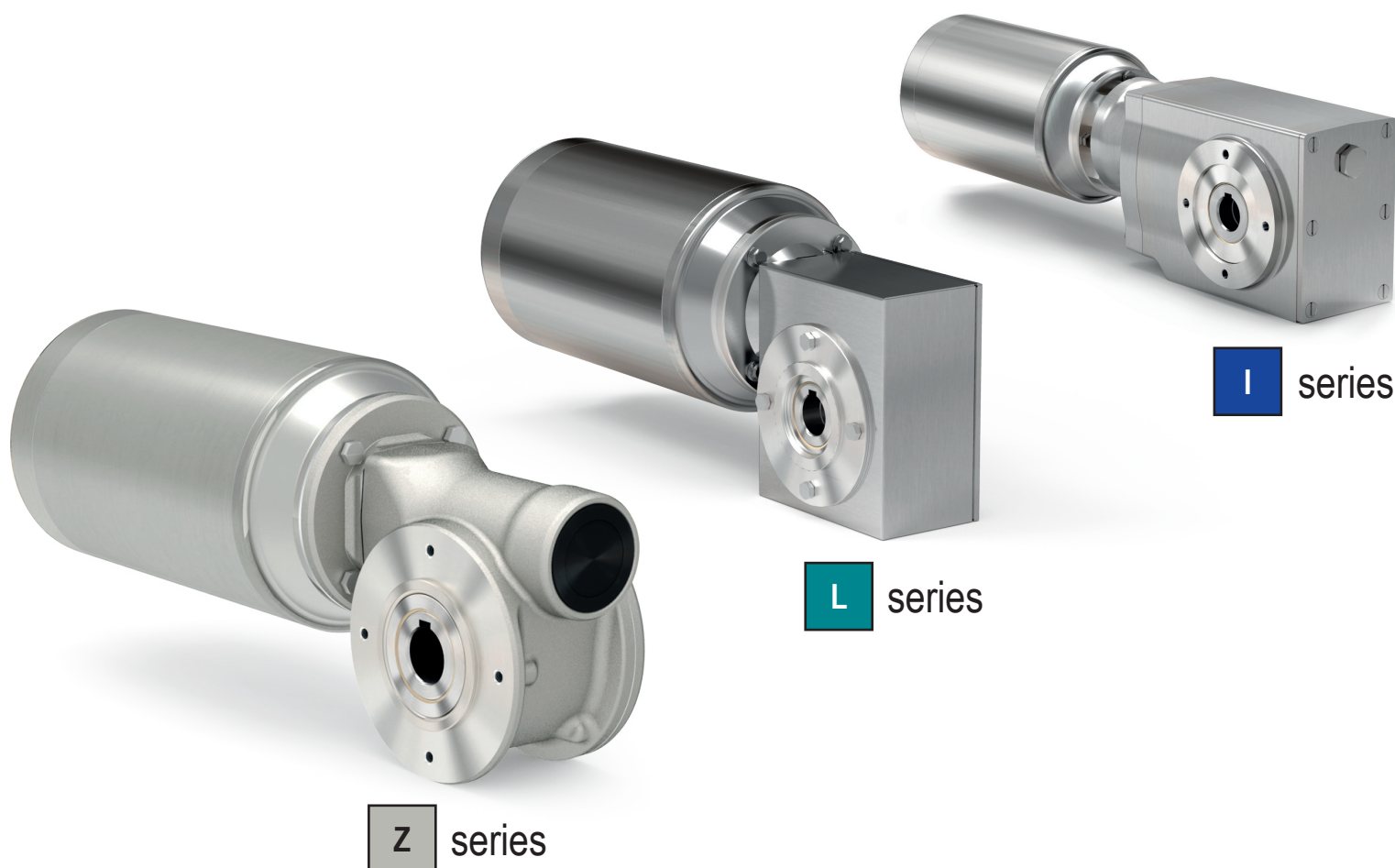




HYGIENIC DESIGN



FEATURES

- HIGH PRESSURE CLEAN UP
- POOLING FREE MOUNTING
- SEALED HOLES
- SEALED OIL PLUGS
- SIMPLE WASHING
- SMOOTH SURFACES
- NO PLASTIC PLUGS

Tradition. Innovation. Dedication.

Cleangeartech eye catching gearboxes are what can be defined as “tradition in the service of innovation”.

A new born business unit, Cleangeartech, has its roots in a long story of two engineers, father and son, who managed to keep up with a continuous technological progress in the mechanical transmission industry.

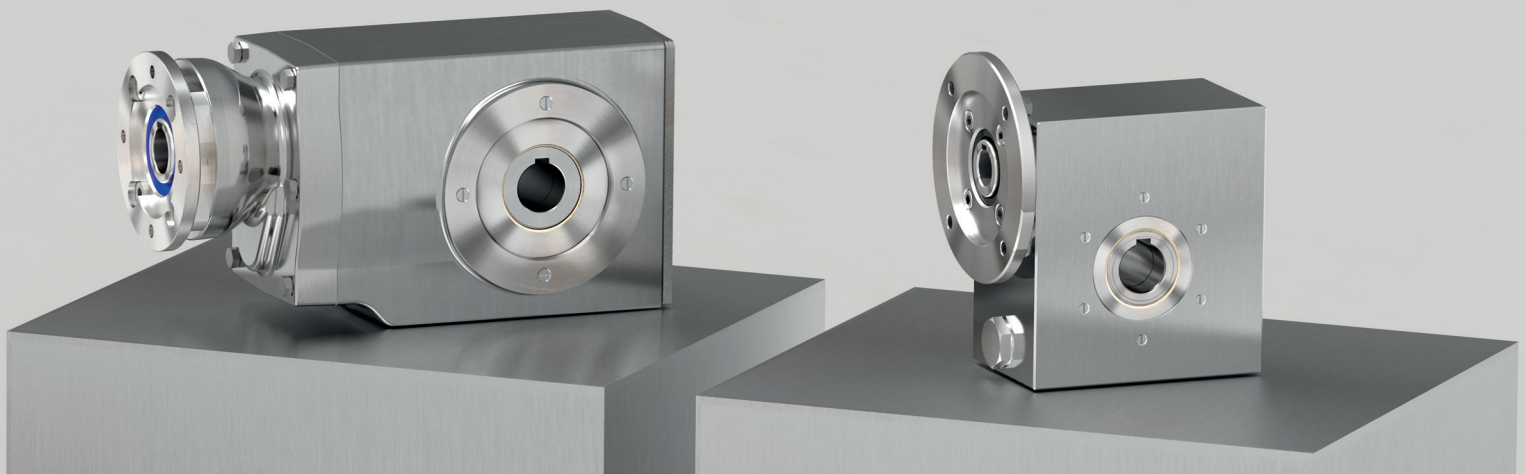
It all began with a hydrodynamic speed variator invented by Giuseppe Speggorin in 1955.

In 1983 Giuseppe's son, Stefano Speggorin, founded his own company, Hydro-Mec Spa, now one important manufactures of high quality and modular gearboxes.

In 2006 Stefano decided to face another challenge, this time coming directly from the end users. He designed a range of stainless steel products initially for food industry; same year Hydro-Mec started manufacturing. As time passed, it became obvious that this project deserved its own story.

In 2016 Cleangeartech brand and business unit started.

Today it is division with a highly technological manufacturing, evolving worldwide sales network and a strong focus on R&D activities. Cleangeartech is deeply committed to providing a high level of service supplying an exceptional product to such demanding industries like Food & Beverage, Meat & Poultry, Marine, Chemical and Pharmaceutical.



Tradizione. Innovazione. Dedizione.

I riduttori della Cleangeartech possono essere definiti come simbolo della “tradizione al servizio dell'innovazione”.

Oggi Cleangeartech sviluppa le sue radici nella lunga storia di successo di due ingegneri, padre e figlio, i quali hanno saputo tenere il passo del continuo progresso tecnologico nel settore della trasmissione meccanica.

Tutto ebbe inizio nel 1955 quando Giuseppe Speggorin inventò il variatore idraulico.

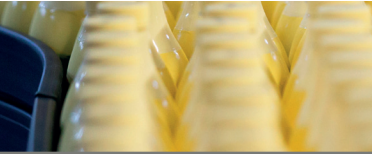
Nel 1983 il figlio di Giuseppe, Stefano Speggorin, in seguito a molti anni di affiancamento al padre, fondò la sua azienda, Hydro-Mec Spa, oggi un importante produttore Italiano di riduttori modulari.

Successivamente, nel 2006, si decise di affrontare un'altra sfida, ma questa volta proveniente dagli utilizzatori finali, e questo diede origine ad una gamma di prodotti in acciaio inossidabile, inizialmente dedicata all'industria alimentare, messa poi in produzione nel corso dello stesso anno. Con il passare del tempo divenne sempre più evidente che questo progetto meritava di avere una storia tutta sua. A questo proposito, nel 2016, nacque la divisione Cleangeartech.

Oggi è una azienda con una produzione ad alto livello tecnologico, una rete distributiva globale in costante evoluzione e una particolare dedizione alla ricerca e allo sviluppo. Cleangeartech è profondamente impegnata ad offrire un elevato livello di servizio, fornendo prodotti di eccellenza per settori molto esigenti, quali Alimentare e Bevande, Carne e Pollame, Navale, Chimica e Farmaceutica.

OEM Applications guide

Guida alle applicazioni per gli OEM

Z L I Z Series <i>Serie Z</i> L Series <i>Serie L</i> I Series <i>Serie I</i>	Conditions of use Condizioni di utilizzo	Suggested range Gamma suggerita			
		Possible contact with processing product Possibile contatto con il prodotto		Only in proximity to the processing product In prossimità del prodotto	
		Best	Medium	Best	Medium
Meat & Poultry Industria della carne 	Salt Salato	I L		L	
	Acid sanitization Lavaggio acido	I L		L	
	Alkaline sanitization Lavaggio alcalino	I	L	L	Z
	Normal cleaning - Moist Lavaggio normale - umidità	I	L Z	Z	
Seafood Processing Industria della lavorazione del pesce 	Salt Salato	I L		L	
	Acid sanitization Lavaggio acido	I L		L	
	Alkaline sanitization Lavaggio alcalino	I	L	L	Z
	Normal cleaning - Moist Lavaggio normale - umidità	I	L	Z	
Fruit & Vegetables Frutta e verdura 	Salt Salato			L	
	Acid sanitization Lavaggio acido			L	
	Alkaline sanitization Lavaggio alcalino	I	L	L	Z
	Normal cleaning - Moist Lavaggio normale - umidità	I	L Z	Z	
Dairy Latte e derivati 	Salt Salato	I L		L	
	Acid sanitization Lavaggio acido	I L		L	
	Alkaline sanitization Lavaggio alcalino	I	L	Z	
	Normal cleaning - Moist Lavaggio normale - umidità	I	L	Z	
Flours and derivatives Farine e derivati 	Salt Salato	I L			
	Acid sanitization Lavaggio acido	I L			
	Alkaline sanitization Lavaggio alcalino	I	L	Z	
	Normal cleaning Lavaggio normale	I	L Z	Z	
Beverage Bevande 	Salt Salato	I L		L	
	Acid sanitization Lavaggio acido	I L		L	
	Alkaline sanitization Lavaggio alcalino	I	L	Z	
	Normal cleaning - Moist Lavaggio normale - umidità	I	L Z	Z	

Z Z Series Serie Z L L Series Serie L I I Series Serie I		Conditions of use Condizioni di utilizzo	Suggested range Gamma suggerita			
			Possible contact with processing product Possibile contatto con il prodotto		Only in proximity to the processing product In prossimità del prodotto	
			Best	Medium	Best	Medium
Food packaging processing Imballaggio alimentare 	Salt Salato	I	L		L	
	Acid sanitization Lavaggio acido	I	L		L	
	Alkaline sanitization Lavaggio alcalino	I		L		Z
	Normal cleaning - Moist Lavaggio normale - umidità	I		L	Z	Z
Bakery applications Prodotti da forno 	Salt Salato					
	Acid sanitization Lavaggio acido					
	Alkaline sanitization Lavaggio alcalino	I				Z
	Normal cleaning Lavaggio normale	I		Z		Z
Animal food applications Mangimi 	Salt Salato	I	L		L	
	Acid sanitization Lavaggio acido	I	L		L	
	Alkaline sanitization Lavaggio alcalino	I				Z
	Normal cleaning - Moist Lavaggio normale - umidità	I		Z		Z
Marine Settore marino e navale 	On deck Esterno				L	
	Indoor Sotto coperta				I	

For the Z series due to the infinite variety of chemical mixtures please use our test plate to test the following fields
Data l'infinita varietà di misture chimiche, per la serie Z è consigliato usare la nostra targhetta per effettuare eventuali test

Pharmaceutical & Chemical <i>Chimica & Farmaceutica</i>	Highly corrosive and harsh environment <i>Ambiente altamente corrosivo</i>	Outdoor application <i>Applicazioni in ambiente esterno</i>
		

3 Lines of specific products

Gamme di prodotto

Z NTT series

Aluminum worm gearboxes
with NTT treatment

*Riduttori a vite senza fine in alluminio
con trattamento NTT*



Aluminum ratio multipliers
with NTT treatment

*Riduttori coassiali ad uno stadio
in alluminio con trattamento NTT*

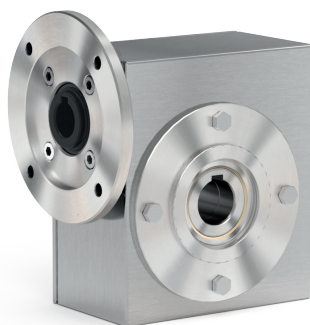


L SHIELD series

PATENTED

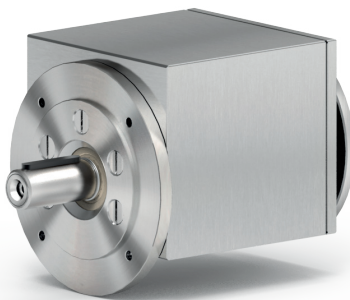
Worm gearboxes

Riduttori a vite senza fine



Coaxial gearboxes

Riduttori coassiali



Helical bevel gearboxes

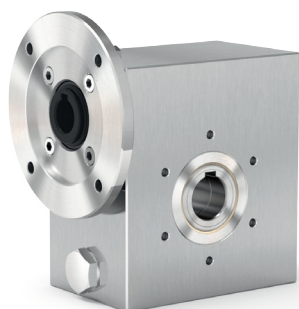
Riduttori a coppia conica



I FULL STAINLESS STEEL series

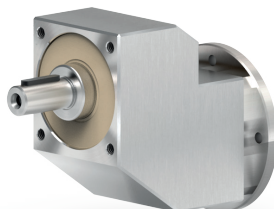
Worm gearboxes

Riduttori a vite senza fine



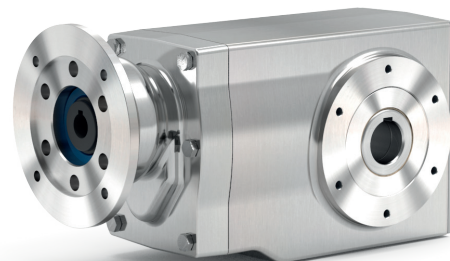
Ratio multipliers

Riduttori coassiali ad uno stadio



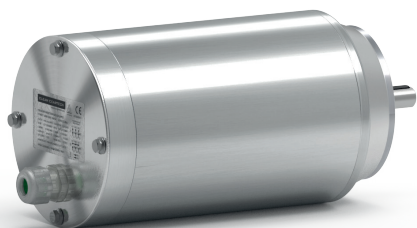
Helical bevel gearboxes

Riduttori a coppia conica



APM series

Aluminum electric motors
Motori elettrici in alluminio

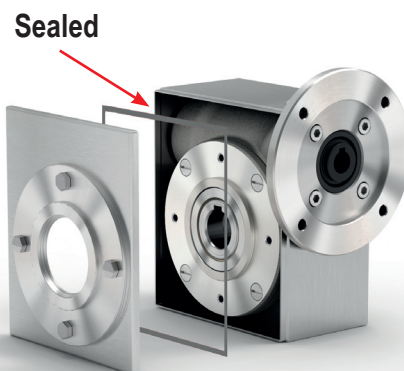


A range suitable for applications where no ribs are required to hold dust, in close position to the products processed, usable in applications with light sanitization processes.

Una gamma adatta per applicazioni in cui è richiesto un design igienico posizionabile in vicinanza dei prodotti trattati, con processi di lavaggio e sanificazione leggera.

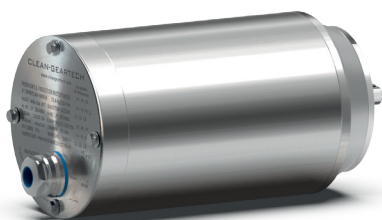
The “L” series is an aluminum gearbox completely shielded and sealed with stainless steel 316L case, an alternative to the full stainless steel products, suitable for many applications in contact with detergents, chemicals, wash down and salty environment.

Una gamma di riduttori in alluminio completamente sigillati e schermati all'interno di un carter sigillato in acciaio inox 316L, un'alternativa ai prodotti interamente in acciaio inossidabile, adatta per molte applicazioni a contatto con detergenti, prodotti chimici, lavaggi e ambienti salati.



SPM series

Stainless steel
premium electric motors
Motori elettrici in acciaio inox



Strong full stainless steel products, suitable for most applications requiring a very high degree of protection against long term maintenance is possible.

Una gamma completamente in acciaio inossidabile, adatta alla maggior parte delle applicazioni che richiedono un grado molto alto di protezione.

Premium input coupling

Giunto in entrata

PATENTED

Direct mounting - No settings - No screw

Montaggio diretto - No settaggi - No viti

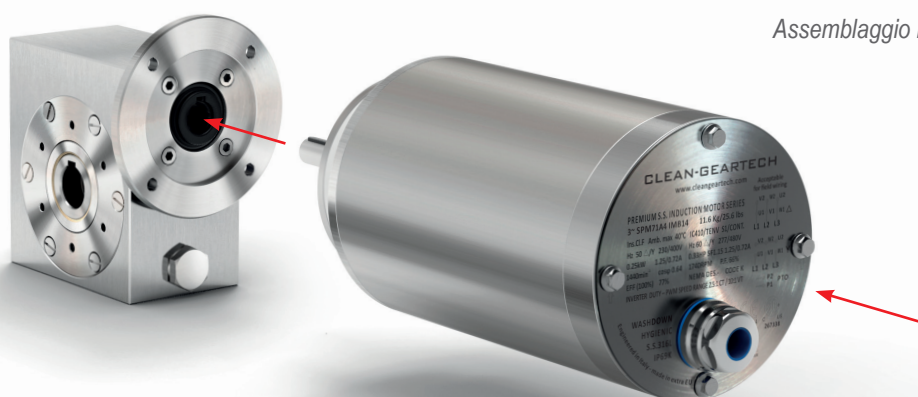
1



* Do not mount oil seals
on motor flange

Non montare anelli di tenuta
nella flangia motore

2



Motor assembly

Assemblaggio motore

3

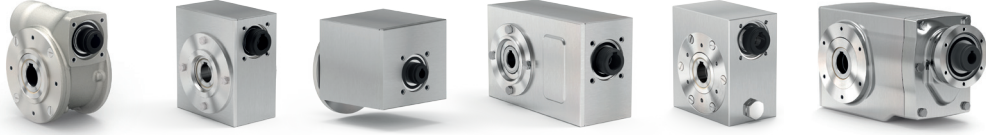


Available as an option for the motor range from IEC 56 to IEC 112

Disponibile come opzione per motori da IEC 56 a IEC 112

Coupling chart

Tabella combinazione giunti

						GROUP	INPUT DIAMETER Ø	MATERIAL P = Polymer Z = Zamak	
Z30	-	-	-	I30	-	KA	09	P	
							11	P	
Z45	LD45	-	-	I45	-	KB	09	P	
							11	P	
							14	P	 *
Z50	LD50	-	X22L	I50	-	KC	09	P	
							11	P	
							14	P	
							19	Z	 *
Z63	LD63	402L	X32L X42L	I63	X42I	KD	11	P	
							14	P	
							19	P	 *
							24	Z	 *
Z85	LD85	-	X52L X62L	I85	X62I	KE	14	P	
							19	P	
							24	Z	 *
							28	Z	 *

* While using these couplings, replace the motor shaft key with the shorter one supplied with the kit.
Per l'utilizzo di questi giunti usare la chiavetta ridotta fornita nei kit.

Aluminum worm gearboxes

Riduttori a vite senza fine in alluminio

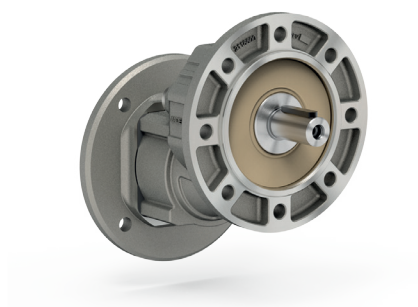


Section 1

Features - Caratteristiche	1-3
How to order - Codifica	1-5
Useful formulas - Formule utili	1-7
How to select a gearbox - Come selezionare un riduttore	1-8
Z30	1-9
Z45	1-11
Z50	1-13
Z63	1-15
Z85	1-17

Aluminum ratio multipliers

Riduttori ad uno stadio in alluminio

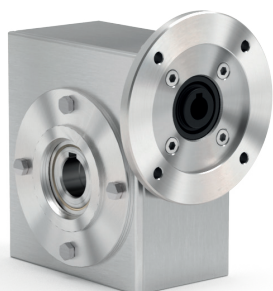


Section 2

Features - Caratteristiche	2-3
How to order - Codifica	2-5
Useful formulas - Formule utili	2-7
How to select a gearbox - Come selezionare un riduttore	2-8
211Z	2-9

Stainless steel shielded worm gearboxes

Riduttori a vite senza fine schermati in acciaio inox

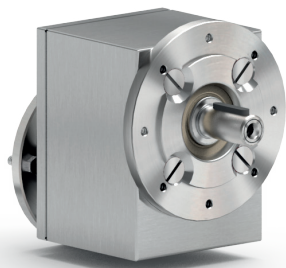


Section 3

Features - Caratteristiche	3-3
How to order - Codifica	3-5
Useful formulas - Formule utili	3-7
How to select a gearbox - Come selezionare un riduttore	3-8
LD45	3-9
LD50	3-11
LD63	3-13
LD85	3-15

Stainless steel shielded ratio multipliers

Riduttori ad uno stadio schermati in acciaio inox

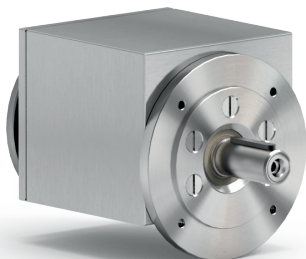


Section 4

Features - Caratteristiche	4-3
How to order - Codifica	4-5
Useful formulas - Formule utili	4-7
How to select a gearbox - Come selezionare un riduttore	4-8
411L	4-9
511L	4-11

Stainless steel shielded coaxial gearboxes

Riduttori coassiali schermati in acciaio inox

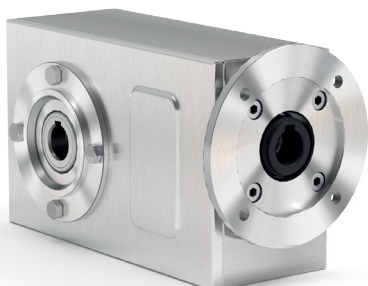


Section 5

Features - Caratteristiche	5-3
How to order - Codifica	5-5
Useful formulas - Formule utili	5-7
How to select a gearbox - Come selezionare un riduttore	5-8
402L	5-9

Stainless steel shielded helical bevel gearboxes

Riduttori a coppia conica schermati in acciaio inox

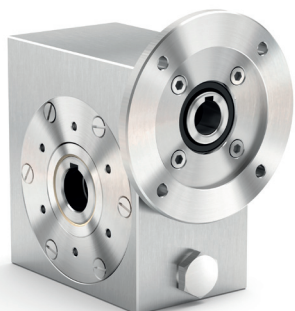


Section 6

Features - Caratteristiche	6-3
How to order - Codifica	6-5
Useful formulas - Formule utili	6-7
How to select a gearbox - Come selezionare un riduttore	6-8
X22L	6-9
X32L	6-11
X42L	6-13
X52L	6-15
X62L	6-17

Full stainless steel worm gearboxes

Riduttori a vite senza fine completamente in acciaio inox

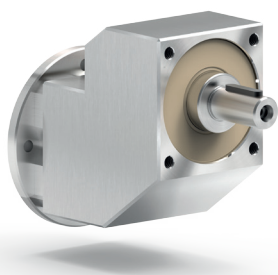


Section 7

Features - Caratteristiche	7-3
How to order - Codifica	7-5
Useful formulas - Formule utili	7-7
How to select a gearbox - Come selezionare un riduttore	7-8
I30	7-9
I45	7-11
I50	7-13
I63	7-15
I85	7-17
I11	7-19

Full stainless steel ratio multipliers

Riduttori ad uno stadio completamente in acciaio inox

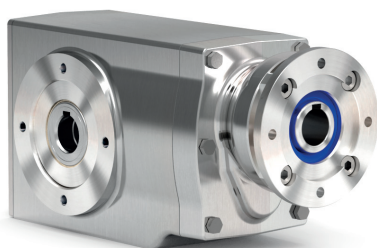


Section 8

Features - Caratteristiche	8-3
How to order - Codifica	8-5
Useful formulas - Formule utili	8-7
How to select a gearbox - Come selezionare un riduttore	8-8
4111	8-9

Full stainless steel helical bevel gearboxes

Riduttori a coppia conica completamente in acciaio inox



Section 9

Features - Caratteristiche	9-3
How to order - Codifica	9-5
Useful formulas - Formule utili	9-7
How to select a gearbox - Come selezionare un riduttore	9-8
X42I	9-9
X62I	9-11

Aluminum premium electric motors

Motori elettrici in alluminio



Section **AM**

Features - Caratteristiche
Dimensions - Dimensioni

am-3
am-5

Stainless steel premium electric motors

Motori elettrici in acciaio inox



Section **SM**

Features - Caratteristiche
Dimensions - Dimensioni

sm-2
sm-4

Certifications

Certificazioni

Section **C**

Certifications - Certificazioni

C-1

Information

Informazioni

Section **I**

Important information - Informazioni importanti

I-1

General sales and warranty conditions

Condizioni generali di vendita

Section **G**

International
Condizioni generali di vendita in Italia

G-1
G-2



z VFZ series
Aluminum worm gearboxes

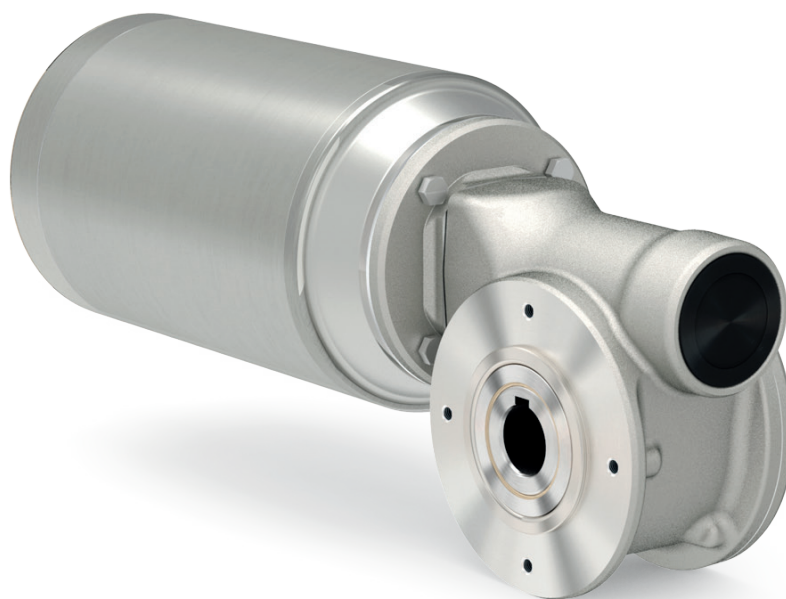
Riduttori a vite senza fine in alluminio

Section 1
Sezione 1

This range is



certified



FEATURES

Caratteristiche

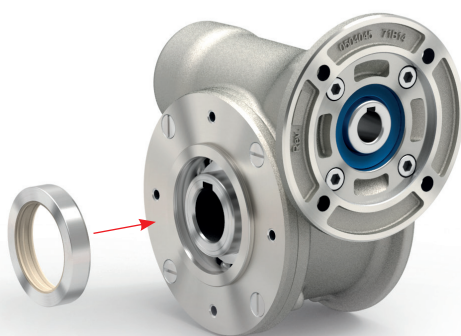
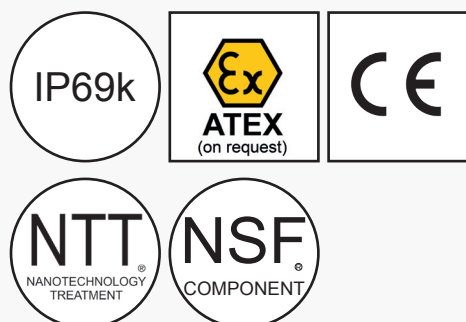
VFZ series Aluminum worm gearboxes

Riduttori a vite senza fine in alluminio

Type <i>Tipo</i>	Torque <i>Coppia</i>	Center distance <i>Interasse</i>	Input power <i>Potenza in entrata</i>	Hollow output shaft <i>Albero cavo in uscita</i>
Z30	21 Nm	30 mm	0.06 ÷ 0.18 kW	ø14 mm
Z45	41 Nm	45 mm	0.09 ÷ 0.37 kW	ø18 mm
Z50	72 Nm	50 mm	0.12 ÷ 0.75 kW	ø25 mm
Z63	147 Nm	63 mm	0.37 ÷ 1.8 kW	ø25 mm
Z85	347 Nm	85 mm	0.55 ÷ 4.0 kW	ø35 mm



This product is:



Twin viton seals with stainless steel 316L shield.



Doppio anello di tenuta in viton con schermo protettivo in acciaio inox AISI 316L.



NTT™ stands for a special surface treatment which results in modified external properties of the complete unit in order to get a smooth surface and an higher corrosion resistance.

NTT™ è uno speciale trattamento che come risultato ha la modifica delle proprietà superficiali del riduttore allo scopo di ottenere una superficie liscia e con maggiore resistenza alla corrosione.

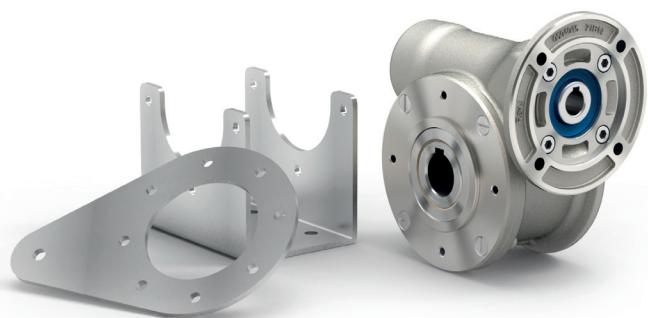
FEATURES

Caratteristiche



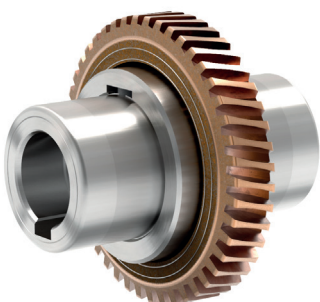
Output shaft and hollow shaft in AISI 316L.

Mozzo e albero in uscita in AISI 316L.



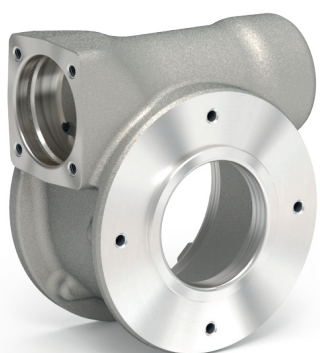
All stainless steel 316L hardware.

Viteria e kit in acciaio inox AISI 316L.



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

Corona in bronzo al Nickel CuSn12Ni (C91700) centrifugato e mozzo in acciaio inox per massima resistenza e durata superiore. Albero cavo removibile con chiavetta mozzo/corona.

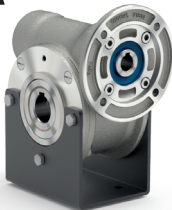
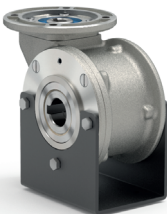


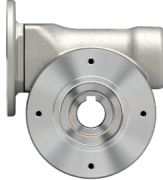
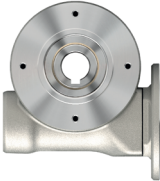
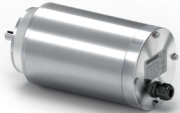
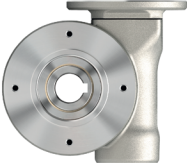
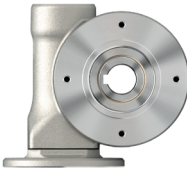
Housing with special smooth surfaces.

Cassa con finitura speciale liscia.

How to order

Codifica

P	Z50	UN	10	I
Type <i>Tipo</i>	Size <i>Grandezza</i>	Mounting <i>Montaggio</i>	Ratio <i>Rapporto</i>	Hub <i>Mozzo corona</i>
P 	Z30 Z45 Z50 Z63 Z85	UN 	See technical data table <i>Vedi tabelle dati tecnici</i>	I 
M 		FC 		Z30 -> $\varnothing 14$ Z45 -> $\varnothing 18$ Z50 -> $\varnothing 25$ Z63 -> $\varnothing 25$ Z85 -> $\varnothing 35$
B 		FL 		Z Inch Z45 -> $\varnothing 0.750''$ Z50 -> $\varnothing 1.000''$ Z63 -> $\varnothing 1.125''$ Z85 -> $\varnothing 1.500''$
R 		BR 		
		PA 		
		PV 		

S	-R	B3	D	With Type M specify terminal box position <i>Con tipo M specificare posizione morsettiera</i>
Output shaft <i>Albero lento</i>	Motor size <i>Grandezza motore</i>	Mounting position <i>Posizione di montaggio</i>	Input bore <i>Foro entrata</i>	Terminal box position <i>Posizione morsettiera</i>
Ø 	Flange <i>Flange</i> 	B3 	With coupling <i>Con giunto</i> 	A 
S 	IEC B14 -O -> 56 B14 (ø80) -P -> 63 B14 (ø90) -Q -> 71 B14 (ø105) -R -> 80 B14 (ø120) -T -> 90 B14 (ø140) -U -> 100-112 B14 (ø160) NEMA -W -> 56C (ø6.5") -X -> 143/5TC (ø6.5") -Y -> 182/4TC (ø8.88")	B8 	A -> 9mm B -> 11mm C -> 14mm D -> 19mm E -> 24mm F -> 28mm W -> ø0.625" X -> ø0.875" Y -> ø1.125"	B 
	Without flange <i>Senza flangia</i> 	B6 	0 Ready for input coupling <i>Predisposto per giunto</i> 	C 
	-M -> Metric -N -> Nema	B7 	Type R <i>Tipo R</i> Standard bore <i>Foro standard</i>	D 
	Type R <i>Tipo R</i> 	V5 		
	-O -> Metric	V6 		

Useful formulas

Formule utili

Required power - Potenza richiesta

Lifting - Sollevamento

Rotation - Rotazione

Linear movement - Traslazione

$$P_{[kW]} = \frac{M_{[Kg]} \cdot g[9.81] \cdot v_{[m/s]}}{1000}$$

$$P_{[kW]} = \frac{M_{[Nm]} \cdot n_{[rpm]}}{9550}$$

$$P_{[kW]} = \frac{F_{[N]} \cdot v_{[m/s]}}{1000}$$

Torque - Coppia

$$M_{[Nm]} = \frac{9550 \cdot P_{[kW]}}{n_{[rpm]}}$$

$$M_{[lb\ in]} = \frac{63030 \cdot P_{[HP]}}{n_{[rpm]}}$$

Radial loads - Carichi radiali

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.

$$F_R[N] = \frac{M_{[Nm]} \cdot 2000}{d_{[mm]}} \cdot f_k$$

$$F_R[N] = \frac{M_{[lb\ in]} \cdot 8.9}{d_{[in]}} \cdot f_k$$

M: Output torque - *Momento torcente*

d: Diam. of driving element - *Diametro primitivo*

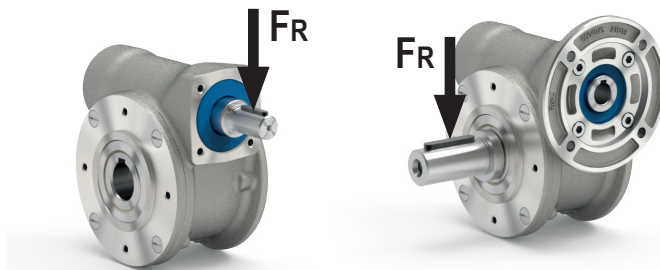
f_k: Factor - *Coefficiente di trasformazione*

1.15: Gearwheels - *Ingranaggi*

1.25: Chain sprockets - *Catena*

1.75: Narrow v-belt pulley - *Cinghia Trapezoidale*

2.50: Flat-belt pulley - *Cinghia piatta*



If your application requires higher radial loads, contact our technical office. Higher loads may be possible.

Nel caso la vostra applicazione richieda carichi radiali superiori consultare il nostro ufficio tecnico, valori maggiori possono essere accettati.

How to select a gearbox

Come selezionare un riduttore

- A** Select required torque (according to service factor)
Seleziona la coppia desiderata (comprensiva del fattore di servizio)
- B** Select output speed
Seleziona la velocità in uscita
- C** Select gear ratio in the line corresponding to the chosen motor power
Sulla riga corrispondente alla motorizzazione prescelta si può rilevare il rapporto di riduzione
- D** Select motor flange available (if requested)
Scegli la flangia disponibile (se richiesta)

Gear size
Grandezza
riduttore

C

Ratio
Rapporto

Transmitted torque
Momento torcente
trasmesso

Nominal power
Potenza nominale

Flange code
Codice flangia

Dynamic efficiency
Rendimento dinamico

Input speed
Velocità in entrata

Z30

21
Nm

VFZ series Aluminum worm gearboxes

Riduttori a vite senza fine in alluminio

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		B14 motor flanges		Dynamic efficiency	Tooth module  [mm]	Ratio code 
							-	-	-O	-P			
							-	-	56	63	RD		
280	5	0.18	5	3.3	0.60	17			C		82	1.26	09
200	7	0.18	7	2.4	0.44	17			C		80	1.44	01
140	10	0.18	10	1.8	0.32	17			C		78	1.44	02
93	15	0.18	13	1.4	0.25	19			C		73	1.44	03
70	20	0.18	17	1.1	0.20	19			C		70	1.09	04
47	30	0.12	15	1.4	0.17	21			C		62	1.44	05
35	40	0.12	19	1.1	0.13	20			C		57	1.09	06
23	61	0.09	19	1.1	0.10	20			C		50	0.72	07
17.5	80	0.06	16	1.0	0.06	16			C		48	0.56	08
14	100	0.06*	16	0.5	0.03	8			C		40	0.45	10

B

Output speed
Velocità in uscita

Motor power
Potenza motore

Service factor
Fattore di servizio

A

Nominal torque
Momento torcente
nominale

Nominal module
Modulo nominale

Notes
Note

Type of load and starts per hour
Tipo di carico e avviamenti per ora

Oper. hours per day
Ore di funz. giorn.

		<2h	2÷8h	8÷16h
Continuous or intermittent application with start / hour <i>Applicazione continua o intermittente con numero operazioni/ora</i>	Uniform - <i>Uniforme</i>	0.9	1	1.25
	Moderate - <i>Moderato</i>	1	1.25	1.5
	Heavy - <i>Forte</i>	1.25	1.5	1.75
Intermittent application with start / hour <i>Applicazione intermittente con numero operazioni/ora</i>	Uniform - <i>Uniforme</i>	1.25	1.5	1.75
	Moderate - <i>Moderato</i>	1.5	1.75	2
	Heavy - <i>Forte</i>	1.75	2	2.25

D

Motor flange available
Flange disponibili

B)

Mounting with reduction bushing
Montaggio con boccola di riduzione 

C)

Motor flange holes position/terminal box position
Posizione fori flangia/basetta motore 

B)

Available without reduction bushing
Disponibile anche senza boccola

Z30

21
NmVFZ series
Aluminum worm gearboxes

Riduttori a vite senza fine in alluminio

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges		B14 motor flanges		Dynamic efficiency	Tooth module	Ratio code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-O	-P	RD	 [mm]	
280	5	0.18	5	3.3	0.60	17			C		82	1.26	09
200	7	0.18	7	2.4	0.44	17			C		80	1.44	01
140	10	0.18	10	1.8	0.32	17			C		78	1.44	02
93	15	0.18	13	1.4	0.25	19			C		73	1.44	03
70	20	0.18	17	1.1	0.20	19			C		70	1.09	04
47	30	0.12	15	1.4	0.17	21			C		62	1.44	05
35	40	0.12	19	1.1	0.13	20			C		57	1.09	06
23	61	0.09	19	1.1	0.10	20			C		50	0.72	07
17.5	80	0.06	16	1.0	0.06	16			C		48	0.56	08
14	100	0.06*	16	0.5	0.03	8			C		40	0.45	10

* Power higher than the maximum one which can be supported by the gearbox. Select according to the torque M_{2R} Potenza superiore a quella massima sopportabile dal riduttore. Selezionare in base al momento torcente M_{2R} Motor flanges available
Flange motore disponibiliB) Supplied with reduction bushing
Fornito con bussola di riduzioneB) Available on request without reduction bushing
Disponibile a richiesta senza bussola di riduzioneC) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

Unit Z30 is supplied with synthetic oil to assure long life lubrication.

Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo Z30 viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Oil quantity for
all positions:
0.025Lt.Quantità olio per tutte
le posizioni: 0.025Lt.Agip
Telium VSF 320Shell
Omala S4 WE 320

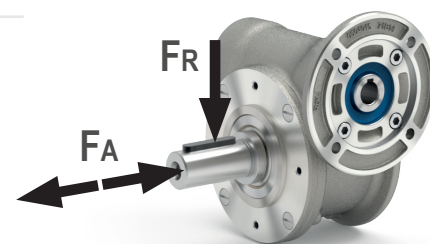
Radial and axial loads

Carichi radiali e assiali

Output shaft

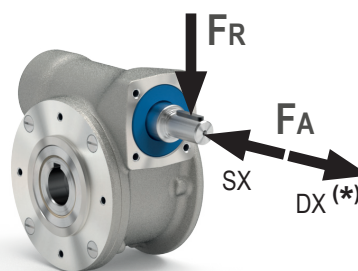
Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [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]	F_A [N]	F_R [N]
1400	20	100

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

* Non sono consentiti forti carichi assiali con direzione DX

Tab. 1

Tab. 2

21
Nm

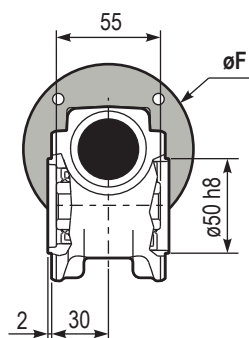
Z30

PZ30UN..

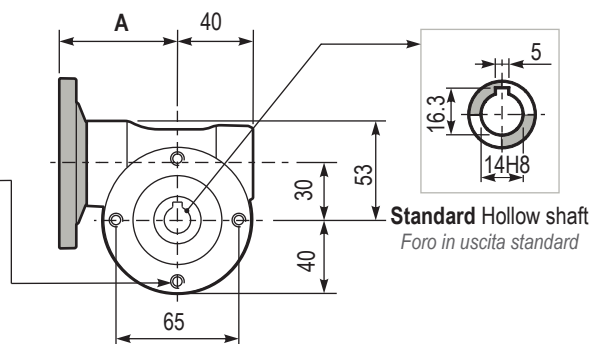
Basic gearbox
Riduttore base

Gearbox weight
Peso riduttore **1.25 kg**

M. flanges	Kit code	øF	A
56B14	KZ304046	80	62
63B14	KZ304045	90	63



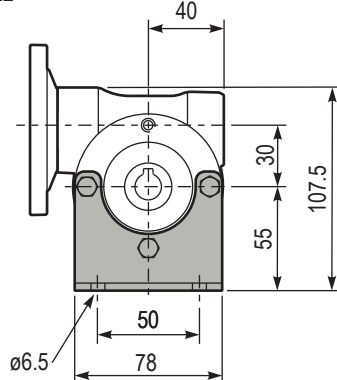
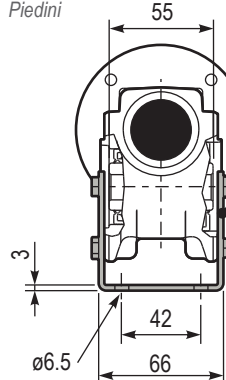
4 holes M6x10
Mounting holes position
Posizione fori di montaggio



PZ30PA..

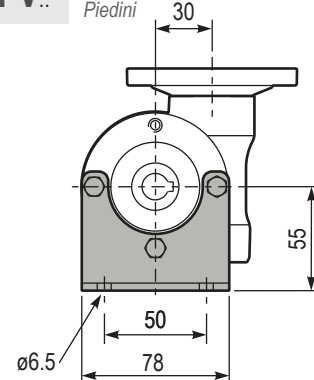
Feet
Piedini

kit cod. KIZ309022



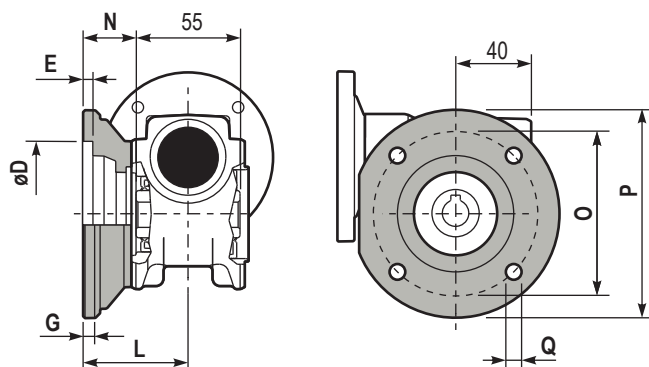
PZ30PV..

Feet
Piedini



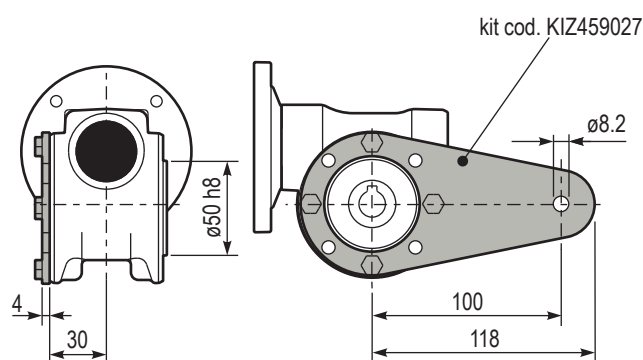
PZ30FC..

Output flange
Flangia uscita



PZ30BR..

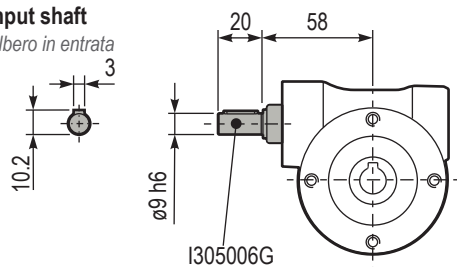
Reaction arm
Braccio di reazione



Type	øD	E	G	L	N	O	P	Q	Kit code
FC	50 ^{+0.15} _{+0.05}	6	6	50.5	23	68	80	7	KZ309010
FL	60 ^{+0.15} _{+0.05}	6	6	55.5	28	87	110	8.5	KZ459010

RZ30UN..

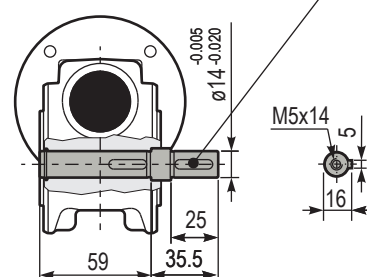
Input shaft
Albero in entrata



PZ30..S..

Single output shaft
Albero semplice in uscita

kit cod. KI0305028



Z45

41
NmVFZ series
Aluminum worm gearboxes

Riduttori a vite senza fine in alluminio

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges		B14 motor flanges			Dynamic efficiency	Tooth module	Ratio code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-O	-P	-Q	RD	 [mm]	
200	7	0.37	14	2.2	0.80	30			C	C		80	2.2	01
140	10	0.37	20	1.5	0.57	30			C	C		79	2.2	02
100	14	0.37	27	1.1	0.41	30			C	C		77	2.4	03
67	21	0.37	36	1.2	0.43	41			C	C		67	1.6	04
50	28	0.25	31	1.3	0.33	41			C	C		65	2.5	05
38	37	0.25	40	1.0	0.26	41			C	C		63	1.8	06
30	46	0.25	46	0.9	0.22	41			C	C		59	1.5	07
23	60	0.18	41	1.0	0.18	41			C	C		56	1.2	08
20	70	0.12	31	1.0	0.12	30			C	C		54	1.0	09
13.7	102	0.09	31	1.0	0.09	29			C	C		49	0.72	10

Motor flanges available
Flange motore disponibiliB) Supplied with reduction bushing
Fornito con bussola di riduzioneB) Available on request without reduction bushing
Disponibile a richiesta senza bussola di riduzioneC) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

Unit Z45 is supplied with synthetic oil to assure long life lubrication.

Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo Z45 viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Oil quantity for
all positions:
0.08Lt.Quantità olio per tutte
le posizioni: 0.08Lt.Agip
Telium VSF 320Shell
Omala S4 WE 320

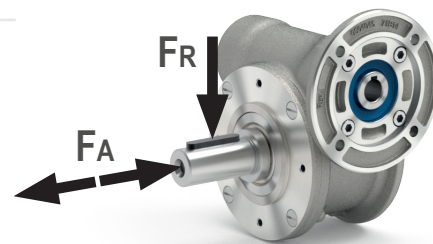
Radial and axial loads

Carichi radiali e assiali

Output shaft

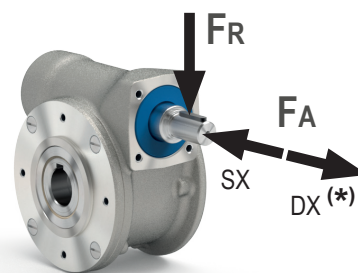
Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [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]	F_A [N]	F_R [N]
1400	42	210

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

* Non sono consentiti forti carichi assiali con direzione DX

Tab. 1

Tab. 2

41
Nm

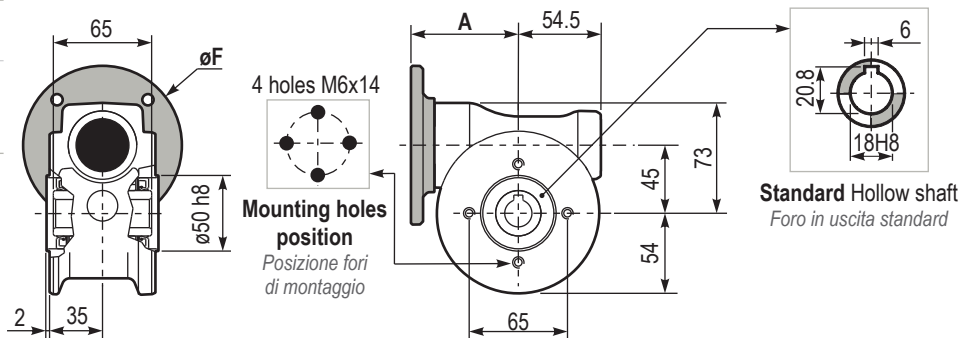
Z45

PZ45UN..

Basic gearbox
Riduttore base

Gearbox weight
Peso riduttore **2.50 kg**

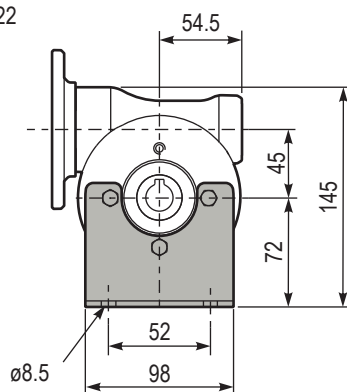
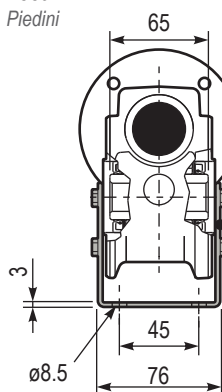
M. flanges	Kit code	øF	A
56B14	KZ454049	80	71.5
63B14	KZ454047	90	74
71B14	KZ454045	105	71.5



PZ45PA..

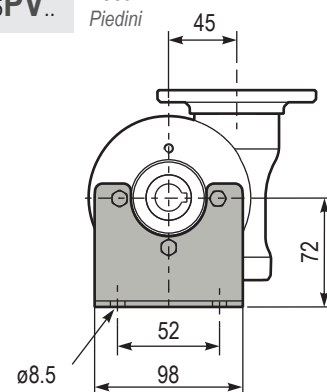
Feet
Piedini

kit cod. KIZ459022



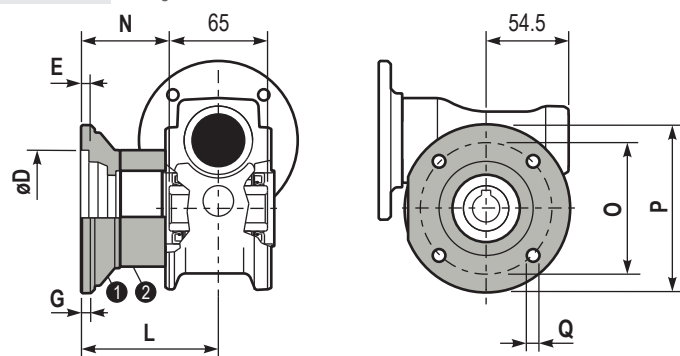
PZ45PV..

Feet
Piedini



PZ45FC..

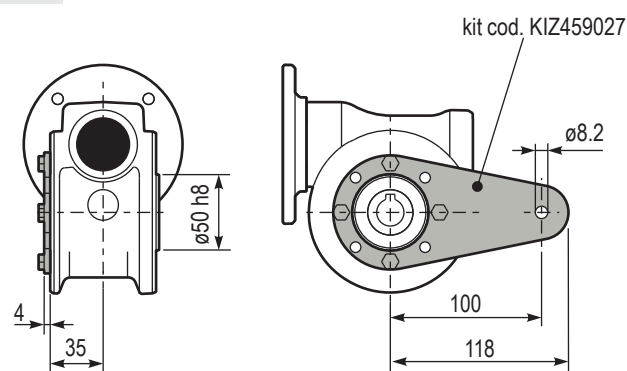
Output flange
Flangia uscita



Type	øD	E	G	L	N	O	P	Q	Kit code
FC	60 ^{+0.15} _{+0.05}	9	9	60.5	28	87	110	8.5	① KZ459010 ② -
FL	60 ^{+0.15} _{+0.05}	9	9	90.5	58	87	110	8.5	① KZ459010 ② KZ450200

PZ45BR..

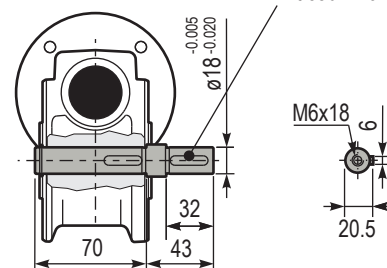
Reaction arm
Braccio di reazione



PZ45..S..

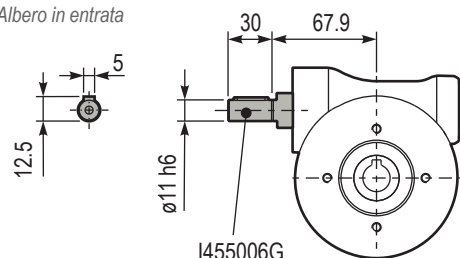
Single output shaft
Albero semplice in uscita

kit cod. KI0455028



RZ45UN..

Input shaft
Albero in entrata



Z50

72
NmVFZ series
Aluminum worm gearboxes

Riduttori a vite senza fine in alluminio

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges			B14 motor flanges				Dynamic efficiency	Tooth module	Ratio code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-	-O	-P	-Q	-R	RD	[mm]	
200	7	0.75	29	1.9	1.5	57				56	63	71	80	82	2.5	01
140	10	0.75	41	1.5	1.1	62					C			80	2.4	02
100	14	0.75	57	1.2	0.90	68					C			79	2.6	03
78	18	0.55	51	1.2	0.67	62					C			75	2.0	04
54	26	0.55	67	1.0	0.54	66					C			69	2.7	05
47	30	0.55	79	0.9	0.50	72					C			70	2.5	12
39	36	0.37	63	1.2	0.43	72				C	C			69	2.1	06
33	43	0.37	72	1.0	0.35	68				C	C			66	1.8	07
28	50	0.25	53	1.2	0.31	66				C	C			62	1.5	13
23	60	0.25	59	1.0	0.26	62				C	C			58	1.3	08
21	68	0.25	66	0.9	0.22	58				C	C			57	1.2	09
17.5	80	0.18	53	1.1	0.19	57				C	C			54	1.0	10
14	100	0.12	41	1.3	0.15	51				C	C			50	0.8	11

Motor flanges available
Flange motore disponibiliB) Supplied with reduction bushing
Fornito con bussola di riduzioneB) Available on request without reduction bushing
Disponibile a richiesta senza bussola di riduzioneC) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

Unit Z50 is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo Z50 viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Oil quantity for
all positions:
0.12Lt.

Quantità olio per tutte
le posizioni: 0.12Lt.

Agip
Telium VSF 320

Shell
Omala S4 WE 320

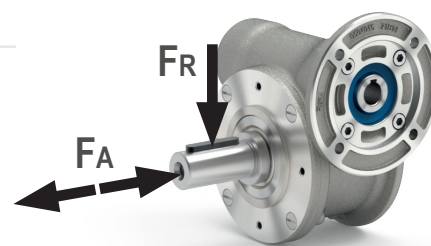
Radial and axial loads

Carichi radiali e assiali

Output shaft

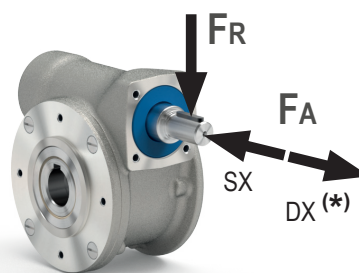
Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [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]	F_A [N]	F_R [N]
1400	76	380

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

* Non sono consentiti forti carichi assiali con direzione DX

Tab. 1

Tab. 2

72
Nm

Z50

PZ50UN..

Basic gearbox

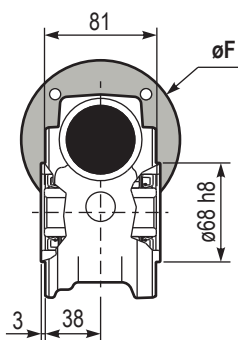
Riduttore base

Gearbox weight

Peso riduttore

3.70 kg

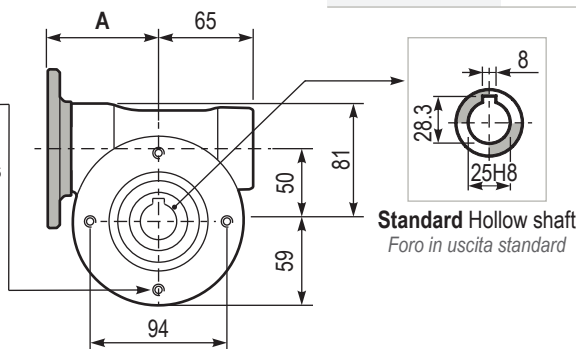
M. flanges	Kit code	øF	A
56B14	KZ504049	80	76
63B14	KZ504047	90	78.5
71B14	KZ504045	105	76
80B14	KZ504046	120	76.5



4 holes M6x9

Mounting holes position

Posizione form
di montaggio



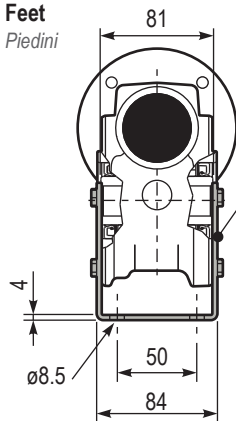
- **Standard Hollow shaft**

Foro in uscita standard

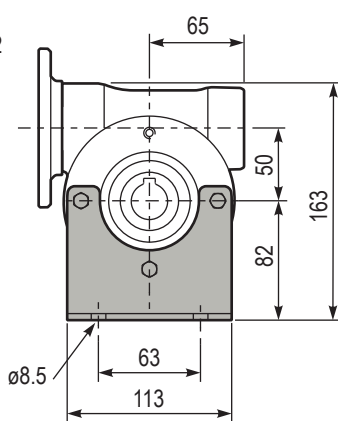
PZ50**PA..**

Feet

Piedini



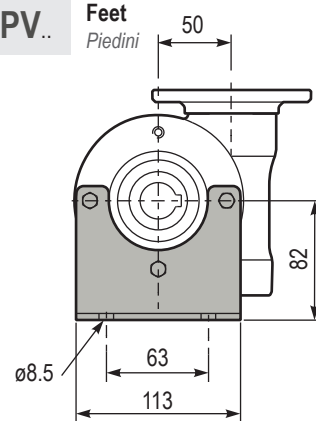
kit cod. KIZ509022



PZ50**PV**..

Feet

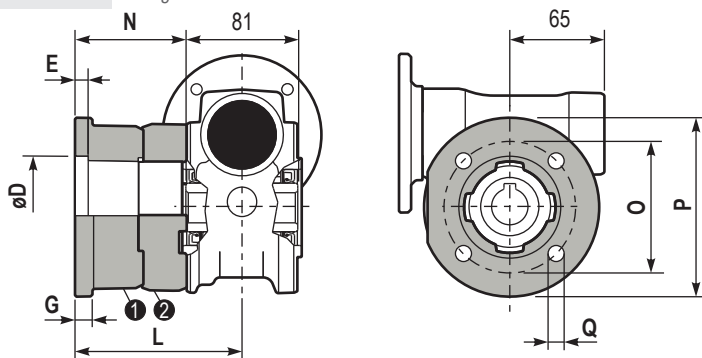
Piedini



PZ50**FC..**

Output flange

Flangia uscita

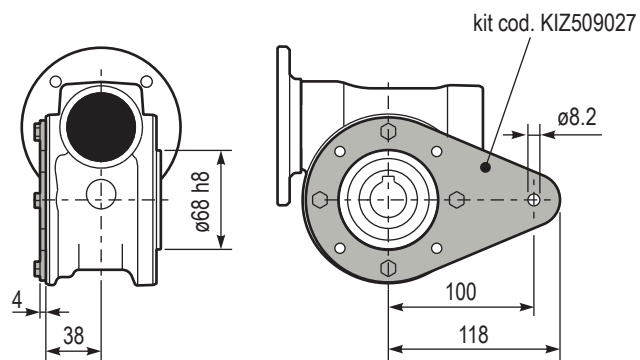


Type	øD	E	G	L	N	O	P	Q	Kit code
FC	70 ^{+0.20} _{+0.15}	9	12	85	44.5	90	123	10.5	① KZ509010 ② -
FL	70 ^{+0.20} _{+0.15}	9	12	114.5	74	90	123	10.5	① KZ509010 ② KZ500200

PZ50**BR..**

Reaction arm

Braccio di reazione



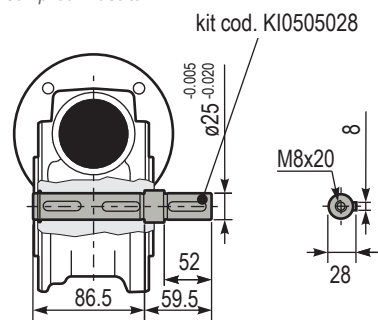
kit cod. KIZ509027

Ø8.2

PZ50..**S**..

Single output shaft

Albero semplice in uscita



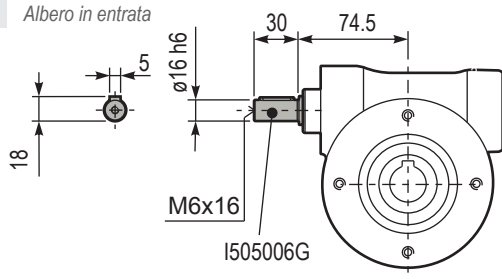
kit cod. KI0505028

M8x20

RZ50UN..

Input shaft

Albero in entrata



Z63

147
NmVFZ series
Aluminum worm gearboxes

Riduttori a vite senza fine in alluminio

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges				B14 motor flanges			Dynamic efficiency	Tooth module	Ratio code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-	-	-Q	-R	-T	RD	 [mm]	
200	7	1.8	71	1.8	3.2	125					C	C		83	3.1	01
140	10	1.8	99	1.4	2.4	134					C	C		81	3.1	02
93	15	1.5	121	1.1	1.7	138					C	C		79	3.1	03
74	19	1.1	111	1.2	1.4	138					C	C		78	2.6	04
58	24	1.1	135	1.0	1.2	142					C	C		75	2.0	05
47	30	1.1	167	0.9	0.96	146					C	C		74	3.2	06
39	36	0.75	125	1.2	0.88	147					C	C		68	2.7	07
35	40	0.75	135	1.0	0.78	140					C	C		66	2.5	13
31	45	0.55	111	1.2	0.67	135					C	C		66	2.1	08
23	60	0.55	140	0.9	0.51	130					C	C		62	1.6	12
21	67	0.55	151	0.8	0.45	124					C	C		60	1.5	09
17.5	80	0.37	115	1.0	0.38	119					C	C		57	1.3	10
14.9	94	0.37	123	1.0	0.36	119					C	C		52	1.1	11

Motor flanges available

Flange motore disponibili



B) Supplied with reduction bushing

Fornito con bussola di riduzione



B) Available on request without reduction bushing

Disponibile a richiesta senza bussola di riduzione



C) Motor flange holes position

Posizione fori flangia motore

Lubrication

Lubrificazione

Unit Z63 is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo Z63 viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Oil quantity for
all positions:
0.30Lt.

Quantità olio per tutte
le posizioni: 0.30Lt.

Agip
Telium VSF 320

Shell
Omala S4 WE 320

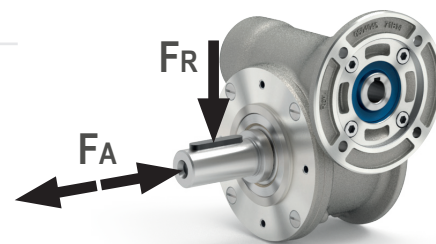
Radial and axial loads

Carichi radiali e assiali

Output shaft

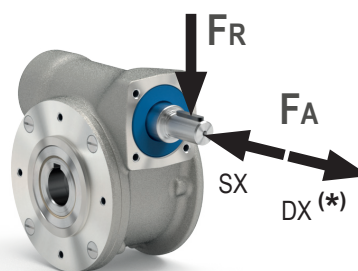
Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [N]
200	360	1800
150	400	2000
100	460	2300
75	500	2500
50	600	3000
25	700	3800
15	800	4000



Input shaft

Albero in entrata



n_1 [min ⁻¹]	F_A [N]	F_R [N]
1400	90	450

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

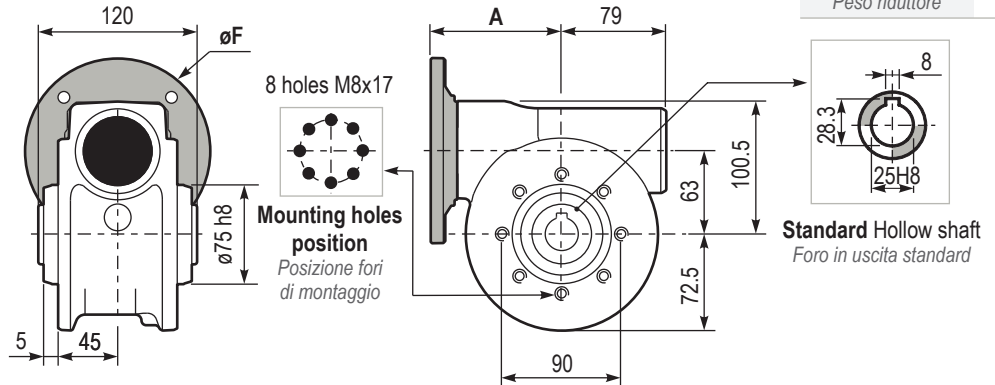
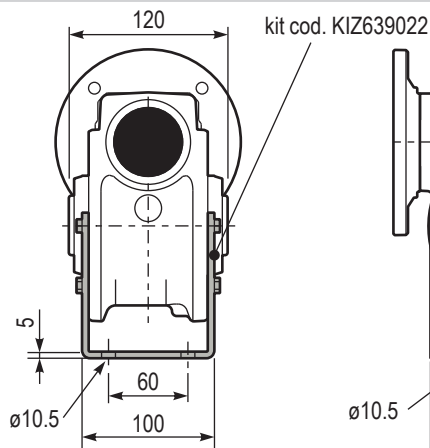
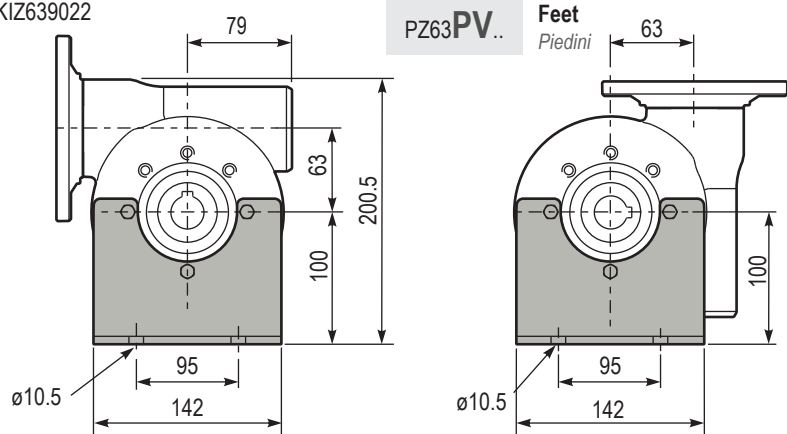
* Non sono consentiti forti carichi assiali con direzione DX

Tab. 1

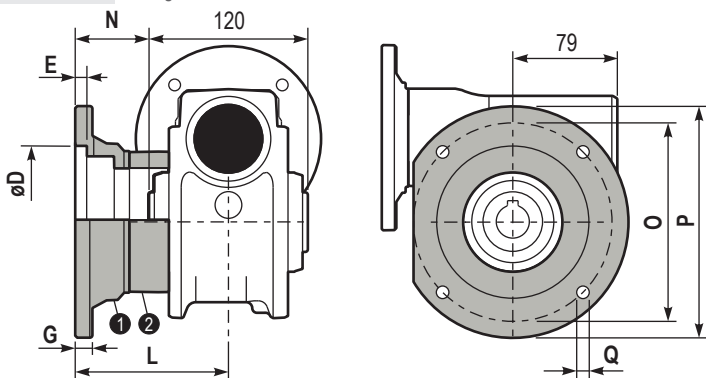
Tab. 2

Gearbox weight <i>Peso riduttore</i>	6.70 kg
--	----------------

M. flanges	Kit code	øF	A
71B14	KZ634047	105	97.5
80B14	KZ634046	120	99.5
90B14	KZ634041	140	99.5

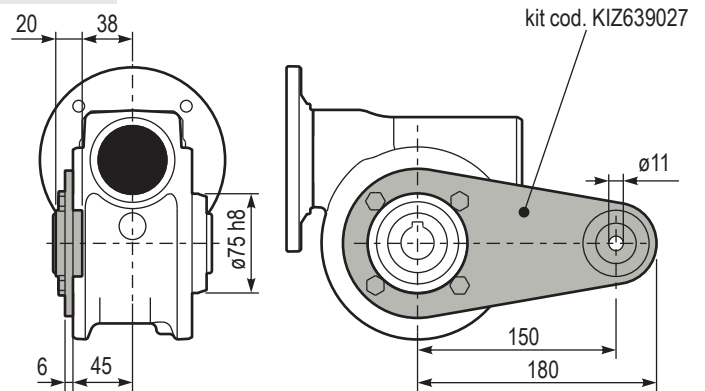
Feet
PiediniFeet
Piedir

Output flange
Flangia uscita

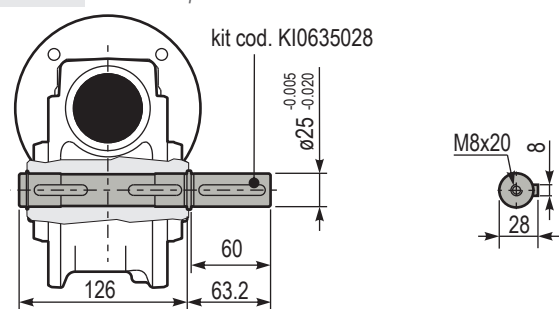


Type	øD	E	G	L	N	O	P	Q	Kit code
FC	115 ^{+0.20} _{-0.15}	7	13	86	26	150	175	11	① KZ639010 ② -
FL	115 ^{+0.20} _{-0.15}	7	13	116	56	150	175	11	① KZ639010 ② KZ630200

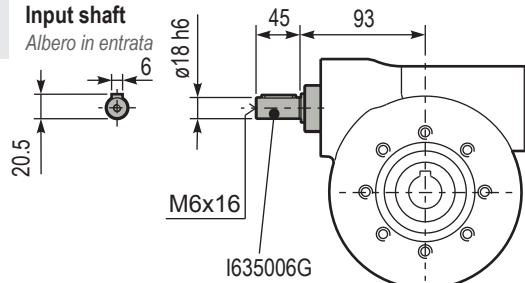
Reaction arm
Braccio di reazione



Single output shaft
Albero semplice in uscita



Input shaft
Albero in entrata



Z85

347
NmVFZ series
Aluminum worm gearboxes

Riduttori a vite senza fine in alluminio

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges				B14 motor flanges			Dynamic efficiency	Tooth module	Ratio code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-	-	-R	-T	-U	RD	 [mm]	
200	7	4.0	168	1.5	6.1	257					80	90	100 112	88	4.23	01
140	10	4.0	218	1.3	5.2	284								80	4.2	02
100	14	3.0	223	1.4	4.1	305								78	4.5	03
70	20	2.2	237	1.2	2.7	294								79	3.4	04
64	22	2.2	258	1.1	2.5	294								78	3.1	05
50	28	2.2	315	1.1	2.4	347								75	4.7	06
37	38	1.5	276	1.2	1.8	336								71	3.5	07
30	46	1.5	320	1.0	1.5	326								68	3.1	08
27	52	1.1	258	1.1	1.2	289								66	2.7	09
21	67	1.1	327	0.9	0.97	289								65	2.1	10
18.9	74	0.75	220	1.2	0.91	268								58	1.9	11
14.6	96	0.55	191	1.3	0.70	242								53	1.5	12

Motor flanges available
Flange motore disponibiliB) Supplied with reduction bushing
Fornito con bussola di riduzioneB) Available on request without reduction bushing
Disponibile a richiesta senza bussola di riduzioneC) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

Unit Z85 is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo Z85 viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Oil quantity for
all positions:
0.95Lt.

Quantità olio per tutte
le posizioni: 0.95Lt.

Agip
Telium VSF 320

Shell
Omala S4 WE 320

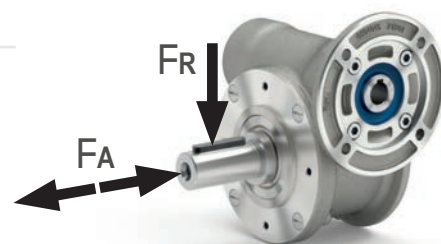
Radial and axial loads

Carichi radiali e assiali

Output shaft

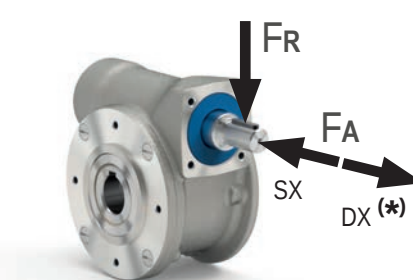
Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [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]	F_A [N]	F_R [N]
1400	130	650

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

* Non sono consentiti forti carichi assiali con direzione DX

Tab. 1

Tab. 2

347
Nm

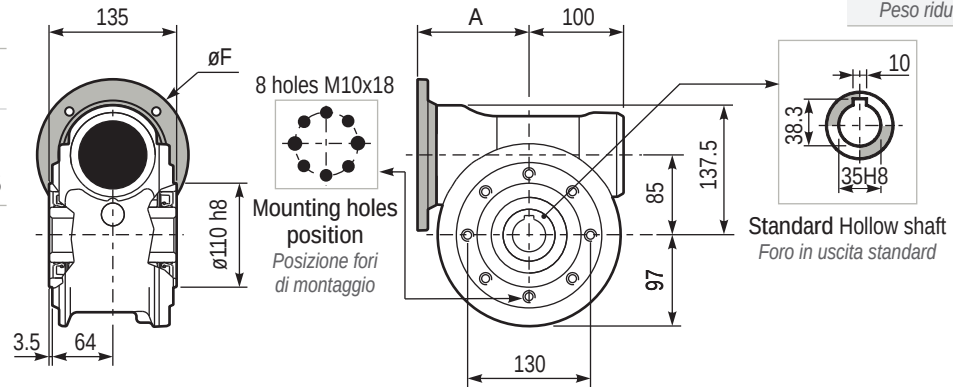
Z85

PZ85UN..

Basic gearbox
Riduttore base

Gearbox weight
Peso riduttore 13.00 kg

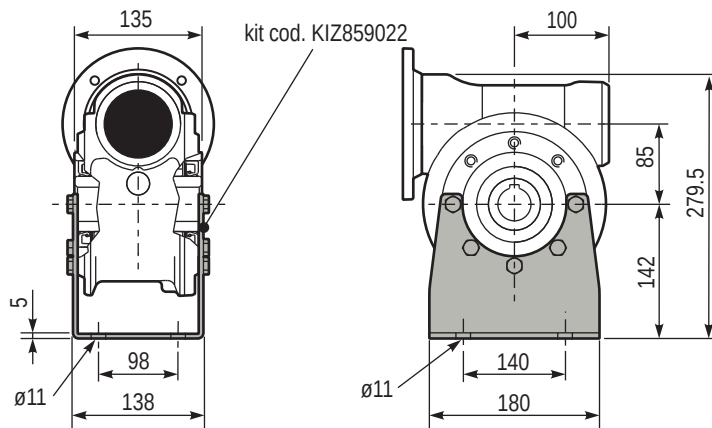
M. flanges	Kit code	øF	A
80B14	KZ854046	120	118.5
90B14	KZ854045	140	118.5
100/112B14	KZ854047	160	127.5



PZ85PA..

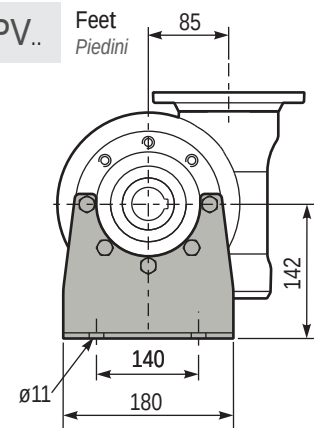
Feet
Piedini

kit cod. KIZ859022



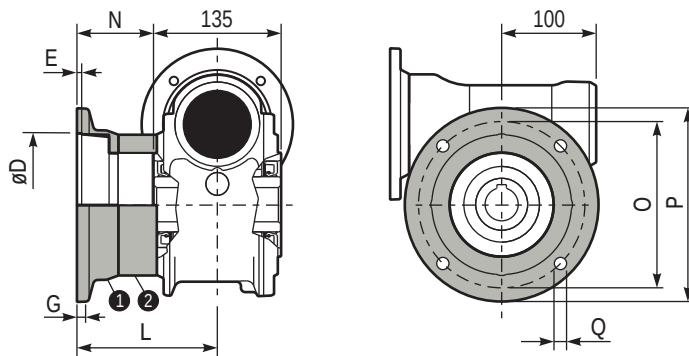
PZ85PV..

Feet
Piedini



PZ85FC..

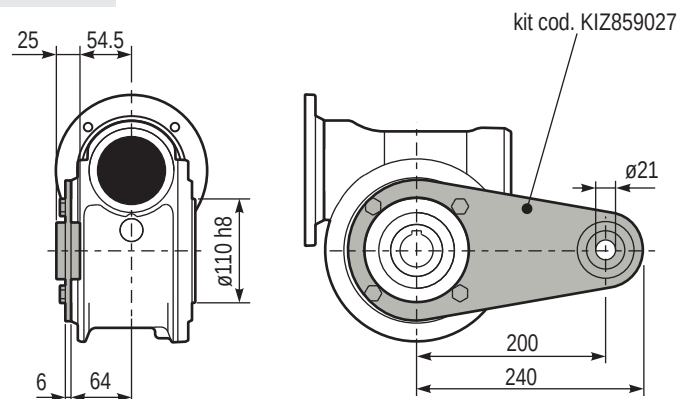
Output flange
Flangia uscita



Type	øD	E	G	L	N	O	P	Q	Kit code
FC	152 ^{+0.06} _{-0.00}	5	16	108	40.5	176	205	13	① KZ859010 ② -
FL	152 ^{+0.06} _{-0.00}	5	16	148.5	81	176	205	13	① KZ859010 ② KZ850201

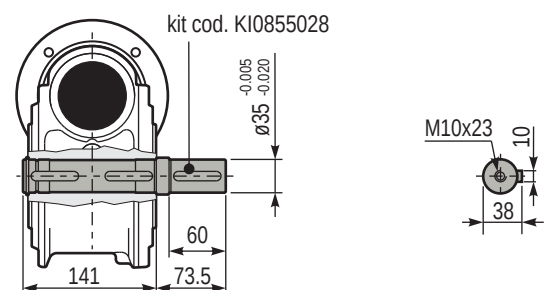
PZ85BR..

Reaction arm
Braccio di reazione



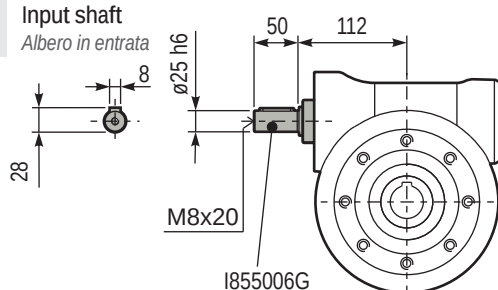
PZ85..S..

Single output shaft
Albero semplice in uscita



Rz85UN..

Input shaft
Albero in entrata





z RCZ series Aluminum ratio multipliers

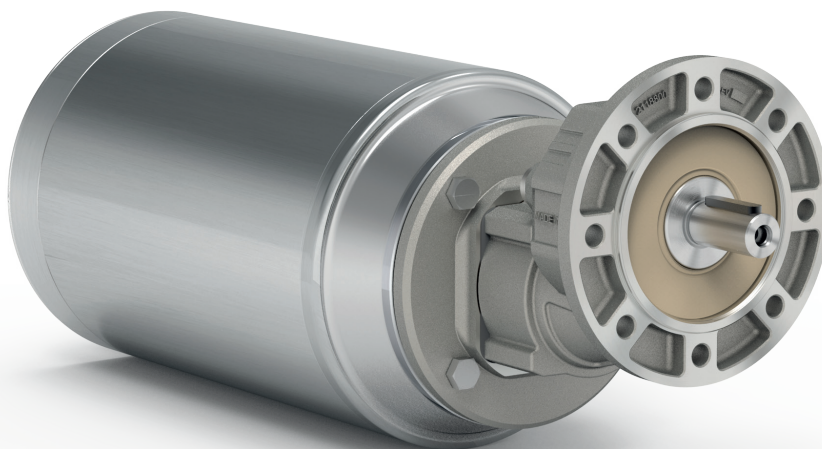
Riduttori ad uno stadio in alluminio

Section **2**
Sezione 2

This range is



certified



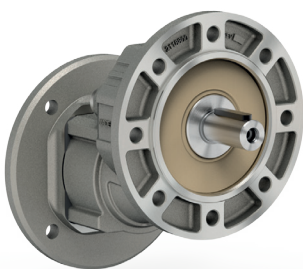
FEATURES

Caratteristiche

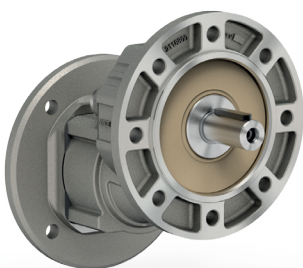
RCZ series Aluminum ratio multipliers

Riduttori ad uno stadio in alluminio

Type <i>Tipo</i>	Torque <i>Coppia</i>	Center distance <i>Interasse</i>	Input power <i>Potenza in entrata</i>	Output shaft <i>Albero in uscita</i>
211Z	20 Nm	30 mm	0.25 ÷ 0.37 kW	ø14 mm

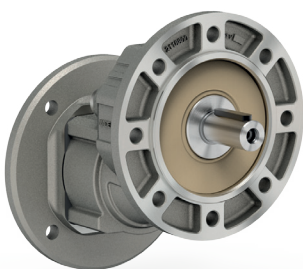


This product is:



Stainless steel output shaft.

Albero in uscita in acciaio inox.

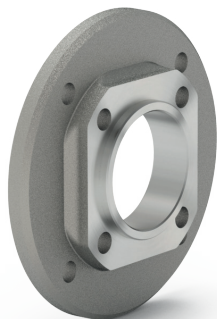


NTT™ stands for a special surface treatment which results in modified external properties of the complete unit in order to get a smooth surface and an higher corrosion resistance.

NTT™ è uno speciale trattamento che come risultato ha la modifica delle proprietà superficiali del riduttore allo scopo di ottenere una superficie liscia e con maggiore resistenza alla corrosione.

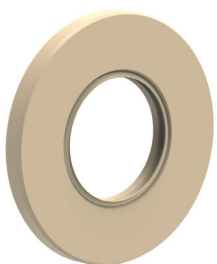
FEATURES

Caratteristiche

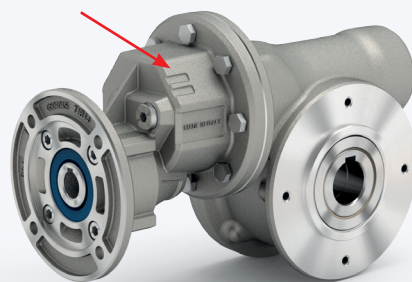


Fully modular IEC flanges and compact NEMA C motor flanges.

Flange IEC e NEMA completamente modulari.



Standard FPM (fkm) seals are used, since seals will be in a closed area.



Anelli di tenuta FPM(fkm) standard.

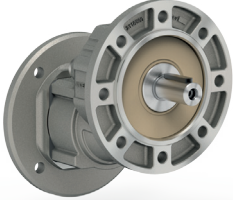


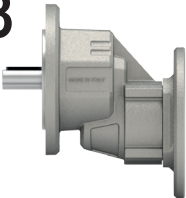
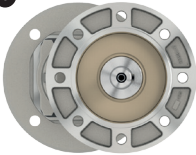
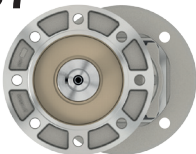
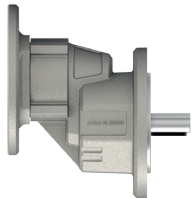
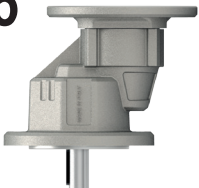
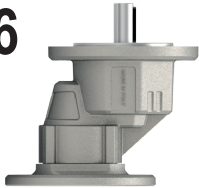
Hardened and ground gears.

Ingranaggi temprati e rettificati.

How to order

Codifica

P	211Z	-F	2.05	S
Type <i>Tipo</i>	Size <i>Grandezza</i>	Mounting <i>Montaggio</i>	Ratio <i>Rapporto</i>	Output shaft <i>Albero lento</i>
P 	211Z	-F 	See technical data table <i>Vedi tabelle dati tecnici</i>	
M 				S -> ø14
B 				

I	-Q	B3	-	With Type M specify terminal box position Con tipo M specificare posizione morsettiera
Output flange Flangia uscita	Motor size Grandezza motore	Mounting position Posizione di montaggio	Input bore Foro entrata	Terminal box position Posizione morsettiera
 I -> ø105	Flange <i>Flange</i>  IEC B14 -O -> 56 B14 (ø80) -P -> 63 B14 (ø90) -Q -> 71 B14 (ø105)	B3 	- Standard bore <i>Foro standard</i>	A 
	Without flange <i>Senza flangia</i>  211Z -Z -> ø9 (56 B5) -0 -> ø11 (63 B5) -1 -> ø14 (71 B5)	B6 		B 
		B7 		C 
		B8 		D 
		V5 		
		V6 		

Useful formulas

Formule utili

Required power - Potenza richiesta

Lifting - Sollevamento

Rotation - Rotazione

Linear movement - Traslazione

$$P_{[kW]} = \frac{M_{[Kg]} \cdot g_{[9.81]} \cdot v_{[m/s]}}{1000}$$

$$P_{[kW]} = \frac{M_{[Nm]} \cdot n_{[rpm]}}{9550}$$

$$P_{[kW]} = \frac{F_{[N]} \cdot v_{[m/s]}}{1000}$$

Torque - Coppia

$$M_{[Nm]} = \frac{9550 \cdot P_{[kW]}}{n_{[rpm]}}$$

$$M_{[lb\ in]} = \frac{63030 \cdot P_{[HP]}}{n_{[rpm]}}$$

Radial loads - Carichi radiali

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.

$$F_R[N] = \frac{M_{[Nm]} \cdot 2000}{d_{[mm]}} \cdot f_k$$

$$F_R[N] = \frac{M_{[lb\ in]} \cdot 8.9}{d_{[in]}} \cdot f_k$$

M: Output torque - Momento torcente

d: Diam. of driving element - Diametro primitivo

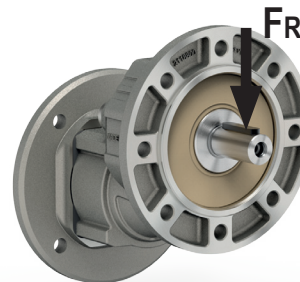
f_k: Factor - Coefficiente di trasformazione

1.15: Gearwheels - Ingranaggi

1.25: Chain sprockets - Catena

1.75: Narrow v-belt pulley - Cinghia Trapezoidale

2.50: Flat-belt pulley - Cinghia piatta



If your application requires higher radial loads, contact our technical office. Higher loads may be possible.

Nel caso la vostra applicazione richieda carichi radiali superiori consultare il nostro ufficio tecnico, valori maggiori possono essere accettati.

How to select a gearbox

Come selezionare un riduttore

A

Select required torque (according to service factor)

Seleziona la coppia desiderata (comprensiva del fattore di servizio)

B

Select output speed

Seleziona la velocità in uscita

C

Select gear ratio in the line corresponding to the chosen motor power

Sulla riga corrispondente alla motorizzazione prescelta si può rilevare il rapporto di riduzione

D

Select motor flange available (if requested)

Scegli la flangia disponibile (se richiesta)

Gear size
Grandezza
riduttore

C

Ratio
Rapporto

Transmitted torque
Momento torcente
trasmesso

Nominal power
Potenza nominale

Flange code
Codice flangia

Input speed
Velocità in entrata

211Z

20
Nm

RCZ series
Aluminum ratio multipliers

Riduttori ad uno stadio in alluminio

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

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		B14 motor flanges				Output shaft 	Ratios code 
							-B 63	-C 71	-O 71	-P 80	-Q 90			
682	2.05	0.37	5	2.0	0.73	10			C	C		1939	standard ø14	01
595	2.35	0.37	6	2.1	0.76	12			C	C		1740		02
500	2.80	0.37	7	2.0	0.75	14			C	C		1542		03
414	3.38	0.37	8	2.0	0.75	17			C	C		1344		04
298	4.70	0.37	12	1.7	0.64	20			C	C		1047		05
225	6.22	0.37	15	1.5	0.55	23			C	C		956		06
169	8.29	0.37	20	1.0	0.36	20			C	C		758		07
142	9.83	0.25	16	1.0	0.24	16			C	C		659		08

B

Output speed
Velocità in uscita

Motor power
Potenza motore

Service factor
Fattore di servizio

A

Nominal torque
Momento torcente
nominale

Output shaft diam.
Diametro albero uscita

Notes
Note

Type of load and starts per hour

Tipo di carico e avviamenti per ora

Oper. hours per day
Ore di funz. giorn.

		3h	10h	24h
Continuous or intermittent application with start / hour <i>Applicazione continua o intermittente con numero operazioni/ora</i>	Uniform - <i>Uniforme</i>	0.8	1	1.25
	Moderate - <i>Moderato</i>	1	1.25	1.5
	Heavy - <i>Forte</i>	1.25	1.5	1.75
Intermittent application with start / hour <i>Applicazione intermittente con numero operazioni/ora</i>	Uniform - <i>Uniforme</i>	1	1.25	1.5
	Moderate - <i>Moderato</i>	1.25	1.5	1.75
	Heavy - <i>Forte</i>	1.5	1.75	2.15

D

Motor flange available
Flange disponibili

B)

Mounting with reduction bushing
Montaggio con boccola di riduzione

C)

Motor flange holes position/terminal box position
Posizione fori flangia/basetta motore

B)

Available without reduction bushing
Disponibile anche senza boccola

211Z

20
Nm

RCZ series Aluminum ratio multipliers

Riduttori ad uno stadio in alluminio

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

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		B14 motor flanges				Output shaft	Ratios code
							-	-	-O	-P	-Q			
							-	-	56	63	71			
682	2.05	0.37	5	2.0	0.73	10			C	C		1939	standard ø14	01
595	2.35	0.37	6	2.1	0.76	12			C	C		1740		02
500	2.80	0.37	7	2.0	0.75	14			C	C		1542		03
414	3.38	0.37	8	2.0	0.75	17			C	C		1344		04
298	4.70	0.37	12	1.7	0.64	20			C	C		1047		05
225	6.22	0.37	15	1.5	0.55	23			C	C		956		06
169	8.29	0.37	20	1.0	0.36	20			C	C		758		07
142	9.83	0.25	16	1.0	0.24	16			C	C		659		08

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

Lubrication

Lubrificazione

Unit 211Z is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo 211Z viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

**Oil quantity for
all positions:
0.05Lt.**

Quantità olio per tutte
le posizioni: 0.05Lt

Agip
Telium VSF 320

Shell
Omala S4 WE 320

Radial and axial loads

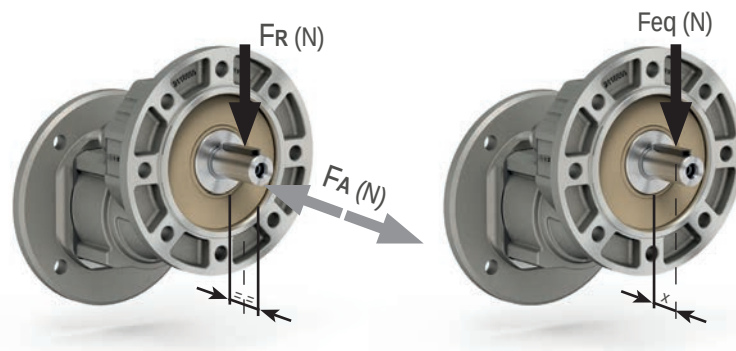
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [N]
700	101	504
600	120	600
400	138	696
300	151	756
200	175	876
140	192	960

$$F_{eq} = F_R \cdot \frac{34.5}{X + 19.5}$$



Tab. 1

Tab. 2

20
Nm

211Z

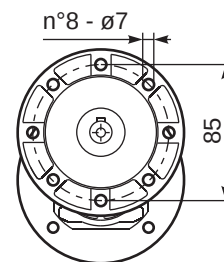
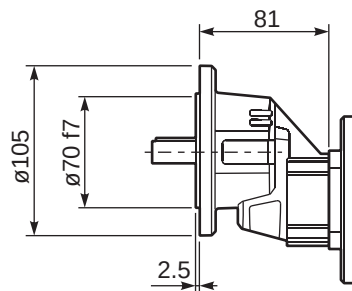
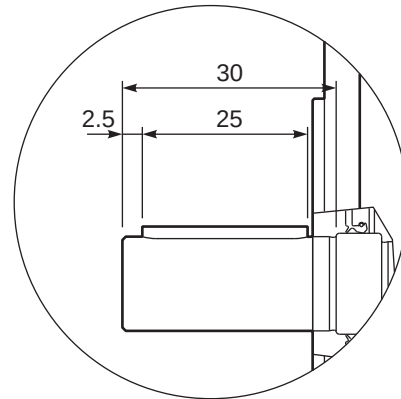
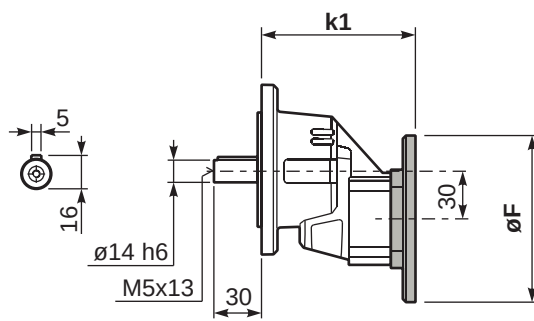
P211Z-F...

Basic gearbox
Riduttore base

Gearbox weight
Peso riduttore

1.40 kg

M. flanges	Kit code	k1	øF
56 B14	KZ504049	97	80
63 B14	KZ504047	99.5	90
71 B14	KZ504045	97	105





L VFL series Stainless steel shielded worm gearboxes

Riduttori a vite senza fine schermati in acciaio inox

Section 3
Sezione 3

This range is



certified



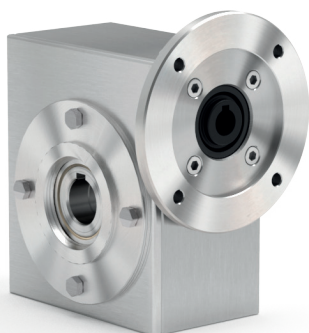
FEATURES

Caratteristiche

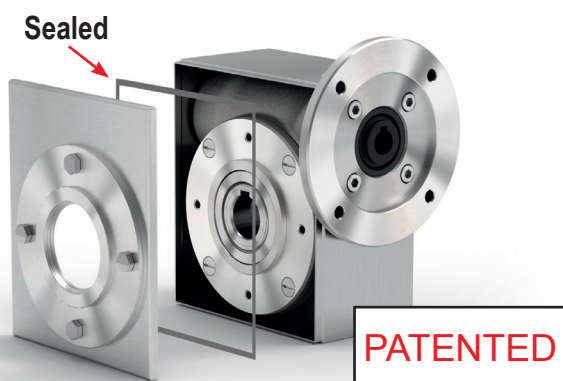
VFL series Stainless steel shielded worm gearboxes

Riduttori a vite senza fine schermati in acciaio inox

Type Tipo	Torque Coppia	Center distance Interasse	Input power Potenza in entrata	Hollow output shaft Albero cavo in uscita
LD45	41 Nm	45 mm	0.12 ÷ 0.37 kW	ø18 mm
LD50	72 Nm	50 mm	0.12 ÷ 0.75 kW	ø25 mm
LD63	147 Nm	63 mm	0.37 ÷ 1.8 kW	ø25 mm
LD85	347 Nm	85 mm	0.55 ÷ 4.0 kW	ø35 mm

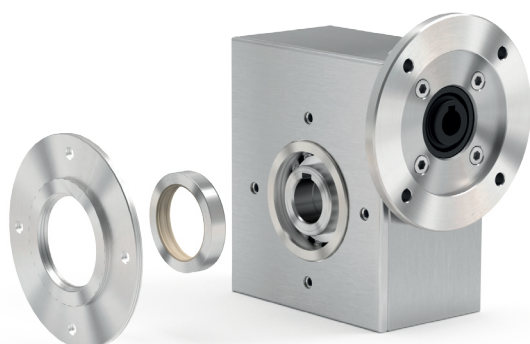


This product is:



The “L” series is an already totally enclosed aluminum gearboxes, that is shielded and sealed by stainless steel 316L case.

La serie “L” è ottenuta da un riduttore in alluminio che viene incapsulato all'interno di un carter sigillato in inox 316L.



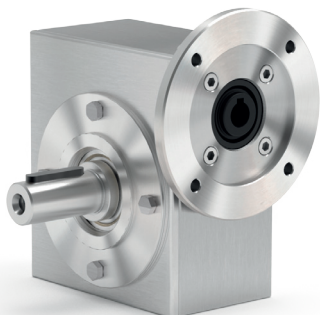
Twin viton seals with stainless steel 316L shield.



Doppio anello di tenuta in viton con schermo protettivo in acciaio inox AISI 316L.

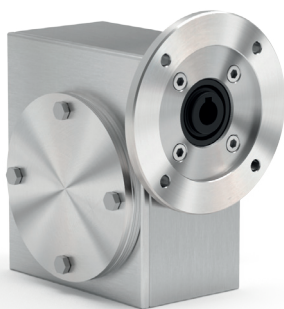
FEATURES

Caratteristiche



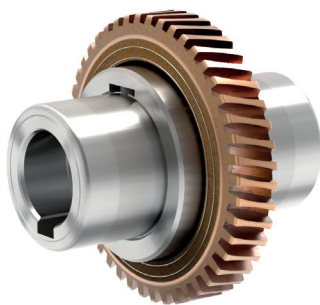
Output shaft is produced in AISI 316L.

Albero in uscita in AISI 316L.



Protection cap in AISI 316L.

Coperchietto di protezione in AISI 316L.

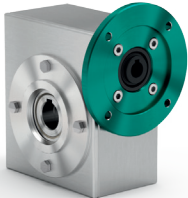
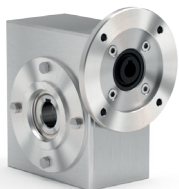
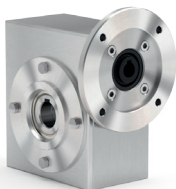
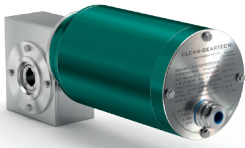
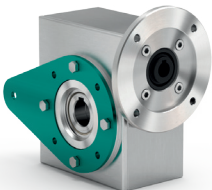
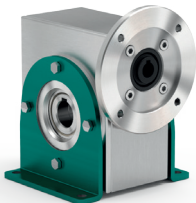
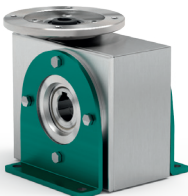


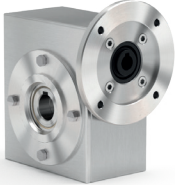
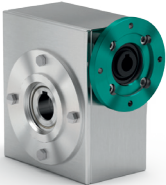
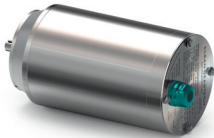
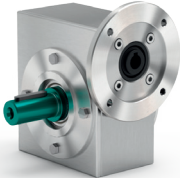
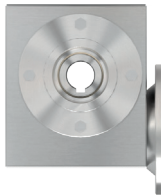
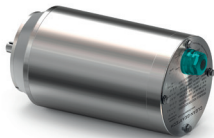
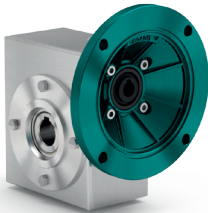
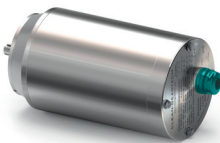
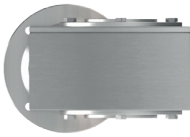
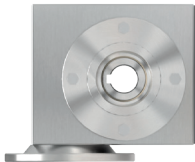
CuSn12Ni (C91700) Nickel bronze worm gears are centrifugally cast onto an iron hub for maximum strength and superior life. Removable hollow shaft with key for safe torque transmissions.

Corona in bronzo al Nickel CuSn12Ni (C91700) centrifugato e mozzo in acciaio inox per massima resistenza e durata superiore. Albero cavo removibile con chiavetta mozzo/corona.

How to order

Codifica

P	LD50	UN	10	I
Type <i>Tipo</i>	Size <i>Grandezza</i>	Mounting <i>Montaggio</i>	Ratio <i>Rapporto</i>	Hub <i>Mozzo corona</i>
P 	LD45 LD50 LD63 LD85	UN 	See technical data table <i>Vedi tabelle dati tecnici</i>	I 
M 		BR 		LD45 -> $\varnothing 18$ LD50 -> $\varnothing 25$ LD63 -> $\varnothing 25$ LD85 -> $\varnothing 35$
B 		PA 		Z Inch LD45 -> $\varnothing 0.750''$ LD50 -> $\varnothing 1.000''$ LD63 -> $\varnothing 1.125''$ LD85 -> $\varnothing 1.500''$
		PV 		

S	-R	B3	D	With Type M specify terminal box position <i>Con tipo M specificare posizione morsettiera</i>
Output shaft <i>Albero lento</i>	Motor size <i>Grandezza motore</i>	Mounting position <i>Posizione di montaggio</i>	Input bore <i>Foro entrata</i>	Terminal box position <i>Posizione morsettiera</i>
Ø 	Flange <i>Flange</i> 	B3 	With coupling <i>Con giunto</i> 	A 
S 	IEC B14 -P -> 63 B14 (ø90) -Q -> 71 B14 (ø105) -R -> 80 B14 (ø120) -T -> 90 B14 (ø140) -U -> 100-112 B14 (ø160)	B8 	B -> 11mm C -> 14mm D -> 19mm E -> 24mm F -> 28mm W -> ø0.625" X -> ø0.875" Y -> ø1.125"	B 
	NEMA  -W -> 56C (ø6.5") -X -> 143/5TC (ø6.5") -Y -> 182/4TC (ø8.88")	B6 	0 Ready for input coupling <i>Predisposto per giunto</i> 	C 
	Without flange <i>Senza flangia</i>  -M -> Metric -N -> Nema	B7 		D 
		V5 		
		V6 		

Useful formulas

Formule utili

Required power - Potenza richiesta

Lifting - Sollevamento

Rotation - Rotazione

Linear movement - Traslazione

$$P_{[kW]} = \frac{M_{[Kg]} \cdot g_{[9.81]} \cdot v_{[m/s]}}{1000}$$

$$P_{[kW]} = \frac{M_{[Nm]} \cdot n_{[rpm]}}{9550}$$

$$P_{[kW]} = \frac{F_{[N]} \cdot v_{[m/s]}}{1000}$$

Torque - Coppia

$$M_{[Nm]} = \frac{9550 \cdot P_{[kW]}}{n_{[rpm]}}$$

$$M_{[lb\ in]} = \frac{63030 \cdot P_{[HP]}}{n_{[rpm]}}$$

Radial loads - Carichi radiali

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.

$$F_R[N] = \frac{M_{[Nm]} \cdot 2000}{d_{[mm]}} \cdot f_k$$

$$F_R[N] = \frac{M_{[lb\ in]} \cdot 8.9}{d_{[in]}} \cdot f_k$$

M: Output torque - *Momento torcente*

d: Diam. of driving element - *Diametro primitivo*

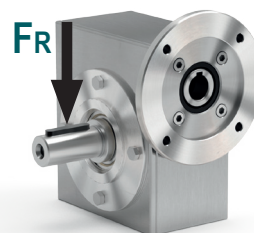
f_k: Factor - *Coefficiente di trasformazione*

1.15: Gearwheels - *Ingranaggi*

1.25: Chain sprockets - *Catena*

1.75: Narrow v-belt pulley - *Cinghia Trapezoidale*

2.50: Flat-belt pulley - *Cinghia piatta*



If your application requires higher radial loads, contact our technical office. Higher loads may be possible.

Nel caso la vostra applicazione richieda carichi radiali superiori consultare il nostro ufficio tecnico, valori maggiori possono essere accettati.

How to select a gearbox

Come selezionare un riduttore

- A** Select required torque (according to service factor)
Seleziona la coppia desiderata (comprensiva del fattore di servizio)
- B** Select output speed
Seleziona la velocità in uscita
- C** Select gear ratio in the line corresponding to the chosen motor power
Sulla riga corrispondente alla motorizzazione prescelta si può rilevare il rapporto di riduzione
- D** Select motor flange available (if requested)
Scegli la flangia disponibile (se richiesta)

Gear size
Grandezza
riduttore

C

Ratio
Rapporto

Transmitted torque
Momento torcente
trasmesso

Nominal power
Potenza nominale

Flange code
Codice flangia

Dynamic efficiency
Rendimento dinamico

Input speed
Velocità in entrata

LD45

41
Nm

VFL series

Stainless steel shielded worm gearboxes

Riduttori a vite senza fine schermati in acciaio inox

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges		B14 motor flanges		Dynamic efficiency	Tooth module	Ratio code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-P	-Q	RD	[mm]	
200	7	0.37	14	2.2	0.80	30			C		80	2.2	01
140	10	0.37	20	1.5	0.57	30			C		79	2.2	02
100	14	0.37	27	1.1	0.41	30			C		77	2.4	03
67	21	0.37	36	1.2	0.43	41			C		67	1.6	04
50	28	0.25	31	1.3	0.33	41			C		65	2.5	05
38	37	0.25	40	1.0	0.26	41			C		63	1.8	06
30	46	0.25	46	0.9	0.22	41			C		59	1.5	07
23	60	0.18	41	1.0	0.18	41			C		56	1.2	08
20	70	0.12	31	1.0	0.12	30			C		54	1.0	09
13.7	102	0.12	41	0.7	0.09	29			C		49	0.72	10

B

Output speed
Velocità in uscita

Motor power
Potenza motore

Service factor
Fattore di servizio

A

Nominal torque
Momento torcente
nominale

Nominal module
Modulo nominale

Notes
Note

Type of load and starts per hour

Tipo di carico e avviamenti per ora

Oper. hours per day
Ore di funz. giorn.

		<2h	2÷8h	8÷16h
Continuous or intermittent application with start / hour <i>Applicazione continua o intermittente con numero operazioni/ora</i>	Uniform - <i>Uniforme</i>	0.9	1	1.25
	Moderate - <i>Moderato</i>	1	1.25	1.5
	Heavy - <i>Forte</i>	1.25	1.5	1.75
Intermittent application with start / hour <i>Applicazione intermittente con numero operazioni/ora</i>	Uniform - <i>Uniforme</i>	1.25	1.5	1.75
	Moderate - <i>Moderato</i>	1.5	1.75	2
	Heavy - <i>Forte</i>	1.75	2	2.25

D

Motor flange available
Flange disponibili

B)

Mounting with reduction bushing
Montaggio con boccola di riduzione 

C)

Motor flange holes position/terminal box position
Posizione fori flangia/basetta motore 

B)

Available without reduction bushing
Disponibile anche senza boccola

VFL series

Stainless steel shielded worm gearboxes

Riduttori a vite senza fine schermati in acciaio inox

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges		B14 motor flanges		Dynamic efficiency	Tooth module	Ratio code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-P 63	-Q 71	RD	 [mm]	
200	7	0.37	14	2.2	0.80	30			C		80	2.2	01
140	10	0.37	20	1.5	0.57	30			C		79	2.2	02
100	14	0.37	27	1.1	0.41	30			C		77	2.4	03
67	21	0.37	36	1.2	0.43	41			C		67	1.6	04
50	28	0.25	31	1.3	0.33	41			C		65	2.5	05
38	37	0.25	40	1.0	0.26	41			C		63	1.8	06
30	46	0.25	46	0.9	0.22	41			C		59	1.5	07
23	60	0.18	41	1.0	0.18	41			C		56	1.2	08
20	70	0.12	31	1.0	0.12	30			C		54	1.0	09
13.7	102	0.12	41	0.7	0.09	29			C		49	0.72	10

Motor flanges available
Flange motore disponibili



B) Supplied with reduction bushing
Fornito con bussola di riduzione

B) Available on request without reduction bushing
Disponibile a richiesta senza bussola di riduzione



C) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

Unit LD45 is supplied with synthetic oil to assure long life lubrication.

Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo LD45 viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Oil quantity for
all positions:
0.08Lt.

Quantità olio per tutte
le posizioni: 0.08Lt.

Agip
Telium VSF 320

Shell
Omala S4 WE 320

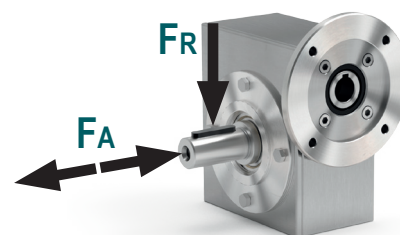
Radial and axial loads

Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [N]
200	180	900
150	200	1000
100	220	1100
75	240	1200
50	260	1400
25	300	1800
15	400	2000



Tab. 1

Tab. 2

41
Nm

LD45

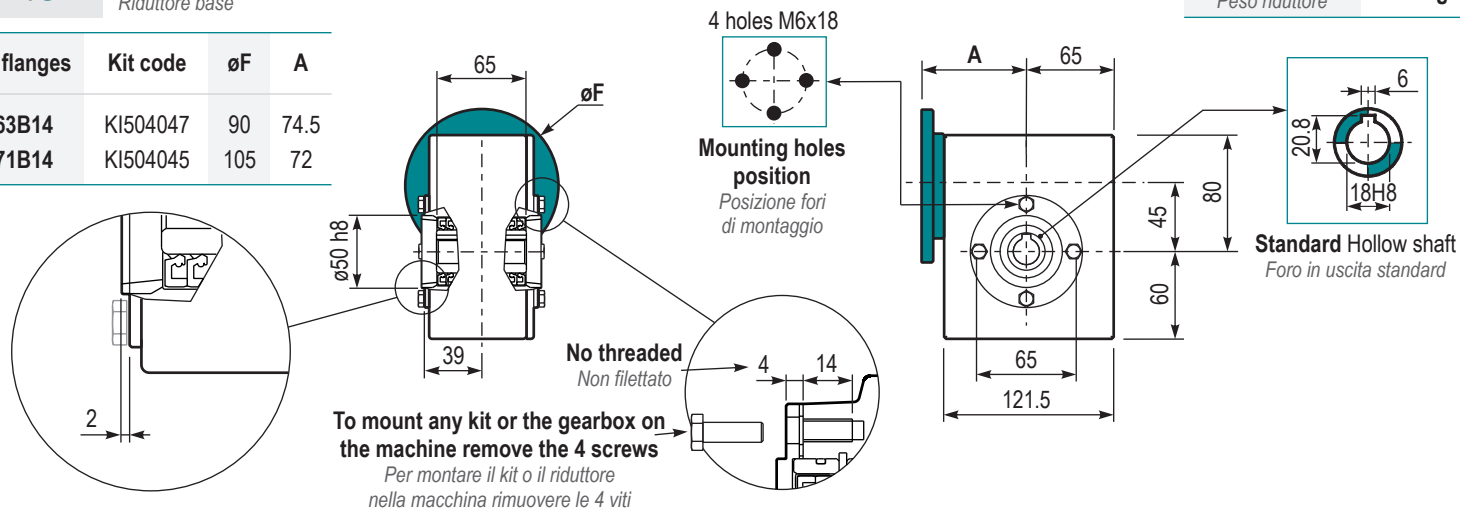
PLD45UN..

Basic gearbox
Riduttore base

M. flanges	Kit code	øF	A
63B14	KI504047	90	74.5
71B14	KI504045	105	72

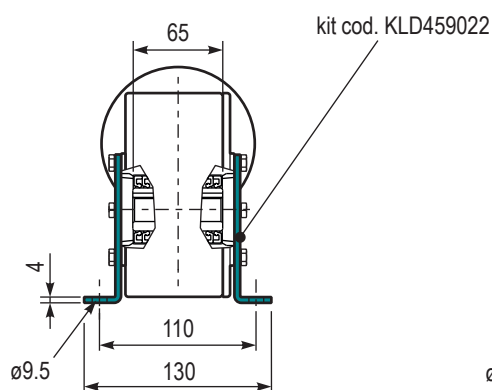
Gearbox weight
Peso riduttore

4.50 kg



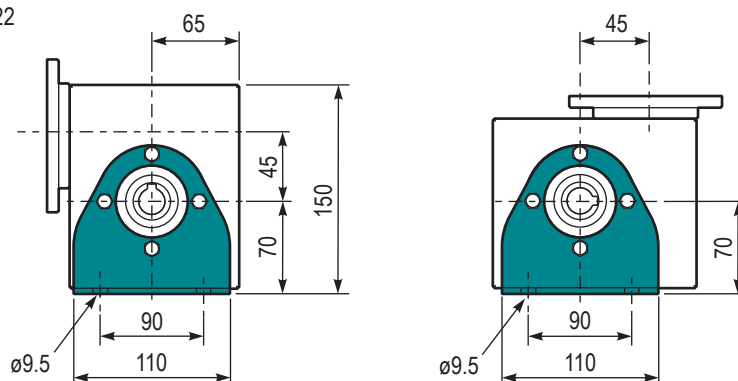
PLD45PA..

Feet
Piedini



PLD45PV..

Feet
Piedini



PLD45..S..

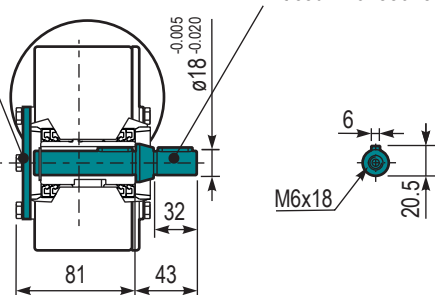
Single output shaft
Albero semplice in uscita

cod. LD450209

Protection cap (on request)

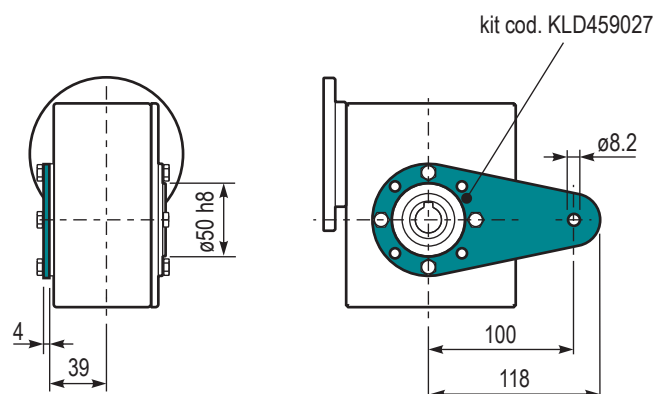
A richiesta coperchio di protezione

kit cod. KI0455028



PLD45BR..

Reaction arm
Braccio di reazione



VFL series

Stainless steel shielded worm gearboxes

Riduttori a vite senza fine schermati in acciaio inox

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges		B14 motor flanges			Dynamic efficiency	Tooth module	Ratios code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-P 63	-Q 71	-R 80	RD	[mm]	
200	7	0.75	29	1.9	1.5	57			C			82	2.5	01
140	10	0.75	41	1.5	1.1	62			C			80	2.4	02
100	14	0.75	57	1.2	0.90	68			C			79	2.6	03
78	18	0.55	51	1.2	0.67	62			C			75	2.0	04
54	26	0.55	67	1.0	0.54	66			C			69	2.7	05
47	30	0.55	79	0.9	0.50	72			C			70	2.5	12
39	36	0.37	63	1.2	0.43	72			C			69	2.1	06
33	43	0.37	72	1.0	0.35	68			C			66	1.8	07
28	50	0.25	53	1.2	0.31	66			C			62	1.5	13
23	60	0.25	59	1.0	0.26	62			C			58	1.3	08
21	68	0.25	66	0.9	0.22	58			C			57	1.2	09
17.5	80	0.18	53	1.1	0.19	57			C			54	1.0	10
14	100	0.12	41	1.3	0.15	51			C			50	0.8	11

Motor flanges available
Flange motore disponibili



B) Supplied with reduction bushing
Fornito con bussola di riduzione



B) Available on request without reduction bushing
Disponibile a richiesta senza bussola di riduzione



C) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

Unit LD50 is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo LD50 viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Oil quantity for
all positions:
0.12Lt.

Quantità olio per tutte
le posizioni: 0.12Lt.

Agip
Telium VSF 320

Shell
Omala S4 WE 320

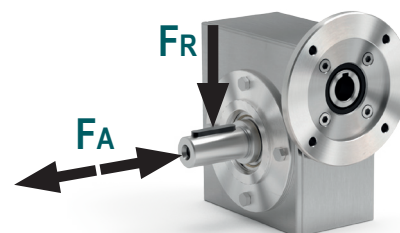
Radial and axial loads

Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [N]
200	240	1200
150	280	1400
100	300	1500
75	340	1700
50	380	1900
25	480	2500
15	560	2800



Tab. 1

Tab. 2

72
Nm

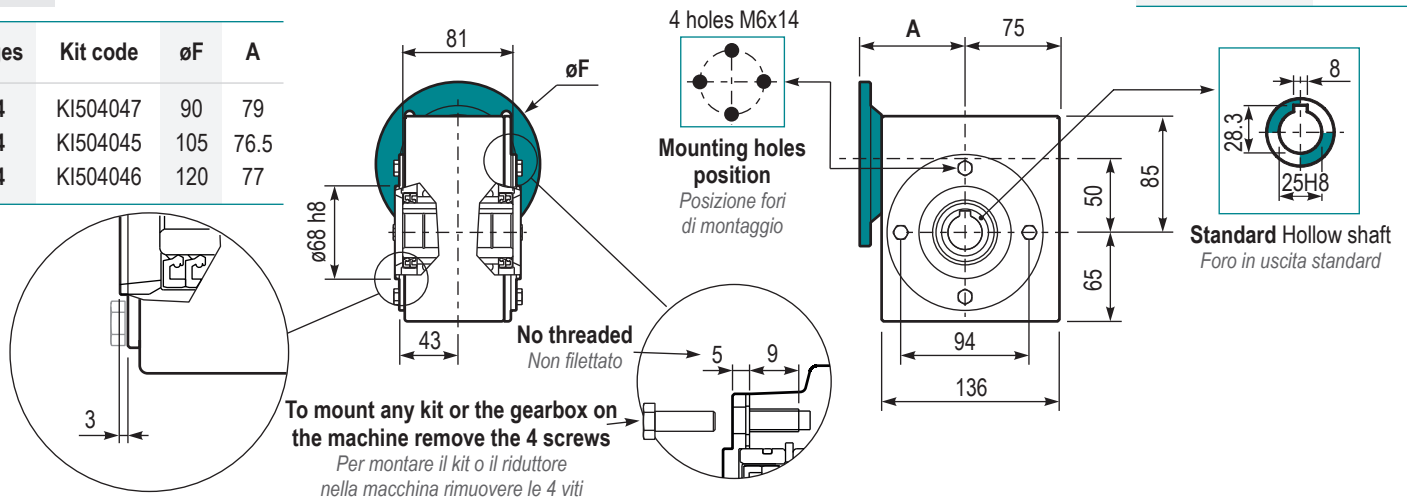
LD50

PLD50UN..

Basic gearbox
Riduttore base

Gearbox weight
Peso riduttore **6.80 kg**

M. flanges	Kit code	øF	A
63B14	KI504047	90	79
71B14	KI504045	105	76.5
80B14	KI504046	120	77

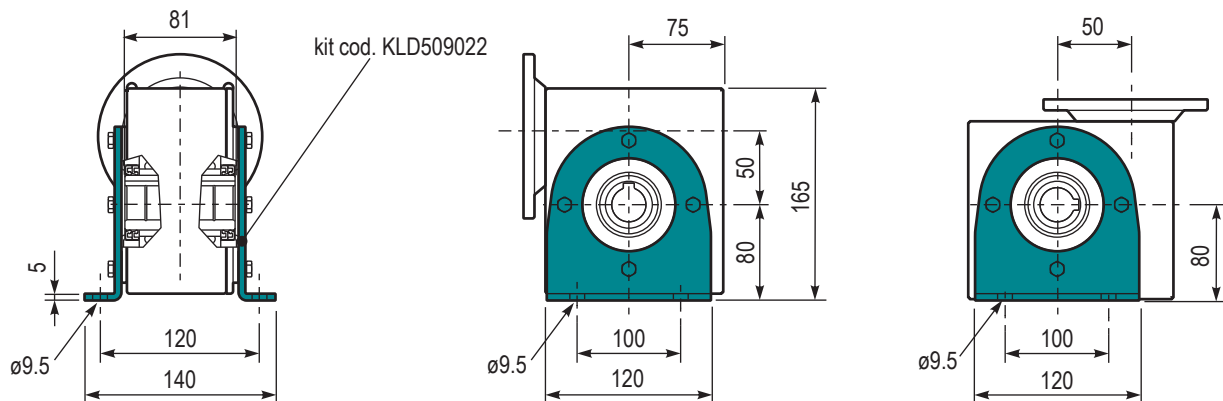


PLD50PA..

Feet
Piedini

PLD50PV..

Feet
Piedini



PLD50..S..

Single output shaft
Albero semplice in uscita

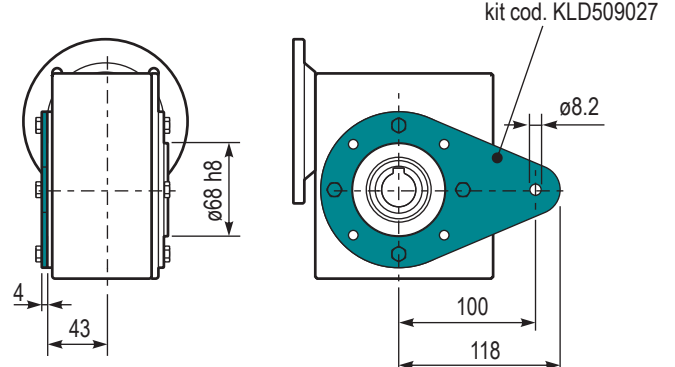
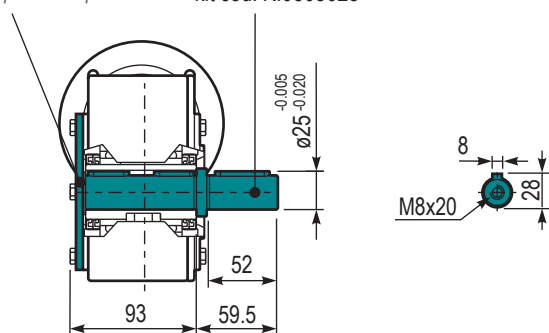
PLD50BR..

Reaction arm
Braccio di reazione

cod. LD500209

Protection cap (on request)

A richiesta coperchio di protezione kit cod. KI0505028



LD63

147
Nm

VFL series

Stainless steel shielded worm gearboxes

Riduttori a vite senza fine schermati in acciaio inox

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges				B14 motor flanges			Dynamic efficiency	Tooth module	Ratio code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-	-	-Q	-R	-T	RD	 [mm]	
200	7	1.8	71	1.8	3.2	125					C	C		83	3.1	01
140	10	1.8	99	1.4	2.4	134					C	C		81	3.1	02
93	15	1.5	121	1.1	1.7	138					C	C		79	3.1	03
74	19	1.1	111	1.2	1.4	138					C	C		78	2.6	04
58	24	1.1	135	1.0	1.2	142					C	C		75	2.0	05
47	30	1.1	167	0.9	0.96	146					C	C		74	3.2	06
39	36	0.75	125	1.2	0.88	147					C	C		68	2.7	07
35	40	0.75	135	1.0	0.78	140					C	C		66	2.5	13
31	45	0.55	111	1.2	0.67	135					C	C		66	2.1	08
23	60	0.55	140	0.9	0.51	130					C	C		62	1.6	12
21	67	0.55	151	0.8	0.45	124					C	C		60	1.5	09
17.5	80	0.37	115	1.0	0.38	119					C	C		57	1.3	10
14.9	94	0.37	123	1.0	0.36	119					C	C		52	1.1	11

Motor flanges available

Flange motore disponibili



B) Supplied with reduction bushing

Fornito con bussola di riduzione



B) Available on request without reduction bushing

Disponibile a richiesta senza bussola di riduzione



C) Motor flange holes position

Posizione fori flangia motore

Lubrication

Lubrificazione

Unit LD63 is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo LD63 viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Oil quantity for
all positions:
0.30Lt.

Quantità olio per tutte
le posizioni: 0.30Lt.

Agip
Telium VSF 320

Shell
Omala S4 WE 320

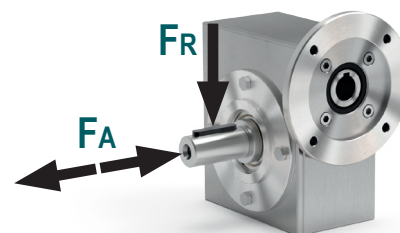
Radial and axial loads

Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [N]
200	360	1800
150	400	2000
100	460	2300
75	500	2500
50	600	3000
25	700	3800
15	800	4000



Tab. 1

Tab. 2

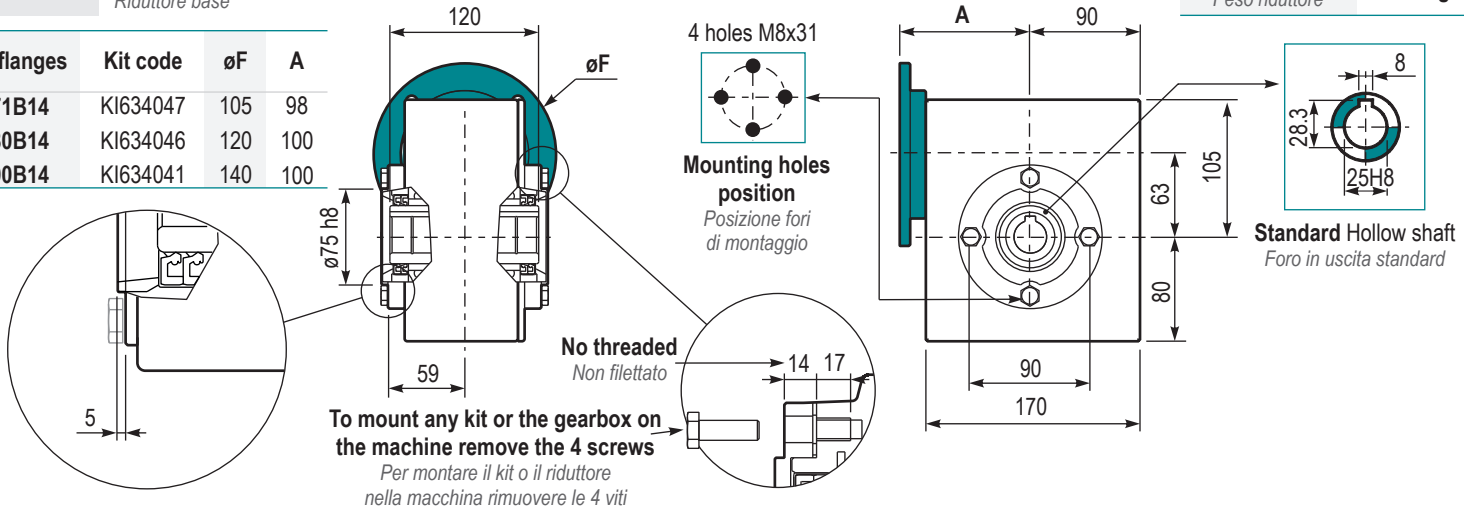
147
Nm

LD63

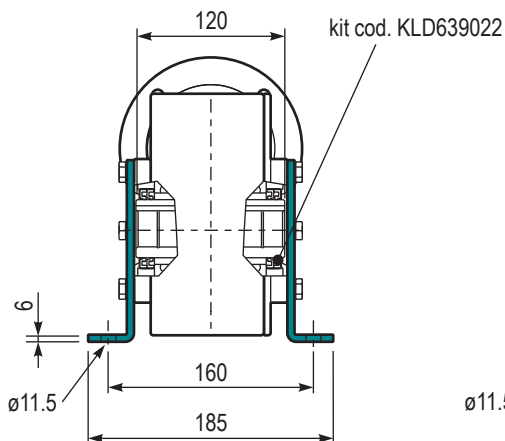
PLD63UN... **Basic gearbox**
Riduttore base

M. flanges	Kit code	øF	A
71B14	KI634047	105	98
80B14	KI634046	120	100
90B14	KI634041	140	100

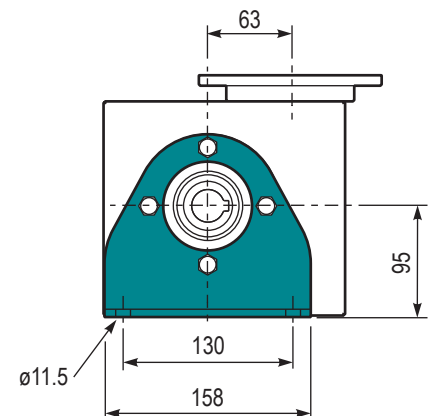
Gearbox weight
Peso riduttore **12.70 kg**



PLD63PA... **Feet**
Piedini

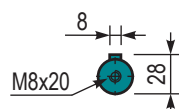
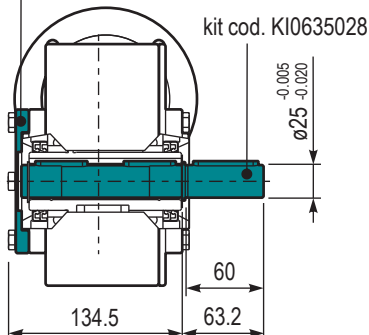


PLD63PV... **Feet**
Piedini

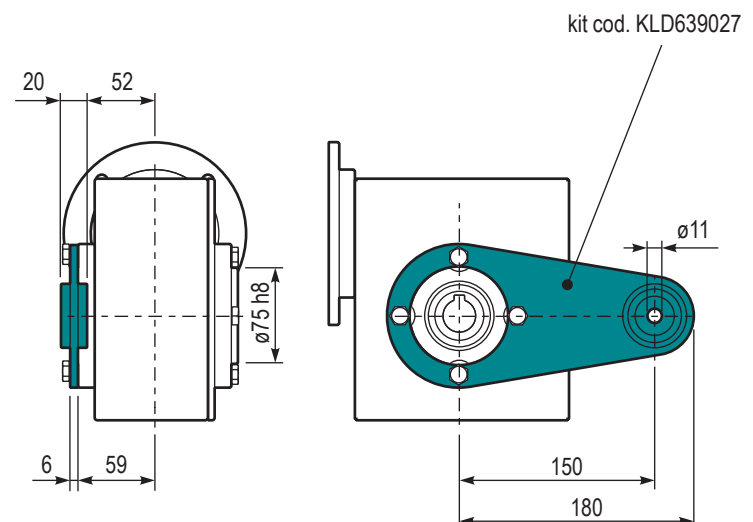


PLD63..S... **Single output shaft**
Albero semplice in uscita

cod. LD630209
Protection cap (on request)
A richiesta coperchio di protezione



PLD63BR... **Reaction arm**
Braccio di reazione



Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges				B14 motor flanges			Dynamic efficiency	Tooth module	Ratios code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-	-	-R	-T	-U	RD	 [mm]	
200	7	4.0	168	1.5	6.1	257					80	90	100-112	88	4.23	01
140	10	4.0	218	1.3	5.2	284								80	4.2	02
100	14	3.0	223	1.4	4.1	305								78	4.5	03
70	20	2.2	237	1.2	2.7	294								79	3.4	04
64	22	2.2	258	1.1	2.5	294								78	3.1	05
50	28	2.2	315	1.1	2.4	347								75	4.7	06
37	38	1.5	276	1.2	1.8	336								71	3.5	07
30	46	1.5	320	1.0	1.5	326								68	3.1	08
27	52	1.1	258	1.1	1.2	289								66	2.7	09
21	67	1.1	327	0.9	0.97	289								65	2.1	10
18.9	74	0.75	220	1.2	0.91	268								58	1.9	11
14.6	96	0.55	191	1.3	0.70	242								53	1.5	12

Motor flanges available
Flange motore disponibili



B) Supplied with reduction bushing
Fornito con bussola di riduzione



B) Available on request without reduction bushing
Disponibile a richiesta senza bussola di riduzione



C) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

Unit LD85 is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo LD85 viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Oil quantity for
all positions:
0.95Lt.

Quantità olio per tutte
le posizioni: 0.95Lt.

Agip
Telium VSF 320

Shell
Omala S4 WE 320

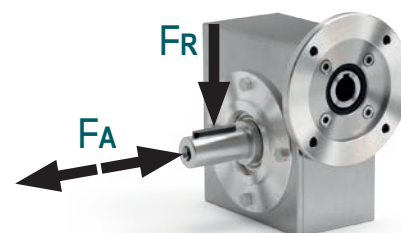
Radial and axial loads

Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [N]
200	500	2500
150	580	2900
100	600	3000
75	700	3500
50	800	4000
25	1000	5000
15	1160	5800



Tab. 1

Tab. 2

347
Nm

LD85

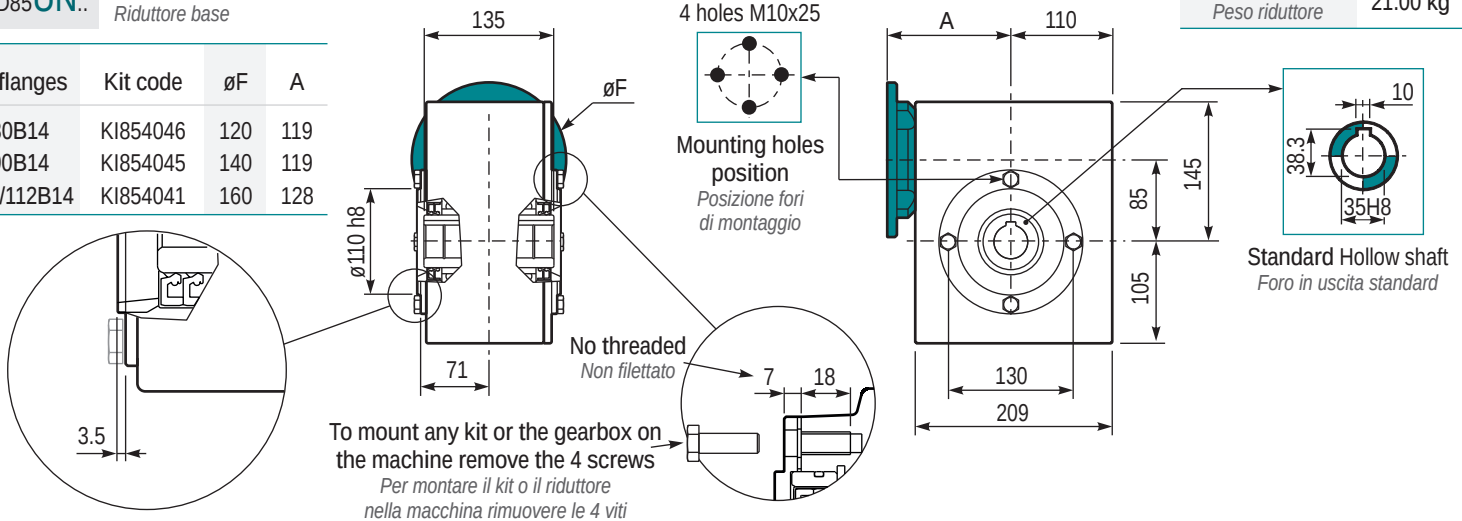
PLD85UN..

Basic gearbox
Riduttore base

M. flanges	Kit code	øF	A
80B14	KI854046	120	119
90B14	KI854045	140	119
100/112B14	KI854041	160	128

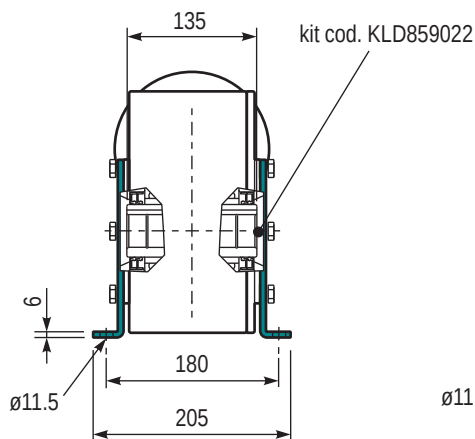
Gearbox weight
Peso riduttore

21.00 kg



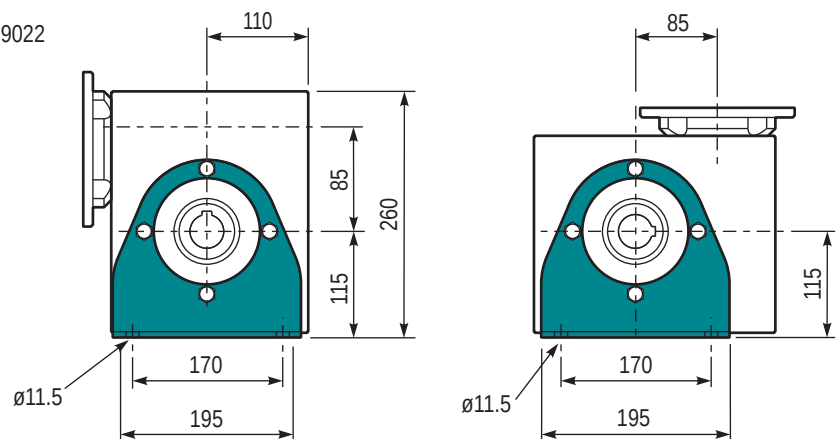
PLD85PA..

Feet
Piedini



PLD85PV..

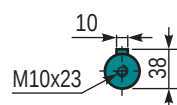
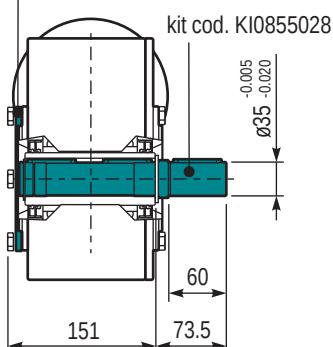
Feet
Piedini



PLD85..S..

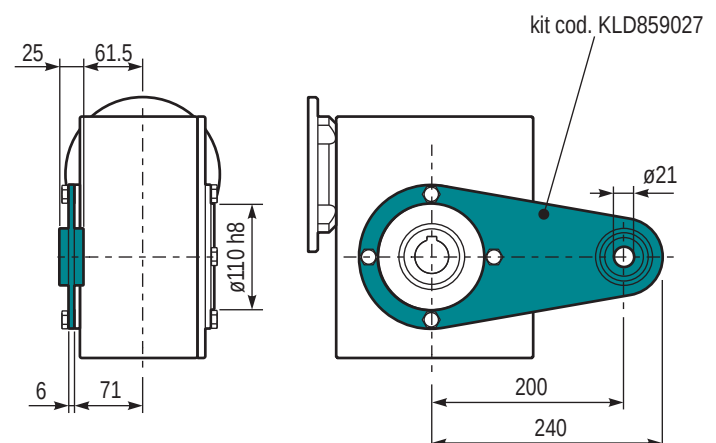
Single output shaft
Albero semplice in uscita

cod. LD850209
Protection cap (on request)
A richiesta coperchio di protezione



PLD85BR..

Reaction arm
Braccio di reazione





L RCL series Stainless steel shielded ratio multipliers

Riduttori ad uno stadio schermati in acciaio inox

Section 4
Sezione 4

This range is   certified



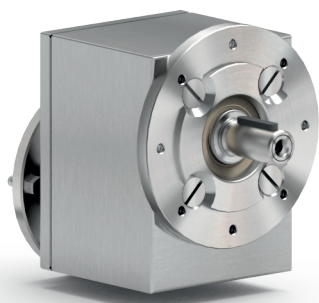
FEATURES

Caratteristiche

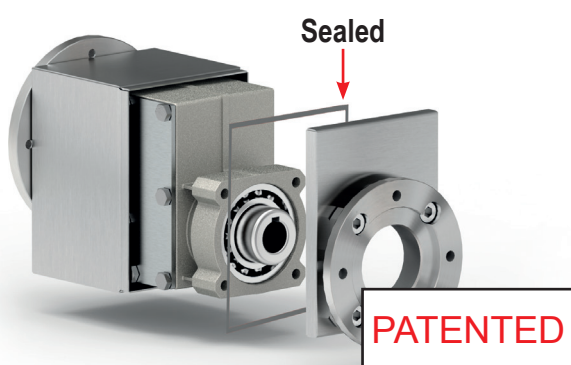
RCL series Stainless steel shielded ratio multipliers

Riduttori ad uno stadio schermati in acciaio inox

Type <i>Tipo</i>	Torque <i>Coppia</i>	Center distance <i>Interasse</i>	Input power <i>Potenza in entrata</i>	Hollow output shaft <i>Albero cavo in uscita</i>
411L	38 Nm	38 mm	0.37 ÷ 1.5 kW	ø19 mm
511L	110 Nm	50 mm	1.1 ÷ 4.0 kW	ø28 mm



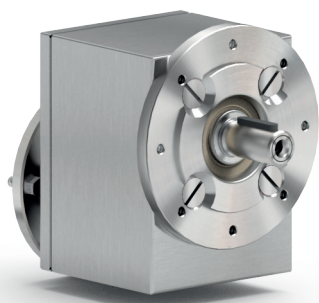
This product is:



The "L" series is an already totally enclosed aluminum gearboxes, that is shielded and sealed by stainless steel 316L case.

La serie "L" è ottenuta da un riduttore in alluminio che viene incapsulato all'interno di un carter sigillato in acciaio inox 316L.

Output shaft is produced in AISI 316L.

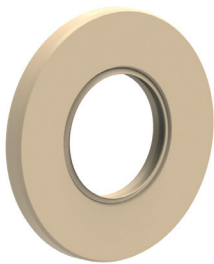


Albero in uscita in AISI 316L.

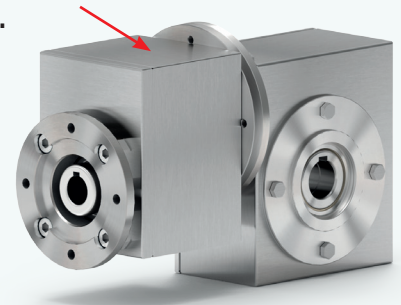


Fully modular IEC flanges and compact NEMA C motor flanges.

Flange IEC e NEMA completamente modulari.



Standard FPM (fkm) seals are used, since seals will be in a closed area.



Anelli di tenuta FPM(fkm) standard.

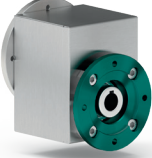
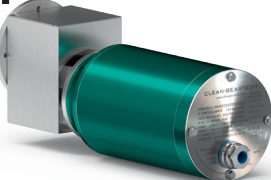
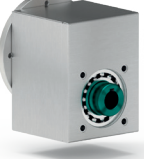


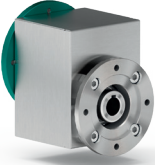
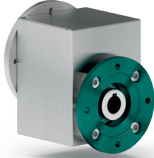
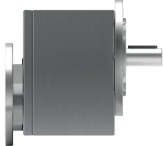
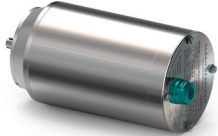
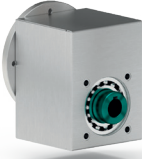
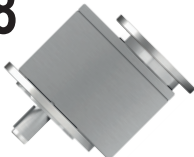
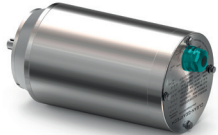
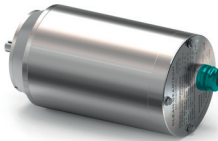
Hardened and ground gears.

Ingranaggi temprati e rettificati.

How to order

Codifica

P	411L	-F	1.57	C
Type <i>Tipo</i>	Size <i>Grandezza</i>	Mounting <i>Montaggio</i>	Ratio <i>Rapporto</i>	Output shaft <i>Albero lento</i>
P 	411L 511L	-F 	See technical data table <i>Vedi tabelle dati tecnici</i>	 411L C -> ø19
M 				 511L G -> ø28
B 				

1	-T	B3	-	With Type M specify terminal box position Con tipo M specificare posizione morsettiera
Output flange Flangia uscita	Motor size Grandezza motore	Mounting position Posizione di montaggio	Input bore Foro entrata	Terminal box position Posizione morsettiera
 411L 1 -> Ø120 511L 3 -> Ø160	Flange Flange  IEC B14 -Q -> 71 B14 (Ø105) -R -> 80 B14 (Ø120) -T -> 90 B14 (Ø140) -U -> 100-122 B14 (Ø160)	B3 	- Standard bore Foro standard	A 
	Without flange Senza flangia  411L -1 -> Ø14 (71 B5) -2 -> Ø19 (80 B5) -3 -> Ø24 (90 B5) 511L -2 -> Ø19 (80 B5) -3 -> Ø24 (90 B5) -4 -> Ø28 (100 B5)	B6  B7  B8  V5  V6  V8 		B  C  D 

Useful formulas

Formule utili

Required power - Potenza richiesta

Lifting - Sollevamento

Rotation - Rotazione

Linear movement - Traslazione

$$P_{[kW]} = \frac{M_{[Kg]} \cdot g_{[9.81]} \cdot v_{[m/s]}}{1000}$$

$$P_{[kW]} = \frac{M_{[Nm]} \cdot n_{[rpm]}}{9550}$$

$$P_{[kW]} = \frac{F_{[N]} \cdot v_{[m/s]}}{1000}$$

Torque - Coppia

$$M_{[Nm]} = \frac{9550 \cdot P_{[kW]}}{n_{[rpm]}}$$

$$M_{[lb\ in]} = \frac{63030 \cdot P_{[HP]}}{n_{[rpm]}}$$

Radial loads - Carichi radiali

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.

$$F_R[N] = \frac{M_{[Nm]} \cdot 2000}{d_{[mm]}} \cdot f_k$$

$$F_R[N] = \frac{M_{[lb\ in]} \cdot 8.9}{d_{[in]}} \cdot f_k$$

M: Output torque - Momento torcente

d: Diam. of driving element - Diametro primitivo

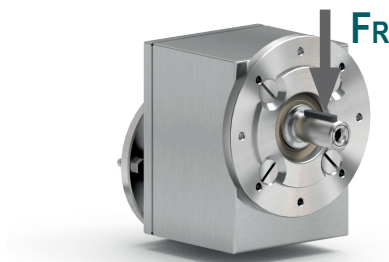
f_k: Factor - Coefficiente di trasformazione

1.15: Gearwheels - Ingranaggi

1.25: Chain sprockets - Catena

1.75: Narrow v-belt pulley - Cinghia Trapezoidale

2.50: Flat-belt pulley - Cinghia piatta



If your application requires higher radial loads, contact our technical office. Higher loads may be possible.

Nel caso la vostra applicazione richieda carichi radiali superiori consultare il nostro ufficio tecnico, valori maggiori possono essere accettati.

How to select a gearbox

Come selezionare un riduttore

- A** Select required torque (according to service factor)
Seleziona la coppia desiderata (comprensiva del fattore di servizio)
- B** Select output speed
Seleziona la velocità in uscita
- C** Select gear ratio in the line corresponding to the chosen motor power
Sulla riga corrispondente alla motorizzazione prescelta si può rilevare il rapporto di riduzione
- D** Select motor flange available (if requested)
Scegli la flangia disponibile (se richiesta)

Gear size
Grandezza
riduttore

C

Ratio
Rapporto

Transmitted torque
Momento torcente
trasmesso

Nominal power
Potenza nominale

Flange code
Codice flangia

Input speed
Velocità in entrata

411L

38
Nm

RCL series

Stainless steel shielded ratio multipliers

Riduttori ad uno stadio schermati in acciaio inox

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

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		B14 motor flanges				Output shaft 	Ratios code 
							-	-	-Q 71	-R 80	-T 90			
891	1.57	1.5	16	1.3	1.9	20			C	C		2844	standard ø19	01
493	2.84	1.5	28	1.2	1.8	35			C	C		1954		02
425	3.29	1.5	33	1.2	1.7	38			C	C		1756		03
362	3.87	1.5	39	1.0	1.5	40			C	C		1558		04
303	4.62	1.5	46	1.0	1.5	47			C	C		1360		05
222	6.30	1.1	46	1.0	1.1	46			C	C		1063		06
170	8.22	0.55	30	1.3	0.69	38			C	C		974		07
129	10.86	0.37	27	1.0	0.39	28			C	C		776		08

B

Output speed
Velocità in uscita

Motor power
Potenza motore

Service factor
Fattore di servizio

A

Nominal torque
Momento torcente
nominale

Output shaft diam.
Diametro albero uscita

Notes
Note

Type of load and starts per hour

Tipo di carico e avviamenti per ora

Oper. hours per day
Ore di funz. giorn.

		3h	10h	24h
Continuous or intermittent application with start / hour <i>Applicazione continua o intermittente con numero operazioni/ora</i>	Uniform - <i>Uniforme</i>	0.8	1	1.25
	Moderate - <i>Moderato</i>	1	1.25	1.5
	Heavy - <i>Forte</i>	1.25	1.5	1.75
Intermittent application with start / hour <i>Applicazione intermittente con numero operazioni/ora</i>	Uniform - <i>Uniforme</i>	1	1.25	1.5
	Moderate - <i>Moderato</i>	1.25	1.5	1.75
	Heavy - <i>Forte</i>	1.5	1.75	2.15

D

Motor flange available
Flange disponibili

B)

Mounting with reduction bushing
Montaggio con boccola di riduzione

C)

Motor flange holes position/terminal box position
Posizione fori flangia/basetta motore

B)

Available without reduction bushing
Disponibile anche senza boccola

411L

38
Nm

RCL series

Stainless steel shielded ratio multipliers

Riduttori ad uno stadio schermati in acciaio inox

The dynamic efficiency is **0.98** for all ratiosInput speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges		B14 motor flanges				Output shaft	Ratios code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-Q 71	-R 80	-T 90			
891	1.57	1.5	16	1.3	1.9	20			C	C		2844	standard ø19	01
493	2.84	1.5	28	1.2	1.8	35			C	C		1954		02
425	3.29	1.5	33	1.2	1.7	38			C	C		1756		03
362	3.87	1.5	39	1.0	1.5	40			C	C		1558		04
303	4.62	1.5	46	1.0	1.5	47			C	C		1360		05
222	6.30	1.1	46	1.0	1.1	46			C	C		1063		06
170	8.22	0.55	30	1.3	0.69	38			C	C		974		07
129	10.86	0.37	27	1.0	0.39	28			C	C		776		08

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

Lubrication

Lubrificazione

Unit 411L is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo 411L viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

**Oil quantity for
all positions:
0.10Lt.**

Quantità olio per tutte
le posizioni: 0.10Lt

Agip
Telium VSF 320

Shell
Omala S4 WE 320

Radial and axial loads

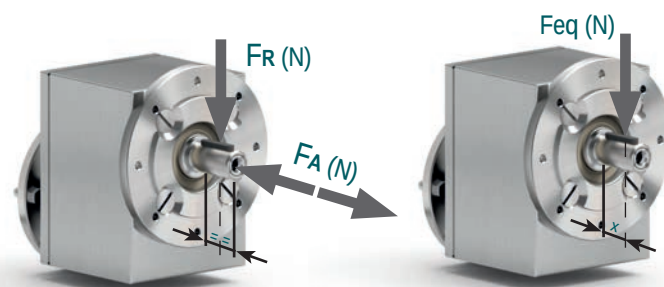
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [N]
700	182	910
600	200	1000
400	230	1150
300	250	1250
200	290	1450
140	320	1600

$$F_{eq} = F_R \cdot \frac{41}{X + 21}$$



Tab. 1

Tab. 2

38 Nm

411L

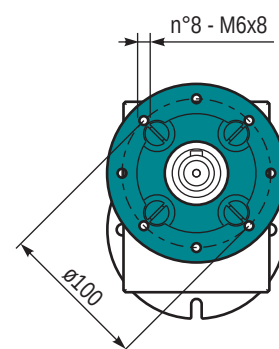
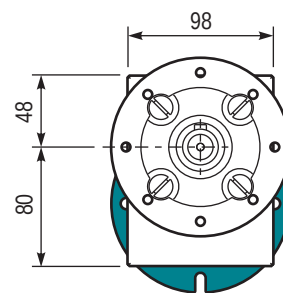
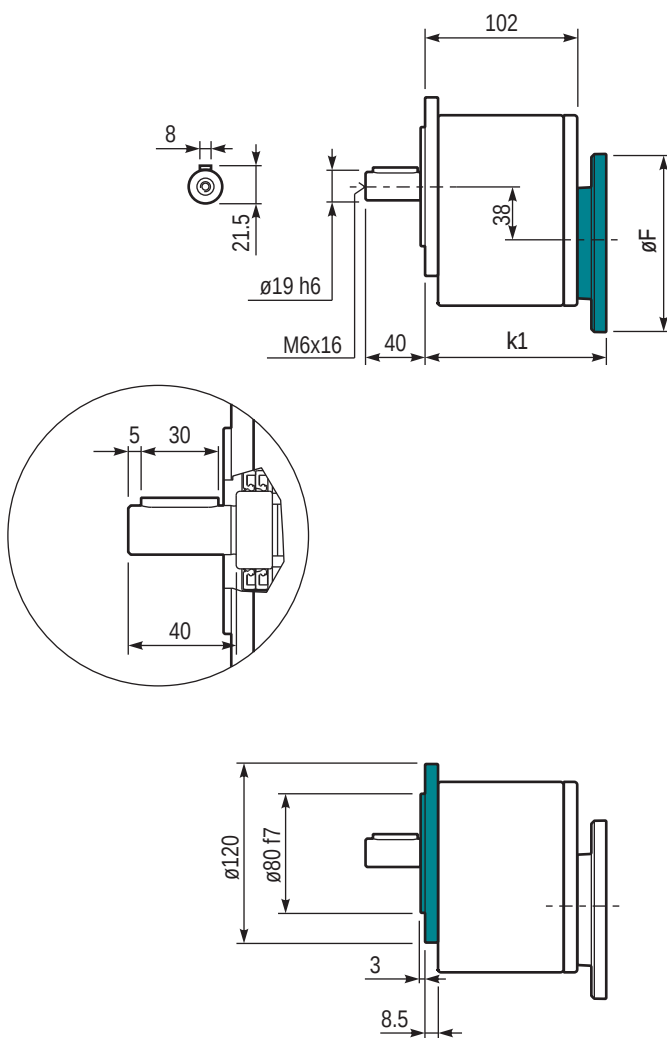
P411L-F...

Basic gearbox
Riduttore base

Gearbox weight
Peso riduttore

5.0 kg

M. flanges	Kit code	øF	k1
71 B14	KI634047	105	120
80 B14	KI634046	120	122
90 B14	KI634041	140	122



511L

110
Nm

RCL series

Stainless steel shielded ratio multipliers

Riduttori ad uno stadio schermati in acciaio inox

The dynamic efficiency is **0.98** for all ratiosInput speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges				B14 motor flanges				Output shaft	Ratios code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-	-	-R	-T	-U		 standard ø28	
							-	-	-	-	80	90	100-112			
1077	1.30	4	34	1.2	4.6	40								3039	standard ø28	01
571	2.45	4	64	1.1	4.3	70								2049		02
423	3.31	4	87	1.0	4.1	90								1653		03
325	4.31	4	113	1.0	3.8	110								1356		04
266	5.27	3	104	1.1	3.1	110								1158		05
184	7.63	2.2	111	1.0	2.2	110								861		06
133	10.50	1.1	77	1.0	1.1	80								663		07

Motor flanges available
Flange motore disponibili



B) Supplied with reduction bushing
Fornito con bussola di riduzione



B) Available on request without reduction bushing
Disponibile a richiesta senza bussola di riduzione



C) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

Unit 511L is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo 511L viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Oil quantity for
all positions:
0.29Lt.

Quantità olio per tutte
le posizioni: 0.29Lt

Agip
Telium VSF 320

Shell
Omala S4 WE 320

Radial and axial loads

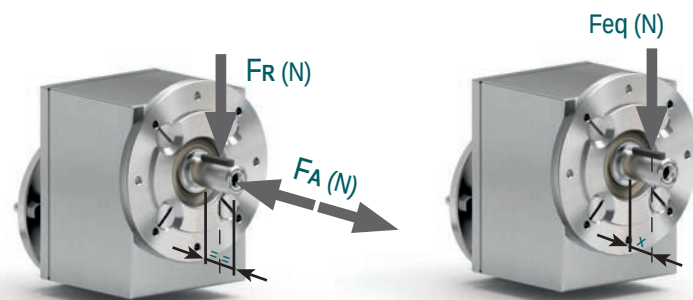
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [N]
700	294	1470
600	320	1600
400	370	1850
300	400	2000
200	460	2300
140	510	2550

$$F_{eq} = F_R \cdot \frac{47.5}{X + 22.5}$$



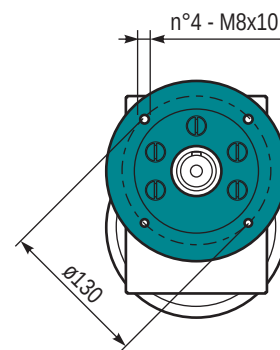
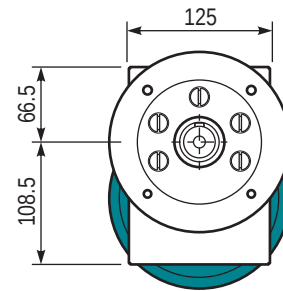
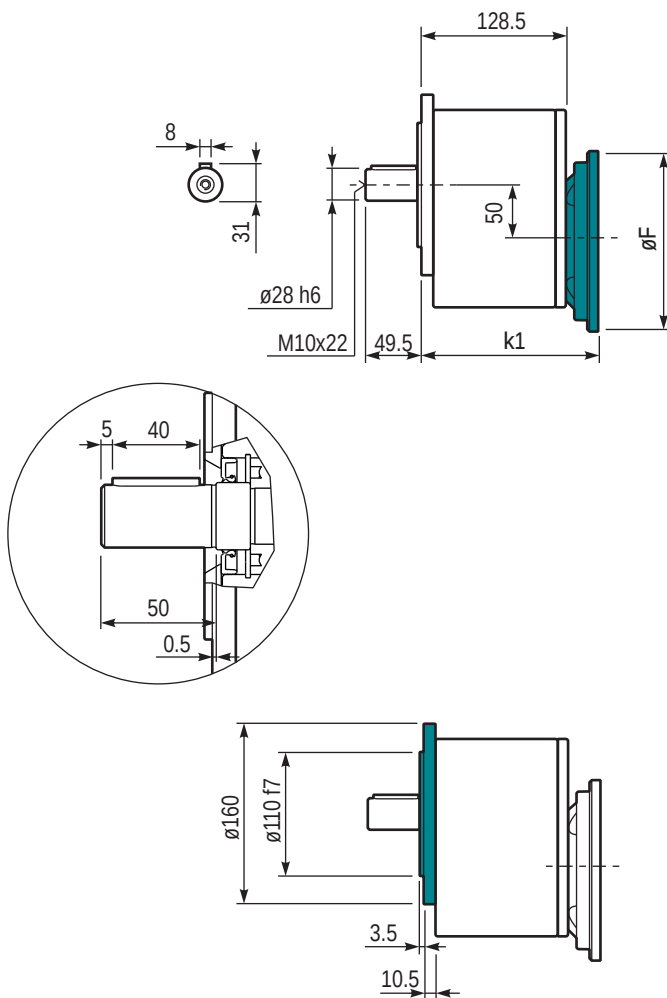
Tab. 1

Tab. 2

511L

Gearbox weight <i>Peso riduttore</i>	9.0 kg
---	--------

M. flanges	Kit code	øF	k1
80 B14	KI854046	120	148.5
90 B14	KI854045	140	148.5
100-112 B14	KI854041	160	157.5



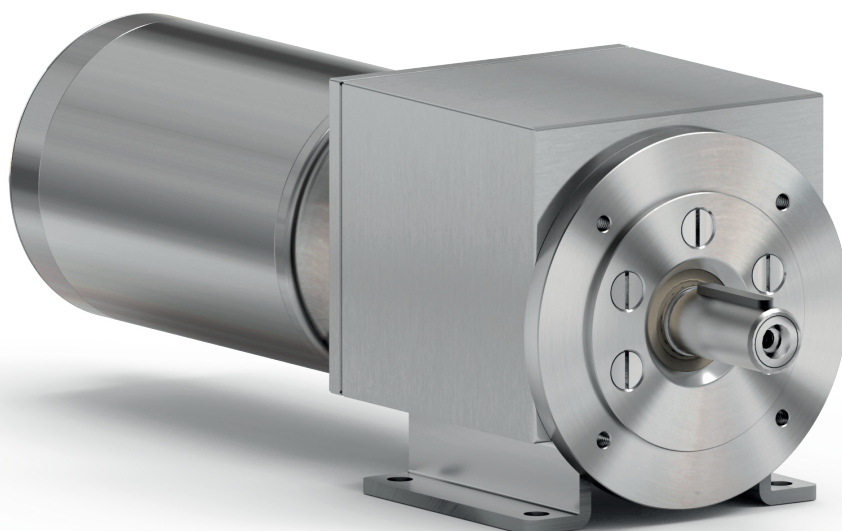


L RCL series Stainless steel shielded coaxial gearboxes

Riduttori coassiali schermati in acciaio inox

Section 5
Sezione 5

This range is **CE** **NSF[®]** **certified**
COMPONENT



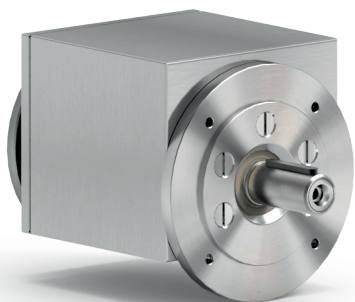
FEATURES

Caratteristiche

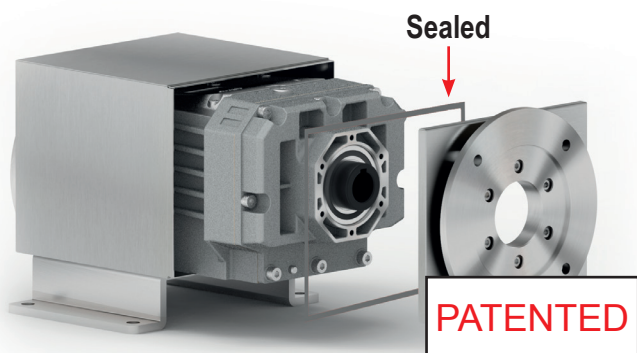
RCL series Stainless steel shielded coaxial gearboxes

Riduttori coassiali schermati in acciaio inox

Type <i>Tipo</i>	Torque <i>Coppia</i>	Center distance <i>Interasse</i>	Input power <i>Potenza in entrata</i>	Hollow output shaft <i>Albero cavo in uscita</i>
402L	160 Nm	-	0.37 ÷ 1.5 kW	ø25 mm



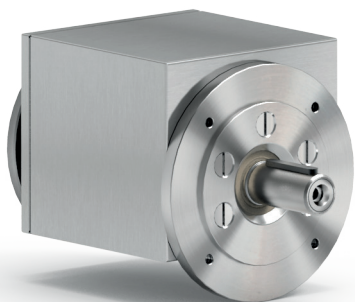
This product is:



The “L” series is an already totally enclosed aluminum gearboxes, that is shielded and sealed by stainless steel 316L case.

La serie “L” è ottenuta da un riduttore in alluminio che viene incapsulato all'interno di un carter sigillato in inox 316L.

Output shaft is produced in AISI 316L.



Albero in uscita in AISI 316L.

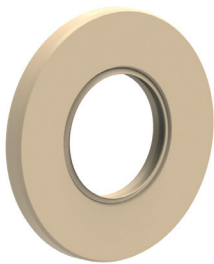
FEATURES

Caratteristiche



Fully modular IEC flanges and compact NEMA C motor flanges.

Flange IEC e NEMA completamente modulari.



Standard FPM (fkm) seals.

Anelli di tenuta FPM(fkm) standard.

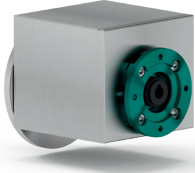
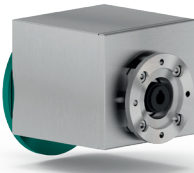
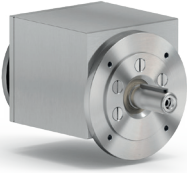
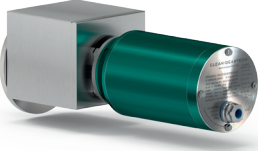
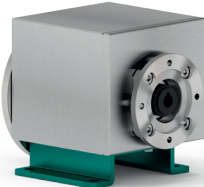
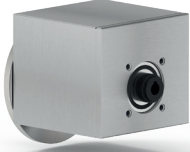


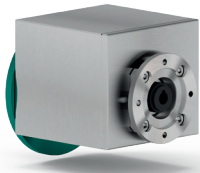
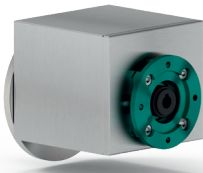
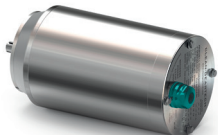
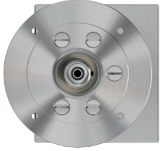
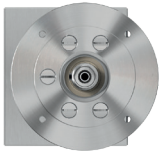
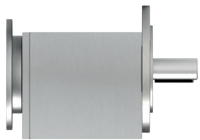
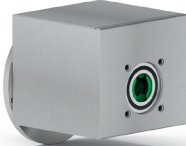
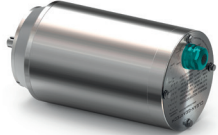
Hardened and ground gears.

Ingranaggi temprati e rettificati.

How to order

Codifica

P	402L	-F	3.52	C
Type <i>Tipo</i>	Size <i>Grandezza</i>	Mounting <i>Montaggio</i>	Ratio <i>Rapporto</i>	Output shaft <i>Albero lento</i>
P 	402L	-F 	See technical data table <i>Vedi tabelle dati tecnici</i>	C 
M 		H1 		V -> ø25
B 				

3	-T	B3	E	With Type M specify terminal box position <i>Con tipo M specificare posizione morsetti</i>
Output flange <i>Flangia uscita</i>	Motor size <i>Grandezza motore</i>	Mounting position <i>Posizione di montaggio</i>	Input bore <i>Foro entrata</i>	Terminal box position <i>Posizione morsetti</i>
 3 -> Ø160	Flange <i>Flange</i>  IEC B14 -Q -> 71 B14 (Ø105) -R -> 80 B14 (Ø120) -T -> 90 B14 (Ø140)	B3 	With coupling <i>Con giunto</i>  B -> 11mm C -> 14mm D -> 19mm E -> 24mm F -> 28mm	A 
	Without flange <i>Senza flangia</i> -M With coupling <i>Con giunto</i> 	B6  B7  B8  V5  V6  V8 	0 Ready for input coupling <i>Predisposto per giunto</i> 	B  C  D 

Useful formulas

Formule utili

Required power - Potenza richiesta

Lifting - Sollevamento

Rotation - Rotazione

Linear movement - Traslazione

$$P_{[kW]} = \frac{M_{[Kg]} \cdot g_{[9.81]} \cdot v_{[m/s]}}{1000}$$

$$P_{[kW]} = \frac{M_{[Nm]} \cdot n_{[rpm]}}{9550}$$

$$P_{[kW]} = \frac{F_{[N]} \cdot v_{[m/s]}}{1000}$$

Torque - Coppia

$$M_{[Nm]} = \frac{9550 \cdot P_{[kW]}}{n_{[rpm]}}$$

$$M_{[lb\ in]} = \frac{63030 \cdot P_{[HP]}}{n_{[rpm]}}$$

Radial loads - Carichi radiali

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.

$$F_R[N] = \frac{M_{[Nm]} \cdot 2000}{d_{[mm]}} \cdot f_k$$

$$F_R[N] = \frac{M_{[lb\ in]} \cdot 8.9}{d_{[in]}} \cdot f_k$$

M: Output torque - *Momento torcente*

d: Diam. of driving element - *Diametro primitivo*

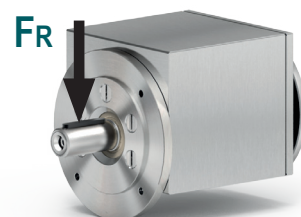
f_k: Factor - *Coefficiente di trasformazione*

1.15: Gearwheels - *Ingranaggi*

1.25: Chain sprockets - *Catena*

1.75: Narrow v-belt pulley - *Cinghia Trapezoidale*

2.50: Flat-belt pulley - *Cinghia piatta*



If your application requires higher radial loads, contact our technical office. Higher loads may be possible.

Nel caso la vostra applicazione richieda carichi radiali superiori consultare il nostro ufficio tecnico, valori maggiori possono essere accettati.

How to select a gearbox

Come selezionare un riduttore

- A** Select required torque (according to service factor)
Seleziona la coppia desiderata (comprensiva del fattore di servizio)
- B** Select output speed
Seleziona la velocità in uscita
- C** Select gear ratio in the line corresponding to the chosen motor power
Sulla riga corrispondente alla motorizzazione prescelta si può rilevare il rapporto di riduzione
- D** Select motor flange available (if requested)
Scegli la flangia disponibile (se richiesta)

Gear size
Grandezza
riduttore

C

Ratio
Rapporto

Transmitted torque
Momento torcente
trasmesso

Nominal power
Potenza nominale

Flange code
Codice flangia

Input speed
Velocità in entrata

402L

160
Nm

RCL series

Stainless steel shielded coaxial gearboxes

Riduttori coassiali schermati in acciaio inox

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

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		B14 motor flanges				Output shaft 	Ratio code 
							-	-	-Q 71	-R 80	-T 90			
398	3.52	3	68	1.2	3.5	80			C	C		2821	Standard ø25	01
321	4.37	3	84	1.1	3.1	90			C	C		2818		02
252	5.56	3	107	0.9	2.7	100			C	C		2813		03
220	6.36	2.2	90	1.1	2.3	95			C	C		1921		04
191	7.33	2.2	104	1.2	2.5	120			C	C		2812		05
177	7.89	2.2	112	1.1	2.3	120			C	C		1918		06
139	10.06	2.2	143	1.0	2.3	150			C	C		1913		08
120	11.66	1.5	114	1.5	2.3	174			C	C		1713		09
106	13.26	1.5	130	1.2	1.8	160			C	C		1912		10
...	...	...	...	...	...	...			...	...		...		...

B

Output speed
Velocità in uscita

Motor power
Potenza motore

Service factor
Fattore di servizio

A

Nominal torque
Momento torcente
nominale

Output shaft diam.
Diametro albero uscita

Notes
Note

Type of load and starts per hour

Tipo di carico e avviamenti per ora

Oper. hours per day
Ore di funz. giorn.

		3h	10h	24h
Continuous or intermittent application with start / hour <i>Applicazione continua o intermittente con numero operazioni/ora</i>	Uniform - <i>Uniforme</i>	0.8	1	1.25
	Moderate - <i>Moderato</i>	1	1.25	1.5
	Heavy - <i>Forte</i>	1.25	1.5	1.75
Intermittent application with start / hour <i>Applicazione intermittente con numero operazioni/ora</i>	Uniform - <i>Uniforme</i>	1	1.25	1.5
	Moderate - <i>Moderato</i>	1.25	1.5	1.75
	Heavy - <i>Forte</i>	1.5	1.75	2.15

D

Motor flange available
Flange disponibili

B)

Mounting with reduction bushing
Montaggio con boccola di riduzione

C)

Motor flange holes position/terminal box position
Posizione fori flangia/basetta motore

B)

Available without reduction bushing
Disponibile anche senza boccola

402L

160
Nm

RCL series

Stainless steel shielded coaxial gearboxes

Riduttori coassiali schermati in acciaio inox

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

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		B14 motor flanges				Output shaft	Ratio code
							-	-	-Q 71	-R 80	-T 90			
398	3.52	1.5	34	2.3	3.5	80			C	C		2821	Standard ø25	01
321	4.37	1.5	43	2.1	3.1	90			C	C		2818		02
252	5.56	1.5	54	1.8	2.7	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		08
120	11.66	1.5	114	1.5	2.3	174			C	C		1713		09
106	13.26	1.5	130	1.2	1.8	160			C	C		1912		10
102	13.68	1.5	134	1.1	1.6	144			C	C		1513		25
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		23
75	18.78	1.1	134	1.0	1.1	138			C	C		1710		24
65	21.54	1.1	154	1.0	1.1	160			C	C		1312		14
63	22.29	1.1	160	1.0	1.1	167			C	C		1013		15
53	26.31	0.75	129	1.1	0.80	138			C	C		1310		16
47.6	29.40	0.75	144	1.1	0.83	160			C	C		1012		17
39	35.91	0.55	130	1.1	0.59	138			C	C		1010		18
36.5	38.37	0.55	139	1.2	0.64	160			C	C		912		19
29.9	46.87	0.55	170	0.8	0.45	138			C	C		910		20
27.6	50.67	0.37	123	1.1	0.40	132			C	C		712		21
22.6	61.89	0.37	150	0.9	0.34	138			C	C		710		22

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

Lubrication

Lubrificazione

Always specify the mounting position
Specificare sempre la posizione di montaggio

Unit 402L is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

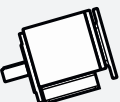
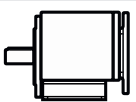
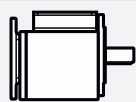
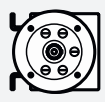
See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo 402L viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Agip Tellium VSF 320	Shell Omala S4 WE 320	V8 On request ASK	
B3 Standard 0.25 LT		B8 On request 0.40 LT	
B6 On request 0.30 LT		V5 On request 0.40 LT	
B7 On request 0.40 LT		V6 On request 0.50 LT	

Tab. 1

Radial and axial loads

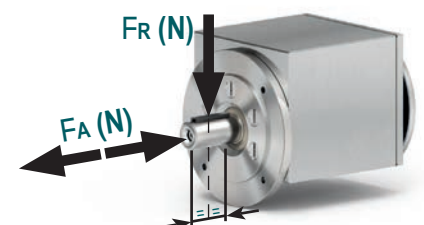
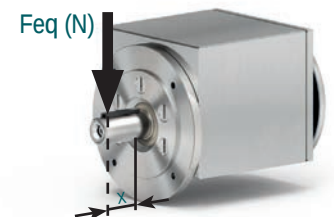
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [N]
300	310	1550
250	330	1650
200	360	1800
140	406	2030
120	448	2240
85	480	2400
70	540	2700
40	600	3000
15	600	3000

$$F_{eq} = F_R \cdot \frac{51}{X + 21}$$

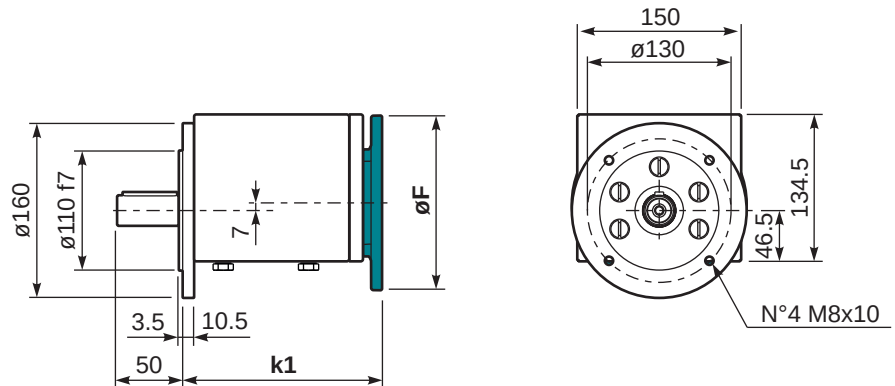
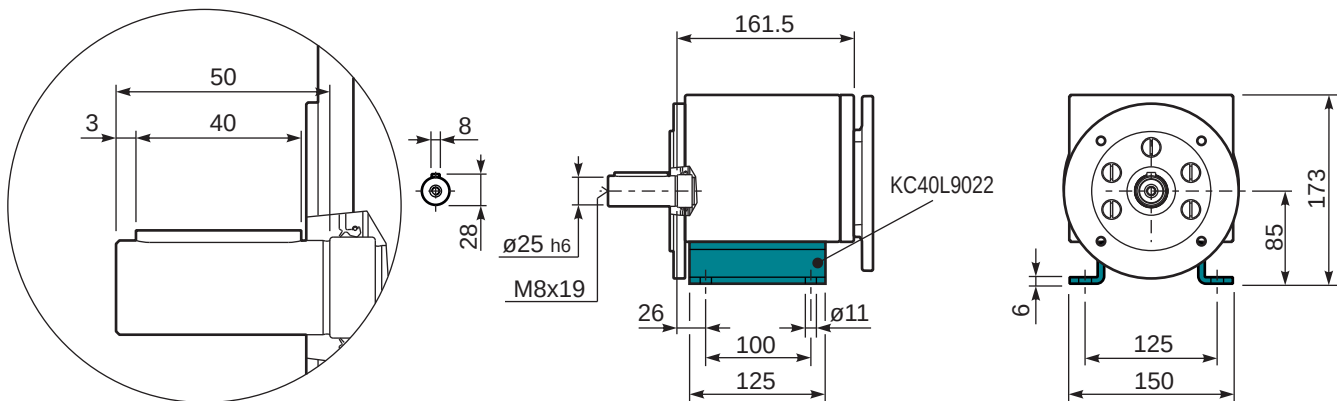


Tab. 2

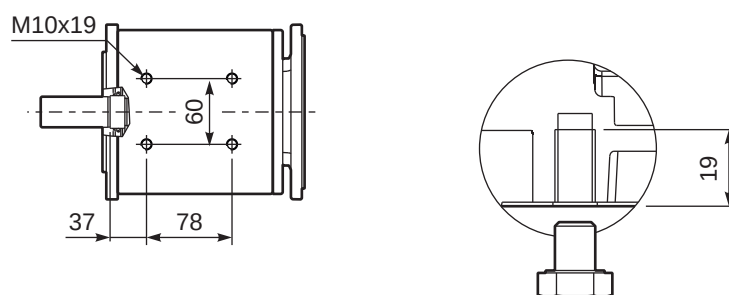
402L

Gearbox weight <i>Peso riduttore</i>	9.2 kg
---	--------

M. flanges	Kit code	øF	k1
71B14	KI634047	105	179.5
80B14	KI634046	120	180.5
90B14	KI634041	140	181.5

Feet
Piedini

Basic gearbox
Riduttore base



For direct mounting
of the gearboxes
remove the 4 screws
*Per un montaggio diretto
con il riduttore rimuovere le 4 viti*



L BVL series Stainless steel shielded helical bevel gearboxes

Riduttori a coppia conica schermati in acciaio inox

Section 6
Sezione 6

This range is



certified



FEATURES

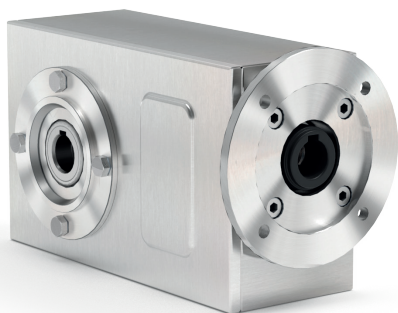
Caratteristiche

BVL series

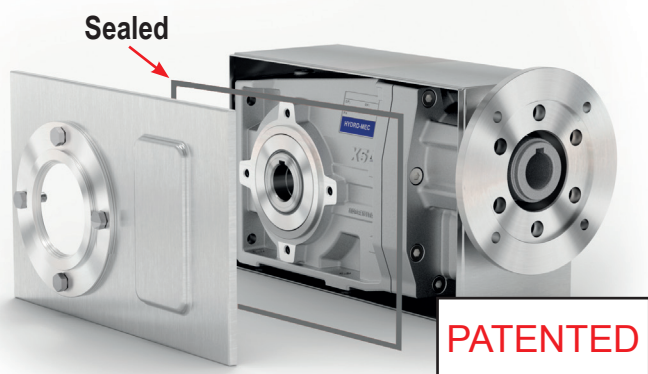
Stainless steel shielded helical bevel gearboxes

Riduttori a coppia conica schermati in acciaio inox

Type Tipo	Torque Coppia	Center distance Interasse	Input power Potenza in entrata	Hollow output shaft Albero cavo in uscita
X22L	50 Nm	-	0.12 ÷ 0.37 kW	ø20
X32L	90 Nm	-	0.25 ÷ 1.5 kW	ø20
X42L	150 Nm	-	0.25 ÷ 1.5 kW	ø25
X52L	250 Nm	-	0.55 ÷ 3.0 kW	ø30
X62L	410 Nm	-	0.75 ÷ 4.0 kW	ø35



This product is:



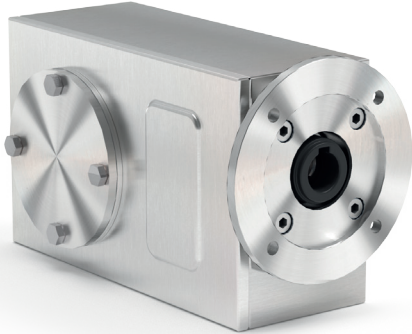
The "L" series is an already totally enclosed aluminum gearboxes, that is shielded and sealed by stainless steel 316L case.

La serie "L" è ottenuta da un riduttore in alluminio che viene incapsulato all'interno di un carter sigillato in inox 316L.



Output shaft is produced in AISI 316L.

Albero in uscita in AISI 316L.



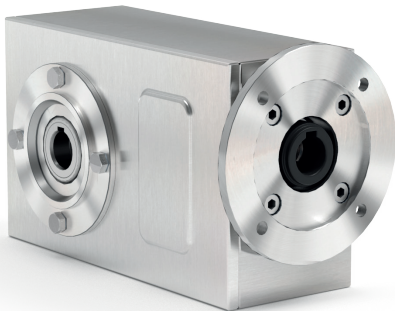
Protection cap in AISI 316L.

Coperchietto di protezione in AISI 316L.



Fully modular IEC flanges and compact NEMA C motor flanges.

Flange IEC e NEMA completamente modulari.



**Stainless steel 316L hollow output shaft.
Viton seals with stainless steel 316L shield.**



Albero cavo in uscita in acciaio inox AISI 316L. Anelli di tenuta in viton con schermo protettivo in acciaio inox AISI 316L.

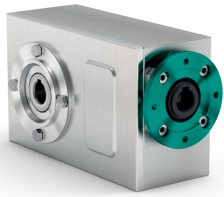
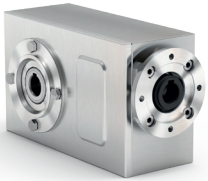
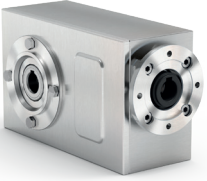
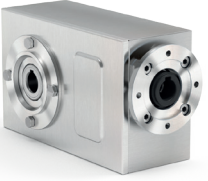
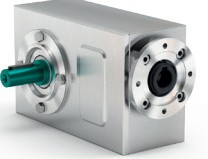
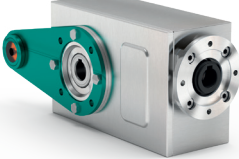
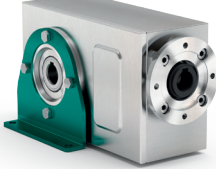


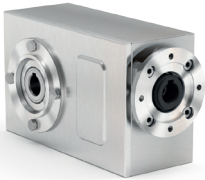
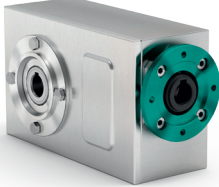
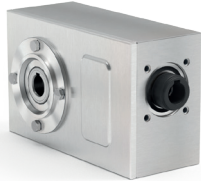
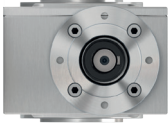
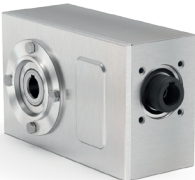
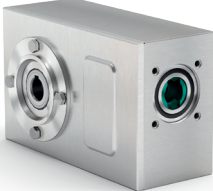
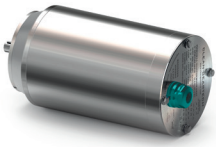
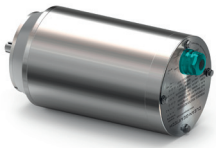
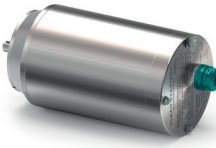
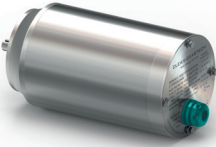
Hardened and ground gears.

Ingranaggi temprati e rettificati.

How to order

Codifica

M	X42L	I	7.29	-C	BR
Type <i>Tipo</i>	Size <i>Grandezza</i>	Hub <i>Mozzo</i>	Ratio <i>Rapporto</i>	Output shaft <i>Albero uscita</i>	Type <i>Tipo</i>
P 	X22L X32L X42L X52L X62L	I Hollow output shaft <i>Foro albero uscita</i> 	See technical data table <i>Vedi tabelle dati tecnici</i>	Hollow output shaft <i>Foro albero uscita</i> 	FB Universal <i>Forma base</i> 
M 		A Single output shaft <i>Albero uscita singolo</i> 		X22L X32L -B → $\varnothing 20$ X42L -C → $\varnothing 25$ X52L -D → $\varnothing 30$ X62L -E → $\varnothing 35$	BR Reaction arm <i>Braccio di reazione</i> 
B 				Single output shaft <i>Albero uscita singolo</i> 	PA 
				X22L X32L -I → $\varnothing 20$ X42L -L → $\varnothing 25$ X52L -M → $\varnothing 30$ X62L -N → $\varnothing 35$	PV 

N	-T	B3	E	With Type M specify terminal box position <i>Con tipo M specificare posizione morsettiera</i>
Output flange <i>Flangia in uscita</i>	Motor size <i>Grandezza motore</i>	Mounting position <i>Posizione di montaggio</i>	Input bore <i>Foro entrata</i>	Terminal box position <i>Posizione morsettiera</i>
N Without flange <i>Senza flangia</i> 	Flange <i>Flange</i>  IEC B14 -P -> 63 B14 (ø90) -Q -> 71 B14 (ø105) -R -> 80 B14 (ø120) -T -> 90 B14 (ø140) -U -> 100÷112 B14 (ø160) Without flange <i>Senza flangia</i> -M With coupling <i>Con giunto</i> 	B3  B6  B7  B8  V5  V6  V8 	With coupling <i>Con giunto</i>  B -> 11mm C -> 14mm D -> 19mm E -> 24mm F -> 28mm 0 Ready for input coupling <i>Predisposto per giunto</i> 	A  B  C  D 

Useful formulas

Formule utili

Required power - Potenza richiesta

Lifting - Sollevamento

Rotation - Rotazione

Linear movement - Traslazione

$$P_{[kW]} = \frac{M_{[Kg]} \cdot g[9.81] \cdot v_{[m/s]}}{1000}$$

$$P_{[kW]} = \frac{M_{[Nm]} \cdot n_{[rpm]}}{9550}$$

$$P_{[kW]} = \frac{F_{[N]} \cdot v_{[m/s]}}{1000}$$

Torque - Coppia

$$M_{[Nm]} = \frac{9550 \cdot P_{[kW]}}{n_{[rpm]}}$$

$$M_{[lb\ in]} = \frac{63030 \cdot P_{[HP]}}{n_{[rpm]}}$$

Radial loads - Carichi radiali

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.

$$F_R[N] = \frac{M_{[Nm]} \cdot 2000}{d_{[mm]}} \cdot f_k$$

$$F_R[N] = \frac{M_{[lb\ in]} \cdot 8.9}{d_{[in]}} \cdot f_k$$

M: Output torque - Momento torcente

d: Diam. of driving element - Diametro primitivo

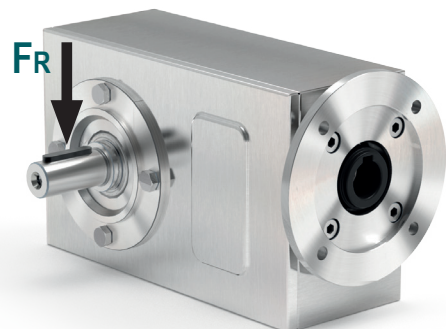
f_k: Factor - Coefficiente di trasformazione

1.15: Gearwheels - Ingranaggi

1.25: Chain sprockets - Catena

1.75: Narrow v-belt pulley - Cinghia Trapezoidale

2.50: Flat-belt pulley - Cinghia piatta



If your application requires higher radial loads, contact our technical office. Higher loads may be possible.

Nel caso la vostra applicazione richieda carichi radiali superiori consultare il nostro ufficio tecnico, valori maggiori possono essere accettati.

How to select a gearbox

Come selezionare un riduttore

A

Select required torque (according to service factor)

Seleziona la coppia desiderata (comprensiva del fattore di servizio)

B

Select output speed

Seleziona la velocità in uscita

C

Select gear ratio in the line corresponding to the chosen motor power

Sulla riga corrispondente alla motorizzazione prescelta si può rilevare il rapporto di riduzione

D

Select motor flange available (if requested)

Scegli la flangia disponibile (se richiesta)

Gear size
Grandezza
riduttore

C

Ratio
Rapporto

Transmitted torque
Momento torcente
trasmesso

Nominal power
Potenza nominale

Flange code
Codice flangia

Input speed
Velocità in entrata

X22L

50
Nm

BVL series

Stainless steel shielded helical bevel gearboxes

Riduttori a coppia conica schermati in acciaio inox

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

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		B14 motor flanges				Ratio code
							-	-	-P 63	-Q 71			
290	4.83	0.37	12	2.6	0.95	30			C		289	Standard ø20	01
189	7.40	0.37	18	1.7	0.62	30			C		287		02
146	9.58	0.37	23	1.7	0.64	40			C		199		03
128	10.98	0.37	27	1.7	0.63	45			C		179		04
107	13.07	0.37	32	1.4	0.53	45			C		159		05
95	14.66	0.37	35	1.3	0.47	45			C		197		06
89	15.79	0.37	38	1.2	0.44	45			C		139		07
83	16.81	0.37	41	1.1	0.41	45			C		177		08
70	20.00	0.37	48	1.0	0.37	48			C		157		09
...	...	...	...	...	...	...			...		...		...

B

Output speed
Velocità in uscita

Motor power
Potenza motore

Service factor
Fattore di servizio

A

Nominal torque
Momento torcente
nominale

Output shaft diam.
Diametro albero uscita

Notes
Note

Type of load and starts per hour

Tipo di carico e avviamenti per ora

Oper. hours per day
Ore di funz. giorn.

		3h	10h	24h
Continuous or intermittent application with start / hour <i>Applicazione continua o intermittente con numero operazioni/ora</i>	Uniform - <i>Uniforme</i>	0.8	1	1.25
	Moderate - <i>Moderato</i>	1	1.25	1.5
	Heavy - <i>Forte</i>	1.25	1.5	1.75
Intermittent application with start / hour <i>Applicazione intermittente con numero operazioni/ora</i>	Uniform - <i>Uniforme</i>	1	1.25	1.5
	Moderate - <i>Moderato</i>	1.25	1.5	1.75
	Heavy - <i>Forte</i>	1.5	1.75	2.15

D

Motor flange available
Flange disponibili

B)

Mounting with reduction bushing
Montaggio con boccia di riduzione

C)

Motor flange holes position/terminal box position
Posizione fori flangia/basetta motore

B)

Available without reduction bushing
Disponibile anche senza boccia

X22L

50
Nm

BVL series

Stainless steel shielded helical bevel gearboxes

Riduttori a coppia conica schermati in acciaio inox

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

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges		B14 motor flanges			Output shaft	Ratio code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-P	-Q			
290	4.83	0.37	12	2.6	0.95	30			C		289	Standard ø20	01
189	7.40	0.37	18	1.7	0.62	30			C		287		02
146	9.58	0.37	23	1.7	0.64	40			C		199		03
128	10.98	0.37	27	1.7	0.63	45			C		179		04
107	13.07	0.37	32	1.4	0.53	45			C		159		05
95	14.66	0.37	35	1.3	0.47	45			C		197		06
89	15.79	0.37	38	1.2	0.44	45			C		139		07
83	16.81	0.37	41	1.1	0.41	45			C		177		08
70	20.00	0.37	48	1.0	0.37	48			C		157		09
64	21.93	0.37	53	0.9	0.35	50			C		109		10
58	24.18	0.25	39	1.3	0.32	50			C		137		11
48.2	29.04	0.25	47	1.1	0.26	50			C		99		12
41.7	33.57	0.18	42	1.2	0.23	50			C		107		13
36.2	38.67	0.18	48	1.0	0.20	50			C		79		14
31.5	44.44	0.18	55	0.9	0.17	50			C		97		15
23.7	59.18	0.12	48	1.0	0.13	50			C		77		16
19.9	70.24	0.12	57	0.9	0.11	50			C		67		17

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

Lubrication

Lubrificazione

Always specify the mounting position
Specificare sempre la posizione di montaggio

Unit X22L is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo X22L viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

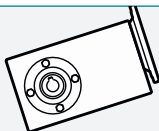
Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

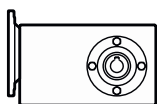
Agip
Tellium VSF 320

Shell
Omala S4 WE 320

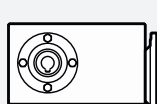
V8
On request
ASK



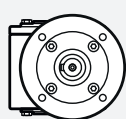
B3
Standard
0.25 LT



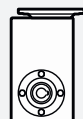
B8
On request
0.25 LT



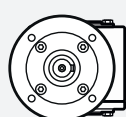
B6
On request
0.25 LT



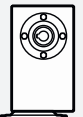
V5
On request
0.43 LT



B7
On request
0.25 LT



V6
On request
0.31 LT



Radial and axial loads

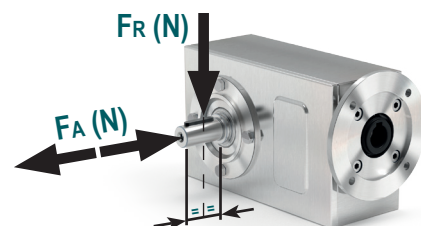
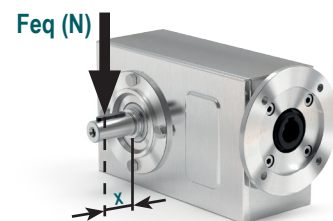
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [N]
400	360	1800
250	380	1900
150	420	2100
100	440	2200
75	440	2200
50	440	2200
25	440	2200
15	440	2200

$$F_{eq} = F_R \cdot \frac{42}{X + 23}$$



Tab. 1

Tab. 2

50
Nm

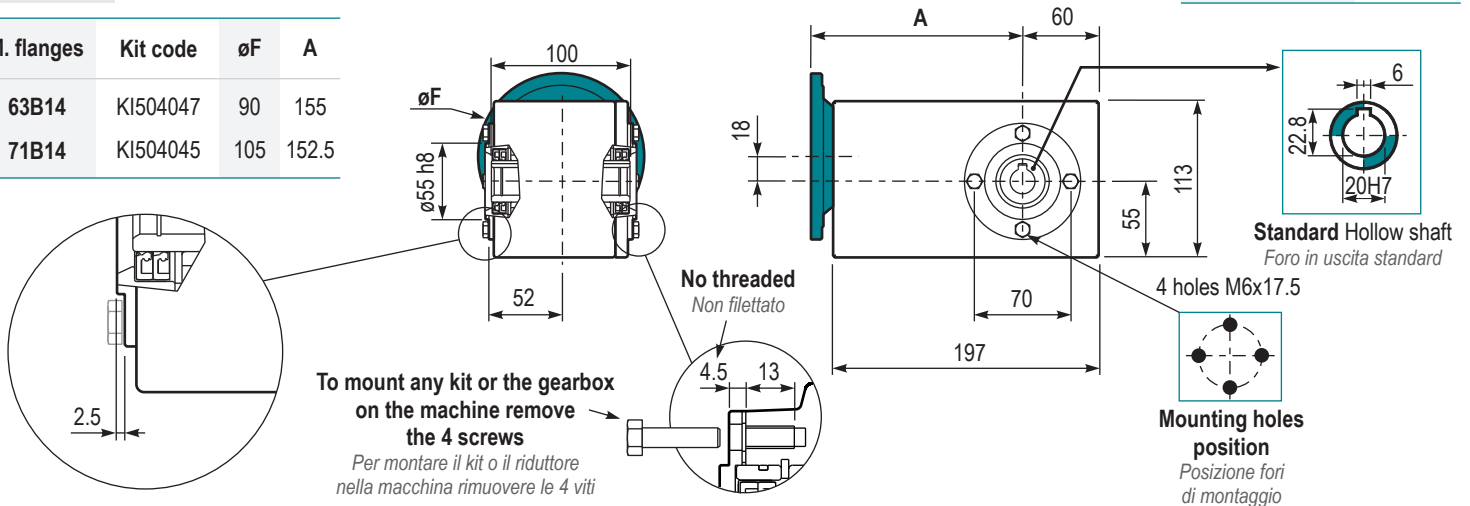
X22L

PX22L...

Basic gearbox
Riduttore base

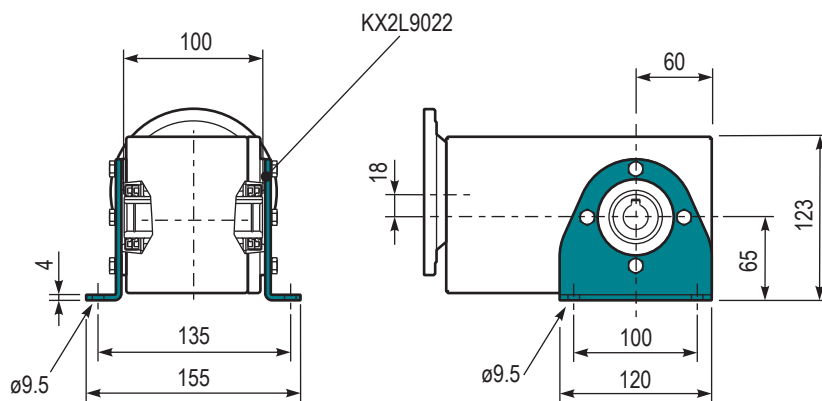
M. flanges	Kit code	øF	A
63B14	KI504047	90	155
71B14	KI504045	105	152.5

Gearbox weight
Peso riduttore **7.0 kg**



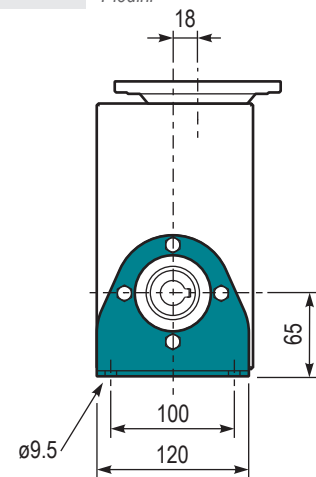
PX22L PA..

Feet
Piedini



PX22L PV..

Feet
Piedini

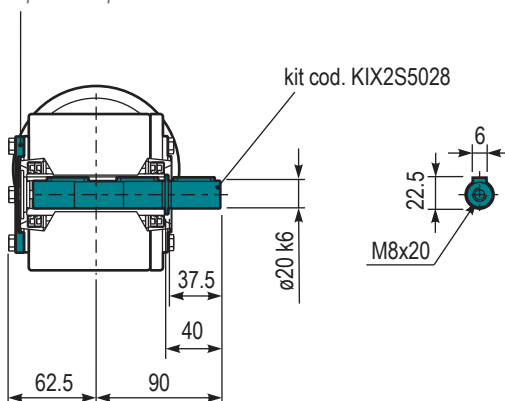


PX22L A..

Single output shaft
Albero semplice in uscita

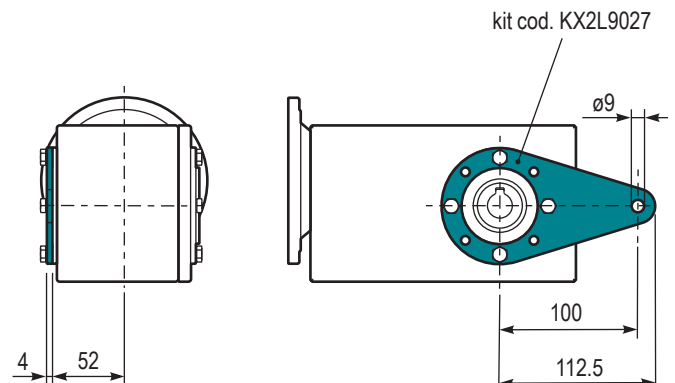
cod. X2L0209

Protection cap (on request)
A richiesta coperchio di protezione



PX22L BR..

Reaction Arm
Braccio di reazione



X32L

90
Nm

BVL series

Stainless steel shielded helical bevel gearboxes

Riduttori a coppia conica schermati in acciaio inox

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

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		B14 motor flanges				Output shaft	Ratio code
							-	-	-Q 71	-R 80	-T 90			
191	7.33	1.5	72	1.0	1.5	70			C	C		289	Standard ø20	01
125	11.22	1.1	80	1.1	1.2	85			C	C		287		02
106	13.26	1.1	95	0.9	0.98	85			C	C		199		03
91	15.37	1.1	110	0.8	0.89	90			C	C		179		04
78	18.04	0.75	89	1.0	0.76	90			C	C		159		05
69	20.30	0.75	100	0.9	0.68	90			C	C		197		06
65	21.54	0.75	106	0.9	0.64	90			C	C		139		07
59	23.53	0.55	85	1.1	0.58	90			C	C		177		08
51	27.62	0.55	100	0.9	0.50	90			C	C		157		09
47.6	29.40	0.55	106	0.8	0.47	90			C	C		109		10
42.5	32.97	0.37	80	1.1	0.42	90			C	C		137		11
36.5	38.37	0.37	93	1.0	0.36	90			C	C		99		12
31.1	45.00	0.25	73	1.2	0.31	90			C	C		107		13
27.6	50.67	0.25	83	1.1	0.27	90			C	C		79		14
23.8	58.73	0.25	96	0.9	0.23	90			C	C		97		15
18.1	77.55	0.25*	127	0.7	0.18	90			C	C		77		16

* Power higher than the maximum one which can be supported by the gearbox. Select according to the torque M_{2R}

Potenza superiore a quella massima sopportabile dal riduttore. Selezionare in base al momento torcente M_{2R}

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

Lubrication

Lubrificazione

Always specify the mounting position

Specificare sempre la posizione di montaggio

Unit X32L is supplied with synthetic oil to assure long life lubrication.

Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo X32L viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Agip

Telium VSF 320

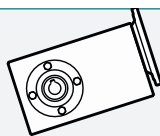
Shell

Omala S4 WE 320

V8

On request

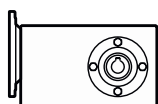
ASK



B3

Standard

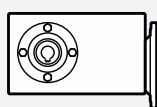
0.40 LT



B8

On request

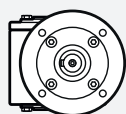
0.60 LT



B6

On request

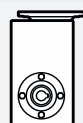
0.60 LT



V5

On request

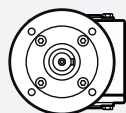
0.85 LT



B7

On request

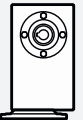
0.40 LT



V6

On request

0.60 LT



Radial and axial loads

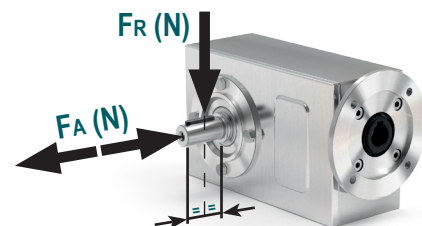
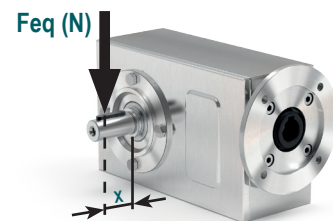
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [N]
250	400	2000
150	450	2250
100	500	2500
75	560	2800
50	560	2800
25	560	2800
15	560	2800

$$F_{eq} = F_R \cdot \frac{47.5}{X + 28.5}$$



Tab. 1

Tab. 2

90
Nm

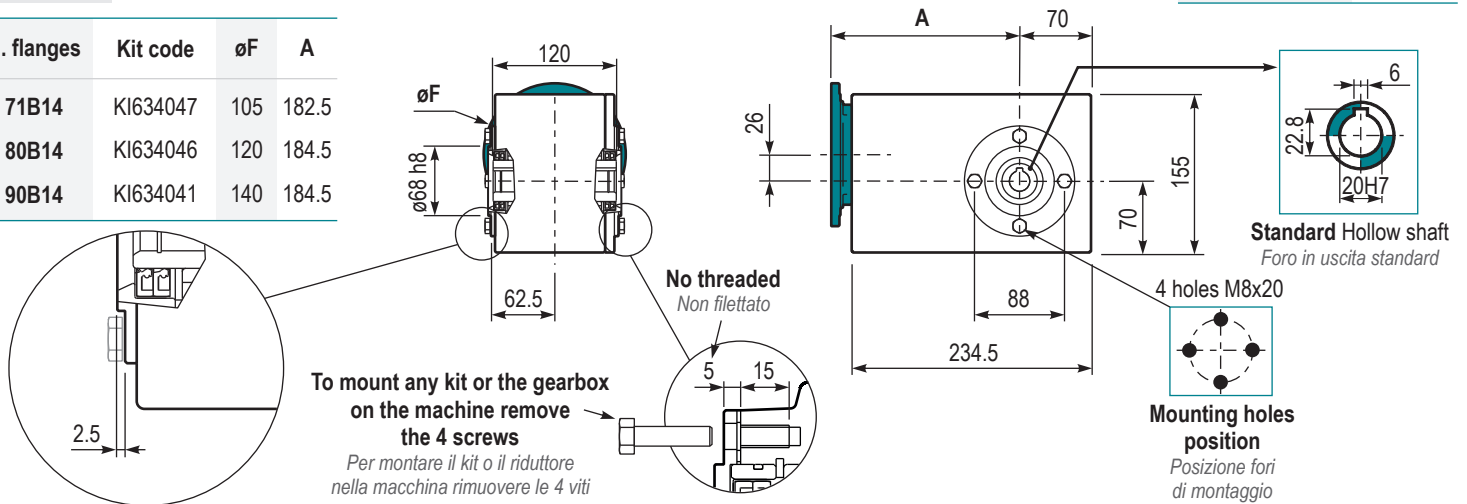
X32L

PX32L...

Basic gearbox Riduttore base

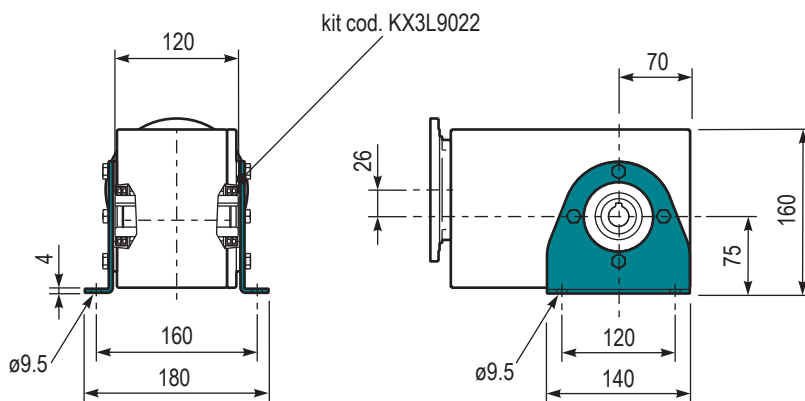
M. flanges	Kit code	øF	A
71B14	KI634047	105	182.5
80B14	KI634046	120	184.5
90B14	KI634041	140	184.5

Gearbox weight
Peso riduttore 12.0 kg



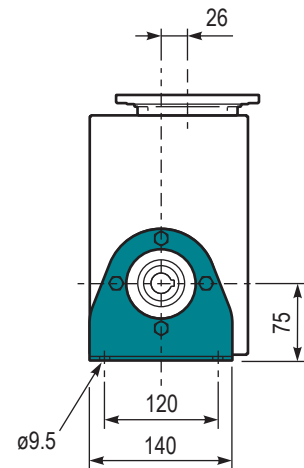
PX32L PA..

Feet Piedini



PX32L PV..

Feet Piedini



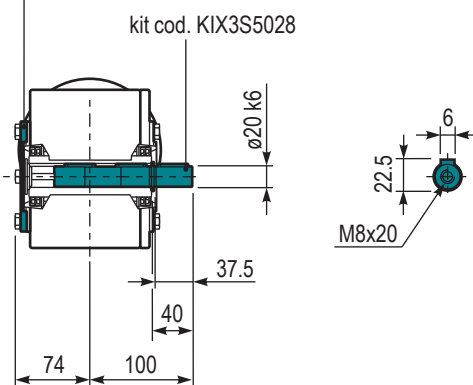
PX32L A..

Single output shaft Albero semplice in uscita

cod. X3L0209

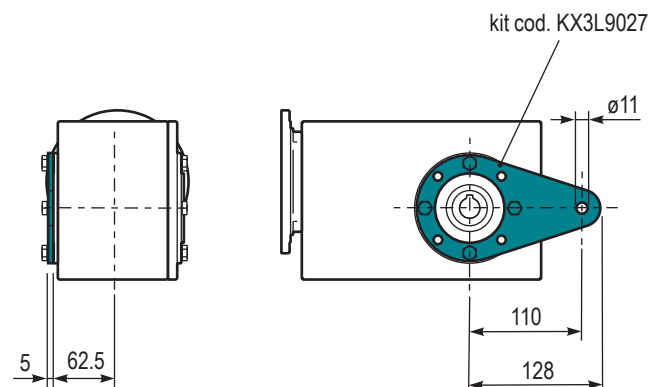
Protection cap (on request)

A richiesta coperchio di protezione



PX32L BR..

Reaction Arm Braccio di reazione



X42L

150
Nm

BVL series

Stainless steel shielded helical bevel gearboxes

Riduttori a coppia conica schermati in acciaio inox

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

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges		B14 motor flanges				Output shaft	Ratio code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-Q	-R	-T			
192	7.29	1.5	71	1.3	2.0	95			C	C		2811	Standard ø25	01
125	11.20	1.5	110	1.4	2.0	150			C	C		288		02
106	13.18	1.5	129	1.2	1.7	150			C	C		1911		03
92	15.27	1.1	109	1.4	1.5	150			C	C		1711		04
78	17.93	1.1	128	1.2	1.3	150			C	C		1511		05
69	20.25	1.1	145	1.0	1.1	150			C	C		198		06
65	21.40	1.1	153	1.0	1.1	150			C	C		1311		07
60	23.47	0.75	115	1.3	0.98	150			C	C		178		08
51	27.55	0.75	135	1.1	0.83	150			C	C		158		09
47.9	29.21	0.75	143	1.0	0.78	150			C	C		1011		10
42.6	32.88	0.75	161	0.9	0.70	150			C	C		138		11
36.7	38.12	0.55	138	1.1	0.60	150			C	C		911		12
31.2	44.89	0.55	163	0.9	0.51	150			C	C		108		13
27.8	50.34	0.37	122	1.1	0.40	131			C	C		711		14
23.9	58.58	0.37	142	1.1	0.39	150			C	C		98		15
18.1	77.36	0.25	126	1.2	0.30	150			C	C		78		16

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

Lubrication

Lubrificazione

Always specify the mounting position
Specificare sempre la posizione di montaggio

Unit X42L is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo X42L viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Agip

Tellium VSF 320

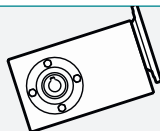
Shell

Omala S4 WE 320

V8

On request

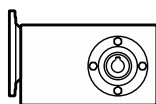
ASK



B3

Standard

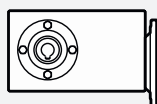
0.60 LT



B8

On request

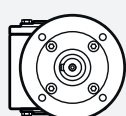
0.70 LT



B6

On request

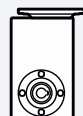
0.75 LT



V5

On request

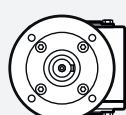
1.10 LT



B7

On request

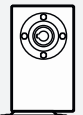
0.50 LT



V6

On request

0.60 LT



Radial and axial loads

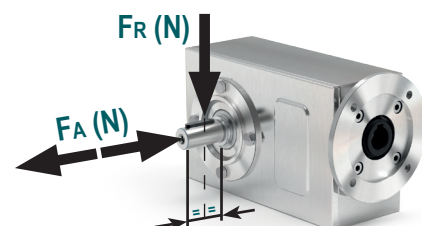
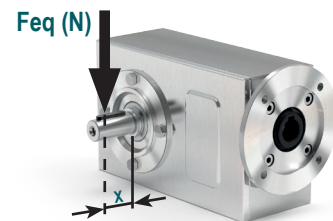
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [N]
250	500	2500
150	600	3000
100	700	3500
75	800	4000
50	960	4800
25	960	4800
15	960	4800

$$F_{eq} = F_R \cdot \frac{54}{X + 28}$$



Tab. 1

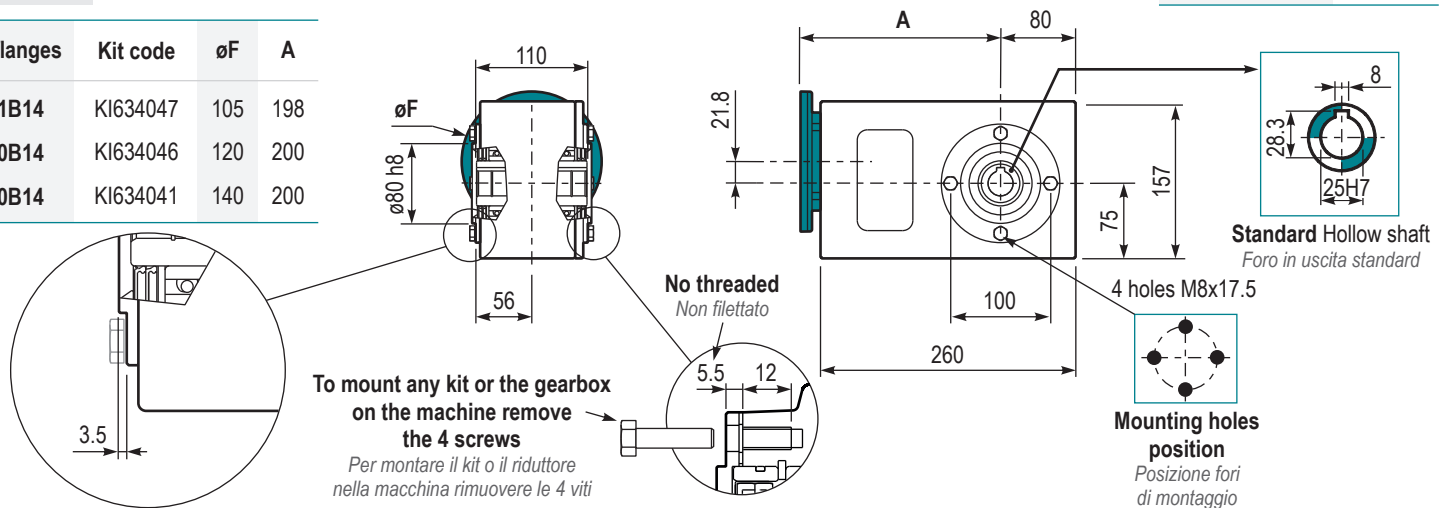
Tab. 2

X42L

Basic gearbox
Riduttore base

Gearbox weight <i>Peso riduttore</i>	10.5 kg
--	----------------

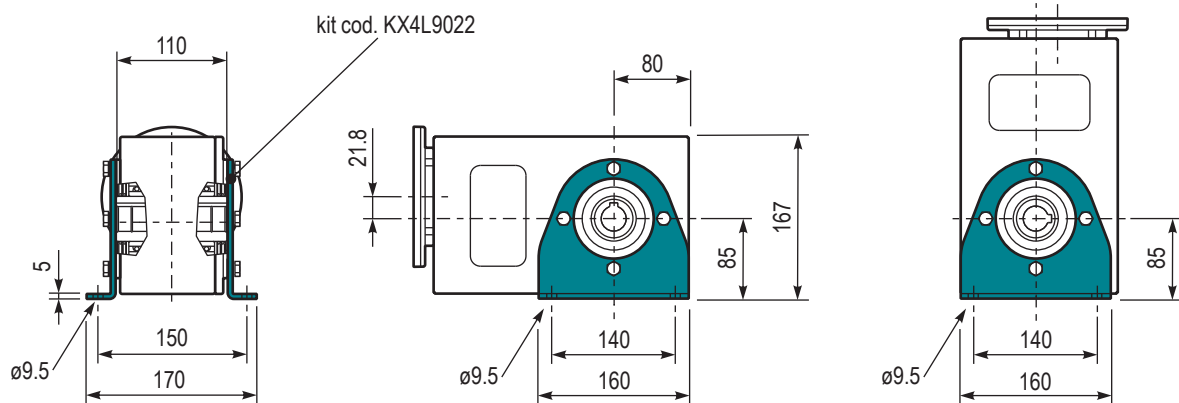
M. flanges	Kit code	øF	A
71B14	KI634047	105	198
80B14	KI634046	120	200
90B14	KI634041	140	200



PX42LPA..

Feet
Piedini

PX42LPV..

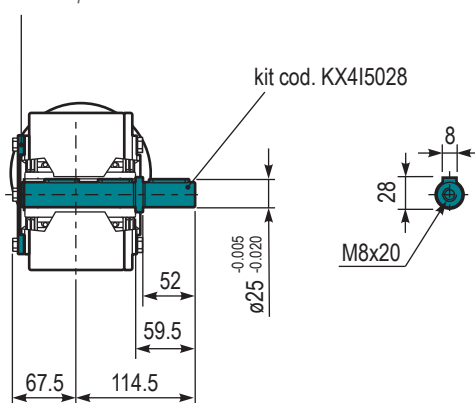
Feet
Piedini

PX42L..A..

Single output shaft
Albero semplice in uscita

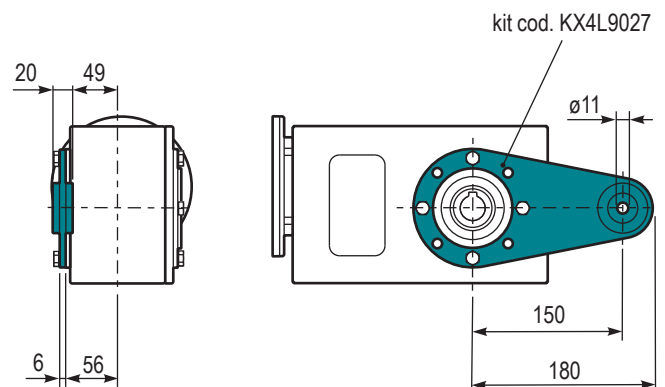
cod. X4L0209

Protection cap (on request)
A richiesta coperchio di protezione



PX42LBR..

Reaction Arm
Braccio di reazione



X52L

250
Nm

BVL series

Stainless steel shielded helical bevel gearboxes

Riduttori a coppia conica schermati in acciaio inox

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

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges				B14 motor flanges				Output shaft	Ratio code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-	-	-R	-T	-U			
											80	90	100-112			
232	6.03	3	116	1.2	3.4	135									3011	01
151	9.26	3	179	0.9	2.6	155									308	02
123	11.36	3	219	1.0	3.1	230									2011	03
91	15.36	2.2	218	1.1	2.5	250									1611	04
80	17.46	2.2	248	1.0	2.2	250									208	05
70	19.97	2.2	284	0.9	1.9	250									1311	06
59	23.60	1.5	231	1.1	1.6	250									168	07
57	24.45	1.5	239	1.0	1.6	250									1111	08
45.6	30.69	1.1	220	1.1	1.2	250									138	09
39.6	35.35	1.1	253	1.0	1.1	250									811	10
37.3	37.57	1.1	269	0.9	1.0	250									118	11
28.8	48.68	0.75	239	1.0	0.78	250									611	12
25.8	54.33	0.75	267	0.9	0.70	250									88	13
18.7	74.81	0.55	271	0.8	0.43	210									68	14

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

Lubrication

Lubrificazione

Always specify the mounting position

Specificare sempre la posizione di montaggio

Unit X52L is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo X52L viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Agip

Telium VSF 320

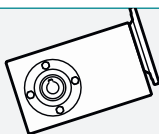
Shell

Omala S4 WE 320

V8

On request

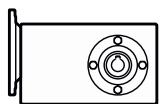
ASK



B3

Standard

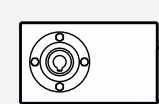
0.90 LT



B8

On request

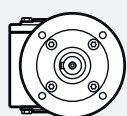
1.40 LT



B6

On request

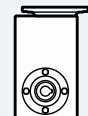
1.50 LT



V5

On request

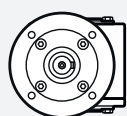
1.95 LT



B7

On request

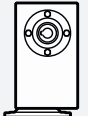
0.75 LT



V6

On request

1.15 LT



Radial and axial loads

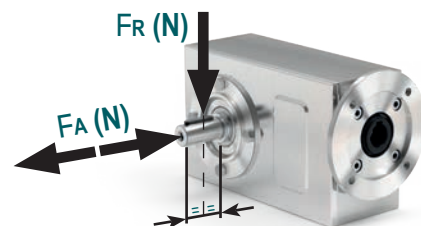
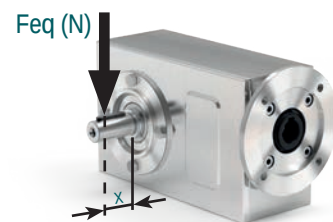
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [N]
250	600	3000
150	700	3500
100	800	4000
75	820	4100
50	960	4800
25	1350	6750
15	1660	8300

$$F_{eq} = F_R \cdot \frac{61.5}{X + 31}$$



Tab. 1

Tab. 2

250
Nm

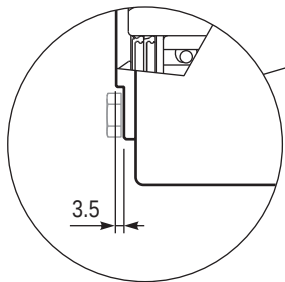
X52L

PX52L...

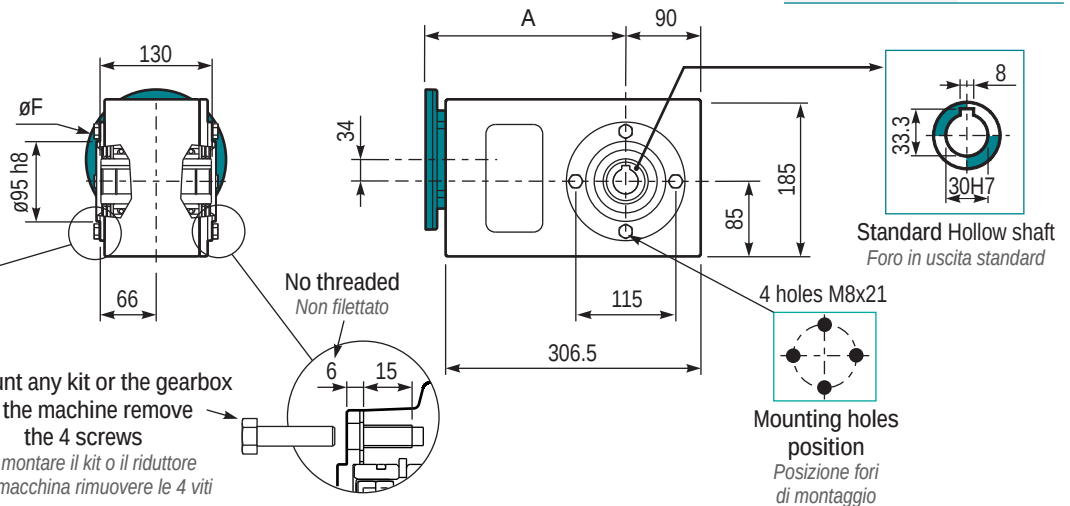
Basic gearbox
Riduttore base

Gearbox weight
Peso riduttore 15.8 kg

M. flanges	Kit code	øF	A
80 B14	KI854046	120	236.5
90 B14	KI854045	140	236.5
100-112 B14	KI854041	160	245.5



To mount any kit or the gearbox
on the machine remove
the 4 screws
Per montare il kit o il riduttore
nella macchina rimuovere le 4 viti

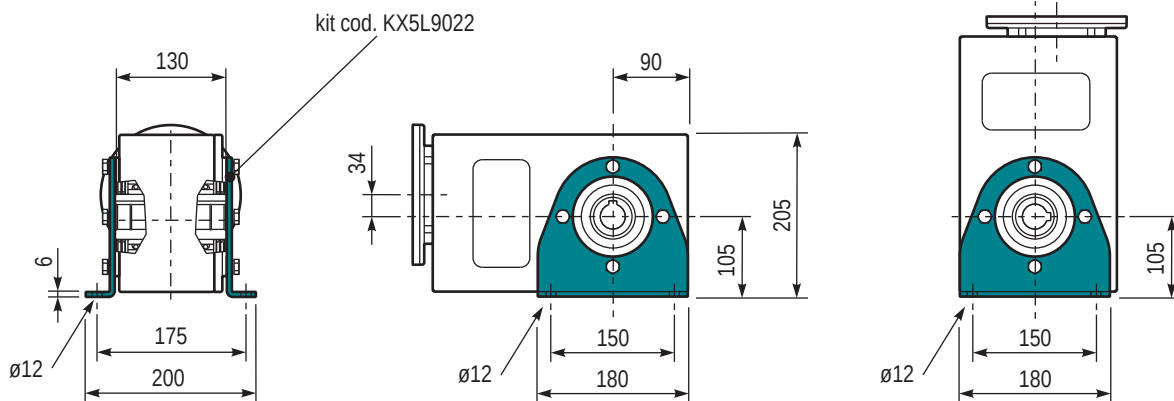


PX52LPA..

Feet
Piedini

PX52LPV..

Feet
Piedini



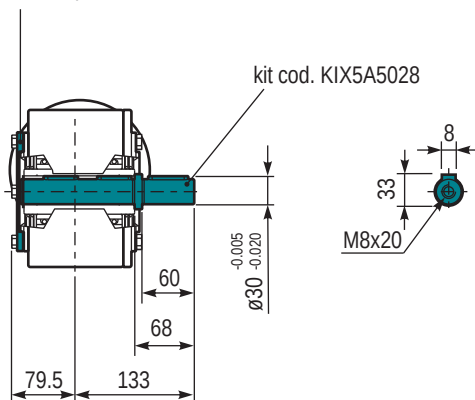
PX52LA..

Single output shaft
Albero semplice in uscita

cod. X5L0209

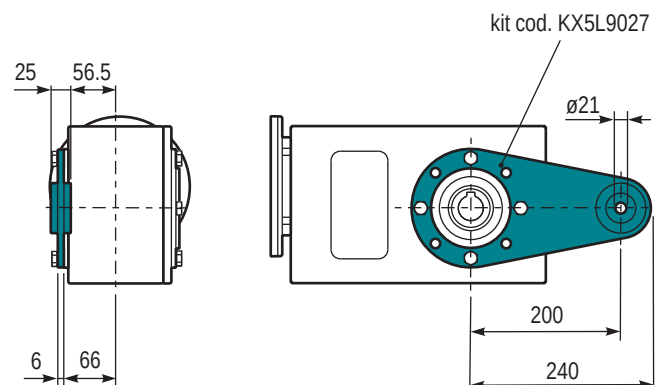
Protection cap (on request)

A richiesta coperchio di protezione



PX52LBR..

Reaction Arm
Braccio di reazione



X62L

410
Nm

BVL series

Stainless steel shielded helical bevel gearboxes

Riduttori a coppia conica schermati in acciaio inox

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

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				B14 motor flanges				Output shaft 	Ratio code 
							-	-	-	-	-R 80	-T 90	-U 100-112			
232	6.03	4	155	1.6	6.1	240									3011	01
151	9.26	4	238	1.1	4.5	270									308	02
123	11.36	4	291	1.2	4.7	350									2011	03
91	15.36	4	394	1.0	3.8	385									1611	04
80	17.46	4	448	0.9	3.5	400									208	05
70	19.97	3	386	1.1	3.1	410									1311	06
59	23.60	3	456	0.9	2.7	410									168	07
57	24.45	3	472	0.9	2.6	410									1111	08
45.6	30.69	2.2	436	0.9	2.0	410									138	09
39.6	35.35	1.5	346	1.2	1.8	410									811	10
37.3	37.57	1.5	368	1.1	1.7	410									118	11
28.8	48.68	1.1	348	1.0	1.1	365									611	12
25.8	54.33	1.1	389	1.1	1.2	410									88	13
18.7	74.81	0.75	367	1.0	0.73	360									68	14

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

Lubrication

Lubrificazione

Always specify the mounting position

Specificare sempre la posizione di montaggio

Unit X62L is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo X62L viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

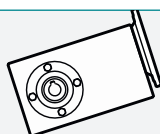
Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

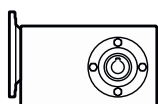
Agip
Telium VSF 320

Shell
Omala S4 WE 320

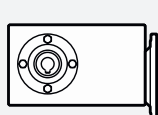
V8
On request
ASK



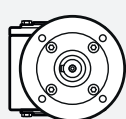
B3
Standard
1.25 LT



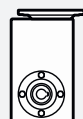
B8
On request
1.60 LT



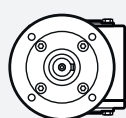
B6
On request
1.70 LT



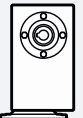
V5
On request
2.45 LT



B7
On request
0.95 LT



V6
On request
1.50 LT



Radial and axial loads

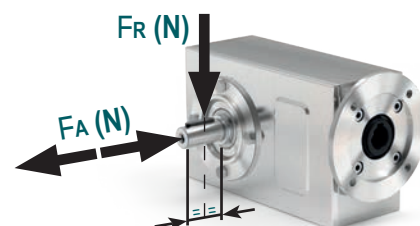
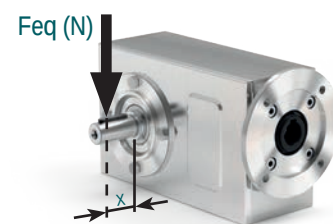
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [N]
250	600	3000
150	700	3500
100	780	3900
75	890	4450
50	1140	5700
25	1330	6650
15	1660	8300

$$F_{eq} = F_R \cdot \frac{69}{X + 39}$$



Tab. 1

Tab. 2

410
Nm

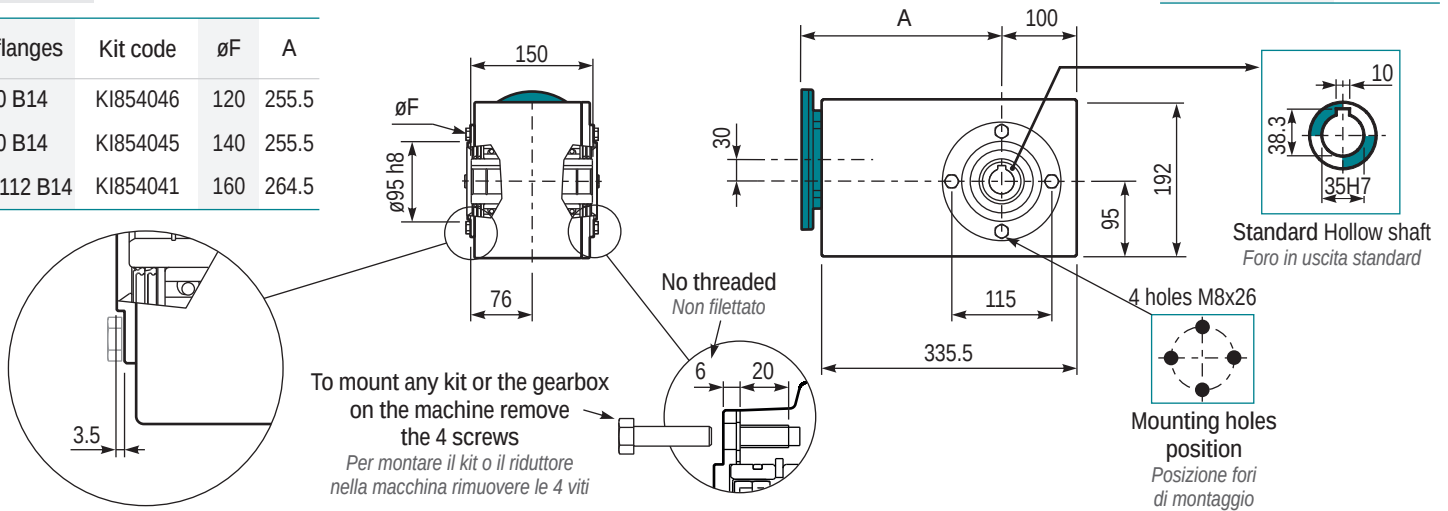
X62L

PX62L...

Basic gearbox
Riduttore base

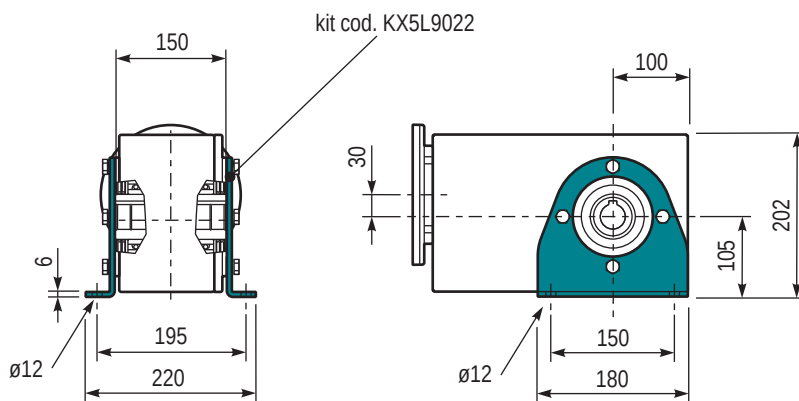
M. flanges	Kit code	øF	A
80 B14	KI854046	120	255.5
90 B14	KI854045	140	255.5
100-112 B14	KI854041	160	264.5

Gearbox weight
Peso riduttore 19.5 kg



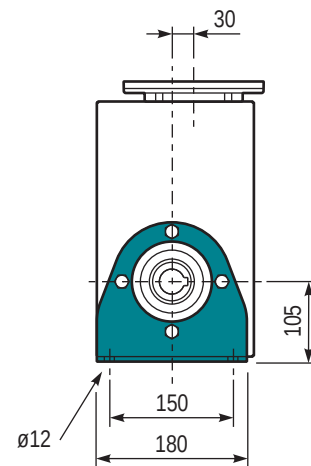
PX62LPA..

Feet
Piedini



PX62LPV..

Feet
Piedini



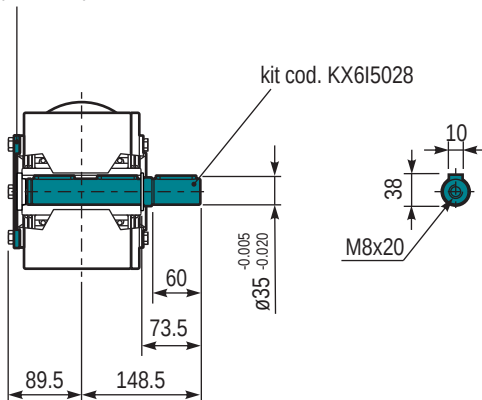
PX62LA..

Single output shaft
Albero semplice in uscita

cod. X5L0209

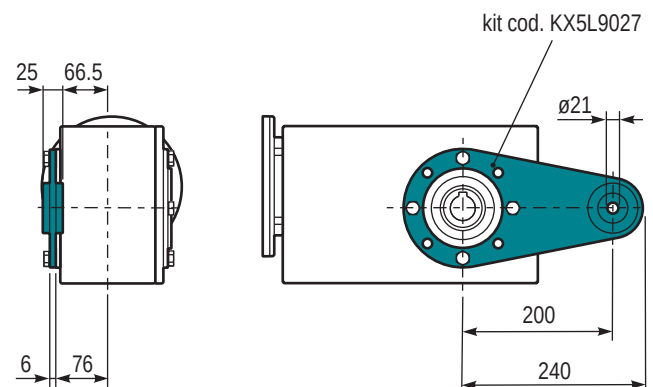
Protection cap (on request)

A richiesta coperchio di protezione



PX62LBR..

Reaction Arm
Braccio di reazione





I VFI series Full stainless steel worm gearboxes

Riduttori a vite senza fine completamente in acciaio inox

Section **7**
Sezione 7

This range is

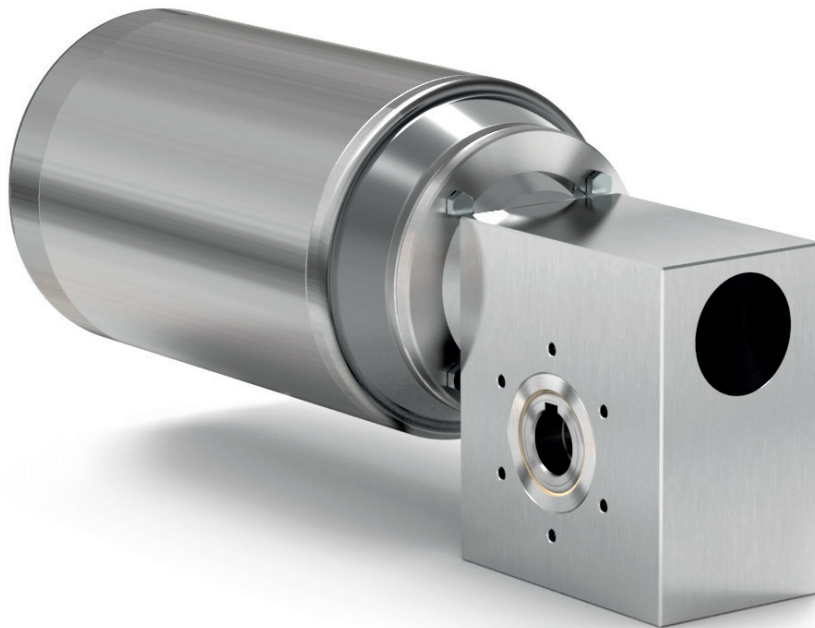
IP69k



ATEX
(on request)



certified



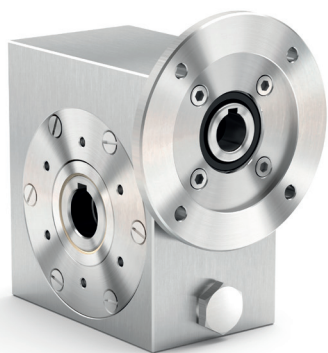
FEATURES

Caratteristiche

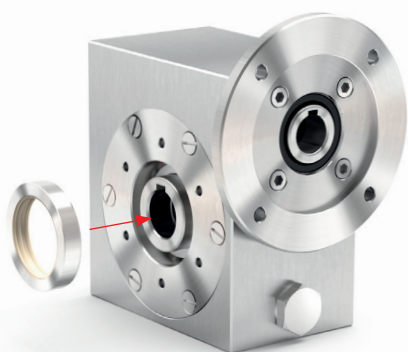
VFI series Full stainless steel worm gearboxes

Riduttori a vite senza fine completamente in acciaio inox

Type <i>Tipo</i>	Torque <i>Coppia</i>	Center distance <i>Interasse</i>	Input power <i>Potenza in entrata</i>	Hollow output shaft <i>Albero cavo in uscita</i>	
I30	21 Nm	30 mm	0.06 ÷ 0.18 kW	ø14 mm	
I45	41 Nm	45 mm	0.12 ÷ 0.37 kW	ø18 mm	ø19 mm
I50	72 Nm	50 mm	0.12 ÷ 0.75 kW	Standard — ø25 mm	ø24 mm
I63	147 Nm	63 mm	0.37 ÷ 1.8 kW		ø28 mm
I85	347 Nm	85 mm	0.55 ÷ 4.0 kW		
I11	651 Nm	110 mm	1.1 ÷ 4.0 kW	ø42 mm	



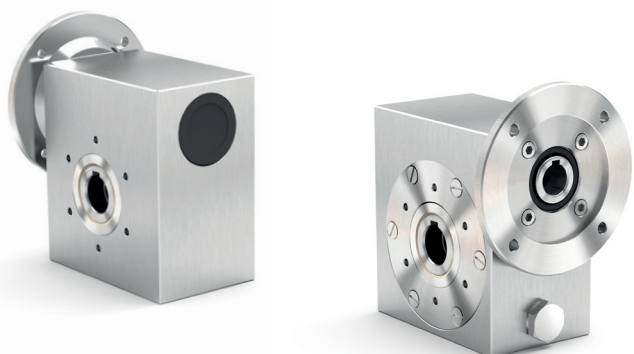
This product is:



Twin viton seals with stainless steel 316L shield.



Doppio anello di tenuta in viton con schermo protettivo in acciaio inox AISI 316L.

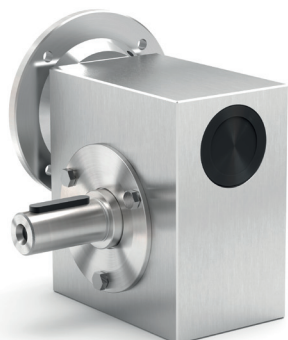


Mounting holes on both sides of the housing for versatile mounting.

Fori di montaggio in entrambi i lati della cassa.

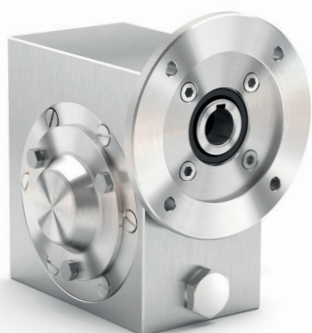
FEATURES

Caratteristiche



**Output shaft is produced in AISI 316L.
Special cover assures full protection of oil seals.**

Albero in uscita in AISI 316L e coperchietto protettivo per anelli di tenuta.



Closed protection cap in AISI 316L with o-ring.

Coperchietto di protezione chiuso in AISI 316L con o-ring.



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

Corona in bronzo al Nickel CuSn12Ni (C91700) centrifugato e mozzo in acciaio inox per massima resistenza e durata superiore. Albero cavo removibile con chiavetta mozzo/corona.

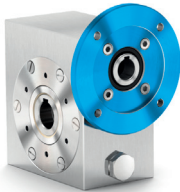
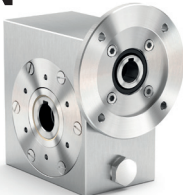
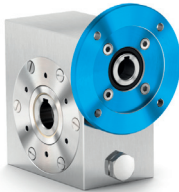
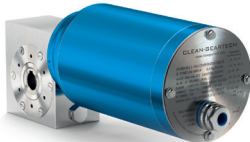
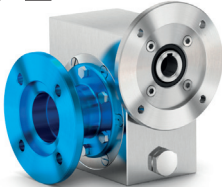
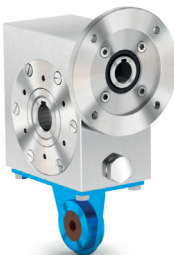


Special high tech full stainless steel housing with accurate finishing and strong rigidity.

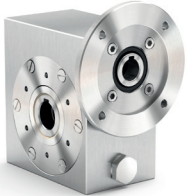
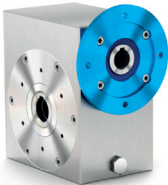
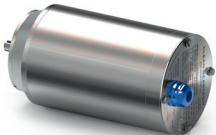
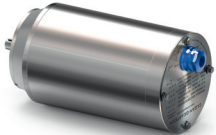
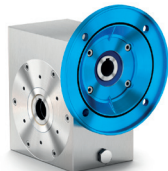
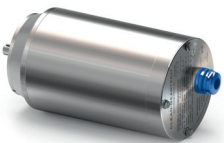
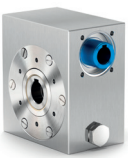
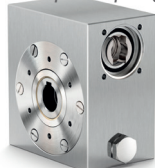
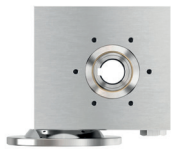
Finitura speciale su una cassa inox che presenta un'alta rigidità strutturale.

How to order

Codifica

P	I50	UN	10	I
Type Tipo	Size Grandezza	Mounting Montaggio	Ratio Rapporto	Hub Mozzo corona
P 	I30 I45 I50 I63 I85 I11	UN 	See technical data table Vedi tabelle dati tecnici	I  Standard I30 -> $\varnothing 14$ I45 -> $\varnothing 18$ I50 -> $\varnothing 25$ I63 -> $\varnothing 25$ I85 -> $\varnothing 35$ I11 -> $\varnothing 42$
M 		FL 		Z Inch I45 -> $\varnothing 0.750''$ I50 -> $\varnothing 1.000''$ I63 -> $\varnothing 1.250''$ I85 -> $\varnothing 1.500''$ I11 -> $\varnothing 2.000''$
B 		BR 		
R 				

7-5

S	-R	B3	-	With Type M specify terminal box position <i>Con tipo M specificare posizione morsettiera</i>
Output shaft <i>Albero lento</i>	Motor size <i>Grandezza motore</i>	Mounting position <i>Posizione di montaggio</i>	Input bore <i>Foro entrata</i>	Terminal box position <i>Posizione morsettiera</i>
Ø 	Flange <i>Flange</i> 	B3 	- Standard bore <i>Foro standard</i> P Input bore reduced one size <i>Foro entrata ridotto di una entrata</i>	A 
S 	IEC B14 -P -> 63B14 (ø90) -Q -> 71 B14 (ø105) -R -> 80 B14 (ø120) -T -> 90 B14 (ø140) -U -> 100-112B14 (ø160)	B8 	Q Input bore reduced two size <i>Foro entrata ridotto di due misure</i> With coupling <i>Con giunto</i> 	B 
	NEMA  -W -> 56C (ø6.5") -X -> 143/5TC (ø6.5") -Y -> 182/4TC (ø8.88") AA -> 213/5TC (ø8.88")	B6 	B -> 11mm C -> 14mm D -> 19mm E -> 24mm F -> 28mm W -> ø0.625" X -> ø0.875" Y -> ø1.125"	C 
	Without flange <i>Senza flangia</i>  -M -> Metric -N -> Nema	V5 	0 Ready for input coupling <i>Predisposto per giunto</i> 	D 
	Type R <i>Tipo R</i>  -O -> Metric	V6 		

Useful formulas

Formule utili

Required power - Potenza richiesta

Lifting - Sollevamento

Rotation - Rotazione

Linear movement - Traslazione

$$P_{[kW]} = \frac{M_{[Kg]} \cdot g_{[9.81]} \cdot v_{[m/s]}}{1000}$$

$$P_{[kW]} = \frac{M_{[Nm]} \cdot n_{[rpm]}}{9550}$$

$$P_{[kW]} = \frac{F_{[N]} \cdot v_{[m/s]}}{1000}$$

Torque - Coppia

$$M_{[Nm]} = \frac{9550 \cdot P_{[kW]}}{n_{[rpm]}}$$

$$M_{[lb\ in]} = \frac{63030 \cdot P_{[HP]}}{n_{[rpm]}}$$

Radial loads - Carichi radiali

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.

$$F_{R[N]} = \frac{M_{[Nm]} \cdot 2000}{d_{[mm]}} \cdot f_k$$

$$F_{R[N]} = \frac{M_{[lb\ in]} \cdot 8.9}{d_{[in]}} \cdot f_k$$

M: Output torque - *Momento torcente*

d: Diam. of driving element - *Diametro primitivo*

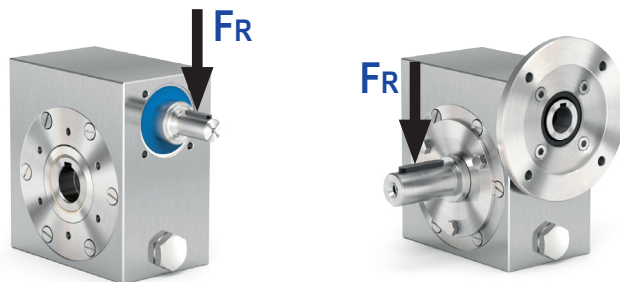
f_k: Factor - *Coefficiente di trasformazione*

1.15: Gearwheels - *Ingranaggi*

1.25: Chain sprockets - *Catena*

1.75: Narrow v-belt pulley - *Cinghia Trapezoidale*

2.50: Flat-belt pulley - *Cinghia piatta*



If your application requires higher radial loads, contact our technical office. Higher loads may be possible.

Nel caso la vostra applicazione richieda carichi radiali superiori consultare il nostro ufficio tecnico, valori maggiori possono essere accettati.

How to select a gearbox

Come selezionare un riduttore

- A** Select required torque (according to service factor)
Seleziona la coppia desiderata (comprensiva del fattore di servizio)
- B** Select output speed
Seleziona la velocità in uscita
- C** Select gear ratio in the line corresponding to the chosen motor power
Sulla riga corrispondente alla motorizzazione prescelta si può rilevare il rapporto di riduzione
- D** Select motor flange available (if requested)
Scegli la flangia disponibile (se richiesta)

Gear size
Grandezza
riduttore

C

Ratio
Rapporto

Transmitted torque
Momento torcente
trasmesso

Nominal power
Potenza nominale

Flange code
Codice flangia

Dynamic efficiency
Rendimento dinamico

Input speed
Velocità in entrata

I30

21
Nm

VFI series

Full stainless steel worm gearboxes

Riduttori a vite senza fine completamente in acciaio inox

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges		B14 motor flanges		Dynamic efficiency	Tooth module	Ratios code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-O	-P	RD	[mm]	
280	5	0.18	5	3.3	0.60	17			B-C		82	1.26	01
200	7	0.18	7	2.4	0.44	17			B-C		80	1.44	02
140	10	0.18	10	1.8	0.32	17			B-C		78	1.44	03
93	15	0.18	13	1.4	0.25	19			B-C		73	1.44	04
70	20	0.18	17	1.1	0.20	19			B-C		70	1.09	05
47	30	0.12	15	1.4	0.17	21			B-C		62	1.44	06
35	40	0.12	19	1.1	0.13	20			B-C		57	1.09	07
23	61	0.09	19	1.1	0.10	20			B-C		50	0.72	08
17.5	80	0.06	16	1.0	0.06	16			B-C		48	0.56	09
14	100	0.06*	16	0.5	0.03	8			B-C		40	0.45	10

B

Output speed
Velocità in uscita

Motor power
Potenza motore

Service factor
Fattore di servizio

A

Nominal torque
Momento torcente
nominale

Nominal module
Modulo nominale

Notes
Note

Type of load and starts per hour
Tipo di carico e avviamenti per ora

Oper. hours per day
Ore di funz. giorn.

		<2h	2÷8h	8÷16h
Continuous or intermittent application with start / hour <i>Applicazione continua o intermittente con numero operazioni/ora</i>	Uniform - <i>Uniforme</i>	0.9	1	1.25
	Moderate - <i>Moderato</i>	1	1.25	1.5
	Heavy - <i>Forte</i>	1.25	1.5	1.75
Intermittent application with start / hour <i>Applicazione intermittente con numero operazioni/ora</i>	Uniform - <i>Uniforme</i>	1.25	1.5	1.75
	Moderate - <i>Moderato</i>	1.5	1.75	2
	Heavy - <i>Forte</i>	1.75	2	2.25

D

Motor flange available
Flange disponibili

B)

Mounting with reduction bushing
Montaggio con boccia di riduzione

C)

Motor flange holes position/terminal box position
Posizione fori flangia/basetta motore

B)

Available without reduction bushing
Disponibile anche senza boccia

I30

21
Nm

VFI series

Full stainless steel worm gearboxes

Riduttori a vite senza fine completamente in acciaio inox

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges		B14 motor flanges		Dynamic efficiency	Tooth module	Ratios code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-O	-P	RD	[mm]	
280	5	0.18	5	3.3	0.60	17			B-C		82	1.26	01
200	7	0.18	7	2.4	0.44	17			B-C		80	1.44	02
140	10	0.18	10	1.8	0.32	17			B-C		78	1.44	03
93	15	0.18	13	1.4	0.25	19			B-C		73	1.44	04
70	20	0.18	17	1.1	0.20	19			B-C		70	1.09	05
47	30	0.12	15	1.4	0.17	21			B-C		62	1.44	06
35	40	0.12	19	1.1	0.13	20			B-C		57	1.09	07
23	61	0.09	19	1.1	0.10	20			B-C		50	0.72	08
17.5	80	0.06	16	1.0	0.06	16			B-C		48	0.56	09
14	100	0.06*	16	0.5	0.03	8			B-C		40	0.45	10

* Power higher than the maximum one which can be supported by the gearbox. Select according to the torque M_{2R}

Potenza superiore a quella massima sopportabile dal riduttore. Selezionare in base al momento torcente M_{2R}

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

Lubrication

Lubrificazione

Unit I30 is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo I30 viene fornito con olio sintetico e lubrificazione tipo "long life".
Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Oil quantity for
all positions:
0.06Lt.

Quantità olio per tutte
le posizioni: 0.06Lt

Agip
Telium VSF 320

Shell
Omala S4 WE 320

* For more details on lubrication and plugs check our website.

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

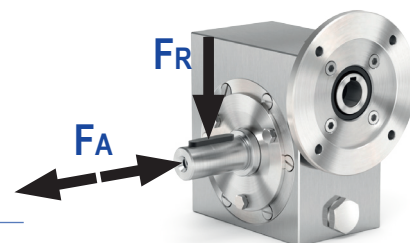
Radial and axial loads

Carichi radiali e assiali

Output shaft

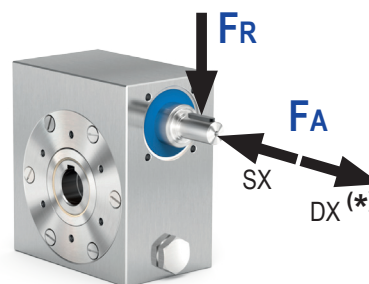
Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [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]	F_A [N]	F_R [N]
1400	20	100

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

* Non sono consentiti forti carichi assiali con direzione DX

Tab. 1

Tab. 2

21
Nm

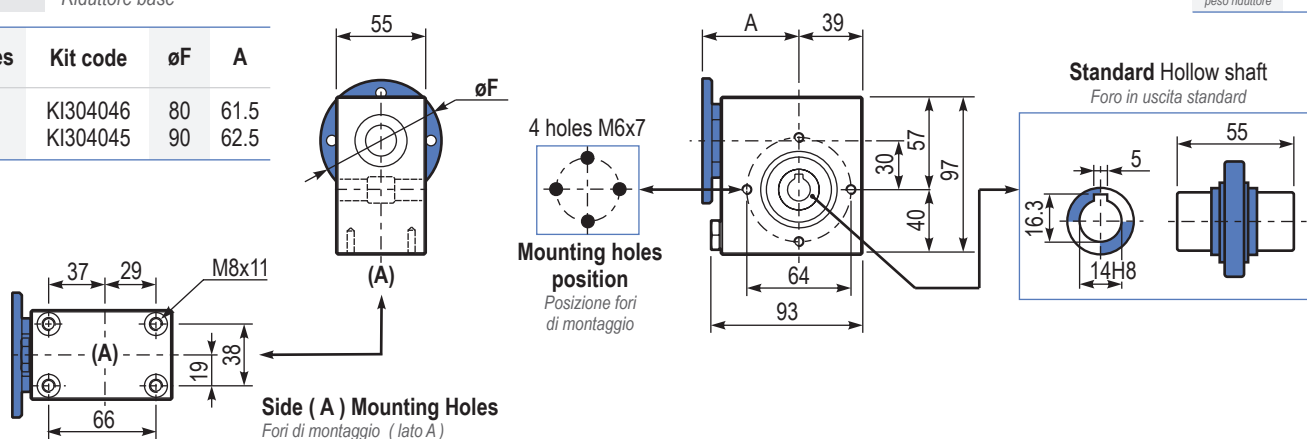
I30

PI30UN...

Basic gearbox
Riduttore base

Gearbox weight
peso riduttore **2.5 kg**

M. flanges	Kit code	øF	A
56B14	KI304046	80	61.5
63B14	KI304045	90	62.5

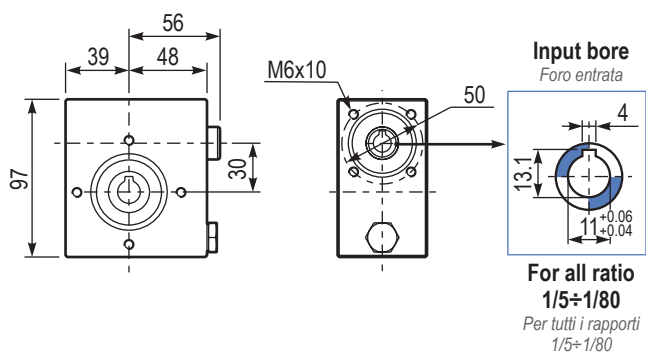


BI30UN...

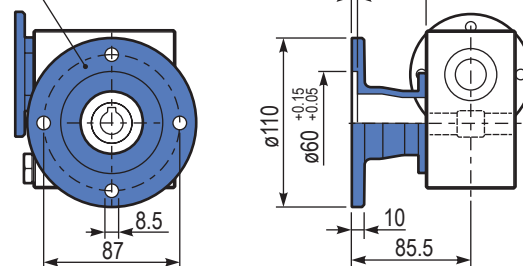
Modular base
Base modulare

PI30FL...

Output flange
Flangia uscita



kit cod. KI309011



RI30UN...

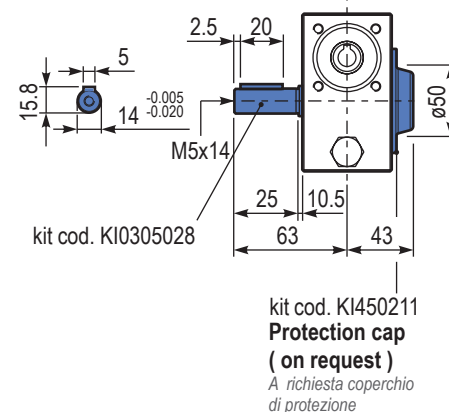
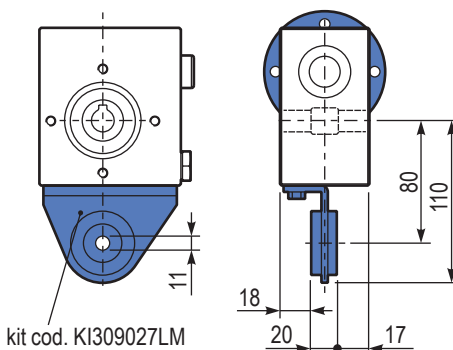
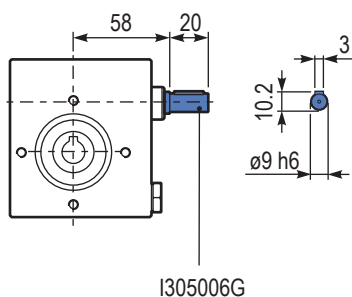
Input shaft
Albero in entrata

PI30BR...

Reaction arm
Braccio di reazione

PI30.....S...

Single Shaft
Albero lento semplice



I45

41
Nm

VFI series

Full stainless steel worm gearboxes

Riduttori a vite senza fine completamente in acciaio inox

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges		B14 motor flanges		Dynamic efficiency	Tooth module	Ratios code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-P	-Q	RD	[mm]	
200	7	0.37	14	2.2	0.80	30			B-C		80	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	0.12	41	0.7	0.09	29			B-C		49	0.72	10

Motor flanges available
Flange motore disponibili



B) Supplied with reduction bushing
Fornito con bussola di riduzione

B) Available on request without reduction bushing
Disponibile a richiesta senza bussola di riduzione



C) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

Unit I45 is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo I45 viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Agip

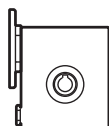
Telium VSF 320

Shell

Omala S4 WE 320

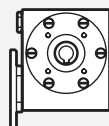
B3

Standard
0.15 LT



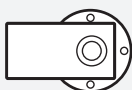
B8

On request
0.15 LT



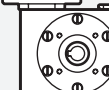
B6

On request
0.15 LT



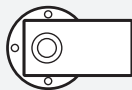
V5

On request
0.15 LT



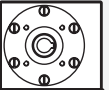
B7

On request
0.20 LT



V6

On request
0.15 LT



For more details on lubrication and plugs check our website.

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

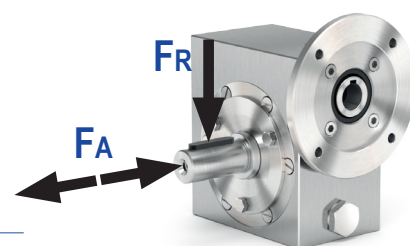
Radial and axial loads

Carichi radiali e assiali

Output shaft

Albero di uscita

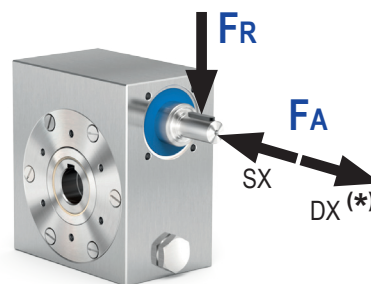
n_2 [min ⁻¹]	F_A [N]	F_R [N]
200	180	900
150	200	1000
100	220	1100
75	240	1200
50	260	1400
25	300	1800
15	400	2000



Input shaft

Albero in entrata

n_1 [min ⁻¹]	F_A [N]	F_R [N]
1400	42	210



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

* Non sono consentiti forti carichi assiali con direzione DX

Tab. 1

Tab. 2

41
Nm

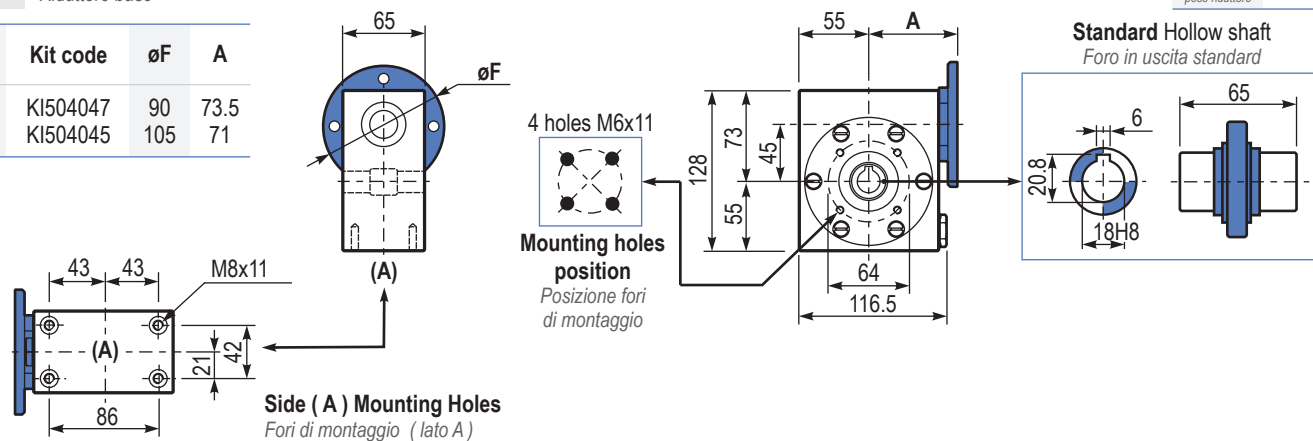
145

PI45UN...

Basic gearbox
Riduttore base

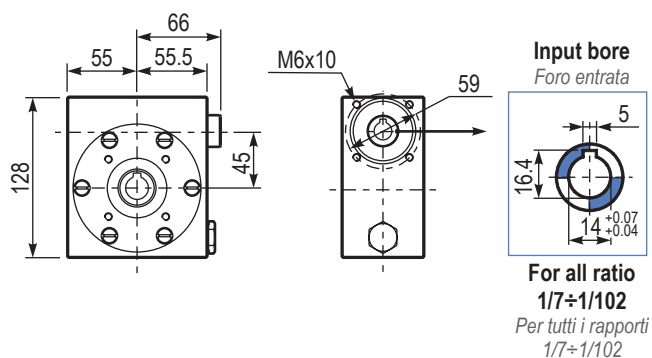
Gearbox weight
peso riduttore **5.0 kg**

M. flanges	Kit code	øF	A
63B14	KI504047	90	73.5
71B14	KI504045	105	71



BI45UN...

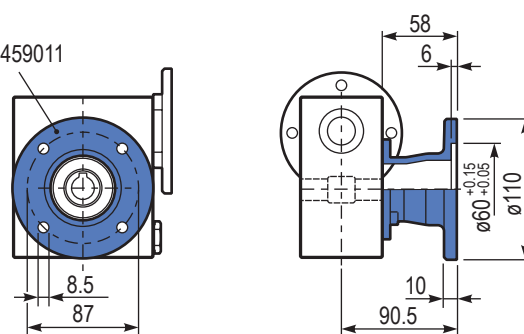
Modular base
Base modulare



PI45FL...

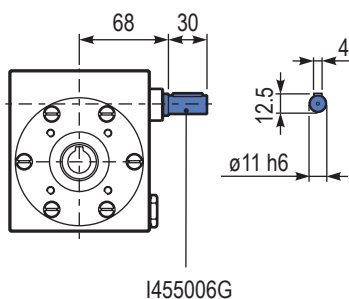
Output flange
Flangia uscita

kit cod. KI459011



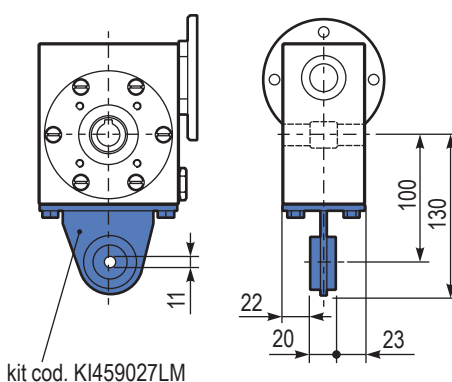
RI45UN...

Input shaft
Albero in entrata



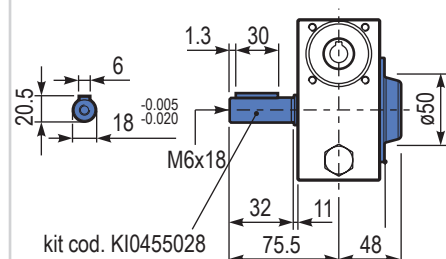
PI45BR...

Reaction arm
Braccio di reazione



PI45.....S...

Single Shaft
Albero lento semplice



kit cod. KI450211
Protection cap
(on request)
A richiesta coperchio di protezione

I50

72 Nm

VFI series Full stainless steel worm gearboxes

Riduttori a vite senza fine completamente in acciaio inox

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges		B14 motor flanges			Dynamic efficiency	Tooth module	Ratios code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-P	-Q	-R	RD	[mm]	
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			69	2.1	06
33	43	0.37	72	1.0	0.35	68			B-C			66	1.8	07
28	50	0.25	53	1.2	0.31	66			B-C			62	1.5	13
23	60	0.25	59	1.0	0.26	62			B-C			58	1.3	08
21	68	0.25	66	0.9	0.22	58			B-C			57	1.2	09
17.5	80	0.18	53	1.1	0.19	57			B-C			54	1.0	10
14	100	0.12	41	1.3	0.15	51			B-C			50	0.8	11

Motor flanges available
Flange motore disponibili



B) Supplied with reduction bushing
Fornito con bussola di riduzione



B) Available on request without reduction bushing
Disponibile a richiesta senza bussola di riduzione



C) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

Unit I50 is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo I50 viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Agip

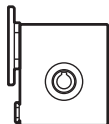
Telium VSF 320

Shell

Omala S4 WE 320

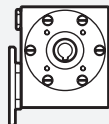
B3

Standard
0.22 LT



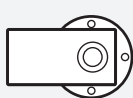
B8

On request
0.22 LT



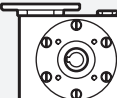
B6

On request
0.22 LT



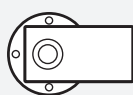
V5

On request
0.22 LT



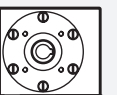
B7

On request
0.28 LT



V6

On request
0.22 LT



For more details on lubrication and plugs check our website.

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

Tab. 1

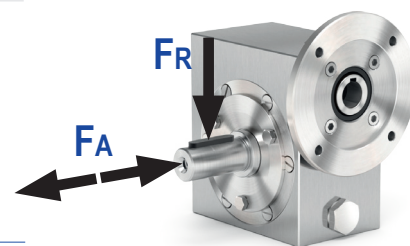
Radial and axial loads

Carichi radiali e assiali

Output shaft

Albero di uscita

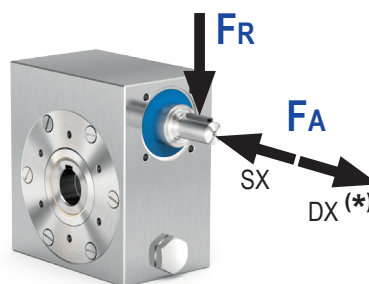
n_2 [min ⁻¹]	F_A [N]	F_R [N]
200	240	1200
150	280	1400
100	300	1500
75	340	1700
50	380	1900
25	480	2500
15	560	2800



Input shaft

Albero in entrata

n_1 [min ⁻¹]	F_A [N]	F_R [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

72
Nm

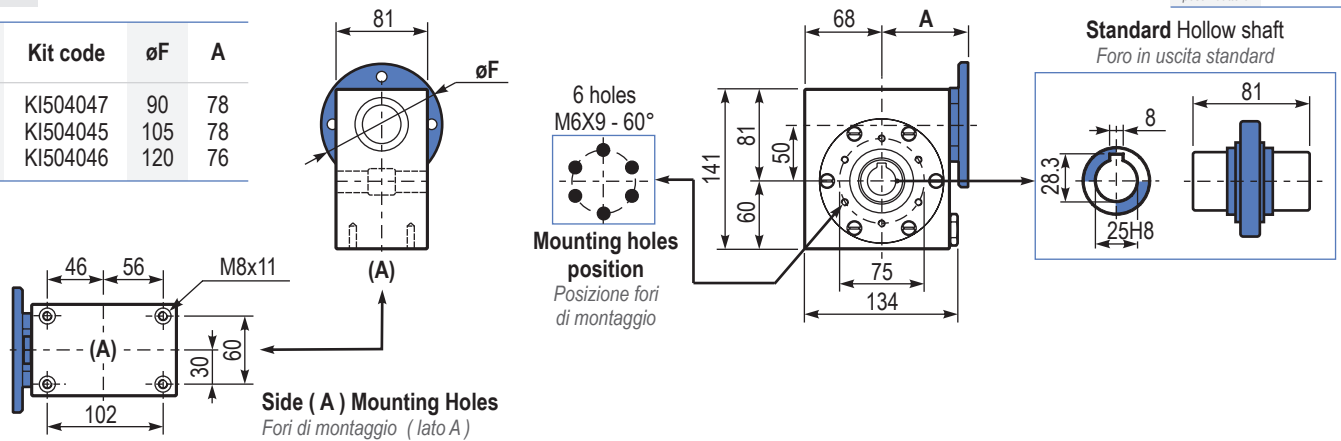
150

PI50UN...

Basic gearbox
Riduttore base

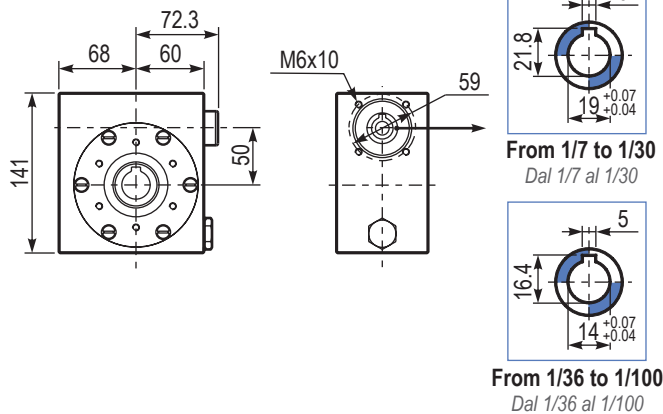
Gearbox weight
peso riduttore **7.3 kg**

M. flanges	Kit code	øF	A
63B14	KI504047	90	78
71B14	KI504045	105	78
80B14	KI504046	120	76



BI50UN...

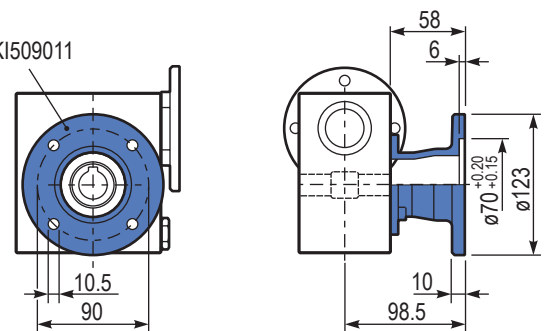
Modular base
Base modulare



PI50FL...

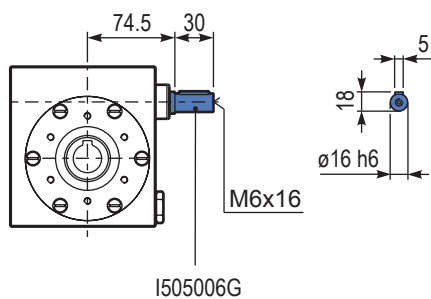
Output flange
Flangia uscita

kit cod. KI509011



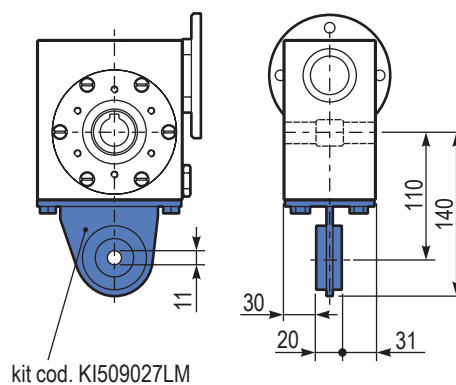
RI50UN...

Input shaft
Albero in entrata



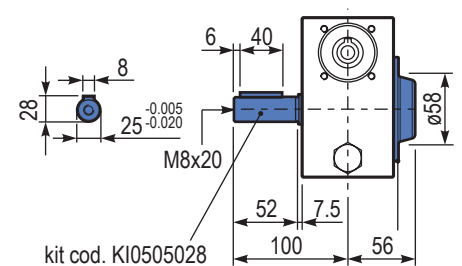
PI50BR...

Reaction arm
Braccio di reazione



PI50.....S...

Single Shaft
Albero lento semplice



kit cod. KI500211
Protection cap
(on request)
A richiesta coperchio di protezione

VFI series

Full stainless steel worm gearboxes

Riduttori a vite senza fine completamente in acciaio inox

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges		B14 motor flanges			Dynamic efficiency	Tooth module	Ratios code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-Q	-R	-T	RD	[mm]	
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
35	40	0.75	135	1.0	0.78	140			B-C	B-C		66	2.5	13
31	45	0.55	111	1.2	0.67	135			B-C	C		66	2.1	08
23	60	0.55	140	0.9	0.51	130			B-C	C		62	1.6	12
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

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

Lubrication

Lubrificazione

Unit I63 is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo I63 viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Agip

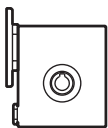
Telium VSF 320

Shell

Omala S4 WE 320

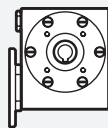
B3

Standard
0.60 LT



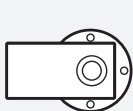
B8

On request
0.60 LT



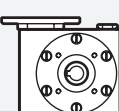
B6

On request
0.60 LT



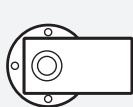
V5

On request
0.60 LT



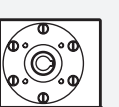
B7

On request
0.82 LT



V6

On request
0.60 LT



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

Tab. 1

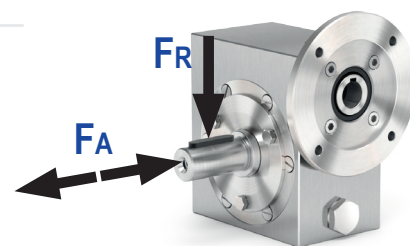
Radial and axial loads

Carichi radiali e assiali

Output shaft

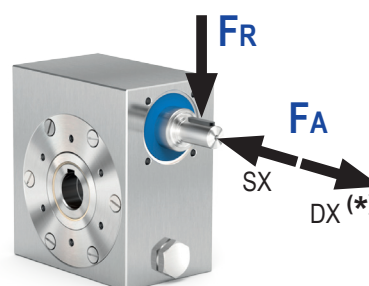
Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [N]
200	360	1800
150	400	2000
100	460	2300
75	500	2500
50	600	3000
25	700	3800
15	800	4000



Input shaft

Albero in entrata



n_1 [min ⁻¹]	F_A [N]	F_R [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

147
Nm

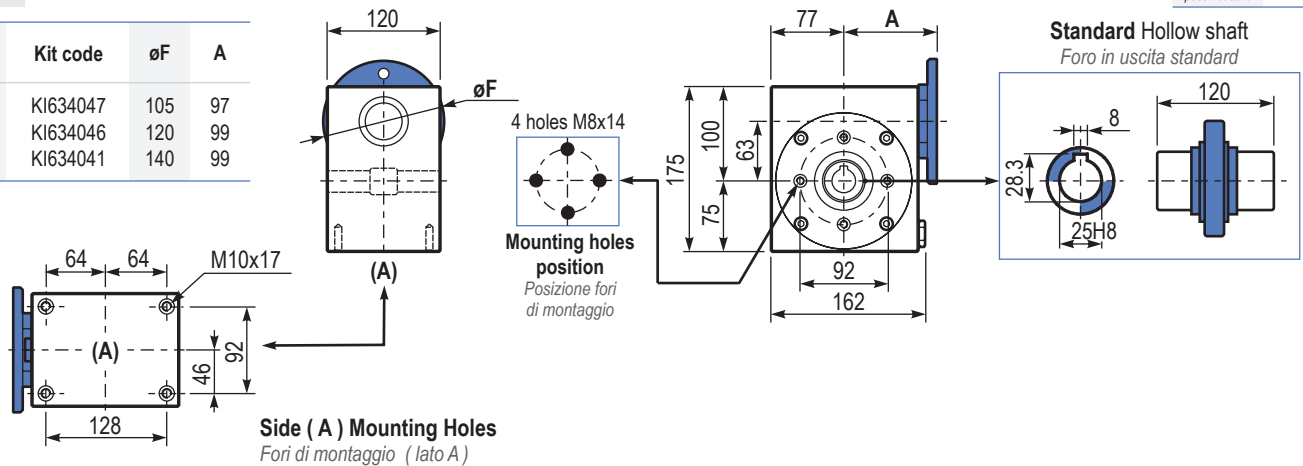
163

PI63UN...

Basic gearbox
Riduttore base

Gearbox weight
peso riduttore **14.6 kg**

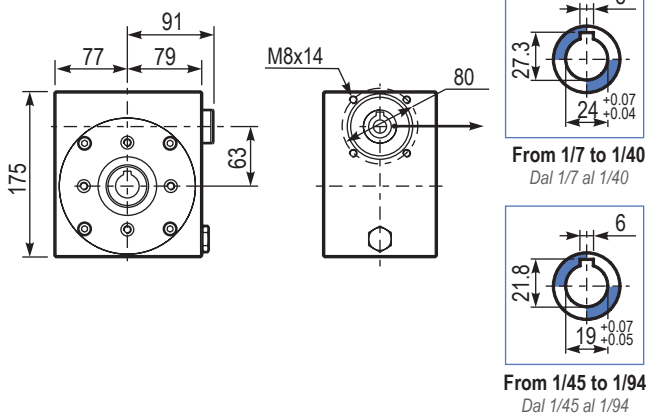
M. flanges	Kit code	øF	A
71B14	KI634047	105	97
80B14	KI634046	120	99
90B14	KI634041	140	99



B163UN...

Modular base
Base modulare

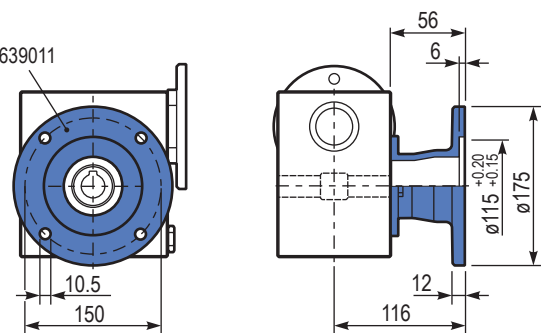
Input bore
Foro entrata



PI63FL...

Output flange
Flangia uscita

kit cod. KI639011

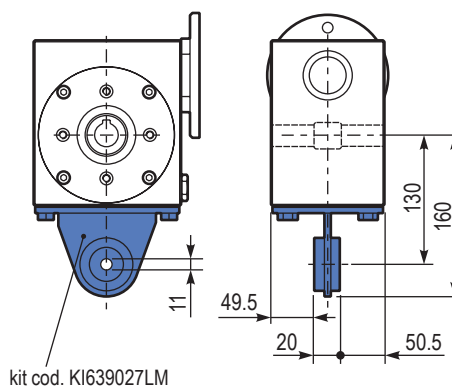
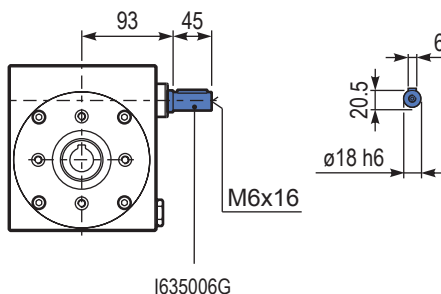


R163UN...

Input shaft
Albero in entrata

PI63BR...

Reaction arm
Braccio di reazione



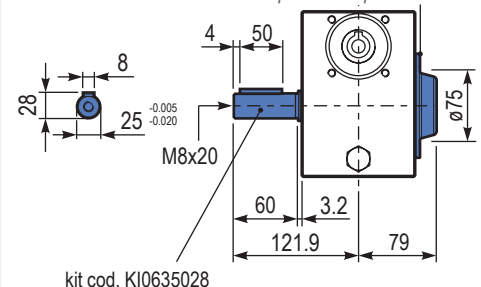
PI63.....S...

Single Shaft
Albero lento semplice

kit cod. KI630211

Protection cap (on request)

A richiesta coperchio di protezione



I85

347 Nm

VFI series Full stainless steel worm gearboxes

Riduttori a vite senza fine completamente in acciaio inox

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges			B14 motor flanges			Dynamic efficiency	Tooth module	Ratios code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-	-R	-T	-U	RD	[mm]	
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			71	3.5	07
30	46	1.5	320	1.0	1.5	326	-	-	-	B			68	3.1	08
27	52	1.1	258	1.1	1.2	289	-	-	-	B			66	2.7	09
21	67	1.1	327	0.9	0.97	289	-	-	-	B			65	2.1	10
18.9	74	0.75	220	1.2	0.91	268	-	-	-	B			58	1.9	11
14.6	96	0.55	191	1.3	0.70	242	-	-	-	B			53	1.5	12

Motor flanges available
Flange motore disponibili

B) Supplied with reduction bushing
Fornito con bussola di riduzione

B) Available on request without reduction bushing
Disponibile a richiesta senza bussola di riduzione

C) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

Unit I85 is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo I85 viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

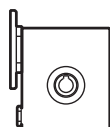
Agip

Telium VSF 320

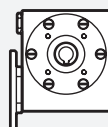
Shell

Omala S4 WE 320

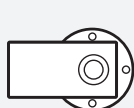
B3
Standard
1.40 LT



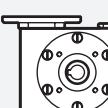
B8
On request
1.40 LT



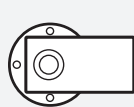
B6
On request
1.40 LT



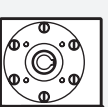
V5
On request
1.40 LT



B7
On request
1.70 LT



V6
On request
1.40 LT



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

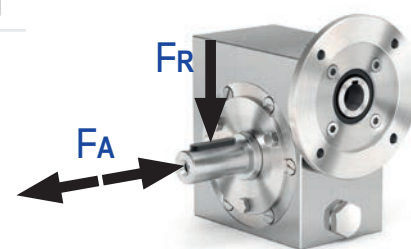
Radial and axial loads

Carichi radiali e assiali

Output shaft

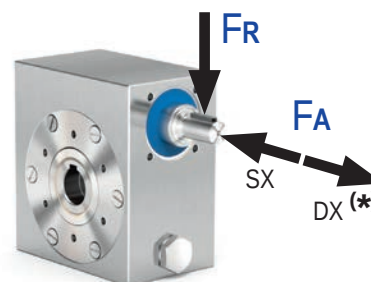
Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [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]	F_A [N]	F_R [N]
1400	130	650

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

* Non sono consentiti forti carichi assiali con direzione DX

Tab. 1

Tab. 2

347
Nm

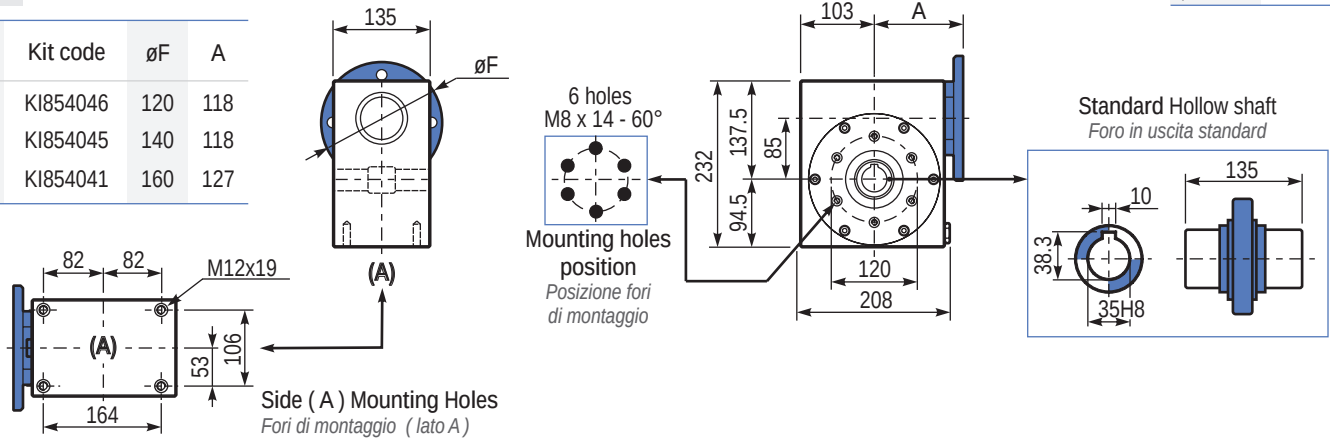
185

PI85UN...

Basic gearbox
Riduttore base

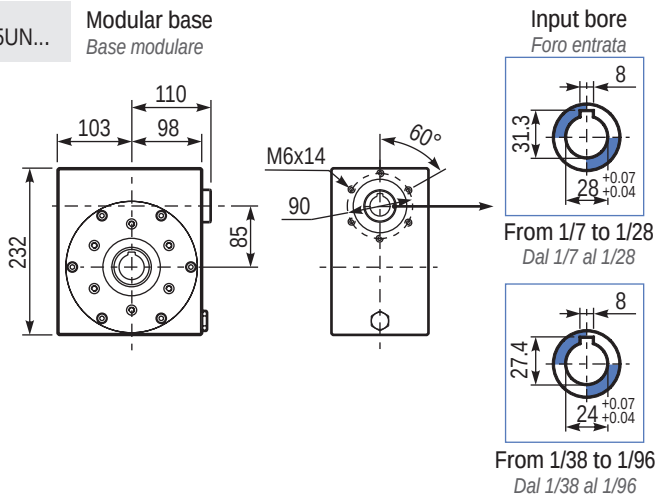
Gearbox weight
peso riduttore 23.3 kg

M. flanges	Kit code	øF	A
80B14	KI854046	120	118
90B14	KI854045	140	118
100-112B14	KI854041	160	127



BI85UN...

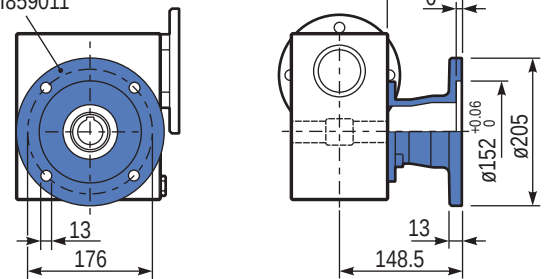
Modular base
Base modulare



PI85FL...

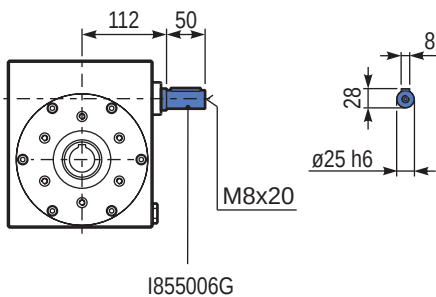
Output flange
Flangia uscita

kit cod. KI859011



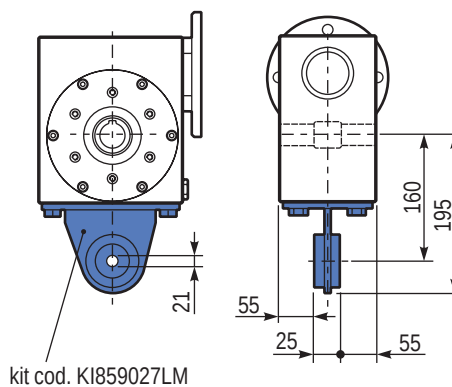
RI85UN...

Input shaft
Albero in entrata



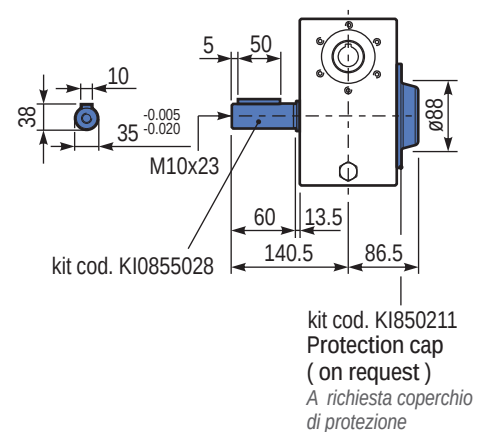
PI85BR...

Reaction arm
Braccio di reazione



PI85.....S...

Single Shaft
Albero lento semplice



I11

651
Nm

VFI series

Full stainless steel worm gearboxes

Riduttori a vite senza fine completamente in acciaio inox

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges				B14 motor flanges			Dynamic efficiency	Tooth module	Ratios code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-	-	-R	-T	-U	RD	[mm]	
200	7	4.0	168	2.9	11.5	483					B	B		88	5.5	01
140	10	4.0	235	2.2	9.0	525					B	B		86	5.4	02
88	16	4.0	358	1.5	6.0	536					B	B		82	5.3	03
70	20	4.0	447	1.2	4.9	546					B	B		82	4.5	04
61	23	3.0	377	1.4	4.1	515					B	B		80	3.9	05
47	30	3.0	467	1.4	4.2	651					B	B		76	5.6	06
37	38	3.0	583	1.1	3.3	641					B	B		75	4.7	07
31	45	2.2	493	1.2	2.7	599					B	B		73	4.0	08
26	53	2.2	557	1.1	2.5	620					B	B		70	3.5	09
22	64	1.5	452	1.2	1.8	536					B			69	2.9	10
16.7	84	1.1	410	1.2	1.3	494					B			65	2.2	11
14.1	99	1.1	446	1.1	1.2	483					B			60	1.9	12

Motor flanges available
Flange motore disponibili



B) Supplied with reduction bushing
Fornito con bussola di riduzione

B) Available on request without reduction bushing
Disponibile a richiesta senza bussola di riduzione



C) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

Unit I11 is supplied with synthetic oil to assure long life lubrication.

Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo I11 viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Agip

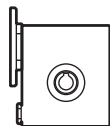
Telium VSF 320

Shell

Omala S4 WE 320

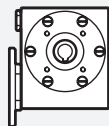
B3

Standard
3.50 LT



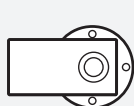
B8

On request
2.10 LT



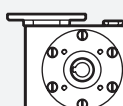
B6

On request
2.50 LT



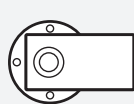
V5

On request
1.60 LT



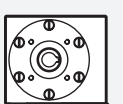
B7

On request
2.50 LT



V6

On request
1.60 LT



For more details on lubrication and plugs check our website.

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

Tab. 1

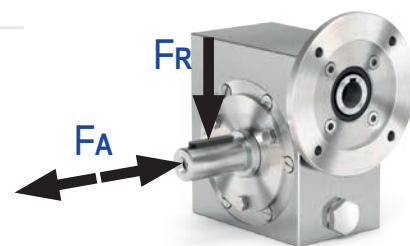
Radial and axial loads

Carichi radiali e assiali

Output shaft

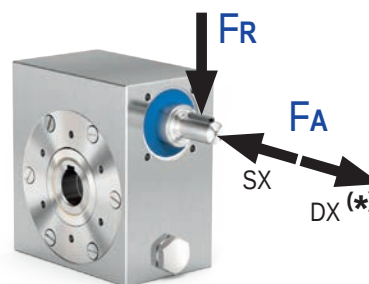
Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [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]	F_A [N]	F_R [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

651
Nm

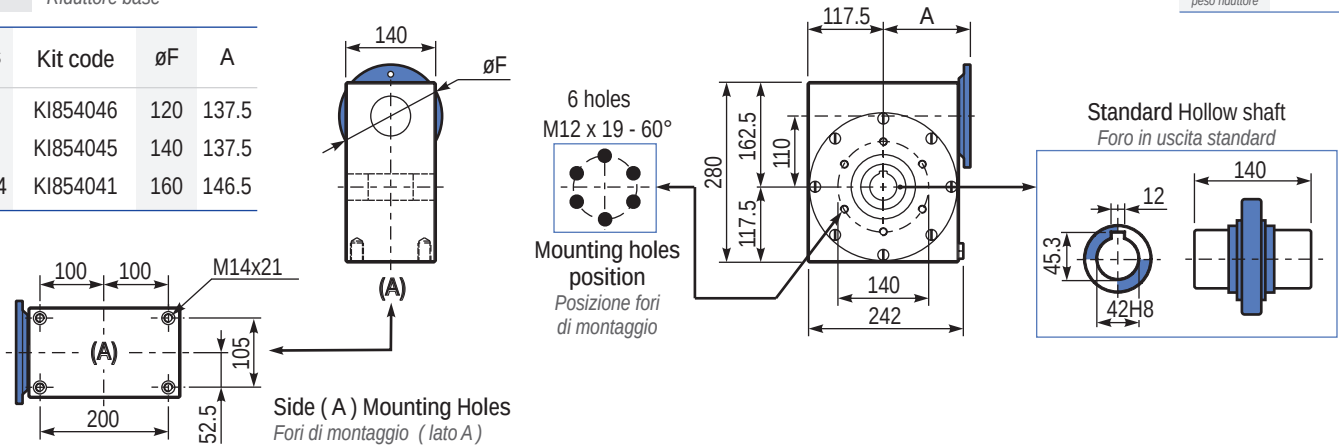
111

PI11UN...

Basic gearbox
Riduttore base

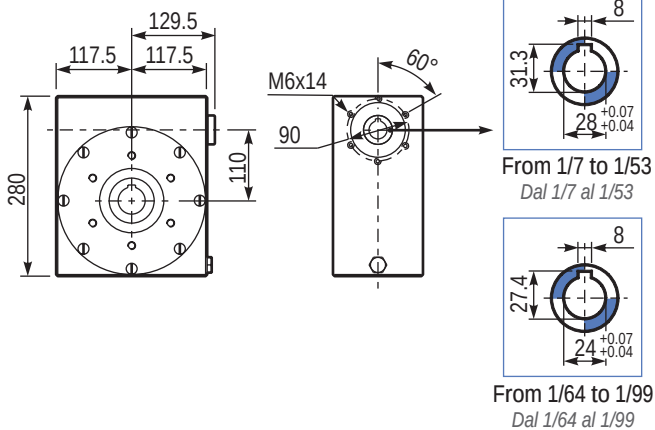
Gearbox weight
peso riduttore 38.5 kg

M. flanges	Kit code	øF	A
80B14	KI854046	120	137.5
90B14	KI854045	140	137.5
100-112B14	KI854041	160	146.5



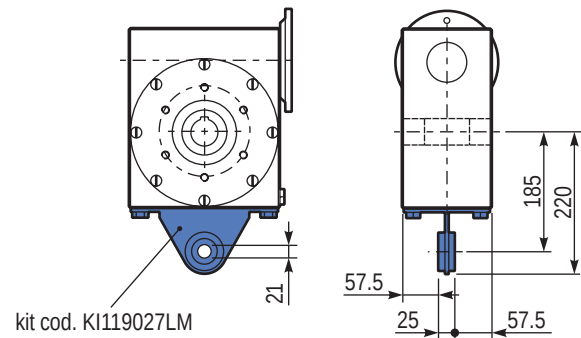
B111UN...

Modular base
Base modulare



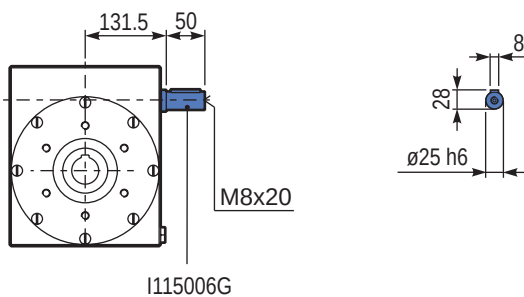
PI11BR...

Reaction arm
Braccio di reazione



R111UN...

Input shaft
Albero in entrata





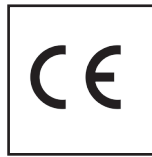
I RCI series

Full stainless steel ratio multipliers

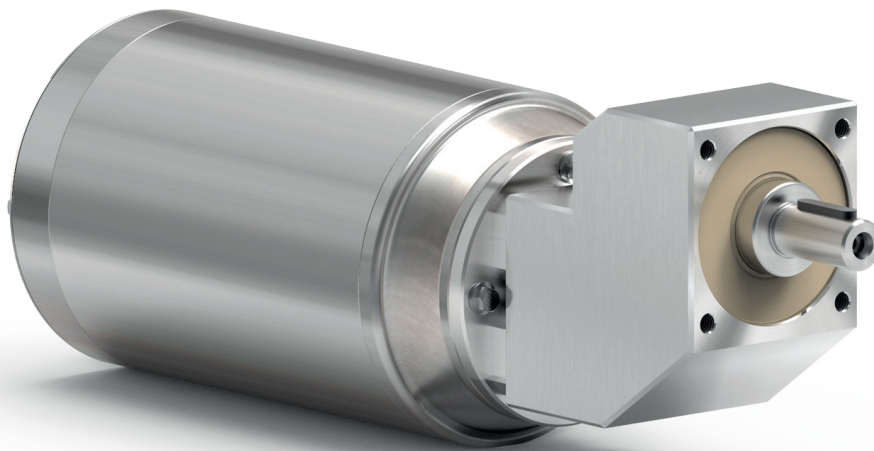
Riduttori ad uno stadio completamente in acciaio inox

Section **8**
Sezione 8

This range is



certified



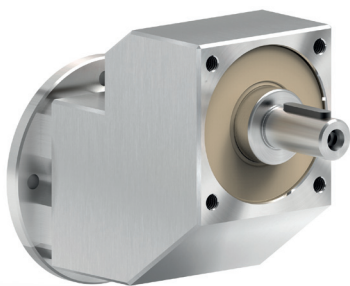
FEATURES

Caratteristiche

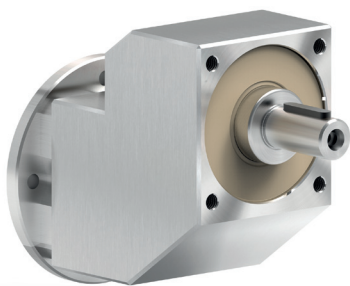
RCI series Full stainless steel ratio multipliers

Riduttori ad uno stadio completamente in acciaio inox

Type <i>Tipo</i>	Torque <i>Coppia</i>	Center distance <i>Interasse</i>	Input power <i>Potenza in entrata</i>	Output shaft <i>Albero in uscita</i>
411I	38 Nm	38 mm	0.37 ÷ 1.5 kW	ø19 mm



This product is:



Output shaft is produced in AISI 316L.

Albero in uscita in AISI 316L



Hardened and ground gears.

Ingranaggi temprati e rettificati.

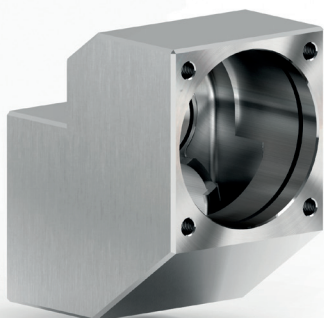
FEATURES

Caratteristiche



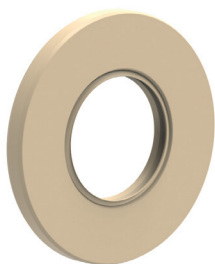
Fully modular IEC flanges and compact NEMA C motor flanges.

Flange IEC e NEMA completamente modulari.

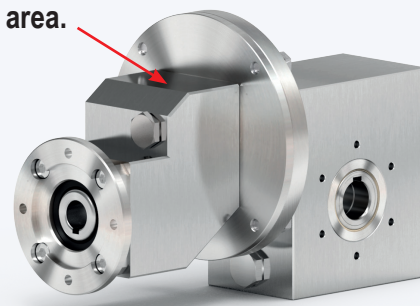


Special high tech full stainless steel housing with accurate finishing and strong rigidity.

Finitura speciale su una cassa inox che presenta un'alta rigidità strutturale.



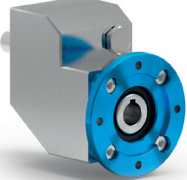
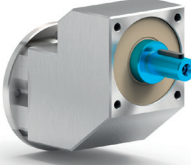
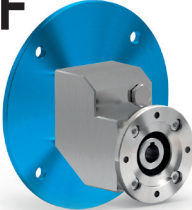
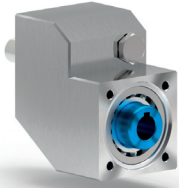
Standard FPM (fkm) seals are used, since seals will be in a closed area.

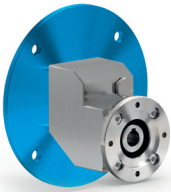
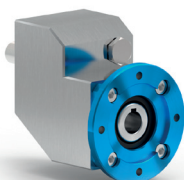
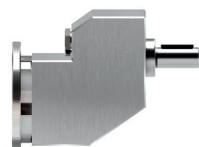
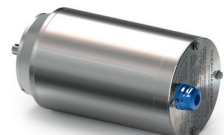
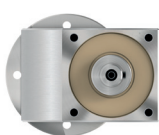
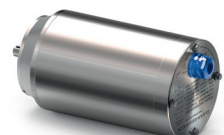
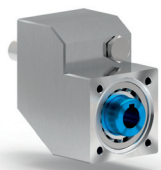
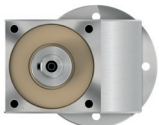
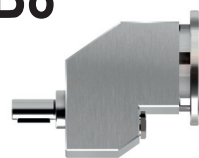


Anelli di tenuta FPM(fkm) standard.

How to order

Codifica

P	411I	-F	1.57	C
Type <i>Tipo</i>	Size <i>Grandezza</i>	Mounting <i>Montaggio</i>	Ratio <i>Rapporto</i>	Output shaft <i>Albero lento</i>
P 	411I	-N 	See technical data table <i>Vedi tabelle dati tecnici</i>	
M 		-F 		C -> ø19
B 				

4	-T	B3	-	With Type M specify terminal box position <i>Con tipo M specificare posizione morsetteria</i>
Output flange <i>Flangia uscita</i>	Motor size <i>Grandezza motore</i>	Mounting position <i>Posizione di montaggio</i>	Input bore <i>Foro entrata</i>	Terminal box position <i>Posizione morsetteria</i>
 N Without flange <i>Senza flangia</i> 4 -> ø200	Flange <i>Flange</i>  IEC B14 -Q -> 71 B14 (ø105) -R -> 80 B14 (ø120) -T -> 90 B14 (ø140)	B3 	- Standard bore <i>Foro standard</i>	A 
		B6 		B 
	Without flange <i>Senza flangia</i> 	B7 		C 
	-1 -> ø14 (71 B5) -2 -> ø19 (80 B5) -3 -> ø24 (90 B5)	B8 		D 
		V5 		
		V6 		
		V8 		

Useful formulas

Formule utili

Required power - Potenza richiesta

Lifting - Sollevamento

Rotation - Rotazione

Linear movement - Traslazione

$$P_{[kW]} = \frac{M_{[Kg]} \cdot g_{[9.81]} \cdot v_{[m/s]}}{1000}$$

$$P_{[kW]} = \frac{M_{[Nm]} \cdot n_{[rpm]}}{9550}$$

$$P_{[kW]} = \frac{F_{[N]} \cdot v_{[m/s]}}{1000}$$

Torque - Coppia

$$M_{[Nm]} = \frac{9550 \cdot P_{[kW]}}{n_{[rpm]}}$$

$$M_{[lb\ in]} = \frac{63030 \cdot P_{[HP]}}{n_{[rpm]}}$$

Radial loads - Carichi radiali

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.

$$F_R[N] = \frac{M_{[Nm]} \cdot 2000}{d_{[mm]}} \cdot f_k$$

$$F_R[N] = \frac{M_{[lb\ in]} \cdot 8.9}{d_{[in]}} \cdot f_k$$

M: Output torque - *Momento torcente*

d: Diam. of driving element - *Diametro primitivo*

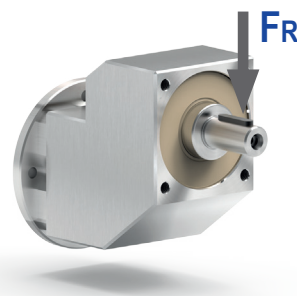
f_k: Factor - *Coefficiente di trasformazione*

1.15: Gearwheels - *Ingranaggi*

1.25: Chain sprockets - *Catena*

1.75: Narrow v-belt pulley - *Cinghia Trapezoidale*

2.50: Flat-belt pulley - *Cinghia piatta*



If your application requires higher radial loads, contact our technical office. Higher loads may be possible.

Nel caso la vostra applicazione richieda carichi radiali superiori consultare il nostro ufficio tecnico, valori maggiori possono essere accettati.

How to select a gearbox

Come selezionare un riduttore

- A** Select required torque (according to service factor)
Seleziona la coppia desiderata (comprensiva del fattore di servizio)
- B** Select output speed
Seleziona la velocità in uscita
- C** Select gear ratio in the line corresponding to the chosen motor power
Sulla riga corrispondente alla motorizzazione prescelta si può rilevare il rapporto di riduzione
- D** Select motor flange available (if requested)
Scegli la flangia disponibile (se richiesta)

Gear size
Grandezza
riduttore

C

Ratio
Rapporto

Transmitted torque
Momento torcente
trasmesso

Nominal power
Potenza nominale

Flange code
Codice flangia

Input speed
Velocità in entrata

4111

38
Nm

RCI series Full stainless steel ratio multipliers

Riduttori ad uno stadio completamente in acciaio inox

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		B14 motor flanges				Output shaft 	Ratios code 
							-	-	-Q 71	-R 80	-T 90			
891	1.57	1.5	16	1.3	1.9	20			C	C		2844	standard ø19	01
493	2.84	1.5	28	1.2	1.8	35			C	C		1954		02
425	3.29	1.5	33	1.2	1.7	38			C	C		1756		03
362	3.87	1.5	39	1.0	1.5	40			C	C		1558		04
303	4.62	1.5	46	1.0	1.5	47			C	C		1360		05
222	6.30	1.1	46	1.0	1.1	46			C	C		1063		06
170	8.22	0.55	30	1.3	0.69	38			C	C		974		07
129	10.86	0.37	27	1.0	0.39	28			C	C		776		08

B

Output speed
Velocità in uscita

Motor power
Potenza motore

Service factor
Fattore di servizio

A

Nominal torque
Momento torcente
nominale

Output shaft diam.
Diametro albero uscita

Notes
Note

Type of load and starts per hour
Tipo di carico e avviamenti per ora

Oper. hours per day
Ore di funz. giorn.

		3h	10h	24h
Continuous or intermittent application with start / hour <i>Applicazione continua o intermittente con numero operazioni/ora</i>	Uniform - <i>Uniforme</i>	0.8	1	1.25
	Moderate - <i>Moderato</i>	1	1.25	1.5
	Heavy - <i>Forte</i>	1.25	1.5	1.75
Intermittent application with start / hour <i>Applicazione intermittente con numero operazioni/ora</i>	Uniform - <i>Uniforme</i>	1	1.25	1.5
	Moderate - <i>Moderato</i>	1.25	1.5	1.75
	Heavy - <i>Forte</i>	1.5	1.75	2.15

D

Motor flange available
Flange disponibili

B)

Mounting with reduction bushing
Montaggio con boccia di riduzione

C)

Motor flange holes position/terminal box position
Posizione fori flangia/basetta motore

B)

Available without reduction bushing
Disponibile anche senza boccia

4111

38
Nm

RCI series

Full stainless steel ratio multipliers

Riduttori ad uno stadio completamente in acciaio inox

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

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges		B14 motor flanges				Output shaft	Ratios code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-Q 71	-R 80	-T 90			
891	1.57	1.5	16	1.3	1.9	20			C	C		2844	standard ø19	01
493	2.84	1.5	28	1.2	1.8	35			C	C		1954		02
425	3.29	1.5	33	1.2	1.7	38			C	C		1756		03
362	3.87	1.5	39	1.0	1.5	40			C	C		1558		04
303	4.62	1.5	46	1.0	1.5	47			C	C		1360		05
222	6.30	1.1	46	1.0	1.1	46			C	C		1063		06
170	8.22	0.55	30	1.3	0.69	38			C	C		974		07
129	10.86	0.37	27	1.0	0.39	28			C	C		776		08

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

Lubrication

Lubrificazione

Unit 4111 is supplied with synthetic oil to assure long life lubrication.

Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo 4111 viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

**Oil quantity for
all positions:
0.14Lt.**

Quantità olio per tutte
le posizioni: 0.14Lt

Agip
Telium VSF 320

Shell
Omala S4 WE 320

Radial and axial loads

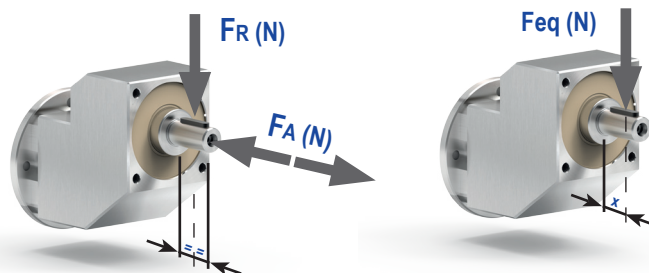
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [N]
700	182	910
600	200	1000
400	230	1150
300	250	1250
200	290	1450
140	320	1600

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



Tab. 1

Tab. 2

38
Nm

411I

P411I-N...

Basic gearbox
Riduttore base

Gearbox weight
peso riduttore

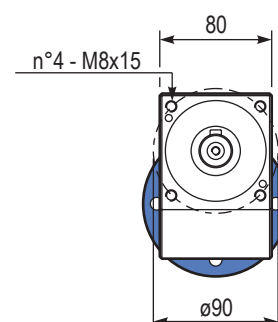
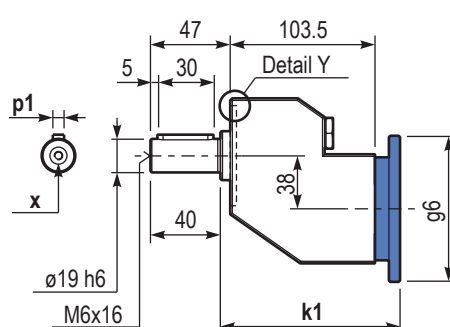
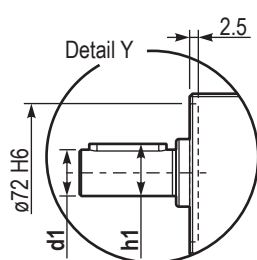
5.5 kg

Output shafts / *albero di uscita*

	Shaft - d1	p1	h1	x
Standard	ø 19x40	6	21.5	M6x16

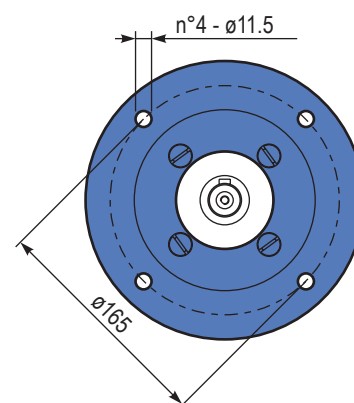
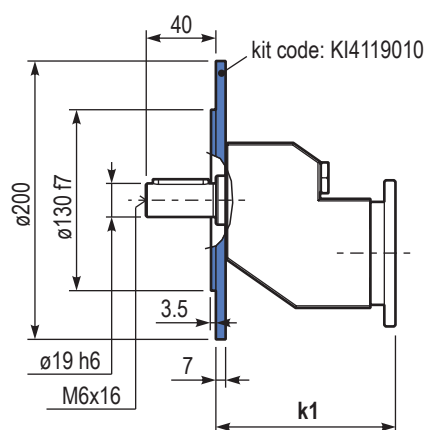
Input flanges / *flange di entrata*

	Kit code	k1	g6
71 B14	KI634047	128.5	105
80 B14	KI634046	129.5	120
90 B14	KI634041	130.5	140



P411I-F...

Output flange
Flangia di uscita





I BVI series Full stainless steel helical bevel gearboxes

Riduttori a coppia conica completamente in acciaio inox

Section **9**
Sezione 9

This range is

IP69k



CE



certified



FEATURES

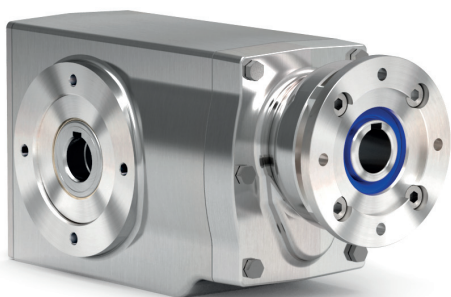
Caratteristiche

BVI series

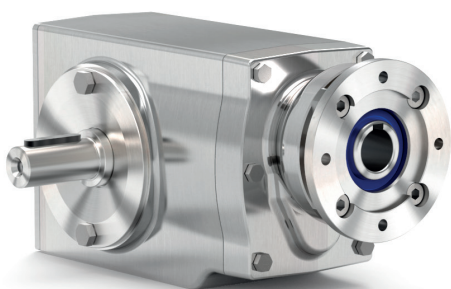
Full stainless steel helical bevel gearboxes

Riduttori a coppia conica completamente in acciaio inox

Type <i>Tipo</i>	Torque <i>Coppia</i>	Center distance <i>Interasse</i>	Input power <i>Potenza in entrata</i>	Hollow output shaft <i>Albero cavo in uscita</i>
X42I	150 Nm	-	0.25 ÷ 1.5 kW	ø25
X62I	410 Nm	-	0.75 ÷ 4.0 kW	ø35



This product is:



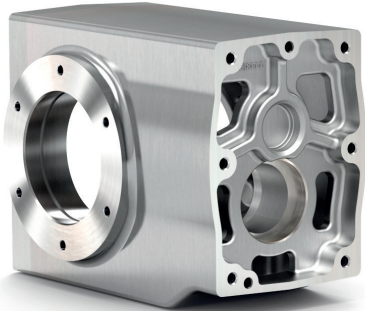
Output shaft in AISI 316L and special cover for full seals protection.

Albero in uscita in AISI 316L e coperchietto protettivo per anelli di tenuta.



Closed protection cap with o-ring in AISI 316L.

Coperchietto di protezione chiuso in AISI 316L con o-ring.



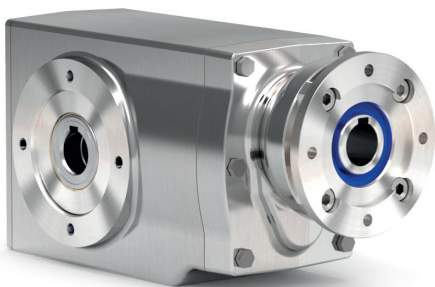
Special high tech full stainless steel housing with accurate finishing and strong rigidity.

Finitura speciale su una cassa inox che presenta un'alta rigidità strutturale.



Fully modular IEC flanges and compact NEMA C motor flanges.

Flange IEC e NEMA completamente modulari.



**Stainless steel 316L hollow input/output shaft.
Viton seals with stainless steel 316L shield.**



Albero cavo in uscita in acciaio inox in AISI 316L. Anelli di tenuta in viton con schermo protettivo in acciaio inox in AISI 316L.

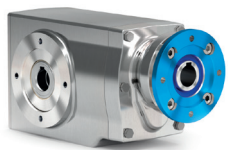
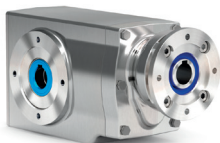
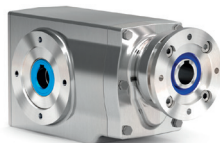
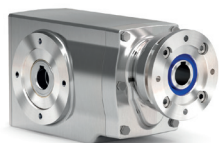
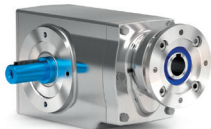
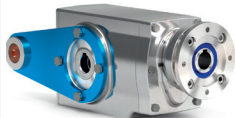
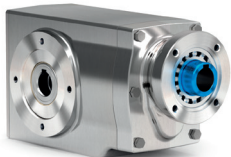
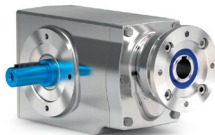
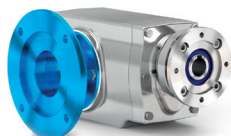


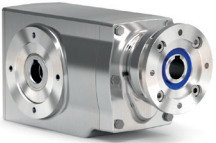
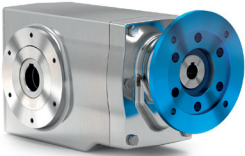
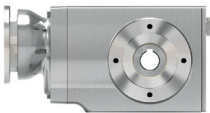
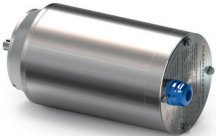
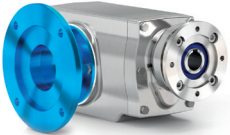
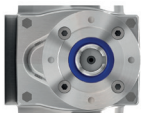
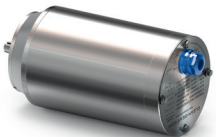
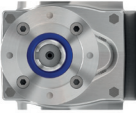
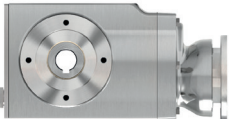
Hardened and ground gears.

Ingranaggi temprati e rettificati.

How to order

Codifica

M	X42I	I	7.29	-C	BR
Type <i>Tipo</i>	Size <i>Grandezza</i>	Hub <i>Mozzo</i>	Ratio <i>Rapporto</i>	Output shaft <i>Albero uscita</i>	Type <i>Tipo</i>
P 	X42I X62I	I Hollow output shaft <i>Foro albero uscita</i> 	See technical data table <i>Vedi tabelle dati tecnici</i>	Hollow output shaft <i>Foro albero uscita</i> 	FB Universal <i>Forma base</i> 
M 		A Single output shaft <i>Albero uscita singolo</i> 		→ Standard X42I -C → ø25 X62I -E → ø35	BR Reaction arm <i>Braccio di reazione</i> 
B 				Single output shaft <i>Albero uscita singolo</i> 	-F Output flange <i>Flangia uscita</i> 
				X42I -L → ø25 X62I -N → ø35	

N	-T	B3	E	With Type M specify terminal box position Con tipo M specificare posizione morsettiera
Output flange Flangia in uscita	Motor size Grandezza motore	Mounting position Posizione di montaggio	Input bore Foro entrata	Terminal box position Posizione morsettiera
N Without flange Senza flangia 	Flange Flange 	B3 	With coupling Con giunto 	A 
	IEC B14 -Q -> 71 B14 (ø105) -R -> 80 B14 (ø120) -T -> 90 B14 (ø140) -U -> 100÷112 B14 (ø160)	B6 	B -> 11mm C -> 14mm D -> 19mm E -> 24mm F -> 28mm	B 
2 X42I -> ø175	Without flange Senza flangia	B7 	0 Ready for input coupling Predisposto per giunto	C 
3 X62I -> ø205	-M With coupling Con giunto	B8 		D 
		V5 		
		V6 		
		V8 		

Useful formulas

Formule utili

Required power - Potenza richiesta

Lifting - Sollevamento

Rotation - Rotazione

Linear movement - Traslazione

$$P_{[kW]} = \frac{M_{[Kg]} \cdot g[9.81] \cdot v_{[m/s]}}{1000}$$

$$P_{[kW]} = \frac{M_{[Nm]} \cdot n_{[rpm]}}{9550}$$

$$P_{[kW]} = \frac{F_{[N]} \cdot v_{[m/s]}}{1000}$$

Torque - Coppia

$$M_{[Nm]} = \frac{9550 \cdot P_{[kW]}}{n_{[rpm]}}$$

$$M_{[lb\ in]} = \frac{63030 \cdot P_{[HP]}}{n_{[rpm]}}$$

Radial loads - Carichi radiali

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.

$$F_R[N] = \frac{M_{[Nm]} \cdot 2000}{d_{[mm]}} \cdot f_k$$

$$F_R[N] = \frac{M_{[lb\ in]} \cdot 8.9}{d_{[in]}} \cdot f_k$$

M: Output torque - *Momento torcente*

d: Diam. of driving element - *Diametro primitivo*

f_k: Factor - *Coefficiente di trasformazione*

1.15: Gearwheels - *Ingranaggi*

1.25: Chain sprockets - *Catena*

1.75: Narrow v-belt pulley - *Cinghia Trapezoidale*

2.50: Flat-belt pulley - *Cinghia piatta*



If your application requires higher radial loads, contact our technical office. Higher loads may be possible.

Nel caso la vostra applicazione richieda carichi radiali superiori consultare il nostro ufficio tecnico, valori maggiori possono essere accettati.

How to select a gearbox

Come selezionare un riduttore

A

Select required torque (according to service factor)

Seleziona la coppia desiderata (comprensiva del fattore di servizio)

B

Select output speed

Seleziona la velocità in uscita

C

Select gear ratio in the line corresponding to the chosen motor power

Sulla riga corrispondente alla motorizzazione prescelta si può rilevare il rapporto di riduzione

D

Select motor flange available (if requested)

Scegli la flangia disponibile (se richiesta)

Gear size
Grandezza
riduttore

C

Ratio
Rapporto

Transmitted torque
Momento torcente
trasmesso

Nominal power
Potenza nominale

Flange code
Codice flangia

Input speed
Velocità in entrata

X421

150
Nm

BVI series

Full stainless steel helical bevel gearboxes

Riduttori a coppia conica completamente in acciaio inox

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

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		B14 motor flanges				Output shaft 	Ratio code 
							-	-	Q 71	-R 80	-T 90			
192	7.29	1.5	71	1.3	2.0	95			C	C		2811	Standard ø25	01
125	11.20	1.5	110	1.4	2.0	150			C	C		288		02
106	13.18	1.5	129	1.2	1.7	150			C	C		1911		03
92	15.27	1.1	109	1.4	1.5	150			C	C		1711		04
78	17.93	1.1	128	1.2	1.3	150			C	C		1511	On Request	05
69	20.25	1.1	145	1.0	1.1	150			C	C		198		06
65	21.40	1.1	153	1.0	1.1	150			C	C		1311	ø30	07
60	23.47	0.75	115	1.3	0.98	150			C	C		178		08
51	27.55	0.75	135	1.1	0.83	150			C	C		158		09
...	...	...	...	...	...	...			...	...		...		...

B

Output speed
Velocità in uscita

Motor power
Potenza motore

Service factor
Fattore di servizio

A

Nominal torque
Momento torcente
nominale

Output shaft diam.
Diametro albero uscita

Notes
Note

Type of load and starts per hour

Tipo di carico e avviamenti per ora

Oper. hours per day
Ore di funz. giorn.

		3h	10h	24h
Continuous or intermittent application with start / hour <i>Applicazione continua o intermittente con numero operazioni/ora</i>	Uniform - <i>Uniforme</i>	0.8	1	1.25
	Moderate - <i>Moderato</i>	1	1.25	1.5
	Heavy - <i>Forte</i>	1.25	1.5	1.75
Intermittent application with start / hour <i>Applicazione intermittente con numero operazioni/ora</i>	Uniform - <i>Uniforme</i>	1	1.25	1.5
	Moderate - <i>Moderato</i>	1.25	1.5	1.75
	Heavy - <i>Forte</i>	1.5	1.75	2.15

D

Motor flange available
Flange disponibili

B)

Mounting with reduction bushing
Montaggio con boccia di riduzione

C)

Motor flange holes position/terminal box position
Posizione fori flangia/basetta motore

B)

Available without reduction bushing
Disponibile anche senza boccia

X42I

150
Nm

BVI series

Full stainless steel helical bevel gearboxes

Riduttori a coppia conica completamente in acciaio inox

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

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges		B14 motor flanges				Output shaft	Ratio code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-Q	-R	-T			
192	7.29	1.5	71	1.3	2.0	95			C	C		2811	Standard ø25	01
125	11.20	1.5	110	1.4	2.0	150			C	C		288		02
106	13.18	1.5	129	1.2	1.7	150			C	C		1911		03
92	15.27	1.1	109	1.4	1.5	150			C	C		1711		04
78	17.93	1.1	128	1.2	1.3	150			C	C		1511		05
69	20.25	1.1	145	1.0	1.1	150			C	C		198		06
65	21.40	1.1	153	1.0	1.1	150			C	C		1311		07
60	23.47	0.75	115	1.3	0.98	150			C	C		178		08
51	27.55	0.75	135	1.1	0.83	150			C	C		158		09
47.9	29.21	0.75	143	1.0	0.78	150			C	C		1011		10
42.6	32.88	0.75	161	0.9	0.70	150			C	C		138		11
36.7	38.12	0.55	138	1.1	0.60	150			C	C		911		12
31.2	44.89	0.55	163	0.9	0.51	150			C	C		108		13
27.8	50.34	0.37	122	1.1	0.40	131			C	C		711		14
23.9	58.58	0.37	142	1.1	0.39	150			C	C		98		15
18.1	77.36	0.25	126	1.2	0.30	150			C	C		78		16

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

Lubrication

Lubrificazione

Unit X42I is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo X42I viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Agip

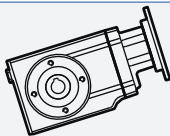
Tellium VSF 320

Shell

Omala S4 WE 320

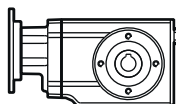
V8

On request
ASK



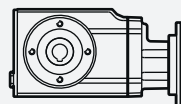
B3

Standard
0.85 LT



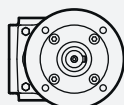
B8

On request
1.00 LT



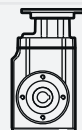
B6

On request
0.95 LT



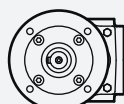
V5

On request
1.60 LT



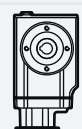
B7

On request
0.85 LT



V6

On request
1.00 LT



For more details on lubrication and plugs check our website.

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

Tab. 1

Radial and axial loads

Carichi radiali e assiali

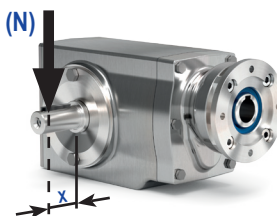
Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [N]
250	500	2500
150	600	3000
100	700	3500
75	800	4000
50	960	4800
25	960	4800
15	960	4800

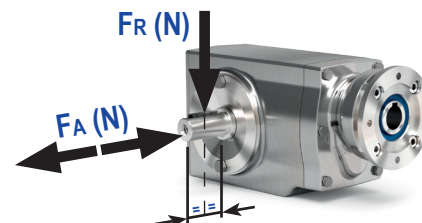
$$F_{eq} = F_R \cdot \frac{54}{X + 28}$$

F_{eq} (N)



F_R (N)

F_A (N)



Tab. 2

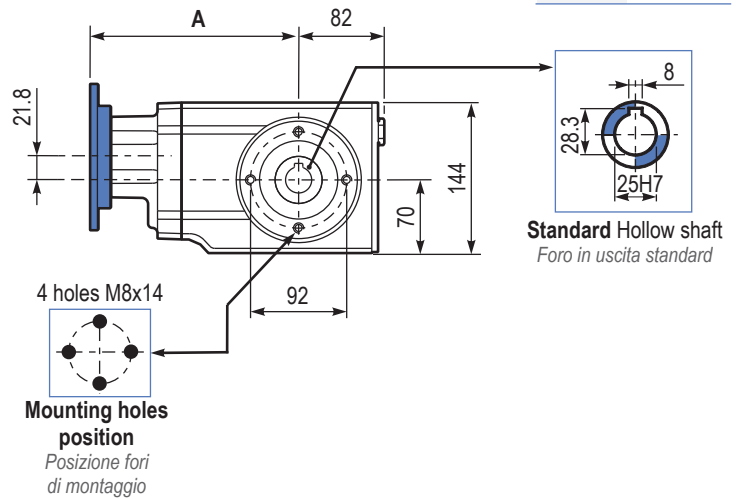
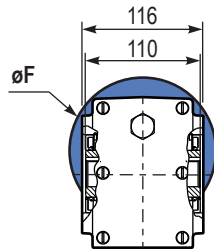
150
Nm

X42I

PX42I...

Basic gearbox
Riduttore base

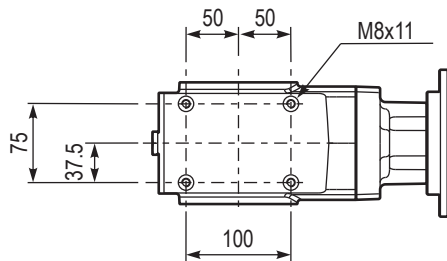
M. flanges	Kit code	øF	A
71B14	KI634047	105	197.5
80B14	KI634046	120	199.5
90B14	KI634041	140	199.5



Gearbox weight
peso riduttore **13.0 kg**

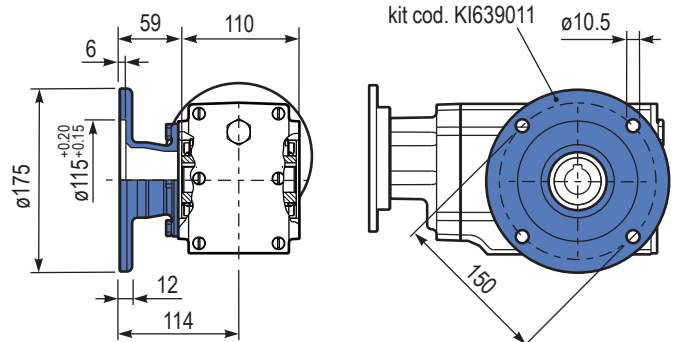
PX42I-**FB**..

Feet
Piedini



PX42I-**FL**..

Output flange
Flangia uscita



PX42I..**A**..

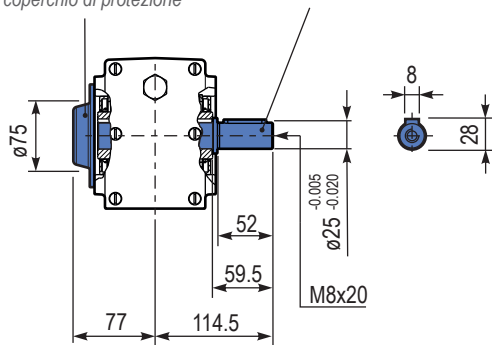
Single output shaft
Albero semplice in uscita

kit cod. KI630211

Protection cap (on request)

A richiesta coperchio di protezione

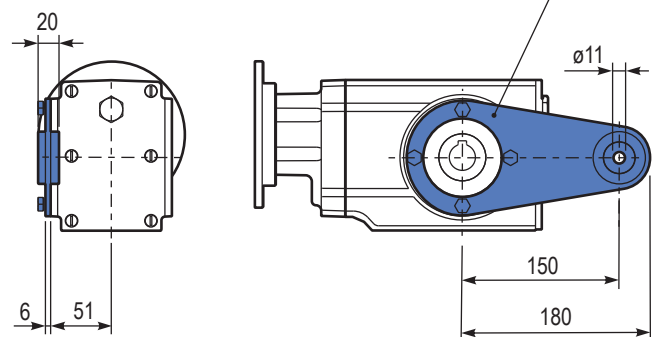
kit cod. KX4I5028



PX42I..**BR**..

Reaction Arm
Braccio di reazione

kit cod. KX4I9027



X62I

410 Nm

BVI series

Full stainless steel helical bevel gearboxes

Riduttori a coppia conica completamente in acciaio inox

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

Input speed (n_1) = 1400 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges				B14 motor flanges					Ratio code
n_2 [min ⁻¹]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	-	-	-	-	-R	-T	-U			
											80	90	100-112			
232	6.03	4	155	1.6	6.1	240								3011		01
151	9.26	4	238	1.1	4.5	270								308		02
123	11.36	4	291	1.2	4.7	350								2011		03
91	15.36	4	394	1.0	3.8	385								1611		04
80	17.46	4	448	0.9	3.5	400								208		05
70	19.97	3	386	1.1	3.1	410								1311		06
59	23.60	3	456	0.9	2.7	410								168	Standard ø35	07
57	24.45	3	472	0.9	2.6	410								1111		08
45.6	30.69	2.2	436	0.9	2.0	410								138		09
39.6	35.35	1.5	346	1.2	1.8	410								811		10
37.3	37.57	1.5	368	1.1	1.7	410								118		11
28.8	48.68	1.1	348	1.0	1.1	365								611		12
25.8	54.33	1.1	389	1.1	1.2	410								88		13
18.7	74.81	0.75	367	1.0	0.73	360								68		14

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

Lubrication

Lubrificazione

Unit X62I is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

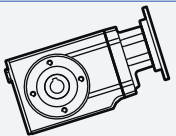
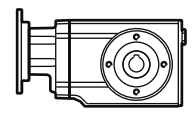
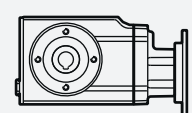
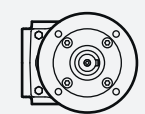
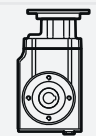
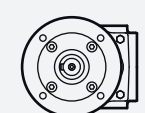
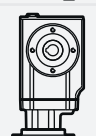
See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo X62I viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

Agip Telium VSF 320	Shell Omala S4 WE 320	V8 On request ASK	
B3 Standard 1.85 LT		B8 On request 2.00 LT	
B6 On request 2.00 LT		V5 On request 3.35 LT	
B7 On request 1.70 LT		V6 On request 2.30 LT	

For more details on lubrication and plugs check our website.

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

Tab. 1

Radial and axial loads

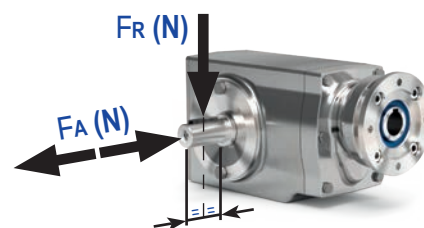
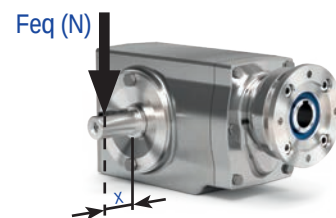
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [N]
250	600	3000
150	700	3500
100	780	3900
75	890	4450
50	1140	5700
25	1330	6650
15	1660	8300

$$F_{eq} = F_R \cdot \frac{69}{X + 39}$$



Tab. 2

Electric motors

APM series

Aluminum premium electric motors

Motori elettrici in alluminio

Section **AM**
Sezione AM



Sizes: IEC 63..90L, 4 poles

Voltage: Δ/Y 230/400V - 50Hz

Protection: I.C.I.F - IP69k - IC410

Efficiency: IE3 (IEC60034-30, IEC60034-2-1, $P_n \geq 0,75kW$)

Duty cycle: S1

Other features: INVERTER DUTY, HYGIENIC, PTO PROTECTION INCLUDED



FEATURES

Caratteristiche

APM series Aluminum premium electric motors

Motori elettrici in alluminio

Electrical motors of the APM series have no cooling fins and are treated with the innovative “Hi-Cleaning” coating applying nano particles (patented system), which makes the surface very easy to clean and resistant to major aggressive agents used in sanitizing.

La gamma APM non ha alette di raffreddamento ed è trattata con un innovativo rivestimento «Hi-Cleaning» alle nano particelle (sistema brevettato) che rende la superficie estremamente facile da pulire e resistente ai principali agenti aggressivi usati nella sanificazione.

All external components are manufactured in aluminium while motor shaft is produced in 420 stainless steel with magnetic properties and all screws are made of 316L stainless steel.

Tutti i componenti esterni sono realizzati in alluminio, l'albero motore è in acciaio AISI420 con proprietà magnetiche, tutte le viterie in AISI316L.

Standard plastic Hygienic cable gland.

Pressacavo “igienico” standard in plastica.

Product label on the back cover

Etichetta sul coperchio posteriore.

Easy connection with Wire-to-Wire heat-shrinkable splicings.

L' utilizzo di connettori testa-testa termo-sigillanti rende semplice il collegamento dei cavi.



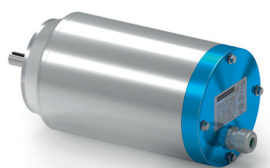
Totally enclosed and non-ventilated (IC410) design along with completely smooth surfaces ensures the highest hygienic standards.

Totamente chiuso, non ventilato (IC410), le superfici completamente lisce garantiscono gli standard di igienicità più elevati richiesti dal mercato.



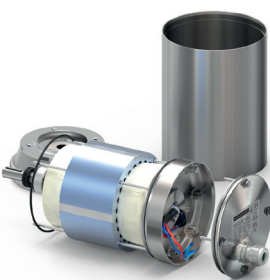
The surface temperature is rather low thanks to an accurate electromagnetic design and additional internal active material. The efficiency class is IE3.

La temperatura di superficie è contenuta grazie ad una progettazione accurata. La classe di efficienza è IE3 ($\geq 0.75kW$).



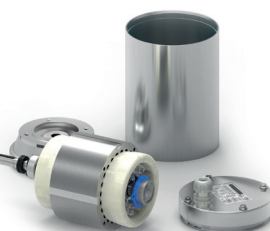
Pipe housing without weldings and terminal box on the NDE enhance the impact of an eye-catching design.

Carcassa tubolare senza saldature, coprimorsettiera posteriore e look accattivante.



Motors are suitable for INVERTER DUTY OPERATION with large range at constant torque, thanks to low loss laminations, vacuum impregnation of the windings and inverter duty magnet wires. Stator and rotor are coated with anti-oxidant painting.

I motori sono idonei al funzionamento con INVERTER con ampio range a coppia costante, grazie a lamine a basse perdite e all'impregnazione degli avvolgimenti sottovuoto. Statore e rotore sono rivestiti con vernice antiossidante.



NDE bearing is axially locked. Precise mechanical execution.

Cuscinetto posteriore bloccato assialmente, esecuzione meccanica precisa.

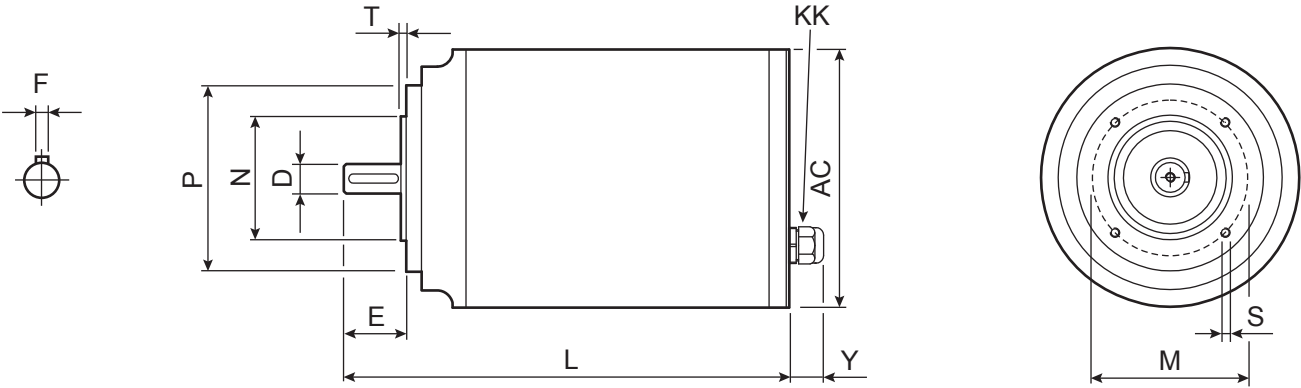
IEC B14
Standard
in stock

APM series
Aluminum premium electric motors
Motori elettrici in alluminio

B14

Dimensions
Dimensioni

63A÷90L



Sizes: IEC 63..90L, 4 poles
Voltage: Δ/Y 230/400V - 50Hz
Protection: I.C.I.F - IP69k - IC410
Efficiency: IE3 (IEC60034-30, IEC60034-2-1, $P_n \geq 0,75kW$)
Duty cycle: S1
Other features: INVERTER DUTY, HYGIENIC, PTO PROTECTION INCLUDED

4 poles B14

Motor	kW	IE3	rpm (min ⁻¹)	Nm	A (400V)	COS (φ)	D	F	E	L	AC	Y	N	M	P	T	S	Kg	KK
63A	0.12		1440	0.80	0.44	0.57	11 j6	4	23	229	131	24	60 j6	75	90	2.5	4xM5	6.9	M16x1.5 ø4-8 Tightening: 2 Nm
63B	0.18			1.19	0.58	0.62	M4			244								8.0	
71A	0.25		1440	1.66	0.72	0.64	14 j6	5	30	266	131		70 j6	85	105	2.5	4xM6	9.4	M20x1.5 ø6-12 Tightening: 3 Nm
71B	0.37			2.45	1.10		M5			286		27						11.1	
80A	0.55		1460	3.60	1.50	0.67	19 j6	6	40	280	166		80 j6	100	120	3	4xM6	15.3	
80B	0.75	IE3		4.91	2.10		M6			305								18.0	
90S	1.1	IE3	1460	7.20	2.90	0.70	24 j6	8	50	345	166	30	95 j6	115	140	3	4xM8	22.7	M25x1.5 ø13-18 Tightening: 4 Nm
90L	1.5	IE3		9.81	4.00		M8			390								28.4	

SPM series

Stainless steel premium electric motors

Motori elettrici in acciaio inox

Section **SM**
Sezione SM



Sizes: IEC 63..100LA, 4 poles

Voltage: Δ/Y 230/400V - 50Hz

Protection: I.C.I.F - IP69k - IC410

Efficiency: IE3 (IEC60034-30, IEC60034-2-1, $P_n \geq 0,75kW$)

Duty cycle: S1

Other features: INVERTER DUTY, HYGIENIC, PTO PROTECTION INCLUDED



FEATURES

Caratteristiche

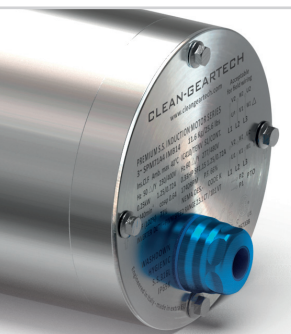
SPM series Stainless steel premium electric motors

Motori elettrici in acciaio inox



All external components are manufactured in AISI 316L stainless steel while motor shaft is made of 420 stainless steel with magnetic properties. Completely smooth surfaces with nothing to break off and excellent resistance to corrosion represent a reliable and durable solution for numerous applications where hygiene and cleanliness are essential.

Tutti i componenti esterni sono realizzati in acciaio inox AISI 316L, l'albero motore è in acciaio inox 420 con proprietà magnetiche. Tutte le superfici sono completamente lisce. Questo dà eccellente resistenza alla corrosione e una soluzione affidabile e duratura laddove l'igiene è fondamentale.



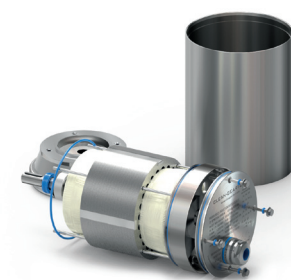
Stainless steel Hygienic cable gland certified EHEDG.

Pressacavo in acciaio inox, con design igienico, certificato EHEDG.



Product label is laser engraved.

Targhettatura laser sul coperchio posteriore.



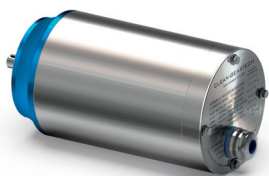
IP69K is guaranteed by Viton oil seals and O-rings.

Anelli di tenuta e O-Rings in Viton garantiscono un grado di protezione IP69K.



Easy connection with Wire-to-Wire heat-shrinkable splicings.

L' utilizzo di connettori testa-testa termo-sigillanti rende semplice il collegamento dei cavi.



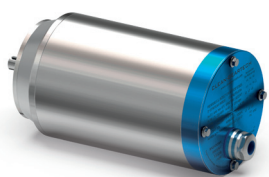
Totally enclosed and non-ventilated (IC410) design along with completely smooth surfaces ensures the highest hygienic standards.

Totamente chiuso non ventilato (IC410), le superfici completamente lisce garantiscono gli standard di igienicità più elevati richiesti dal mercato.



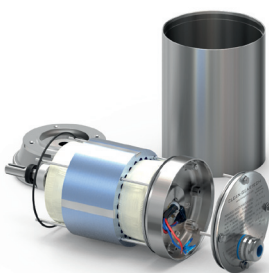
The surface temperature is rather low thanks to an accurate electromagnetic design and additional internal active material. The efficiency class is IE3.

La temperatura di superficie è contenuta grazie ad una progettazione accurata. La classe di efficienza è IE3 ($\geq 0.75kW$).



Pipe housing without weldings and terminal box on the NDE enhance the impact of an eye-catching design.

Carcassa tubolare senza saldature, coprimorsettiera posteriore e look accattivante.



Motors are suitable for INVERTER DUTY OPERATION with large range at constant torque, thanks to low loss laminations, vacuum impregnation of the windings and inverter duty magnet wires. Stator and rotor are coated with anti-oxidant painting.

I motori sono idonei al funzionamento con INVERTER con ampio range a coppia costante, grazie a lamierini a basse perdite e all'impregnazione degli avvolgimenti sottovuoto. Statore e rotore sono rivestiti con vernice antiossidante.



NDE bearing is axially locked. Precise mechanical execution.

Cuscinetto posteriore bloccato assialmente, esecuzione meccanica precisa.

IEC B14

Standard in stock

SPM series

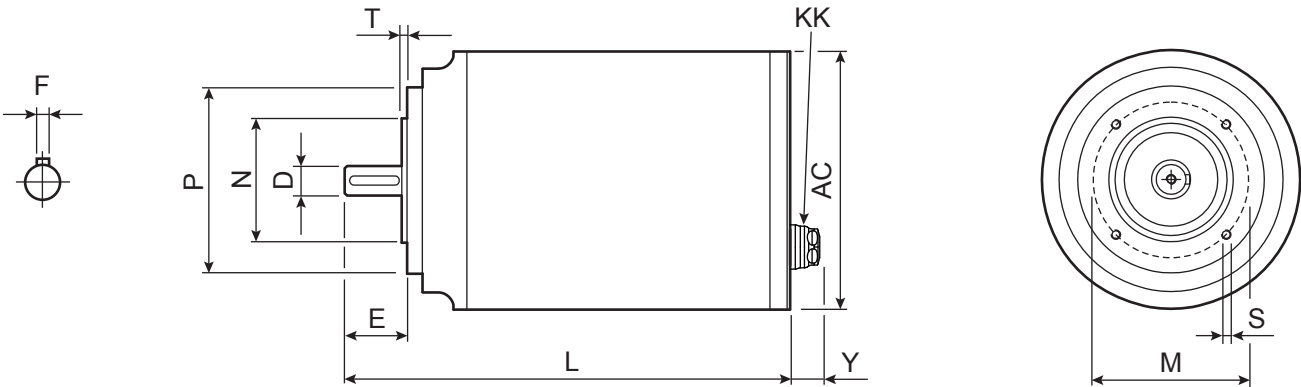
Stainless steel premium electric motors

Motori elettrici in acciaio inox

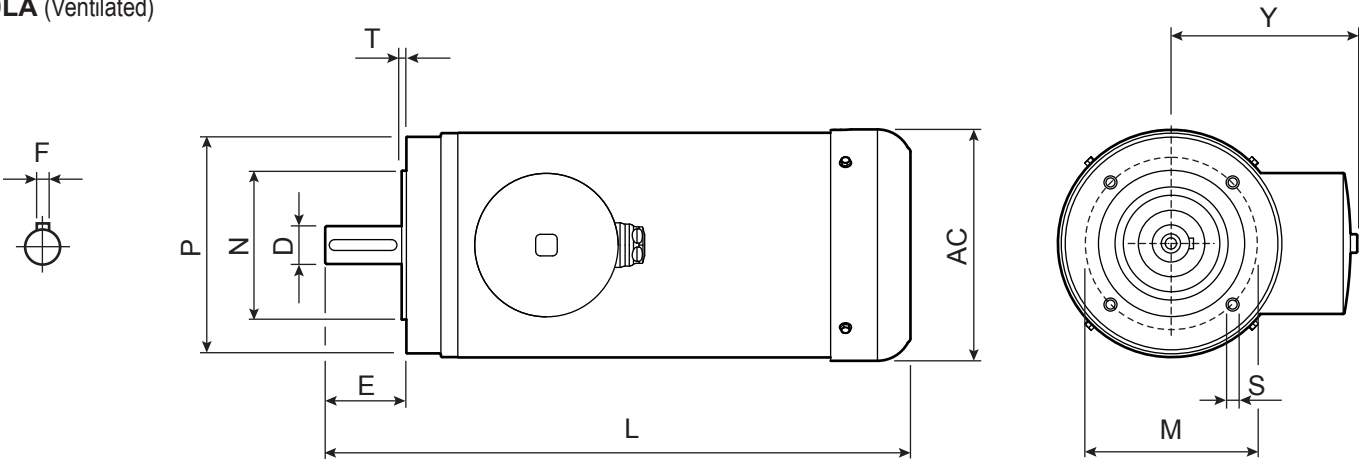
B14

Dimensions
Dimensioni

63A÷90L (Totally enclosed, not ventilated)



100LA (Ventilated)



4 poles B14

Motor	kW	IE3	rpm (min ⁻¹)	Nm	A (400V)	COS (φ)	D	F	E	L	AC	Y	N	M	P	T	S	Kg	KK
63A	0.12		1440	0.80	0.44	0.57	11 j6 M4	4	23	229	131	24	60 j6	75	90	2.5	4xM5	8.7	M16x1.5 ø7.5-10 Tightening: 15 Nm
63B	0.18			1.19	0.58	0.62				244								10.0	
71A	0.25		1440	1.66	0.72	0.64	14 j6 M5	5	30	266	131	27	70 j6	85	105	2.5	4xM6	11.6	M20x1.5 ø11-13.5
71B	0.37			2.45	1.10					286								13.5	
80A	0.55		1460	3.60	1.50	0.67	19 j6 M6	6	40	280	166		80 j6	100	120	3	4xM6	19.0	Tightening: 18 Nm
80B	0.75	IE3 PREMIUM EFFICIENCY		4.91	2.10					305								22.0	
90S	1.1	IE3 PREMIUM EFFICIENCY	1460	7.20	2.90	0.70	24 j6 M8	8	50	345	166	30	95 j6	115	140	3	4xM8	27.0	M25x1.5 ø15-18 Tightening: 35 Nm
90L	1.5	IE3 PREMIUM EFFICIENCY		9.81	4.00					390								33.0	
100LA	2.2	IE3 PREMIUM EFFICIENCY	1440	14.6	4.80	0.79	28 j6 M10	8	60	432.5	171	140	110 j6	130	160	3.5	4xM8	34.0	M20x1.5 ø11-13.5 Tightening: 18 Nm

Ventilated

Sizes: IEC 63..100LA, 4 poles
Voltage: Δ/Y 230/400V - 50Hz
Protection: I.C.I.F - IP69k - IC410
Efficiency: IE3 (IEC60034-30, IEC60034-2-1, $P_n \geq 0,75kW$)
Duty cycle: S1
Other features: INVERTER DUTY, HYGIENIC, PTO PROTECTION INCLUDED

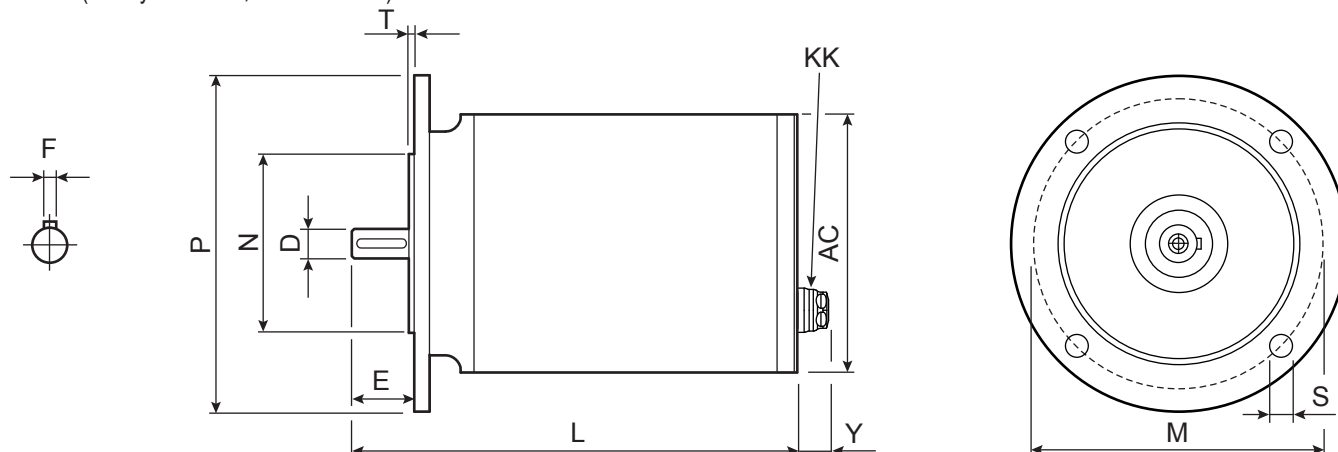
IEC B5
only
on request

B5

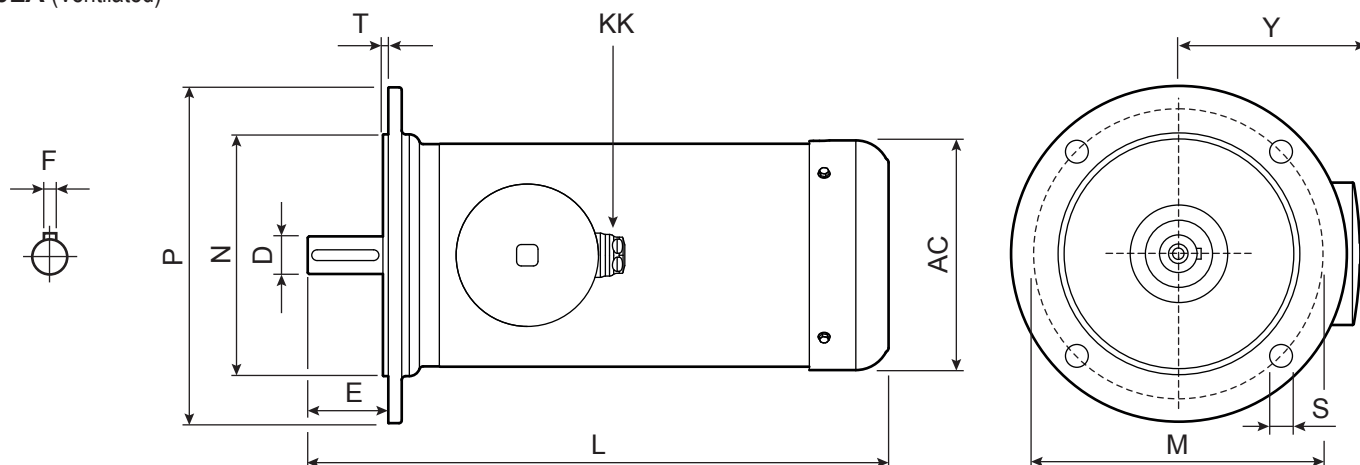
Dimensions

Dimensioni

63A÷90L (Totally enclosed, not ventilated)



100LA (Ventilated)



4 poles B5

Motor	kW	IE3	rpm (min ⁻¹)	Nm	A (400V)	COS (φ)	D	F	E	L	AC	Y	N	M	P	T	S	Kg	KK
63A	0.12			0.80	0.44	0.57	11 j6 M4	4	23	229	131	24	95 j6	115	140	3	4x10	9.4	M16x1.5 ø7.5-10 Tightening: 15 Nm
63B	0.18		1440	1.19	0.58	0.62				244								10.7	
71A	0.25			1.66	0.72	0.64	14 j6 M5	5	30	266	131		110 j6	130	160	3.5	4x10	12.5	M20x1.5 ø11-13.5 Tightening: 18 Nm
71B	0.37		1440	2.45	1.10					286		27						14.4	
80A	0.55			3.60	1.50	0.67	19 j6 M6	6	40	280	166		130 j6	165	200	3.5	4x12	21.0	
80B	0.75		1460	4.91	2.10					305								24.0	
90S	1.1			7.20	2.90	0.70	24 j6 M8	8	50	345	166	30	130 j6	165	200	3.5	4x12	28.5	M25x1.5 ø15-18 Tightening: 35 Nm
90L	1.5		1460	9.81	4.00					390								34.5	
100LA	2.2			14.6	4.80	0.79	28 j6 M10	8	60	432.5	171	140	180 j6	215	250	4	4x15	36.0	M20x1.5 ø11-13.5 Tightening: 18 Nm

Ventilated



IP69k is a rating of German standard DIN 40050-9 extending the IEC 60529 that provides the maximum protection degree against close range high pressure (100 bar), high temperature (80°C) spray downs, applied at a variety of angles, as well as against dust penetration. In many industries, where dust and dirt can be an issue or where hygiene and cleanliness are essential, like in food and beverage industry, this certification is indispensable for the equipment that must be sanitized, withstanding rigorous high pressure and high temperature wash-down procedures.

Il codice IP indica il grado di protezione del prodotto contro l'intrusione di particelle solide e di liquidi. IP69K è il massimo grado di protezione: contro la penetrazione della polvere e dei getti d'acqua/vapore ad alta pressione (100 bar) ed alta temperatura (80°C), da angolazioni differenti.

In molte industrie dove la polvere e la sporcizia possono essere un problema oppure dove l'igiene e la pulizia sono essenziali, come nell'industria alimentare, questa certificazione è indispensabile per la sanitizzazione dell'apparecchiatura, in grado di sopportare le procedure di lavaggio ad alta pressione e temperatura.



Products marked cCSAus are certified to be manufactured in accordance with the requirements of Canadian CSA and American UL and approved to be used in Canada and USA. This certification means that the products were tested and resulted compliant regarding potential flammability, electrical shock and mechanical hazard.

I prodotti marchiati cCSAus hanno la certificazione di essere stati costruiti in accordo ai requisiti della CSA Canadese e UL Americana, sono approvati per l'uso in Canada e Stati Uniti. Significa che sono stati testati e risultano idonei, in relazione ai loro potenziali rischi di incendio, shock elettrico e pericoli meccanici.



NTT™ stands for a special treatment which results in modified external properties of the mechanical parts with complex geometry. It is a highly technological process which benefits from the expertise in many industrial and scientific fields. An excellent resistance to corrosion and long durability are the main features of NTT™ finishing, which makes NTT™ treated products a first choice and unique solution for variety of applications in many industries.

NTT™ è uno speciale trattamento che come risultato ha la modifica delle proprietà superficiali delle parti meccaniche con geometria complessa. E' un processo altamente tecnologico che trae benefici dalle competenze in vari campi sia industriali che scientifici. Ottima resistenza alla corrosione e durabilità sono le caratteristiche principali della finitura NTT™ che fa del trattamento la soluzione unica e di prima scelta per la molteplicità delle applicazioni in numerosi settori industriali.



By applying CE mark a manufacture declares the conformity of the product to the safety requirements settled in European regulations. It means that the product is compliant to all the directives of European Community regarding its usage: from design and manufacturing to release to the market, functioning and recycling.

Mediante l'applicazione della marcatura CE al prodotto, si dichiara alle autorità che esso è conforme ai requisiti di sicurezza previsti dalle norme Europee.

La marcatura CE indica che il prodotto è conforme a tutte le disposizioni della Comunità Europea che prevedono il suo utilizzo: dalla progettazione, alla fabbricazione, all'immissione sul mercato, alla messa in servizio del prodotto fino allo smaltimento.



IE mark indicates the efficiency class for electrical motor (Standard IEC 60034-30:2008 for three-phase low tension motors) “IE” code stands for “International Efficiency”: IE1 = Standard Efficiency; IE2 = High Efficiency; IE3 = Premium Efficiency. Starting from the 1st January 2017 IE3 efficiency is mandatory for the motors between 0,75 and 375 kW and IE2 in case the motor powered by inverter.

Con la sigla IE si definisce la classe di rendimento del motore elettrico (Norma IEC 60034-30:2008, per motori trifase a bassa tensione). Il Codice “IE” sta per “Efficienza Internazionale”: IE1 = Rendimento Standard; IE2 = Rendimento Elevato; IE3 = Rendimento Premium. Dall’1 Gennaio 2017 i motori con potenza da 0,75 a 375 kW dovranno avere efficienza IE3, o IE2 nel caso il motore sia alimentato da inverter.



ATEX abbreviation, which stands for French “Atmosphere Explosible”, identifies the Directive 2014/34/UE that replaced the previous 94/9/CE. The field of application of ATEX Directive extends to all equipment exploited in a potentially explosive environment on the territory of European Union. ATEX Directive appoints the notified European bodies (CESI, TÜV, KEMA, INERIS, Nemko, etc.) qualified for examination and verification of technical documentation, special testing and filing of relative documentation; once this procedure terminated successfully a manufacture is authorized to declare the conformity of its products to ATEX and use the ATEX mark on them.

Con ATEX si identifica la Direttiva 2014/34/UE, che ha sostituito la precedente 94/9/CE (il nome deriva dalla contrazione delle parole francesi “Atmosphere Explosible”). Il campo di applicazione della Direttiva ATEX comprende tutti gli apparecchi che devono essere installati, all’interno della Unione Europea, in ambienti potenzialmente a rischio di esplosione. La Direttiva ATEX stabilisce gli organismi europei notificati in EU (CESI, TÜV, KEMA, INERIS, Nemko, etc.) abilitati all’esame e verifica della documentazione tecnica, esecuzione di test specifici ed archiviazione della relativa documentazione; la procedura a seguito della quale, il produttore è autorizzato a rilasciare la dichiarazione di conformità dei propri prodotti alla normativa ATEX e l’utilizzo del marchio ATEX su di essi.



NSF International is an accredited, independent third-party certification organization that tests and certifies products to verify they meet these public health and safety standards. The NSF certification mark on a product means that the product complies with all standard requirements referring to the hygienic and health. NSF conducts periodic unannounced inspections and product testing to verify that the product continues to comply with the standard.

NSF International è un’organizzazione indipendente accreditata di certificazione che testa e certifica i prodotti per verificare che essi garantiscano i requisiti delle norme di Salute e Sicurezza. Il marchio NSF su un prodotto significa che il prodotto stesso è conforme agli standard richiesti in riferimento alle norme di igiene e salute. NSF esegue controlli periodici non annunciati per verificare che il prodotto continui ad essere conforme agli standard delle norme.

**SINCE CLEAN-GEARTECH IS A DIVISION OF HYDRO-MEC SPA,
HYDROMECS SPA IS THE LEGAL RESPONSABLE FOR WARRANTY ISSUES.**

PLEASE READ CAREFULLY

The following WARNING and CAUTION information are supplied to you for the proper functioning of your product.

Read ALL instructions prior to operating reducer.

Injury to personnel or reducer failure may be caused by improper installation, maintenance or operation.

WARNING:

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

SELLING CONDITIONS

Warranty for manufacturing defects will expire one-year after the invoicing date. Cleangeartech 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.

If the process requires total protections the customers should consider additional measures to avoid any contaminations arising from the gearboxes.

CLEAN-GEARTECH È UNA DIVISIONE DI HYDRO-MEC SPA PER QUESTO MOTIVO HYDROMECS SPA È LEGALMENTE IL RESPONSABILE DEI PROBLEMI DI GARANZIA

LEGGERE ATTENTAMENTE

Le seguenti raccomandazioni sono fondamentali per un buon funzionamento del vostro prodotto.

Leggere attentamente tutte le istruzioni prima di azionare il riduttore.

L'inappropriata installazione, manutenzione o funzionamento del riduttore può causare incidenti al personale addetto edanni al riduttore stesso.

ATTENZIONE:

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

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

Se il processo richiede una protezione totale, i clienti dovrebbero prendere in considerazione misure aggiuntive per evitare qualsiasi contaminazione derivante dai riduttori.

International General sales and warranty conditions

Quotations:

Unless differently agreed, the validity of all quotations is 2 months. The quotations are provided according to the RFQ (request for quotation) which shall contain the complete and detailed specification of the Product, the correctness of which is fully under responsibility of RFQ applicant.

Orders:

Only official orders issued on the Customer's letter-head are accepted. The Order Confirmation (OC) is issued within few days from the order receipt unless the Products configuration issues arise. The OC shall be confirmed in writing within few working days from the OC date and in all its parts – the product code and description, quantities and price, other specific information, if any. The OC is considered confirmed by tacit approval in case no written confirmation is provided by the Customer within 7 days.

Production time:

The average production time for the standard Products is normally 3-4 weeks from the OC confirmation date and/or payment receipt in case of advanced payment term. For some configurations of the standard Products the production time can be longer and shall be advised in the quotation and/or in any case in OC. In the period of Christmas holidays and August holidays the days of company closure are excluded from the abovementioned production term. Possible delays due to production picks, do not give the buyer a right to require any kind of penalty or indemnity.

Delivery terms:

FCA Sovizzo, Italy (Incoterms 2016)

Packaging:

The products are packed in wooden boxes as a standard packaging. Europallets can be also used on request. The prices and details of the packaging are indicated in the specific section of the Price List.

Payment terms:

The payment should be performed in terms indicated in the invoice and by wire transfer.

Prices:

The prices are indicated in the invoice and intended ex-works, unless differently specified, and do not include any kind of taxes, shipment or other type of costs.

Standard Products orders cancellation:

Modification or cancellation of the orders is accepted only if notified to the Manufacturer in writing and not later than 5 days from the Order Confirmation and in any case before the production of the ordered Products is launched.

Special execution of customized products:

The Products that are not included in the catalogue or configurations of the products that can not be realized using catalogue, options and accessories brochure and/or online configurator are considered Customized Products.

(a) The Manufacturer is entitled to examine feasibility of Special Execution of Customized Products and define the minimum quantity, production time and eventually other special sales and production conditions issuing thereafter a Special Execution Quotation that shall be confirmed by the Customer in writing.

(b) Once the Quotation is confirmed, The Manufacturer shall realize a Special Execution (SE) data sheet with its unique code for each Customized product. The SE data sheet shall be confirmed in full and in writing by the Customer.

(c) The production time of SE is definitely settled by The Manufacturer and notified to the Customer after the SE data sheet confirmation. As a rule, the production time for SE of Customized products is longer than standard.

(d) The orders of Special Execution of Customized products cannot be cancelled unless special written agreement is made before the production of SE is launched.

WARRANTY Conditions:

(a) Warranty period is 12 months from the shipment date.

(b) Warranty period could be extended to 18 months prior written agreement of the parties and in any case excluding wearable parts.

(c) Warranty covers only manufacturing defects. Wearable parts (for example, oil seals or lubricants leakages caused by normal wear) and failures due to the wrong assembling by the Customer are not covered by warranty.

(d) This warranty is also void in any case in which the products have been misused, used in improper environment conditions, configured beyond design limits indicated in the catalogue (especially service factor, loads and type of motors) or damaged, even accidentally or whenever installation instructions have not been strictly followed and in case of any natural disasters, in case of negligence of the Customer and the end user.

(e) The Customer is fully responsible to assure the compatibility of applications and correct mechanical couplings and electrical connections with the specifications of the Products according to The Manufacturer catalogues and technical documentation.

(f) The liability of The Manufacturer is strictly limited to the above-stated obligations and it is therefore clearly agreed that The Manufacturer takes no responsibility for any damage to persons and/or property deriving from accidents of any nature that may occur during use of the Products, whether the warranty is confirmed or otherwise, also in cases of the choice of the Product configuration being recommended by The Manufacturer.

WARRANTY Procedure:

(a) The Customer shall fill in the COMPLAINT FORM and forward it to The Manufacturer along with other relevant information.

(b) The Manufacturer examines the COMPLAINT FORM and confirms or declines the warranty.

(c) The Manufacturer has the right to ask the Customer to send the malfunctioning product back to the Seller for further examination. In case the warranty is not confirmed the Product will be shipped back to the Customer at the Customer expense. If the warranty is confirmed, The Manufacturer shall compensate the shipment costs to the Customer within the limits of the best shipment quotation.

(d) In case the warranty is confirmed the Products shall be substituted at The Manufacturer's expense using ordinary shipment procedure. The express shipment can be used prior to the agreement of the parties.

(e) In case the Product cannot be substituted The Manufacturer shall reimburse the value of the Product by issuing of Credit Note or in any other way agreed by the Parties.

Condizioni generali di vendita in Italia

1) Definizioni

1.1 Ai fini delle presenti condizioni generali di vendita (di seguito denominate "Condizioni di Vendita"), i seguenti termini avranno il significato di seguito ad essi attribuito:

- "Cliente": qualunque società, ente o entità giuridica che acquisti i nostri prodotti;
- "Prodotti": i nostri beni prodotti, assemblati e/o venduti;
- "Ordine/i": ciascuna proposta di acquisto dei Prodotti inoltrata dal Cliente esclusivamente tramite e-mail, fax o web;
- "Vendita/e": ciascun contratto di vendita concluso a seguito del ricevimento da parte del Cliente dell'accettazione scritta dell'Ordine da parte nostra;

2) Scopi

2.1 Le presenti Condizioni di Vendita si applicano a tutte le Vendite di Prodotti. Nel caso di contrasto tra le condizioni e i termini di cui alle presenti Condizioni di Vendita e le condizioni e i termini pattuiti nella singola Vendita, quest'ultimi prevarranno. Non saremo vincolati da condizioni generali di acquisto del Cliente (di seguito, "CGA"), neanche nell'ipotesi in cui si faccia loro riferimento o siano contenute negli ordini o in qualsiasi altra documentazione di provenienza del Cliente, senza il preventivo consenso scritto. Le CGA non saranno vincolanti neppure per effetto di tacito consenso.

2.2 Ci riserviamo il diritto di aggiungere, modificare o eliminare qualsiasi previsione delle presenti Condizioni di Vendita, restando inteso che tali aggiunte, modifiche o cancellazioni si applicheranno a tutte le Vendite concluse a partire dal trentesimo giorno successivo alla notifica al Cliente delle nuove Condizioni di Vendita.

3) Ordini e Vendite

3.1 Il Cliente dovrà inoltrarci Ordini specifici contenenti la descrizione dei Prodotti, la quantità richiesta, il prezzo ed i termini richiesti per la consegna.

3.2 La Vendita dovrà ritenersi conclusa: (i) nel momento in cui il Cliente riceva una nostra conferma scritta (tale conferma potrà essere inviata via e-mail, fax o mezzi telematici) conforme ai termini e alle condizioni dell'Ordine (ii) o, nel caso in cui il Cliente riceva da parte nostra una conferma scritta contenente termini difformi da quelli contenuti nell'Ordine, decorsi tre giorni lavorativi dalla data di ricezione della conferma contenente termini difformi senza che nel suddetto periodo ci pervenga contestazione scritta da parte del Cliente; (iii) o, in assenza di conferma scritta da parte nostra, nel momento in cui i Prodotti saranno consegnati al Cliente.

3.3 Gli Ordini regolarmente accettati non potranno essere annullati dal Cliente senza il nostro consenso scritto.

4) Prezzo dei Prodotti

4.1 I prezzi dei Prodotti saranno quelli indicati nel nostro listino prezzi in vigore al momento dell'inoltro dell'Ordine da parte del Cliente o, qualora il Prodotto non sia inserito nel listino prezzi o il listino prezzi non sia disponibile, quelli indicati nell'Ordine e confermati per iscritto al momento dell'accettazione dell'Ordine. Eccetto quanto diversamente concordato per iscritto tra le parti, i predetti prezzi saranno calcolati franco fabbrica, al netto dell'IVA e degli sconti. Tali prezzi non comprendono i costi di imballaggio, spedizione e trasporto dai nostri locali a quelli del Cliente. Tali costi dovranno essere sostenuti separatamente dal Cliente.

4.2 Manterremo la proprietà dei Prodotti fino alla completa corresponsione del prezzo degli stessi. Il Cliente dovrà compiere tutti gli adempimenti richiesti dalle leggi locali al fine di rendere valida ed eseguibile nei confronti di tutti i terzi la presente clausola di riserva della proprietà anche operando l'iscrizione in ogni apposito registro, ove localmente richiesto.

5) Termini di consegna

5.1 Eccetto quanto eventualmente diversamente concordato per iscritto tra le parti, consegneremo i prodotti franco fabbrica presso i propri stabilimenti, così come questo termine è definito negli INCOTERMS 2010 pubblicati dalla Camera di Commercio internazionale nella loro versione più aggiornata, in vigore al momento della consegna. Se richiesto, ci occuperemo del trasporto dei Prodotti a rischio, costi e spese del Cliente.

5.2 La consegna dovrà avvenire entro il termine indicato nell'Ordine come accettato nella conferma d'ordine. I termini di consegna sono indicativi e non sono termini essenziali ai sensi dell'art. 1457 del Codice Civile e, in ogni caso, non includono i tempi di trasporto.

5.3 Salvo quanto previsto dal precedente art. 5.2, non saremo considerati responsabili dei ritardi o della mancata consegna ascrivibili a circostanze che siano fuori dal suo controllo, quali a titolo meramente esemplificativo e senza pretesa di esaustività:

- a) dati tecnici inadeguati o imprecisioni o ritardi del Cliente nella trasmissione di informazioni o dati necessari alla spedizione dei Prodotti;
- b) difficoltà nell'ottenere rifornimenti delle materie prime;
- c) problemi legati alla produzione o alla pianificazione degli ordini;
- d) scioperi parziali o totali, mancanza di energia elettrica, calamità naturali, misure imposte dalle autorità pubbliche, difficoltà nel trasporto, cause di forza maggiore, disordini, attacchi terroristici e tutte le altre cause di forza maggiore;
- e) ritardi da parte dello spedizioniere.

5.4 Il verificarsi di alcuni degli eventi sopra elencati non darà diritto al Cliente di richiedere il risarcimento degli eventuali danni o indennizzi di alcun genere.

6) Trasporto

6.1 Eccetto quanto eventualmente diversamente concordato per iscritto tra le parti, il trasporto avverrà sempre a spese e rischio del Cliente. Nel caso in cui, ai sensi dell'art. 5.1, ci venga richiesto di occuparsi del trasporto dei Prodotti, sceglieremo il mezzo di trasporto che si riterrà più appropriato in mancanza di specifiche istruzioni del Cliente.

7) Pagamenti

7.1 Salvo diverso accordo scritto tra le parti, emetteremo le fatture al momento della consegna dei Prodotti.

7.2 Il mancato pagamento nel tempo concordato ci darà diritto a di chiedere al Cliente il pagamento degli interessi scaduti al tasso stabilito dal Decreto Legislativo n. 231/02.

7.3 Il mancato pagamento o il ritardo nei pagamenti superiore a 30 giorni ci daranno il diritto di sospendere la consegna dei Prodotti e risolvere ogni singola Vendita sottoscritta. La sospensione della consegna dei Prodotti o la risoluzione delle Vendite non darà il diritto al Cliente di pretendere alcun risarcimento dei danni.

7.4 Ogni reclamo relativo ai Prodotti e/o alla consegna dei medesimi non potrà in alcun caso giustificare la sospensione o il ritardo nel pagamento.

8) Non-conformità

8.1 Qualsiasi difformità dei Prodotti consegnati al Cliente rispetto al tipo ed alla quantità indicata nell'Ordine ci dovrà essere denunciata per iscritto entro cinque giorni dalla data di consegna. Qualora la denuncia non venga comunicata entro il predetto termine, i Prodotti consegnati verranno considerati come conformi a quelli ordinati dal Cliente.

9) Garanzia

9.1 Salvo diverso accordo scritto tra le parti, garantiamo che i Prodotti sono esenti da vizi/difetti (con esclusione di quelle parti dei Prodotti che non sono di nostra produzione) per un periodo di 12 mesi decorrente dalla data di consegna dei medesimi al Cliente.

9.2 La garanzia non opererà con riferimento a quei Prodotti i cui difetti sono dovuti a (i) danni causati durante il trasporto; (ii) un uso negligente o improprio degli stessi; (iii) inosservanza delle nostre istruzioni relative al funzionamento, manutenzione ed alla conservazione dei Prodotti; (iv) riparazioni o modifiche apportate dal Cliente o da soggetti terzi senza la previa autorizzazione scritta.

9.3 A condizione che il reclamo del Cliente sia coperto dalla garanzia e notificato nei termini di cui al presente articolo, ci impegneremo, a nostra discrezione, a sostituire o riparare ciascun Prodotto o le parti di questo che presentino vizi o difetti.

9.4 Il Cliente dovrà denunciare per iscritto, la presenza di vizi o difetti entro 8 giorni dalla consegna dei Prodotti se si tratta di vizi o difetti palesi, oppure, entro 8 giorni dalla scoperta in caso di vizi o difetti occulti o non rilevabili da una persona di media diligenza.

9.5 I Prodotti oggetto di denuncia dovranno essere immediatamente inviati presso la nostra fabbrica, o in qualsiasi altro luogo che quest'ultima indicherà di volta in volta, a costi e spese a carico del Cliente salvo diverso accordo tra le parti, al fine di consentire l'espletamento dei necessari controlli. La garanzia non copre danni e/o difetti dei Prodotti derivanti da anomalie causate da, o connesse a, parti assemblate/aggiunte direttamente dal Cliente o dal consumatore finale. Qualora, nell'ambito della presente garanzia, un Prodotto o un componente difettoso venisse sostituito, la proprietà del Prodotto o del componente sostituito sarà ritrasferita dal Cliente a noi.

9.6 In ogni caso il Cliente non potrà far valere i diritti di garanzia se il prezzo dei Prodotti non sia stato corrisposto alle condizioni e nei termini pattuiti, anche nel caso in cui la mancata corresponsione del prezzo alle condizioni e nei termini pattuiti si riferisca a Prodotti diversi da quelli per i quali il Cliente intende far valere la garanzia.

9.7 Non riconosciamo alcuna garanzia circa la conformità dei Prodotti alle norme e ai regolamenti di Paesi che non rientrano o non appartengono all'Unione Europea. Nessun'altra garanzia, espressa o implicita, quale, a titolo esemplificativo, la garanzia di buon funzionamento o di idoneità per uno scopo specifico, è concessa con riferimento ai Prodotti.

9.8 Senza pregiudizio a quanto indicato nel precedente art. 9.3 e salvo il caso di dolo o colpa grave, non saremo responsabili per qualsivoglia danno derivante e/connesso ai vizi dei Prodotti. In ogni caso, non saremo ritenuti responsabili per danni indiretti o consequenziali di qualsiasi natura quali, a titolo esemplificativo, le perdite derivanti dall'inattività del Cliente o il mancato guadagno.

10) Diritti di Proprietà Intellettuale

10.1 I Diritti di Proprietà Intellettuale sono di totale ed esclusiva nostra proprietà e la loro comunicazione o utilizzo nell'ambito delle presenti Condizioni di Vendita non crea, in relazione ad essi, alcun diritto o pretesa in capo al Cliente. Il Cliente si obbliga a non compiere alcun atto incompatibile con la titolarità dei Diritti di Proprietà Intellettuale.

11) Clausola risolutiva espressa

11.1 Avremo facoltà di risolvere, ai sensi e per gli effetti dell'art. 1456 del Codice Civile Italiano, in qualsiasi momento mediante comunicazione scritta da inviare al Cliente, la singola Vendita nel caso di inadempimento delle obbligazioni previste dagli articoli: 4 (Prezzo dei Prodotti); 7 (Pagamenti); 10 (Diritti di Proprietà Intellettuale).

12) Mutamento nelle condizioni patrimoniali del Cliente

12.1 Avremo diritto a sospendere l'adempimento delle obbligazioni derivanti dalla Vendita dei prodotti, in base all'art. 1461 del Codice Civile Italiano, nel caso in cui le condizioni patrimoniali del Cliente divenissero tali da porre in serio pericolo il conseguimento della controprestazione salvo che sia prestata idonea garanzia.

13) Domicilio legale, legge applicabile e giurisdizione

13.1 Siamo legalmente domiciliati presso la nostra sede principale.

13.2 Le Condizioni di Vendita e ogni singola Vendita saranno regolate e interpretate in conformità alla Legge Italiana.

13.3 Tutte le controversie derivanti da o connesse alle presenti Condizioni di Vendita e/o ad ogni Vendita saranno soggette alla esclusiva giurisdizione del Tribunale di Vicenza.

13.4 Salvo quanto pattuito nel precedente art. 13.3, ci riserviamo il diritto, quando promotore di una azione legale in qualità di attore, di promuovere tale azione nel luogo di residenza del Cliente.

Note



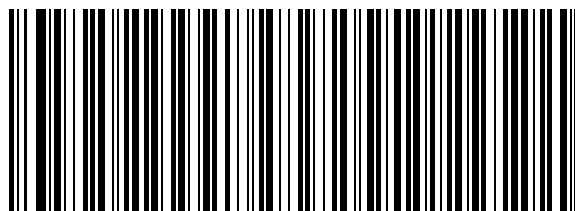
Note





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