ALUMINUM WORM GEARBOXES

M SQUARE GEARS

METRIC CATALOGUE EDITION 2025

ITALIAN MADE PRODUCTS



HYDRO·MEC

HIGH EFFICIENCY GEARBOXES

M Square worm gearboxes

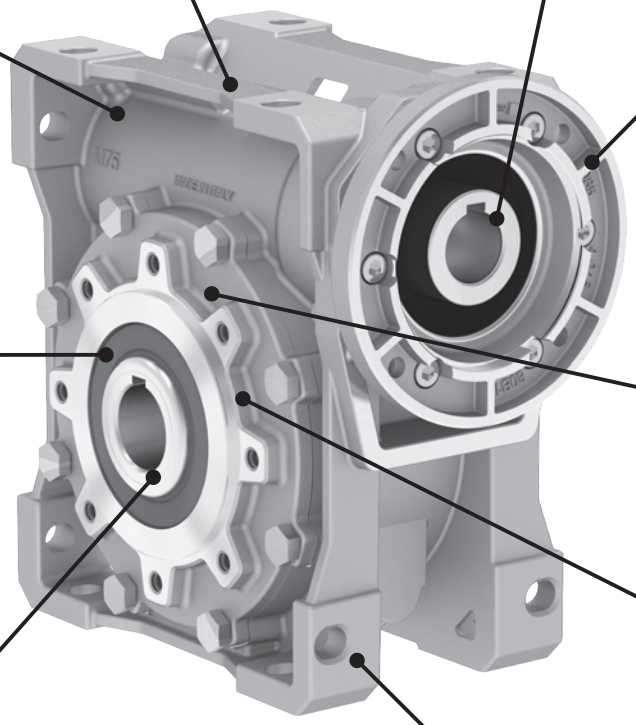
A modular and compact product

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.

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.

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.

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



Premium, high temperature
Nitrile® output seals

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.

Oversize bearing
For radial load capability and maximum hollow output shaft diameter.

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

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 -15ºC to 130ºC.

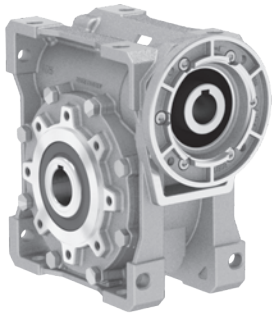
oil free



vent free



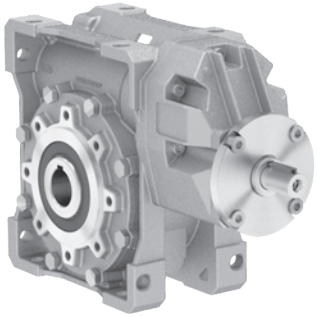
Specific type datasheet on page...



Types / Tipi / Tipen / Types / Tipos ⇨

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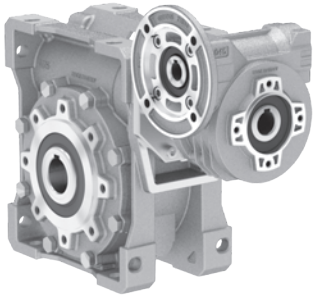
2-5	2-7	2-9	2-11	2-13	2-15	2-17	2-19	2-21
M30 21Nm	**M45** 47Nm	**M50** 88Nm	**M63** 160Nm	**M75** 270Nm	**M85** 364Nm	**M11** 725Nm	**M13** 1050Nm	**M15** 1550Nm



Types / Tipi / Tipen / Types / Tipos ⇨

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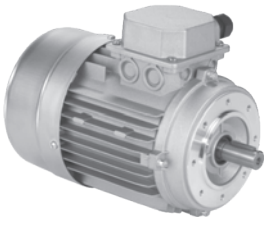
2-23	2-25	2-27	2-29	2-31	2-33
P4M 55Nm	**P5M** 88Nm	**P6M** 187Nm	**P7M** 310Nm	**P8M** 440Nm	**P1M** 803Nm



Types / Tipi / Tipen / Types / Tipos ⇨

On page / A pagina / Auf Seite / À la page / En la página

2-35	2-37	2-39	2-41	2-43	2-45	2-47	2-49
33M 38Nm	**43M** 72Nm	**53M** 138Nm	**63M** 270Nm	**64M** 290Nm	**74M** 420Nm	**84M** 596Nm	**15M** 1174Nm



Types / Tipi Tipen / Types Tipos ⇨

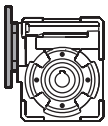
On page / A pagina / Auf Seite / À la page / En la página

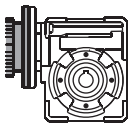
M-1									
56A 56B	**63A 63B**	**71A 71B**	**80A 80B**	**90S 90L**	**100LA 100LB**	**112M**	**132S 132M**	**160M 160L**	**180M 180L**

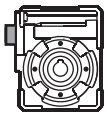
CODIFICA / HOW TO ORDER / TYPENBEZEICHNUNGEN / CODIFICATION / CODIFICACIÓN

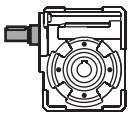
Type - Tipo - Typ Type - Tipo	**Size** - Grandezza Grösse - Taille Tamaño	**Mounting** - Montaggio - Montage Fixation Fixation - Tipo de montaje
P	**M45**	**FC**

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

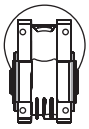

P

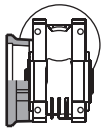

M

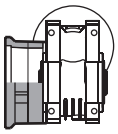

B


R

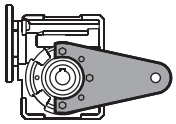
M30
M45
M50
M63
M75
M85
M11
M13
M15


FB

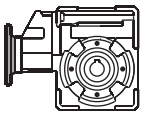

FC

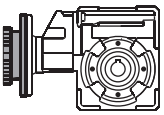

FL

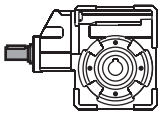
F1
F2
F3
F4


BR

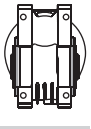
Worm gearboxes with primary reduction
Riduttori a vite senza fine con precoppia
Schneckengetriebe mit stirnradstufe am Eintrieb
Reducteurs a vis sans fin avec pré-réduction
Reductores corona sin fin con prereductora de engranajes

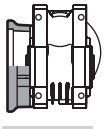

P


M


R

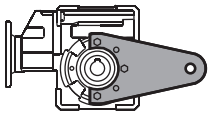
P4M
P5M
P6M
P7M
P8M
P1M


FB

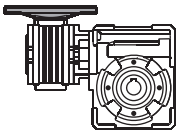

FC

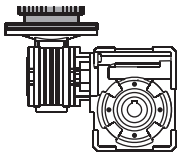

FL

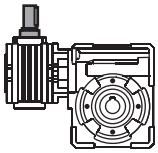
F1
F2
F3
F4


BR

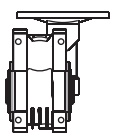
Combined worm gearboxes
Riduttori a vite senza fine combinati
Schneckengetriebekombinationen
Reducteurs a double train de vis sans fin
Reductores combinados corona sin fin

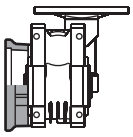

P

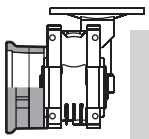

M


R

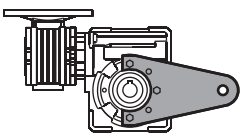
33M
43M
53M
63M
64M
74M
84M
15M


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 Rapporto Untersetzung Reduction Relaciòn	**Hub** Mozzo corona Hohlwelle Arbre creux Nucleo corona	**Output shaft** Albero lento Abtriebswelle Arbre de sortie Eje salida	**Motor size** Grandezza motore Motor Grösse Grandeur moteur Tamaño motor	**Mounting position** Posizione montaggio Einbaulage Position de montage Position de montaje	**Input bore** Foro entrata Eingangshohlwelle Trou d'entree Eje hueco de entrada	**Mountin position** Esecuzione montaggio Einbaulage Exécution de montage Posición de montaje	**Terminal box position** Posizione morsettiera Klemmkastenlage Position boîte a bornes Posición caja de bornes
10	**C**	**ø**	**-Q**	**B3**	**ST**	**---**	

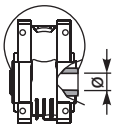
See technical data table

Vedi tabelle dati tecnici.

Technisches Datenblatt beachten

Voir tableau données techniques

Ver tabla datos técnicos



STANDARD

C

M30⇨ ø14
M45⇨ ø18
M50⇨ ø25
M63⇨ ø25
M75⇨ ø28
M85⇨ ø35
M11⇨ ø42
M13⇨ ø45
M15⇨ ø50

I

Stainless steel hub
Mozzo in acciaio Inox
Edelstahlhohlwelle
Moyeu en acier Inox
Nucleo corona de acero Inox

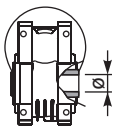
SPECIAL SERIES
SERIE SPECIALE

S

M45⇨ ø19
M50⇨ ø24

X

Stainless steel hub
Mozzo in acciaio Inox
Edelstahlhohlwelle
Moyeu en acier Inox
Nucleo corona de acero Inox



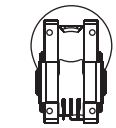
INCH

U

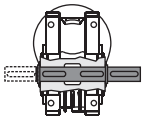
M45⇨ø0.750”
M50⇨ø1.000”
M63⇨ø1.125”
M85⇨ø1.500”

Z

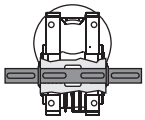
Stainless steel hub
Mozzo in acciaio Inox
Edelstahlhohlwelle
Moyeu en acier Inox
Nucleo corona de acero Inox



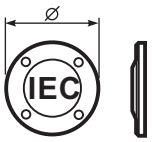
Ø



S



D



-M
without flange
Senza flangia

B5

-A=56 (ø120)
-B=63 (ø140)
-C=71 (ø160)
-D=80 (ø200)
-E=90 (ø200)
-F=100 (ø250)
-G=132 (ø300)
-H=160 (ø350)

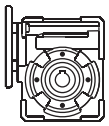
B14

-O=56 (ø80)
-P=63 (ø90)
-Q=71 (ø105)
-R=80 (ø120)
-T=90 (ø140)
-U=100 (ø160)
-V=132 (ø200)

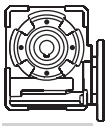
Brushless

BA=40/63-M5
BB=50/70-M5
BC=60/75-M5
BD=70/90-M6
BE=80/100-M6
BF=95/115-M8
BG=110/145-M8
BH=130/165-M8

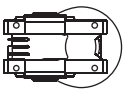
-0=Type R
-S=Type R
S series



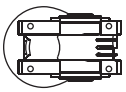
B3



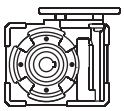
B8



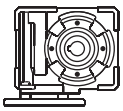
B6



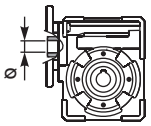
B7



V5



V6



ST

Standard bore *
Kit R standard

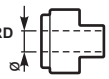
Foro standard *
Kit R standard

Input bore without Reduction Bushing

-O = 9mm
-P = 11mm
-Q = 14mm
-R = 19mm
-T = 24mm
-U = 28mm
-V = 38mm

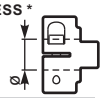
COUPLING

STANDARD (IEC)



-A = 9mm
-B = 11mm
-C = 14mm
-D = 19mm
-E = 24mm
-F = 28mm

BRUSHLESS *

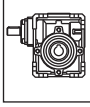


-1 = 9mm
-2 = 11mm
-3 = 14mm
-4 = 19mm
-5 = 22mm
-6 = 24mm

Ready for input coupling
Predisposto per giunto



-0
Type B
Tipo B



-0
Type R
Tipo R

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

Only for combined units See technical data table

Solo per i riduttori combinati Vedi tabelle dati tecnici.

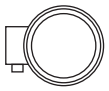
Ausführungen für Getriebekombinationen it

Uniquement pour combinés. Voir tableau données techniques

Sólo para combinados ver tabla datos técnicos

With Type M specify terminal box position

Con tipo M specificare posizione morsettiera

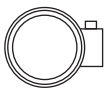


A

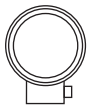


B

STANDARD



C



D

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

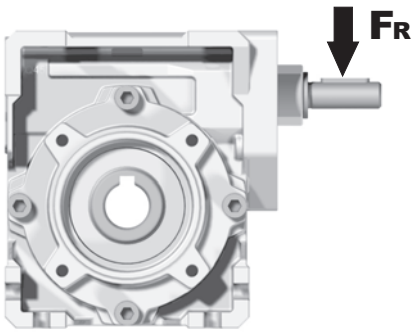
Lifting / sollevamento / hubantriebe / levage / elevactión	$\mathbf{P}\ [KW] = \frac{\mathbf{M}\ [Kg] \cdot \mathbf{g}\ [9.81] \cdot \mathbf{v}\ [m/s]}{\mathbf{1000}}$
Rotation / rotazione / drehung / rotation / rotaction	$\mathbf{P}\ [KW] = \frac{\mathbf{M}\ [Nm] \cdot \mathbf{n}\ [rpm]}{\mathbf{9550}}$
Linear movement / traslazione / linearbewegung / translation / translacion	$\mathbf{P}\ [KW] = \frac{\mathbf{F}\ [N] \cdot \mathbf{v}\ [m/s]}{\mathbf{1000}}$

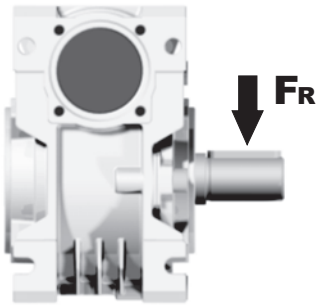
TORQUE / COPPIA / DREHMOMENT / COUPLE / PAR

	$\mathbf{M}\ [Nm] = \frac{\mathbf{9550} \cdot \mathbf{P}[KW]}{\mathbf{n}\ [rpm]}$
	$\mathbf{M}\ [lb\ in] = \frac{\mathbf{63030} \cdot \mathbf{P}[HP]}{\mathbf{n}\ [rpm]}$

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





$F_R\ [N] = \frac{\mathbf{M}\ [Nm] \cdot \mathbf{2000}}{\mathbf{d}\ [mm]} \cdot f_K$	$F_R\ [N] = \frac{\mathbf{M}\ [lb\ in] \cdot \mathbf{8.9}}{\mathbf{d}\ [in]} \cdot f_K$

M	Momento torcente / Output torque / Abtriebsdrehmoment / Couple / Par torsion
d	Diametro primitivo / Diam. of driving element / Durchmesser der Abtriebseinheit / Diamètre primitif / Diámetro primitivo
f_K	Coefficiente di trasformazione / Factor / Faktor / Coefficient de transmission / Coeficiente de transmisión **1.15** Ingranaggi / Gearwheels / Zahnrad / Engrenage / Engranaje **1.25** Catena / Chain sprochets / Antriebskette / Chaîne / Cadena **1.75** Cinghia Trapezoidale / Narrow v-belt pulley / Keilriemen / Courroie trap. / Correa trapezoidal **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.

B Output speed / Velocità in uscita / Abtriebsdrehzahl / Vitesse de sortie / Velocidad de salida

Nominal power / Potenza nominale / Max. mögliche Leistung / Poissance nominale / Potencia nominal

Gear size / Grandezza riduttore / Getriebegröße / Taille réducteur / Tamaño reductor

Motor power / Potenza motore / Motorleistung / Puissance moteur / Potencia motor

A Nominal torque / Momento torcente nominale / Nenn Drehmoment / Couple nominal / Par de torsión nominal

Flange code / Codice flangia / Flanschtype / Code bride / Código bridas

Dynamic efficiency / Rendimento dinamico / Dynamischer Rendement dynamique / Rendimento dinámico

Input speed / Velocità in entrata / Eintriebsdrehzahl / Vitesse en entrée / Velocidad de entrada

M45 M Square - Gear 47Nm

Rating - Aluminum WORM GEARBOXES



▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1400 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor f.s.	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	Available B5 motor flanges -B 63	Available B5 motor flanges -C 71	Available B14 motor flanges -O 56	Available B14 motor flanges -P 63	Available B14 motor flanges -Q 71	Dynamic efficiency RD	Tooth Module [mm]	Ratios code
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

C Ratio / Rapporto / Untersetzung / Rapport de réduction / Relación

Nominal module / Modulo nominale / Nenn modul / Module nominale / Módulo nominal

Notes / Note / Anmerkungen / Note / Notas

Transmitted torque / Momento torcente trasmesso / Mögliche Drehmomente / Couple de sortie / Par transmitido

Service factor / Fattore di servizio / Betriebsfaktor / Facteur de service / Factor de servicio

fs

Type of load and starts per hour / Tipo di carico e avviamenti per ora		Oper. hours per day / Ore di funz. giorn. <2 h	2 - 8 h	8 - 16 h
Continuous or intermittent appl. with start / hour Applicazione cont. o interm. 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 with start / hour Applicazione intermittente 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

D Motor flange available / Flange disponibili / Erhältliche Motorflansche / Brides disponibles / Bridas disponibles

B) Mounting with reduction ring / Montaggio con boccola di riduzione / Reduzierhülsen / Montage avec douille de réduction / Montaje con casquillo de reducción



C) Motor flangeholes position/terminal box position / Posizione fori flangia/basetta motore / Bohrungsposition am Motorflansch/-sockel / Position trous bride/barrette à bornes moteur / Posición agujeros brida / base motor



B) Available without reduction bushes / Disponibile anche senza boccola / Auch ohne Reduzierbuchse verfügbar / Disponible aussi sans douille de réduction / Disponible tambien sin casquillo

A	Select required torque (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	Select ouput speed	Seleziona la velocità in uscita	Ausgewählte Abtriebsdrehzahl	Sélectionner la vitesse de sortie	Seleccionar la velocidad de salida
C	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
D	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^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor f.s.	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	Available B5 motor flanges -A 56	Available B5 motor flanges -B 63	Available B14 motor flanges -O 56	Available B14 motor flanges -P 63	Dynamic efficiency RD	Tooth Module [mm]	Ratios code
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.

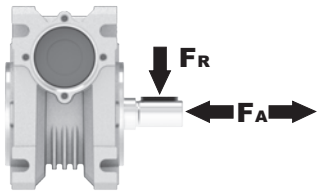
▪ LUBRICATION M30 Oil Quantity 0.03Lt.

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

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

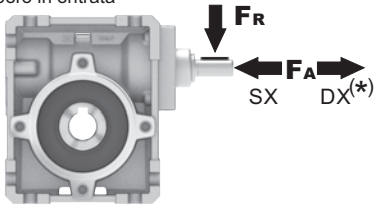
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [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 [min^{-1}]	FA [N]	FR [N]
1400	20	100

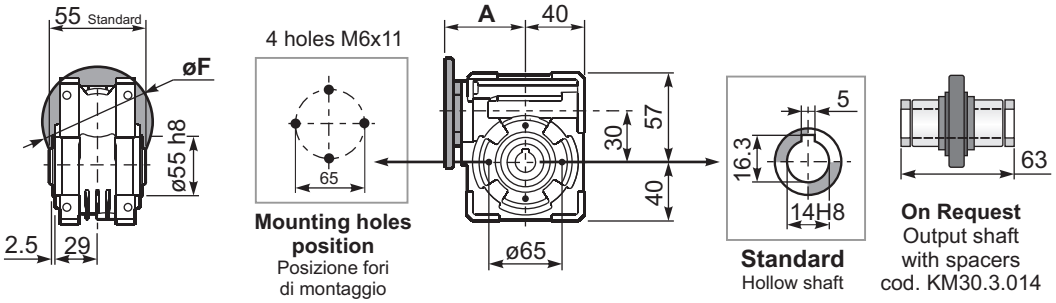
***Strong axial loads in the DX direction are not allowed.**
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

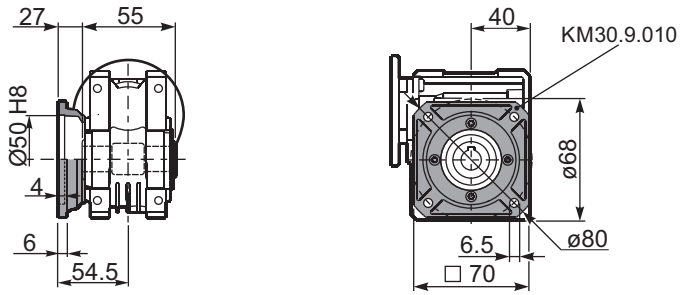
PM30**FB**... Basic wormbox
Riduttore base

Gearbox weight peso riduttore	1.15 kg

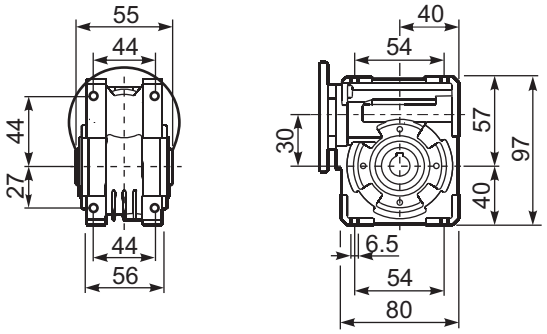
M. flanges	Kit code	øF	A
56B5	K030.4.041	120	61.5
63B5	K030.4.042	140	62.5
56B14	K030.4.046	80	61.5
63B14	K030.4.045	90	62.5



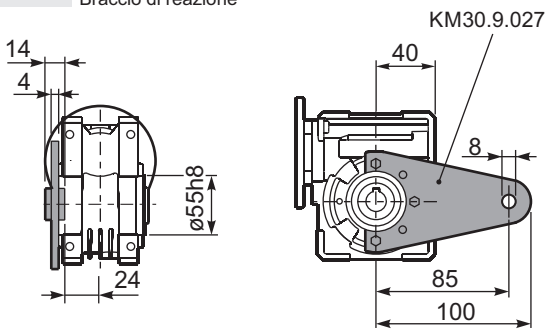
PM30**FC**... Square flange
Flangia quadrata



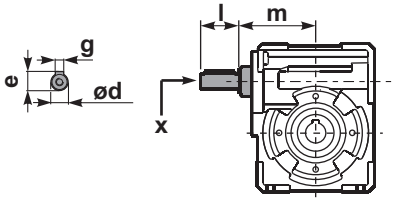
PM30**FB**... Feet
Piedini



PM30**BR**... Reaction arm
Braccio di reazione



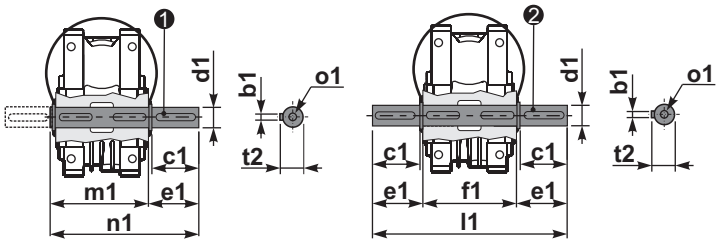
RM30FB... Input shaft
Albero in entrata



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

PM30.....**S**... Single Shaft
Albero lento semplice

PM30.....**D**... Double Shaft
Albero lento bisp.



❶ kit cod. K030.5.028 type **B**

❷ kit cod. K030.5.029 type **B**

	b1	c1	d1	e1	f1	l1	m1	n1	t2	o1
type **B**	5	25	$14^{-0.005}_{-0.020}$	35.5	55	126	59	94.5	16	M5x14
type **S**	-	-	-	-	-	-	-	-	-	-

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1400 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor f.s.	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	Available B5 motor flanges -B 63	Available B5 motor flanges -C 71	Available B14 motor flanges -O 56	Available B14 motor flanges -P 63	Available B14 motor flanges -Q 71	Dynamic efficiency RD	Tooth Module [mm]	Ratios code
280	**5**	0.37	11	3.3	**1.22**	**35**	**B**		B-C	**B**-C		84	1.9	11
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.

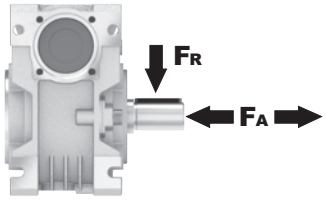
▪ LUBRICATION M45 Oil Quantity 0.09 Lt.

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

For all details on lubrication and plugs check our website **tab. 1**
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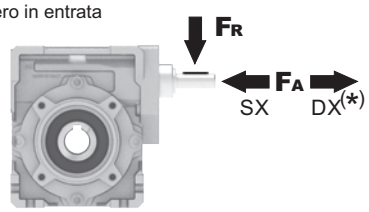
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [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



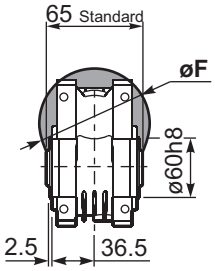
n_1 [min^{-1}]	FA [N]	FR [N]
1400	42	210

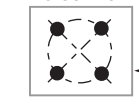
***Strong axial loads in the DX direction are not allowed.**
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

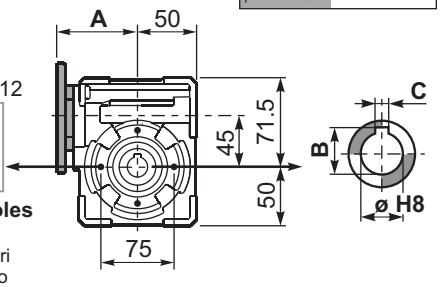
PM45**FB**... Basic wormbox
Riduttore base

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



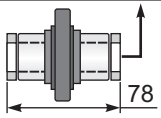


Mounting holes position
Posizione fori di montaggio



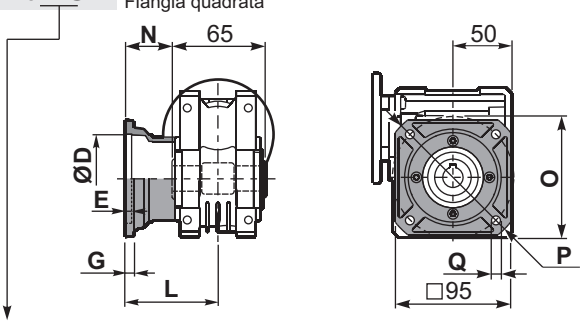
Gearbox weight peso riduttore **2.30 kg**

ø H8	B	C	*Spacer code
18 Standard	20.8	6	KM45.3.018
19 on request	21.8	6	KM45.3.019
20 on request	22.8	6	KM45.3.020



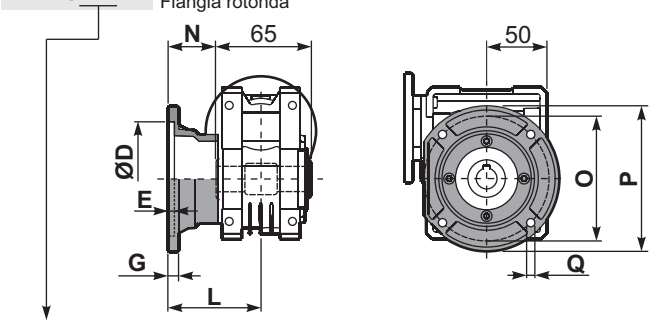
***On Request**
output shaft with spacers

PM45**FC**... Square flange
Flangia quadrata



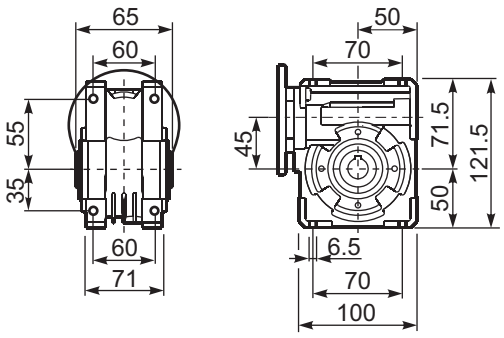
type **B**	øD	E	G	L	N	O	P	Q	kit code
FC	60 H8	4	7	67	34.5	75	110	9	KM45.9.010
FL	60 H8	4	7	97	64.5	75	110	9	KM45.9.011

PM45**F1**... Round flange
Flangia rotonda

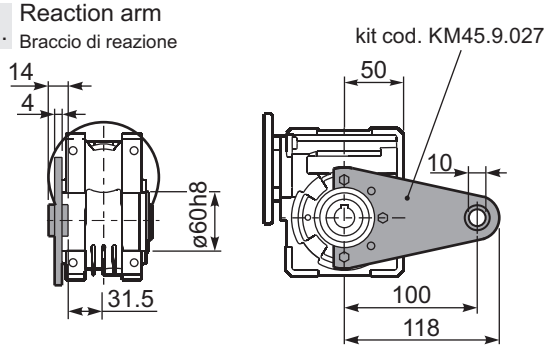


type **S**	øD	E	G	L	N	O	P	Q	kit code
F1	95H8	5	9	80	47.5	115	140	9.5	KM45.9.012
F2	-	-	-	-	-	-	-	-	-

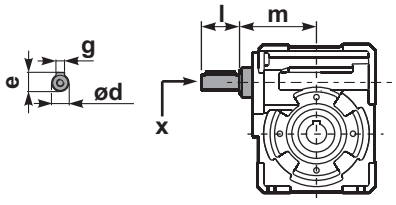
PM45**FB**... Feet
Piedini



PM45**BR**... Reaction arm
Braccio di reazione



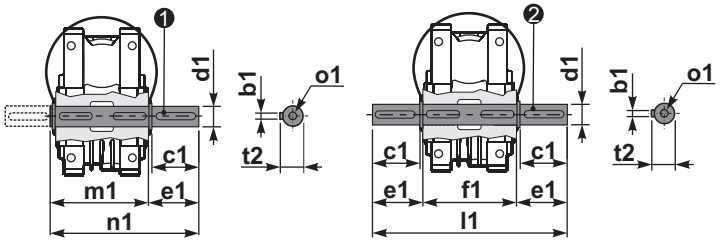
RM45FB... Input shaft
Albero in entrata



	ød	e	g	l	m	x	kit code
type **B**	11 h6	12.5	4	30	74	-	❶ K045.5.006 PAM71 ❷ -
type **S**	-	-	-	-	-	-	❶ - ❷ -

PM45.....**S**... Single Shaft
Albero lento semplice

PM45.....**D**... Double Shaft
Albero lento bisp.



❶ kit cod. K045.5.028 type **B**
kit cod. KS045.5.030 type **S**

❷ kit cod. K045.5.029 type **B**

	b1	c1	d1	e1	f1	l1	m1	n1	t2	o1
type **B**	6	32	18 $^{-0.005}_{-0.020}$	43	65	151	70	113	20.5	M6x18
type **S**	6	40	19 $^{-0.005}_{-0.020}$	58.5	-	-	70	128.5	21.5	M8x20

M50 M Square - Gear 88Nm

Rating - Aluminum WORM GEARBOXES

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1400 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor f.s.	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	Available B5 motor flanges -B 63	-C 71	-D 80	Available B14 motor flanges -O 56	-P 63	-Q 71	-R 80	Dynamic efficiency RD	Tooth Module [mm]	Ratios code
280	**5**	0.75	22	3.0	2.24	65	**B**	**B**			**B**-C	**B**		85	2.15	14
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**-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.

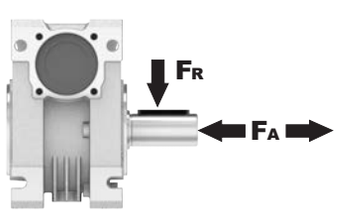
SHELL Omala S4 WE 320	**ENI** Telium VSF 320

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

tab. 1

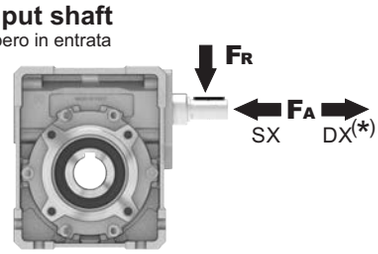
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [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



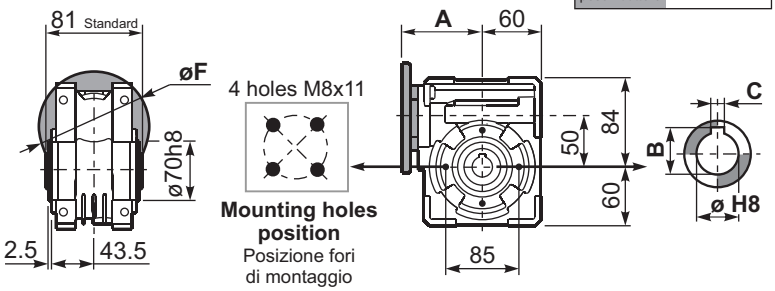
n_1 [min^{-1}]	FA [N]	FR [N]
1400	76	380

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

tab. 2

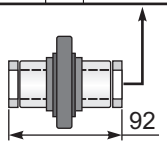
PM50**FB**... Basic wormbox
Riduttore base

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



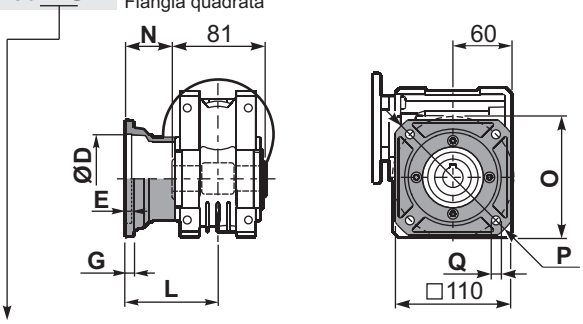
Gearbox weight peso riduttore **3.25 kg**

ø H8	B	C	*Spacer code
25 Standard	28.3	8	KM50.3.025
24 on request	27.3	8	KM50.3.024



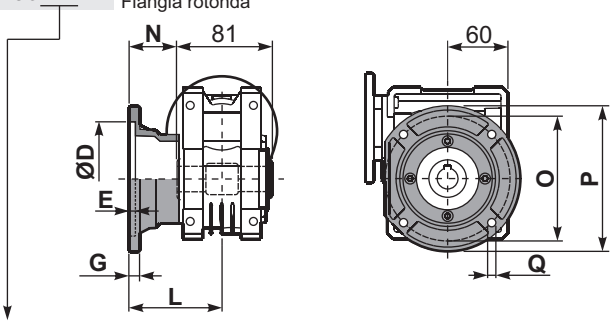
***On Request**
output shaft with spacers

PM50**FC**... Square flange
Flangia quadrata



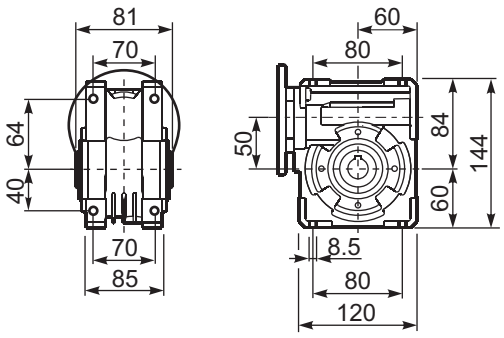
type **B**	øD	E	G	L	N	O	P	Q	kit code
FC	70 H8	5	9	90	49.5	85	125	11	KM50.9.010
FL	70 H8	5	9	120	79.5	85	125	11	KM50.9.011

PM50**F1**... Round flange
Flangia rotonda

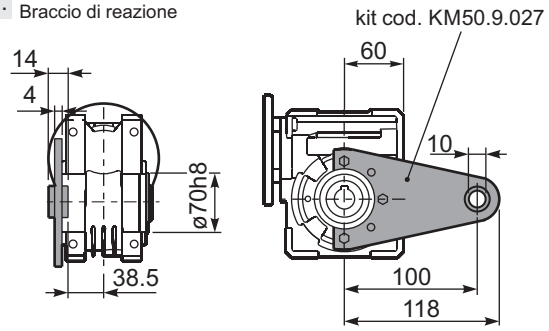


type **S**	øD	E	G	L	N	O	P	Q	kit code
F1	110 H8	5	10	89	48.5	130	160	9.5	KM50.9.012
F2	95 H8	5	14.5	72	31.5	115	140	11	KM50.9.013

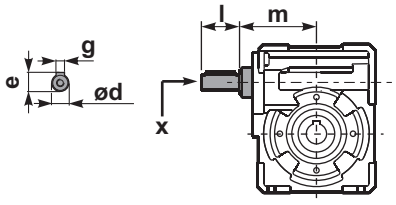
PM50**FB**... Feet
Piedini



PM50**BR**... Reaction arm
Braccio di reazione



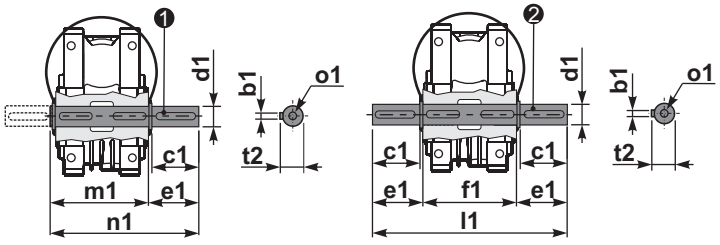
R M50FB... Input shaft
Albero in entrata



	ød	e	g	l	m	x	kit code
type **B**	16 h6	18	5	30	79.5	M6x16	❶ K050.5.006 PAM71 ❷ K050.5.007 PAM80
type **S**	14 h6	16	5	30	79.5	M5x10	❶ KS050.5.008 PAM71 ❷ KS050.5.009 PAM80

PM50.....**S**... Single Shaft
Albero lento semplice

PM50.....**D**... Double Shaft
Albero lento bisp.



❶ kit cod. K050.5.028 type **B**
kit cod. KS050.5.030 type **S**

❷ kit cod. K050.5.029 type **B**

	b1	c1	d1	e1	f1	l1	m1	n1	t2	o1
type **B**	8	52	$25^{-0.005}_{-0.020}$	59.5	81	200	86.5	146	28	M8x20
type **S**	8	50	$24^{-0.005}_{-0.020}$	68.8	-	-	86.5	155	27	M8x20

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1400 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor f.s.	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	Available B5 motor flanges -B 63	-C 71	-D 80	-E 90	Available B14 motor flanges -Q 71	-R 80	-T 90	Dynamic efficiency RD	Tooth Module [mm]	Ratios code
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.

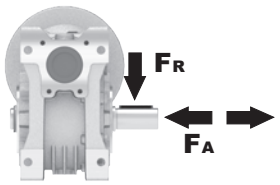
SHELL Omala S4 WE 320	**ENI** Telium VSF 320

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

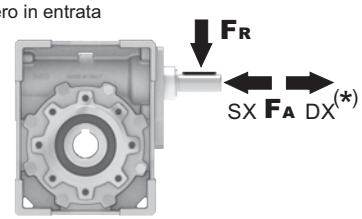
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [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



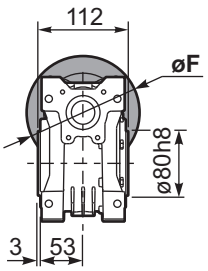
n_1 [min^{-1}]	FA [N]	FR [N]
1400	90	450

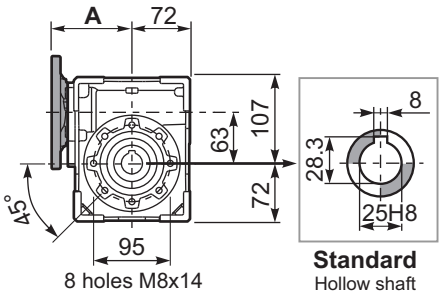
***Strong axial loads in the DX direction are not allowed.**
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

PM63**FB**... Basic wormbox
Riduttore base

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

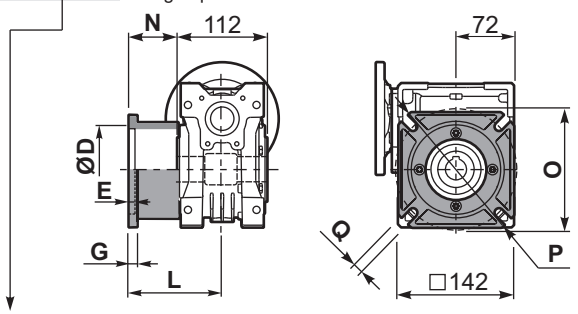




Standard
Hollow shaft

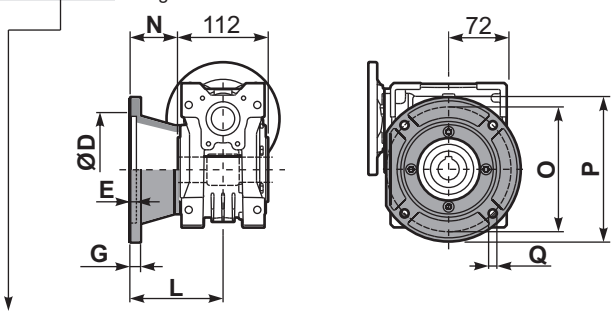
Gearbox weight peso riduttore **6.00 kg**

PM63**FC**... Square flange
Flangia quadrata



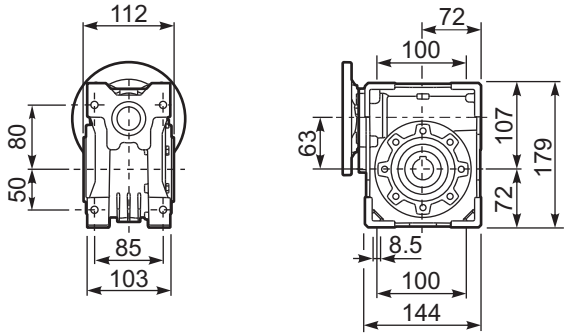
type **B**	øD	E	G	L	N	O	P	Q	kit code
FC	115 H8	6	10	82	26	150	180	11	KM63.9.010
FL	115 H8	6	10	112	56	150	180	11	KM63.9.011

PM63**F1**... Round flange
Flangia rotonda

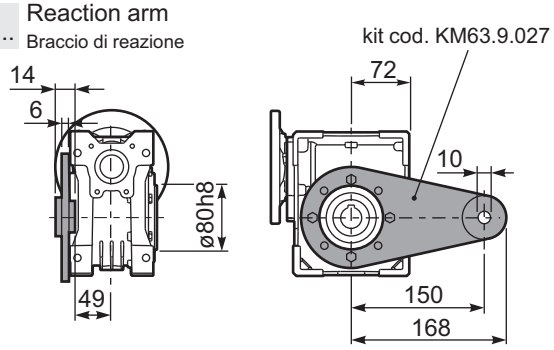


type **S**	øD	E	G	L	N	O	P	Q	kit code
F1	130 H8	5	10	98	42	165	200	11	KM63.9.012
F2	130 H8	5	10	107	51	165	200	11	KM63.9.013
F3	110 H8	5	16.5	80.5	24.5	130	160	11	KM63.9.014

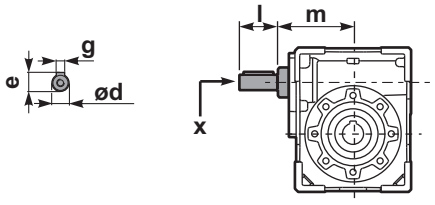
PM63**FB**... Feet
Piedini



PM63**BR**... Reaction arm
Braccio di reazione



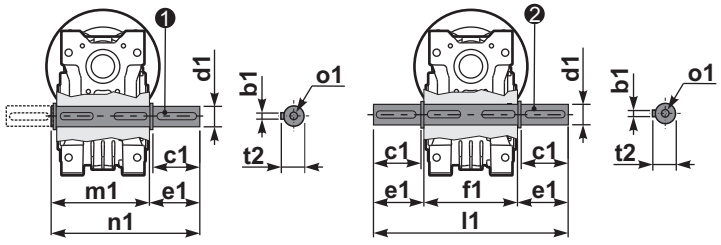
RM63FB... Input shaft
Albero in entrata



	ød	e	g	l	m	x	kit code
type **B**	18 h6	20.5	6	45	94	M6x16	❶ K063.5.006 PAM80 ❷ K063.5.007 PAM90
type **S**	19 h6	21.5	6	40	94	M8x20	❶ KS063.5.008 PAM80 ❷ KS063.5.009 PAM90

PM63.....**S**... Single Shaft
Albero lento semplice

PM63.....**D**... Double Shaft
Albero lento bisp.



❶ kit cod. KM63.5.028 type **B**

❷ kit cod. KM63.5.029 type **B**

	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^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor f.s.	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	Available B5 motor flanges -C 71	-D 80	-E 90	-F 100 112	Available B14 motor flanges -R 80	-T 90	-U 100 112	Dynamic efficiency RD	Tooth Module [mm]	Ratios code
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.

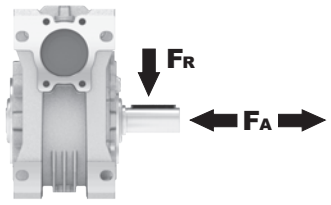
SHELL Omala S4 WE 320	**ENI** Telium VSF 320

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

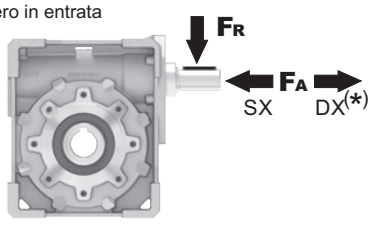
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [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 [min^{-1}]	FA [N]	FR [N]
1400	125	630

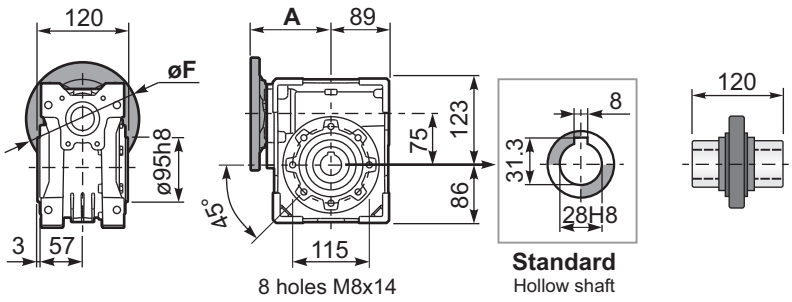
***Strong axial loads in the DX direction are not allowed.**
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

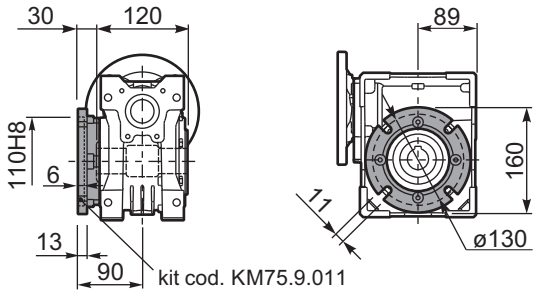
PM75**FB**... Basic wormbox
Riduttore base

Gearbox weight peso riduttore	8.70 kg

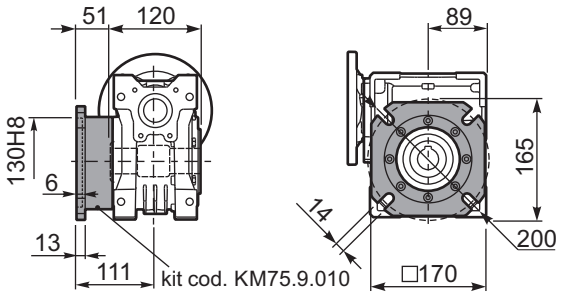
M. flanges	Kit code	øF	A
71B5	K023.4.041	160	114
80/90B5	K023.4.042	200	116
100/112B5	K023.4.043	250	125
80B14	K085.4.046	120	116
90B14	K085.4.045	140	116
100/112B14	K085.4.047	160	125



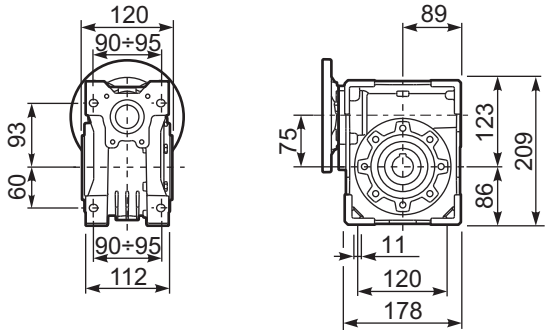
PM75**FC**... Round flange
Flangia rotonda



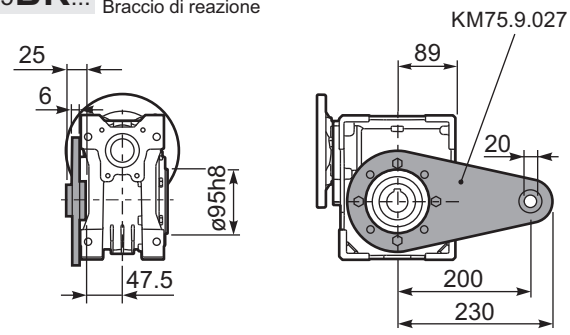
PM75**FL**... Square flange
Flangia quadrata



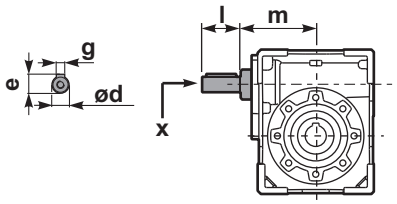
PM75**FB**... Feet
Piedini



PM75**BR**... Reaction arm
Braccio di reazione

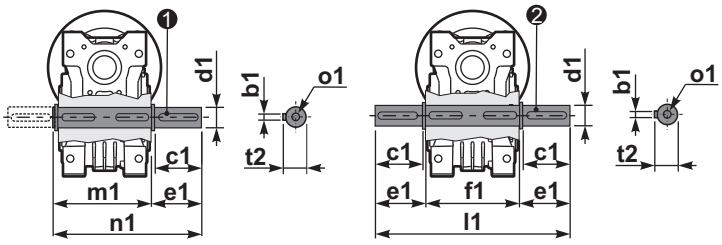


R M75FB... Input shaft
Albero in entrata



PM75.....**S**... Single Shaft
Albero lento semplice

PM75.....**D**... Double Shaft
Albero lento bisp.



❶ kit cod. KM75.5.028 Standard

❷ 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 K085.5.007 PAM90 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^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor f.s.	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	Available B5 motor flanges -C 71	-D 80	-E 90	-F 100 112	Available B14 motor flanges -R 80	-T 90	-U 100 112	Dynamic efficiency RD	Tooth Module [mm]	Ratios code
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.

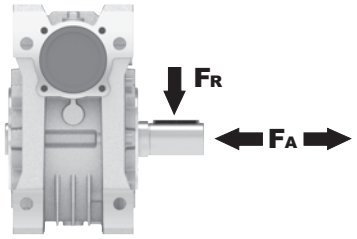
▪ LUBRICATION M85 Oil Quantity 1.20 Lt.

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

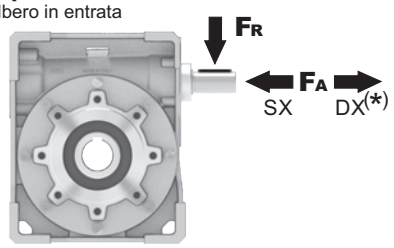
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [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



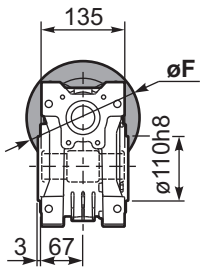
n_1 [min^{-1}]	FA [N]	FR [N]
1400	130	650

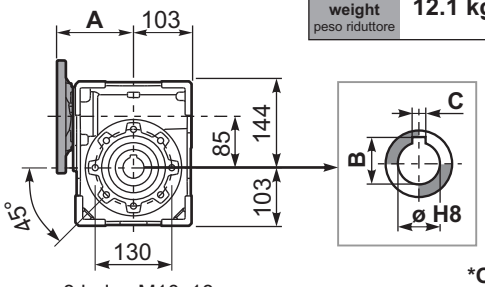
***Strong axial loads in the DX direction are not allowed.**
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

PM85**FB**... Basic wormbox
Riduttore base

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

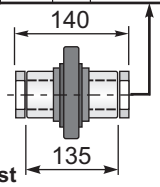




8 holes M10x18

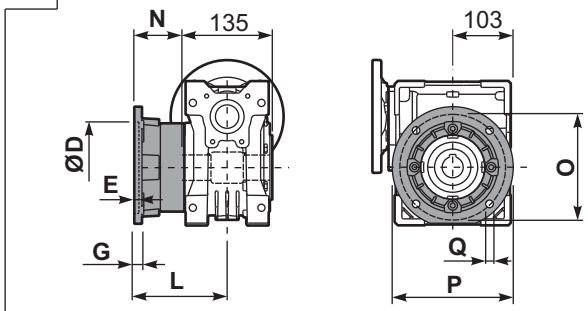
Gearbox weight peso riduttore **12.1 kg**

ø H8	B	C	*Spacer code
35 Standard	38.3	10	KM85.3.035
38 on request	41.3	10	KM85.3.038



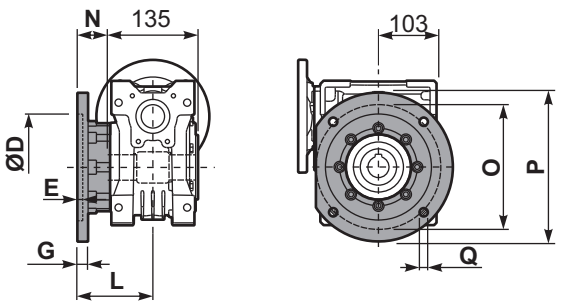
***On Request**
output shaft with spacers

PM85**FC**... Output flange
Flangia uscita



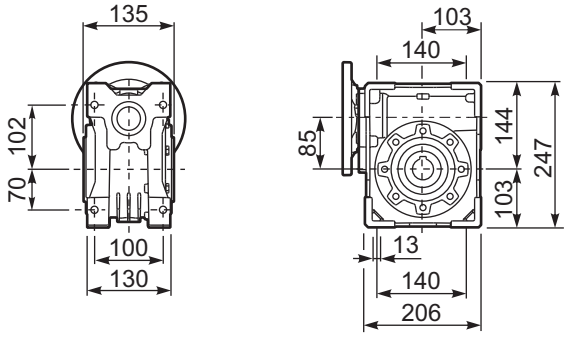
type **B**	øD	E	G	L	N	O	P	Q	kit code
FC	152 H8	5	16	111	43.5	176	205	13	K085.9.010
FL	180 H8	6	18	122	54.5	215	250	14	KM85.9.011

PM85**F1** Output flange
Flangia usicta

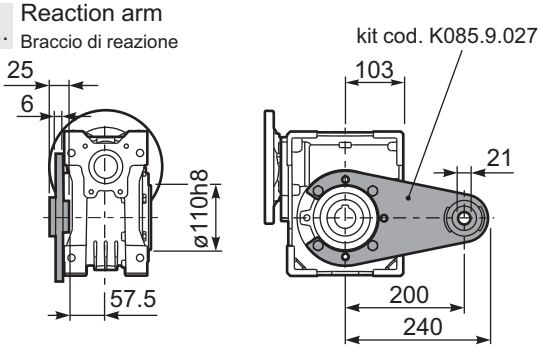


type **S**	øD	E	G	L	N	O	P	Q	kit code
F1	130 H8	5	13	109.5	42	165	200	13	KS085.9.015
F2	152 H8	5	16	151.5	84	176	205	13	K085.9.010 K085.0.201

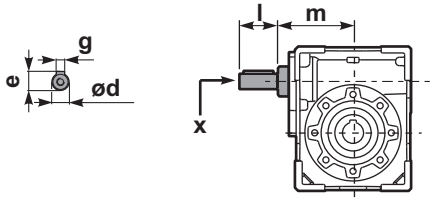
PM85**FB**... Feet
Piedini



PM85**BR**... Reaction arm
Braccio di reazione

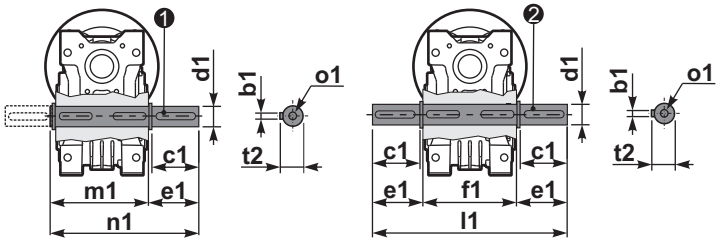


RM85FB... Input shaft
Albero in entrata



PM85.....**S**... Single Shaft
Albero lento semplice

PM85.....**D**... Double Shaft
Albero lento bisp.



❶ kit cod. K085.5.028 type **B**

❷ kit cod. K085.5.029 type **B**

	ød	e	g	l	m	x	kit code
type **B**	25 h6	28	8	50	112	M8x20	❶ K085.5.007 PAM90 ❷ K085.5.008 PAM100
type **S**	24 h6	27	8	50	112	M8x20	❶ KS085.5.009 PAM90 ❷ KS085.5.011 PAM100

	b1	c1	d1	e1	f1	l1	m1	n1	t2	o1
type **B**	10	60	$35^{-0.005}_{-0.020}$	73.5	135	282	141	214.5	38	M10x23
type **S**	-	-	-	-	-	-	-	-	-	-

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1400 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor f.s.	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	Available B5 motor flanges -C 71	-D 80	-E 90	-F 100 112	-G 132	Available B14 motor flanges -R 80	-T 90	-U 100 112	-V 132	Dynamic efficiency RD	Tooth Module [mm]	Ratios code
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

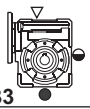
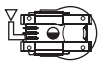
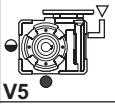
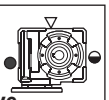
EN Unit **M11** is supplied without lubricant and equipped with a breather, level and drain plugs. User can add mineral oil keeping existing plugs. Should the user wish to fit it with synthetic oil, it is recommended to replace the existing plugs with a closed plug.
See table 1 for lubrication and recommended 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.

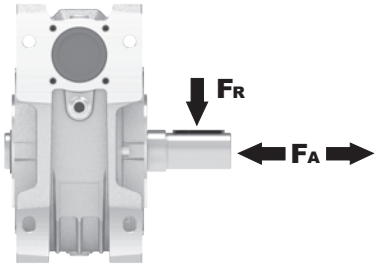
E El reductor tamaño **M11** se suministra sin lubricante, provisto de tapones de respiración, nivel y descarga de aceite. El usuario puede utilizar aceite mineral, manteniendo los tapones existentes.
Si prefiere utilizar aceite sintético deberá sustituir los tapones existentes por tapones ciegos. La 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** Blasia 460		

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

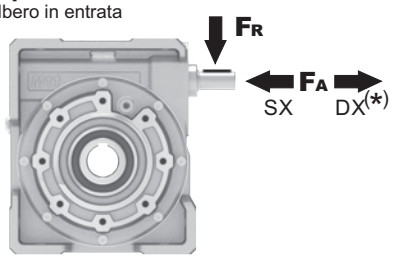
▪RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [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 [min^{-1}]	FA [N]	FR [N]
1400	228	1140

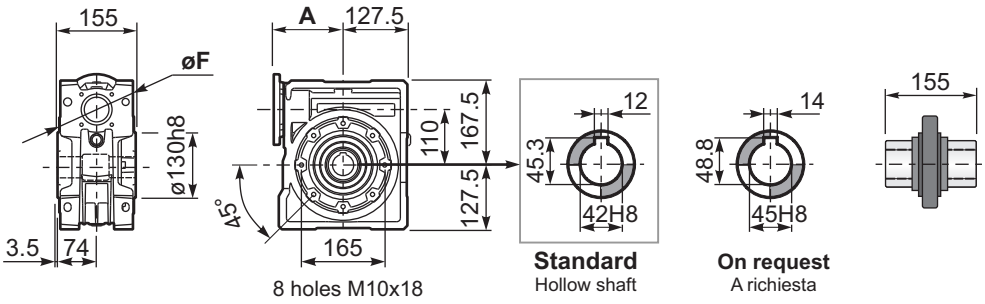
***Strong axial loads in the DX direction are not allowed.**
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

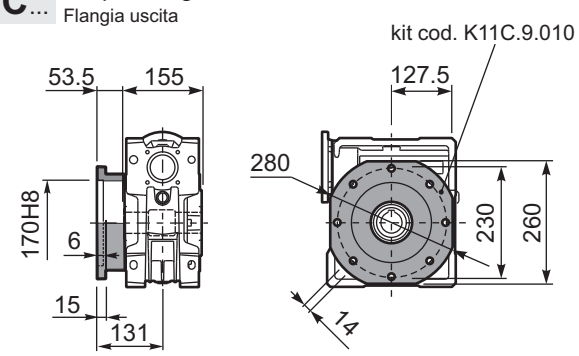
PM11**FB**... Basic wormbox
Riduttore base

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

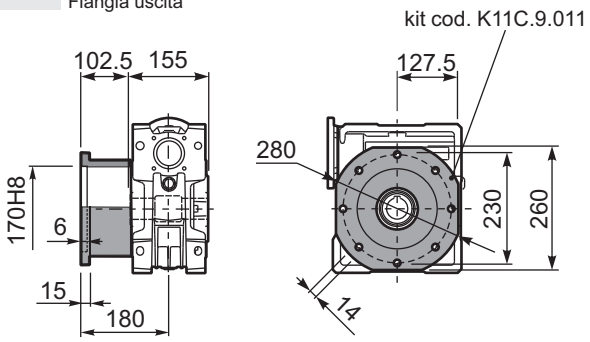
Gearbox weight peso riduttore **35.0 kg**



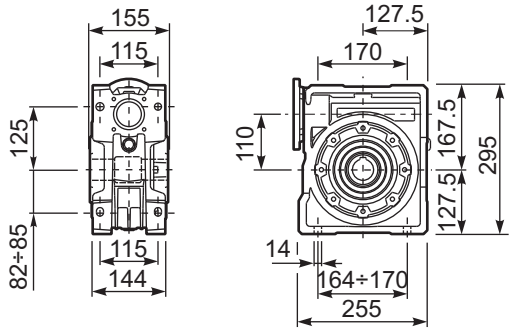
PM11**FC**... Output flange
Flangia uscita



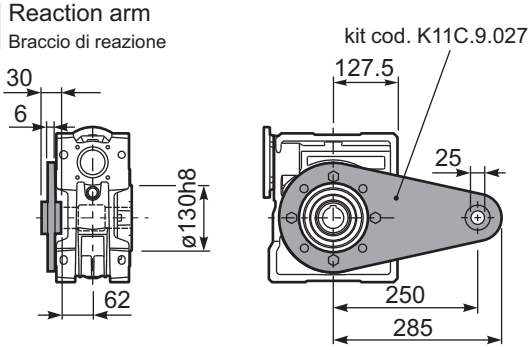
PM11**FL**... Output flange
Flangia uscita



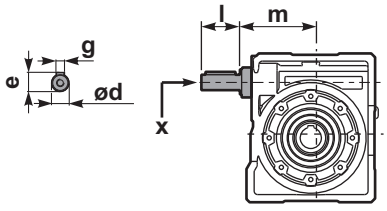
PM11**FB**... Feet
Piedini



PM11**BR**... Reaction arm
Braccio di reazione

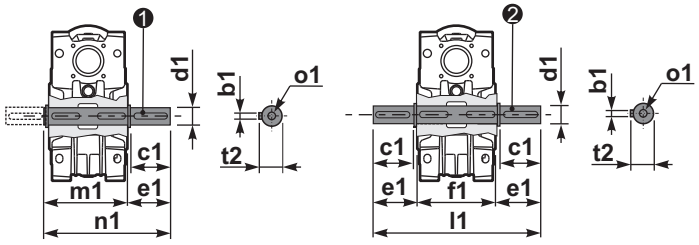


RM11FB... Input shaft
Albero in entrata



PM11.....**S**... Single Shaft
Albero lento semplice

PM11.....**D**... Double Shaft
Albero lento bisp.



❶ kit cod. K11C.5.028 type **B**

❷ 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	❶ K085.5.007 PAM90 ❷ K085.5.008 PAM100
type **S**	24 h6	27	8	50	131.5	M8x20	❶ KS085.5.009 PAM90 ❷ 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^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor f.s.	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	Available B5 motor flanges -E 90	-F 100 112	-G 132	B14 motor flanges not available - - - - - - - -	Dynamic efficiency RD	Tooth Module [mm]	Ratios code
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.

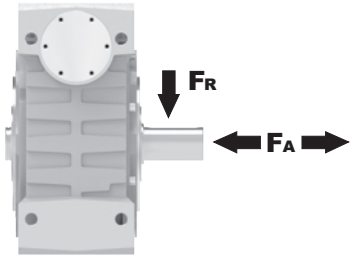
E El reductor tamaño **M13** se suministra sin lubricante, provisto de tapones de respiración, nivel y descarga de aceite. El usuario puede utilizar aceite mineral, manteniendo los tapones existentes.
Si prefiere utilizar aceite sintético deberá sustituir los tapones existentes por tapones ciegos. La 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 **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

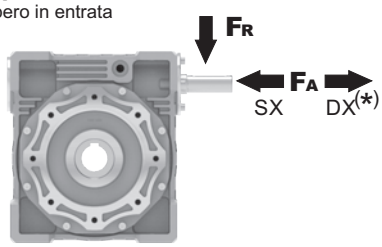
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [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 [min^{-1}]	FA [N]	FR [N]
1400	300	1500

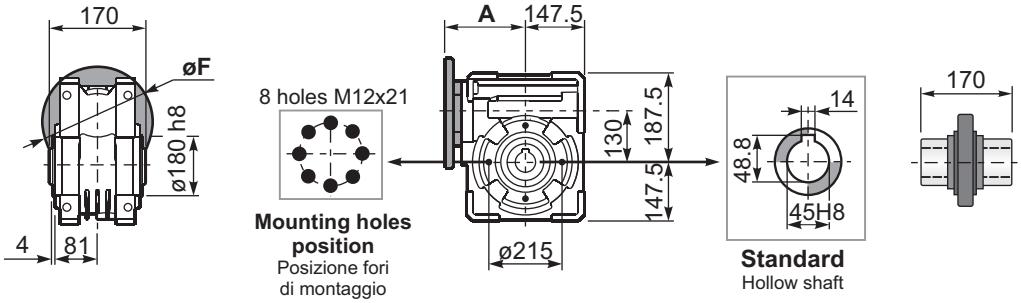
***Strong axial loads in the DX direction are not allowed.**
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

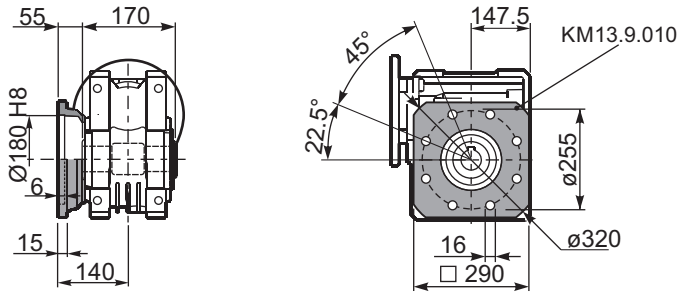
PM13**FB**... Basic wormbox
Riduttore base

Gearbox weight peso riduttore: **48.0 kg**

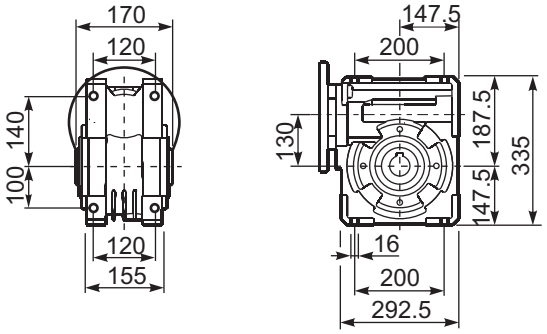
M. flanges	Kit code	øF	A
90B5	KM13.4.041	200	180
100/112B5	KM13.4.042	250	180
132B5	KM13.4.043	300	180



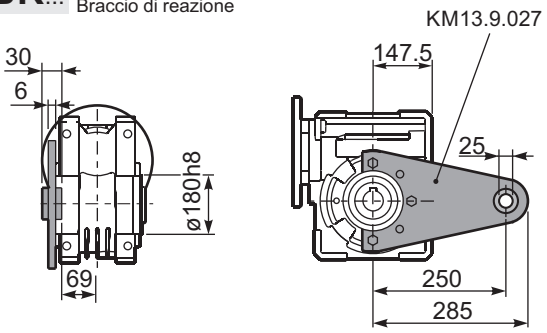
PM13**FC**... Square flange
Flangia quadrata



PM13**FB**... Feet
Piedini

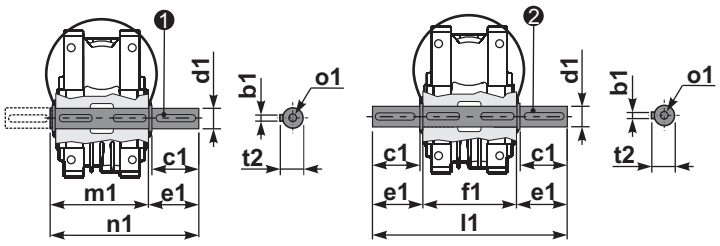


PM13**BR**... Reaction arm
Braccio di reazione



PM13.....**S**... Single Shaft
Albero lento semplice

PM13.....**D**... Double Shaft
Albero lento bisp.



❶ kit cod. KM13.5.028 type **B**

❷ kit cod. KM13.5.029 type **B**

	b1	c1	d1	e1	f1	l1	m1	n1	t2	o1
type	14	80	$45^{-0.005}_{-0.020}$	85	170	340	180	265	48.5	M16
type	-	-	-	-	-	-	-	-	-	-

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1400 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor f.s.	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	Available B5 motor flanges -F 100 112	-G 132	-H 160	B14 motor flanges not available - - - - - - - -	Dynamic efficiency RD	Tooth Module [mm]	Ratios code
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.

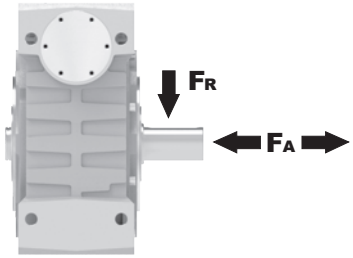
B3	B6	B7	B8	V5	V6
7.00 LT	5.40 LT	5.40 LT	5.10 LT	7.00 LT	5.10 LT
SHELL Omala S2 GX 460			**ENI** Blasia 460		

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

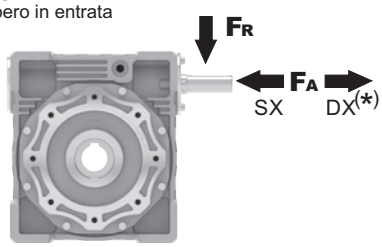
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [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 [min^{-1}]	FA [N]	FR [N]
1400	400	2000

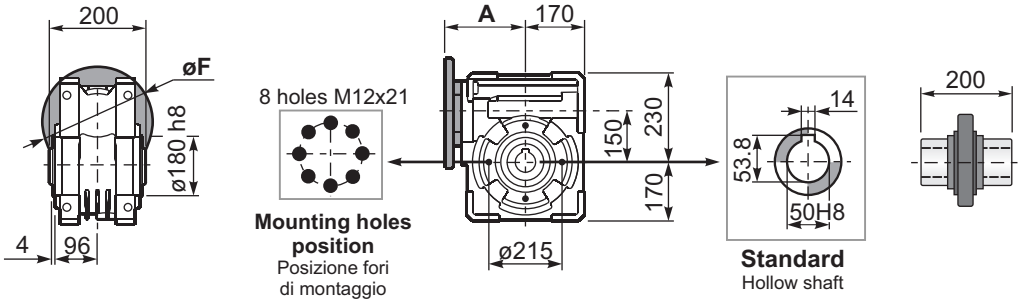
***Strong axial loads in the DX direction are not allowed.**
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

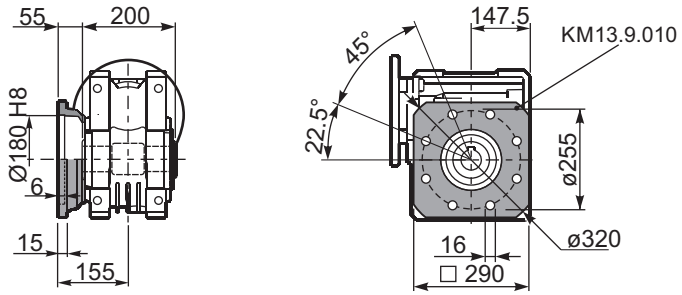
PM15**FB**... Basic wormbox
Riduttore base

Gearbox weight peso riduttore **84.0 kg**

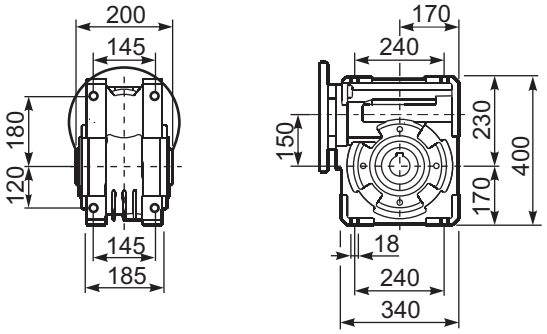
M. flanges	Kit code	øF	A
100/112B5	KM15.4.042	250	210
132B5	KM15.4.043	300	210
160B5	KM15.4.044	350	210



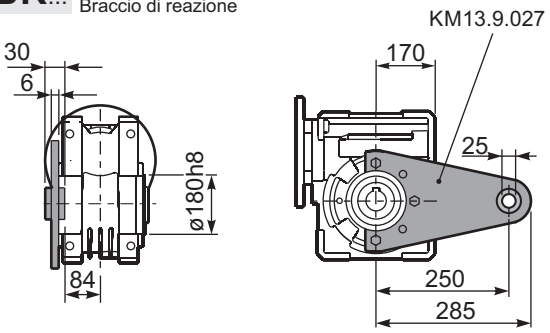
PM15**FC**... Square flange
Flangia quadrata



PM15**FB**... Feet
Piedini

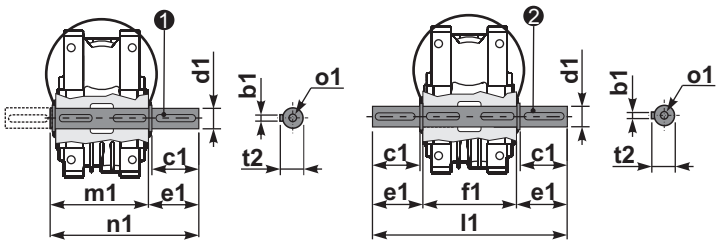


PM15**BR**... Reaction arm
Braccio di reazione



PM15.....**S**... Single Shaft
Albero lento semplice

PM15.....**D**... Double Shaft
Albero lento bisp.



❶ kit cod. KM15.5.028 type **B**

❷ kit cod. KM15.5.029 type **B**

	b1	c1	d1	e1	f1	l1	m1	n1	t2	o1
type	14	82	$50^{-0.005}_{-0.020}$	87	200	374	210	297	53.5	M16
type	-	-	-	-	-	-	-	-	-	-

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1400 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor f.s.	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	Available B5 motor flanges -A 56	-B 63	-C 71	Available B14 motor flanges -P 63	-Q 71	Dynamic efficiency RD	Tooth Module [mm]	Ratios code
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.

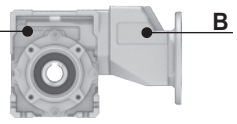
D Für die Lebensdauerschmierung ist das Getriebe der Größe **P4M** mit synthetischem Öl befüllt.
Bei Einbaulage V5 oder V6 bitten wir um Rücksprache.
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.
In Tabelle 2 sind die zulässigen Radial - und Axialbelastungen des Getriebes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

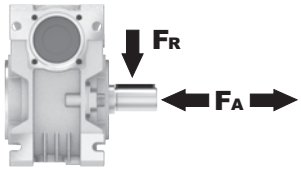


SHELL Omala S4 WE 320	**ENI** Telium VSF 320

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

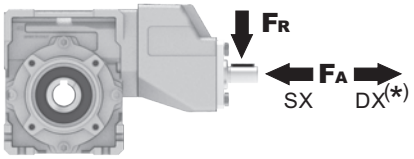
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [N]
75	240	1200
50	260	1400
25	300	1800
15-6	400	2000

Input shaft
albero in entrata



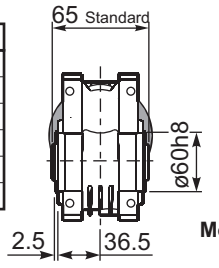
n_1 [min^{-1}]	FA [N]	FR [N]
1400	44	220

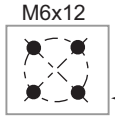
***Strong axial loads in the DX direction are not allowed.**
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

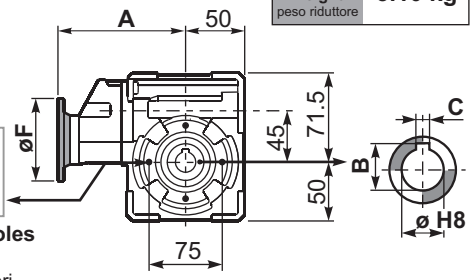
PP4M**FB**... Basic wormbox
Riduttore base

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



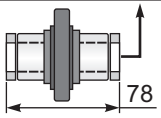


Mounting holes position
Posizione fori di montaggio



Gearbox weight peso riduttore **3.10 kg**

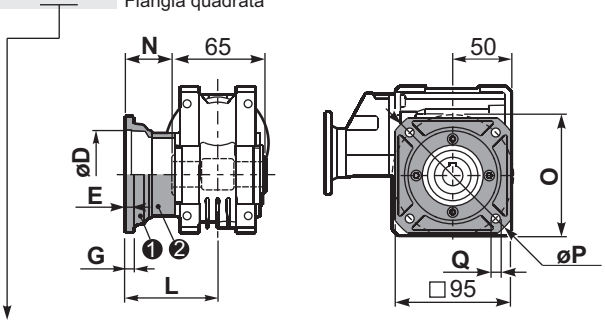
ø H8	B	C	*Spacer code
18 Standard	20.8	6	KM45.3.018
19 on request	21.8	6	KM45.3.019
20 on request	22.8	6	KM45.3.020



***On Request**
output shaft with spacers

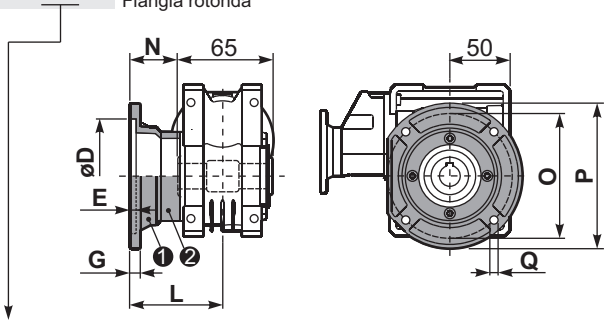
2

PP4M**FC**... Square flange
Flangia quadrata



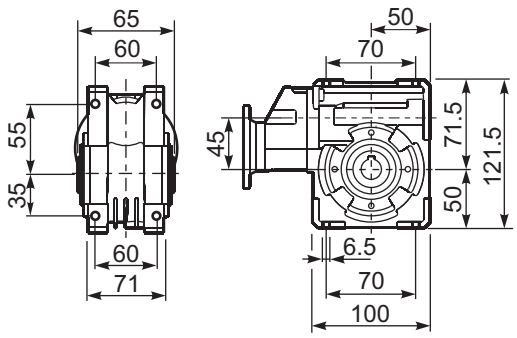
type **B**	øD	E	G	L	N	O	P	Q	kit code
FC	60 H8	4	7	67	34.5	75	110	9	KM45.9.010
FL	60 H8	4	7	97	64.5	75	110	9	KM45.9.011

PP4M**F1**... Round flange
Flangia rotonda

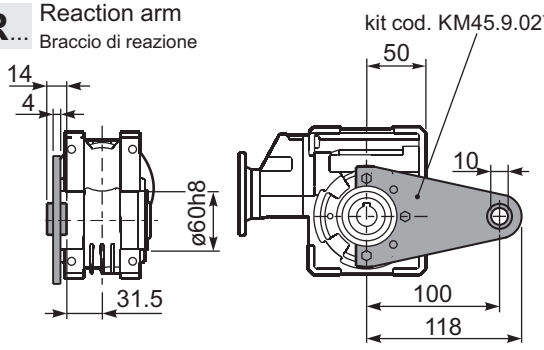


type **S**	øD	E	G	L	N	O	P	Q	kit code
F1	95H8	5	9	80	47.5	115	140	9.5	KM45.9.012
F2	-	-	-	-	-	-	-	-	-

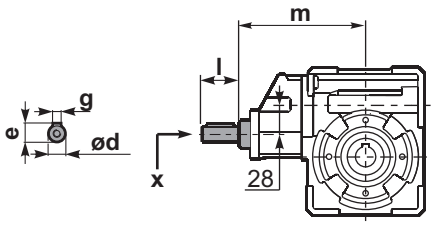
PP4M**FB**... Feet
Piedini



PP4M**BR**... Reaction arm
Braccio di reazione

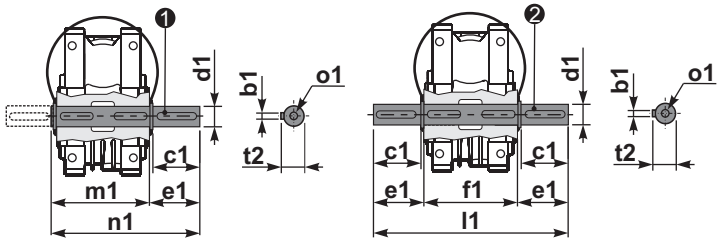


RP4MFB... Input shaft
Albero in entrata



PP4M.....**S**... Single Shaft
Albero lento semplice

PP4M.....**D**... Double Shaft
Albero lento bisp.



❶ kit cod. K045.5.028 type **B**
kit cod. KS045.5.030 type **S**

❷ kit cod. K045.5.029 type **B**

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

	b1	c1	d1	e1	f1	l1	m1	n1	t2	o1
type **B**	6	32	18 $^{-0.005}_{-0.020}$	43	65	151	70	113	20.5	M6x18
type **S**	6	40	19 $^{-0.005}_{-0.020}$	58.5	-	-	70	128.5	21.5	M8x20

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1400 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor f.s.	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	Available B5 motor flanges -A 56	-B 63	-C 71	Available B14 motor flanges -P 63	-Q 71	Dynamic efficiency RD	Tooth Module [mm]	Ratios code
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

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.

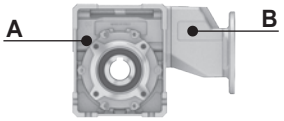
D Für die Lebensdauerschmierung ist das Getriebe der Größe **P5M** mit synthetischem Öl befüllt.
Bei Einbaulage V5 oder V6 bitten wir um Rücksprache.
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.
In Tabelle 2 sind die zulässigen Radial - und Axialbelastungen des Getriebes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

Common lubrication 0.26 l (A + B).



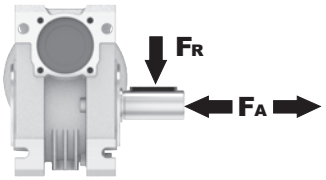
SHELL Omala S4 WE 320	**ENI** Telium VSF 320

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

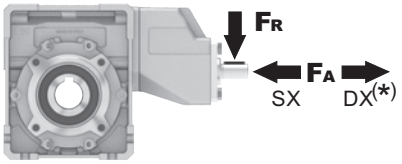
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [N]
75	340	1700
50	380	1900
25	480	2500
15-6	560	2800

Input shaft
albero in entrata



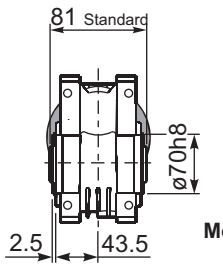
n_1 [min^{-1}]	FA [N]	FR [N]
1400	44	220

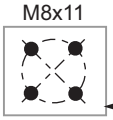
***Strong axial loads in the DX direction are not allowed.**
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

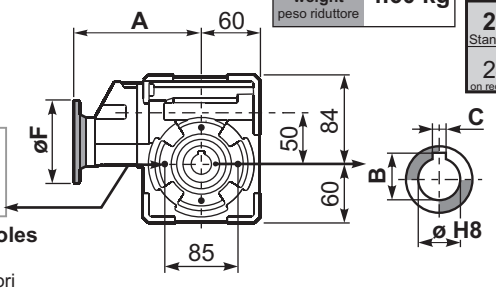
PP5M**FB**... Basic wormbox
Riduttore base

M. flanges	Kit code	øF	A
56B5	K050.4.046	120	147
63B5	K050.4.041	138	149
71B5	K050.4.042	160	146.5
63B14	K050.4.047	90	149
71B14	K050.4.045	105	146.5



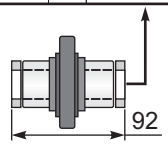


Mounting holes position
Posizione fori di montaggio



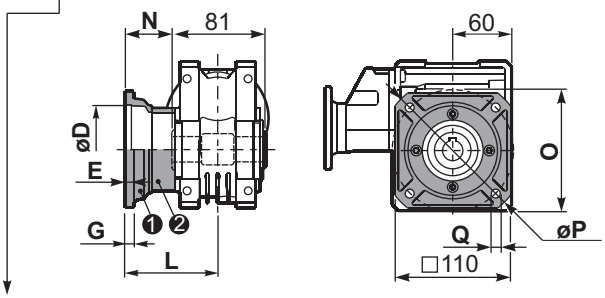
Gearbox weight peso riduttore **4.60 kg**

ø H8	B	C	*Spacer code
25 Standard	28.3	8	KM50.3.025
24 on request	27.3	8	KM50.3.024



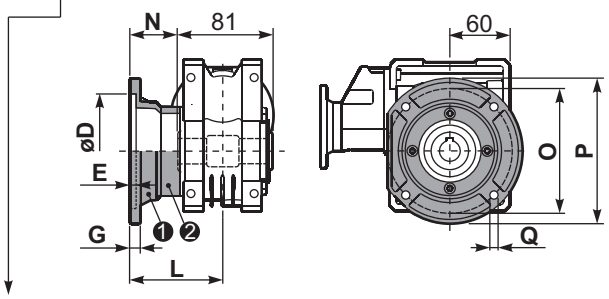
***On Request** output shaft with spacers

PP5M**FC**... Square flange
Flangia quadrata



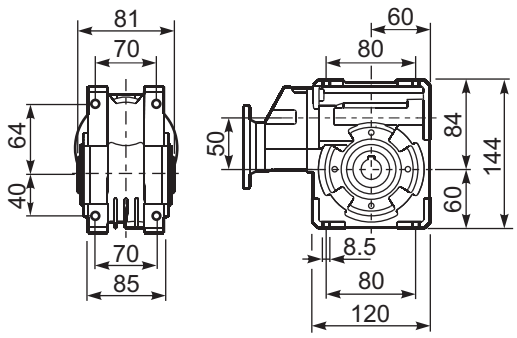
type **B**	øD	E	G	L	N	O	P	Q	kit code
FC	70 H8	5	9	90	49.5	85	125	11	KM50.9.010
FL	70 H8	5	9	120	79.5	85	125	11	KM50.9.011

PP5M**F1**... Round flange
Flangia rotonda

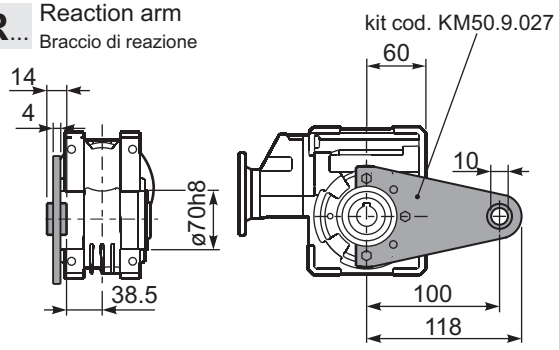


type **S**	øD	E	G	L	N	O	P	Q	kit code
F1	110 H8	5	10	89	69.5	130	160	9.5	KM50.9.012
F2	95 H8	5	14.5	72	31.5	115	140	11	KM50.9.013

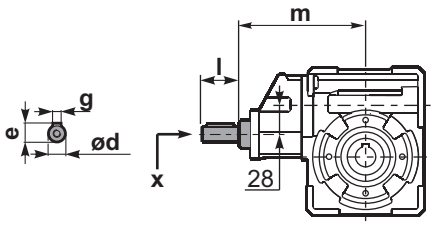
PP5M**FB**... Feet
Piedini



PP5M**BR**... Reaction arm
Braccio di reazione

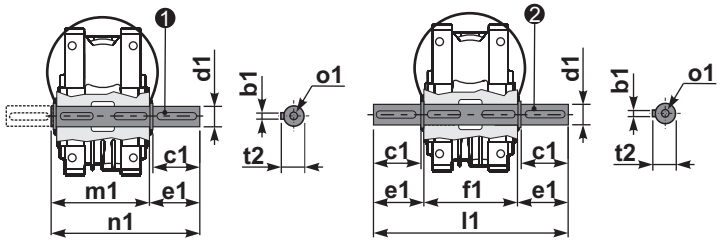


R**P5MFB**... Input shaft
Albero in entrata



PP5M.....**S**... Single Shaft
Albero lento semplice

PP5M.....**D**... Double Shaft
Albero lento bisp.



❶ kit cod. K050.5.028 type **B**
kit cod. KS050.5.030 type **S**

❷ kit cod. K050.5.029 type **B**

	ød	e	g	l	m	x	
type **B**	14 h6	16	5	25	140.5	M5x13	C35.5.061
type **S**	-	-	-	-	-	-	-

	b1	c1	d1	e1	f1	l1	m1	n1	t2	o1
type **B**	8	52	$25^{-0.005}_{-0.020}$	59.5	81	200	86.5	146	28	M8x20
type **S**	8	50	$24^{-0.005}_{-0.020}$	68.8	-	-	86.5	155	27	M8x20

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1400 min^{-1}

	Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor f.s.	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	Available B5 motor flanges -B 63	-C 71	-D 80	-E 90	Available B14 motor flanges -P 63	-Q 71	-R 80	-T 90	Dynamic efficiency RD	Tooth Module [mm]	Ratios code
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.

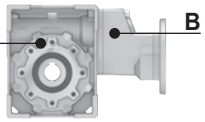
D Für die Lebensdauerschmierung ist das Getriebe der Größe **P6M** mit synthetischem Öl befüllt.
Bei Einbaulage V5 oder V6 bitten wir um Rücksprache.
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.
In Tabelle 2 sind die zulässigen Radial - und Axialbelastungen des Getriebes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

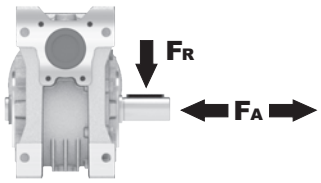


SHELL Omala S4 WE 320	**ENI** Telium VSF 320

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

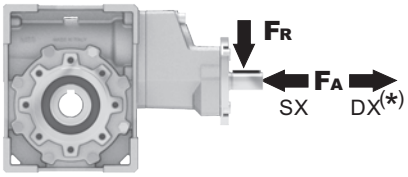
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [N]
75	500	2500
50	600	3000
25	700	3800
15-6	800	4000

Input shaft
albero in entrata



n_1 [min^{-1}]	FA [N]	FR [N]
1400	61	305

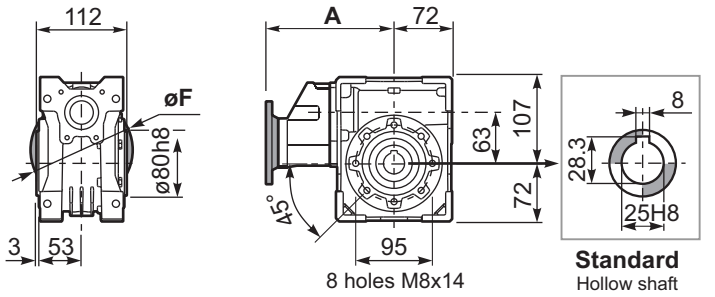
***Strong axial loads in the DX direction are not allowed.**
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

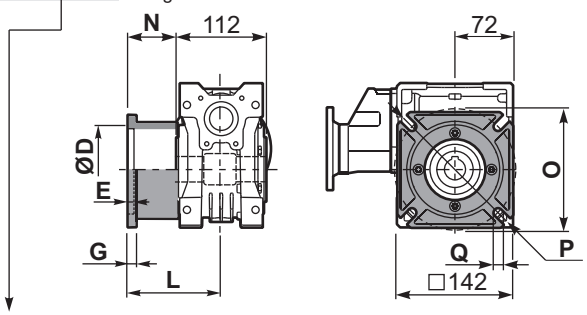
PP6M**FB**... Basic wormbox
Riduttore base

	M.flange	Kit code	øF	A
29.9÷111	**71B5**	K063.4.042	160	177.5
	80/90B5	K063.4.043	200	179.5
	71B14	K063.4.047	105	177.5
	80B14	K063.4.046	120	179.5
	90B14	K063.4.041	140	179.5
139÷434	**63B5**	K050.4.041	138	163.5
	71B5	K050.4.042	160	161
	63B14	K050.4.047	90	163.5
	71B14	K050.4.045	105	161

Gearbox weight peso riduttore	29.9÷111	139÷434
	7.00 Kg	**6.60 Kg**

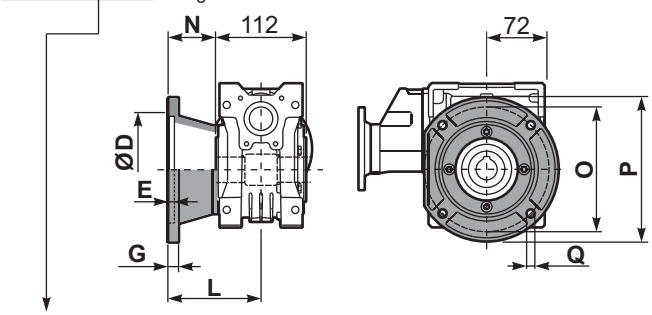


PP6M**FC**... Output flange
Flangia uscita



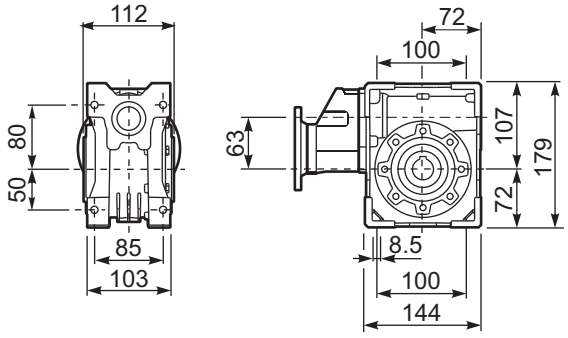
type **B**	øD	E	G	L	N	O	P	Q	kit code
FC	115 H8	6	10	82	26	150	180	11	KM63.9.010
FL	115 H8	6	10	112	56	150	180	11	KM63.9.011

PP6M**F1**... Output flange
Flangia uscita

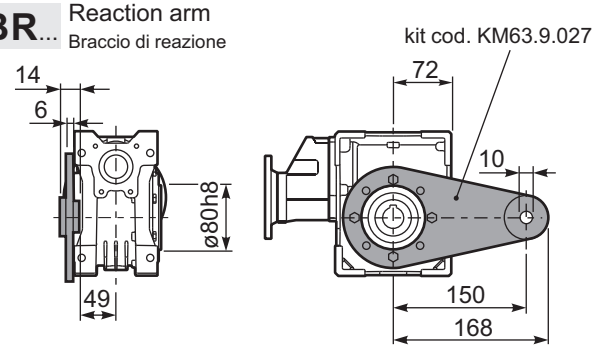


type **S**	øD	E	G	L	N	O	P	Q	kit code
F1	130 H8	5	10	98	42	165	200	11	KM63.9.012
F2	130 H8	5	10	107	51	165	200	11	KM63.9.013
F3	110 H8	5	16.5	80.5	24.5	130	160	11	KM63.9.014

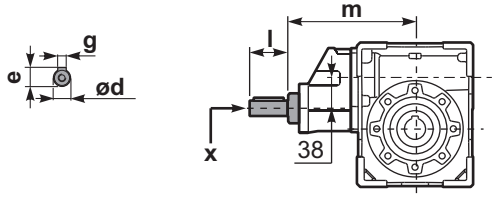
PP6M**FB**... Feet
Piedini



PP6M**BR**... Reaction arm
Braccio di reazione



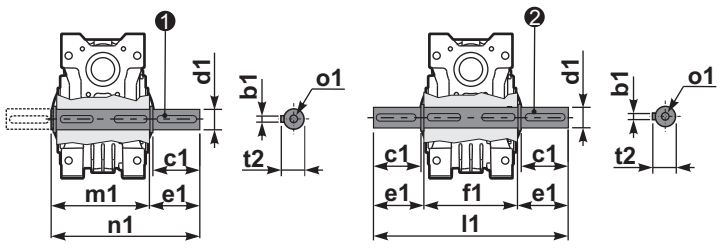
RP6MFB... Input shaft
Albero in entrata



	ød	e	g	l	m	x	kit code
29.9÷111	19 h6	21.5	6	35	170	M6x16	C40.5.062
139÷434	14 h6	16	5	25	155	M5x13	C35.5.061

PP6M.....**S**... Single Shaft
Albero lento semplice

PP6M.....**D**... Double Shaft
Albero lento bisp.



❶ kit cod. KM63.5.028 type **B**

❷ kit cod. KM63.5.029 type **B**

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

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1400 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor f.s.	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	Available B5 motor flanges -B 63	-C 71	-D 80	-E 90	Available B14 motor flanges -Q 71	-R 80	-T 90	Dynamic efficiency RD	Tooth Module [mm]	Ratios code
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

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 **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.

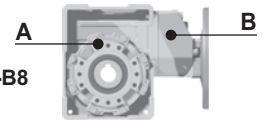
D Für die Lebensdauerschmierung ist das Getriebe der Größe **P7M** mit synthetischem Öl befüllt.
Bei Einbaulage V5 oder V6 bitten wir um Rücksprache.
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.
In Tabelle 2 sind die zulässigen Radial - und Axialbelastungen des Getriebes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

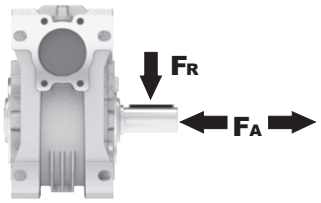


SHELL Omala S4 WE 320	**ENI** Telium VSF 320

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

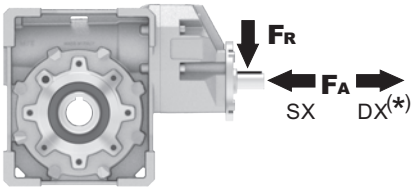
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [N]
75	620	3100
50	720	3600
25	880	4400
15-6	1000	5000

Input shaft
albero in entrata



n_1 [min^{-1}]	FA [N]	FR [N]
1400	108	540

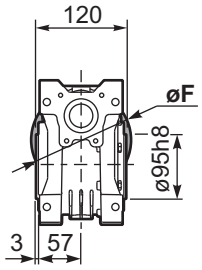
***Strong axial loads in the DX direction are not allowed.**
Non sono consentiti forti carichi assiali con direzione DX

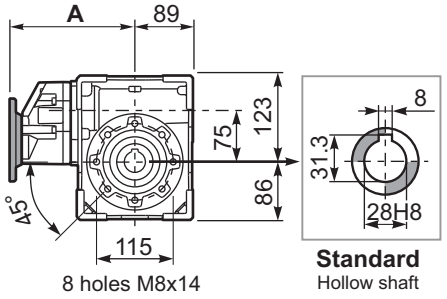
tab. 2

PP7M**FB**... Basic wormbox
Riduttore base

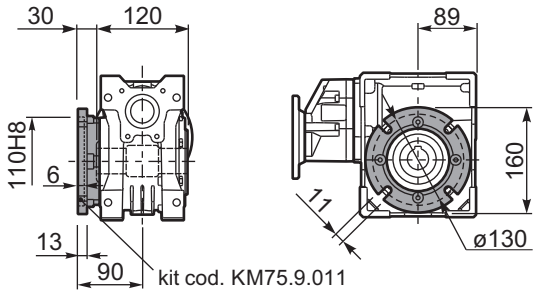
Gearbox weight peso riduttore	9.90 kg

M. flanges	Kit code	øF	A
63B5	K063.4.041	140	192.7
71B5	K063.4.042	160	190.7
80/90B5	K063.4.043	200	192.7
71B14	K063.4.047	105	190.7
80B14	K063.4.046	120	192.7
90B14	K063.4.041	140	192.7

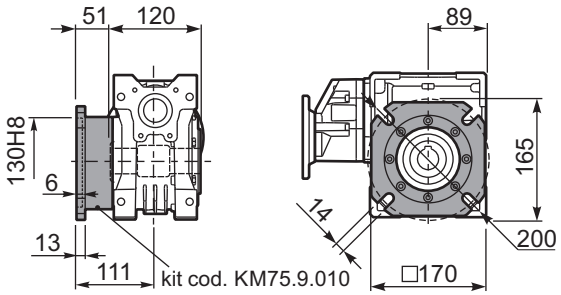




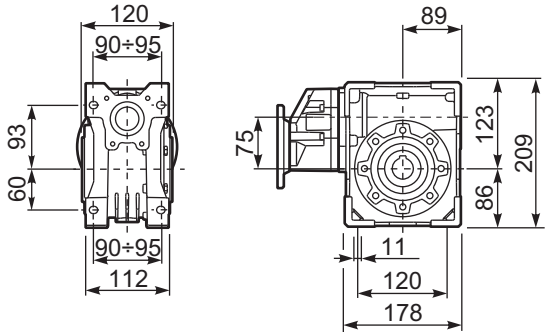
PP7M**FC**... Square flange
Flangia quadrata



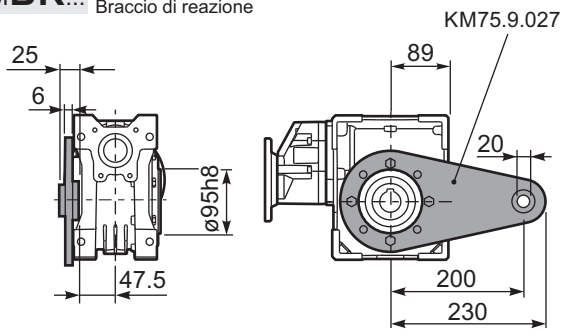
PP7M**FL**... Square flange
Flangia quadrata



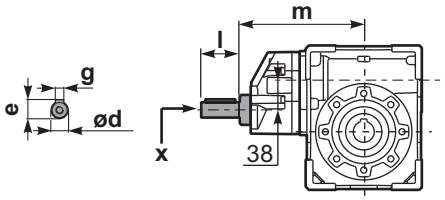
PP7M**FB**... Feet
Piedini



PP7M**BR**... Reaction arm
Braccio di reazione

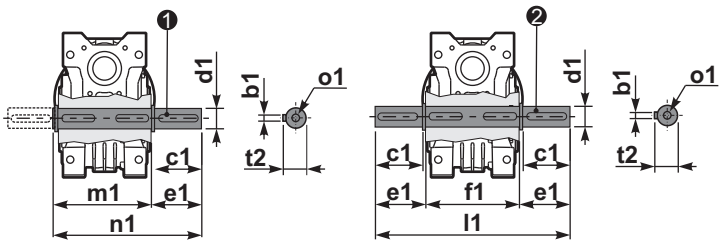


RP7MFB... Input shaft
Albero in entrata



PP7M.....**S**... Single Shaft
Albero lento semplice

PP7M.....**D**... Double Shaft
Albero lento bisp.



❶ kit cod. KM75.5.028 Standard ❷ kit cod. KM75.5.029 Standard

	ød	e	g	l	m	x	kit code
type **B**	19 h6	21.5	6	35	185.5	M6x16	C40.5.062

	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^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor f.s.	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	Available B5 motor flanges -B 63	-C 71	-D 80	-E 90	Available B14 motor flanges -Q 71	-R 80	-T 90	Dynamic efficiency RD	Tooth Module [mm]	Ratios code
23.5	**59.7**	1.1	300	1.4	**1.5**	**418**					C	C		67	3.5	01
19.4	**72.3**	1.1	347	1.2	**1.3**	**407**					C	C		64	3.1	02
17.1	**81.7**	1.1	374	1.1	**1.2**	**418**					C	C		61	2.7	03
13.3	**105**	0.75	323	1.2	**0.89**	**385**					C	C		60	2.1	04
8.0	**176**	0.55	415	1.1	**0.58**	**440**	B				C	C		63	3.5	05
6.6	**213**	0.37	322	1.3	**0.47**	**407**	B				C	C		60	3.1	06
5.8	**240**	0.37	321	1.3	**0.48**	**418**	B				C	C		53	2.7	07
4.3	**328**	0.37	438	1.0	**0.35**	**418**	B				C	C		53	2.7	08
3.3	**422**	0.25	374	1.0	**0.26**	**385**	B				C	C		52	2.1	09
3.0	**466**	0.25	358	0.9	**0.23**	**330**	B				C	C		45	1.9	10
2.3	**605**	0.18	297	1.1	**0.20**	**330**	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.

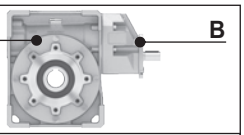
D Für die Lebensdauerschmierung ist das Getriebe der Größe **P8M** mit synthetischem Öl befüllt.
Bei Einbaulage V5 oder V6 bitten wir um Rücksprache.
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.
In Tabelle 2 sind die zulässigen Radial - und Axialbelastungen des Getriebes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

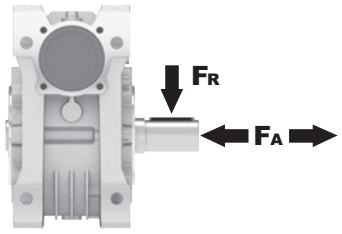


SHELL Omala S4 WE 320	**ENI** Telium VSF 320

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

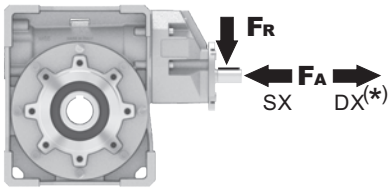
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [N]
75	700	3500
50	800	4000
25	1000	5000
15-6	1160	5800

Input shaft
albero in entrata



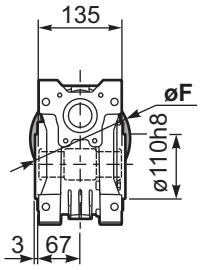
n_1 [min^{-1}]	FA [N]	FR [N]
1400	108	540

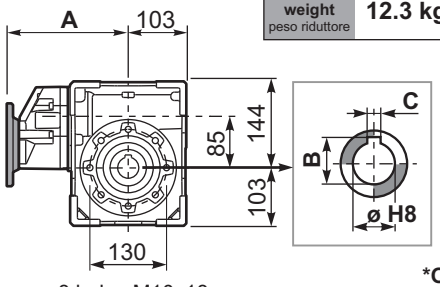
***Strong axial loads in the DX direction are not allowed.**
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

PP8M**FB**... Basic wormbox
Riduttore base

M. flanges	Kit code	øF	A
63B5	K063.4.041	140	195.2
71B5	K063.4.042	160	193.2
80/90B5	K063.4.043	200	195.2
71B14	K063.4.047	105	193.2
80B14	K063.4.046	120	195.2
90B14	K063.4.041	140	195.2

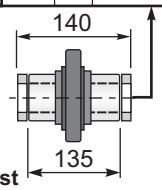




8 holes M10x18

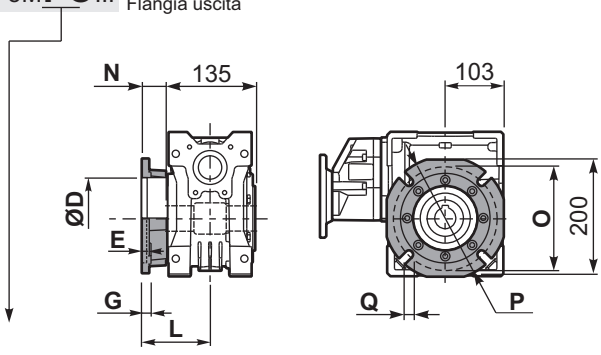
Gearbox weight peso riduttore **12.3 kg**

ø H8	B	C	*Spacer code
35 Standard	38.3	10	KM85.3.035
38 on request	41.3	10	KM85.3.038



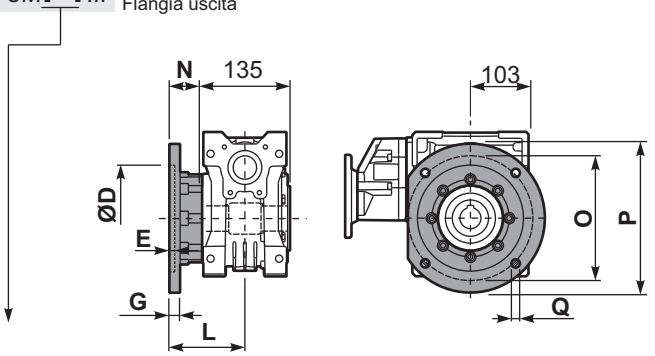
***On Request** output shaft with spacers

PP8M**FC**... Output flange
Flangia uscita



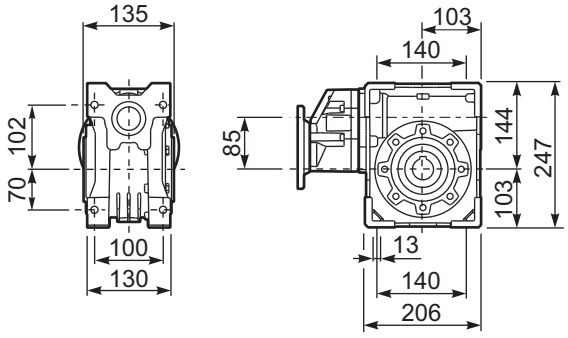
type **B**	øD	E	G	L	N	O	P	Q	kit code
FC	152 H8	5	16	111	43.5	176	205	13	K085.9.010
FL	180 H8	6	18	122	54.5	215	250	14	KM85.9.011

PP8M**F1**... Output flange
Flangia uscita

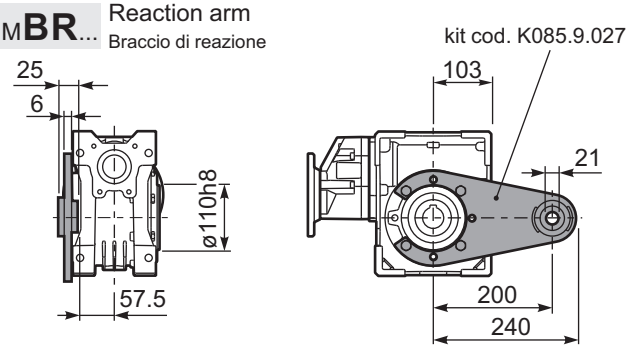


type **S**	øD	E	G	L	N	O	P	Q	kit code
F1	130 H8	5	13	109.5	42	165	200	13	KS085.9.015
F2	152 H8	5	16	151.5	84	176	205	13	K085.9.010 K085.0.201

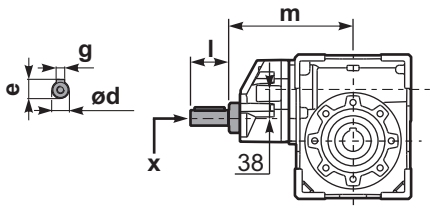
PP8M**FB**... Feet
Piedini



PP8M**BR**... Reaction arm
Braccio di reazione



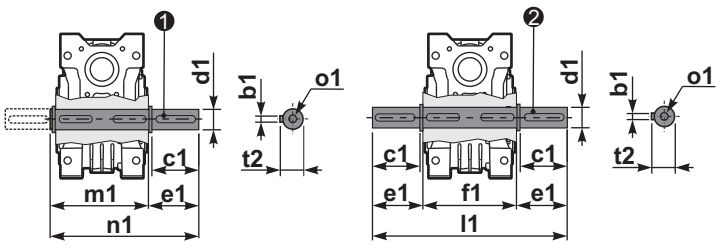
RP8MFB... Input shaft
Albero in entrata



	ød	e	g	l	m	x	
type **B**	19 h6	21.5	6	35	186	M6x16	C40.5.062
type **S**	-	-	-	-	-	-	-

PP8M.....**S**... Single Shaft
Albero lento semplice

PP8M.....**D**... Double Shaft
Albero lento bisp.



❶ kit cod. K085.5.028 type **B**

❷ kit cod. K085.5.029 type **B**

	b1	c1	d1	e1	f1	l1	m1	n1	t2	o1
type **B**	10	60	$35^{-0.005}_{-0.020}$	73.5	135	282	141	214.5	38	M10x23
type **S**	-	-	-	-	-	-	-	-	-	-

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1400 min^{-1}

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

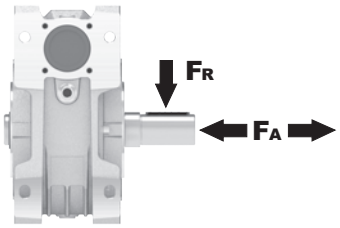
E El reductor tamaño **P1M** se suministra sin lubricante, provisto de tapones de respiración, nivel y descarga de aceite. El usuario puede utilizar aceite mineral, manteniendo los tapones existentes. Si prefiere utilizar aceite sintético deberá sustituir los tapones existentes por tapones ciegos. La 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
1.9/0.14LT	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** Blasia 460		

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

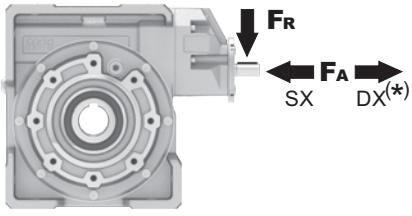
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [N]
75	800	4000
50	920	4600
25	1200	6000
15-6	1400	7000

Input shaft
albero in entrata



n_1 [min^{-1}]	FA [N]	FR [N]
1400	150	760

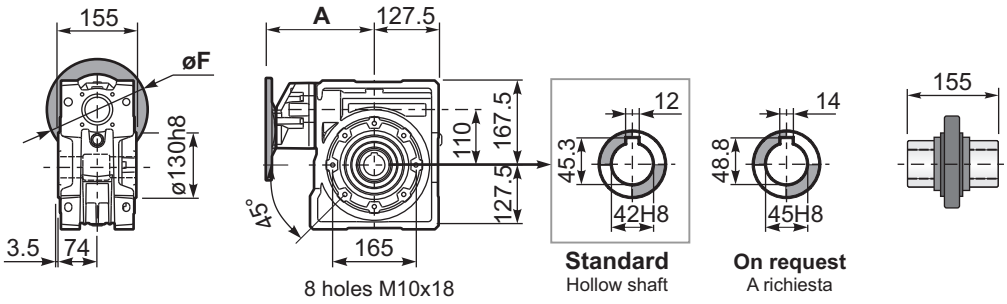
***Strong axial loads in the DX direction are not allowed.**
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

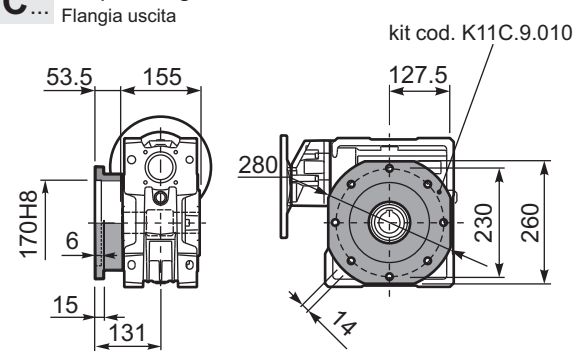
PP1M**FB**... Basic wormbox
Riduttore base

Gearbox weight peso riduttore: **37.3 kg**

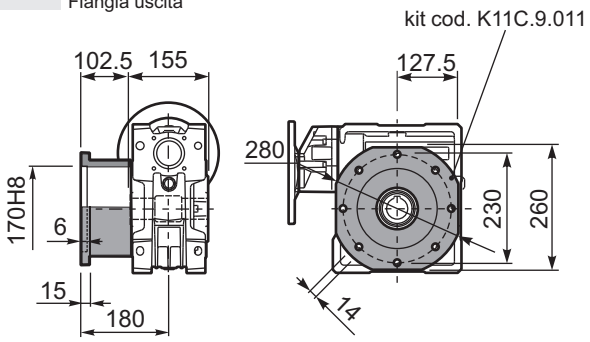
M. flanges	Kit code	øF	A
63B5	K063.4.041	140	214.7
71B5	K063.4.042	160	212.7
80/90B5	K063.4.043	200	214.7
71B14	K063.4.047	105	212.7
80B14	K063.4.046	120	214.7
90B14	K063.4.041	140	214.7



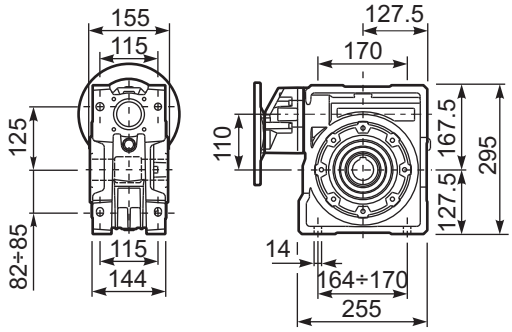
PP1M**FC**... Output flange
Flangia uscita



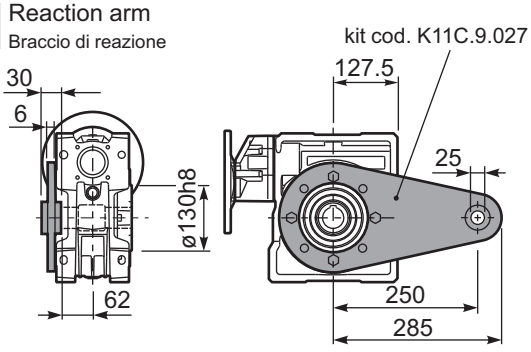
PP1M**FL**... Output flange
Flangia uscita



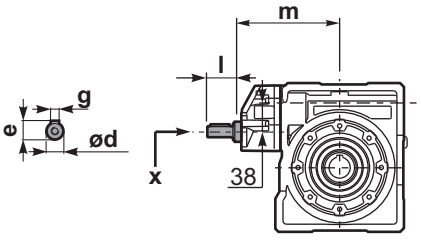
PP1M**FB**... Feet
Piedini



PP1M**BR**... Reaction arm
Braccio di reazione

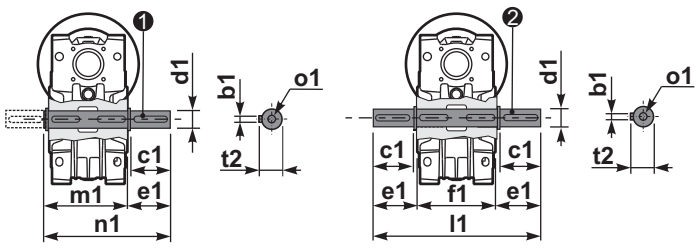


R P1MFB... Input shaft
Albero in entrata



PP1M.....**S**... Single Shaft
Albero lento semplice

PP1M.....**D**... Double Shaft
Albero lento bisp.

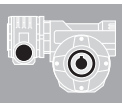


❶ kit cod. K11C.5.028 type **B**

❷ kit cod. K11C.5.029 type **B**

	ød	e	g	l	m	x	
type **B**	19 h6	21.5	6	35	205	M6x16	C40.5.062
type **S**	-	-	-	-	-	-	-

	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^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor f.s.	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	Available B5 motor flanges -A 56	Available B5 motor flanges -B 63	Available B14 motor flanges -O 56	Available B14 motor flanges -P 63	Dynamic efficiency RD	Tooth Module [mm]	Ratios code
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.

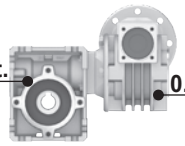
I Il riduttore tipo **33M** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

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 Quantity 0.03/0.03 Lt.



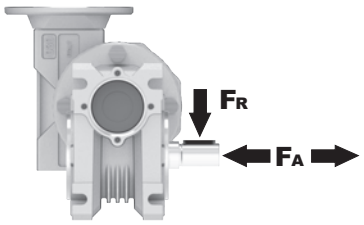
SHELL	ENI
Omala S4 WE 320	Telium VSF 320

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

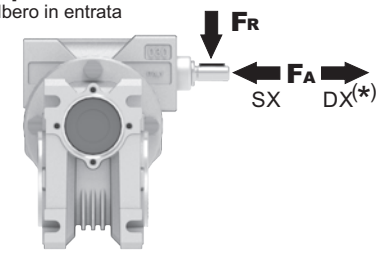
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [N]
25	300	1800
15	400	2000

Input shaft
albero in entrata



n_1 [min^{-1}]	FA [N]	FR [N]
1400	20	100

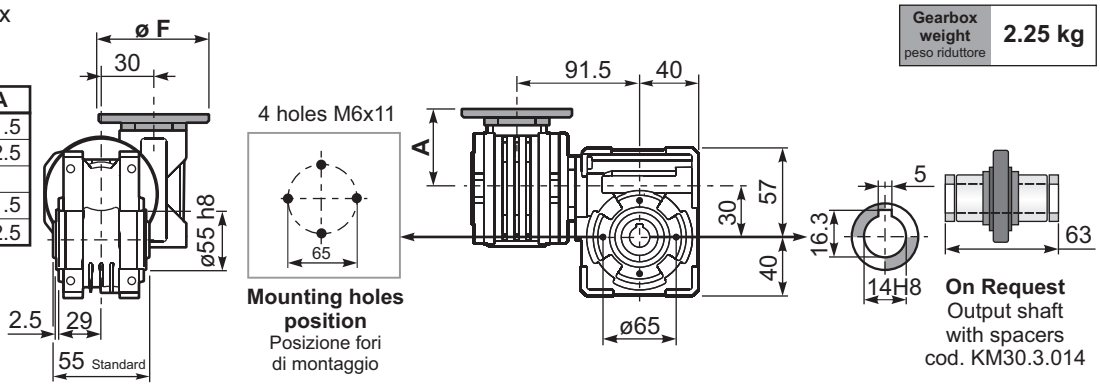
***Strong axial loads in the DX direction are not allowed.**
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

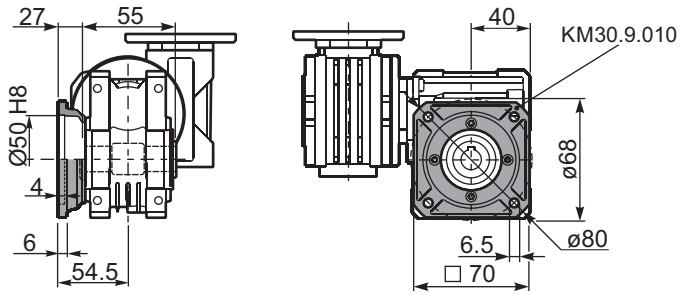
P33M**FB**... Basic wormbox
Riduttore base

Gearbox weight peso riduttore: **2.25 kg**

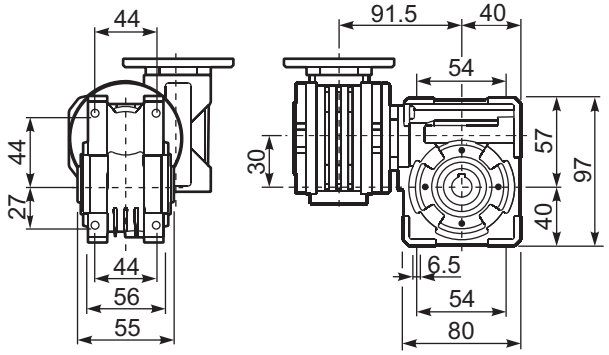
M. flanges	Kit code	øF	A
56B5	K030.4.041	120	61.5
63B5	K030.4.042	140	62.5
56B14	K030.4.046	80	61.5
63B14	K030.4.045	90	62.5



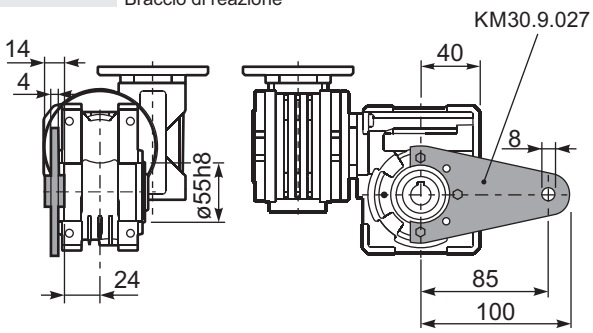
P33M**FC**... Square flange
Flangia quadrata



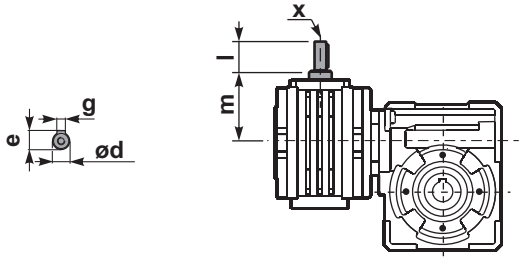
P33M**FB**... Feet
Piedini



P33M**BR**... Reaction arm
Braccio di reazione



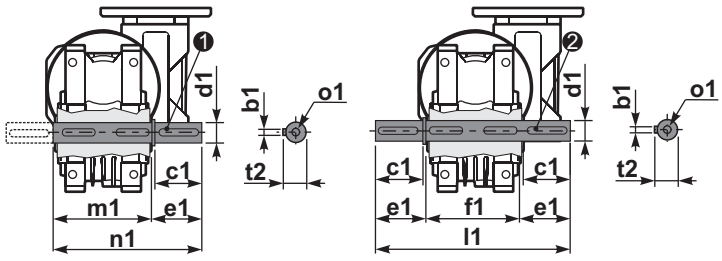
R33MFB... Input shaft
Albero in entrata



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

P33M.....**S**... Single Shaft
Albero lento semplice

P33M.....**D**... Double Shaft
Albero lento bisp.



❶ kit cod. K030.5.028 type **B**

❷ kit cod. K030.5.029 type **B**

	b1	c1	d1	e1	f1	l1	m1	n1	t2	o1
type **B**	5	25	$14^{-0.005}_{-0.020}$	35.5	55	126	59	94.5	16	M5x14
type **S**	-	-	-	-	-	-	-	-	-	-

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1400 min^{-1}

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

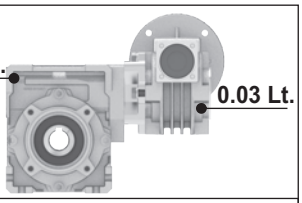
I Il riduttore tipo **43M** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

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.

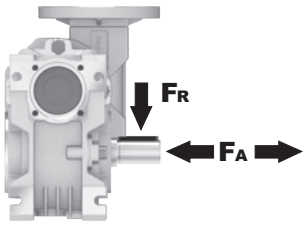


SHELL Omala S4 WE 320	**ENI** Telium VSF 320

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

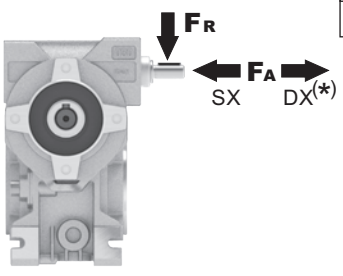
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [N]
25	300	1800
15	400	2000

Input shaft
albero in entrata



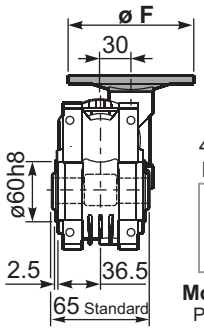
n_1 [min^{-1}]	FA [N]	FR [N]
1400	20	100

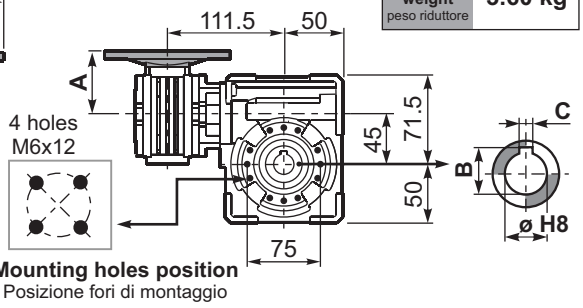
***Strong axial loads in the DX direction are not allowed.**
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

P43M**FB**... Basic wormbox
Riduttore base

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

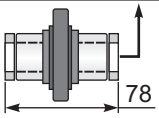




Mounting holes position
Posizione fori di montaggio

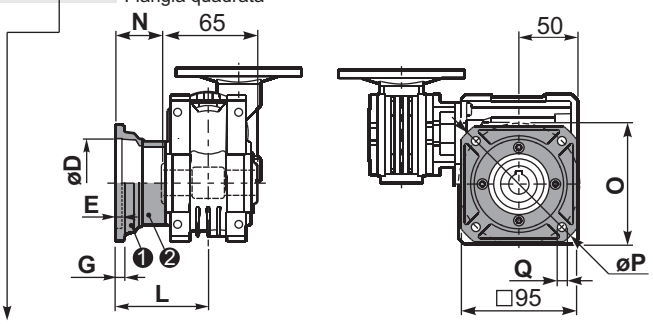
Gearbox weight peso riduttore **3.60 kg**

ø H8	B	C	*Spacer code
18 Standard	20.8	6	KM45.3.018
19 on request	21.8	6	KM45.3.019
20 on request	22.8	6	KM45.3.020



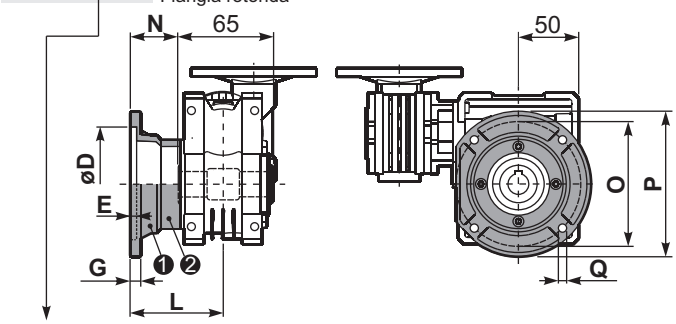
***On Request**
output shaft with spacers

P43M**FC**... Square flange
Flangia quadrata



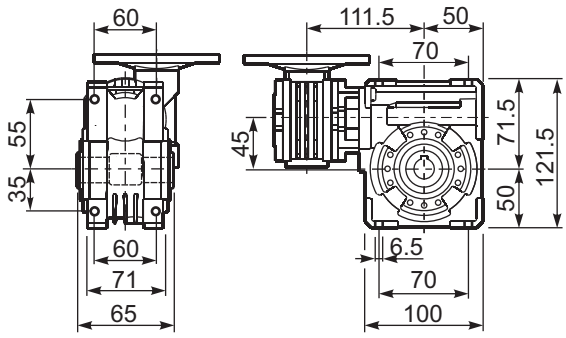
type **B**	øD	E	G	L	N	O	P	Q	kit code
FC	60 H8	4	7	67	34.5	75	110	9	KM45.9.010
FL	60 H8	4	7	97	64.5	75	110	9	KM45.9.011

P43M**F1**... Round flange
Flangia rotonda

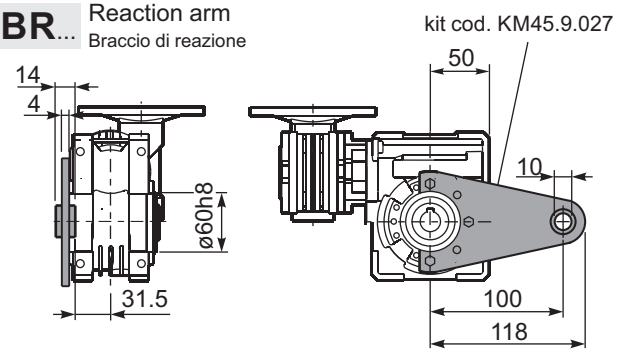


type **S**	øD	E	G	L	N	O	P	Q	kit code
F1	95H8	5	9	80	47.5	115	140	9.5	KM45.9.012
F2	-	-	-	-	-	-	-	-	-

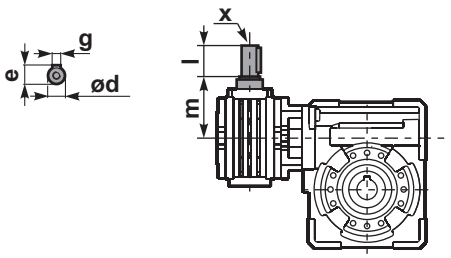
P43M**FB**... Feet
Piedini



P43M**BR**... Reaction arm
Braccio di reazione



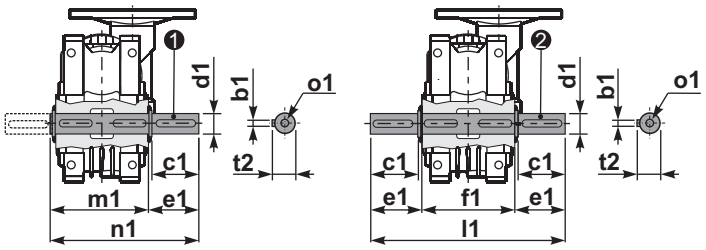
R43MFB... Input shaft
Albero in entrata



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

P43M.....**S**... Single Shaft
Albero lento semplice

P43M.....**D**... Double Shaft
Albero lento bisp.



❶ kit cod. K045.5.028 type **B**
kit cod. KS045.5.030 type **S**

❷ kit cod. K045.5.029 type **B**

	b1	c1	d1	e1	f1	l1	m1	n1	t2	o1
type **B**	6	32	18 $^{-0.005}_{-0.020}$	43	65	151	70	113	20.5	M6x18
type **S**	6	40	19 $^{-0.005}_{-0.020}$	58.5	-	-	70	128.5	21.5	M8x20

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1400 min^{-1}

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

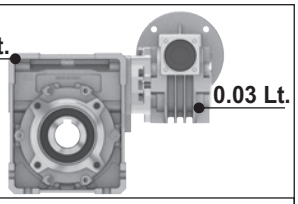
I Il riduttore tipo **53M** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

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.



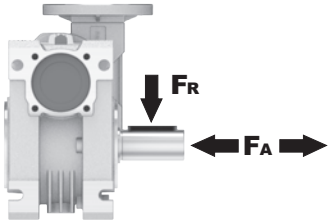
SHELL Omala S4 WE 320	**ENI** Telium VSF 320

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

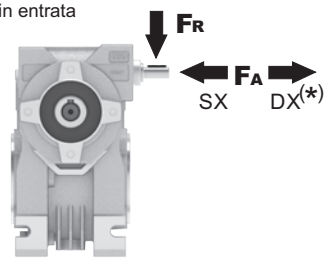
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [N]
25	480	2500
15	560	2800

Input shaft
albero in entrata



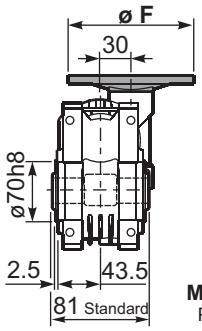
n_1 [min^{-1}]	FA [N]	FR [N]
1400	20	100

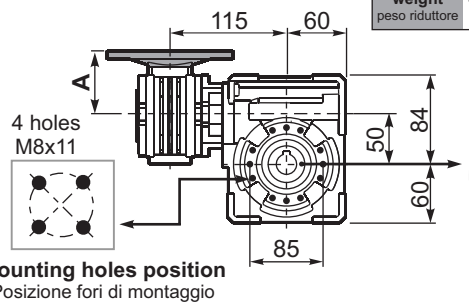
***Strong axial loads in the DX direction are not allowed.**
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

P53M**FB**... Basic wormbox
Riduttore base

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

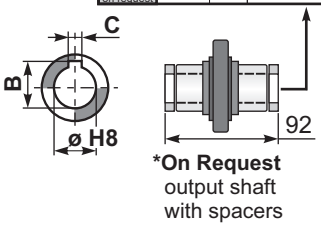




Mounting holes position
Posizione fori di montaggio

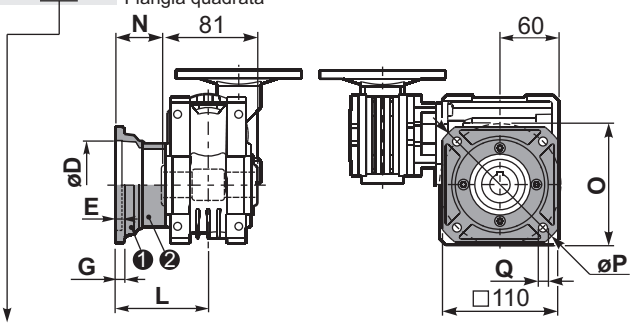
Gearbox weight peso riduttore **4.61 kg**

ø H8	B	C	*Spacer code
25 Standard	28.3	8	KM50.3.025
24 on request	27.3	8	KM50.3.024



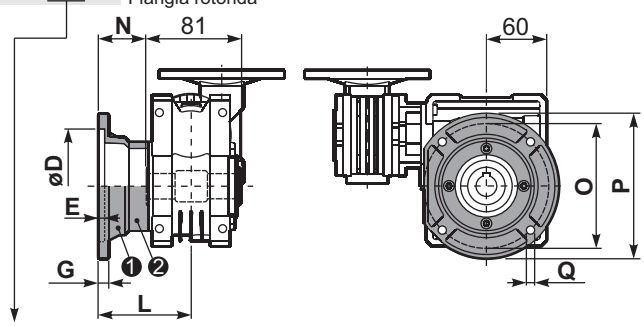
***On Request**
output shaft
with spacers

P53M**FC**... Square flange
Flangia quadrata



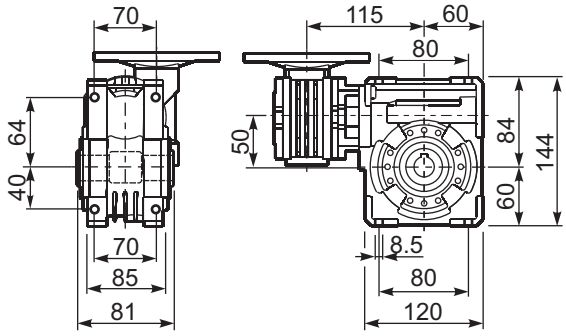
type **B**	øD	E	G	L	N	O	P	Q	kit code
FC	70 H8	5	9	90	49.5	85	125	11	KM50.9.010
FL	70 H8	5	9	120	79.5	85	125	11	KM50.9.011

P53M**F1**... Round flange
Flangia rotonda

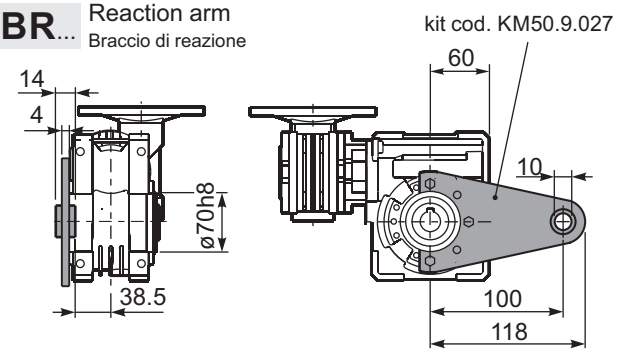


type **S**	øD	E	G	L	N	O	P	Q	kit code
F1	110 H8	5	10	89	48.5	130	160	9.5	KM50.9.012
F2	95 H8	5	14.5	72	31.5	115	140	11	KM50.9.013

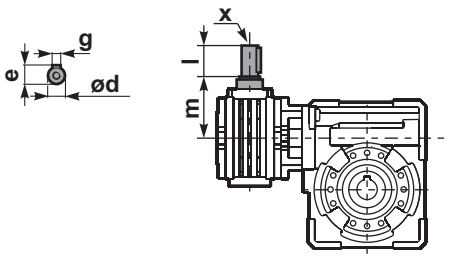
P53M**FB**... Feet
Piedini



P53M**BR**... Reaction arm
Braccio di reazione



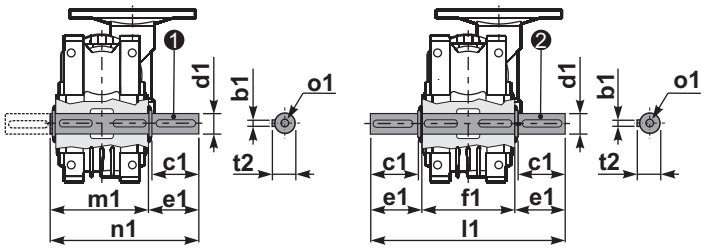
R53MFB... Input shaft
Albero in entrata



	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.



❶ kit cod. K050.5.028 type **B**
kit cod. KS050.5.030 type **S**

❷ kit cod. K050.5.029 type **B**

	b1	c1	d1	e1	f1	l1	m1	n1	t2	o1
type **B**	8	52	$25^{-0.005}_{-0.020}$	59.5	81	200	86.5	146	28	M8x20
type **S**	8	50	$24^{-0.005}_{-0.020}$	68.8	-	-	86.5	155	27	M8x20

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1400 min^{-1}

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

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 **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.

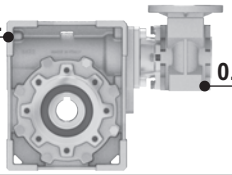
I Il riduttore tipo **63M** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

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.

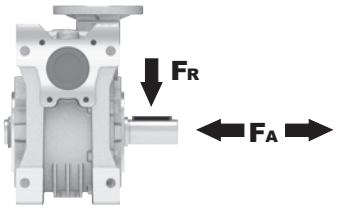


SHELL Omala S4 WE 320	**ENI** Telium VSF 320

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

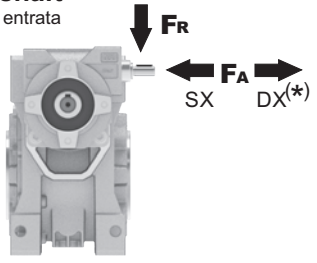
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [N]
25	700	3800
15	800	4000

Input shaft
albero in entrata



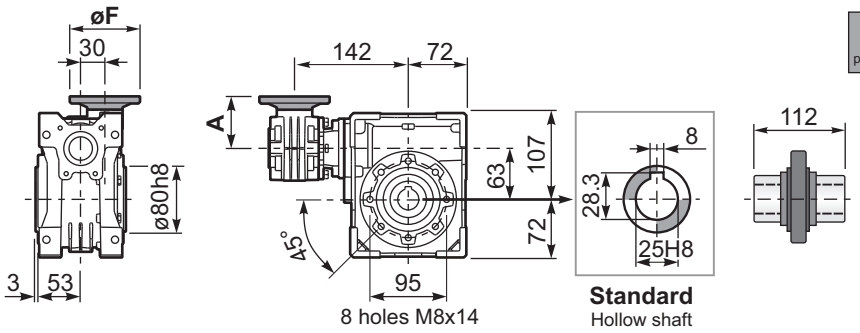
n_1 [min^{-1}]	FA [N]	FR [N]
1400	20	100

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

tab. 2

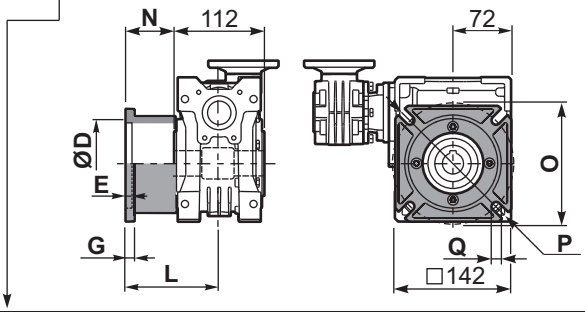
P63M**FB**... Basic wormbox
Riduttore base

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



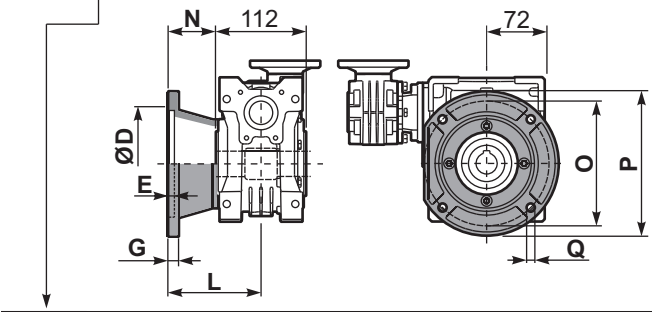
Gearbox weight peso riduttore	7.25 kg

P63M**FC**... Square flange
Flangia quadrata



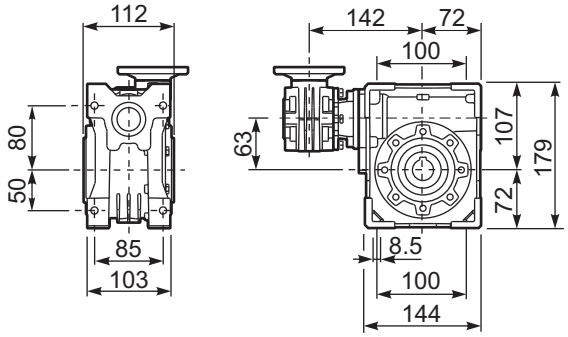
type **B**	øD	E	G	L	N	O	P	Q	kit code
FC	115 H8	6	10	82	26	150	180	11	KM63.9.010
FL	115 H8	6	10	112	56	150	180	11	KM63.9.011

P63M**F1**... Round flange
Flangia rotonda

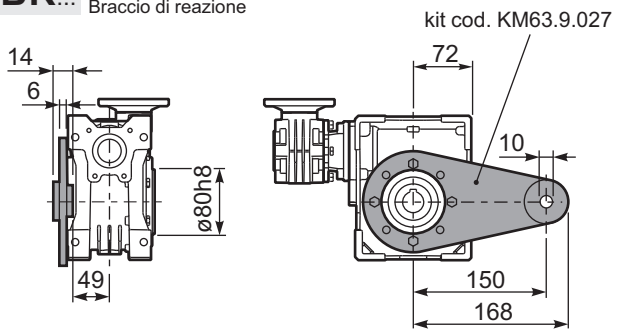


type **S**	øD	E	G	L	N	O	P	Q	kit code
F1	130 H8	5	10	98	42	165	200	11	KM63.9.012
F2	130 H8	5	10	107	51	165	200	11	KM63.9.013
F3	110 H8	5	16.5	80.5	24.5	130	160	11	KM63.9.014

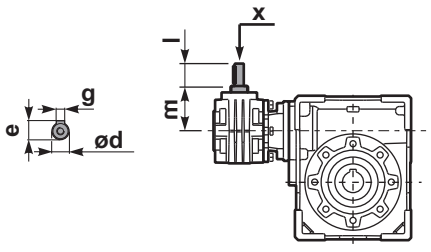
P63M**FB**... Feet
Piedini



P63M**BR**... Reaction arm
Braccio di reazione



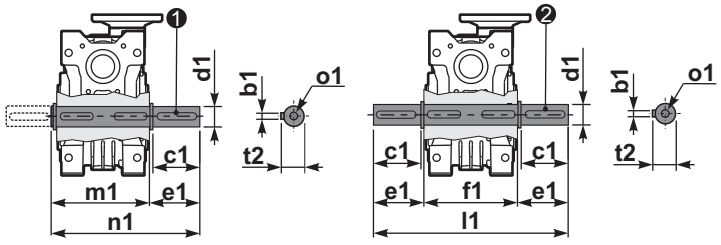
R63MFB... Input shaft
Albero in entrata



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

P63M.....**S**... Single Shaft
Albero lento semplice

P63M.....**D**... Double Shaft
Albero lento bisp.



❶ kit cod. KM63.5.028 type **B**

❷ kit cod. KM63.5.029 type **B**

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

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1400 min^{-1}

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

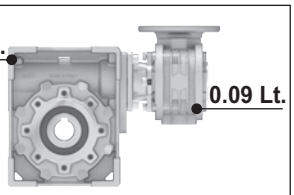
I Il riduttore tipo **64M** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

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.

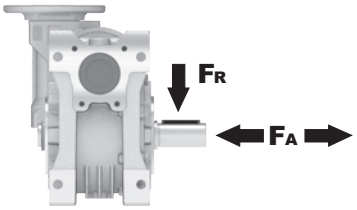


SHELL Omala S4 WE 320	**ENI** Telium VSF 320

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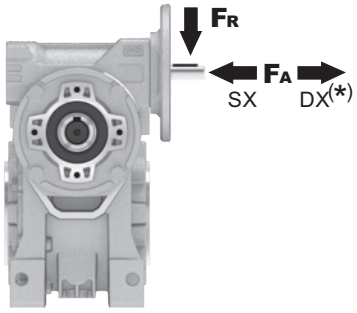
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [N]
25	700	3800
15	800	4000

Input shaft
albero in entrata



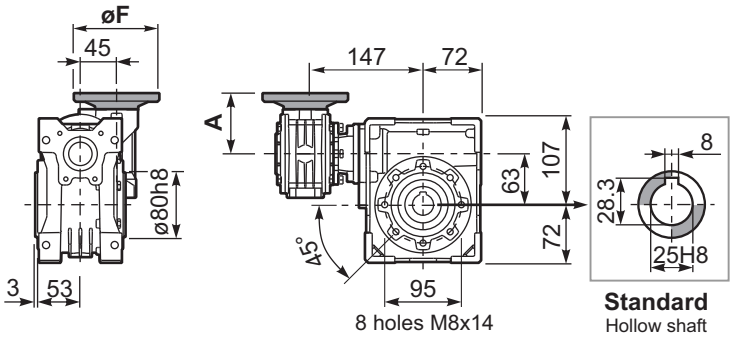
n_1 [min^{-1}]	FA [N]	FR [N]
1400	42	210

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

tab. 2

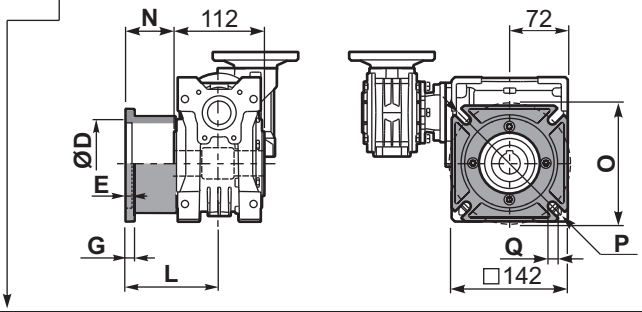
P64M**FB**... Basic wormbox
Riduttore base

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



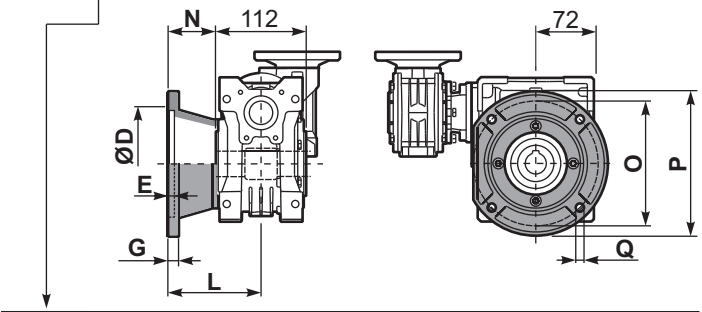
Gearbox weight peso riduttore	7.25 kg

P64M**FC**... Square flange
Flangia quadrata



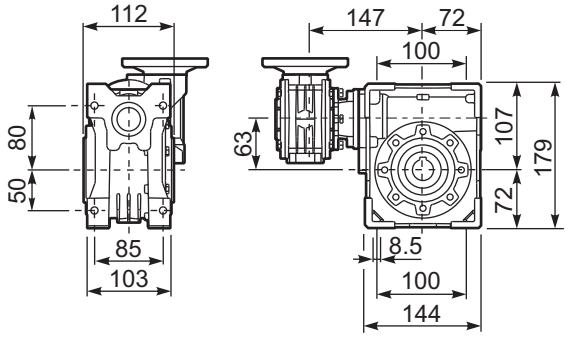
type **B**	øD	E	G	L	N	O	P	Q	kit code
FC	115 H8	6	10	82	26	150	180	11	KM63.9.010
FL	115 H8	6	10	112	56	150	180	11	KM63.9.011

P64M**F1**... Round flange
Flangia rotonda

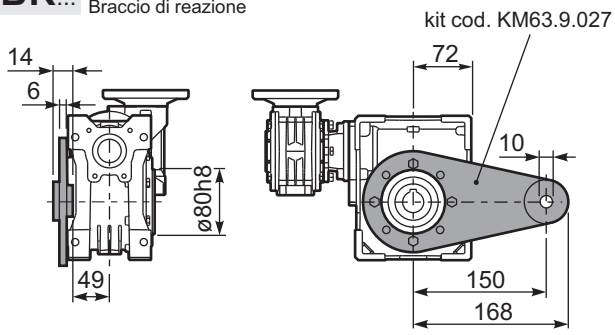


type **S**	øD	E	G	L	N	O	P	Q	kit code
F1	130 H8	5	10	98	42	165	200	11	KM63.9.012
F2	130 H8	5	10	107	51	165	200	11	KM63.9.013
F3	110 H8	5	16.5	80.5	24.5	130	160	11	KM63.9.014

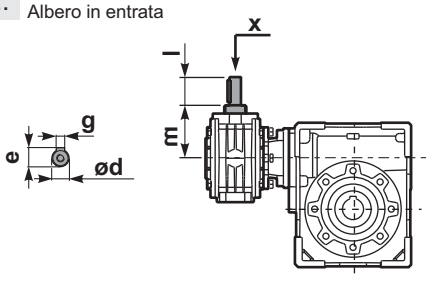
P64M**FB**... Feet
Piedini



P64M**BR**... Reaction arm
Braccio di reazione

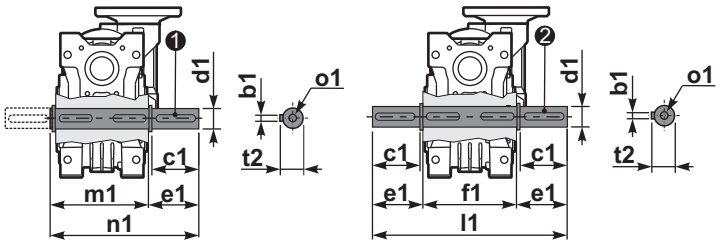


R64MFB... Input shaft
Albero in entrata



P64M.....**S**... Single Shaft
Albero lento semplice

P64M.....**D**... Double Shaft
Albero lento bisp.



❶ kit cod. KM63.5.028 type **B**

❷ kit cod. KM63.5.029 type **B**

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

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

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1400 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor f.s.	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	Available B5 motor flanges -B 63	Available B5 motor flanges -C 71	Available B14 motor flanges -O 56	Available B14 motor flanges -P 63	Available B14 motor flanges -Q 71	Dynamic efficiency RD	Tooth Module [mm]	Ratios code
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.

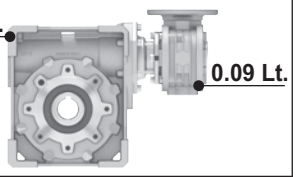
I Il riduttore tipo **74M** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

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.



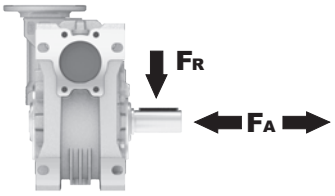
SHELL Omala S4 WE 320	**ENI** Telium VSF 320

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

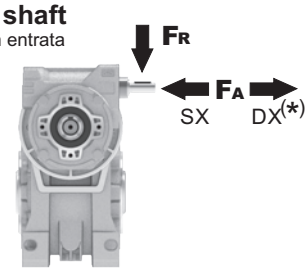
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [N]
25	880	4400
15	1000	5000

Input shaft
albero in entrata



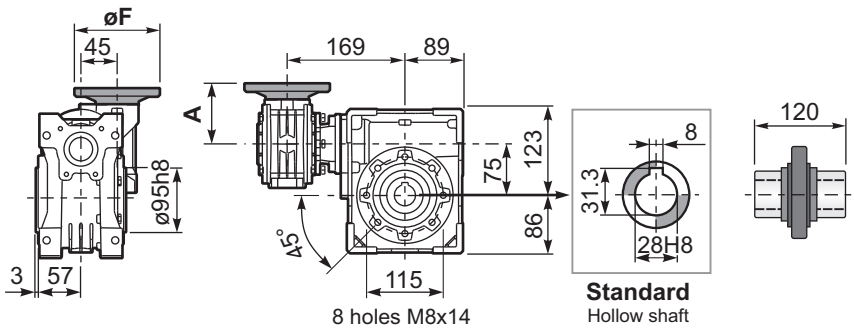
n_1 [min^{-1}]	FA [N]	FR [N]
1400	42	210

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

tab. 2

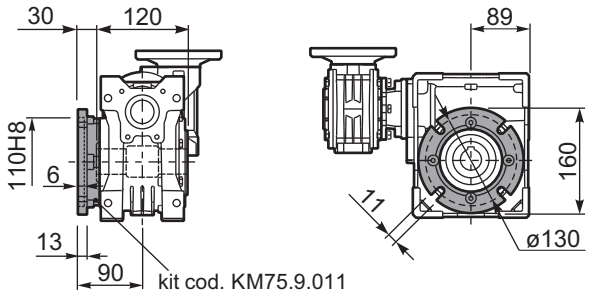
P74M**FB**... Basic wormbox
Riduttore base

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

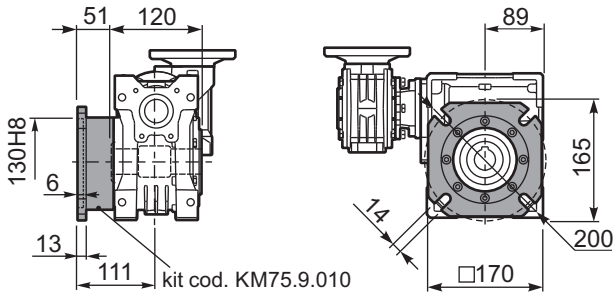


Gearbox weight peso riduttore	11.4 kg

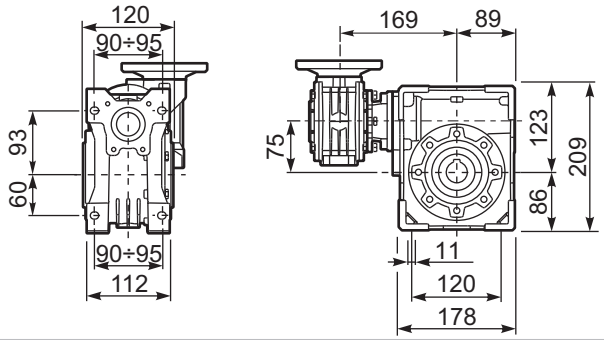
P74M**FC**... Round flange
Flangia rotonda



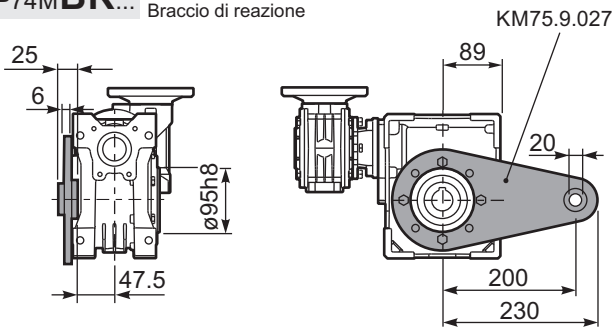
P74M**FL**... Square flange
Flangia quadrata



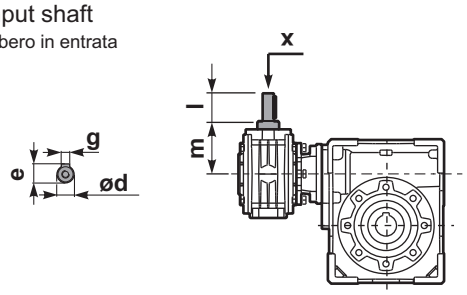
P74M**FB**... Feet
Piedini



P74M**BR**... Reaction arm
Braccio di reazione

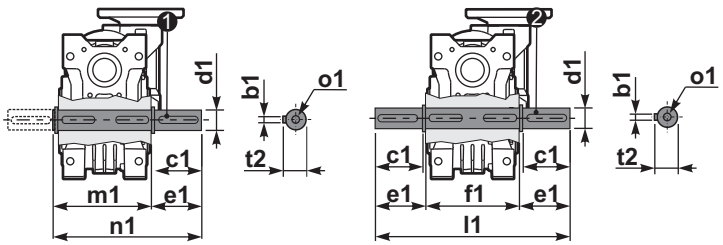


R74MFB... Input shaft
Albero in entrata



P74M.....**S**... Single Shaft
Albero lento semplice

P74M.....**D**... Double Shaft
Albero lento bisp.



❶ kit cod. KM75.5.028 Standard ❷ 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

	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^{-1}

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

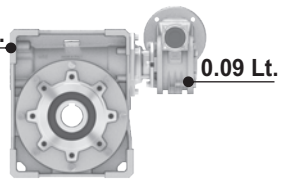
I Il riduttore tipo **84M** viene fornito lubrificato a vita con olio sintetico. Per posizioni V5-V6 contattare il ns. servizio tecnico.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

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.

▪ LUBRICATION 84M Oil Quantity 1.20/0.09 Lt.



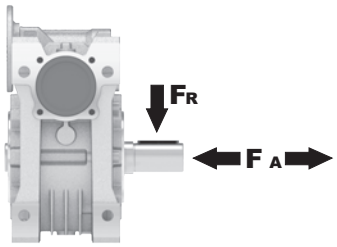
SHELL Omala S4 WE 320	**ENI** Telium VSF 320

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

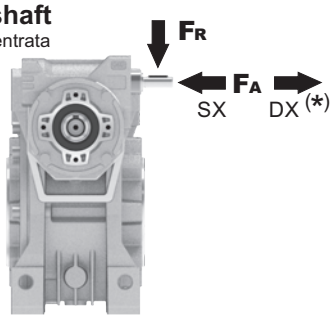
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n [min^{-1}] ^{2}	FA [N]	FR [N]
25	1000	5000
15	1160	5800

Input shaft
albero in entrata



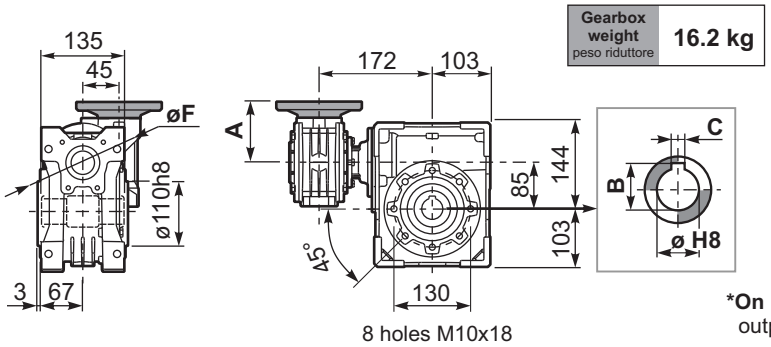
n [min^{-1}] ^{1}	FA [N]	FR [N]
1400	42	210

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

tab. 2

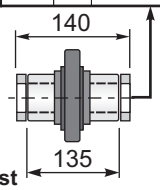
P84M**FB**... Basic wormbox
Riduttore base

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



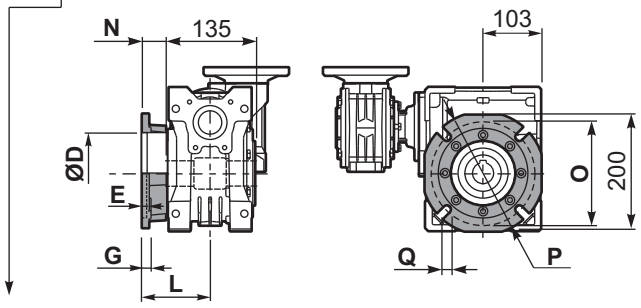
Gearbox weight peso riduttore **16.2 kg**

ø H8	B	C	*Spacer code
35 Standard	38.3	10	KM85.3.035
38 on request	41.3	10	KM85.3.038



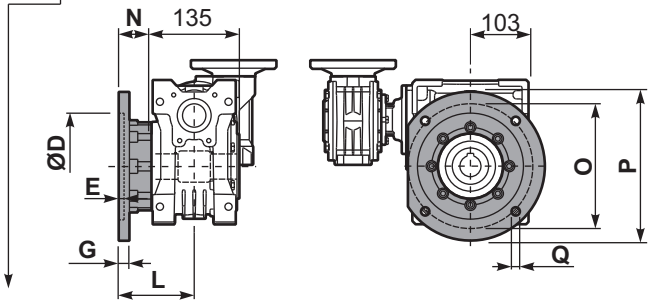
***On Request**
output shaft with spacers

P84M**FC**... Output flange
Flangia uscita



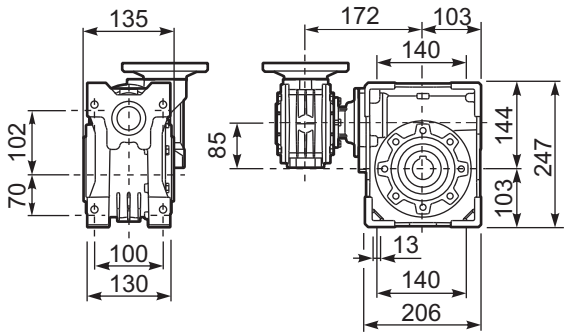
type **B**	øD	E	G	L	N	O	P	Q	kit code
FC	152 H8	5	16	111	43.5	176	205	13	K085.9.010
FL	180 H8	6	18	122	54.5	215	250	14	KM85.9.011

P84M**F1**... Output flange
Flangia uscita

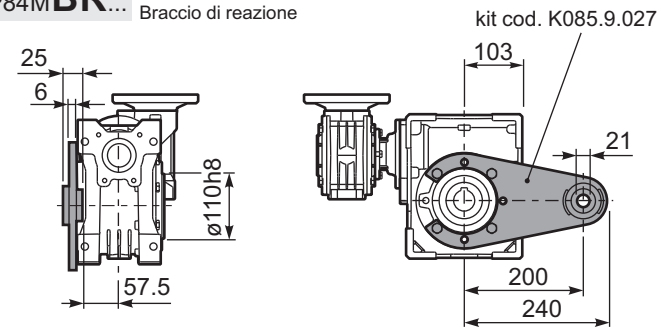


type **S**	øD	E	G	L	N	O	P	Q	kit code
F1	130 H8	5	13	109.5	42	165	200	13	KS085.9.015
F2	152 H8	5	16	151.5	84	176	205	13	K085.9.010 K085.0.201

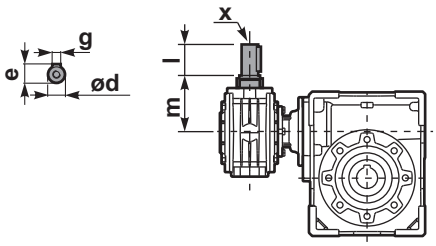
P84M**FB**... Feet
Piedini



P84M**BR**... Reaction arm
Braccio di reazione



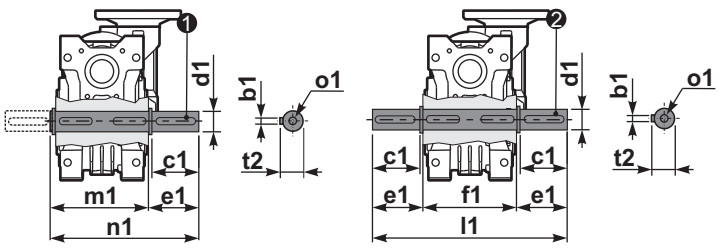
R84MFB... Input shaft
Albero in entrata



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

P84M.....**S**... Single Shaft
Albero lento semplice

P84M.....**D**... Double Shaft
Albero lento bisp.



❶ kit cod. K085.5.028 type **B**

❷ kit cod. K085.5.029 type **B**

	b1	c1	d1	e1	f1	l1	m1	n1	t2	o1
type **B**	10	60	$35^{-0.005}_{-0.020}$	73.5	135	282	141	214.5	38	M10x23
type **S**	-	-	-	-	-	-	-	-	-	-

▪ QUICK SELECTION / Selezione veloce

input speed (n_1) = 1400 min^{-1}

Output Speed n_2 [min^{-1}]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor f.s.	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	Available B5 motor flanges -B 63	-C 71	-D 80	Available B14 motor flanges -O 56	-P 63	-Q 71	-R 80	Dynamic efficiency RD	Tooth Module [mm]	Ratios code
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

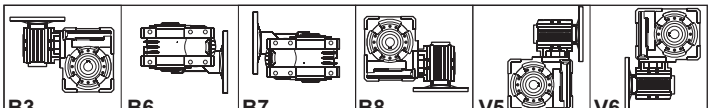
EN Unit **15M** is supplied without lubricant and equipped with a breather, level and drain plugs. User can add mineral oil keeping existing plugs. Should the user wish to fill it with synthetic oil, it is recommended to replace the existing plugs with a type that are closed.
Gearbox **050** is supplied 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.



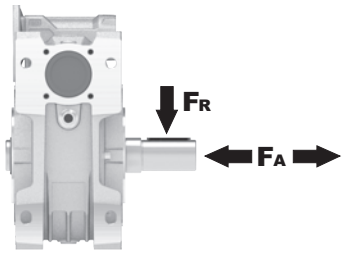
B3	B6	B7	B8	V5	V6
1.9/0.14LT	1.35/0.14 LT	1.35/0.14 LT	2.0/0.14 LT	2.0/0.14 LT	2.0/0.14 LT
SHELL Omala S2 GX 460			**ENI** Blasia 460		

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

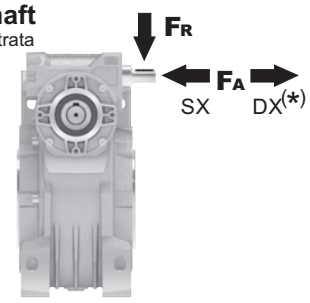
▪ RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min^{-1}]	FA [N]	FR [N]
25	1200	6000
15	1400	7000

Input shaft
albero in entrata



n_1 [min^{-1}]	FA [N]	FR [N]
1400	76	380

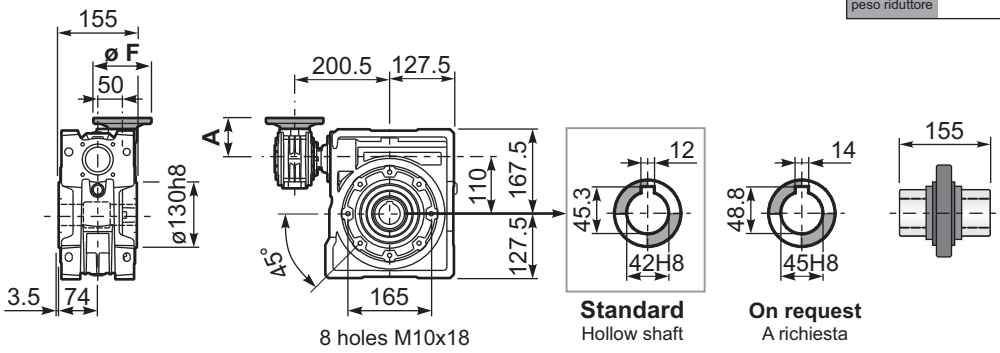
***Strong axial loads in the DX direction are not allowed.**
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

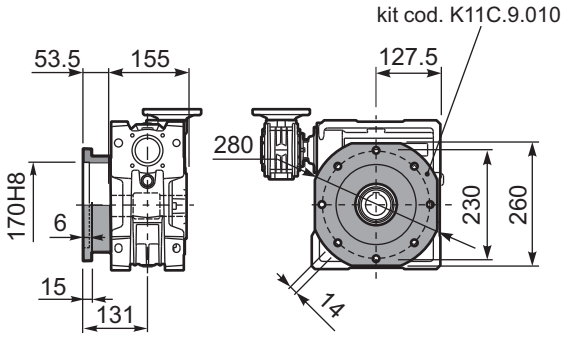
P15M**FB**... Basic wormbox
Riduttore base

Gearbox weight peso riduttore	38.8 kg

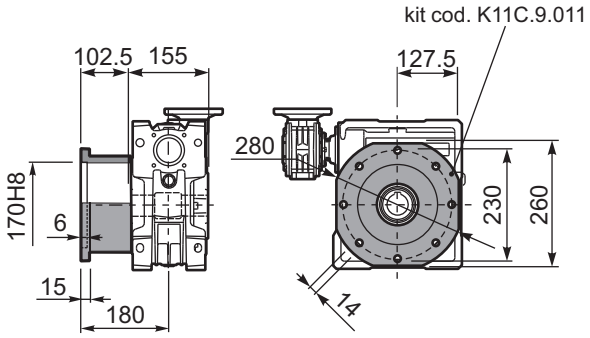
M. flanges	Kit code	øF	A
63B5	K050.4.041	138	78.5
71B5	K050.4.042	160	76
80B5	K050.4.043	200	76.5
56B14	KC40.4.049	80	76
63B14	K050.4.047	90	78.5
71B14	K050.4.045	105	76
80B14	K050.4.046	120	76.5



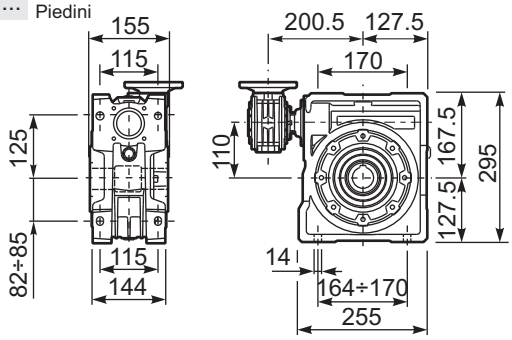
P15M**FC**... Output flange
Flangia uscita



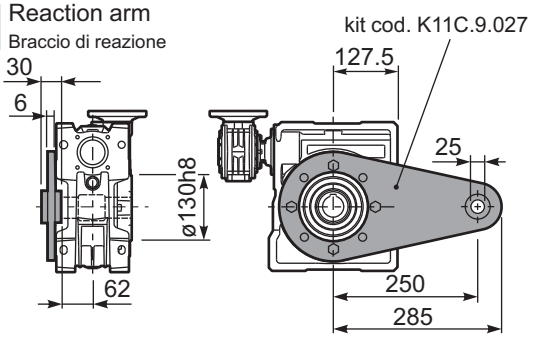
P15M**FL**... Output flange
Flangia uscita



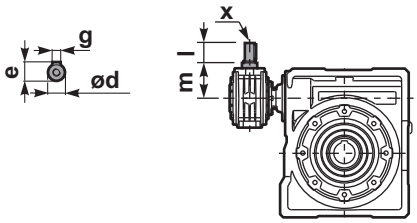
P15M**FB**... Feet
Piedini



P15M**BR**... Reaction arm
Braccio di reazione

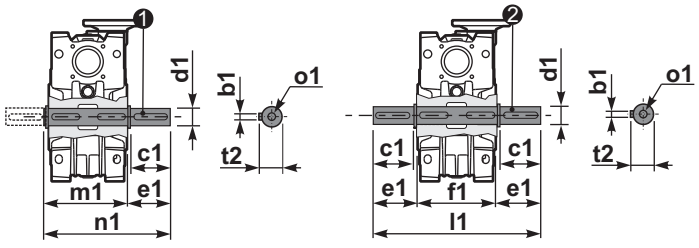


R15MFB... Input shaft
Albero in entrata



P15M.....**S**... Single Shaft
Albero lento semplice

P15M.....**D**... Double Shaft
Albero lento bisp.



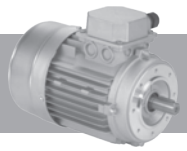
❶ kit cod. K11C.5.028 type **B**

❷ kit cod. K11C.5.029 type **B**

	ød	e	g	l	m	x	kit code
type **B**	16 h6	18	5	30	79.5	M6x16	❶ K050.5.006 PAM71 ❷ K050.5.007 PAM80
type **S**	14 h6	16	5	30	79.5	M5x10	❶ KS050.5.008 PAM71 ❷ KS050.5.009 PAM80

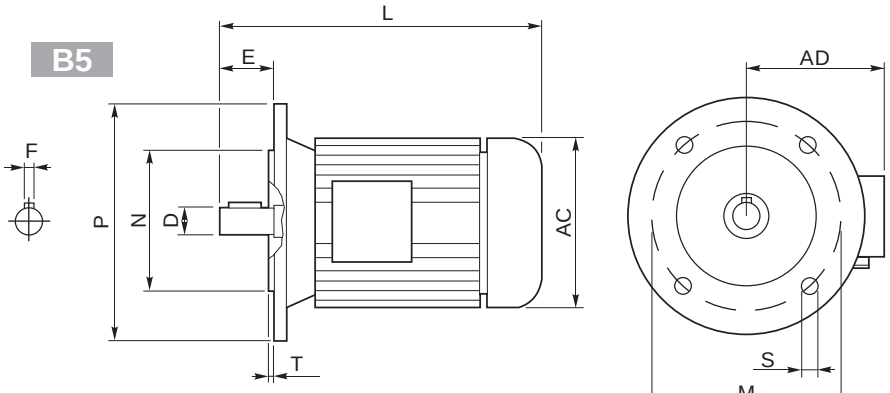
	b1	c1	d1	e1	f1	l1	m1	n1	t2	o1
type **B**	12	80	42h6	84.5	155	324	164.5	249	45	M16x28
type **S**	-	-	-	-	-	-	-	-	-	-

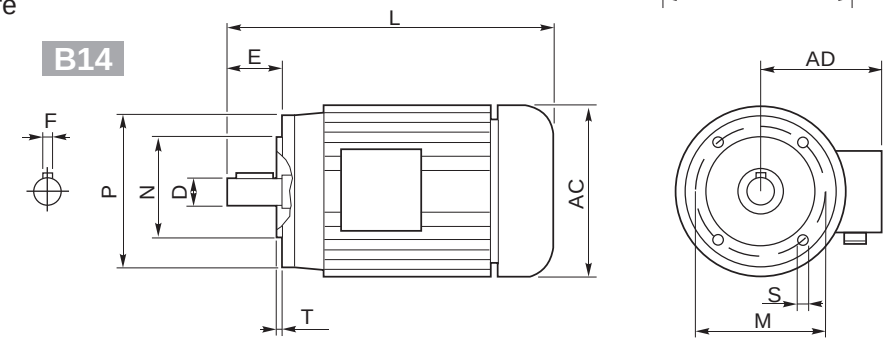
Aluminum IEC motors



1) 230/400V - 50Hz three-phase asynchronous induction motor
2) Class F insulation
3) S1 duty
4) IP 55 protection
5) Not painted
6) Hard plastic sleeve to protect output shaft during the transportation

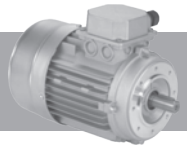
1) 230/400V - 50Hz motore trifase asincrono
2) Isolamento Classe F
3) S1 servizio continuo
4) Protezione IP 55
5) Non verniciato
6) Manicotto di protezione per l'albero motore





Outside dimensions and weight may be different according to manufacturers.
Le dimensioni esterne e il peso sono indicative, possono variare tra i vari costruttori.

	2 poli / poles			4 poli / poles			6 poli / poles			B5-B14						B5					B14					Kg
	kW	Nm	A (400V)	kW	Nm	A (400V)	kW	Nm	A (400V)	D	F	E	L	AC	AD	N	M	P	S	T	N	M	P	S	T	
56 A	**0.09**	0.32	0.38	**0.06**	0.44	0.27	**—**	—	—	9	3	20	199	108	96	80	100	120	7	2.5	50	65	80	M5	2.5	2.7
56 B	**0.12**	0.42	0.46	**0.09**	0.67	0.37	**—**	—	—																	2.9
63 A	**0.18**	0.63	0.60	**0.12**	0.84	0.50	**0.09**	0.99	0.57	11	4	23	208	120	99	95	115	140	9.5	3	60	75	90	M5	2.5	3.8
63 B	**0.25**	0.87	0.76	**0.18**	1.30	0.69	**0.12**	1.32	0.74																	4.2
71 A	**0.37**	1.30	1.00	**0.25**	1.70	0.91	**0.18**	1.90	0.80	14	5	30	-	130	104	110	130	160	9.5	3.5	70	85	105	M6	2.5	5.9
71 B	**0.55**	1.90	1.54	**0.37**	2.52	1.14	**0.25**	2.72	1.10				255	141	107											6.5
80 A	**0.75**	2.60	1.85	**0.55**	3.77	1.51	**0.37**	3.84	1.18	19	6	40	296	159	127	130	165	200	11.5	3.5	80	100	120	M6	3	8.5
80 B	**1.1**	3.90	2.64	**0.75**	5.11	2.57	**0.55**	5.84	1.80																	10
90 S	**1.5**	5.00	3.31	**1.1**	7.45	2.78	**0.75**	7.92	2.32	24	8	50	-	170	135	130	165	200	11.5	3.5	95	115	140	M8	3	12.5
90 L	**2.2**	7.50	4.46	**1.5**	10.2	3.61	**1.1**	11.6	3.45				330													15
100 LA	**3.0**	10.0	6.28	**2.2**	14.8	5.07	**1.5**	15.4	3.88	28	8	60	-	190	148	180	215	250	13	4	110	130	160	M8	3.5	20
100 LB	**—**	—	—	**3.0**	20.1	6.66	**—**	—	—																	22
112 M	**4.0**	13.4	8.10	**4.0**	26.7	8.55	**2.2**	22.6	5.30				381	210	164											35
132 S	**5.5**	18.3	11.2	**5.5**	36.5	11.4	**3.0**	30.2	7.20	38	10	80	455	244	180	230	265	300	14	4	130	165	200	M10	4	41
	7.5	24.9	15.3																							51
132 M	**—**	—	—	**7.5**	49.4	15.0	**4.0**	40.0	9.13				500													51
				9	61.4	18.5																				
160 M	**—**	—	—	**11**	72	21.5	**—**	—	—	42	12	110	613	335	246	250	300	350	18	5	—	—	—	—	—	79.2
160 L	**—**	—	—	**15**	98	29	**—**	—	—				657													97.5
180 M	**—**	—	—	**18.5**	121	35.5	**—**	—	—	48	14	110	712	366	266	250	300	350	19	5	—	—	—	—	—	170
180 L	**—**	—	—	**22**	144	42	**—**	—	—																	
200 L	**—**	—	—	**30**	196	53	**—**	—	—	55	16	110	780	405	341	300	350	400	19	5	—	—	—	—	—	240
225 S	**—**	—	—	**37**	240	69	**—**	—	—	60	18	140	888	463	360	350	400	450	19	5	—	—	—	—	—	305
225 M	**—**	—	—	**45**	292	84	**—**	—	—																	310



Protection
Standard IP55
Please specify on purchase orders if you need a higher IP protection class.

Grado di protezione
IP55 Standard
Specificare in sede di ordinazione per IP superiore.

Schutzart
IP55 Standard.
Höheren IP Grad bitte im Auftrag angeben.

Degré de protection
IP55 standard.
Au moment de la commande, spécifiez si vous souhaitez IP supérieur.

Grado de protección
IP55 standard.
Especificar en el pedido cuando necesiten protección IP superior.

Insulation
Standard CI.F
To be specified upon placing the order if different insulation is required.

Isolamento
CI.F Standard
Specificare in sede di ordinazione classe di isolamento diversa.

Isolierung
CI.F Standard.
Davon abweichende Isolierungsklas se im Auftrag angeben.

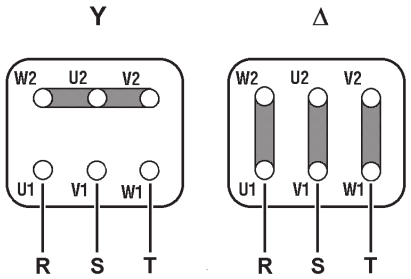
Isolement
CI.F Standard.
Au moment de la commande, spécifiez si vous souhaitez une classe d' isolement différente.

Aislamiento
CI.F standard.
Especificar al efectuar el pedido la clase diferente de aislamiento.

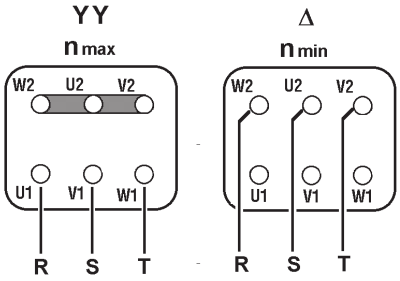
Insulation / Isolamento Isolierung /Aislamiento		E	B	F	H
Max. temp.	C°	120°	130°	155°	175°
	F*	248°	266°	311°	347°

Connections **Collegamenti** **Verbindungselemente** **Branchements** **Conexiones**

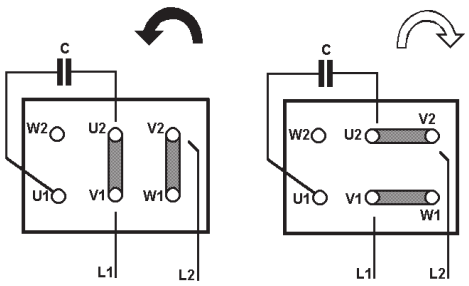
Threephase asyncronous single polarity
Asincrono trifase singola polarità
Asynchronmotor 3-ph eine Drehzahl
Moteur triphasé à une vitesse
Asincrono trifasico de una velocidad



Threephase asyncronous double polarity
Asincrono trifase doppia polarità
Asynchronmotor 3-ph doppelte Drehzahl
Moteur triphasé à deux vitesses
Asincrono trifasico de dos velocidades



Single phase asyncronous
Asincrono monofase
Einphasen-Asynchronmotor
Moteur monophasé
Asincrono monofasico



Information Informazioni

Warranty and use see complete version on the web
Garanzia e utilizzo vedi versione completa sul web

HYDROMEC SPA IS THE LEGAL RESPONSABLE FOR WARRANTY ISSUES.

PLEASE READ CAREFULLY
The following WARNING and CAUTION information are supplied to you for the proper functioning of your product.
Read ALL instructions prior to operating reducer.
Injury to personnel or reducer failure may be caused by improper installation, maintenance or operation.

WARNING:

• Written authorization is required to operate or use reducers in man lift or people moving devices.
• Check to make sure that certain applications do not exceed the allowable load capacities published in the current catalog.
• Buyer shall be solely responsible for determining the adequacy of the product for any and all uses to which Buyer shall apply the product. The application by Buyer shall not be subject to any implied warranty of fitness for a particular purpose.
• For safety, Buyer or User should provide protective guards over all shaft extensions and any moving apparatus mounted thereon. The User is responsible for checking all applicable safety codes in his area and providing suitable guards. Failure to do so may result in bodily injury and/or damage to equipment.
• Gearboxes operating in high position should have a protective shield for any possible parts falling down for casual accidents where people are moving under them.
• Hot oil and reducers can cause severe burns. Use extreme care when removing lubrication plugs and vents.
• Make certain that the power supply is disconnected before attempting to service or remove any components. Lock out the power supply and tag it to prevent unexpected application power.
• Reducers are not to be considered fail safe or self-locking devices. If these features are required, a properly sized, independent holding device should be utilized.
Reducers should not be used as a brake.
• Any brakes that are used in conjunction with a reducer must be sized or positioned in such a way so as to not subject the reducer to loads beyond the catalog rating.
• Lifting supports including eyebolts are to be used for vertically lifting the gearbox only and not other associated attachments or motors.
• Use of an oil with an EP additive on units with backstops may prevent proper operation of the backstop. Injury to personnel, damage to the reducer or other equipment may result.
• Overhung loads subject shaft bearings and shafts to stress which may cause premature bearing failure and or shaft breakage from bending fatigue, it not sized properly.

SELLING CONDITIONS
Warranty for manufacturing defects will expire one-year after the invoicing date. Hydro-Mec s.p.a. will replace or repair defective parts but will not accept any further changes for direct or indirect damages of any kind. The warraty will become null and void if repairs or changes are carried out without our prior written authorization.
Our company will not be responsible for any direct or indirect damages, caused by a wrong use of the products or for not observing the catalogue/ web indication.
If the process requires total protections the customers should consider additional measures to avoid any contaminations arising from the gearboxes.
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All information shown in this catalogue are purely indicative;
Hydro-Mec s.p.a reserves the right to make any necessary variation without prior notice.

HYDROMEC SPA È LEGALMENTE IL RESPONSABILE DEI PROBLEMI DI GARANZIA.

LEGGERE ATTENTAMENTE
Le seguenti raccomandazioni sono fondamentali per un buon funzionamento del vostro prodotto.
Leggere attentamente tutte le istruzioni prima di azionare il riduttore.
L'inappropriata installazione, manutenzione o funzionamento del riduttore può causare incidenti al personale addetto edanni al riduttore stesso.

ATTENZIONE:

• E' richiesta autorizzazione scritta per azionare riduttori in ascensori o dispositivi per il movimento delle persone.
• Controllare che alcune applicazioni non eccedano la massima capacità di carico ammessa pubblicata in questo catalogo.
• L'acquirente è l'unico responsabile per la determinazione dell'adeguatezza del prodotto per qualcuna o tutte le utilizzazioni che l'acquirente stesso farà del riduttore. L'applicazione dell'acquirente non potrà essere soggetta ad alcuna implicita garanzia di montaggio per uno scopo particolare.
• Per ragioni di sicurezza l'acquirente dovrà provvedere a porre protezioni adeguate su tutta la lunghezza dell'albero a tutti gli organi in movimento.
L'utilizzatore è responsabile del controllo di tutti i codici di sicurezza e la predisposizione di protezioni adeguate. In assenza di tali precauzioni si possono verificare incidenti alle persone e danni agli apparati.
• Su riduttori installati in posizioni elevate utilizzare protezioni adeguate per qualsiasi distacco accidentale di parti nel caso di passaggio di persone al di sotto.
• Olio e riduttori bollenti possono causare gravi ustioni. Usare estrema cautela nella rimozione dei tappi e delle ventole.
• Assicurarsi che la corrente di alimentazione sia scollegata prima di riparare o rimuovere alcun componente. Chiudere l'alimentazione e contrassegnare tale operazione per evitare accensioni accidentali.
• I riduttori non devono essere considerati esenti da guasti o a bloccaggio automatico. Se sono indispensabili queste caratteristiche, deve essere utilizzato un dispositivo indipendente della dimensione adatta. I riduttori non devono essere utilizzati come freni.
• Qualsiasi freno sia utilizzato insieme al riduttore deve essere della giusta grandezza e posizionato in modo da non causare carichi eccessivi non previsti dai dati forniti nel catalogo.
• I dispositivi di sollevamento come le golfare devono essere usati solo per sollevare verticalmente il riduttore e non altri dispositivi associati o motori.
• L'utilizzo di un olio con un additivo EP su gruppi provvisti di dispositivo di arresto possono inficiare l'uso corretto del freno e provocare danni alle persone, alle cose ed al riduttore stesso nonché ad altri apparecchi.
• I Carichi sospesi assoggettano i cuscinetti della vite e la vite stessa a sollecitazioni che possono causare, se non adeguatamente dimensionati, l'usura prematura dei cuscinetti e/o larottura della vite a causa della resistenza alla flessione.

CONDIZIONI DI VENDITA
La garanzia relativa a difetti di costruzione ha la durata di un anno dalla data di fatturazione della merce. Tale garanzia comporta per Hydro-Mec s.p.a. l'onere della sostituzione o riparazione delle parti difettose ma non ammette ulteriori addebiti per eventuali danni diretti o indiretti di qualsiasi natura. La garanzia decade nel caso in cui siano state eseguite riparazioni o apportate modifiche senza nostro consenso scritto.
La nostra ditta non si ritiene responsabile per eventuali danni diretti o indiretti derivanti da un uso improprio dei prodotti e dalla mancata osservanza delle indicazioni riportate a catalogo o web.
Se il processo richiede una protezione totale, i clienti dovrebbero prendere in considerazione misure aggiuntive per evitare qualsiasi contaminazione derivante dai riduttori.
Tutti i diritti sono riservati. Tutte le informazioni riportate nel presente catalogo sono puramente indicative; Hydro-Mec s.p.a si riserva il diritto di apportare qualsiasi variazione necessaria senza preavviso.

HYDRO·MEC

HIGH EFFICENCY GEARBOXES



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Distributed from

ESPACE MOTEURS
46 rue du Général Sarrail
59200 Tourcoing (France)
contact@espacemoteurs.com