

Stainlesssteel

Gears

Worm gearboxes and Coaxial gearboxes

Riduttori a vite senza fine e coassiali
0.09 ÷ 4kW

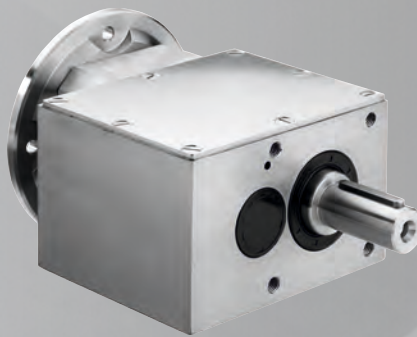
Cat.: CT-SSM-I-HM013



Worm gearboxes



Coaxial gearboxes



Stainless steel motors



Made in Italy



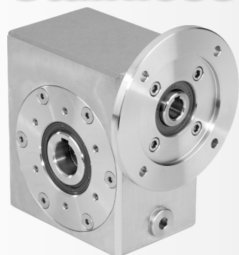
Dossier according
to 94/9/EG 8. b ii
stored



HYDRO · MEC

IN THIS CATALOGUE

Full Stainless steel - Worm gearboxes

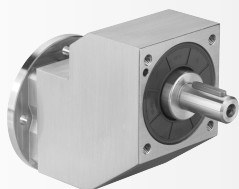


Full stainless steel Worm gearboxes.
Vite senza fine completamente in acciaio inox.

See technical data table.
Vedi tabelle dati tecnici.

Paragraph **9**

Full Stainless steel - One step gearboxes

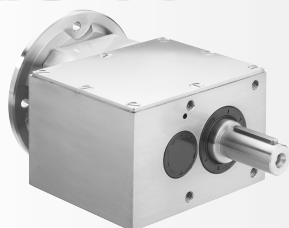


Full stainless steel gearboxes with one stage of reduction.
Riduttori coassiali completamente in acciaio inox con uno stadio di riduzione.

See technical data table.
Vedi tabelle dati tecnici.

Paragraph **10**

Full Stainless steel - Coaxial gearboxes



Full stainless steel in line gearboxes with two stages of reduction.
Riduttori coassiali completamente in acciaio inox con 2 stadi di riduzione.

See technical data table.
Vedi tabelle dati tecnici.

Paragraph **11**

Full Stainless steel electric motors



Full stainless steel IEC motors.
Motori IEC completamente in acciaio inox.

See technical data table.
Vedi tabelle dati tecnici.

Pag. **M-3**

Stainless Steel Gears 130 ÷ 185

STANDARD FEATURES



Special housing designed to keep adequate lubrication with low Oil q.ty to avoid internal pressures.



Full Stainless Steel Housing.



Output seals (FPM-fkm) with external dust protection lips.

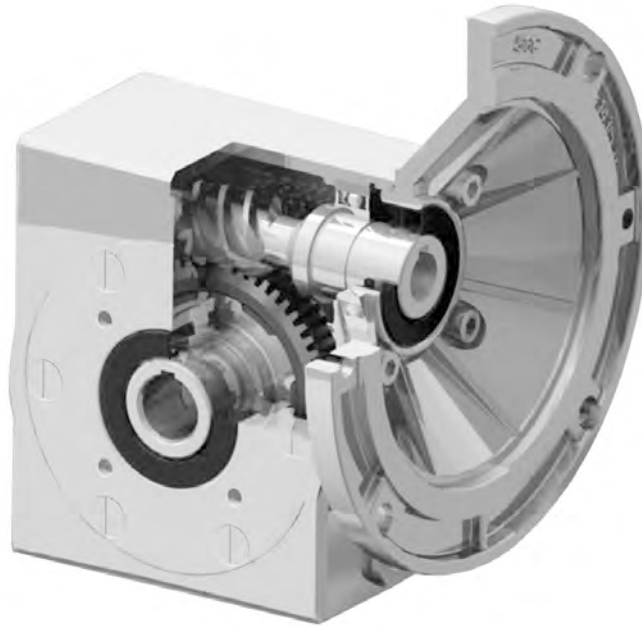


Stainless Steel Hollow shaft.

O-rings on all closing covers.



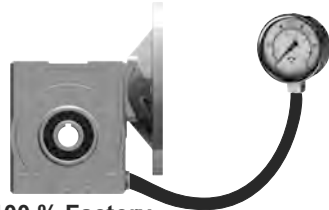
Life lubricated fully synthetic oil



Optional interchangeable right or left hand output shafts available.



100 % Factory pressure leak test.

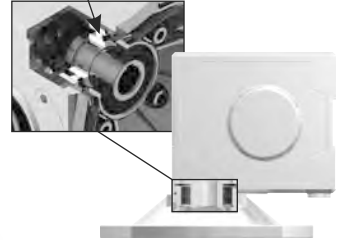


OPTIONS



Protective seals cup to stand high pressure cleaning for hollow or extended shaft version.

Second Bearing



Standard second bearing on motor flange side and two oil seals with vertical motor position.

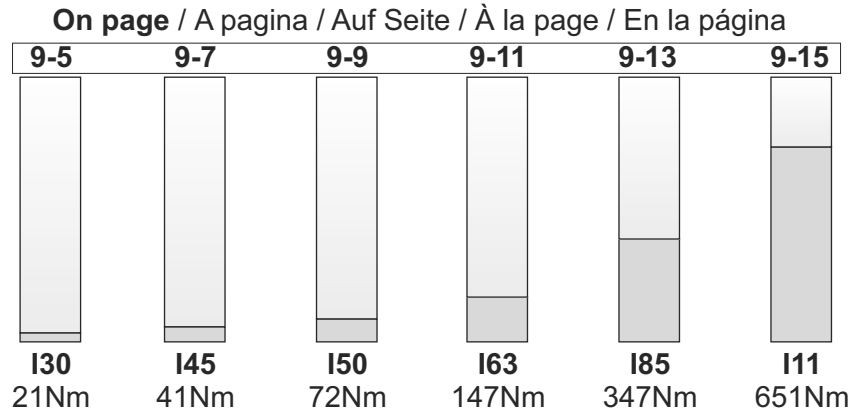
TORQUE ARM



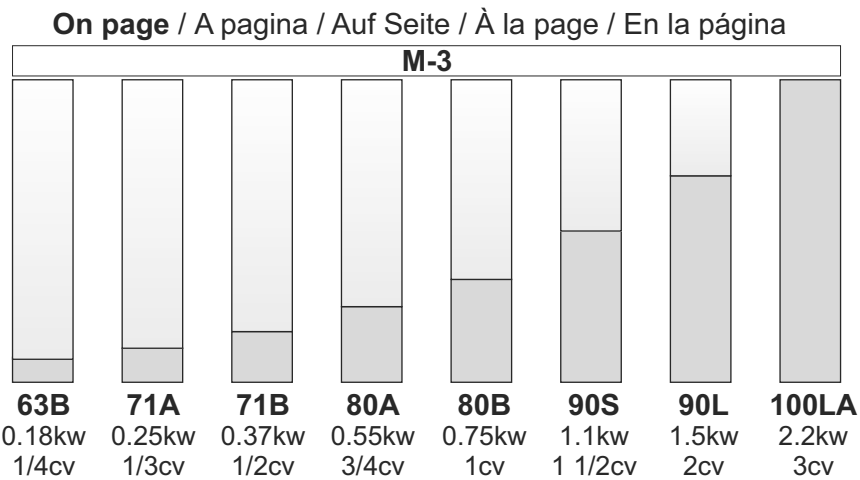
Specific type datasheet on page...

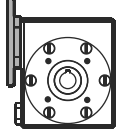
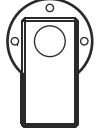
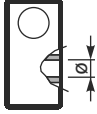
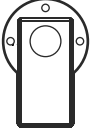
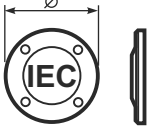
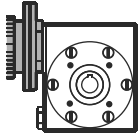
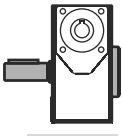
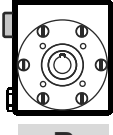
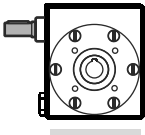


Types / Tipi /
Tipen / Types /
Tipos →

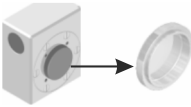
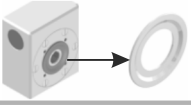


Types / Tipi /
Tipen / Types /
Tipos →



Type - Tipo - Typ Type - Tipo	Size - Grandezza Grösse - Taille Tamaño	Mounting - Montaggio Montage - Fixation Tipo de montaje	Ratio - Rapporto Untersetzung Reduction - Relación	Hub - Mozzo corona Hohlwelle - Arbre creux Nucleo corona	Output shaft Albero lento Abtriebswelle Arbre de sortie Eje solida	Motor size - Grandezza motore Motor Grösse Grandeur moteur - Tamaño motor
P	I45	UN	10	I	S	-Q
	I30 I45 I50 I63 I85 I11		See technical data table			
P		UN	Vedi tabella dati tecnici.	I	Ø	I30 -O -P -W
		FL	Technisches Datenblatt beachten	STANDARD		I30 56B14 (ø80) 63B14 (ø90) 56C (ø6.5")
M		BR	Voir Tableau données techniques	I30 ⇨ ø14	S	I45 -P -Q -W
		Full stainless steel Torque arm	Ver tabla datos técnicos	I45 ⇨ ø18		I45 63B14 (ø90) 71B14 (ø105) 56C (ø6.5")
			I50 ⇨ ø25	Z	I50 -P -Q -R	
R			I63 ⇨ ø25	INCH	I50 63B14 (ø90) 71B14 (ø105) 80B14 (ø120)	
			I85 ⇨ ø35	I45 ⇨ ø0.750"	-W	I63 -Q -R -T
			I11 ⇨ ø42	I50 ⇨ ø1.000"	56C (ø6.5")	I63 71B14 (ø105) 80B14 (ø120) 90B14 (ø140)
				I63 ⇨ ø1.125"		-W -X
				I85 ⇨ ø1.500"		I63 56C (ø6.5") 143/5TC (ø6.5")
				I11 ⇨ ø2.000"		-U
						I85 -D -E -U
						I85 80B5 (ø200) 90B5 (ø200) 100-112B14 (ø160)
						-W -X -Y
						I85 56C (ø6.5") 143/5TC (ø6.5") 182/4TC (ø8.88") 213/5TC (ø8.88")
						I11 -D -E -U
						I11 80B5 (ø200) 90B5 (ø200) 100-112B14 (ø160)
						-X -Y AA
						I11 143/5TC (ø6.5") 182/4TC (ø8.88") 213/5TC (ø8.88")

On request

A	Protective seals cup CLOSE TYPE	
B	Protective seals cup OPEN TYPE	
C	Food lube	
D	Nema input flanges	

-M
without flange
Senza flangia

-0
Type R
Tipo R



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.

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

Lifting / sollevamento / hubantriebe / levage / elevación

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

Rotation / rotazione / drehung / rotation / rotacion

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

Linear movement / traslazione / linearbewegung / translation / translacion

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

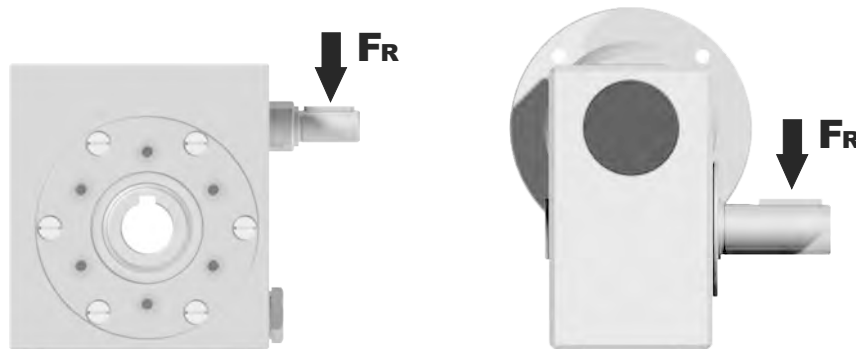
TORQUE / COPPIA / DREHMOMENT / COUPLE / PAR

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

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

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



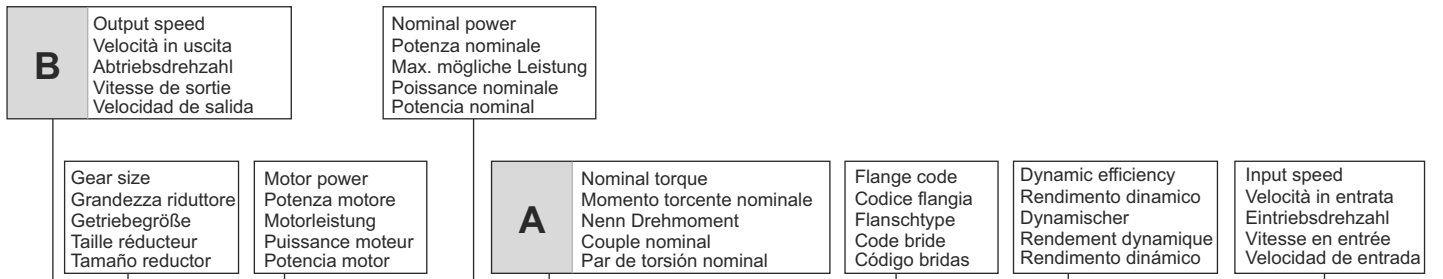
$$F_R \text{ [N]} = \frac{M \text{ [Nm]} \cdot 2000}{d \text{ [mm]}} \cdot f_k$$

$$F_R \text{ [N]} = \frac{M \text{ [lb in]} \cdot 8.9}{d \text{ [in]}} \cdot f_k$$

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.

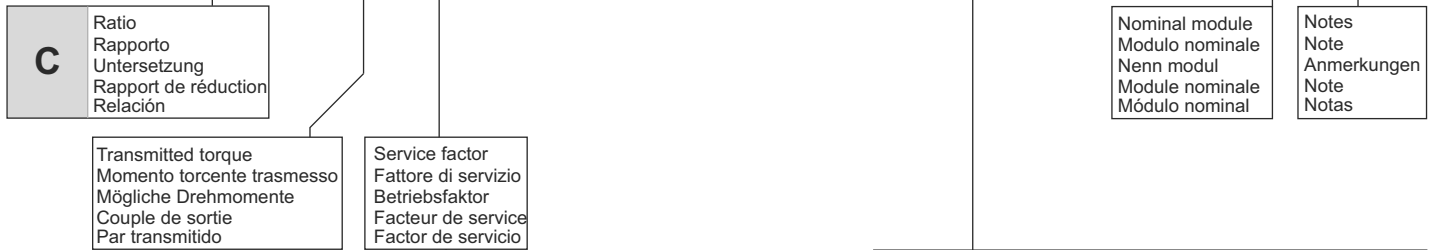
How to select a gearbox / Come selezionare un riduttore / Wie wählt man ein Getriebe
Comment sélectionner un réducteur / Cómo seleccionar un reductor



145 Stainlesssteel - Gear **41Nm** Rating - Stainlesssteel WORM GEARBOXES

QUICK SELECTION / Selezione veloce input speed (n₁) = 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]	B5 motor flanges not available		Available B14 motor flanges		Dynamic efficiency RD	Tooth Module [mm]	Ratios code
							-	-	P	Q			
200	7	0.37	14	2.2	0.80	30	-	-	63	71	80	2.2	01
140	10	0.37	20	1.5	0.57	30	-	-	B-C	B-C	79	2.2	02
100	14	0.37	27	1.1	0.41	30	-	-	B-C	B-C	77	2.4	03



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	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	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/-socket
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 output 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]	B5 motor flanges not available		Available B14 motor flanges		Dynamic efficiency RD	Tooth Module [mm]	Ratios code
							-	-	O	P			
280	5	0.18	5	3.3	0.60	17	-	-	56	63	82	1.26	09
200	7	0.18	7	2.4	0.44	17	-	-	B-C		80	1.44	01
140	10	0.18	10	1.8	0.32	17	-	-	B-C		78	1.44	02
93	15	0.18	13	1.4	0.25	19	-	-	B-C		73	1.44	03
70	20	0.18	17	1.1	0.20	19	-	-	B-C		70	1.09	04
47	30	0.12	15	1.4	0.17	21	-	-	B-C		62	1.44	05
35	40	0.12	19	1.1	0.13	20	-	-	B-C		57	1.09	06
23	61	0.09	19	1.1	0.10	20	-	-	B-C		50	0.72	07
17.5	80	0.09	16	1.0	0.06	16	-	-	B-C		48	0.56	08

* The nominal power should be reduced if the ambient temperature is $\geq 30^\circ\text{C}$, or when a cooler gearbox is required.

* Diminuire la potenza nominale in caso di temperatura ambiente $\geq 30^\circ\text{C}$ o se è richiesta una bassa temperatura di utilizzo del riduttore.

A Motor Flanges Available
Flange Motore Disponibili

B Supplied with Reduction Bushing
Fornito con Bussola di Riduzione

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

C Motor Flange Holes Position
Posizione Fori Flangia Motore

EN Unit I30 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 I30 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 I30 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 I30 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 I30 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 I30 Oil Quantity 0.10 Lt.

AGIP Telium VSF 320

SHELL Omala S4 WE 320

For all details on lubrication and plugs check our website

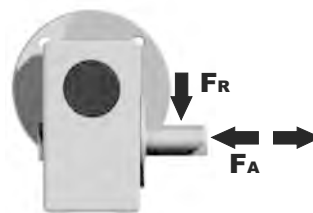
tab. 1

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

RADIAL AND AXIAL LOADS

Output shaft

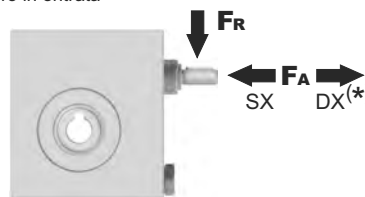
Albero di uscita



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

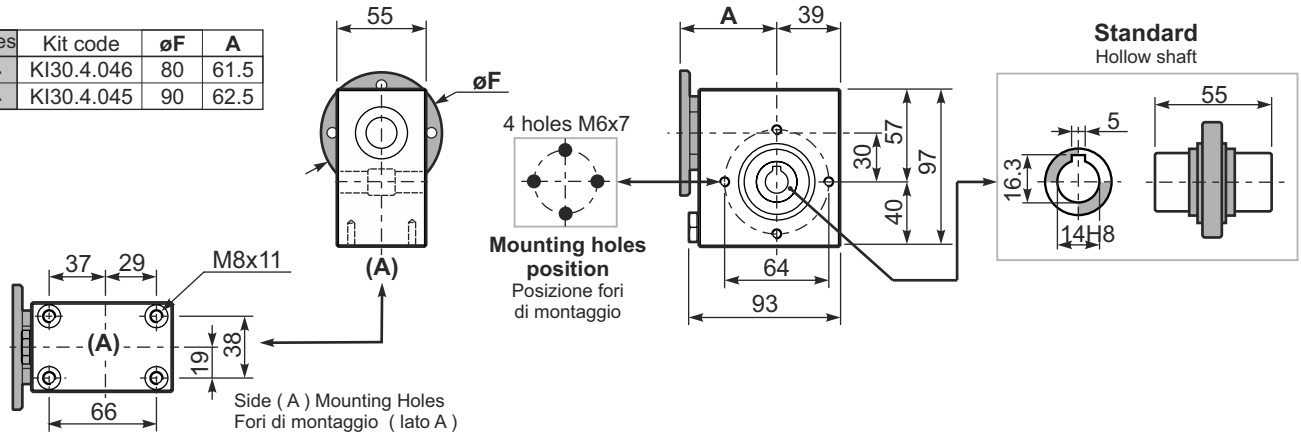
*Strong axial loads in the DX direction are not allowed.
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

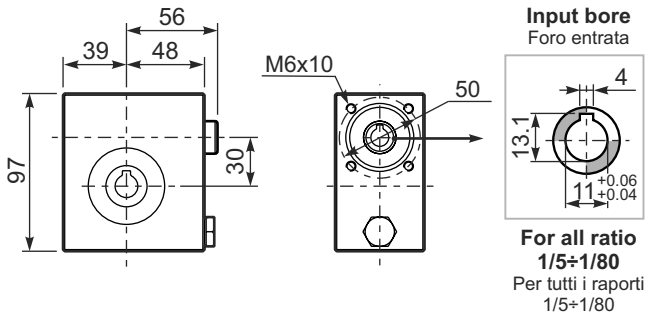
Gearbox weight
peso riduttore **2.5 kg**

PI30UN... Basic wormbox
Riduttore base

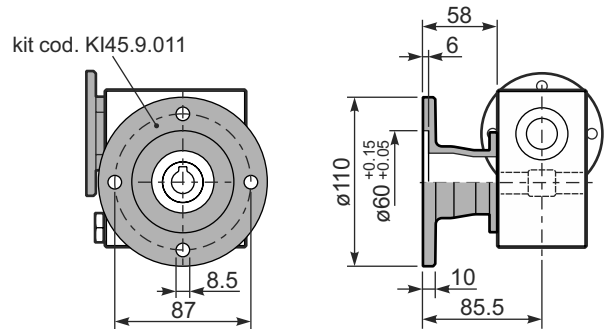
M. flanges	Kit code	øF	A
56B14	KI30.4.046	80	61.5
63B14	KI30.4.045	90	62.5



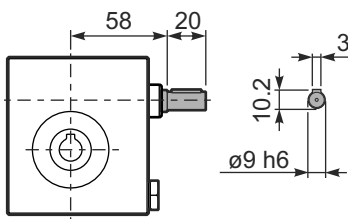
BI30UN... Modular base
Base modulare



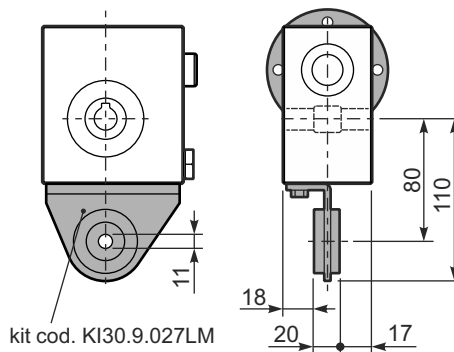
PI30FL... Output flange
Flangia uscita



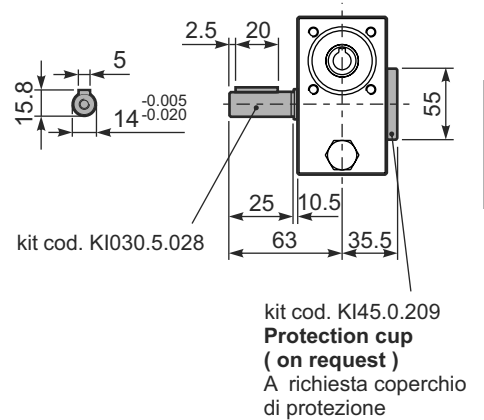
RI30UN... Input shaft
Albero in entrata



PI30BR... Reaction arm
Braccio di reazione



PI30.....S... Single Shaft
Albero lento semplice





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]	B5 motor flanges not available		Available B14 motor flanges		Dynamic efficiency	Tooth Module [mm]	 Ratios code
							-	-	P	Q			
200	7	0.37	14	2.2	0.80	30	-	-	63	71	RD	2.2	01
140	10	0.37	20	1.5	0.57	30	-	-	B-C	-	79	2.2	02
100	14	0.37	27	1.1	0.41	30	-	-	B-C	-	77	2.4	03
67	21	0.37	36	1.2	0.43	41	-	-	B-C	-	67	1.6	04
50	28	0.25	31	1.3	0.33	41	-	-	B-C	-	65	2.5	05
38	37	0.25	40	1.0	0.26	41	-	-	B-C	-	63	1.8	06
30	46	0.25	46	0.9	0.22	41	-	-	B-C	-	59	1.5	07
23	60	0.18	41	1.0	0.18	41	-	-	B-C	-	56	1.2	08
20	70	0.12	31	1.0	0.12	30	-	-	B-C	-	54	1.0	09
13.7	102	0.09	31	1.0	0.09	29	-	-	B-C	-	49	0.72	10

* The nominal power should be reduced if the ambient temperature is $\geq 30^\circ\text{C}$, or when a cooler gearbox is required.

* Diminuire la potenza nominale in caso di temperatura ambiente $\geq 30^\circ\text{C}$ o se è richiesta una bassa temperatura di utilizzo del riduttore.

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 I45 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 I45 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 I45 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 I45 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 I45 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 I45 Oil Quantity 0.24 Lt.

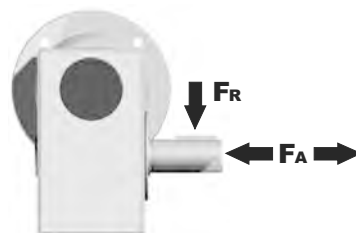
AGIP Telium VSF 320 SHELL Omala S4 WE 320

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

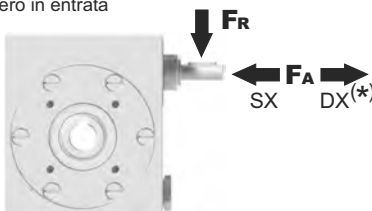
Albero di uscita



n_2 [min ⁻¹]	FA [N]	FR [N]
200	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

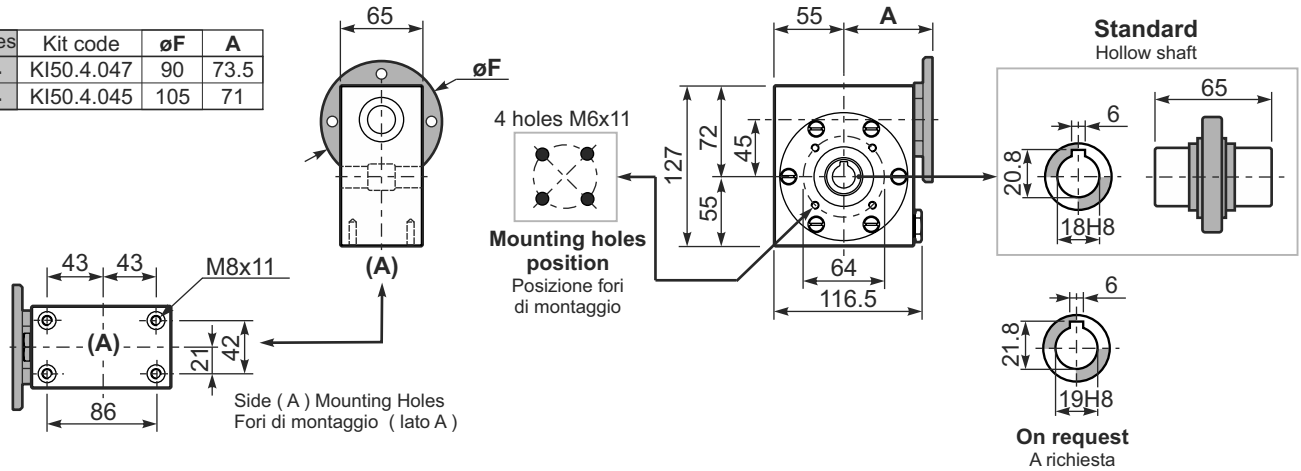
*Strong axial loads in the DX direction are not allowed.
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

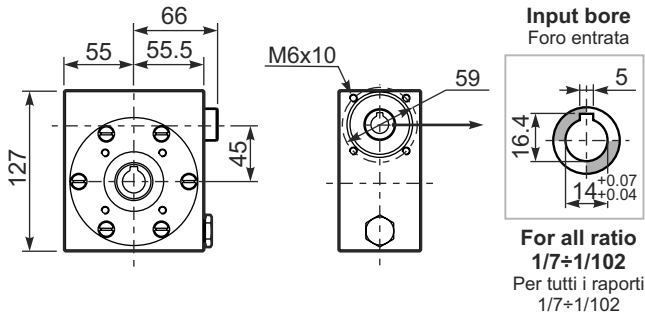
Gearbox weight
peso riduttore **5.0 kg**

PI45UN... Basic wormbox
Riduttore base

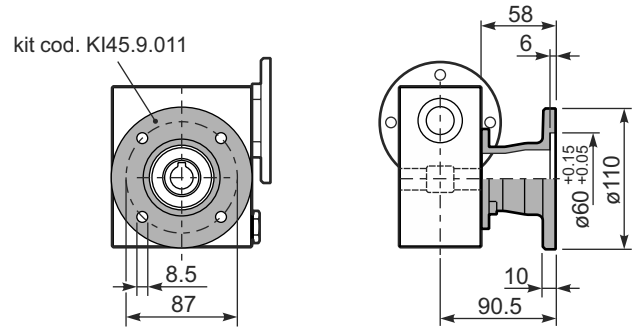
M. flanges	Kit code	øF	A
63B14	KI50.4.047	90	73.5
71B14	KI50.4.045	105	71



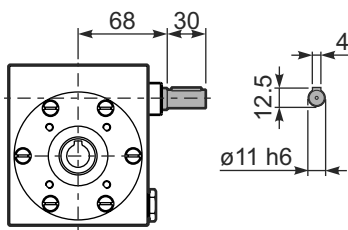
BI45UN... Modular base
Base modulare



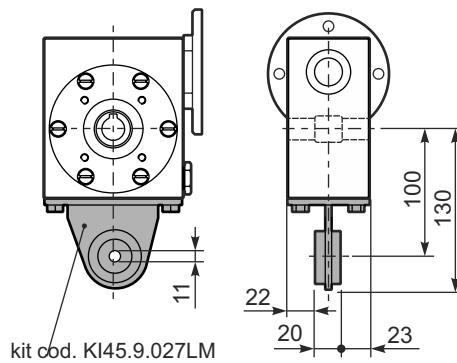
PI45FL... Output flange
Flangia uscita



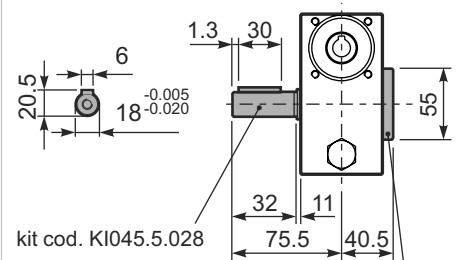
RI45UN... Input shaft
Albero in entrata



PI45BR... Reaction arm
Braccio di reazione



PI45.....S... Single Shaft
Albero lento semplice



kit cod. KI45.0.209
Protection cup (on request)
A richiesta coperchio di protezione



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_{12M} [Nm]	Service factor f.s.	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	B5 motor flanges not available		Available B14 motor flanges			Dynamic efficiency RD	Tooth Module [mm]	Ratios code
							-	-	P	Q	R			
200	7	0.75	29	1.9	1.5	57	-	-	B-C	B		82	2.5	01
140	10	0.75	41	1.5	1.1	62	-	-	B-C	B		80	2.4	02
100	14	0.75	57	1.2	0.90	68	-	-	B-C	B		79	2.6	03
78	18	0.55	51	1.2	0.67	62	-	-	B-C	B		75	2.0	04
54	26	0.55	67	1.0	0.54	66	-	-	B-C	B		69	2.7	05
47	30	0.55	79	0.9	0.50	72	-	-	B-C	B		70	2.5	12
39	36	0.37	63	1.2	0.43	72	-	-	B-C	B		69	2.1	06
33	43	0.37	72	1.0	0.35	68	-	-	B-C	B		66	1.8	07
23	60	0.25	59	1.0	0.26	62	-	-	B-C	B		58	1.3	08
21	68	0.25	66	0.9	0.22	58	-	-	B-C	B		57	1.2	09
17.5	80	0.18	53	1.1	0.19	57	-	-	B-C	B		54	1.0	10
14	100	0.12	41	1.3	0.15	51	-	-	B-C	B		50	0.8	11

* The nominal power should be reduced if the ambient temperature is $\geq 30^\circ\text{C}$, or when a cooler gearbox is required.

* Diminuire la potenza nominale in caso di temperatura ambiente $\geq 30^\circ\text{C}$ o se è richiesta una bassa temperatura di utilizzo del riduttore.

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 150 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 150 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 150 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 150 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 150 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 150 Oil Quantity 0.38 Lt

AGIP Telium VSF 320

SHELL Omala S4 WE 320

For all details on lubrication and plugs check our website

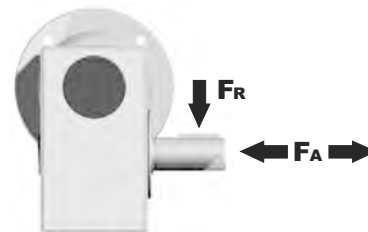
tab. 1

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

RADIAL AND AXIAL LOADS

Output shaft

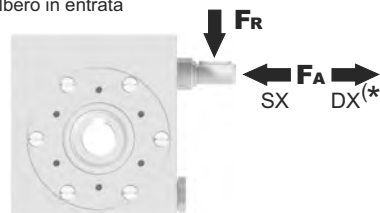
Albero di uscita



n_2 [min ⁻¹]	FA [N]	FR [N]
200	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

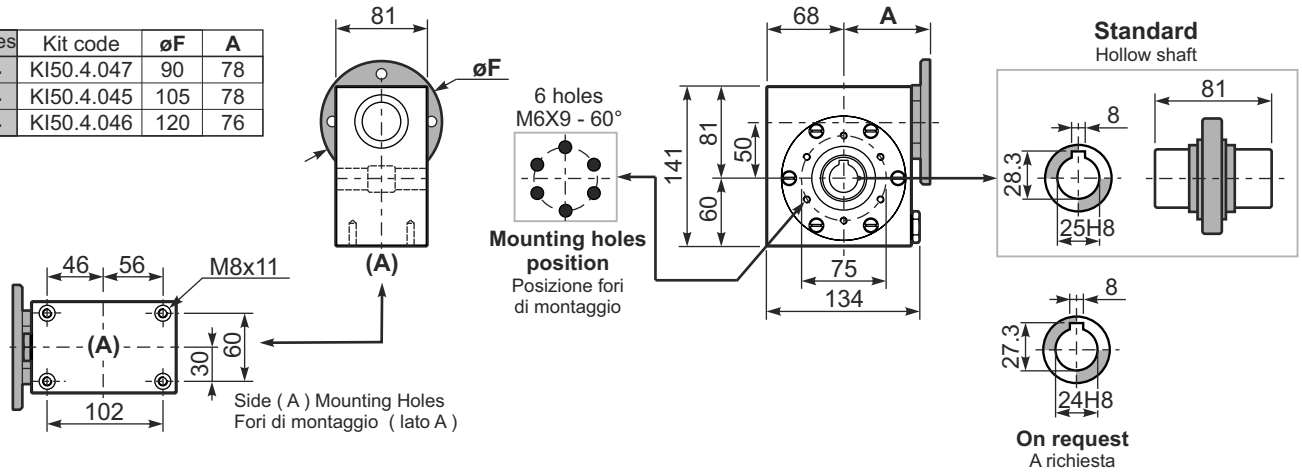
*Strong axial loads in the DX direction are not allowed.
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

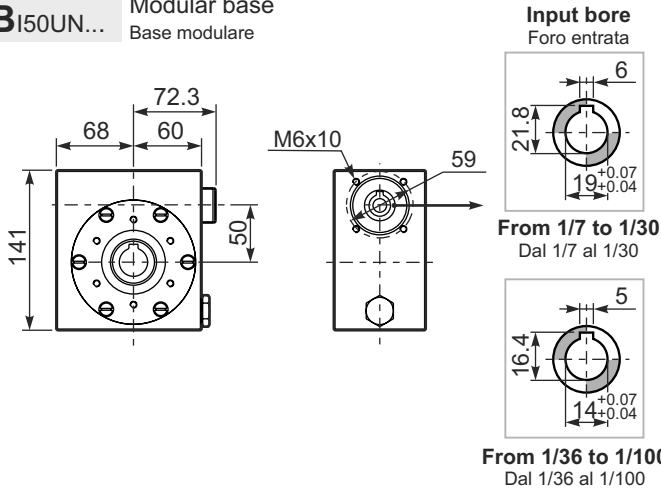
Gearbox weight **7.3 kg**
peso riduttore

PI50UN... Basic wormbox
Riduttore base

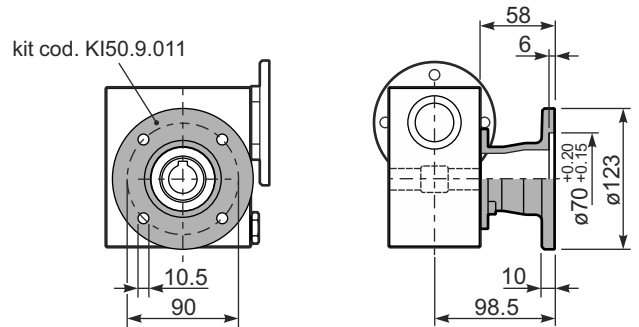
M. flanges	Kit code	øF	A
63B14	KI50.4.047	90	78
71B14	KI50.4.045	105	78
80B14	KI50.4.046	120	76



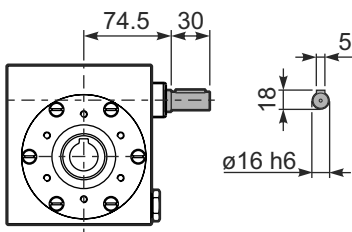
BI50UN... Modular base
Base modulare



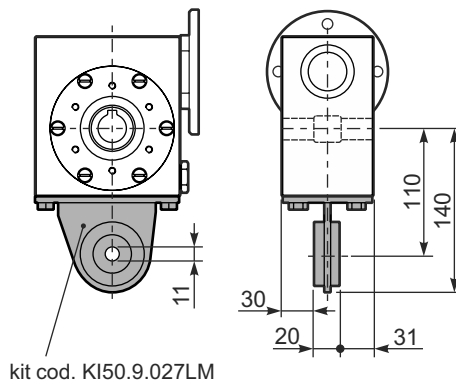
PI50FL... Output flange
Flangia uscita



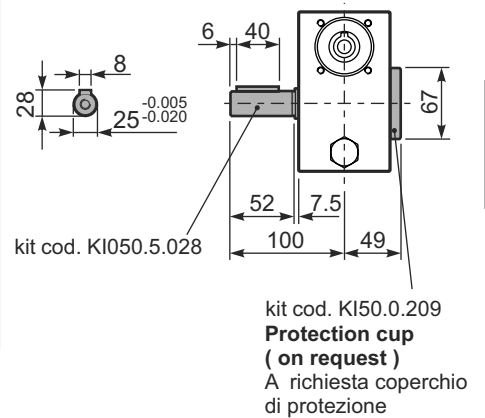
RI50UN... Input shaft
Albero in entrata



PI50BR... Reaction arm
Braccio di reazione



PI50.....S... Single Shaft
Albero lento semplice





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]	B5 motor flanges not available		Available B14 motor flanges			Dynamic efficiency RD	Tooth Module [mm]	 Ratios code
							-	-	Q	R	T			
200	7	1.8	71	1.8	3.2	125			B-C	B-C		83	3.1	01
140	10	1.8	99	1.4	2.4	134			B-C	B-C		81	3.1	02
93	15	1.5	121	1.1	1.7	138			B-C	B-C		79	3.1	03
74	19	1.1	111	1.2	1.4	138			B-C	B-C		78	2.6	04
58	24	1.1	135	1.0	1.2	142			B-C	B-C		75	2.0	05
47	30	1.1	167	0.9	0.96	146			B-C	B-C		74	3.2	06
39	36	0.75	125	1.2	0.88	147			B-C	B-C		68	2.7	07
31	45	0.55	111	1.2	0.67	135			B-C	C		66	2.1	08
21	67	0.55	151	0.8	0.45	124			B-C	C		60	1.5	09
17.5	80	0.37	115	1.0	0.38	119			B-C	C		57	1.3	10
14.9	94	0.37	123	1.0	0.36	119			B-C	C		52	1.1	11

* The nominal power should be reduced if the ambient temperature is $\geq 30^\circ\text{C}$, or when a cooler gearbox is required.

* Diminuire la potenza nominale in caso di temperatura ambiente $\geq 30^\circ\text{C}$ o se è richiesta una bassa temperatura di utilizzo del riduttore.

A Motor Flanges Available
Flange Motore Disponibili

B Supplied with Reduction Bushing
Fornito con Bussola di Riduzione

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

C Motor Flange Holes Position
Posizione Fori Flangia Motore

EN Unit I63 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 I63 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 I63 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 I63 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.

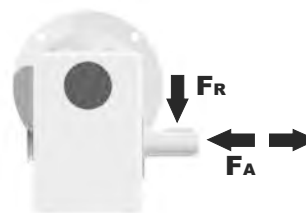
E El reductor tamaño I63 se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico. Ver tabla 1, para cantidades y aceites recomendados. En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

Standard	On request				
0.98 LT	0.69 LT	0.69 LT	0.98 LT	0.98 LT	0.98 LT
AGIP Telium VSF 320			SHELL Omala S4 WE 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

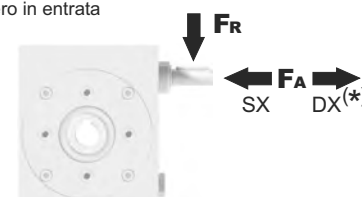
RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2	FA	FR
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

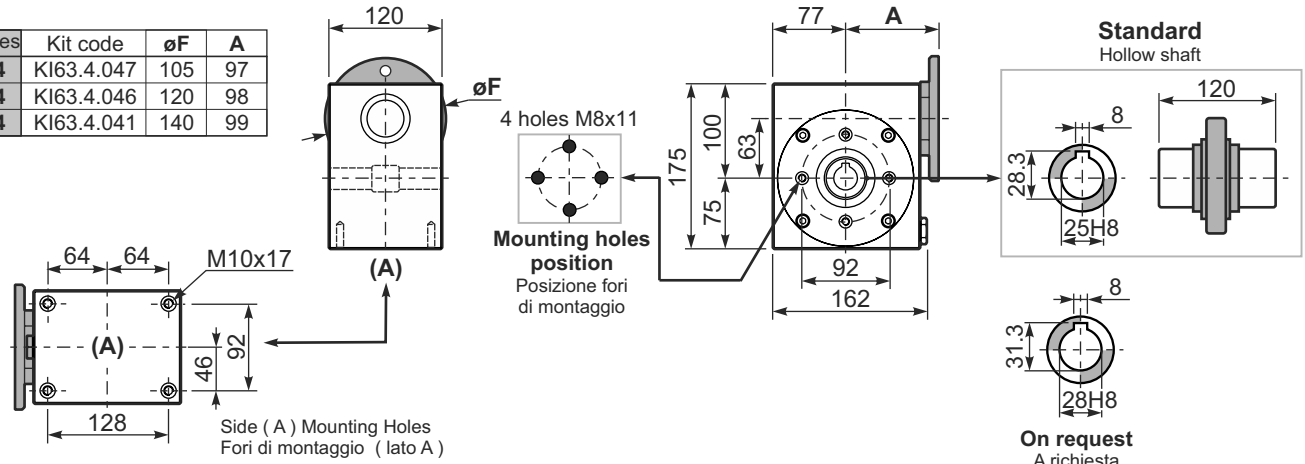
*Strong axial loads in the DX direction are not allowed.
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

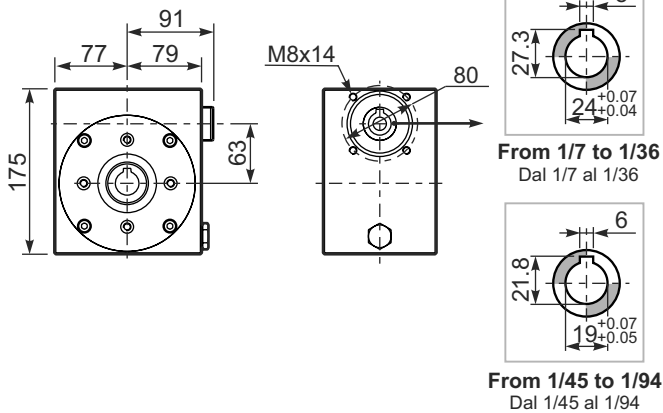
Gearbox weight
peso riduttore **14.6 kg**

PI63UN... Basic wormbox
Riduttore base

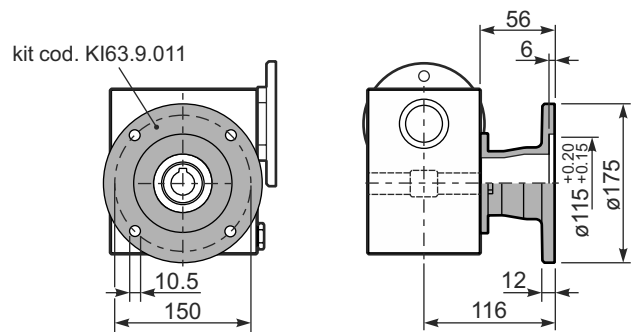
M. flanges	Kit code	øF	A
71B14	KI63.4.047	105	97
80B14	KI63.4.046	120	98
90B14	KI63.4.041	140	99



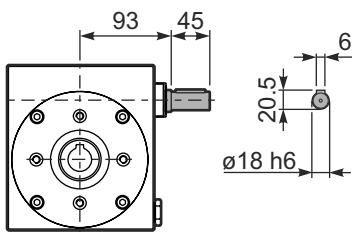
BI63UN... Modular base
Base modulare



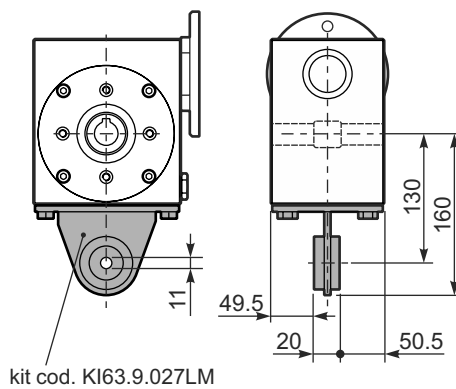
PI63FL... Output flange
Flangia uscita



RI63UN... Input shaft
Albero in entrata

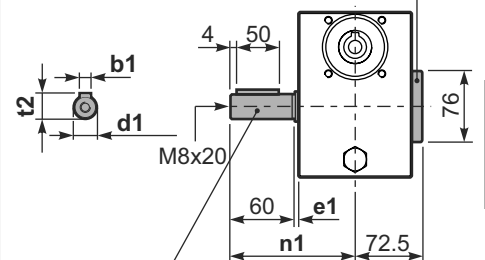


PI63BR... Reaction arm
Braccio di reazione



PI63.....S... Single Shaft
Albero lento semplice

kit cod. KI63.0.209
Protection cup (on request)
A richiesta coperchio di protezione



kit cod. KI063.5.028
kit cod. KI070.5.028 On request

	b1	e1	d1	n1	t2
Standard	8	3.2	25 ^{-0.005/-0.020}	121.9	28
On request	8	3.5	28 ^{-0.005/-0.020}	122.2	31



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		Available B14 motor flanges	Dynamic efficiency	Tooth Module [mm]	Ratios code
							D	E	U			
200	7	4.0	168	1.5	6.1	257	B	B		88	4.23	01
140	10	4.0	218	1.3	5.2	284	B	B		80	4.2	02
100	14	3.0	223	1.4	4.1	305	B	B		78	4.5	03
70	20	2.2	237	1.2	2.7	294	B	B		79	3.4	04
64	22	2.2	258	1.1	2.5	294	B	B		78	3.1	05
50	28	2.2	315	1.1	2.4	347	B	B		75	4.7	06
37	38	1.5	276	1.2	1.8	336	B	B		71	3.5	07
30	46	1.5	320	1.0	1.5	326	B	B		68	3.1	08
27	52	1.1	258	1.1	1.2	289	B	B		66	2.7	09
21	67	1.1	327	0.9	0.97	289	B	B		65	2.1	10
18.9	74	0.75	220	1.2	0.91	268	B	B		58	1.9	11
14.6	96	0.55	191	1.3	0.70	242	B	B		53	1.5	12

* The nominal power should be reduced if the ambient temperature is $\geq 30^\circ\text{C}$, or when a cooler gearbox is required.

* Diminuire la potenza nominale in caso di temperatura ambiente $\geq 30^\circ\text{C}$ o se è richiesta una bassa temperatura di utilizzo del riduttore.

Motor Flanges Available
Flange Motore Disponibili

Supplied with Reduction Bushing
Fornito con Bussola di Riduzione

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

Motor Flange Holes Position
Posizione Fori Flangia Motore

EN Unit **185** 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 **185** 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 **185** 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 **185** 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.

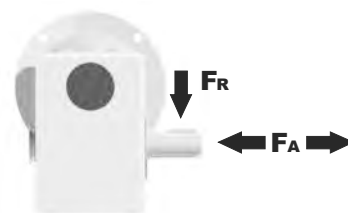
E El reductor tamaño **185** se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico. Ver tabla 1, para cantidades y aceites recomendados. En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

Standard			On request		
2.10 LT	1.50 LT	1.50LT	2.10 LT	2.10 LT	2.10 LT
AGIP Telium VSF 320			SHELL Omala S4 WE 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

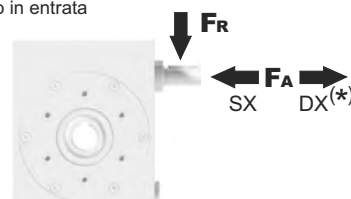
RADIAL AND AXIAL LOADS

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	160	809

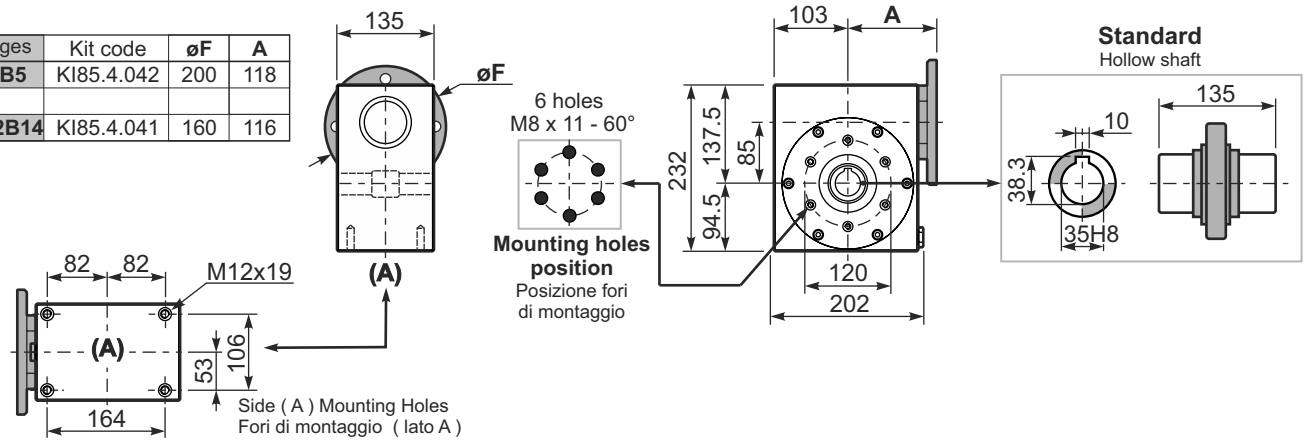
*Strong axial loads in the DX direction are not allowed.
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

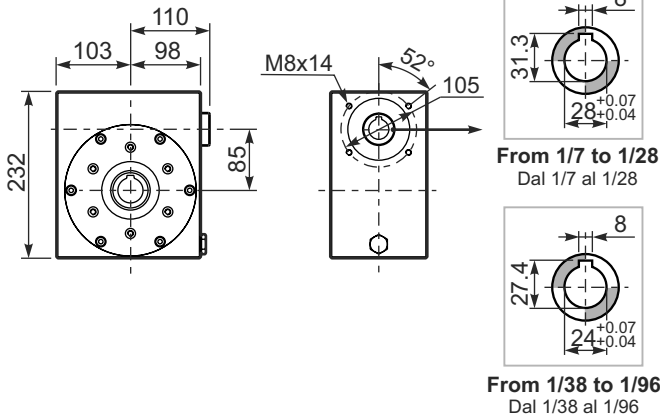
Gearbox weight **23.3 kg**
peso riduttore

PI85UN... Basic wormbox
Riduttore base

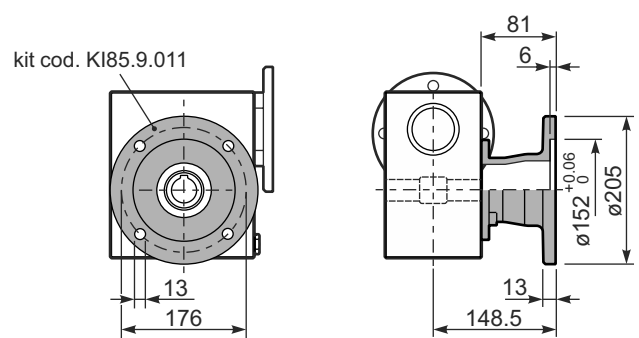
M. flanges	Kit code	øF	A
80-90B5	KI85.4.042	200	118
100-112B14	KI85.4.041	160	116



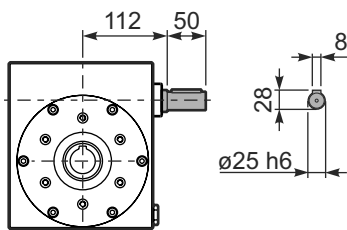
BI85UN... Modular base
Base modulare



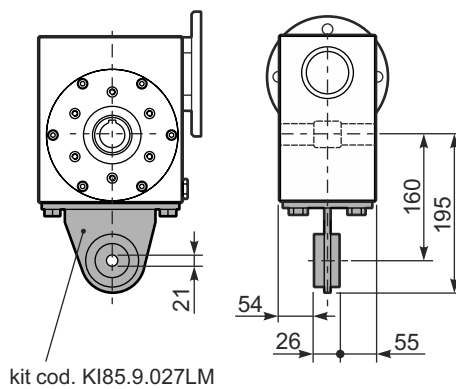
PI85FL... Output flange
Flangia uscita



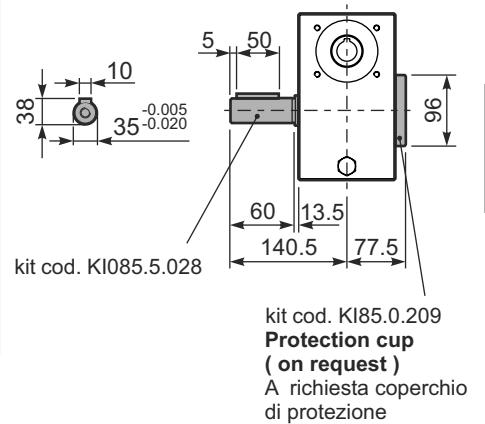
RI85UN... Input shaft
Albero in entrata



PI85BR... Reaction arm
Braccio di reazione



PI85.....S... Single Shaft
Albero lento semplice





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_{12M} [Nm]	Service factor f.s.	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	Available B5 motor flanges		Available B14 motor flanges	Dynamic efficiency	Tooth Module [mm]	 Ratios code
							D	E	U			
200	7	4.0	168	2.9	11.5	483	B	B		RD	5.5	01
140	10	4.0	235	2.2	9.0	525	B	B		RD	5.4	02
88	16	4.0	358	1.5	6.0	536	B	B		RD	5.3	03
70	20	4.0	447	1.2	4.9	546	B	B		RD	4.5	04
61	23	3.0	377	1.4	4.1	515	B	B		RD	3.9	05
47	30	3.0	467	1.4	4.2	651	B	B		RD	5.6	06
37	38	3.0	583	1.1	3.3	641	B	B		RD	4.7	07
31	45	2.2	493	1.2	2.7	599	B	B		RD	4.0	08
26	53	2.2	557	1.1	2.5	620	B	B		RD	3.5	09
22	64	1.5	452	1.2	1.8	536	B	B		RD	2.9	10
16.7	84	1.1	410	1.2	1.3	494	B	B		RD	2.2	11
14.1	99	1.1	446	1.1	1.2	483	B	B		RD	1.9	12

* The nominal power should be reduced if the ambient temperature is $\geq 30^\circ\text{C}$, or when a cooler gearbox is required.

* Diminuire la potenza nominale in caso di temperatura ambiente $\geq 30^\circ\text{C}$ o se è richiesta una bassa temperatura di utilizzo del riduttore.

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 I11 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 I11 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 I11 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 I11 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.

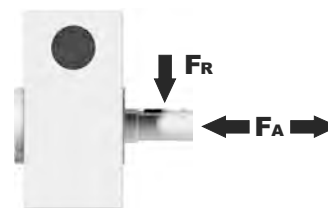
E El reductor tamaño I11 se suministra, lubricado de por vida con aceite sintético. Para las posiciones V5 y V6 contactar con nuestro servicio técnico. Ver tabla 1, para cantidades y aceites recomendados. En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

Standard			On request		
3.50 LT	2.50 LT	2.50 LT	2.10 LT	1.60 LT	1.60 LT
AGIP Telium VSF 320			SHELL Omala S4 WE 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

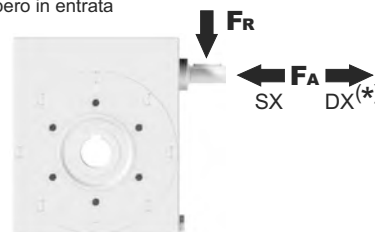
RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n_2 [min ⁻¹]	FA [N]	FR [N]
200	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

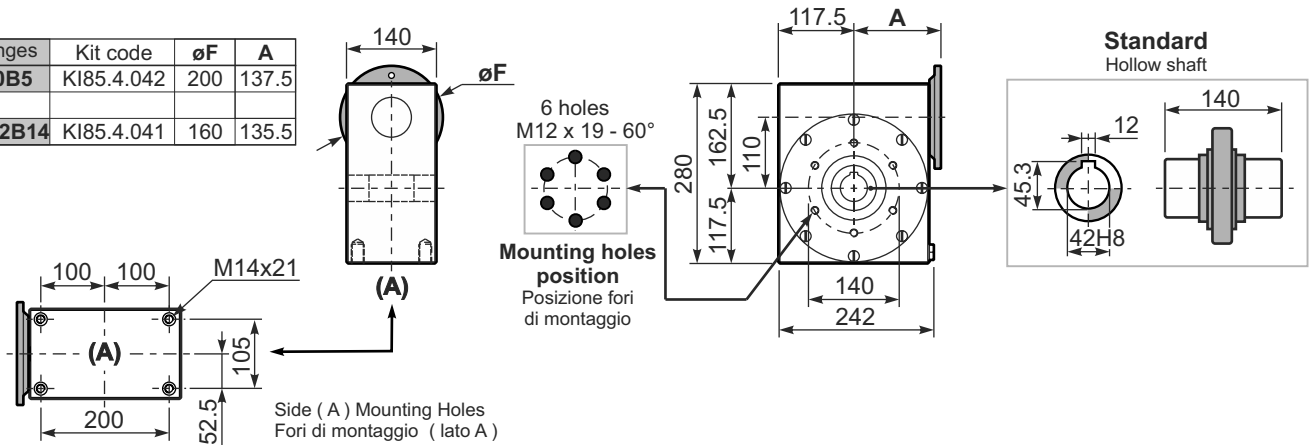
*Strong axial loads in the DX direction are not allowed.
Non sono consentiti forti carichi assiali con direzione DX

tab. 2

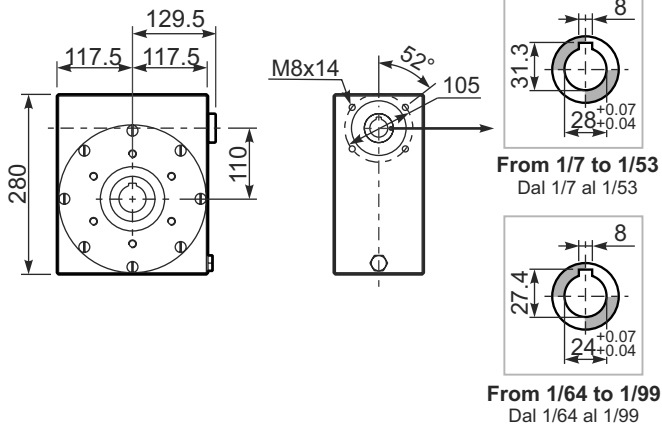
Gearbox weight
peso riduttore **38.5 kg**

PI11UN... Basic wormbox
Riduttore base

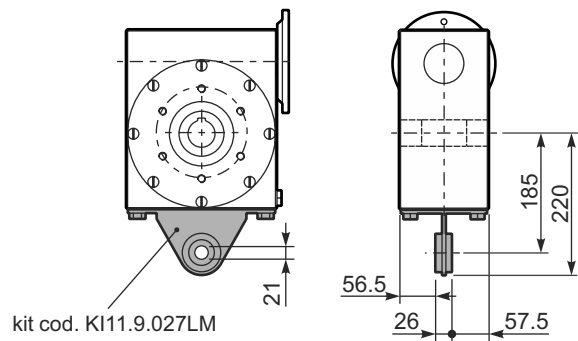
M. flanges	Kit code	øF	A
80-90B5	KI85.4.042	200	137.5
100-112B14	KI85.4.041	160	135.5



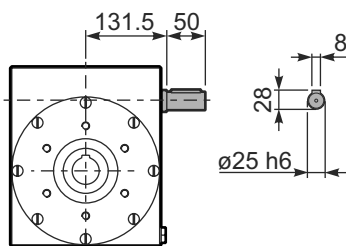
B111UN... Modular base
Base modulare



PI11BR... Reaction arm
Braccio di reazione

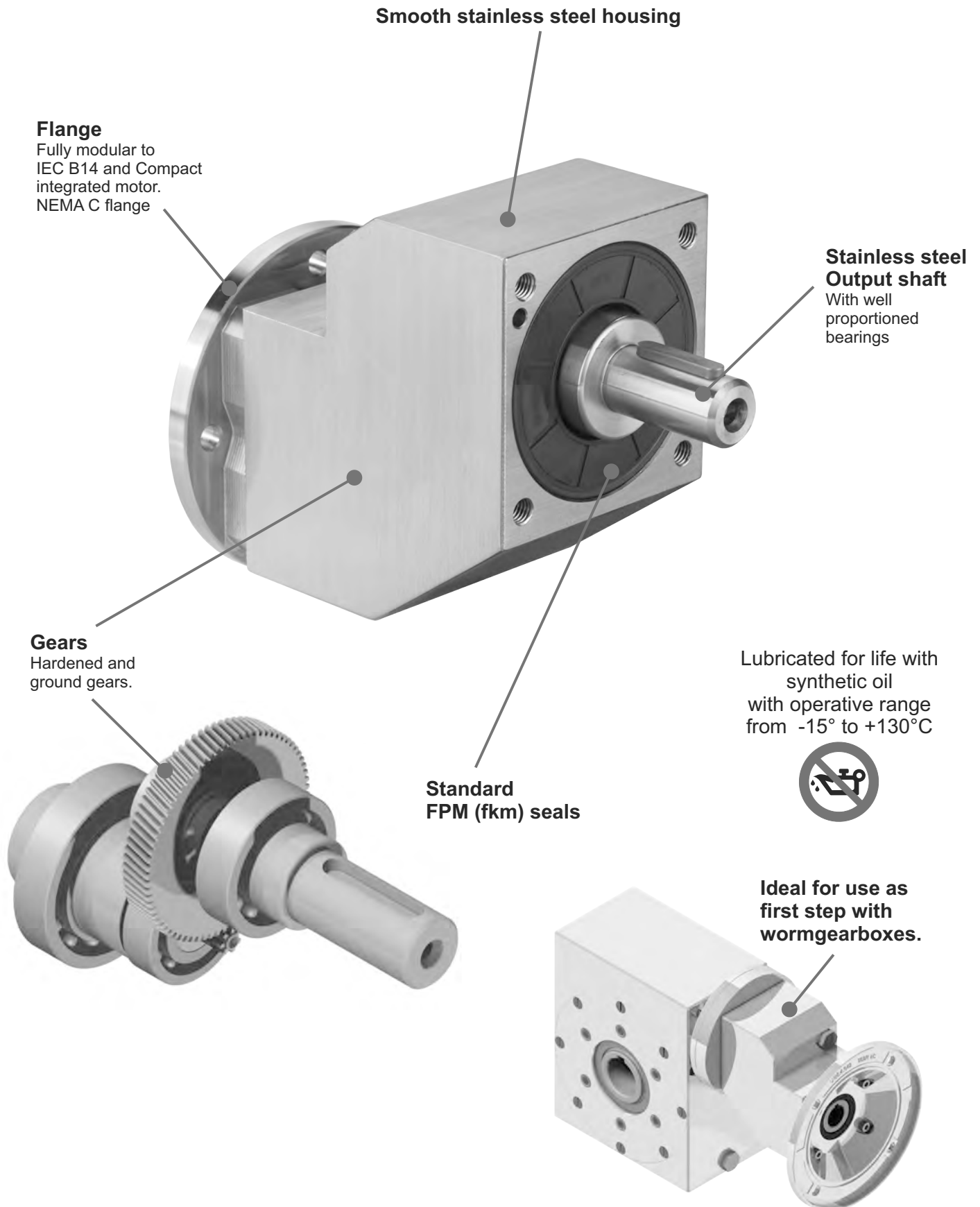


R111UN... Input shaft
Albero in entrata



Stainless steel one step gearboxes

A modular and compact product

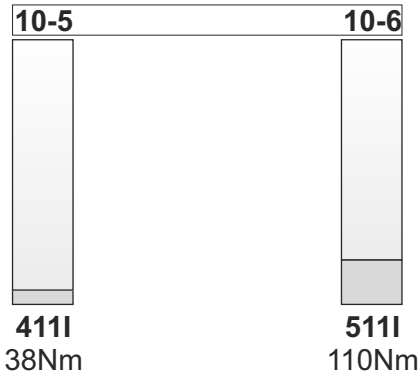


Specific type datasheet on page...

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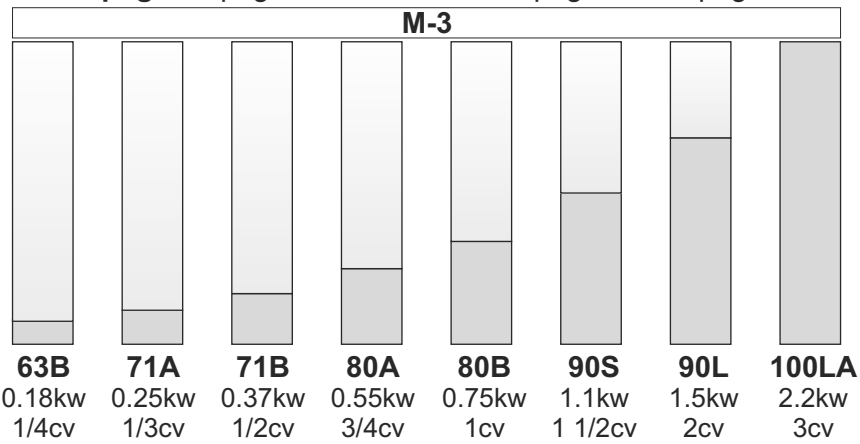
Types / Tipi /
Tipen / Types /
Tipos →



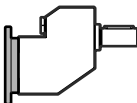
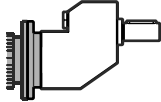
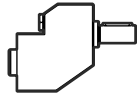
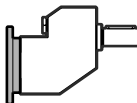
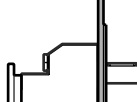
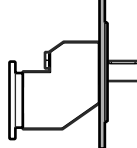
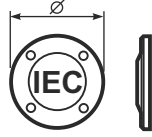
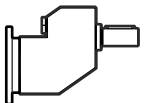
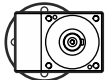
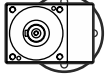
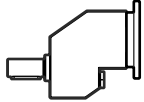
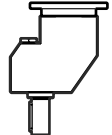
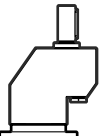
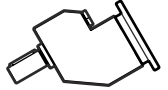
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Types / Tipi /
Tipen / Types /
Tipos →



CODIFICA / HOW TO ORDER / TYPENBEZEICHNUNGEN / CODIFICATION / CODIFICACIÓN

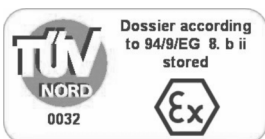
Type - Tipo Typ Type - Tipo	Size - Grandezza Grösse - Taille Tamaño	Mounting Montaggio Montage Fixation Tipo de montaje	Ratio - Rapporto Untersetzung Reduction Relación	Output shaft Albero lento Abtriebswelle Arbre de sortie Eje solida	Output flange Flangia uscita Ausgangsflansch Bride de sortie Brida en salida	Motor size Grandezza motore Motor Grösse Grandeur moteur Tamaño motor	Mounting position Posizione montaggio Einbaulage Position de montage Position de montaje
P	411I 511I	-F	1.57	C	4	-Q	B3
 P  M  B	<div style="border: 1px solid black; padding: 5px; text-align: center;"> 411I 511I </div>	 -N  -F	<p>See technical data table</p> <p>Vedi tabelle dati tecnici.</p> <p>Technisches Datenblatt beachten</p> <p>Voir Tableau données techniques</p> <p>Ver tabla datos técnicos</p>	<p>→ STANDARD</p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">411I</div> <p>C → ∅19</p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">511I</div> <p>G → ∅28</p>	 N Senza flangia Without flange <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">411I</div> <p>4 → ∅200</p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">511I</div> <p>5 → ∅250</p>	 <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">411I</div> <p>-Q 71B14 (∅105)</p> <p>-R 80B14 (∅120)</p> <p>-T 90B14 (∅140)</p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">511I</div> <p>-D 80B5 (∅200)</p> <p>-E 90B5 (∅200)</p> <p>-U 100-112 B14 (∅160)</p> <p>Without flange Senza flangia</p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">411I</div> <p>-1 ⇒ ∅14 (71B5)</p> <p>-2 ⇒ ∅19 (80B5)</p> <p>-3 ⇒ ∅24 (90B5)</p> <div style="border: 1px solid black; padding: 2px; margin-bottom: 5px;">511I</div> <p>-2 ⇒ ∅19 (80B5)</p> <p>-3 ⇒ ∅24 (90B5)</p> <p>-4 ⇒ ∅28 (100B5)</p>	 B3 STANDARD  B6  B7  B8  V5  V6  V8

On request

B Food lube

- B3 is supplied with standard oil quantity

- Please specify in the order if you required other mounting positions



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.

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

Lifting / sollevamento / hubantriebe / levage / elevación

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

Rotation / rotazione / drehung / rotation / rotacion

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

Linear movement / traslazione / linearbewegung / translation / translacion

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

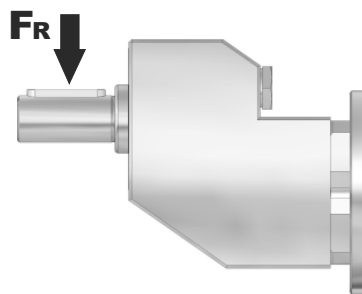
TORQUE / COPPIA / DREHMOMENT / COUPLE / PAR

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

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

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

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



	$F_R [N] = \frac{M [Nm] \cdot 2000}{d [mm]} \cdot f_k$	$F_R [N] = \frac{M [lb in] \cdot 8.9}{d [in]} \cdot f_k$
M	Momento torcente / Output torque / Abtriebsdrehmoment / Couple / Par torsion	
d	Diametro primitivo / Diam. of driving element / Durchmesser der Abtriebseinheit / Diamètre primitif / Diámetro primitivo	
f_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.

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

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

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

4111 One step **38Nm**

Rating - Stainless ONE STEP GEARBOXES

QUICK SELECTION / Selezione veloce input speed (n₁) = 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]	B5 motor flanges not available				Available B14 motor flanges			Output Shaft Ø	Notes Ratios code
							-	-	-	-	Q	R	T		
892	1.57	1.5	15.7	1.3	1.90	20	-	-	-	-	C	C		2844	01
493	2.84	1.5	28.4	1.2	1.84	35	-	-	-	-	C	C		1954	02
426	3.29	1.5	32.9	1.2	1.73	38	-	-	-	-	C	C		1756	03
362	3.87	1.5	38.7	1.0	1.54	40	-	-	-	-	C	C		1558	04

C Ratio
Rapporto
Untersetzung
Rapport de réduction
Relación

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

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

Output shaft diam.
Diam. albero uscita
Durchmesser abtriebswelle
Diametre arbre lent
Diametro eje de salida

Notes
Note
Anmerkungen
Note
Notas

fs

Type of load and starts per hour Tipo di carico e avviamenti per ora		Oper. hours per day Ore di funz. giorn.		
		3 h	10 h	24 h
Continuous or intermittent appl. with start / hour Applicazione cont. o interm. con n.ro operazioni/ora	Uniform / Uniforme	0.8	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	Uniform / Uniforme	1	1.25	1.5
	Moderate / Moderato	1.25	1.5	1.75
	Heavy / Forte	1.5	1.75	2.15

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/-socket
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 también 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 output 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]	B5 motor flanges not available				Available B14 motor flanges			Output Shaft 	Ratios code
							-	-	-	-	Q	R	T		
891	1.57	1.5	16	1.3	1.9	20	-	-	-	-	71	80	90	standard ø19	01
493	2.84	1.5	28	1.2	1.8	35	-	-	-	-	-	-	2844		02
425	3.29	1.5	33	1.2	1.7	38	-	-	-	-	-	-	1954		03
362	3.87	1.5	39	1.0	1.5	40	-	-	-	-	-	-	1756		04
303	4.62	1.5	46	1.0	1.5	47	-	-	-	-	-	-	1558		05
222	6.30	1.1	46	1.0	1.1	46	-	-	-	-	-	-	1360		06
170	8.22	0.55	30	1.3	0.69	38	-	-	-	-	-	-	1063		07
129	10.86	0.37	27	1.0	0.39	28	-	-	-	-	-	-	974		08
							-	-	-	-	-	-	776		

The dynamic efficiency is **0.98** for all ratios

* The nominal power should be reduced if the ambient temperature is $\geq 30^\circ\text{C}$, or when a cooler gearbox is required.

* Diminuire la potenza nominale in caso di temperatura ambiente $\geq 30^\circ\text{C}$ o se è richiesta una bassa temperatura di utilizzo del riduttore.

- 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 4111 is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.

I Il riduttore 4111 viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.

D Das Getriebe 4111 ist mit synthetischem Öl gefüllt und ist lebensdauer geschmiert.

F Le réducteur 4111 est fourni complet avec de l'huile synthétique pour la lubrification permanente et ne nécessite aucun entretien.

E El reductor tamaño 4111 se suministra, lubricado de por vida con aceite sintético y no requieren mantenimiento alguna.

LUBRICATION 4111 Oil Quantity 0.14 Lt.

AGIP Telium VSF 320

SHELL Omala S4 WE 320

For all details on lubrication and plugs check our website

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

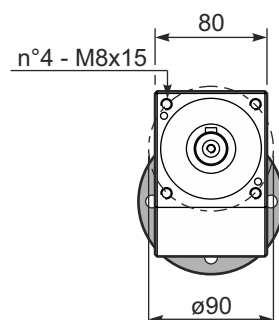
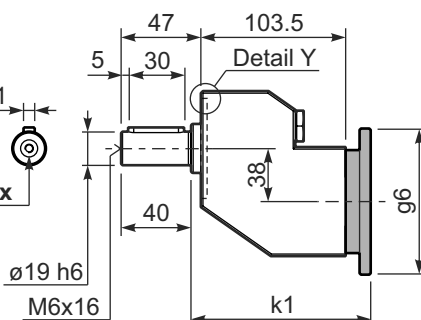
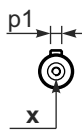
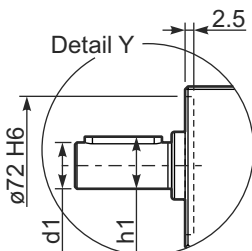
Output shaft / Albero di uscita

$F_{eq} = F_R \cdot \frac{48.5}{x + 28.5}$

n_2	FA	FR	n_2	FA	FR	n_2	FA	FR
700	182	910	400	230	1150	200	290	1450
600	100	1000	300	250	1250	140	320	1600

P4111-N... Basic gearbox
Riduttore base

Gearbox weight
peso riduttore **5.5 kg**



Output shafts / albero di uscita

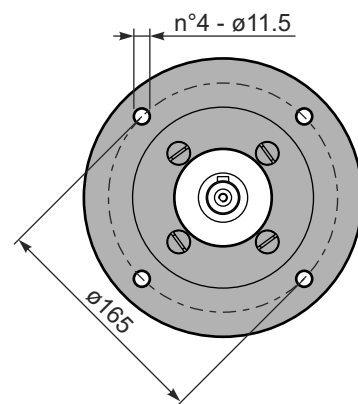
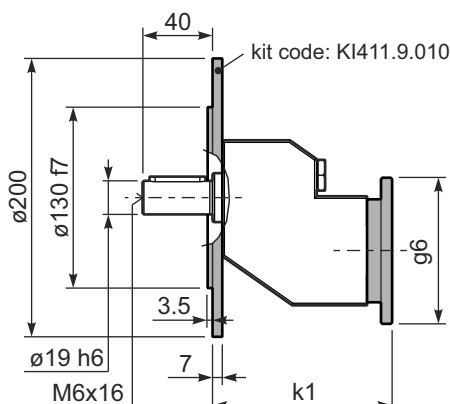
	Shaft - d1	p1	h1	x
Standard	ø19x40	6	21.5	M6x16

10

P4111-F... Output flange
flangia di uscita

Input flanges / flange di entrata

	k1	g6	kit code
71 B14	128.5	105	KI63.4.047
80 B14	129.5	120	KI63.4.046
90 B14	130.5	140	KI63.4.041





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		Available B14 motor flanges	Output Shaft	
							D	E	U		
1077	1.30	4	34	1.2	4.6	40	80	90	100 - 112	standard ø28	01
571	2.45	4	64	1.1	4.3	70					02
423	3.31	4	87	1.0	4.1	90					03
325	4.31	4	113	1.0	3.8	110					04
266	5.27	3	104	1.1	3.1	110					05
184	7.63	2.2	111	1.0	2.2	110					06
133	10.50	1.1	77	1.0	1.1	80					07

The dynamic efficiency is **0.98** for all ratios

* The nominal power should be reduced if the ambient temperature is $\geq 30^\circ\text{C}$, or when a cooler gearbox is required.

* Diminuire la potenza nominale in caso di temperatura ambiente $\geq 30^\circ\text{C}$ o se è richiesta una bassa temperatura di utilizzo del riduttore.

A) Motor Flanges Available
Flange Motore Disponibili

B) Supplied with Reduction Bushing
Fornito con Bussola di Riduzione

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

C) Motor Flange Holes Position
Posizione Fori Flangia Motore

EN Unit 5111 is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.

I Il riduttore 5111 viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.

D Das Getriebe 5111 ist mit synthetischem Öl gefüllt und ist lebensdauergeschmiert.

F Le réducteur 5111 est fourni complet avec de l'huile synthétique pour la lubrification permanente et ne nécessite aucun entretien.

E El reductor tamaño 5111 se suministra, lubricado de por vida con aceite sintético y no requieren mantenimiento alguna.

LUBRICATION 5111 Oil Quantity 0.45 Lt.

AGIP Telium VSF 320

SHELL Omala S4 WE 320

For all details on lubrication and plugs check our website

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

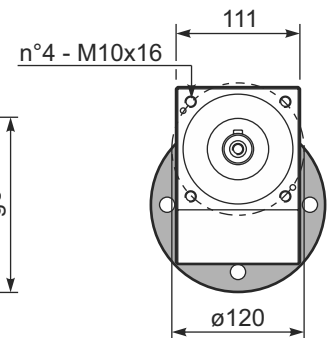
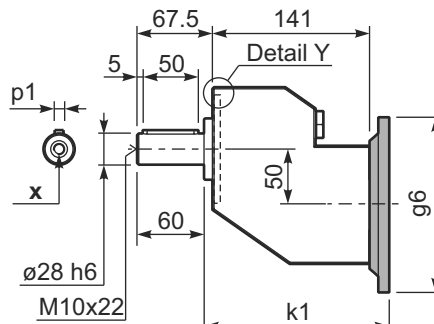
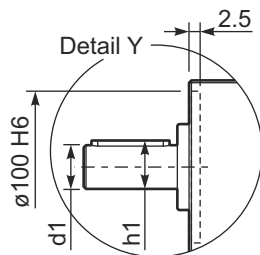
Output shaft / Albero di uscita

F_R (N) F_A (N) F_{eq} (N) $F_{eq} = F_R \cdot \frac{65.5}{X+35.5}$

n_2	FA	FR	n_2	FA	FR	n_2	FA	FR
700	294	1470	400	370	1850	200	460	2300
600	320	1600	300	400	2000	140	510	2550

P5111-N... Basic gearbox
Riduttore base

Gearbox weight
peso riduttore **12.0 kg**



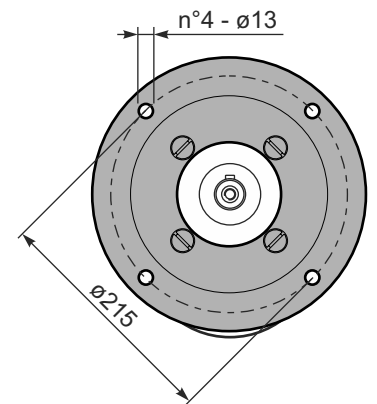
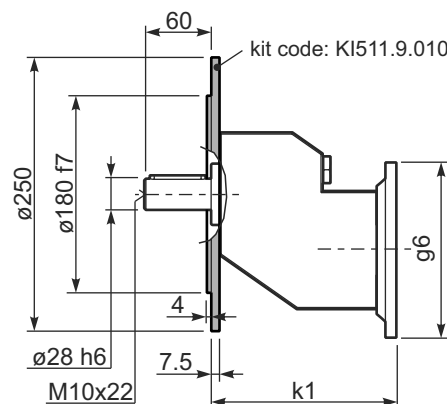
Output shafts / albero di uscita

	Shaft - d1	p1	h1	x
Standard	ø 28x60	8	31	M10x22

P5111-F... Output flange
flangia di uscita

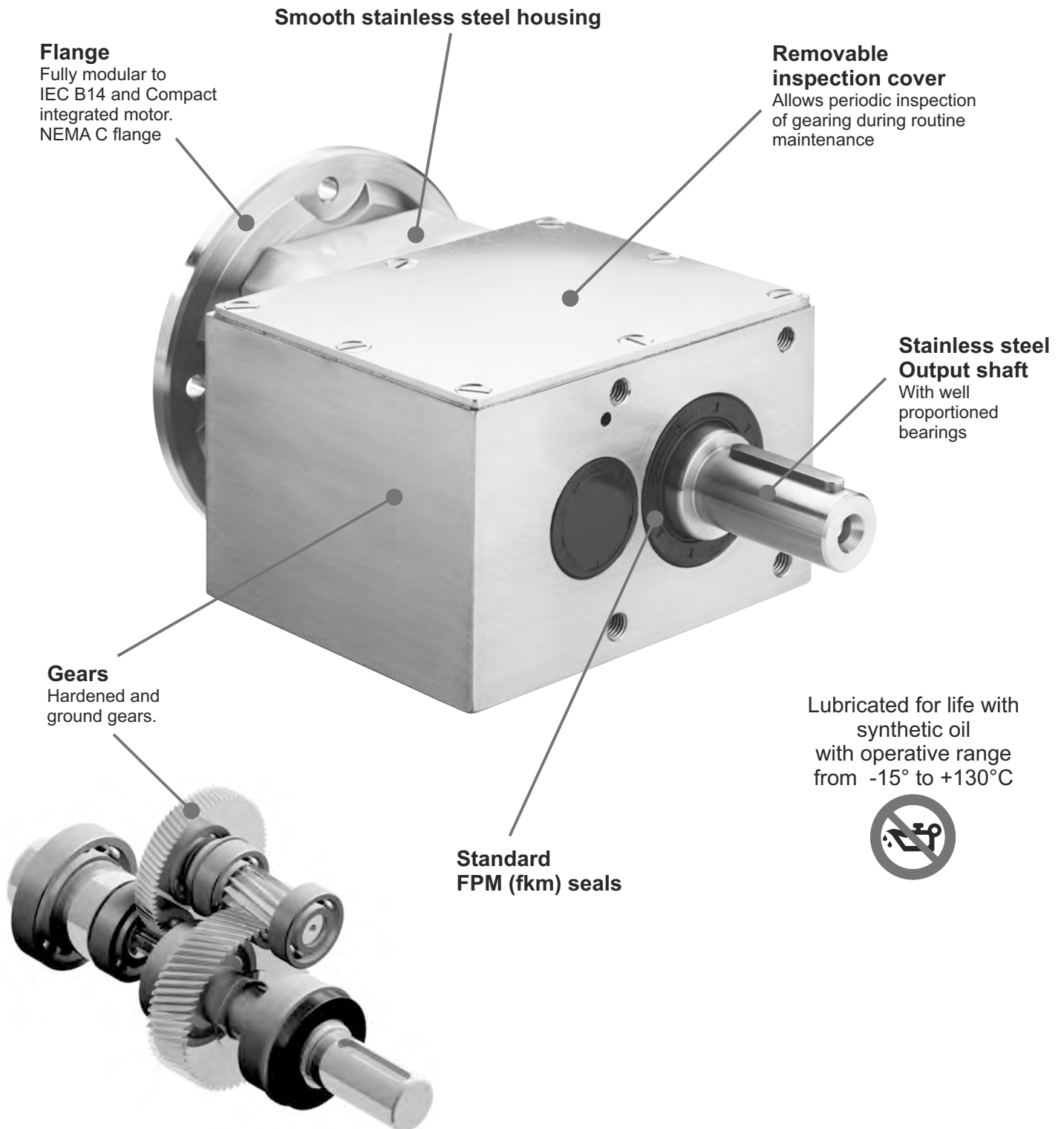
Input flanges / flange di entrata

	k1	g6	kit code
80-90B14	168.5	200	KI85.4.042
100-112B14	166.5	160	KI85.4.041



Stainless steel in line gearboxes

A modular and compact product

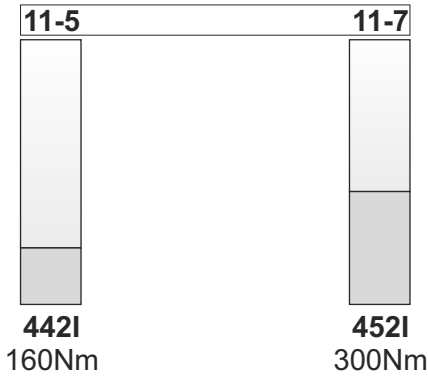


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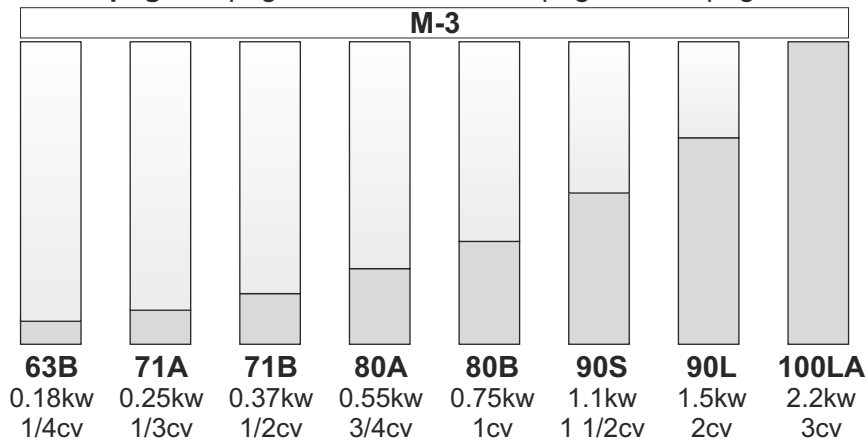
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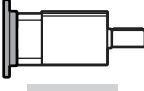
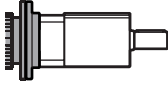

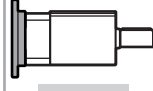
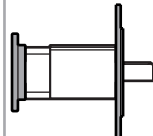
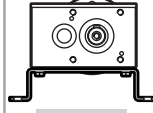
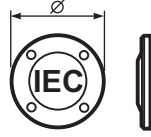
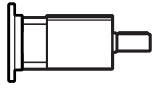


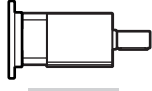
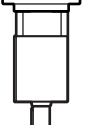
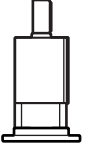
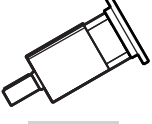


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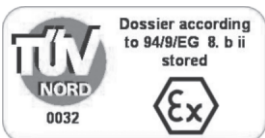
Type - Tipo Typ Type - Tipo	Size - Grandezza Grösse - Taille Tamaño	Mounting Montaggio Montage Fixation Tipo de montaje	Ratio - Rapporto Untersetzung Reduction Relación	Output shaft Albero lento Abtriebswelle Arbre de sortie Eje solida	Output flange Flangia uscita Ausgangsflansch Bride de sortie Brida en salida	Motor size Grandezza motore Motor Grösse Grandeur moteur Tamaño motor	Mounting position Posizione montaggio Einbaulage Position de montage Position de montaje
P	442I 452I	-F	3.52	E	4	-Q	B3
 P  M  B	<p>442I 452I</p>	 -N  -F  H.. You see feet code in the chart of the dimensions Vedi codice piede nella tabella delle dimensioni	<p>See technical data table</p> <p>Vedi tabelle dati tecnici.</p> <p>Technisches Datenblatt beachten</p> <p>Voir Tableau données techniques</p> <p>Ver tabla datos técnicos</p>	<p>→ STANDARD</p> <p>442I E → ø24</p> <p>452I G → ø28</p>	<p>N Senza flangia Without flange</p> <p>442I 4 → ø200</p> <p>452I 5 → ø250</p>	 <p>442I</p> <p>-Q 71B14 (ø105) -R 80B14 (ø120) -T 90B14 (ø140)</p> <p>452I</p> <p>-D 80B5 (ø200) -E 90B5 (ø200) -U 100-112 B14 (ø160)</p> <p>Without flange Senza flangia</p> <p>442I</p> <p>-1 ⇒ ø14 (71B5) -2 ⇒ ø19 (80B5) -3 ⇒ ø24 (90B5)</p> <p>452I</p> <p>-2 ⇒ ø19 (80B5) -3 ⇒ ø24 (90B5) -4 ⇒ ø28 (100B5)</p>	 B3 STANDARD  B6  B7  B8  V5  V6  V8

On request

B Food lube

- B3 is supplied with standard oil quantity

- Please specify in the order if you required other mounting positions



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.

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

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

Rotation / rotazione / drehung / rotation / rotation $P [KW] = \frac{M [Nm] \cdot n [rpm]}{9550}$

Linear movement / traslazione / linearbewegung / translation / translacion $P [KW] = \frac{F [N] \cdot v [m / s]}{1000}$

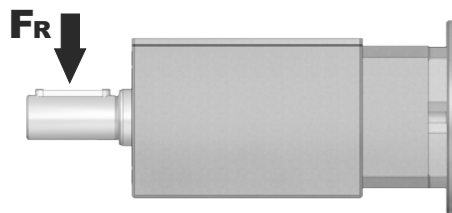
TORQUE / COPPIA / DREHMOMENT / COUPLE / PAR

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

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

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

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

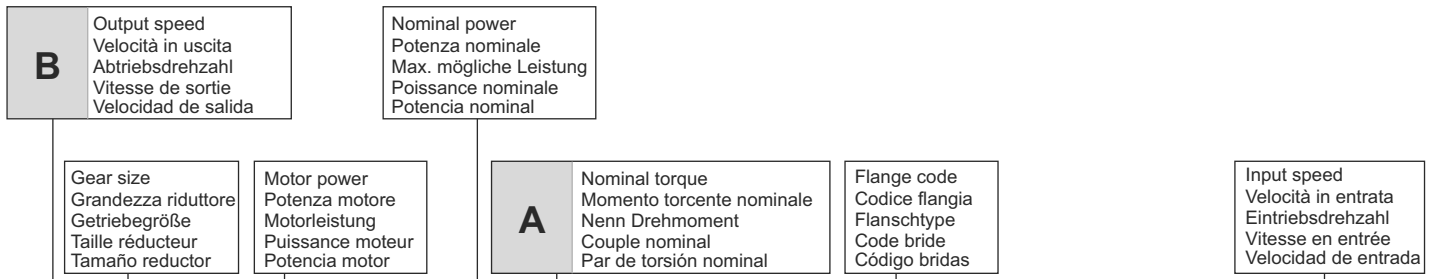


	$F_R [N] = \frac{M [Nm] \cdot 2000}{d [mm]} \cdot f_k$	$F_R [N] = \frac{M [lb in] \cdot 8.9}{d [in]} \cdot f_k$
M	Momento torcente / Output torque / Abtriebsdrehmoment / Couple / Par torsion	
d	Diametro primitivo / Diam. of driving element / Durchmesser der Abtriebseinheit / Diamètre primitif / Diámetro primitivo	
f_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	

11

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

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



4421 Coaxial - Gear
160Nm

Rating - Stainlesssteel COAXIAL GEARBOXES



QUICK SELECTION / Selezione veloce input speed (n₁) = 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]	B5 motor flanges not available				Available B14 motor flanges				Output Shaft		
							-	-	-	-	Q	R	T	-			
398	3.52	1.5	35	2.3	3.5	80	-	-	-	-	C	C	-	-	2821	standard ø24	01
320	4.37	1.5	43	2.1	3.2	90	-	-	-	-	C	C	-	2818	02		
252	5.55	1.5	55	1.8	2.8	100	-	-	-	-	C	C	-	2813	03		
220	6.36	1.5	62	1.5	2.3	95	-	-	-	-	C	C	-	1921	04		

C Ratio
Rapporto
Untersetzung
Rapport de réduction
Relación

Output shaft diam.
Diam. albero uscita
Durchmesser abtriebswelle
Diametre arbre lent
Diametro eje de salida

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.		
		3 h	10 h	24 h
Continuous or intermittent appl. with start / hour Applicazione cont. o interm. con n.ro operazioni/ora	Uniform / Uniforme	0.8	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	Uniform / Uniforme	1	1.25	1.5
	Moderate / Moderato	1.25	1.5	1.75
	Heavy / Forte	1.5	1.75	2.15

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/-socket
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 output 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 (n₁) = 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]	B5 motor flanges not available				Available B14 motor flanges				Output Shaft		
							-	-	-	-	Q	R	T	-			Ratio code
398	3.52	1.5	35	2.3	3.5	80	-	-	-	-	C	C	-	-	2821	standard ø24	01
320	4.37	1.5	43	2.1	3.2	90	-	-	-	-	C	C	-	-	2818		02
252	5.55	1.5	55	1.8	2.8	100	-	-	-	-	C	C	-	-	2813		03
220	6.36	1.5	62	1.5	2.3	95	-	-	-	-	C	C	-	-	1921		04
191	7.33	1.5	72	1.7	2.5	120	-	-	-	-	C	C	-	-	2812		05
177	7.89	1.5	77	1.6	2.3	120	-	-	-	-	C	C	-	-	1918		06
139	10.06	1.5	99	1.5	2.3	150	-	-	-	-	C	C	-	-	1913		07
120	11.66	1.5	114	1.5	2.3	174	-	-	-	-	C	C	-	-	1713		08
106	13.26	1.5	130	1.2	1.8	160	-	-	-	-	C	C	-	-	1912		09
102	13.68	1.5	134	1.1	1.6	144	-	-	-	-	C	C	-	-	1513		10
91	15.37	1.5	151	1.1	1.6	160	-	-	-	-	C	C	-	-	1712		11
86	16.20	1.5	159	0.9	1.3	138	-	-	-	-	C	C	-	-	1910		12
78	18.04	1.5	177	0.9	1.4	160	-	-	-	-	C	C	-	-	1512		13
74	18.80	1.1	135	1.0	1.1	138	-	-	-	-	C	C	-	-	1710		14
65	21.54	1.1	155	1.0	1.1	160	-	-	-	-	C	C	-	-	1312		15
63	22.29	1.1	161	1.0	1.1	167	-	-	-	-	C	C	-	-	1013		16
53	26.30	0.75	129	1.1	0.80	138	-	-	-	-	C	C	-	-	1310		17
47.6	29.40	0.75	144	1.1	0.83	160	-	-	-	-	C	C	-	-	1012		18
39	35.91	0.55	129	1.1	0.59	138	-	-	-	-	C	C	-	-	1010		19
36.5	38.37	0.55	138	1.2	0.64	160	-	-	-	-	C	C	-	-	912		20
29.9	46.86	0.55	169	0.8	0.45	138	-	-	-	-	C	C	-	-	910		21
27.6	50.67	0.37	123	1.1	0.40	132	-	-	-	-	C	C	-	-	712		22
22.6	61.88	0.37	150	0.9	0.34	138	-	-	-	-	C	C	-	-	710		23

The dynamic efficiency is **0.96** for all ratios
 * The nominal power should be reduced if the ambient temperature is ≥ 30°C, or when a cooler gearbox is required.
 * Diminuire la potenza nominale in caso di temperatura ambiente ≥ 30°C o se è richiesta una bassa temperatura di utilizzo del riduttore.

Motor Flanges Available
 Flange Motore Disponibili

Supplied with Reduction Bushing
 Fornito con Bussola di Riduzione

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

Motor Flange Holes Position
 Posizione Fori Flangia Motore

EN Unit 4421 is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary. 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 4421 viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione. Vedi tab.1 per oli e quantità consigliati. In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

D Das Getriebe 4421 ist mit synthetischem Öl gefüllt und ist lebensdauer geschmiert. 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 4421 est fourni complet avec de l'huile synthétique pour la lubrification permanente et ne nécessite aucun entretien. 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 4421 se suministra, lubricado de por vida con aceite sintético y no requieren mantenimiento alguna. Ver tabla 1, para cantidades y aceites recomendados. En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

Standard supplied	For these mounting position specify in the order or add oil					
	Per queste posizioni specificare in fase d'ordine o aggiungere olio					
0.35 LT	0.55 LT	0.55 LT	0.55 LT	0.75 LT	0.60 LT	Ask

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

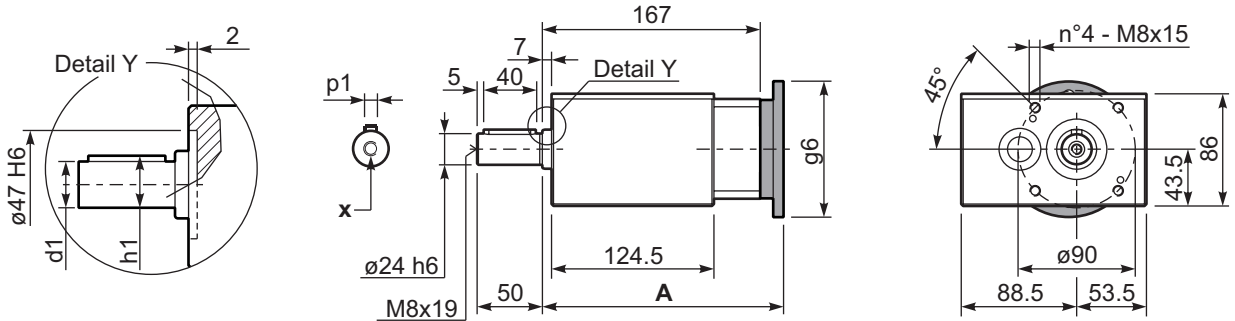
$F_{eq} = FR \cdot \frac{49}{X+24}$

n ₂	FA	FR	n ₂	FA	FR	n ₂	FA	FR
300	310	1550	140	406	2030	70	540	2700
250	330	1650	120	448	2240	40	600	3000
200	360	1800	85	480	2400	15	600	3000

tab. 2

P442I-N... Basic gearbox
Riduttore base

Gearbox weight With flange **9.9 kg**
peso riduttore With feet **9.2 Kg**

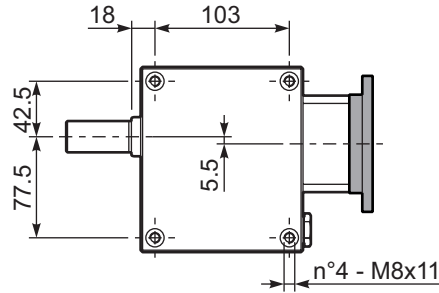


Output shafts / albero di uscita

	Shaft - d1	p1	h1	x
Standard	ø 24x50	8	27	M8x19

Input flanges / flange di entrata

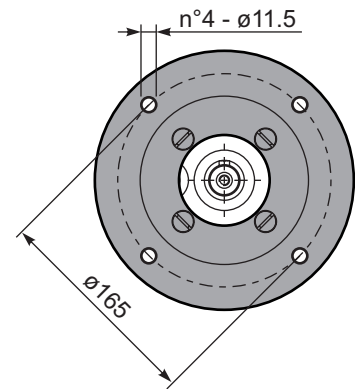
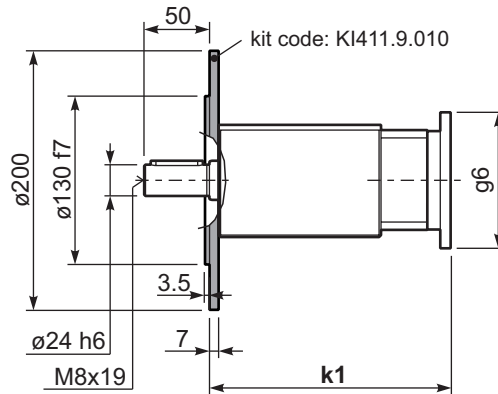
	A	g6	kit code
71 B14	185	105	KI63.4.047
80 B14	186	120	KI63.4.046
90 B14	187	140	KI63.4.041



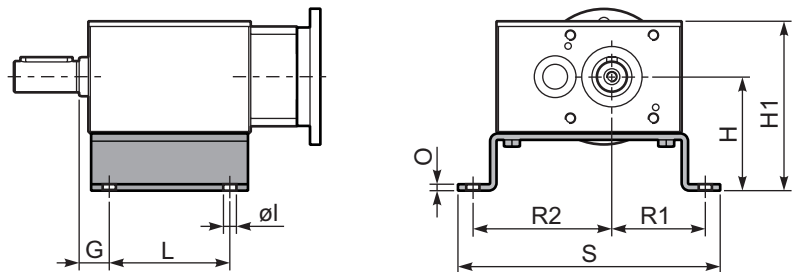
P442I-F... Output flanges
flange di uscita

Input flanges / flange di entrata

	k1	g6	kit code
71 B14	185	105	KI63.4.047
80 B14	186	120	KI63.4.046
90 B14	187	140	KI63.4.041



P442I-H1... With feet
Con piedini



Feet / piedini

Feet Code	G	L	R1	R2	S	H	H1	O	øl	kit code
H1	19.5	100	67.5	102.5	190	49.5	92	6	10	KI4429022
H2	19.5	100	75	110	205	88	130.5	5	10	KI4429023

Other feet are available, see our web site
Sono disponibili altri piedini, consulta il nostro sito web



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		Available B14 motor flanges	Output Shaft		
							D	E	U			Ratios code
							80	90	100 - 112		$\emptyset 28$	
388	3.61	4	95	1.6	6.3	150				3018		01
331	4.23	4	111	1.5	6.1	170				3016		02
279	5.01	4	131	1.5	6.1	200				3014		03
231	6.07	4	159	1.6	6.3	250				3012		04
206	6.81	4	178	1.6	6.2	277				2018		05
176	7.96	4	209	1.4	5.8	300				2016		06
148	9.45	4	248	1.2	4.9	304				2014		07
122	11.43	4	299	1.0	4.0	300				2012	standard $\emptyset 28$	08
99	14.21	3	279	0.9	2.8	265				2010		09
84	16.62	3	327	0.9	2.8	304				1314		10
70	20.10	2.2	290	1.0	2.3	300				1312		11
56	24.98	1.85	303	0.9	1.6	265				1310		12
47.6	29.41	1.5	289	1.1	1.6	304				814		13
39.3	35.58	1.5	349	0.9	1.3	300				812		14
34.6	40.50	1.1	292	1.0	1.1	290				614		15
31.7	44.22	1.1	319	0.8	0.92	265				810		16
28.6	49.00	0.75	241	1.2	0.93	300				612		17
23.0	60.90	0.75	299	0.9	0.66	265				610	18	

The dynamic efficiency is **0.96** for all ratios

* The nominal power should be reduced if the ambient temperature is $\geq 30^\circ\text{C}$, or when a cooler gearbox is required.

* Diminuire la potenza nominale in caso di temperatura ambiente $\geq 30^\circ\text{C}$ o se è richiesta una bassa temperatura di utilizzo del riduttore.

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 4521 is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary. 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 4521 viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione. Vedi tab.1 per oli e quantità consigliati. In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

D Das Getriebe 4521 ist mit synthetischem Öl gefüllt und 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 4521 est fourni complet avec de l'huile synthétique pour la lubrification permanente et ne nécessite aucun entretien. 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 4521 se suministra, lubricado de por vida con aceite sintético y no requieren mantenimiento alguna. Ver tabla 1, para cantidades y aceites recomendados. En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

Standard supplied	For these mounting position specify in the order or add oil Per queste posizioni specificare in fase d'ordine o aggiungere olio					
0.60 LT	0.80 LT	0.90 LT	0.80 LT	1.10 LT	1.00 LT	Ask

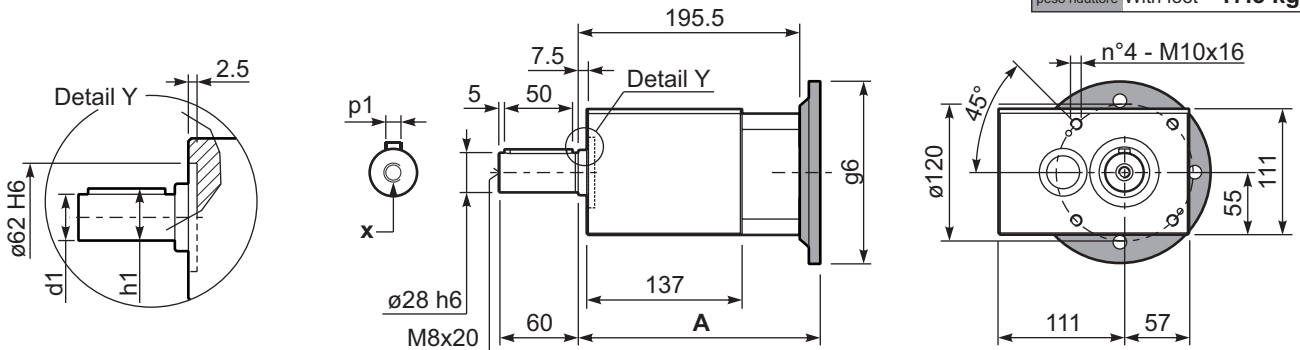
For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS								
Output shaft / Albero di uscita								
F_R (N)			F_{eq} (N)			$F_{eq} = F_R \cdot \frac{57}{X+27}$		
n_2	FA	FR	n_2	FA	FR	n_2	FA	FR
300	415	2070	140	540	2700	70	700	3510
250	430	2160	120	560	2790	40	810	4050
200	470	2340	85	630	3150	15	900	4500

tab. 2

P452I-N... Basic gearbox
Riduttore base

Gearbox weight With flange **19.2 kg**
peso riduttore With feet **17.5 kg**

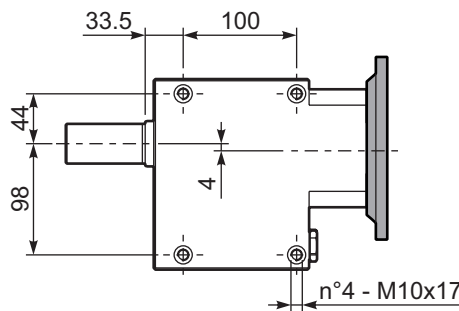


Output shafts / albero di uscita

	Shaft - d1	p1	h1	x
Standard	ø 28x60	8	31	M8x20

Input flanges / flange di entrata

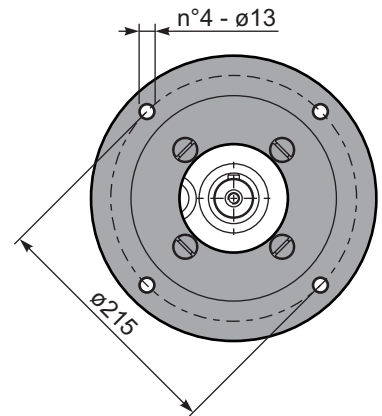
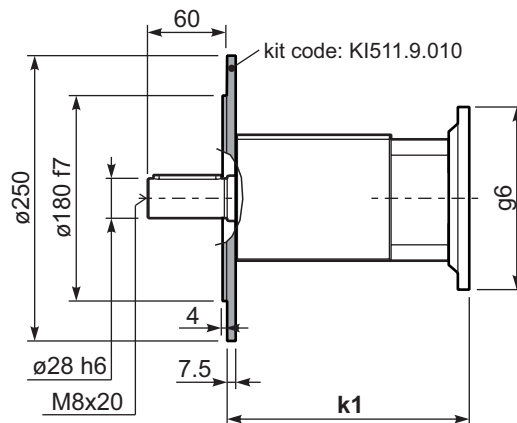
	A	g6	kit code
80-90B5	215.5	200	KI85.4.042
100-112B14	213.5	160	KI85.4.041



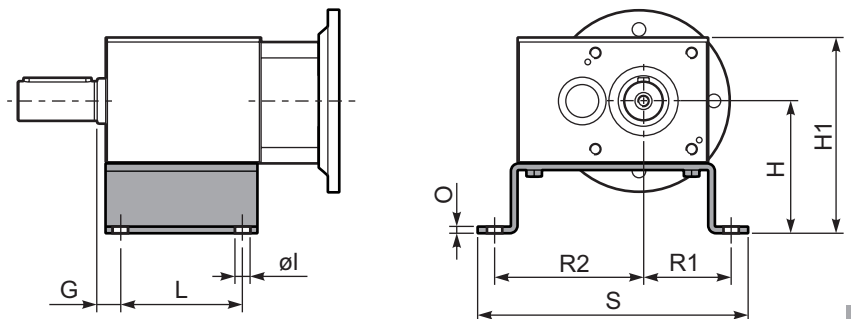
P452I-F... Output flanges
flange di uscita

Input flanges / flange di entrata

	k1	g6	kit code
80-90B14	215.5	200	KI85.4.042
100-112B14	213.5	160	KI85.4.041



P452I-H1... With feet
Con piedini



Feet / piedini

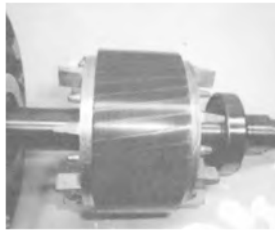
Feet Code	G	L	R1	R2	S	H	H1	O	øl	kit code
H1	21	110	73	127	220	61	117	6	11.5	KI4529022
H2	21	110	83	137	245	118	174	6	11.5	KI4529023

➔ Other feet are available, see our web site
Sono disponibili altri piedini, consulta il nostro sito web

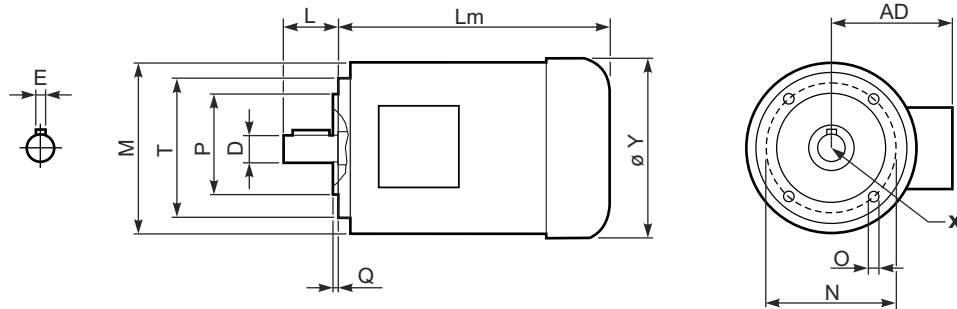


Features

- 1) 300 Series Stainless Steel Construction.
- 2) Inverter duty
- 3) Washdown Duty Applications.
- 4) BISSC Certified.
- 5) Corrosion Resistant.
- 6) Laser Etched Nameplate.
- 7) Oversized Bearings on both ends c/w Locked Drive-end Bearing Construction.
- 8) Oversized Conduit Box c/w Lead Seal.
- 9) Drill & Tapped Drains.
- 10) T-Drain included.
- 11) Double Lip Contact Seals.



B14



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

	4 poli / poles			D	E	L	Lm	Y	AD	P	N	M	T	O	Q	X	Kg
	kW	Nm	A _(400V)														
63	0.18	1.30	0.69	11	4	23.5	252	128	106	60	75	114	90	M5	2.5	-	8.2
71	0.25	1.70	0.91	14	5	30.5	228	146	115	70	85	134	105	M6	2.5	M5x20	8.3
	0.37	2.52	1.14				252										10.4
80	0.55	3.77	1.51	19	6	40	300	158	115	80	100	144	120	M6	3	M6x25	17.5
	0.75	5.11	2.57				367										
90	1.1	7.45	2.78	24	8	50	321	174	135	95	115	165	140	M8	3	M8x25	22.4
	1.5	10.2	3.61				367										27.6
100	2.2	14.8	5.07	28	8	60	374	203	150	110	130	190	160	M8	3.5	M10x25	33.5

Tecnical data
- Voltage: 230 / 400V
- Phase: 3
- Frequency: 50Hz
- Poles: 4
- International protections : IP 65
- Insulation class: F
- Duty: S1

IMPORTANT INFORMATION / INFORMAZIONI IMPORTANTI

Please Read Carefully

The following WARNING and CAUTION information is supplied to you for your protection and to provide you with many years of trouble free and safe operation 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.
- 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, if not sized properly.

SELLING CONDITIONS

Warranty for manufacturing defects will expire one-year the invoicing date. Hydro-Mec will replace or repair defective parts but will not accept any further changes for direct or indirect damages of any kind. The warranty 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

Leggere attentamente

Le seguenti raccomandazioni sono fondamentali per la vostra protezione e per garantirvi molti anni di sicuro funzionamento del vostro prodotto senza alcun problema.

Leggere attentamente tutte le istruzioni prima di azionare il riduttore. L'inappropriata installazione, manutenzione o funzionamento del riduttore può causare incidenti al personale addetto e danni 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.
- 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 la rottura della vite a causa della resistenza alla flessione.

CONDIZIONI DI VENDITA

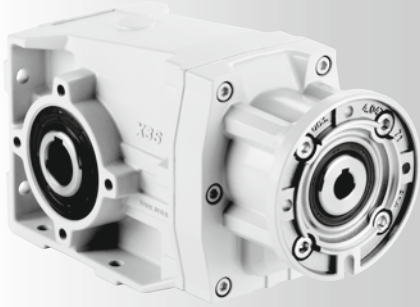
La garanzia relativa a difetti di costruzione ha la durata di un anno dalla data di fatturazione della merce. Tale garanzia comporta per Hydro-mec l'onere della sostituzione o riparazione delle parti difettose ma non ammette ulteriori addebiti per eventuali danni diretti o indiretti di qualsiasi natura.

La garanzia decade nel caso in cui siano state eseguite riparazioni o apportate modifiche senza nostro consenso scritto.

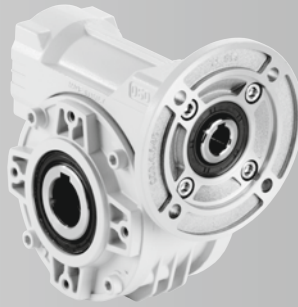
La nostra ditta non si ritiene responsabile per eventuali danni diretti o indiretti derivanti da un uso improprio dei prodotti e dalla mancata osservanza delle indicazioni riportate a catalogo o web..

Also available standard aluminum gearboxes with stainless steel output shaft and protective paint

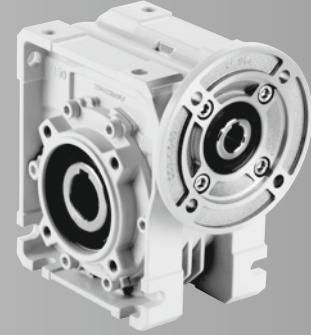
Bevel gears



Worm gearboxes



Square gearboxes



Applications field:

Conveyors industry



Machines where water can quickly rust the hollow shaft



Bottling industry



Car washing



Boat / fishing industry



Chemical processing industry



Food processing industry

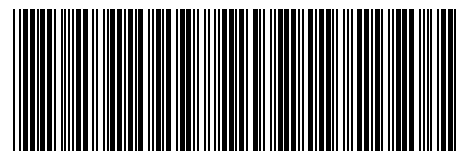


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