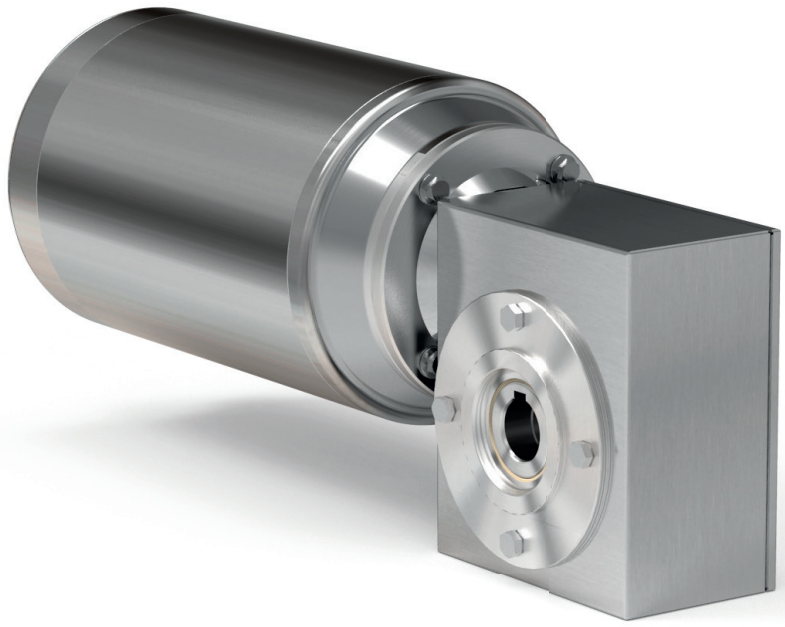
L VFL series
Stainless steel shielded worm gearboxes

Riduttori a vite senza fine schermati in acciaio inox

This range is IP69K CE NSF COMPONENT certified



FEATURES

Caratteristiche

VFL series
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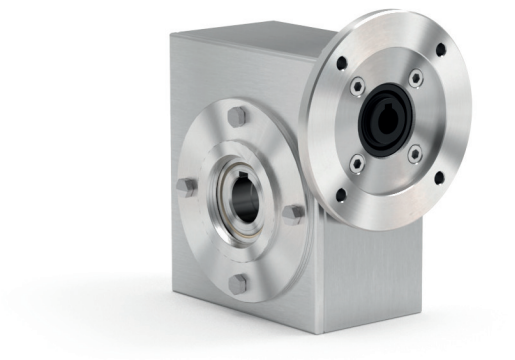
Riduttori a vite senza fine schermati in acciaio inox

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

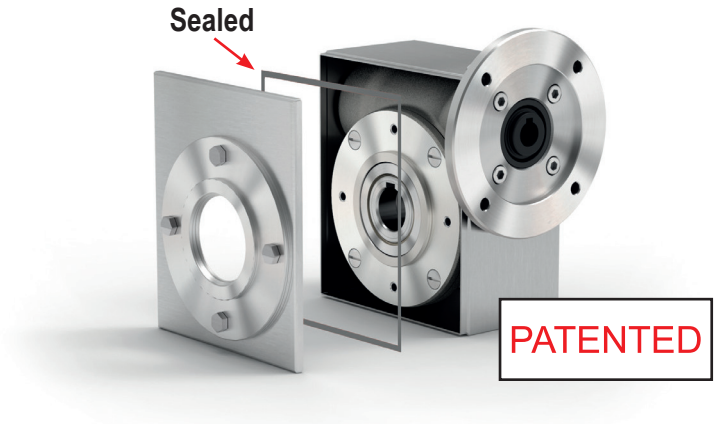


This product is:

IP69K

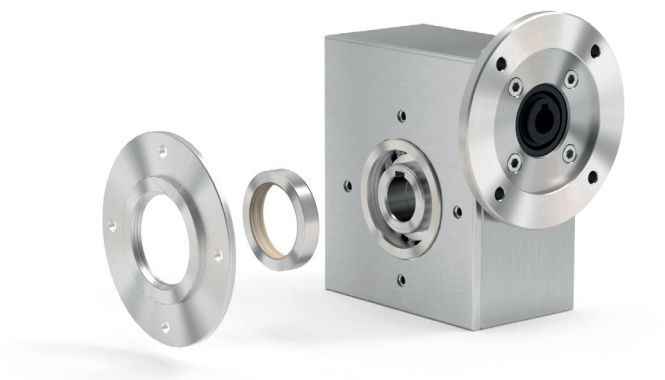
CE

NSF COMPONENT



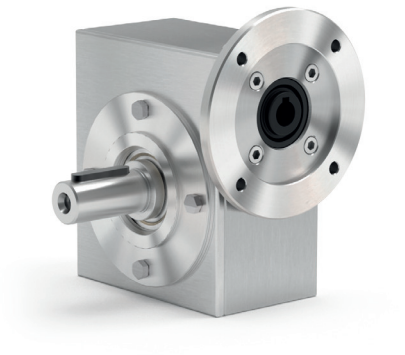
The “L” series is an already totally enclosed aluminum gearboxes, that is shielded and sealed by stainless steel 316L case.

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



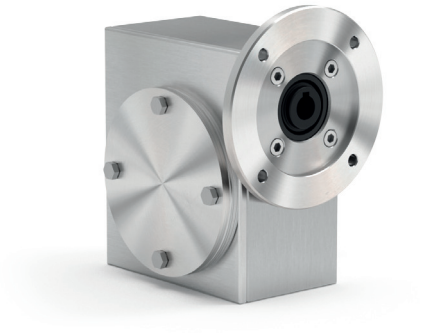
Twin viton seals with stainless steel 316L shield.

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



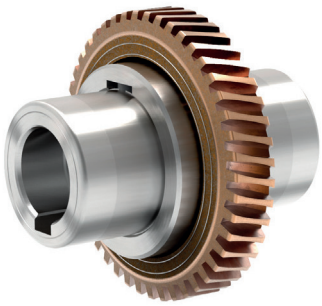
Output shaft is produced in AISI 316L.

Albero in uscita in AISI 316L.



Protection cap in AISI 316L.

Coperchietto di protezione in AISI 316L.



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

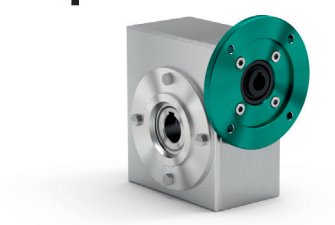
Corona in bronzo al Nickel CuSn12Ni (C91700) centrifugato e mozzo in acciaio inox per massima resistenza e durata superiore. Albero cavo removibile con chiavetta mozzo/corona.

How to order

Codifica

P	LD50	UN	10	I
Type *Tipo*	**Size** *Grandezza*	**Mounting** *Montaggio*	**Ratio** *Rapporto*	**Hub** *Mozzo corona*

P

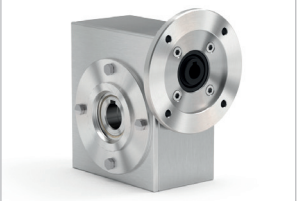


M

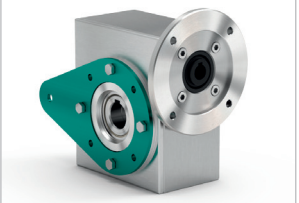
B

LD45
LD50
LD63
LD85

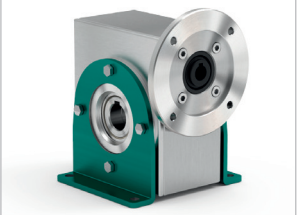
UN



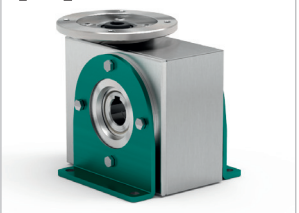
BR



PA

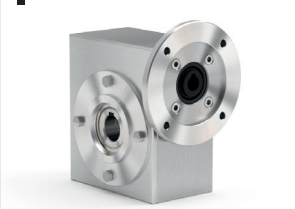


PV



See technical data table
Vedi tabelle dati tecnici

I



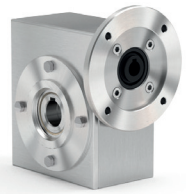
LD45 -> ø18
LD50 -> ø25
LD63 -> ø25
LD85 -> ø35

Z **Inch**

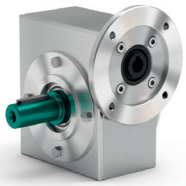
LD45 -> ø0.750”
LD50 -> ø1.000”
LD63 -> ø1.125”
LD85 -> ø1.500”

S	-R	B3	D	With Type M specify terminal box position *Con tipo M specificare posizione morsettiera*
Output shaft *Albero lento*	**Motor size** *Grandezza motore*	**Mounting position** *Posizione di montaggio*	**Input bore** *Foro entrata*	**Terminal box position** *Posizione morsettiera*

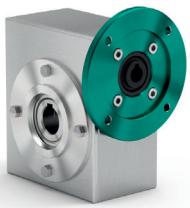
ø



S

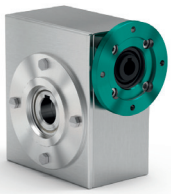


Flange
Flange



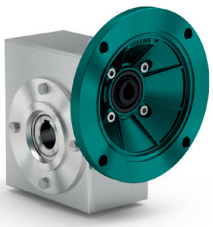
IEC B5

-D *-> 80 B5 (ø200)*
-E *-> 90 B5 (ø200)*



IEC B14

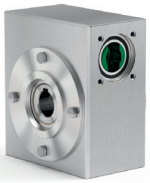
-P *-> 63 B14 (ø90)*
-Q *-> 71 B14 (ø105)*
-R *-> 80 B14 (ø120)*
-T *-> 90 B14 (ø140)*
-U *-> 100-112 B14 (ø160)*



NEMA

-W *-> 56C (ø6.5")*
-X *->143/5TC (ø6.5")*
-Y *-> 182/4TC (ø8.88")*

Without flange
Senza flangia



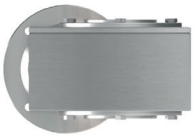
-M *-> Metric*
-N *->Nema*

B3

B8

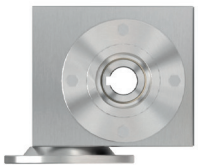
B6

B7



V5

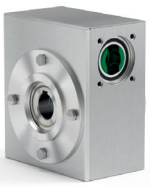
V6



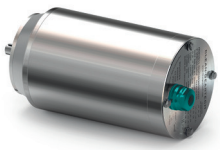
With coupling
Con giunto

B *-> 11mm*
C *-> 14mm*
D *-> 19mm*
E *-> 24mm*
F *-> 28mm*
W *-> ø0.625"*
X *-> ø0.875"*
Y *-> ø1.125"*

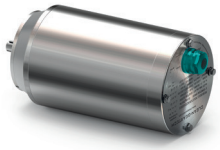
0 **Ready for input coupling**
Predisposto per giunto



A

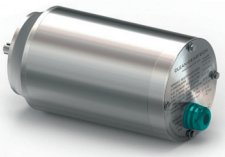


B



C

D



Useful formulas

Formule utili

Required power - *Potenza richiesta*

Lifting - *Sollevamento*

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

Rotation - *Rotazione*

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

Linear movement - *Traslazione*

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

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*

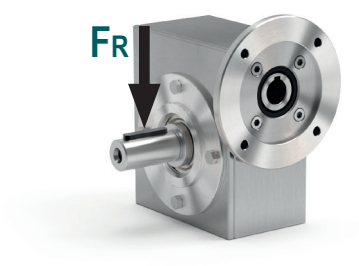
Radial load generated by external transmissions keyed onto input and/or output shafts.
Forza radiale generata da organi di trasmissione calettati sugli alberi di ingresso e/o uscita.

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

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

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 sprochets - *Catena*
- **1.75:** Narrow v-belt pulley - *Cinghia Trapezoidale*
- **2.50:** Flat-belt pulley - *Cinghia piatta*



If your application requires higher radial loads, contact our technical office. Higher loads may be possible.
Nel caso la vostra applicazione richieda carichi radiali superiori consultare il nostro ufficio tecnico, valori maggiori possono essere accettati.

How to select a gearbox

Come selezionare un riduttore

A Select required torque (according to service factor)
Seleziona la coppia desiderata (comprensiva del fattore di servizio)

B Select output speed
Seleziona la velocità in uscita

C Select gear ratio in the line corresponding to the chosen motor power
Sulla riga corrispondente alla motorizzazione prescelta si può rilevare il rapporto di riduzione

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

Gear size *Grandezza riduttore* | **C** Ratio *Rapporto* | Transmitted torque *Momento torcente trasmesso* | Nominal power *Potenza nominale* | Flange code *Codice flangia* | Dynamic efficiency *Rendimento dinamico* | Input speed *Velocità in entrata*

LD45 **41 Nm**

VFL series
Stainless steel shielded worm gearboxes

Riduttori a vite senza fine schermati in acciaio inox

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

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

B Output speed *Velocità in uscita* | Motor power *Potenza motore* | Service factor *Fattore di servizio* | **A** Nominal torque *Momento torcente nominale* | Nominal module *Modulo nominale* | Notes *Note*

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

			Oper. hours per day *Ore di funz. giorn.* <2h	2÷8h	8÷16h
Continuous or intermittent application with start / hour *Applicazione continua o intermittente con numero operazioni/ora*	≤ 10	Uniform - *Uniforme*	0.9	1	1.25
		Moderate - *Moderato*	1	1.25	1.5
		Heavy - *Forte*	1.25	1.5	1.75
Intermittent application with start / hour *Applicazione intermittente con numero operazioni/ora*	> 10	Uniform - *Uniforme*	1.25	1.5	1.75
		Moderate - *Moderato*	1.5	1.75	2
		Heavy - *Forte*	1.75	2	2.25

D Motor flange available *Flange disponibili*

B) Mounting with reduction bushing *Montaggio con boccola di riduzione*

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

B) Available without reduction bushing *Disponibile anche senza boccola*

LD45

41 Nm

VFL series
Stainless steel shielded worm gearboxes

Riduttori a vite senza fine schermati in acciaio inox

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

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

Motor flanges available
Flange motore disponibili

B) **Supplied with reduction bushing**
Fornito con bussola di riduzione

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

C) **Motor flange holes position**
Posizione fori flangia motore

Lubrication
Lubrificazione

Unit LD45 is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.
See Table 1 for lubrication and recommended quantity.
See Table 2 for possible radial and axial loads on the gearbox.
Il riduttore tipo LD45 viene fornito con olio sintetico e lubrificazione tipo "long life".
Disponibile a richiesta olio alimentare.
Vedi Tabella 1 per oli e quantità consigliati.
Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

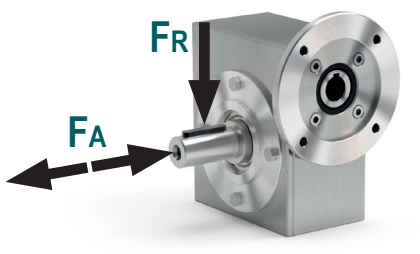
Oil quantity for all positions: 0.08Lt. *Quantità olio per tutte le posizioni: 0.08Lt.*	**Agip** *Telium VSF 320*	**Shell** *Omala S4 WE 320*

Tab. 1

Radial and axial loads
Carichi radiali e assiali

Output shaft
Albero di uscita

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

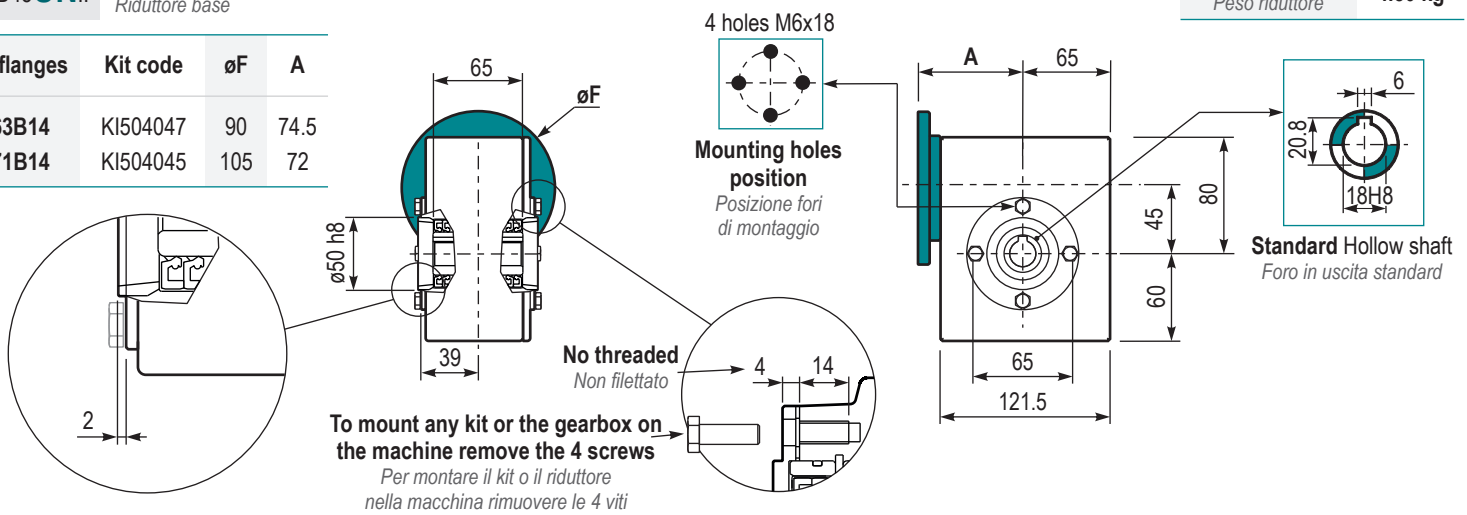


Tab. 2

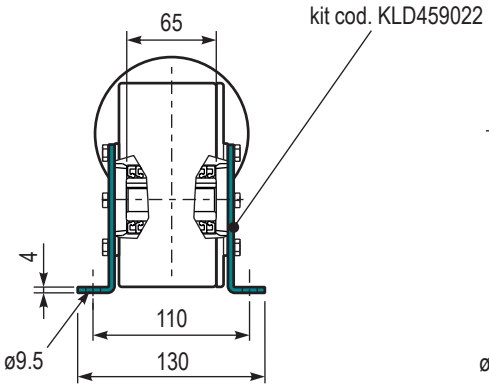
PLD45UN.. Basic gearbox
Riduttore base

Gearbox weight *Peso riduttore* **4.50 kg**

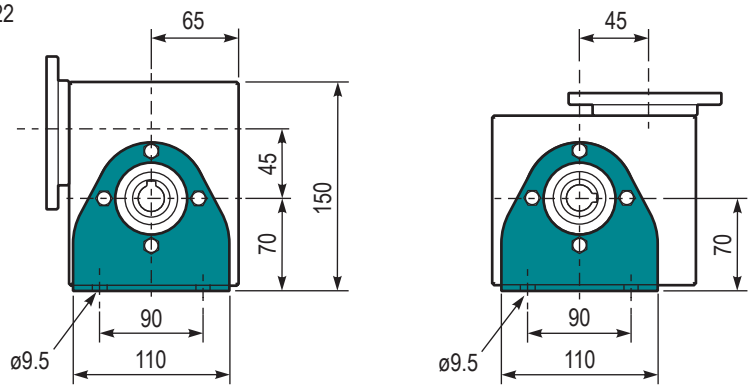
M. flanges	Kit code	øF	A
63B14	KI504047	90	74.5
71B14	KI504045	105	72



PLD45PA.. Feet
Piedini

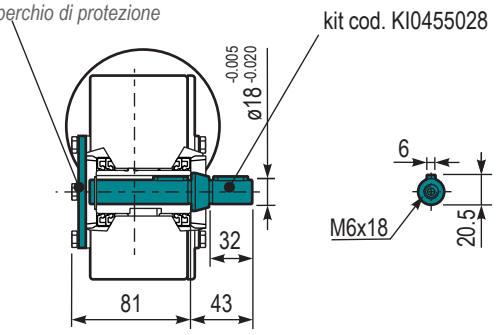


PLD45PV.. Feet
Piedini

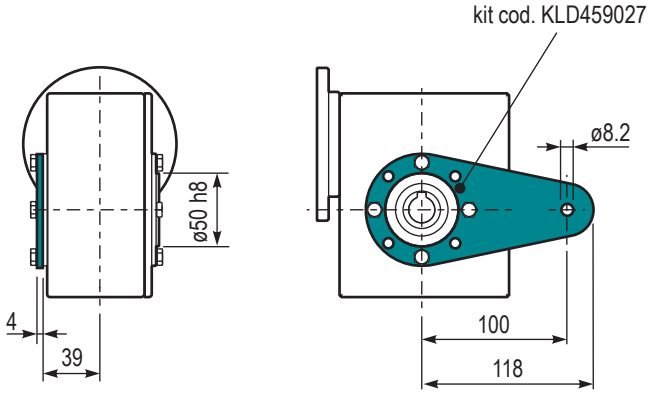


PLD45..S.. Single output shaft
Albero semplice in uscita

cod. LD450209
Protection cap (on request)
A richiesta coperchio di protezione



PLD45BR.. Reaction arm
Braccio di reazione



LD50

72 Nm

VFL series
Stainless steel shielded worm gearboxes

Riduttori a vite senza fine schermati in acciaio inox

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

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

Motor flanges available
Flange motore disponibili

B) **Supplied with reduction bushing**
Fornito con bussola di riduzione

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

C) **Motor flange holes position**
Posizione fori flangia motore

Lubrication
Lubrificazione

Unit LD50 is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.
See Table 1 for lubrication and recommended quantity.
See Table 2 for possible radial and axial loads on the gearbox.
Il riduttore tipo LD50 viene fornito con olio sintetico e lubrificazione tipo "long life".
Disponibile a richiesta olio alimentare.
Vedi Tabella 1 per oli e quantità consigliati.
Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

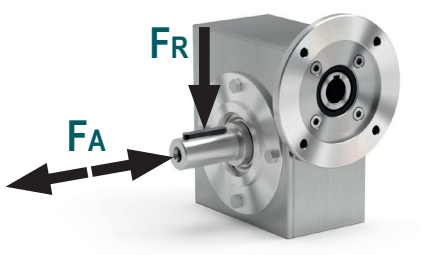
Oil quantity for all positions: 0.12Lt. *Quantità olio per tutte le posizioni: 0.12Lt.*	**Agip** *Telium VSF 320*	**Shell** *Omala S4 WE 320*

Tab. 1

Radial and axial loads
Carichi radiali e assiali

Output shaft
Albero di uscita

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

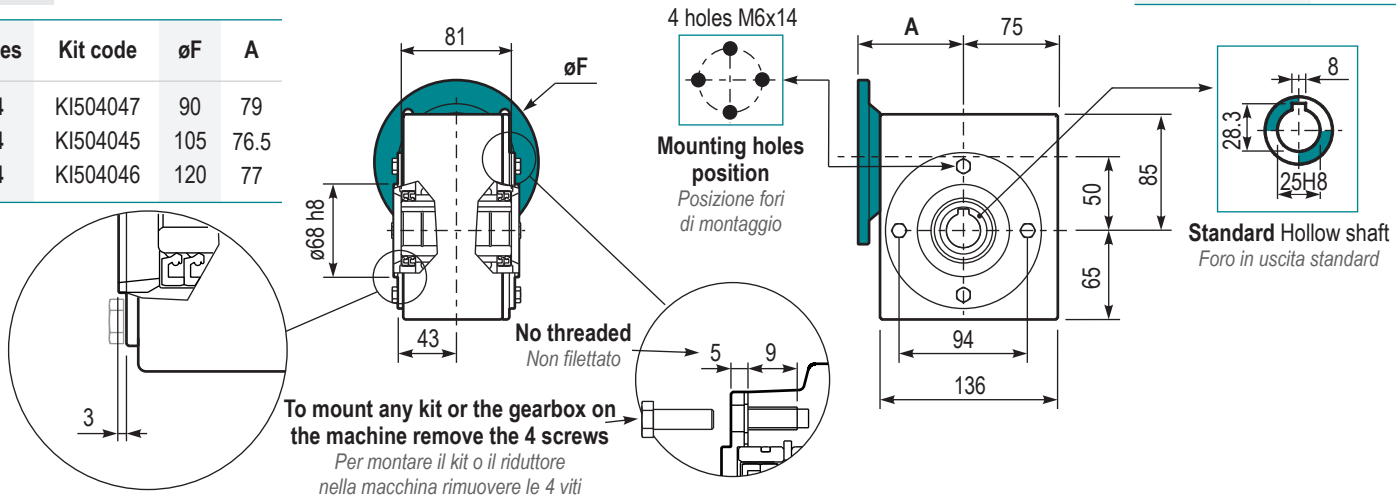


Tab. 2

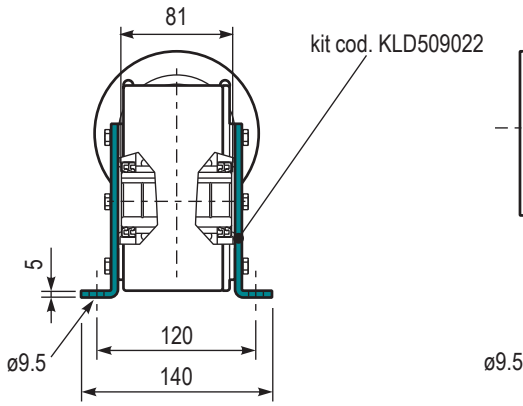
PLD50UN.. Basic gearbox
Riduttore base

Gearbox weight *Peso riduttore* **6.80 kg**

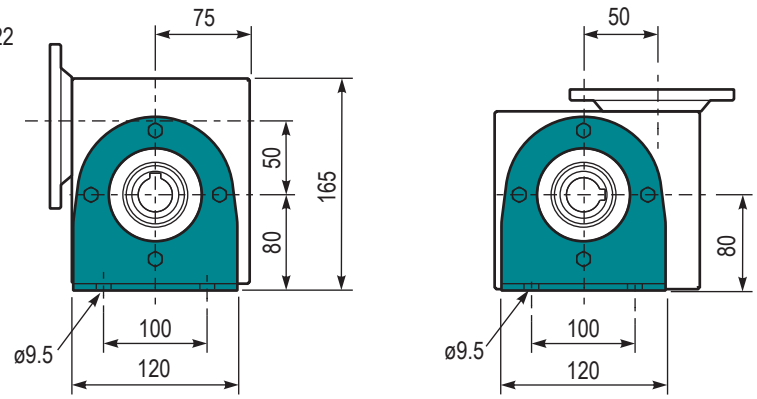
M. flanges	Kit code	øF	A
63B14	KI504047	90	79
71B14	KI504045	105	76.5
80B14	KI504046	120	77



PLD50PA.. Feet
Piedini

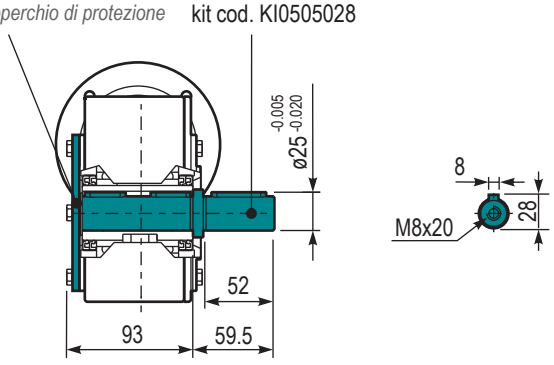


PLD50PV.. Feet
Piedini

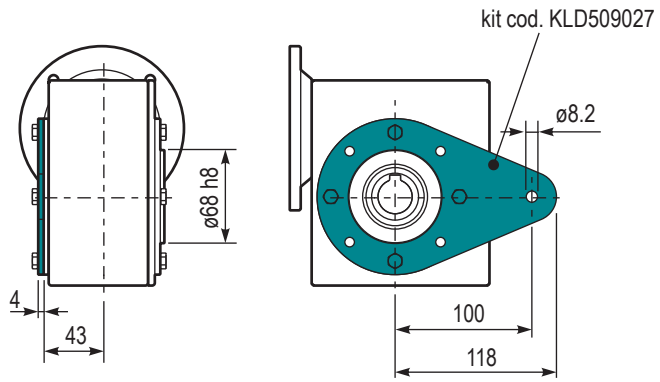


PLD50..S.. Single output shaft
Albero semplice in uscita

cod. LD500209
Protection cap (on request)
A richiesta coperchio di protezione



PLD50BR.. Reaction arm
Braccio di reazione



LD63

147 Nm

VFL series
Stainless steel shielded worm gearboxes

Riduttori a vite senza fine schermati in acciaio inox

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

Output speed	Ratio	Motor power	Output torque	Service factor	Nominal power	Nominal torque	B5 motor flanges				B14 motor flanges			Dynamic efficiency	Tooth module	Ratio code
							- - - -				-Q	-R	-T			
n_2 [min^{-1}]	i	P_{1M} [kW]	M_{2M} [Nm]	f.s	P_{1R} [kW]	M_{2R} [Nm]	- - - -				71	80	90	RD	[mm]	
200	**7**	1.8	71	1.8	3.2	125					C	C		83	3.1	01
140	**10**	1.8	99	1.4	2.4	134					C	C		81	3.1	02
93	**15**	1.5	121	1.1	1.7	138					C	C		79	3.1	03
74	**19**	1.1	111	1.2	1.4	138					C	C		78	2.6	04
58	**24**	1.1	135	1.0	1.2	142					C	C		75	2.0	05
47	**30**	1.1	167	0.9	0.96	146					C	C		74	3.2	06
39	**36**	0.75	125	1.2	0.88	147					C	C		68	2.7	07
35	**40**	0.75	135	1.0	0.78	140					C	C		66	2.5	13
31	**45**	0.55	111	1.2	0.67	135					C	C		66	2.1	08
23	**60**	0.55	140	0.9	0.51	130					C	C		62	1.6	12
21	**67**	0.55	151	0.8	0.45	124					C	C		60	1.5	09
17.5	**80**	0.37	115	1.0	0.38	119					C	C		57	1.3	10
14.9	**94**	0.37	123	1.0	0.36	119					C	C		52	1.1	11

Motor flanges available
Flange motore disponibili

B) **Supplied with reduction bushing**
Fornito con bussola di riduzione

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

C) **Motor flange holes position**
Posizione fori flangia motore

Lubrication
Lubrificazione

Unit LD63 is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.
See Table 1 for lubrication and recommended quantity.
See Table 2 for possible radial and axial loads on the gearbox.
Il riduttore tipo LD63 viene fornito con olio sintetico e lubrificazione tipo "long life".
Disponibile a richiesta olio alimentare.
Vedi Tabella 1 per oli e quantità consigliati.
Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

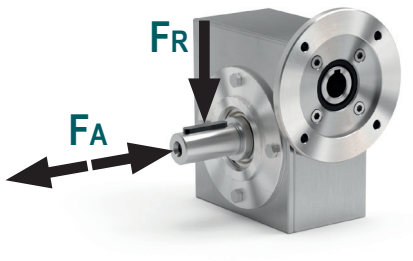
Oil quantity for all positions: 0.30Lt. *Quantità olio per tutte le posizioni: 0.30Lt.*	**Agip** *Telium VSF 320*	**Shell** *Omala S4 WE 320*

Tab. 1

Radial and axial loads
Carichi radiali e assiali

Output shaft
Albero di uscita

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

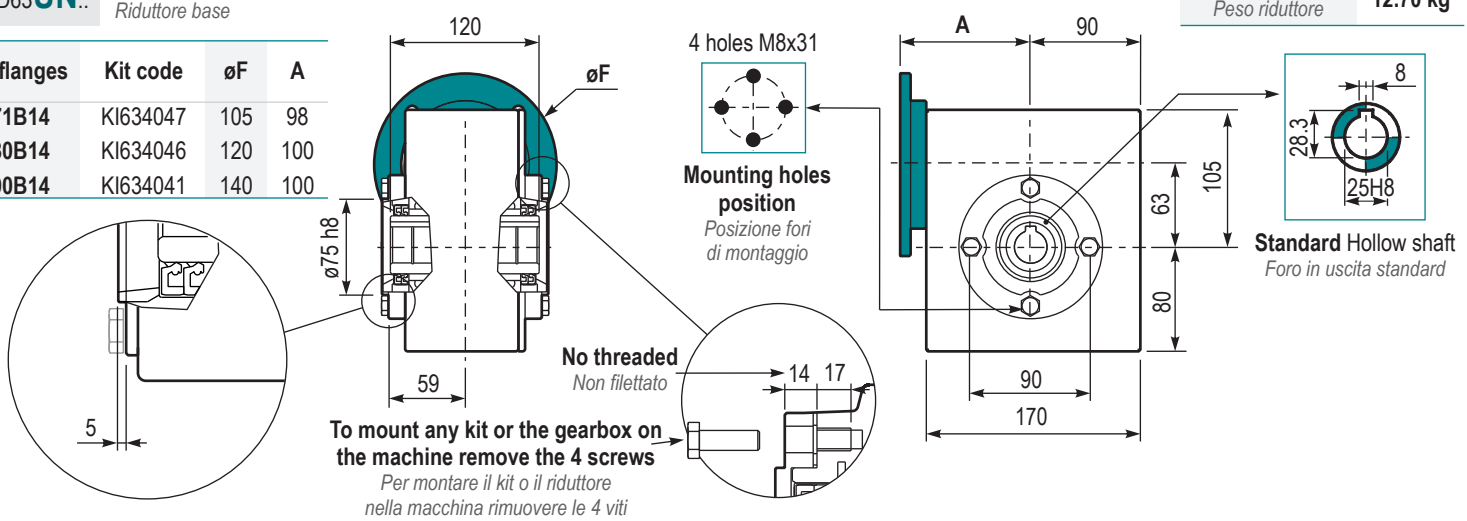


Tab. 2

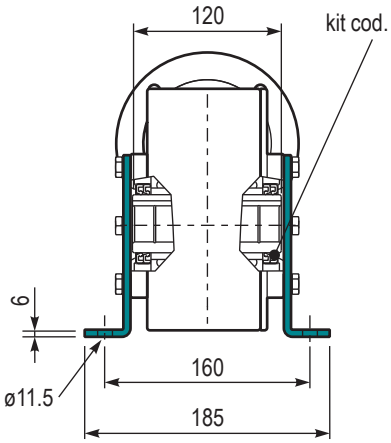
PLD63UN.. Basic gearbox
Riduttore base

Gearbox weight *Peso riduttore* **12.70 kg**

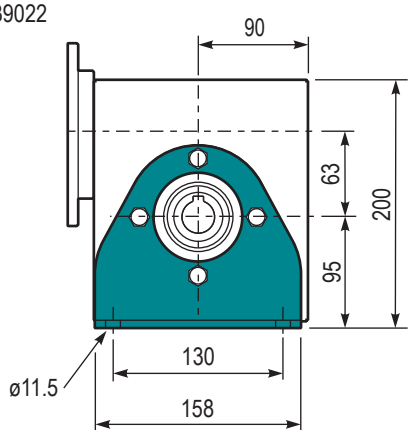
M. flanges	Kit code	øF	A
71B14	KI634047	105	98
80B14	KI634046	120	100
90B14	KI634041	140	100

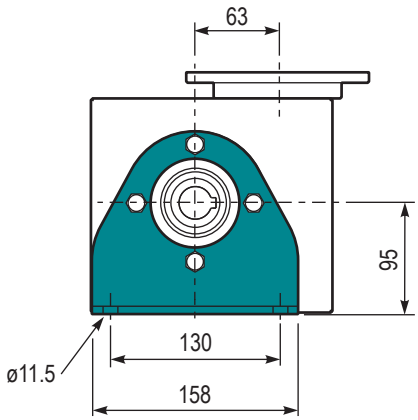


PLD63PA.. Feet
Piedini



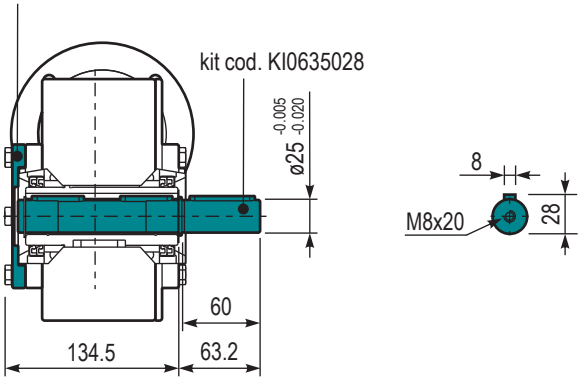
PLD63PV.. Feet
Piedini



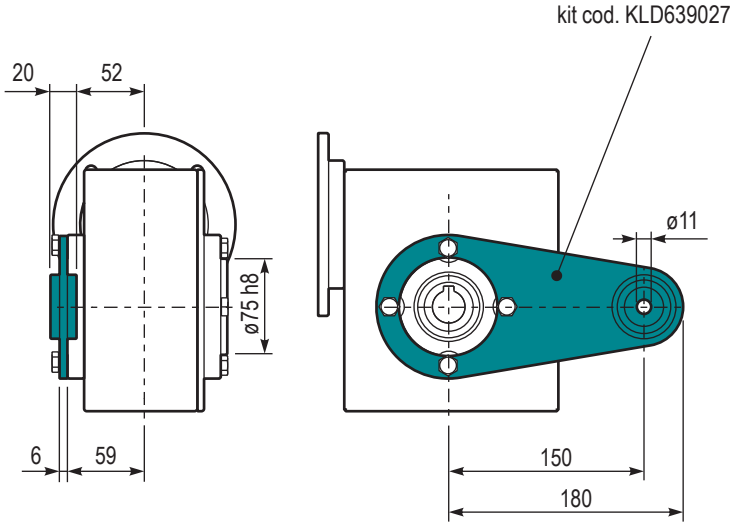


PLD63..S.. Single output shaft
Albero semplice in uscita

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



PLD63BR.. Reaction arm
Braccio di reazione



LD85

347 Nm

VFL series
Stainless steel shielded worm gearboxes

Riduttori a vite senza fine schermati in acciaio inox

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

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

Motor flanges available
Flange motore disponibili

B) **Supplied with reduction bushing**
Fornito con bussola di riduzione

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

C) **Motor flange holes position**
Posizione fori flangia motore

Lubrication
Lubrificazione

Unit LD85 is supplied with synthetic oil to assure long life lubrication.
Food grade oil is available on request.
See Table 1 for lubrication and recommended quantity.
See Table 2 for possible radial and axial loads on the gearbox.
Il riduttore tipo LD85 viene fornito con olio sintetico e lubrificazione tipo "long life".
Disponibile a richiesta olio alimentare.
Vedi Tabella 1 per oli e quantità consigliati.
Vedi Tabella 2 per i carichi radiali e assiali applicabili al riduttore.

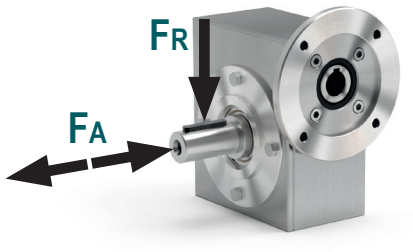
Oil quantity for all positions: 0.95Lt. *Quantità olio per tutte le posizioni: 0.95Lt.*	**Agip** *Telium VSF 320*	**Shell** *Omala S4 WE 320*

Tab. 1

Radial and axial loads
Carichi radiali e assiali

Output shaft
Albero di uscita

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

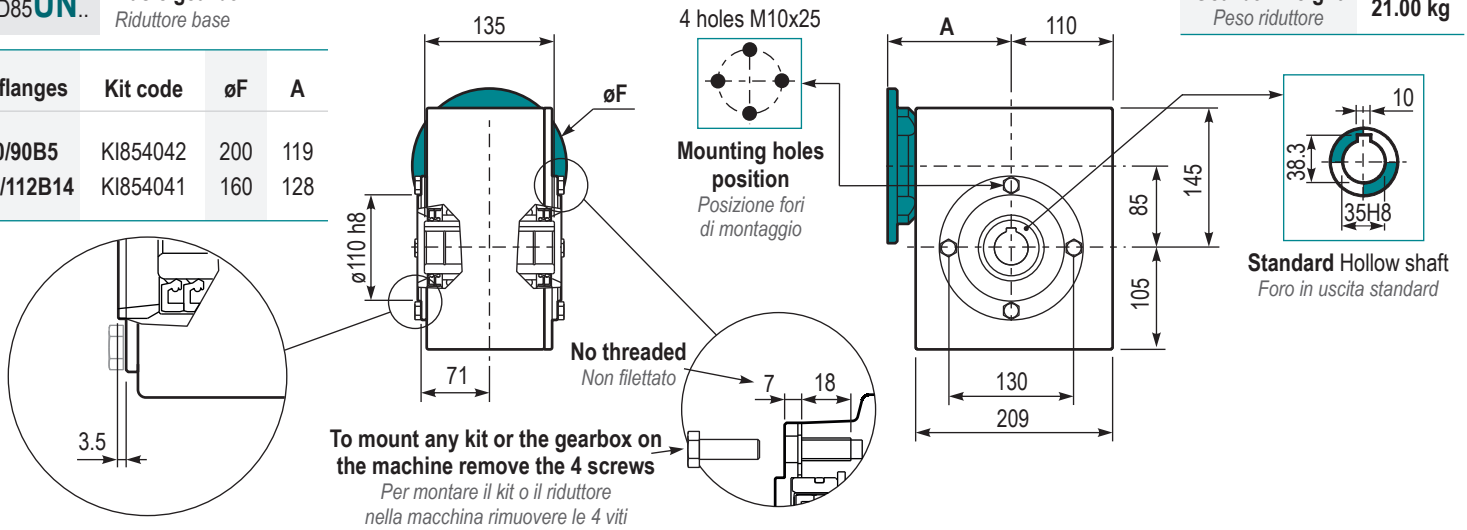


Tab. 2

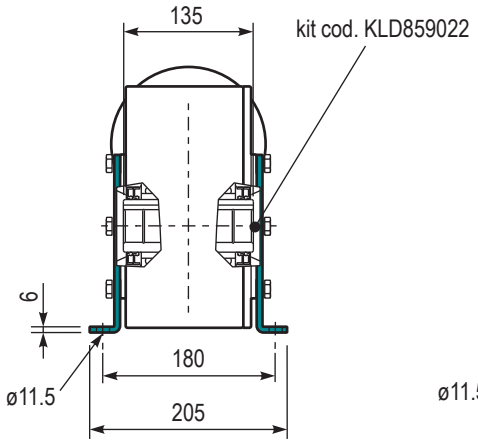
PLD85UN.. Basic gearbox
Riduttore base

M. flanges	Kit code	øF	A
80/90B5	KI854042	200	119
100/112B14	KI854041	160	128

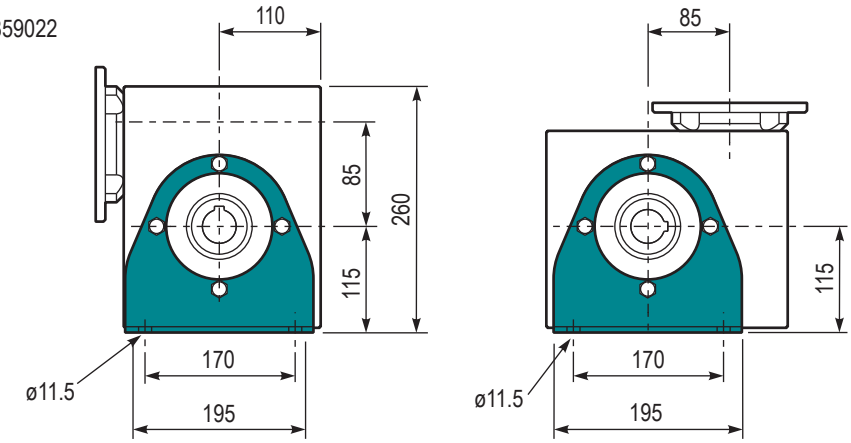
Gearbox weight *Peso riduttore* **21.00 kg**



PLD85PA.. Feet
Piedini

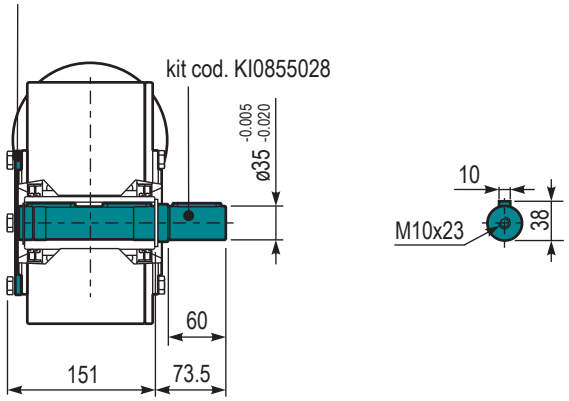


PLD85PV.. Feet
Piedini



PLD85..S.. Single output shaft
Albero semplice in uscita

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



PLD85BR.. Reaction arm
Braccio di reazione