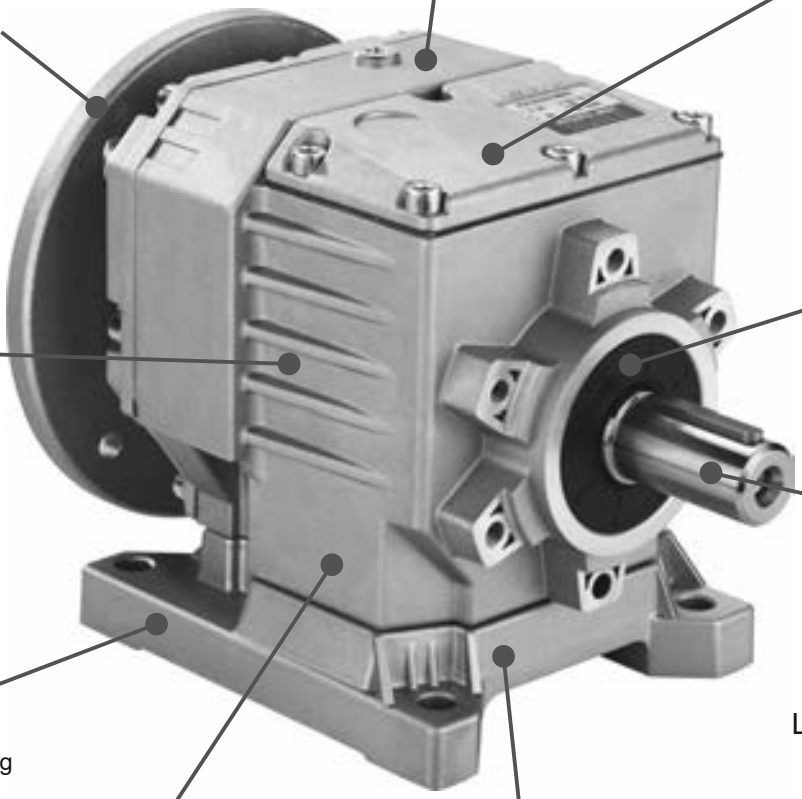
Aluminum in line gearboxes

A modular and compact product

Alloy housing
Is vacuum impregnated (MIL-STD 276) for protection and sealing. No secondary finish required but readily accepts paint

Flange
Fully modular to IEC and Compact integrated motor.
NEMA C flange

Removable inspection cover
Allows periodic inspection of gearing during routine maintenance



Oil seals
Two oil seals on request

Gears
Hardened and ground gears.

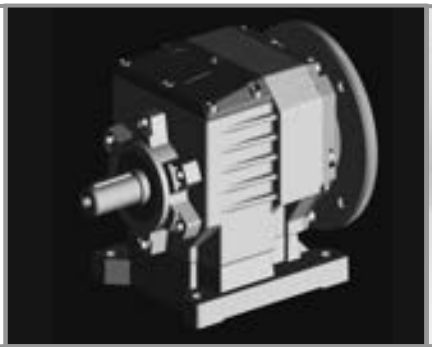
Output shaft
With well proportioned bearings

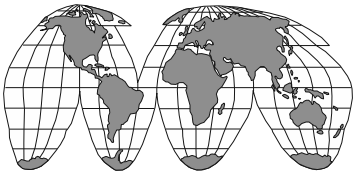
Feet
Removable feet.
With patented locking system.

Lubricated for life with synthetic oil with operative range from -15° to +130°C

Foot prints
Compatible to the main standard of the market.

Single-piece aluminum alloy housing
Combines light weight with high tensile strength. Precision machined for alignment of bearings and gearing





World wide sales network.

Specific type datasheet on page...

On page / A pagina / Auf Seite / À la page / En la página

Types / Tipi
Tipen / Types
Tipos

4-5	4-7	4-9	4-11	4-13	4-15	4-17	4-19	4-21
202A 70Nm	**302A** 120Nm	**402A** 160Nm	**403A** 160Nm	**452A** 300Nm	**502A** 350Nm	**503A** 350Nm	**602A** 520Nm	**603A** 520Nm

On page / A pagina / Auf Seite / À la page / En la página

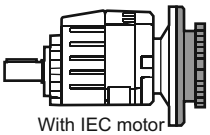
Types / Tipi
Tipen / Types
Tipos

M-1									
56A 56B	**63A 63B**	**71A 71B**	**80A 80B**	**90S 90L**	**100LA 100LB**	**112M**	**132S 132M**	**160M 160L**	**180M 180L**

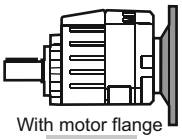
CODIFICA / HOW TO ORDER / TYPENBEZEICHNUNGEN / CODIFICATION / CODIFICACIÓN

Type - Tipo - Typ Type - Tipo	**Size** - Grandezza - Grösse Taille - Tomaño	**Mounting** - Montaggio Montage - Fixation Tipo de montaje
P	**402A**	**-F**

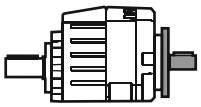
Aluminum coaxial gear boxes
Riduttori coassiali in alluminio



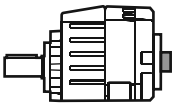
With IEC motor
M



With motor flange
P



With male input shaft
R



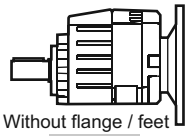
Modular base
B

2 Stages
Riduzioni
Stufen
Trains
Etapas

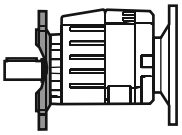
202A
302A
402A
452A
502A
602A

3 Stages
Riduzioni
Stufen
Trains
Etapas

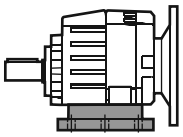
403A
503A
603A



Without flange / feet
-N



Output flange mounted
-F



Mounted feet
B..

Feet / piedini

Feet Code	Market reference	G	H	R	L	L1	S
B1	112	18	85	110	87	50	
B2	212/3	18	100	130	107.5		
S1	17	18	75	110	90+20		
S2	27	25	90	110	130		
M1	42/3	25	80	110÷120	85		
L4	04	13	80	105			
L5	05	16	100	125			

You see feet code in the chart of the dimensions
Vedi codice piede nella tabella delle dimensioni

Dossier according to 94/9/EG II. b ii stored
0032

On request we can deliver our products according to the ATEX
A richiesta possiamo fornire i nostri prodotti secondo le normative ATEX
Auf Anfrage können wir unsere Produkte den Richtlinien ATEX entsprechend liefern
Sur demande nos produits peuvent se conformer à la réglementation ATEX
A pedido, se pueden enviar nuestros productos de acuerdo con las normas ATEX.

Ratio - Rapporto
Untersetzung
Reduction
Relaciòn

7.33

See technical data table

Vedi tabelle dati tecnici

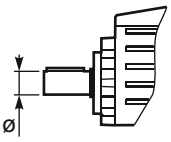
Technisches Datenblatt beachten

Voir Tableau données techniques

Ver tabla datos técnicos

Output shaft
Albero uscita
Abtriebswelle
Arbre de sortie
Eje en salida

V



➡ **STANDARD**

202A
- **S** ⇨ Ø14
- **B** ➡ **Ø16**
- **D** ⇨ Ø20
- **V** ⇨ Ø25

302A
- **S** ⇨ ø14
- **B** ⇨ ø16
- **C** ⇨ ø19
- **D** ➡ **ø20**
- **E** ⇨ ø24
- **V** ⇨ ø25
- **G** ⇨ ø28

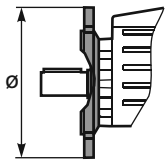
402A 403A
- **B** ⇨ ø16
- **C** ⇨ ø19
- **D** ⇨ ø20
- **E** ⇨ ø24
- **V** ➡ **ø25**

452A 502A 503A
- **E** ⇨ ø24
- **V** ⇨ ø25
- **G** ⇨ ø28
- **H** ➡ **ø30**
- **I** ⇨ ø35

602A 603A
- **G** ⇨ ø28
- **H** ⇨ ø30
- **I** ➡ **ø35**
- **L** ⇨ ø38
- **M** ⇨ ø40

Output flange
Flangia uscita
Ausgangsflansch
Bride de sortie
Brida en salida

2



N Senza flangia
Without flange

202A 302A
- **1** ⇨ ø120
- **2** ➡ **ø140**
- **3** ⇨ ø160
- **4** ⇨ ø200

402A 403A
- **1** ⇨ ø120
- **2** ➡ **ø140**
- **3** ⇨ ø160
- **4** ⇨ ø200
- **5** ⇨ ø250

452A 502A 503A
- **3** ⇨ ø160
- **4** ➡ **ø200**
- **5** ⇨ ø250

602A 603A
- **3** ⇨ ø160
- **4** ⇨ ø200
- **5** ➡ **ø250**

Motor size - Grandezza motore
Motor Grösse
Grandeur moteur - Tamaño motor

-C

Flange
Flangia

B5
- **-A**=56 (ø120)
- **-B**=63 (ø140)
- **-C**=71 (ø160)
- **-D**=80 (ø200)
- **-E**=90 (ø200)
- **-F**=100÷112 (ø250)
- **-G**=132 (ø300)

B14
- **-O**=56 (ø80)
- **-P**=63 (ø90)
- **-Q**=71 (ø105)
- **-R**=80 (ø120)
- **-T**=90 (ø140)
- **-U**=100÷112 (ø160)
- **-V**=132 (ø200)

Type R
Tipo R

202A 403A
- **-1** ⇨ ø14

302A 402A 503A 603A
- **-2** ⇨ ø19

452A 502A 602A
- **-3** ⇨ ø24

Without flange
Senza flangia

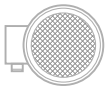
202A 403A
- **-Z** ⇨ ø9 (56B5)
- **-0** ⇨ ø11 (63B5)
- **-1** ⇨ ø14 (71B5)

302A 402A 503A 603A
- **-1** ⇨ ø14 (71B5)
- **-2** ⇨ ø19 (80B5)
- **-3** ⇨ ø24 (90B5)

452A 502A 602A
- **-2** ⇨ ø19 (80B5)
- **-3** ⇨ ø24 (90B5)
- **-4** ⇨ ø28 (100B5)

Terminal box position
Posizione morsettiera
Klemmkastenlage
Position boîte à bornes
Posición caja de bornes

B



A

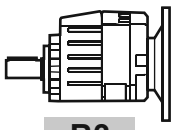
B
STANDARD

C

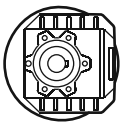
D

Mounting position
Posizione montaggio
Einbaulage
Position de montage
Position de montaje

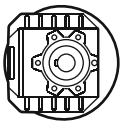
B3



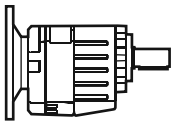
B3
STANDARD



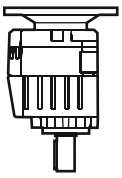
B6



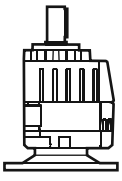
B7



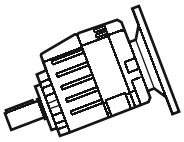
B8



V5



V6



V8

Specify only for vertical positions

Specificare solo per posizione verticale

4

POTENZA RICHIESTA / REQUIRED POWER / ERFORDERLICHE LEISTUNG / PUISSANCE NECESSAIRE / POTENCIA NECESARIA

Lifting / sollevamento / hubantriebe / levage / elevactión	$\mathbf{P}\ [KW] = \frac{\mathbf{M}\ [Kg] \cdot \mathbf{g}\ [9.81] \cdot \mathbf{v}\ [m/s]}{\mathbf{1000}}$
Rotation / rotazione / drehung / rotation / rotaction	$\mathbf{P}\ [KW] = \frac{\mathbf{M}\ [Nm] \cdot \mathbf{n}\ [rpm]}{\mathbf{9550}}$
Linear movement / traslazione / linearbewegung / translation / translacion	$\mathbf{P}\ [KW] = \frac{\mathbf{F}\ [N] \cdot \mathbf{v}\ [m/s]}{\mathbf{1000}}$

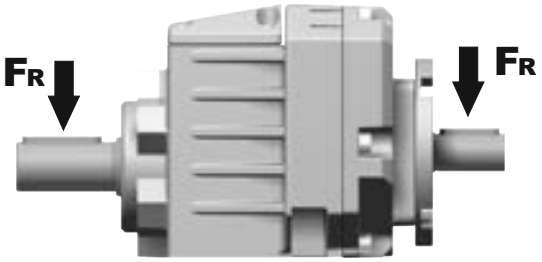
TORQUE / COPPIA / DREHMOMENT / COUPLE / PAR

	$\mathbf{M}\ [Nm] = \frac{\mathbf{9550} \cdot \mathbf{P}[KW]}{\mathbf{n}\ [rpm]}$
	$\mathbf{M}\ [lb\ in] = \frac{\mathbf{63030} \cdot \mathbf{P}[HP]}{\mathbf{n}\ [rpm]}$

4

RADIAL LOADS / CARICHI RADIALI / RADIALE - UND AXIALLASTEN / CHARGES RADIALES / CARGA RADIAL Y AXIAL

- 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.
- Belastungen der Antriebs- bzw. Abtriebswellen durch von aussen eingebrachte Radiallasten.
- Charge radiale générée par la transmissions calés sur les entrées et / ou des arbres de sortie
- Cargas radiales, generada por transmisiones externas, aplicadas sobre los ejes de entrada y/o salida



$F_R\ [N] = \frac{M\ [Nm] \cdot 2000}{d\ [mm]} \cdot f_K$	$F_R\ [N] = \frac{M\ [lb\ in] \cdot 8.9}{d\ [in]} \cdot f_K$

M	Momento torcente / Output torque / Abtriebsdrehmoment / Couple / Par torsion
d	Diametro primitivo / Diam. of driving element / Durchmesser der Abtriebseinheit / Diamètre primitif / Diámetro primitivo
f_K	Coefficiente di trasformazione / Factor / Faktor / Coefficient de transmission / Coeficiente de transmisión **1.15** Ingranaggi / Gearwheels / Zahnrad / Engrenage / Engranaje **1.25** Catena / Chain sprochets / Antriebskette / Chaîne / Cadena **1.75** Cinghia Trapezoidale / Narrow v-belt pulley / Keilriemen / Courroie trap. / Correa trapezoidal **2.50** Cinghia piatta / Flat-belt pulley / Flachzahnriem. / Courroie crantée / Correa plana

— If your application requires higher radial loads, contact our technical office. Higher load may be possible.
— Nel caso la vostra applicazione richieda carichi radiali superiori consultare il nostro ufficio tecnico, valori maggiori possono essere accettati.
— Wenn Ihre Anwendung höhere Radialbelastungen erfordert, so wenden Sie sich bitte an unser technischen Büro.
— Si votre application demande des charges radiales supérieures, s'adresser à notre bureau technique.
— En el caso en que una aplicación exija una carga radial superior a la especificada en el catálogo, consultar a nuestra oficinas técnica.

B Output speed / Velocità in uscita / Abtriebsdrehzahl / Vitesse de sortie / Velocidad de salida

Nominal power / Potenza nominale / Max. mögliche Leistung / Poissance nominale / Potencia nominal

Gear size / Grandezza riduttore / Getriebegröße / Taille réducteur / Tamaño reductor

Motor power / Potenza motore / Motorleistung / Puissance moteur / Potencia motor

A Nominal torque / Momento torcente nominale / Nenn Drehmoment / Couple nominal / Par de torsión nominal

Flange code / Codice flangia / Flanschtype / Code bride / Código bridas

Input speed / Velocità in entrata / Eintriebsdrehzahl / Vitesse en entrée / Velocidad de entrada

402A Coaxial - Gear 160Nm

Rating - Aluminum COAXIAL GEARBOXES

▪ QUICK SELECTION / Selezione veloce

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]	Available B5 motor flanges -B 63	-C 71	-D 80*	-E 90*	Available B14 motor flanges -Q 71	-R 80	-T 90	-U 100 112		Output Shaft ø	Ratios code
398	**3.52**	3	69	1.2	**3.5**	**80**	B				C	C			2821		01
320	**4.37**	3	86	1.0	**3.1**	**90**	B				C	C			2818		02
252	**5.55**	3	109	0.9	**2.8**	**100**	B				C	C			2813		03
220	**6.36**	2.2	92	1.0	**2.3**	**95**	B				C	C			1921		04
191	**7.33**	2.2	106	1.1	**2.5**	**120**	B				C	C			2812		05

C Ratio / Rapporto / Untersetzung / Rapport de réduction / Relación

Transmitted torque / Momento torcente trasmesso / Mögliche Drehmomente / Couple de sortie / Par transmitido

Service factor / Fattore di servizio / Betriebsfaktor / Facteur de service / Factor de servicio

Output shaft diam. / Diam. albero uscita / Durchmesser abtriebswelle / Diametre arbre lent / Diametro eje de salida

Notes / Note / Anmerkungen / Note / Notas

fs

Type of load and starts per hour / Tipo di carico e avviamenti per ora		Oper. hours per day / Ore di funz. giorn. 3 h	10 h	24 h
Continuous or intermittent appl. with start / hour ≤ 10 / Applicazione cont. o interm. con n.ro operazioni/ora	Uniform / Uniforme	0.8	1	1.25
	Moderate / Moderato	1	1.25	1.5
	Heavy / Forte	1.25	1.5	1.75
Intermittent application with start / hour > 10 / Applicazione intermittente con n.ro operazioni/ora	Uniform / Uniforme	1	1.25	1.5
	Moderate / Moderato	1.25	1.5	1.75
	Heavy / Forte	1.5	1.75	2.15

D Motor flange available / Flange disponibili / Erhältliche Motorflansche / Brides disponibles / Bridas disponibles

B) Mounting with reduction ring / Montaggio con boccola di riduzione / Reduzierhülsen / Montage avec douille de réduction / Montaje con casquillo de reducción

C) Motor flangeholes position/terminal box position / Posizione fori flangia/basetta motore / Bohrungsposition am Motorflansch/-sockel / Position trous bride/barrette à bornes moteur / Posición agujeros brida / base motor

B) Available without reduction bushes / Disponibile anche senza boccola / Auch ohne Reduzierbuchse verfügbar / Disponible aussi sans douille de réduction / Disponible tambien sin casquillo

A	Select required torque (according to service factor)	Seleziona la coppia desiderata (comprensiva del fattore di servizio)	Max. Drehmoment in Bezug zum Betriebsfaktor	Sélectionner le couple souhaité (comprenant le facteur de service)	Seleccionar el par deseado (incluyendo el factor de servicio)
B	Select ouput speed	Seleziona la velocità in uscita	Ausgewählte Abtriebsdrehzahl	Sélectionner la vitesse de sortie	Seleccionar la velocidad de salida
C	On the same line of selected geared motor, you can find the gear ratio	Sulla riga corrispondente alla motorizzazione prescelta si può rilevare il rapporto di riduzione	Auf der gleichen Linie wie die ausgewählte Motorleistung steht auch die Getriebeuntersetzung	Sur la ligne correspondante à la motorisation pré-choisie on peut relever le rapport de réduction	En la línea correspondiente al motor preseleccionado es posible encontrar la relación de reducción
D	Select motor flange available (if requested)	Scegli la flangia disponibile (se richiesta)	Erhältliche Motorflansche (auf Anfrage)	Choisir la bride disponible (si elle est demandée)	Seleccionar la brida disponible (sobre pedido)

▪ QUICK SELECTION / Selezione veloce

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]	Available B5 motor flanges -B 63	Available B5 motor flanges -C 71*	Available B14 motor flanges -O 56	Available B14 motor flanges -P 63	Available B14 motor flanges -Q 71		Output Shaft ø	Ratios code
407	**3.44**	0.55**	12	2.0	**1.1**	**25**			C	C		2821		01
327	**4.28**	0.55**	15	1.9	**1.1**	**30**			C	C		2818		02
257	**5.45**	0.55**	20	2.0	**1.1**	**40**			C	C		2815		03
225	**6.23**	0.55**	23	2.0	**1.1**	**45**			C	C		1921		04
194	**7.20**	0.55**	26	1.9	**1.1**	**50**			C	C		2812		05
181	**7.74**	0.55**	28	1.8	**0.99**	**50**			C	C		1918		06
142	**9.85**	0.55**	36	1.7	**0.93**	**60**			C	C		1915	**standard**	07
123	**11.42**	0.55**	41	1.5	**0.80**	**60**			C	C		1715	**ø16**	08
107	**13.03**	0.55**	47	1.3	**0.70**	**60**			C	C		1912		09
93	**15.10**	0.37	37	1.6	**0.61**	**60**			C	C		1712	ø14	10
86	**16.20**	0.37	39	1.5	**0.57**	**60**			C	C		1910	ø20	11
75	**18.78**	0.37	45	1.3	**0.49**	**60**			C	C		1710	ø25	12
66	**21.15**	0.37	51	1.2	**0.43**	**60**			C	C		1312	On request	13
64	**21.84**	0.37	53	1.1	**0.42**	**60**			C	C		1015		14
53	**26.31**	0.37	64	0.9	**0.35**	**60**			C	C		1310		15
48.5	**28.88**	0.37	70	1.0	**0.37**	**70**			C	C		1012		16
39	**35.91**	0.37	87	0.8	**0.30**	**70**			C	C		1010		17
37.1	**37.69**	0.25	62	1.1	**0.28**	**70**			C	C		912		18
29.9	**46.87**	0.25	77	0.9	**0.23**	**70**			C	C		910		19
28.1	**49.76**	0.25	81	0.9	**0.21**	**70**			C	C		712		20
22.6	**61.89**	0.18	77	0.9	**0.17**	**70**			C	C		710		21

**** Concerning a reduced dimensions electric motor.** Riferito a motore con grandezza ridotta

* Nel montaggio P la flangia può superare l'ingombro massimo dei piedi. Eventualmente utilizzare la flangia B14

* In the P mounting the B5 motor flange can exceed the foot maximum dimensions. Possibly use the flange B14

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

EN Unit **202A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.

I Il riduttore **202A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

D Das Getriebe **202A** ist mit synthetischem Öl gefüllt und ist lebensdauergeschmiert.
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.
In Tabelle 2 sind die zulässigen Radial - und Axialbelastungen des Getriebes aufgeführt.

F Le réducteur **202A** est fourni complet avec de l'huile synthétique pour la lubrification permanente et ne nécessite aucun entretien.
Voir tableau 1 concernant les huiles et les quantités conseillées.
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

E El reductor tamaño **202A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

▪ LUBRICATION 202A Oil Quantity 0.15 Lt.

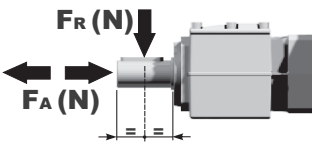
AGIP Telium VSF 320	**SHELL** Omala S4 WE 320

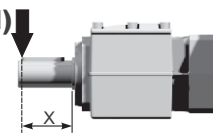
For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita

$$Feq = FR \cdot \frac{35.7}{X+20.7}$$



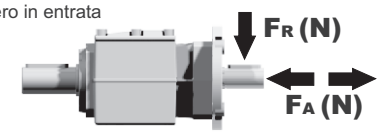


n_2	FA	FR
300	140	700
250	151	756
200	185	924

n_2	FA	FR
140	246	1320
120	270	1350
85	300	1500

n_2	FA	FR
70	340	1700
40	380	1900
15	-	-

Input shaft
Albero in entrata

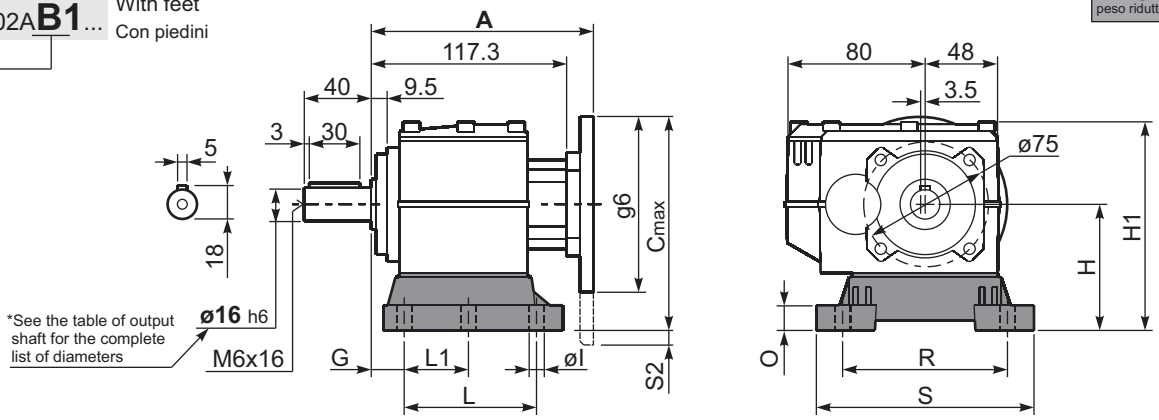


n_1	FA	FR
1400	140	700
900	160	800
500	190	950

tab. 2

Gearbox weight peso riduttore	With flange 3.3 kg With feet 3.7 Kg

P202A**B1**... With feet
Con piedini



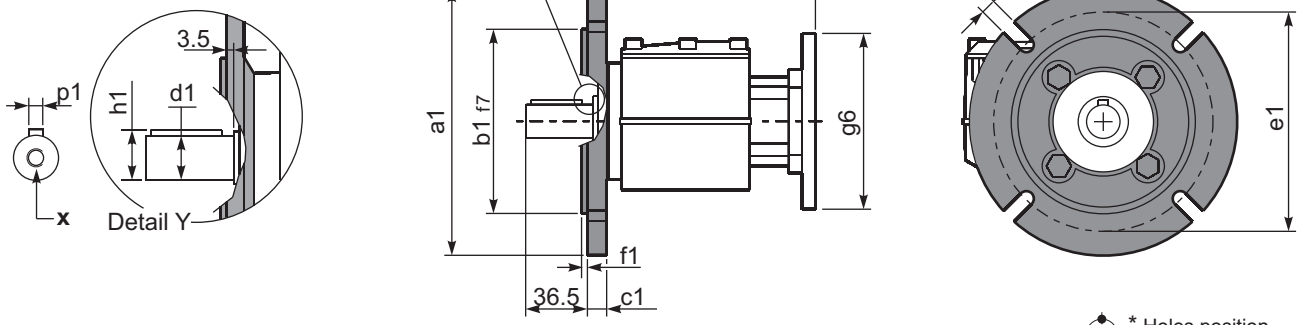
Feet Code	Market reference	G	H	R	L	L1	S	H1	O	øI	S2 only with motor flange	B5 max. Flange	kit code
B1	112	18	85	110	87	50	130	133	15	9	-	-	KC30.9.022
B2	212/3	18	100	130	107.5	60	155	145	5	11	-	-	KC30.9.023LM
S1	17-32	18	75	110	110	50	130	123	15	9	-	63B5	KC30.9.024
L3	03	12.5	65	91	60	-	105	149	5	9	11.5 71B5	-	KC30.9.026LM
L4	04	13	80	105	76	-	132	165	5	9	-	-	KC30.9.027LM

Other feet are available, see our web site
Sono disponibili altri piedini, consulta il nostro sito web

A see on page bottom

Most popular types
Tipi più diffusi

P202A-**F**... Output flanges
flange di uscita



***Available output shaft** / Albero di uscita

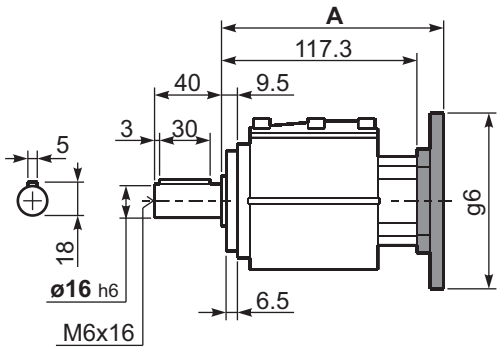
	Shaft - d1	p1	h1	x
Standard	ø 16x40	5	18	M6x16
On request A richiesta	ø 14x30 ø 20x40 ø 25x50	5 6 8	16 22.5 28	M6x16 M8x19 M8x19

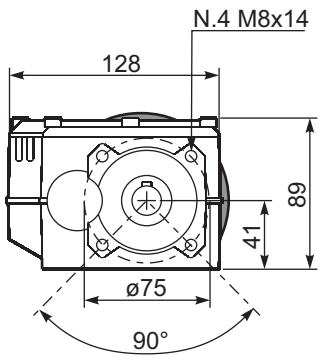
* Holes position
Posizione fori

Available output flanges / flange di uscita

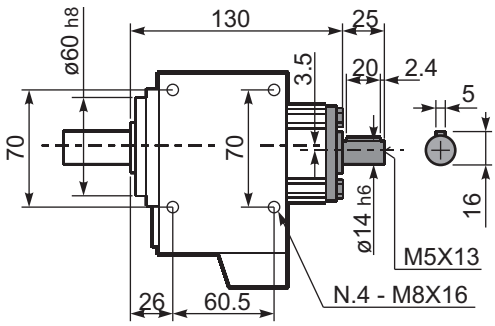
a1 ø	b1	c1	e1	f1	s1	kit code	
120	80	11.5	100	3	9*	KC30.9.010	With flange and feet only on request. Ask for compatibility
140	95	11.5	115	3	9	KC30.9.011	
160	110	11.5	130	3.5	9	KC30.9.012	
200	130	11.5	165	3.5	11	KC30.9.013	

P202A-**N**... Basic gearbox
Riduttore base





R202A-**N**... Input Shaft
Albero in entrata



B5 Motor Flanges	A	C_{max}	g6	k1	kit code
63 B5	135.8	170	140	139.3	K050.4.041
71 B5	133.3	180	160	136.8	K050.4.042

B14 Motor Flanges	A	C_{max}	g6	k1	kit code
56 B14	133.3	139	80	136.8	KC40.4.049
63 B14	135.8	146	90	139.3	K050.4.047
71 B14	133.3	152.5	105	136.8	K050.4.045

▪ QUICK SELECTION / Selezione veloce

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]	Available B5 motor flanges -B 63	-C 71*	-D 80*	-E 90*	Available B14 motor flanges -Q 71	-R 80	-T 90		Output Shaft ø	Ratios code
407	**3.44**	1.5	34	1.0	**1.6**	**35**	B				C	C		2821		01
327	**4.28**	1.5	42	1.0	**1.4**	**40**	B				C	C		2818		02
257	**5.45**	1.5	53	1.0	**1.5**	**52**	B				C	C		2815		03
225	**6.23**	1.5	61	1.1	**1.7**	**70**	B				C	C		1921		04
194	**7.20**	1.5	71	1.0	**1.5**	**70**	B				C	C		2812		05
181	**7.74**	1.5	76	1.1	**1.6**	**80**	B				C	C		1918	**standard**	06
142	**9.85**	1.5	97	1.0	**1.5**	**95**	B				C	C		1915	**ø20**	07
123	**11.42**	1.5	112	1.0	**1.5**	**115**	B				C	C		1715		08
107	**13.03**	1.1	93	1.2	**1.3**	**114**	B				C	C		1912	ø14	09
93	**15.10**	1.1	108	1.1	**1.2**	**114**	B				C	C		1712	ø16	10
86	**16.20**	0.75	80	1.3	**1.0**	**107**	B				C	C		1910	ø19	11
75	**18.78**	0.75	92	1.2	**0.87**	**107**	B				C	C		1710	ø20	12
66	**21.15**	0.75	104	1.1	**0.82**	**114**	B				C	C		1312	ø24	13
64	**21.84**	0.75	107	1.1	**0.83**	**119**	B				C	C		1015	ø25	14
53	**26.31**	0.55	95	1.1	**0.62**	**107**	B				C	C		1310	ø28	15
48.5	**28.88**	0.55	105	1.1	**0.60**	**114**	B				C	C		1012	On request	16
39	**35.91**	0.37	87	1.2	**0.46**	**107**	B				C	C		1010		17
37.1	**37.69**	0.37	91	1.1	**0.41**	**102**	B				C	C		912		18
29.9	**46.87**	0.37	113	0.9	**0.35**	**107**	B				C	C		910		19
28.1	**49.76**	0.25	81	1.2	**0.31**	**101**	B				C	C		712		20
22.6	**61.89**	0.25	101	1.1	**0.26**	**107**	B				C	C		710		21

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

*Nel montaggio P la flangia può superare l'ingombro massimo dei piedi. Eventualmente utilizzare la flangia B14
* In the P mounting the B5 motor flange can exceed the foot maximum dimensions. Possibly use the flange B14

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

EN Unit **302A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.

I Il riduttore **302A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

D Das Getriebe **302A** ist mit synthetischem Öl gefüllt und ist lebensdauergeschmiert.
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.
In Tabelle 2 sind die zulässigen Radial - und Axialbelastungen des Getriebes aufgeführt.

F Le réducteur **302A** est fourni complet avec de l'huile synthétique pour la lubrification permanente et ne nécessite aucun entretien.
Voir tableau 1 concernant les huiles et les quantités conseillées.
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

E El reductor tamaño **302A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

▪ LUBRICATION 302A Oil Quantity 0.15 Lt.

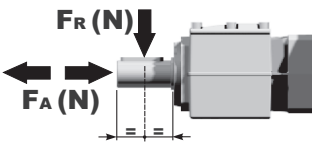
AGIP Telium VSF 320	**SHELL** Omala S4 WE 320

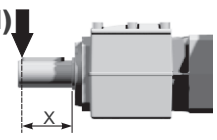
For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita

$$Feq = FR \cdot \frac{35.7}{X+20.7}$$



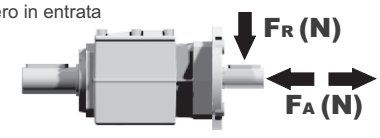


n_2	FA	FR
300	140	700
250	151	756
200	185	924

n_2	FA	FR
140	246	1320
120	270	1350
85	300	1500

n_2	FA	FR
70	340	1700
40	380	1900
15	-	-

Input shaft
Albero in entrata

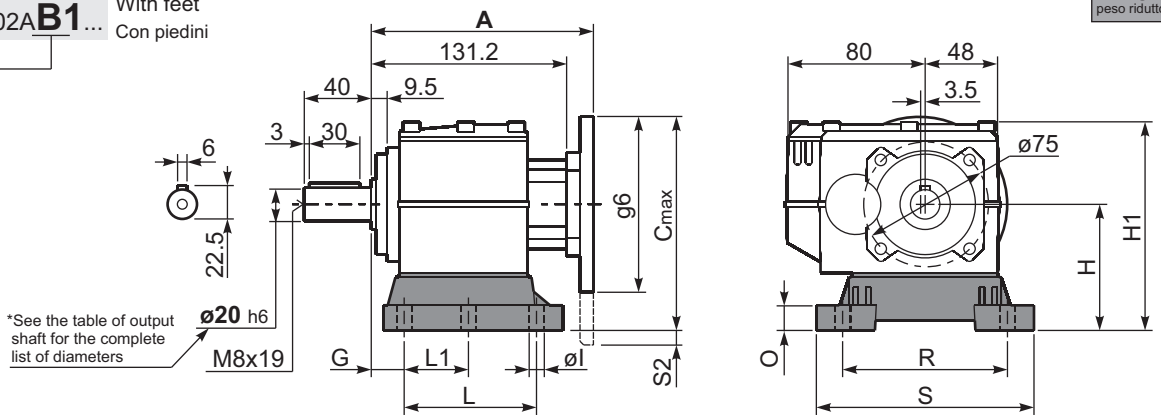


n_1	FA	FR
1400	226	1130
900	264	1320
500	322	1610

tab. 2

Gearbox weight peso riduttore	With flange 3.5 kg With feet 4.0 Kg

P302A**B1**... With feet
Con piedini



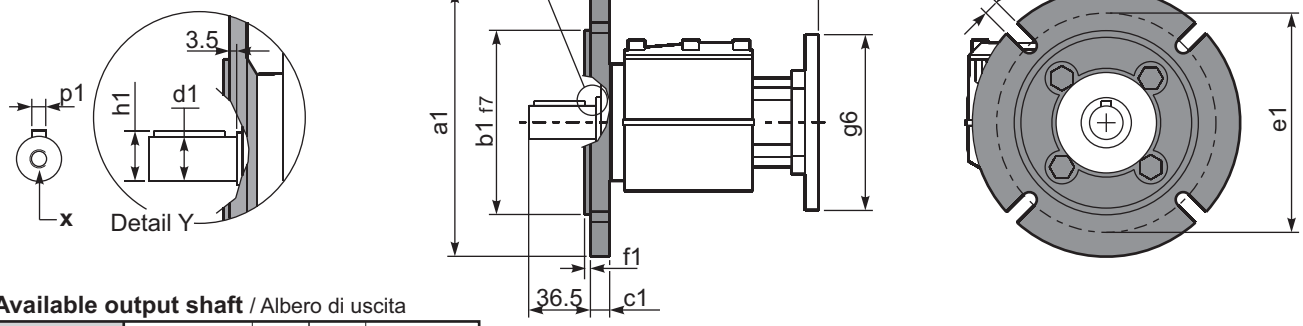
Feet Code	Market reference	G	H	R	L	L1	S	H1	O	øl	S2 only with motor flange	B5 max. Flange	kit code
B1	112	18	85	110	87	50	130	133	15	9	15 80/90B5	-	KC30.9.022
B2	212/3	18	100	130	107.5	60	155	145	5	11	3.5 80/90B5	-	KC30.9.023LM
S1	17-32	18	75	110	110	50	130	123	15	9	5 71B5	71B5	KC30.9.024
S2	27	25	90	110	130	-	130	135	5	9	-	71B5	KC30.9.025LM
L3	03	12.5	65	91	60	-	105	149	5	9	31.5 80/90B5	-	KC30.9.026LM
L4	04	13	80	105	76	-	132	165	5	9	16.5 80/90B5	-	KC30.9.027LM

Other feet are available, see our web site
Sono disponibili altri piedini, consulta il nostro sito web

A see on page bottom

Most popular types
Tipi più diffusi

P302A-**F**... Output flanges
flange di uscita



***Available output shaft** / Albero di uscita

	Shaft - d1	p1	h1	x
Standard	ø 20x40	6	22.5	M8x19
On request A richiesta	ø 14x30	5	16	M6x16
	ø 16x40	5	18	M6x16
	ø 19x40	6	21.5	M6x16
	ø 24x50	8	27	M8x19
	ø 25x50	8	28	M8x19
	ø 28x50	8	31	M8x19

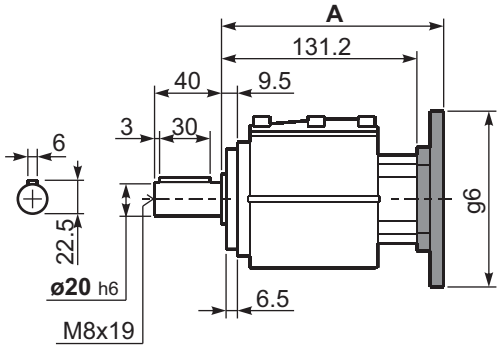
* Holes position
Posizione fori

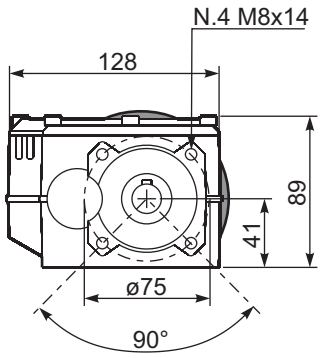
Available output flanges / flange di uscita

a1 ø	b1	c1	e1	f1	s1	kit code
120	80	11.5	100	3	9*	KC30.9.010
140	95	11.5	115	3	9	KC30.9.011
160	110	11.5	130	3.5	9	KC30.9.012
200	130	11.5	165	3.5	11	KC30.9.013

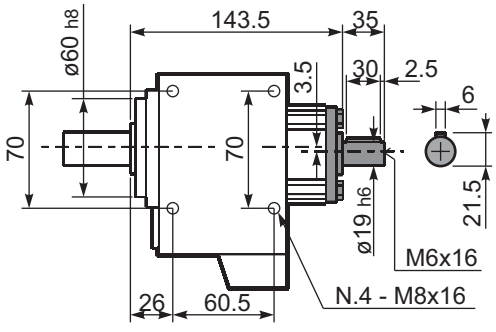
With flange and feet only on request. Ask for compatibility

P302A-**N**... Basic gearbox
Riduttore base





R302A-**N**... Input Shaft
Albero in entrata



B5 Motor Flanges	A	C_{max}	g6	k1	kit code
63 B5	151.7	170	140	155.2	K063.4.041
71 B5	149.7	180	160	153.2	K063.4.042
80/90 B5	151.7	200	200	155.2	K063.4.043

B14 Motor Flanges	A	C_{max}	g6	k1	kit code
71 B14	149.7	152.5	105	153.2	K063.4.047
80 B14	151.7	160	120	155.2	K063.4.046
90 B14	151.7	170	140	155.2	K063.4.041

▪ QUICK SELECTION / Selezione veloce

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]	Available B5 motor flanges -B 63	-C 71	-D 80*	-E 90*	-F 100* 112	Available B14 motor flanges -Q 71	-R 80	-T 90	-U 100 112		Output Shaft ø	Ratios code
398	**3.52**	3	68	1.2	**3.5**	**80**	B					C	C			2821		01
321	**4.37**	3	84	1.1	**3.1**	**90**	B					C	C			2818		02
252	**5.56**	3	107	0.9	**2.7**	**100**	B					C	C			2813		03
220	**6.36**	2.2	90	1.1	**2.3**	**95**	B					C	C			1921		04
191	**7.33**	2.2	104	1.2	**2.5**	**120**	B					C	C			2812		05
177	**7.89**	2.2	112	1.1	**2.3**	**120**	B					C	C			1918		06
139	**10.06**	2.2	143	1.0	**2.3**	**150**	B					C	C			1913		08
120	**11.66**	1.5	114	1.5	**2.3**	**174**	B					C	C			1713	**standard**	09
106	**13.26**	1.5	130	1.2	**1.8**	**160**	B					C	C			1912	**ø25**	10
102	**13.68**	1.5	134	1.1	**1.6**	**144**	B					C	C			1513		25
91	**15.37**	1.5	151	1.1	**1.6**	**160**	B					C	C			1712	ø16	11
86	**16.20**	1.5	159	0.9	**1.3**	**138**	B					C	C			1910	ø19	12
78	**18.04**	1.5	177	0.9	**1.4**	**160**	B					C	C			1512	ø20	23
75	**18.78**	1.1	134	1.0	**1.1**	**138**	B					C	C			1710	ø24	24
65	**21.54**	1.1	154	1.0	**1.1**	**160**	B					C	C			1312	On request	14
63	**22.29**	1.1	160	1.0	**1.1**	**167**	B					C	C			1013		15
53	**26.31**	0.75	129	1.1	**0.80**	**138**	B					C	C			1310		16
47.6	**29.40**	0.75	144	1.1	**0.83**	**160**	B					C	C			1012		17
39	**35.91**	0.55	130	1.1	**0.59**	**138**	B					C	C			1010		18
36.5	**38.37**	0.55	139	1.2	**0.64**	**160**	B					C	C			912		19
29.9	**46.87**	0.55	170	0.8	**0.45**	**138**	B					C	C			910		20
27.6	**50.67**	0.37	123	1.1	**0.40**	**132**	B					C	C			712		21
22.6	**61.89**	0.37	150	0.9	**0.34**	**138**	B					C	C			710		22

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

*Nel montaggio P la flangia può superare l'ingombro massimo dei piedi. Eventualmente utilizzare la flangia B14
* In the P mounting the B5 motor flange can exceed the foot maximum dimensions. Possibly use the flange B14

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

EN Unit **402A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.

I Il riduttore **402A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

D Das Getriebe **402A** ist mit synthetischem Öl gefüllt und ist lebensdauergeschmiert.
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.
In Tabelle 2 sind die zulässigen Radial - und Axialbelastungen des Getriebes aufgeführt.

F Le réducteur **402A** est fourni complet avec de l'huile synthétique pour la lubrification permanente et ne nécessite aucun entretien.
Voir tableau 1 concernant les huiles et les quantités conseillées.
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

E El reductor tamaño **402A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

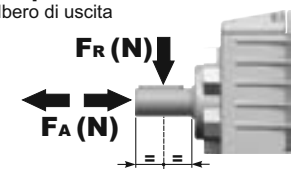
Standard supplied	**For these mounting position specify in the order or add oil** Per queste posizioni specificare in fase d'ordine o aggiungere olio					
						
B3	**B6**	**B7**	**B8**	**V5**	**V6**	**V8**
0.25 LT	0.30 LT	0.40 LT	0.40 LT	0.40 LT	0.50 LT	Ask
AGIP Telium VSF 320			**SHELL** Omala S4 WE 320			

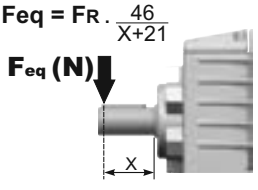
For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita

$F_{eq} = F_R \cdot \frac{46}{X+21}$



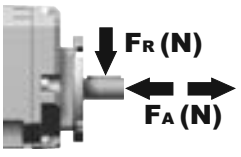


n_2	FA	FR
300	310	1550
250	330	1650
200	360	1800

n_2	FA	FR
140	406	2030
120	448	2240
85	480	2400

n_2	FA	FR
70	540	2700
40	600	3000
15	600	3000

Input shaft
Albero in entrata

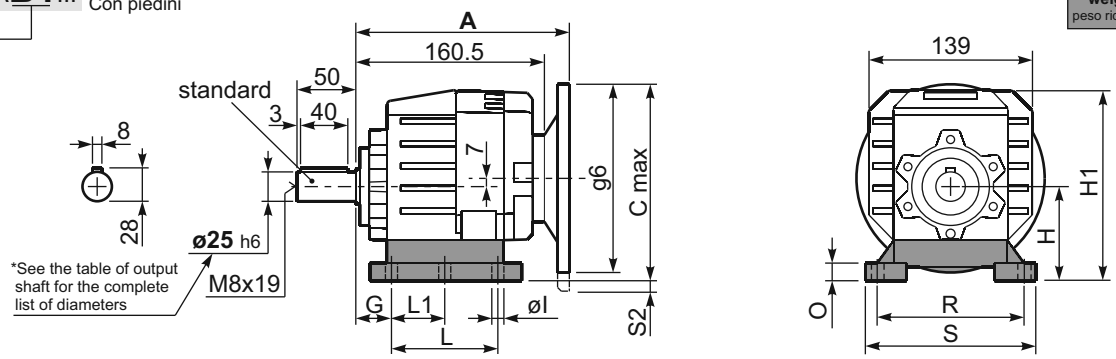


n_1	FA	FR
1400	240	1200
900	280	1400
500	340	1700

tab. 2

P402A**B1**... With feet
Con piedini

Gearbox weight / peso riduttore: With flange **5.7 kg**, With feet **5.9 Kg**



Feet / piedini

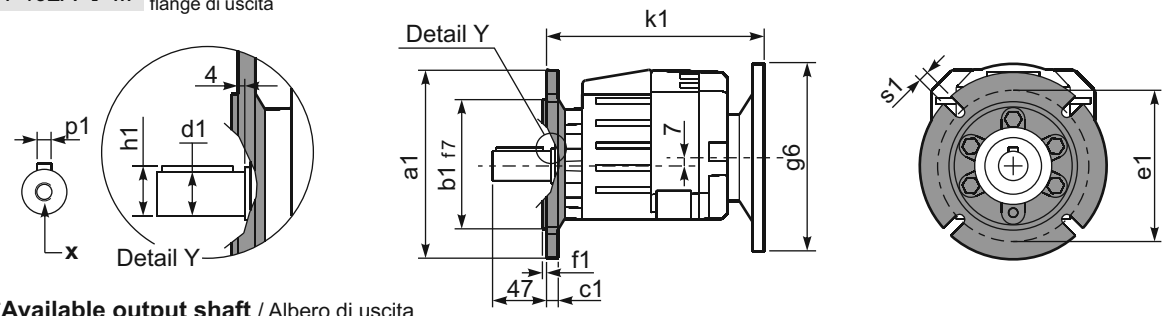
Feet Code	Market reference	G	H	R	L	L1	S	H1	O	øl	S2 only with motor flange	B5 max. Flange	kit code
B1	112	18	85	110	87	50	130	167	15	-	8 80/90B5 33 100/112B5	-	KC35.9.021
B2	212/3	18	100	130	107.5	60	155	182	17	11	18 100/112B5	-	KC40.9.025
S1	17	18	75	110	90÷110	50	145	155	15	9	18 80/90B5 43 100/112B5	-	KC40.9.022
S2	27	25	90	110	130	-	145	172	20	9	3 80/90B5 28 100/112B5	-	KC40.9.024
H2	022-223	25	100	110	115	-	145	182	20	9	18 100/112B5	-	KC40.9.026
M1	42/3	25	80	110÷120	85	-	145	162	15	9	13 80/90B5 38 100/112B5	-	KC40.9.023
L4	04	13	80	105	76	-	132	162	5	10	13 80/90B5 38 100/112B5	-	KC35.9.023LM
L5	05	16	100	125	90	-	150	182	6	12	18 100/112B5	-	KC40.9.027LM

Other feet are available, see our web site
Sono disponibili altri piedini, consulta il nostro sito web

A see on page bottom

Most popular types
Tipi più diffusi

P402A**-F**... Output flanges
flange di uscita



***Available output shaft** / Albero di uscita

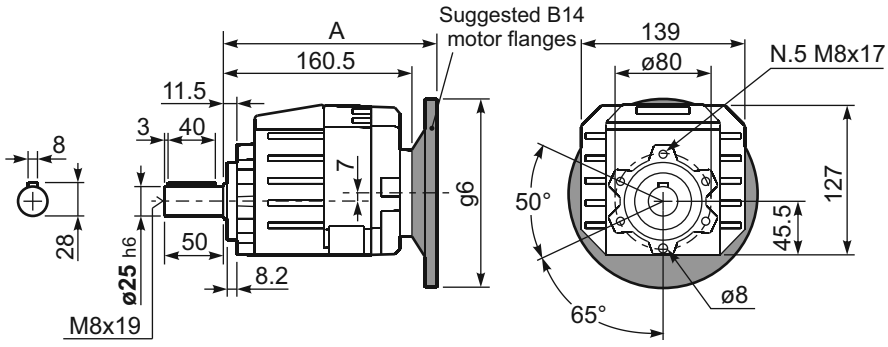
	Shaft - d1	p1	h1	x
Standard	ø 25x50	8	28	M8x19
On request A richiesta	ø 16x40 ø 19x40 ø 20x40 ø 24x50	5 6 6 8	18 21.5 22.5 27	M6x16 M6x16 M8x19 M8x19

Available output flanges / flange di uscita

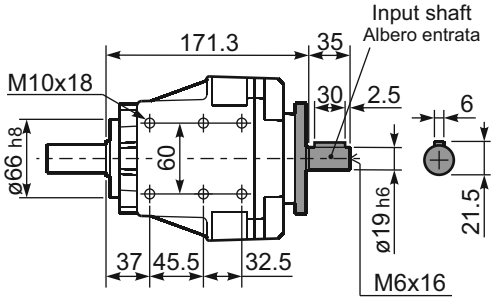
a1 ø	b1	c1	e1	f1	s1	kit code
120	80	10	100	3	7	KC40.9.010
140	95	10	115	3	9	KC40.9.011
160	110	10	130	3	9	KC40.9.012
200	130	11	165	3.5	11	KC40.9.013
250	180	11.5	215	3.5	14	KC40.9.014

With flange and feet only on request. Ask for compatibility

P402A**-N**... Basic gearbox
Riduttore base



R402A**-N**... Input Shaft
Albero in entrata



B5 Motor Flanges	A	C_{max}	g6	k1	kit code
63 B5	181	177	140	185	K063.4.041
71 B5	179	187	160	183	K063.4.042
80/90 B5	181	207	200	185	K063.4.043
100/112 B5	195.8	232	250	199.8	KC40.4.043

B14 Motor Flanges	A	C_{max}	g6	k1	kit code
71 B14	179	159.5	105	183	K063.4.047
80 B14	181	167	120	185	K063.4.046
90 B14	181	177	140	185	K063.4.041
100/112 B14	195.8	187	160	199.8	KC40.4.041

▪ QUICK SELECTION / Selezione veloce

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]	Available B5 motor flanges -B 63	Available B5 motor flanges -C 71	Available B14 motor flanges -O 56	Available B14 motor flanges -P 63	Available B14 motor flanges -Q 71		Output Shaft ø	Ratios code
36.5	**38.40**	0.37	91	1.9	**0.71**	**175**			C	C		171713		02
32.0	**43.69**	0.37	104	1.4	**0.53**	**149**			C	C		191712		03
27.6	**50.64**	0.37	120	1.3	**0.49**	**160**			C	C		171712		04
26.2	**53.36**	0.37	127	1.1	**0.40**	**138**			C	C		191710		05
22.9	**61.21**	0.37	145	1.1	**0.41**	**160**			C	C		191312	**standard**	06
22.6	**61.85**	0.37	147	0.9	**0.35**	**138**			C	C		171710	**ø25**	07
19.7	**70.95**	0.37	168	1.0	**0.35**	**160**			C	C		131712		08
19.1	**73.43**	0.37	174	1.0	**0.37**	**175**			C	C		101713	ø16	09
18.7	**74.77**	0.25	120	1.2	**0.29**	**138**			C	C		191310	ø19	10
16.2	**86.66**	0.25	139	1.0	**0.25**	**138**			C	C		131710	ø20	11
14.5	**96.85**	0.25	155	1.0	**0.26**	**160**			C	C		101712	ø24	12
13.6	**102.89**	0.25	165	1.1	**0.27**	**180**			C	C		101313	On request	13
11.1	**126.40**	0.18	155	1.0	**0.20**	**160**			C	C		91712		17
10.3	**135.69**	0.18	166	1.0	**0.18**	**160**			C	C		101312		15
8.4	**165.74**	0.12	131	1.1	**0.13**	**138**			C	C		101310		16
7.9	**177.09**	0.12	140	1.1	**0.14**	**160**			C	C		91312		18
6.5	**216.31**	0.09	136	1.0	**0.10**	**138**			C	C		91310		19

The dynamic efficiency is **0.94** for all ratios

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

EN Unit **403A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.

I Il riduttore **403A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

D Das Getriebe **403A** ist mit synthetischem Öl gefüllt und ist lebensdauergeschmiert.
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.
In Tabelle 2 sind die zulässigen Radial - und Axialbelastungen des Getriebes aufgeführt.

F Le réducteur **403A** est fourni complet avec de l'huile synthétique pour la lubrification permanente et ne nécessite aucun entretien.
Voir tableau 1 concernant les huiles et les quantités conseillées.
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

E El reductor tamaño **403A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

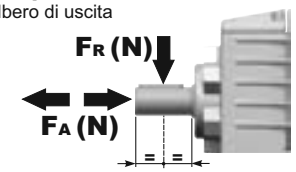
Standard supplied	**For these mounting position specify in the order or add oil** Per queste posizioni specificare in fase d'ordine o aggiungere olio					
 **B3**	 **B6**	 **B7**	 **B8**	 **V5**	 **V6**	 **V8**
0.30 LT	0.35 LT	0.45 LT	0.45 LT	0.45 LT	0.55 LT	Ask
AGIP Telium VSF 320				**SHELL** Omala S4 WE 320		

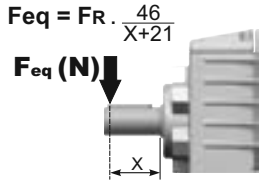
For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita

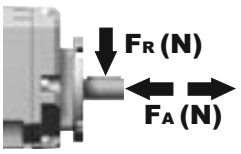
$F_{eq} = F_R \cdot \frac{46}{X+21}$





n_2	FA	FR	n_2	FA	FR	n_2	FA	FR
300	310	1550	**140**	406	2030	**70**	540	2700
250	330	1650	**120**	448	2240	**40**	600	3000
200	360	1800	**85**	480	2400	**15**	600	3000

Input shaft
Albero in entrata

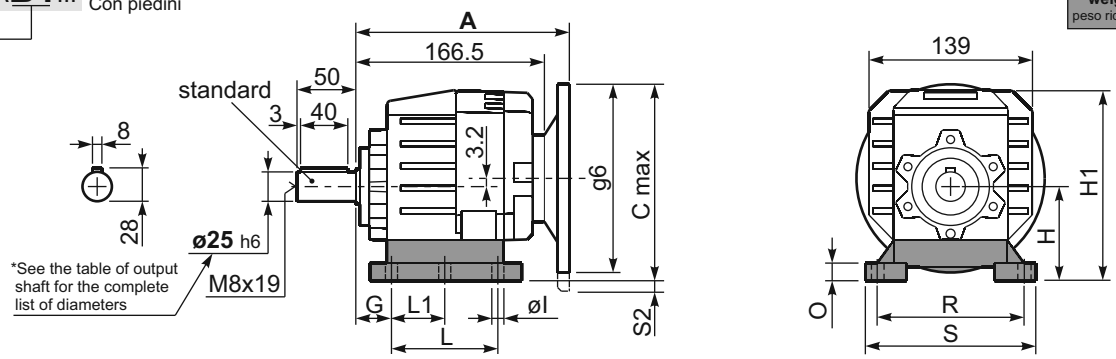


n_1	FA	FR
1400	140	700
900	160	800
500	190	950

tab. 2

P403A**B1**... With feet
Con piedini

Gearbox weight peso riduttore	With flange **6.1 kg**
	With feet **6.3 Kg**



Feet / piedini

Feet Code	Market reference	G	H	R	L	L1	S	H1	O	øl	S2 only with motor flange	B5 max. Flange	kit code
B1	112	18	85	110	87	50	130	167	15	-	-	-	KC35.9.021
B2	212/3	18	100	130	107.5	60	155	182	17	11	-	-	KC40.9.025
S1	17	18	75	110	90÷110	50	145	155	15	9	2 80/90B5	-	KC40.9.022
S2	27	25	90	110	130	-	145	172	20	9	-	-	KC40.9.024
H2	022-223	25	100	110	115	-	145	182	20	9	-	-	KC40.9.026
M1	42/3	25	80	110÷120	85	-	145	162	15	9	-	-	KC40.9.023
L4	04	13	80	105	76	-	132	162	5	10	-	-	KC35.9.023LM
L5	05	16	100	125	90	-	150	182	6	12	-	-	KC40.9.027LM

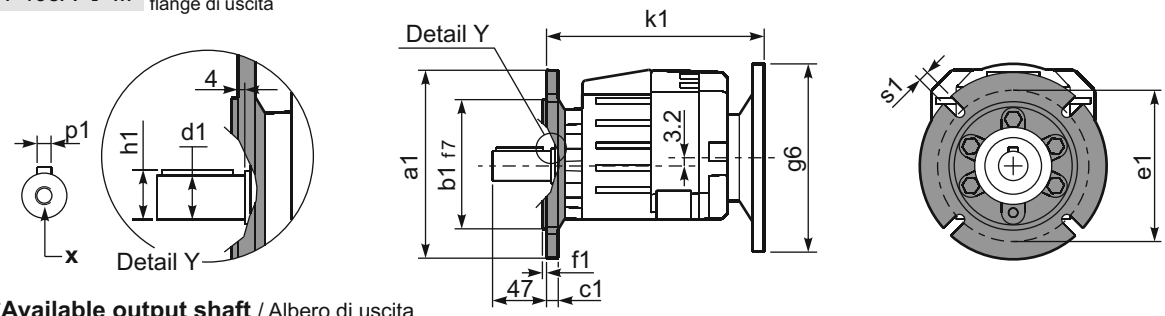
Other feet are available, see our web site
Sono disponibili altri piedini, consulta il nostro sito web

A see on page bottom

Most popular types
Tipi più diffusi

4

P403A**-F**... Output flanges
flange di uscita



***Available output shaft** / Albero di uscita

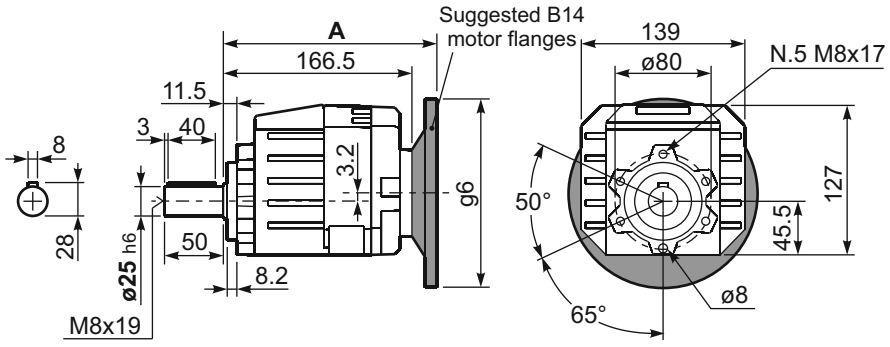
	Shaft - d1	p1	h1	x
Standard	ø 25x50	8	28	M8x19
On request A richiesta	ø 16x40	5	18	M6x16
	ø 19x40	6	21.5	M6x16
	ø 20x40	6	22.5	M8x19
	ø 24x50	8	27	M8x19

Available output flanges / flange di uscita

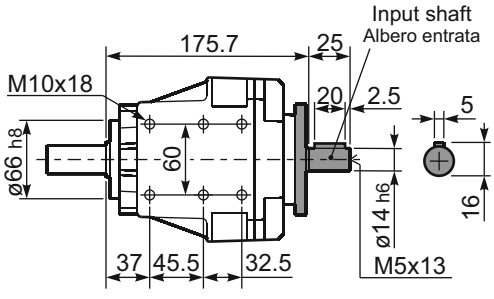
a1 ø	b1	c1	e1	f1	s1	kit code
120	80	10	100	3	7	KC40.9.010
140	95	10	115	3	9	KC40.9.011
160	110	10	130	3	9	KC40.9.012
200	130	11	165	3.5	11	KC40.9.013
250	180	11.5	215	3.5	14	KC40.9.014

With flange and feet only on request. Ask for compatibility

P403A**-N**... Basic gearbox
Riduttore base



R403A**-N**... Input Shaft
Albero in entrata



B5 Motor Flanges	A	C_{max}	g6	k1	kit code
63 B5	185	173.2	140	189	K050.4.041
71 B5	182.5	183.2	160	186.5	K050.4.042

B14 Motor Flanges	A	C_{max}	g6	k1	kit code
56 B14	182.5	143.2	80	186.5	KC40.4.049
63 B14	185	148.2	90	189	K050.4.047
71 B14	182.5	155.7	105	186.5	K050.4.045

▪ QUICK SELECTION / Selezione veloce

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]	Available B5 motor flanges -C 71	-D 80	-E 90	-F 100* 112	-G 132*	Available B14 motor flanges -R 80	-T 90	-U 100 112	-V 132		Output Shaft ø	Ratios code
388	**3.61**	4	93	1.6	**6.3**	**150**	B									3018		01
331	**4.23**	4	108	1.6	**6.1**	**170**	B									3016		02
279	**5.01**	4	129	1.6	**6.1**	**200**	B									3014		03
231	**6.07**	4	156	1.6	**6.3**	**250**	B									3012		04
206	**6.81**	4	175	1.6	**6.2**	**277**	B									2018		05
176	**7.96**	4	204	1.5	**5.8**	**300**	B									2016	**standard ø30**	06
148	**9.45**	4	242	1.3	**4.9**	**304**	B									2014		07
122	**11.43**	4	293	1.0	**4.0**	**300**	B									2012		08
99	**14.21**	3	274	1.0	**2.8**	**265**	B									2010	ø24	09
84	**16.62**	3	321	0.9	**2.8**	**304**	B									1314	ø25	10
70	**20.10**	2.2	286	1.0	**2.3**	**300**	B									1312	ø28	11
56	**24.98**	1.85	302	0.9	**1.6**	**265**	B									1310	ø35	12
47.6	**29.41**	1.5	288	1.1	**1.6**	**304**	B									814	On request	13
39.3	**35.58**	1.5	349	0.9	**1.3**	**300**	B									812		14
34.6	**40.50**	1.1	290	1.0	**1.1**	**290**	B									614		15
31.7	**44.23**	1.1	316	0.8	**0.92**	**265**	B									810		16
28.6	**49.00**	0.75	240	1.2	**0.93**	**300**	B									612		17
23.0	**60.90**	0.75	299	0.9	**0.66**	**265**	B									610		18

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

*Nel montaggio P la flangia può superare l'ingombro massimo dei piedi. Eventualmente utilizzare la flangia B14
* In the P mounting the B5 motor flange can exceed the foot maximum dimensions. Possibly use the flange B14

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

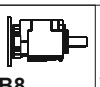
EN Unit **452A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.

I Il riduttore **452A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

D Das Getriebe **452A** ist mit synthetischem Öl gefüllt und ist lebensdauergeschmiert.
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.
In Tabelle 2 sind die zulässigen Radial - und Axialbelastungen des Getriebes aufgeführt.

F Le réducteur **452A** est fourni complet avec de l'huile synthétique pour la lubrification permanente et ne nécessite aucun entretien.
Voir tableau 1 concernant les huiles et les quantités conseillées.
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

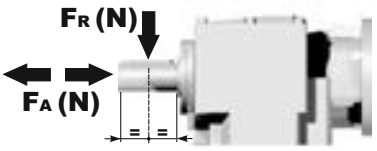
E El reductor tamaño **452A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

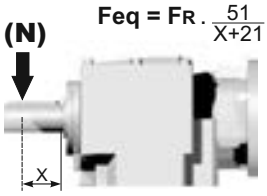
Standard supplied	**For these mounting position specify in the order or add oil** Per queste posizioni specificare in fase d'ordine o aggiungere olio					
 **B3**	 **B6**	 **B7**	 **B8**	 **V5**	 **V6**	 **V8**
0.31 LT	0.31 LT	0.31 LT	0.31 LT	0.31 LT	0.31 LT	Ask
AGIP Telium VSF 320			**SHELL** Omala S4 WE 320			

For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

Output shaft / Albero di uscita





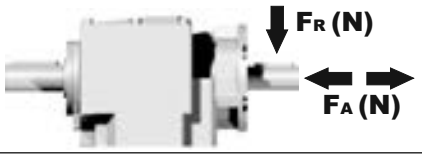
$$Feq = FR \cdot \frac{51}{X+21}$$

n_2	FA	FR
300	415	2070
250	430	2160
200	470	2340

n_2	FA	FR
140	540	2700
120	560	2790
85	630	3150

n_2	FA	FR
70	700	3510
40	810	4050
15	900	4500

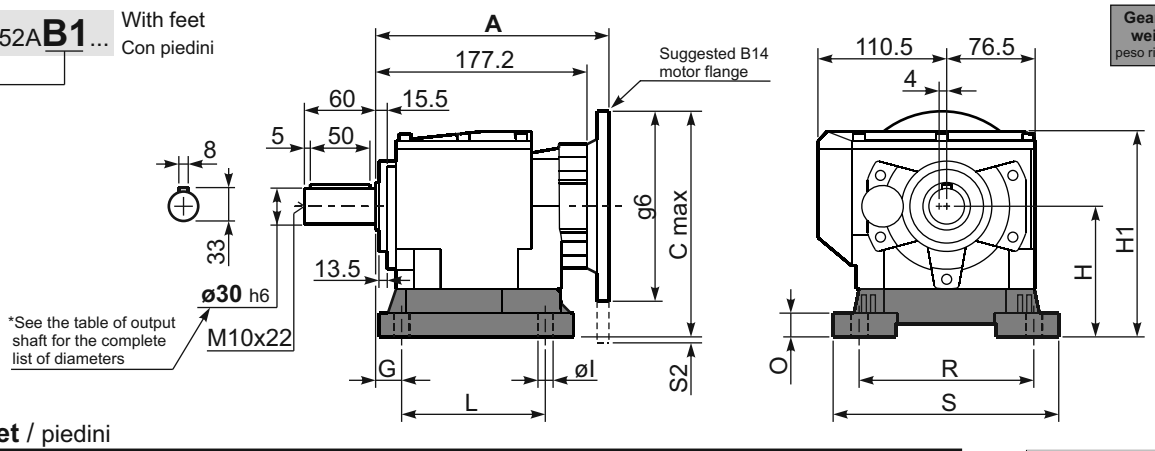
Input shaft / Albero in entrata



n_1	FA	FR
1400	400	2000
900	440	2200
500	440	2200

tab. 2

P452A**B1**... With feet
Con piedini



Gearbox weight / peso riduttore: With flange **8.7 kg** / With feet **8.9 Kg**

Feet / piedini

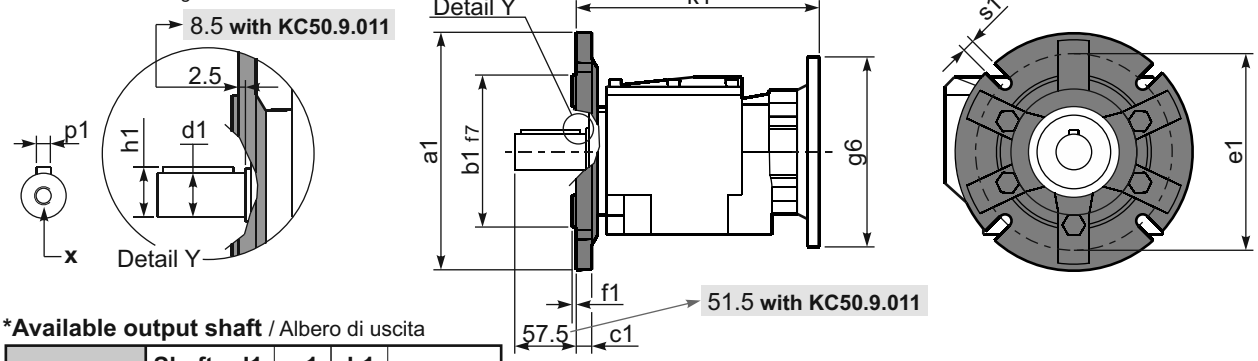
Feet Code	Market reference	G	H	R	L	S	H1	O	øl	S2 only with motor flange	B5 max. Flange	kit code
B3	312/3	18	110	160	130	190	173	20	11	15 100/112B5 40 132B5	-	KC50.9.024
B4	30/35	20	130	180	149.5	216	193	18	14	20 132B5	-	KC60.9.024
S4	47-57	30	115	135	165	170	178	24	13.5	-	80/90B5	KC50.9.022
H3	023-233	30	130	135	135	185	193	25	14	20 132B5	-	KC50.9.025
M2	52/3	30	110	135÷150	100	190	173	18	11	15 100/112B5 40 132B5	-	KC50.9.023
L6	06	19	125	160	106	205	188	8	14	25 132B5	-	KC50.9.026LM
E2	2202/3	13	100	135	192	164	163	6	14	-	71B5	KC50.9.027LM
P4	142	35	142	130	145	160	205	8	14	8 132B5	-	KC50.9.028LM

Other feet are available, see our web site
Sono disponibili altri piedini, consulta il nostro sito web

A see on page bottom

Most popular types
Tipi più diffusi

P452A-**F**... Output flanges
flange di uscita



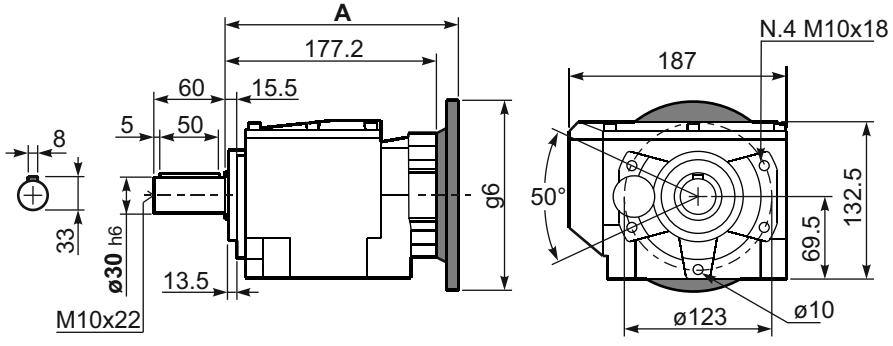
***Available output shaft** / Albero di uscita

	Shaft - d1	p1	h1	x
Standard	ø 30x60	8	33	M10x22
On request A richiesta	ø 24x50	8	27	M8x19
	ø 25x50	8	28	M8x19
	ø 28x60	8	31	M8x19
	ø 35x60	10	38	M10x22

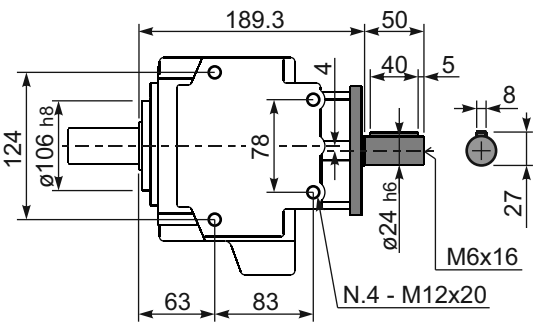
Available output flanges / flange di uscita

a1 ø	b1	c1	e1	f1	s1	kit code	
160	110	14	130	3.5	11	KC50.9.011	With flange and feet only on request. Ask for compatibility
200	130	13	165	3.5	11	KC50.9.012	
250	180	15.5	215	4	14	KC50.9.013	

P452A-**N**... Basic gearbox
Riduttore base



R452A-**N**... Input Shaft
Albero in entrata



B5 Motor Flanges	A	C_{max}	g6	k1	kit code	**k1** with KC50.9.011
71 B5	195.7	222	160	198.2	KC023.4.041	204.2
80/90 B5	197.7	242	200	200.2	KC023.4.042	206.2
100/112 B5	206.7	267	250	209.2	KC023.4.043	215.2
132 B5	224.7	292	300	227.2	KC50.4.043	233.2

B14 Motor Flanges	A	C_{max}	g6	k1	kit code	**k1** with KC50.9.011
80 B14	197.7	202	120	200.2	KC085.4.046	206.2
90 B14	197.7	212	140	200.2	KC085.4.045	206.2
100/112 B14	206.7	222	160	209.2	KC085.4.047	215.2
132 B14	224.7	242	200	227.2	KC50.4.041	233.2

▪ QUICK SELECTION / Selezione veloce

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]	Available B5 motor flanges -C 71	-D 80	-E 90	-F 100* 112	-G 132*	Available B14 motor flanges -R 80	-T 90	-U 100 112	-V 132		Output Shaft ø	Ratios code
388	**3.61**	5.5	127	1.2	**6.3**	**150**	B									3018		01
331	**4.23**	5.5	148	1.1	**6.1**	**170**	B									3016		02
279	**5.01**	5.5	176	1.1	**6.1**	**200**	B									3014		03
231	**6.07**	5.5	213	1.2	**6.3**	**250**	B									3012		04
206	**6.81**	5.5	239	1.3	**6.7**	**300**	B									2018		05
176	**7.96**	5.5	279	1.2	**6.3**	**330**	B									2016		07
148	**9.45**	5.5	331	1.1	**5.7**	**354**	B									2014	**standard ø30**	08
122	**11.43**	4	293	1.1	**4.4**	**326**	B									2012		09
99	**14.21**	3	274	0.9	**2.7**	**250**	B									2010		10
84	**16.62**	3	321	1.1	**3.3**	**354**	B									1314	ø24	11
70	**20.10**	2.2	286	1.1	**2.5**	**326**	B									1312	ø25	12
57	**24.61**	2.2	350	0.9	**2.0**	**326**	B									1112	ø28	20
56	**24.98**	1.5	245	1.0	**1.5**	**250**	B									1310	ø35	13
47.6	**29.41**	1.5	288	1.2	**1.8**	**354**	B									814	On request	14
39.3	**35.58**	1.5	349	0.9	**1.4**	**326**	B									812		15
34.6	**40.50**	1.1	290	1.0	**1.1**	**295**	B									614		16
31.7	**44.23**	1.1	316	0.8	**0.86**	**250**	B									810		17
28.6	**49.00**	1.1	351	0.9	**1.0**	**326**	B									612		18
23.0	**60.90**	0.75	299	0.8	**0.63**	**250**	B									610		19

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

*Nel montaggio P la flangia può superare l'ingombro massimo dei piedi. Eventualmente utilizzare la flangia B14
* In the P mounting the B5 motor flange can exceed the foot maximum dimensions. Possibly use the flange B14

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

EN Unit **502A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.

I Il riduttore **502A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

D Das Getriebe **502A** ist mit synthetischem Öl gefüllt und ist lebensdauergeschmiert.
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.
In Tabelle 2 sind die zulässigen Radial - und Axialbelastungen des Getriebes aufgeführt.

F Le réducteur **502A** est fourni complet avec de l'huile synthétique pour la lubrification permanente et ne nécessite aucun entretien.
Voir tableau 1 concernant les huiles et les quantités conseillées.
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

E El reductor tamaño **502A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

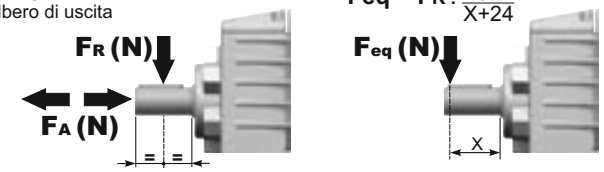
Standard supplied	**For these mounting position specify in the order or add oil** Per queste posizioni specificare in fase d'ordine o aggiungere olio					
						
B3	**B6**	**B7**	**B8**	**V5**	**V6**	**V8**
0.45 LT	0.55 LT	1.00 LT	1.10 LT	1.10 LT	1.15 LT	Ask
AGIP Telium VSF 320			**SHELL** Omala S4 WE 320			

For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

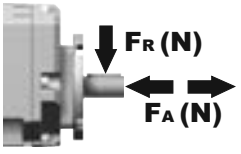
Output shaft
Albero di uscita

$F_{eq} = F_R \cdot \frac{54}{X+24}$



n_2	FA	FR	n_2	FA	FR	n_2	FA	FR
300	460	2300	**140**	600	3000	**70**	780	3900
250	480	2400	**120**	620	3100	**40**	900	4500
200	520	2600	**85**	700	3500	**15**	1000	5000

Input shaft
Albero in entrata

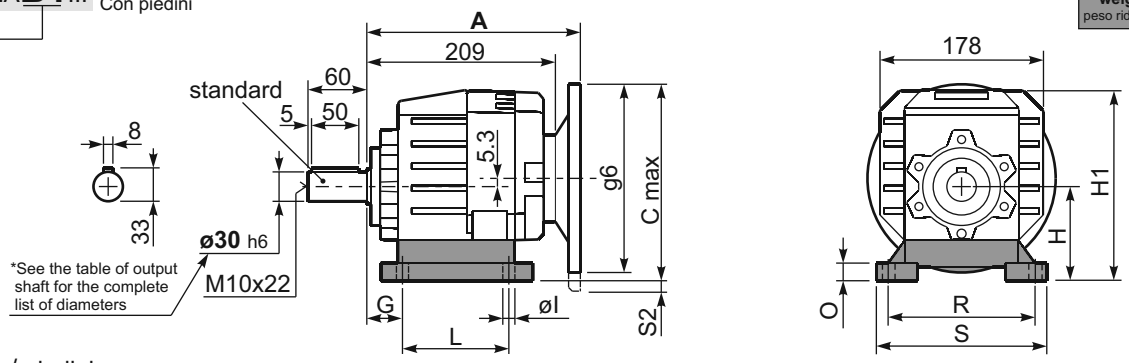


n_1	FA	FR
1400	450	2250
900	500	2500
500	600	3000

tab. 2

P502A**B1**... With feet
Con piedini

Gearbox weight peso riduttore	With flange **11.7 kg**
	With feet **11.9 Kg**



Feet / piedini

Feet Code	Market reference	G	H	R	L	S	H1	O	øl	S2 only with motor flange	B5 max. Flange	kit code
B3	312/3	18	110	160	130	190	211.5	20	11	10 100/112B5 35 132B5	-	KC50.9.024
B4	30/35	20	130	180	149.5	216	231.5	18	14	15 132B5	-	KC60.9.024
S4	47-57	30	115	135	165	170	216.5	24	13.5	5 100/112B5 30 132B5	-	KC50.9.022
H3	023-233	30	130	135	135	185	231.5	25	14	15 132B5	-	KC50.9.025
M2	52/3	30	110	135÷150	100	190	211.5	18	11	10 100/112B5 35 132B5	-	KC50.9.023
L6	06	19	125	160	106	205	226.5	8	14	20 132B5	-	KC50.9.026LM
E2	2202/3	13	100	135	192	164	201.5	6	14	20 100/112B5 45 132B5	-	KC50.9.027LM
P4	142	35	142	130	145	160	243.5	8	14	3 132B5	-	KC50.9.028LM

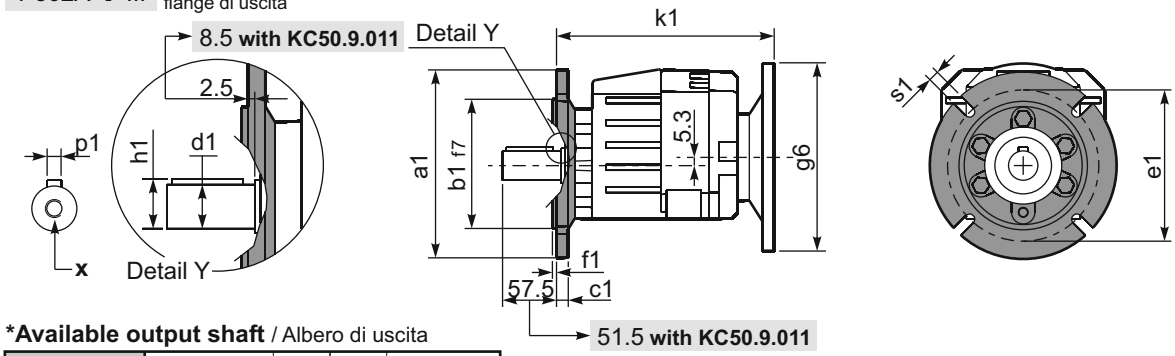
Other feet are available, see our web site
Sono disponibili altri piedini, consulta il nostro sito web

A see on page bottom

Most popular types
Tipi più diffusi

4

P502A-**F**... Output flanges
flange di uscita



***Available output shaft** / Albero di uscita

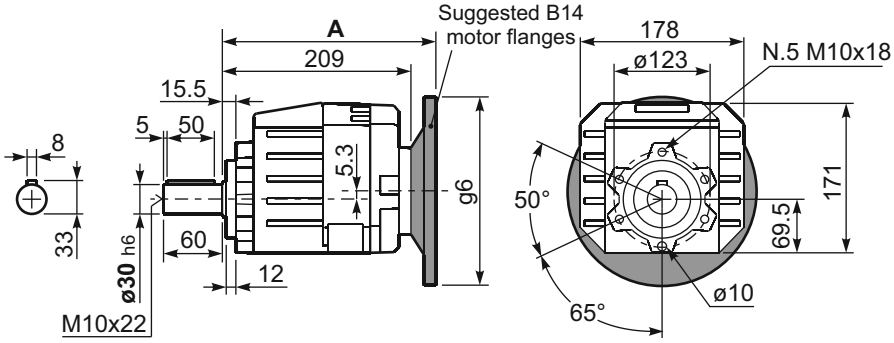
	Shaft - d1	p1	h1	x
Standard	ø 30x60	8	33	M10x22
On request A richiesta	ø 24x50	8	27	M8x19
	ø 25x50	8	28	M8x19
	ø 28x60	8	31	M8x19
	ø 35x60	10	38	M10x22

Available output flanges / flange di uscita

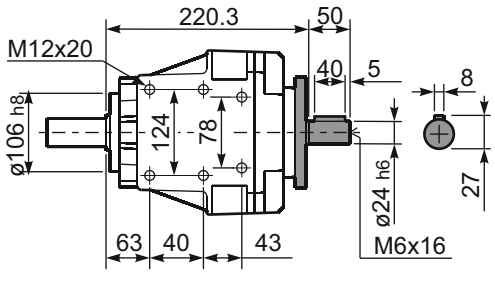
a1 ø	b1	c1	e1	f1	s1	kit code
160	110	14	130	3.5	11	KC50.9.011
200	130	13	165	3.5	11	KC50.9.012
250	180	15.5	215	4	14	KC50.9.013

With flange and feet only on request. Ask for compatibility

P502A-**N**... Basic gearbox
Riduttore base



R502A-**N**... Input Shaft
Albero in entrata



B5 Motor Flanges	A	C_{max}	g6	k1	kit code	k1 with KC50.9.011
71 B5	227.5	227.3	160	230	KC023.4.041	236
80/90 B5	229.5	247.3	200	232	KC023.4.042	238
100/112 B5	238.5	272.3	250	241	KC023.4.043	247
132 B5	256.5	297.3	300	259	KC50.4.043	265

B14 Motor Flanges	A	C_{max}	g6	k1	kit code	k1 with KC50.9.011
80 B14	229.5	207.3	120	232	KC085.4.046	238
90 B14	229.5	217.3	140	232	KC085.4.045	238
100/112 B14	238.5	227.3	160	241	KC085.4.047	247
132 B14	256.5	247	200	259	KC50.4.041	265

▪ QUICK SELECTION / Selezione veloce

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]	Available B5 motor flanges -B 63	-C 71	-D 80	-E 90	Available B14 motor flanges -Q 71	-R 80	-T 90		Output Shaft ø	Ratios code
35.2	**39.79**	1.5	382	1.0	**1.5**	**373**	B				C	C		191316		01
29.6	**47.22**	1.1	331	1.1	**1.2**	**354**	B				C	C		191314		02
25.6	**54.73**	1.1	384	0.9	**1.0**	**354**	B				C	C		171314		03
21.1	**66.22**	0.75	318	1.0	**0.77**	**326**	B				C	C		171312		04
18.3	**76.69**	0.75	369	1.0	**0.72**	**354**	B				C	C		131314		05
16.7	**83.59**	0.55	297	1.2	**0.66**	**354**	B				C	C		190814	**standard ø30**	06
15.1	**92.78**	0.55	329	1.0	**0.55**	**326**	B				C	C		131312		07
13.4	**104.68**	0.55	371	1.0	**0.53**	**354**	B				C	C		101314		08
11.9	**117.22**	0.37	278	1.2	**0.43**	**326**	B				C	C		170812	ø24	09
11.1	**126.65**	0.37	300	1.1	**0.40**	**326**	B				C	C		101312	ø25	10
10.2	**136.62**	0.37	324	1.1	**0.40**	**354**	B				C	C		91314	ø28	11
8.5	**165.29**	0.25	264	1.2	**0.31**	**326**	B				C	C		91312	ø35	12
7.8	**180.40**	0.25	289	1.2	**0.31**	**354**	B				C	C		71314	On request	13
6.4	**218.26**	0.25	349	0.9	**0.23**	**326**	B				C	C		71312		14
5.8	**241.82**	0.25	387	0.9	**0.23**	**354**	B				C	C		90814		15
4.8	**292.57**	0.18	358	0.9	**0.17**	**326**	B				C	C		90812		16
4.4	**319.32**	0.18	391	0.9	**0.17**	**354**	B				C	C		70814		17
3.6	**386.33**	0.12	305	1.1	**0.13**	**326**	B				C	C		70812		18
2.9	**480.16**	0.12	380	0.7	**0.08**	**250**	B				C	C		70810		19

The dynamic efficiency is **0.94** for all ratios

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

EN Unit **503A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.

I Il riduttore **503A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

D Das Getriebe **503A** ist mit synthetischem Öl gefüllt und ist lebensdauergeschmiert.
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.
In Tabelle 2 sind die zulässigen Radial - und Axialbelastungen des Getriebes aufgeführt.

F Le réducteur **503A** est fourni complet avec de l'huile synthétique pour la lubrification permanente et ne nécessite aucun entretien.
Voir tableau 1 concernant les huiles et les quantités conseillées.
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

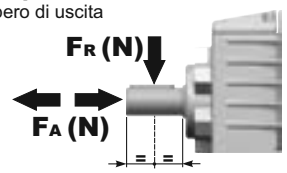
E El reductor tamaño **503A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

Standard supplied	**For these mounting position specify in the order or add oil** Per queste posizioni specificare in fase d'ordine o aggiungere olio					
						
B3	**B6**	**B7**	**B8**	**V5**	**V6**	**V8**
0.75 LT	0.75 LT	1.05 LT	1.15 LT	1.20 LT	1.20 LT	Ask
AGIP Telium VSF 320			**SHELL** Omala S4 WE 320			

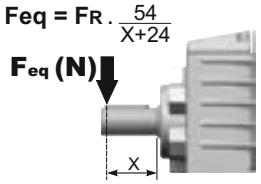
For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



$F_{eq} = F_R \cdot \frac{54}{X+24}$

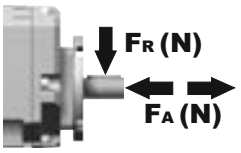


n_2	FA	FR
300	460	2300
250	480	2400
200	520	2600

n_2	FA	FR
140	600	3000
120	620	3100
85	700	3500

n_2	FA	FR
70	780	3900
40	900	4500
15	1000	5000

Input shaft
Albero in entrata

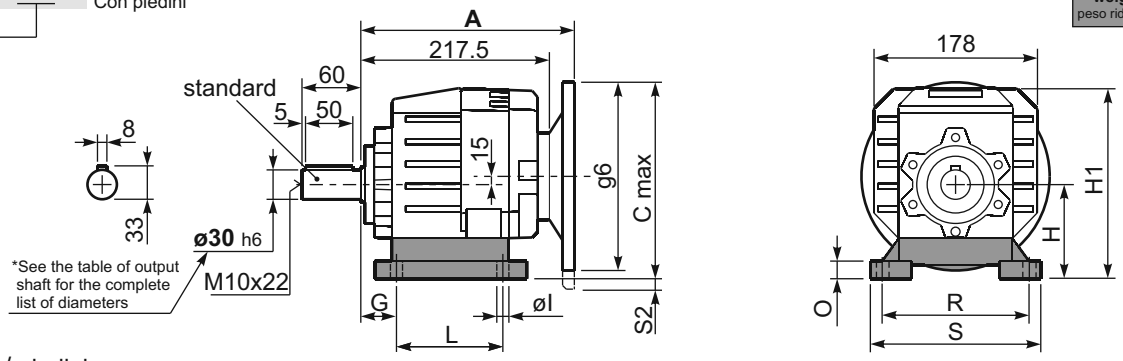


n_1	FA	FR
1400	400	2000
900	440	2200
500	440	2200

tab. 2

P503A**B1**... With feet / Con piedini

Gearbox weight / peso riduttore: With flange **11.9 kg**, With feet **12.1 Kg**



Feet / piedini

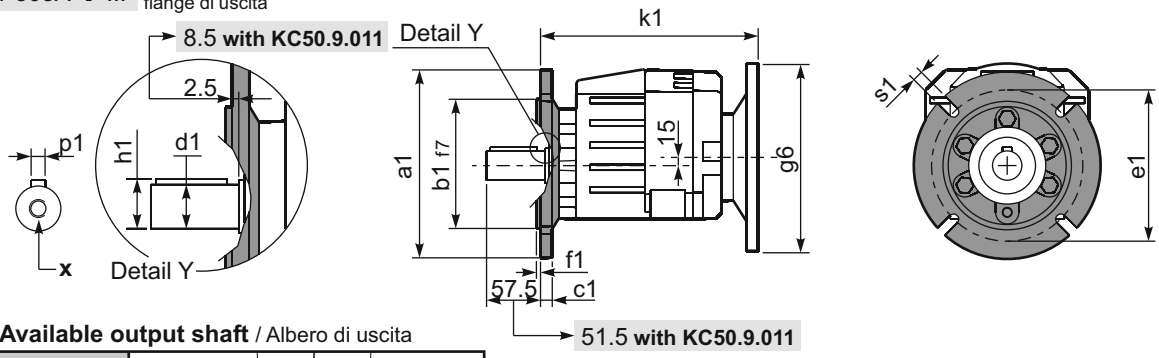
Feet Code	Market reference	G	H	R	L	S	H1	O	øl	S2 only with motor flange	B5 max. Flange	kit code
B3	312/3	18	110	160	130	190	211.5	20	11	-	-	KC50.9.024
B4	30/35	20	130	180	149.5	216	231.5	18	14	-	-	KC60.9.024
S4	47-57	30	115	135	165	170	216.5	24	13.5	-	-	KC50.9.022
H3	023-233	30	130	135	135	185	231.5	25	14	-	-	KC50.9.025
M2	52/3	30	110	135÷150	100	190	211.5	18	11	-	-	KC50.9.023
L6	06	19	125	160	106	205	226.5	8	14	-	-	KC50.9.026LM
E2	2202/3	13	100	135	192	164	201.5	6	14	-	-	KC50.9.027LM
P4	142	35	142	130	145	160	243.5	8	14	-	-	KC50.9.028LM

Other feet are available, see our web site
Sono disponibili altri piedini, consulta il nostro sito web

A see on page bottom

Most popular types
Tipi più diffusi

P503A**-F**... Output flanges / flange di uscita



***Available output shaft** / Albero di uscita

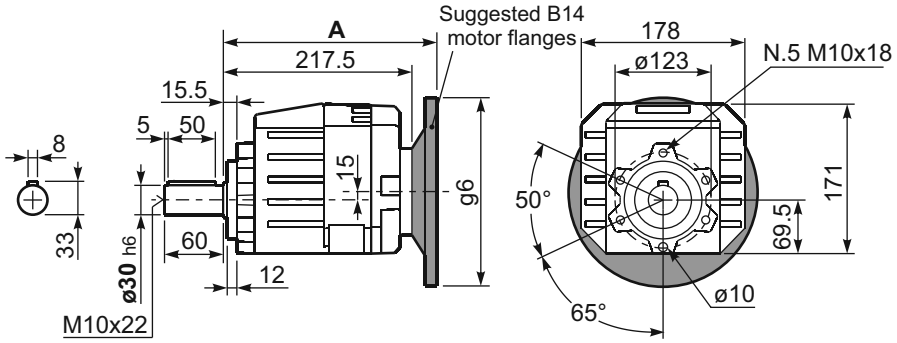
	Shaft - d1	p1	h1	x
Standard	ø 30x60	8	33	M10x22
On request / A richiesta	ø 24x50	8	27	M8x19
	ø 25x50	8	28	M8x19
	ø 28x60	8	31	M8x19
	ø 35x60	10	38	M10x22

Available output flanges / flange di uscita

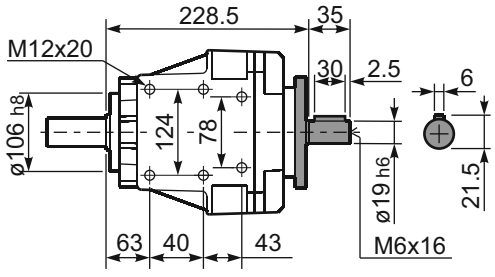
a1 ø	b1	c1	e1	f1	s1	kit code
160	110	14	130	3.5	11	KC50.9.011
200	130	13	165	3.5	11	KC50.9.012
250	180	15.5	215	4	14	KC50.9.013

With flange and feet only on request. Ask for compatibility

P503A**-N**... Basic gearbox / Riduttore base



R503A**-N**... Input Shaft / Albero in entrata



B5 Motor Flanges	A	C_{max}	g6	k1	kit code	k1 with KC50.9.011
63 B5	238	227	140	240.5	K063.4.041	246.5
71 B5	236	237	160	238.5	K063.4.042	244.5
80/90 B5	238	257	200	240.5	K063.4.043	246.5

B14 Motor Flanges	A	C_{max}	g6	k1	kit code	k1 with KC50.9.011
71 B14	236	209.5	105	238.5	K063.4.047	244.5
80 B14	238	217	120	240.5	K063.4.046	246.5
90 B14	238	227	140	240.5	K063.4.041	246.5

▪ QUICK SELECTION / Selezione veloce

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]	Available B5 motor flanges -C 71	-D 80	-E 90	-F 100 112	-G 132*	Available B14 motor flanges -R 80	-T 90	-U 100 112	-V 132		Output Shaft ø	Ratios code
388	**3.61**	7.5	171	1.1	**7.6**	**180**	B									3018		01
331	**4.23**	7.5	200	1.1	**8.0**	**220**	B									3016		02
279	**5.01**	7.5	238	1.1	**7.9**	**260**	B									3014		03
231	**6.07**	7.5	288	1.0	**7.6**	**300**	B									3012		04
206	**6.81**	7.5	323	1.1	**7.9**	**350**	B									2018		05
176	**7.96**	7.5	378	1.0	**7.1**	**370**	B									2016		07
148	**9.45**	5.5	331	1.2	**6.5**	**400**	B									2014	**standard ø35**	08
122	**11.43**	5.5	401	1.0	**5.5**	**415**	B									2012		09
100	**14.00**	4	359	1.2	**4.7**	**435**	B									1316		10
84	**16.62**	4	426	1.2	**4.7**	**515**	B									1314	ø28	11
70	**20.10**	4	515	1.0	**4.0**	**520**	B									1312	ø30	12
57	**24.61**	3	475	1.1	**3.2**	**520**	B									1112	ø38	20
47.6	**29.41**	2.2	418	1.1	**2.3**	**450**	B									814	ø40	14
39.3	**35.58**	1.85	431	1.2	**2.2**	**520**	B									812	On request	15
34.6	**40.50**	1.1	290	1.1	**1.2**	**320**	B									614		16
31.7	**44.23**	1.5	433	0.9	**1.4**	**400**	B									810		17
28.6	**49.00**	1.1	351	1.1	**1.2**	**400**	B									612		18
23.0	**60.90**	1.1	436	0.9	**1.0**	**400**	B									610		19

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

*Nel montaggio P la flangia può superare l'ingombro massimo dei piedi. Eventualmente utilizzare la flangia B14

* In the P mounting the B5 motor flange can exceed the foot maximum dimensions. Possibly use the flange B14

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

EN Unit **602A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.

I Il riduttore **602A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

D Das Getriebe **602A** ist mit synthetischem Öl gefüllt und ist lebensdauergeschmiert.
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.
In Tabelle 2 sind die zulässigen Radial - und Axialbelastungen des Getriebes aufgeführt.

F Le réducteur **602A** est fourni complet avec de l'huile synthétique pour la lubrification permanente et ne nécessite aucun entretien.
Voir tableau 1 concernant les huiles et les quantités conseillées.
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

E El reductor tamaño **602A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

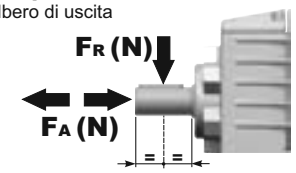
Standard supplied	**For these mounting position specify in the order or add oil** Per queste posizioni specificare in fase d'ordine o aggiungere olio					
						
B3	**B6**	**B7**	**B8**	**V5**	**V6**	**V8**
0.55 LT	0.85 LT	1.10 LT	1.20 LT	1.20 LT	1.25 LT	Ask
AGIP Telium VSF 320				**SHELL** Omala S4 WE 320		

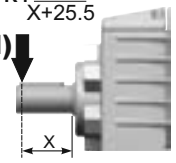
For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita

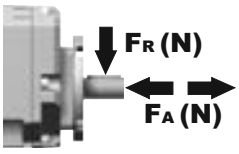
$F_{eq} = F_R \cdot \frac{60.5}{X+25.5}$





n_2	FA	FR	n_2	FA	FR	n_2	FA	FR
300	560	2800	**140**	740	3700	**70**	890	4200
250	600	3000	**120**	760	3800	**40**	1160	5800
200	640	3200	**85**	840	4000	**15**	1300	6500

Input shaft
Albero in entrata

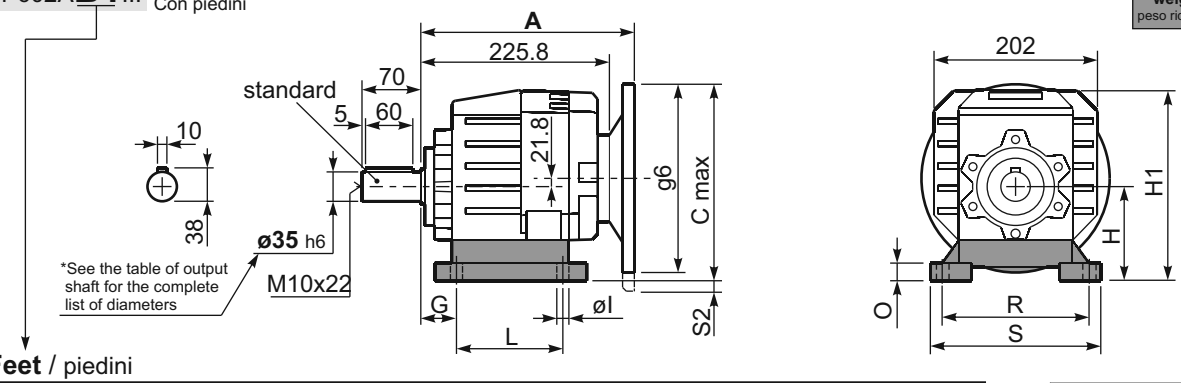


n_1	FA	FR
1400	450	2250
900	500	2500
500	600	3000

tab. 2

P602A**B1**... With feet
Con piedini

Gearbox weight peso riduttore	
With flange	**14.1 kg**
With feet	**14.5 kg**



Feet / piedini

Feet Code	Market reference	G	H	R	L	S	H1	O	øl	S2 only with motor flange	B5 max. Flange	kit code
B4	412/3	20	130	180	149.5	216	233	18	14	-	-	KC60.9.024
S4	47-57	30	115	135	165	170	218	24	13.5	13 132B5	-	KC50.9.022
M3	62/3	35	120	170÷185	110	230	223	20	14	8 132B5	-	KC60.9.023
S7	77	35	140	170	205	204	243	8	14	-	-	KC60.9.029LM
H4	024-243	35	155	170	150	225	258	30	14	-	-	KC60.9.025
L6	06	19	125	160	106	205	228	8	14	3 132B5	-	KC50.9.026LM
E3	2302/3	19.5	125	170	240	205	228	8	14	-	100/112B5	KC60.9.026LM
P6	162	40	162	160	205	200	265	8	14	-	-	KC60.9.027LM
B5	352/3	23.5	115	170	130	205	218	8	14	13 132B5	-	KC60.9.021LM

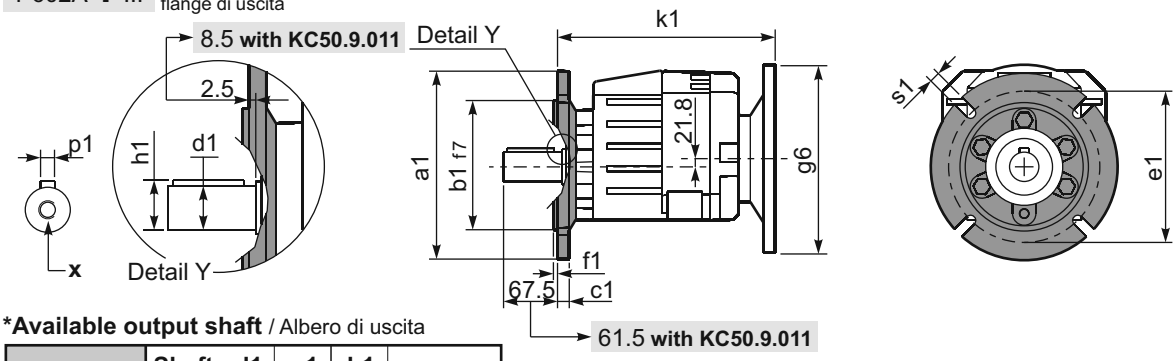
Other feet are available, see our web site
Sono disponibili altri piedini, consulta il nostro sito web

A see on page bottom

Most popular types
Tipi più diffusi

4

P602A**-F**... Output flanges
flange di uscita



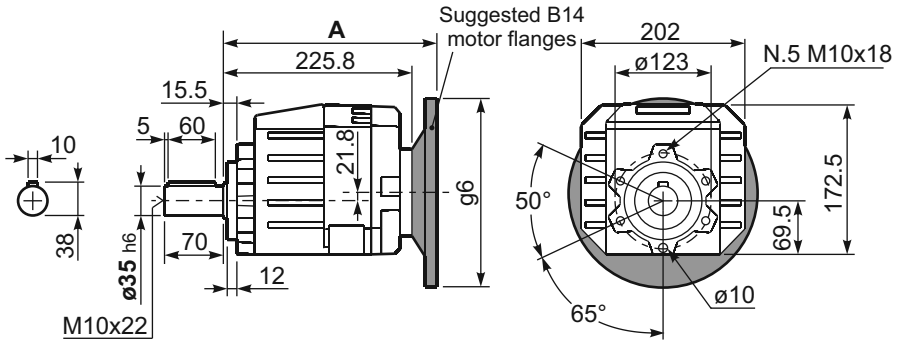
***Available output shaft** / Albero di uscita

	Shaft - d1	p1	h1	x
Standard	ø 35x70	10	38	M10x22
On request A richiesta	ø 28x60	8	31	M8x20
	ø 30x60	8	33	M10x22
	ø 38x70	10	41	M10x25
	ø 40x80	12	43	M12x28

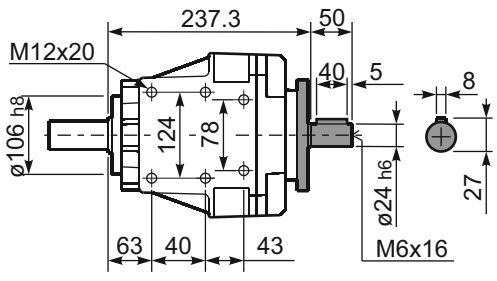
Available output flanges / flange di uscita

a1 ø	b1	c1	e1	f1	s1	kit code	
160	110	14	130	3.5	11	KC50.9.011	With flange and feet only on request. Ask for compatibility
200	130	13	165	3.5	11	KC50.9.012	
250	180	15.5	215	4	14	KC50.9.013	

P602A**-N**... Basic gearbox
Riduttore base



R602A**-N**... Input Shaft
Albero in entrata



B5 Motor Flanges	A	C_{max}	g6	k1	kit code	**k1** with KC50.9.011
71 B5	244.3	263.8	160	246.8	KC023.4.041	252.8
80/90 B5	246.3	283.8	200	248.8	KC023.4.042	254.8
100/112 B5	255.3	308.8	250	257.8	KC023.4.043	263.8
132 B5	273.3	333.8	300	275.8	KC50.4.043	281.8

B14 Motor Flanges	A	C_{max}	g6	k1	kit code	**k1** with KC50.9.011
80 B14	246.3	243.8	120	248.8	KC085.4.046	254.8
90 B14	246.3	253.8	140	248.8	KC085.4.045	254.8
100/112 B14	255.3	263.8	160	257.8	KC085.4.047	263.8
132 B14	273.3	283.8	200	275.8	KC50.4.041	281.8

▪ QUICK SELECTION / Selezione veloce

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]	Available B5 motor flanges -B 63	-C 71	-D 80	-E 90	Available B14 motor flanges -Q 71	-R 80	-T 90		Output Shaft ø	Ratios code
35.2	**39.79**	1.5	382	1.1	**1.7**	**434**	B				C	C		191316		05
29.6	**47.22**	1.5	453	1.1	**1.7**	**515**	B				C	C		191314		06
25.6	**54.73**	1.5	525	1.0	**1.5**	**515**	B				C	C		171314		07
24.5	**57.13**	1.5	548	0.9	**1.4**	**520**	B				C	C		191312		08
21.1	**66.22**	1.1	464	1.1	**1.2**	**520**	B				C	C		171312		09
19.7	**71.01**	1.1	498	0.9	**0.96**	**435**	B				C	C		191310		10
18.3	**76.69**	1.1	538	1.0	**1.0**	**515**	B				C	C		131314		11
17.0	**82.30**	0.75	396	1.1	**0.82**	**435**	B				C	C		171310		12
16.7	**83.59**	0.75	402	1.1	**0.82**	**440**	B				C	C		190814	**standard ø35**	13
15.1	**92.78**	0.75	446	1.2	**0.87**	**520**	B				C	C		131312		14
13.4	**104.68**	0.75	503	1.0	**0.77**	**515**	B				C	C		101314	ø28	15
11.9	**117.22**	0.75	564	0.9	**0.69**	**520**	B				C	C		170812	ø30	16
11.1	**126.65**	0.55	449	1.2	**0.64**	**520**	B				C	C		101312	ø38	17
10.3	**135.74**	0.55	482	0.9	**0.51**	**440**	B				C	C		130814	ø40	18
9.6	**145.68**	0.37	346	1.3	**0.47**	**435**	B				C	C		170810	On request	19
8.9	**157.40**	0.37	373	1.2	**0.43**	**435**	B				C	C		101310		20
8.5	**165.29**	0.37	392	1.3	**0.49**	**520**	B				C	C		91312		21
7.6	**185.29**	0.37	439	1.0	**0.37**	**440**	B				C	C		100814		22
6.8	**205.43**	0.37	487	0.9	**0.33**	**435**	B				C	C		91310		23
6.2	**224.18**	0.37	532	1.0	**0.36**	**520**	B				C	C		100812		24
5.8	**241.82**	0.25	387	1.1	**0.28**	**440**	B				C	C		90814		25
5.0	**278.62**	0.25	446	1.0	**0.24**	**435**	B				C	C		100810		26
4.8	**292.57**	0.25	468	1.1	**0.28**	**520**	B				C	C		90812		27
3.9	**363.63**	0.18	445	1.0	**0.19**	**435**	B				C	C		90810		28

The dynamic efficiency is **0.94** for all ratios

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

EN Unit **603A** is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.
See table 1 for lubrication and recommended quantity.
In table 2 please see possible radial loads and axial loads on the gearbox.

I Il riduttore **603A** viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.
Vedi tab.1 per oli e quantità consigliati.
In tab.2 sono presenti i carichi radiali e assiali applicabili al riduttore.

D Das Getriebe **603A** ist mit synthetischem Öl gefüllt und ist lebensdauergeschmiert.
In Tabelle 1 ist die Schmiermenge und das empfohlene Schmiermittel angegeben.
In Tabelle 2 sind die zulässigen Radial - und Axialbelastungen des Getriebes aufgeführt.

F Le réducteur **603A** est fourni complet avec de l'huile synthétique pour la lubrification permanente et ne nécessite aucun entretien.
Voir tableau 1 concernant les huiles et les quantités conseillées.
Les charges radiales et axiales applicables au réducteur sont précisées dans le tableau 2.

E El reductor tamaño **603A** se suministra, lubricado de por vida con aceite sintético y no requiren mantenimiento alguna.
Ver tabla 1, para cantidades y aceites recomendados.
En la tabla 2, se encuentran las cargas radiales y axiales admitidas por el reductor.

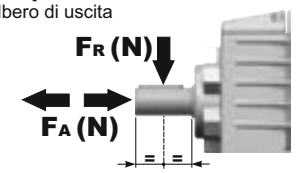
Standard supplied	**For these mounting position specify in the order or add oil** Per queste posizioni specificare in fase d'ordine o aggiungere olio					
						
B3	**B6**	**B7**	**B8**	**V5**	**V6**	**V8**
0.75 LT	0.90 LT	1.15 LT	1.25 LT	1.30 LT	1.35 LT	Ask
AGIP Telium VSF 320				**SHELL** Omala S4 WE 320		

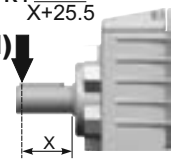
For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita

$F_{eq} = F_R \cdot \frac{60.5}{X+25.5}$



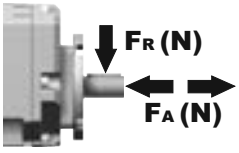


n_2	FA	FR
300	560	2800
250	600	3000
200	640	3200

n_2	FA	FR
140	740	3700
120	760	3800
85	840	4000

n_2	FA	FR
70	890	4200
40	1160	5800
15	1300	6500

Input shaft
Albero in entrata

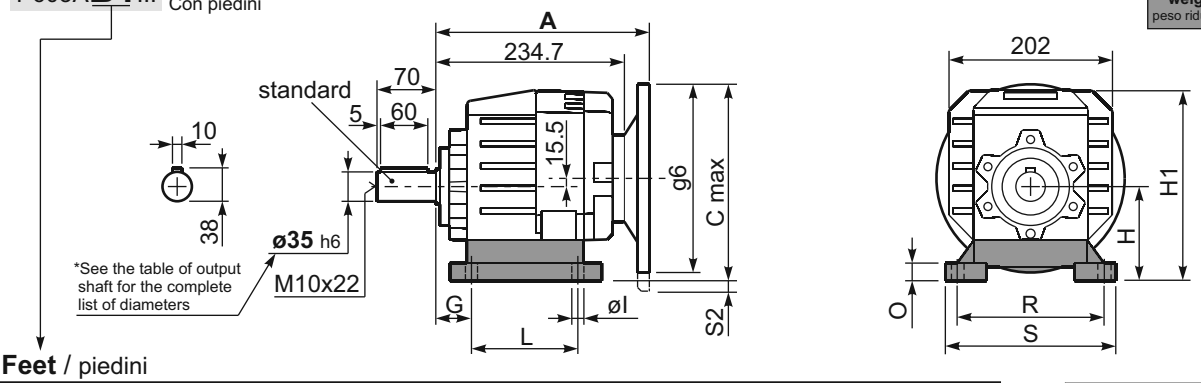


n_1	FA	FR
1400	400	2000
900	440	2200
500	440	2200

tab. 2

P603A**B1**... With feet
Con piedini

Gearbox weight peso riduttore	With flange **14.3 kg**
	With feet **14.7 Kg**



Feet / piedini

Feet Code	Market reference	G	H	R	L	S	H1	O	øl	S2 only with motor flange	B5 max. Flange	kit code
B4	412/3	20	130	180	149.5	216	233	18	14	-	-	KC60.9.024
S4	47-57	30	115	135	165	170	218	24	13.5	-	-	KC50.9.022
M3	62/3	35	120	170÷185	110	230	223	20	14	-	-	KC60.9.023
S7	77	35	140	170	205	204	243	8	14	-	-	KC60.9.029LM
H4	024-243	35	155	170	150	225	258	30	14	-	-	KC60.9.025
L6	06	19	125	160	106	205	228	8	14	-	-	KC50.9.026LM
E3	2302/3	19.5	125	170	240	205	228	8	14	-	-	KC60.9.026LM
P6	162	40	162	160	205	200	265	8	14	-	-	KC60.9.027LM
B5	352/3	23.5	115	170	130	205	218	8	14	-	-	KC60.9.021LM

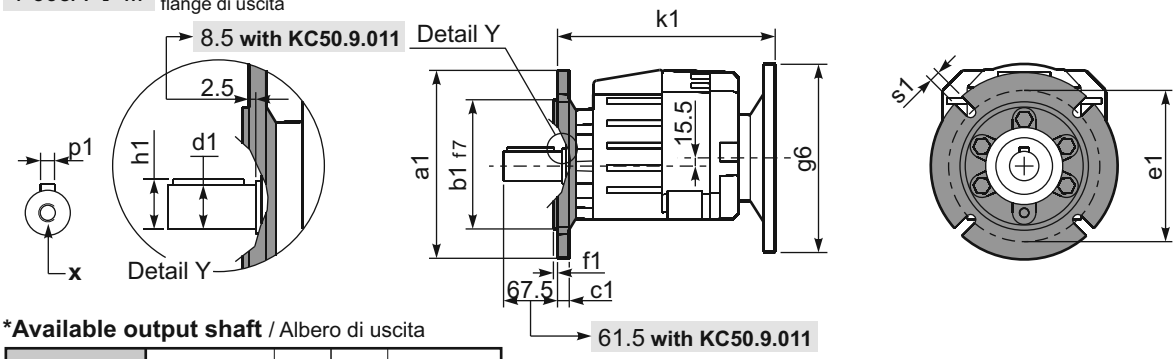
Other feet are available, see our web site
Sono disponibili altri piedini, consulta il nostro sito web

A see on page bottom

Most popular types
Tipi più diffusi

4

P603A**-F**... Output flanges
flange di uscita



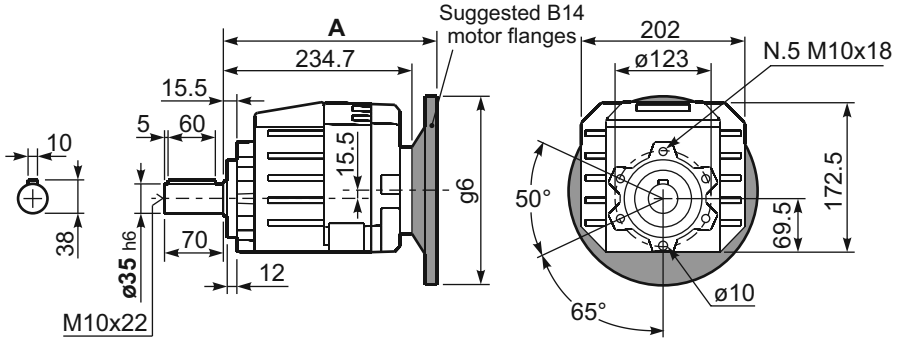
***Available output shaft** / Albero di uscita

	Shaft - d1	p1	h1	x
Standard	ø 35x70	10	38	M10x22
On request A richiesta	ø 28x60	8	31	M8x20
	ø 30x60	8	33	M10x22
	ø 38x70	10	41	M10x25
	ø 40x80	12	43	M12x28

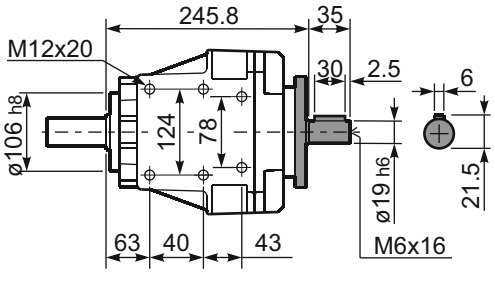
Available output flanges / flange di uscita

a1 ø	b1	c1	e1	f1	s1	kit code	
160	110	14	130	3.5	11	KC50.9.011	With flange and feet only on request. Ask for compatibility
200	130	13	165	3.5	11	KC50.9.012	
250	180	15.5	215	4	14	KC50.9.013	

P603A**-N**... Basic gearbox
Riduttore base



R603A**-N**... Input Shaft
Albero in entrata



B5 Motor Flanges	A	C_{max}	g6	k1	kit code	k1 with KC50.9.011
63 B5	255.2	247.5	140	257.7	K063.4.041	263.7
71 B5	253.2	257.5	160	255.7	K063.4.042	261.7
80/90 B5	255.2	277.5	200	257.7	K063.4.043	263.7

B14 Motor Flanges	A	C_{max}	g6	k1	kit code	k1 with KC50.9.011
71 B14	253.2	230	105	255.7	K063.4.047	261.7
80 B14	255.2	237.5	120	257.7	K063.4.046	263.7
90 B14	255.2	247.5	140	257.7	K063.4.041	263.7