

WASHDOWN HYGIENIC NEMA DRIVES

GEARBOXES CATALOGUE

MADE IN ITALY

REGISTERED DESIGN



General Catalogue
2025 Edition



On request

CLEAN-GEARTECH



CLEAN-GEARTECH

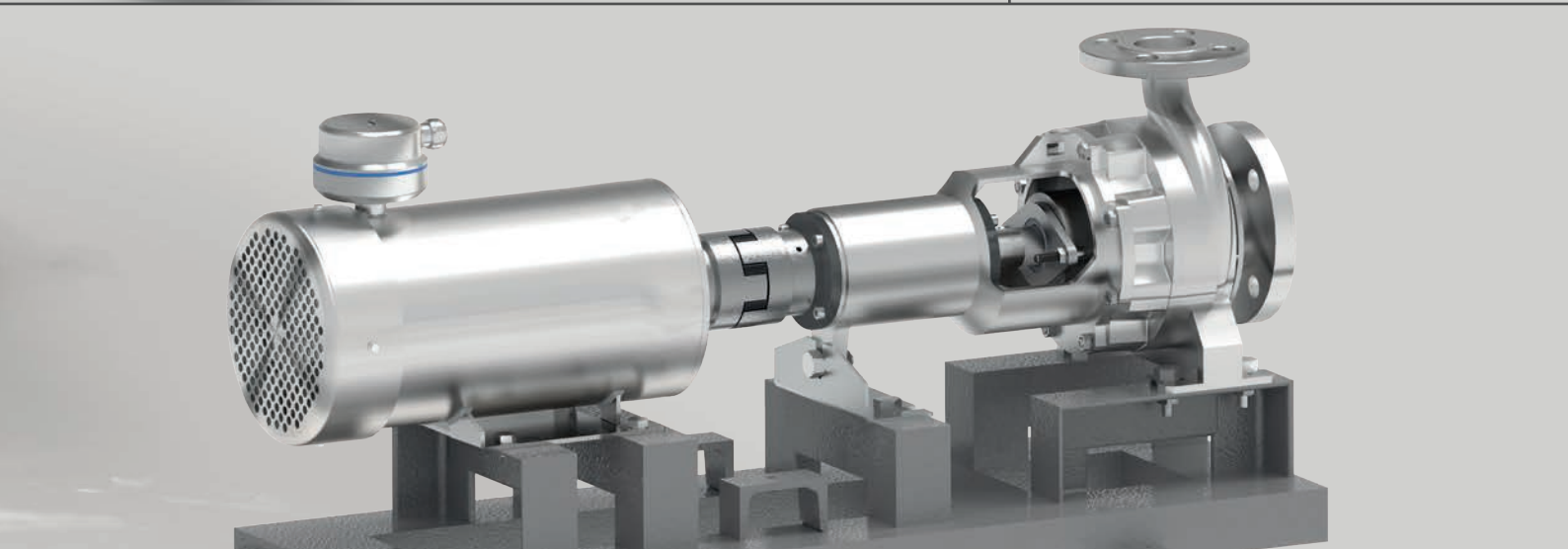
HYGIENIC DESIGN ELECTRIC MOTORS

MAIN FEATURES

- High pressure clean up
- Pooling free mounting
- Sealed holes
- Sealed oil plugs
- Simple washing
- Smooth surfaces
- No plastic plugs

SECTORS OF USE

- Meat&Poultry
- Beverage
- Fruits & Vegetables
- Animal food
- Seafood / Fish farming
- Bakery
- Confectionery
- Cleaning systems
- Conveyors
- Dairy
- Food packaging
- Food processing
- Freezing Systems
- Mixers Agitators
- Pumps
- Ventilators
- Chemical
- Cosmetics
- Pharmaceutical
- Marine and fishing



The CLEAN-GEARTECH philosophy

Protection level ↑

BEST

AISI 316L

Full stainless steel, the best for every application.

AISI 304

Completamente in acciaio inox, la miglior soluzione per qualsiasi applicazione.

Smooth surface aluminum worm gearboxes with additional white protective paint.

Riduttori a vite senza fine in alluminio a superficie liscia con ulteriore vernice protettiva bianca.

The starting base for avoiding dust accumulation.

Design adatto a consentire la miglior pulizia del prodotto. La base di partenza per evitare l'accumulo di polvere.

● VFN



MEDIUM

● VFD on request



BASIC

● VFD



← ● These gearboxes are fully interchangeable on dimensions →

ALUMINUM

AISI 316L

STANDARD

Smooth surface worm gearboxes for basic cleaning applications

Riduttori a vite senza fine a superficie liscia per applicazioni base

PAINTED

With white protective paint for outdoors and light detergents

Con vernice protettiva bianca per esterni e lavaggi con detergenti leggeri

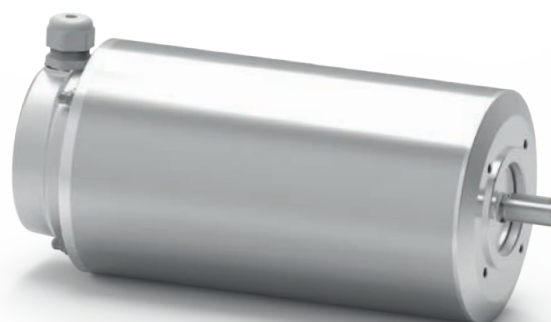
Stainless Steel worm gearboxes

Riduttori a vite senza fine in acciaio inox

The APM Series

Hygienic aluminum electric motors with protective high resistance coating

Motori elettrici igienici in alluminio con rivestimento protettivo ad alta resistenza



Smooth surface and different materials

RCN



BVN



VFI



RCI



Full stainless steel: the best solution for the resistance to corrosion. Suitable for all applications.

Interamente in acciaio inox: la migliore soluzione per la resistenza alla corrosione. Adatto a tutte le applicazioni.



AISI 316L

AISI 304

FULL STAINLESS FOR THE MOST HARSH APPLICATIONS

Stainless Steel ratio multipliers

Riduttori ad uno stadio in acciaio inox

Stainless Steel helical bevel gearboxes

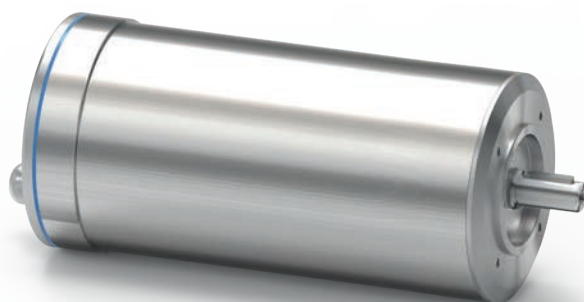
Riduttori a coppia conica in acciaio inox

Stainless Steel square worm gearboxes

Riduttori a vite senza fine quadrato in acciaio inox

Stainless Steel ratio multipliers

Riduttori ad uno stadio in acciaio inox



The SPM Series

Hygienic stainless steel 316L electric motors

Motori elettrici igienici in acciaio inox 316L

The VFD Series Smooth surface aluminum worm gearboxes



The VFD - STANDARD Series

It is our most economical basic solution to reduce dust accumulation.

Also available with aluminum electric motor APM series without ribs.

La serie VFD - STANDARD

E' la soluzione più economica per ridurre l'accumulo di polvere.

Disponibile anche con motore in alluminio senza alette, serie APM.



The VFD - PAINTED Series

On request

It is also available with protective white paint, providing a good level of protection in medium aggressive environments.

See the graph in the next page.

La serie VFD - PAINTED

E' disponibile anche con vernice protettiva bianca che permette un livello di protezione medio per ambienti aggressivi.

Vedere il grafico nella prossima pagina.

VFD certification

worm gearboxes

IP66



On request

A richiesta

IP69k

RCD certification

ratio multiplier

IP66



Ratio: 1 / 2.05 ÷ 1 / 9.83



IP69k when combined with on other gearbox

Type Tipo	Torque Coppia	Center distance Interasse	Input power Potenza in entrata	Hollow output shaft Albero cavo in uscita	
				Standard	On request
D45	345 lb in	1.772"	0.25 ÷ 1 HP	ø0.750"	-
D50	611 lb in	1.969"	0.25 ÷ 2 HP	ø1.000"	-
D63	1240 lb in	2.480"	0.5 ÷ 2 HP	ø1.250"	ø1.125"
D85	2921 lb in	3.346"	1 ÷ 5 HP	ø1.500"	-
211D	177 lb in	1.811 mm	0.33 ÷ 0.75 HP	ø0.625"	-

THE BASIC PROTECTION

Vacuum impregnated housing

Single piece aluminum alloy housing vacuum impregnated MIL-STD 276.

*Design adatto a consentire la miglior pulizia del prodotto.
Cassa monoblocco impregnata sotto vuoto MIL-STD 276.*

Hardened and ground worm

Hardened and ground worm, teeth radiused for noise reduction.

La vite senza fine è temprata ed i denti sono profilati e raggiati per ridurre il rumore.



Options Coupling

Premium input coupling:

- Direct mounting
- No settings
- No screw

Giunto in entrata:

Montaggio diretto - No settaggi - No viti.



Output hollow shaft

Cast iron hollow shaft.

CuSn12Ni (C91700) Nickel bronze worm gear for superior life.

Mozzo in ghisa. Corona in bronzo al Nickel CuSn12Ni (C91700) centrifugato per massima resistenza e durata superiore.



Options Stainless steel hollow shaft in AISI 316L

Mozzo in uscita in AISI 316L.

Hardware

Output male shaft in carbon steel.
Zinc plated: feet screws and reaction arms.

Albero maschio in uscita removibile in acciaio.

Piedi, viteria e bracci di reazione zincati.



Options Stainless steel hardware

Stainless steel output male shaft, protection cap, feet, screws and reaction arms.

Albero maschio in uscita removibile, coperchietto di protezione, piedi, viteria e bracci di reazione in AISI 316L.



NBR seals

NBR seals on hollow output shaft.

Anelli di tenuta in NBR su mozzo in uscita.



Options Viton seals

Single viton seal for harsh environment.

Anelli di tenuta in viton per ambienti aggressivi.



Twin viton seals with stainless steel 316L shield for IP69k protection.

Doppi anelli di tenuta in viton con schermo protettivo in acciaio inox AISI 316L per protezione IP69k.



On request White protective painting RAL 7035

The graph below shows the behavior of an aluminum gearbox (not painted) and of a gearbox with protective paint during the salt spray test.

The time (hours spent in the test) is indicated on the horizontal axis, while the degree of corrosion on the surface of the reducer is indicated on the vertical axis. The curve of the aluminum reducer (not painted) shows that only after about 100 hours of testing the first signs of corrosion are formed (the curve enters the "corrosion starting" zone) and then spreads rapidly ("corrosion" zone). The curve of the reducer with protective coating instead shows that after 1200 hours of permanence in saline mist, there are still no signs of corrosion.



Il grafico seguente riporta il comportamento di un riduttore in alluminio (non verniciato) e di un riduttore con vernice bianca protettiva durante il test in nebbia salina.

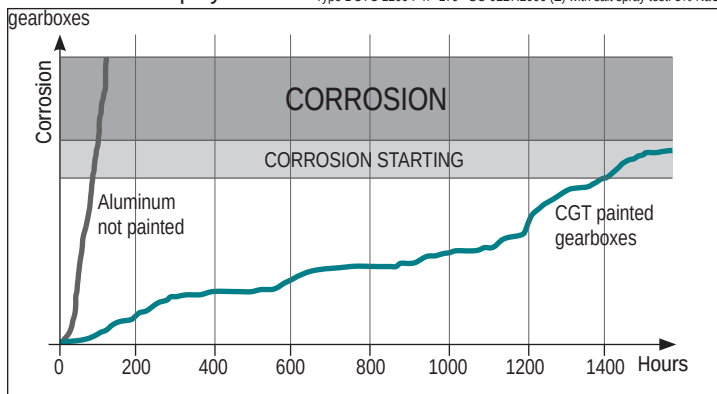
Sull'asse orizzontale è indicato il tempo (ore di permanenza nel test) mentre sull'asse verticale il grado di corrosione sulla superficie del riduttore.

La curva del riduttore in alluminio (non verniciato) evidenzia come solo dopo circa 100 ore di test si formano già i primi segni di corrosione (la curva entra nella zona "corrosion starting") e poi si propaga rapidamente (zona "corrosion").

La curva del riduttore con verniciatura protettiva mostra invece come dopo 1200 ore di permanenza in nebbia salina, non vi siano ancora segni di corrosione.

NSS Neutral Salt Spray Test

Type DCTC 1200 P n° L79 SO 9227:2006 (E) with salt spray test: 5% NaCl



This graph is an indication, since some chemical components may be more aggressive than the salt spray test. Test are suggested on special cases (in case use type "N series", full stainless steel gearboxes).

Il grafico va considerato come indicativo perché altri agenti chimici potrebbero risultare più aggressivi del test in nebbia salina. Suggeriamo prove specifiche nell'ambiente di lavoro e nel caso non vengano soddisfatti i requisiti minimi si consiglia di utilizzare la gamma in acciaio inox "Serie N".

The VFN Series Stainless steel worm gearboxes



The VFN Series

It is the best solution for the resistance to corrosion.
Suitable for all applications.
Entirely in stainless steel with smooth surfaces for easy cleaning.
Also available with stainless steel motor SPM series.

La serie VFN

*E' la migliore soluzione per la resistenza alla corrosione.
Adatto a tutte le applicazioni.
Interamente in acciaio inox con superfici lisce per facilitare la pulizia.
Disponibile anche con motore in acciaio inox, serie SPM.*

The RCN Series

It is the best solution where hygiene and cleanliness are required.
The ratio multiplier gearbox has smooth surfaces for easy cleaning.
Also available with stainless steel motor SPM series.

La serie RCN

*E' la migliore soluzione dove è richiesta igiene e pulizia.
Il riduttore ad uno stadio ha superfici lisce per facilitare la pulizia.
Disponibile anche con motore in acciaio inox, serie SPM.*

VFN certification

worm gearboxes



RCN certification

ratio multiplier



Ratio: 1 / 1.57 ÷ 1 / 10.86

IP69k when combined with on other gearbox

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>	
				Standard	On request
N45	345 lb in	1.772"	0.25 ÷ 1 HP	ø0.750"	-
N50	611 lb in	1.969"	0.25 ÷ 2 HP	ø1.000"	-
N63	1240 lb in	2.480"	0.5 ÷ 2 HP	ø1.250"	ø1.125"
N85	2921 lb in	3.346"	1 ÷ 5 HP	ø1.500"	-
211N	177 lb in	1.181"	0.33 ÷ 0.75 HP	ø0.625"	-
411N	336 lb in	1.496"	0.5 ÷ 2 HP	ø0.625"	-

THE BEST PROTECTION IN 316L

Housing

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

Cassa speciale interamente in acciaio inox estremamente rigida e con una finitura accurata.

Hardened and ground worm

Hardened and ground worm,
teeth radiused for noise
reduction.

La vite senza fine è temprata ed i denti sono profilati e raggiati per ridurre il rumore.



Viton seals

Single viton seal for harsh
environment.

Anelli di tenuta in viton per ambienti aggressivi.



Options Twin viton seals

Twin viton seals with stainless steel
316L shield for IP69k protection.

Doppi anelli di tenuta in viton con schermo protettivo in acciaio inox AISI 316L per protezione IP69k.



Options Coupling

Premium input coupling with
direct mounting
No settings - No screw.

*Giunto in entrata: Montaggio diretto
No settaggi - No viti.*



Output hollow shaft

Stainless steel hollow shaft in
AISI 316L.

CuSn12Ni (C91700) Nickel bronze
for superior life.

*Mozzo in acciaio inox 316L.
Corona in bronzo al Nickel CuSn12Ni
(C91700) centrifugato per massima
resistenza e durata superiore.*



STANDARD POLISHED FINISHING

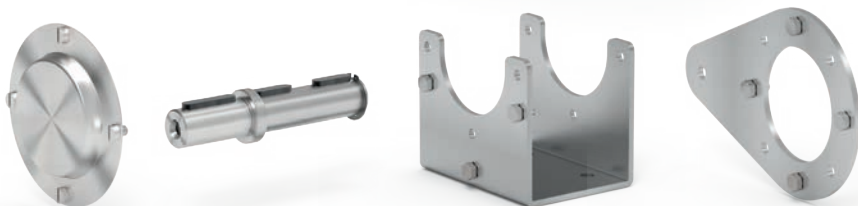
*Finitura lucida
standard*



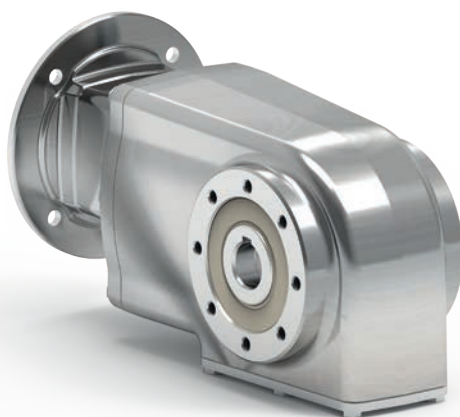
Stainless steel hardware

Stainless steel output male shaft,
protection cap, feet, screws
and reaction arms.

*Albero maschio in uscita removibile,
coperchietto di protezione, piedi,
viteria e bracci di reazione in AISI 316L.*



The BVN Series Stainless steel helical bevel gearboxes



The BVN Series

The best high efficiency solution for the resistance to corrosion. Suitable for all applications.

It is a strong and clean helical bevel gear.

Entirely in stainless steel with smooth surfaces for easy cleaning.

Also available with stainless steel motor SPM series.

La serie BVN

La migliore soluzione ad alta efficienza per la resistenza alla corrosione. Adatto a tutte le applicazioni.

Riduttore a coppia conica resistente e dal design pulito.

Interamente in acciaio inox con superfici lisce per facilitare la pulizia.

Disponibile anche con motore in acciaio inox, serie SPM.

BVN certification

Helical bevel gearboxes



On req.
A rich.



Type <i>Tipo</i>	Torque <i>Coppia</i>	Input power <i>Potenza in entrata</i>	Hollow output shaft <i>Albero cavo in uscita</i>	
			Standard	On request
X42N	1328 lb in	0.5 ÷ 2 HP	ø1.000"	-
X43N	1416 lb in	0.25 ÷ 0.75 HP	ø1.000"	-
X62N	3629 lb in	1 ÷ 5 HP	ø1.375"	-
X63N	3629 lb in	0.25 ÷ 1.5 HP	ø1.375"	-
X73N	5974 lb in	2 ÷ 5 HP	ø1.500"	-
X74N	5974 lb in	0.25 ÷ 2 HP	ø1.500"	-

THE BEST PROTECTION IN 316L

Housing

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

Cassa speciale interamente in acciaio inox estremamente rigida e con finitura lucida accurata.

Viton seals

Single viton seal for harsh environment.

Anelli di tenuta in viton per ambienti aggressivi.



Options Twin viton seals

Twin viton seals with stainless steel 316L shield for IP69k protection.

Doppi anelli di tenuta in viton con schermo protettivo in acciaio inox AISI 316L per protezione IP69k.



Input bore

Input bore is available for IEC and NEMA versions.

Albero in entrata disponibile per versioni IEC e NEMA.



Options Coupling

Premium input coupling with direct mounting
No settings - No screw.

*Giunto in entrata:
Montaggio diretto - No settaggi - No viti.*



Gears

Hardened and ground gears.

Ingranaggi temprati e rettificati.



Output hollow shaft

Stainless steel hollow shaft in AISI 316L.

Mozzo in acciaio inox 316L



Stainless steel hardware

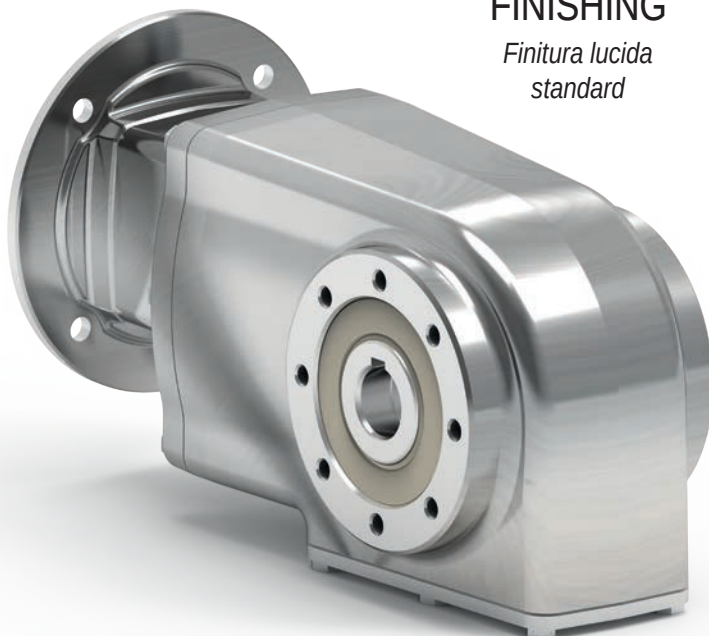
Stainless steel output male shaft, protection cap, feet, screws and reaction arms.

Albero maschio in uscita removibile, coperchietto di protezione, piedi, viteria e bracci di reazione in AISI 316L.



STANDARD
POLISHED
FINISHING

*Finitura lucida
standard*



The VFI Series Stainless steel worm gearboxes



The VFI Series

It is the best solution for the resistance to corrosion. Suitable for all applications. Entirely in stainless steel, the surfaces do not have grooves or other elements that could attract dirt. Also available with stainless steel motor SPM series.

La serie VFI

E' la migliore soluzione per la resistenza alla corrosione.

Adatto a tutte le applicazioni.

Interamente in acciaio inox, le superfici non presentano solchi o altri elementi che potrebbero attirare lo sporco.

Disponibile anche con motore in acciaio inox, serie SPM.

The RCI Series

The best solution where hygiene and cleanliness are required.

The ratio multiplier gearbox with smooth surfaces for easy cleaning.

Also available with stainless steel motor SPM series.

La serie RCI

La migliore soluzione dove è richiesta igiene e pulizia.

Il riduttore ad uno stadio con superfici lisce per facilitare la pulizia.

Disponibile anche con motore in acciaio inox, serie SPM.

VFI certification

worm gearboxes



On req.
A rich.



RCI certification

ratio multiplier



Ratio: 1 / 1.57 ÷ 1 / 10.86

IP69k when assembled with on other gearbox

Type Tipo	Torque Coppia	Center distance Interasse	Input power Potenza in entrata	Hollow output shaft Albero cavo in uscita	
				Standard	On request
I45	345 lb in	1.772"	0.25 ÷ 1 HP	ø0.750"	-
I50	611 lb in	1.969"	0.25 ÷ 2 HP	ø1.000"	-
I63	1240 lb in	2.480"	0.5 ÷ 2 HP	ø1.250"	ø1.125"
I85	2921 lb in	3.346"	1 ÷ 5 HP	ø1.500"	-
I11	5847 lb in	4.331"	2 ÷ 10 HP	ø2.000"	-
411I	336 lb in	1.496"	0.5 ÷ 2 HP	ø0.625"	-

THE BEST PROTECTION IN 304

Housing

Strong and modular square housing.

Cassa con forma quadrata robusta e modulare.

Hardened and ground worm

Hardened and ground worm, teeth radiused for noise reduction.

La vite senza fine è temprata ed i denti sono profilati e raggiati per ridurre il rumore.



Viton seals

Single viton seal for harsh environment.

Anelli di tenuta in viton per ambienti aggressivi.



Options Twin viton seals

Twin viton seals with stainless steel 316L shield for IP69k protection.

Doppi anelli di tenuta in viton con schermo protettivo in acciaio inox AISI 316L per protezione IP69k.



Options Coupling

Premium input coupling with direct mounting
No settings - No screw.

*Giunto in entrata:
Montaggio diretto - No settaggi - No viti.*



Output hollow shaft

Stainless steel hollow shaft in AISI 316L.

CuSn12Ni (C91700) Nickel bronze for superior life.

*Mozzo in acciaio inox 316L.
Corona in bronzo al Nickel CuSn12Ni (C91700) centrifugato per massima resistenza e durata superiore.*



STRONG SQUARE DESIGN

Solida forma quadrata



Stainless steel hardware

Stainless steel output male shaft, protection cap, feet, screws and reaction arms.

Albero maschio in uscita removibile, coperchietto di protezione, piedi, viteria e bracci di reazione in AISI 316L.



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

D Select motor flange available (if requested)
Scegli la flangia disponibile (se richiesta)

Worm gearboxes

Technical data example Esempio di dati tecnici

C	Ratio Rapporto	Transmitted torque Momento torcente		Nominal power Potenza nominale		Flange code Codice flangia	Dynamic efficiency Rendimento dinamico	Nominal module Modulo nominale	Input speed Velocità in entrata		
									Input speed (n ₁) = 1750 min ⁻¹		
Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	Available NEMA motor flanges		Dynamic efficiency	Tooth module	Ratio code
n ₂ [min ⁻¹]	i	P _{1M} [HP]	M _{2M} [lb in]	f.s	P _{1R} [HP]	M _{2R} [lb in]	-W 56C	-	RD	[mm]	
250.0	7	1	202	1.3	1.29	257			80	2.2	01
175.0	10	0.75	213	1.2	0.91	257			79	2.2	02
125.0	14	0.5	194	1.3	0.67	257			77	2.4	03
83.3	21	0.5	253	1.4	0.69	345			67	1.6	04

Input speed (n_1) = 1750 min⁻¹



Type of load and starts per hour Tipo di carico e avviamenti per ora	Worm gearboxes Vite senza fine		
Operating hours per day - Ore di funzionamento giornaliero	<2h	2÷8h	8÷16h
Continuous or intermittent application with start / hour Applicazione continua o intermittente con numero operazioni/ora	0.9	1	1.25
≤ 10	1	1.25	1.5
Heavy - Forte	1.25	1.5	1.75
Intermittent application with start / hour Applicazione intermittente con numero operazioni/ora	1.25	1.5	1.75
> 10	1.5	1.75	2
Heavy - Forte	1.75	2	2.25

Ratio multipliers and Helical bevel gearboxes

Technical data example Esempio di dati tecnici

B	Output speed <i>Velocità in uscita</i>	Motor power <i>Potenza motore</i>	Service factor <i>Fattore di servizio</i>	A	Nominal torque <i>Momento torcente nominale</i>	Output shaft diam. <i>Diam. albero uscita</i>	Notes <i>Note</i>				
The dynamic efficiency is 0.96 for all ratios							Input speed (n_1) = 1750 min ⁻¹				
Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	Available NEMA motor flanges		Output shaft	Ratio code	
n_2 [min ⁻¹]	i	P _{1M} [HP]	M _{2M} [lb in]	f.s	P _{1R} [HP]	M _{2R} [lb in]	-W 56C	-X 143-5TC			
240	7.29	2	504	1.4	2.81	708			2811		01
156	11.20	2	774	1.5	2.97	1151			288	Standard ø1.000	02
133	13.18	2	911	1.3	2.53	1151			1911		03
115	15.27	2	1056	1.1	2.18	1151			1711		04

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

Input speed (n_1) = 1750 min⁻¹



Type of load and starts per hour Tipo di carico e avviamenti per ora	Ratio multipliers Riduttori ad uno stadio Helical bevel gearboxes Coppia conica		
Operating hours per day - Ore di funzionamento giornaliero	3h	10h	24h
Continuous or intermittent application with start / hour Applicazione continua o intermittente con numero operazioni/ora	0.8	1	1.25
≤ 10	1	1.25	1.5
Heavy - Forte	1.25	1.5	1.75
Intermittent application with start / hour Applicazione intermittente con numero operazioni/ora	1	1.25	1.5
> 10	1.25	1.5	1.75
Heavy - Forte	1.5	1.75	2.15

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

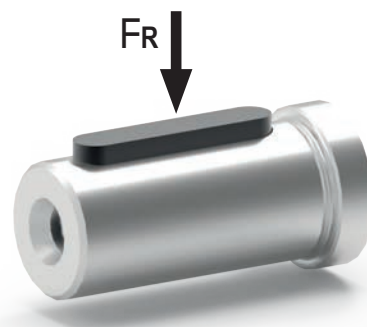
f_k : Factor - Coefficiente di trasformazione

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.

Notes on protective white paint

Note sulla vernice bianca protettiva

On request RAL 7035 painted

A richiesta verniciato RAL 7035

Comparison on salt mist corrosion tests after 1000 hours.

Confronto sulle prove di corrosione in nebbia salina dopo 1000 ore.

0 hours

Standard aluminum worm gearboxes

Riduttori a vite senza fine in alluminio



1000 hours



1000 hours

After short time it deteriorates
Dopo poco tempo si deteriorano



Same product with white protective paint

Stesso prodotto con vernice protettiva bianca



It allows acceptable results
Consente risultati accettabili



1000 hours

Beginning of the catalogue see the VFD series protective coating graph
All'inizio del catalogo vedere il grafico del rivestimento protettivo della serie VFD

Two-component polyurethane product formulated with unmodified hydroxylated acrylic resin, to be crosslinked exclusively with an aliphatic isocyanic catalyst which gives rise to more elastic and non-yellowing films.

It can be applied in thick layers with limited solvent emission. This product guarantees excellent adhesion on steel, galvanized steel and other metals, excellent wetting of the substrate and high chemical resistance, hardness and flexibility.

The presence of zinc phosphate allows a high protection against anodic dissolution and delay in the formation of rust.

Show tolerance to non-optimal application and substrate conditions.

It remains strongly recommended where you want to offer high level protection in various painting cycles a different degree of resistance.

The primer also has, together with an excellent resistance to abrasion, a high adhesion.

Prodotto poliuretanico bicomponente formulato con resina acrilica ossidrilata non modificata, da reticolare esclusivamente con catalizzatore isocianico alifatico che dà luogo a film più elastici e non ingiallenti.

Può essere applicato ad alto spessore con contenuta emissione di solventi.

Tale prodotto garantisce eccellente adesione su acciaio, acciaio zincato ed altri metalli, ottima bagnatura del substrato ed elevata resistenza chimica, durezza e flessibilità.

La presenza di fosfato di zinco permette un' elevata protezione contro la dissoluzione anodica e ritardo nella formazione della ruggine.

Mostra tolleranza a condizioni di applicazione e del supporto non ottimali.

Resta decisamente raccomandato ove si desideri offrire protezione ad alto livello in vari cicli di verniciatura a diverso grado di resistenza.

Il fondo possiede inoltre, unitamente ad un'ottima resistenza all'abrasione, una elevata adesione.

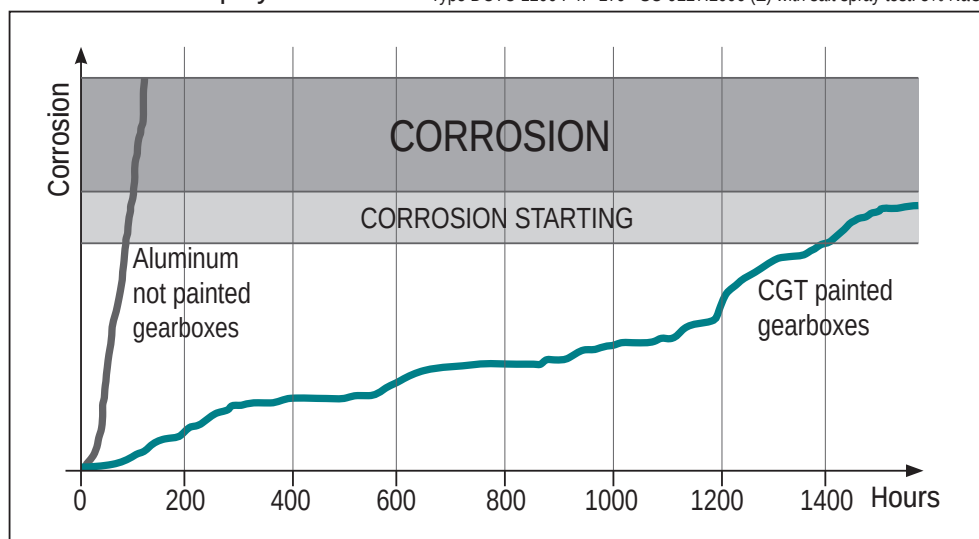
Finish <i>Aspetto</i>	Satin, 30-40 gloss according to ISO 2813 Satinato, 30-40 gloss secondo norma ISO 2813
Finish <i>Colore</i>	RAL 7035 Ral 7035
Specific gravity <i>Peso specifico</i>	1,44 ± 0,05 kg/dm ³ at 23°C, referring to 7721933 red RAL 3009 cured according to ISO 2811-1 1,44 ± 0,05 kg/dm ³ a 23°C, riferito al 7721933 rosso RAL 3009 catalizzato secondo ISO 2811-1

Notes on protective white paint

Note sulla vernice bianca protettiva

NSS Neutral Salt Spray Test

Type DCTC 1200 P n° L79 SO 9227:2006 (E) with salt spray test: 5% NaCl



This graph is an indication, since some chemical components may be more aggressive than the salt spray test. Test are suggested on special cases (in case use type "N series", full stainless steel gearboxes).

Il grafico va considerato come indicativo perchè altri agenti chimici potrebbero risultare più aggressivi del test in nebbia salina.

Suggeriamo prove specifiche nell'ambiente di lavoro e nel caso non vengano soddisfatti i requisiti minimi si consiglia di utilizzare la gamma in acciaio inox "Serie N".

Suggestions on application of the gearboxes

Suggerimenti sull'applicazione dei riduttori

Close protection cap

Coperchio di protezione chiuso

Closed protection cap seals the output hollow shaft end and provides protection against the rotating shaft. The cover can be mounted on both sides of the housing, matching screws are included in the scope of delivery.

Il coperchio di protezione chiuso sigilla l'estremità dell'albero cavo di uscita e fornisce protezione contro l'albero rotante. Il coperchio può essere montato su entrambi i lati dell'alloggiamento, le viti corrispondenti sono incluse nella fornitura.

Continuous duty on bevel gear

Servizio continuo su coppie coniche

If the application requires a gearbox for continuous duty operation, then choose a torque rating that is higher than the expected application torque and avoid if possible vertical positions.

For more information, contact our technical service.

Se l'applicazione richiede un riduttore per servizio continuo, sceglierne un valore di coppia superiore alla coppia di applicazione prevista evitare se possibile posizioni verticali.

Per maggiori informazioni, contattare il nostro servizio tecnico.

Input speed

Velocità di ingresso

When choosing a gearbox for a specific application, consider that with the input speed exceeding 1800 rpm, the temperature can rise.

Quando si sceglie un riduttore per un'applicazione specifica, considerare la velocità di ingresso superiore ai 1800 giri/min la temperatura può salire.



≡rpm

Coupling possible combination

Tabella combinazione giunti possibili



ALUMINUM	STAINLESS STEEL			GROUP	INPUT DIAMETER Ø	Z = Zamak Material	Kit Code
D45	N45	I45	X43N	KB	5/8	Z	KC355096UZ 
D50	N50	I50	-	KC	5/8	Z	K0505096UZ 
D63	N63	I63	X42N X63N X74N	KD	5/8 7/8	Z Z	KC405096UZ  KC405097UZ 
D85	N85	I85	X62N X73N	KE	5/8 7/8 1-1/8	Z Z Z	KC505096UZ  KC505097UZ  KC505098UZ 

Input coupling assembly *Montaggio Giunto in entrata*

PATENTED

The coupling is only suitable for the use of standard IEC / NEMA motors. The motor shaft must always have the shoulder to hold the coupling in position. The diameter of the coupling must always correspond to the IEC / NEMA flange applied to the reducer, reduced or increased dimensions of the hole are not allowed.

Il giunto è adatto solo per l'utilizzo di motori standard IEC / NEMA. L'albero motore deve avere sempre lo spallamento per tenere in posizione il giunto.

Il diametro del giunto deve sempre corrispondere alla flangia IEC / NEMA applicata al riduttore, non sono consentite dimensioni ridotte o maggiorate del foro.

Direct mounting - No settings - No screw

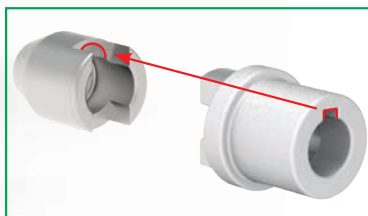
Montaggio diretto - No settaggi - No viti

1

Do not mount
oil seals on
motor flange
*Non montare anelli di
tenuta nella flangia motore*



***** Coupling
orientation
*Orientamento
giunto*



Motor shaft only allowed with shoulder
Usare un albero motore solo con spallamento



Do not use motor shaft without shoulder
Non utilizzare un albero motore senza spallamento

2



Motor assembly
Assemblaggio motore

3



Available as an option for the motor range from 56C to 182/4TC

Disponibile come opzione per motori da 56C a IEC 182/4TC

INDEX

Section 1



Smooth surface aluminum worm gearboxes

Riduttori a vite senza fine in alluminio con superficie liscia

ALUMINUM

Section 2



Smooth surface aluminum ratio multipliers

Riduttori ad uno stadio in alluminio con superficie liscia

ALUMINUM

Section 3



Full stainless steel round worm gearboxes

Riduttori a vite senza fine tondo completamente in acciaio inox

AISI 316L

Section 4



Full stainless steel ratio multipliers

Riduttori ad uno stadio completamente in acciaio inox

AISI 316L

Section 5



Full stainless steel helical bevel gearboxes

Riduttori a coppia conica completamente in acciaio inox

AISI 316L

Section 6



Full stainless steel square worm gearboxes

Riduttori a vite senza fine quadrati completamente in acciaio inox

AISI 304

Section 7



Full stainless steel ratio multipliers

Riduttori ad uno stadio completamente in acciaio inox

AISI 304

The starting base for avoiding dust accumulation

(Clean aluminum motors also available)

*La base di partenza per evitare l'accumulo di polvere
(disponibili anche con motori in alluminio)*

ALUMINUM

IP66

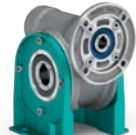
CE

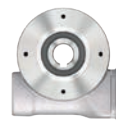
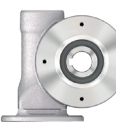
On req.
A rich.

IP69k



How to order Codifica

P	D45	UNI	N	10	0	IB	C
Type Tipo	Size Grandezza	Mounting Montaggio	Position Posizione	Ratio Rapporto	Hub Output shaft Mozzo corona Albero uscita	Diameter Diametro	Input / output shaft material Materiale alberi in entrata e uscita
P 	Worm gearboxes Riduttori a vite senza fine	UNI 	N 	See technical data table Vedi tabelle dati tecnici	0 Hollow Mozzo 	→ Standard D45	C Cast iron / Carbon steel Ghisa I Stainless steel In acciaio inox
M 	D45 D50 D63 D85	FLC 	  		S Solid output shaft Albero in uscita 	IB→ ø0.750"	The quill input hollow bore is always in carbon steel Il foro cavo in entrata è sempre in acciaio
B 		FLL 			ID→ ø1.000"		
R 		BRI Stainless steel Acciaio inox BRZ Zinc plated Zincato 			Select L or R position for output flange Selezionare la posizione L o R per la flangia in uscita	IE→ ø1.125" IF→ ø1.250"	
		PAI Stainless steel Acciaio inox PAB Zinc plated Zincato 			L Left Sinistra 	D85	
	PVI Stainless steel Acciaio inox PVB Zinc plated Zincato 	R Right Destra 	IH→ ø1.500"				
		PBB Zinc plated Zincato 				Output male shaft is available only for standard bore Albero maschio in uscita è disponibile solo per fori standard	

N	C	-W	B3	UW	A	For M type specify terminal box position <i>Per tipo M specificare posizione morsettiera</i>
Protection cap <i>Coperchio di protezione</i>		Motor size <i>Grandezza motore</i>	Mounting position <i>Posizione di montaggio</i>	Input bore <i>Foro entrata</i>	Coating <i>Trattamento</i>	
Left <i>Sinistra</i>	Right <i>Destra</i>	Motor flanges <i>Flange motore</i>	B3	Standard bore <i>Foro standard</i>	A Standard in aluminum <i>Standard in alluminio</i>	A
						
N Without protection cap <i>Senza coperchietto di protezione</i>	N Without protection cap <i>Senza coperchietto di protezione</i>	NEMA -W → 56C (ø6.5") -X → 143/5TC (ø6.5") -Y → 182/4TC (ø8.88")	B8 	UW → ø0.625" UX → ø0.875" UY → ø1.125"	V Painted <i>Verniciato</i> 	B 
		Without flange <i>Senza flangia</i> -N → Nema	B6 		Ral 7035	C 
C Closed <i>Chiuso</i>	C Closed <i>Chiuso</i>	Type R <i>Tipo R</i> 	B7 	With coupling <i>Con giunto</i> 		D 
		-Z → Nema	V5 	-W → ø0.625" -X → ø0.875" -Y → ø1.125"		
			V6 	Ready for input coupling <i>Predisposto per giunto</i> 		
				-0 Type B <i>Tipo B</i>		

Input speed (n_1) = 1750 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	Available NEMA motor flanges		Dynamic efficiency	Tooth module	Ratio code
n_2 [min ⁻¹]	i	P_{1M} [HP]	M_{2M} [lb in]	f.s	P_{1R} [HP]	M_{2R} [lb in]	-W 56C	- -	RD	[mm]	
250.0	7	1	202	1.3	1.29	257			80	2.2	01
175.0	10	0.75	213	1.2	0.91	257			79	2.2	02
125.0	14	0.5	194	1.3	0.67	257			77	2.4	03
83.3	21	0.5	253	1.4	0.69	345			67	1.6	04
62.5	28	0.5	328	1.1	0.53	345			65	2.5	05
47.3	37	0.33	277	1.2	0.42	345			63	1.8	06
38.0	46	0.33	323	1.1	0.36	345			59	1.5	07
29.2	60	0.25	303	1.1	0.29	345			56	1.2	08
25.0	70	0.25	340	0.8	0.19	257			54	1.0	09
17.2	102	0.25*	450	<0.8	0.14	248			49	0.72	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 D45 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 D45 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:
3.17 oz.Quantità olio per tutte
le posizioni: 3.17 oz.Shell
Omala S4 WE 320Eni
Telium VSF 320

Tab. 1

Suggested

Suggerito

Stainless steel protection cap
(on request).Coperchio di protezione in
acciaio inox a richiesta.

Kit cod. KN300209



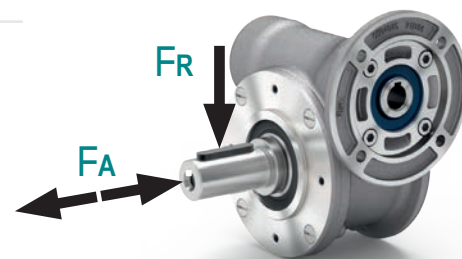
Radial and axial loads

Carichi radiali e assiali

Output shaft

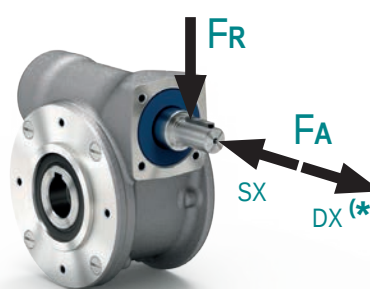
Albero di uscita

n_2 [min ⁻¹]	F_A [lb]	F_R [lb]
200	40	202
150	45	225
100	49	247
75	54	270
50	58	315
25	67	405
15	90	450



Input shaft

Albero in entrata



n_1 [min ⁻¹]	F_A [lb]	F_R [lb]
1750	9	47

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

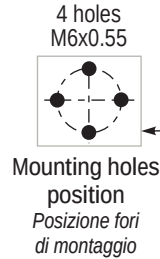
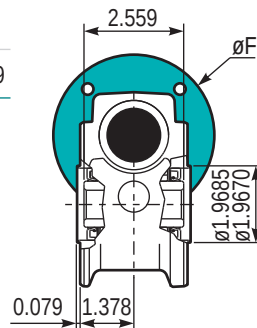
* Non sono consentiti forti carichi assiali con direzione DX

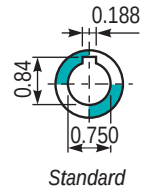
Tab. 2

PD45UNI..

Basic gearbox
Riduttore base

M. flanges	Kit code	øF	A
56C	KUD454041	6.5	3.709

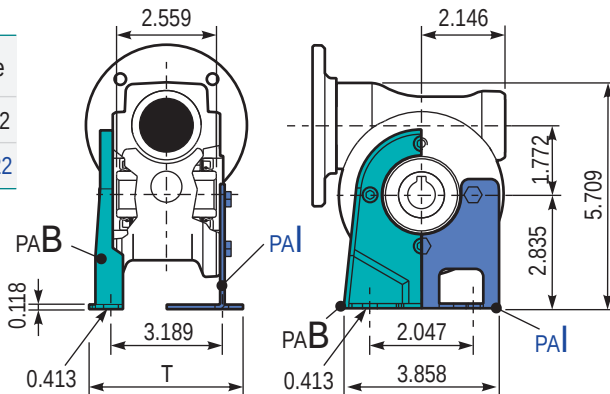

Gearbox weight
Peso riduttore 5.30 lb

Hollow shaft
Foro in uscita


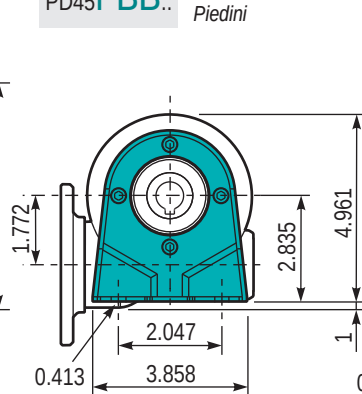
PD45PA...

Feet
Piedini

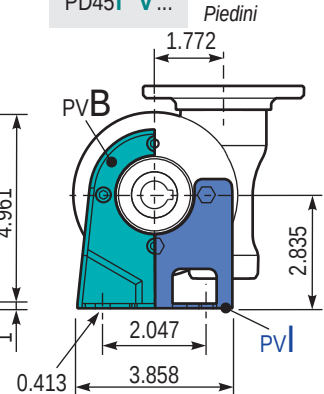
Type	T	Kit code
B**	4.016	K0459022
I*	3.937	KN459022

** Zink plated
* Stainless steel


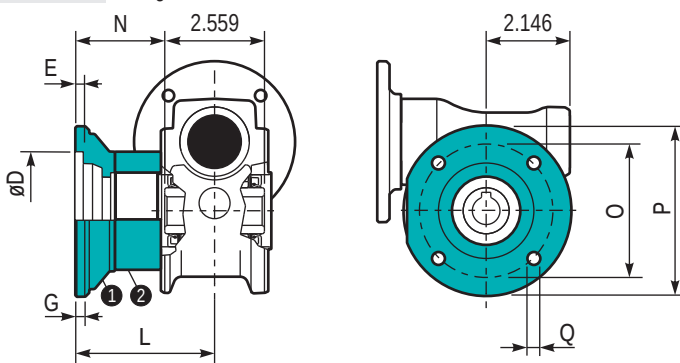
PD45PBB..

Feet
Piedini


PD45PV...

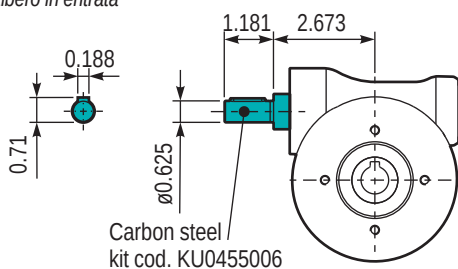
Feet
Piedini


PD45FL..

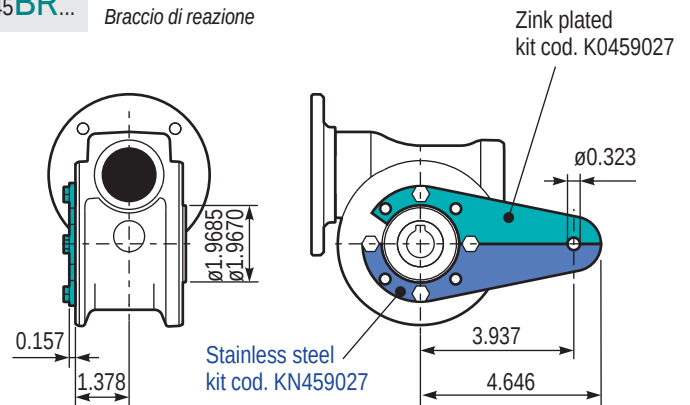
Output flange
Flangia uscita


Type	øD	E	G	L	N	O	P	Q	Kit code
C	2.3681 2.3642	0.35	0.35	2.382	1.102	3.425	4.331	0.33	① K0459010 ② -
L	2.3681 2.3642	0.35	0.35	3.563	2.283	3.425	4.331	0.33	① K0459010 ② K0450200

RD45UNI..

Input shaft
Albero in entrata

Carbon steel
kit cod. KU0455006

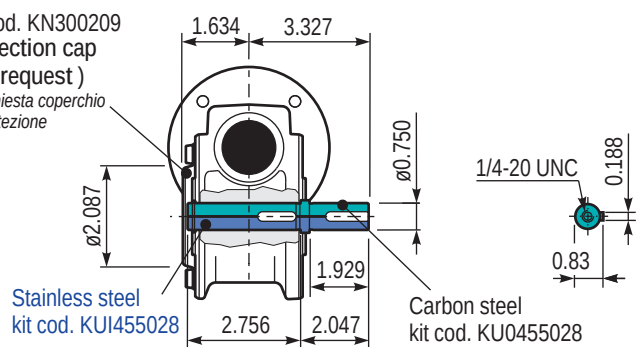
PD45BR...

Reaction arm
Braccio di reazione

Stainless steel
kit cod. KN459027

Zink plated
kit cod. K0459027

PD45..SIB

Single output shaft
Albero semplice in uscita

kit cod. KN300209
Protection cap
(on request)
A richiesta coperchio
di protezione

Stainless steel
kit cod. KUI455028

Carbon steel
kit cod. KU0455028

Input speed (n_1) = 1750 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	Available NEMA motor flanges		Dynamic efficiency	Tooth module	Ratio code
n_2 [min ⁻¹]	i	P_{1M} [HP]	M_{2M} [lb in]	f.s	P_{1R} [HP]	M_{2R} [lb in]	-W 56C	- -	RD	[mm]	
250.0	7	2	413	1.2	2.34	478			82	2.5	01
175.0	10	1.5	432	1.2	1.84	522			80	2.4	02
125.0	14	1	398	1.4	1.46	575			79	2.6	03
97.2	18	1	486	1.1	1.09	522			75	2.0	04
67.3	26	0.75	485	1.2	0.87	558			69	2.7	05
58.3	30	0.75	567	1.1	0.82	611			70	2.5	12
48.6	36	0.5	447	1.4	0.69	611			69	2.1	06
40.7	43	0.5	511	1.1	0.57	575			66	1.8	07
35.0	50	0.5	558	1.0	0.51	558			62	1.5	13
29.2	60	0.33	414	1.3	0.42	522			58	1.3	08
25.7	68	0.33	461	1.1	0.35	487			57	1.2	09
21.9	80	0.25	389	1.2	0.31	478			54	1.0	10
17.5	100	0.25	450	1.0	0.24	434			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 D50 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 D50 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:**
4.93 oz.

Quantità olio per tutte
le posizioni: 4.93 oz.

Shell
Omala S4 WE 320

Eni
Telium VSF 320

Tab. 1

Suggested

Suggerito

Stainless steel protection cap
(on request).

Coperchio di protezione in
acciaio inox a richiesta.

Kit cod. KN500209



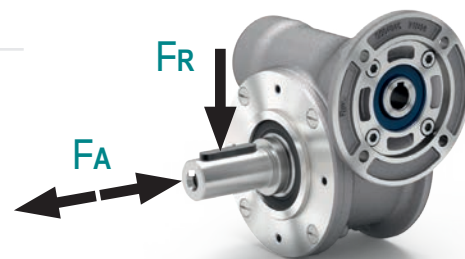
Radial and axial loads

Carichi radiali e assiali

Output shaft

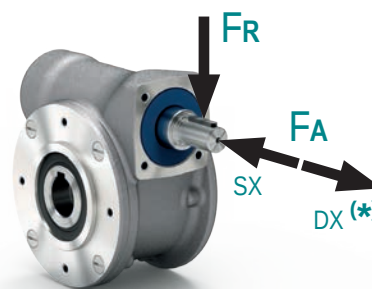
Albero di uscita

n_2 [min ⁻¹]	F_A [lb]	F_R [lb]
200	54	270
150	63	315
100	67	337
75	76	382
50	85	427
25	108	562
15	126	629



Input shaft

Albero in entrata



n_1 [min ⁻¹]	F_A [lb]	F_R [lb]
1750	17	85

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

* Non sono consentiti forti carichi assiali con direzione DX

Tab. 2

Gearbox weight
Peso riduttore

Standard

Technical drawing of the PD50PV... valve assembly. The drawing shows a cross-section of the valve body with a blue internal component. Key dimensions and labels are as follows:

- PD50PV...**: Product model identifier.
- Feet Piedini**: Label for the top flange.
- 1.969**: Dimension of the top flange thickness.
- PVB**: Label for the main valve body.
- 3.228**: Dimension of the main valve body height.
- PVI**: Label for the internal component.
- 2.480**: Dimension of the internal component width.
- 4.449**: Total dimension of the valve assembly.

Input speed (n_1) = 1750 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	Available NEMA motor flanges		Dynamic efficiency	Tooth module	Ratio code
n_2 [min ⁻¹]	i	P_{1M} [HP]	M_{2M} [lb in]	f.s	P_{1R} [HP]	M_{2R} [lb in]	-W 56C	-X 143-5TC	RD	[mm]	
250.0	7	2	419	2.5	5.10	1053	B		83	3.1	01
175.0	10	2	583	1.9	3.93	1133	B		81	3.1	02
116.7	15	2	854	1.4	2.75	1159	B		79	3.1	03
92.1	19	2	1068	1.1	2.20	1159	B		78	2.6	04
72.9	24	1.5	972	1.2	1.87	1195	B		75	2.0	05
58.3	30	1.5	1199	1.0	1.56	1230	B		74	3.2	06
48.6	36	1	882	1.4	1.42	1239	B		68	2.7	07
43.8	40	1	951	1.2	1.25	1177	B		66	2.5	13
38.9	45	1	1070	1.1	1.08	1142	B		66	2.1	08
29.2	60	0.75	1005	1.1	0.83	1097	B		62	1.6	12
26.1	67	0.5	724	1.4	0.73	1044	B		60	1.5	09
21.9	80	0.5	821	1.2	0.62	1000	B		57	1.3	10
18.6	94	0.5	880	1.1	0.58	1000	B		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 D63 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 D63 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:
14.08 oz.

Quantità olio per tutte le posizioni: 14.08 oz.

Shell
Omala S4 WE 320

Eni
Telium VSF 320

Tab. 1

Suggested

Suggerito

Stainless steel protection cap (on request).

Coperchio di protezione in acciaio inox a richiesta.

Kit cod. KN630209



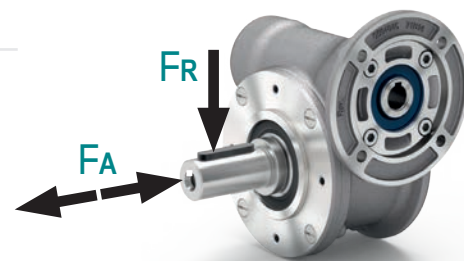
Radial and axial loads

Carichi radiali e assiali

Output shaft

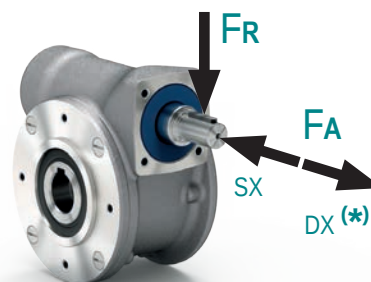
Albero di uscita

n_2 [min ⁻¹]	F_A [lb]	F_R [lb]
200	81	404.5
150	90	450
100	103.5	517
75	112.5	562
50	135	674.5
25	157	854
15	180	899



Input shaft

Albero in entrata



n_1 [min ⁻¹]	F_A [lb]	F_R [lb]
1750	20	101

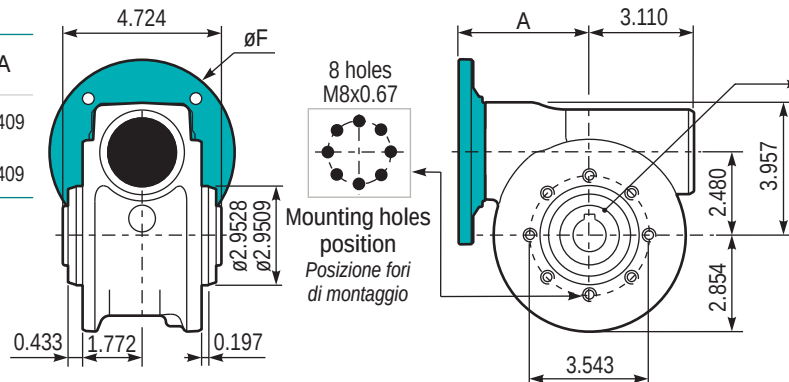
* Strong axial loads in the DX direction are not allowed.

* Non sono consentiti forti carichi assiali con direzione DX

Tab. 2

PD63UNI... Basic gearbox
Riduttore base

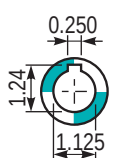
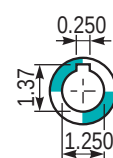
M. flanges	Kit code	øF	A
56C	KUD634041	6.50	4.409
143/5 TC	KUD634041	6.50	4.409

Gearbox weight
Peso riduttore 13.23 lb

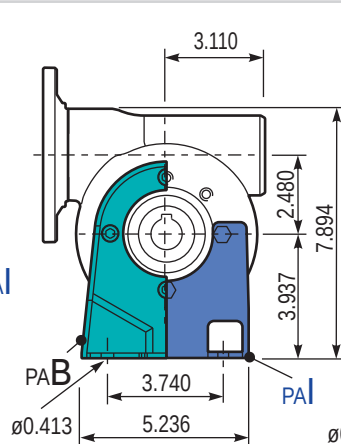
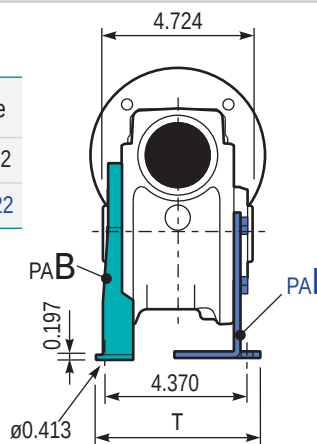
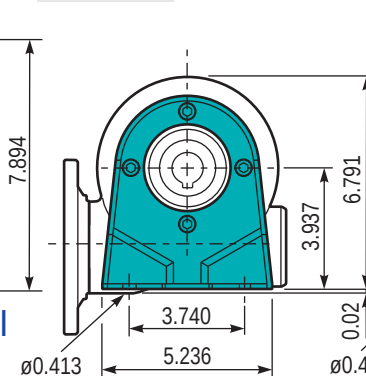
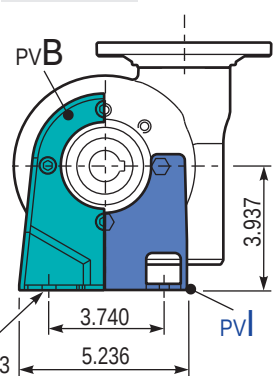
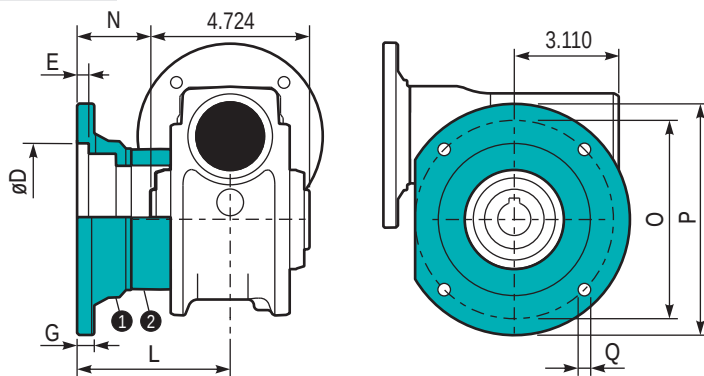
Hollow shaft Foro in uscita

Standard

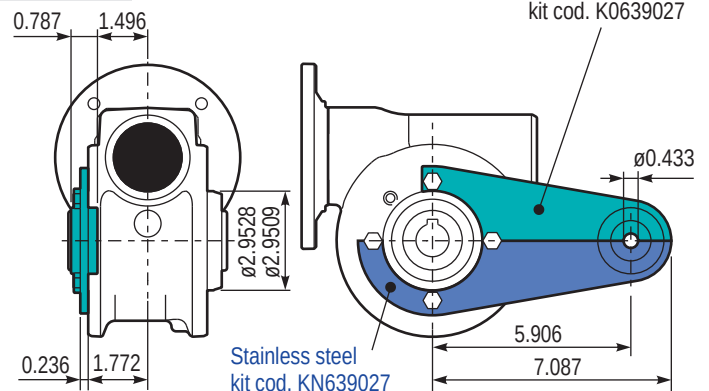
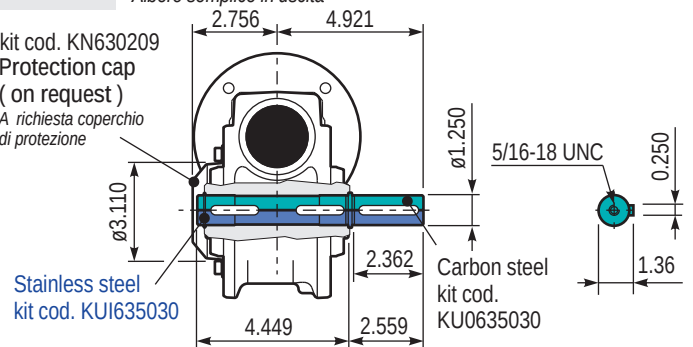
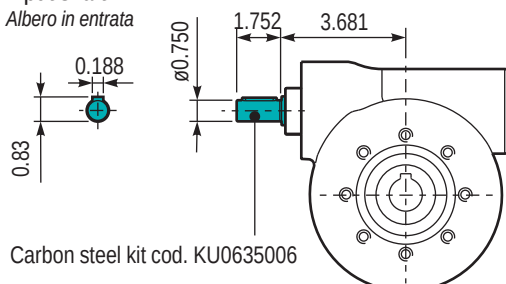
On request

PD63PA... Feet
Piedini

Type	T	Kit code
B**	5.669	K0639022
I*	5.118	KN639022

** Zink plated
* Stainless steelPD63PBB... Feet
PiediniPD63PV... Feet
PiediniPD63FL... Output flange
Flangia uscita

Type	øD	E	G	L	N	O	P	Q	Kit code
C	4.5354 4.5335	0.28	0.51	3.386	1.024	5.906	6.890	0.43	① K0639010 ② -
L	4.5354 4.5335	0.28	0.51	4.567	2.205	5.906	6.890	0.43	① K0639010 ② K0630200

PD63BR... Reaction arm
Braccio di reazionePD63..SIE Single output shaft
Albero semplice in uscitakit cod. KN630209
Protection cap
(on request)
A richiesta coperchio
di protezioneRD63UNI... Input shaft
Albero in entrata

Input speed (n_1) = 1750 min⁻¹

Output speed n_2 [min ⁻¹]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor $f.s$	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges			Dynamic efficiency RD	Tooth module [mm]	Ratio code
							-W 56C	-X 143-5TC	-Y 182-4TC			
250.0	7	5	1109	2.0	9.90	2168	B	B		88	4.23	01
175.0	10	5	1441	1.7	8.40	2390	B	B		80	4.2	02
125.0	14	5	1967	1.3	6.61	2567	B	B		78	4.5	03
87.5	20	3	1707	1.5	4.41	2478	B	B		79	3.4	04
79.5	22	3	1854	1.3	4.06	2478	B	B		78	3.1	05
62.5	28	3	2269	1.3	3.91	2921	B	B		75	4.7	06
46.1	38	3	2915	1.0	2.95	2832	B	B		71	3.5	07
38.0	46	2	2253	1.2	2.47	2744	B	B		68	3.1	08
33.7	52	2	2472	1.0	1.99	2434	B	B		66	2.7	09
26.1	67	1.5	2353	1.0	1.57	2434	B	B		65	2.1	10
23.6	74	1.5	2319	1.0	1.48	2257	B	B		58	1.9	11
18.2	96	1	1833	1.1	1.13	2036	B	B		53	1.5	12

Motor flanges available
Flange motore disponibili



B) Supplied with reduction bushing
Fornito con bussola di riduzione



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



C) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

Unit D85 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 D85 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: 42.23 oz. Quantità olio per tutte le posizioni: 42.23 oz.	Shell Omala S4 WE 320	Eni Telium VSF 320
---	--------------------------	-----------------------

Tab. 1

Suggested

Suggerito

Stainless steel protection cap
(on request).

Coperchio di protezione in
acciaio inox a richiesta.

Kit cod. KN850209



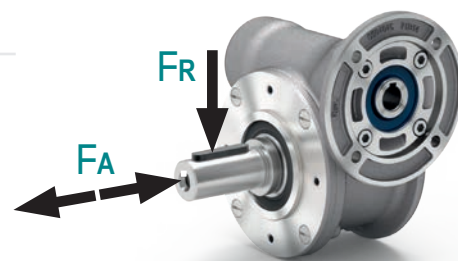
Radial and axial loads

Carichi radiali e assiali

Output shaft

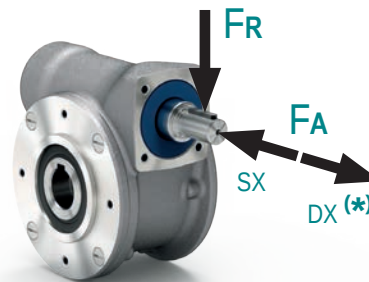
Albero di uscita

n_2 [min ⁻¹]	FA [lb]	FR [lb]
200	112	562
150	130	652
100	135	674
75	157	787
50	180	899
25	225	1124
15	261	1304



Input shaft

Albero in entrata



n_1 [min ⁻¹]	FA [lb]	FR [lb]
1750	36	182

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

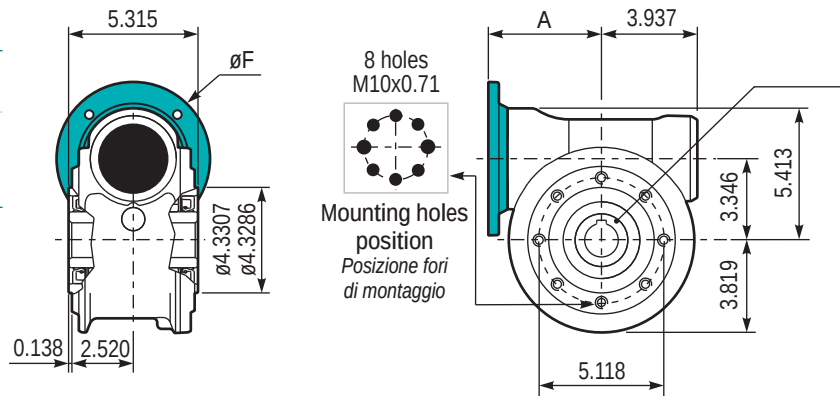
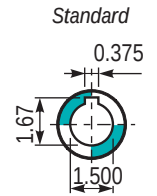
* Non sono consentiti forti carichi assiali con direzione DX

Tab. 2

PD85UNI..

Basic gearbox
Riduttore base

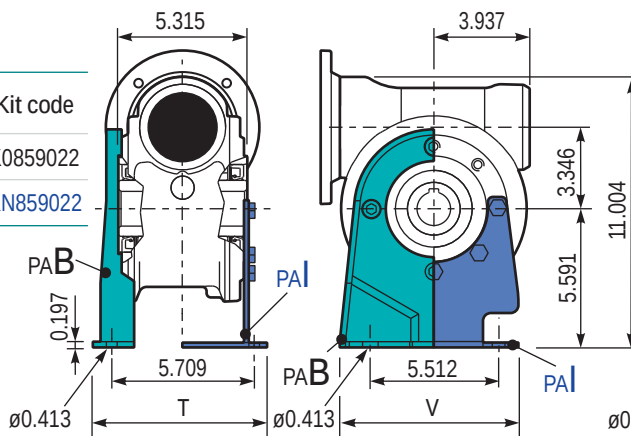
M. flanges	Kit code	øF	A
56C	KUD854041	6.50	4.823
143/5 TC	KUD854041	6.50	4.823
182/4 TC	KUD854042	8.88	5.527

Gearbox weight
Peso riduttore 24.25 lbHollow shaft
Foro in uscita

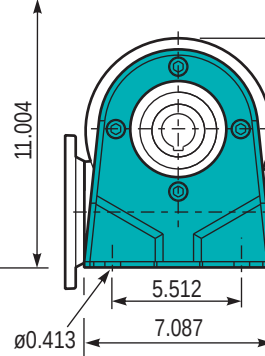
PD85PA...

Feet
Piedini

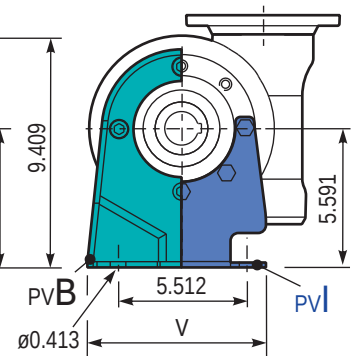
Type	T	V	Kit code
B**	7.165	7.087	K0859022
I*	6.929	6.772	KN859022

** Zink plated
* Stainless steel

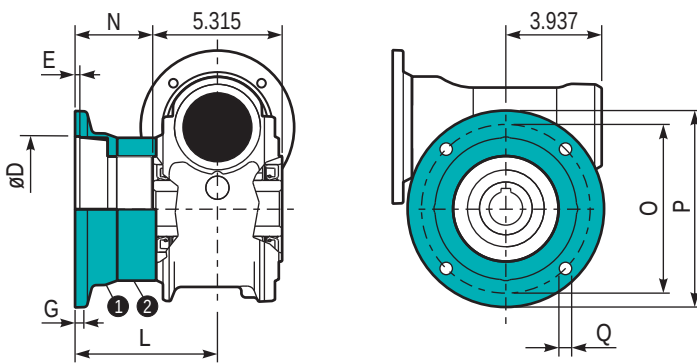
PD85PBB..

Feet
Piedini

PD85PV...

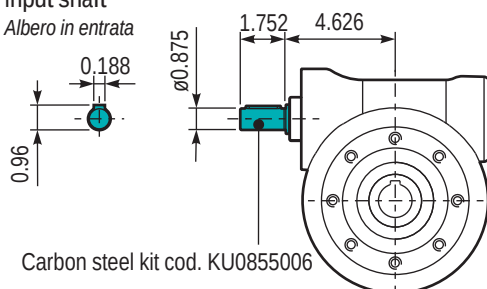
Feet
Piedini

PD85FL..

Output flange
Flangia uscita

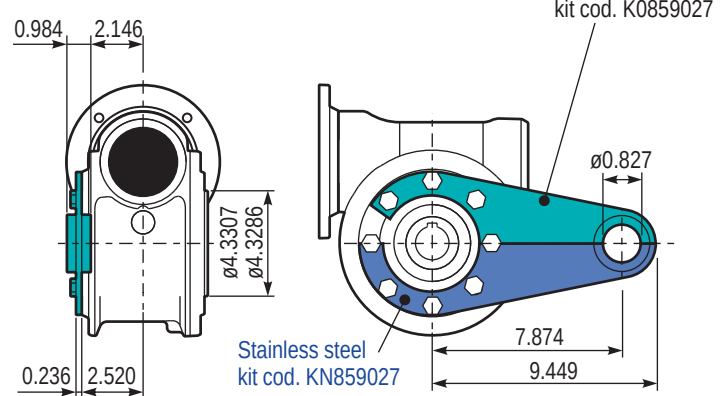
Type	øD	E	G	L	N	O	P	Q	Kit code
C	5.9867	0.20	0.63	4.252	1.594	6.929	8.071	0.51	① K0859010
	5.9843								② -
L	5.9867	0.20	0.63	5.846	3.189	6.929	8.071	0.51	① K0859010
	5.9843								② K0850201

RD85UNI..

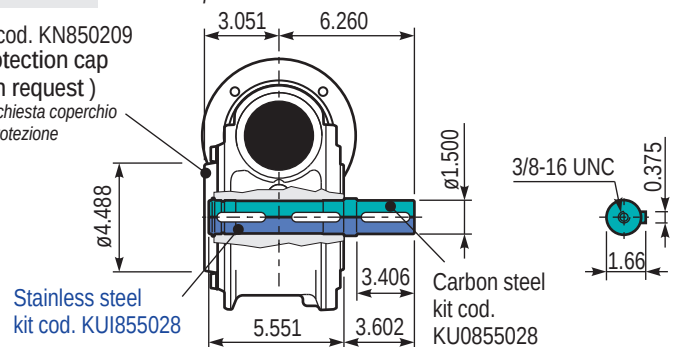
Input shaft
Albero in entrata

Carbon steel kit cod. KU0855006

PD85BR..

Reaction arm
Braccio di reazioneStainless steel
kit cod. KN859027Zink plated
kit cod. K0859027

PD85..SIH

Single output shaft
Albero semplice in uscitakit cod. KN850209
Protection cap
(on request)
A richiesta coperchio
di protezioneStainless steel
kit cod. KUI855028Carbon steel
kit cod.
KU0855028



D RCD series Smooth surface aluminum ratio multipliers

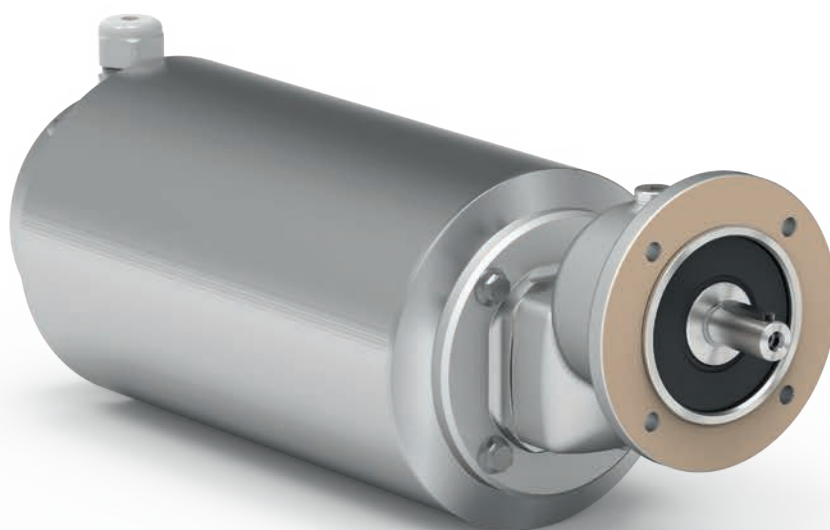
Riduttori ad uno stadio in alluminio con superficie liscia

Section **2**
Sezione 2

ALUMINUM

IP66

CE



How to order Codifica

P	211D	-F	2.05	X	C
Type <i>Tipo</i>	Size <i>Grandezza</i>	Mounting <i>Montaggio</i>	Ratio <i>Rapporto</i>	Output shaft <i>Albero lento</i>	Shaft material <i>Materiale albero</i>
P 	211D	-F 	See technical data table <i>Vedi tabelle dati tecnici</i>	 → Standard X → $\varnothing 0.625''$	 C Carbon steel <i>Acciaio</i> I Stainless steel (Only for standard shaft) <i>Acciaio inox (Solo per albero standard)</i>
M 					
B 					
R 					

I	-W	B3	ST	A	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	Coating Trattamento	
 I → ø4.13"	Motor flanges Flange motore	B3	ST Standard bore Foro standard	A Standard in aluminum Standard in alluminio	A
					
	NEMA	B6		V Painted Verniciato	B
	-W → 56C (ø6.5")				
	Without flange Senza flangia	B7			C
 -K → ø0.625"					
Type R Tipo R		B8			D
 -1 → ø0.625"					
		V5			
					
		V6			
					

The dynamic efficiency is **0.98** for all ratiosInput speed (n_1) = 1750 min⁻¹

Output speed n_2 [min ⁻¹]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f.s	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges			Output shaft 	Ratios code 
							-W 56C	-			
853	2.05	0.75	54	1.6	1.22	89			1939	standard Ø0.625	01
744	2.35	0.75	62	1.7	1.28	106			1740		02
625	2.80	0.75	74	1.7	1.25	124			1542		03
517	3.38	0.75	90	1.7	1.26	150			1344		04
372	4.70	0.75	124	1.4	1.07	177			1047		05
281	6.22	0.75	165	1.2	0.93	204			956		06
211	8.29	0.5	146	1.2	0.61	177			758		07
178	9.83	0.33	115	1.2	0.41	142			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 211D 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 211D 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:
1.76 oz.

Quantità olio per tutte
le posizioni: 1.76 oz.

Shell
Omala S4 WE 320

Eni
Telium VSF 320

Radial and axial loads

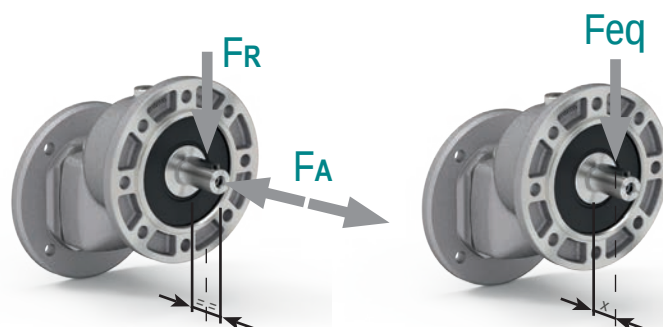
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	FA [lb]	FR [lb]
700	22.7	113.3
600	27.0	134.9
400	31.0	156.5
300	33.9	170.0
200	39.3	196.9
140	43.2	215.8

$$F_{eq} = F_R \cdot \frac{1.54}{X + 0.77}$$



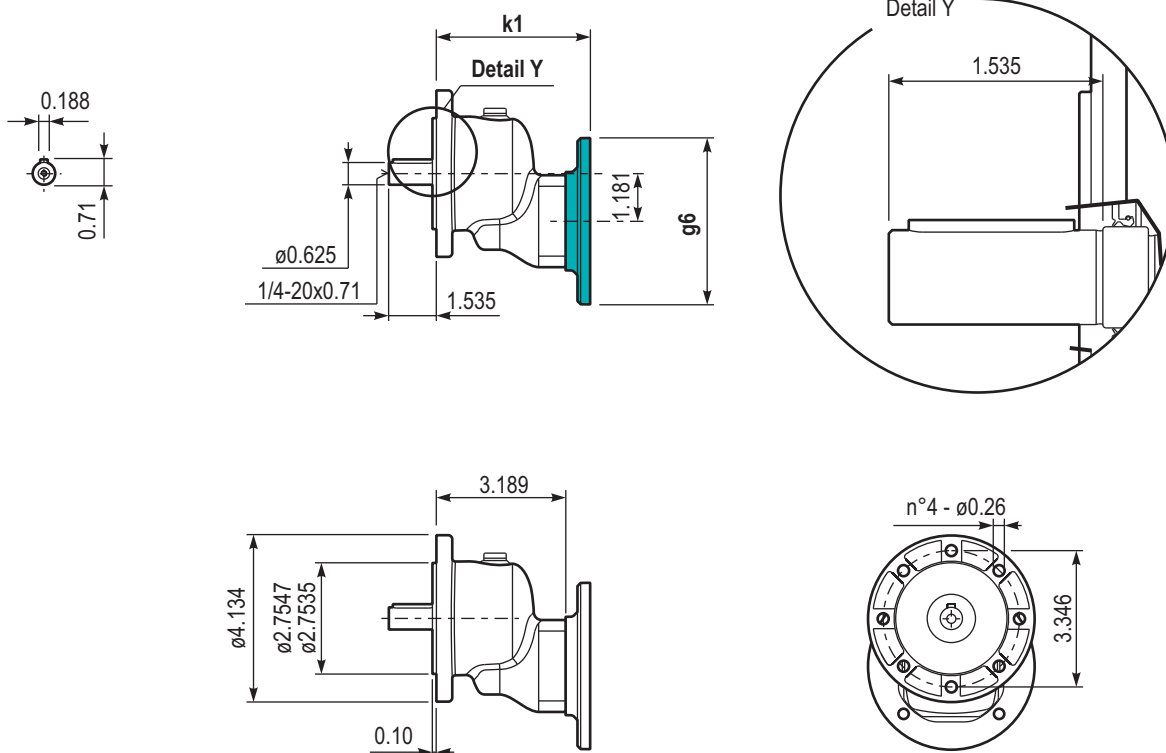
Tab. 1

Tab. 2

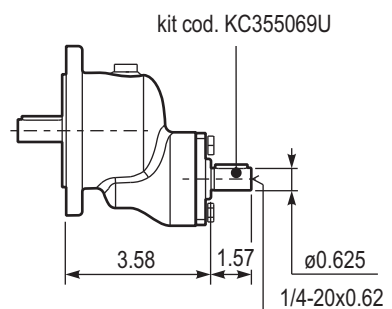
P211D-F...I Basic gearbox
Riduttore base

Gearbox weight 3.09 lb
Peso riduttore

M. flanges	Kit code	k1	g6
56C	KUD504041	4.713	6.5



R211D-F... Basic gearbox
Riduttore base





N VFN series Full stainless steel round worm gearboxes

Riduttori a vite senza fine tondo completamente in acciaio inox

Section **3**
Sezione 3

The best solution for the resistance to the corrosion. Suitable for all applications.

*La migliore soluzione per la resistenza alla corrosione.
Adatto a tutte le applicazioni.*

AISI 316L

IP66

CE



On req.
A rich.

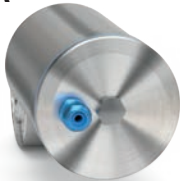
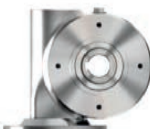
IP69k



How to order Codifica

P	N45	UNI	N	10	0	IB	I
Type Tipo	Size Grandezza	Mounting Montaggio	Position Posizione	Ratio Rapporto	Hub Output shaft Mozzo corona Albero uscita	Diameter Diametro	Input / output shaft material Materiale albero in entrata e uscita
P 	Worm gearboxes <i>Riduttori a vite senza fine</i>	UNI 	N 	See technical data table <i>Vedi tabelle dati tecnici</i>	0 Hollow Mozzo 	→ Standard N45 IB → ø0.750	I Stainless steel <i>Acciaio inox</i> The quill input hollow bore is always in carbon steel <i>Il foro cavo in entrata è sempre in acciaio</i>
M 	N45 N50 N63 N85	FLL 			S Solid output shaft Albero in uscita	N50 ID → ø1.000	
B 		BRI Stainless steel <i>Acciaio inox</i> 	Select L or R position for output flange <i>Selezionare la posizione L o R per la flangia in uscita</i>			N63 IE → ø1.125" IF → ø1.250"	
		PAI Stainless steel <i>Acciaio inox</i> 	L Left <i>Sinistra</i> 		N85 IH → ø1.500		
		PVI Stainless steel <i>Acciaio inox</i> 	R Right <i>Destra</i> 		Output male shaft is available only for standard bore <i>Albero maschio in uscita è disponibile solo per fori standard</i>		

1-3

N C		-W	B3	UW	For M type specify terminal box position
Protection cap <i>Coperchio di protezione</i>		Motor size <i>Grandezza motore</i>	Mounting position <i>Posizione di montaggio</i>	Input bore <i>Foro entrata</i>	<i>Per tipo M specificare posizione morsettiera</i>
Left <i>Sinistra</i>	Right <i>Destra</i>	Motor flanges <i>Flange motore</i>	B3	Standard bore <i>Foro standard</i>	A
					
N Without protection cap <i>Senza coperchietto di protezione</i>	N Without protection cap <i>Senza coperchietto di protezione</i>	NEMA	B8	UW → $\varnothing 0.625''$ UX → $\varnothing 0.875''$ UY → $\varnothing 1.125''$	B
		-W → 56C ($\varnothing 6.5''$) -X → 143/5TC ($\varnothing 6.5''$) -Y → 182/4TC ($\varnothing 8.88''$)		With coupling <i>Con giunto</i>	
C Closed <i>Chiuso</i>	C Closed <i>Chiuso</i>	Without flange <i>Senza flangia</i>	B6		C
				-W → $\varnothing 0.625''$ -X → $\varnothing 0.875''$ -Y → $\varnothing 1.125''$	D
		-N → Nema	B7	Ready for input coupling <i>Predisposto per giunto</i>	
					
			V5		
			V6		-0 Type B <i>Tipo B</i>

Input speed (n_1) = 1750 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	Available NEMA motor flanges		Dynamic efficiency	Tooth module	Ratio code
n_2 [min ⁻¹]	i	P_{1M} [HP]	M_{2M} [lb in]	f.s	P_{1R} [HP]	M_{2R} [lb in]	-W 56C	- -	RD	[mm]	
250.0	7	1	202	1.3	1.29	257			80	2.2	01
175.0	10	0.75	213	1.2	0.91	257			79	2.2	02
125.0	14	0.5	194	1.3	0.67	257			77	2.4	03
83.3	21	0.5	253	1.4	0.69	345			67	1.6	04
62.5	28	0.5	328	1.1	0.53	345			65	2.5	05
47.3	37	0.33	277	1.2	0.42	345			63	1.8	06
38.0	46	0.33	323	1.1	0.36	345			59	1.5	07
29.2	60	0.25	303	1.1	0.29	345			56	1.2	08
25.0	70	0.25	340	0.8	0.19	257			54	1.0	09
17.2	102	0.25*	450	<0.8	0.14	248			49	0.72	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}

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

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

Motor flanges available
Flange motore disponibili



B) Supplied with reduction bushing
Fornito con bussola di riduzione



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



C) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

Unit N45 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.

I riduttore tipo N45 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:
4.58 oz.

Quantità olio per tutte
le posizioni: 4.58 oz.

Shell
Omala S4 WE 320

Eni
Telium VSF 320

Tab. 1

Suggested

Suggerito

Stainless steel protection cap
(on request).

Coperchio di protezione in
acciaio inox a richiesta.

Kit cod. KN300209



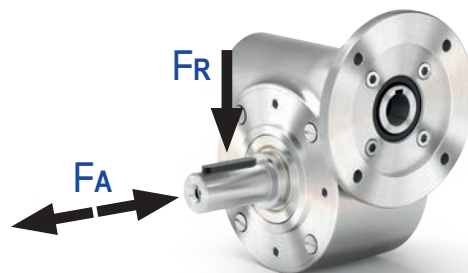
Radial and axial loads

Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [lb]	F_R [lb]
200	40	202
150	45	225
100	49	247
75	54	270
50	58	315
25	67	405
15	90	450

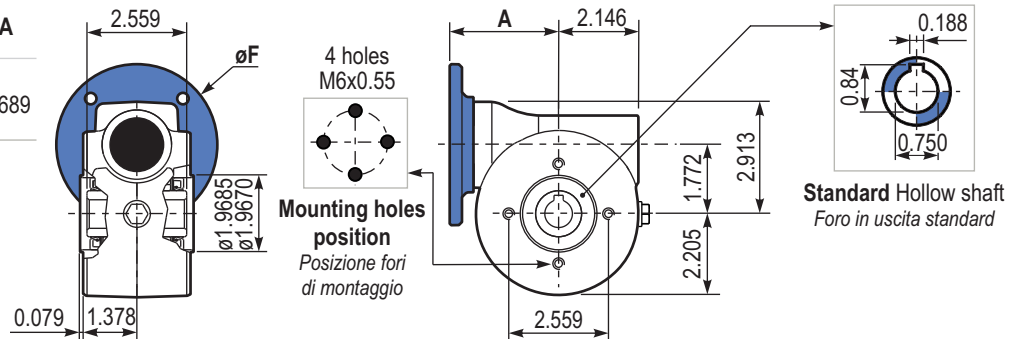


Tab. 2

PN45**UNI**... Basic gearbox
Riduttore base

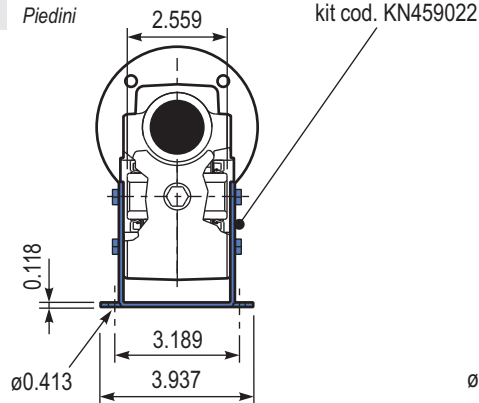
Gearbox weight
Peso riduttore 9.04 lb

M. flanges	Kit code	øF	A
56C	KUI504041	6.5	3.689



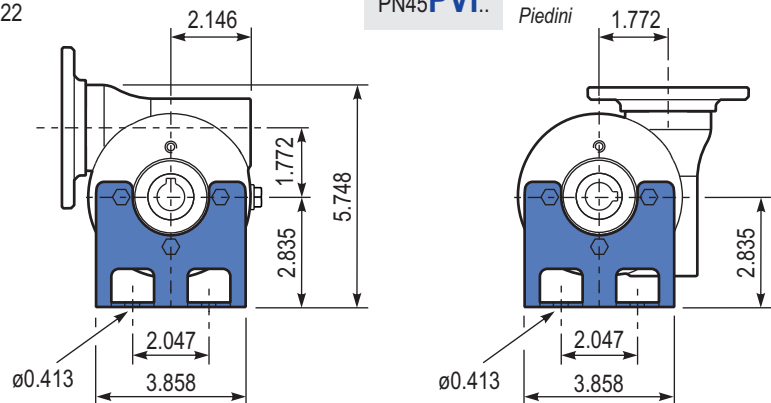
PN45**PAI**...

Feet
Piedini



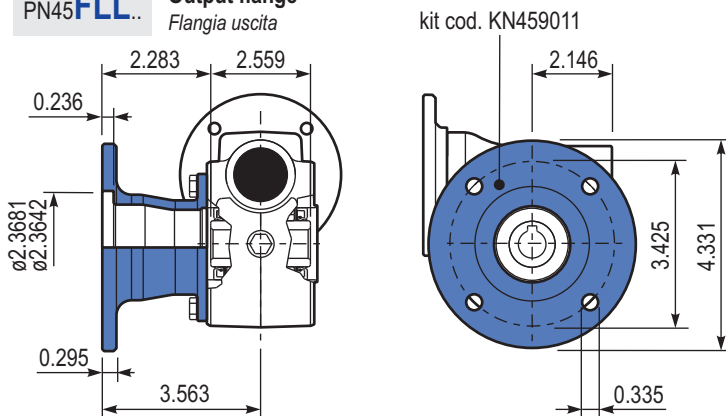
PN45**PVI**...

Feet
Piedini



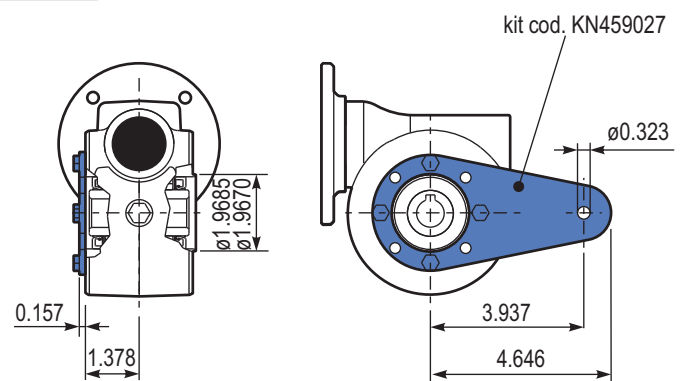
PN45**FLL**...

Output flange
Flangia uscita



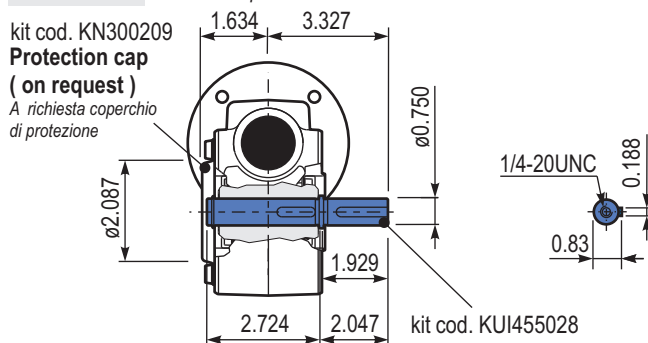
PN45**BRI**...

Reaction arm
Braccio di reazione



PN45..**SIB**

Single output shaft
Albero semplice in uscita



Input speed (n_1) = 1750 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	Available NEMA motor flanges		Dynamic efficiency	Tooth module	Ratio code
n_2 [min ⁻¹]	i	P_{1M} [HP]	M_{2M} [lb in]	f.s	P_{1R} [HP]	M_{2R} [lb in]	-W 56C	- -	RD	[mm]	
250.0	7	2	413	1.2	2.34	478			82	2.5	01
175.0	10	1.5	432	1.2	1.84	522			80	2.4	02
125.0	14	1	398	1.4	1.46	575			79	2.6	03
97.2	18	1	486	1.1	1.09	522			75	2.0	04
67.3	26	0.75	485	1.2	0.87	558			69	2.7	05
58.3	30	0.75	567	1.1	0.82	611			70	2.5	12
48.6	36	0.5	447	1.4	0.69	611			69	2.1	06
40.7	43	0.5	511	1.1	0.57	575			66	1.8	07
35.0	50	0.5	558	1.0	0.51	558			62	1.5	13
29.2	60	0.33	414	1.3	0.42	522			58	1.3	08
25.7	68	0.33	461	1.1	0.35	487			57	1.2	09
21.9	80	0.25	389	1.2	0.31	478			54	1.0	10
17.5	100	0.25	450	1.0	0.24	434			50	0.8	11

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

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

Motor flanges available
Flange motore disponibili



B) Supplied with reduction bushing
Fornito con bussola di riduzione



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



C) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

Unit N50 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 N50 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:
6.34 oz.

Quantità olio per tutte
le posizioni: 0.34 oz.

Shell
Omala S4 WE 320

Eni
Telium VSF 320

Tab. 1

Suggested

Stainless steel protection cap
(on request).

Coperchio di protezione in
acciaio inox a richiesta.

Kit cod. KN500209



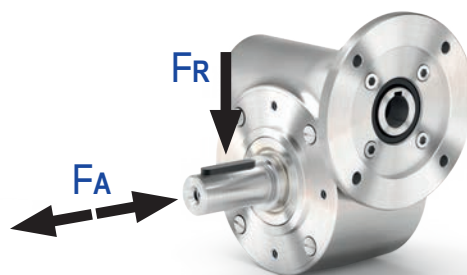
Radial and axial loads

Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [lb]	F_R [lb]
200	54	270
150	63	315
100	67	337
75	76	382
50	85	427
25	108	562
15	126	629

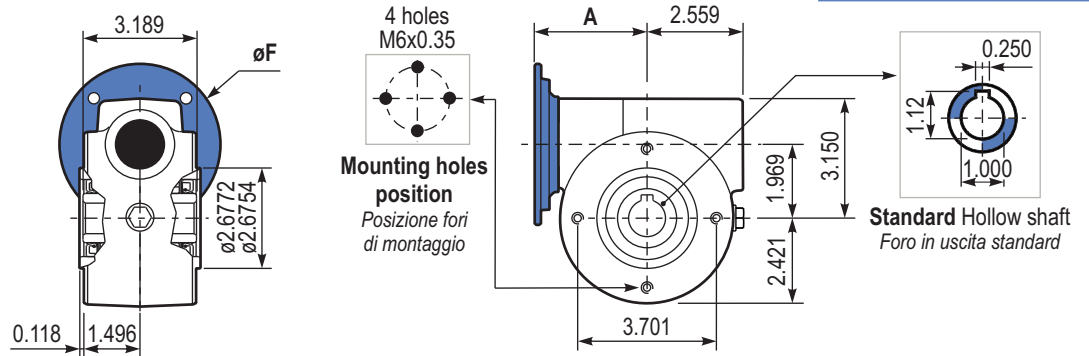


Tab. 2

PN50**UNI**.. Basic gearbox
Riduttore base

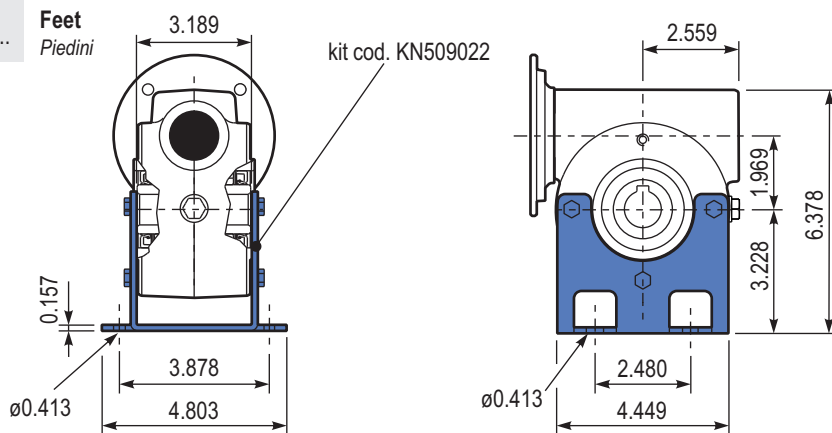
Gearbox weight
Peso riduttore 11.68 lb

M. flanges	Kit code	øF	A
56C	KUI504041	6.5	3.866

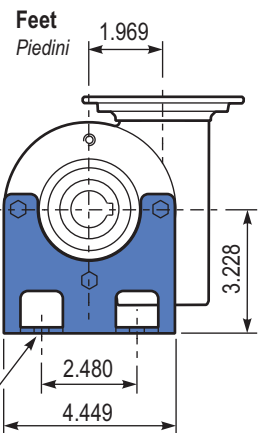


PN50**PAI**.. Feet
Piedini

kit cod. KN509022

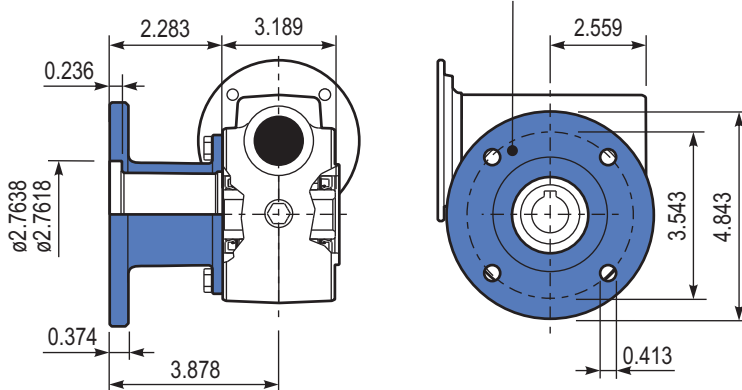


PN50**PVI**.. Feet
Piedini



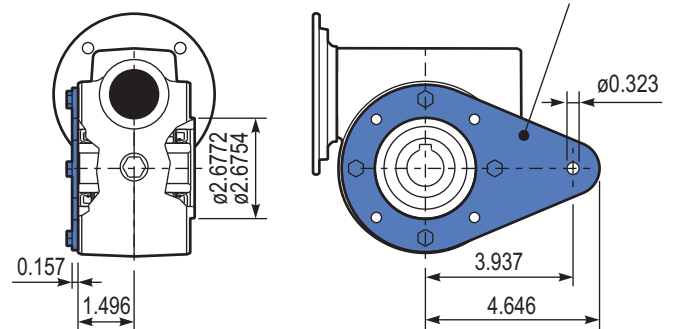
PN50**FLL**.. Output flange
Flangia uscita

kit cod. KN509011



PN50**BRI**.. Reaction arm
Braccio di reazione

kit cod. KN509027

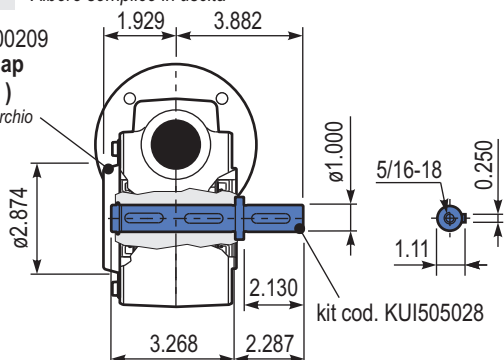


PN50..**SID** Single output shaft
Albero semplice in uscita

kit cod. KN500209

Protection cap
(on request)

A richiesta coperchio
di protezione



Input speed (n_1) = 1750 min⁻¹

Output speed n_2 [min ⁻¹]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor $f.s$	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges		Dynamic efficiency RD	Tooth module [mm]	Ratio code
							-W 56C	-X 143-5TC			
250.0	7	2	419	2.5	5.10	1053	B		83	3.1	01
175.0	10	2	583	1.9	3.93	1133	B		81	3.1	02
116.7	15	2	854	1.4	2.75	1159	B		79	3.1	03
92.1	19	2	1068	1.1	2.20	1159	B		78	2.6	04
72.9	24	1.5	972	1.2	1.87	1195	B		75	2.0	05
58.3	30	1.5	1199	1.0	1.56	1230	B		74	3.2	06
48.6	36	1	882	1.4	1.42	1239	B		68	2.7	07
43.8	40	1	951	1.2	1.25	1177	B		66	2.5	13
38.9	45	1	1070	1.1	1.08	1142	B		66	2.1	08
29.2	60	0.75	1005	1.1	0.83	1097	B		62	1.6	12
26.1	67	0.5	724	1.4	0.73	1044	B		60	1.5	09
21.9	80	0.5	821	1.2	0.62	1000	B		57	1.3	10
18.6	94	0.5	880	1.1	0.58	1000	B		52	1.1	11

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

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

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 N45 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.

I riduttore tipo N45 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:
15.85 oz.

Quantità olio per tutte
le posizioni: 15.85 oz.

Shell
Omala S4 WE 320

Eni
Telium VSF 320

Tab. 1

Suggested

Stainless steel protection cap
(on request).

Coperchio di protezione in
acciaio inox a richiesta.

Kit cod. KN630209



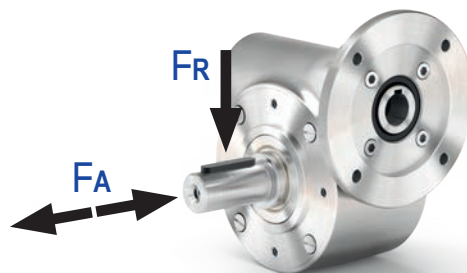
Radial and axial loads

Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [lb]	F_R [lb]
200	81	404.5
150	90	450
100	103.5	517
75	112.5	562
50	135	674.5
25	157	854
15	180	899



Tab. 2

22.05 lb

Standard *On request*

0.250
1.37
1.250

0.250
1.24
1.125

kit cod.
KUI635030

Input speed (n_1) = 1750 min⁻¹

Output speed n_2 [min ⁻¹]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor $f.s$	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges			Dynamic efficiency RD	Tooth module [mm]	Ratio code
							-W 56C	-X 143-5TC	-Y 182-4TC			
250.0	7	5	1109	2.0	9.90	2168	B	B		88	4.23	01
175.0	10	5	1441	1.7	8.40	2390	B	B		80	4.2	02
125.0	14	5	1967	1.3	6.61	2567	B	B		78	4.5	03
87.5	20	3	1707	1.5	4.41	2478	B	B		79	3.4	04
79.5	22	3	1854	1.3	4.06	2478	B	B		78	3.1	05
62.5	28	3	2269	1.3	3.91	2921	B	B		75	4.7	06
46.1	38	3	2915	1.0	2.95	2832	B	B		71	3.5	07
38.0	46	2	2253	1.2	2.47	2744	B	B		68	3.1	08
33.7	52	2	2472	1.0	1.99	2434	B	B		66	2.7	09
26.1	67	1.5	2353	1.0	1.57	2434	B	B		65	2.1	10
23.6	74	1.5	2319	1.0	1.48	2257	B	B		58	1.9	11
18.2	96	1	1833	1.1	1.13	2036	B	B		53	1.5	12

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

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

Motor flanges available
Flange motore disponibili



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 N85 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.

I riduttore tipo N85 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:
35.21 oz.

Quantità olio per tutte
le posizioni: 35.21 oz

Shell
Omala S4 WE 320

Eni
Telium VSF 320

Tab. 1

Suggested

Suggerito

Stainless steel protection cap
(on request).

Coperchio di protezione in
acciaio inox a richiesta.

Kit cod. KN850209



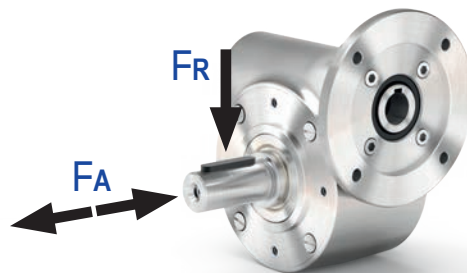
Radial and axial loads

Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	FA [lb]	FR [lb]
200	112	562
150	130	652
100	135	674
75	157	787
50	180	899
25	225	1124
15	261	1304



Tab. 2

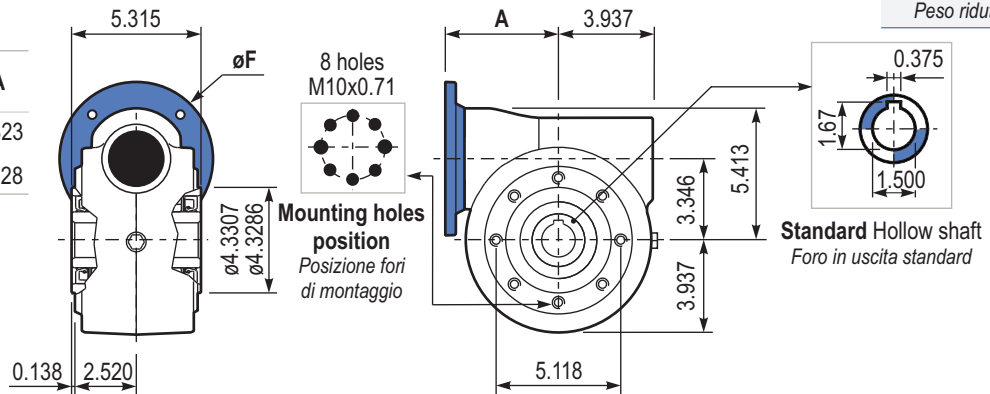
PN85UNI..

Basic gearbox
Riduttore base

Gearbox weight
Peso riduttore

46.30 lb

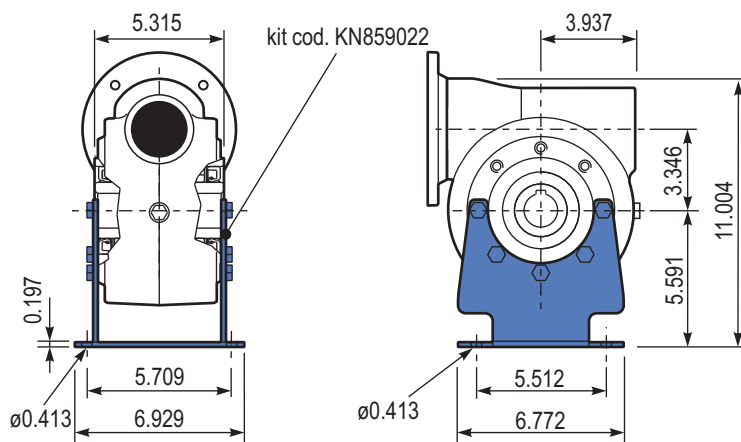
M. flanges	Kit code	øF	A
56C-143/5TC	KUI854041	6.50	4.823
182/4TC	KUI854042	8.88	5.528



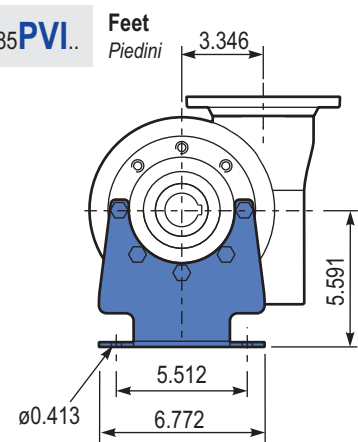
PN85PAI..

Feet
Piedini

kit cod. KN859022



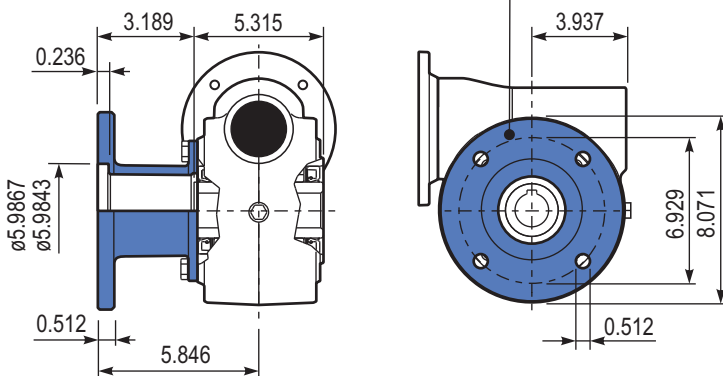
PN85PVI..

Feet
Piedini


PN85FLL..

Output flange
Flangia uscita

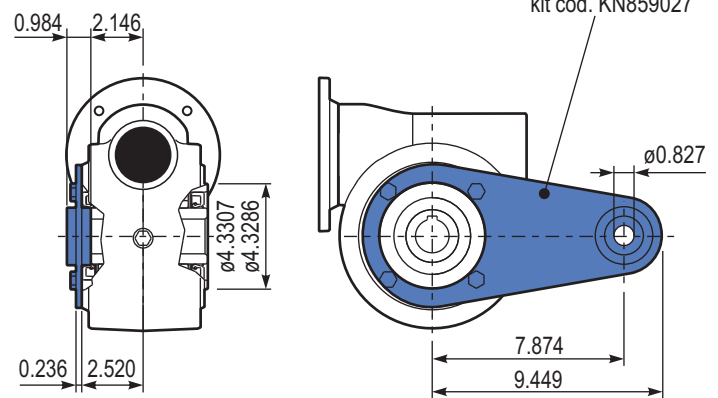
kit cod. KN859011



PN85BRI..

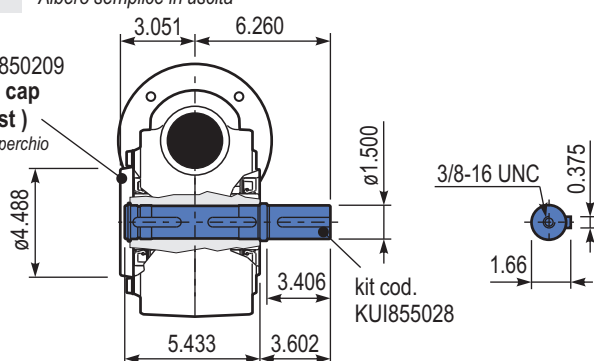
Reaction arm
Braccio di reazione

kit cod. KN859027



PN85..SIH

Single output shaft
Albero semplice in uscita

kit cod. KN850209
Protection cap
(on request)
A richiesta coperchio di protezione




RCN series Full stainless steel ratio multipliers

Riduttori ad uno stadio completamente in acciaio inox

Section **4**
Sezione 4

AISI 316L

IP66

CE

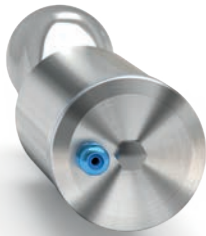
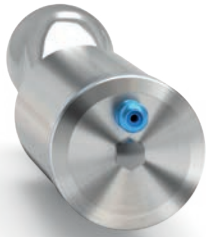
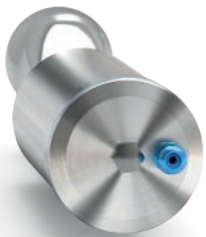
NSF

COMPONENT



How to order *Codifica*

P	411N	-F	1.57	X
Type <i>Tipo</i>	Size <i>Grandezza</i>	Mounting <i>Montaggio</i>	Ratio <i>Rapporto</i>	Output shaft <i>Albero lento</i>
P 	211N 411N	-F 	See technical data table <i>Vedi tabelle dati tecnici</i>	→ Standard 
M 				211N X → $\varnothing 0.625$
B 				411N X → $\varnothing 0.625$

U	-X	B3	ST	For M type specify terminal box position
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>	<i>Per tipo M specificare posizione morsettiera</i>
 211N I → Ø4.13	Motor flanges <i>Flange motore</i>  NEMA	B3  B6 	ST Standard bore <i>Foro standard</i>	A  B  C  D 
411N I → Ø4.13 U → Ø6.50	-W → 56C (Ø6.5") -X → 143/5TC (Ø6.5") Without flange <i>Senza flangia</i>  211N -K → Ø0.625 411N -K → Ø0.625 -N → Ø0.875	B7  B8  V5  V6 		

The dynamic efficiency is **0.98** for all ratiosInput speed (n_1) = 1750 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	Available NEMA motor flanges				Ratios code
n_2 [min ⁻¹]	i	P_{1M} [HP]	M_{2M} [lb in]	f.s	P_{1R} [HP]	M_{2R} [lb in]	-W 56C	-			
853	2.05	0.75	54	1.6	1.22	89			1939	standard ø0.625	01
744	2.35	0.75	62	1.7	1.28	106			1740		02
625	2.80	0.75	74	1.7	1.25	124			1542		03
517	3.38	0.75	90	1.7	1.26	150			1344		04
372	4.70	0.75	124	1.4	1.07	177			1047		05
281	6.22	0.75	165	1.2	0.93	204			956		06
211	8.29	0.5	146	1.2	0.61	177			758		07
178	9.83	0.33	115	1.2	0.41	142			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 211N 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 211N 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: 1.76 oz.	Shell	Eni
Quantità olio per tutte le posizioni: 1.76 oz.	Omala S4 WE 320	Telium VSF 320

Radial and axial loads

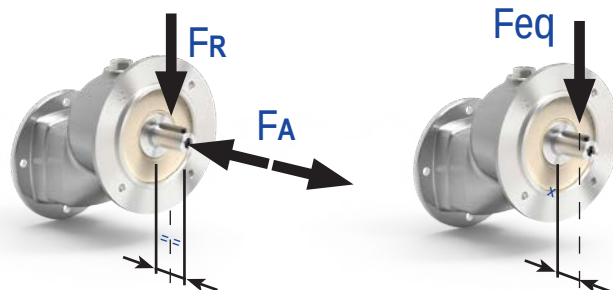
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [lb]	F_R [lb]
700	22.7	113.3
600	27.0	134.9
400	31.0	156.5
300	33.9	170.0
200	39.3	196.9
140	43.2	215.8

$$F_{eq} = F_R \cdot \frac{1.54}{X + 0.77}$$



Tab. 1

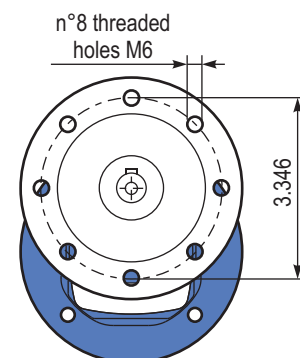
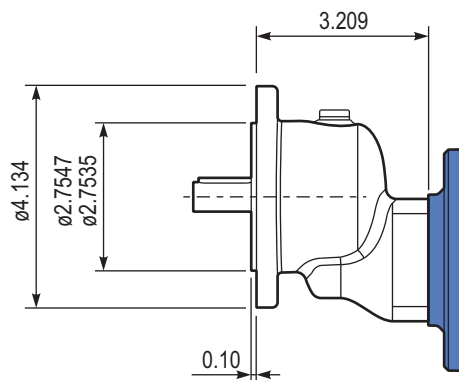
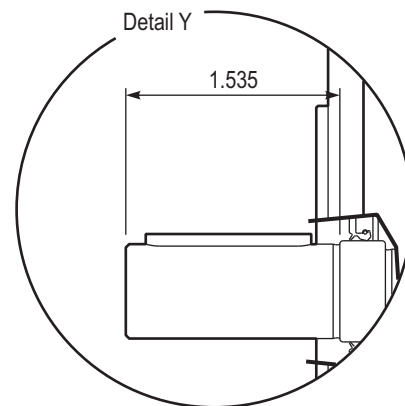
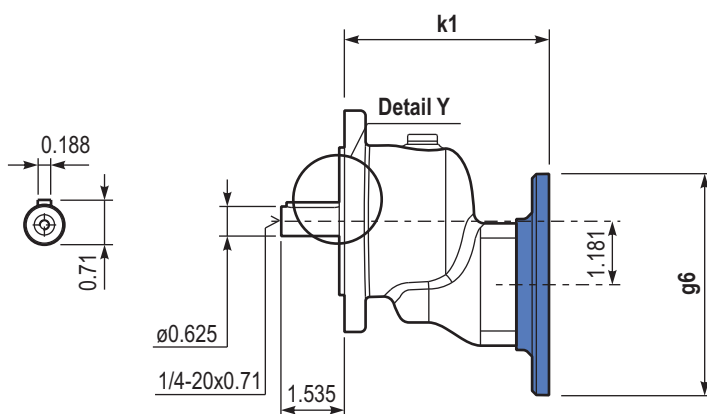
Tab. 2

P211N-F... Basic gearbox
Riduttore base

Gearbox
weight
peso riduttore 5.51 lb

Input flanges / flange di entrata

	Kit code	k1	g6
56C	KUI504041	4.713	6.50



The dynamic efficiency is **0.98** for all ratiosInput speed (n_1) = 1750 min⁻¹

Output speed n_2 [min ⁻¹]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f.s	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges			Output shaft  standard ø0.625	Ratios code 
							-W 56C	-X 143-5TC			
1114	1.57	2	111	1.6	3.19	177			2844		01
616	2.84	2	201	1.5	3.09	310			1954		02
531	3.29	2	233	1.4	2.89	336			1756		03
453	3.87	2	273	1.3	2.59	354			1558		04
379	4.62	2	326	1.3	2.55	416			1360		05
278	6.30	1.5	334	1.2	1.83	407			1063		06
213	8.22	0.75	218	1.5	1.16	336			974		07
161	10.86	0.5	192	1.3	0.65	248			776		08

The nominal power should be reduced if the ambient temperature is $\geq 30^\circ\text{C}$, or when a cooler gearbox is required.Diminuire la potenza nominale in caso di temperatura ambiente $\geq 30^\circ\text{C}$ o se è richiesta una bassa temperatura di utilizzo del riduttore.

 **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 211N 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 211N 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: 4.93 oz. Quantità olio per tutte le posizioni: 4.93 oz.	Shell		Eni	
	Omala S4 WE 320		Telium VSF 320	

Radial and axial loads

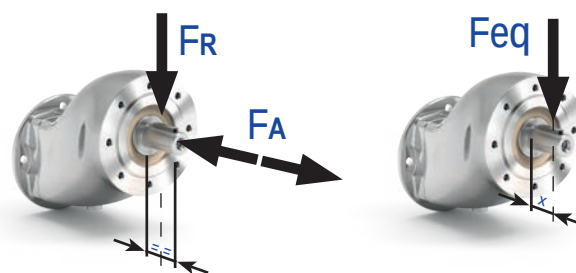
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [lb]	F_R [lb]
700	40.9	204.4
600	44.9	224.7
400	51.7	258.4
300	56.2	280.8
200	65.1	325.8
140	71.9	359.5

$$F_{eq} = F_R \cdot \frac{2.35}{X + 1.32}$$



Tab. 1

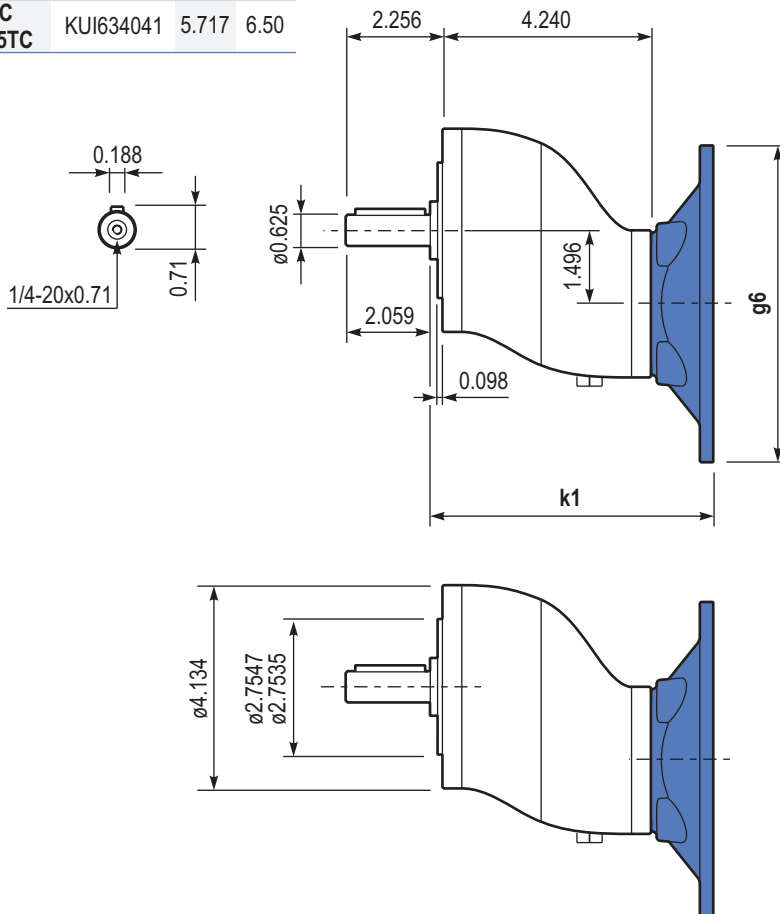
Tab. 2

P411N-F...I **Basic gearbox**
Riduttore base

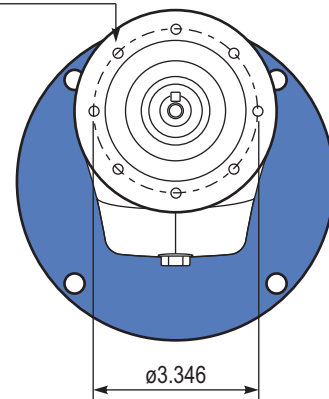
Gearbox
weight
peso riduttore **11.68 lb**

Input flanges / flange di entrata

	Kit code	k1	g6
56C 143-5TC	KUI634041	5.717	6.50

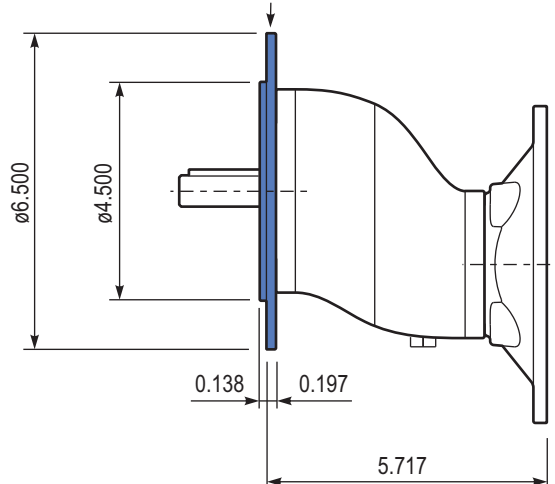


n°8 threaded
holes M6x0.59

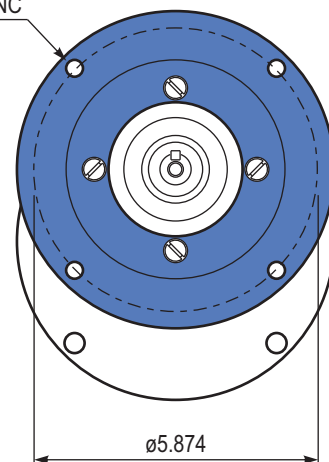


P411N-F...U **Output flange**
Flangia uscita

kit cod. KU411N9012



n°4 3/8-16 UNC





I BVN series Full stainless steel helical bevel gearboxes

Riduttori a coppia conica completamente in acciaio inox

Section **5**
Sezione 5

The best high efficiency solution to resist corrosion. Suitable for all applications.

*La migliore soluzione ad alta efficienza per la resistenza alla corrosione.
Adatto a tutte le applicazioni.*

AISI 316L

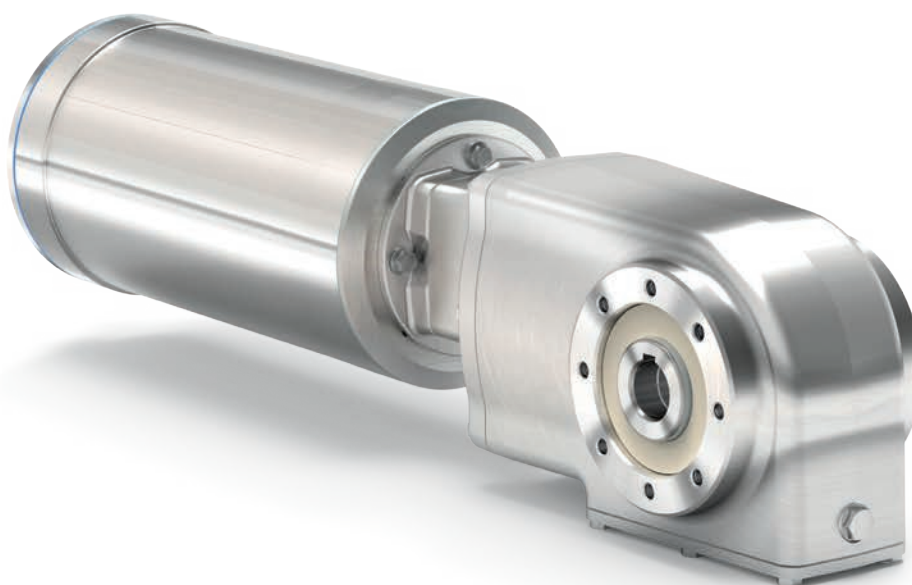
IP66

CE

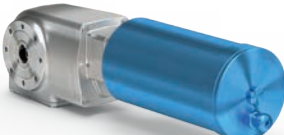


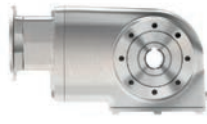
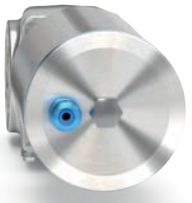
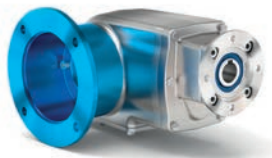
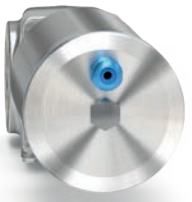
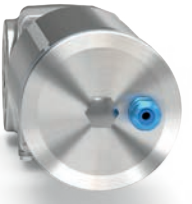
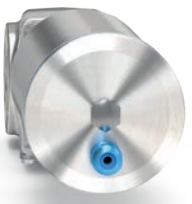
On req.
A rich.

IP69k



How to order Codifica

M	X42N	I	7.29	UD	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 	2 Stages 2 Riduzioni X42N X62N	I Stainless steel hollow output shaft <i>Foro albero uscita in acciaio inox</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 	3 Stages 3 Riduzioni X43N X63N X73N	S Stainless steel single output shaft <i>Albero uscita singolo in acciaio inox</i> 		→ Standard X42N - X43N UD → ø1.000 X62N - X63N UG → ø1.375 X73N - X74N UH → ø1.500	BR Reaction arm <i>Braccio di reazione</i> 
B 	4 Stages 4 Riduzioni X74N			Single output shaft <i>Albero uscita singolo</i> 	-F Output flange <i>Flangia uscita</i> 
				→ Standard X42N - X43N UD → ø1.000 X62N - X63N X73N - X74N UG → ø1.375	PA 
					PV 

N	-X	B3	ST	For M type specify terminal box position
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>	<i>Per tipo M specificare posizione morsettiera</i>
N Without flange <i>Senza flangia</i> 	Motor flanges <i>Flange motore</i> 	B3 	ST Standard bore <i>Foro standard</i> 	A 
	NEMA -W → 56C (ø6.5") -X → 143/5TC (ø6.5") -Y → 182/4TC (ø8.88") AA → 213/5TC (ø8.88")	B6 	With coupling <i>Con giunto</i> 	B 
X42N - X43N 2 → ø6.890	Without flange <i>Senza flangia</i> -M Ready for coupling <i>Predisposto per giunto</i> 	B7 	-W → ø0.625 -X → ø0.875 -Y → ø1.125	C 
X62N - X63N X73N - X74N 3 → ø8.071	X43N -K → ø0.625 X42N - X63N - X74N -K → ø0.625 -N → ø0.875 X62N - X73N -K → ø0.625 -N → ø0.875 -S → ø1.125	B8 	Ready for input coupling <i>Predisposto per giunto</i> -0 Type B <i>Tipo B</i> 	D 
		V5 		
		V6 		
		V8 		

The dynamic efficiency is **0.96** for all ratiosInput speed (n_1) = 1750 min⁻¹

Output speed n_2 [min ⁻¹]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor $f.s$	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges			Output shaft  $\varnothing$	Ratio code 
							-W 56C	-X 143-5TC			
240	7.29	2	504	1.4	2.81	708			2811		01
156	11.20	2	774	1.5	2.97	1151			288		02
133	13.18	2	911	1.3	2.53	1151			1911		03
115	15.27	2	1056	1.1	2.18	1151			1711		04
98	17.93	2	1240	0.9	1.86	1151			1511		05
86	20.25	1.5	1050	1.1	1.64	1151			198		06
82	21.40	1.5	1110	1.0	1.56	1151			1311		07
75	23.47	1.5	1217	0.9	1.42	1151			178	Standard $\varnothing 1.000$	08
64	27.55	1	953	1.2	1.21	1151			158		09
60	29.21	1	1010	1.1	1.14	1151			1011		10
53	32.88	1	1137	1.0	1.01	1151			138		11
45.9	38.12	1	1318	0.9	0.87	1151			911		12
39.0	44.89	0.75	1164	1.0	0.74	1151			108		13
34.8	50.34	0.5	870	1.1	0.56	974			711		14
29.9	58.58	0.5	1013	1.1	0.57	1151			98		15
22.6	77.36	0.5	1337	0.9	0.43	1151			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 X42N is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

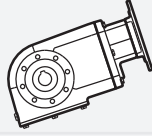
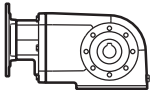
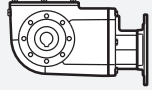
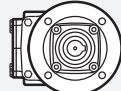
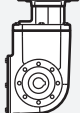
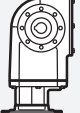
See Table 1 for lubrication and recommended quantity.

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

Il riduttore tipo X42N 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.

Shell Omala S4 WE 320	Eni Telium VSF 320	V8 On request ASK	
B3 Standard 17.60 oz		B8 On request 29.92 oz	
B6 On request 28.16 oz		V5 On request 45.75 oz	
B7 On request 26.40 oz		V6 On request 31.68 oz	

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

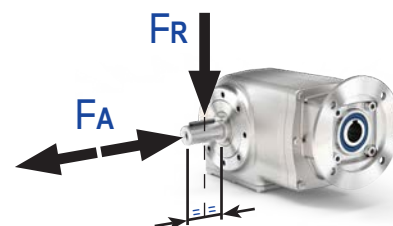
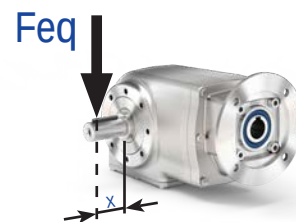
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [lb]	F_R [lb]
250	112	562
150	135	674
100	157	786
75	180	899
50	216	1079
25	216	1079
15	216	1079

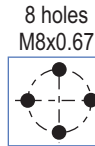
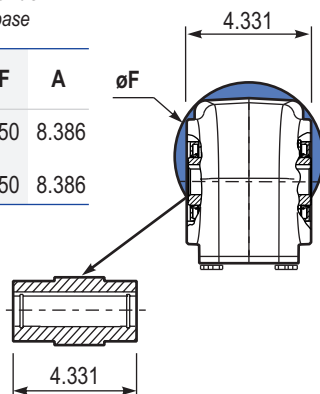
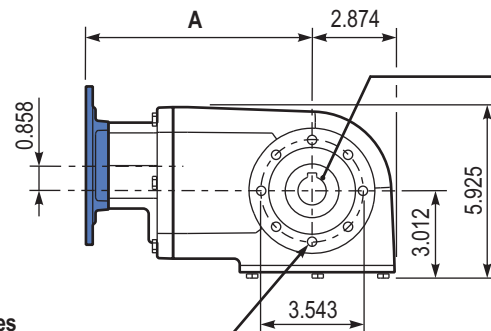
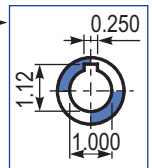
$$F_{eq} = F_R \cdot \frac{4.75}{X + 3.69}$$

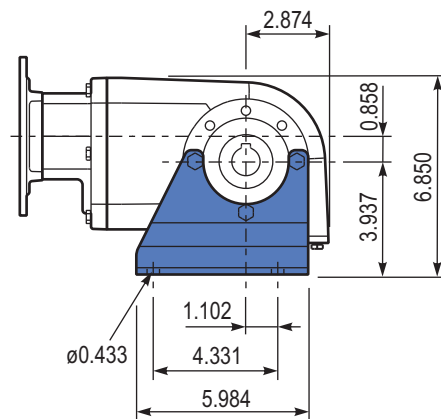
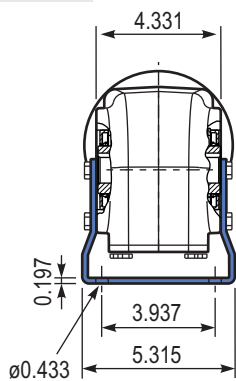
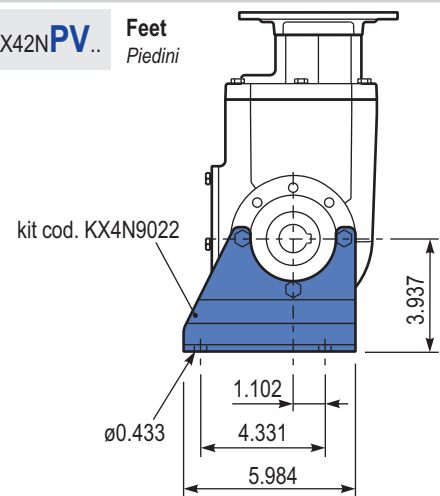
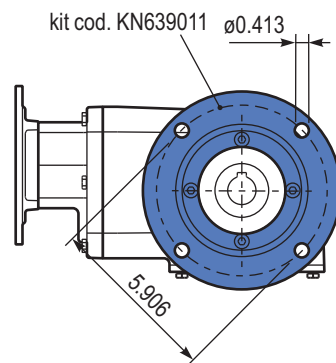
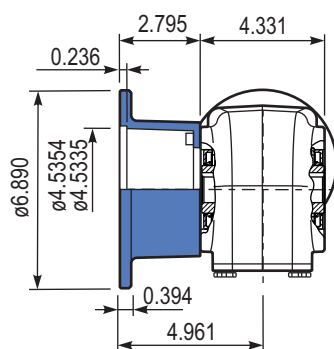
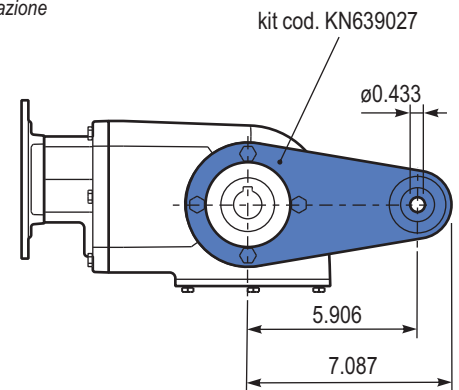
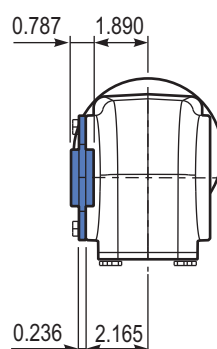
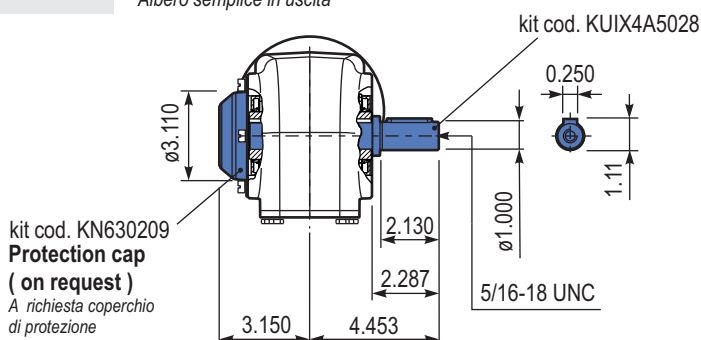


Tab. 2

PX42NI...FB
Basic gearbox
Riduttore base

M. flanges	Kit code	øF	A
56C	KUI634041	6.50	8.386
143/5 TC	KUI634041	6.50	8.386


Mounting holes position
Posizione fori di montaggio

Gearbox weight
peso riduttore **28.2 lb**

Standard Hollow shaft
Foro in uscita standard

PX42NPA...
Feet
Piedini

PX42NPV..
Feet
Piedini

PX42NFL...
Output flange
Flangia uscita

PX42NBR..
Reaction Arm
Braccio di reazione

PX42NA...
Single output shaft
Albero semplice in uscita

Protection cap
(on request)
A richiesta coperchio di protezione

Suggested
Suggerito

Stainless steel protection cap
(on request).

Coperchio di protezione in acciaio inox a richiesta.

Kit cod. KN630209


The dynamic efficiency is **0.94** for all ratiosInput speed (n_1) = 1750 min⁻¹

Output speed n_2 [min ⁻¹]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f_s	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges		Output shaft 	Ratio code
							-W 56C	-		
34.8	50.35	0.75	1278	0.9	0.67	1151			171311	01
31.7	55.22	0.5	935	1.2	0.62	1151			17178	02
29.2	59.92	0.5	1014	1.1	0.57	1151			151311	03
26.6	65.72	0.5	1112	1.0	0.52	1151			15178	04
24.4	71.78	0.5	1215	0.9	0.47	1151			101711	05
22.0	79.44	0.5	1345	0.9	0.43	1151			13178	06
19.0	92.08	0.33	1029	1.1	0.37	1151			15138	07
18.4	95.03	0.33	1062	1.1	0.36	1151			91711	08
13.8	126.55	0.33	1414	0.9	0.28	1204			71711	09
13.1	133.15	0.25	1127	1.1	0.27	1204			91311	10
11.7	150.18	0.25	1271	0.9	0.24	1204			61711	11
9.9	177.30	0.25	1501	0.8	0.20	1204			71311	12
8.3	210.42	0.25*	1781	0.7	0.17	1204			61311	13
7.6	230.79	0.25*	1953	0.6	0.15	1204			6178	14
6.4	272.47	0.25*	2306	0.5	0.13	1204			7138	15
5.4	323.37	0.25*	2737	0.4	0.11	1204			6138	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 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 X43N 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.

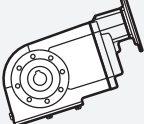
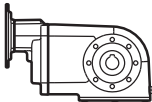
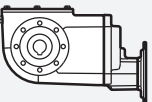
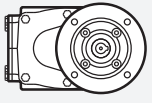
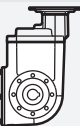
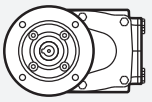
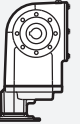
See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo X43N 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.

Shell Omala S4 WE 320	Eni Telium VSF 320	V8 On request ASK	
B3 Standard 31.68 oz		B8 On request 29.92 oz	
B6 On request 33.44 oz		V5 On request 49.27 oz	
B7 On request 26.40 oz		V6 On request 31.68 oz	

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

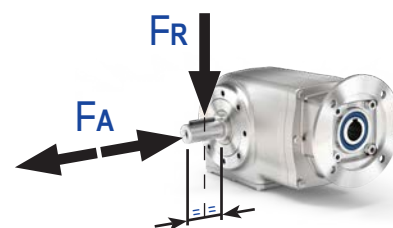
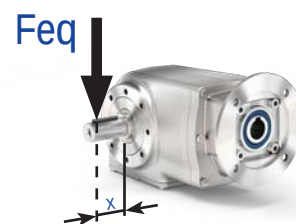
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [lb]	F_R [lb]
250	112	562
150	135	674
100	157	786
75	180	899
50	216	1079
25	216	1079
15	216	1079

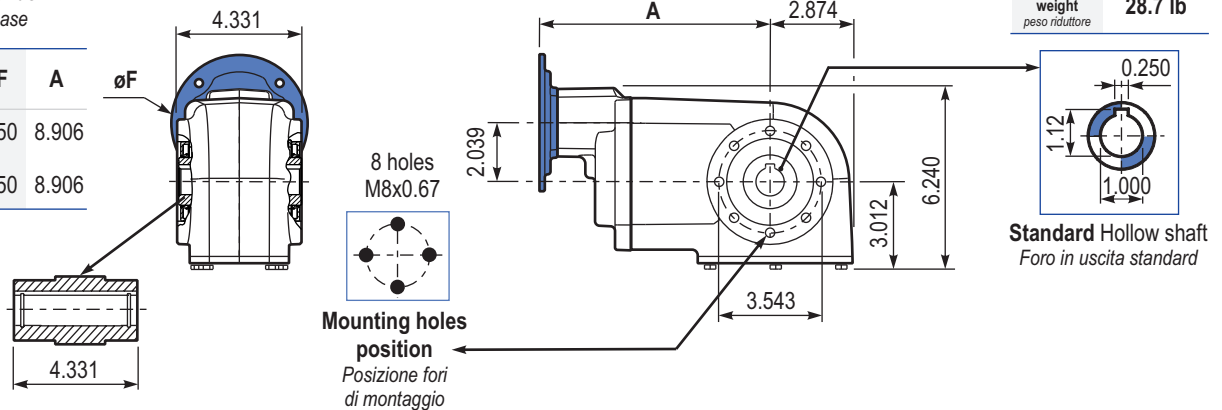
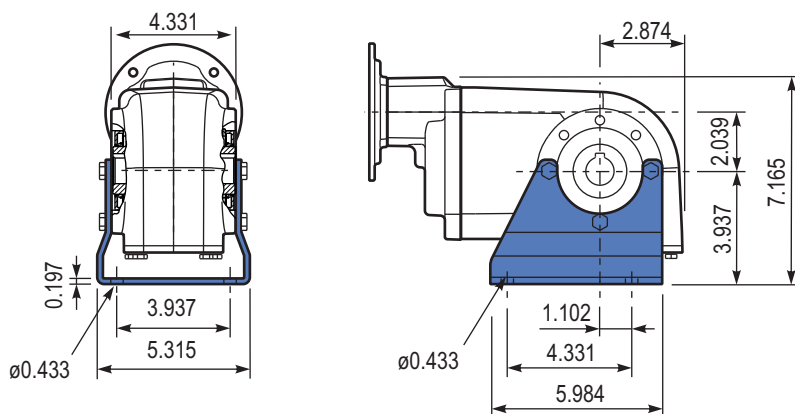
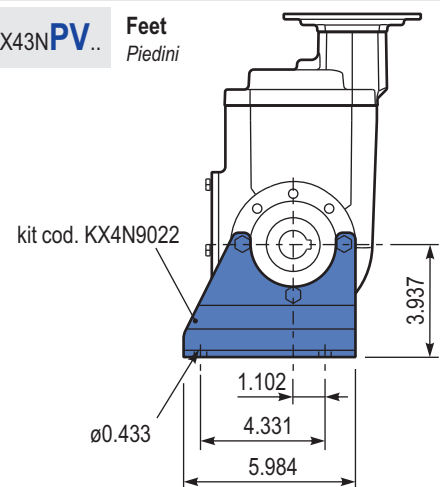
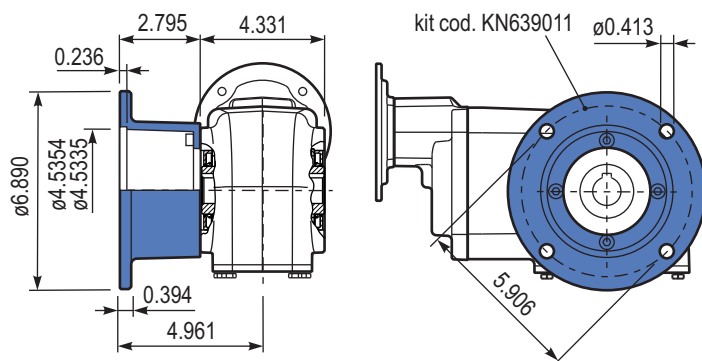
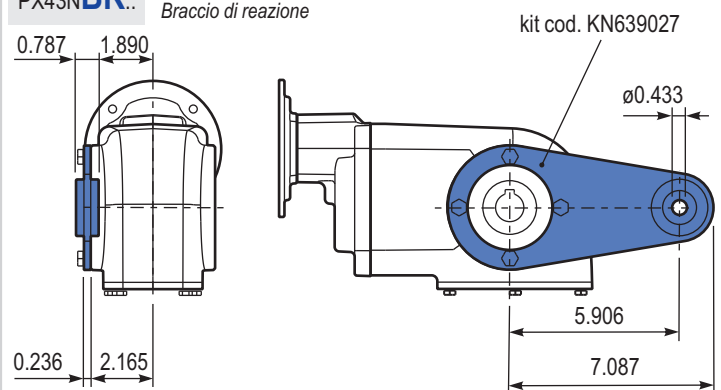
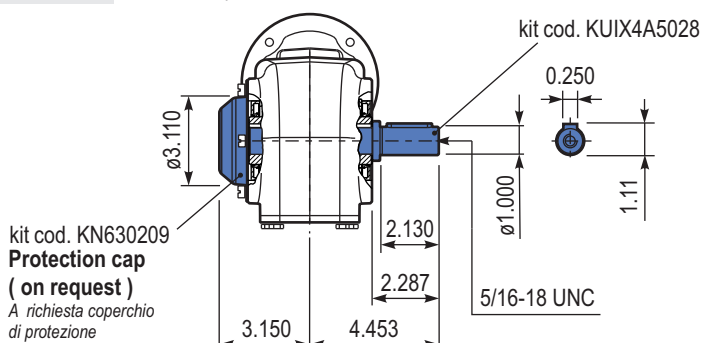
$$F_{eq} = F_R \cdot \frac{4.75}{X + 3.69}$$



Tab. 2

PX43NI...FB
Basic gearbox
Riduttore base

M. flanges	Kit code	øF	A
56C	KUI504041	6.50	8.906
143/5 TC	KUI504041	6.50	8.906


PX43NPA...
Feet
Piedini

PX43NPV..
Feet
Piedini

PX43N-FL...
Output flange
Flangia uscita

PX43NBR..
Reaction Arm
Braccio di reazione

PX43N..A..
Single output shaft
Albero semplice in uscita

Suggested
Suggerito
Stainless steel protection cap
(on request).

Coperchio di protezione in acciaio inox a richiesta.
Kit cod. KN630209


The dynamic efficiency is **0.96** for all ratiosInput speed (n_1) = 1750 min⁻¹

Output speed n_2 [min ⁻¹]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor $f.s$	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges				Output shaft  $\varnothing$	Ratio code 
							-W 56C	-X 143-5TC	-Y 182/4TC			
290	6.03	5	1042	2.0	10.19	2124				3011		01
189	9.26	5	1601	1.5	7.46	2390				308		02
154	11.36	5	1964	1.6	7.89	3098				2011		03
114	15.36	5	2655	1.3	6.42	3408				1611		04
100	17.46	5	3018	1.2	5.87	3540				208		05
88	19.97	5	3453	1.1	5.25	3629				1311		06
74	23.60	5	4080	0.9	4.45	3629				168	Standard $\varnothing 1.375$	07
72	24.45	5	4226	0.9	4.29	3629				1111		08
57	30.69	3	3184	1.1	3.42	3629				138		09
49.5	35.35	3	3667	1.0	2.97	3629				811		10
46.6	37.57	3	3897	0.9	2.79	3629				118		11
35.9	48.68	2	3366	1.0	1.92	3231				611		12
32.2	54.33	2	3757	1.0	1.93	3629				88		13
23.4	74.81	1	2587	1.2	1.23	3186				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 X43N is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.

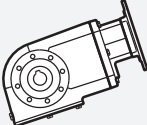
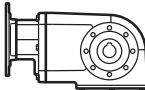
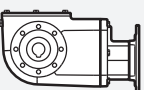
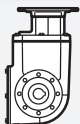
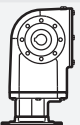
See Table 1 for lubrication and recommended quantity.

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

Il riduttore tipo X43N 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.

Shell Omala S4 WE 320	Eni Telium VSF 320	V8 On request ASK	
B3 Standard 36.95 oz		B8 On request 66.87 oz	
B6 On request 65.11 oz		V5 On request 112.62 oz	
B7 On request 59.83 oz		V6 On request 79.19 oz	

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

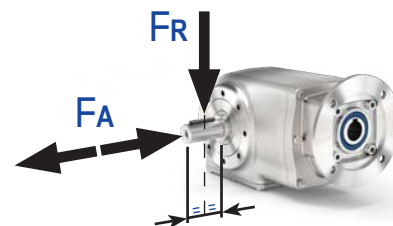
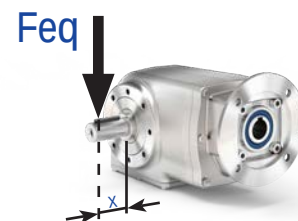
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [lb]	F_R [lb]
250	135	674
150	157	787
100	175	877
75	200	1000
50	256	1281
25	299	1495
15	373	1866

$$F_{eq} = F_R \cdot \frac{6.60}{X + 5.22}$$

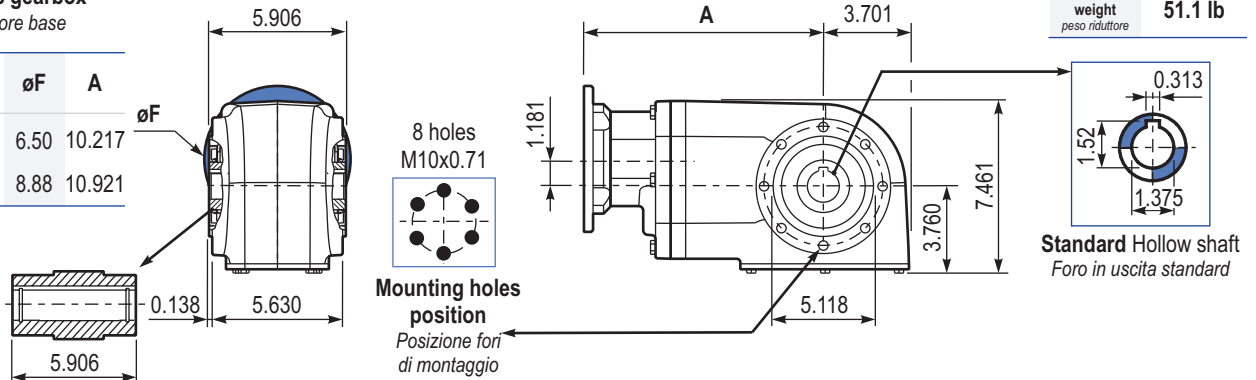


Tab. 2

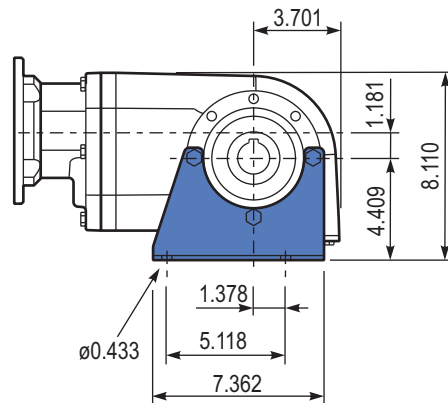
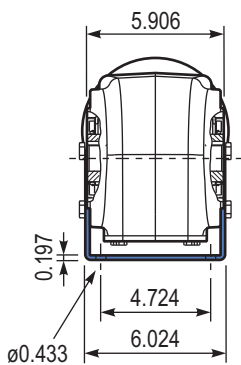
PX62N...FB

Basic gearbox
Riduttore base

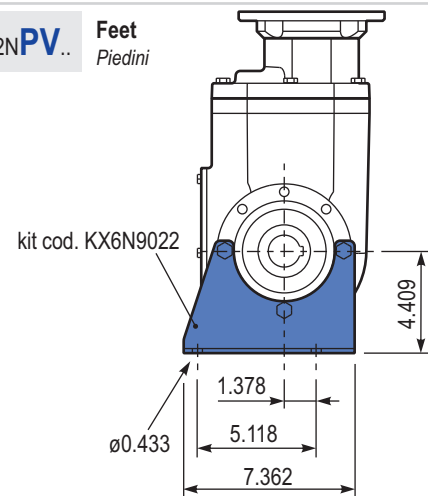
M. flanges	Kit code	øF	A
56C-143/5TC	KUI854041	6.50	10.217
182/4TC	KUI854042	8.88	10.921



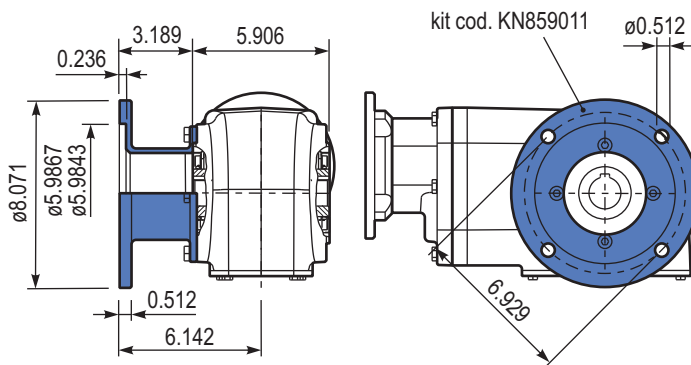
PX62N...PA..

Feet
Piedini

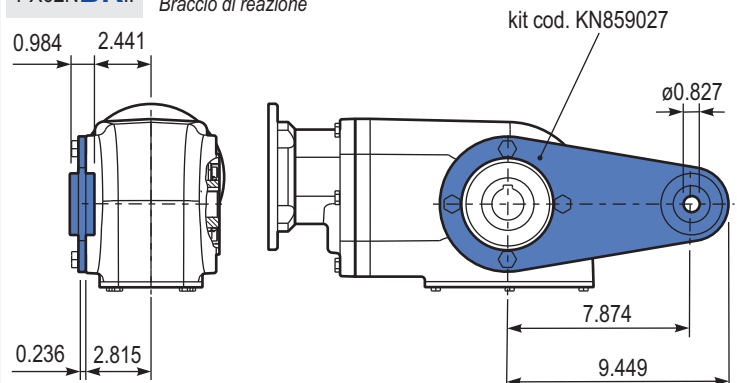
PX62N...PV..

Feet
Piedini

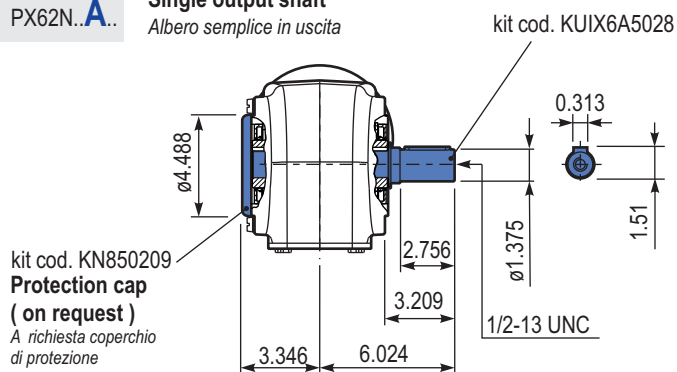
PX62N...FL..

Output flange
Flangia uscita

PX62N...BR..

Reaction Arm
Braccio di reazione

PX62N...A..

Single output shaft
Albero semplice in uscitaSuggested
*Suggerito*Stainless steel protection cap
(on request).*Coperchio di protezione in acciaio inox a richiesta.*

Kit cod. KN850209



The dynamic efficiency is **0.94** for all ratiosInput speed (n_1) = 1750 min⁻¹

Output speed n_2 [min ⁻¹]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f_s	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges			Output shaft  $\varnothing$	Ratio code 
							-W 56C	-X 143-5TC			
30.8	56.76	1.5	2883	1.3	1.89	3629			191311		01
26.6	65.79	1.5	3341	1.1	1.63	3629			171311		02
22.7	77.23	1.5	3922	0.9	1.39	3629			151311		03
20.1	87.23	1	2953	1.2	1.23	3629			19138		04
19.0	92.18	1	3121	1.2	1.16	3629			131311		05
17.4	100.47	1	3402	1.1	1.07	3629			19811		06
15.0	116.45	1	3943	0.9	0.92	3629			17811		07
13.9	125.82	0.75	3195	1.1	0.85	3629			101311		08
12.4	141.66	0.75	3597	1.0	0.76	3629			13138	Standard $\varnothing 1.375$	09
10.7	163.16	0.5	2762	1.3	0.66	3629			13811		10
9.8	178.96	0.5	3030	1.2	0.60	3629			1788		11
9.1	193.36	0.5	3273	1.1	0.55	3629			10138		12
8.1	216.84	0.5	3671	1.0	0.49	3629			71311		13
6.9	252.36	0.33	2819	1.3	0.42	3629			9138		14
6.0	290.67	0.33	3248	1.1	0.37	3629			9811		15
5.3	333.23	0.33	3723	1.0	0.32	3629			7138		16
4.6	383.82	0.25	3249	1.1	0.28	3629			7811		17
3.9	446.70	0.25	3781	1.0	0.24	3629			988		18
3.0	589.85	0.25*	4992	0.7	0.18	3629			788		19

* 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 X63N 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.

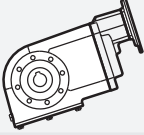
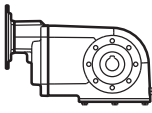
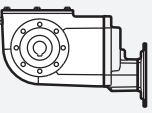
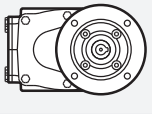
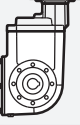
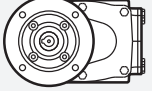
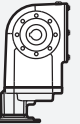
See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo X63N 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.

Shell Omala S4 WE 320	Eni Telium VSF 320	V8 On request ASK	
B3 Standard 72.15 oz		B8 On request 66.87 oz	
B6 On request 65.11 oz		V5 On request 117.90 oz	
B7 On request 59.83 oz		V6 On request 80.95 oz	

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

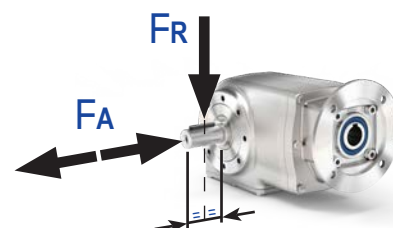
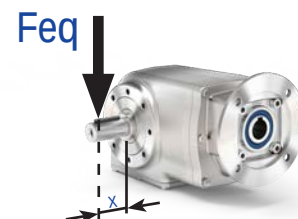
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [lb]	F_R [lb]
250	135	674
150	157	787
100	175	877
75	200	1000
50	256	1281
25	299	1495
15	373	1866

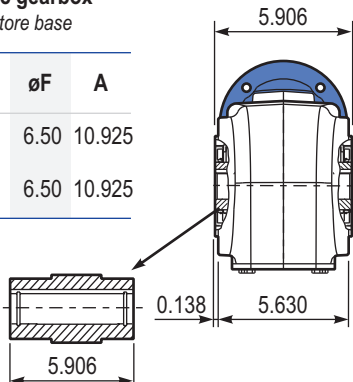
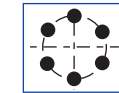
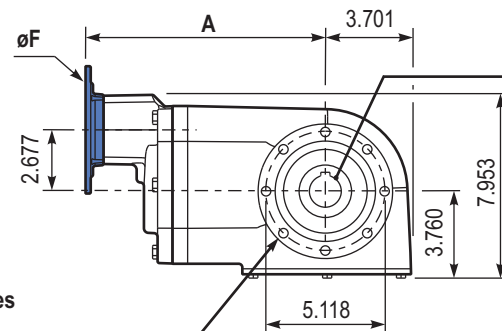
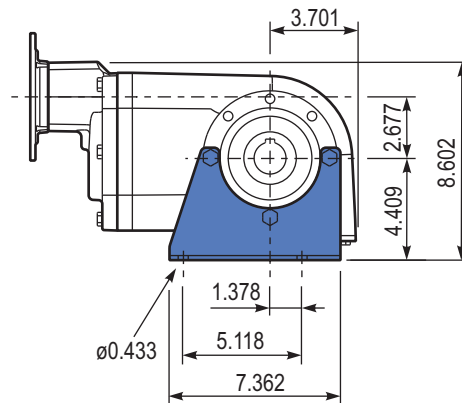
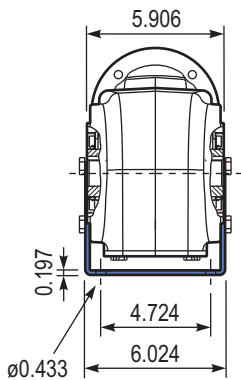
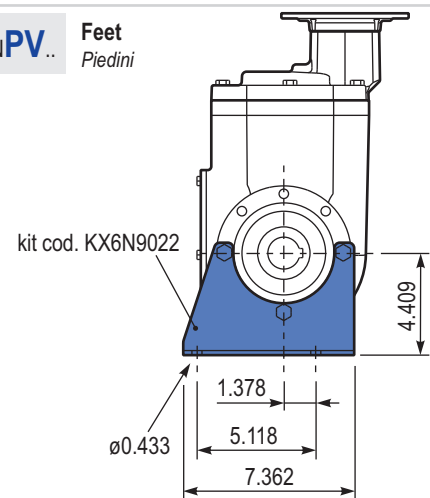
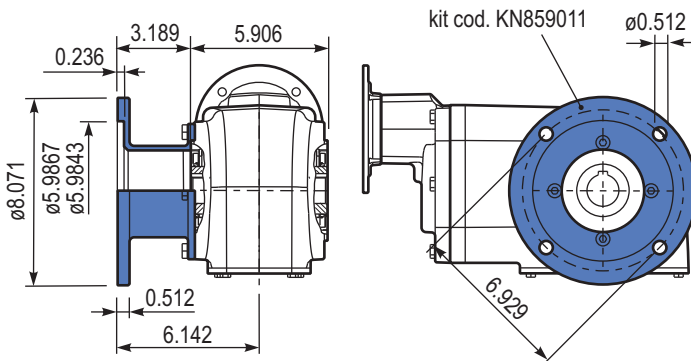
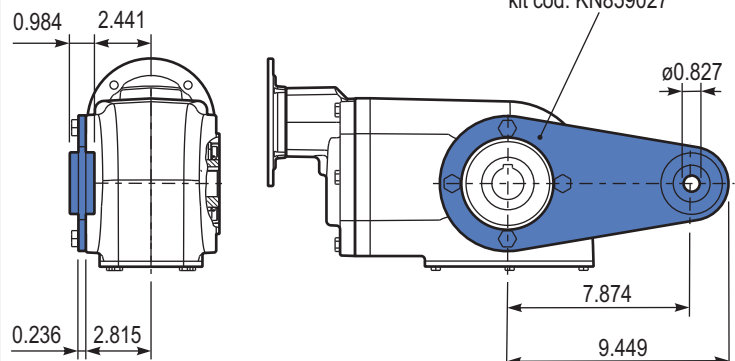
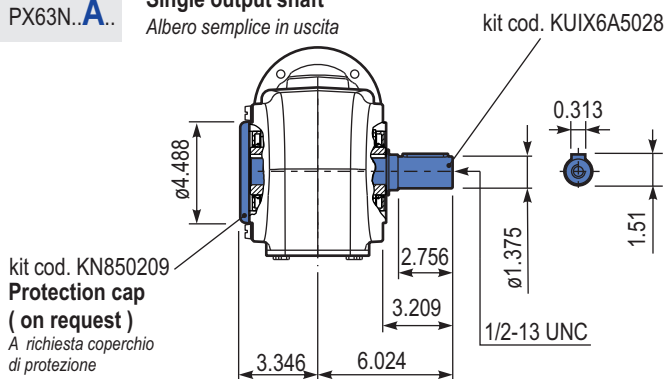
$$F_{eq} = F_R \cdot \frac{6.60}{X + 5.22}$$



Tab. 2

PX63NI...FB
Basic gearbox
Riduttore base

M. flanges	Kit code	øF	A
56C	KUI634041	6.50	10.925
143/5 TC	KUI634041	6.50	10.925


8 holes
M10x0.71

Mounting holes position
Posizione fori di montaggio

Gearbox weight
peso riduttore **51.1 lb**
Standard Hollow shaft
Foro in uscita standard
PX63NPA..
Feet
Piedini

PX63NPV..
Feet
Piedini

PX63NFL..
Output flange
Flangia uscita

PX63NBR..
Reaction Arm
Braccio di reazione

PX63NA..
Single output shaft
Albero semplice in uscita

Protection cap
(on request)
A richiesta coperchio di protezione
Suggested
Suggerito
Stainless steel protection cap
(on request).
Coperchio di protezione in acciaio inox a richiesta.
Kit cod. KN850209


The dynamic efficiency is **0.94** for all ratiosInput speed (n_1) = 1750 min⁻¹

Output speed n_2 [min ⁻¹]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f_s	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges				Output shaft  $\varnothing$	Ratio code 
							-W 56C	-X 143-5TC	-Y 182/4TC			
220	7.94	5	1344	2.5	12.51	3363				302418	Standard $\varnothing 1.500$	01
192	9.13	5	1546	2.2	11.17	3452				302416		02
164	10.66	5	1804	2.0	10.06	3629				302414		03
117	14.97	5	2534	2.0	10.13	5133				202418		04
102	17.21	5	2913	1.8	9.12	5310				202416		05
86	20.24	5	3425	1.7	8.72	5974				162418		06
75	23.27	5	3938	1.5	7.58	5974				162416		07
67	26.31	5	4455	1.3	6.71	5974				132418		08
58	30.25	5	5122	1.2	5.83	5974				132416		09
49.5	35.32	5	5979	1.0	5.00	5974				132414		10
47.3	37.03	5	6269	1.0	4.76	5974				112416		11
40.5	43.23	3	4391	1.4	4.08	5974				112414		12
37.6	46.58	3	4731	1.3	3.79	5974				82418		13
32.7	53.55	3	5439	1.1	3.30	5974				82416		14
28.0	62.52	3	6350	0.9	2.82	5974				82414		15
23.7	73.75	2	4994	1.0	2.06	5133				62416		16
20.3	86.09	2	5830	1.0	2.05	5974				62414		17

* 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 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 X73N 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.

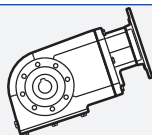
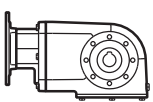
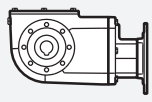
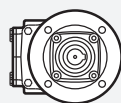
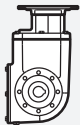
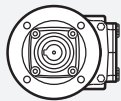
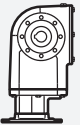
See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo X73N 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.

Shell Omala S4 WE 320	Eni Telium VSF 320	V8 On request ASK	
B3 Standard 56.31 oz		B8 On request 102.07 oz	
B6 On request 98.55 oz		V5 On request 161.90 oz	
B7 On request 73.91 oz		V6 On request 161.90 oz	

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

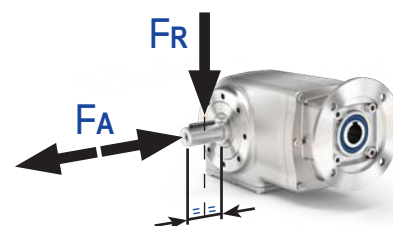
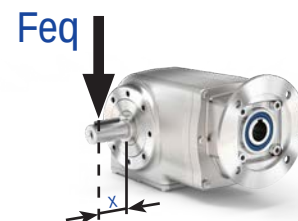
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [lb]	F_R [lb]
300	306	1529
250	315	1574
200	324	1619
140	333	1664
120	342	1709
85	351	1754
70	387	1934
40	414	2068
15	432	2158

$$F_{eq} = F_R \cdot \frac{7.03}{X + 5.65}$$



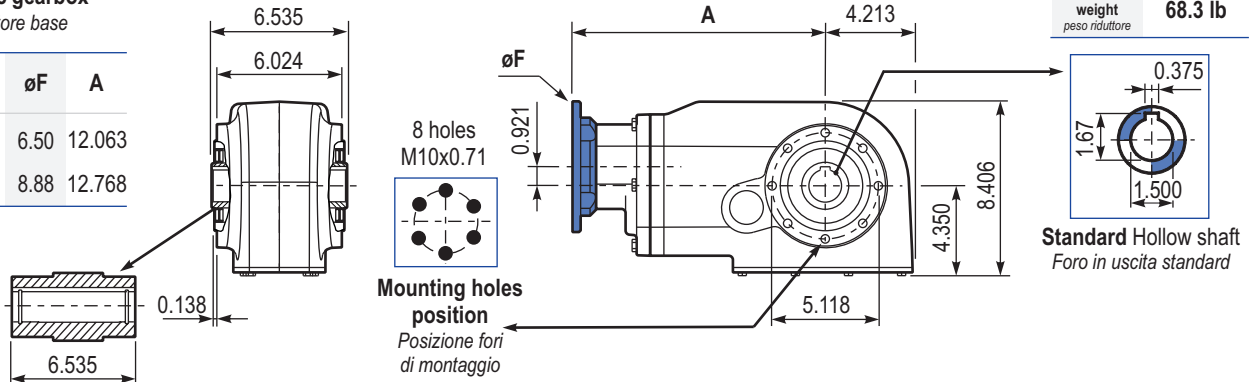
5974
lb in

X73N

PX73NI...FB

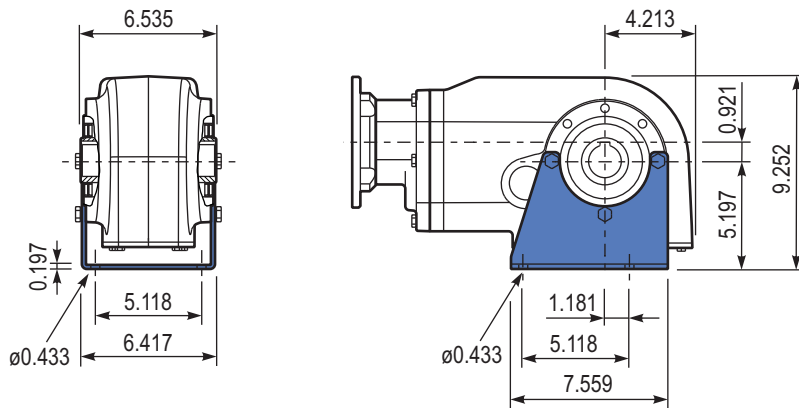
Basic gearbox
Riduttore base

M. flanges	Kit code	øF	A
56C-143/5TC	KUI854041	6.50	12.063
182/4TC	KUI854042	8.88	12.768



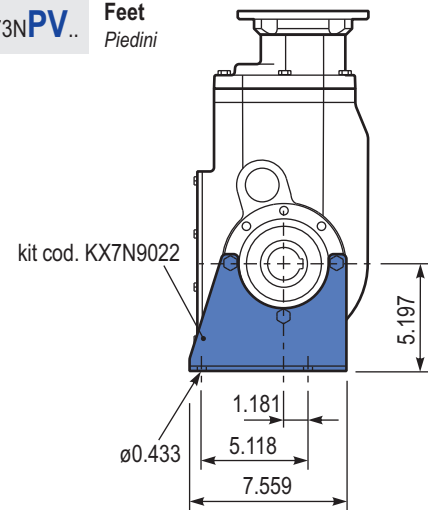
PX73NPA...

Feet
Piedini



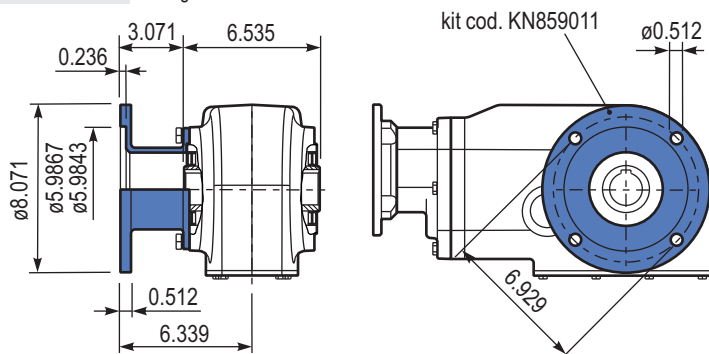
PX73NPV..

Feet
Piedini



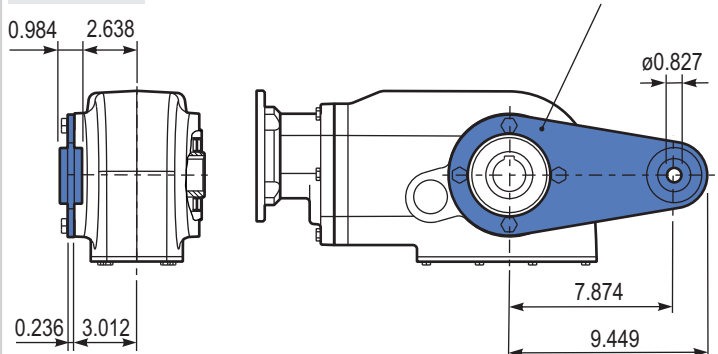
PX73NFL...

Output flange
Flangia uscita



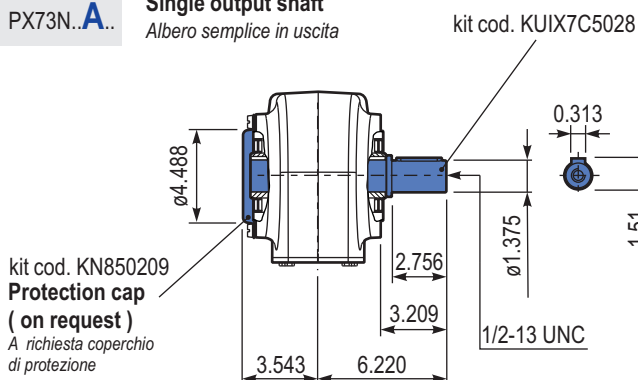
PX73NBR..

Reaction Arm
Braccio di reazione



PX73NA...

Single output shaft
Albero semplice in uscita



Suggested
Suggerito

Stainless steel protection cap
(on request).

Coperchio di protezione in
acciaio inox a richiesta.

Kit cod. KN850209



The dynamic efficiency is **0.92** for all ratiosInput speed (n_1) = 1750 min⁻¹

Output speed n_2 [min ⁻¹]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f_s	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges			Output shaft  Standard ø1.500	Ratio code 
							-W 56C	-X 143-5TC			
23.4	74.79	2	4956	1.2	2.41	5974			19132418		01
20.4	85.99	2	5699	1.0	2.10	5974			19132416		02
17.6	99.66	1.5	4954	1.2	1.81	5974			17132416		03
15.0	116.35	1.5	5783	1.0	1.55	5974			17132414		04
14.4	121.45	1.5	6037	1.0	1.48	5974			13132418		05
12.5	139.64	1	4627	1.3	1.29	5974			13132416		06
11.5	152.21	1	5043	1.2	1.18	5974			19082416		07
10.7	163.02	1	5402	1.1	1.11	5974			13132414		08
9.8	177.69	1	5888	1.0	1.01	5974			19082414		09
8.5	205.95	0.75	5118	1.2	0.88	5974			17082414		10
7.9	222.52	0.75	5530	1.1	0.81	5974			10132414		11
7.0	248.76	0.75	6182	1.0	0.72	5974			9132416		12
6.0	290.41	0.5	4812	1.2	0.62	5974			9132414		13
5.2	337.39	0.5	5590	1.1	0.53	5974			10082416		14
4.4	393.88	0.5	6526	0.9	0.46	5974			10082414		15
4.0	440.33	0.33	4815	1.2	0.41	5974			9082416		16
3.4	514.06	0.33	5621	1.1	0.35	5974			9082414		17
3.0	581.44	0.25	4817	1.2	0.31	5974			7082416		18
2.6	678.79	0.25	5623	1.1	0.27	5974			7082414		19

* 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 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 X74N 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.

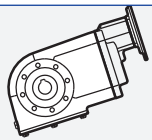
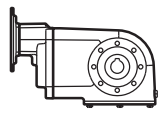
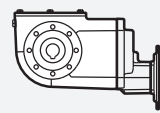
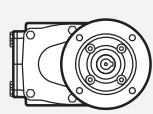
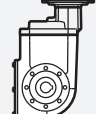
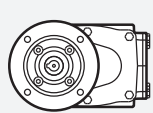
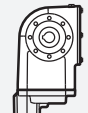
See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo X74N 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.

Shell Omala S4 WE 320	Eni Telium VSF 320	V8 On request ASK	
B3 Standard 91.51 oz		B8 On request 102.07 oz	
B6 On request 98.55 oz		V5 On request 168.94 oz	
B7 On request 73.91 oz		V6 On request 116.14 oz	

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

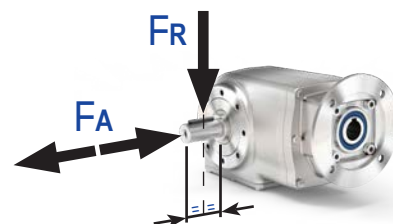
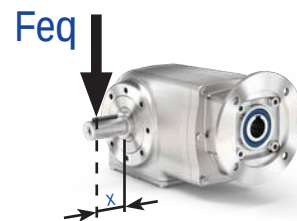
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [lb]	F_R [lb]
300	306	1529
250	315	1574
200	324	1619
140	333	1664
120	342	1709
85	351	1754
70	387	1933
40	414	2068
15	432	2158

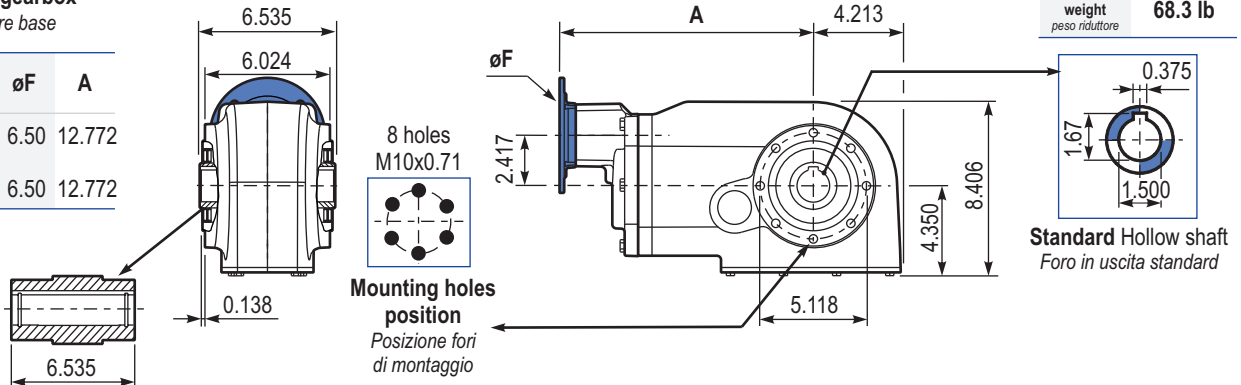
$$F_{eq} = F_R \cdot \frac{7.03}{X + 5.65}$$



PX74N...FB

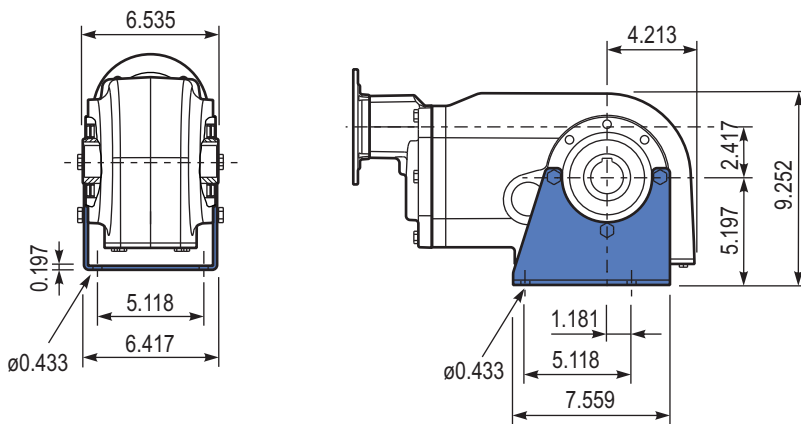
Basic gearbox
Riduttore base

M. flanges	Kit code	øF	A
56C	KUI634041	6.50	12.772
143/5 TC	KUI634041	6.50	12.772



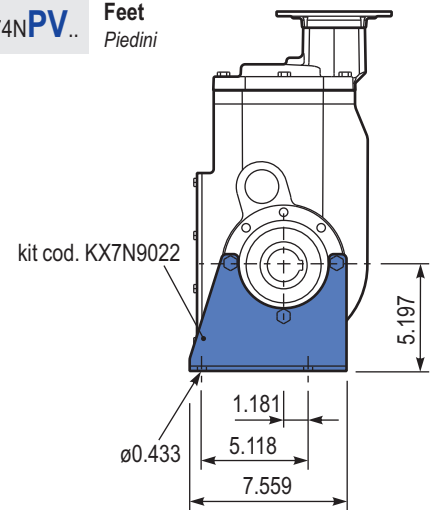
PX74N...PA..

Feet
Piedini



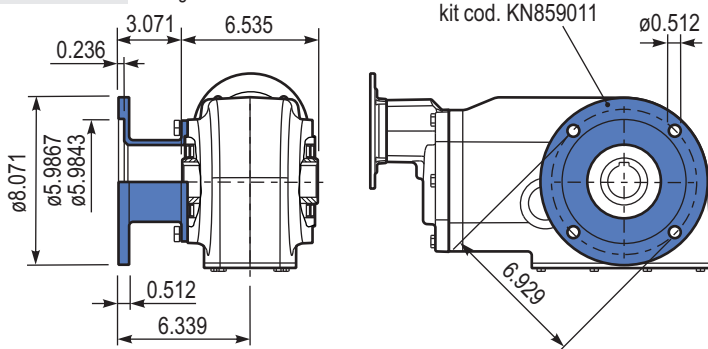
PX74N...PV..

Feet
Piedini



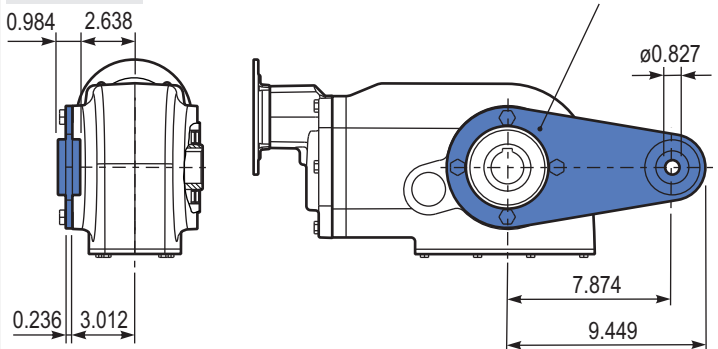
PX74N...FL..

Output flange
Flangia uscita



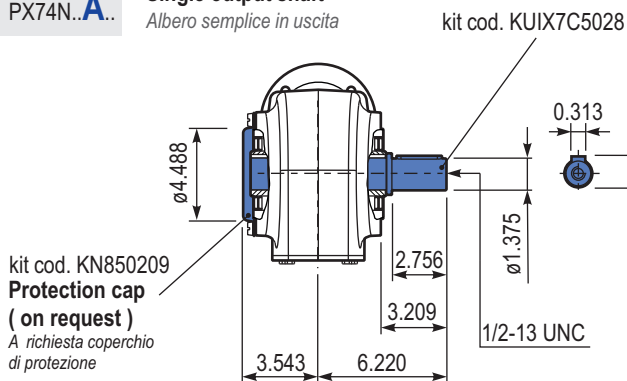
PX74N...BR..

Reaction Arm
Braccio di reazione



PX74N...A..

Single output shaft
Albero semplice in uscita



Suggested
Suggerito

Stainless steel protection cap
(on request).

Coperchio di protezione in
acciaio inox a richiesta.

Kit cod. KN850209





I VFI series Full stainless steel square worm gearboxes

Riduttori a vite senza fine quadrati completamente in acciaio inox

Section **6**
Sezione 6

Uniblock design.
Suitable for all applications.

*Design compatto.
Adatto a tutte le applicazioni.*

AISI 304

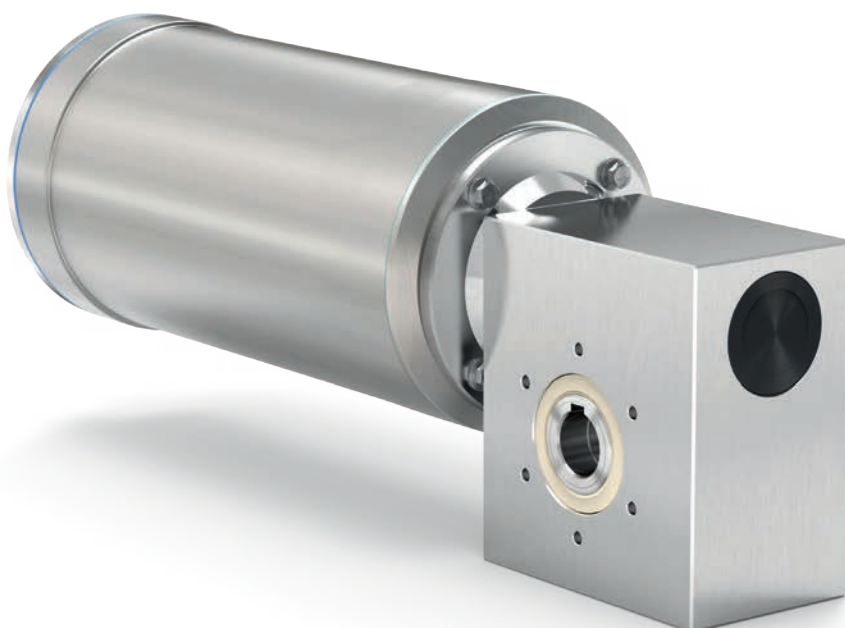
IP66

CE

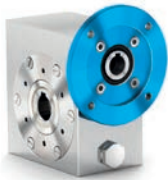
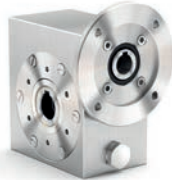
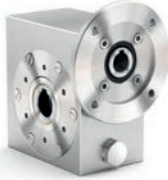
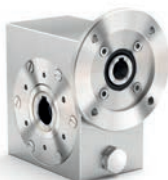
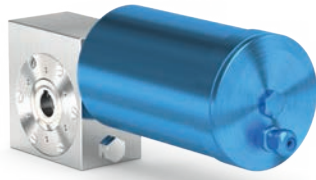
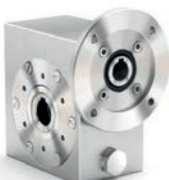
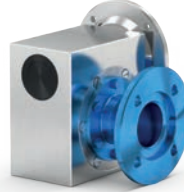


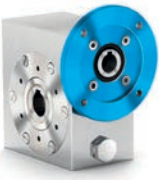
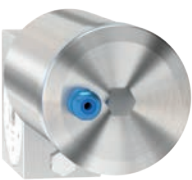
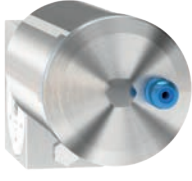
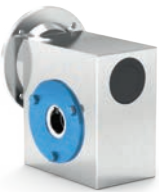
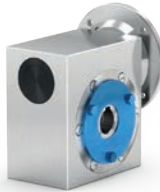
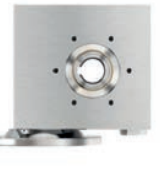
On req.
A rich.

IP69k



How to order Codifica

P	I45	UNI	N	10	0	IB
Type <i>Tipo</i>	Size <i>Grandezza</i>	Mounting <i>Montaggio</i>	Position <i>Posizione</i>	Ratio <i>Rapporto</i>	Hub Output shaft <i>Mozzo corona Albero uscita</i>	Diameter <i>Diametro</i>
P 	Worm gearboxes <i>Riduttori a vite senza fine</i>	UNI 	N 	See technical data table <i>Vedi tabelle dati tecnici</i>	0 Hollow <i>Mozzo</i> 	→ Standard I45
M 		FLL 	Select L or R position for output flange <i>Selezionare la posizione L o R per la flangia in uscita</i>		S Solid output shaft <i>Albero in uscita</i> 	IB→ø0.750 I50 ID→ø1.000 I63
B 	I45 I50 I63 I85 I11	BRI Stainless steel <i>Acciaio inox</i> 	L Left <i>Sinistra</i> 			IE→ ø1.125" IF→ ø1.250" I85 IH→ø1.500 I11 IK→ø2.000
R 			R Right <i>Destra</i>			Output male shaft is available only for standard bore <i>Albero maschio in uscita è disponibile solo per fori standard</i>

I	N	C	-W	B3	UW	For M type specify terminal box position
Input / output shaft material <i>Materiale albero in entrata e uscita</i>	Protection cap <i>Coperchio di protezione</i>		Motor size <i>Grandezza motore</i>	Mounting position <i>Posizione di montaggio</i>	Input bore <i>Foro entrata</i>	<i>Per tipo M specificare posizione morsetteria</i>
I Stainless steel <i>Acciaio inox</i> The quill input hollow bore is always in carbon steel <i>Il foro cavo in entrata è sempre in acciaio</i>	Left <i>Sinistra</i>	Right <i>Destra</i>	Motor flanges <i>Flange motore</i>	B3	Standard bore <i>Foro standard</i>	A
						
	N Without protection cap <i>Senza coperchietto di protezione</i>	N Without protection cap <i>Senza coperchietto di protezione</i>	NEMA -W → 56C (ø6.5") -X → 143/5TC (ø6.5") -Y → 182/4TC (ø8.88") AA → 213/5TC (ø8.88")	B8	UW → ø0.625" UX → ø0.875" UY → ø1.125" UZ → ø1.375"	B
			Without flange <i>Senza flangia</i>	B6	With coupling <i>Con giunto</i>	C
	C Closed cap <i>Tappo chiuso</i>	C Closed cap <i>Tappo chiuso</i>				
			-N → Nema	B7	-W → ø0.625" -X → ø0.875" -Y → ø1.125"	D
	O Open cap <i>Tappo aperto</i>	O Open cap <i>Tappo aperto</i>			Ready for input coupling <i>Predisposto per giunto</i>	
				V5	-0 Type B <i>Tipo B</i>	
						
				V6		
						

Input speed (n_1) = 1750 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	Available NEMA motor flanges		Dynamic efficiency	Tooth module	Ratios code
n_2 [min ⁻¹]	i	P_{1M} [HP]	M_{2M} [lb in]	f.s	P_{1R} [HP]	M_{2R} [lb in]	-W 56C	-	RD	[mm]	
250.0	7	1	202	1.3	1.29	257			80	2.2	01
175.0	10	0.75	213	1.2	0.91	257			79	2.2	02
125.0	14	0.5	194	1.3	0.67	257			77	2.4	03
83.3	21	0.5	253	1.4	0.69	345			67	1.6	04
62.5	28	0.5	328	1.1	0.53	345			65	2.5	05
47.3	37	0.33	277	1.2	0.42	345			63	1.8	06
38.0	46	0.33	323	1.1	0.36	345			59	1.5	07
29.2	60	0.25	303	1.1	0.29	345			56	1.2	08
25.0	70	0.25	340	0.8	0.19	257			54	1.0	09
17.2	102	0.25*	450	<0.8	0.14	248			49	0.72	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 supportabile dal riduttore. Selezionare in base al momento torcente M_{2R}

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

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

Motor flanges available
Flange motore disponibili



B) Supplied with reduction bushing
Fornito con bussola di riduzione



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



C) Motor flange holes position
Posizione fori flangia motore

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.

Shell

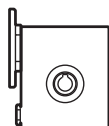
Omala S4 WE 320

Eni

Telium VSF 320

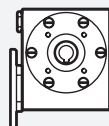
B3

Standard
5.28 oz



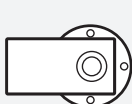
B8

On request
5.28 oz



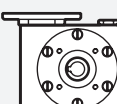
B6

On request
5.28 oz



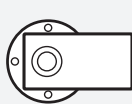
V5

On request
5.28 oz



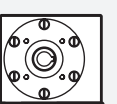
B7

On request
7.04 oz



V6

On request
5.28 oz



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

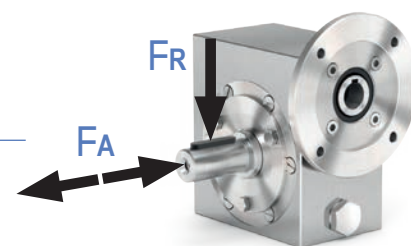
Radial and axial loads

Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [lb]	F_R [lb]
200	40	202
150	45	225
100	49	247
75	54	270
50	58	315
25	67	405
15	90	450



Tab. 2

Suggested

Suggerito

Stainless steel protection cap
(on request).

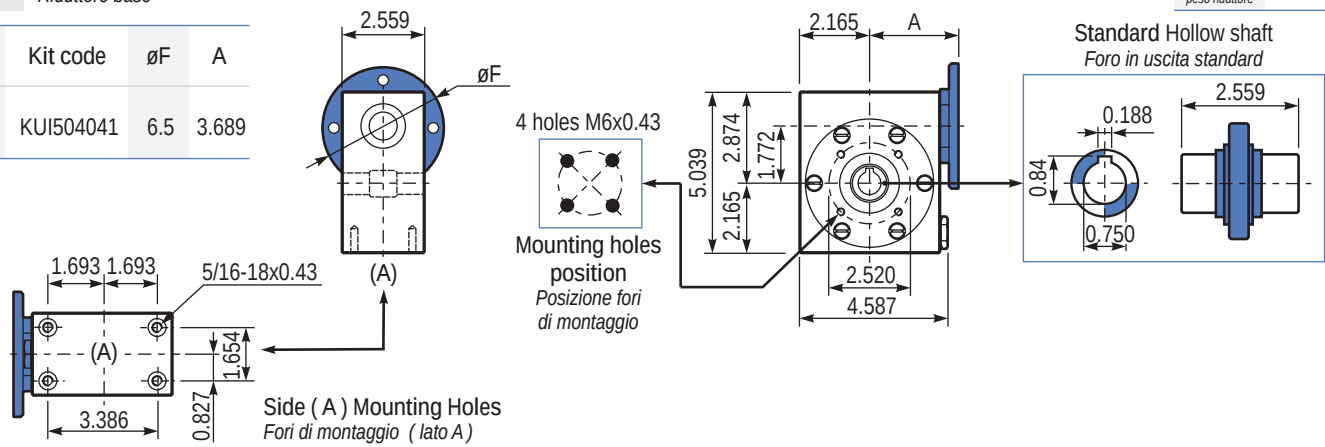
Coperchio di protezione in
acciaio inox a richiesta.

Kit cod. KI450211

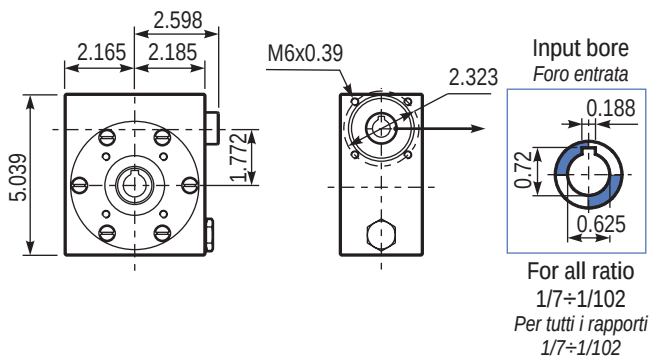


Gearbox weight <i>peso riduttore</i>	11.0 lb
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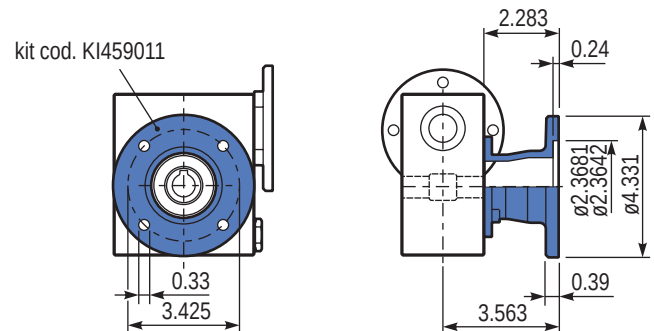
M. flanges	Kit code	øF	A
56C	KUI504041	6.5	3.689



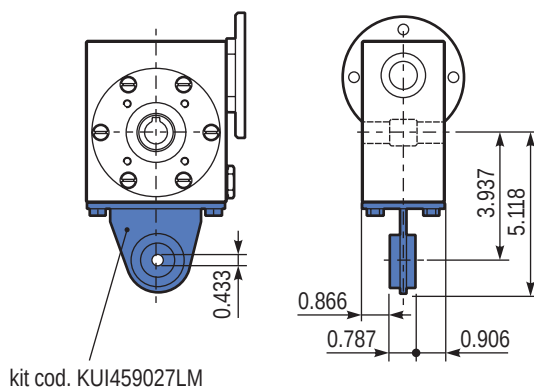
Modular base
Base modulare



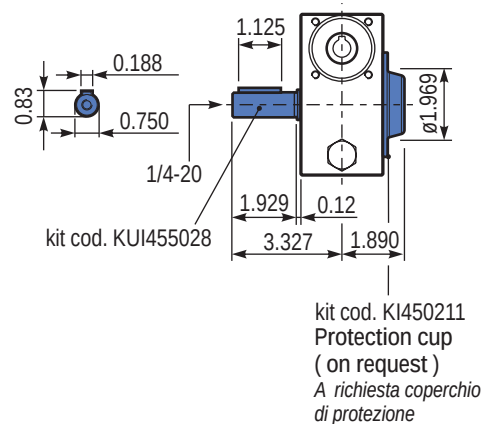
Output flange
Flangia uscita



Reaction arm
Braccio di reazione



Single Shaft
Albero lento semplice



Input speed (n_1) = 1750 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	Available NEMA motor flanges		Dynamic efficiency	Tooth module	Ratios code
n_2 [min ⁻¹]	i	P_{1M} [HP]	M_{2M} [lb in]	f.s	P_{1R} [HP]	M_{2R} [lb in]	-W 56C	-	RD	[mm]	
250.0	7	2	413	1.2	2.34	478			82	2.5	01
175.0	10	1.5	432	1.2	1.84	522			80	2.4	02
125.0	14	1	398	1.4	1.46	575			79	2.6	03
97.2	18	1	486	1.1	1.09	522			75	2.0	04
67.3	26	0.75	485	1.2	0.87	558			69	2.7	05
58.3	30	0.75	567	1.1	0.82	611			70	2.5	12
48.6	36	0.5	447	1.4	0.69	611			69	2.1	06
40.7	43	0.5	511	1.1	0.57	575			66	1.8	07
35.0	50	0.5	558	1.0	0.51	558			62	1.5	13
29.2	60	0.33	414	1.3	0.42	522			58	1.3	08
25.7	68	0.33	461	1.1	0.35	487			57	1.2	09
21.9	80	0.25	389	1.2	0.31	478			54	1.0	10
17.5	100	0.25	450	1.0	0.24	434			50	0.8	11

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

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

Motor flanges available
Flange motore disponibili



B) Supplied with reduction bushing
Fornito con bussola di riduzione



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



C) Motor flange holes position
Posizione fori flangia motore

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.

Shell

Omala S4 WE 320

Eni

Telium VSF 320

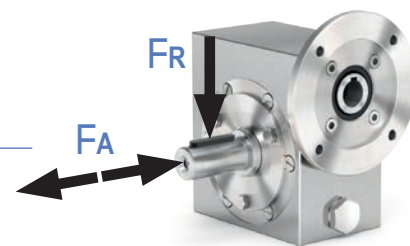
Radial and axial loads

Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [lb]	F_R [lb]
200	54	270
150	63	315
100	67	337
75	76	382
50	85	427
25	108	562
15	126	629



Tab. 2

Suggested

Suggerito

Stainless steel protection cap
(on request).

Coperchio di protezione in
acciaio inox a richiesta.

Kit cod. KI500211



For more details on lubrication and plugs check our website.

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

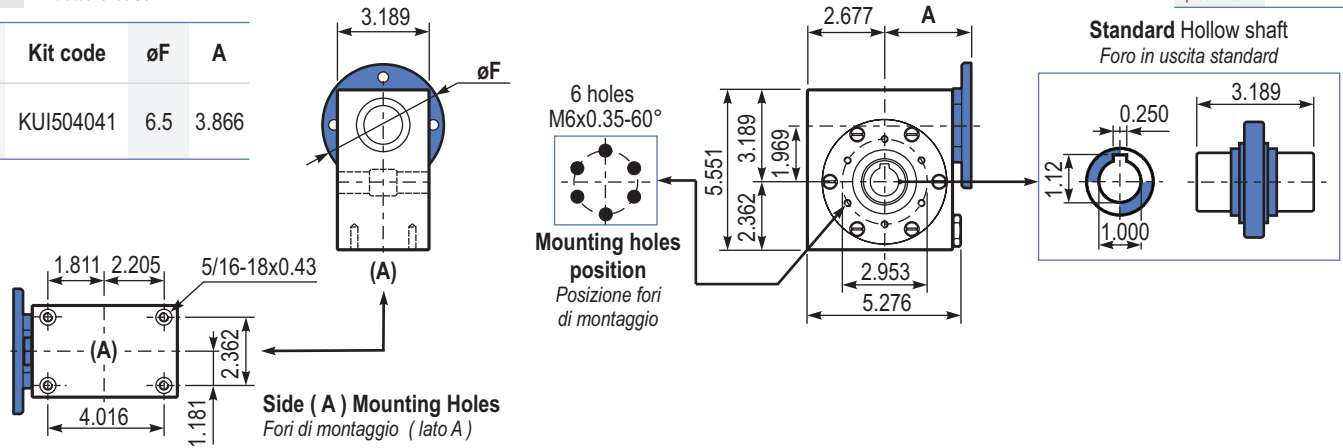
Tab. 1

PI50UNI...

Basic gearbox
Riduttore base

Gearbox weight
peso riduttore **16.1 lb**

M. flanges	Kit code	øF	A
56C	KUI504041	6.5	3.866

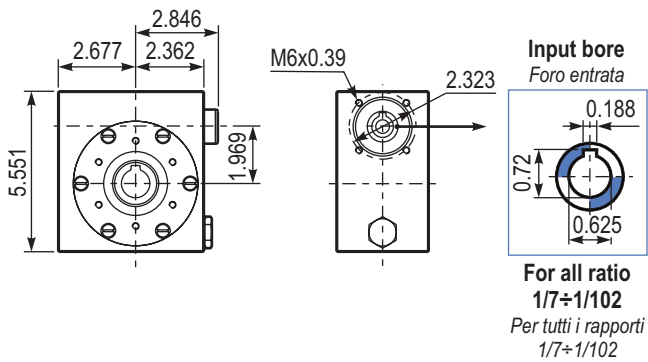


B150UNI...

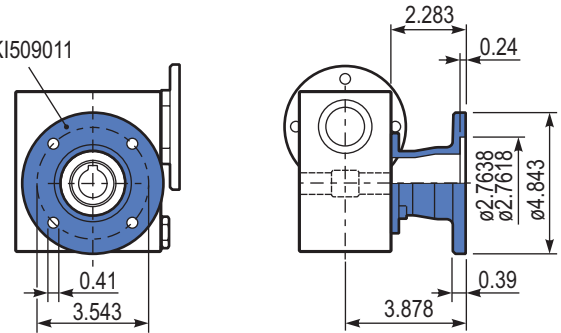
Modular base
Base modulare

PI50FLL...

Output flange
Flangia uscita



kit cod. KI509011

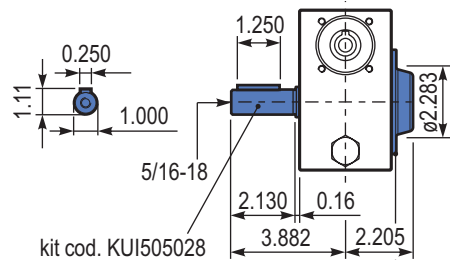
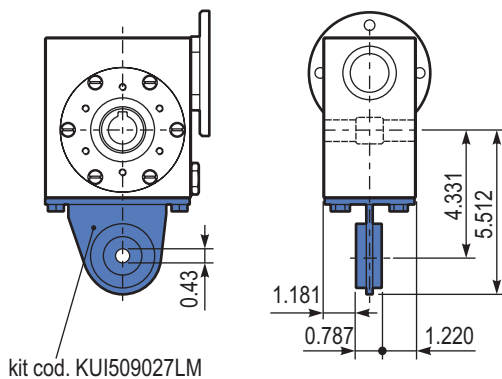


PI50BRI...

Reaction arm
Braccio di reazione

PI50.....SID

Single Shaft
Albero lento semplice



Protection cup (on request)
A richiesta coperchio di protezione

Input speed (n_1) = 1750 min⁻¹

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	Available NEMA motor flanges		Dynamic efficiency	Tooth module	Ratios code
n_2 [min ⁻¹]	i	P_{1M} [HP]	M_{2M} [lb in]	f.s	P_{1R} [HP]	M_{2R} [lb in]	-W 56C	-X 143-5TC	RD	[mm]	
250.0	7	2	419	2.5	5.10	1053	B		83	3.1	01
175.0	10	2	583	1.9	3.93	1133	B		81	3.1	02
116.7	15	2	854	1.4	2.75	1159	B		79	3.1	03
92.1	19	2	1068	1.1	2.20	1159	B		78	2.6	04
72.9	24	1.5	972	1.2	1.87	1195	B		75	2.0	05
58.3	30	1.5	1199	1.0	1.56	1230	B		74	3.2	06
48.6	36	1	882	1.4	1.42	1239	B		68	2.7	07
43.8	40	1	951	1.2	1.25	1177	B		66	2.5	13
38.9	45	1	1070	1.1	1.08	1142	B		66	2.1	08
29.2	60	0.75	1005	1.1	0.83	1097	B		62	1.6	12
26.1	67	0.5	724	1.4	0.73	1044	B		60	1.5	09
21.9	80	0.5	821	1.2	0.62	1000	B		57	1.3	10
18.6	94	0.5	880	1.1	0.58	1000	B		52	1.1	11

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

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

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.

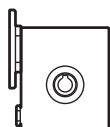
Shell

Omala S4 WE 320

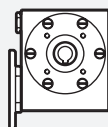
Eni

Telium VSF 320

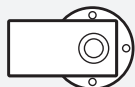
B3
Standard
21.1 oz



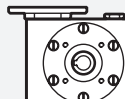
B8
On request
21.1 oz



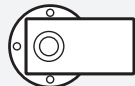
B6
On request
21.1 oz



V5
On request
21.1 oz



B7
On request
28.9 oz



V6
On request
21.1 oz



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

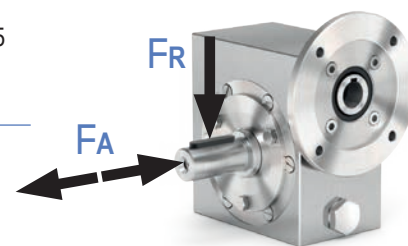
Radial and axial loads

Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [lb]	F_R [lb]
200	81	404.5
150	90	450
100	103.5	517
75	112.5	562
50	135	674.5
25	157	854
15	180	899



Tab. 2

Suggested

Suggerito

Stainless steel protection cap
(on request).

Coperchio di protezione in
acciaio inox a richiesta.

Kit cod. KI630211



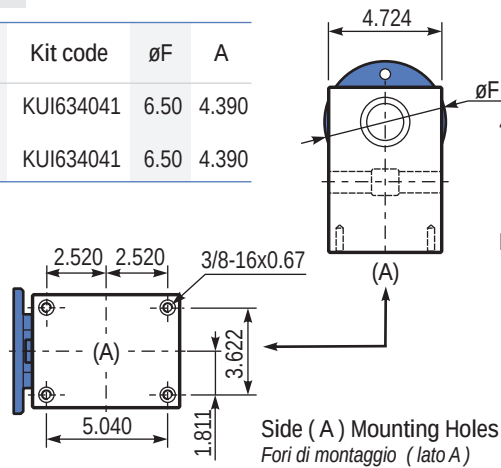
PI63UNI...

Basic gearbox
Riduttore base

Gearbox
weight
peso riduttore

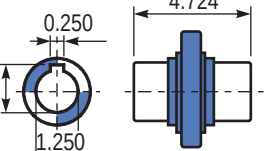
32.2 lb

M. flanges	Kit code	øF	A
56C	KUI634041	6.50	4.390
143/5 TC	KUI634041	6.50	4.390

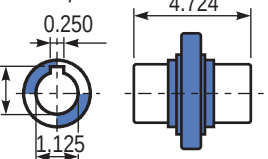

4 holes M8x0.43
Mounting holes
position
Posizione fori
di montaggio

Hollow shaft Foro in uscita

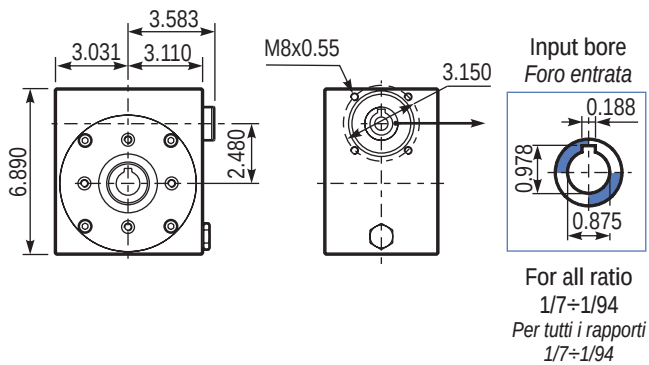
Standard



On request



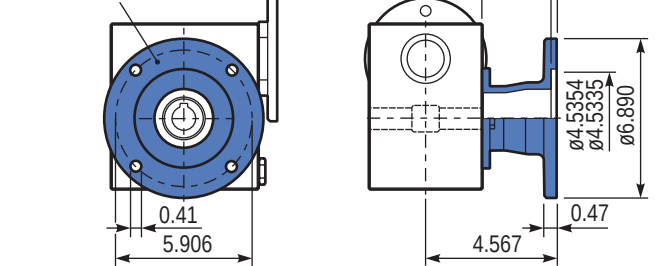
B163UNI...

Modular base
Base modulare


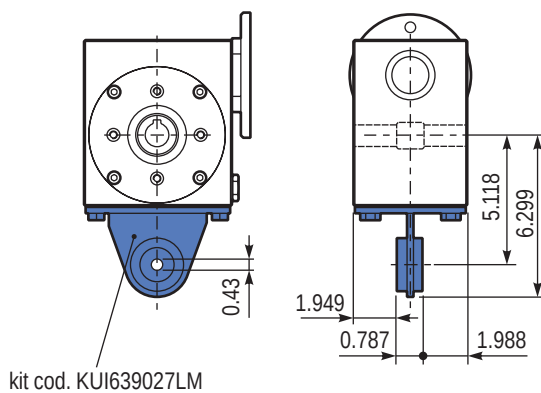
PI63FLL...

Output flange
Flangia uscita

kit cod. KI639011



PI63BRI...

Reaction arm
Braccio di reazione


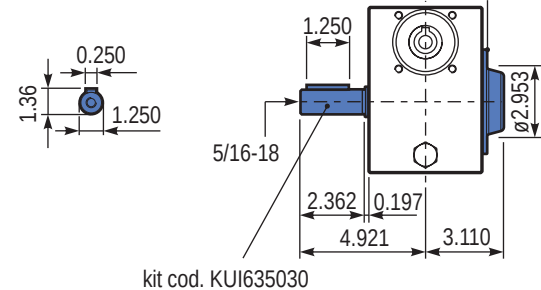
PI63.....SIF

Single Shaft
Albero lento semplice

kit cod. KI630211

Protection cup (on request)

A richiesta coperchio di protezione



Input speed (n_1) = 1750 min⁻¹

Output speed n_2 [min ⁻¹]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor $f.s$	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges			Dynamic efficiency RD	Tooth module [mm]	Ratios code
							-W 56C	-X 143-5TC	-Y 182-4TC			
250.0	7	5	1109	2.0	9.90	2168	B	B		88	4.23	01
175.0	10	5	1441	1.7	8.40	2390	B	B		80	4.2	02
125.0	14	5	1967	1.3	6.61	2567	B	B		78	4.5	03
87.5	20	3	1707	1.5	4.41	2478	B	B		79	3.4	04
79.5	22	3	1854	1.3	4.06	2478	B	B		78	3.1	05
62.5	28	3	2269	1.3	3.91	2921	B	B		75	4.7	06
46.1	38	3	2915	1.0	2.95	2832	B	B		71	3.5	07
38.0	46	2	2253	1.2	2.47	2744	B	B		68	3.1	08
33.7	52	2	2472	1.0	1.99	2434	B	B		66	2.7	09
26.1	67	1.5	2353	1.0	1.57	2434	B	B		65	2.1	10
23.6	74	1.5	2319	1.0	1.48	2257	B	B		58	1.9	11
18.2	96	1	1833	1.1	1.13	2036	B	B		53	1.5	12

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

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

Motor flanges available
Flange motore disponibili



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.

Shell

Omala S4 WE 320

Eni

Telium VSF 320

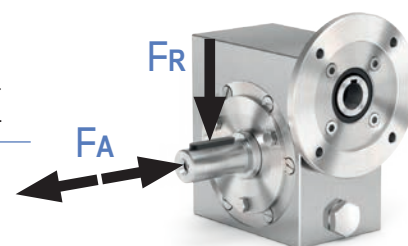
Radial and axial loads

Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [lb]	F_R [lb]
200	112	562
150	130	652
100	135	674
75	157	787
50	180	899
25	225	1124
15	261	1304



Tab. 2

Suggested

Sugerito

Stainless steel protection cap
(on request).

Coperchio di protezione in
acciaio inox a richiesta.

Kit cod. KI850211



For more details on lubrication and plugs check our website.

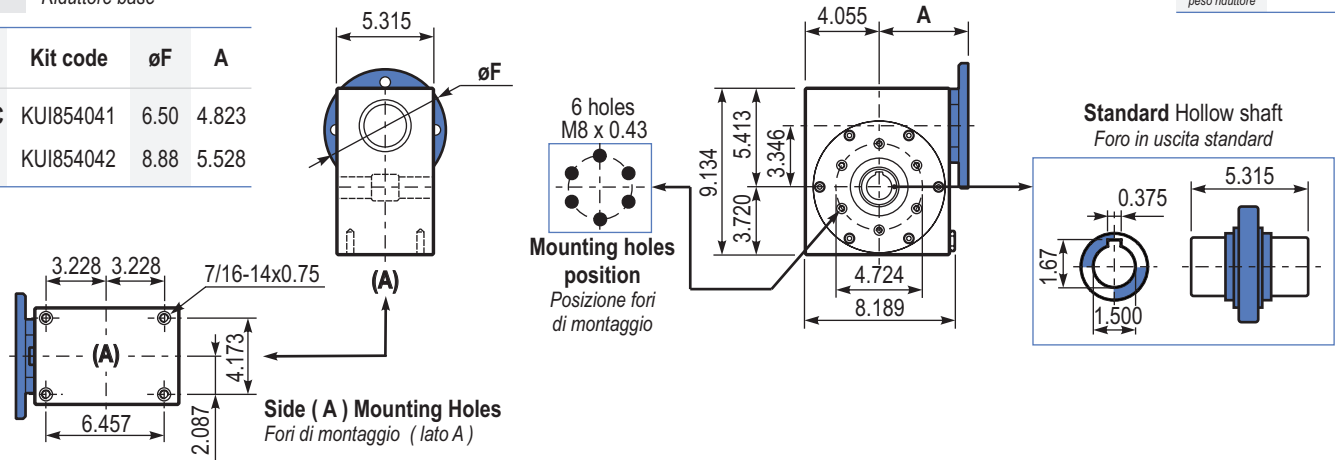
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web.

Tab. 1

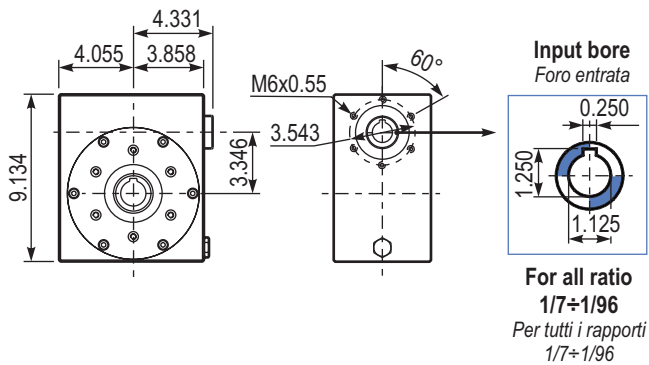
PI85UNI...

Basic gearbox
*Riduttore base*Gearbox weight
peso riduttore **51.4 lb**

M. flanges	Kit code	øF	A
56C-143/5TC	KUI854041	6.50	4.823
182/4TC	KUI854042	8.88	5.528



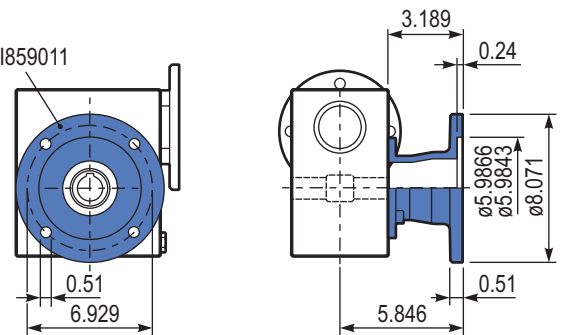
BI85UNI...

Modular base
Base modulare

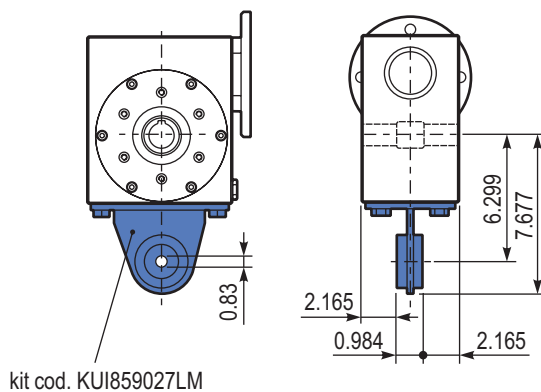
PI85FLL...

Output flange
Flangia uscita

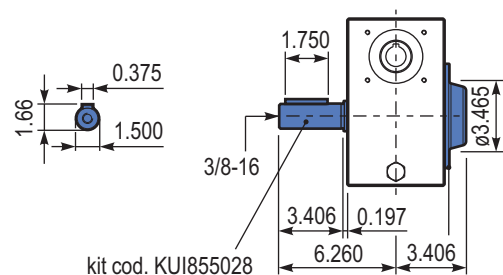
kit cod. KI859011



PI85BRI...

Reaction arm
Braccio di reazione

PI85.....SIH

Single Shaft
Albero lento semplice

kit cod. KI850211
Protection cup (on request)
 A richiesta coperchio di protezione

Input speed (n_1) = 1750 min⁻¹

Output speed n_2 [min ⁻¹]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor f_s	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges			Dynamic efficiency RD	Tooth module [mm]	Ratios code
							-X 143-5TC	-Y 182-4TC	AA 213-5TC			
250	7	10	2219	1.8	18.59	4071	B			88	5.5	01
175	10	10	3097	1.4	14.48	4425	B			86	5.4	02
109.4	16	10	4725	1.0	9.68	4514	B			82	5.3	03
87.5	20	7.5	4430	1.0	7.89	4602	B			82	4.5	04
76.1	23	5	3314	1.3	6.63	4337	B			80	3.9	05
58.3	30	5	4106	1.3	6.77	5487	B			76	5.6	06
46.1	38	5	5132	1.1	5.33	5399	B			75	4.7	07
38.9	45	3	3549	1.4	4.32	5045	B			73	4.0	08
33.0	53	3	4009	1.3	3.96	5222	B			70	3.5	09
27.3	64	2	3181	1.4	2.88	4514	B			69	2.9	10
20.8	84	2	3933	1.1	2.14	4160	B			65	2.2	11
17.7	99	2	4279	1.0	1.93	4071	B			60	1.9	12

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

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

Motor flanges available
Flange motore disponibili



B) Supplied with reduction bushing
Fornito con bussola di riduzione



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



C) Motor flange holes position
Posizione fori flangia motore

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.

Shell

Omala S4 WE 320

Eni

Telium VSF 320

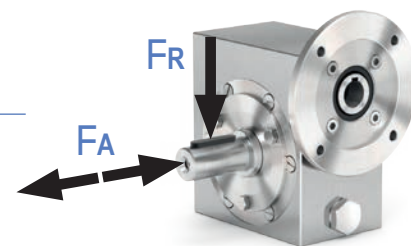
Radial and axial loads

Carichi radiali e assiali

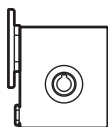
Output shaft

Albero di uscita

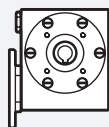
n_2 [min ⁻¹]	F_A [lb]	F_R [lb]
200	135	652
150	157	742
100	169	809
75	180	899
50	207	1034
25	270	1349
15	315	1574



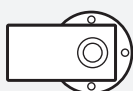
B3
Standard
123.2 oz



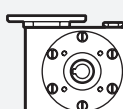
B8
On request
73.9 oz



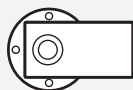
B6
On request
88 oz



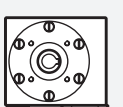
V5
On request
56.3 oz



B7
On request
88 oz



V6
On request
56.3 oz



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

Tab. 2

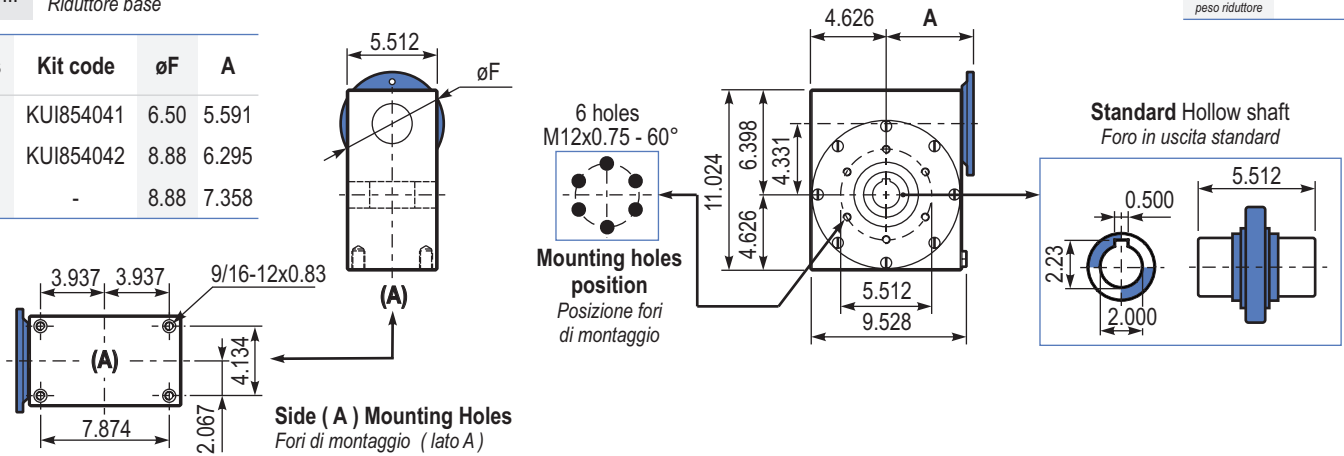
PI11UNI...

Basic gearbox

Riduttore base

Gearbox weight
peso riduttore **88.0 lb**

M. flanges	Kit code	øF	A
143/5 TC	KUI854041	6.50	5.591
182/4 TC	KUI854042	8.88	6.295
213/5 TC	-	8.88	7.358



B11UNI...

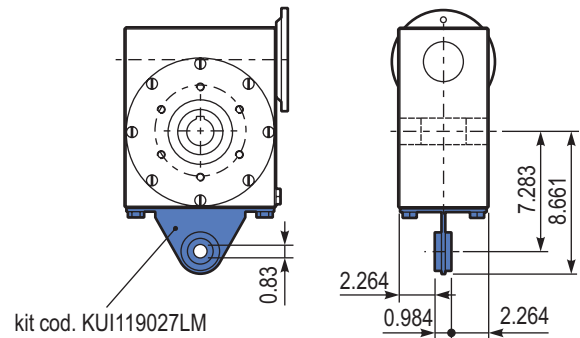
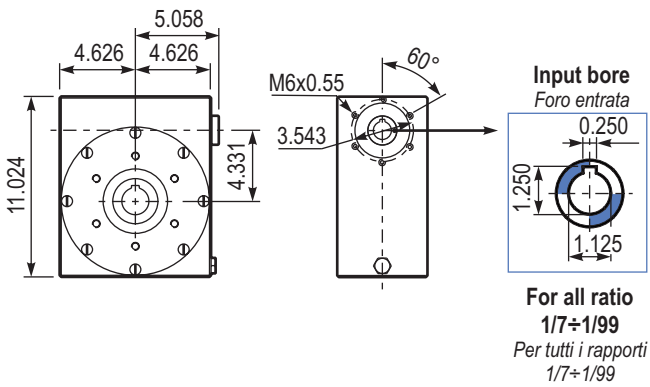
Modular base

Base modulare

PI11BRI...

Reaction arm

Braccio di reazione

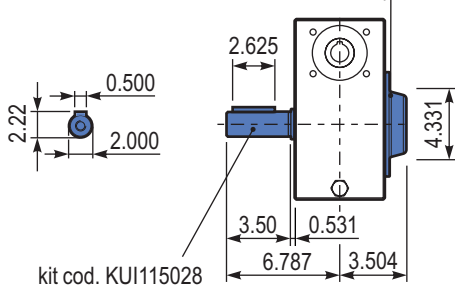


PI11...SIK

Single Shaft

Albero lento semplice

kit cod. KI110211
Protection cup (on request)
A richiesta coperchio di protezione





I RCI series Full stainless steel ratio multipliers

Riduttori ad uno stadio completamente in acciaio inox

Section **7**
Sezione 7

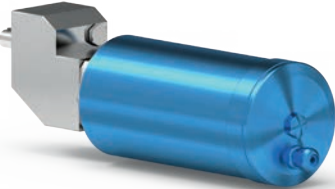
AISI 304

IP66

CE



How to order *Codifica*

P	411I	-F	1.57	X
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 		→ Standard X → $\varnothing 0.625$
B 				

U	-X	B3	ST	For M type specify terminal box position
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>	<i>Per tipo M specificare posizione morsettiera</i>
 N Without flange <i>Senza flangia</i> U → ø6.50	Motor flanges <i>Flange motore</i>	B3	ST Standard bore <i>Foro standard</i>	A 
	 -W → 56C -X → 143-5TC	B6		
	Without flange <i>Senza flangia</i>	B7		
	 -K → ø0.625 -N → ø0.875	B8		
		V5		B 
		V6		
		V8		
				C 
				D 

The dynamic efficiency is **0.98** for all ratiosInput speed (n_1) = 1750 min⁻¹

Output speed n_2 [min ⁻¹]	Ratio i	Motor power P_{1M} [HP]	Output torque M_{2M} [lb in]	Service factor $f.s$	Nominal power P_{1R} [HP]	Nominal torque M_{2R} [lb in]	Available NEMA motor flanges			Output shaft  $\varnothing$	Ratios code 
							-W 56C	-X 143-5TC			
1114	1.57	2	111	1.6	3.19	177			2844		01
616	2.84	2	201	1.5	3.09	310			1954		02
531	3.29	2	233	1.4	2.89	336			1756		03
453	3.87	2	273	1.3	2.59	354			1558	standard $\varnothing 0.625$	04
379	4.62	2	326	1.3	2.55	416			1360		05
278	6.30	1.5	334	1.2	1.83	407			1063		06
213	8.22	0.75	218	1.5	1.16	336			974		07
161	10.86	0.5	192	1.3	0.65	248			776		08

The nominal power should be reduced if the ambient temperature is $\geq 30^\circ\text{C}$, or when a cooler gearbox is required.Diminuire la potenza nominale in caso di temperatura ambiente $\geq 30^\circ\text{C}$ o se è richiesta una bassa temperatura di utilizzo del riduttore. **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 411I 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 411I 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: 4.93 oz. Quantità olio per tutte le posizioni: 4.93 oz.	Shell Omala S4 WE 320	Eni Telium VSF 320

Radial and axial loads

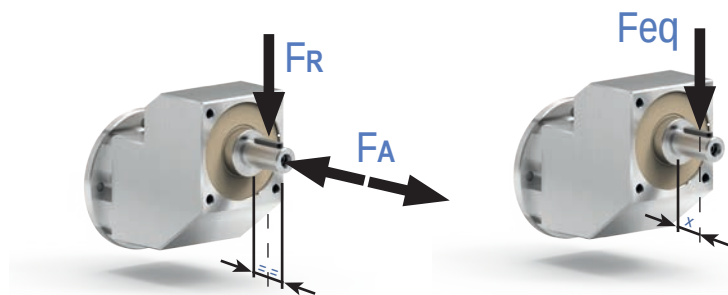
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [lb]	F_R [lb]
700	40.9	204.4
600	44.9	224.7
400	51.7	258.4
300	56.2	280.8
200	65.1	325.8
140	71.9	359.5

$$F_{eq} = F_R \cdot \frac{2.15}{X + 1.12}$$



Tab. 1

Tab. 2

P411I-N... **Basic gearbox**
Riduttore base

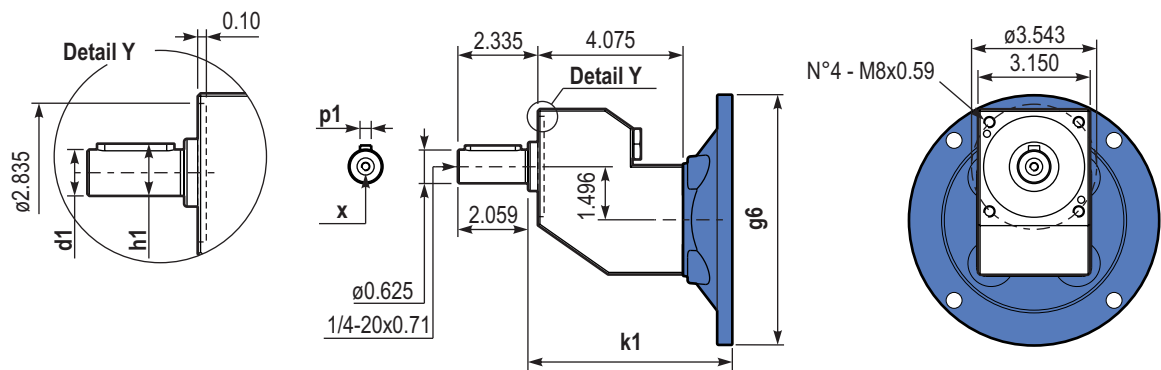
Gearbox weight <i>peso riduttore</i>	12.5 lb
---	---------

Output shafts / *albero di uscita*

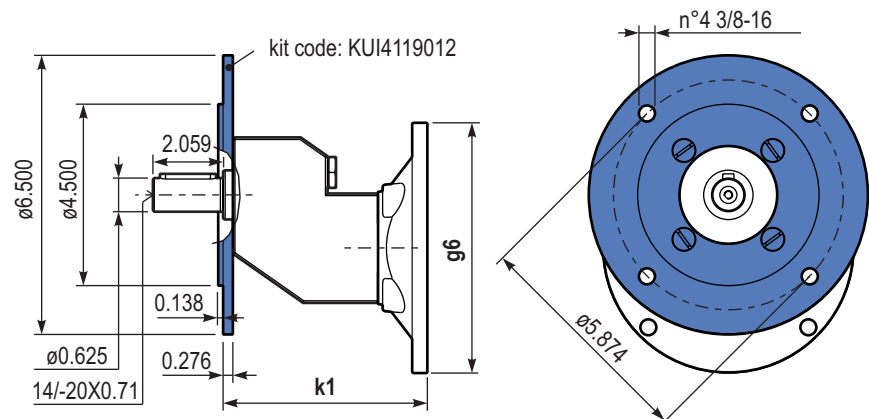
	Shaft - d1	p1	h1	x
Standard	ø0.625	0.188	0.71	1/4-20x0.71

Input flanges / *flange di entrata*

	Kit code	k1	g6
56C-143/5TC	KUI634041	5.63	6.50



P411I-F... **Output flange**
Flangia di uscita



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, it 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 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 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.

IP69K

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.



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.



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.

NOTES

[illegible]

NOTES

This image shows a full page of blank handwriting practice paper. It features 20 evenly spaced, horizontal blue lines running across the entire width of the page. The lines are thin and consistent in color, providing a guide for letter height and placement. There are no margins, text, or other markings on the paper.

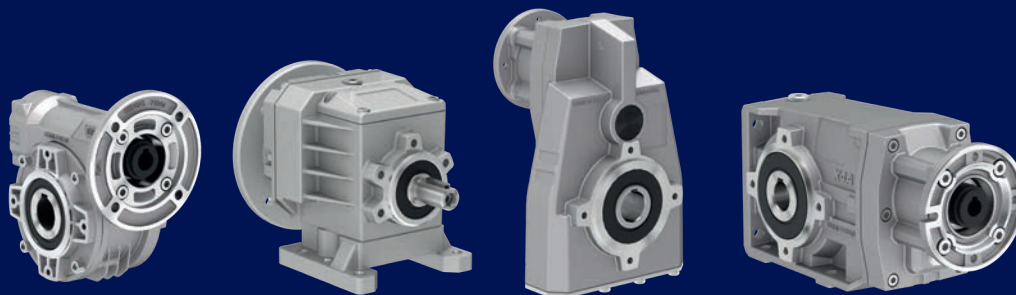
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