

L VFL series Stainless steel shielded worm gearboxes

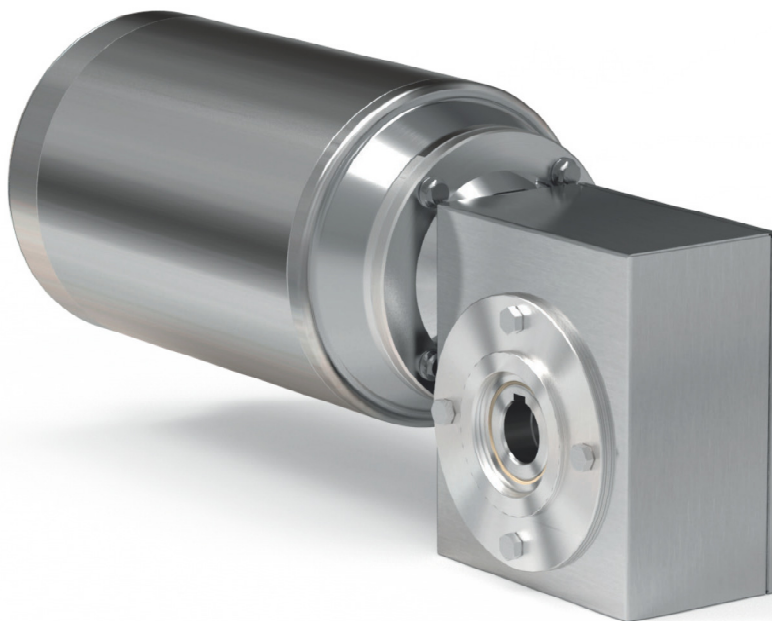
Riduttori a vite senza fine schermati in acciaio inox

Section 3
Sezione 3

This range is



certified



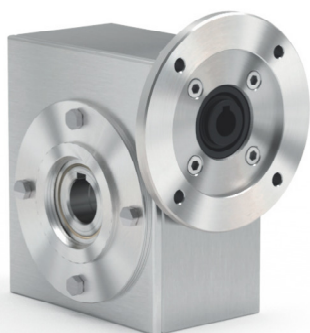
FEATURES

Caratteristiche

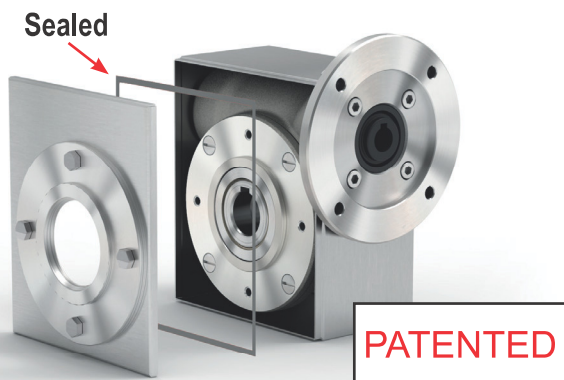
VFL series Stainless steel shielded worm gearboxes

Riduttori a vite senza fine schermati in acciaio inox

Type <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>
LD45	41 Nm	45 mm	0.12 ÷ 0.37 kW	ø18 mm
LD50	72 Nm	50 mm	0.12 ÷ 0.75 kW	ø25 mm
LD63	147 Nm	63 mm	0.37 ÷ 1.8 kW	ø25 mm
LD85	347 Nm	85 mm	0.55 ÷ 4.0 kW	ø35 mm

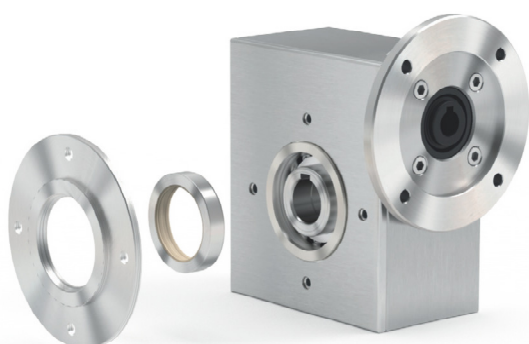


This product is:



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

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



Twin viton seals with stainless steel 316L shield.



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

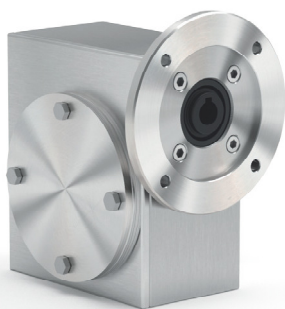
FEATURES

Caratteristiche



Output shaft is produced in AISI 316L.

Albero in uscita in AISI 316L.



Protection cap in AISI 316L.

Coperchietto di protezione in AISI 316L.

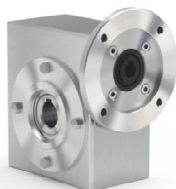
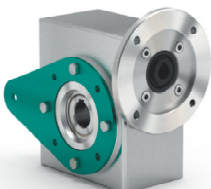
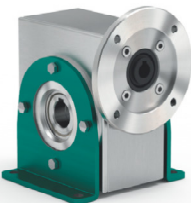


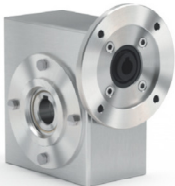
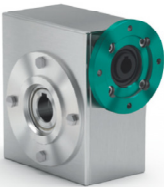
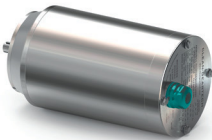
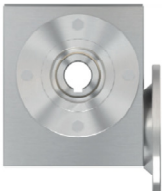
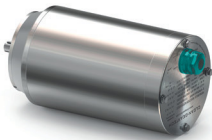
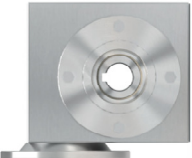
CuSn12Ni (C91700) Nickel bronze worm gears are centrifugally cast onto an iron hub for maximum strength and superior life. Removable hollow shaft with key for safe torque transmissions.

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

How to order

Codifica

P	LD50	UN	10	I
Type <i>Tipo</i>	Size <i>Grandezza</i>	Mounting <i>Montaggio</i>	Ratio <i>Rapporto</i>	Hub <i>Mozzo corona</i>
P 	LD45 LD50 LD63 LD85	UN 	See technical data table <i>Vedi tabelle dati tecnici</i>	I 
M 		BR 		LD45 -> ø18 LD50 -> ø25 LD63 -> ø25 LD85 -> ø35
B 		PA 		Z Inch LD45 -> ø0.750" LD50 -> ø1.000" LD63 -> ø1.125" LD85 -> ø1.500"
		PV 		

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

Useful formulas

Formule utili

Required power - Potenza richiesta

Lifting - Sollevamento

Rotation - Rotazione

Linear movement - Traslazione

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

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

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

Torque - Coppia

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

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

Radial loads - Carichi radiali

Radial load generated by external transmissions keyed onto input and/or output shafts.

Forza radiale generata da organi di trasmissione calettati sugli alberi di ingresso e/o uscita.

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

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

M: Output torque - *Momento torcente*

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

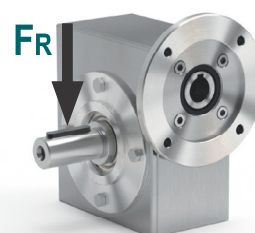
f_k: Factor - *Coefficiente di trasformazione*

1.15: Gearwheels - *Ingranaggi*

1.25: Chain sprockets - *Catena*

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

2.50: Flat-belt pulley - *Cinghia piatta*



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

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

How to select a gearbox

Come selezionare un riduttore

A

Select required torque (according to service factor)

Seleziona la coppia desiderata (comprensiva del fattore di servizio)

B

Select output speed

Seleziona la velocità in uscita

C

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

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

D

Select motor flange available (if requested)

Scegli la flangia disponibile (se richiesta)

Gear size
Grandezza
riduttore

C

Ratio
Rapporto

Transmitted torque
Momento torcente
trasmesse

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 n_2 [min ⁻¹]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor $f.s$	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	B5 motor flanges		B14 motor flanges		Dynamic efficiency RD	Tooth module [mm]	Ratio code
							-	-	-P 63	-Q 71			
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.

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

D

Motor flange available
Flange disponibili

B)

Mounting with reduction bushing
Montaggio con boccia di riduzione

C)

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

B)

Available without reduction bushing
Disponibile anche senza boccia

VFL series

Stainless steel shielded worm gearboxes

Riduttori a vite senza fine schermati in acciaio inox

Input speed (n_1) = 1400 min⁻¹

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

Motor flanges available
Flange motore disponibili



B) Supplied with reduction bushing
Fornito con bussola di riduzione

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



C) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

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

Food grade oil is available on request.

See Table 1 for lubrication and recommended quantity.

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

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

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

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

Oil quantity for
all positions:
0.08Lt.

Quantità olio per tutte
le posizioni: 0.08Lt.

Agip
Telium VSF 320

Shell
Omala S4 WE 320

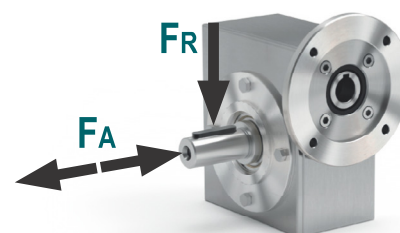
Radial and axial loads

Carichi radiali e assiali

Output shaft

Albero di uscita

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



Tab. 1

Tab. 2

41
Nm

LD45

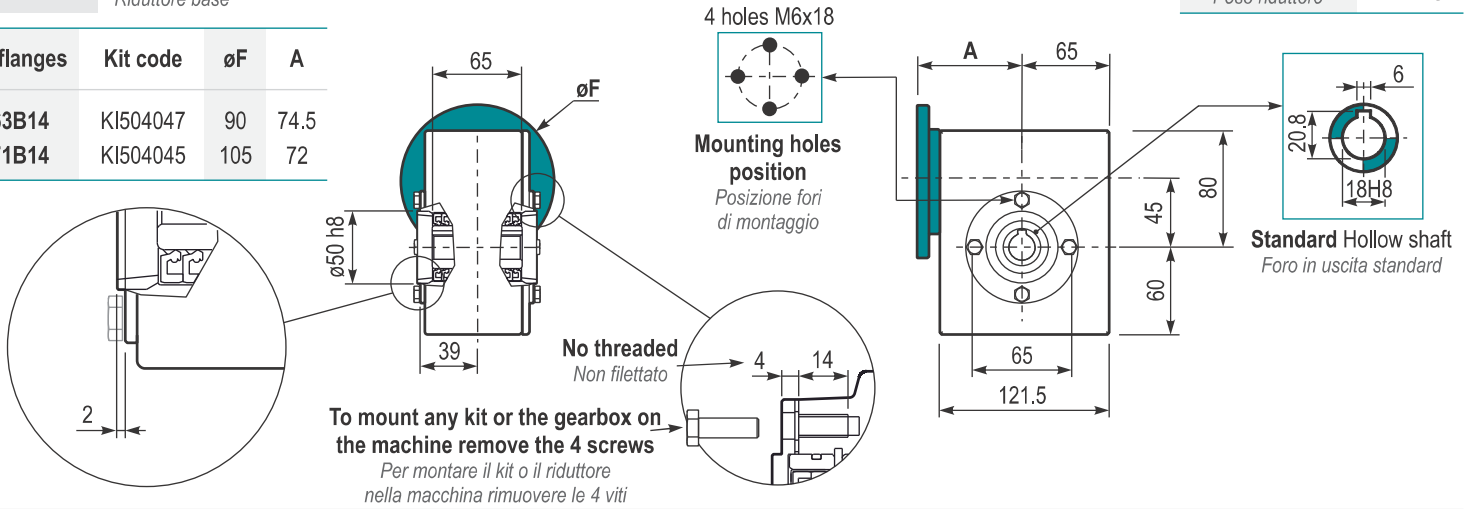
PLD45UN..

Basic gearbox
Riduttore base

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

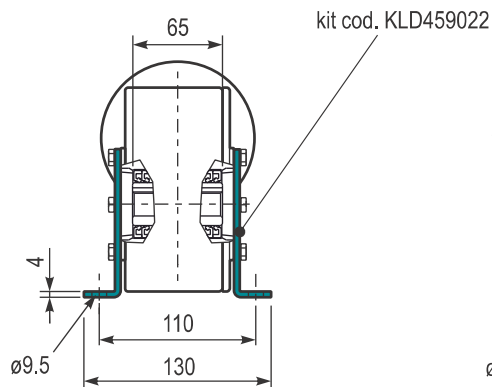
Gearbox weight
Peso riduttore

4.50 kg



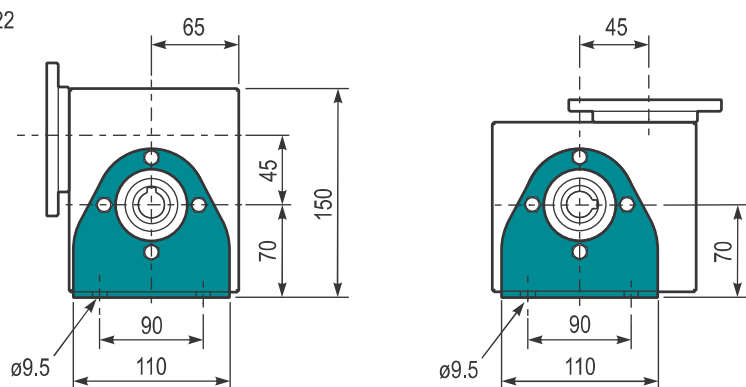
PLD45PA..

Feet
Piedini



PLD45PV..

Feet
Piedini



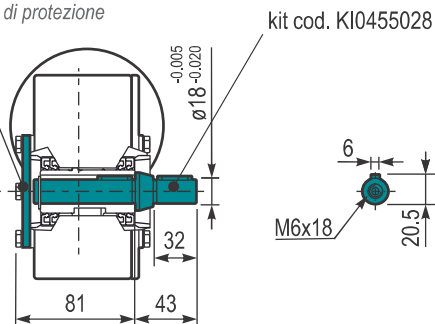
PLD45..S..

Single output shaft
Albero semplice in uscita

cod. LD450209

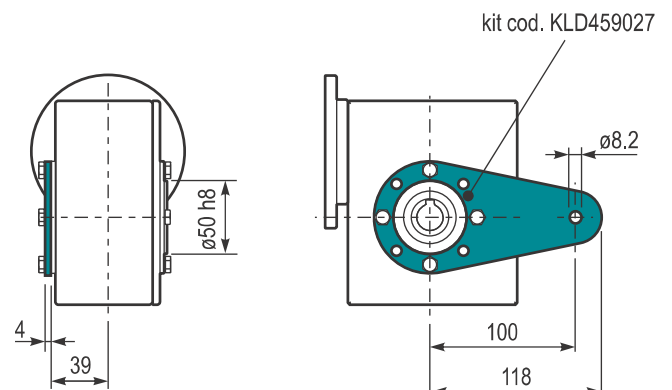
Protection cap (on request)

A richiesta coperchio di protezione



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

Motor flanges available
Flange motore disponibili



B) Supplied with reduction bushing
Fornito con bussola di riduzione



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



C) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

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

See Table 1 for lubrication and recommended quantity.

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

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

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

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

Oil quantity for
all positions:
0.12Lt.

Quantità olio per tutte
le posizioni: 0.12Lt.

Agip
Telium VSF 320

Shell
Omala S4 WE 320

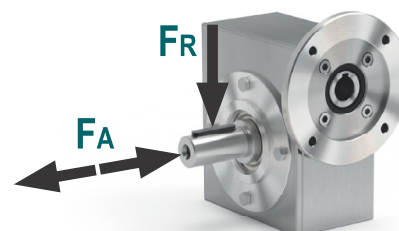
Radial and axial loads

Carichi radiali e assiali

Output shaft

Albero di uscita

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



Tab. 1

Tab. 2

72
Nm

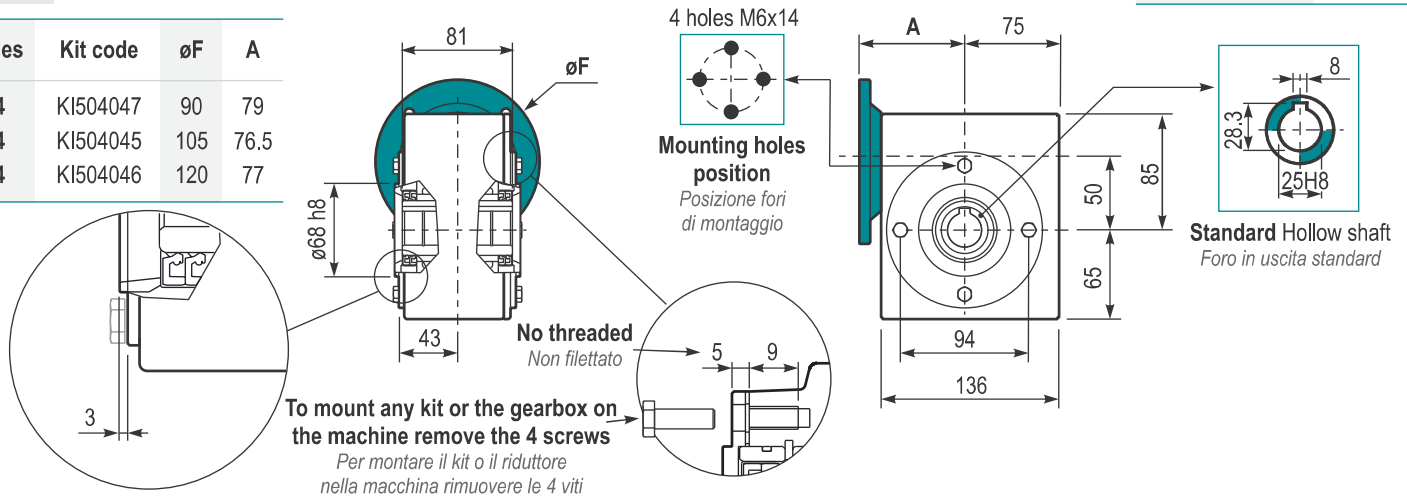
LD50

PLD50UN..

Basic gearbox
Riduttore base

Gearbox weight
Peso riduttore **6.80 kg**

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

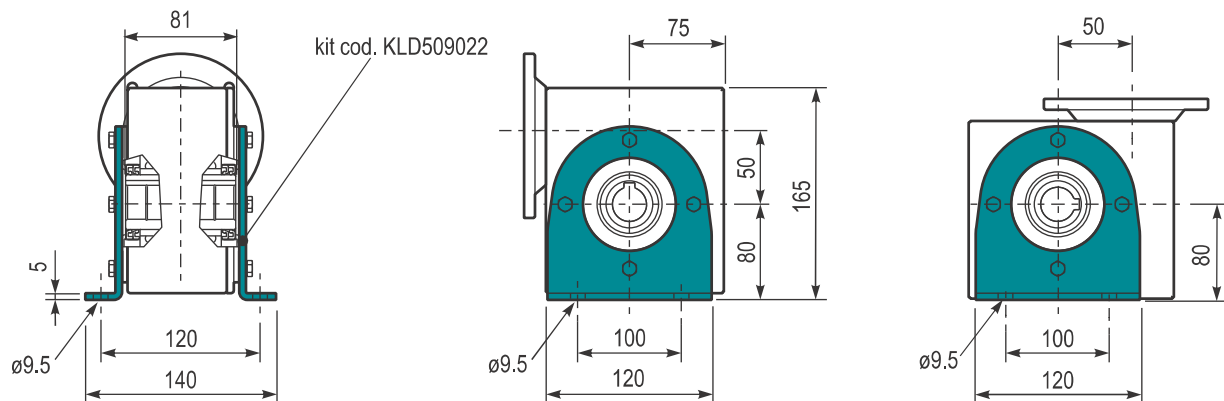


PLD50PA..

Feet
Piedini

PLD50PV..

Feet
Piedini



PLD50..S..

Single output shaft
Albero semplice in uscita

PLD50BR..

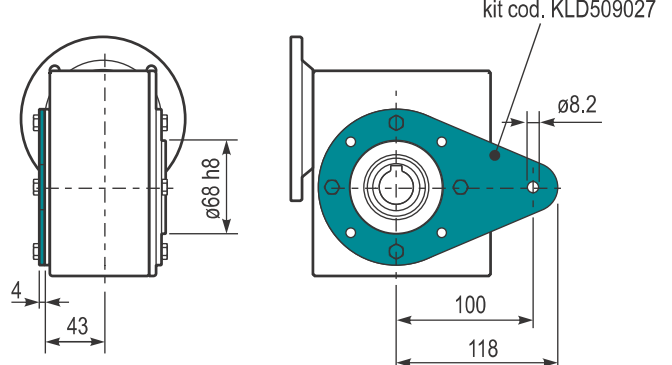
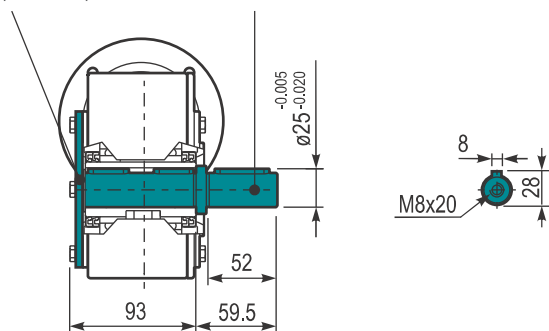
Reaction arm
Braccio di reazione

cod. LD500209

Protection cap (on request)

A richiesta coperchio di protezione

kit cod. KI0505028



LD63

147
Nm

VFL series

Stainless steel shielded worm gearboxes

Riduttori a vite senza fine schermati in acciaio inox

Input speed (n_1) = 1400 min⁻¹

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

Motor flanges available
Flange motore disponibili



B) Supplied with reduction bushing
Fornito con bussola di riduzione

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



C) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

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

See Table 1 for lubrication and recommended quantity.

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

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

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

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

Oil quantity for
all positions:
0.30Lt.

Quantità olio per tutte
le posizioni: 0.30Lt.

Agip
Telium VSF 320

Shell
Omala S4 WE 320

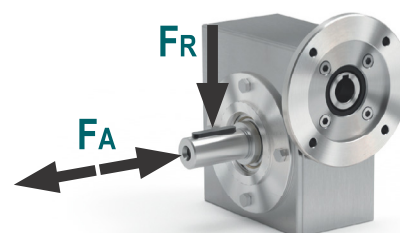
Radial and axial loads

Carichi radiali e assiali

Output shaft

Albero di uscita

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



Tab. 1

Tab. 2

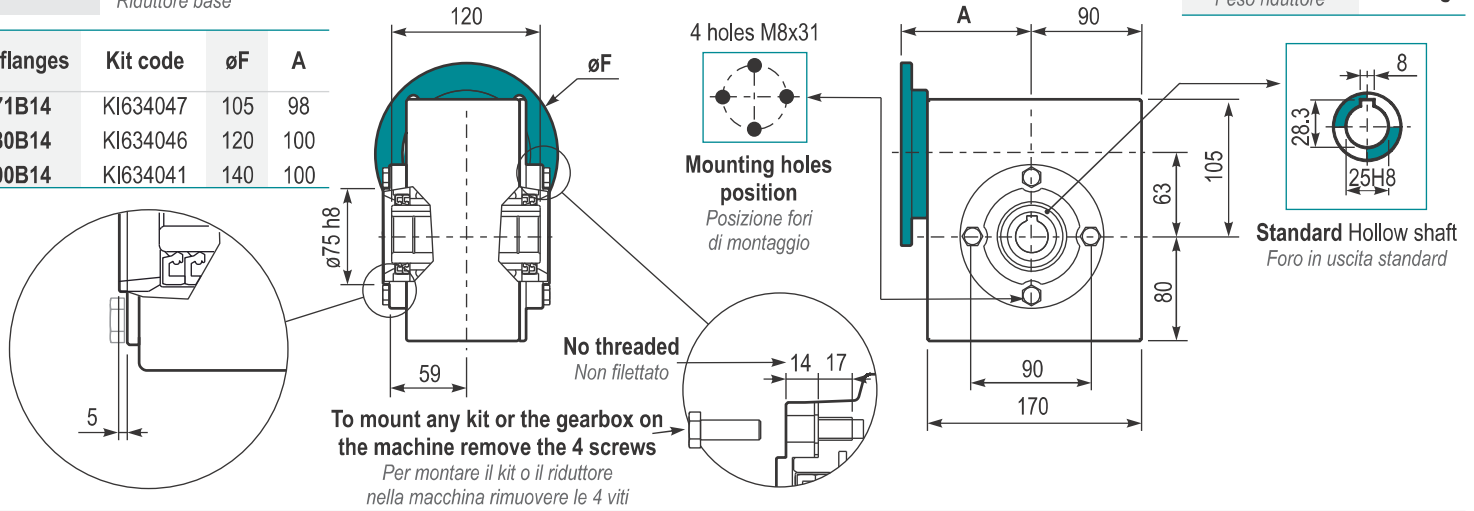
147
Nm

LD63

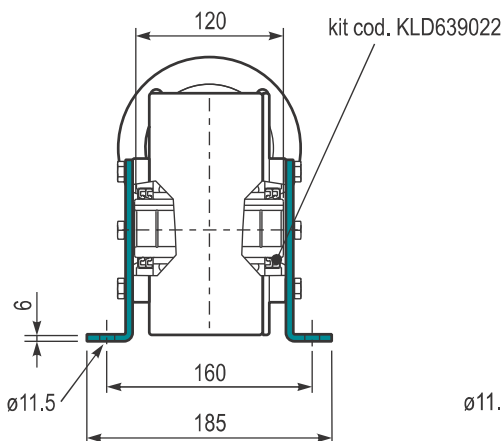
PLD63UN.. Basic gearbox
Riduttore base

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

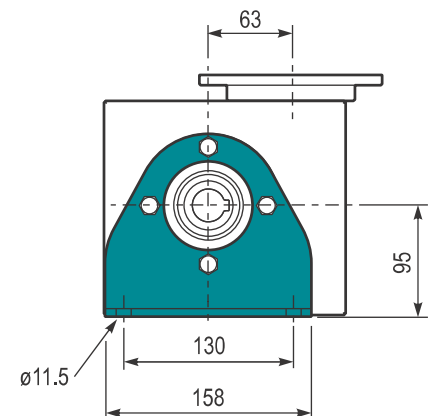
Gearbox weight
Peso riduttore 12.70 kg



PLD63PA.. Feet
Piedini

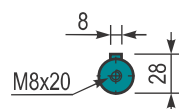
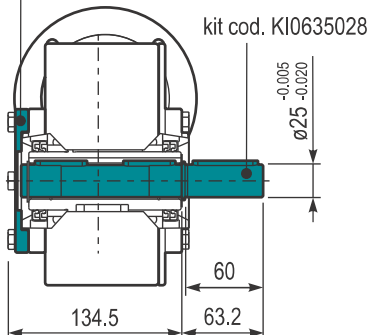


PLD63PV.. Feet
Piedini

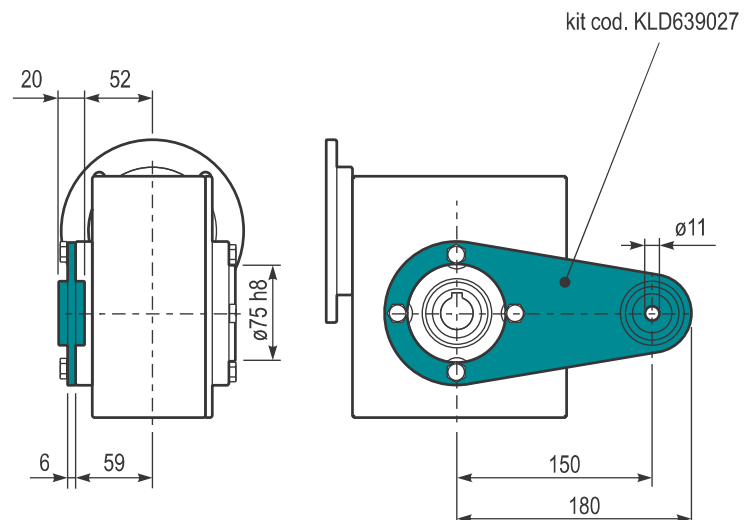


PLD63..S.. Single output shaft
Albero semplice in uscita

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



PLD63BR.. Reaction arm
Braccio di reazione



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

Motor flanges available
Flange motore disponibili



B) Supplied with reduction bushing
Fornito con bussola di riduzione



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



C) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

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

See Table 1 for lubrication and recommended quantity.

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

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

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

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

Oil quantity for
all positions:
0.95Lt.

Quantità olio per tutte
le posizioni: 0.95Lt.

Agip
Telium VSF 320

Shell
Omala S4 WE 320

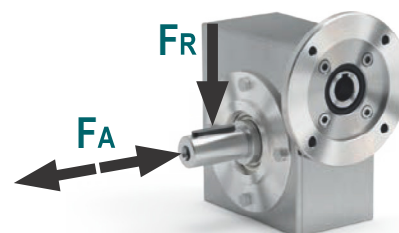
Radial and axial loads

Carichi radiali e assiali

Output shaft

Albero di uscita

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



Tab. 1

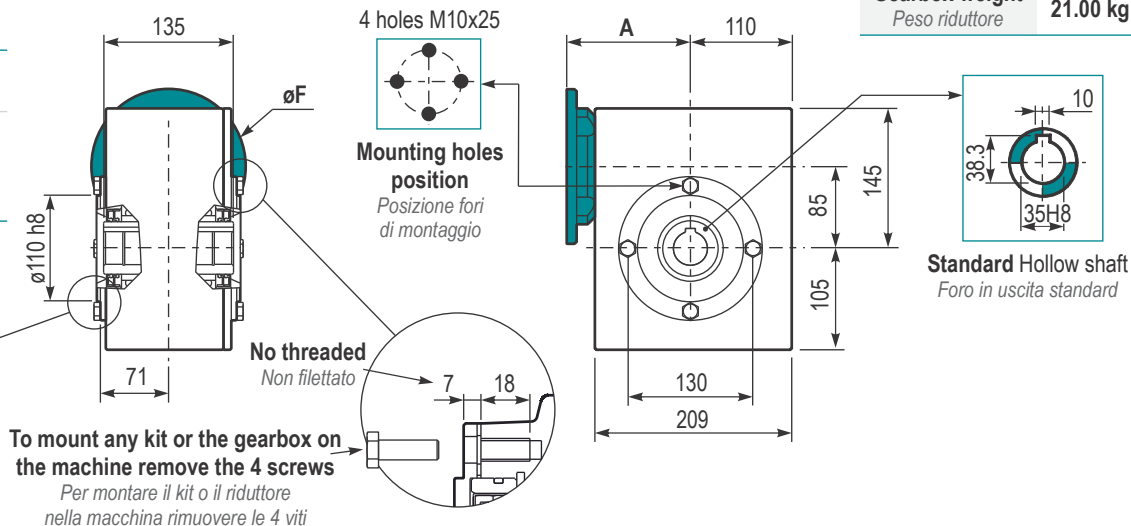
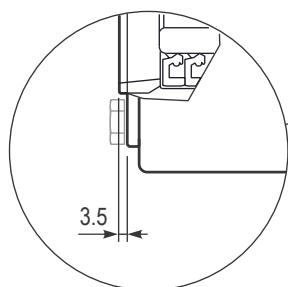
Tab. 2

347
Nm

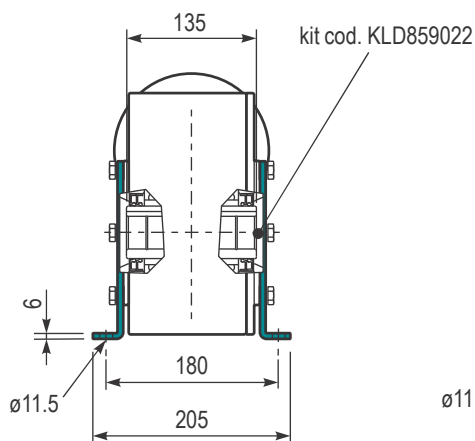
LD85

PLD85 **UN**.. Basic gearbox
Riduttore base

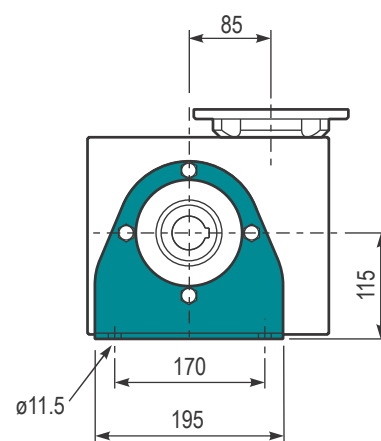
M. flanges	Kit code	øF	A
80B14	KI854046	120	119
90B14	KI854045	140	119
100/112B14	KI854041	160	128



PLD85 **PA**.. Feet
Piedini

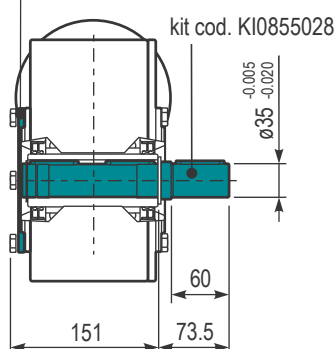


PLD85 **PV**.. Feet
Piedini



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

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



PLD85 **BR**.. Reaction arm
Braccio di reazione

