

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

Output shaft

With well proportioned bearings

Gears

Hardened and ground gears.

Feet

Removable feet. With patented locking system.

Foot prints

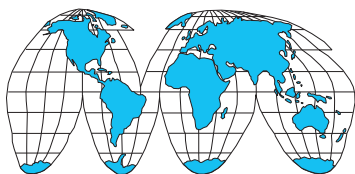
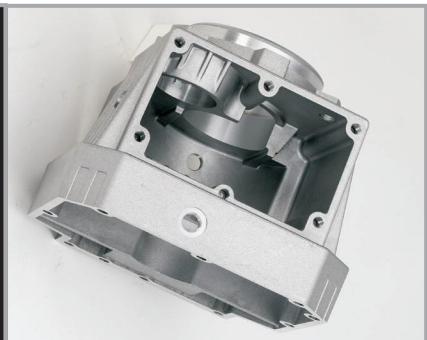
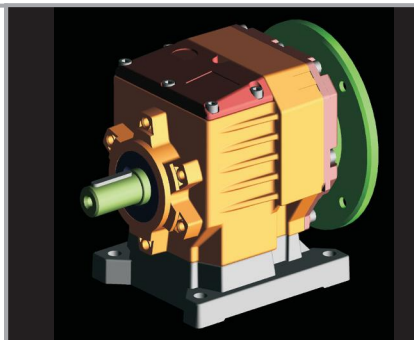
Compatible to the main standard of the market.

Lubricated for life with synthetic oil with operative range from -15° to $+130^{\circ}\text{C}$

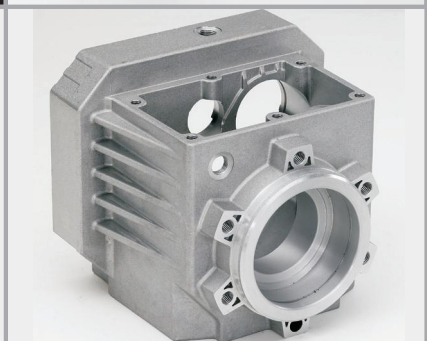
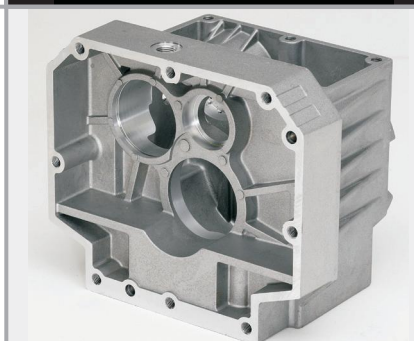


Single-piece aluminum alloy housing

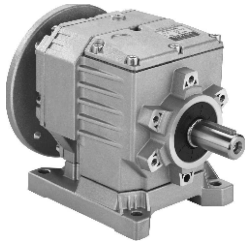
Combines light weight with high tensile strength. Precision machined for alignment of bearings and gearing



World wide sales network.



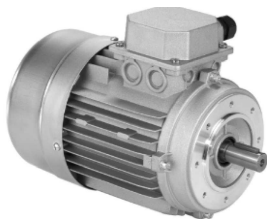
Specific type datasheet on page...



Types / Tipi
Tipen / Types
Tipos

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

4-5	4-7	4-9	4-11	4-13	4-15	4-17	4-19	4-21
202A 70Nm	302A 120Nm	412A 175Nm	413A 175Nm	452A 300Nm	512A 360Nm	513A 360Nm	612A 530Nm	613A 530Nm



Types / Tipi
Tipen / Types
Tipos

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

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

Type - Tipo - Typ
Type - Tipo

Size - Grandezza - Grösse
Taille - Tamaño

Mounting - Montaggio
Montage - Fixation
Tipo de montaje

Ratio - Rapporto
Untersetzung - Reduction
Relación

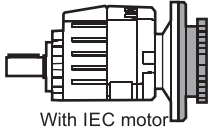
P

412A

-F

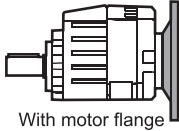
7.33

Aluminum coaxial gear boxes
Riduttori coassiali in alluminio



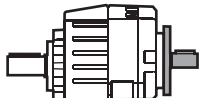
With IEC motor

M



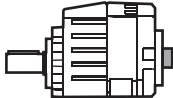
With motor flange

P



With male input shaft

R



Modular base

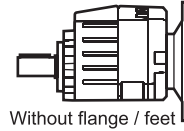
B

2 Stages
Riduzioni
Stufen
Trains
Etapas

3 Stages
Riduzioni
Stufen
Trains
Etapas

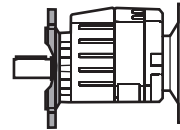
202A
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512A
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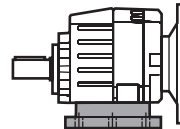
Without flange / feet

-N



Output flange mounted

-F



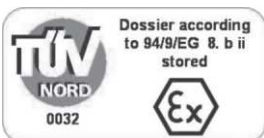
Mounted feet

B..

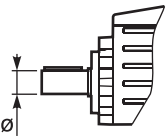
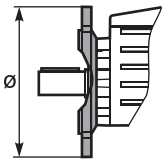



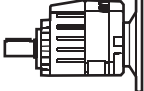
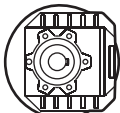
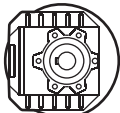
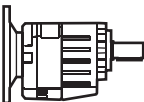
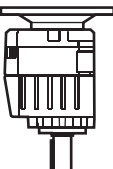

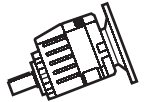
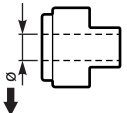
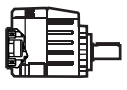




Feet / piedini		G	H	R	L	L1	S
Feet Code	Market reference						
B1	112	18	85	110	87	50	
B2	212/3	18	100	130	107.5		
S1	17	18	75	110	90+20		
S2	27	25	90	110	130		
M1	42/3	25	80	110+120	85		
L4	04	13	80	105			
L5	05	16	100	125			

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

4



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.

Output shaft Albero uscita Abtriebswelle Arbre de sortie Eje en salida	Output flange Flangia uscita Ausgangsflansch Bride de sortie Brida en salida	Motor size - Grandezza motore Motor Grösse Grandeur moteur - Tamaño motor	Mounting position Posizione montaggio Einbaulage Position de montage Position de montage	Input bore Foro entrata Eingangshohlwelle Trou d'entree Eje hueco de entrada	Terminal box position Posizione morsettieria Klemmkastenlage Position boîte à bornes Posición caja de bornes																																																																			
<p>V</p>  <p>→ STANDARD</p> <table border="1"> <tr><td>202A</td></tr> <tr><td>S ⇒ Ø14</td></tr> <tr><td>B ⇒ Ø16</td></tr> <tr><td>D ⇒ Ø20</td></tr> <tr><td>V ⇒ Ø25</td></tr> </table> <table border="1"> <tr><td>302A</td></tr> <tr><td>S ⇒ Ø14</td></tr> <tr><td>B ⇒ Ø16</td></tr> <tr><td>C ⇒ Ø19</td></tr> <tr><td>D ⇒ Ø20</td></tr> <tr><td>E ⇒ Ø24</td></tr> <tr><td>V ⇒ Ø25</td></tr> </table> <table border="1"> <tr><td>412A 413A</td></tr> <tr><td>B ⇒ Ø16</td></tr> <tr><td>C ⇒ Ø19</td></tr> <tr><td>D ⇒ Ø20</td></tr> <tr><td>E ⇒ Ø24</td></tr> <tr><td>V ⇒ Ø25</td></tr> </table> <table border="1"> <tr><td>452A 512A 513A</td></tr> <tr><td>E ⇒ Ø24</td></tr> <tr><td>V ⇒ Ø25</td></tr> <tr><td>G ⇒ Ø28</td></tr> <tr><td>H ⇒ Ø30</td></tr> <tr><td>I ⇒ Ø35</td></tr> </table> <table border="1"> <tr><td>612A 613A</td></tr> <tr><td>G ⇒ Ø28</td></tr> <tr><td>H ⇒ Ø30</td></tr> <tr><td>I ⇒ Ø35</td></tr> <tr><td>L ⇒ Ø38</td></tr> <tr><td>M ⇒ Ø40</td></tr> </table>	202A	S ⇒ Ø14	B ⇒ Ø16	D ⇒ Ø20	V ⇒ Ø25	302A	S ⇒ Ø14	B ⇒ Ø16	C ⇒ Ø19	D ⇒ Ø20	E ⇒ Ø24	V ⇒ Ø25	412A 413A	B ⇒ Ø16	C ⇒ Ø19	D ⇒ Ø20	E ⇒ Ø24	V ⇒ Ø25	452A 512A 513A	E ⇒ Ø24	V ⇒ Ø25	G ⇒ Ø28	H ⇒ Ø30	I ⇒ Ø35	612A 613A	G ⇒ Ø28	H ⇒ Ø30	I ⇒ Ø35	L ⇒ Ø38	M ⇒ Ø40	<p>2</p>  <p>N Senza flangia Without flange</p> <table border="1"> <tr><td>202A 302A</td></tr> <tr><td>1 ⇒ Ø120</td></tr> <tr><td>2 ⇒ Ø140</td></tr> <tr><td>3 ⇒ Ø160</td></tr> <tr><td>4 ⇒ Ø200</td></tr> </table> <table border="1"> <tr><td>412A 413A</td></tr> <tr><td>1 ⇒ Ø120</td></tr> <tr><td>2 ⇒ Ø140</td></tr> <tr><td>3 ⇒ Ø160</td></tr> <tr><td>4 ⇒ Ø200</td></tr> <tr><td>5 ⇒ Ø250</td></tr> </table> <table border="1"> <tr><td>452A 512A 513A</td></tr> <tr><td>3 ⇒ Ø160</td></tr> <tr><td>4 ⇒ Ø200</td></tr> <tr><td>5 ⇒ Ø250</td></tr> </table> <table border="1"> <tr><td>612A 613A</td></tr> <tr><td>3 ⇒ Ø160</td></tr> <tr><td>4 ⇒ Ø200</td></tr> <tr><td>5 ⇒ Ø250</td></tr> </table>	202A 302A	1 ⇒ Ø120	2 ⇒ Ø140	3 ⇒ Ø160	4 ⇒ Ø200	412A 413A	1 ⇒ Ø120	2 ⇒ Ø140	3 ⇒ Ø160	4 ⇒ Ø200	5 ⇒ Ø250	452A 512A 513A	3 ⇒ Ø160	4 ⇒ Ø200	5 ⇒ Ø250	612A 613A	3 ⇒ Ø160	4 ⇒ Ø200	5 ⇒ Ø250	<p>-C</p> <p>Flange Flangia</p>  <p>B5</p> <p>-A=56 (Ø120) -B=63 (Ø140) -C=71 (Ø160) -D=80 (Ø200) -E=90 (Ø200) -F=100+112 (Ø250) -G=132 (Ø300)</p> <p>B14</p> <p>-O=56 (Ø80) -P=63 (Ø90) -Q=71 (Ø105) -R=80 (Ø120) -T=90 (Ø140) -U=100+112 (Ø160) -V=132 (Ø200)</p> <p>Type R Tipo R</p>  <table border="1"> <tr><td>202A 413A</td></tr> <tr><td>-1 ⇒ Ø14</td></tr> </table> <table border="1"> <tr><td>302A 412A 513A 613A</td></tr> <tr><td>-2 ⇒ Ø19</td></tr> </table> <table border="1"> <tr><td>452A 512A 612A</td></tr> <tr><td>-3 ⇒ Ø24</td></tr> </table> <p>Without flange Senza flangia</p>  <p>-M ⇒ With coupling</p> <table border="1"> <tr><td>202A 413A</td></tr> <tr><td>-Z ⇒ Ø9 (56B5)</td></tr> <tr><td>-0 ⇒ Ø11 (63B5)</td></tr> <tr><td>-1 ⇒ Ø14 (71B5)</td></tr> </table> <table border="1"> <tr><td>302A 412A 513A 613A</td></tr> <tr><td>-1 ⇒ Ø14 (71B5)</td></tr> <tr><td>-2 ⇒ Ø19 (80B5)</td></tr> <tr><td>-3 ⇒ Ø24 (90B5)</td></tr> </table> <table border="1"> <tr><td>452A 512A 612A</td></tr> <tr><td>-2 ⇒ Ø19 (80B5)</td></tr> <tr><td>-3 ⇒ Ø24 (90B5)</td></tr> <tr><td>-4 ⇒ Ø28 (100B5)</td></tr> </table>	202A 413A	-1 ⇒ Ø14	302A 412A 513A 613A	-2 ⇒ Ø19	452A 512A 612A	-3 ⇒ Ø24	202A 413A	-Z ⇒ Ø9 (56B5)	-0 ⇒ Ø11 (63B5)	-1 ⇒ Ø14 (71B5)	302A 412A 513A 613A	-1 ⇒ Ø14 (71B5)	-2 ⇒ Ø19 (80B5)	-3 ⇒ Ø24 (90B5)	452A 512A 612A	-2 ⇒ Ø19 (80B5)	-3 ⇒ Ø24 (90B5)	-4 ⇒ Ø28 (100B5)	<p>B3</p>  <p>B3 STANDARD</p>  <p>B6</p>  <p>B7</p>  <p>B8</p>  <p>V5</p>  <p>V6</p>  <p>V8</p>	<p>-</p> <p>Nothing indication: standard bore</p> <p>Nessuna indicazione: foro standard</p> <p>COUPLING</p>  <p>A = 9mm B = 11mm C = 14mm D = 19mm E = 24mm F = 28mm</p> <p>0</p> <p>Ready for input coupling Predisposto per giunto</p> 	<p>With Type M specify terminal box position Con tipo M specificare posizione morsettieria</p>  <p>A</p>  <p>B STANDARD</p>  <p>C</p>  <p>D</p>
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POTENZA RICHIESTA / REQUIRED POWER / ERFORDERLICHE LEISTUNG / PUISSANCE NECESSAIRE / POTENCIA NECESARIA

Lifting / sollevamento / hubantriebe / levage / elevación

$$P \text{ [KW]} = \frac{M \text{ [Kg]} \cdot g \text{ [9.81]} \cdot v \text{ [m / s]}}{1000}$$

Rotation / rotazione / drehung / rotation / rotation

$$P \text{ [KW]} = \frac{M \text{ [Nm]} \cdot n \text{ [rpm]}}{9550}$$

Linear movement / traslazione / linearbewegung / translation / translacion

$$P \text{ [KW]} = \frac{F \text{ [N]} \cdot v \text{ [m / s]}}{1000}$$

TORQUE / COPPIA / DREHMOMENT / COUPLE / PAR

$$M \text{ [Nm]} = \frac{9550 \cdot P \text{ [KW]}}{n \text{ [rpm]}}$$

$$M \text{ [lb in]} = \frac{63030 \cdot P \text{ [HP]}}{n \text{ [rpm]}}$$

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

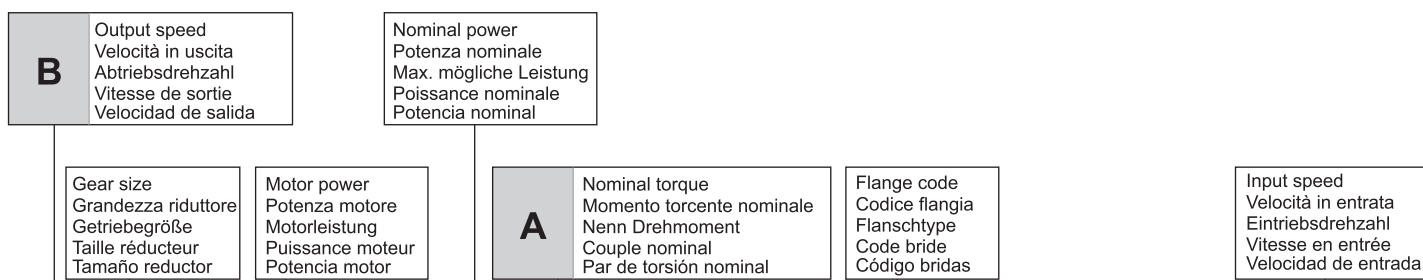
- Radial load generated by external transmissions keyed onto input and/or output shafts.
- Forza radiale generata da organi di trasmissione calettati sugli alberi di ingresso e/o uscita.
- Belastungen der Antriebs- bzw. Abtriebswellen durch von aussen eingebrachte Radiallasten.
- Charge radiale générée 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



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

How to select a gearbox / Come selezionare un riduttore / Wie wählt man ein Getriebe
Comment sélectionner un réducteur / Cómo seleccionar un reductor



412A

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				Available B14 motor flanges				Output Shaft		
							-B	-C	-D	-E	-Q	-R	-T	-U			Ratio 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

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

Notes
Note
Anmerkungen
Note
Notas

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

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

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 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 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 boccia 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 boccia 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 output 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 (n₁) = 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		Available B14 motor flanges			Output Shaft 	Ratios code
							-B	-C	-O	-P	-Q		
							63	71*	56	63	71		
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	07
123	11.42	0.55**	41	1.5	0.80	60			C	C		1715	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	10
86	16.20	0.37	39	1.5	0.57	60			C	C		1910	11
75	18.78	0.37	45	1.3	0.49	60			C	C		1710	12
66	21.15	0.37	51	1.2	0.43	60			C	C		1312	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. * Nel montaggio P la flangia può superare l'ingombro massimo dei piedi. Eventualmente utilizzare la flangia B14 Riferito a motore con grandezza ridotta * In the P mounting the B5 motor flange can exceed the foot maximum dimensions. Possibly use the flange B14

A) Motor Flanges Available
Flange Motore Disponibili

B) Supplied with Reduction Bushing
Fornito con Bussola di Riduzione

C) Available on Request without reduction bushing
Disponibile a Richiesta senza Bussola di Riduzione

D) 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 requieren 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

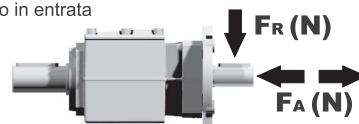
RADIAL AND AXIAL LOADS

Output shaft
Albero di uscita



n ₂	FA	FR	n ₂	FA	FR	n ₂	FA	FR
300	140	700	140	246	1320	70	340	1700
250	151	756	120	270	1350	40	380	1900
200	185	924	85	300	1500	15	-	-

Input shaft
Albero in entrata



n ₁	FA	FR
1400	140	700
900	160	800
500	190	950

tab. 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				Available B14 motor flanges			Output Shaft	Ratios code
							-B	-C	-D	-E	-Q	-R	-T		
							63	71*	80*	90*	71	80	90		
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	06
142	9.85	1.5	97	1.0	1.5	95	B				C	C		1915	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	09
93	15.10	1.1	108	1.1	1.2	114	B				C	C		1712	10
86	16.20	0.75	80	1.3	1.0	107	B				C	C		1910	11
75	18.78	0.75	92	1.2	0.87	107	B				C	C		1710	12
66	21.15	0.75	104	1.1	0.82	114	B				C	C		1312	13
64	21.84	0.75	107	1.1	0.83	119	B				C	C		1015	14
53	26.31	0.55	95	1.1	0.62	107	B				C	C		1310	15
48.5	28.88	0.55	105	1.1	0.60	114	B				C	C		1012	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

A) Motor Flanges Available
Flange Motore Disponibili

B) Supplied with Reduction Bushing
Fornito con Bussola di Riduzione

C) Available on Request without reduction bushing
Disponibile a Richiesta senza Bussola di Riduzione

D) 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 requieren 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

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tab. 1

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

RADIAL AND AXIAL LOADS

Output shaft

Albero di uscita

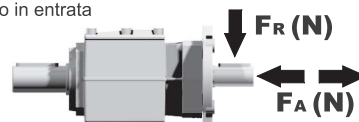
$$F_{eq} = F_R \cdot \frac{35.7}{X+20.7}$$



n ₂	FA	FR	n ₂	FA	FR	n ₂	FA	FR
300	140	700	140	246	1320	70	340	1700
250	151	756	120	270	1350	40	380	1900
200	185	924	85	300	1500	15	-	-

Input shaft

Albero in entrata



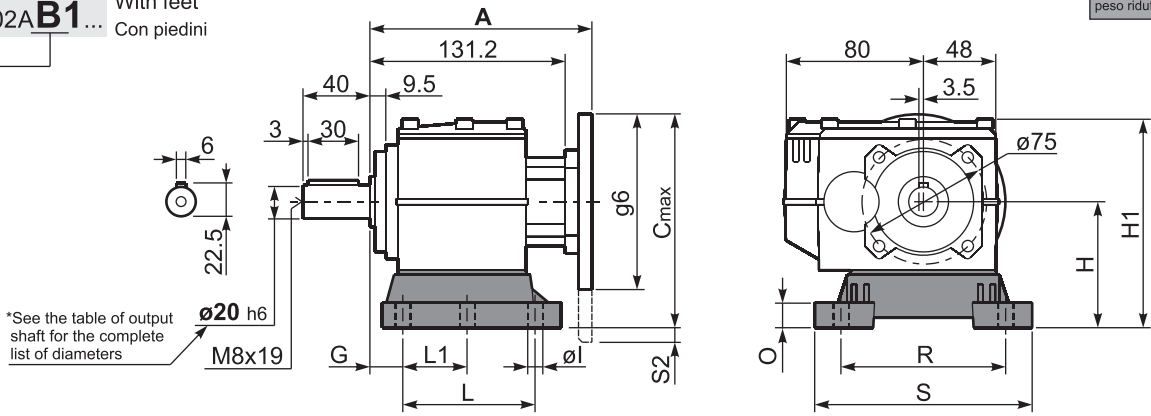
n ₁	FA	FR
1400	226	1130
900	264	1320
500	322	1610

tab. 2

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

P302A-B1...

With feet
 Con piedini



*See the table of output shaft for the complete list of diameters

Feet Code	Market reference	G	H	R	L	L1	S	H1	O	ø1	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

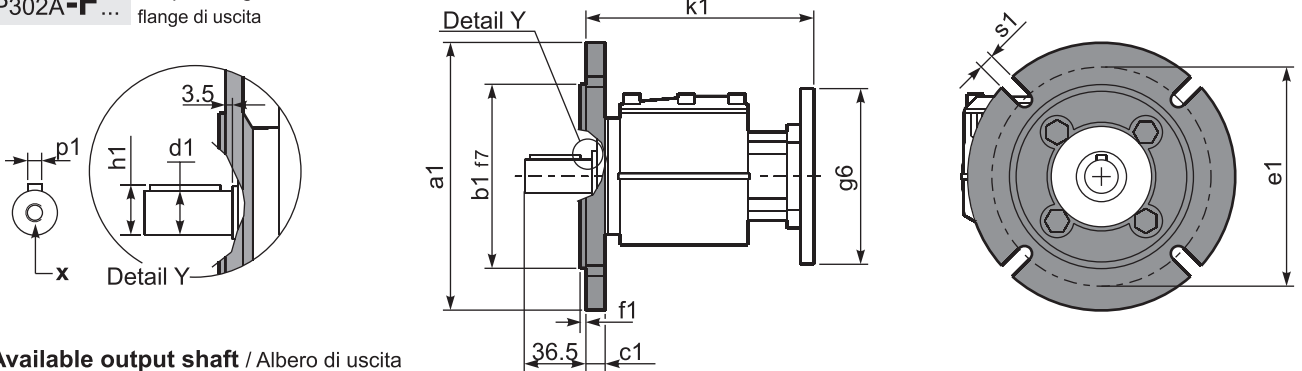
Other feet are available, see our web site
 Sono disponibili altri piedini, consulta il nostro sito web

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

Available output flanges / flange di uscita

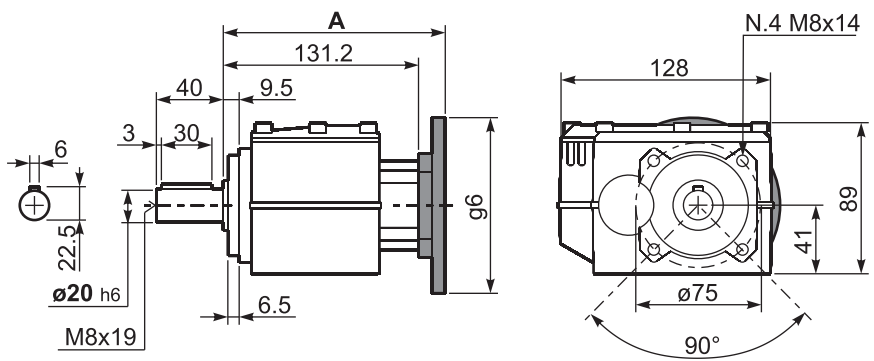
a1 ø	b1	c1	e1	f1	s1	kit code
120	80	11.5	100	3	9*	KC30.9.010
140	95	11.5	115	3	9	KC30.9.011
160	110	11.5	130	3.5	9	KC30.9.012
200	130	11.5	165	3.5	11	KC30.9.013

* Holes position
 Posizione fori

With flange and feet only on request. Ask for compatibility

P302A-N...

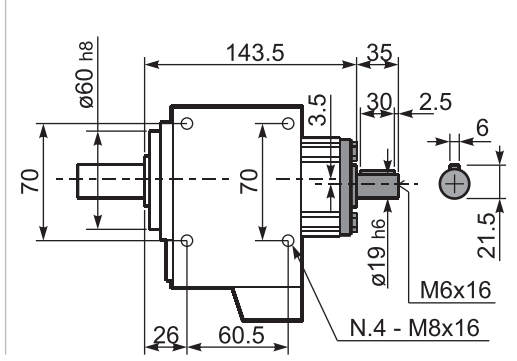
Basic gearbox
 Riduttore base



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

R302A-N...

Input Shaft
 Albero in entrata



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					Available B14 motor flanges				Output Shaft		
							-B	-C	-D	-E	-F	-Q	-R	-T	-U			Ratios code
							63	71	80*	90*	100*	112	71	80	90	100	112	
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	1.2	2.5	105	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	1.2	2.5	130	B					C	C			1918		06
139	10.06	2.2	143	1.2	2.5	165	B					C	C			1913		08
120	11.66	2.2	166	1.0	2.2	165	B					C	C			1713	standard	09
106	13.26	1.5	130	1.3	1.9	165	B					C	C			1912	ø25	10
102	13.68	1.5	134	1.2	1.8	165	B					C	C			1513		25
91	15.37	1.5	151	1.1	1.6	165	B					C	C			1712	ø16	11
86	16.33	1.5	160	1.0	1.5	165	B					C	C			1313	ø19	26
78	18.04	1.5	177	0.9	1.4	165	B					C	C			1512	ø20	23
65	21.54	1.1	154	1.1	1.2	165	B					C	C			1312	ø24	14
63	22.29	1.1	160	1.0	1.1	165	B					C	C			1013	On request	15
53	26.31	0.75	129	1.2	0.90	155	B					C	C			1310		16
47.6	29.40	0.75	144	1.1	0.86	165	B					C	C			1012		17
39	35.91	0.55	130	1.2	0.66	155	B					C	C			1010		18
36.5	38.37	0.55	139	1.2	0.66	165	B					C	C			912		19
29.9	46.87	0.55	170	0.9	0.51	155	B					C	C			910		20
27.6	50.67	0.37	123	1.1	0.41	137	B					C	C			712		21
22.6	61.89	0.37	150	1.0	0.38	155	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

C) Available on Request without reduction bushing
Disponibile a Richiesta senza Bussola di Riduzione

Motor Flange Holes Position
Posizione Fori Flangia Motore

EN Unit **412A** 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 **412A** 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 **412A** 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 **412A** 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 **412A** se suministra, lubricado de por vida con aceite sintético y no requieren 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						
0.25 LT	0.35 LT	0.40 LT	0.45 LT	0.40 LT	0.50 LT	Ask	Ask
SHELL Omala S4 WE 320				ENI Telium VSF 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

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

$F_{eq} (N)$

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

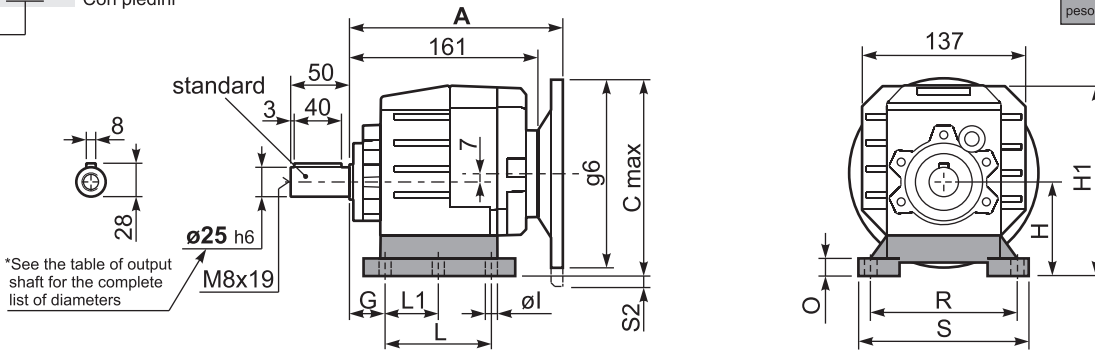
Input shaft
Albero in entrata

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

tab. 2

P412A **B1** ... With feet
Con piedini

Gearbox weight **5.7 kg**
peso riduttore With flange
With feet **5.9 kg**



Feet / piedini

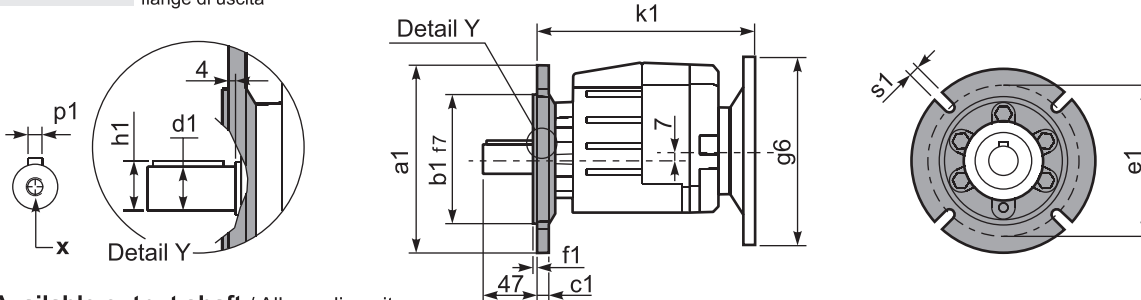
Feet Code	Market reference	G	H	R	L	L1	S	H1	O	øl	S2 only with motor flange	B5 max. Flange	kit code
B1	112	18	85	110	87	50	130	167.5	15	-	8/33 80/90B5 100/112B5	-	KC35.9.021
B2	212/3	18	100	130	107.5	60	155	182.5	17	11	18 100/112B5	-	KC40.9.025
S1	17	18	75	110	90+110	50	145	155.5	15	9	18/43 80/90B5 100/112B5	-	KC40.9.022
S2	27	25	90	110	130	-	145	172.5	20	9	3/28 80/90B5 100/112B5	-	KC40.9.024
H2	022-223	25	100	110	115	-	145	182.5	20	9	18 100/112B5	-	KC40.9.026
M1	42/3	25	80	110+120	85	-	145	162.5	15	9	13/38 80/90B5 100/112B5	-	KC40.9.023

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

P412A-**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

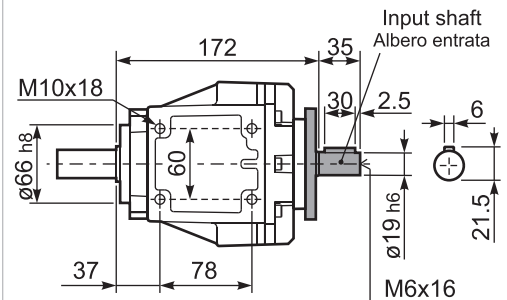
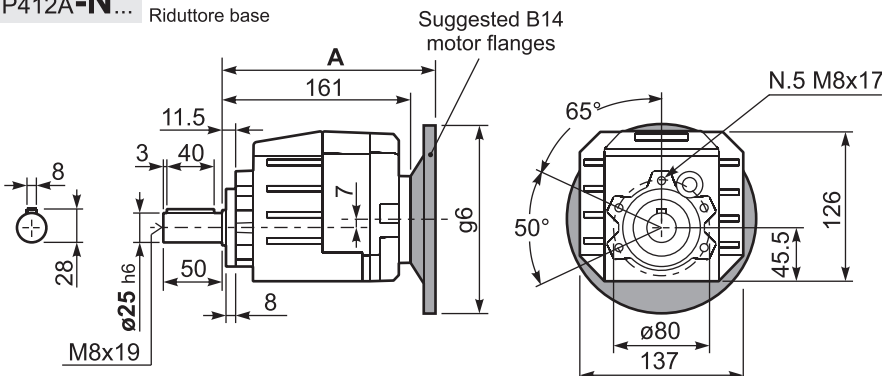
Available output flanges / flange di uscita

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	3.5	9	KC40.9.012
200	130	10	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

P412A-**N** ... Basic gearbox
Riduttore base

R412A-N ... Input Shaft
Albero in entrata



B5 Motor Flanges	A	C _{max}	g6	k1	kit code
63 B5	181.5	177	140	185.5	K063.4.041
71 B5	179.5	187	160	183.5	K063.4.042
80/90 B5	181.5	207	200	185.5	K063.4.043
100/112 B5	196.5	232	250	200.5	KC40.4.043

B14 Motor Flanges	A	C _{max}	g6	k1	kit code
71 B14	179.5	159.5	105	183.5	K063.4.047
80 B14	181.5	167	120	185.5	K063.4.046
90 B14	181.5	177	140	185.5	K063.4.041
100/112 B14	196.5	187	160	200.5	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		Available B14 motor flanges			Output Shaft \varnothing	Ratios code
							-B	-C	-O	-P	-Q		
							63	71	56	63	71		
36.5	38.40	0.37	91	1.8	0.67	165			C	C		171713	02
32.0	43.69	0.37	104	1.6	0.59	165			C	C		191712	03
27.6	50.64	0.37	120	1.4	0.51	165			C	C		171712	04
26.2	53.36	0.37	127	1.3	0.47	160			C	C		191710	05
22.9	61.21	0.37	145	1.2	0.43	170			C	C		191312	06
22.6	61.85	0.37	147	1.1	0.40	160			C	C		171710	07
19.7	70.95	0.37	168	1.0	0.37	170			C	C		131712	08
19.1	73.43	0.37	174	1.0	0.37	175			C	C		101713	09
18.7	74.77	0.37	177	0.9	0.33	160			C	C		191310	10
16.2	86.66	0.25	139	1.2	0.29	160			C	C		131710	11
14.5	96.85	0.25	155	1.1	0.27	170			C	C		101712	12
13.6	102.89	0.25	165	1.1	0.27	175			C	C		101313	13
11.1	126.40	0.18	155	1.1	0.21	170			C	C		91712	17
10.3	135.69	0.18	166	1.0	0.20	170			C	C		101312	15
8.4	165.74	0.12	131	1.2	0.15	160			C	C		101310	16
7.9	177.09	0.12	140	1.2	0.15	170			C	C		91312	18
6.5	216.31	0.09	136	1.2	0.12	160			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 **413A** 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 **413A** 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 **413A** 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 **413A** 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 **413A** se suministra, lubricado de por vida con aceite sintético y no requieren 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						
0.30 LT	0.35 LT	0.45 LT	0.45 LT	0.45 LT	0.55 LT	Ask	
SHELL Omala S4 WE 320				ENI Telium VSF 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

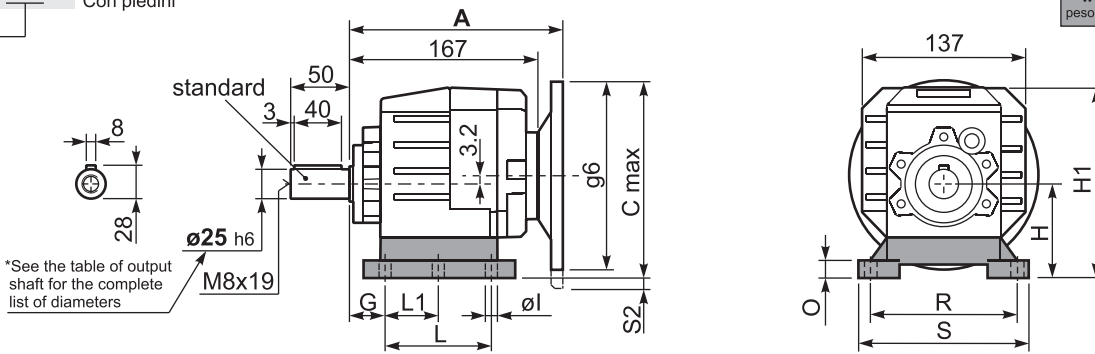
Input shaft
Albero di entrata

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

tab. 2

P413A **B1** ... With feet
Con piedini

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



Feet / piedini

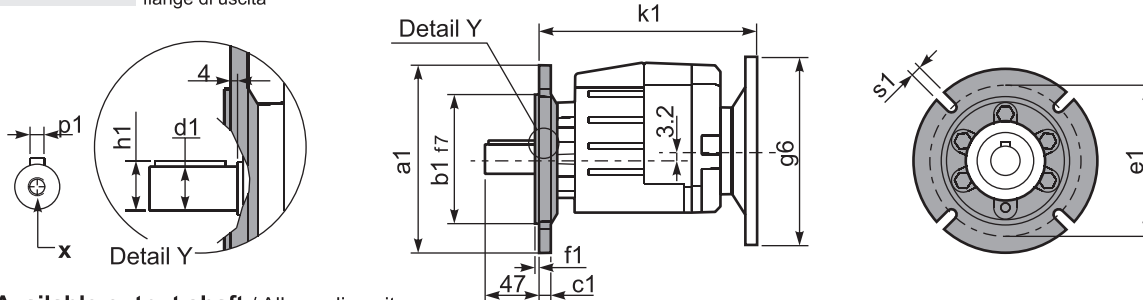
Feet Code	Market reference	G	H	R	L	L1	S	H1	O	øl	S2 only with motor flange	B5 max. Flange	kit code
B1	112	18	85	110	87	50	130	167.5	15	-	-	-	KC35.9.021
B2	212/3	18	100	130	107.5	60	155	182.5	17	11	-	-	KC40.9.025
S1	17	18	75	110	90+110	50	145	155.5	15	9	2 80/90B5	-	KC40.9.022
S2	27	25	90	110	130	-	145	172.5	20	9	-	-	KC40.9.024
H2	022-223	25	100	110	115	-	145	182.5	20	9	-	-	KC40.9.026
M1	42/3	25	80	110+120	85	-	145	162.5	15	9	-	-	KC40.9.023

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

P413A-**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

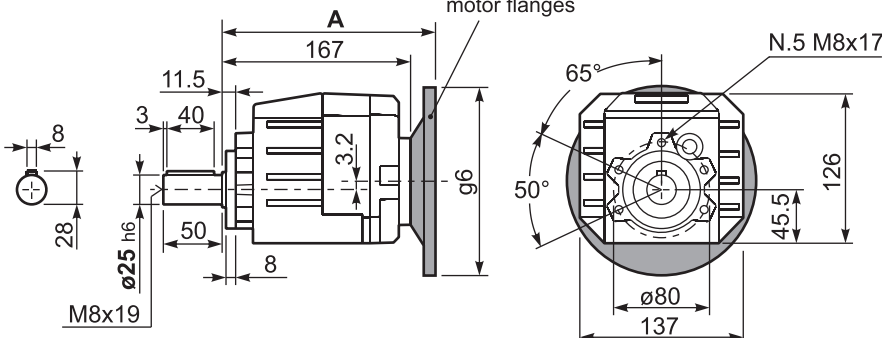
Available output flanges / flange di uscita

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	3.5	9	KC40.9.012
200	130	10	165	3.5	11	KC40.9.013
250	180	11.5	215	3.5	14	KC40.9.014

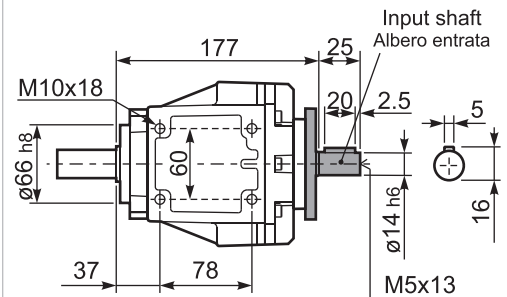
With flange and feet only on request. Ask for compatibility

P413A-**N** ... Basic gearbox
Riduttore base

Suggested B14 motor flanges



R413A-**N** ... Input Shaft
Albero in entrata



B5 Motor Flanges	A	C _{max}	g6	k1	kit code
63 B5	185.5	173.2	140	189.5	K050.4.041
71 B5	183	183.2	160	187	K050.4.042

B14 Motor Flanges	A	C _{max}	g6	k1	kit code
56 B14	183	143.2	80	187	KC40.4.049
63 B14	185.5	148.2	90	189.5	K050.4.047
71 B14	183	155.7	105	187	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					Available B14 motor flanges				Output Shaft	Ratios code
							-C	-D	-E	-F	-G	-R	-T	-U	-V		
							71	80	90	100* 112	132*	80	90	100 112	132		
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	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	09
84	16.62	3	321	0.9	2.8	304	B									1314	10
70	20.10	2.2	286	1.0	2.3	300	B									1312	11
56	24.98	1.85	302	0.9	1.6	265	B									1310	12
47.6	29.41	1.5	288	1.1	1.6	304	B									814	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 requieren 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			

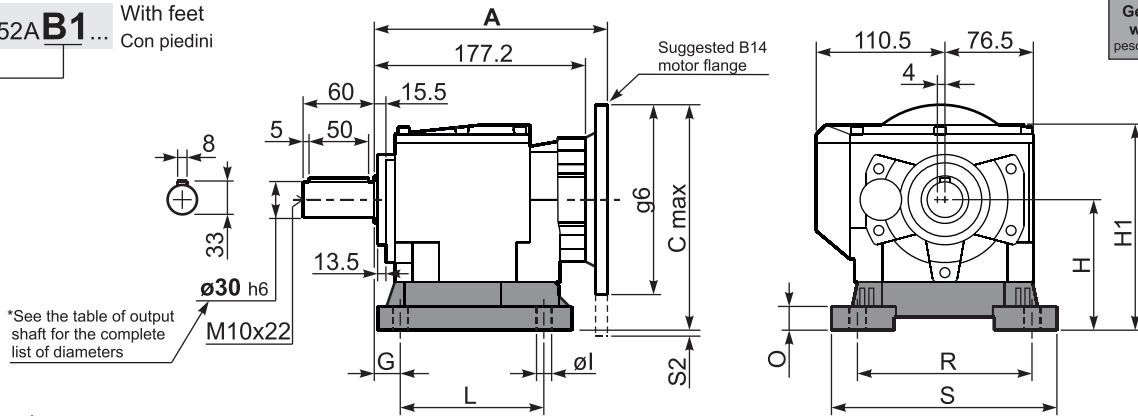
For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

RADIAL AND AXIAL LOADS																				
Output shaft / Albero di uscita			Input shaft / Albero in entrata																	
						$F_{eq} = FR \cdot \frac{51}{X+21}$														
n_2	FA	FR	n_2	FA	FR	n_2	FA	FR												
300	415	2070	140	540	2700	70	700	3510												
250	430	2160	120	560	2790	40	810	4050												
200	470	2340	85	630	3150	15	900	4500												
Input shaft / Albero in entrata						<table border="1"> <thead> <tr> <th>n_1</th> <th>FA</th> <th>FR</th> </tr> </thead> <tbody> <tr> <td>1400</td> <td>400</td> <td>2000</td> </tr> <tr> <td>900</td> <td>440</td> <td>2200</td> </tr> <tr> <td>500</td> <td>440</td> <td>2200</td> </tr> </tbody> </table>			n_1	FA	FR	1400	400	2000	900	440	2200	500	440	2200
n_1	FA	FR																		
1400	400	2000																		
900	440	2200																		
500	440	2200																		

tab. 2

P452A-B1... With feet
Con piedini

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



*See the table of output shaft for the complete list of diameters

Feet / piedini

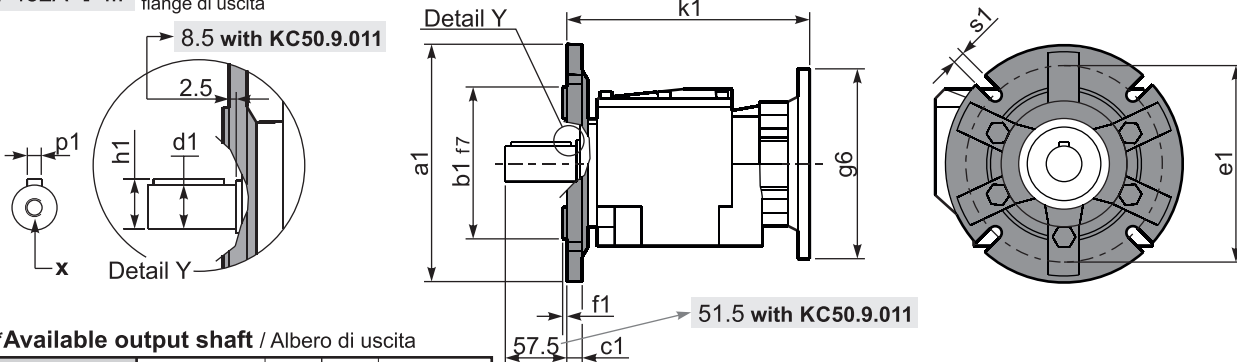
Feet Code	Market reference	G	H	R	L	S	H1	O	Øl	S2 only with motor flange	B5 max. Flange	kit code
B3	312/3	18	110	160	130	190	173	20	11	15 100/112B5 40 132B5	-	KC50.9.024
B4	30/35	20	130	180	149.5	216	193	18	14	20 132B5	-	KC60.9.024
S4	47-57	30	115	135	165	170	178	24	13.5	-	80/90B5	KC50.9.022
H3	023-233	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

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

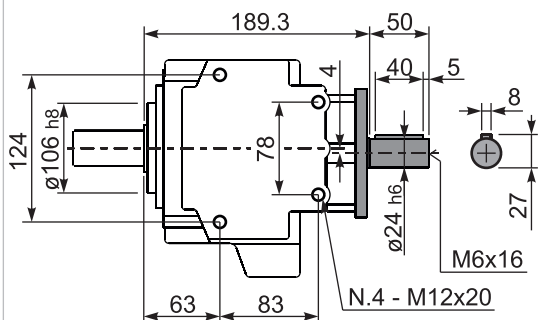
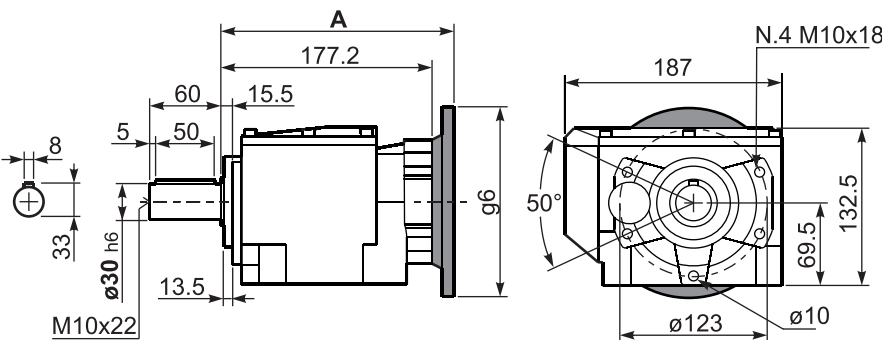
Available output flanges / flange di uscita

a1 Ø	b1	c1	e1	f1	s1	kit code
160	110	14	130	3.5	11	KC50.9.011
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

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	B14 Motor Flanges	A	C _{max}	g6	k1	kit code	k1 with KC50.9.011
71 B5	195.7	222	160	198.2	K023.4.041	204.2	80 B14	197.7	202	120	200.2	K085.4.046	206.2
80/90 B5	197.7	242	200	200.2	K023.4.042	206.2	90 B14	197.7	212	140	200.2	K085.4.045	206.2
100/112 B5	206.7	267	250	209.2	K023.4.043	215.2	100/112 B14	206.7	222	160	209.2	K085.4.047	215.2
132 B5	224.7	292	300	227.2	KC50.4.043	233.2	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					Available B14 motor flanges				Output Shaft 	Ratios code	
							-C	-D	-E	-F	-G	-R	-T	-U	-V			
							71	80	90	100*	112	132*	80	90	100			112
388	3.61	5.5	127	1.2	6.6	155	B										3018	01
331	4.23	5.5	148	1.2	6.5	180	B										3016	02
279	5.01	5.5	176	1.2	6.4	210	B										3014	03
231	6.07	5.5	213	1.2	6.4	255	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	6.4	335	B										2016	07
148	9.45	5.5	331	1.1	5.8	360	B										2014	08
122	11.43	4	293	1.1	4.4	330	B										2012	09
100	14.00	3	270	1.3	3.9	360	B										1316	21
84	16.62	3	321	1.1	3.3	360	B										1314	11
70	20.10	2.2	286	1.2	2.5	330	B										1312	12
57	24.61	2.2	350	0.9	2.0	330	B										1112	20
47.6	29.41	1.5	288	1.2	1.9	360	B										814	14
39.3	35.58	1.5	349	0.9	1.4	330	B										812	15
34.6	40.50	1.1	290	1.1	1.2	320	B										614	16
31.7	44.23	1.1	316	0.8	0.88	255	B										810	17
28.6	49.00	1.1	351	0.9	1.0	330	B										612	18
23.0	60.90	0.75	299	0.8	0.64	255	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 **512A** 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 **512A** 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 **512A** 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 **512A** 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 **512A** se suministra, lubricado de por vida con aceite sintético y no requieren 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					
0.70 LT	0.80 LT	1.15 LT	1.20 LT	1.15 LT	1.25 LT	Ask
SHELL Omala S4 WE 320				ENI Telium VSF 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

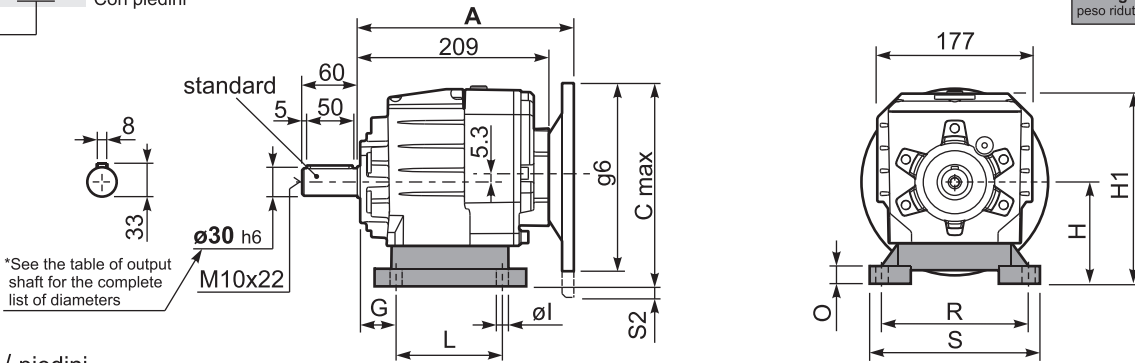
Input shaft
Albero in entrata

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

tab. 2

P512A **B1** ... With feet
Con piedini

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



Feet / piedini

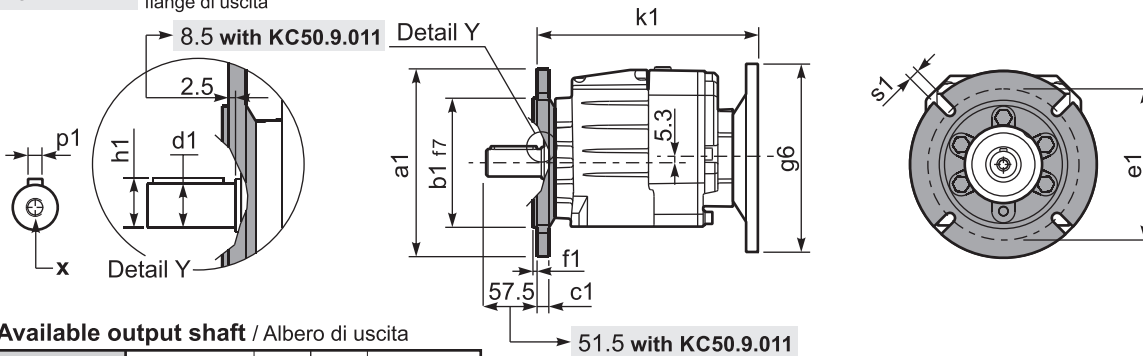
Feet Code	Market reference	G	H	R	L	S	H1	O	øl	S2 only with motor flange	B5 max. Flange	kit code
B3	312/3	18	110	160	130	190	211	20	11	10 100/112B5 35 132B5	-	KC50.9.024
B4	30/35	20	130	180	149.5	216	231	18	14	15 132B5	-	KC60.9.024
S4	47-57	30	115	135	165	170	216	25	14	5 100/112B5 30 132B5	-	KC50.9.022
H3	023-233	30	130	135	135	185	231	25	14	15 132B5	-	KC50.9.025
M2	52/3	30	110	135+150	100	190	211	18	11	10 100/112B5 35 132B5	-	KC50.9.023

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

P512A-**F** ... Output flanges
flange di uscita



*Available output shaft / Alberi di uscita

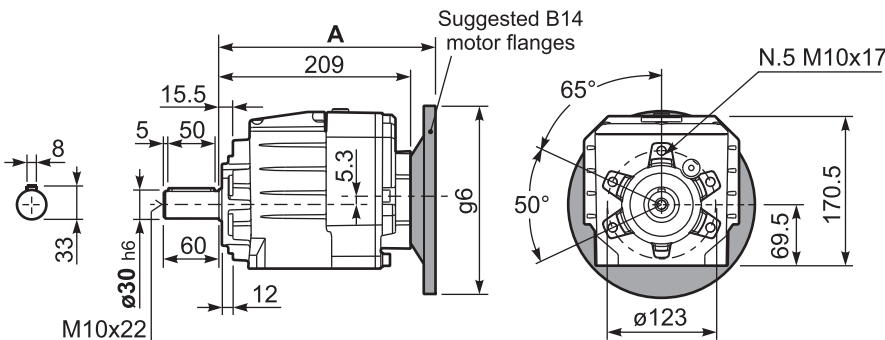
	Shaft - d1	p1	h1	x
Standard	ø 30x60	8	33	M10x22
On request A richiesta	ø 24x50	8	27	M8x19
	ø 25x50	8	28	M8x19
	ø 28x60	8	31	M8x19
	ø 35x60	10	38	M10x22

Available output flanges / flange di uscita

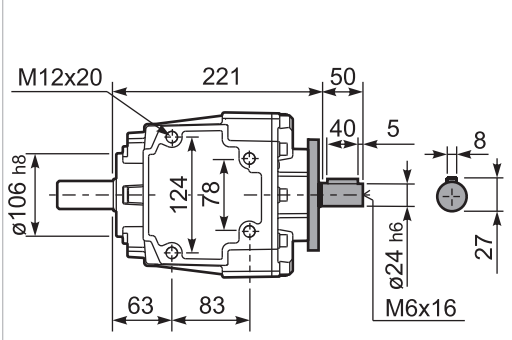
a1 ø	b1	c1	e1	f1	s1	kit code
160	110	14	130	3.5	11	KC50.9.011
200	130	13	165	3.5	11	KC50.9.012
250	180	15.5	215	4	14	KC50.9.013

With flange and feet only on request.
Ask for compatibility

P512A-**N** ... Basic gearbox
Riduttore base



R512A-N ... Input Shaft
Albero in entrata



B5 Motor Flanges	A	C _{max}	g6	k1	kit code	k1 with KC50.9.011	B14 Motor Flanges	A	C _{max}	g6	k1	kit code	k1 with KC50.9.011
71 B5	227.5	215.3	160	230	K023.4.041	236	80 B14	229.5	195.3	120	232	K085.4.046	238
80/90 B5	229.5	235.3	200	232	K023.4.042	238	90 B14	229.5	205.3	140	232	K085.4.045	238
100/112 B5	238.5	260.3	250	241	K023.4.043	247	100/112 B14	238.5	215.3	160	241	K085.4.047	247
132 B5	259.5	285.3	300	259	KC51.4.043	265	132 B14	259.5	235.3	200	259	KC51.4.041	265



QUICK SELECTION / Selezione veloce input speed (n₁) = 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				Available B14 motor flanges			Output Shaft	Ratios code
							-B	-C	-D	-E	-Q	-R	-T		
							63	71	80	90	71	80	90		
35.2	39.79	1.5	382	0.9	1.4	360	B				C	C		191316	01
29.6	47.22	1.1	331	1.1	1.2	360	B				C	C		191314	02
25.6	54.73	1.1	384	0.9	1.0	360	B				C	C		171314	03
21.1	66.22	0.75	318	1.0	0.78	330	B				C	C		171312	04
18.3	76.69	0.75	369	1.0	0.73	360	B				C	C		131314	05
16.7	83.59	0.55	297	1.2	0.67	360	B				C	C		190814	06
15.1	92.78	0.55	329	1.0	0.55	330	B				C	C		131312	07
13.4	104.68	0.55	371	1.0	0.54	360	B				C	C		101314	08
11.9	117.22	0.37	278	1.2	0.44	330	B				C	C		170812	09
11.1	126.65	0.37	300	1.1	0.41	330	B				C	C		101312	10
10.2	136.62	0.37	324	1.1	0.41	360	B				C	C		91314	11
8.5	165.29	0.25	264	1.2	0.31	330	B				C	C		91312	12
7.8	180.40	0.25	289	1.2	0.31	360	B				C	C		71314	13
6.4	218.26	0.25	349	0.9	0.24	330	B				C	C		71312	14
5.8	241.82	0.25	387	0.9	0.23	360	B				C	C		90814	15
4.8	292.57	0.18	358	0.9	0.18	330	B				C	C		90812	16
4.4	319.32	0.18	391	0.9	0.18	360	B				C	C		70814	17
3.6	386.33	0.12	305	1.1	0.13	330	B				C	C		70812	18
2.9	480.16	0.12	380	0.7	0.08	255	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 **513A** 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 **513A** 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 **513A** 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 **513A** 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 **513A** se suministra, lubricado de por vida con aceite sintético y no requieren 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						
1.00 LT	0.90 LT	1.25 LT	1.15 LT	1.45 LT	1.40 LT	Ask	
SHELL Omala S4 WE 320				ENI Telium VSF 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

$F_R (N)$
 $F_A (N)$

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

$F_{eq} (N)$

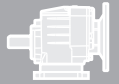
n ₂	FA	FR	n ₂	FA	FR	n ₂	FA	FR
300	460	2300	140	600	3000	70	780	3900
250	480	2400	120	620	3100	40	900	4500
200	520	2600	85	700	3500	15	1000	5000

Input shaft
Albero di entrata

$F_R (N)$
 $F_A (N)$

n ₁	FA	FR
1400	400	2000
900	440	2200
500	440	2200

tab. 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					Available B14 motor flanges				Output Shaft 	Ratios code
							-C	-D	-E	-F	-G	-R	-T	-U	-V		
							71	80	90	100 112	132*	80	90	100 112	132		
388	3.61	7.5	171	1.1	8.0	190	B									3018	01
331	4.23	7.5	200	1.1	8.3	230	B									3016	02
279	5.01	7.5	238	1.1	7.9	260	B									3014	03
231	6.07	7.5	288	1.1	7.8	310	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	6.6	410	B									2014	08
122	11.43	5.5	401	1.1	5.7	425	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	11
70	20.10	4	515	1.0	4.0	530	B									1312	12
57	24.61	3	475	1.1	3.3	530	B									1112	20
47.6	29.41	2.2	418	1.1	2.3	450	B									814	14
39.3	35.58	2.2	506	1.0	2.3	530	B									812	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	410	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	410	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 612A 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 612A 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 612A 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 612A 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 612A se suministra, lubricado de por vida con aceite sintético y no requieren 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						
0.80 LT	1.00 LT	1.20 LT	1.20 LT	1.30 LT	1.35 LT	Ask	Ask
SHELL Omala S4 WE 320				ENI Telium VSF 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

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

$F_{eq} (N)$

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

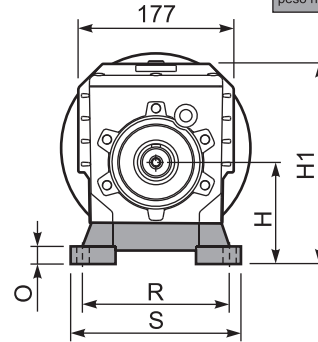
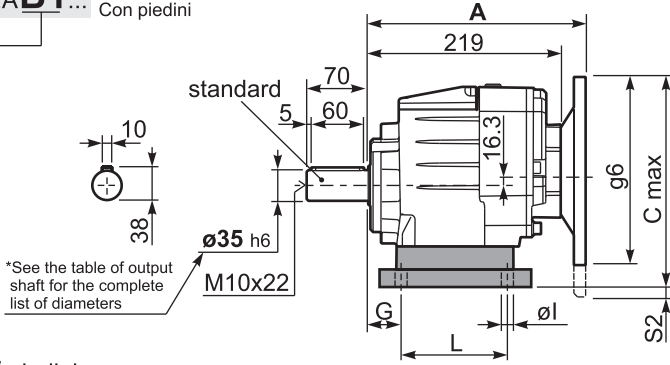
Input shaft
Albero di entrata

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

tab. 2

P612A **B1** ... With feet
Con piedini

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



*See the table of output shaft for the complete list of diameters

Feet / piedini

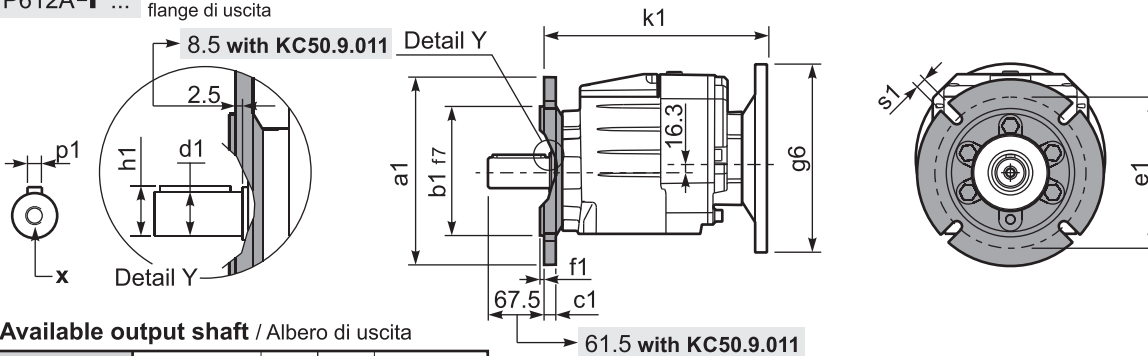
Feet Code	Market reference	G	H	R	L	S	H1	O	Øl	S2 only with motor flange	B5 max. Flange	kit code
B4	412/3	20	130	180	149.5	216	242	18	14	-	-	KC60.9.024
S4	47-57	30	115	135	165	170	227	25	14	13 132B5	-	KC50.9.022
M3	62/3	35	120	170-185	110	230	232	20	14	8 132B5	-	KC60.9.023
S7	77	35	140	170	205	204	252	8	14	-	-	KC60.9.029LM
H4	024-243	35	155	170	150	225	267	30	14	-	-	KC60.9.025

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

P612A-**F**... Output flanges
flange di uscita



*Available output shaft / Alberi di uscita

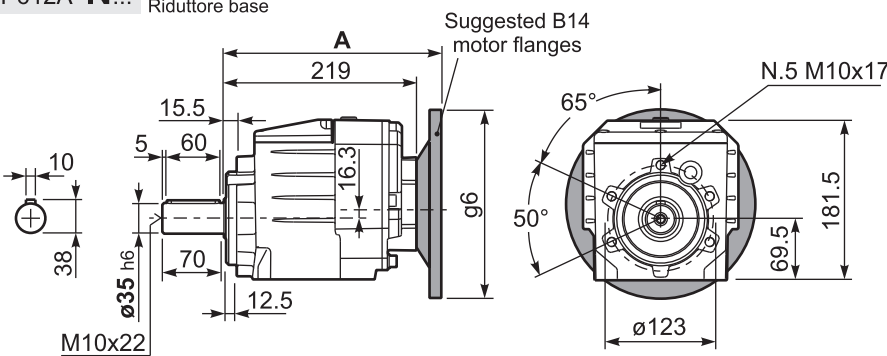
	Shaft - d1	p1	h1	x
Standard	Ø 35x70	10	38	M10x22
On request A richiesta	Ø 28x60	8	31	M8x20
	Ø 30x60	8	33	M10x22
	Ø 38x70	10	41	M10x25
	Ø 40x80	12	43	M12x28

Available output flanges / flange di uscita

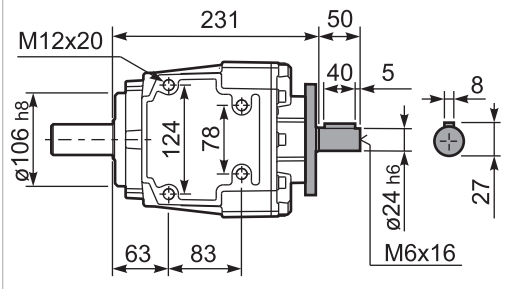
a1 Ø	b1	c1	e1	f1	s1	kit code
160	110	14	130	3.5	11	KC50.9.011
200	130	13	164	3.5	11	KC50.9.012
250	180	15.5	215	4	14	KC50.9.013

With flange and feet only on request.
Ask for compatibility

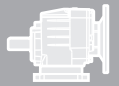
P612A-**N**... Basic gearbox
Riduttore base



R612A-**N**... Input Shaft
Albero in entrata



B5 Motor Flanges	A	C _{max}	g6	k1	kit code	k1 with KC50.9.011	B14 Motor Flanges	A	C _{max}	g6	k1	kit code	k1 with KC50.9.011
71 B5	237.5	251.3	160	240	K023.4.041	246	80 B14	239.5	231.3	120	242	K085.4.046	248
80/90 B5	239.5	271.3	200	242	K023.4.042	248	90 B14	239.5	241.3	140	242	K085.4.045	248
100/112 B5	248.5	296.3	250	251	K023.4.043	257	100/112 B14	248.5	251.3	160	251	K085.4.047	257
132 B5	269.5	321.3	300	269	KC51.4.043	275	132 B14	269.5	271.3	200	269	KC51.4.041	275



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				Available B14 motor flanges			Output Shaft 	Ratios code
							-B	-C	-D	-E	-Q	-R	-T		
							63	71	80	90	71	80	90		
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	1.0	1.4	530	B				C	C		191312	08
21.1	66.22	1.1	464	1.1	1.2	530	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	13
15.1	92.78	0.75	446	1.2	0.89	530	B				C	C		131312	14
13.4	104.68	0.75	503	1.0	0.77	515	B				C	C		101314	15
11.9	117.22	0.75	564	0.9	0.71	530	B				C	C		170812	16
11.1	126.65	0.55	449	1.2	0.65	530	B				C	C		101312	17
10.3	135.74	0.55	482	0.9	0.51	440	B				C	C		130814	18
9.6	145.68	0.37	346	1.3	0.47	435	B				C	C		170810	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	0.50	525	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	0.37	530	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	530	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

A 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 **613A** 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 **613A** 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 **613A** 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 **613A** 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 **613A** se suministra, lubricado de por vida con aceite sintético y no requieren 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					
1.05 LT	1.10 LT	1.25 LT	1.25 LT	1.35 LT	1.50 LT	Ask
SHELL Omala S4 WE 320				ENI Telium VSF 320		

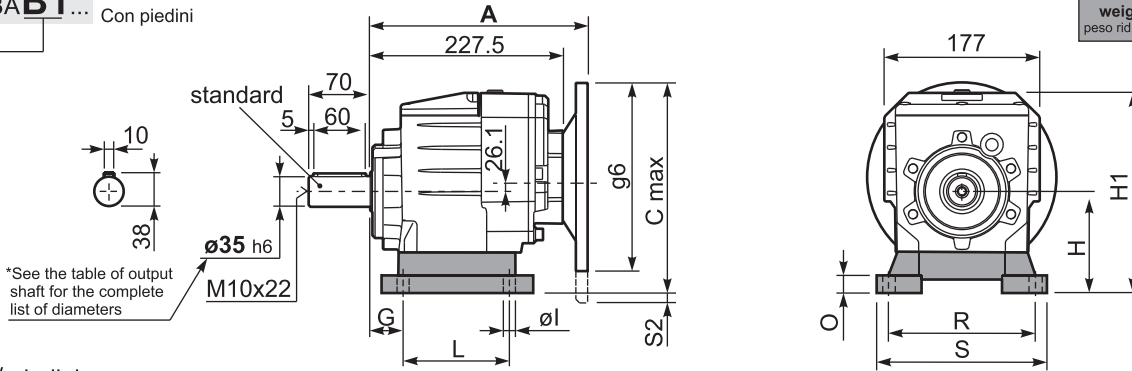
For all details on lubrication and plugs check our website **tab. 1**
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

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	400	2000						
900	440	2200						
500	440	2200						

tab. 2

P613A **B1** ... With feet
Con piedini

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



Feet / piedini

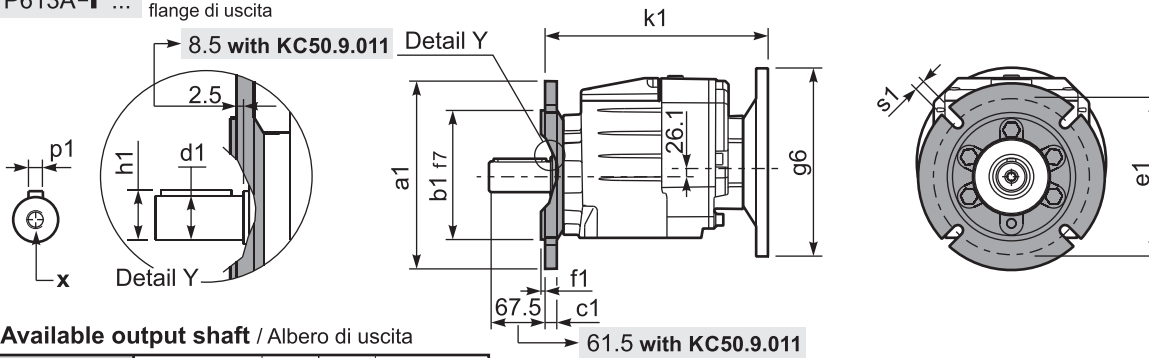
Feet Code	Market reference	G	H	R	L	S	H1	O	øl	S2 only with motor flange	B5 max. Flange	kit code
B4	412/3	20	130	180	149.5	216	242	18	14	-	-	KC60.9.024
S4	47-57	30	115	135	165	170	227	25	14	13 132B5	-	KC50.9.022
M3	62/3	35	120	170-185	110	230	232	20	14	8 132B5	-	KC60.9.023
S7	77	35	140	170	205	204	252	8	14	-	-	KC60.9.029LM
H4	024-243	35	155	170	150	225	267	30	14	-	-	KC60.9.025

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

P613A-**F** ... Output flanges
flange di uscita



*Available output shaft / Alberi 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

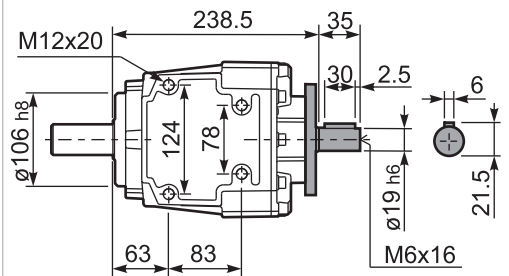
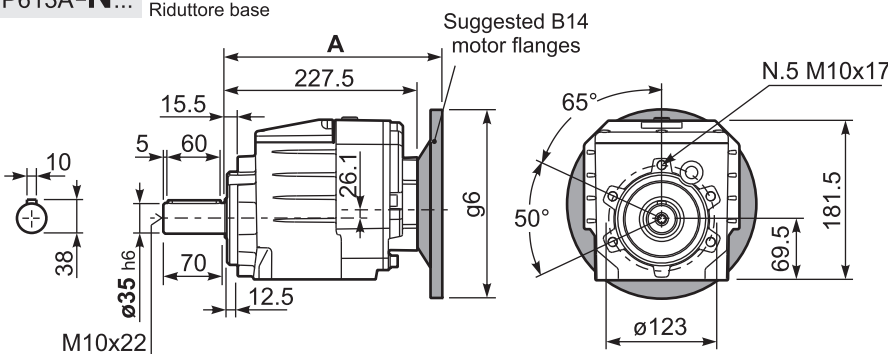
Available output flanges / flange di uscita

a1 ø	b1	c1	e1	f1	s1	kit code
160	110	14	130	3.5	11	KC50.9.011
200	130	13	164	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

P613A-**N** ... Basic gearbox
Riduttore base

R613A-N ... Input Shaft
Albero in entrata



B5 Motor Flanges	A	C _{max}	g6	k1	kit code	k1 with KC50.9.011
63 B5	248	251.1	140	250.5	K063.4.041	256.5
71 B5	246	261.1	160	248.5	K063.4.042	254.5
80/90 B5	248	281.1	200	250.5	K063.4.043	256.5

B14 Motor Flanges	A	C _{max}	g6	k1	kit code	k1 with KC50.9.011
71 B14	246	233.6	105	248.5	K063.4.047	254.5
80 B14	248	241.1	120	250.5	K063.4.046	256.5
90 B14	248	251.1	140	250.5	K063.4.041	256.5