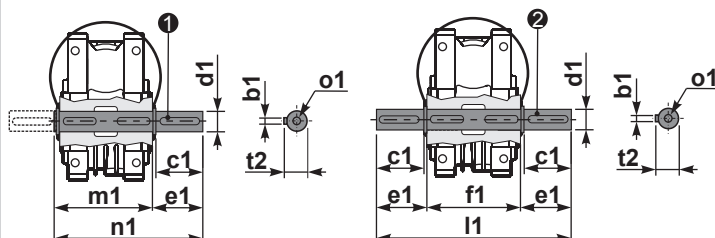
| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 76        | 380       |

\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

PM50**FB**...Basic wormbox  
Riduttore baseGearbox weight  
peso riduttore **3.25 kg**

| M. flanges   | Kit code   | øF  | A    |
|--------------|------------|-----|------|
| <b>63B5</b>  | K050.4.041 | 138 | 83.5 |
| <b>71B5</b>  | K050.4.042 | 160 | 81   |
| <b>80B5</b>  | K050.4.043 | 200 | 81.5 |
| <b>56B14</b> | KC40.4.049 | 80  | 81   |
| <b>63B14</b> | K050.4.047 | 90  | 83.5 |
| <b>71B14</b> | K050.4.045 | 105 | 81   |
| <b>80B14</b> | K050.4.046 | 120 | 81.5 |

PM50**FC**...Square flange  
Flangia quadrataPM50**F1**...Round flange  
Flangia rotondaPM50**FB**...Feet  
PiediniPM50**BR**...Reaction arm  
Braccio di reazioneRM50**FB**...Input shaft  
Albero in entrataPM50.....**S**...Single Shaft  
Albero lento semplicePM50.....**D**...Double Shaft  
Albero lento bisp.

- ① kit cod. K050.5.028 type B  
kit cod. KS050.5.030 type S
- ② kit cod. K050.5.029 type B

|        | ød    | e  | g | l  | m    | x     | kit code                                   |
|--------|-------|----|---|----|------|-------|--------------------------------------------|
| type B | 16 h6 | 18 | 5 | 30 | 79.5 | M6x16 | ① K050.5.006 PAM71<br>② K050.5.007 PAM80   |
| type S | 14 h6 | 16 | 5 | 30 | 79.5 | M5x10 | ③ KS050.5.008 PAM71<br>④ KS050.5.009 PAM80 |

|        | b1 | c1 | d1                                     | e1   | f1 | l1  | m1   | n1  | t2 | o1    |
|--------|----|----|----------------------------------------|------|----|-----|------|-----|----|-------|
| type B | 8  | 52 | 25 <sup>-0.005</sup> <sub>-0.020</sub> | 59.5 | 81 | 200 | 86.5 | 146 | 28 | M8x20 |
| type S | 8  | 50 | 24 <sup>-0.005</sup> <sub>-0.020</sub> | 68.8 | -  | -   | 86.5 | 155 | 27 | M8x20 |



## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    |    |    | Available<br>B14 motor flanges |     |    | Dynamic efficiency<br><br>RD | Tooth Module<br><br>[mm] | Ratios code<br> |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|----|----|--------------------------------|-----|----|------------------------------|--------------------------|----------------------------------------------------------------------------------------------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -B                            | -C | -D | -E | -Q                             | -R  | -T |                              |                          |                                                                                                    |
|                                               |              |                                 |                                   |                        |                                   |                                    | 63                            | 71 | 80 | 90 | 71                             | 80  | 90 |                              |                          |                                                                                                    |
| 200                                           | 7            | 1.8                             | 71                                | 1.8                    | 3.2                               | 128                                |                               | B  | B  |    | B-C                            | B-C |    | 83                           | 3.1                      | 01                                                                                                 |
| 140                                           | 10           | 1.8                             | 99                                | 1.3                    | 2.4                               | 134                                |                               | B  | B  |    | B-C                            | B-C |    | 81                           | 3.1                      | 02                                                                                                 |
| 93                                            | 15           | 1.5                             | 121                               | 1.2                    | 1.8                               | 148                                |                               | B  | B  |    | B-C                            | B-C |    | 79                           | 3.1                      | 03                                                                                                 |
| 74                                            | 19           | 1.5                             | 152                               | 1.0                    | 1.4                               | 145                                |                               | B  | B  |    | B-C                            | B-C |    | 78                           | 2.6                      | 04                                                                                                 |
| 58                                            | 24           | 1.1                             | 135                               | 1.1                    | 1.2                               | 142                                |                               | B  | B  |    | B-C                            | B-C |    | 75                           | 2.0                      | 05                                                                                                 |
| 47                                            | 30           | 1.1                             | 167                               | 1.0                    | 1.06                              | 160                                |                               | B  | B  |    | B-C                            | B-C |    | 74                           | 3.2                      | 06                                                                                                 |
| 39                                            | 36           | 0.75                            | 125                               | 1.2                    | 0.88                              | 147                                |                               | B  | B  |    | B-C                            | B-C |    | 68                           | 2.7                      | 07                                                                                                 |
| 35                                            | 40           | 0.75                            | 135                               | 1.1                    | 0.82                              | 148                                |                               | B  | B  |    | B-C                            | B-C |    | 66                           | 2.5                      | 13                                                                                                 |
| 31                                            | 45           | 0.55                            | 111                               | 1.2                    | 0.67                              | 135                                | B                             | B  |    |    | B-C                            | C   |    | 66                           | 2.1                      | 08                                                                                                 |
| 23                                            | 60           | 0.55                            | 140                               | 1.0                    | 0.53                              | 135                                | B                             | B  |    |    | B-C                            | C   |    | 62                           | 1.6                      | 12                                                                                                 |
| 21                                            | 67           | 0.55                            | 151                               | 0.8                    | 0.45                              | 124                                | B                             | B  |    |    | B-C                            | C   |    | 60                           | 1.5                      | 09                                                                                                 |
| 17.5                                          | 80           | 0.37                            | 115                               | 1.1                    | 0.39                              | 122                                | B                             | B  |    |    | B-C                            | C   |    | 57                           | 1.3                      | 10                                                                                                 |
| 14.9                                          | 94           | 0.37                            | 123                               | 1.0                    | 0.36                              | 119                                | B                             | B  |    |    | B-C                            | C   |    | 52                           | 1.1                      | 11                                                                                                 |

Motor Flanges Available  
Flange Motore Disponibili

B) Supplied with Reduction Bushing  
Fornito con Bussola di Riduzione

B) Available on Request without reduction bushing  
Disponibile a Richiesta senza Bussola di Riduzione

C) Motor Flange Holes Position  
Posizione Fori Flangia Motore

**EN** Unit **M63** is supplied with synthetic oil, providing "long life" lubrication. For mounting position V5-V6 please contact us.  
See table 1 for lubrication and recommended quantity.  
In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo **M63** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.  
Vedi tab.1 per oli e quantità consigliati.  
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe **M63** mit synthetischem Öl befüllt.  
Bei Einbaulage V5 oder V6 bitten wir um Rücksprache.  
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial - und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **M63** est fourni lubrifié à vie avec de l'huile synthétique. Concernant les positions V5.V6, contactez notre service d'assistance technique.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño **M63** se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico.  
Ver tabla 1, para cantidades y aceites recomendados.  
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

## LUBRICATION M63 Oil Quantity 0.30 Lt.

SHELL Omala S4 WE 320

ENI Telium VSF 320

For all details on lubrication and plugs check our website

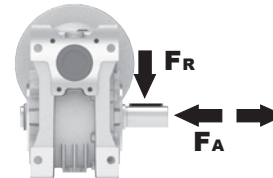
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

tab. 1

## RADIAL AND AXIAL LOADS

### Output shaft

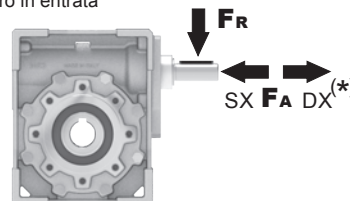
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 200                           | 360       | 1800      |
| 150                           | 400       | 2000      |
| 100                           | 460       | 2300      |
| 75                            | 500       | 2500      |
| 50                            | 600       | 3000      |
| 25                            | 700       | 3800      |
| 15                            | 800       | 4000      |

### Input shaft

albero in entrata



| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 90        | 450       |

\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

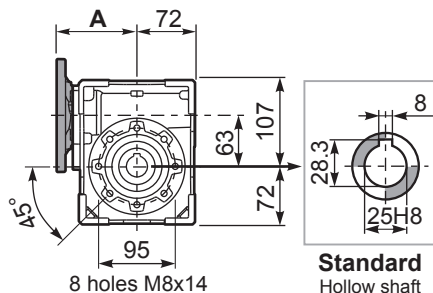
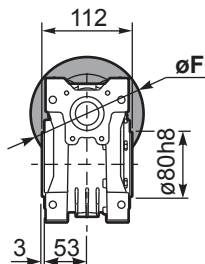
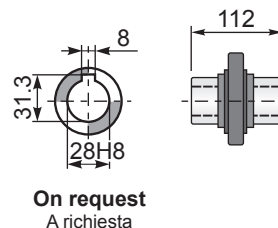
tab. 2

## PM63FB...

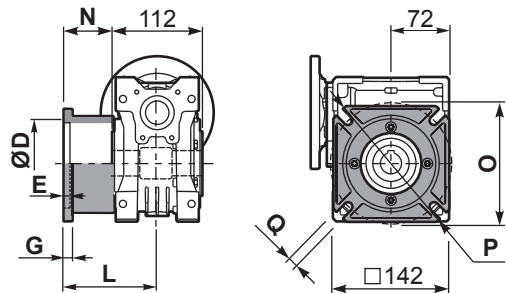
Basic wormbox  
Riduttore baseGearbox  
weight  
peso riduttore

6.00 kg

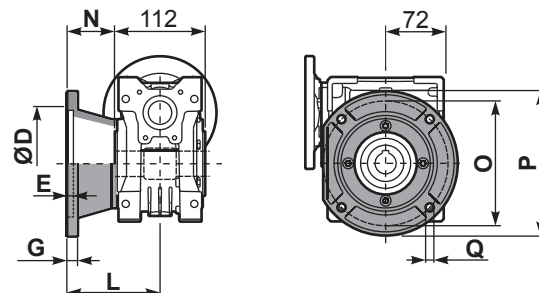
| M. flanges | Kit code   | øF  | A     |
|------------|------------|-----|-------|
| 63B5       | K063.4.041 | 140 | 100.5 |
| 71B5       | K063.4.042 | 160 | 98.5  |
| 80/90B5    | K063.4.043 | 200 | 100.5 |
| 71B14      | K063.4.047 | 105 | 98.5  |
| 80B14      | K063.4.046 | 120 | 100.5 |
| 90B14      | K063.4.041 | 140 | 100.5 |

Standard  
Hollow shaft

## PM63FC...

Square flange  
Flangia quadrata

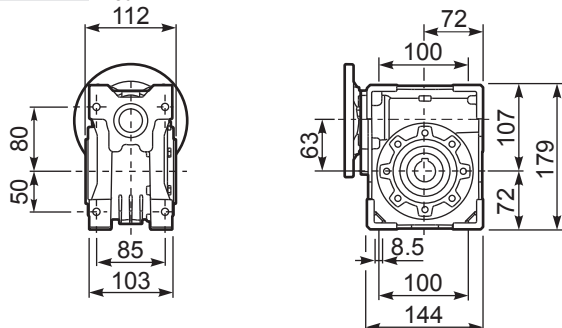
## PM63F1...

Round flange  
Flangia rotonda

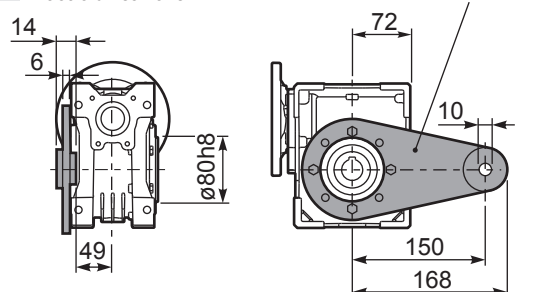
| type B | øD     | E | G  | L   | N  | O   | P   | Q  | kit code   |
|--------|--------|---|----|-----|----|-----|-----|----|------------|
| FC     | 115 H8 | 6 | 10 | 82  | 26 | 150 | 180 | 11 | KM63.9.010 |
| FL     | 115 H8 | 6 | 10 | 112 | 56 | 150 | 180 | 11 | KM63.9.011 |

| type S | øD     | E | G    | L    | N    | O   | P   | Q  | kit code   |
|--------|--------|---|------|------|------|-----|-----|----|------------|
| F1     | 130 H8 | 5 | 10   | 98   | 42   | 165 | 200 | 11 | KM63.9.012 |
| F2     | 130 H8 | 5 | 10   | 107  | 51   | 165 | 200 | 11 | KM63.9.013 |
| F3     | 110 H8 | 5 | 16.5 | 80.5 | 24.5 | 130 | 160 | 11 | KM63.9.014 |

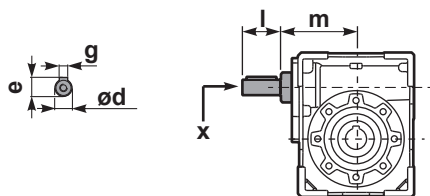
## PM63FB...

Feet  
Piedini

## PM63BR...

Reaction arm  
Braccio di reazione

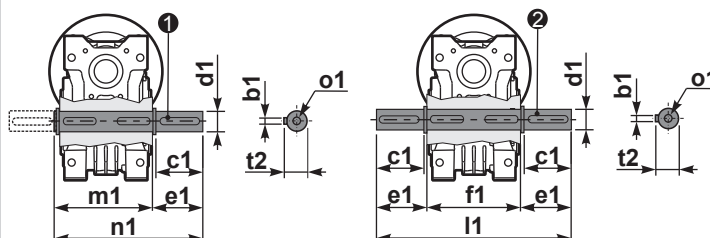
## RM63FB...

Input shaft  
Albero in entrata

## PM63.....S...

Single Shaft  
Albero lento semplice

## PM63.....D...

Double Shaft  
Albero lento bisp.

① kit cod. KM63.5.028 type B

② kit cod. KM63.5.029 type B

|        | ød    | e    | g | l  | m  | x     | kit code                                   |
|--------|-------|------|---|----|----|-------|--------------------------------------------|
| type B | 18 h6 | 20.5 | 6 | 45 | 94 | M6x16 | ① K063.5.006 PAM80<br>② K063.5.007 PAM90   |
| type S | 19 h6 | 21.5 | 6 | 40 | 94 | M8x20 | ③ KS063.5.008 PAM80<br>④ KS063.5.009 PAM90 |

|        | b1 | c1 | d1    | e1   | f1  | l1  | m1    | n1  | t2 | o1     |
|--------|----|----|-------|------|-----|-----|-------|-----|----|--------|
| type B | 8  | 50 | 25 h6 | 53.5 | 112 | 219 | 119.5 | 173 | 28 | M10x23 |
| type S | -  | -  | -     | -    | -   | -   | -     | -   | -  | -      |



## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    |    |            | Available<br>B14 motor flanges |    |            | Dynamic efficiency<br><br>RD | Tooth Module<br><br>[mm] | Ratios code<br> |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|----|------------|--------------------------------|----|------------|------------------------------|--------------------------|----------------------------------------------------------------------------------------------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -C                            | -D | -E | -F         | -R                             | -T | -U         |                              |                          |                                                                                                    |
|                                               |              |                                 |                                   |                        |                                   |                                    | 71                            | 80 | 90 | 100<br>112 | 80                             | 90 | 100<br>112 |                              |                          |                                                                                                    |
| 200                                           | 7            | 4                               | 172                               | 1.1                    | 4.4                               | 190                                |                               | B  | B  |            | B                              | B  |            | 90                           | 3.75                     | 01                                                                                                 |
| 140                                           | 10           | 4                               | 240                               | 1.0                    | 3.8                               | 230                                |                               | B  | B  |            | B                              | B  |            | 88                           | 3.75                     | 02                                                                                                 |
| 93                                            | 15           | 3                               | 261                               | 1.0                    | 2.9                               | 250                                |                               | B  | B  |            | B                              | B  |            | 85                           | 3.75                     | 03                                                                                                 |
| 70                                            | 20           | 2.2                             | 249                               | 1.0                    | 2.2                               | 250                                |                               | B  | B  |            | B                              | B  |            | 83                           | 3.00                     | 04                                                                                                 |
| 56                                            | 25           | 1.5                             | 205                               | 1.2                    | 1.8                               | 250                                | B                             | B  |    |            | B                              |    |            | 80                           | 2.41                     | 05                                                                                                 |
| 45                                            | 31           | 1.5                             | 244                               | 1.1                    | 1.7                               | 270                                | B                             | B  |    |            | B                              |    |            | 77                           | 3.75                     | 06                                                                                                 |
| 35                                            | 40           | 1.5                             | 295                               | 0.9                    | 1.3                               | 255                                | B                             | B  |    |            | B                              |    |            | 72                           | 3.10                     | 07                                                                                                 |
| 28                                            | 50           | 0.75                            | 174                               | 1.3                    | 0.96                              | 223                                | B                             |    |    |            |                                |    |            | 68                           | 2.41                     | 08                                                                                                 |
| 23                                            | 60           | 0.75                            | 200                               | 1.1                    | 0.80                              | 213                                | B                             |    |    |            |                                |    |            | 65                           | 2.10                     | 09                                                                                                 |
| 17.5                                          | 80           | 0.55                            | 177                               | 1.1                    | 0.61                              | 195                                | B                             |    |    |            |                                |    |            | 59                           | 1.53                     | 10                                                                                                 |
| 14.0                                          | 100          | 0.55                            | 206                               | 0.8                    | 0.47                              | 175                                | B                             |    |    |            |                                |    |            | 55                           | 1.23                     | 11                                                                                                 |

 Motor Flanges Available  
Flange Motore Disponibili

 B) Supplied with Reduction Bushing  
Fornito con Bussola di Riduzione

 B) Available on Request without reduction bushing  
Disponibile a Richiesta senza Bussola di Riduzione

 C) Motor Flange Holes Position  
Posizione Fori Flangia Motore

**EN** Unit **M75** is supplied with synthetic oil, providing "long life" lubrication. For mounting position V5-V6 please contact us.  
See table 1 for lubrication and recommended quantity.  
In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo **M75** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.  
Vedi tab.1 per oli e quantità consigliati.  
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe **M75** mit synthetischem Öl befüllt.  
Bei Einbaulage V5 oder V6 bitten wir um Rücksprache.  
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **M75** est fourni lubrifié à vie avec de l'huile synthétique. Concernant les positions V5.V6, contactez notre service d'assistance technique.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño **M75** se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico.  
Ver tabla 1, para cantidades y aceites recomendados.  
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

## LUBRICATION M75 Oil Quantity 0.40 Lt.

**SHELL** Omala S4 WE 320

**ENI** Telium VSF 320

For all details on lubrication and plugs check our website

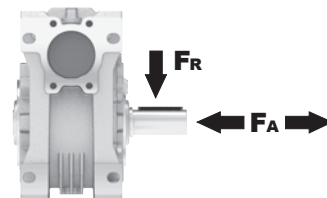
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

tab. 1

## RADIAL AND AXIAL LOADS

### Output shaft

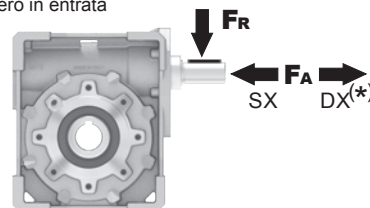
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 200                           | 460       | 2300      |
| 150                           | 520       | 2600      |
| 100                           | 560       | 2800      |
| 75                            | 620       | 3100      |
| 50                            | 720       | 3600      |
| 25                            | 880       | 4400      |
| 15                            | 1000      | 5000      |

### Input shaft

albero in entrata



| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 125       | 630       |

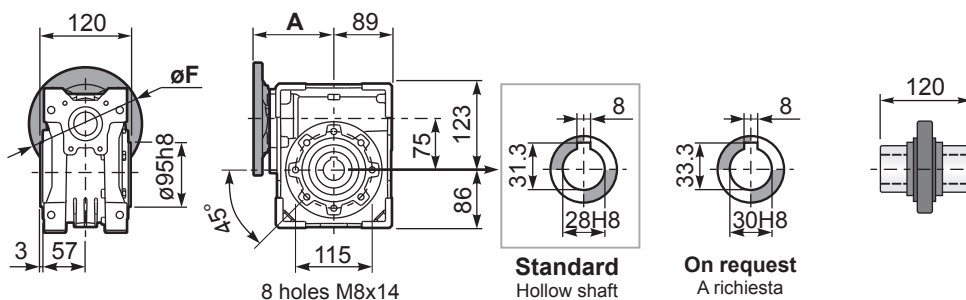
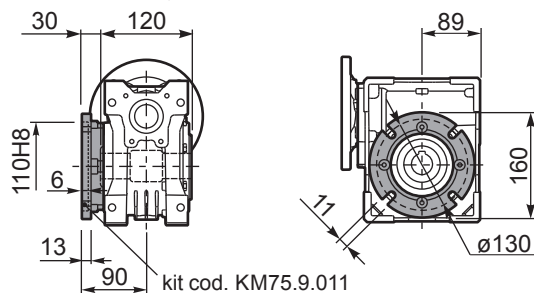
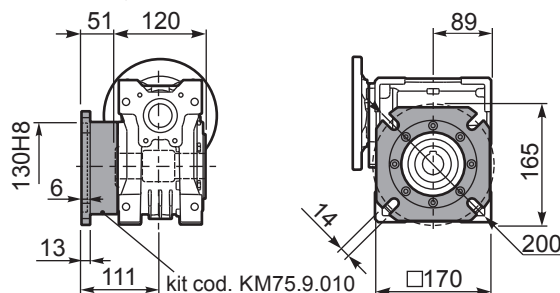
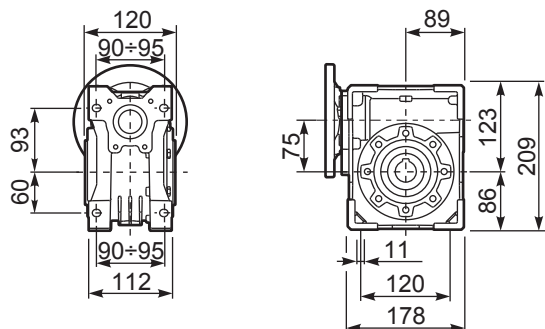
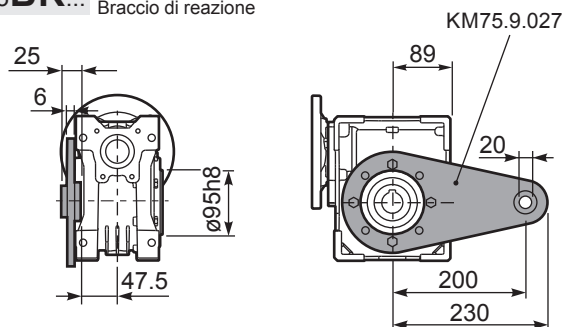
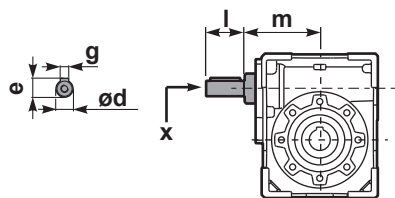
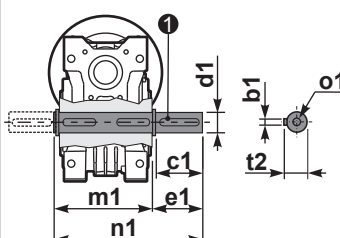
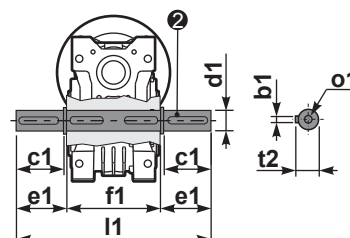
\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

tab. 2



**PM75FB...**Basic wormbox  
Riduttore baseGearbox  
weight  
peso riduttore **8.70 kg**

| M. flanges        | Kit code   | øF  | A   |
|-------------------|------------|-----|-----|
| <b>71B5</b>       | K023.4.041 | 160 | 114 |
| <b>80/90B5</b>    | K023.4.042 | 200 | 116 |
| <b>100/112B5</b>  | K023.4.043 | 250 | 125 |
|                   |            |     |     |
| <b>80B14</b>      | K085.4.046 | 120 | 116 |
| <b>90B14</b>      | K085.4.045 | 140 | 116 |
| <b>100/112B14</b> | K085.4.047 | 160 | 125 |

**PM75FC...**Round flange  
Flangia rotonda**PM75FL...**Square flange  
Flangia quadrata**PM75FB...**Feet  
Piedini**PM75BR...**Reaction arm  
Braccio di reazione**RM75FB...**Input shaft  
Albero in entrata**PM75.....S...**Single Shaft  
Albero lento semplice**PM75.....D...**Double Shaft  
Albero lento bisp.

① kit cod. KM75.5.028 Standard

② kit cod. KM75.5.029 Standard

|        | ød    | e    | g | l  | m     | x     | kit code                                                  |
|--------|-------|------|---|----|-------|-------|-----------------------------------------------------------|
| type B | 25 h6 | 27.8 | 8 | 50 | 109.5 | M8x20 | KQ75.5.006 PAM80<br>K085.5.007 PAM90<br>K085.5.008 PAM100 |

|            | b1 | c1 | d1    | e1   | f1  | l1  | m1    | n1  | t2 | o1  |
|------------|----|----|-------|------|-----|-----|-------|-----|----|-----|
| Standard   | 8  | 60 | 28 h6 | 63.5 | 120 | 247 | 128.5 | 192 | 31 | M10 |
| On request | -  | -  | -     | -    | -   | -   | -     | -   | -  | -   |





## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    |    |            | Available<br>B14 motor flanges |    |            | Dynamic efficiency<br>RD | Tooth Module<br>[mm] | Ratios code |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|----|------------|--------------------------------|----|------------|--------------------------|----------------------|-------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -C                            | -D | -E | -F         | -R                             | -T | -U         |                          |                      |             |
|                                               |              |                                 |                                   |                        |                                   |                                    | 71                            | 80 | 90 | 100<br>112 | 80                             | 90 | 100<br>112 |                          |                      |             |
| 200                                           | 7            | 4.0                             | 168                               | 1.6                    | 6.4                               | 270                                |                               | B  | B  |            | B                              | B  |            | 88                       | 4.23                 | 01          |
| 140                                           | 10           | 4.0                             | 218                               | 1.4                    | 5.5                               | 298                                |                               | B  | B  |            | B                              | B  |            | 80                       | 4.2                  | 02          |
| 100                                           | 14           | 4.0                             | 298                               | 1.1                    | 4.3                               | 320                                |                               | B  | B  |            | B                              | B  |            | 78                       | 4.5                  | 03          |
| 70                                            | 20           | 3.0                             | 323                               | 1.0                    | 2.9                               | 309                                |                               | B  | B  |            | B                              | B  |            | 79                       | 3.4                  | 04          |
| 64                                            | 22           | 2.2                             | 258                               | 1.2                    | 2.6                               | 309                                |                               | B  | B  |            | B                              | B  |            | 78                       | 3.1                  | 05          |
| 50                                            | 28           | 2.2                             | 315                               | 1.2                    | 2.5                               | 364                                |                               | B  | B  |            | B                              | B  |            | 75                       | 4.7                  | 06          |
| 37                                            | 38           | 1.5                             | 276                               | 1.3                    | 1.9                               | 353                                | B                             | B  |    |            | B                              |    |            | 71                       | 3.5                  | 07          |
| 30                                            | 46           | 1.5                             | 320                               | 1.1                    | 1.6                               | 342                                | B                             | B  |    |            | B                              |    |            | 68                       | 3.1                  | 08          |
| 27                                            | 52           | 1.1                             | 258                               | 1.2                    | 1.3                               | 303                                | B                             | B  |    |            | B                              |    |            | 66                       | 2.7                  | 09          |
| 21                                            | 67           | 1.1                             | 327                               | 0.9                    | 1.02                              | 303                                | B                             | B  |    |            | B                              |    |            | 65                       | 2.1                  | 10          |
| 18.9                                          | 74           | 0.75                            | 220                               | 1.3                    | 0.96                              | 281                                | B                             | B  |    |            | B                              |    |            | 58                       | 1.9                  | 11          |
| 14.6                                          | 96           | 0.55                            | 191                               | 1.3                    | 0.73                              | 254                                | B                             | B  |    |            | B                              |    |            | 53                       | 1.5                  | 12          |

Motor Flanges Available  
Flange Motore Disponibili

B) Supplied with Reduction Bushing  
Fornito con Bussola di Riduzione

B) Available on Request without reduction bushing  
Disponibile a Richiesta senza Bussola di Riduzione

C) Motor Flange Holes Position  
Posizione Fori Flangia Motore

**EN** Unit **M85** is supplied with synthetic oil, providing "long life" lubrication. For mounting position V5-V6 please contact us.  
See table 1 for lubrication and recommended quantity. In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo **M85** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.  
Vedi tab.1 per oli e quantità consigliati. In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe **M85** mit synthetischem Öl befüllt. Bei Einbaulage V5 oder V6 bitten wir um Rücksprache. In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben. In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **M85** est fourni lubrifié à vie avec de l'huile synthétique. Concernant les positions V5.V6, contactez notre service d'assistance technique. Voir tableau 1 concernant les huiles et les quantités conseillées. Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño **M85** se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico. Ver tabla 1, para cantidades y aceites recomendados. En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

## LUBRICATION M85 Oil Quantity 1.20 Lt.

SHELL Omala S4 WE 320

ENI Telium VSF 320

For all details on lubrication and plugs check our website

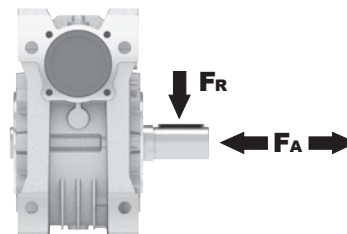
tab. 1

Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

## RADIAL AND AXIAL LOADS

### Output shaft

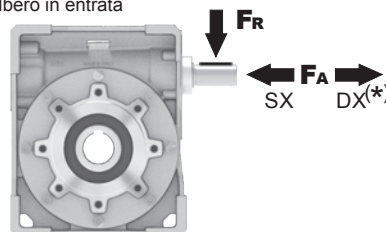
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 200                           | 500       | 2500      |
| 150                           | 580       | 2900      |
| 100                           | 600       | 3000      |
| 75                            | 700       | 3500      |
| 50                            | 800       | 4000      |
| 25                            | 1000      | 5000      |
| 15                            | 1160      | 5800      |

### Input shaft

albero in entrata



| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 130       | 650       |

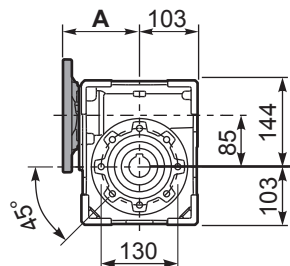
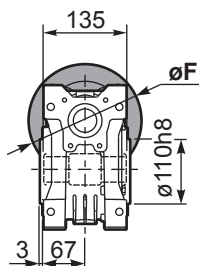
\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

## PM85FB...

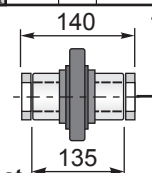
Basic wormbox  
Riduttore base

| M. flanges        | Kit code   | ØF  | A     |
|-------------------|------------|-----|-------|
| <b>71B5</b>       | K023.4.041 | 160 | 116.5 |
| <b>80/90B5</b>    | K023.4.042 | 200 | 118.5 |
| <b>100/112B5</b>  | K023.4.043 | 250 | 127.5 |
|                   |            |     |       |
| <b>80B14</b>      | K085.4.046 | 120 | 118.5 |
| <b>90B14</b>      | K085.4.045 | 140 | 118.5 |
| <b>100/112B14</b> | K085.4.047 | 160 | 127.5 |



|                                         |                |
|-----------------------------------------|----------------|
| <b>Gearbox weight</b><br>peso riduttore | <b>12.1 kg</b> |
|-----------------------------------------|----------------|

| ø H8                    | B    | C  | *Spacer code |
|-------------------------|------|----|--------------|
| <b>35</b><br>Standard   | 38.3 | 10 | KM85.3.035   |
| <b>38</b><br>on request | 41.3 | 10 | KM85.3.038   |

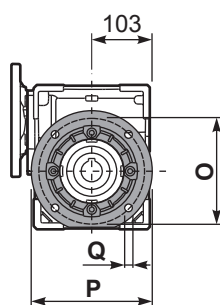
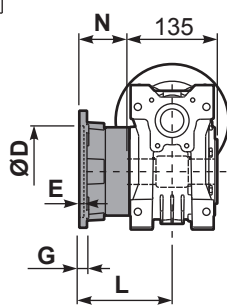


\*On Request  output shaft with spacers

8 holes M10x18

PM85**FC**...

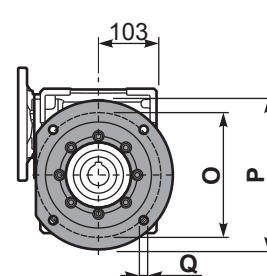
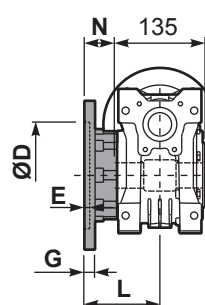
Output flange  
Flangia uscita



| type B | øD     | E | G  | L   | N    | O   | P   | Q  | kit code   |
|--------|--------|---|----|-----|------|-----|-----|----|------------|
| FC     | 152 H8 | 5 | 16 | 111 | 43.5 | 176 | 205 | 13 | K085.9.010 |
| FL     | 180 H8 | 6 | 18 | 122 | 54.5 | 215 | 250 | 14 | KM85.9.011 |

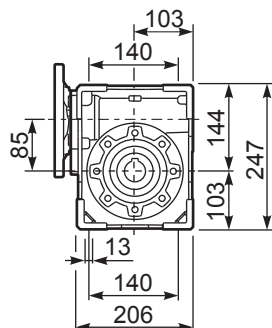
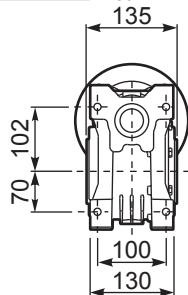
PM85**F1**

Output flange  
Flangia usicta



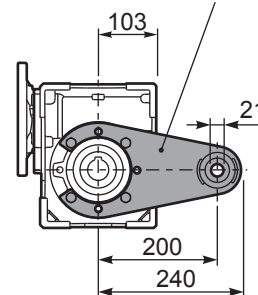
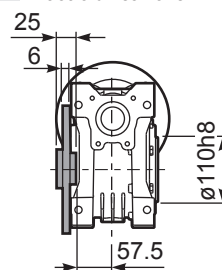
| type S | øD     | E | G  | L     | N  | O   | P   | Q  | kit code                 |
|--------|--------|---|----|-------|----|-----|-----|----|--------------------------|
| F1     | 130 H8 | 5 | 13 | 109.5 | 42 | 165 | 200 | 13 | KS085.9.015              |
| F2     | 152 H8 | 5 | 16 | 151.5 | 84 | 176 | 205 | 13 | K085.9.010<br>K085.0.201 |

## PM85FB...

Feet  
Piedini

## PM85BR...

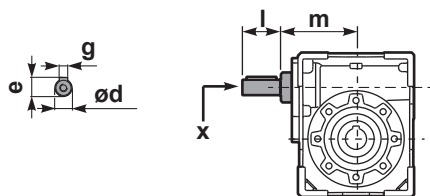
Reaction arm  
Braccio di reazione



kit cod. K085.9.027

## RM85FB...

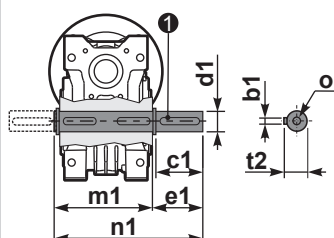
Input shaft  
Albero in entrata



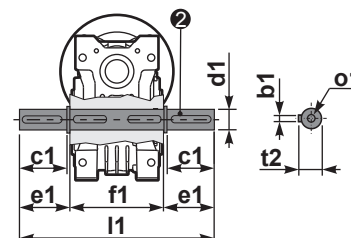
|               | ød    | e  | g | l  | m   | x     | kit code                                    |
|---------------|-------|----|---|----|-----|-------|---------------------------------------------|
| type <b>B</b> | 25 h6 | 28 | 8 | 50 | 112 | M8x20 | ① K085.5.007 PAM90<br>② K085.5.008 PAM100   |
| type <b>S</b> | 24 h6 | 27 | 8 | 50 | 112 | M8x20 | ① KS085.5.009 PAM90<br>② KS085.5.011 PAM100 |

## PM85....S...

Single Shaft  
Albero lento semplice

PM85.....**D**...

- Double Shaft
- Albero lento bisp.



① kit cod. K085.5.028 type B

② kit cod. K085.5.029 type B

[illegible]



## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available B5 motor flanges |    |    |            |     | Available B14 motor flanges |    |            |     | Dynamic efficiency<br>RD | Tooth Module<br>[mm] | Ratios code |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|----------------------------|----|----|------------|-----|-----------------------------|----|------------|-----|--------------------------|----------------------|-------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -C                         | -D | -E | -F         | -G  | -R                          | -T | -U         | -V  |                          |                      |             |
|                                               |              |                                 |                                   |                        |                                   |                                    | 71                         | 80 | 90 | 100<br>112 | 132 | 80                          | 90 | 100<br>112 | 132 |                          |                      |             |
| 200                                           | 7            | 7.5                             | 315                               | 1.7                    | 13.0                              | 546                                |                            | B  | B  |            |     | B                           | B  |            |     | 88                       | 5.5                  | 01          |
| 140                                           | 10           | 7.5                             | 440                               | 1.4                    | 10.1                              | 595                                |                            | B  | B  |            |     | B                           | B  |            |     | 86                       | 5.4                  | 02          |
| 88                                            | 16           | 5.5                             | 492                               | 1.3                    | 7.3                               | 650                                |                            | B  | B  |            |     | B                           | B  |            |     | 82                       | 5.3                  | 03          |
| 70                                            | 20           | 4.0                             | 447                               | 1.4                    | 5.7                               | 640                                |                            | B  | B  |            |     | B                           | B  |            |     | 82                       | 4.5                  | 04          |
| 61                                            | 23           | 4.0                             | 502                               | 1.3                    | 5.3                               | 670                                |                            | B  | B  |            |     | B                           | B  |            |     | 80                       | 3.9                  | 05          |
| 47                                            | 30           | 4.0                             | 622                               | 1.2                    | 4.7                               | 725                                |                            | B  | B  |            |     | B                           | B  |            |     | 76                       | 5.6                  | 06          |
| 37                                            | 38           | 3.0                             | 583                               | 1.2                    | 3.6                               | 698                                |                            | B  | B  |            |     | B                           | B  |            |     | 75                       | 4.7                  | 07          |
| 31                                            | 45           | 2.2                             | 493                               | 1.3                    | 2.9                               | 650                                |                            | B  | B  |            |     | B                           | B  |            |     | 73                       | 4.0                  | 08          |
| 26                                            | 53           | 2.2                             | 557                               | 1.2                    | 2.6                               | 660                                |                            | B  | B  |            |     | B                           | B  |            |     | 70                       | 3.5                  | 09          |
| 22                                            | 64           | 1.5                             | 452                               | 1.4                    | 2.0                               | 612                                | B                          | B  |    |            |     | B                           |    |            |     | 69                       | 2.9                  | 10          |
| 16.7                                          | 84           | 1.1                             | 410                               | 1.3                    | 1.4                               | 515                                | B                          | B  |    |            |     | B                           |    |            |     | 65                       | 2.2                  | 11          |
| 14.1                                          | 99           | 1.1                             | 446                               | 1.1                    | 1.2                               | 483                                | B                          | B  |    |            |     | B                           |    |            |     | 60                       | 1.9                  | 12          |

**Motor Flanges Available**  
Flange Motore Disponibili

**B) Supplied with Reduction Bushing**  
Fornito con Bussola di Riduzione

**B) Available on Request without reduction bushing**  
Disponibile a Richiesta senza Bussola di Riduzione

**C) Motor Flange Holes Position**  
Posizione Fori Flangia Motore

**EN** Unit **M11** is supplied without lubricant and equipped with a breather, level and drain plugs. User can add mineral oil keeping existing plugs. Should the user wish to fill it with synthetic oil, it is recommended to replace the existing plugs with a closed plug.  
See table 1 for lubrication and recommended quantity.  
In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo **M11** è fornito privo di lubrificazione con tappi di sfiato, livello e scarico olio. L'utente può immettere olio minerale mantenendo i tappi esistenti. Se immetterà olio sintetico, dovrà sostituire i tappi esistenti con altri tipo chiuso.  
Tab.1 per oli e quantità consigliati.  
Tab.2 carichi radiali e assiali applicabili al riduttore.

**D** Das Getriebe der Baugröße **M11** wird ohne Schmiermittel geliefert. Es ist jedoch mit Einfüllschraube, Überdruckventil und Ablassschraube ausgerüstet. Das benötigte mineralische Öl kann über die Einfüllschraube eingefüllt werden. Sollte synthetisches Öl bevorzugt werden, so ist sind das eingebaute Überdruckventil durch eine geschlossenen Schraube zu ersetzen.  
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial - und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **M11** est fourni sans lubrification et avec un bouchon de remplissage, de niveau et d'évacuation de l'huile. L'utilisateur peut y verser de l'huile minérale en conservant les bouchons existants.  
S'il y versera de l'huile synthétique, il devra substituer les bouchons existants avec d'autres bouchons de type fermé.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Voir tableau 2 concernant les charges radiales et axiales applicables au réducteur.

**E** El reductor tamaño **M11** se suministra sin lubricante, provisto de tapones de respiración, nivel y descarga de aceite. El usuario puede utilizar aceite mineral, manteniendo los tapones existentes. Si prefiere utilizar aceite sintético deberá sustituir los tapones existentes por tapones ciegos. La prerreducción se suministra con tapones ciegos, lubricado de por vida con aceite sintético.  
Ver tabla 1, para cantidades y aceites recomendados.  
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

|                       |         |         |                 |         |        |
|-----------------------|---------|---------|-----------------|---------|--------|
|                       |         |         |                 |         |        |
| B3                    | B6      | B7      | B8              | V5      | V6     |
| 1.90 LT               | 1.35 LT | 1.35 LT | 2.00LT          | 2.00 LT | 2.00LT |
| SHELL Omala S2 GX 460 |         |         | ENI Blasias 460 |         |        |

For all details on lubrication and plugs check our website

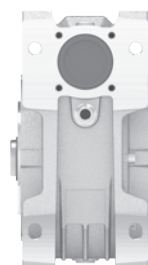
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

tab. 1

## RADIAL AND AXIAL LOADS

### Output shaft

Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 200                           | 600       | 2900      |
| 150                           | 700       | 3300      |
| 100                           | 750       | 3600      |
| 75                            | 800       | 4000      |
| 50                            | 920       | 4600      |
| 25                            | 1200      | 6000      |
| 15                            | 1400      | 7000      |

### Input shaft

albero in entrata



| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 228       | 1140      |

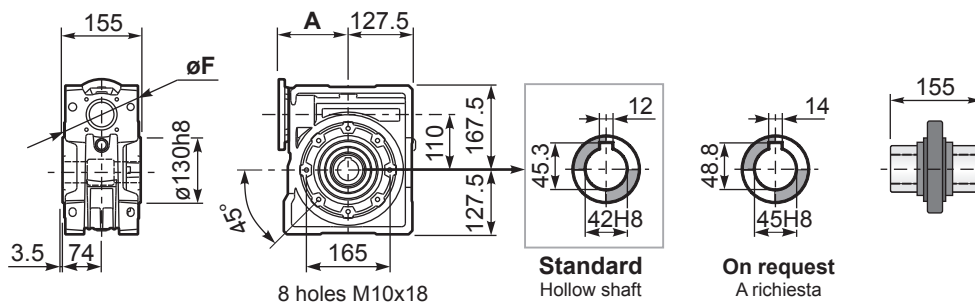
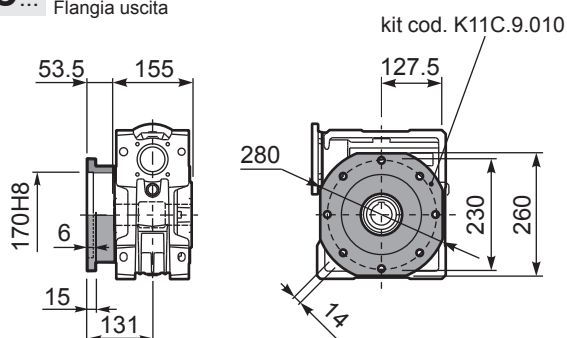
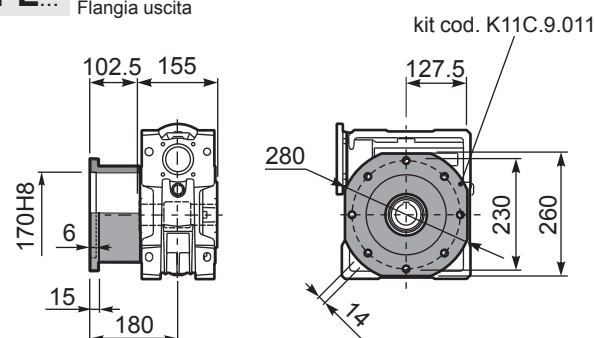
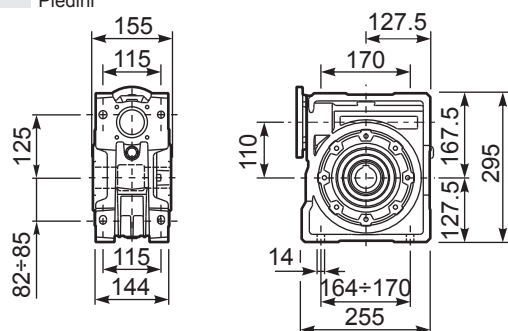
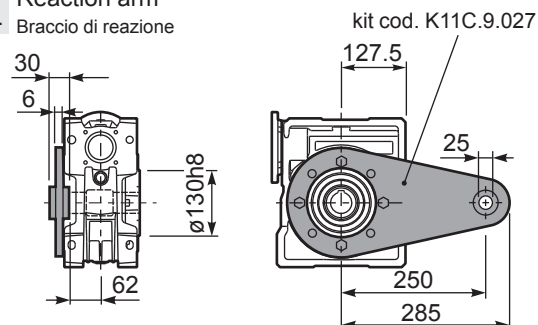
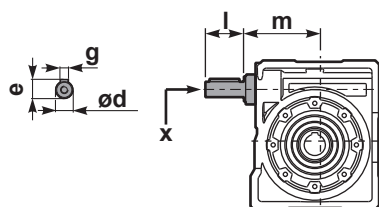
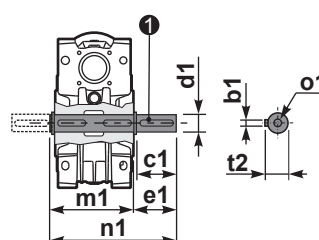
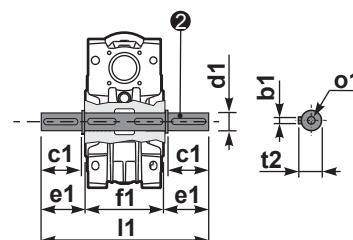
\*Strong axial loads in the DX direction are not allowed.

Non sono consentiti forti carichi assiali con direzione DX

tab. 2

**PM11FB...**Basic wormbox  
Riduttore baseGearbox  
weight  
peso riduttore **35.0 kg**

| M. flanges        | Kit code   | øF  | A   |
|-------------------|------------|-----|-----|
| <b>71B5</b>       | K023.4.041 | 160 | 136 |
| <b>80/90B5</b>    | K023.4.042 | 200 | 138 |
| <b>100/112B5</b>  | K023.4.043 | 250 | 147 |
| <b>132B5</b>      | -          | 300 | 187 |
| <hr/>             |            |     |     |
| <b>80B14</b>      | K085.4.046 | 120 | 138 |
| <b>90B14</b>      | K085.4.045 | 140 | 138 |
| <b>100/112B14</b> | K023.4.041 | 160 | 136 |
| <b>132B14</b>     | -          | 200 | 187 |

**PM11FC...**Output flange  
Flangia uscita**PM11FL...**Output flange  
Flangia uscita**PM11FB...**Feet  
Piedini**PM11BR...**Reaction arm  
Braccio di reazione**RM11FB...**Input shaft  
Albero in entrata**PM11.....S...**Single Shaft  
Albero lento semplice**PM11.....D...**Double Shaft  
Albero lento bisp.

① kit cod. K11C.5.028 type B

② kit cod. K11C.5.029 type B

|        | ød    | e  | g | l  | m     | x     | kit code                                    |
|--------|-------|----|---|----|-------|-------|---------------------------------------------|
| type B | 25 h6 | 28 | 8 | 50 | 131.5 | M8x20 | ① K085.5.007 PAM90<br>② K085.5.008 PAM100   |
| type S | 24 h6 | 27 | 8 | 50 | 131.5 | M8x20 | ① KS085.5.009 PAM90<br>② KS085.5.011 PAM100 |

|        | b1 | c1 | d1   | e1   | f1  | l1  | m1    | n1  | t2 | o1     |
|--------|----|----|------|------|-----|-----|-------|-----|----|--------|
| type B | 12 | 80 | 42h6 | 84.5 | 155 | 324 | 164.5 | 249 | 45 | M16x28 |
| type S | -  | -  | -    | -    | -   | -   | -     | -   | -  | -      |



## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    |    | B14 motor flanges<br>not available |   |   |   | Dynamic efficiency<br><br>RD | Tooth Module<br><br>[mm] | Ratios code<br><br> |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|----|------------------------------------|---|---|---|------------------------------|--------------------------|--------------------------------------------------------------------------------------------------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -E                            | -F | -G | -                                  | - | - | - |                              |                          |                                                                                                        |
| 187                                           | 7.5          | 7.5                             | 345                               | 2.1                    | 16.1                              | 741                                |                               | B  |    |                                    |   |   |   | 90                           | 6.11                     | 01                                                                                                     |
| 140                                           | 10           | 7.5                             | 455                               | 1.8                    | 13.5                              | 820                                |                               | B  |    |                                    |   |   |   | 89                           | 6.45                     | 02                                                                                                     |
| 93                                            | 15           | 7.5                             | 668                               | 1.4                    | 10.3                              | 917                                |                               | B  |    |                                    |   |   |   | 87                           | 6.72                     | 03                                                                                                     |
| 70                                            | 20           | 7.5                             | 870                               | 1.0                    | 7.8                               | 905                                |                               | B  |    |                                    |   |   |   | 85                           | 5.24                     | 04                                                                                                     |
| 56                                            | 25           | 5.5                             | 788                               | 1.2                    | 6.5                               | 931                                |                               | B  |    |                                    |   |   |   | 84                           | 4.28                     | 05                                                                                                     |
| 46.7                                          | 30           | 5.5                             | 900                               | 1.2                    | 6.4                               | 1047                               |                               | B  |    |                                    |   |   |   | 80                           | 6.91                     | 06                                                                                                     |
| 35                                            | 40           | 4.0                             | 851                               | 1.2                    | 4.9                               | 1043                               |                               | B  |    |                                    |   |   |   | 78                           | 5.36                     | 07                                                                                                     |
| 28                                            | 50           | 4.0                             | 1023                              | 0.9                    | 3.8                               | 972                                | B                             |    |    |                                    |   |   |   | 75                           | 4.35                     | 08                                                                                                     |
| 23.3                                          | 60           | 3.0                             | 896                               | 1.0                    | 3.1                               | 928                                | B                             |    |    |                                    |   |   |   | 73                           | 3.65                     | 09                                                                                                     |
| 17.5                                          | 80           | 2.2                             | 816                               | 1.0                    | 2.3                               | 853                                | B                             |    |    |                                    |   |   |   | 68                           | 2.76                     | 10                                                                                                     |
| 14                                            | 100          | 1.5                             | 655                               | 1.1                    | 1.7                               | 742                                | B                             |    |    |                                    |   |   |   | 64                           | 2.23                     | 11                                                                                                     |

 Motor Flanges Available  
Flange Motore Disponibili

 B) Supplied with Reduction Bushing  
Fornito con Bussola di Riduzione

 B) Available on Request without reduction bushing  
Disponibile a Richiesta senza Bussola di Riduzione

 C) Motor Flange Holes Position  
Posizione Fori Flangia Motore

**EN** Unit **M13** is supplied without lubricant and equipped with a breather, level and drain plugs. User can add mineral oil keeping existing plugs. Should the user wish to fill it with synthetic oil, it is recommended to replace the existing plugs with a closed plug.  
See table 1 for lubrication and recommended quantity.  
In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo **M13** è fornito privo di lubrificazione con tappi di sfiato, livello e scarico olio. L'utente può immettere olio minerale mantenendo i tappi esistenti. Se immetterà olio sintetico, dovrà sostituire i tappi esistenti con altri tipo chiuso.  
Tab.1 per oli e quantità consigliati.  
Tab.2 carichi radiali e assiali applicabili al riduttore.

**D** Das Getriebe der Baugröße **M13** wird ohne Schmiermittel geliefert. Es ist jedoch mit Einfüllschraube, Überdruckventil und Ablassschraube ausgerüstet. Das benötigte mineralische Öl kann über die Einfüllschraube eingefüllt werden. Sollte synthetisches Öl bevorzugt werden, so ist sind das eingebaute Überdruckventil durch eine geschlossenen Schraube zu ersetzen.  
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial - und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **M13** est fourni sans lubrification et avec un bouchon de remplissage, de niveau et d'évacuation de l'huile. L'utilisateur peut y verser de l'huile minérale en conservant les bouchons existants.  
S'il y versera de l'huile synthétique, il devra substituer les bouchons existants avec d'autres bouchons de type fermé.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Voir tableau 2 concernant les charges radiales et axiales applicables au réducteur.

**E** El reductor tamaño **M13** se suministra sin lubricante, provisto de tapones de respiración, nivel y descarga de aceite. El usuario puede utilizar aceite mineral, manteniendo los tapones existentes. Si prefiere utilizar aceite sintético deberá sustituir los tapones existentes por tapones ciegos. La prerreducción se suministra con tapones ciegos, lubricado de por vida con aceite sintético.  
Ver tabla 1, para cantidades y aceites recomendados.  
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

|                                                                                   |                                                                                    |                                                                                     |                                                                                     |                                                                                     |                                                                                     |
|-----------------------------------------------------------------------------------|------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|  |  |  |  |  |  |
| B3                                                                                | B6                                                                                 | B7                                                                                  | B8                                                                                  | V5                                                                                  | V6                                                                                  |
| 4.50 LT                                                                           | 3.50 LT                                                                            | 3.50 LT                                                                             | 3.30LT                                                                              | 4.50 LT                                                                             | 3.30LT                                                                              |
| SHELL Omala S2 GX 460                                                             |                                                                                    |                                                                                     | ENI Blasia 460                                                                      |                                                                                     |                                                                                     |

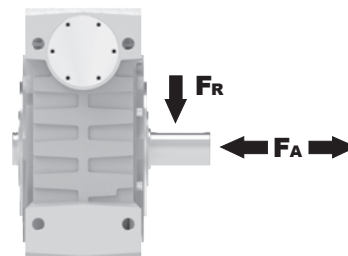
For all details on lubrication and plugs check our website  
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

tab. 1

## RADIAL AND AXIAL LOADS

### Output shaft

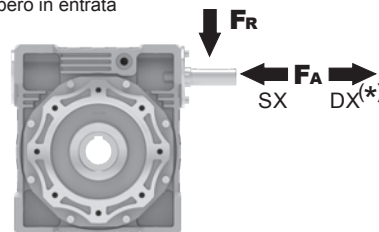
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 200                           | 960       | 4800      |
| 150                           | 1100      | 5500      |
| 100                           | 1240      | 6200      |
| 75                            | 1380      | 6900      |
| 50                            | 1560      | 7800      |
| 25                            | 2000      | 10000     |
| 15                            | 2400      | 12000     |

### Input shaft

albero in entrata



| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 300       | 1500      |

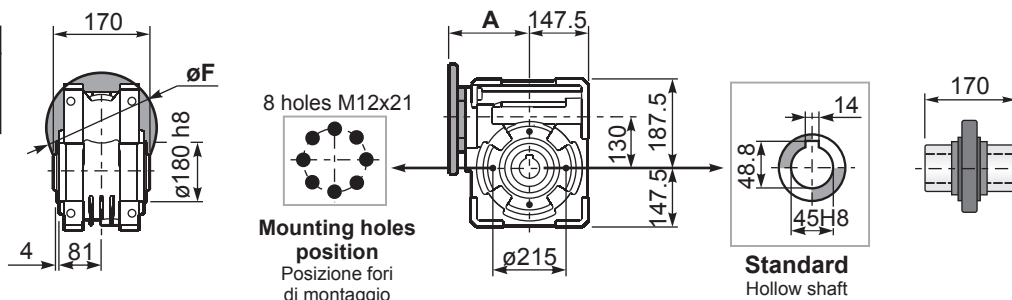
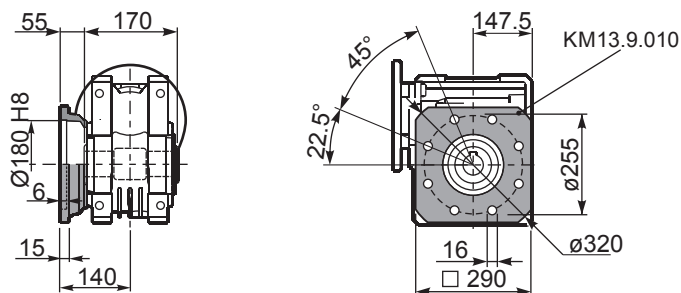
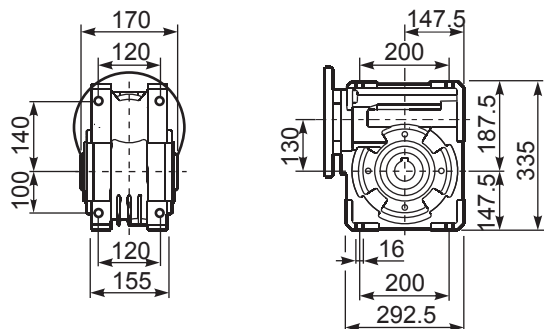
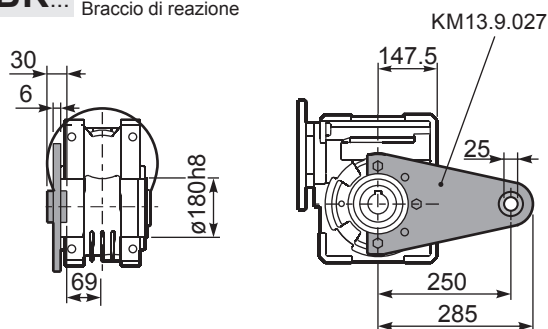
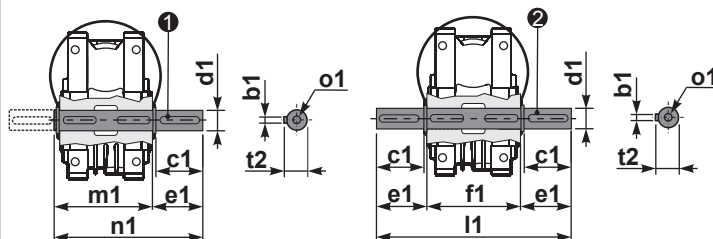
\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

tab. 2



PM13**FB**...Basic wormbox  
Riduttore baseGearbox  
weight  
peso riduttore**48.0 kg**

| M. flanges       | Kit code   | øF  | A   |
|------------------|------------|-----|-----|
| <b>90B5</b>      | KM13.4.041 | 200 | 180 |
| <b>100/112B5</b> | KM13.4.042 | 250 | 180 |
| <b>132B5</b>     | KM13.4.043 | 300 | 180 |

PM13**FC**...Square flange  
Flangia quadrataPM13**FB**...Feet  
PiediniPM13**BR**...Reaction arm  
Braccio di reazionePM13.....**S**...Single Shaft  
Albero lento semplicePM13.....**D**...Double Shaft  
Albero lento bisp.

① kit cod. KM13.5.028 type B

② kit cod. KM13.5.029 type B

|      | b1 | c1 | d1                          | e1 | f1  | l1  | m1  | n1  | t2   | o1  |
|------|----|----|-----------------------------|----|-----|-----|-----|-----|------|-----|
| type | 14 | 80 | 45 <sup>-0.005/-0.020</sup> | 85 | 170 | 340 | 180 | 265 | 48.5 | M16 |
| type | -  | -  | -                           | -  | -   | -   | -   | -   | -    | -   |





## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    |    | B14 motor flanges<br>not available |   |   |   | Dynamic efficiency | Tooth Module<br>[mm] | Ratios code<br> |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|----|------------------------------------|---|---|---|--------------------|----------------------|-----------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -F                            | -G | -H | -                                  | - | - | - |                    |                      |                 |
| 187                                           | 7.5          | 15                              | 698                               | 1.7                    | 25.8                              | 1200                               |                               | B  |    |                                    |   |   |   | 91                 | 5.5                  | 01              |
| 140                                           | 10           | 15                              | 921                               | 1.3                    | 20.2                              | 1240                               |                               | B  |    |                                    |   |   |   | 90                 | 6.155                | 02              |
| 93                                            | 15           | 11                              | 990                               | 1.3                    | 13.9                              | 1250                               |                               | B  |    |                                    |   |   |   | 88                 | 5.5                  | 03              |
| 70                                            | 20           | 11                              | 1291                              | 1.0                    | 11.1                              | 1300                               |                               | B  |    |                                    |   |   |   | 86                 | 6.155                | 04              |
| 56                                            | 25           | 9                               | 1289                              | 0.9                    | 8.4                               | 1200                               |                               | B  |    |                                    |   |   |   | 84                 | 5                    | 05              |
| 46.7                                          | 30           | 7.5                             | 1274                              | 0.9                    | 7.1                               | 1200                               | B                             |    |    |                                    |   |   |   | 83                 | 4.193                | 06              |
| 35                                            | 40           | 7.5                             | 1596                              | 1.0                    | 7.3                               | 1550                               | B                             |    |    |                                    |   |   |   | 78                 | 6.155                | 07              |
| 28                                            | 50           | 5.5                             | 1426                              | 1.0                    | 5.4                               | 1400                               | B                             |    |    |                                    |   |   |   | 76                 | 5                    | 08              |
| 23.3                                          | 60           | 4                               | 1195                              | 1.1                    | 4.2                               | 1260                               | B                             |    |    |                                    |   |   |   | 73                 | 4.193                | 09              |
| 17.5                                          | 80           | 3                               | 1113                              | 1.0                    | 3.1                               | 1150                               |                               |    |    |                                    |   |   |   | 68                 | 3.17                 | 10              |
| 14                                            | 100          | 2.2                             | 960                               | 1.0                    | 2.3                               | 1000                               |                               |    |    |                                    |   |   |   | 64                 | 2.55                 | 11              |

Motor Flanges Available  
Flange Motore Disponibili

B) Supplied with Reduction Bushing  
Fornito con Bussola di Riduzione

B) Available on Request without reduction bushing  
Disponibile a Richiesta senza Bussola di Riduzione

C) Motor Flange Holes Position  
Posizione Fori Flangia Motore

**EN** Unit **M15** is supplied without lubricant and equipped with a breather, level and drain plugs. User can add mineral oil keeping existing plugs. Should the user wish to fill it with synthetic oil, it is recommended to replace the existing plugs with a closed plug.  
See table 1 for lubrication and recommended quantity.  
In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo **M15** è fornito privo di lubrificazione con tappi di sfiato, livello e scarico olio. L'utente può immettere olio minerale mantenendo i tappi esistenti. Se immetterà olio sintetico, dovrà sostituire i tappi esistenti con altri tipo chiuso.  
Tab.1 per oli e quantità consigliati.  
Tab.2 carichi radiali e assiali applicabili al riduttore.

**D** Das Getriebe der Baugröße **M15** wird ohne Schmiermittel geliefert. Es ist jedoch mit Einfüllschraube, Überdruckventil und Ablassschraube ausgerüstet. Das benötigte mineralische Öl kann über die Einfüllschraube eingefüllt werden. Sollte synthetisches Öl bevorzugt werden, so ist sind das eingebaute Überdruckventil durch eine geschlossenen Schraube zu ersetzen.  
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial - und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **M15** est fourni sans lubrification et avec un bouchon de remplissage, de niveau et d'évacuation de l'huile. L'utilisateur peut y verser de l'huile minérale en conservant les bouchons existants.  
S'il y versera de l'huile synthétique, il devra substituer les bouchons existants avec d'autres bouchons de type fermé.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Voir tableau 2 concernant les charges radiales et axiales applicables au réducteur.

**E** El reductor tamaño **M15** se suministra sin lubricante, provisto de tapones de respiración, nivel y descarga de aceite. El usuario puede utilizar aceite mineral, manteniendo los tapones existentes. Si prefiere utilizar aceite sintético deberá sustituir los tapones existentes por tapones ciegos. La prerreducción se suministra con tapones ciegos, lubricado de por vida con aceite sintético.  
Ver tabla 1, para cantidades y aceites recomendados.  
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

|                       |         |         |                 |         |         |
|-----------------------|---------|---------|-----------------|---------|---------|
|                       |         |         |                 |         |         |
| B3                    | B6      | B7      | B8              | V5      | V6      |
| 7.00 LT               | 5.40 LT | 5.40 LT | 5.10 LT         | 7.00 LT | 5.10 LT |
| SHELL Omala S2 GX 460 |         |         | ENI Blasias 460 |         |         |

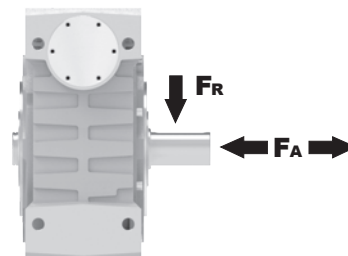
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Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

tab. 1

## RADIAL AND AXIAL LOADS

### Output shaft

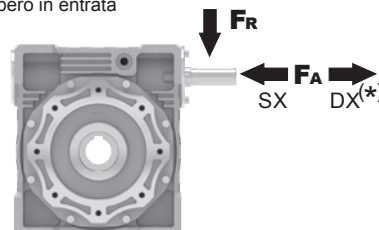
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 200                           | 1300      | 6500      |
| 150                           | 1440      | 7200      |
| 100                           | 1640      | 8200      |
| 75                            | 1800      | 9000      |
| 50                            | 2120      | 10600     |
| 25                            | 2700      | 13500     |
| 15                            | 3300      | 16500     |

### Input shaft

albero in entrata



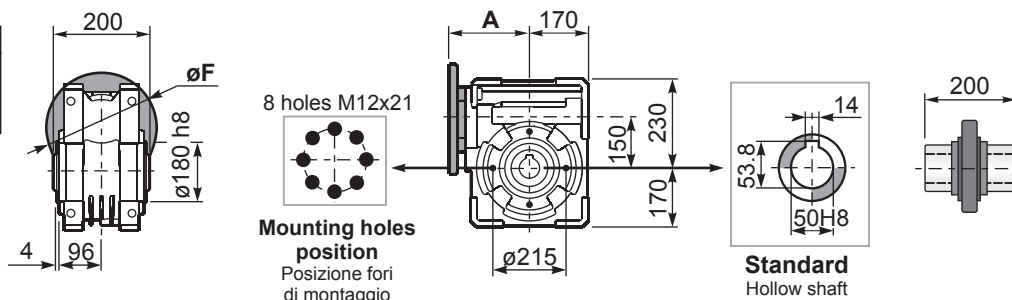
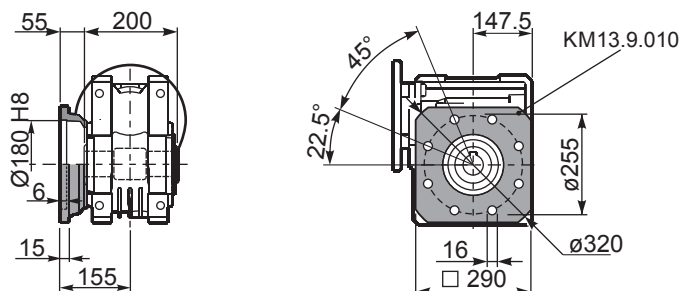
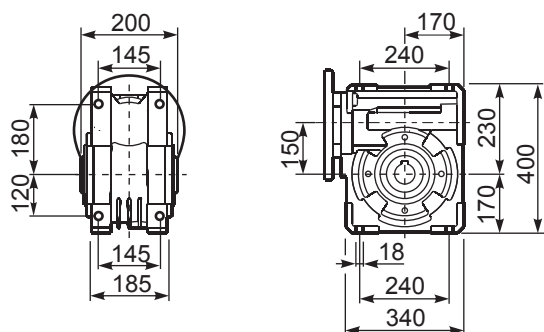
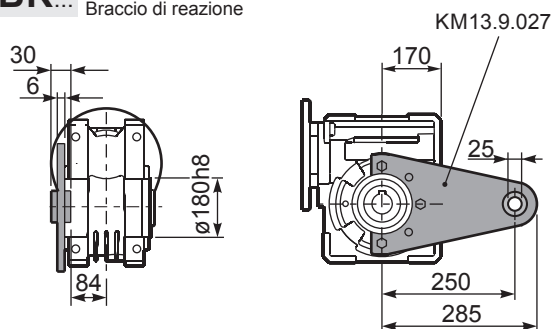
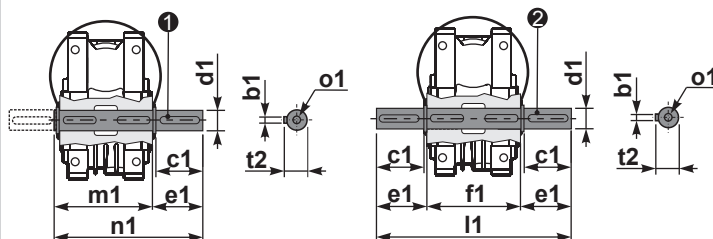
| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 400       | 2000      |

\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

PM15**FB**...Basic wormbox  
Riduttore baseGearbox  
weight  
peso riduttore**84.0 kg**

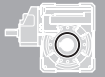
| M. flanges       | Kit code   | øF  | A   |
|------------------|------------|-----|-----|
| <b>100/112B5</b> | KM15.4.042 | 250 | 210 |
| <b>132B5</b>     | KM15.4.043 | 300 | 210 |
| <b>160B5</b>     | KM15.4.044 | 350 | 210 |

PM15**FC**...Square flange  
Flangia quadrataPM15**FB**...Feet  
PiediniPM15**BR**...Reaction arm  
Braccio di reazionePM15.....**S**...Single Shaft  
Albero lento semplicePM15.....**D**...Double Shaft  
Albero lento bisp.

① kit cod. KM15.5.028 type B

② kit cod. KM15.5.029 type B

|      | b1 | c1 | d1                          | e1 | f1  | l1  | m1  | n1  | t2   | o1  |
|------|----|----|-----------------------------|----|-----|-----|-----|-----|------|-----|
| type | 14 | 82 | 50 <sup>-0.005/-0.020</sup> | 87 | 200 | 374 | 210 | 297 | 53.5 | M16 |
| type | -  | -  | -                           | -  | -   | -   | -   | -   | -    | -   |



## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    |    | Available<br>B14 motor flanges |    | Dynamic efficiency<br><br>RD | Tooth Module<br><br>[mm] | Ratios code<br> |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|----|--------------------------------|----|------------------------------|--------------------------|----------------------------------------------------------------------------------------------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -A                            | -B | -C | -P                             | -Q |                              |                          |                                                                                                    |
|                                               |              |                                 |                                   |                        |                                   |                                    | 56                            | 63 | 71 | 63                             | 71 |                              |                          |                                                                                                    |
| 47                                            | 30.1         | 0.25                            | 38                                | 1.4                    | 0.36                              | 55                                 |                               |    |    | C                              |    | 74                           | 2.2                      | 01                                                                                                 |
| 33                                            | 43.0         | 0.25                            | 53                                | 1.0                    | 0.26                              | 55                                 |                               |    |    | C                              |    | 72                           | 2.2                      | 02                                                                                                 |
| 23                                            | 60.2         | 0.25                            | 62                                | 0.9                    | 0.22                              | 55                                 |                               |    |    | C                              |    | 60                           | 2.4                      | 03                                                                                                 |
| 15.5                                          | 90.3         | 0.12                            | 42                                | 1.3                    | 0.16                              | 55                                 |                               |    |    | C                              |    | 57                           | 1.6                      | 04                                                                                                 |
| 11.6                                          | 120          | 0.12                            | 52                                | 1.1                    | 0.13                              | 55                                 |                               |    |    | C                              |    | 53                           | 2.5                      | 05                                                                                                 |
| 8.8                                           | 159          | 0.12                            | 64                                | 0.9                    | 0.10                              | 55                                 |                               |    |    | C                              |    | 49                           | 1.8                      | 06                                                                                                 |
| 7.1                                           | 198          | 0.12*                           | 55                                | <0.8                   | 0.09                              | 55                                 |                               |    |    | C                              |    | 47                           | 1.5                      | 07                                                                                                 |
| 5.4                                           | 258          | 0.12*                           | 55                                | <0.8                   | 0.07                              | 55                                 |                               |    |    | C                              |    | 45                           | 1.2                      | 08                                                                                                 |
| 4.7                                           | 301          | 0.12*                           | 39                                | <0.8                   | 0.05                              | 39                                 |                               |    |    | C                              |    | 40                           | 1.0                      | 09                                                                                                 |
| 3.2                                           | 439          | 0.12*                           | 39                                | <0.8                   | 0.04                              | 39                                 |                               |    |    | C                              |    | 36                           | 0.72                     | 10                                                                                                 |

**Motor Flanges Available**  
Flange Motore Disponibili

**B) Supplied with Reduction Bushing**  
Fornito con Bussola di Riduzione

**B) Available on Request without reduction bushing**  
Disponibile a Richiesta senza Bussola di Riduzione

**C) Motor Flange Holes Position**  
Posizione Fori Flangia Motore

\* Power higher than the maximum one which can be supported by the gearbox. Select according to the torque  $M_{2R}$   
Potenza superiore a quella massima sopportabile dal riduttore. Selezionare in base al momento torcente  $M_{2R}$

**EN** Unit **P4M** is supplied with synthetic oil, providing "long life" lubrication. For mounting position V5-V6 please contact us.  
See table 1 for lubrication and recommended quantity.  
In table 2 please see possible radial loads and axial loads on the gearbox.

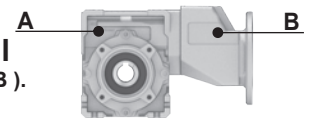
**I** Il riduttore tipo **P4M** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.  
Vedi tab.1 per oli e quantità consigliati.  
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe **P4M** mit synthetischem Öl befüllt.  
Bei Einbaulage V5 oder V6 bitten wir um Rücksprache.  
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **P4M** est fourni lubrifié à vie avec de l'huile synthétique. Concernant les positions V5.V6, contactez notre service d'assistance technique.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño **P4M** se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico.  
Ver tabla 1, para cantidades y aceites recomendados.  
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

## LUBRICATION P4M Oil Common lubrication 0.17 l (A + B).



**SHELL** Omala S4 WE 320

**ENI** Telium VSF 320

For all details on lubrication and plugs check our website

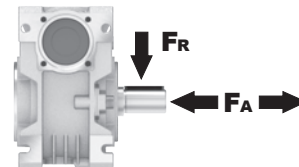
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

tab. 1

## RADIAL AND AXIAL LOADS

### Output shaft

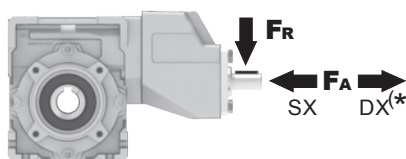
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 75                            | 240       | 1200      |
| 50                            | 260       | 1400      |
| 25                            | 300       | 1800      |
| 15-6                          | 400       | 2000      |

### Input shaft

albero in entrata



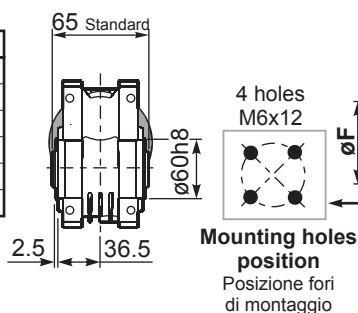
| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 44        | 220       |

\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

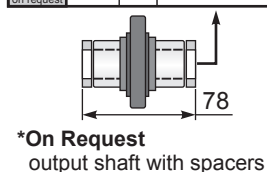
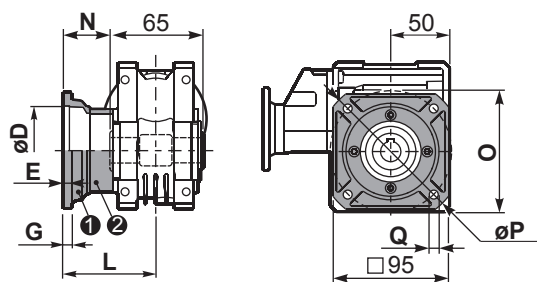
tab. 2

**PP4MFB...** Basic wormbox  
Riduttore base

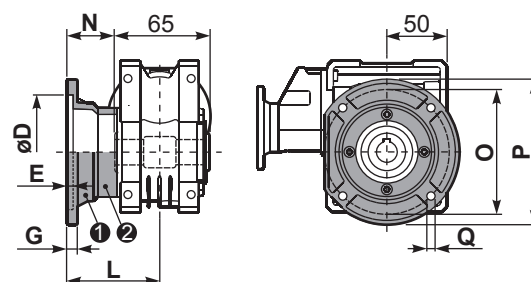
| M. flanges   | Kit code   | øF  | A     |
|--------------|------------|-----|-------|
| <b>56B5</b>  | K050.4.046 | 120 | 143.5 |
| <b>63B5</b>  | K050.4.041 | 138 | 145.5 |
| <b>71B5</b>  | K050.4.042 | 160 | 143   |
| <b>63B14</b> | K050.4.047 | 90  | 145.5 |
| <b>71B14</b> | K050.4.045 | 105 | 143   |

Gearbox weight  
peso riduttore **3.10 kg**

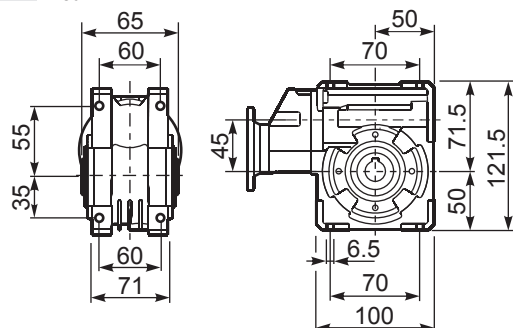
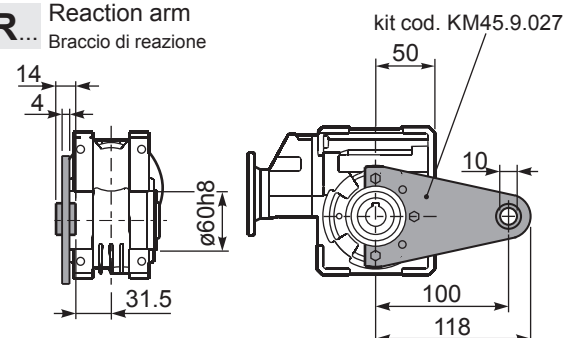
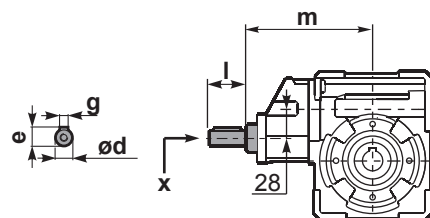
| ø H8                    | B    | C | *Spacer code |
|-------------------------|------|---|--------------|
| <b>18</b><br>Standard   | 20.8 | 6 | KM45.3.018   |
| <b>19</b><br>on request | 21.8 | 6 | KM45.3.019   |
| <b>20</b><br>on request | 22.8 | 6 | KM45.3.020   |

**PP4MFC...** Square flange  
Flangia quadrata

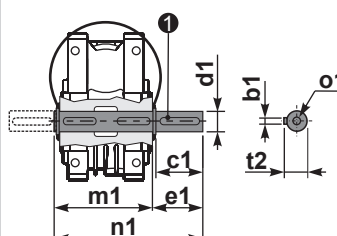
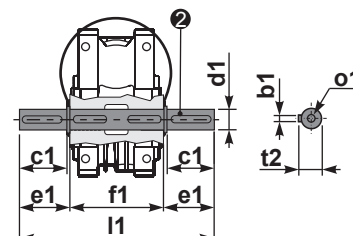
| type B    | øD    | E | G | L  | N    | O  | P   | Q | kit code   |
|-----------|-------|---|---|----|------|----|-----|---|------------|
| <b>FC</b> | 60 H8 | 4 | 7 | 67 | 34.5 | 75 | 110 | 9 | KM45.9.010 |
| <b>FL</b> | 60 H8 | 4 | 7 | 97 | 64.5 | 75 | 110 | 9 | KM45.9.011 |

**PP4MF1...** Round flange  
Flangia rotonda

| type S    | øD   | E | G | L  | N    | O   | P   | Q   | kit code   |
|-----------|------|---|---|----|------|-----|-----|-----|------------|
| <b>F1</b> | 95H8 | 5 | 9 | 80 | 47.5 | 115 | 140 | 9.5 | KM45.9.012 |
| <b>F2</b> | -    | - | - | -  | -    | -   | -   | -   | -          |

**PP4MFB...** Feet  
Piedini**PP4MBR...** Reaction arm  
Braccio di reazione**RP4MFB...** Input shaft  
Albero in entrata

|        | ød    | e  | g | l  | m   | x     |           |
|--------|-------|----|---|----|-----|-------|-----------|
| type B | 14 h6 | 16 | 5 | 25 | 141 | M5x13 | C35.5.061 |
| type S | -     | -  | - | -  | -   | -     | -         |

**PP4M....S...** Single Shaft  
Albero lento semplice**PP4M....D...** Double Shaft  
Albero lento bisp.

- ① kit cod. K045.5.028 type B  
kit cod. KS045.5.030 type S
- ② kit cod. K045.5.029 type B

|        | b1 | c1 | d1                                     | e1   | f1 | l1  | m1 | n1    | t2   | o1    |
|--------|----|----|----------------------------------------|------|----|-----|----|-------|------|-------|
| type B | 6  | 32 | 18 <sup>-0.005</sup> <sub>-0.020</sub> | 43   | 65 | 151 | 70 | 113   | 20.5 | M6x18 |
| type S | 6  | 40 | 19 <sup>-0.005</sup> <sub>-0.020</sub> | 58.5 | -  | -   | 70 | 128.5 | 21.5 | M8x20 |



## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    |    | Available<br>B14 motor flanges |    | Dynamic efficiency<br><br>RD | Tooth Module<br><br>[mm] | Ratios code<br> |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|----|--------------------------------|----|------------------------------|--------------------------|----------------------------------------------------------------------------------------------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -A                            | -B | -C | -P                             | -Q |                              |                          |                                                                                                    |
|                                               |              |                                 |                                   |                        |                                   |                                    | 56                            | 63 | 71 | 63                             | 71 |                              |                          |                                                                                                    |
| 47                                            | 30.1         | 0.37                            | 58                                | 1.3                    | 0.49                              | 77                                 |                               |    |    | C                              |    | 76                           | 2.5                      | 01                                                                                                 |
| 33                                            | 43.0         | 0.25                            | 55                                | 1.4                    | 0.35                              | 77                                 |                               |    |    | C                              |    | 75                           | 2.4                      | 02                                                                                                 |
| 23                                            | 60.2         | 0.25                            | 71                                | 1.1                    | 0.27                              | 77                                 |                               |    |    | C                              |    | 69                           | 2.6                      | 03                                                                                                 |
| 18.1                                          | 77.4         | 0.25                            | 81                                | 1.1                    | 0.27                              | 88                                 |                               |    |    | C                              |    | 61                           | 2.0                      | 04                                                                                                 |
| 12.5                                          | 112          | 0.18                            | 84                                | 1.1                    | 0.19                              | 88                                 |                               |    |    | C                              |    | 61                           | 2.7                      | 05                                                                                                 |
| 9.0                                           | 155          | 0.12                            | 71                                | 1.2                    | 0.15                              | 88                                 |                               |    |    | C                              |    | 56                           | 2.1                      | 06                                                                                                 |
| 7.6                                           | 185          | 0.12                            | 74                                | 1.0                    | 0.12                              | 77                                 |                               |    |    | C                              |    | 49                           | 1.8                      | 07                                                                                                 |
| 5.4                                           | 258          | 0.12*                           | 77                                | <0.8                   | 0.09                              | 77                                 |                               |    |    | C                              |    | 47                           | 1.3                      | 08                                                                                                 |
| 4.8                                           | 292          | 0.12*                           | 66                                | <0.8                   | 0.08                              | 66                                 |                               |    |    | C                              |    | 44                           | 1.2                      | 09                                                                                                 |
| 4.1                                           | 344          | 0.12*                           | 44                                | <0.8                   | 0.05                              | 44                                 |                               |    |    | C                              |    | 40                           | 1.0                      | 10                                                                                                 |
| 3.3                                           | 430          | 0.12*                           | 44                                | <0.8                   | 0.04                              | 44                                 |                               |    |    | C                              |    | 36                           | 0.8                      | 11                                                                                                 |

**A** Motor Flanges Available  
Flange Motore Disponibili

**B** Supplied with Reduction Bushing  
Fornito con Bussola di Riduzione

**B** Available on Request without reduction bushing  
Disponibile a Richiesta senza Bussola di Riduzione

**C** Motor Flange Holes Position  
Posizione Fori Flangia Motore

\* Power higher than the maximum one which can be supported by the gearbox. Select according to the torque  $M_{2R}$   
Potenza superiore a quella massima sopportabile dal riduttore. Selezionare in base al momento torcente  $M_{2R}$

**EN** Unit **P5M** is supplied with synthetic oil, providing "long life" lubrication. For mounting position V5-V6 please contact us.  
See table 1 for lubrication and recommended quantity.  
In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo **P5M** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.  
Vedi tab.1 per oli e quantità consigliati.  
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe **P5M** mit synthetischem Öl befüllt.  
Bei Einbaulage V5 oder V6 bitten wir um Rücksprache.  
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **P5M** est fourni lubrifié à vie avec de l'huile synthétique. Concernant les positions V5.V6, contactez notre service d'assistance technique.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño **P5M** se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico.  
Ver tabla 1, para cantidades y aceites recomendados.  
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

| LUBRICATION P5M Oil<br>Common lubrication 0.26 l (A + B). |                           |
|-----------------------------------------------------------|---------------------------|
| <b>SHELL</b> Omala S4 WE 320                              | <b>ENI</b> Telium VSF 320 |

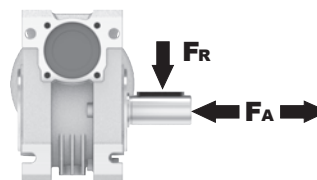
For all details on lubrication and plugs check our website  
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

tab. 1

## RADIAL AND AXIAL LOADS

### Output shaft

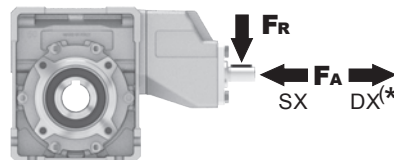
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 75                            | 340       | 1700      |
| 50                            | 380       | 1900      |
| 25                            | 480       | 2500      |
| 15-6                          | 560       | 2800      |

### Input shaft

albero in entrata



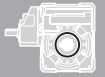
| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 44        | 220       |

\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

tab. 2







## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

|                  | Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    |    |    | Available<br>B14 motor flanges |    |    |    | Dynamic efficiency<br>RD | Tooth Module<br>[mm] | Ratios code |
|------------------|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|----|----|--------------------------------|----|----|----|--------------------------|----------------------|-------------|
|                  |                                               |              |                                 |                                   |                        |                                   |                                    | -B                            | -C | -D | -E | -P                             | -Q | -R | -T |                          |                      |             |
|                  |                                               |              |                                 |                                   |                        |                                   |                                    | 63                            | 71 | 80 | 90 | 63                             | 71 | 80 | 90 |                          |                      |             |
| IEC 90 - 80 - 71 | 47                                            | 29.9         | 0.75                            | 113                               | 1.5                    | 1.1                               | 165                                |                               |    |    |    |                                | C  | C  |    | 74                       | 2.6                  | 01          |
|                  | 37                                            | 37.7         | 0.75                            | 141                               | 1.2                    | 0.88                              | 165                                |                               |    |    |    |                                | C  | C  |    | 73                       | 2.0                  | 02          |
|                  | 30                                            | 47.1         | 0.75                            | 169                               | 1.1                    | 0.83                              | 187                                |                               |    |    |    |                                | C  | C  |    | 70                       | 3.2                  | 03          |
|                  | 25                                            | 56.6         | 0.55                            | 136                               | 1.4                    | 0.76                              | 187                                |                               |    |    |    |                                | C  | C  |    | 64                       | 2.7                  | 04          |
|                  | 19.8                                          | 70.7         | 0.55                            | 164                               | 1.1                    | 0.63                              | 187                                |                               |    |    |    |                                | C  | C  |    | 62                       | 2.1                  | 05          |
|                  | 15.9                                          | 87.8         | 0.37                            | 162                               | 1.2                    | 0.43                              | 187                                |                               |    |    |    |                                | C  | C  |    | 73                       | 2.6                  | 06          |
|                  | 12.6                                          | 111.0        | 0.37                            | 199                               | 0.9                    | 0.35                              | 187                                |                               |    |    |    |                                | C  | C  |    | 71                       | 2.0                  | 07          |
|                  |                                               |              |                                 |                                   |                        |                                   |                                    |                               |    |    |    |                                |    |    |    |                          |                      |             |
| IEC 71 - 63      | 10.1                                          | 139          | 0.37                            | 234                               | 0.8                    | 0.30                              | 187                                |                               |    |    |    | C                              |    |    |    | 67                       | 3.2                  | 08          |
|                  | 8.4                                           | 166          | 0.25                            | 173                               | 1.1                    | 0.27                              | 187                                |                               |    |    |    | C                              |    |    |    | 61                       | 2.7                  | 09          |
|                  | 6.7                                           | 208          | 0.18                            | 151                               | 1.1                    | 0.20                              | 165                                |                               |    |    |    | C                              |    |    |    | 59                       | 2.1                  | 10          |
|                  | 4.5                                           | 310          | 0.12                            | 129                               | 1.3                    | 0.15                              | 165                                |                               |    |    |    | C                              |    |    |    | 51                       | 1.5                  | 11          |
|                  | 3.8                                           | 370          | 0.12                            | 145                               | 1.1                    | 0.14                              | 165                                |                               |    |    |    | C                              |    |    |    | 48                       | 1.3                  | 12          |
|                  | 3.2                                           | 434          | 0.12                            | 149                               | 0.9                    | 0.11                              | 138                                |                               |    |    |    | C                              |    |    |    | 42                       | 1.1                  | 13          |
|                  |                                               |              |                                 |                                   |                        |                                   |                                    |                               |    |    |    |                                |    |    |    |                          |                      |             |

Motor Flanges Available  
Flange Motore Disponibili

B) Supplied with Reduction Bushing  
Fornito con Bussola di Riduzione

B) Available on Request without reduction bushing  
Disponibile a Richiesta senza Bussola di Riduzione

C) Motor Flange Holes Position  
Posizione Fori Flangia Motore

**EN** Unit **P6M** is supplied with synthetic oil, providing "long life" lubrication. For mounting position V5-V6 please contact us.  
See table 1 for lubrication and recommended quantity. In table 2 please see possible radial loads and axial loads on the gearbox.

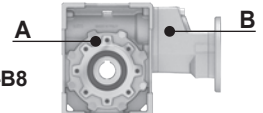
**I** Il riduttore tipo **P6M** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.  
Vedi tab.1 per oli e quantità consigliati. In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe **P6M** mit synthetischem Öl befüllt. Bei Einbaulage V5 oder V6 bitten wir um Rücksprache. In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben. In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **P6M** est fourni lubrifié à vie avec de l'huile synthétique. Concernant les positions V5.V6, contactez notre service d'assistance technique. Voir tableau 1 concernant les huiles et les quantités conseillées. Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño **P6M** se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico. Ver tabla 1, para cantidades y aceites recomendados. En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

**LUBRICATION P6M Oil**  
For B3-V5-V6 separate lubrication for A (0.30 l) B (0.08 l), for B6-B7-B8 common lubrication 0.35 l (A + B).



SHELL Omala S4 WE 320

ENI Telium VSF 320

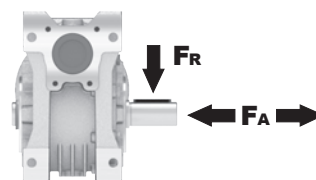
For all details on lubrication and plugs check our website

tab. 1

Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

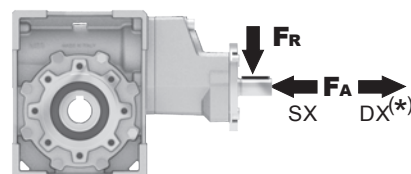
## RADIAL AND AXIAL LOADS

Output shaft  
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 75                            | 500       | 2500      |
| 50                            | 600       | 3000      |
| 25                            | 700       | 3800      |
| 15-6                          | 800       | 4000      |

Input shaft  
albero in entrata



| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 61        | 305       |

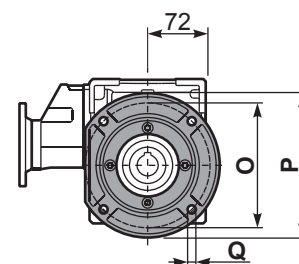
\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

|                                         |                                      |                                     |
|-----------------------------------------|--------------------------------------|-------------------------------------|
| <b>Gearbox weight</b><br>peso riduttore | 29.9+111<br><b>7.00</b><br><b>Kg</b> | 139+434<br><b>6.60</b><br><b>Kg</b> |
|-----------------------------------------|--------------------------------------|-------------------------------------|

**On request**  
A richiesta

Output flange  
Flangia uscita



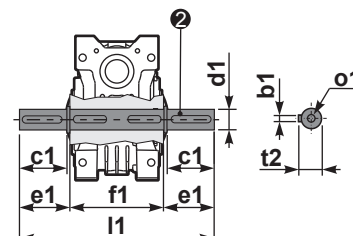
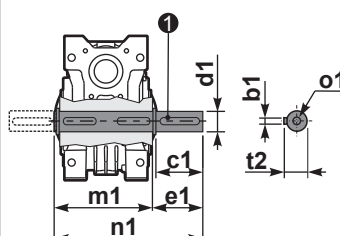
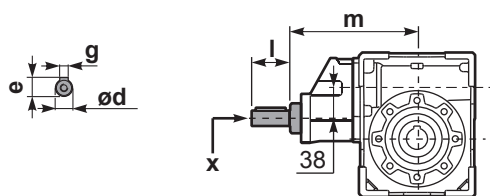
| type S    | øD     | E | G    | L    | N    | O   | P   | Q  | kit code   |
|-----------|--------|---|------|------|------|-----|-----|----|------------|
| <b>F1</b> | 130 H8 | 5 | 10   | 98   | 42   | 165 | 200 | 11 | KM60.9.012 |
| <b>F2</b> | 130 H8 | 5 | 10   | 107  | 51   | 165 | 200 | 11 | KM63.9.013 |
| <b>F3</b> | 110 H8 | 5 | 16.5 | 80.5 | 24.5 | 130 | 160 | 11 | KM63.9.014 |

Reaction arm  
Braccio di reazione

Technical drawing of a mechanical part, likely a bracket or arm. The drawing shows a side view with dimensions: 72 (width of the main body), 10 (thickness of the main body), 150 (length of the arm), and 168 (total length including the mounting flange). The part features a central circular hole and several smaller holes along the arm.

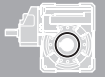
Single Shaft  
Albero lento semplice

- Double Shaft
- Albero lento bisp.



② kit cod. KM63.5.029 type **B**

[illegible]



## QUICK SELECTION / Selezione veloce

input speed (n<sub>1</sub>) = 1400 min<sup>-1</sup>

| Output Speed<br>n <sub>2</sub><br>[min <sup>-1</sup> ] | Ratio<br>i | Motor power<br>P <sub>1M</sub><br>[kW] | Output torque<br>M <sub>2M</sub><br>[Nm] | Service factor<br>f.s. | Nominal power<br>P <sub>1R</sub><br>[kW] | Nominal torque<br>M <sub>2R</sub><br>[Nm] | Available<br>B5 motor flanges |    |    |    | Available<br>B14 motor flanges |    |    | Dynamic efficiency<br>RD | Tooth Module<br>[mm] | Ratios code |
|--------------------------------------------------------|------------|----------------------------------------|------------------------------------------|------------------------|------------------------------------------|-------------------------------------------|-------------------------------|----|----|----|--------------------------------|----|----|--------------------------|----------------------|-------------|
|                                                        |            |                                        |                                          |                        |                                          |                                           | -B                            | -C | -D | -E | -Q                             | -R | -T |                          |                      |             |
| 22                                                     | 62.9       | 0.75                                   | 248                                      | 1.2                    | 0.87                                     | 286                                       |                               |    |    |    | C                              | C  |    | 77                       | 3.10                 | 01          |
| 18                                                     | 78.5       | 0.75                                   | 293                                      | 1.0                    | 0.73                                     | 286                                       |                               |    |    |    | C                              | C  |    | 73                       | 2.41                 | 02          |
| 15                                                     | 94.2       | 0.75                                   | 333                                      | 0.9                    | 0.70                                     | 310                                       |                               |    |    |    | C                              | C  |    | 69                       | 2.10                 | 03          |
| 11                                                     | 126        | 0.55                                   | 297                                      | 1.0                    | 0.55                                     | 296                                       | B                             |    |    |    | C                              | C  |    | 63                       | 1.53                 | 04          |
| 9                                                      | 157        | 0.37                                   | 230                                      | 1.1                    | 0.41                                     | 252                                       | B                             |    |    |    | C                              | C  |    | 58                       | 1.23                 | 05          |
| 8                                                      | 185        | 0.37                                   | 257                                      | 1.2                    | 0.43                                     | 296                                       | B                             |    |    |    | C                              | C  |    | 55                       | 3.10                 | 06          |
| 6                                                      | 231        | 0.25                                   | 193                                      | 1.5                    | 0.38                                     | 296                                       | B                             |    |    |    | C                              | C  |    | 49                       | 2.41                 | 07          |
| 5                                                      | 277        | 0.25                                   | 222                                      | 1.3                    | 0.33                                     | 296                                       | B                             |    |    |    | C                              | C  |    | 47                       | 2.10                 | 08          |
| 4                                                      | 378        | 0.18                                   | 200                                      | 1.5                    | 0.27                                     | 296                                       | B                             |    |    |    | C                              | C  |    | 43                       | 2.10                 | 09          |

**A** Motor Flanges Available  
Flange Motore Disponibili

**B** Supplied with Reduction Bushing  
Fornito con Bussola di Riduzione

**B** Available on Request without reduction bushing  
Disponibile a Richiesta senza Bussola di Riduzione

**C** Motor Flange Holes Position  
Posizione Fori Flangia Motore

\* Power higher than the maximum one which can be supported by the gearbox. Select according to the torque M<sub>2R</sub>  
Potenza superiore a quella massima sopportabile dal riduttore. Selezionare in base al momento torcente M<sub>2R</sub>

**EN** Unit P7M is supplied with synthetic oil, providing "long life" lubrication. For mounting position V5-V6 please contact us.  
See table 1 for lubrication and recommended quantity.  
In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo P7M viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.  
Vedi tab.1 per oli e quantità consigliati.  
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

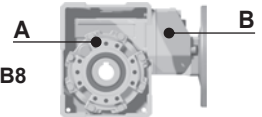
**D** Für die Lebensdauerschmierung ist das Getriebe der Größe P7M mit synthetischem Öl befüllt.  
Bei Einbaulage V5 oder V6 bitten wir um Rücksprache.  
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type P7M est fourni lubrifié à vie avec de l'huile synthétique. Concernant les positions V5.V6, contactez notre service d'assistance technique.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño P7M se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico.  
Ver tabla 1, para cantidades y aceites recomendados.  
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

## LUBRICATION P7M Oil

For B3-V5-V6 separate lubrication for A (0.40 l) B (0.14 l), for B6-B7-B8 common lubrication 0.65 l (A + B).



**SHELL** Omala S4 WE 320

**ENI** Telium VSF 320

For all details on lubrication and plugs check our website

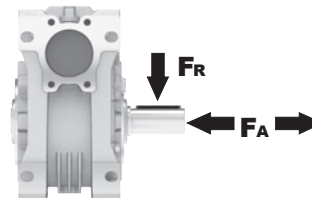
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

tab. 1

## RADIAL AND AXIAL LOADS

### Output shaft

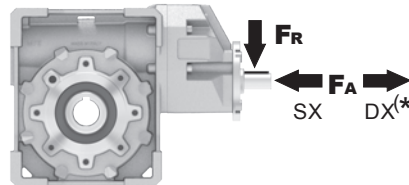
Albero di uscita



| n <sub>2</sub><br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|----------------------------------------|-----------|-----------|
| 75                                     | 620       | 3100      |
| 50                                     | 720       | 3600      |
| 25                                     | 880       | 4400      |
| 15-6                                   | 1000      | 5000      |

### Input shaft

albero in entrata



| n<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|---------------------------|-----------|-----------|
| 1400                      | 108       | 540       |

\*Strong axial loads in the DX direction are not allowed.

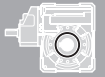
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

**9.90 kg**

**On request**  
A richiesta

[illegible]



## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    |    |    | Available<br>B14 motor flanges |    |    | Dynamic efficiency | Tooth Module<br>[mm] | Ratio code |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|----|----|--------------------------------|----|----|--------------------|----------------------|------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -B                            | -C | -D | -E | -Q                             | -R | -T | RD                 |                      |            |
| 23.5                                          | <b>59.7</b>  | 1.1                             | 300                               | 1.4                    | <b>1.5</b>                        | <b>418</b>                         |                               |    |    |    | C                              | C  |    | 67                 | 3.5                  | 01         |
| 19.4                                          | <b>72.3</b>  | 1.1                             | 347                               | 1.2                    | <b>1.3</b>                        | <b>407</b>                         |                               |    |    |    | C                              | C  |    | 64                 | 3.1                  | 02         |
| 17.1                                          | <b>81.7</b>  | 1.1                             | 374                               | 1.1                    | <b>1.2</b>                        | <b>418</b>                         |                               |    |    |    | C                              | C  |    | 61                 | 2.7                  | 03         |
| 13.3                                          | <b>105</b>   | 0.75                            | 323                               | 1.2                    | <b>0.89</b>                       | <b>385</b>                         |                               |    |    |    | C                              | C  |    | 60                 | 2.1                  | 04         |
| 8.0                                           | <b>176</b>   | 0.55                            | 415                               | 1.1                    | <b>0.58</b>                       | <b>440</b>                         | B                             |    |    |    | C                              | C  |    | 63                 | 3.5                  | 05         |
| 6.6                                           | <b>213</b>   | 0.37                            | 322                               | 1.3                    | <b>0.47</b>                       | <b>407</b>                         | B                             |    |    |    | C                              | C  |    | 60                 | 3.1                  | 06         |
| 5.8                                           | <b>240</b>   | 0.37                            | 321                               | 1.3                    | <b>0.48</b>                       | <b>418</b>                         | B                             |    |    |    | C                              | C  |    | 53                 | 2.7                  | 07         |
| 4.3                                           | <b>328</b>   | 0.37                            | 438                               | 1.0                    | <b>0.35</b>                       | <b>418</b>                         | B                             |    |    |    | C                              | C  |    | 53                 | 2.7                  | 08         |
| 3.3                                           | <b>422</b>   | 0.25                            | 374                               | 1.0                    | <b>0.26</b>                       | <b>385</b>                         | B                             |    |    |    | C                              | C  |    | 52                 | 2.1                  | 09         |
| 3.0                                           | <b>466</b>   | 0.25                            | 358                               | 0.9                    | <b>0.23</b>                       | <b>330</b>                         | B                             |    |    |    | C                              | C  |    | 45                 | 1.9                  | 10         |
| 2.3                                           | <b>605</b>   | 0.18                            | 297                               | 1.1                    | <b>0.20</b>                       | <b>330</b>                         | B                             |    |    |    | C                              | C  |    | 40                 | 1.5                  | 11         |

Motor Flanges Available  
Flange Motore Disponibili

B) Supplied with Reduction Bushing  
Fornito con Bussola di Riduzione

B) Available on Request without reduction bushing  
Disponibile a Richiesta senza Bussola di Riduzione

C) Motor Flange Holes Position  
Posizione Fori Flangia Motore

**EN** Unit **P8M** is supplied with synthetic oil, providing "long life" lubrication. For mounting position V5-V6 please contact us.  
See table 1 for lubrication and recommended quantity.  
In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo **P8M** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.  
Vedi tab.1 per oli e quantità consigliati.  
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe **P8M** mit synthetischem Öl befüllt.  
Bei Einbaulage V5 oder V6 bitten wir um Rücksprache.  
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **P8M** est fourni lubrifié à vie avec de l'huile synthétique. Concernant les positions V5.V6, contactez notre service d'assistance technique.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño **P8M** se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico.  
Ver tabla 1, para cantidades y aceites recomendados.  
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

**LUBRICATION P8M Oil**

For B3-V5-V6 separate lubrication for A ( 1.20 l ) B ( 0.14 l ) , for B6-B7-B8 common lubrication 1.00 l ( A + B ).

**SHELL** Omala S4 WE 320

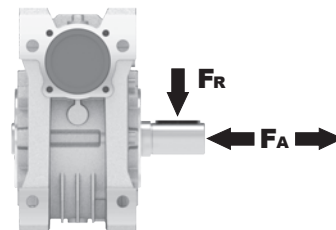
**ENI** Telium VSF 320

For all details on lubrication and plugs check our website **tab. 1**  
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

## RADIAL AND AXIAL LOADS

### Output shaft

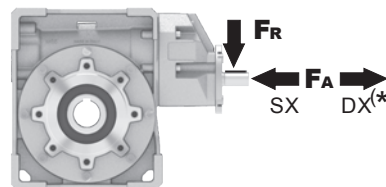
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| <b>75</b>                     | 700       | 3500      |
| <b>50</b>                     | 800       | 4000      |
| <b>25</b>                     | 1000      | 5000      |
| <b>15-6</b>                   | 1160      | 5800      |

### Input shaft

albero in entrata



| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| <b>1400</b>                   | 108       | 540       |

\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

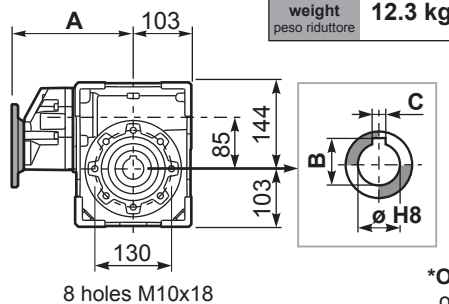
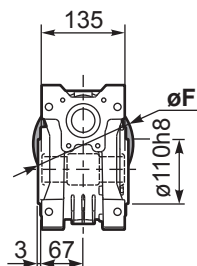
tab. 2



PP8M**FB**...

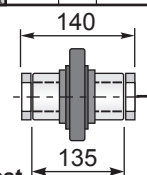
Basic wormbox  
Riduttore base

| M. flanges     | Kit code   | ØF  | A     |
|----------------|------------|-----|-------|
| <b>63B5</b>    | K063.4.041 | 140 | 195.2 |
| <b>71B5</b>    | K063.4.042 | 160 | 193.2 |
| <b>80/90B5</b> | K063.4.043 | 200 | 195.2 |
|                |            |     |       |
| <b>71B14</b>   | K063.4.047 | 105 | 193.2 |
| <b>80B14</b>   | K063.4.046 | 120 | 195.2 |
| <b>90B14</b>   | K063.4.041 | 140 | 195.2 |



|                                         |                |
|-----------------------------------------|----------------|
| <b>Gearbox weight</b><br>peso riduttore | <b>12.3 kg</b> |
|-----------------------------------------|----------------|

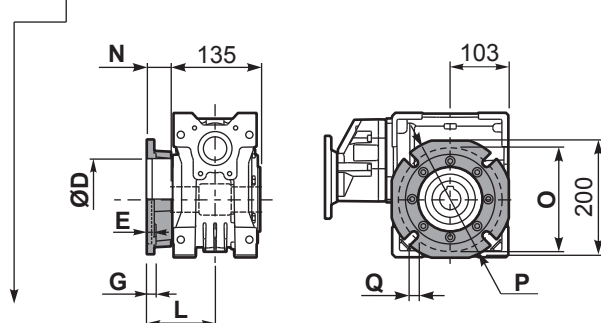
| ø H8                    | B    | C  | *Spacer code |
|-------------------------|------|----|--------------|
| <b>35</b><br>Standard   | 38.3 | 10 | KM85.3.035   |
| <b>38</b><br>on request | 41.3 | 10 | KM85.3.038   |



\*On Request  output shaft with spacers

PP8M**FC**...

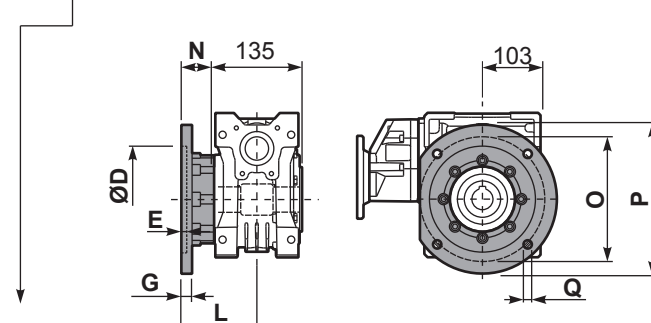
Output flange  
Flangia uscita



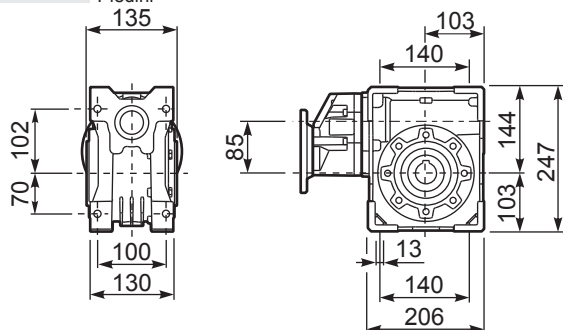
| type B    | øD     | E | G  | L   | N    | O   | P   | Q  | kit code   |
|-----------|--------|---|----|-----|------|-----|-----|----|------------|
| <b>FC</b> | 152 H8 | 5 | 16 | 111 | 43.5 | 176 | 205 | 13 | K085.9.010 |
| <b>FL</b> | 180 H8 | 6 | 18 | 122 | 54.5 | 215 | 250 | 14 | KM85.9.011 |

PP8M**F1**...

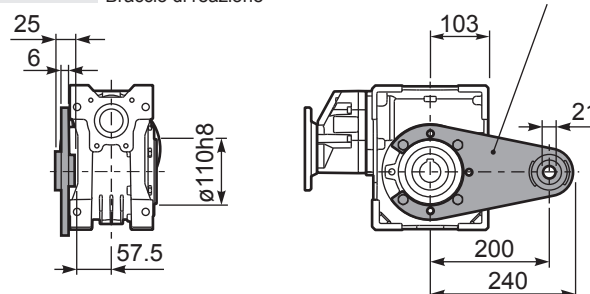
Output flange  
Flangia uscita



| type S | øD     | E | G  | L     | N  | O   | P   | Q  | kit code                 |
|--------|--------|---|----|-------|----|-----|-----|----|--------------------------|
| F1     | 130 H8 | 5 | 13 | 109.5 | 42 | 165 | 200 | 13 | KS085.9.015              |
| F2     | 152 H8 | 5 | 16 | 151.5 | 84 | 176 | 205 | 13 | K085.9.010<br>K085.0.201 |

PP8M**FB**...Feet  
PiediniPP8M**BR**...

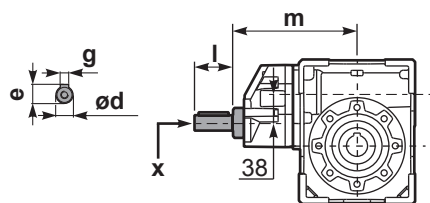
Reaction arm  
Braccio di reazione



kit cod. K085.9.027

RP8MFB...

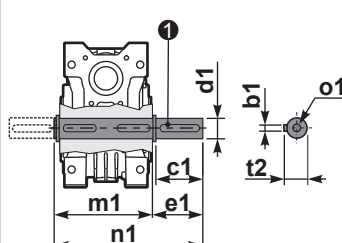
Input shaft  
Albero in entrata



|               | ød    | e    | g | l  | m   | x     |           |
|---------------|-------|------|---|----|-----|-------|-----------|
| type <b>B</b> | 19 h6 | 21.5 | 6 | 35 | 186 | M6x16 | C40.5.062 |
| type <b>S</b> | -     | -    | - | -  | -   | -     | -         |

## PP8M....S..

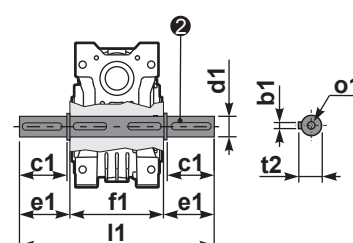
Single Shaft  
Albero lento semplice



① kit cod. K085.5.028 type B

## PP8M....D..

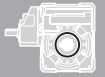
Double Shaft  
· Albero lento bisp.



② kit cod. K085.5.029 type B

[illegible]





## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    |    |    | Available<br>B14 motor flanges |    |    | Dynamic efficiency<br><br>RD | Tooth Module<br><br>[mm] | Ratios code |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|----|----|--------------------------------|----|----|------------------------------|--------------------------|-------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -B                            | -C | -D | -E | -Q                             | -R | -T |                              |                          |             |
|                                               |              |                                 |                                   |                        |                                   |                                    | 63                            | 71 | 80 | 90 | 71                             | 80 | 90 |                              |                          |             |
| 16.8                                          | <b>83.2</b>  | 1.5                             | 587                               | 1.1                    | <b>1.7</b>                        | <b>660</b>                         |                               |    |    |    | C                              | C  |    | 69                           | 3.5                      | 01          |
| 13.9                                          | <b>100.5</b> | 1.5                             | 699                               | 0.8                    | <b>1.3</b>                        | <b>594</b>                         |                               |    |    |    | C                              | C  |    | 68                           | 2.9                      | 02          |
| 10.6                                          | <b>132</b>   | 1.1                             | 634                               | 0.9                    | <b>0.95</b>                       | <b>550</b>                         |                               |    |    |    | C                              | C  |    | 64                           | 2.2                      | 03          |
| 8.0                                           | <b>176</b>   | 0.75                            | 666                               | 1.2                    | <b>0.90</b>                       | <b>803</b>                         | B                             |    |    |    | C                              | C  |    | 74                           | 4.7                      | 04          |
| 6.7                                           | <b>208</b>   | 0.75                            | 766                               | 0.9                    | <b>0.65</b>                       | <b>660</b>                         | B                             |    |    |    | C                              | C  |    | 72                           | 4.0                      | 05          |
| 5.7                                           | <b>245</b>   | 0.55                            | 634                               | 1.0                    | <b>0.57</b>                       | <b>660</b>                         | B                             |    |    |    | C                              | C  |    | 69                           | 3.5                      | 06          |
| 4.7                                           | <b>296</b>   | 0.55                            | 755                               | 0.8                    | <b>0.43</b>                       | <b>594</b>                         | B                             |    |    |    | C                              | C  |    | 68                           | 2.9                      | 07          |
| 4.2                                           | <b>334</b>   | 0.55                            | 865                               | 0.8                    | <b>0.42</b>                       | <b>660</b>                         | B                             |    |    |    | C                              | C  |    | 69                           | 3.5                      | 08          |
| 3.5                                           | <b>403</b>   | 0.37                            | 692                               | 0.9                    | <b>0.32</b>                       | <b>594</b>                         | B                             |    |    |    | C                              | C  |    | 68                           | 2.9                      | 09          |
| 2.6                                           | <b>529</b>   | 0.25                            | 577                               | 1.0                    | <b>0.24</b>                       | <b>550</b>                         | B                             |    |    |    | C                              | C  |    | 64                           | 2.2                      | 10          |
| 2.2                                           | <b>624</b>   | 0.25                            | 628                               | 0.8                    | <b>0.21</b>                       | <b>528</b>                         | B                             |    |    |    | C                              | C  |    | 59                           | 1.9                      | 11          |

Motor Flanges Available  
Flange Motore Disponibili

B) Supplied with Reduction Bushing  
Fornito con Bussola di Riduzione

B) Available on Request without reduction bushing  
Disponibile a Richiesta senza Bussola di Riduzione

C) Motor Flange Holes Position  
Posizione Fori Flangia Motore

**EN** Unit **P1M** is supplied without lubricant and equipped with a breather, level and drain plugs. User can add mineral oil keeping existing plugs. Should the user wish to fill it with synthetic oil, it is recommended to replace the existing plugs with a closed plug. Primary reduction unit is supplied with closed plugs and lubricated for life with synthetic oil. See table 1 for lubrication and recommended quantity. In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo **P1M** è fornito privo di lubrificazione con tappi di sfogo, livello e scarico olio. L'utente può immettere olio minerale mantenendo i tappi esistenti. Se immetterà olio sintetico, dovrà sostituire i tappi esistenti con altri tipo chiuso. La precoppia è fornita con tappi chiusi e lubrificata a vita con olio sintetico. Tab.1 per oli e quantità consigliati. Tab.2 carichi radiali e assiali applicabili al riduttore.

**D** Das Getriebe der Baugröße **P1M** wird ohne Schmiermittel geliefert. Es ist jedoch mit Einfüllschraube, Überdruckventil und Ablassschraube ausgerüstet. Das benötigte mineralische Öl kann über die Einfüllschraube eingefüllt werden. Sollte synthetisches Öl bevorzugt werden, so ist sind das eingebaute Überdruckventil durch eine geschlossenen Schraube zu ersetzen. Die Stirnradvorstufe ist Lebensdauergeschmiert und wird mit synthetischem Öl geliefert. Die Stirnradvorstufe ist komplett geschlossen ohne Füllschrauben. In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben. In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **P1M** est fourni sans lubrification et avec un bouchon de remplissage, de niveau et d'évacuation de l'huile. L'utilisateur peut y verser de l'huile minérale en conservant les bouchons existants. S'il y versera de l'huile synthétique, il devra substituer les bouchons existants avec d'autres bouchons de type fermé. Le pré couple est fourni lubrifié à vie avec de l'huile synthétique et avec des bouchons fermés. Voir tableau 1 concernant les huiles et les quantités conseillées. Voir tableau 2 concernant les charges radiales et axiales applicables au réducteur.

**E** El reductor tamaño **P1M** se suministra sin lubricante, provisto de tapones de respiración, nivel y descarga de aceite. El usuario puede utilizar aceite mineral, manteniendo los tapones existentes. Si prefiere utilizar aceite sintético deberá sustituir los tapones existentes por tapones ciegos. La prerreducción se suministra con tapones ciegos, lubricado de por vida con aceite sintético. Ver tabla 1, para cantidades y aceites recomendados. En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

| B3                    | B6           | B7           | B8              | V5          | V6          |
|-----------------------|--------------|--------------|-----------------|-------------|-------------|
| 1.9/0.14 LT           | 1.35/0.14 LT | 1.35/0.14 LT | 2.0/0.14 LT     | 2.0/0.14 LT | 2.0/0.14 LT |
| SHELL Omala S2 GX 460 |              |              | ENI Blasias 460 |             |             |

For all details on lubrication and plugs check our website

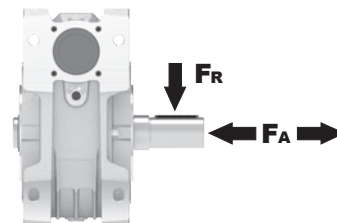
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

tab. 1

## RADIAL AND AXIAL LOADS

### Output shaft

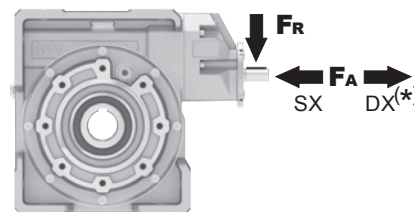
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 75                            | 800       | 4000      |
| 50                            | 920       | 4600      |
| 25                            | 1200      | 6000      |
| 15-6                          | 1400      | 7000      |

### Input shaft

albero in entrata



| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 150       | 760       |

\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

**37.3 kg**

Technical drawing of a bolt and nut assembly. The bolt has a diameter of 16 mm and a length of 155 mm. The nut has a height of 15 mm. The drawing shows the bolt and nut in a cross-sectional view, with the bolt passing through the nut. The dimensions are indicated by arrows and numbers.

2

Sotie®

Technical drawing of the K11C.9.011 kit, showing front and side views with dimensions.

**Front View (Left):**

- Overall width: 155
- Distance from left edge to center: 102.5
- Overall height: 170H8
- Distance from bottom edge to center: 180
- Distance from left edge to bottom edge: 15
- Distance from left edge to center of the circular feature: 6

**Side View (Right):**

- Overall width: 127.5
- Overall height: 260
- Distance from top edge to center of the circular feature: 230
- Distance from bottom edge to center of the circular feature: 230
- Distance from left edge to center of the circular feature: 280
- Distance from left edge to center of the circular feature: 7/4

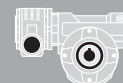
kit cod. K11C.9.011

Reaction arm  
Braccio di reazione

30  
6  
62  
130h8  
127.5  
25  
250  
285  
kit cod. K11C.9.027

② kit cod. K11C.5.029 type B

[illegible]



## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    | Available<br>B14 motor flanges |    | Dynamic efficiency | Tooth Module<br>[mm] | Ratio code<br> |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|--------------------------------|----|--------------------|----------------------|----------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -A                            | -B | -O                             | -P |                    |                      |                |
|                                               |              |                                 |                                   |                        |                                   |                                    | 56                            | 63 | 56                             | 63 | RD                 |                      |                |
| 9.3                                           | 150          | 0.06                            | 29                                | 1.3                    | 0.08                              | 38                                 | B                             |    | B-C                            |    | 48                 | 1.44                 | 01             |
| 6.7                                           | 210          | 0.06                            | 39                                | 1.0                    | 0.06                              | 38                                 | B                             |    | B-C                            |    | 45                 | 1.44                 | 02             |
| 4.7                                           | 300          | 0.06                            | 44                                | 0.9                    | 0.05                              | 38                                 | B                             |    | B-C                            |    | 36                 | 1.44                 | 03             |
| 3.1                                           | 450          | 0.06*                           | 38                                | <0.8                   | 0.04                              | 38                                 | B                             |    | B-C                            |    | 33                 | 1.44                 | 04             |
| 2.3                                           | 600          | 0.06*                           | 38                                | <0.8                   | 0.03                              | 38                                 | B                             |    | B-C                            |    | 30                 | 1.44                 | 05             |
| 1.6                                           | 900          | 0.06*                           | 38                                | <0.8                   | 0.02                              | 38                                 | B                             |    | B-C                            |    | 27                 | 1.44                 | 06             |
| 1.2                                           | 1200         | 0.06*                           | 38                                | <0.8                   | 0.02                              | 38                                 | B                             |    | B-C                            |    | 26                 | 1.44                 | 07             |
| 0.8                                           | 1830         | 0.06*                           | 38                                | <0.8                   | 0.01                              | 38                                 | B                             |    | B-C                            |    | 24                 | 1.44                 | 08             |
| 0.6                                           | 2400         | 0.06*                           | 38                                | <0.8                   | 0.01                              | 38                                 | B                             |    | B-C                            |    | 22                 | 1.44                 | 09             |

**Motor Flanges Available**  
Flange Motore Disponibili

**B) Supplied with Reduction Bushing**  
Fornito con Bussola di Riduzione

**B) Available on Request without reduction bushing**  
Disponibile a Richiesta senza Bussola di Riduzione

**C) Motor Flange Holes Position**  
Posizione Fori Flangia Motore

\* Power higher than the maximum one which can be supported by the gearbox. Select according to the torque  $M_{2R}$   
Potenza superiore a quella massima sopportabile dal riduttore. Selezionare in base al momento torcente  $M_{2R}$

**EN** Unit 33M is supplied with synthetic oil, providing "long life" lubrication. For mounting position V5-V6 please contact us.  
See table 1 for lubrication and recommended quantity. In table 2 please see possible radial loads and axial loads on the gearbox.

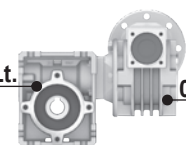
**I** Il riduttore tipo 33M viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.  
Vedi tab.1 per oli e quantità consigliati. In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe 33M mit synthetischem Öl befüllt. Bei Einbaulage V5 oder V6 bitten wir um Rücksprache. In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben. In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type 33M est fourni lubrifié à vie avec de l'huile synthétique. Concernant les positions V5.V6, contactez notre service d'assistance technique. Voir tableau 1 concernant les huiles et les quantités conseillées. Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño 33M se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico. Ver tabla 1, para cantidades y aceites recomendados. En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

**LUBRICATION 33M Oil** 0.03 Lt.  
**Quantity 0.03/0.03 Lt.**



**SHELL** Omala S4 WE 320

**ENI** Telium VSF 320

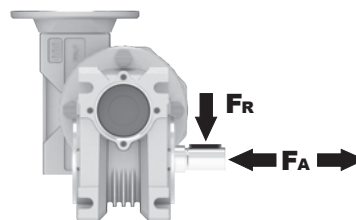
For all details on lubrication and plugs check our website  
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

tab. 1

## RADIAL AND AXIAL LOADS

### Output shaft

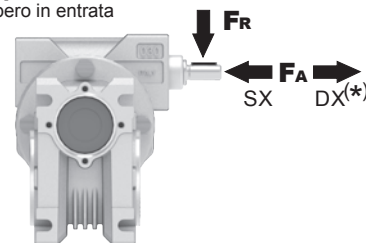
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 25                            | 300       | 1800      |
| 15                            | 400       | 2000      |

### Input shaft

albero in entrata



| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 20        | 100       |

\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

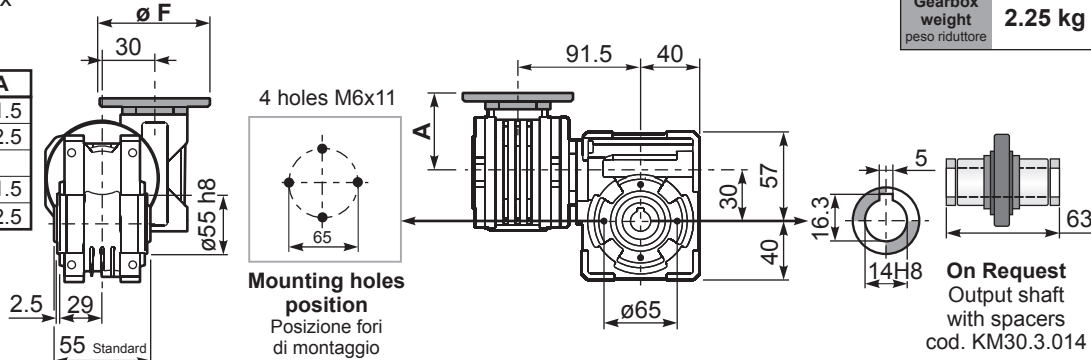
tab. 2

## P33MFB...

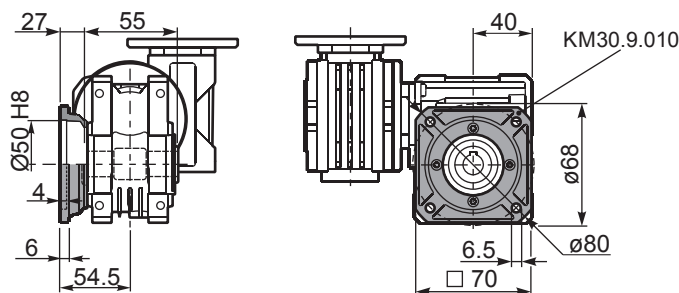
Basic wormbox  
Riduttore baseGearbox  
weight  
peso riduttore

2.25 kg

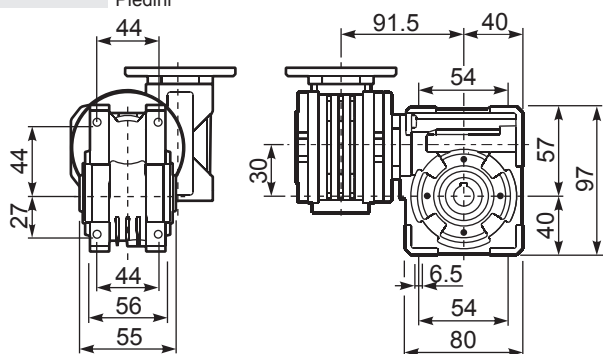
| M. flanges | Kit code   | $\phi F$ | A    |
|------------|------------|----------|------|
| 56B5       | K030.4.041 | 120      | 61.5 |
| 63B5       | K030.4.042 | 140      | 62.5 |
| 56B14      | K030.4.046 | 80       | 61.5 |
| 63B14      | K030.4.045 | 90       | 62.5 |



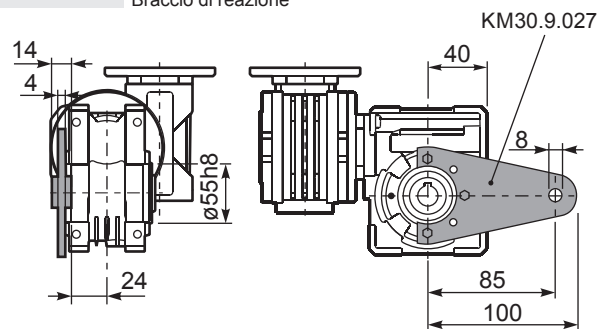
## P33MFC...

Square flange  
Flangia quadrata

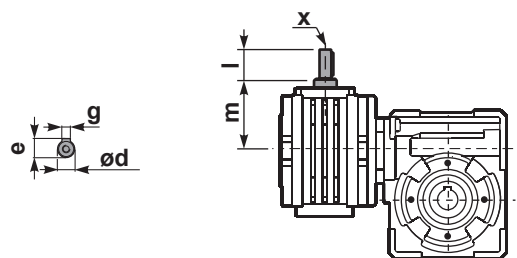
## P33MFB...

Feet  
Piedini

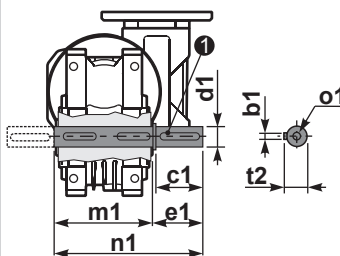
## P33MBR...

Reaction arm  
Braccio di reazione

## R33MFB...

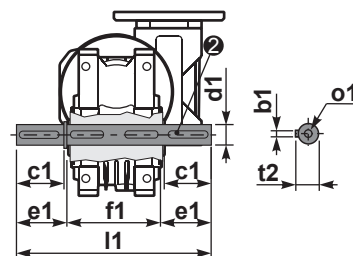
Input shaft  
Albero in entrata

## P33M.....S...

Single Shaft  
Albero lento semplice

① kit cod. K030.5.028 type B

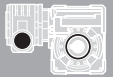
## P33M.....D...

Double Shaft  
Albero lento bisp.

② kit cod. K030.5.029 type B

|        | $\phi d$ | e    | g | l  | m  | x | kit code         |
|--------|----------|------|---|----|----|---|------------------|
| type B | 9 h6     | 10.2 | 3 | 20 | 58 | - | K030.5.006 PAM63 |
| type S | -        | -    | - | -  | -  | - | -                |

|        | b1 | c1 | d1                          | e1   | f1 | l1  | m1 | n1   | t2 | o1    |
|--------|----|----|-----------------------------|------|----|-----|----|------|----|-------|
| type B | 5  | 25 | 14 <sup>-0.005/-0.020</sup> | 35.5 | 55 | 126 | 59 | 94.5 | 16 | M5x14 |
| type S | -  | -  | -                           | -    | -  | -   | -  | -    | -  | -     |



## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    | Available<br>B14 motor flanges |    | Dynamic efficiency | Tooth Module<br><br>[mm] | Ratios code<br> |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|--------------------------------|----|--------------------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -A                            | -B | -O                             | -P |                    |                                                                                                             |                                                                                                    |
|                                               |              |                                 |                                   |                        |                                   |                                    | 56                            | 63 | 56                             | 63 | RD                 |                                                                                                             |                                                                                                    |
| 10.0                                          | <b>140</b>   | 0.12                            | 57                                | 1.3                    | <b>0.15</b>                       | <b>72</b>                          | <b>B</b>                      |    | <b>B-C</b>                     |    | 50                 | 2.2                                                                                                         | 01                                                                                                 |
| 7.0                                           | <b>200</b>   | 0.12                            | 79                                | 0.9                    | <b>0.11</b>                       | <b>72</b>                          | <b>B</b>                      |    | <b>B-C</b>                     |    | 48                 | 2.2                                                                                                         | 02                                                                                                 |
| 5.0                                           | <b>280</b>   | 0.09                            | 77                                | 0.9                    | <b>0.08</b>                       | <b>72</b>                          | <b>B</b>                      |    | <b>B-C</b>                     |    | 45                 | 2.4                                                                                                         | 03                                                                                                 |
| 3.3                                           | <b>420</b>   | 0.06                            | 62                                | 1.2                    | <b>0.07</b>                       | <b>72</b>                          | <b>B</b>                      |    | <b>B-C</b>                     |    | 36                 | 1.6                                                                                                         | 04                                                                                                 |
| 2.5                                           | <b>560</b>   | 0.06                            | 76                                | 1.0                    | <b>0.06</b>                       | <b>72</b>                          | <b>B</b>                      |    | <b>B-C</b>                     |    | 33                 | 2.5                                                                                                         | 05                                                                                                 |
| 1.9                                           | <b>740</b>   | 0.06                            | 91                                | 0.8                    | <b>0.05</b>                       | <b>72</b>                          | <b>B</b>                      |    | <b>B-C</b>                     |    | 30                 | 1.8                                                                                                         | 06                                                                                                 |
| 1.5                                           | <b>920</b>   | 0.06*                           | 72                                | <0.8                   | <b>0.04</b>                       | <b>72</b>                          | <b>B</b>                      |    | <b>B-C</b>                     |    | 27                 | 1.5                                                                                                         | 07                                                                                                 |
| 1.3                                           | <b>1120</b>  | 0.06*                           | 72                                | <0.8                   | <b>0.04</b>                       | <b>72</b>                          | <b>B</b>                      |    | <b>B-C</b>                     |    | 26                 | 2.5                                                                                                         | 08                                                                                                 |
| 0.9                                           | <b>1480</b>  | 0.06*                           | 72                                | <0.8                   | <b>0.03</b>                       | <b>72</b>                          | <b>B</b>                      |    | <b>B-C</b>                     |    | 24                 | 1.8                                                                                                         | 09                                                                                                 |
| 0.8                                           | <b>1840</b>  | 0.06*                           | 72                                | <0.8                   | <b>0.03</b>                       | <b>72</b>                          | <b>B</b>                      |    | <b>B-C</b>                     |    | 22                 | 1.5                                                                                                         | 10                                                                                                 |
| 0.6                                           | <b>2400</b>  | 0.06*                           | 72                                | <0.8                   | <b>0.02</b>                       | <b>72</b>                          | <b>B</b>                      |    | <b>B-C</b>                     |    | 21                 | 1.2                                                                                                         | 11                                                                                                 |

**Motor Flanges Available**  
Flange Motore Disponibili

**B) Supplied with Reduction Bushing**  
Fornito con Bussola di Riduzione

**B) Available on Request without reduction bushing**  
Disponibile a Richiesta senza Bussola di Riduzione

**C) Motor Flange Holes Position**  
Posizione Fori Flangia Motore

\* Power higher than the maximum one which can be supported by the gearbox. Select according to the torque  $M_{2R}$   
Potenza superiore a quella massima sopportabile dal riduttore. Selezionare in base al momento torcente  $M_{2R}$

**EN** Unit **43M** is supplied with synthetic oil, providing "long life" lubrication. For mounting position V5-V6 please contact us.  
See table 1 for lubrication and recommended quantity.  
In table 2 please see possible radial loads and axial loads on the gearbox.

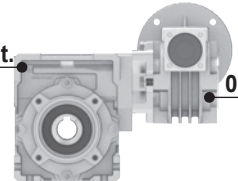
**I** Il riduttore tipo **43M** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.  
Vedi tab.1 per oli e quantità consigliati.  
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe **43M** mit synthetischem Öl befüllt.  
Bei Einbaulage V5 oder V6 bitten wir um Rücksprache.  
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **43M** est fourni lubrifié à vie avec de l'huile synthétique. Concernant les positions V5.V6, contactez notre service d'assistance technique.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño **43M** se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico.  
Ver tabla 1, para cantidades y aceites recomendados.  
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

**LUBRICATION 43M Oil**  
Quantity 0.09/0.03 Lt.



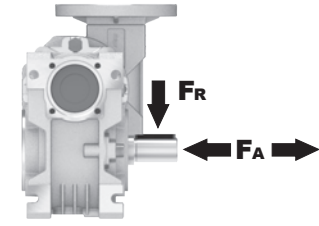
|                              |                           |
|------------------------------|---------------------------|
| <b>SHELL</b> Omala S4 WE 320 | <b>ENI</b> Telium VSF 320 |
|------------------------------|---------------------------|

For all details on lubrication and plugs check our website  
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

tab. 1

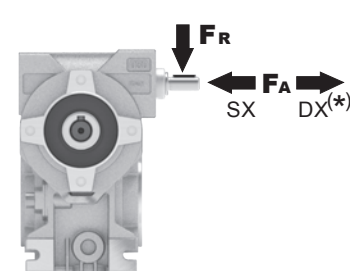
**RADIAL AND AXIAL LOADS**

**Output shaft**  
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 25                            | 300       | 1800      |
| 15                            | 400       | 2000      |

**Input shaft**  
albero in entrata



| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 20        | 100       |

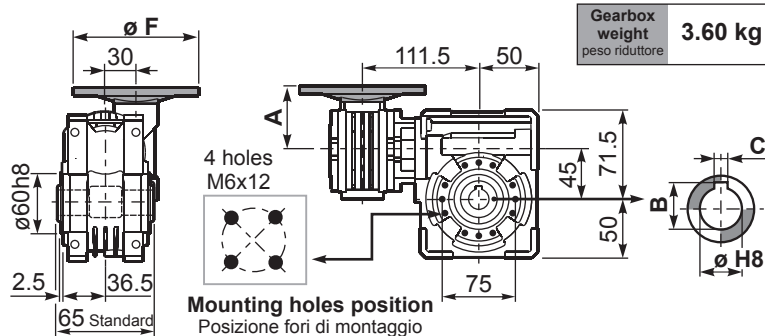
\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

tab. 2



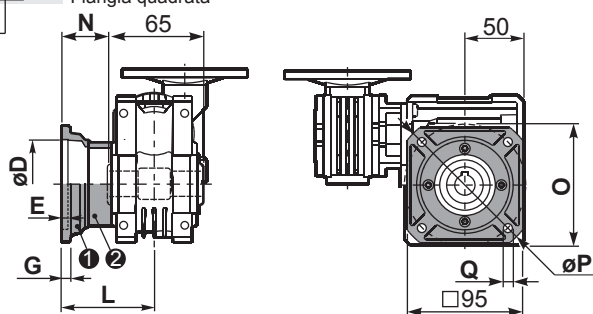
**P43MFB...** Basic wormbox  
Riduttore base

| M. flanges   | Kit code   | øF  | A    |
|--------------|------------|-----|------|
| <b>56B5</b>  | K030.4.041 | 120 | 61.5 |
| <b>63B5</b>  | K030.4.042 | 140 | 62.5 |
| <b>56B14</b> | K030.4.046 | 80  | 61.5 |
| <b>63B14</b> | K030.4.045 | 90  | 62.5 |

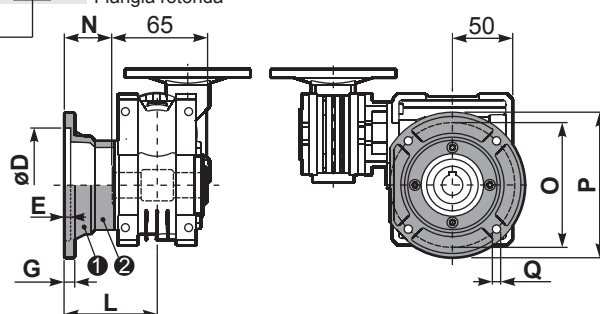


| ø H8                    | B    | C | *Spacer code |
|-------------------------|------|---|--------------|
| <b>18</b><br>Standard   | 20.8 | 6 | KM45.3.018   |
| <b>19</b><br>on request | 21.8 | 6 | KM45.3.019   |
| <b>20</b><br>on request | 22.8 | 6 | KM45.3.020   |

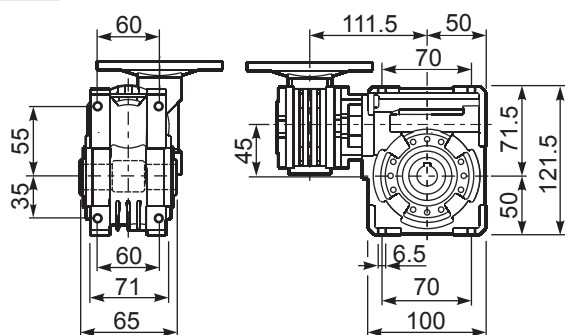
\*On Request  
output shaft with spacers

**P43MFC...** Square flange  
Flangia quadrata

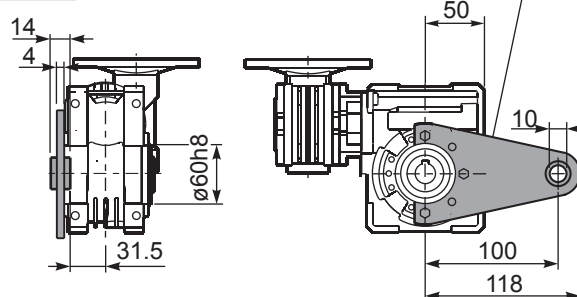
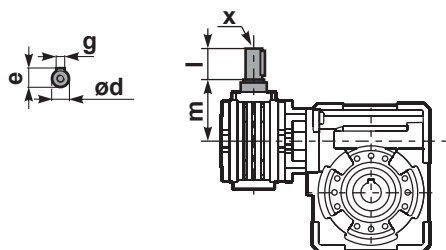
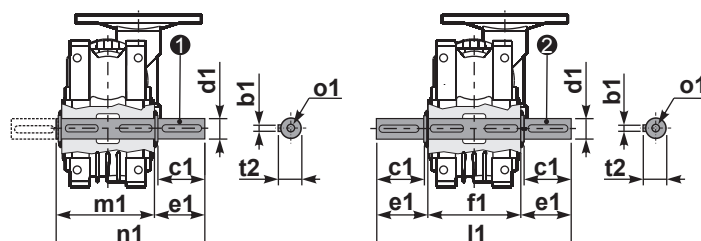
| type B    | øD    | E | G | L  | N    | O  | P   | Q | kit code   |
|-----------|-------|---|---|----|------|----|-----|---|------------|
| <b>FC</b> | 60 H8 | 4 | 7 | 67 | 34.5 | 75 | 110 | 9 | KM45.9.010 |
| <b>FL</b> | 60 H8 | 4 | 7 | 97 | 64.5 | 75 | 110 | 9 | KM45.9.011 |

**P43MF1...** Round flange  
Flangia rotonda

| type S    | øD   | E | G | L  | N    | O   | P   | Q   | kit code   |
|-----------|------|---|---|----|------|-----|-----|-----|------------|
| <b>F1</b> | 95H8 | 5 | 9 | 80 | 47.5 | 115 | 140 | 9.5 | KM45.9.012 |
| <b>F2</b> | -    | - | - | -  | -    | -   | -   | -   | -          |

**P43MFB...** Feet  
Piedini**P43MBR...** Reaction arm  
Braccio di reazione

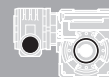
kit cod. KM45.9.027

**R43MFB...** Input shaft  
Albero in entrata**P43M.....S...** Single Shaft  
Albero lento semplice**P43M.....D...** Double Shaft  
Albero lento bisp.

- ① kit cod. K045.5.028 type B  
kit cod. KS045.5.030 type S
- ② kit cod. K045.5.029 type B

|        | ød   | e    | g | l  | m  | x | kit code         |
|--------|------|------|---|----|----|---|------------------|
| type B | 9 h6 | 10.2 | 3 | 20 | 58 | - | K030.5.006 PAM63 |
| type S | -    | -    | - | -  | -  | - | -                |

|        | b1 | c1 | d1                                     | e1   | f1 | l1  | m1 | n1    | t2   | o1    |
|--------|----|----|----------------------------------------|------|----|-----|----|-------|------|-------|
| type B | 6  | 32 | 18 <sup>-0.005</sup> <sub>-0.020</sub> | 43   | 65 | 151 | 70 | 113   | 20.5 | M6x18 |
| type S | 6  | 40 | 19 <sup>-0.005</sup> <sub>-0.020</sub> | 58.5 | -  | -   | 70 | 128.5 | 21.5 | M8x20 |



## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    | Available<br>B14 motor flanges |    | Dynamic efficiency<br>RD | Tooth Module<br>[mm] | Ratios code |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|--------------------------------|----|--------------------------|----------------------|-------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -A                            | -B | -O                             | -P |                          |                      |             |
|                                               |              |                                 |                                   |                        |                                   |                                    | 56                            | 63 | 56                             | 63 |                          |                      |             |
| 5.6                                           | <b>252</b>   | 0.12                            | 97                                | 1.4                    | <b>0.17</b>                       | <b>138</b>                         | <b>B</b>                      |    | <b>B-C</b>                     |    | 47                       | 2.1                  | 01          |
| 3.9                                           | <b>360</b>   | 0.12                            | 124                               | 1.1                    | <b>0.13</b>                       | <b>138</b>                         | <b>B</b>                      |    | <b>B-C</b>                     |    | 42                       | 2.1                  | 02          |
| 2.6                                           | <b>540</b>   | 0.09                            | 129                               | 1.1                    | <b>0.10</b>                       | <b>138</b>                         | <b>B</b>                      |    | <b>B-C</b>                     |    | 39                       | 2.1                  | 03          |
| 1.9                                           | <b>720</b>   | 0.09                            | 159                               | 0.9                    | <b>0.08</b>                       | <b>138</b>                         | <b>B</b>                      |    | <b>B-C</b>                     |    | 36                       | 2.1                  | 04          |
| 1.6                                           | <b>860</b>   | 0.06                            | 113                               | 1.2                    | <b>0.07</b>                       | <b>138</b>                         | <b>B</b>                      |    | <b>B-C</b>                     |    | 32                       | 1.8                  | 05          |
| 1.2                                           | <b>1200</b>  | 0.06                            | 133                               | 1.0                    | <b>0.06</b>                       | <b>138</b>                         | <b>B</b>                      |    | <b>B-C</b>                     |    | 27                       | 1.3                  | 06          |
| 1.0                                           | <b>1440</b>  | 0.06                            | 153                               | 0.9                    | <b>0.05</b>                       | <b>138</b>                         | <b>B</b>                      |    | <b>B-C</b>                     |    | 26                       | 2.1                  | 07          |
| 0.8                                           | <b>1720</b>  | 0.06                            | 176                               | 0.8                    | <b>0.05</b>                       | <b>138</b>                         | <b>B</b>                      |    | <b>B-C</b>                     |    | 25                       | 1.8                  | 08          |
| 0.6                                           | <b>2400</b>  | 0.06*                           | 132                               | <0.8                   | <b>0.04</b>                       | <b>132</b>                         | <b>B</b>                      |    | <b>B-C</b>                     |    | 21                       | 1.3                  | 09          |

**Motor Flanges Available**  
Flange Motore Disponibili

**B) Supplied with Reduction Bushing**  
Fornito con Bussola di Riduzione

**B) Available on Request without reduction bushing**  
Disponibile a Richiesta senza Bussola di Riduzione

**C) Motor Flange Holes Position**  
Posizione Fori Flangia Motore

\* Power higher than the maximum one which can be supported by the gearbox. Select according to the torque  $M_{2R}$   
Potenza superiore a quella massima sopportabile dal riduttore. Selezionare in base al momento torcente  $M_{2R}$

**EN** Unit **53M** is supplied with synthetic oil, providing "long life" lubrication. For mounting position V5-V6 please contact us.  
See table 1 for lubrication and recommended quantity.  
In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo **53M** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.  
Vedi tab.1 per oli e quantità consigliati.  
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe **53M** mit synthetischem Öl befüllt.  
Bei Einbaulage V5 oder V6 bitten wir um Rücksprache.  
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **53M** est fourni lubrifié à vie avec de l'huile synthétique. Concernant les positions V5.V6, contactez notre service d'assistance technique.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño **53M** se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico.  
Ver tabla 1, para cantidades y aceites recomendados.  
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

**LUBRICATION 53M Oil**  
Quantity 0.14/0.03 Lt.

0.14 Lt. 0.03 Lt.

**SHELL** Omala S4 WE 320 **ENI** Telium VSF 320

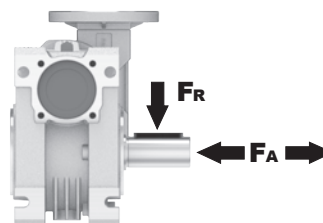
For all details on lubrication and plugs check our website  
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

tab. 1

## RADIAL AND AXIAL LOADS

### Output shaft

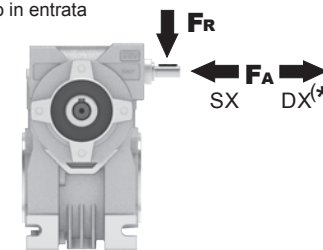
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 25                            | 480       | 2500      |
| 15                            | 560       | 2800      |

### Input shaft

albero in entrata



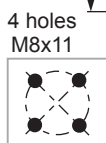
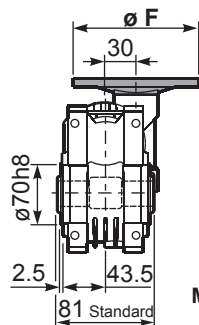
| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 20        | 100       |

\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

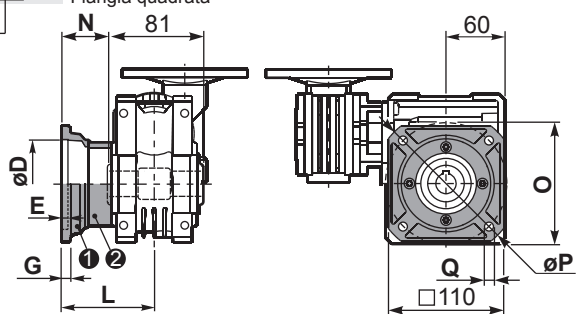
tab. 2

**P53MFB...** Basic wormbox  
Riduttore base

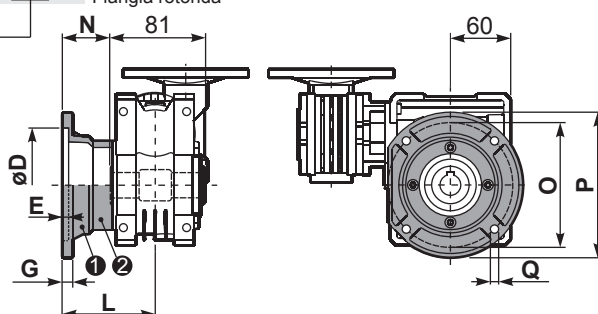
| M. flanges   | Kit code   | øF  | A    |
|--------------|------------|-----|------|
| <b>56B5</b>  | K030.4.041 | 120 | 61.5 |
| <b>63B5</b>  | K030.4.042 | 140 | 62.5 |
| <b>56B14</b> | K030.4.046 | 80  | 61.5 |
| <b>63B14</b> | K030.4.045 | 90  | 62.5 |

Mounting holes position  
Posizione fori di montaggioGearbox weight  
peso riduttore **4.61 kg**

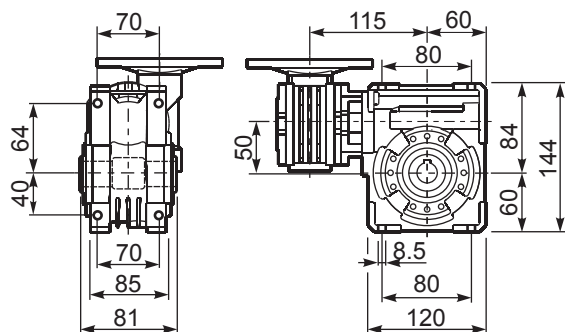
| ø H8                    | B    | C | *Spacer code |
|-------------------------|------|---|--------------|
| <b>25</b><br>Standard   | 28.3 | 8 | KM50.3.025   |
| <b>24</b><br>on request | 27.3 | 8 | KM50.3.024   |

\*On Request  
output shaft  
with spacers**P53MFC...** Square flange  
Flangia quadrata

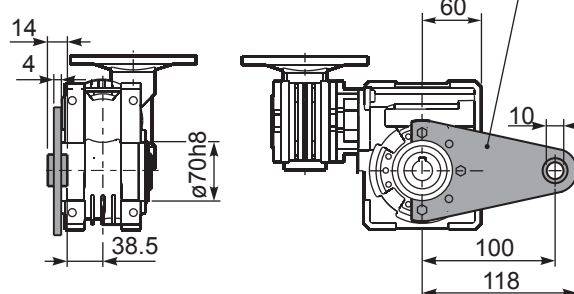
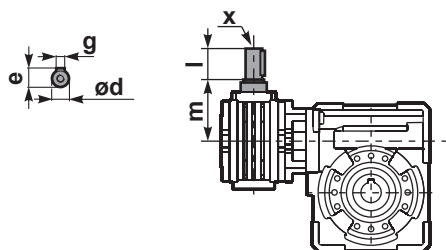
| type B    | øD    | E | G | L   | N    | O  | P   | Q  | kit code   |
|-----------|-------|---|---|-----|------|----|-----|----|------------|
| <b>FC</b> | 70 H8 | 5 | 9 | 90  | 49.5 | 85 | 125 | 11 | KM50.9.010 |
| <b>FL</b> | 70 H8 | 5 | 9 | 120 | 79.5 | 85 | 125 | 11 | KM50.9.011 |

**P53MF1...** Round flange  
Flangia rotonda

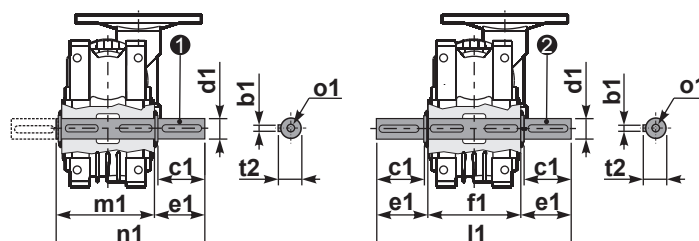
| type S    | øD     | E | G    | L  | N    | O   | P   | Q   | kit code   |
|-----------|--------|---|------|----|------|-----|-----|-----|------------|
| <b>F1</b> | 110 H8 | 5 | 10   | 89 | 48.5 | 130 | 160 | 9.5 | KM50.9.012 |
| <b>F2</b> | 95 H8  | 5 | 14.5 | 72 | 31.5 | 115 | 140 | 11  | KM50.9.013 |

**P53MFB...** Feet  
Piedini**P53MBR...** Reaction arm  
Braccio di reazione

kit cod. KM50.9.027

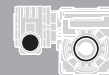
**R53MFB...** Input shaft  
Albero in entrata

|        | ød   | e    | g | l  | m  | x | kit code         |
|--------|------|------|---|----|----|---|------------------|
| type B | 9 h6 | 10.2 | 3 | 20 | 58 | - | K030.5.006 PAM63 |
| type S | -    | -    | - | -  | -  | - | -                |

**P53M.....S...** Single Shaft  
Albero lento semplice**P53M.....D...** Double Shaft  
Albero lento bisp.① kit cod. K050.5.028 type B  
kit cod. KS050.5.030 type S

② kit cod. K050.5.029 type B

|        | b1 | c1 | d1                                     | e1   | f1 | l1  | m1   | n1  | t2 | o1    |
|--------|----|----|----------------------------------------|------|----|-----|------|-----|----|-------|
| type B | 8  | 52 | 25 <sup>-0.005</sup> <sub>-0.020</sub> | 59.5 | 81 | 200 | 86.5 | 146 | 28 | M8x20 |
| type S | 8  | 50 | 24 <sup>-0.005</sup> <sub>-0.020</sub> | 68.8 | -  | -   | 86.5 | 155 | 27 | M8x20 |



## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    | Available<br>B14 motor flanges |    | Dynamic efficiency<br>RD | Tooth Module<br>$[mm]$ | Ratios code |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|--------------------------------|----|--------------------------|------------------------|-------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -A                            | -B | -O                             | -P |                          |                        |             |
|                                               |              |                                 |                                   |                        |                                   |                                    | 56                            | 63 | 56                             | 63 |                          |                        |             |
| 5.6                                           | <b>252</b>   | 0.18                            | 142                               | 1.9                    | <b>0.34</b>                       | <b>270</b>                         | <b>B</b>                      |    | <b>B-C</b>                     |    | 46                       | 2.7                    | 01          |
| 3.9                                           | <b>360</b>   | 0.18                            | 181                               | 1.5                    | <b>0.27</b>                       | <b>270</b>                         | <b>B</b>                      |    | <b>B-C</b>                     |    | 41                       | 2.7                    | 02          |
| 2.6                                           | <b>540</b>   | 0.18                            | 245                               | 1.1                    | <b>0.20</b>                       | <b>270</b>                         | <b>B</b>                      |    | <b>B-C</b>                     |    | 37                       | 2.7                    | 03          |
| 1.9                                           | <b>720</b>   | 0.12                            | 200                               | 1.3                    | <b>0.16</b>                       | <b>270</b>                         | <b>B</b>                      |    | <b>B-C</b>                     |    | 34                       | 2.7                    | 04          |
| 1.3                                           | <b>1080</b>  | 0.12                            | 265                               | 1.0                    | <b>0.12</b>                       | <b>270</b>                         | <b>B</b>                      |    | <b>B-C</b>                     |    | 30                       | 2.7                    | 05          |
| 1.0                                           | <b>1440</b>  | 0.09                            | 239                               | 1.1                    | <b>0.10</b>                       | <b>270</b>                         | <b>B</b>                      |    | <b>B-C</b>                     |    | 27                       | 2.7                    | 06          |
| 0.5                                           | <b>2745</b>  | 0.06                            | 258                               | 1.0                    | <b>0.06</b>                       | <b>270</b>                         | <b>B</b>                      |    | <b>B-C</b>                     |    | 23                       | 2.1                    | 07          |

**A) Motor Flanges Available**  
Flange Motore Disponibili

**B) Supplied with Reduction Bushing**  
Fornito con Bussola di Riduzione

**B) Available on Request without reduction bushing**  
Disponibile a Richiesta senza Bussola di Riduzione

**C) Motor Flange Holes Position**  
Posizione Fori Flangia Motore

\* Power higher than the maximum one which can be supported by the gearbox. Select according to the torque  $M_{2R}$   
Potenza superiore a quella massima supportabile dal riduttore. Selezionare in base al momento torcente  $M_{2R}$

**EN** Unit **63M** is supplied with synthetic oil, providing "long life" lubrication. For mounting position V5-V6 please contact us.  
See table 1 for lubrication and recommended quantity.  
In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo **63M** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.  
Vedi tab.1 per oli e quantità consigliati.  
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe **63M** mit synthetischem Öl befüllt.  
Bei Einbaulage V5 oder V6 bitten wir um Rücksprache.  
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **63M** est fourni lubrifié à vie avec de l'huile synthétique. Concernant les positions V5.V6, contactez notre service d'assistance technique.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño **63M** se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico.  
Ver tabla 1, para cantidades y aceites recomendados.  
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

**LUBRICATION 63M Oil**  
Quantity 0.30/0.03 Lt.

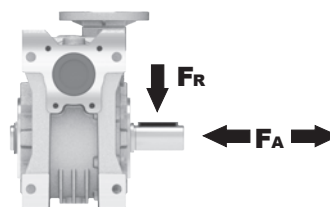
**SHELL** Omala S4 WE 320      **ENI** Telium VSF 320

For all details on lubrication and plugs check our website **tab. 1**  
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

## RADIAL AND AXIAL LOADS

### Output shaft

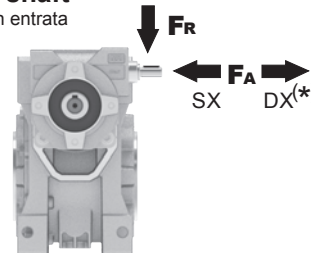
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 25                            | 700       | 3800      |
| 15                            | 800       | 4000      |

### Input shaft

albero in entrata



| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 20        | 100       |

\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

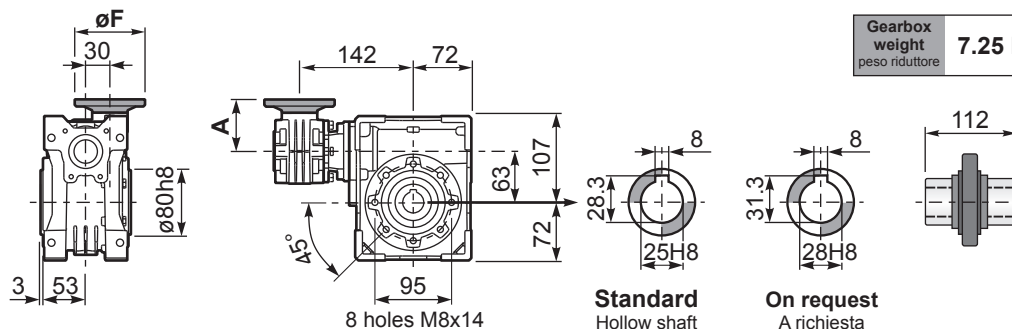
tab. 2

P63M**FB**...

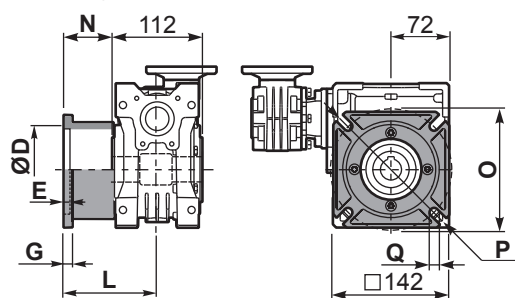
Basic wormbox  
Riduttore base

|                                         |                |
|-----------------------------------------|----------------|
| <b>Gearbox weight</b><br>peso riduttore | <b>7.25 kg</b> |
|-----------------------------------------|----------------|

| M. flanges   | Kit code   | øF  | A    |
|--------------|------------|-----|------|
| <b>56B5</b>  | K030.4.041 | 120 | 61.5 |
| <b>63B5</b>  | K030.4.042 | 140 | 62.5 |
|              |            |     |      |
| <b>56B14</b> | K030.4.046 | 80  | 61.5 |
| <b>63B14</b> | K030.4.045 | 90  | 62.5 |

P63M**FC**...

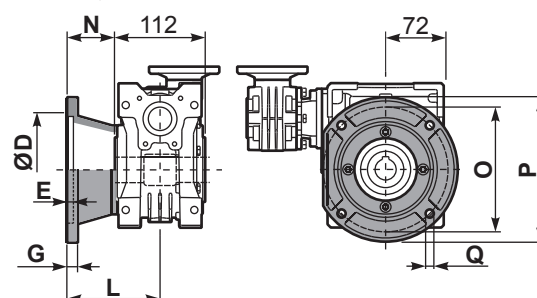
Square flange  
Flangia quadrata



| type B | øD     | E | G  | L   | N  | O   | P   | Q  | kit code   |
|--------|--------|---|----|-----|----|-----|-----|----|------------|
| FC     | 115 H8 | 6 | 10 | 82  | 26 | 150 | 180 | 11 | KM63.9.010 |
| FL     | 115 H8 | 6 | 10 | 112 | 56 | 150 | 180 | 11 | KM63.9.011 |

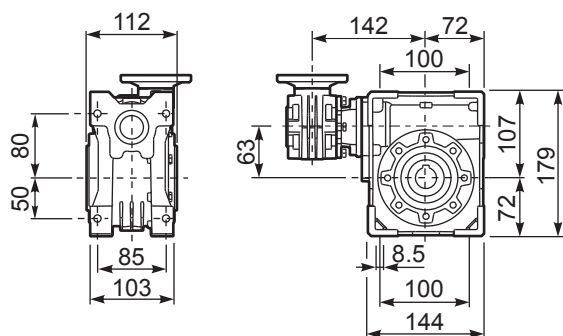
P63M**F1**...

Round flange  
Flangia rotonda

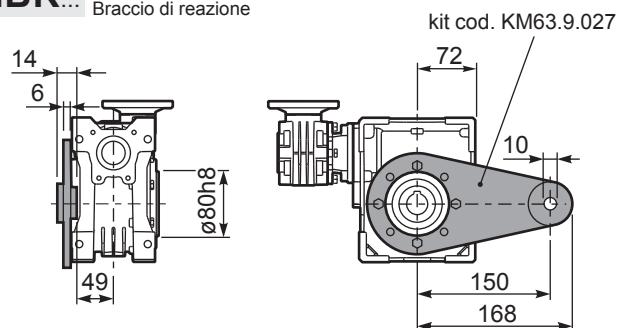


| type S    | øD     | E | G    | L    | N    | O   | P   | Q  | kit code   |
|-----------|--------|---|------|------|------|-----|-----|----|------------|
| <b>F1</b> | 130 H8 | 5 | 10   | 98   | 42   | 165 | 200 | 11 | KM60.9.012 |
| <b>F2</b> | 130 H8 | 5 | 10   | 107  | 51   | 165 | 200 | 11 | KM63.9.013 |
| <b>F3</b> | 110 H8 | 5 | 16.5 | 80.5 | 24.5 | 130 | 160 | 11 | KM63.9.014 |

## P63MFB...

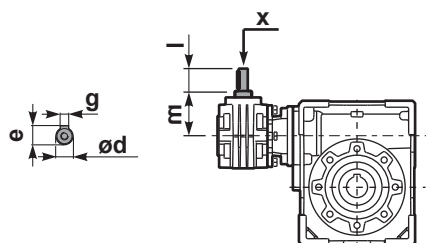
Feet  
PiediniP63M**BR**...

Reaction arm  
Braccio di reazione



## R63MFB...

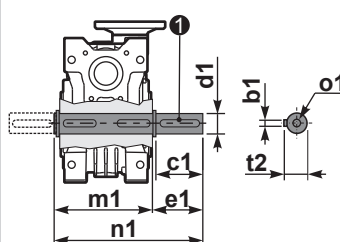
Input shaft  
Albero in entrata



|               | ød   | e    | g | l  | m  | x | kit code         |
|---------------|------|------|---|----|----|---|------------------|
| type <b>B</b> | 9 h6 | 10.2 | 3 | 20 | 58 | - | K030.5.006 PAM63 |
| type <b>S</b> | -    | -    | - | -  | -  | - | -                |

## P63M.....S...

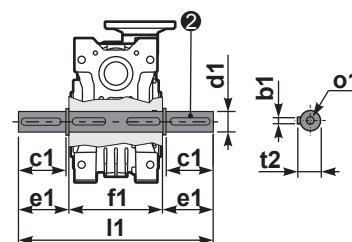
Single Shaft  
Albero lento semplice



① kit cod. KM63.5.028 type B

P63M.....**D**...

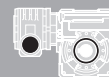
Double Shaft  
Albero lento bisp.



② kit cod. KM63.5.029 type B

[illegible]





## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    | Available<br>B14 motor flanges |     |    | Dynamic efficiency | Tooth Module<br><br>[mm] | Ratios code<br> |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|--------------------------------|-----|----|--------------------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -B                            | -C | -O                             | -P  | -Q | RD                 |                                                                                                             |                                                                                                    |
|                                               |              |                                 |                                   |                        |                                   |                                    | 63                            | 71 | 56                             | 63  | 71 |                    |                                                                                                             |                                                                                                    |
| 5.6                                           | <b>252</b>   | 0.25                            | 198                               | 1.5                    | <b>0.37</b>                       | <b>290</b>                         | <b>B</b>                      |    | B-C                            | B-C |    | 46                 | 2.7                                                                                                         | 01                                                                                                 |
| 3.9                                           | <b>360</b>   | 0.25                            | 258                               | 1.1                    | <b>0.28</b>                       | <b>290</b>                         | <b>B</b>                      |    | B-C                            | B-C |    | 42                 | 2.7                                                                                                         | 02                                                                                                 |
| 2.8                                           | <b>504</b>   | 0.18                            | 241                               | 1.2                    | <b>0.22</b>                       | <b>290</b>                         | <b>B</b>                      |    | B-C                            | B-C |    | 39                 | 2.7                                                                                                         | 03                                                                                                 |
| 1.9                                           | <b>756</b>   | 0.18                            | 306                               | 0.9                    | <b>0.17</b>                       | <b>290</b>                         | <b>B</b>                      |    | B-C                            | B-C |    | 33                 | 2.7                                                                                                         | 04                                                                                                 |
| 1.4                                           | <b>1008</b>  | 0.12                            | 256                               | 1.1                    | <b>0.14</b>                       | <b>290</b>                         | <b>B</b>                      |    | B-C                            | B-C |    | 31                 | 2.7                                                                                                         | 05                                                                                                 |
| 1.1                                           | <b>1332</b>  | 0.12                            | 327                               | 0.9                    | <b>0.11</b>                       | <b>290</b>                         | <b>B</b>                      |    | B-C                            | B-C |    | 30                 | 2.7                                                                                                         | 06                                                                                                 |
| 0.8                                           | <b>1656</b>  | 0.09                            | 285                               | 1.0                    | <b>0.09</b>                       | <b>290</b>                         | <b>B</b>                      |    | B-C                            | B-C |    | 28                 | 2.7                                                                                                         | 07                                                                                                 |
| 0.6                                           | <b>2160</b>  | 0.06                            | 230                               | 1.3                    | <b>0.08</b>                       | <b>290</b>                         | <b>B</b>                      |    | B-C                            | B-C |    | 26                 | 2.7                                                                                                         | 08                                                                                                 |
| 0.6                                           | <b>2520</b>  | 0.06                            | 258                               | 1.1                    | <b>0.07</b>                       | <b>290</b>                         | <b>B</b>                      |    | B-C                            | B-C |    | 25                 | 2.7                                                                                                         | 09                                                                                                 |

**Motor Flanges Available**  
Flange Motore Disponibili

**B) Supplied with Reduction Bushing**  
Fornito con Bussola di Riduzione

**B) Available on Request without reduction bushing**  
Disponibile a Richiesta senza Bussola di Riduzione

**C) Motor Flange Holes Position**  
Posizione Fori Flangia Motore

\* Power higher than the maximum one which can be supported by the gearbox. Select according to the torque  $M_{2R}$   
Potenza superiore a quella massima sopportabile dal riduttore. Selezionare in base al momento torcente  $M_{2R}$

**EN** Unit **64M** is supplied with synthetic oil, providing "long life" lubrication. For mounting position V5-V6 please contact us.  
See table 1 for lubrication and recommended quantity.  
In table 2 please see possible radial loads and axial loads on the gearbox.

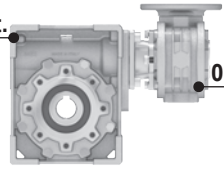
**I** Il riduttore tipo **64M** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.  
Vedi tab.1 per oli e quantità consigliati.  
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe **64M** mit synthetischem Öl befüllt.  
Bei Einbaulage V5 oder V6 bitten wir um Rücksprache.  
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **64M** est fourni lubrifié à vie avec de l'huile synthétique. Concernant les positions V5.V6, contactez notre service d'assistance technique.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño **64M** se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico.  
Ver tabla 1, para cantidades y aceites recomendados.  
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

**LUBRICATION 64M Oil**  
Quantity 0.30/0.09 Lt.



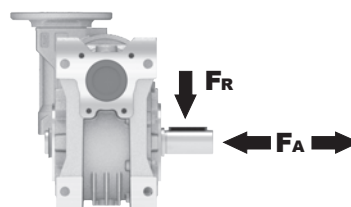
|                              |                           |
|------------------------------|---------------------------|
| <b>SHELL</b> Omala S4 WE 320 | <b>ENI</b> Telium VSF 320 |
|------------------------------|---------------------------|

For all details on lubrication and plugs check our website  
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web **tab. 1**

## RADIAL AND AXIAL LOADS

### Output shaft

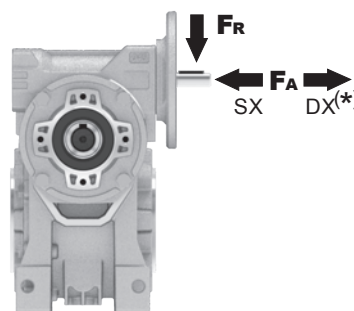
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | $F_A$<br>[N] | $F_R$<br>[N] |
|-------------------------------|--------------|--------------|
| 25                            | 700          | 3800         |
| 15                            | 800          | 4000         |

### Input shaft

albero in entrata



| $n_1$<br>[min <sup>-1</sup> ] | $F_A$<br>[N] | $F_R$<br>[N] |
|-------------------------------|--------------|--------------|
| 1400                          | 42           | 210          |

\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

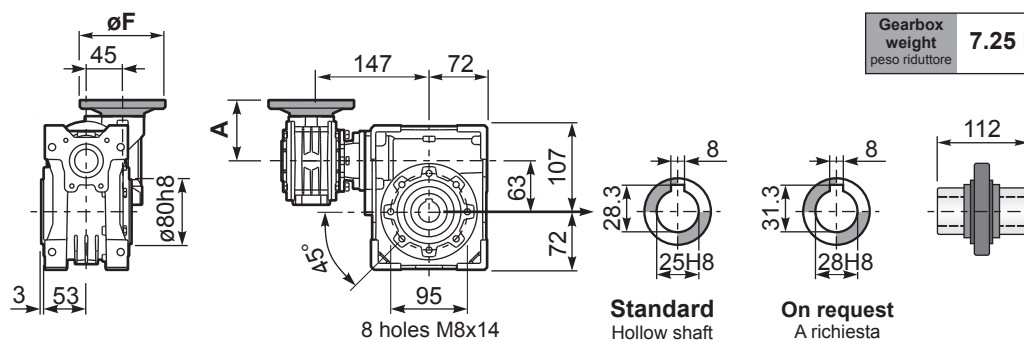
**tab. 2**

## P64MFB...

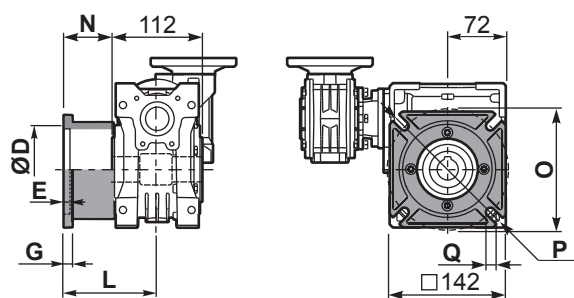
Basic wormbox  
Riduttore base

|                                         |                |
|-----------------------------------------|----------------|
| <b>Gearbox weight</b><br>peso riduttore | <b>7.25 kg</b> |
|-----------------------------------------|----------------|

| M. flanges   | Kit code   | $\phi F$ | A    |
|--------------|------------|----------|------|
| <b>63B5</b>  | K050.4.041 | 138      | 74   |
| <b>71B5</b>  | K050.4.042 | 160      | 71.5 |
|              |            |          |      |
| <b>56B14</b> | KC40.4.049 | 80       | 71.5 |
| <b>63B14</b> | K050.4.047 | 90       | 74   |
| <b>71B14</b> | K050.4.045 | 105      | 71.5 |

P64M**FC**...

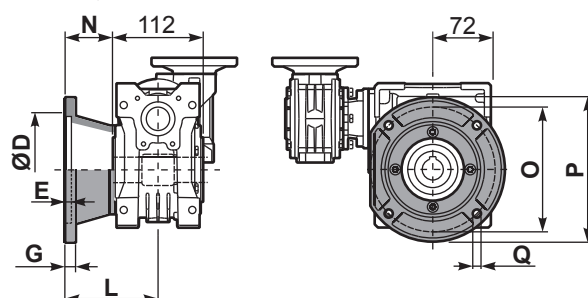
Square flange  
Flangia quadrata



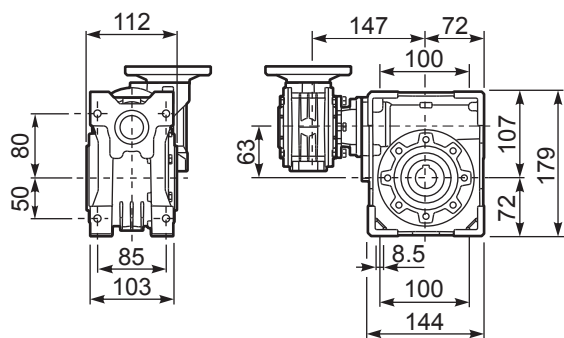
| type B | øD     | E | G  | L   | N  | O   | P   | Q  | kit code   |
|--------|--------|---|----|-----|----|-----|-----|----|------------|
| FC     | 115 H8 | 6 | 10 | 82  | 26 | 150 | 180 | 11 | KM63.9.010 |
| FL     | 115 H8 | 6 | 10 | 112 | 56 | 150 | 180 | 11 | KM63.9.011 |

P64M**F1**...

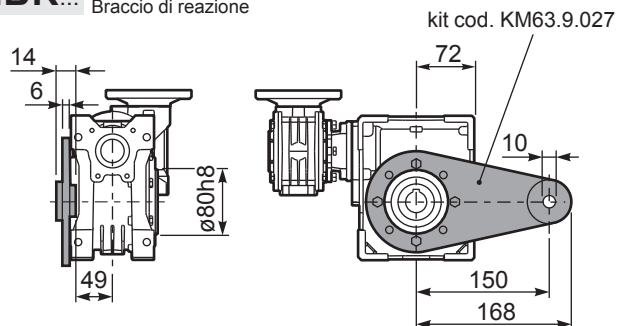
Round flange  
Flangia rotonda



| type S    | øD     | E | G    | L    | N    | O   | P   | Q  | kit code   |
|-----------|--------|---|------|------|------|-----|-----|----|------------|
| <b>F1</b> | 130 H8 | 5 | 10   | 98   | 42   | 165 | 200 | 11 | KM60.9.012 |
| <b>F2</b> | 130 H8 | 5 | 10   | 107  | 51   | 165 | 200 | 11 | KM63.9.013 |
| <b>F3</b> | 110 H8 | 5 | 16.5 | 80.5 | 24.5 | 130 | 160 | 11 | KM63.9.014 |

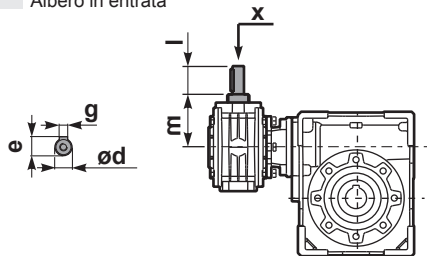
P64M**FB**...Feet  
PiediniP64M **BR...**

Reaction arm  
Braccio di reazione



## R64MFB...

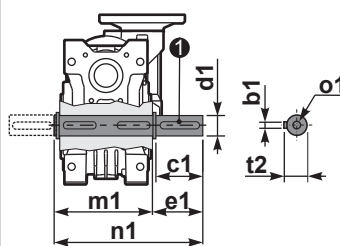
Input shaft  
Albero in entrata



|               | ød    | e    | g | l  | m  | x | kit code         |
|---------------|-------|------|---|----|----|---|------------------|
| type <b>B</b> | 11 h6 | 12.5 | 4 | 30 | 68 | - | K045.5.006 PAM71 |
| type <b>S</b> | -     | -    | - | -  | -  | - | -                |

P64M.....**S**...

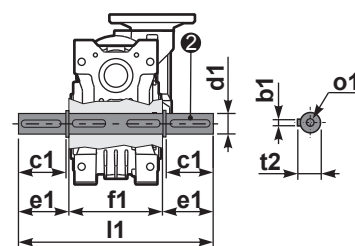
Single Shaft  
Albero lento semplice



① kit cod. KM63.5.028 type B

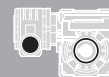
P64M....**D**...

Double Shaft  
Albero lento bisp.



② kit cod. KM63.5.029 type B

[illegible]



## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    | Available<br>B14 motor flanges |     |    | Dynamic efficiency<br>RD | Tooth Module<br><br>[mm] | <br>Ratios code |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|--------------------------------|-----|----|--------------------------|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -B                            | -C | -O                             | -P  | -Q |                          |                                                                                                             |                                                                                                    |
|                                               |              |                                 |                                   |                        |                                   |                                    | 63                            | 71 | 56                             | 63  | 71 |                          |                                                                                                             |                                                                                                    |
| 5                                             | 280          | 0.37                            | 403                               | 1.0                    | 0.39                              | 420                                | B                             |    | B-C                            | B-C |    | 57                       | 3.10                                                                                                        | 01                                                                                                 |
| 3.5                                           | 400          | 0.25                            | 314                               | 1.3                    | 0.33                              | 420                                | B                             |    | B-C                            | B-C |    | 46                       | 3.10                                                                                                        | 02                                                                                                 |
| 2.5                                           | 560          | 0.25                            | 420                               | 1.0                    | 0.25                              | 420                                | B                             |    | B-C                            | B-C |    | 44                       | 3.10                                                                                                        | 03                                                                                                 |
| 1.7                                           | 840          | 0.18                            | 423                               | 1.0                    | 0.18                              | 420                                | B                             |    | B-C                            | B-C |    | 41                       | 3.10                                                                                                        | 04                                                                                                 |
| 1.3                                           | 1120         | 0.12                            | 339                               | 1.2                    | 0.15                              | 420                                | B                             |    | B-C                            | B-C |    | 37                       | 3.10                                                                                                        | 05                                                                                                 |
| 0.9                                           | 1480         | 0.09                            | 336                               | 1.2                    | 0.11                              | 420                                | B                             |    | B-C                            | B-C |    | 37                       | 3.10                                                                                                        | 06                                                                                                 |
| 0.8                                           | 1840         | 0.09                            | 373                               | 1.1                    | 0.10                              | 420                                | B                             |    | B-C                            | B-C |    | 33                       | 3.10                                                                                                        | 07                                                                                                 |
| 0.6                                           | 2400         | 0.09                            | 413                               | 1.0                    | 0.09                              | 420                                | B                             |    | B-C                            | B-C |    | 28                       | 3.10                                                                                                        | 08                                                                                                 |
| 0.5                                           | 2800         | 0.06                            | 298                               | 1.4                    | 0.08                              | 420                                | B                             |    | B-C                            | B-C |    | 26                       | 3.10                                                                                                        | 09                                                                                                 |
| 0.3                                           | 4080         | 0.06                            | 250                               | 1.4                    | 0.09                              | 359                                | B                             |    | B-C                            | B-C |    | 15                       | 3.10                                                                                                        | 10                                                                                                 |

 Motor Flanges Available  
Flange Motore Disponibili

 B) Supplied with Reduction Bushing  
Fornito con Bussola di Riduzione

 B) Available on Request without reduction bushing  
Disponibile a Richiesta senza Bussola di Riduzione

 C) Motor Flange Holes Position  
Posizione Fori Flangia Motore

**EN** Unit 74M is supplied with synthetic oil, providing "long life" lubrication. For mounting position V5-V6 please contact us.  
See table 1 for lubrication and recommended quantity. In table 2 please see possible radial loads and axial loads on the gearbox.

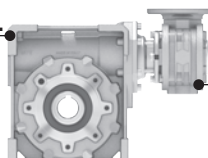
**I** Il riduttore tipo 74M viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.  
Vedi tab.1 per oli e quantità consigliati.  
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe 74M mit synthetischem Öl befüllt.  
Bei Einbaulage V5 oder V6 bitten wir um Rücksprache. In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type 74M est fourni lubrifié à vie avec de l'huile synthétique. Concernant les positions V5.V6, contactez notre service d'assistance technique.  
Voir tableau 1 concernant les huiles et les quantités conseillées. Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño 74M se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico.  
Ver tabla 1, para cantidades y aceites recomendados. En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

**LUBRICATION 74M Oil**  
Quantity 0.40/0.09 Lt.

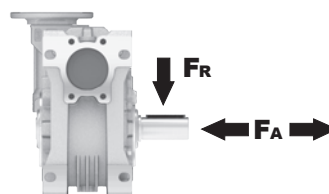
0.40 Lt.  0.09 Lt.

**SHELL** Omala S4 WE 320      **ENI** Telium VSF 320

For all details on lubrication and plugs check our website  
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web **tab. 1**

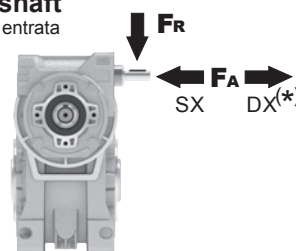
## RADIAL AND AXIAL LOADS

**Output shaft**  
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 25                            | 880       | 4400      |
| 15                            | 1000      | 5000      |

**Input shaft**  
albero in entrata



| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 42        | 210       |

**\*Strong axial loads in the DX direction are not allowed.**  
Non sono consentiti forti carichi assiali con direzione DX

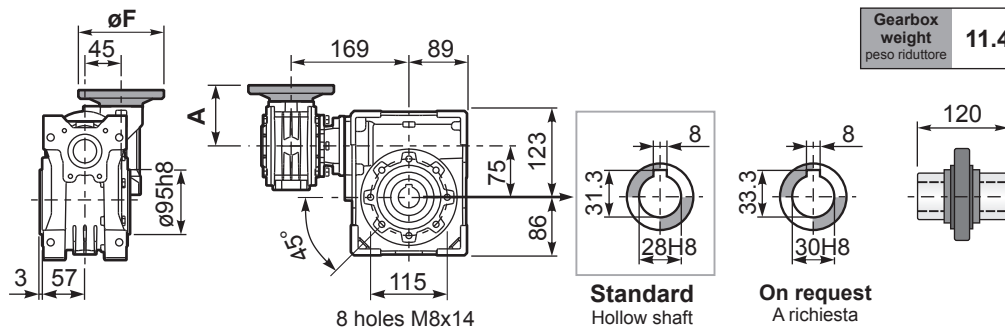
**tab. 2**

## P74MFB...

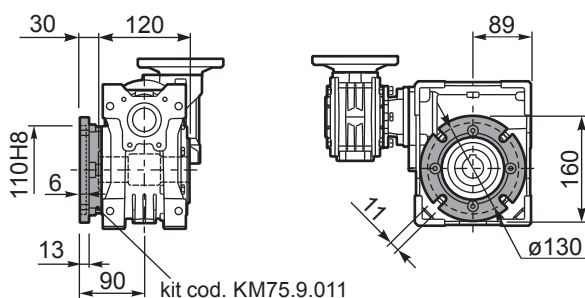
Basic wormbox  
Riduttore base

|                                         |                |
|-----------------------------------------|----------------|
| <b>Gearbox weight</b><br>peso riduttore | <b>11.4 kg</b> |
|-----------------------------------------|----------------|

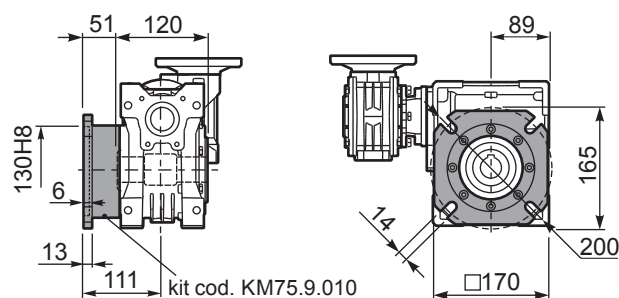
| M. flanges   | Kit code   | $\phi F$ | A    |
|--------------|------------|----------|------|
| <b>63B5</b>  | K050.4.041 | 138      | 74   |
| <b>71B5</b>  | K050.4.042 | 160      | 71.5 |
|              |            |          |      |
| <b>56B14</b> | KC40.4.049 | 80       | 71.5 |
| <b>63B14</b> | K050.4.047 | 90       | 74   |
| <b>71B14</b> | K050.4.045 | 105      | 71.5 |

P74M**FC**...

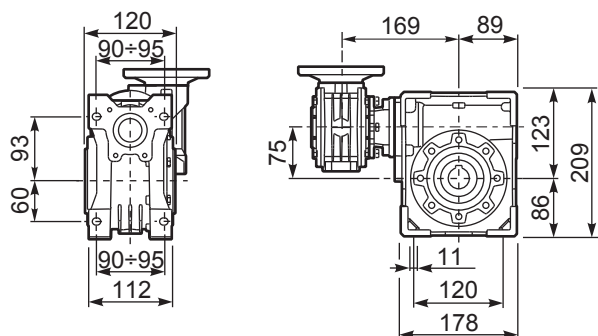
Round flange  
Flangia rotonda

P74M**FL**...

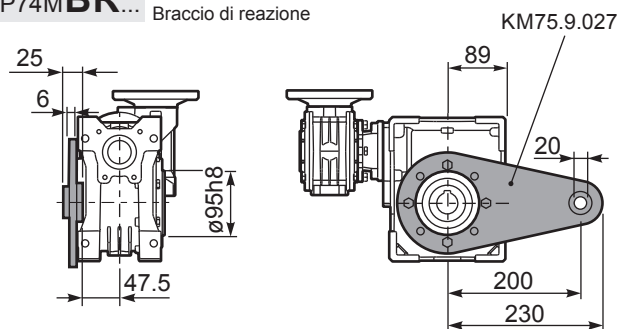
Square flange  
Flangia quadrata



P74M**FB**...

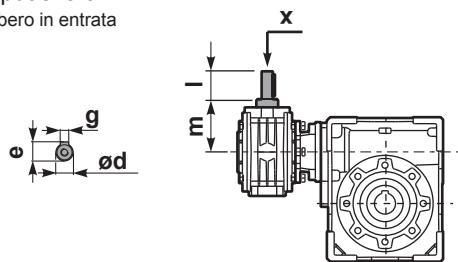
Feet  
PiediniP74M**BR**...

Reaction arm  
Braccio di reazione



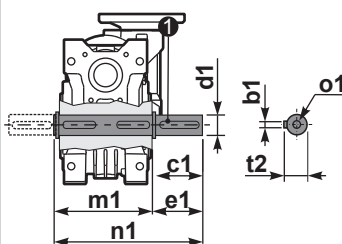
## R74MFB...

Input shaft  
Albero in entrata

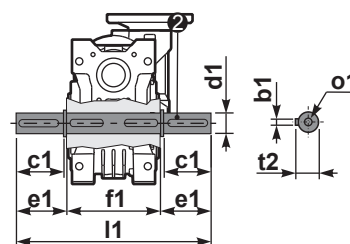


P74M.....**S**...

Single Shaft  
Albero lento semplice

P74M....**D**...

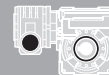
Double Shaft  
Albero lento bisp.



① kit cod. KM75.5.028 Standard      ② kit cod. KM75.5.029 Standard

|        | ød    | e    | g | l  | m  | x | kit code         |
|--------|-------|------|---|----|----|---|------------------|
| type B | 11 h6 | 12.5 | 4 | 30 | 68 | - | K045.5.006 PAM71 |

[illegible]



### QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    | Available<br>B14 motor flanges |     |    | Dynamic efficiency<br>RD | Tooth Module<br>$[mm]$ | Ratios code |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|--------------------------------|-----|----|--------------------------|------------------------|-------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -B                            | -C | -O                             | -P  | -Q |                          |                        |             |
|                                               |              |                                 |                                   |                        |                                   |                                    | 63                            | 71 | 56                             | 63  | 71 |                          |                        |             |
| 10                                            | <b>140</b>   | 0.37                            | 205                               | 2.1                    | <b>0.76</b>                       | <b>423</b>                         | <b>B</b>                      |    | B-C                            | B-C |    | 58                       | 4.5                    | 01          |
| 7.1                                           | <b>196</b>   | 0.37                            | 257                               | 1.6                    | <b>0.61</b>                       | <b>423</b>                         | <b>B</b>                      |    | B-C                            | B-C |    | 52                       | 4.7                    | 02          |
| 5.0                                           | <b>280</b>   | 0.37                            | 332                               | 1.8                    | <b>0.66</b>                       | <b>596</b>                         | <b>B</b>                      |    | B-C                            | B-C |    | 47                       | 4.7                    | 03          |
| 3.6                                           | <b>392</b>   | 0.37                            | 435                               | 1.4                    | <b>0.51</b>                       | <b>596</b>                         | <b>B</b>                      |    | B-C                            | B-C |    | 44                       | 4.7                    | 04          |
| 2.4                                           | <b>588</b>   | 0.37                            | 549                               | 1.1                    | <b>0.40</b>                       | <b>596</b>                         | <b>B</b>                      |    | B-C                            | B-C |    | 37                       | 4.7                    | 05          |
| 1.8                                           | <b>784</b>   | 0.25                            | 455                               | 1.3                    | <b>0.33</b>                       | <b>596</b>                         | <b>B</b>                      |    | B-C                            | B-C |    | 34                       | 4.7                    | 06          |
| 1.4                                           | <b>1036</b>  | 0.25                            | 583                               | 1.0                    | <b>0.26</b>                       | <b>596</b>                         | <b>B</b>                      |    | B-C                            | B-C |    | 33                       | 4.7                    | 07          |
| 1.1                                           | <b>1288</b>  | 0.18                            | 474                               | 1.2                    | <b>0.22</b>                       | <b>580</b>                         | <b>B</b>                      |    | B-C                            | B-C |    | 30                       | 4.7                    | 08          |
| 0.7                                           | <b>1960</b>  | 0.12                            | 449                               | 1.2                    | <b>0.14</b>                       | <b>518</b>                         | <b>B</b>                      |    | B-C                            | B-C |    | 28                       | 4.7                    | 09          |
| 0.5                                           | <b>2856</b>  | 0.12                            | 584                               | 0.9                    | <b>0.11</b>                       | <b>518</b>                         | <b>B</b>                      |    | B-C                            | B-C |    | 25                       | 4.7                    | 10          |

**Motor Flanges Available**  
Flange Motore Disponibili

**B) Supplied with Reduction Bushing**  
Fornito con Bussola di Riduzione

**B) Available on Request without reduction bushing**  
Disponibile a Richiesta senza Bussola di Riduzione

**C) Motor Flange Holes Position**  
Posizione Fori Flangia Motore

**EN** Unit **84M** is supplied with synthetic oil, providing "long life" lubrication. For mounting position V5-V6 please contact us.  
See table 1 for lubrication and recommended quantity. In table 2 please see possible radial loads and axial loads on the gearbox.

**I** Il riduttore tipo **84M** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.  
Vedi tab.1 per oli e quantità consigliati.  
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

**D** Für die Lebensdauerschmierung ist das Getriebe der Größe **84M** mit synthetischem Öl befüllt.  
Bei Einbaulage V5 oder V6 bitten wir um Rücksprache. In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.  
In Tabelle 2 sind die zulässigen Radial- und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **84M** est fourni lubrifié à vie avec de l'huile synthétique. Concernant les positions V5.V6, contactez notre service d'assistance technique.  
Voir tableau 1 concernant les huiles et les quantités conseillées.  
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

**E** El reductor tamaño **84M** se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico.  
Ver tabla 1, para cantidades y aceites recomendados. En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

1.20 Lt.

**LUBRICATION 84M Oil**  
Quantity 1.20/0.09 Lt.

**SHELL** Omala S4 WE 320

0.09 Lt.

**ENI** Telium VSF 320

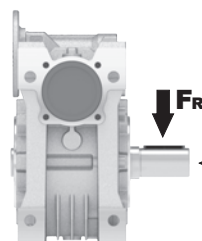
For all details on lubrication and plugs check our website  
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

tab. 1

### RADIAL AND AXIAL LOADS

#### Output shaft

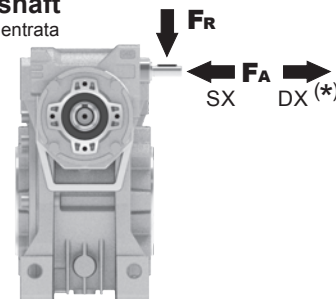
Albero di uscita



| $n$<br>[min <sup>-1</sup> ] | $FA$<br>[N] | $FR$<br>[N] |
|-----------------------------|-------------|-------------|
| 25                          | 1000        | 5000        |
| 15                          | 1160        | 5800        |

#### Input shaft

albero in entrata



| $n$<br>[min <sup>-1</sup> ] | $FA$<br>[N] | $FR$<br>[N] |
|-----------------------------|-------------|-------------|
| 1400                        | 42          | 210         |

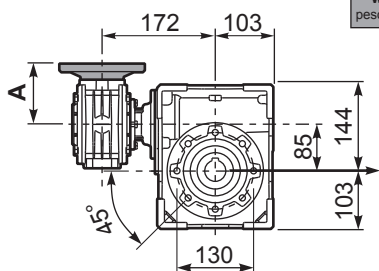
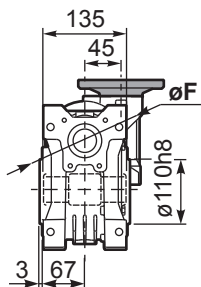
\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

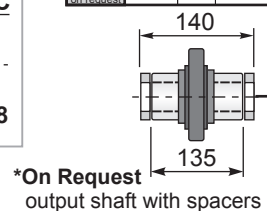


**P84MFB...** Basic wormbox  
Riduttore base

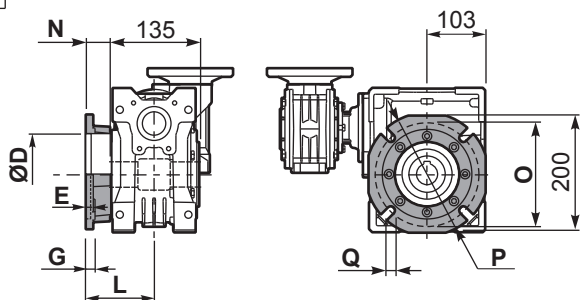
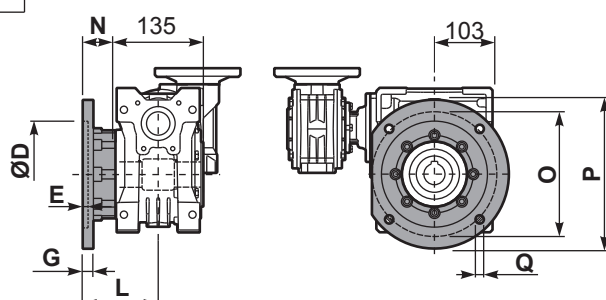
| M. flanges   | Kit code   | øF  | A    |
|--------------|------------|-----|------|
| <b>63B5</b>  | K050.4.041 | 138 | 74   |
| <b>71B5</b>  | K050.4.042 | 160 | 71.5 |
| <b>56B14</b> | KC40.4.049 | 80  | 71.5 |
| <b>63B14</b> | K050.4.047 | 90  | 74   |
| <b>71B14</b> | K050.4.045 | 105 | 71.5 |

Gearbox weight  
peso riduttore **16.2 kg**

| ø H8                    | B    | C  | *Spacer code |
|-------------------------|------|----|--------------|
| <b>35</b><br>Standard   | 38.3 | 10 | KM85.3.035   |
| <b>38</b><br>on request | 41.3 | 10 | KM85.3.038   |

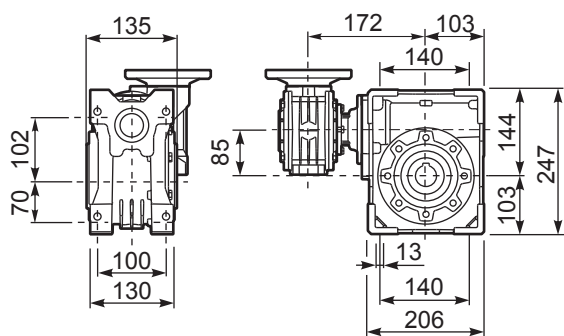
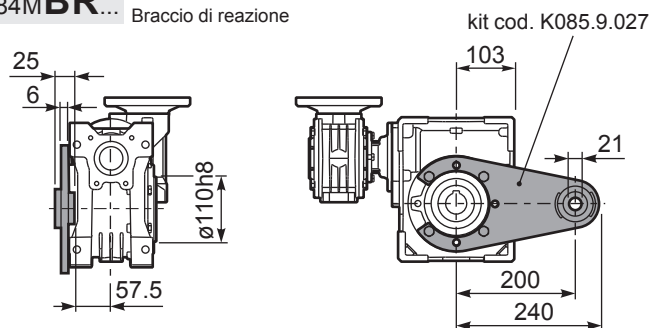
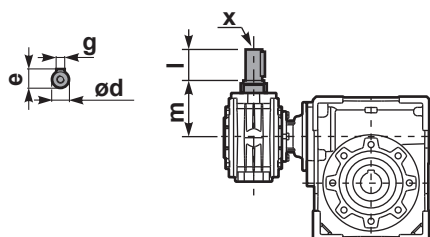
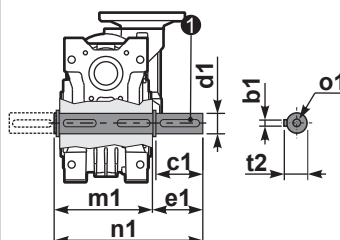
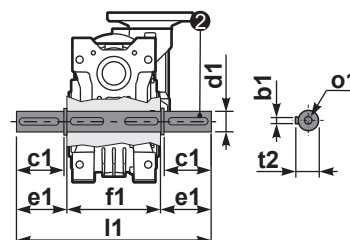


8 holes M10x18

**P84MFC...** Output flange  
Flangia uscita**P84MF1...** Output flange  
Flangia uscita

| type B    | øD     | E | G  | L   | N    | O   | P   | Q  | kit code   |
|-----------|--------|---|----|-----|------|-----|-----|----|------------|
| <b>FC</b> | 152 H8 | 5 | 16 | 111 | 43.5 | 176 | 205 | 13 | K085.9.010 |
| <b>FL</b> | 180 H8 | 6 | 18 | 122 | 54.5 | 215 | 250 | 14 | KM85.9.011 |

| type S    | øD     | E | G  | L     | N  | O   | P   | Q  | kit code                 |
|-----------|--------|---|----|-------|----|-----|-----|----|--------------------------|
| <b>F1</b> | 130 H8 | 5 | 13 | 109.5 | 42 | 165 | 200 | 13 | KS085.9.015              |
| <b>F2</b> | 152 H8 | 5 | 16 | 151.5 | 84 | 176 | 205 | 13 | K085.9.010<br>K085.0.201 |

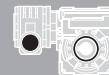
**P84MFB...** Feet  
Piedini**P84MBR...** Reaction arm  
Braccio di reazione**R84MFB...** Input shaft  
Albero in entrata**P84M.....S...** Single Shaft  
Albero lento semplice**P84M.....D...** Double Shaft  
Albero lento bisp.

① kit cod. K085.5.028 type B

② kit cod. K085.5.029 type B

|        | ød    | e    | g | l  | m  | x | kit code                  |
|--------|-------|------|---|----|----|---|---------------------------|
| type B | 11 h6 | 12.5 | 4 | 30 | 68 | - | ① K045.5.006 PAM71<br>② - |
| type S | -     | -    | - | -  | -  | - | ③ -<br>④ -                |

|        | b1 | c1 | d1                                     | e1   | f1  | l1  | m1  | n1    | t2 | o1     |
|--------|----|----|----------------------------------------|------|-----|-----|-----|-------|----|--------|
| type B | 10 | 60 | 35 <sup>-0.005</sup> <sub>-0.020</sub> | 73.5 | 135 | 282 | 141 | 214.5 | 38 | M10x23 |
| type S | -  | -  | -                                      | -    | -   | -   | -   | -     | -  | -      |



## QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

| Output Speed<br>$n_2$<br>[min <sup>-1</sup> ] | Ratio<br>$i$ | Motor power<br>$P_{1M}$<br>[kW] | Output torque<br>$M_{2M}$<br>[Nm] | Service factor<br>f.s. | Nominal power<br>$P_{1R}$<br>[kW] | Nominal torque<br>$M_{2R}$<br>[Nm] | Available<br>B5 motor flanges |    |    | Available<br>B14 motor flanges |     |    |    | Dynamic efficiency | Tooth Module<br>[mm] | Ratios code<br> |
|-----------------------------------------------|--------------|---------------------------------|-----------------------------------|------------------------|-----------------------------------|------------------------------------|-------------------------------|----|----|--------------------------------|-----|----|----|--------------------|----------------------|-----------------|
|                                               |              |                                 |                                   |                        |                                   |                                    | -B                            | -C | -D | -O                             | -P  | -Q | -R | RD                 |                      |                 |
| 6.7                                           | 210          | 0.75                            | 591                               | 1.8                    | 1.3                               | 1036                               | B                             | B  |    |                                | B-C | B  |    | 55                 | 5.6                  | 01              |
| 4.7                                           | 300          | 0.75                            | 752                               | 1.6                    | 1.2                               | 1174                               | B                             | B  |    |                                | B-C | B  |    | 49                 | 5.6                  | 02              |
| 3.3                                           | 420          | 0.75                            | 1010                              | 1.2                    | 0.87                              | 1174                               | B                             | B  |    |                                | B-C | B  |    | 47                 | 5.6                  | 03              |
| 2.6                                           | 540          | 0.55                            | 851                               | 1.4                    | 0.76                              | 1174                               | B                             | B  |    |                                | B-C | B  |    | 42                 | 5.6                  | 04              |
| 1.8                                           | 780          | 0.55                            | 1112                              | 1.1                    | 0.58                              | 1174                               | B                             | B  |    |                                | B-C | B  |    | 38                 | 5.6                  | 05              |
| 1.3                                           | 1080         | 0.37                            | 1009                              | 1.2                    | 0.43                              | 1174                               | B                             |    |    | B-C                            | B-C |    |    | 37                 | 5.6                  | 06              |
| 1.1                                           | 1290         | 0.37                            | 1140                              | 1.0                    | 0.38                              | 1174                               | B                             |    |    | B-C                            | B-C |    |    | 35                 | 5.6                  | 07              |
| 0.8                                           | 1800         | 0.25                            | 921                               | 1.3                    | 0.32                              | 1174                               | B                             |    |    | B-C                            | B-C |    |    | 30                 | 5.6                  | 08              |
| 0.7                                           | 2040         | 0.25                            | 1044                              | 1.1                    | 0.28                              | 1174                               | B                             |    |    | B-C                            | B-C |    |    | 30                 | 5.6                  | 09              |
| 0.6                                           | 2400         | 0.25                            | 1228                              | 1.0                    | 0.26                              | 1174                               | B                             |    |    | B-C                            | B-C |    |    | 28                 | 5.6                  | 10              |
| 0.5                                           | 3000         | 0.18                            | 958                               | 1.0                    | 0.18                              | 978                                | B                             |    |    | B-C                            | B-C |    |    | 26                 | 5.6                  | 11              |

Motor Flanges Available  
Flange Motore Disponibili

B) Supplied with Reduction Bushing  
Fornito con Bussola di Riduzione

B) Available on Request without reduction bushing  
Disponibile a Richiesta senza Bussola di Riduzione

C) Motor Flange Holes Position  
Posizione Fori Flangia Motore

**EN** Unit **15M** is supplied without lubricant and equipped with a breather, level and drain plugs. User can add mineral oil keeping existing plugs. Should the user wish to fill it with synthetic oil, it is recommended to replace the existing plugs with a type that are closed. Gearbox **050** is supplied lubricated for life. See tab.1 for oils and recommended quantity. In tab.2 there are radial loads and axial loads applicable to the gearbox.

**I** Il riduttore tipo **15M** è fornito privo di lubrificazione con tappi di sfiato, livello e scarico olio. L'utente può immettere olio minerale mantenendo i tappi esistenti. Se immetterà olio sintetico, dovrà sostituire i tappi esistenti con altri tipo chiuso. Il riduttore **050** è fornito lubrificato a vita con olio sintetico. Tab.1 per oli e quantità consigliati. Tab.2 carichi radiali e assiali applicabili al riduttore.

**D** Das Getriebe der Baugröße **15M** wird ohne Schmiermittel geliefert. Es ist jedoch mit Einfüllschraube, Überdruckventil und Ablassschraube ausgerüstet. Das benötigte mineralische Öl kann über die Einfüllschraube eingefüllt werden. Sollte synthetisches Öl bevorzugt werden, so ist sind das eingebaute Überdruckventil durch eine geschlossenen Schraube zu ersetzen. Das Getriebe der Baugröße **050** ist lebensdauergeschmiert. In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben. In Tabelle 2 sind die zulässigen Radial - und Axialbelastungen des Getriebes aufgeführt.

**F** Le réducteur de type **15M** est fourni sans lubrification et avec un bouchon de remplissage, de niveau et d'évacuation de l'huile. L'utilisateur peut y verser de l'huile minérale en conservant les bouchons existants. S'il y versera de l'huile synthétique, il devra substituer les bouchons existants avec d'autres bouchons de type fermé. Le réducteur de type **050** est fourni lubrifié à vie avec de l'huile synthétique. Voir tableau 1 concernant les huiles et les quantités conseillées. Voir tableau 2 concernant les charges radiales et axiales applicables au réducteur.

**E** El reductor tamaño **15M** se suministra sin lubricante, provisto de tapones de respiración, nivel y descarga de aceite. El usuario puede utilizar aceite mineral, manteniendo los tapones existentes. Si prefiere utilizar aceite sintético deberá sustituir los tapones existentes por tapones ciegos. El reductor **050** se suministra lubricado de por vida con aceite sintético. Ver tabla 1, para cantidades y aceites recomendados. En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

|                       |              |              |                 |             |             |
|-----------------------|--------------|--------------|-----------------|-------------|-------------|
|                       |              |              |                 |             |             |
| B3                    | B6           | B7           | B8              | V5          | V6          |
| 1.9/0.14LT            | 1.35/0.14 LT | 1.35/0.14 LT | 2.0/0.14 LT     | 2.0/0.14 LT | 2.0/0.14 LT |
| SHELL Omala S2 GX 460 |              |              | ENI Blasias 460 |             |             |

For all details on lubrication and plugs check our website

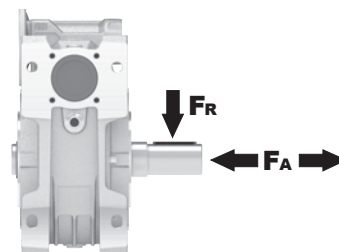
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

tab. 1

## RADIAL AND AXIAL LOADS

### Output shaft

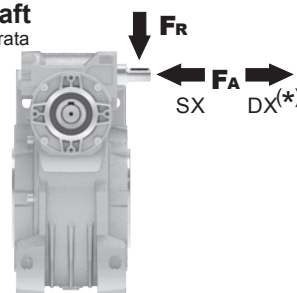
Albero di uscita



| $n_2$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 25                            | 1200      | 6000      |
| 15                            | 1400      | 7000      |

### Input shaft

albero in entrata



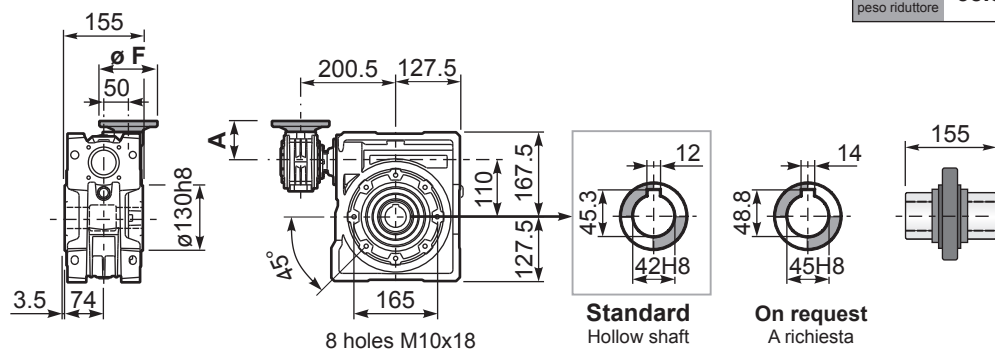
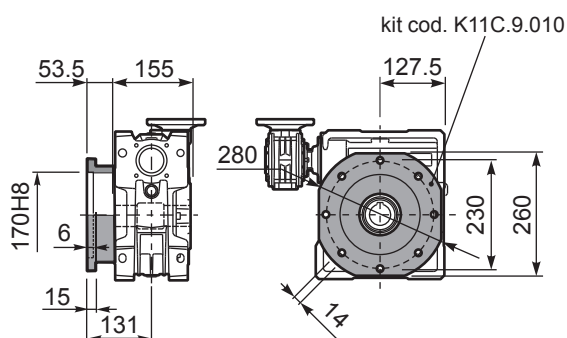
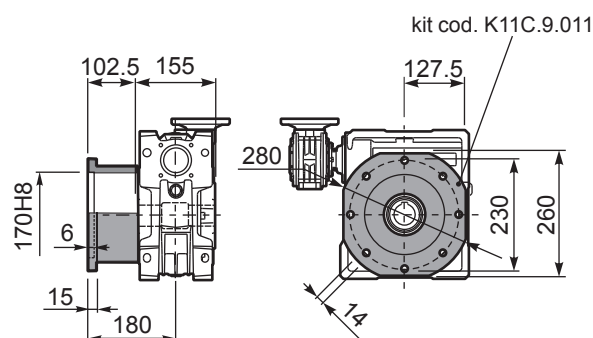
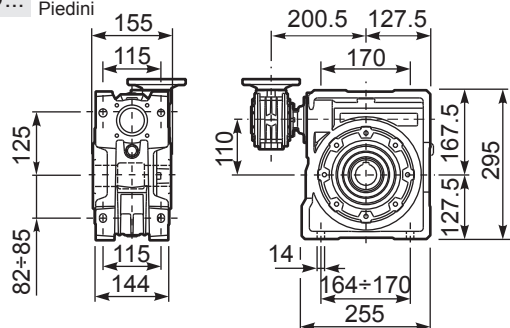
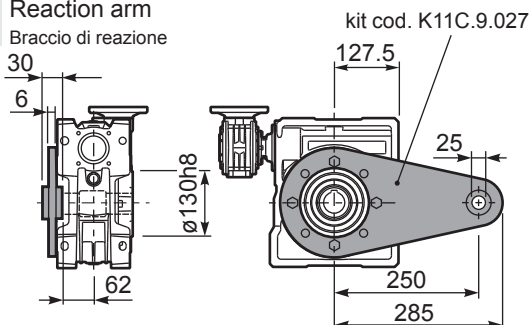
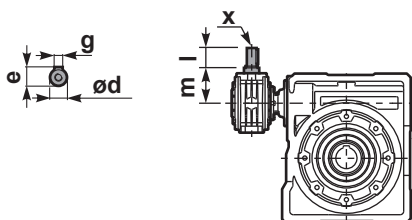
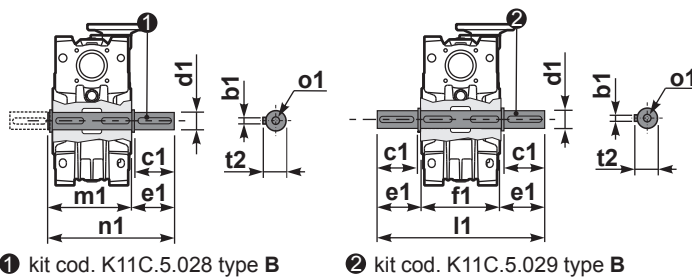
| $n_1$<br>[min <sup>-1</sup> ] | FA<br>[N] | FR<br>[N] |
|-------------------------------|-----------|-----------|
| 1400                          | 76        | 380       |

\*Strong axial loads in the DX direction are not allowed.  
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

P15M**FB**...Basic wormbox  
Riduttore baseGearbox  
weight  
peso riduttore **38.8 kg**

| M. flanges   | Kit code   | øF  | A    |
|--------------|------------|-----|------|
| <b>63B5</b>  | K050.4.041 | 138 | 78.5 |
| <b>71B5</b>  | K050.4.042 | 160 | 76   |
| <b>80B5</b>  | K050.4.043 | 200 | 76.5 |
| <b>56B14</b> | KC40.4.049 | 80  | 76   |
| <b>63B14</b> | K050.4.047 | 90  | 78.5 |
| <b>71B14</b> | K050.4.045 | 105 | 76   |
| <b>80B14</b> | K050.4.046 | 120 | 76.5 |

P15M**FC**...Output flange  
Flangia uscitaP15M**FL**...Output flange  
Flangia uscitaP15M**FB**...Feet  
PiediniP15M**BR**...Reaction arm  
Braccio di reazioneR15M**FB**...Input shaft  
Albero in entrataP15M.....**S**...Single Shaft  
Albero lento sempliceP15M.....**D**...Double Shaft  
Albero lento bisp.

|        | ød    | e  | g | l  | m    | x     | kit code                                   |
|--------|-------|----|---|----|------|-------|--------------------------------------------|
| type B | 16 h6 | 18 | 5 | 30 | 79.5 | M6x16 | ① K050.5.006 PAM71<br>② K050.5.007 PAM80   |
| type S | 14 h6 | 16 | 5 | 30 | 79.5 | M5x10 | ③ KS050.5.008 PAM71<br>④ KS050.5.009 PAM80 |

|        | b1 | c1 | d1   | e1   | f1  | l1  | m1    | n1  | t2 | o1     |
|--------|----|----|------|------|-----|-----|-------|-----|----|--------|
| type B | 12 | 80 | 42h6 | 84.5 | 155 | 324 | 164.5 | 249 | 45 | M16x28 |
| type S | -  | -  | -    | -    | -   | -   | -     | -   | -  | -      |