



# REDUCTOR COAXIAL INOX

**Suministros Industriales del Tajo S.A.**

C/ del Río Jarama 52 - 45007, Toledo - Spain

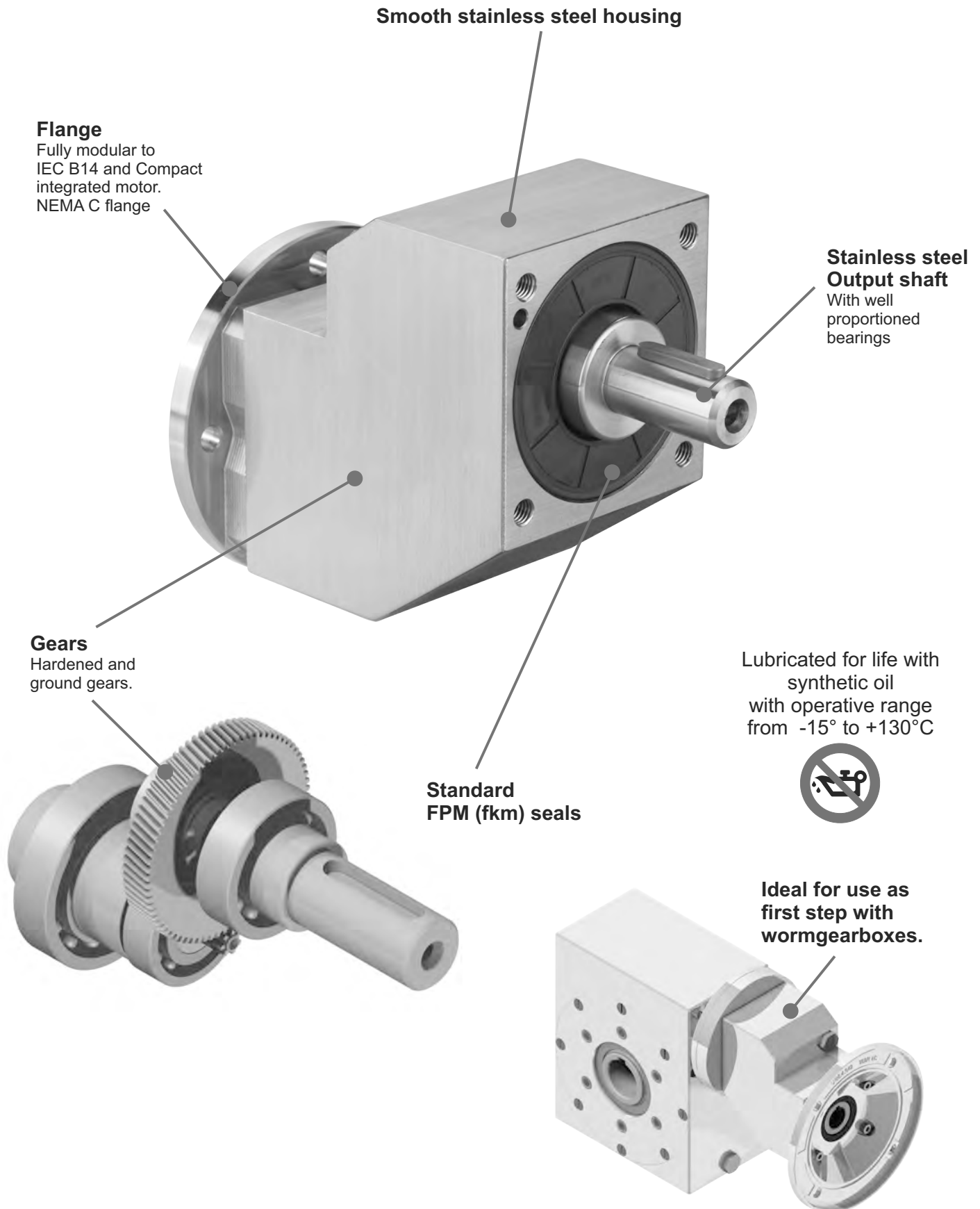
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# Stainless steel one step gearboxes

A modular and compact product

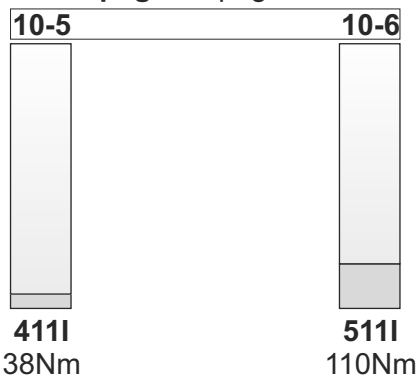


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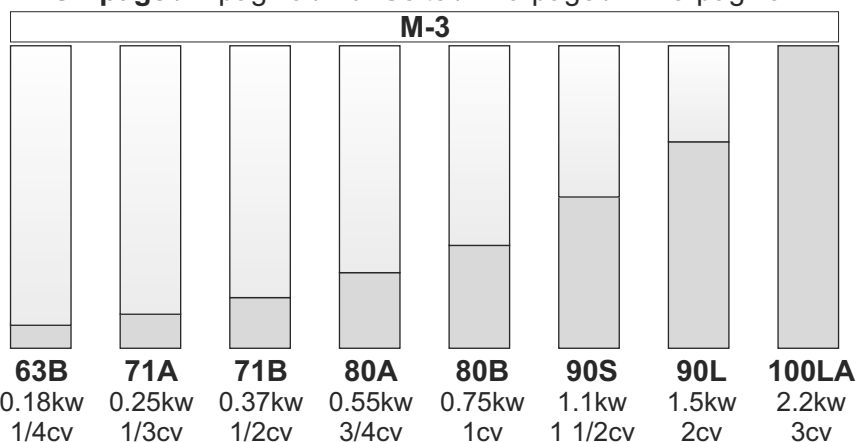
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Types / Tipi /  
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## CODIFICA / HOW TO ORDER / TYPENBEZEICHNUNGEN / CODIFICATION / CODIFICACIÓN

Type - Tipo Typ Type - Tipo	Size - Grandezza Grösse - Taille Tamaño	Mounting Montaggio Montage Fixation Tipo de montaje	Ratio - Rapporto Untersetzung Reduction Relación	Output shaft Albero lento Abtriebswelle Arbre de sortie Eje solida	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
<b>P</b>	<b>411I</b> <b>511I</b>	<b>-F</b>	<b>1.57</b>	<b>C</b>	<b>4</b>	<b>-Q</b>	<b>B3</b>
 <b>P</b>   <b>M</b>   <b>B</b>	<b>411I</b> <b>511I</b>	 <b>-N</b>   <b>-F</b>	See technical data table Vedi tabelle dati tecnici. Technisches Datenblatt beachten Voir Tableau données techniques Ver tabla datos técnicos	→ <b>STANDARD</b> 411I <b>C → ø19</b> 511I <b>G → ø28</b>	 <b>N</b> Senza flangia Without flange 411I <b>4 → ø200</b> 511I <b>5 → ø250</b>	 411I <b>-Q 71B14</b> (ø105) <b>-R 80B14</b> (ø120) <b>-T 90B14</b> (ø140) 511I <b>-D 80B5</b> (ø200) <b>-E 90B5</b> (ø200) <b>-U 100-112</b> B14 (ø160) Without flange Senza flangia 411I <b>-1</b> ⇒ ø14 (71B5) <b>-2</b> ⇒ ø19 (80B5) <b>-3</b> ⇒ ø24 (90B5) 511I <b>-2</b> ⇒ ø19 (80B5) <b>-3</b> ⇒ ø24 (90B5) <b>-4</b> ⇒ ø28 (100B5)	 <b>B3</b> <b>STANDARD</b>   <b>B6</b>   <b>B7</b>   <b>B8</b>   <b>V5</b>   <b>V6</b>   <b>V8</b>

## On request

**B** Food lube

- B3 is supplied with standard oil quantity

- Please specify in the order if you required other mounting positions



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.

**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

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

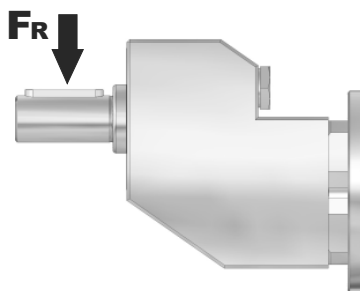
**TORQUE / COPPIA / DREHMOMENT / COUPLE / PAR**

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

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

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

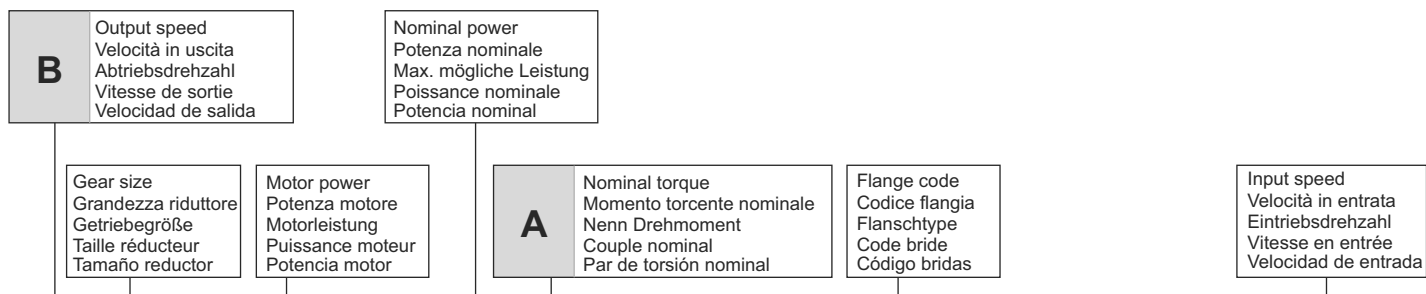
- Radial load generated by external transmissions keyed onto input and/or output shafts.
- Forza radiale generata da organi di trasmissione calettati sugli alberi di ingresso e/o uscita.
- Belastungen der Antriebs- bzw. Abtriebswellen durch von aussen eingebrachte Radiallasten.
- Charge radiale générée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



	$F_R \text{ [N]} = \frac{M \text{ [Nm]} \cdot 2000}{d \text{ [mm]}} \cdot f_k$	$F_R \text{ [N]} = \frac{M \text{ [lb in]} \cdot 8.9}{d \text{ [in]}} \cdot f_k$
<b>M</b>	Momento torcente / Output torque / Abtriebsdrehmoment / Couple / Par torsion	
<b>d</b>	Diametro primitivo / Diam. of driving element / Durchmesser der Abtriebseinheit / Diamètre primitif / Diámetro primitivo	
<b>f<sub>k</sub></b>	Coefficiente di trasformazione / Factor / Faktor / Coefficient de transmission / Coeficiente de transmisión <b>1.15</b> Ingranaggi / Gearwheels / Zahnrad / Engrenage / Engranaje <b>1.25</b> Catena / Chain sprochets / Antriebskette / Chaîne / Cadena <b>1.75</b> Cinghia Trapezoidale / Narrow v-belt pulley / Keilriemen / Courroie trap. / Correa trapezoidal <b>2.50</b> 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



**4111**

One step  
**38Nm**

Rating - Stainless ONE STEP GEARBOXES



**QUICK SELECTION / Selezione veloce** input speed (n<sub>1</sub>) = 1400 min<sup>-1</sup>

Output Speed n <sub>2</sub> [min <sup>-1</sup> ]	Ratio i	Motor power P <sub>1M</sub> [kW]	Output torque M <sub>2M</sub> [Nm]	Service factor f.s.	Nominal power P <sub>1R</sub> [kW]	Nominal torque M <sub>2R</sub> [Nm]	B5 motor flanges not available				Available B14 motor flanges			Output Shaft 	Notes Note Anmerkungen Note Notas	
							-	-	-	-	Q	R	T			
892	1.57	1.5	15.7	1.3	1.90	20	-	-	-	-	71	80	90	standard ø19	01 02 03 04	
493	2.84	1.5	28.4	1.2	1.84	35	-	-	-	-	C	C	-			2844
426	3.29	1.5	32.9	1.2	1.73	38	-	-	-	-	C	C	-			1954
362	3.87	1.5	38.7	1.0	1.54	40	-	-	-	-	C	C	-			1756
															1558	



**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 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 boccolla 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/-socket  
Position trous bride/barrette à bornes moteur  
Posición agujeros brida / base motor

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

<b>A</b>	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>B</b>	Select output speed	Seleziona la velocità in uscita	Ausgewählte Abtriebsdrehzahl	Sélectionner la vitesse de sortie	Seleccionar la velocidad de salida
<b>C</b>	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
<b>D</b>	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

 input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

Output Speed $n_2$ [min <sup>-1</sup> ]	Ratio $i$	Motor power $P_{1M}$ [kW]	Output torque $M_{2M}$ [Nm]	Service factor f.s.	Nominal power $P_{1R}$ [kW]	Nominal torque $M_{2R}$ [Nm]	B5 motor flanges not available				Available B14 motor flanges			Output Shaft		
							-	-	-	-	Q	R	T			Ratio code
891	1.57	1.5	16	1.3	1.9	20	-	-	-	-	C	C		2844	standard ø19	01
493	2.84	1.5	28	1.2	1.8	35	-	-	-	-	C	C		1954		02
425	3.29	1.5	33	1.2	1.7	38	-	-	-	-	C	C		1756		03
362	3.87	1.5	39	1.0	1.5	40	-	-	-	-	C	C		1558		04
303	4.62	1.5	46	1.0	1.5	47	-	-	-	-	C	C		1360		05
222	6.30	1.1	46	1.0	1.1	46	-	-	-	-	C	C		1063		06
170	8.22	0.55	30	1.3	0.69	38	-	-	-	-	C	C		974		07
129	10.86	0.37	27	1.0	0.39	28	-	-	-	-	C	C		776		08

 The dynamic efficiency is **0.98** for all ratios

 \* The nominal power should be reduced if the ambient temperature is  $\geq 30^\circ\text{C}$ , or when a cooler gearbox is required.

 \* Diminuire la potenza nominale in caso di temperatura ambiente  $\geq 30^\circ\text{C}$  o se è richiesta una bassa temperatura di utilizzo del riduttore.

**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 4111 is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.

**I** Il riduttore 4111 viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.

**D** Das Getriebe 4111 ist mit synthetischem Öl gefüllt und ist lebensdauergeschmiert.

**F** Le réducteur 4111 est fourni complet avec de l'huile synthétique pour la lubrification permanente et ne nécessite aucun entretien.

**E** El reductor tamaño 4111 se suministra, lubricado de por vida con aceite sintético y no requieren mantenimiento alguna.

### LUBRICATION 4111 Oil Quantity 0.14 Lt.

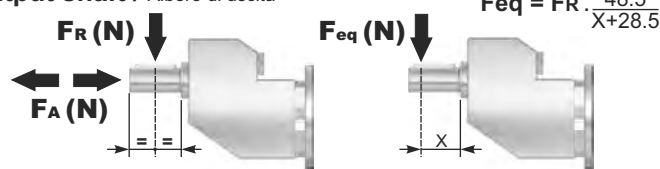
**AGIP** Telium VSF 320

**SHELL** Omala S4 WE 320

For all details on lubrication and plugs check our website

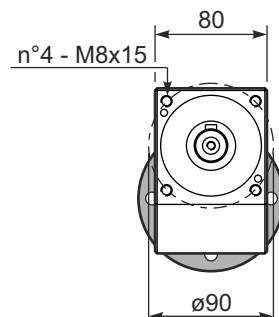
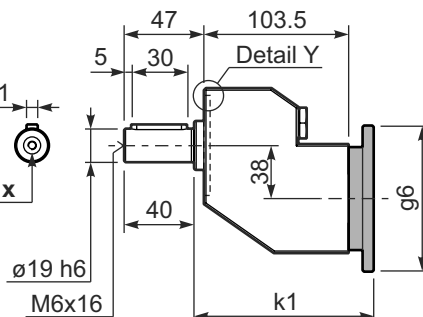
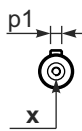
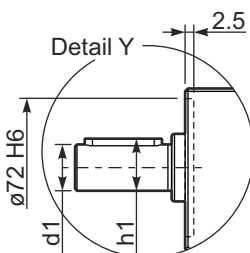
Per maggiori dettagli su lubrificazione e tappi olio vedi il nostro sito web

Output shaft / Albero di uscita



$n_2$	FA	FR	$n_2$	FA	FR	$n_2$	FA	FR
700	182	910	400	230	1150	200	290	1450
600	100	1000	300	250	1250	140	320	1600

**P4111-N...** Basic gearbox  
Riduttore base

 Gearbox weight  
peso riduttore **5.5 kg**


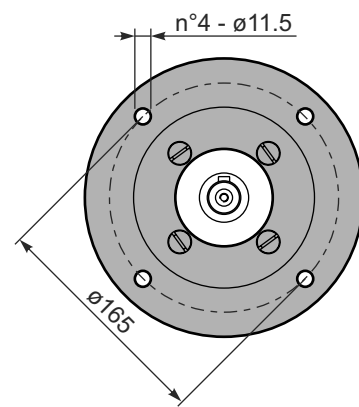
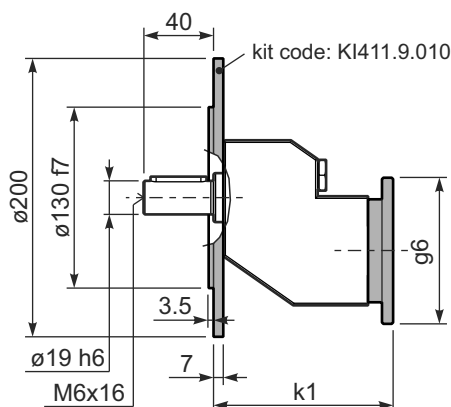
Output shafts / albero di uscita

	Shaft - d1	p1	h1	x
Standard	ø 19x40	6	21.5	M6x16

**P4111-F...** Output flange  
flangia di uscita

Input flanges / flange di entrata

	k1	g6	kit code
71 B14	128.5	105	KI63.4.047
80 B14	129.5	120	KI63.4.046
90 B14	130.5	140	KI63.4.041



# 5111 One step 110Nm

## Rating - Stainlesssteel ONE STEP GEARBOXES



### QUICK SELECTION / Selezione veloce

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

Output Speed $n_2$ [min <sup>-1</sup> ]	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		
							D	E	U			Ratio code
1077	<b>1.30</b>	4	34	1.2	4.6	40	80	90	100 - 112			01
571	<b>2.45</b>	4	64	1.1	4.3	70				standard ø28		02
423	<b>3.31</b>	4	87	1.0	4.1	90						03
325	<b>4.31</b>	4	113	1.0	3.8	110						04
266	<b>5.27</b>	3	104	1.1	3.1	110						05
184	<b>7.63</b>	2.2	111	1.0	2.2	110						06
133	<b>10.50</b>	1.1	77	1.0	1.1	80						07

The dynamic efficiency is **0.98** for all ratios

\* The nominal power should be reduced if the ambient temperature is  $\geq 30^\circ\text{C}$ , or when a cooler gearbox is required.

\* Diminuire la potenza nominale in caso di temperatura ambiente  $\geq 30^\circ\text{C}$  o se è richiesta una bassa temperatura di utilizzo del riduttore.

**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 5111 is supplied with synthetic oil for lifetime lubrication, no maintenance is necessary.

**I** Il riduttore 5111 viene fornito completo di olio sintetico per la lubrificazione permanente e non necessita di alcuna manutenzione.

**D** Das Getriebe 5111 ist mit synthetischem Öl gefüllt und ist lebensdauer geschmiert.

**F** Le réducteur 5111 est fourni complet avec de l'huile synthétique pour la lubrification permanente et ne nécessite aucun entretien.

**E** El reductor tamaño 5111 se suministra, lubricado de por vida con aceite sintético y no requieren mantenimiento alguna.

### LUBRICATION 5111 Oil Quantity 0.45 Lt.

AGIP Telium VSF 320

SHELL Omala S4 WE 320

For all details on lubrication and plugs check our website

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

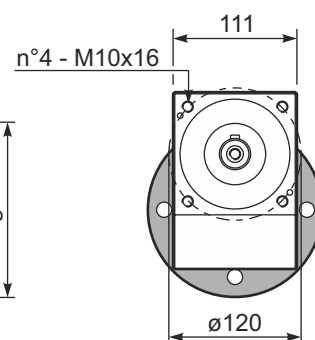
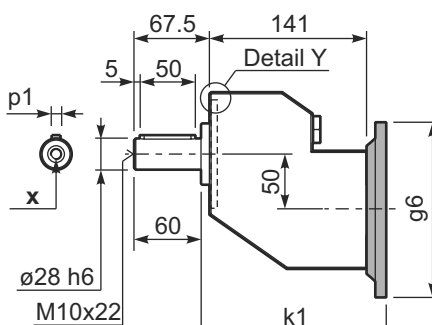
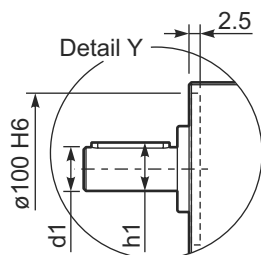
**Output shaft / Albero di uscita**

$F_R$  (N)  $F_A$  (N)  $F_{eq}$  (N)  $F_{eq} = F_R \cdot \frac{65.5}{X+35.5}$

$n_2$	FA	FR	$n_2$	FA	FR	$n_2$	FA	FR
700	294	1470	400	370	1850	200	460	2300
600	320	1600	300	400	2000	140	510	2550

**P5111-N...** Basic gearbox  
Riduttore base

**Gearbox weight**  
peso riduttore **12.0 kg**



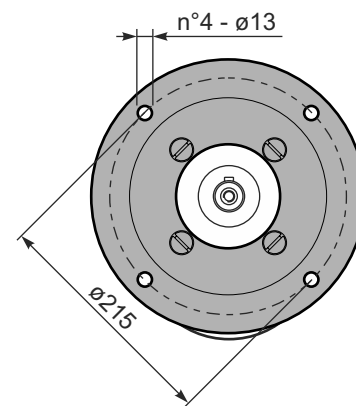
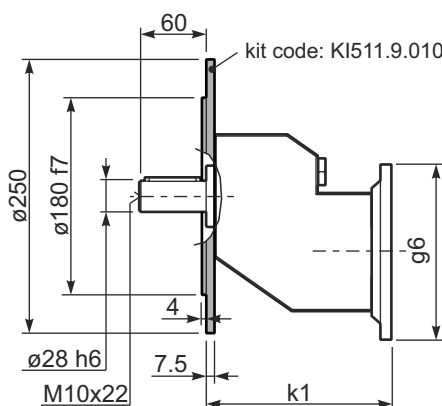
**Output shafts / albero di uscita**

	Shaft - d1	p1	h1	x
<b>Standard</b>	ø 28x60	8	31	M10x22

**P5111-F...** Output flange  
flangia di uscita

**Input flanges / flange di entrata**

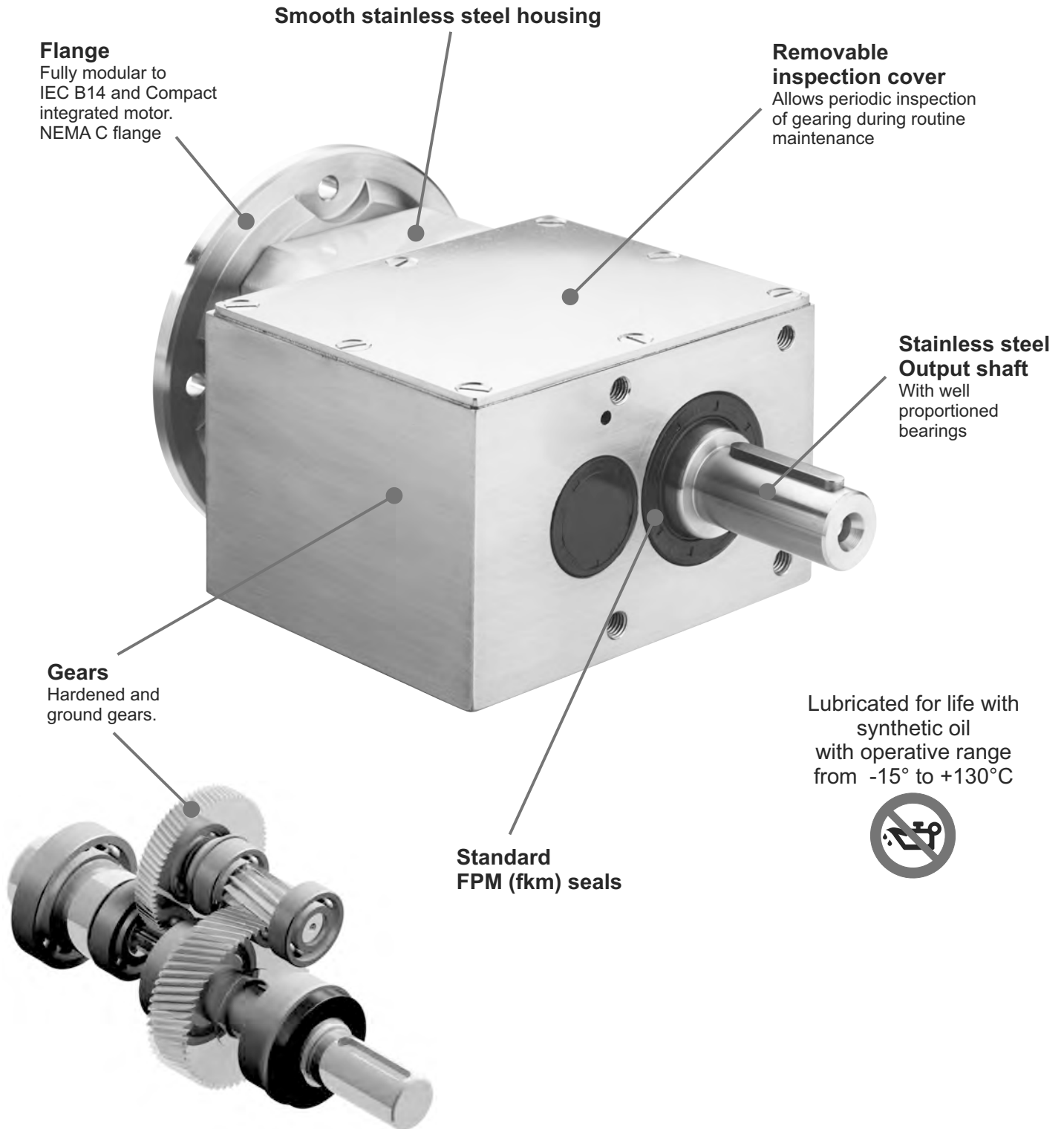
	k1	g6	kit code
80-90B14	168.5	200	KI85.4.042
100-112B14	166.5	160	KI85.4.041





# Stainless steel in line gearboxes

A modular and compact product



**Flange**  
Fully modular to IEC B14 and Compact integrated motor. NEMA C flange

**Smooth stainless steel housing**

**Removable inspection cover**  
Allows periodic inspection of gearing during routine maintenance

**Stainless steel Output shaft**  
With well proportioned bearings

**Gears**  
Hardened and ground gears.

**Standard FPM (fkm) seals**

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

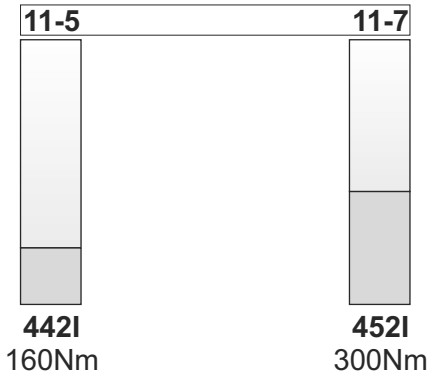


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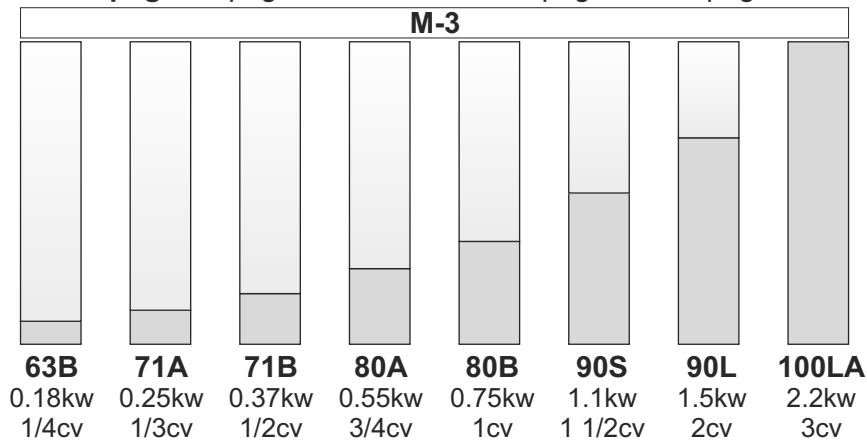
Types / Tipi /  
Tipen / Types /  
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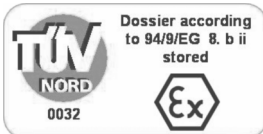
Type - Tipo Typ Type - Tipo	Size - Grandezza Grösse - Taille Tamaño	Mounting Montaggio Montage Fixation Tipo de montaje	Ratio - Rapporto Untersetzung Reduction Relación	Output shaft Albero lento Abtriebswelle Arbre de sortie Eje solida	Output flange Flangia uscita Ausgangsflansch Bride de sortie Brida en salida	Motor size Grandezza motore Motor Grösse Grandeur moteur Tamaño motor	Mounting position Posizione montaggio Einbaulage Position de montage Position de montage
<b>P</b>	<b>442I</b> <b>452I</b>	<b>-F</b>	<b>3.52</b>	<b>E</b>	<b>4</b>	<b>-Q</b>	<b>B3</b>
 <b>P</b>	 <b>442I</b> <b>452I</b>	 <b>-N</b>	See technical data table Vedi tabella dati tecnici. Technisches Datenblatt beachten Voir Tableau données techniques Ver tabla datos técnicos	 <b>E</b>	 <b>4</b>	 <b>-Q</b>	 <b>B3</b> STANDARD
 <b>M</b>		 <b>-F</b>		<b>→ STANDARD</b> 442I <b>E → ø24</b> 452I <b>G → ø28</b>	<b>N</b> Senza flangia Without flange 442I <b>4 → ø200</b> 452I <b>5 → ø250</b>	442I <b>-Q 71B14</b> (ø105) <b>-R 80B14</b> (ø120) <b>-T 90B14</b> (ø140) 452I <b>-D 80B5</b> (ø200) <b>-E 90B5</b> (ø200) <b>-U 100-112</b> B14 (ø160)	 <b>B6</b>
 <b>B</b>		 <b>H1</b>				Without flange Senza flangia  442I <b>-1</b> ⇨ ø14 (71B5) <b>-2</b> ⇨ ø19 (80B5) <b>-3</b> ⇨ ø24 (90B5) 452I <b>-2</b> ⇨ ø19 (80B5) <b>-3</b> ⇨ ø24 (90B5) <b>-4</b> ⇨ ø28 (100B5)	 <b>B7</b>
							 <b>B8</b>
							 <b>V5</b>
							 <b>V6</b>
							 <b>V8</b>

## On request

**B** Food lube

- B3 is supplied with standard oil quantity

- Please specify in the order if you required other mounting positions



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.

## FORMULE UTILI / USEFUL FORMULAS / NÜTZLICHE FORMELN / FORMULES UTILES / FÓRMULAS ÚTILES

**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

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

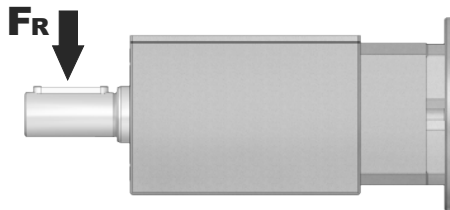
**TORQUE / COPPIA / DREHMOMENT / COUPLE / PAR**

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

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

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

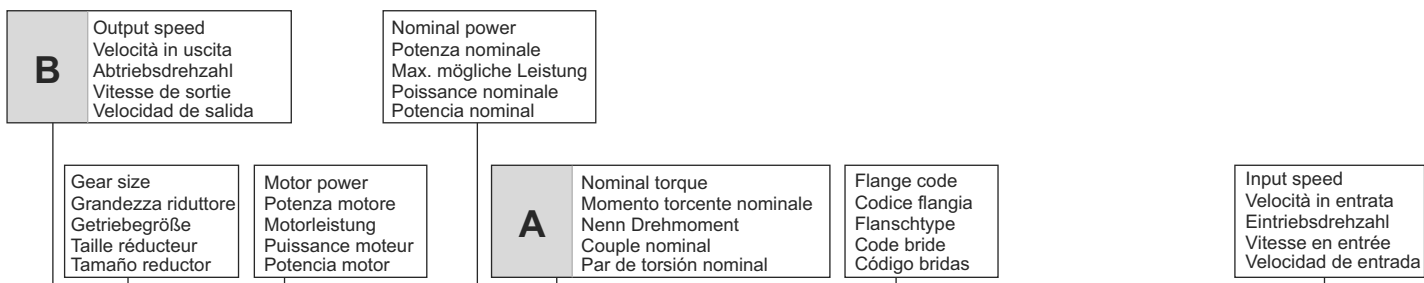
- Radial load generated by external transmissions keyed onto input and/or output shafts.
- Forza radiale generata da organi di trasmissione calettati sugli alberi di ingresso e/o uscita.
- Belastungen der Antriebs- bzw. Abtriebswellen durch von aussen eingebrachte Radiallasten.
- Charge radiale générée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



	$F_R \text{ [N]} = \frac{M \text{ [Nm]} \cdot 2000}{d \text{ [mm]}} \cdot f_k$	$F_R \text{ [N]} = \frac{M \text{ [lb in]} \cdot 8.9}{d \text{ [in]}} \cdot f_k$
<b>M</b>	Momento torcente / Output torque / Abtriebsdrehmoment / Couple / Par torsion	
<b>d</b>	Diametro primitivo / Diam. of driving element / Durchmesser der Abtriebseinheit / Diamètre primitif / Diámetro primitivo	
<b>f<sub>k</sub></b>	Coefficiente di trasformazione / Factor / Faktor / Coefficient de transmission / Coeficiente de transmisión <b>1.15</b> Ingranaggi / Gearwheels / Zahnrad / Engrenage / Engranaje <b>1.25</b> Catena / Chain sprochets / Antriebskette / Chaîne / Cadena <b>1.75</b> Cinghia Trapezoidale / Narrow v-belt pulley / Keilriemen / Courroie trap. / Correa trapezoidal <b>2.50</b> 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



**4421** Coaxial - Gear  
**160Nm**

Rating - Stainlesssteel COAXIAL GEARBOXES

**QUICK SELECTION / Selezione veloce** input speed (n<sub>i</sub>) = 1400 min<sup>-1</sup>

Output Speed n <sub>2</sub> [min <sup>-1</sup> ]	Ratio i	Motor power P <sub>1M</sub> [kW]	Output torque M <sub>2M</sub> [Nm]	Service factor f.s.	Nominal power P <sub>1R</sub> [kW]	Nominal torque M <sub>2R</sub> [Nm]	B5 motor flanges not available				Available B14 motor flanges				Output Shaft		
							-	-	-	-	Q	R	T	-			
398	<b>3.52</b>	1.5	35	2.3	3.5	80	-	-	-	-	71	80	90	-	2821	<b>standard</b> ø24	01
320	<b>4.37</b>	1.5	43	2.1	3.2	90	-	-	-	-	C	C	-	2818	02		
252	<b>5.55</b>	1.5	55	1.8	2.8	100	-	-	-	-	C	C	-	2813	03		
220	<b>6.36</b>	1.5	62	1.5	2.3	95	-	-	-	-	C	C	-	1921	04		



**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 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>B)</b> Mounting with reduction ring Montaggio con boccolla di riduzione Reduzierhülsen Montage avec douille de réduction Montaje con casquillo de reducción	
<b>C)</b> 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>B)</b> Available without reduction bushes Disponibile anche senza boccolla Auch ohne Reduzierbuchse verfügbar Disponible aussi sans douille de réduction Disponible tambien sin casquillo	

<b>A</b>	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>B</b>	Select output speed	Seleziona la velocità in uscita	Ausgewählte Abtriebsdrehzahl	Sélectionner la vitesse de sortie	Seleccionar la velocidad de salida
<b>C</b>	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
<b>D</b>	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							input speed (n <sub>1</sub> ) = 1400 min <sup>-1</sup>										
Output Speed n <sub>2</sub> [min <sup>-1</sup> ]	Ratio i	Motor power P <sub>1M</sub> [kW]	Output torque M <sub>2M</sub> [Nm]	Service factor f.s.	Nominal power P <sub>1R</sub> [kW]	Nominal torque M <sub>2R</sub> [Nm]	B5 motor flanges not available				Available B14 motor flanges				Output Shaft		
							-	-	-	-	Q	R	T	-			Ratio code
398	<b>3.52</b>	1.5	35	2.3	3.5	80	-	-	-	-	C	C	-	-	2821	standard ø24	01
320	<b>4.37</b>	1.5	43	2.1	3.2	90	-	-	-	-	C	C	-	-	2818		02
252	<b>5.55</b>	1.5	55	1.8	2.8	100	-	-	-	-	C	C	-	-	2813		03
220	<b>6.36</b>	1.5	62	1.5	2.3	95	-	-	-	-	C	C	-	-	1921		04
191	<b>7.33</b>	1.5	72	1.7	2.5	120	-	-	-	-	C	C	-	-	2812		05
177	<b>7.89</b>	1.5	77	1.6	2.3	120	-	-	-	-	C	C	-	-	1918		06
139	<b>10.06</b>	1.5	99	1.5	2.3	150	-	-	-	-	C	C	-	-	1913		07
120	<b>11.66</b>	1.5	114	1.5	2.3	174	-	-	-	-	C	C	-	-	1713		08
106	<b>13.26</b>	1.5	130	1.2	1.8	160	-	-	-	-	C	C	-	-	1912		09
102	<b>13.68</b>	1.5	134	1.1	1.6	144	-	-	-	-	C	C	-	-	1513		10
91	<b>15.37</b>	1.5	151	1.1	1.6	160	-	-	-	-	C	C	-	-	1712		11
86	<b>16.20</b>	1.5	159	0.9	1.3	138	-	-	-	-	C	C	-	-	1910		12
78	<b>18.04</b>	1.5	177	0.9	1.4	160	-	-	-	-	C	C	-	-	1512		13
74	<b>18.80</b>	1.1	135	1.0	1.1	138	-	-	-	-	C	C	-	-	1710		14
65	<b>21.54</b>	1.1	155	1.0	1.1	160	-	-	-	-	C	C	-	-	1312		15
63	<b>22.29</b>	1.1	161	1.0	1.1	167	-	-	-	-	C	C	-	-	1013		16
53	<b>26.30</b>	0.75	129	1.1	0.80	138	-	-	-	-	C	C	-	-	1310		17
47.6	<b>29.40</b>	0.75	144	1.1	0.83	160	-	-	-	-	C	C	-	-	1012		18
39	<b>35.91</b>	0.55	129	1.1	0.59	138	-	-	-	-	C	C	-	-	1010		19
36.5	<b>38.37</b>	0.55	138	1.2	0.64	160	-	-	-	-	C	C	-	-	912		20
29.9	<b>46.86</b>	0.55	169	0.8	0.45	138	-	-	-	-	C	C	-	-	910		21
27.6	<b>50.67</b>	0.37	123	1.1	0.40	132	-	-	-	-	C	C	-	-	712		22
22.6	<b>61.88</b>	0.37	150	0.9	0.34	138	-	-	-	-	C	C	-	-	710		23

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

\* The nominal power should be reduced if the ambient temperature is  $\geq 30^{\circ}\text{C}$ , or when a cooler gearbox is required.

\* Diminuire la potenza nominale in caso di temperatura ambiente  $\geq 30^{\circ}\text{C}$  o se è richiesta una bassa temperatura di utilizzo del riduttore.

- Motor Flanges Available**  
Flange Motore Disponibili
- B) Supplied with Reduction Bushing**  
Fornito con Bussola di Riduzione
- Available on Request without reduction bushing**  
Disponibile a Richiesta senza Bussola di Riduzione
- C) Motor Flange Holes Position**  
Posizione Fori Flangia Motore

**EN** Unit **4421** 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 **4421** 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 **4421** ist mit synthetischem Öl gefüllt und ist lebensdauer geschmiert. 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 **4421** 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 **4421** 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					
0.35 LT	0.55 LT	0.55 LT	0.55 LT	0.75 LT	0.60 LT	Ask

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

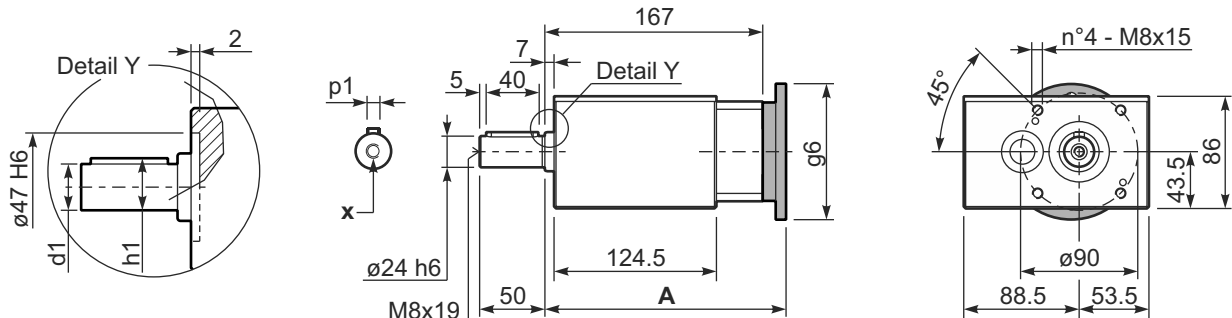
RADIAL AND AXIAL LOADS								
<b>Output shaft</b> Albero di uscita			$F_{eq} = F_R \cdot \frac{49}{X+24}$					
n <sub>2</sub>	FA	FR	n <sub>2</sub>	FA	FR	n <sub>2</sub>	FA	FR
300	310	1550	140	406	2030	70	540	2700
250	330	1650	120	448	2240	40	600	3000
200	360	1800	85	480	2400	15	600	3000

**tab. 2**

3D dimensions on the Web

P442I-**N**... Basic gearbox  
Riduttore base

Gearbox weight With flange **9.9 kg**  
peso riduttore With feet **9.2 Kg**

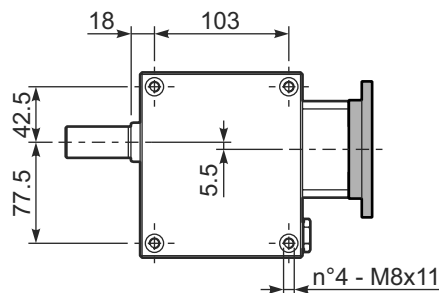


**Output shafts / albero di uscita**

	Shaft - d1	p1	h1	x
Standard	ø 24x50	8	27	M8x19

**Input flanges / flange di entrata**

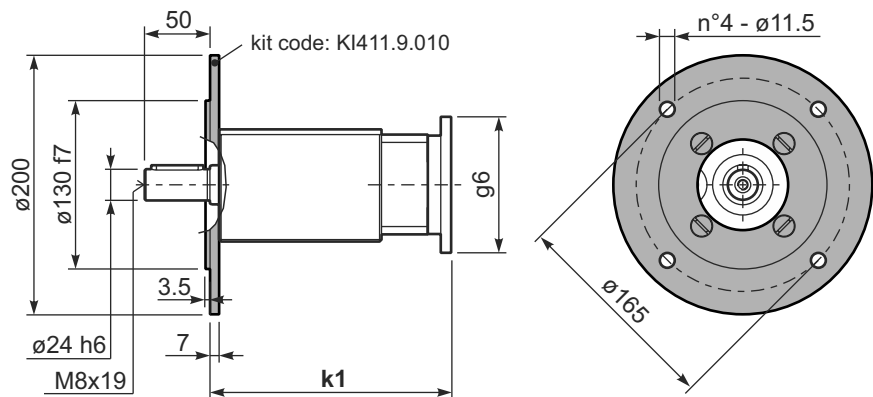
	A	g6	kit code
71 B14	185	105	KI63.4.047
80 B14	186	120	KI63.4.046
90 B14	187	140	KI63.4.041



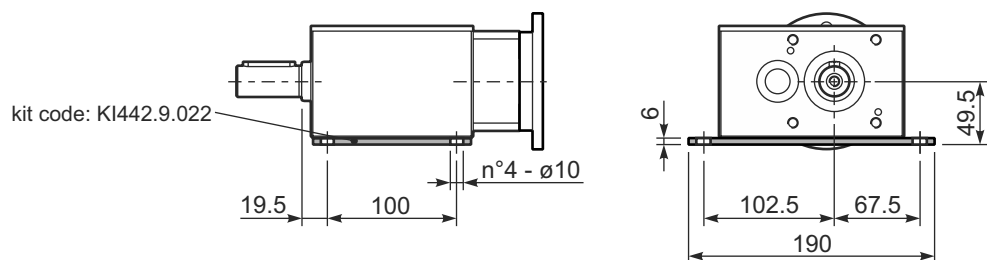
P442I-**F**... Output flanges  
flange di uscita

**Input flanges / flange di entrata**

	k1	g6	kit code
71 B14	185	105	KI63.4.047
80 B14	186	120	KI63.4.046
90 B14	187	140	KI63.4.041



P442I-**H1**... With feet  
Con piedini





**QUICK SELECTION / Selezione veloce**

input speed ( $n_1$ ) = 1400 min<sup>-1</sup>

Output Speed $n_2$ [min <sup>-1</sup> ]	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		
							D	E	U				Ratios code
							80	90	100 - 112				
388	<b>3.61</b>	4	95	1.6	<b>6.3</b>	<b>150</b>						01	
331	<b>4.23</b>	4	111	1.5	<b>6.1</b>	<b>170</b>						02	
279	<b>5.01</b>	4	131	1.5	<b>6.1</b>	<b>200</b>						03	
231	<b>6.07</b>	4	159	1.6	<b>6.3</b>	<b>250</b>						04	
206	<b>6.81</b>	4	178	1.6	<b>6.2</b>	<b>277</b>						05	
176	<b>7.96</b>	4	209	1.4	<b>5.8</b>	<b>300</b>						06	
148	<b>9.45</b>	4	248	1.2	<b>4.9</b>	<b>304</b>						07	
122	<b>11.43</b>	4	299	1.0	<b>4.0</b>	<b>300</b>						08	
99	<b>14.21</b>	3	279	0.9	<b>2.8</b>	<b>265</b>					standard ø28	09	
84	<b>16.62</b>	3	327	0.9	<b>2.8</b>	<b>304</b>						10	
70	<b>20.10</b>	2.2	290	1.0	<b>2.3</b>	<b>300</b>						11	
56	<b>24.98</b>	1.85	303	0.9	<b>1.6</b>	<b>265</b>						12	
47.6	<b>29.41</b>	1.5	289	1.1	<b>1.6</b>	<b>304</b>						13	
39.3	<b>35.58</b>	1.5	349	0.9	<b>1.3</b>	<b>300</b>						14	
34.6	<b>40.50</b>	1.1	292	1.0	<b>1.1</b>	<b>290</b>						15	
31.7	<b>44.22</b>	1.1	319	0.8	<b>0.92</b>	<b>265</b>						16	
28.6	<b>49.00</b>	0.75	241	1.2	<b>0.93</b>	<b>300</b>						17	
23.0	<b>60.90</b>	0.75	299	0.9	<b>0.66</b>	<b>265</b>						18	

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

\* The nominal power should be reduced if the ambient temperature is  $\geq 30^\circ\text{C}$ , or when a cooler gearbox is required.

\* Diminuire la potenza nominale in caso di temperatura ambiente  $\geq 30^\circ\text{C}$  o se è richiesta una bassa temperatura di utilizzo del riduttore.

**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 4521 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 4521 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 4521 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 4521 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 4521 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					
0.60 LT	0.80 LT	0.90 LT	0.80 LT	1.10 LT	1.00 LT	Ask

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			$F_{eq} (N)$			$F_{eq} = FR \cdot \frac{57}{X+27}$		
$n_2$	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

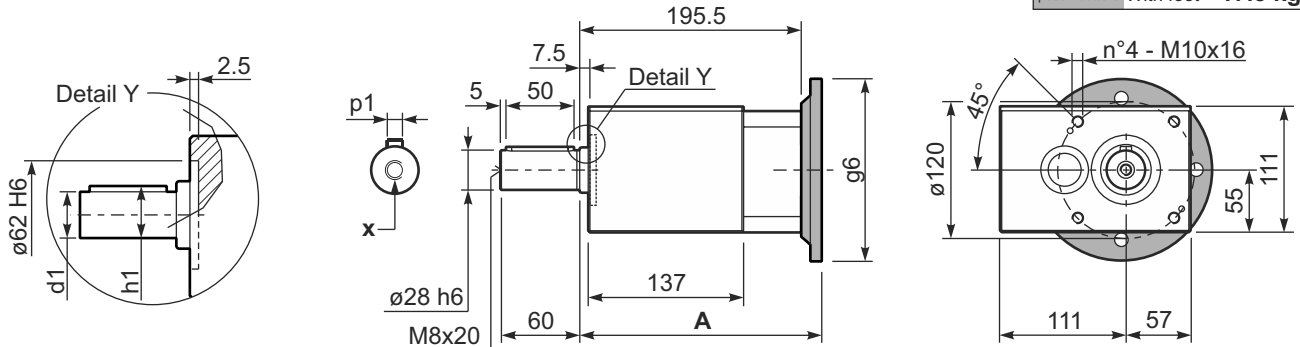
**tab. 2**



3D dimensions on the Web

P452I-**N**... Basic gearbox  
Riduttore base

Gearbox weight With flange **19.2 kg**  
peso riduttore With feet **17.5 kg**

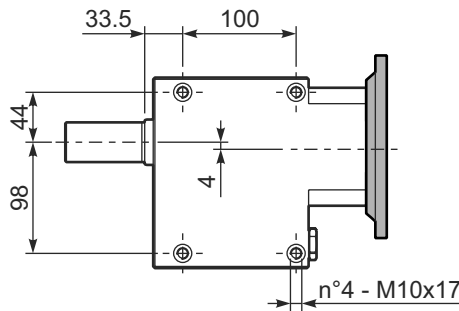


**Output shafts / albero di uscita**

	Shaft - d1	p1	h1	x
Standard	ø 28x60	8	31	M8x20

**Input flanges / flange di entrata**

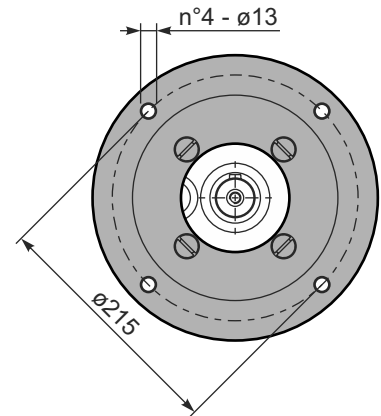
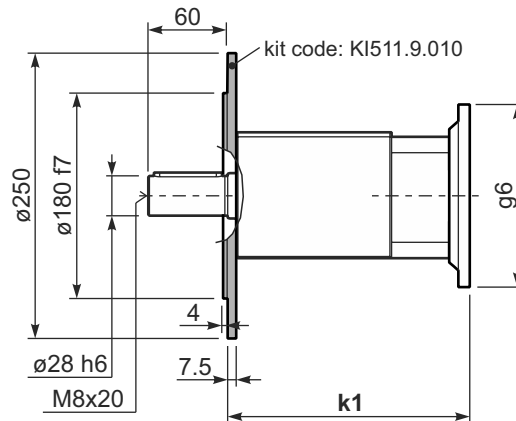
	A	g6	kit code
80-90B5	215.5	200	KI85.4.042
100-112B14	213.5	160	KI85.4.041



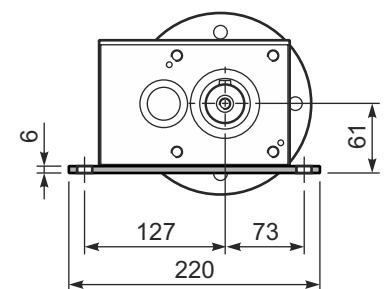
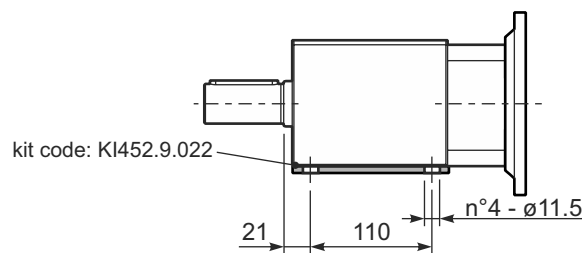
P452I-**F**... Output flanges  
flange di uscita

**Input flanges / flange di entrata**

	k1	g6	kit code
80-90B14	215.5	200	KI85.4.042
100-112B14	213.5	160	KI85.4.041

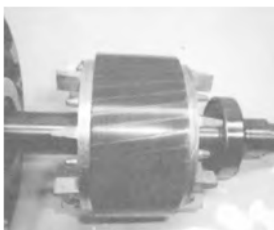
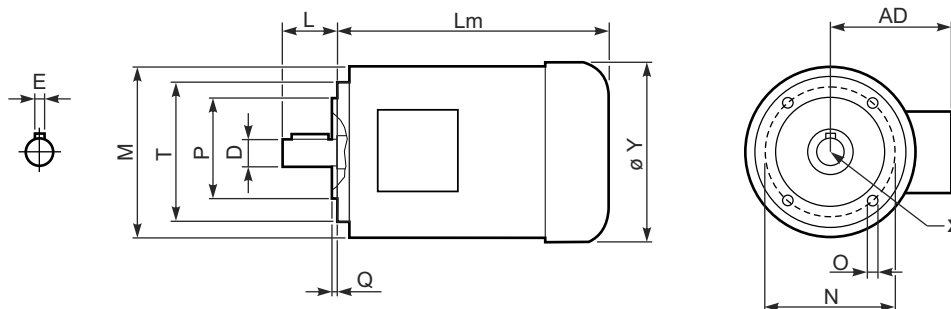


P452I**H1**.. With feet  
Con piedini




**Features**

- 1) 300 Series Stainless Steel Construction.
- 2) Inverter duty
- 3) Washdown Duty Applications.
- 4) BISSC Certified.
- 5) Corrosion Resistant.
- 6) Laser Etched Nameplate.
- 7) Oversized Bearings on both ends c/w Locked Drive-end Bearing Construction.
- 8) Oversized Conduit Box c/w Lead Seal.
- 9) Drill & Tapped Drains.
- 10) T-Drain included.
- 11) Double Lip Contact Seals.


**B14**

**Outside dimensions may be different according to manufacturers.**

Le dimensioni esterne sono indicative, possono variare tra i vari costruttori.

	4 poli / poles			D	E	L	Lm	Y	AD	P	N	M	T	O	Q	X	Kg
	kW	Nm	A <sub>(400V)</sub>														
<b>63</b>	<b>0.18</b>	1.30	0.69	11	4	23.5	252	128	106	60	75	114	90	M5	2.5	-	8.2
<b>71</b>	<b>0.25</b>	1.70	0.91	14	5	30.5	228	146	115	70	85	134	105	M6	2.5	M5x20	8.3
	<b>0.37</b>	2.52	1.14				252										10.4
<b>80</b>	<b>0.55</b>	3.77	1.51	19	6	40	300	158	115	80	100	144	120	M6	3	M6x25	17.5
	<b>0.75</b>	5.11	2.57				367										17.5
<b>90</b>	<b>1.1</b>	7.45	2.78	24	8	50	321	174	135	95	115	165	140	M8	3	M8x25	22.4
	<b>1.5</b>	10.2	3.61				367										27.6
<b>100</b>	<b>2.2</b>	14.8	5.07	28	8	60	374	203	150	110	130	190	160	M8	3.5	M10x25	33.5

Tecnical data
- Voltage: 230 / 400V
- Phase: 3
- Frequency: 50Hz
- Poles: 4
- International protections : IP 65
- Insulation class: F
- Duty: S1



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