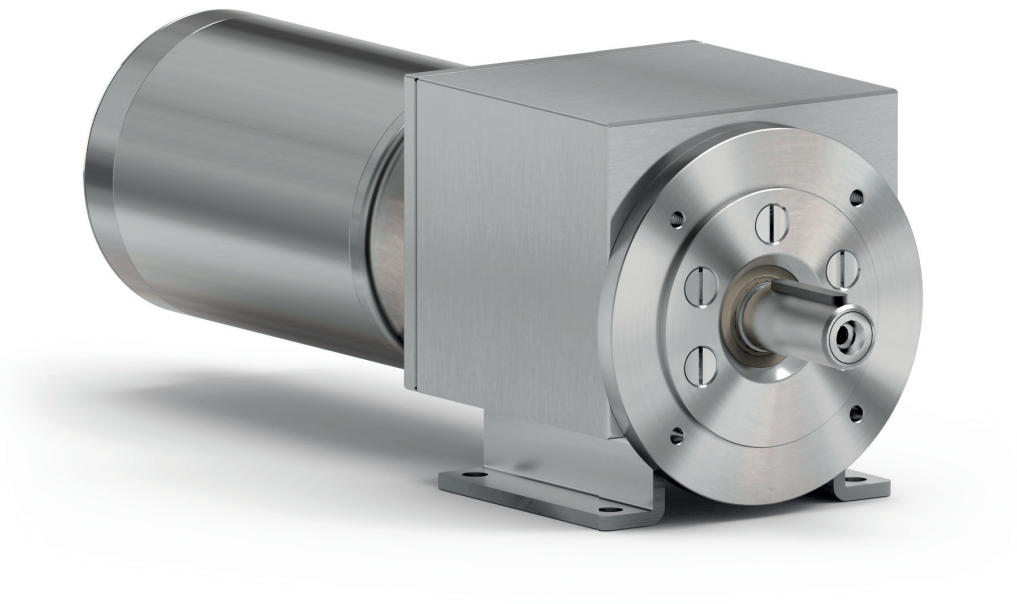


L RCL series Stainless steel shielded coaxial gearboxes

Riduttori coassiali schermati in acciaio inox

Section **5**
Sezione 5

This range is   certified



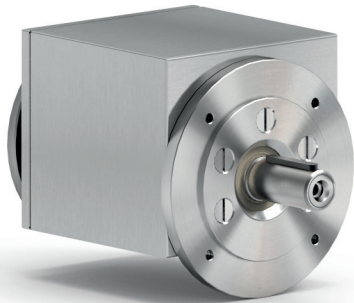
FEATURES

Caratteristiche

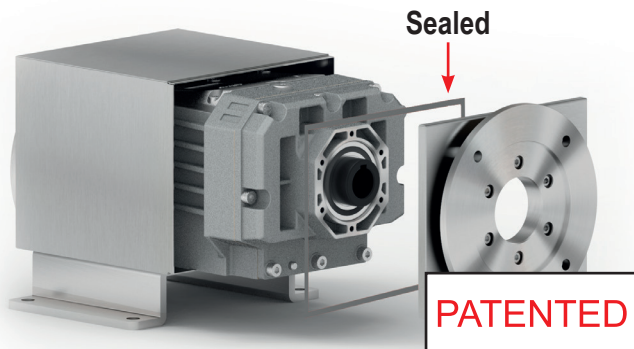
RCL series Stainless steel shielded coaxial gearboxes

Riduttori coassiali schermati in acciaio inox

Type <i>Tipo</i>	Torque <i>Coppia</i>	Center distance <i>Interasse</i>	Input power <i>Potenza in entrata</i>	Hollow output shaft <i>Albero cavo in uscita</i>
402L	160 Nm	-	0.37 ÷ 1.5 kW	ø25 mm
602L	520 Nm	-	1.1 ÷ 4.0 kW	ø35 mm

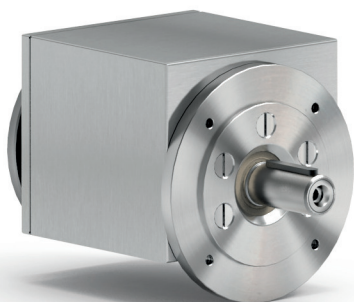


This product is:



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.



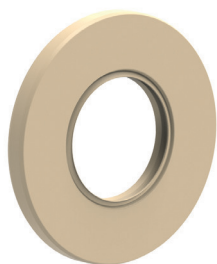
Output shaft is produced in AISI 316L.

Albero in uscita in AISI 316L.



Fully modular IEC flanges and compact NEMA C motor flanges.

Flange IEC e NEMA completamente modulari.



Standard FPM (fkm) seals.

Anelli di tenuta FPM(fkm) standard.

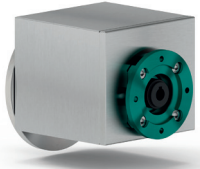
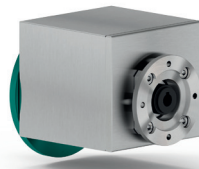
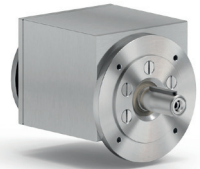
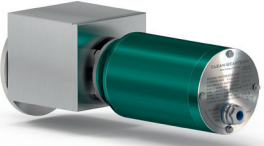
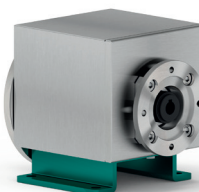
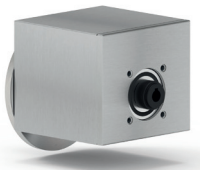


Hardened and ground gears.

Ingranaggi temprati e rettificati.

How to order

Codifica

P	402L	-F	3.52	C
Type <i>Tipo</i>	Size <i>Grandezza</i>	Mounting <i>Montaggio</i>	Ratio <i>Rapporto</i>	Output shaft <i>Albero lento</i>
<p>P</p> 	<p>402L 602L</p>	<p>-F</p> 	<p>See technical data table <i>Vedi tabelle dati tecnici</i></p>	
<p>M</p> 				<p>402L</p> <p>V -> ø25</p> <p>602L</p> <p>I -> ø35</p>
<p>B</p> 		<p>402L</p> <p>H1</p> <p>602L</p> <p>H2</p>		

4**-T****B3****E**

With Type M specify terminal box position
Con tipo M specificare posizione morsetteria

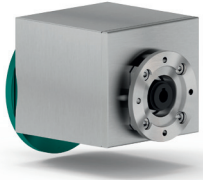
Output flange
Flangia uscita

Motor size
Grandezza motore

Mounting position
Posizione di montaggio

Input bore
Foro entrata

Terminal box position
Posizione morsetteria



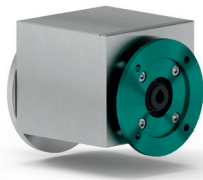
402L

3 -> $\varnothing 160$

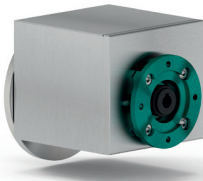
602L

4 -> $\varnothing 200$

Flange
Flange



IEC B5

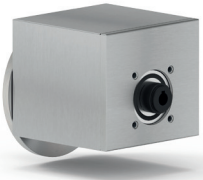
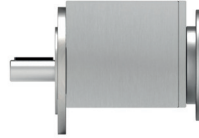
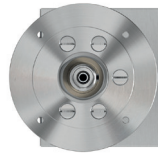
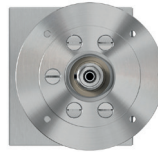
-D -> 80 B5 ($\varnothing 200$)**-E** -> 90 B5 ($\varnothing 200$)

IEC B14

-Q -> 71 B14 ($\varnothing 105$)**-R** -> 80 B14 ($\varnothing 120$)**-T** -> 90 B14 ($\varnothing 140$)**-U** -> 100-122 B14 ($\varnothing 160$)

Without flange
Senza flangia

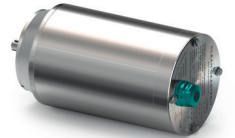
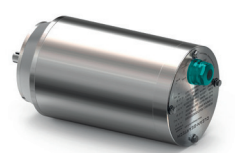
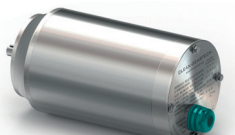
-M **With coupling**
Con giunto

**B3****B6****B7****B8****V5****V6****V8**

With coupling
Con giunto

**B** -> 11mm**C** -> 14mm**D** -> 19mm**E** -> 24mm**F** -> 28mm

0 **Ready for input coupling**

Predisposto per giunto**A****B****C****D**

Useful formulas

Formule utili

Required power - Potenza richiesta

Lifting - Sollevamento

Rotation - Rotazione

Linear movement - Traslazione

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

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

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

Torque - Coppia

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

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

Radial loads - Carichi radiali

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

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

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

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

M: Output torque - Momento torcente

d: Diam. of driving element - Diametro primitivo

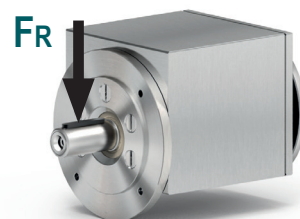
f_k: Factor - Coefficiente di trasformazione

1.15: Gearwheels - Ingranaggi

1.25: Chain sprockets - Catena

1.75: Narrow v-belt pulley - Cinghia Trapezoidale

2.50: Flat-belt pulley - Cinghia piatta



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

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

How to select a gearbox

Come selezionare un riduttore

A Select required torque (according to service factor)

Seleziona la coppia desiderata (comprensiva del fattore di servizio)

B Select output speed

Seleziona la velocità in uscita

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

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

D Select motor flange available (if requested)

Scegli la flangia disponibile (se richiesta)

Gear size
Grandezza
riduttore

C

Ratio
Rapporto

Transmitted torque
Momento torcente
trasmesso

Nominal power
Potenza nominale

Flange code
Codice flangia

Input speed
Velocità in entrata

402L

160
Nm



RCL series

Stainless steel shielded coaxial gearboxes

Riduttori coassiali schermati in acciaio inox

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

Input speed (n_1) = 1400 min⁻¹

Output speed n_2 [min ⁻¹]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor f.s	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	B5 motor flanges			B14 motor flanges			Output shaft  Standard ø25	Ratio code 
							-	-	-	-Q	-R	-T		
398	3.52	3	68	1.2	3.5	80	-	-	-	71	80	90	2821	01
321	4.37	3	84	1.1	3.1	90	-	-	-	C	C		2818	02
252	5.56	3	107	0.9	2.7	100	-	-	-	C	C		2813	03
220	6.36	2.2	90	1.1	2.3	95	-	-	-	C	C		1921	04
191	7.33	2.2	104	1.2	2.5	120	-	-	-	C	C		2812	05
177	7.89	2.2	112	1.1	2.3	120	-	-	-	C	C		1918	06
139	10.06	2.2	143	1.0	2.3	150	-	-	-	C	C		1913	08
120	11.66	1.5	114	1.5	2.3	174	-	-	-	C	C		1713	09
106	13.26	1.5	130	1.2	1.8	160	-	-	-	C	C		1912	10
...	-	-	-

B Output speed
Velocità in uscita

Motor power
Potenza motore

Service factor
Fattore di servizio

A Nominal torque
Momento torcente
nominale

Output shaft diam.
Diametro albero uscita

Notes
Note

Type of load and starts per hour

Tipo di carico e avviamenti per ora

Oper. hours per day
Ore di funz. giorn.

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

D Motor flange available
Flange disponibili

B) Mounting with reduction bushing
Montaggio con boccola di riduzione

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

B) Available without reduction bushing
Disponibile anche senza boccola

402L

160 Nm


RCL series

Stainless steel shielded coaxial gearboxes

Riduttori coassiali schermati in acciaio inox

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

Input speed (n_1) = 1400 min⁻¹

Output speed n_2 [min ⁻¹]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor $f.s$	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	B5 motor flanges		B14 motor flanges			Output shaft 	Ratio code
							-	-	-Q 71	-R 80	-T 90		
398	3.52	1.5	34	2.3	3.5	80			C	C		2821	01
321	4.37	1.5	43	2.1	3.1	90			C	C		2818	02
252	5.56	1.5	54	1.8	2.7	100			C	C		2813	03
220	6.36	1.5	62	1.5	2.3	95			C	C		1921	04
191	7.33	1.5	72	1.7	2.5	120			C	C		2812	05
177	7.89	1.5	77	1.6	2.3	120			C	C		1918	06
139	10.06	1.5	99	1.5	2.3	150			C	C		1913	08
120	11.66	1.5	114	1.5	2.3	174			C	C		1713	09
106	13.26	1.5	130	1.2	1.8	160			C	C		1912	10
102	13.68	1.5	134	1.1	1.6	144			C	C		1513	25
91	15.37	1.5	151	1.1	1.6	160			C	C		1712	11
86	16.20	1.5	159	0.9	1.3	138			C	C		1910	12
78	18.04	1.5	177	0.9	1.4	160			C	C		1512	23
75	18.78	1.1	134	1.0	1.1	138			C	C		1710	24
65	21.54	1.1	154	1.0	1.1	160			C	C		1312	14
63	22.29	1.1	160	1.0	1.1	167			C	C		1013	15
53	26.31	0.75	129	1.1	0.80	138			C	C		1310	16
47.6	29.40	0.75	144	1.1	0.83	160			C	C		1012	17
39	35.91	0.55	130	1.1	0.59	138			C	C		1010	18
36.5	38.37	0.55	139	1.2	0.64	160			C	C		912	19
29.9	46.87	0.55	170	0.8	0.45	138			C	C		910	20
27.6	50.67	0.37	123	1.1	0.40	132			C	C		712	21
22.6	61.89	0.37	150	0.9	0.34	138			C	C		710	22

Motor flanges available
Flange motore disponibili

 B) Supplied with reduction bushing
Fornito con bussola di riduzione

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

 C) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

Always specify the mounting position
Specificare sempre la posizione di montaggio

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

See Table 1 for lubrication and recommended quantity.

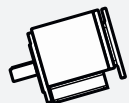
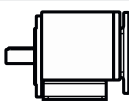
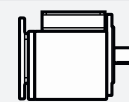
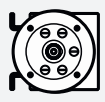



See Table 2 for possible radial and axial loads on the gearbox.

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

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

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

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

Tab. 1

Radial and axial loads

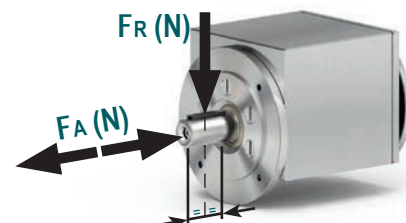
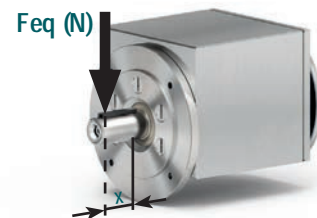
Carichi radiali e assiali

Output shaft

Albero di uscita

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

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



Tab. 2

160
Nm

402L

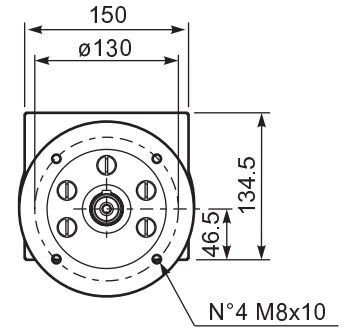
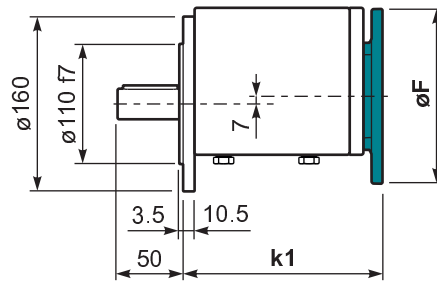
P402L **F**..

Basic gearbox
Riduttore base

Gearbox weight
Peso riduttore

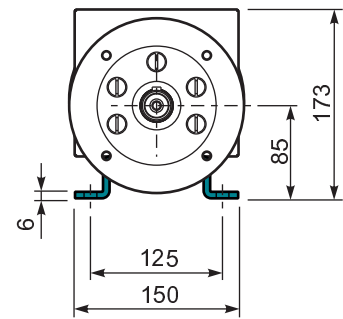
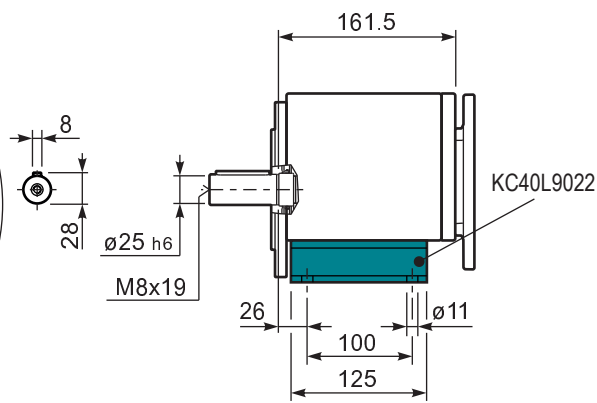
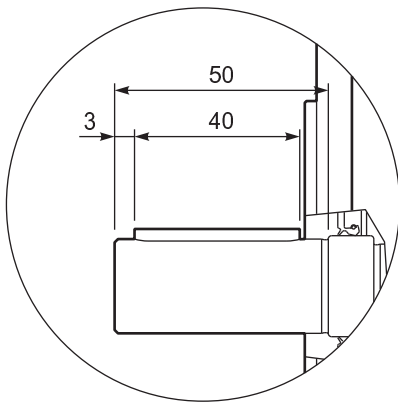
9.2kg

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



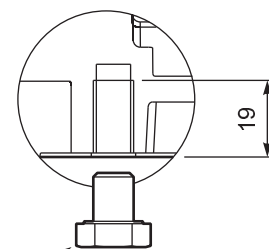
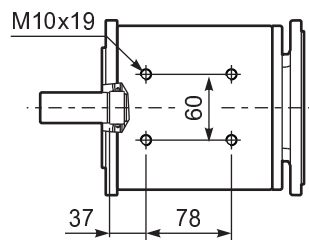
P402L **H1**..

Feet
Piedini



P402L **F**..

Basic gearbox
Riduttore base



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

602L

520 Nm




RCL series

Stainless steel shielded coaxial gearboxes

Riduttori coassiali schermati in acciaio inox

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

Input speed (n_1) = 1400min⁻¹

Output speed n_2 [min ⁻¹]	Ratio i	Motor power P_{1M} [kW]	Output torque M_{2M} [Nm]	Service factor f_s	Nominal power P_{1R} [kW]	Nominal torque M_{2R} [Nm]	B5 motor flanges		B14 motor flanges		Output shaft  Standard ø35	Ratio code 
							-D 80	-E 90	-U 100-112			
388	3.61	4	93	1.9	7.6	180					3018	01
331	4.23	4	108	2.0	8.0	220					3016	02
279	5.01	4	129	2.0	7.9	260					3014	03
231	6.07	4	156	1.9	7.6	300					3012	04
206	6.81	4	175	2.0	7.9	350					2018	05
176	7.96	4	204	1.8	7.1	370					2016	07
148	9.45	4	242	1.7	6.5	400					2014	08
122	11.43	4	293	1.4	5.5	415					2012	09
100	14.00	4	359	1.2	4.7	435					1316	10
84	16.62	4	426	1.2	4.7	515					1314	11
70	20.10	4	515	1.0	4.0	520					1312	12
57	24.61	3	475	1.1	3.2	520					1112	20
47.6	29.41	2.2	418	1.1	2.3	450					814	14
39.3	35.58	2.2	506	1.0	2.2	520					812	15
34.6	40.50	1.1	290	1.1	1.2	320					614	16
31.7	44.23	1.5	433	0.9	1.4	400					810	17
28.6	49.00	1.1	351	1.1	1.2	400					612	18
23.0	60.90	1.1	436	0.9	1.0	400					610	19

Motor flanges available
Flange motore disponibili

 B) Supplied with reduction bushing
Fornito con bussola di riduzione

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

 C) Motor flange holes position
Posizione fori flangia motore

Lubrication

Lubrificazione

Always specify the mounting position
Specificare sempre la posizione di montaggio

Unit 602L 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.

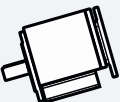
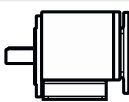
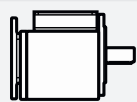




See Table 2 for possible radial and axial loads on the gearbox.

Il riduttore tipo 602L viene fornito con olio sintetico e lubrificazione tipo "long life".

Disponibile a richiesta olio alimentare.

Vedi Tabella 1 per oli e quantità consigliati.

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

Agip	Shell	V8	
Telium VSF 320	Omala S4 WE 320	On request ASK	
B3		B8	
Standard 0.55 LT		On request 1.20 LT	
B6		V5	
On request 0.85 LT		On request 1.20 LT	
B7		V6	
On request 1.10 LT		On request 1.25 LT	

Radial and axial loads

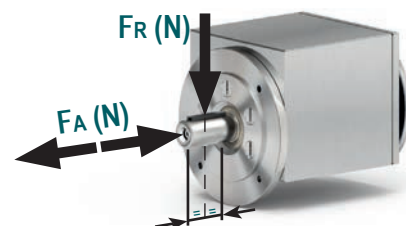
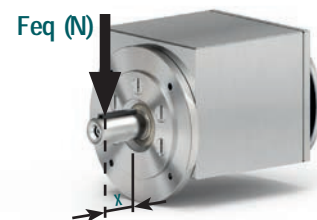
Carichi radiali e assiali

Output shaft

Albero di uscita

n_2 [min ⁻¹]	F_A [N]	F_R [N]
300	560	2800
250	600	3000
200	640	3200
140	740	3700
120	760	3800
85	840	4000
70	890	4200
40	1160	5800
15	1300	6500

$$F_{eq} = F_R \cdot \frac{605}{X + 25.5}$$



Tab. 1

Tab. 2

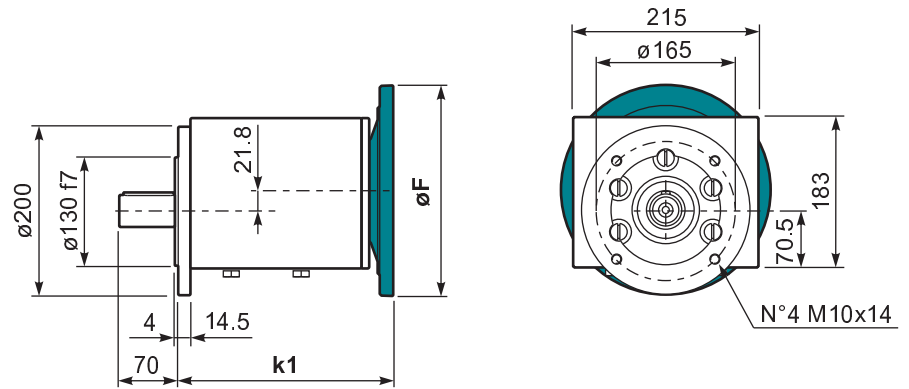
520
Nm

602L

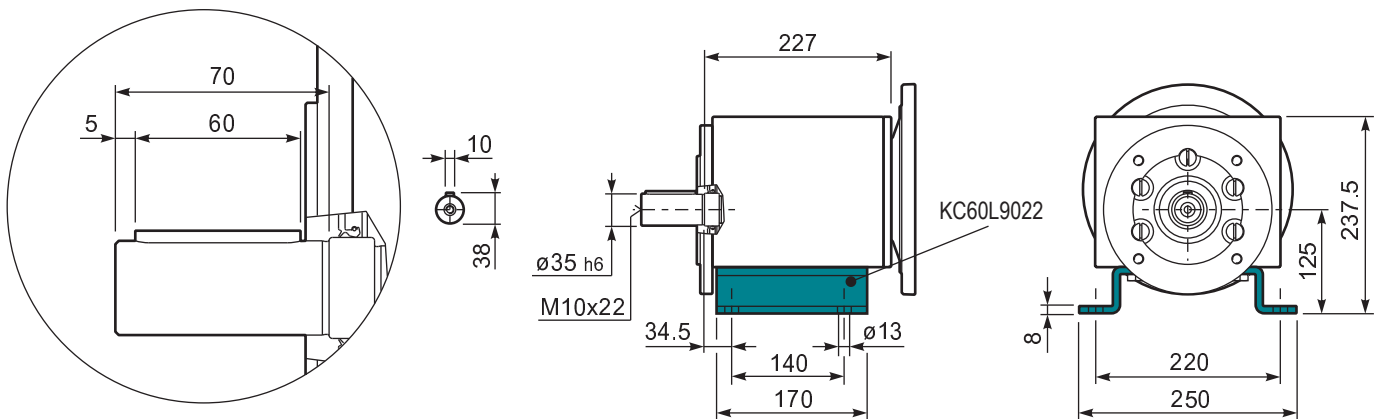
P602L-F .. **Basic gearbox**
Riduttore base

Gearbox weight 18.5 kg
Peso riduttore

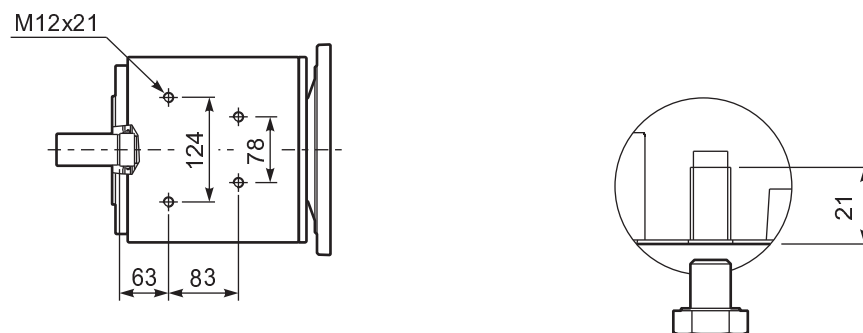
M. flanges	Kit code	øF	k1
80-90 B 5	KI854042	200	247
100-112 B 14	KI854041	160	256



P602LH2.. **Feet**
Piedini



P602L-F .. **Basic gearbox**
Riduttore base



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