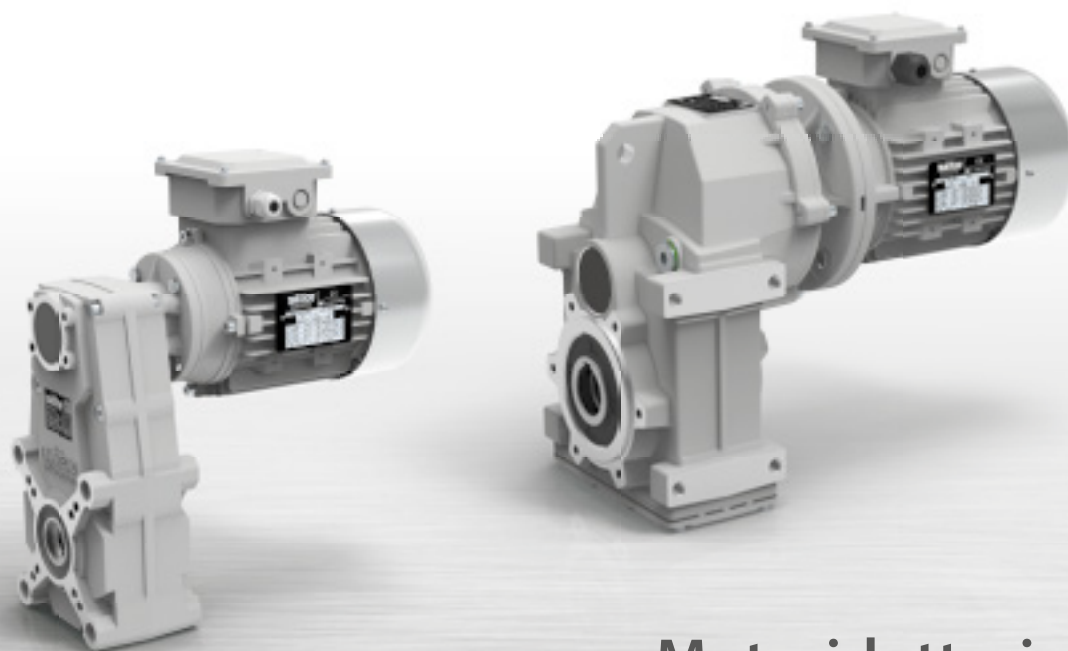
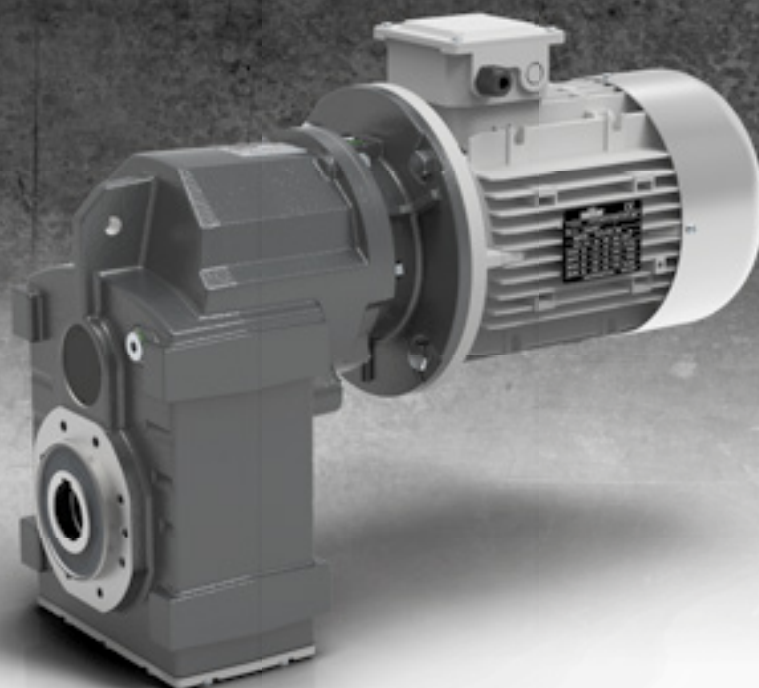



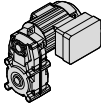

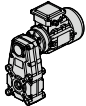



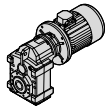
**TRANSTECNO**<sup>®</sup>  
the modular gearmotor



Motoriduttori pendolari  
**Helical parallel gearmotors**





	Indice	Index	Pag. Page
	<b>A</b> Introduzione	Introduction	<b>A1</b>
 	<b>B</b> Motoriduttori pendolari KFT105	Helical parallel gearmotors KFT105	<b>B1</b>
 	<b>C</b> Motoriduttori pendolari FT	Helical parallel gearmotors FT	<b>C1</b>
 	<b>D</b> Motoriduttori pendolari ATS	Helical parallel gearmotors ATS	<b>D1</b>
 	<b>E</b> Motoriduttori pendolari ITS	Helical parallel gearmotors ITS	<b>E1</b>
	<b>F</b> Appendice	Appendix	<b>F1</b>

Questo catalogo annulla e sostituisce ogni precedente edizione o revisione. Ci riserviamo inoltre il diritto di apportare modifiche senza preavviso.

*This catalogue supersedes any previous edition and revision. We reserve the right to implement modifications without notice.*





## Motoriduttori pendolari KFT105 - FT - ATS - ITS Helical parallel gearmotors KFT105 - FT - ATS - ITS



KFT105

Grandezza Sizes	Coppia nominale in uscita Nominal output torque Mn <sub>2</sub> [Nm]	Pag. Page
KFT105	<b>65</b>	B6



FT

Grandezza Sizes	Coppia nominale in uscita Nominal output torque Mn <sub>2</sub> [Nm]	Pag. Page
FT105	<b>65</b>	C8
FT146	<b>120</b>	C9
FT196	<b>550</b>	C10



ATS

Grandezza Sizes	Coppia nominale in uscita Nominal output torque Mn <sub>2</sub> [Nm]	Pag. Page
ATS902/3	<b>400</b>	D12
ATS912/3	<b>600</b>	D14



ITS

Grandezza Sizes	Coppia nominale in uscita Nominal output torque Mn <sub>2</sub> [Nm]	Pag. Page
ITS922/3	<b>1100</b>	E18
ITS932/3	<b>1700</b>	E20
ITS942/3	<b>3200</b>	E22



<b>Indice</b>	<b>Index</b>	Pag. Page
Generalità	<i>General information</i>	<b>A2</b>
Velocità entrata	<i>Input speed</i>	<b>A2</b>
Rapporto di riduzione	<i>Gear ratio</i>	<b>A2</b>
Velocità in uscita	<i>Output speed</i>	<b>A2</b>
Coppia richiesta	<i>Requested torque</i>	<b>A2</b>
Coppia nominale	<i>Nominal torque</i>	<b>A3</b>
Coppia trasmessa	<i>Output torque</i>	<b>A3</b>
Rendimento	<i>Efficiency</i>	<b>A3</b>
Potenza in entrata	<i>Input power</i>	<b>A3</b>
Fattore di servizio	<i>Service factor</i>	<b>A4</b>
Carico radiale	<i>Radial load</i>	<b>A5</b>
Carico assiale	<i>Axial load</i>	<b>A5</b>
Scelta dei motoriduttori	<i>Selecting the gearmotors</i>	<b>A5</b>
Lubrificazione	<i>Lubrication</i>	<b>A6</b>
Posizioni di montaggio	<i>Mounting positions</i>	<b>A7</b>
Giunto elastico	<i>Flexible coupling</i>	<b>A8</b>
Temperatura di lavoro	<i>Operating temperature</i>	<b>A9</b>
Installazione e verifiche	<i>Installation and inspection</i>	<b>A10</b>
Applicazioni critiche	<i>Critical applications</i>	<b>A10</b>

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata, l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet [www.transtecno.com](http://www.transtecno.com)**

*This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels, the most up to date content is not guaranteed. **In this case the latest version is available on our web site [www.transtecno.com](http://www.transtecno.com)***

### Generalità

Per avere una migliore comprensione degli argomenti e dei dati esposti in questo catalogo proponiamo la simbologia utilizzata corredandola delle informazioni di base per giungere ad una corretta selezione dei motoriduttori.

### General information

Information in this manual is provided with symbols in order to understand the subject matter and data. These symbols are intended to aid the user in selecting the right gearmotors.

### Velocità entrata

$n_1$  [min<sup>-1</sup>]

### Input speed

Rappresenta la velocità riferita al tipo di motorizzazione prescelta ed è applicata in entrata al riduttore.

This is the input speed at the gearbox related to the type of drive unit selected.

Per selezioni a velocità diverse da quelle riportate consultare il ns. Servizio Tecnico.

When different speeds are required, contact our Technical Service.

### Rapporto di riduzione

$i$

### Gear ratio

E' una grandezza adimensionale ed è in funzione del numero dei denti degli ingranaggi interni al riduttore.

This value is strictly related to the size and number of teeth gears inside the gearbox.

Nei riduttori a vite senza fine si ottiene dividendo il numero di denti della corona per il numero dei filetti (Z) della vite senza fine.

This value is obtained in wormgearboxes by dividing the number of wheel teeth by the number of starts (Z) of the worm.

Dai dati di catalogo si può ottenere con la relazione:

From the data given in the catalogue, the value can be calculated using the following formula:

$$i = \frac{n_1}{n_2}$$

### Velocità in uscita

$n_2$  [min<sup>-1</sup>]

### Output speed

E' la velocità risultante sull' asse di uscita del riduttore e viene ricavata dalla relazione precedente:

This is the gearbox output speed calculated using the formula given above:

$$n_2 = \frac{n_1}{i}$$

### Coppia richiesta

$Mr_2$  [Nm]

### Requested torque

E' la coppia richiesta dall'applicazione ed è indispensabile per la selezione di una motorizzazione.

This is the torque needed for the application and must be known when selecting a drive system. It can either be provided by the user or calculated according to the application data (if provided).

Essa può essere comunicata dall'utente oppure calcolata in base ai dati di applicazione (se forniti).

**Coppia nominale**

**$Mn_2$  [Nm]**

**Nominal torque**

Rappresenta la coppia in uscita trasmissibile dal riduttore in base alla velocità in entrata  $n_1$  e al rapporto di riduzione  $i$ . Essa è calcolata in base ad un servizio con carico continuo uniforme corrispondente ad un fattore di servizio uguale a 1. Questo valore non è riportato nel presente catalogo ma può essere ricavato approssimativamente con la seguente relazione fra  $M_2$  (coppia trasmessa) e  $sf$  (fattore di servizio):

*This is the output torque that can be transmitted by the gearbox according to input speed  $n_1$  and gear ratio  $i$ . It is calculated based on service with a continuous steady load corresponding to a service factor equal to 1. This value is not given in the catalogue but can be calculated approximately with the following formula between  $M_2$  (output torque) and  $sf$  (service factor):*

$$Mn_2 = M_2 \cdot sf$$

**Coppia Trasmessa**

**$M_2$  [Nm]**

**Output torque**

E' la coppia trasmessa in uscita al riduttore. Dipende dalla potenza  $P_1$  del motore installato, dal numero di giri in uscita  $n_2$  e dal rendimento dinamico  $Rd$  e può essere calcolata con la relazione:

*This is the gearbox's output torque. It is strictly related to power  $P_1$  of the motor installed, output rpm  $n_2$  and dynamic efficiency  $Rd$ . It can be calculated with the following formula:*

$$M_2 = \frac{9550 \cdot P_1 \cdot Rd}{n_2}$$

oppure:  
or:

$$M_2 = \frac{9550 \cdot P_2}{n_2}$$

dove:  
where:

$$P_2 = P_1 \cdot Rd$$

**Rendimento**

**$Rd$**

**Efficiency**

I calcoli delle prestazioni sono stati effettuati in base al rendimento dinamico  $Rd$  dei riduttori.

*Efficiency is calculated based on dynamic efficiency  $Rd$  of the gearboxes.*

Nei riduttori ad ingranaggi il rendimento medio è del 94%.

*On helical gearboxes the average efficiency is 94%.*

**Potenza in entrata**

**$P_1$  [kW]**

**Input power**

E' la potenza motore applicata in entrata al riduttore e riferita alla velocità  $n_1$ . Può essere calcolata come segue:

*This is the power applied by the motor at the gearbox input in reference to speed  $n_1$ . It can be calculated with the following formula:*

$$P_1 = \frac{M_2 \cdot n_2}{9550 \cdot Rd}$$

## Fattore di servizio

## sf

## Service factor

E' una grandezza adimensionale che indica il sovradimensionamento da applicare ad una determinata motorizzazione per garantire la resistenza agli urti e la durata richiesta.

Le tabelle di catalogo offrono una vasta scelta di motorizzazioni con fattori di servizio differenziati che possono soddisfare la maggior parte delle applicazioni più o meno gravose.

Per una corretta interpretazione dei valori del fattore di servizio sf riportati a fianco di ogni selezione proposta, riportiamo nelle tabelle seguenti i valori indicativi attribuiti alle classi di carico A, B, C e alla durata di funzionamento giornaliero h/d e al numero di avviamenti/ora.

Definendo la classe di carico a cui riferire l'applicazione, si ricercherà nella tabella il corrispondente valore di sf da utilizzare nella scelta della motorizzazione più idonea.

This value indicates how a certain drive system is to be over-sized in order to assure the requested service and stand up to shocks.

The tables given in the catalogue offer a wide range of drive systems with different service factors able to satisfy most types of applications. To correctly understand service factor values sf given for each item, approximate values for load classes A, B and C along with the number of hours of daily operation h/d and number of start-ups/hours need to be known.

Once the load class required for the application has been determined, locate corresponding value sf to be used when selecting the most suitable drive system.

<b>A - Uniforme</b>	$fa \leq 0.3$
<b>B - Medio</b>	$fa \leq 3$
<b>C - Forte</b>	$fa \leq 10$

<b>A - Uniform</b>	$fa \leq 0.3$
<b>B - Moderate shocks</b>	$fa \leq 3$
<b>C - Heavy shocks</b>	$fa \leq 10$

$$fa = \frac{Je}{Jm}$$

- Je (kgm<sup>2</sup>) momento d'inerzia esterno ridotto all'albero motore.
- Jm (kgm<sup>2</sup>) momento d'inerzia motore.

Se  $fa > 10$  interpellare il sn. Servizio Tecnico.

$$fa = \frac{Je}{Jm}$$

- Je (kgm<sup>2</sup>) moment of reduced external inertia at the drive-shaft
- Jm (kgm<sup>2</sup>) moment of inertia of motor.

If  $fa > 10$  call our Technical Service.

### A

Classe di carico / Load class

**Carico uniforme / Uniform load**

sf										
h/d	n. avviamenti/ora / n. start-up/hour									
	2	4	8	16	32	63	125	250	500	
4	0.8	0.8	0.9	0.9	1.0	1.1	1.1	1.2	1.2	
8	1.0	1.0	1.1	1.1	1.3	1.3	1.3	1.3	1.3	
16	1.3	1.3	1.3	1.3	1.5	1.5	1.5	1.5	1.5	
24	1.5	1.5	1.5	1.5	1.8	1.8	1.8	1.8	1.8	

### B

Classe di carico / Load class

**Carico con urti moderati / Moderate shock load**

sf										
h/d	n. avviamenti/ora / n. start-up/hour									
	2	4	8	16	32	63	125	250	500	
4	1.0	1.0	1.0	1.0	1.3	1.3	1.3	1.3	1.3	
8	1.3	1.3	1.3	1.3	1.5	1.5	1.5	1.5	1.5	
16	1.5	1.5	1.5	1.5	1.8	1.8	1.8	1.8	1.8	
24	1.8	1.8	1.8	1.8	2.2	2.2	2.2	2.2	2.2	

### C

Classe di carico / Load class

**Carico con urti forti / Heavy shock load**

sf										
h/d	n. avviamenti/ora / n. start-up/hour									
	2	4	8	16	32	63	125	250	500	
4	1.3	1.3	1.3	1.3	1.5	1.5	1.5	1.5	1.5	
8	1.5	1.5	1.5	1.5	1.8	1.8	1.8	1.8	1.8	
16	1.8	1.8	1.8	1.8	2.2	2.2	2.2	2.2	2.2	
24	2.2	2.2	2.2	2.2	2.5	2.5	2.5	2.5	2.5	

Esempio applicazione:

Nastro trasportatore attribuibile alla classe di carico B (**carico con urti moderati**) e previsto per una durata di funzionamento giornaliero (h/d) di **16** ore e con **8** avviamenti/ora.

Dalla tabella rileviamo **sf = 1.5**

Application example:

Conveyor belt assigned to load class B (**moderate shock load**), to be run **16** hours a day (h/d) with **8** start-ups/hour.

The following value is obtained from the table

**sf = 1.5**

**Carico radiale**

**R; R<sub>2</sub> [N]**

**Radial load**

L'applicazione sull'albero in uscita del riduttore di pignoni, pulegge, ecc. determina delle forze radiali che debbono necessariamente essere considerate per evitare sollecitazioni eccessive con il rischio di danneggiamenti del riduttore stesso.

*Pinions, pulleys, etc applied on the output shaft of the gearboxes create radial forces that must be taken into consideration to avoid excessive stress risking damage to the gearbox itself.*

Il calcolo del carico radiale esterno R agente sull'albero del riduttore può essere determinato come segue:

*External radial load R that acts on the gearbox shaft can be calculated as follows:*

$$R = \frac{2000 \cdot M_2 \cdot kr}{d} \leq R_2$$

dove:

**d [mm]** diametro primitivo del pignone o della puleggia

**kr** coefficiente riferito al tipo di trasmissione:

**kr = 1.4** ruota per catena

**kr = 1.1** ingranaggio

**kr = 1.5 - 2.5** puleggia per cinghia a V

where:

**d [mm]** diameter of the pinion or pulley

**kr** coefficient in relation to type of transmission:

**kr = 1.4** sprocket wheel

**kr = 1.1** gear

**kr = 1.5 - 2.5** pulley for V belts

E' opportuno evidenziare che i valori di R<sub>2</sub> sono riferiti a carichi agenti sulla mezzeria dell'albero lento (considerando l'albero sporgente) per cui il confronto dovrà essere effettuato nelle medesime condizioni.

*Keep in mind that values R<sub>2</sub> refer to loads that act on the centerline of the output shaft (considering the shaft protrudes). As a result, the value should be compared under the same conditions.*

**Carico assiale**

**A; A<sub>2</sub> [N]**

**Axial load**

A volte, unitamente al carico radiale, può essere presente anche una forza A che agisce assialmente sull'albero uscita; in questo caso considerare che il carico assiale ammissibile A<sub>2</sub> sull'albero è da considerare:

*At times, along with the radial load, force A may be present that acts axially on the output shaft. In this case, keep in mind allowable axial load A<sub>2</sub> that can be applied on the shaft is:*

$$A_2 = R_2 \cdot 0.2$$

Nel caso in cui il valore del carico assiale A agente sull'albero risultasse superiore ad A<sub>2</sub> contattate il ns. Servizio Tecnico.

*If axial load A that acts on the shaft is greater than A<sub>2</sub>, contact our Technical Service.*

**Scelta dei motoriduttori**

**Selecting the gearmotors**

Per la scelta di un motoriduttore è necessario seguire la seguente procedura.

*To select the required gearmotor, perform the procedure below:*

1. Per l'applicazione desiderata ricavare il fattore di servizio sf dalle tabelle a pag. A4 in base alla classe di carico, alle ore di funzionamento giornaliero e al numero di avviamenti orari.
2. Se si conosce la potenza motore P [kW] richiesta, passare al punto 3); se è nota la coppia in uscita M richiesta è necessario calcolare la potenza motore P con le formule:

1. *Determine the service factor sf for the desired application by referring to the charts given on page A4. This is to be done by considering the class of load, the operational hours/day and the number of start-ups/ hour.*
2. *If the required motor power output P is known, go to item 3); if the required output torque M is known, determine motor output P by using the following formulas:*

$$P = \frac{M \cdot n_2}{9550 \cdot Rd}$$



Motoriduttore  
Gearmotor

dove Rd è il rendimento dinamico e n<sub>2</sub> il numero di giri richiesti in uscita al motoriduttore.

*where Rd stands for the dynamic efficiency and n<sub>2</sub> indicates the required output rpm of the gearmotor .*

3. Nelle tabelle dei dati tecnici ricercare la motorizzazione in cui sia  $P_1$  maggiore o uguale a  $P$  e con riferimento a  $d$  una velocità  $n_2/n_{2max}$  prossima a quella desiderata, scegliere la motorizzazione in cui il fattore di servizio  $sf$  indicato risulti uguale o superiore a quello ricavato al punto 1).

3. Use the specification chart to search for the power unit where  $P_1$  is greater than or equal to  $P$  with a speed  $n_2/n_{2max}$  that approximates the desired one. Choose a power unit where the indicated service factor  $sf$  is equal to or greater than that calculated at point 1).

$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	$sf$	$i$			$R_2 U$ [N]	$R_2 P$ [N]	
<b>0.75</b>									
80B4 (1400 min <sup>-1</sup> )	<b>247</b>	28	18	5.66	<b>ITS922</b>	<b>B5</b>	3008	10535	
	<b>198</b>	35	14	7.06			<b>B5</b>	3413	11879
	<b>167</b>	41	12	8.37			<b>B5</b>	3760	13026
	<b>153</b>	45	14	9.13			<b>B5</b>	3951	13655
	<b>134</b>	51	13	10.43			<b>B5</b>	4262	14675
	<b>116</b>	59	11	12.04			<b>B5</b>	4621	15851
	<b>104</b>	66	11	13.50			<b>B5</b>	4926	16850
	<b>90</b>	76	9.9	15.50			<b>B5</b>	5319	18136
	<b>79</b>	87	10	17.81			<b>B5</b>	5745	18500
	<b>64</b>	107	8.4	21.73			<b>B5</b>	6406	18500
	<b>61</b>	113	8.0	22.92			<b>B5</b>	6593	18500
	<b>59</b>	117	7.7	23.80			<b>B5</b>	6728	18500

Esempio / Example:

**Applicazione / Application:**

Nastro trasportatore / Conveyor belt

$P$  : 0.75 kW  
 $sf$  : 1.8  
 $n_2$  : 247 min<sup>-1</sup>

Motorizzazione scelta / Power unit selected:

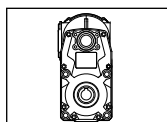
**ITS922**  $i = 5.66$ ,  $P_1 = 0.75$  kW,  $sf = 18$

## Lubrificazione

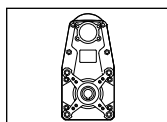
## Lubrication

I motoriduttori della serie KFT105, FT, ATS e ITS sono forniti completi di lubrificante sintetico viscosità 320 a lunga durata, pertanto non necessitano di manutenzione.

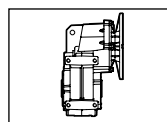
All unit sizes of KFT105, FT, ATS and ITS series are complete with a long life synthetic lubricant, viscosity 320 and do not require maintenance.



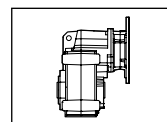
**KFT105**



**FT**



**ATS**



**ITS**

SHELL	AGIP	KLUBER	CASTROL	ESSO	MOBIL
Shell Omala S4 WE320	Tellium VSF320	Klubersynth GH 6 320	Alphasyn PG320	S320	Mobil Glygoyle HE 320

Nelle sezioni specifiche sono riportate le tabelle con le quantità indicative di lubrificante contenute e/o da immettere.

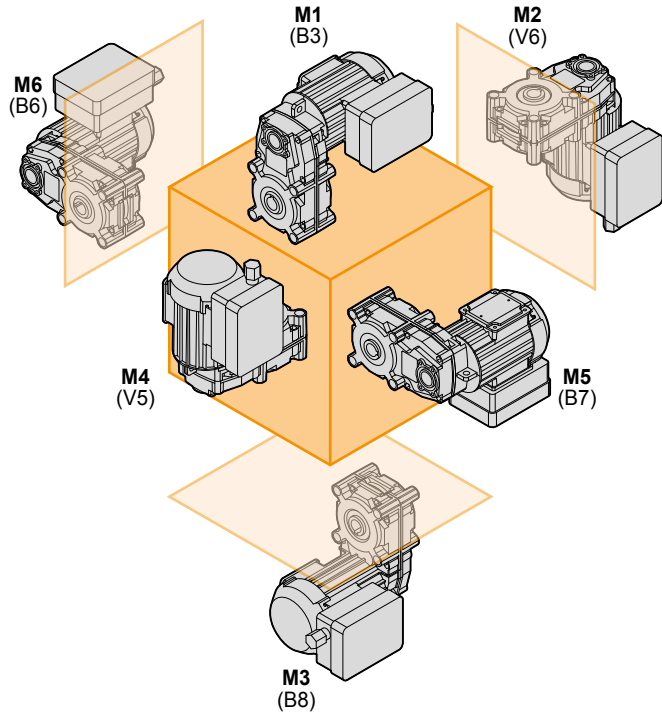
The tables contain the approximate amount of lubricant held and/or to be put in.

In fase di ordine è necessario specificare sempre la posizione di montaggio desiderata.

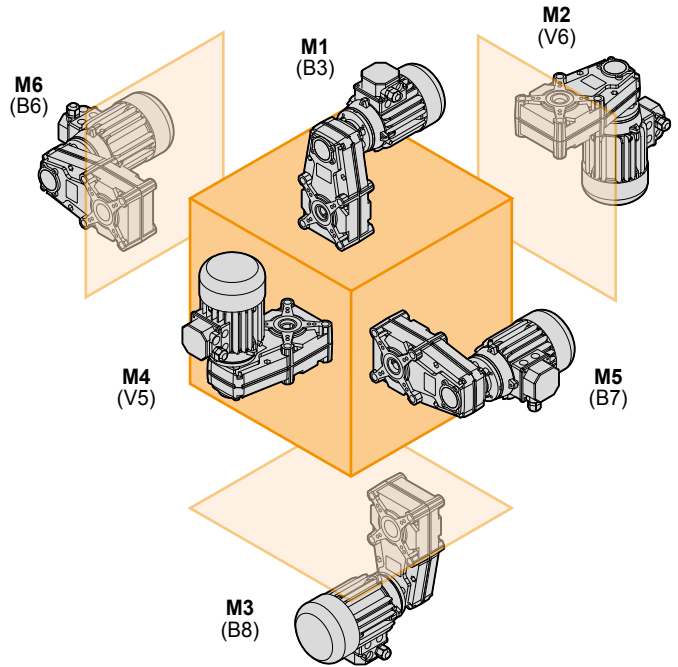
Always specify the desired installation position at the time of order.



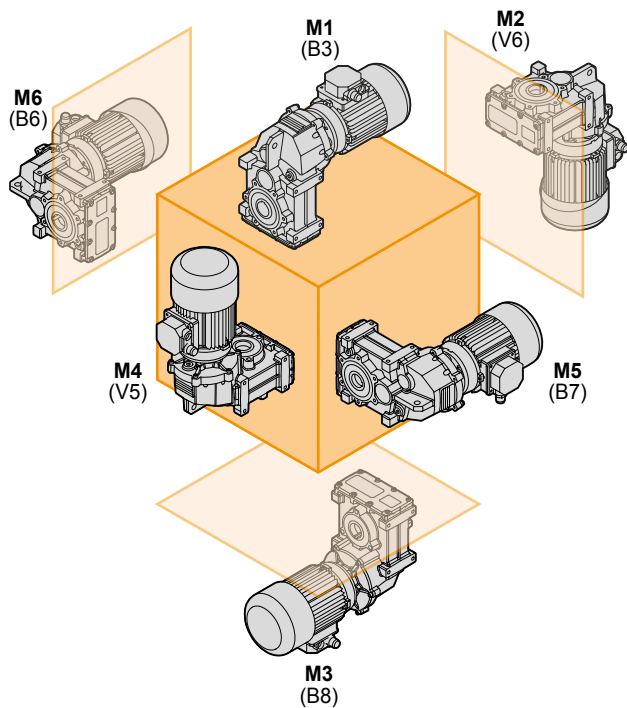
**KFT 105**



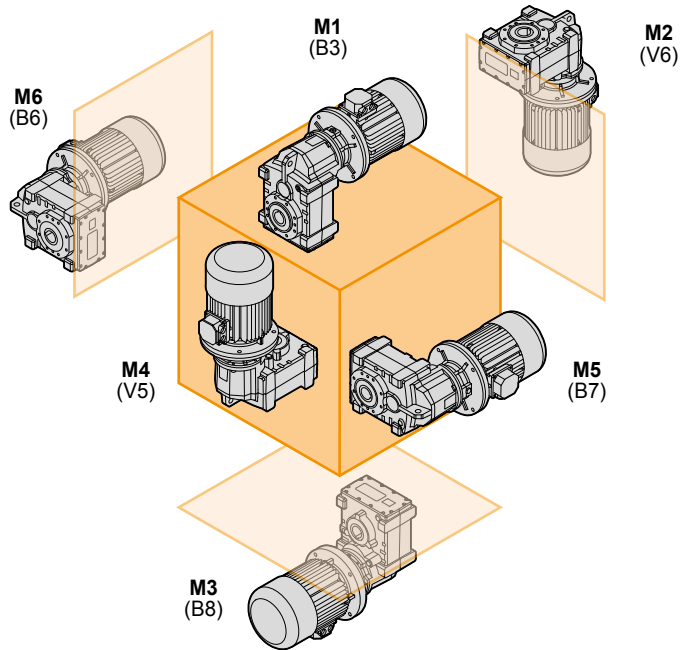
**FT**

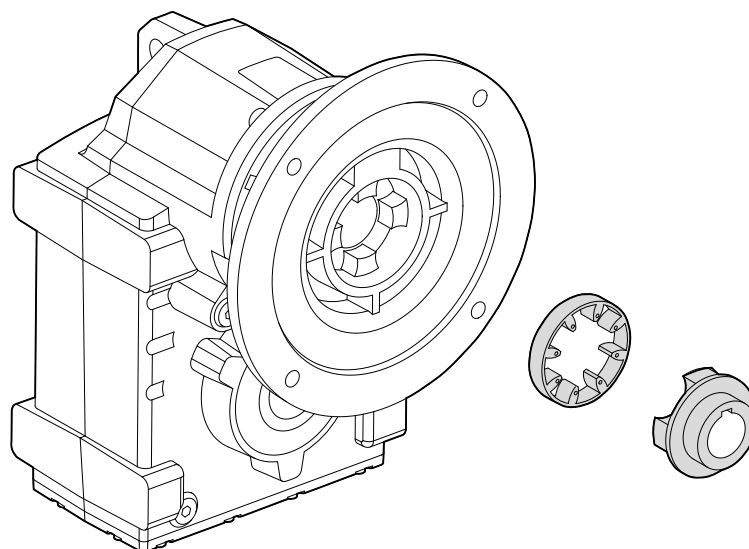


**ATS**



**ITS**





L'accoppiamento al motore tramite giunto elastico ha i seguenti vantaggi:

- Maggiore rigidità torsionale;
- Smorzamento delle vibrazioni;
- Smorzamento dei picchi d'inerzia del motore;
- Eliminazione dell'ossidazione tra l'albero motore ed il manicotto per tribocorrosione;
- Temperatura di funzionamento inferiore;
- Facilità di smontaggio del motore anche dopo lunghi periodi di utilizzo;

*Motor connection by flexible coupling allows the following benefits:*

- *Increasing torsional rigidity;*
- *Reducing vibrations;*
- *Cushioning motor start up jerks;*
- *Eliminates fretting corrosion phenomenon between motor sleeve and electric motor shaft;*
- *Lowering operating temperature;*
- *Easy disassembly of the motor after long periods of use;*

**Temperatura di lavoro**

**Operating temperature**

La temperatura ambientale influisce sulle specifiche di riduttori.

*The environmental temperature affects specifications of gearboxes.*

**Campo di temperatura standard / Standard temperature range**

<b>KFT 105 FT ATS</b>	-35°C / +50°C
<b>ITS</b>	-25°C / +50°C

**Campi di temperatura speciali / Special temperature range**

	<b>&lt;-35°C</b>	<b>&lt;-15°C</b>	<b>&gt;+50°C</b>
<b>KFT 105 FT ATS</b>	<p>usare paraoli in silicone (VMQ) <i>use silicone (VMQ) oil seals</i></p> <p>usare lubrificante per basse temperature <i>use low temperature lubricant</i></p>		<p>usare paraoli in Viton (FPM) <i>use Viton (FPM) oil seals</i></p>
<b>ITS</b>		<p>dimezzare i carichi radiali in uscita <i>halve the output radial loads</i></p>	<p>usare lubrificante per alte temperature <i>use high temperature lubricant</i></p>

Per temperature <0°C riferirsi alle seguenti note:

- verificare che il motore sia idoneo al funzionamento a bassa temperatura;
- assicurarsi che il motore possa fornire maggior coppia di avviamento a causa dell'aumento di viscosità del lubrificante;
- procedere con alcuni minuti di funzionamento a vuoto per garantire l'ottimale lubrificazione;

*For temperature <0°C refer to the following notes:*

- check if the motor is suitable for low temperature;*
- due to the high viscosity of the lubricant, check if the motor can supply high starting torque;*
- let the group run for a few minutes without load to guarantee good lubrication;*

## Installazione e verifiche

In fase di installazione del riduttore è opportuno verificare che:

- i dati riportati in targhetta corrispondano al prodotto che è stato ordinato;
- le superfici di accoppiamento e gli alberi siano accuratamente puliti e privi di ammaccature;
- le superfici su cui verrà installato il riduttore siano perfettamente piane e sufficientemente rigide;
- l'albero macchina e quello del riduttore siano correttamente allineati;
- siano stati installati sistemi di limitazione della coppia se si prevedono urti o blocchi della macchina durante il funzionamento;
- siano state predisposte le necessarie protezioni antinfortunistiche agli organi rotanti;
- siano state create delle opportune coperture a protezione dagli agenti atmosferici se l'installazione è effettuata all'aperto ed è soggetta alle intemperie;
- l'ambiente di lavoro non sia corrosivo (a meno che tale specifica non sia stata dichiarata in fase di ordine al fine di predisporre il riduttore per questo utilizzo);
- gli eventuali pignoni o pulegge montati sull'albero uscita o entrata del riduttore, siano calettati correttamente in modo tale da non generare carichi radiali e/o assiali superiori a quelli ammissibili;
- su tutti gli accoppiamenti sia stato applicato un adeguato protettivo antiossidante per prevenire eventuali ossidazioni da contatto;
- tutte le viti di fissaggio siano state serrate correttamente;
- per tutti i riduttori grandezza CM 130 verificare la corretta quantità di lubrificante in funzione della posizione di montaggio.

## Applicazioni critiche

In tutti questi casi consultare il Servizio Tecnico

- utilizzo come moltiplicatore;
- utilizzo come argano di sollevamento;
- utilizzo in posizioni non previste a catalogo;
- utilizzo in ambiente con pressione diversa da quella atmosferica;
- utilizzo in ambiente con temperature  $<-35^{\circ}\text{C}$  o  $>+50^{\circ}\text{C}$

## Installation and inspection

*While installing the gearbox, always make sure that:*

- *the specifications stamped on the rating plate match those indicated for the unit actually ordered;*
- *the mating surfaces and the shafts are thoroughly clean and free of dents;*
- *the surfaces where the gearbox are to be mounted on are flat and strong enough;*
- *the machine drive shaft and the gearbox shaft are perfectly aligned;*
- *the required torque limiters have been installed if the machine is likely to produce shocks or blockages during operation;*
- *the rotary parts have been provided with the required safety guards;*
- *adequate weatherproof covering has been provided if the machine is to be installed outdoor;*
- *the working environment is not exposed to corrosive agents (unless this has been indicated while placing the order so that the gearbox can be adequately set up);*
- *the pinions or pulleys on the gearbox input/output shafts are properly fitted in order not to produce radial and/or axial loads that exceed the maximum allowable limits;*
- *all the couplings have been treated with adequate rust preventative in order to avoid oxidation provoked by contact;*
- *all the mounting screws have been securely tightened;*
- *check the lubricant quantity depending on the mounting position on all gearboxes CM 130.*

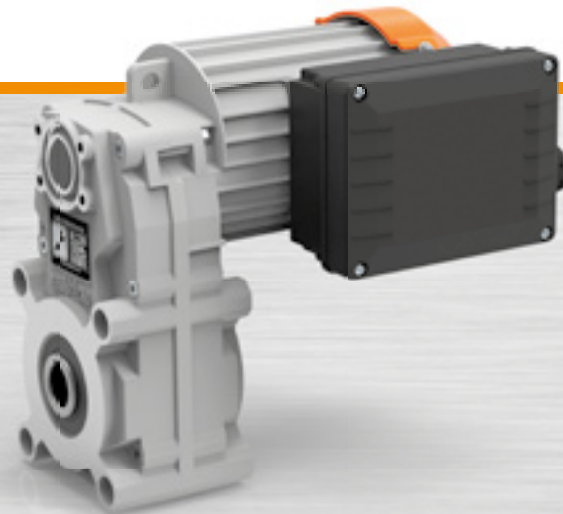
## Critical applications

*In these cases please contact the Technical Service*

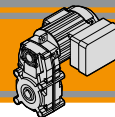
- *used to increase speed ;*
- *used as a hoist;*
- *used in mounting positions not shown in the catalogue;*
- *use in environment pressure other than atmospheric pressure;*
- *use in places with temperature  $<-35^{\circ}\text{C}$  or  $>+50^{\circ}\text{C}$*



## Motoriduttori pendolari Helical parallel gearmotors



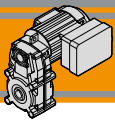




<b>Indice</b>	<b>Index</b>	Pag. Page
Caratteristiche tecniche	<i>Technical features</i>	<b>B2</b>
Designazione	<i>Classification</i>	<b>B2</b>
Simbologia	<i>Symbols</i>	<b>B3</b>
Lubrificazione	<i>Lubrication</i>	<b>B3</b>
Carichi radiali	<i>Radial loads</i>	<b>B3</b>
Dati tecnici	<i>Technical data</i>	<b>B4</b>
Dati tecnici elettrici	<i>Electrical technical data</i>	<b>B5</b>
Dimensioni	<i>Dimensions</i>	<b>B6</b>

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata, l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet [www.transtecno.com](http://www.transtecno.com)**

*This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels, the most up to date content is not guaranteed. In this case the latest version is available on our web site [www.transtecno.com](http://www.transtecno.com)*



# KFT105 Motoriduttori pendolari Helical parallel gearmotors

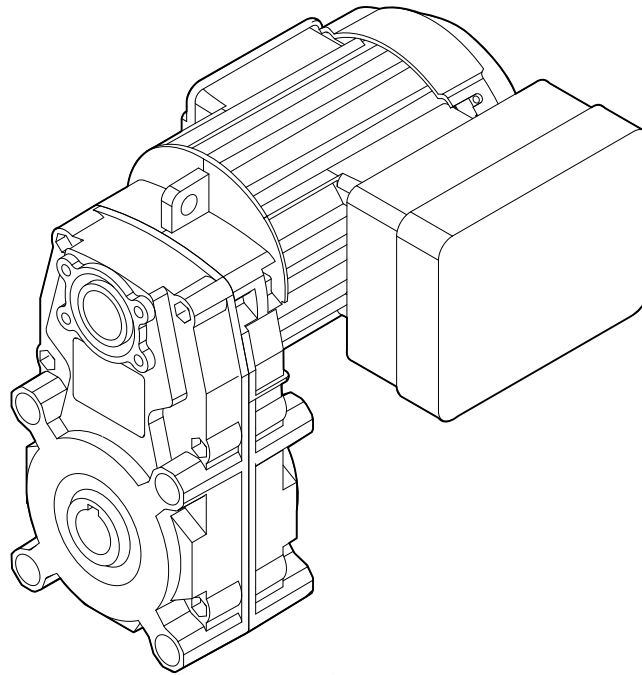
## Caratteristiche tecniche

## Technical features

I motoriduttori pendolari della serie KFT105 hanno le seguenti caratteristiche principali:

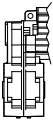
KFT105 helical parallel gearmotors range has the following main features:

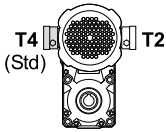
- Costruzione compatta
- Motorizzazioni in corrente alternata monofase e trifase
- Carcassa in pressofusione di alluminio
- Ingranaggi cilindrici a denti elicoidali, induriti e rettificati
- Lubrificazione permanente con olio sintetico
- Disponibili a 3 e 4 stadi di riduzione
- Compact design
- AC single phase and three phase motors available
- Die-cast aluminum housings
- Ground-hardened helical gears
- Permanent synthetic oil long-life lubrication
- Available with 3 and 4 reduction stages



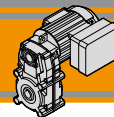
## Designazione

## Classification

RIDUTTORE / GEARBOX				
KFT	105/3	U	88.87	O20
Tipo Type	Grandezza Size	Versione Version	Rapporto Ratio	Albero cavo uscita Hollow output shaft
	105/3 105/4	U... F...	vedi tabelle see tables	vedi tabelle see tables

MOTORE / MOTOR						
40W	4p	3ph	230/400V	50Hz	T1	TEFC
Potenza Power	Poli Poles	Fasi Phases	Tensione Voltage	Frequenza Frequency	Pos. morsetti Terminal box pos.	Ventilazione Fan cooling
vedi tabelle see tables	2p 4p 6p	1ph 3ph	230V ... 230/400V ...	50Hz 60Hz	 T4 (Std) T2	TEFC TENV





**Simbologia**

**Symbols**

$n_1$	[min <sup>-1</sup> ]	Velocità in ingresso / <i>Input speed</i>
$n_2$	[min <sup>-1</sup> ]	Velocità in uscita / <i>Output speed</i>
$i$		Rapporto di riduzione / <i>Ratio</i>
$P_1$	[kW]	Potenza in entrata / <i>Input power</i>
$M_2$	[Nm]	Coppia nominale in uscita in funzione di $P_1$ / <i>Output torque referred to <math>P_1</math></i>
$P_{n1}$	[kW]	Potenza nominale in entrata / <i>Nominal input power</i>
$M_n$	[Nm]	Coppia nominale / <i>Nominal torque</i>
$sf$		Fattore di servizio / <i>Service factor</i>
$R_2$	[N]	Carico radiale ammissibile in uscita / <i>Permitted output radial load</i>
$A_2$	[N]	Carico assiale ammissibile in uscita / <i>Permitted output axial load</i>
$V$	[N]	Tensione / <i>Voltage</i>
$F$	[Hz]	Frequenza / <i>Frequency</i>
$I_n$	[A]	Corrente nominale / <i>Nominal current</i>
$I_s$	[A]	Corrente di spunto / <i>Start current</i>
$\cos\phi$		Fattore di potenza / <i>Power factor</i>
$C$	[μ]	Capacità del condensatore / <i>Capacitor</i>

KFT

**Lubrificazione**

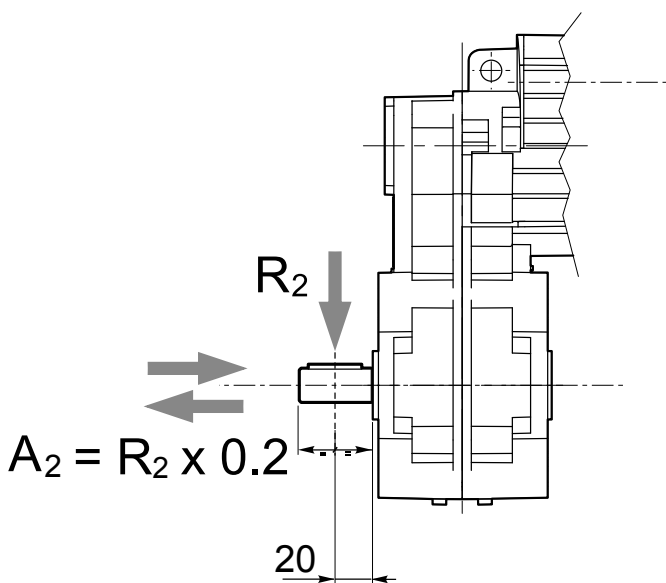
**Lubrication**

Tutti i motoriduttori sono forniti completi di lubrificante sintetico viscosità 320, pertanto possono essere installati in qualunque posizione di montaggio e non necessitano di manutenzione.

*Permanent synthetic oil long-life lubrication ( viscosity grade 320) makes it possible to use the gearmotors in all mounting positions; for this reason they can be installed in any assembly position and do not require maintenance.*

**Carichi radiali**

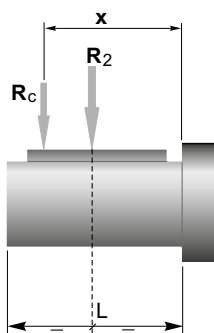
**Radial loads**



$n_2$ [min <sup>-1</sup> ]	$R_2$ [N]
	KFT105
70	1500
40	1700
30	1850
20	2000
10	2000
5	2000

Quando il carico radiale risultante non è applicato sulla mezza-  
ria dell'albero occorre calcolare quello effettivo con la seguente  
formula:

*When the resulting radial load is not applied on the centre line  
of the shaft it is necessary to calculate the effective load with the  
following formula:*



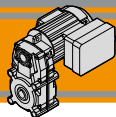
	KFT105
$a$	82
$b$	62
$R_{2MAX}$	2000

$$R_c = \frac{R_2 \cdot a}{(b + x)} \leq R_{2MAX}$$

*a, b = valori riportati nella tabella  
a, b = values given in the table*

$$R \leq R_c$$



























































# KFT105 Motoriduttori pendolari

## Helical parallel gearmotors

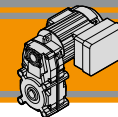
### Dati tecnici

### Technical data

$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	$M_n$ [Nm]	i		$P_1$ [W]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	$M_n$ [Nm]	i																																																																																																																																																																																																																																																																																																																																														
<b>25</b>							<b>90</b>																																																																																																																																																																																																																																																																																																																																																			
68	3	12.1	40	20.57	KFT105/3		68	12	3.4	40	20.57	KFT105/3																																																																																																																																																																																																																																																																																																																																														
42	5	9.4	50	33.32			32	7	9.1	65	44.36			26	9	7.4	65	54.87	19	12	5.6	65	71.84	18	12	5.3	65	77.07	16	14	4.6	65	88.87	11	20	3.2	65	124.81	7.7	29	2.2	65	181.35	6.2	36	1.8	65	224.32	4.4	51	1.3	65	315.05	3.8	58	1.1	65	368.19	KFT105/4		3.8	120	0.54	65	368.19	KFT105/4		2.6	84	0.8	65	534.98	2.1	104	0.63	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40	<b>40</b>							<b>120</b>							68	5	7.6	40	20.57	KFT105/3		68	16	2.5	40	20.57	KFT105/3		42	9	5.9	50	33.32	32	11	5.7	65	44.36	26	14	4.6	65	54.87	19	18	3.5	65	71.84	18	20	3.3	65	77.07	16	23	2.9	65	88.87	11	32	2.0	65	124.81	7.7	47	1.4	65	181.35	6.2	58	1.1	65	224.32	4.4	81	0.8	65	315.05	3.8	92	0.7	65	368.19	KFT105/4		3.8	120	0.54	65	368.19	KFT105/4		2.6	120	0.54	65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40	<b>60</b>														68	8	5.1	40	20.57	KFT105/3								42	13	3.9	50	33.32	32	17	3.8	65	44.36	26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2	86	0.8	65	224.32	4.4	110	0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4								2.6	120	0.54	65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40																																					
32	7	9.1	65	44.36			26	9	7.4	65	54.87			19	12	5.6	65	71.84	18	12	5.3	65	77.07	16	14	4.6	65	88.87	11	20	3.2	65	124.81	7.7	29	2.2	65	181.35	6.2	36	1.8	65	224.32	4.4	51	1.3	65	315.05	3.8	58	1.1	65	368.19	KFT105/4		3.8	120	0.54			65	368.19	KFT105/4		2.6			84	0.8	65	534.98	2.1	104	0.63	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40	<b>40</b>							<b>120</b>							68	5	7.6	40	20.57	KFT105/3				68	16	2.5	40			20.57	KFT105/3		42	9	5.9	50	33.32	32	11	5.7	65	44.36	26	14	4.6	65	54.87	19	18	3.5	65	71.84	18	20	3.3	65	77.07	16	23	2.9	65	88.87	11	32	2.0	65	124.81	7.7	47	1.4	65	181.35	6.2	58	1.1	65	224.32	4.4	81	0.8	65	315.05	3.8	92			0.7	65	368.19	KFT105/4				3.8	120	0.54	65	368.19	KFT105/4		2.6	120	0.54	65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40	<b>60</b>														68	8	5.1	40	20.57	KFT105/3								42	13	3.9	50	33.32	32	17	3.8	65	44.36	26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2	86	0.8	65	224.32	4.4	110	0.59			65	315.05	3.8	120	0.54	65	368.19	KFT105/4								2.6	120	0.54	65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40																												
26	9	7.4	65	54.87			19	12	5.6	65	71.84			18	12	5.3	65	77.07	16	14	4.6	65	88.87	11	20	3.2	65	124.81	7.7	29	2.2	65	181.35	6.2	36	1.8	65	224.32	4.4	51	1.3	65	315.05	3.8	58	1.1	65	368.19	KFT105/4		3.8	120	0.54			65	368.19	KFT105/4				2.6			84			0.8	65	534.98	2.1	104	0.63	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40	<b>40</b>							<b>120</b>							68	5	7.6	40	20.57	KFT105/3						68	16	2.5			40			20.57	KFT105/3		42	9	5.9	50	33.32	32	11	5.7	65	44.36	26	14	4.6	65	54.87	19	18	3.5	65	71.84	18	20	3.3	65	77.07	16	23	2.9	65	88.87	11	32	2.0	65	124.81	7.7	47	1.4	65	181.35	6.2	58	1.1	65	224.32	4.4	81	0.8	65			315.05	3.8	92					0.7	65	368.19	KFT105/4				3.8	120	0.54	65	368.19	KFT105/4		2.6	120	0.54	65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40	<b>60</b>														68	8	5.1	40	20.57	KFT105/3								42	13	3.9	50	33.32	32	17	3.8	65	44.36	26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2			86	0.8	65	224.32	4.4	110	0.59			65	315.05	3.8	120	0.54	65	368.19	KFT105/4								2.6	120	0.54	65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40																			
19	12	5.6	65	71.84			18	12	5.3	65	77.07			16	14	4.6	65	88.87	11	20	3.2	65	124.81	7.7	29	2.2	65	181.35	6.2	36	1.8	65	224.32	4.4	51	1.3	65	315.05	3.8	58	1.1	65	368.19	KFT105/4		3.8	120	0.54			65	368.19	KFT105/4				2.6					84			0.8			65	534.98	2.1	104	0.63	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40	<b>40</b>							<b>120</b>							68	5	7.6	40	20.57	KFT105/3								68	16			2.5			40			20.57	KFT105/3		42	9	5.9	50	33.32	32	11	5.7	65	44.36	26	14	4.6	65	54.87	19	18	3.5	65	71.84	18	20	3.3	65	77.07	16	23	2.9	65	88.87	11	32	2.0	65	124.81	7.7	47	1.4	65	181.35	6.2	58	1.1	65	224.32	4.4			81	0.8	65					315.05	3.8	92					0.7	65	368.19	KFT105/4				3.8	120	0.54	65	368.19	KFT105/4		2.6	120	0.54	65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54			65	929.40	<b>60</b>														68	8	5.1	40	20.57	KFT105/3								42	13	3.9	50	33.32	32	17	3.8	65	44.36	26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48			1.4	65	124.81	7.7	70	0.9	65			181.35	6.2	86	0.8	65	224.32	4.4			110	0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4								2.6	120	0.54	65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40								
18	12	5.3	65	77.07			16	14	4.6	65	88.87			11	20	3.2	65	124.81	7.7	29	2.2	65	181.35	6.2	36	1.8	65	224.32	4.4	51	1.3	65	315.05	3.8	58	1.1	65	368.19	KFT105/4		3.8	120	0.54			65	368.19	KFT105/4				2.6					84					0.8			65			534.98	2.1	104	0.63	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40	<b>40</b>							<b>120</b>							68	5	7.6	40	20.57	KFT105/3										68			16			2.5			40			20.57	KFT105/3		42	9	5.9	50	33.32	32	11	5.7	65	44.36	26	14	4.6	65	54.87	19	18	3.5	65	71.84	18	20	3.3	65	77.07	16	23	2.9	65	88.87	11	32	2.0	65	124.81	7.7	47	1.4	65	181.35	6.2	58	1.1			65	224.32	4.4					81	0.8	65					315.05	3.8	92					0.7	65	368.19	KFT105/4				3.8	120	0.54	65	368.19	KFT105/4		2.6	120	0.54	65	534.98	2.1	120	0.54	65	661.76	1.5			120	0.54	65	929.40	1.5			120	0.54	65	929.40	<b>60</b>														68	8	5.1	40	20.57	KFT105/3								42	13	3.9	50	33.32	32	17	3.8	65	44.36	26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2			65	77.07	16	34	1.9	65	88.87			11	48	1.4	65	124.81	7.7	70			0.9	65	181.35	6.2	86	0.8	65	224.32	4.4			110	0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4								2.6	120	0.54	65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120
16	14	4.6	65	88.87			11	20	3.2	65	124.81			7.7	29	2.2	65	181.35	6.2	36	1.8	65	224.32	4.4	51	1.3	65	315.05	3.8	58	1.1	65	368.19	KFT105/4		3.8	120	0.54			65	368.19	KFT105/4				2.6					84					0.8		65	534.98		2.1			104	0.63	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40	<b>40</b>							<b>120</b>							68	5	7.6	40	20.57	KFT105/3		68	16	2.5											40			20.57			KFT105/3						42			9	5.9	50	33.32	32	11	5.7	65	44.36	26	14	4.6	65	54.87	19	18	3.5	65	71.84	18	20	3.3	65	77.07	16	23	2.9	65	88.87	11	32	2.0	65	124.81	7.7	47	1.4	65	181.35	6.2	58	1.1	65	224.32	4.4	81	0.8	65			315.05	3.8	92	0.7	65					368.19	KFT105/4						3.8	120	0.54					65	368.19	KFT105/4		2.6			120	0.54	65	534.98	2.1	120	0.54	65	661.76	1.5	120			0.54	65	929.40	1.5	120			0.54	65	929.40	<b>60</b>														68	8	5.1	40	20.57	KFT105/3										42	13	3.9	50	33.32	32	17	3.8	65	44.36	26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11			48	1.4	65	124.81	7.7	70	0.9			65	181.35	6.2	86	0.8	65	224.32	4.4	110			0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4										2.6	120	0.54	65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5
11	20	3.2	65	124.81			7.7	29	2.2	65	181.35			6.2	36	1.8	65	224.32	4.4	51	1.3	65	315.05	3.8	58	1.1	65	368.19	KFT105/4		3.8	120	0.54			65	368.19	KFT105/4				2.6					84					0.8		65	534.98		2.1		104	0.63		65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40	<b>40</b>							<b>120</b>							68	5	7.6	40	20.57	KFT105/3		68	16	2.5			40	20.57	KFT105/3														42									9			5.9	50	33.32	32	11	5.7	65	44.36	26	14	4.6	65	54.87	19	18	3.5	65	71.84	18	20	3.3	65	77.07	16	23	2.9	65	88.87	11	32	2.0	65	124.81	7.7	47	1.4	65	181.35	6.2	58	1.1	65	224.32	4.4	81	0.8	65	315.05	3.8	92	0.7	65	368.19	KFT105/4				3.8	120	0.54							65	368.19	KFT105/4						2.6			120			0.54	65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54			65	929.40	1.5	120	0.54			65	929.40	<b>60</b>														68	8	5.1	40	20.57	KFT105/3												42	13	3.9	50	33.32	32	17	3.8	65	44.36	26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65			181.35	6.2	86	0.8	65	224.32	4.4	110	0.59			65	315.05	3.8	120	0.54	65	368.19	KFT105/4												2.6	120	0.54	65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40
7.7	29	2.2	65	181.35			6.2	36	1.8	65	224.32			4.4	51	1.3	65	315.05	3.8	58	1.1	65	368.19	KFT105/4		3.8	120	0.54			65	368.19	KFT105/4				2.6					84					0.8		65	534.98		2.1		104	0.63		65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40	<b>40</b>							<b>120</b>							68	5	7.6	40	20.57	KFT105/3		68	16	2.5			40	20.57	KFT105/3				42															9									5.9			50	33.32	32	11	5.7	65	44.36	26	14	4.6	65	54.87	19	18	3.5	65	71.84	18	20	3.3	65	77.07	16	23	2.9	65	88.87	11	32	2.0	65	124.81	7.7	47	1.4	65	181.35	6.2	58	1.1	65	224.32	4.4	81	0.8	65	315.05	3.8	92	0.7	65	368.19	KFT105/4				3.8	120	0.54	65					368.19	KFT105/4		2.6							120			0.54			65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65			929.40	1.5	120	0.54	65			929.40	<b>60</b>															68	8	5.1	40	20.57							KFT105/3								42	13	3.9	50	33.32	32	17	3.8	65	44.36	26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2	86	0.8	65	224.32	4.4	110	0.59			65	315.05	3.8	120	0.54	65	368.19							KFT105/4								2.6	120	0.54	65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54
6.2	36	1.8	65	224.32			4.4	51	1.3	65	315.05			3.8	58	1.1	65	368.19	KFT105/4		3.8	120	0.54			65	368.19	KFT105/4				2.6					84					0.8		65	534.98		2.1		104	0.63		65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40	<b>40</b>							<b>120</b>							68	5	7.6	40	20.57	KFT105/3		68	16	2.5			40	20.57	KFT105/3				42					9															5.9									50			33.32	32	11	5.7	65	44.36	26	14	4.6	65	54.87	19	18	3.5	65	71.84	18	20	3.3	65	77.07	16	23	2.9	65	88.87	11	32	2.0	65	124.81	7.7	47	1.4	65	181.35	6.2	58	1.1	65	224.32	4.4	81	0.8	65	315.05	3.8	92	0.7	65	368.19	KFT105/4						3.8	120	0.54			65	368.19	KFT105/4							2.6	120		0.54			65			534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40			1.5	120	0.54	65	929.40			<b>60</b>																68	8	5.1	40	20.57									KFT105/3								42	13	3.9	50	33.32	32	17	3.8	65	44.36	26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2	86	0.8	65	224.32	4.4	110	0.59	65	315.05	3.8	120	0.54	65	368.19									KFT105/4								2.6	120	0.54	65	534.98	2.1	120	0.54	65	661.76	1.5
4.4	51	1.3	65	315.05	3.8	58	1.1	65	368.19	KFT105/4		3.8	120	0.54	65	368.19	KFT105/4				2.6	84	0.8			65	534.98					2.1					104		0.63	65		661.76		1.5	120		0.54	65	929.40	1.5	120	0.54	65	929.40	<b>40</b>							<b>120</b>							68	5	7.6	40	20.57	KFT105/3		68	16	2.5	40	20.57	KFT105/3				42	9	5.9			50	33.32					32					11															5.7									65			44.36	26	14	4.6	65	54.87	19	18	3.5	65	71.84	18	20	3.3	65	77.07	16	23	2.9	65	88.87	11	32	2.0	65	124.81	7.7	47	1.4	65	181.35	6.2	58	1.1	65	224.32	4.4	81	0.8	65	315.05	3.8	92	0.7	65	368.19	KFT105/4		3.8	120	0.54							65	368.19	KFT105/4				2.6						120	0.54	65	534.98		2.1			120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40			<b>60</b>														68	8	5.1	40	20.57	KFT105/3																			42	13	3.9	50	33.32	32	17	3.8	65	44.36	26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2	86	0.8	65	224.32	4.4	110	0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4								2.6	120							0.54	65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65
3.8	58	1.1	65	368.19	KFT105/4		3.8	120	0.54			65	368.19	KFT105/4																																																																																																																																																																																																																																																																																																																																												
2.6	84	0.8	65	534.98			2.1	104	0.63			65	661.76			1.5					120	0.54	65			929.40	1.5		120	0.54		65		929.40	<b>40</b>							<b>120</b>							68	5	7.6	40	20.57	KFT105/3		68	16	2.5	40	20.57	KFT105/3		42	9	5.9	50	33.32	32	11	5.7	65	44.36	26			14	4.6	65	54.87	19					18	3.5	65			71.84	18					20					3.3					65	77.07	16	23					2.9	65	88.87	11	32							2.0			65	124.81	7.7	47	1.4	65	181.35	6.2	58	1.1	65	224.32	4.4	81	0.8	65	315.05	3.8	92	0.7	65	368.19	KFT105/4		3.8	120	0.54	65	368.19	KFT105/4		2.6	120	0.54	65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40			1.5	120	0.54			65	929.40			<b>60</b>																		68	8	5.1	40	20.57	KFT105/3								42	13	3.9	50	33.32	32	17	3.8	65	44.36	26	21	3.1	65	54.87	19	28			2.4	65	71.84	18	30					2.2	65	77.07	16	34											1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2	86	0.8	65	224.32	4.4	110	0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4								2.6	120	0.54	65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65			929.40																														
2.1	104	0.63	65	661.76			1.5	120	0.54			65	929.40			1.5					120	0.54	65	929.40	<b>40</b>							<b>120</b>							68	5	7.6	40	20.57	KFT105/3		68	16	2.5	40	20.57	KFT105/3		42			9	5.9	50	33.32	32			11	5.7	65	44.36	26	14	4.6	65	54.87	19	18			3.5	65	71.84	18	20					3.3	65	77.07			16	23					2.9					65				88.87	11	32	2.0	65	124.81				7.7	47	1.4	65	181.35		6.2	58				1.1			65	224.32	4.4	81	0.8	65	315.05	3.8	92	0.7	65	368.19	KFT105/4		3.8	120	0.54	65	368.19	KFT105/4		2.6			120	0.54	65	534.98	2.1			120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40	<b>60</b>															68	8		5.1		40	20.57		KFT105/3								42	13	3.9	50			33.32	32	17	3.8	65	44.36	26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4	65					124.81	7.7	70	0.9	65											181.35	6.2	86	0.8	65	224.32	4.4	110	0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4								2.6	120	0.54	65			534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40																																										
1.5	120	0.54	65	929.40			1.5	120	0.54			65	929.40			<b>40</b>							<b>120</b>							68	5	7.6	40	20.57	KFT105/3		68	16	2.5	40	20.57	KFT105/3				42	9	5.9	50	33.32			32			11	5.7	65	44.36	26			14	4.6	65	54.87	19	18	3.5	65	71.84	18	20			3.3	65	77.07	16	23					2.9	65	88.87			11	32					2.0					65			124.81	7.7	47	1.4	65	181.35	6.2	58			1.1	65	224.32	4.4	81		0.8	65		315.05	3.8	92			0.7	65	368.19	KFT105/4		3.8	120	0.54	65	368.19	KFT105/4				2.6	120	0.54	65	534.98			2.1			120	0.54	65	661.76	1.5			120	0.54	65	929.40	1.5	120	0.54	65	929.40	<b>60</b>															68	8	5.1	40		20.57	KFT105/3									42	13	3.9	50	33.32	32	17	3.8	65	44.36			26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35			6.2	86	0.8	65	224.32	4.4	110											0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4										2.6	120	0.54	65	534.98	2.1	120	0.54	65	661.76			1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40																																																
1.5	120	0.54	65	929.40																																																																																																																																																																																																																																																																																																																																																						
<b>40</b>							<b>120</b>																																																																																																																																																																																																																																																																																																																																																			
68	5	7.6	40	20.57	KFT105/3		68	16	2.5	40	20.57	KFT105/3																																																																																																																																																																																																																																																																																																																																														
42	9	5.9	50	33.32			32	11	5.7	65	44.36			26	14	4.6	65	54.87	19	18	3.5	65	71.84	18	20	3.3	65	77.07	16	23	2.9	65	88.87	11			32	2.0	65	124.81	7.7					47	1.4	65	181.35	6.2			58			1.1	65	224.32	4.4	81			0.8	65	315.05	3.8	92	0.7	65	368.19	KFT105/4		3.8			120	0.54	65	368.19	KFT105/4						2.6	120	0.54	65	534.98	2.1		120	0.54		65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40	<b>60</b>														68	8	5.1	40	20.57	KFT105/3								42	13	3.9			50	33.32	32	17	3.8	65	44.36	26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2	86	0.8	65	224.32	4.4	110	0.59	65	315.05	3.8	120		0.54		65	368.19	KFT105/4										2.6	120	0.54	65			534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40																																																																																																																									
32	11	5.7	65	44.36			26	14	4.6	65	54.87			19	18	3.5	65	71.84	18	20	3.3	65	77.07	16	23	2.9	65	88.87	11	32	2.0	65	124.81	7.7			47	1.4	65	181.35	6.2					58	1.1	65	224.32	4.4			81			0.8	65	315.05	3.8	92			0.7	65	368.19	KFT105/4		3.8	120	0.54			65			368.19	KFT105/4		2.6				120	0.54		65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40	<b>60</b>														68	8	5.1	40	20.57	KFT105/3								42	13	3.9	50	33.32	32	17	3.8	65	44.36	26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2	86	0.8	65	224.32	4.4	110	0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4								2.6					120	0.54	65	534.98	2.1	120	0.54	65	661.76	1.5			120	0.54	65	929.40	1.5	120	0.54	65	929.40																																																																																																																																
26	14	4.6	65	54.87			19	18	3.5	65	71.84			18	20	3.3	65	77.07	16	23	2.9	65	88.87	11	32	2.0	65	124.81	7.7	47	1.4	65	181.35	6.2			58	1.1	65	224.32	4.4					81	0.8	65	315.05	3.8			92			0.7	65	368.19	KFT105/4				3.8	120	0.54			65	368.19	KFT105/4				2.6	120	0.54			65		534.98	2.1	120	0.54		65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40	<b>60</b>														68	8	5.1	40	20.57	KFT105/3								42	13			3.9	50	33.32	32	17	3.8	65	44.36	26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2	86	0.8	65	224.32	4.4	110	0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4								2.6		120	0.54					65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54			65	929.40	1.5	120	0.54	65	929.40																																																																																																																																		
19	18	3.5	65	71.84			18	20	3.3	65	77.07			16	23	2.9	65	88.87	11	32	2.0	65	124.81	7.7	47	1.4	65	181.35	6.2	58	1.1	65	224.32	4.4			81	0.8	65	315.05	3.8					92	0.7	65	368.19	KFT105/4						3.8	120	0.54					65	368.19	KFT105/4				2.6					120	0.54	65			534.98		2.1	120	0.54	65		661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40	<b>60</b>														68	8	5.1	40	20.57	KFT105/3										42			13	3.9	50	33.32	32	17	3.8	65	44.36	26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2	86	0.8	65	224.32	4.4	110	0.59	65	315.05	3.8	120	0.54	65			368.19			KFT105/4											2.6	120	0.54	65	534.98	2.1	120	0.54	65	661.76			1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40																																																																																																																															
18	20	3.3	65	77.07			16	23	2.9	65	88.87			11	32	2.0	65	124.81	7.7	47	1.4	65	181.35	6.2	58	1.1	65	224.32	4.4	81	0.8	65	315.05	3.8			92	0.7	65	368.19	KFT105/4						3.8	120	0.54					65	368.19	KFT105/4		2.6			120	0.54	65	534.98					2.1					120	0.54	65			661.76		1.5	120	0.54	65		929.40	1.5	120	0.54	65	929.40	<b>60</b>														68	8	5.1	40	20.57	KFT105/3									42	13			3.9	50	33.32			32	17	3.8	65	44.36	26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2	86	0.8	65	224.32	4.4	110	0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4											2.6		120	0.54					65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40																																																																																																																																				
16	23	2.9	65	88.87			11	32	2.0	65	124.81			7.7	47	1.4	65	181.35	6.2	58	1.1	65	224.32	4.4	81	0.8	65	315.05	3.8	92	0.7	65	368.19	KFT105/4				3.8	120	0.54				65	368.19		KFT105/4		2.6		120	0.54		65	534.98			2.1			120	0.54	65	661.76					1.5		120	0.54		65	929.40	1.5			120	0.54	65	929.40	<b>60</b>														68	8	5.1	40	20.57	KFT105/3								42			13	3.9	50					33.32	32			17	3.8	65			44.36	26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2	86	0.8	65	224.32	4.4	110	0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4									2.6						120		0.54	65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40																																																																																																																																									
11	32	2.0	65	124.81			7.7	47	1.4	65	181.35			6.2	58	1.1	65	224.32	4.4	81	0.8	65	315.05	3.8	92	0.7	65	368.19	KFT105/4		3.8	120	0.54		65	368.19		KFT105/4		2.6		120	0.54	65	534.98				2.1		120	0.54		65	661.76			1.5			120	0.54	65	929.40		1.5	120		0.54		65	929.40		<b>60</b>														68	8	5.1	40	20.57	KFT105/3								42			13	3.9	50	33.32	32	17	3.8			65	44.36	26					21	3.1			65	54.87	19			28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2	86	0.8	65	224.32	4.4	110	0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4									2.6	120			0.54			65	534.98	2.1			120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40																																																																																																																																																
7.7	47	1.4	65	181.35			6.2	58	1.1	65	224.32			4.4	81	0.8	65	315.05	3.8	92	0.7	65	368.19	KFT105/4		3.8	120	0.54			65	368.19	KFT105/4			2.6				120		0.54	65	534.98	2.1				120		0.54	65		661.76	1.5			120	0.54	65	929.40	1.5	120	0.54		65	929.40		<b>60</b>														68	8	5.1	40	20.57	KFT105/3								42	13	3.9	50	33.32	32			17	3.8	65	44.36	26	21	3.1			65	54.87	19					28	2.4			65	71.84	18			30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2	86	0.8	65	224.32	4.4	110	0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4								2.6	120	0.54	65			534.98	2.1			120	0.54	65	661.76	1.5	120			0.54	65	929.40	1.5	120	0.54	65	929.40																																																																																																																																																						
6.2	58	1.1	65	224.32			4.4	81	0.8	65	315.05			3.8	92	0.7	65	368.19	KFT105/4		3.8	120	0.54			65	368.19	KFT105/4				2.6				120				0.54		65	534.98	2.1	120				0.54	65	661.76	1.5	120	0.54	65			929.40	1.5	120	0.54	65	929.40	<b>60</b>														68	8	5.1	40	20.57	KFT105/3								42	13			3.9	50	33.32	32	17	3.8	65			44.36	26	21	3.1	65	54.87	19			28	2.4	65					71.84	18			30	2.2	65			77.07	16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2	86	0.8	65	224.32	4.4	110	0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4										2.6	120	0.54	65	534.98			2.1	120			0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40																																																																																																																																																									
4.4	81	0.8	65	315.05	3.8	92	0.7	65	368.19	KFT105/4		3.8	120	0.54	65	368.19	KFT105/4				2.6	120	0.54			65	534.98					2.1				120				0.54	65	661.76	1.5	120	0.54	65			929.40	1.5	120	0.54	65	929.40	<b>60</b>														68	8	5.1	40	20.57	KFT105/3								42			13	3.9	50			33.32	32	17			3.8	65	44.36	26	21	3.1	65			54.87	19	28	2.4	65	71.84	18			30	2.2	65					77.07	16			34	1.9	65			88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2	86	0.8	65	224.32	4.4	110	0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4										2.6	120	0.54			65	534.98	2.1	120	0.54			65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40																																																																																																																																																														
3.8	92	0.7	65	368.19	KFT105/4		3.8	120	0.54			65	368.19	KFT105/4																																																																																																																																																																																																																																																																																																																																												
2.6	120	0.54	65	534.98			2.1	120	0.54			65	661.76			1.5					120	0.54	65			929.40	1.5		120	0.54		65		929.40		<b>60</b>														68	8	5.1	40	20.57	KFT105/3								42	13	3.9	50	33.32	32	17	3.8	65	44.36	26			21	3.1	65	54.87	19	28	2.4			65	71.84	18			30	2.2	65			77.07	16	34	1.9	65	88.87	11			48	1.4	65	124.81	7.7	70	0.9			65	181.35	6.2					86	0.8	65	224.32	4.4	110	0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4								2.6	120	0.54	65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54			65	929.40	1.5			120			0.54	65	929.40																																																																																																																																																																																			
2.1	120	0.54	65	661.76			1.5	120	0.54			65	929.40			1.5					120	0.54	65	929.40	<b>60</b>														68	8	5.1	40	20.57	KFT105/3								42	13	3.9			50	33.32	32	17	3.8	65	44.36	26	21	3.1	65	54.87	19	28	2.4	65	71.84			18	30	2.2	65	77.07	16	34			1.9	65	88.87			11	48	1.4			65	124.81	7.7	70	0.9	65	181.35			6.2	86	0.8	65	224.32	4.4	110			0.59	65	315.05		3.8	120		0.54	65	368.19	KFT105/4								2.6	120	0.54			65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40																																																																																																																																																																																																		
1.5	120	0.54	65	929.40			1.5	120	0.54			65	929.40			<b>60</b>														68	8	5.1	40	20.57	KFT105/3								42			13	3.9	50	33.32	32	17	3.8	65	44.36			26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34			1.9	65	88.87	11	48	1.4	65			124.81	7.7	70			0.9	65	181.35			6.2	86	0.8	65	224.32	4.4	110			0.59	65	315.05	3.8	120	0.54	65			368.19	KFT105/4								2.6			120	0.54	65	534.98	2.1	120	0.54	65	661.76			1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40																																																																																																																																																																																																									
1.5	120	0.54	65	929.40																																																																																																																																																																																																																																																																																																																																																						
<b>60</b>																																																																																																																																																																																																																																																																																																																																																										
68	8	5.1	40	20.57	KFT105/3																																																																																																																																																																																																																																																																																																																																																					
42	13	3.9	50	33.32			32	17	3.8	65	44.36	26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4			65	124.81	7.7	70	0.9	65	181.35			6.2	86	0.8	65	224.32	4.4	110	0.59	65			315.05	3.8	120	0.54	65	368.19	KFT105/4								2.6	120	0.54			65	534.98	2.1	120	0.54	65	661.76			1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40																																																																																																																																																																																																																																																												
32	17	3.8	65	44.36			26	21	3.1	65	54.87	19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9			65	181.35	6.2	86	0.8	65	224.32			4.4	110	0.59	65	315.05	3.8	120	0.54	65			368.19	KFT105/4								2.6	120	0.54	65	534.98	2.1	120	0.54			65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40																																																																																																																																																																																																																																																																			
26	21	3.1	65	54.87			19	28	2.4	65	71.84	18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2	86	0.8			65	224.32	4.4	110	0.59	65	315.05			3.8	120	0.54	65	368.19	KFT105/4									2.6	120	0.54			65	534.98	2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40																																																																																																																																																																																																																																																																									
19	28	2.4	65	71.84			18	30	2.2	65	77.07	16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2	86	0.8	65	224.32	4.4	110	0.59			65	315.05	3.8	120	0.54	65	368.19			KFT105/4								2.6			120			0.54	65	534.98			2.1	120	0.54	65	661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40																																																																																																																																																																																																																																																																											
18	30	2.2	65	77.07			16	34	1.9	65	88.87	11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2	86	0.8	65	224.32	4.4	110	0.59	65	315.05	3.8	120	0.54			65	368.19	KFT105/4									2.6	120	0.54			65	534.98	2.1	120	0.54			65	661.76	1.5			120	0.54	65	929.40	1.5	120	0.54	65	929.40																																																																																																																																																																																																																																																																																	
16	34	1.9	65	88.87			11	48	1.4	65	124.81	7.7	70	0.9	65	181.35	6.2	86	0.8	65	224.32	4.4	110	0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4									2.6	120	0.54	65	534.98			2.1	120	0.54			65	661.76	1.5	120	0.54			65	929.40	1.5	120	0.54	65	929.40																																																																																																																																																																																																																																																																																								
11	48	1.4	65	124.81			7.7	70	0.9	65	181.35	6.2	86	0.8	65	224.32	4.4	110	0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4								2.6	120	0.54	65			534.98	2.1	120	0.54	65			661.76	1.5	120			0.54	65	929.40	1.5	120	0.54	65	929.40																																																																																																																																																																																																																																																																																														
7.7	70	0.9	65	181.35			6.2	86	0.8	65	224.32	4.4	110	0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4								2.6	120			0.54	65	534.98	2.1	120			0.54	65	661.76	1.5	120			0.54	65	929.40	1.5	120	0.54	65	929.40																																																																																																																																																																																																																																																																																																			
6.2	86	0.8	65	224.32			4.4	110	0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4								2.6	120			0.54	65	534.98			2.1	120	0.54	65	661.76			1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40																																																																																																																																																																																																																																																																																																								
4.4	110	0.59	65	315.05	3.8	120	0.54	65	368.19	KFT105/4									2.6	120	0.54			65	534.98	2.1			120	0.54	65			661.76	1.5	120	0.54	65	929.40	1.5	120	0.54	65	929.40																																																																																																																																																																																																																																																																																																														
3.8	120	0.54	65	368.19	KFT105/4																																																																																																																																																																																																																																																																																																																																																					
2.6	120	0.54	65	534.98			2.1	120	0.54			65	661.76	1.5	120	0.54			65	929.40	1.5			120	0.54	65	929.40																																																																																																																																																																																																																																																																																																																															
2.1	120	0.54	65	661.76			1.5	120	0.54			65	929.40	1.5	120	0.54			65	929.40																																																																																																																																																																																																																																																																																																																																						
1.5	120	0.54	65	929.40			1.5	120	0.54			65	929.40																																																																																																																																																																																																																																																																																																																																													
1.5	120	0.54	65	929.40																																																																																																																																																																																																																																																																																																																																																						

N.B.  
Verificare sempre che la coppia  $M_2$  utilizzata non ecceda il valore indicato nelle caselle in grigio

N.B.  
Please check that the output torque  $M_2$  does not exceed the value in the grey areas



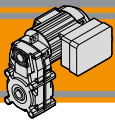
Dati tecnici elettrici

Electrical technical data

1 Ph	$P_n$ [W]	$V$ [V]	$F$ [Hz]	$I_n$ [A]	$I_s$ [A]	$\cos\phi$	$C$ [ $\mu$ F]
	25	230	50	0.42	0.84	0.87	6.0
	40			0.47	0.86	0.91	6.3
	60			0.74	1.50	0.82	8.0
	90			0.82	1.60	0.93	12.5
	120			1.38	3.10	0.81	14.0

3 Ph	$P_n$ [W]	$V$ [V]	$F$ [Hz]	$I_n$ [A]	$I_s$ [A]	$\cos\phi$
	25	230	50	0.41	0.97	0.54
		400		0.24	0.56	0.54
	40	230	50	0.43	0.97	0.62
		400		0.25	0.56	0.62
	60	230	50	0.72	1.80	0.48
		400		0.42	1.04	0.48
	90	230	50	0.74	1.80	0.60
		400		0.44	1.04	0.60
	120	230	50	1.34	3.70	0.50
		400		0.87	2.13	0.50

KFT

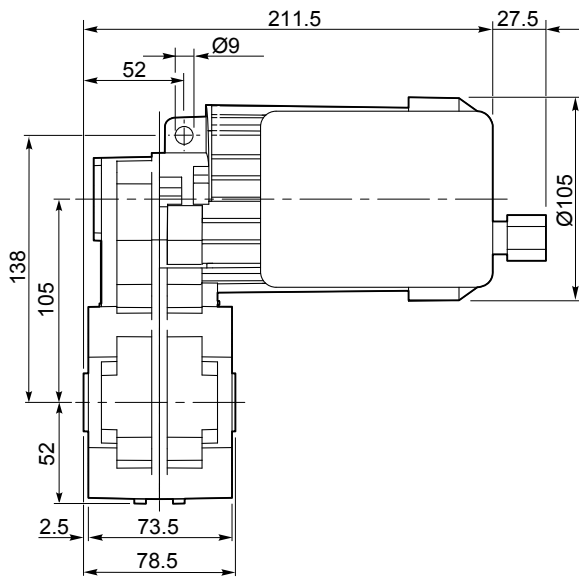


Dimensioni

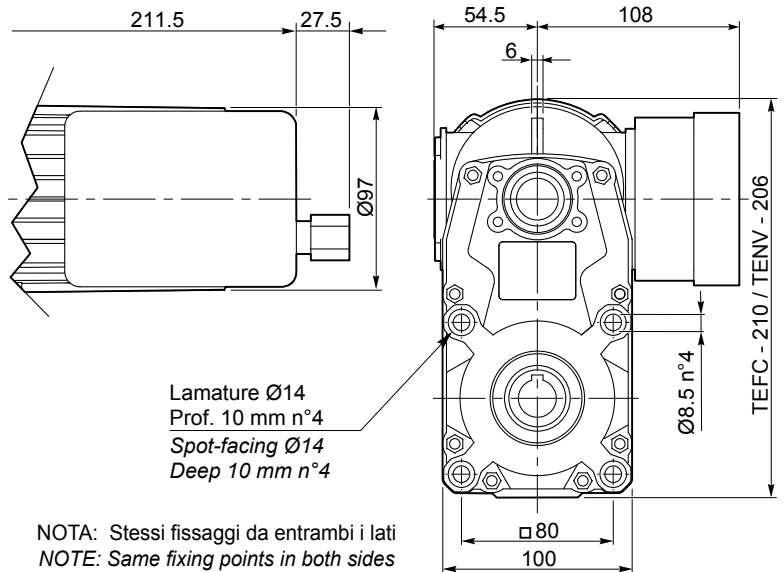
Dimensions

### KFT 105... 25W - 40W - 60W - 90W

#### KFT 105...1 Ph...TEFC

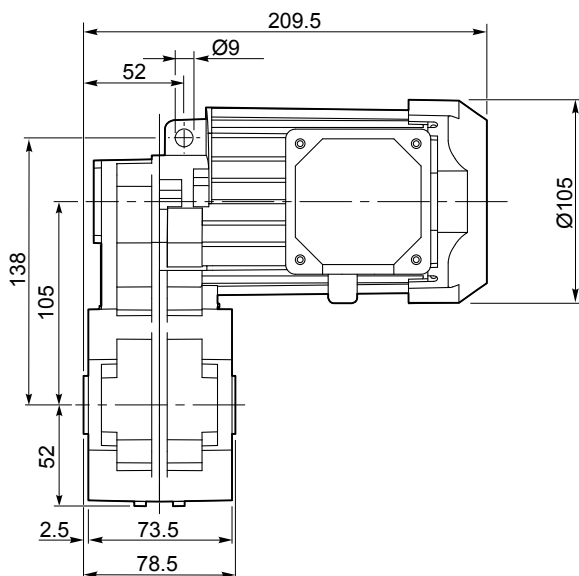


#### KFT 105...1 Ph...TENV

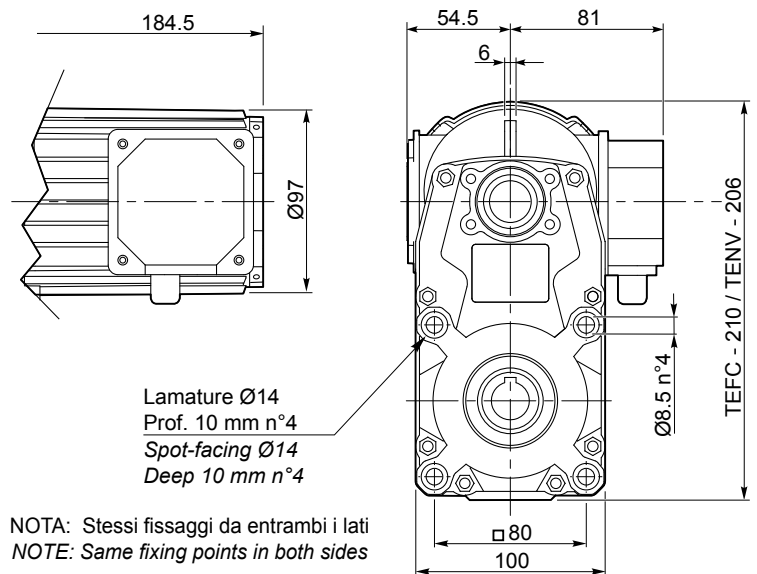


NOTA: Stessi fissaggi da entrambi i lati  
NOTE: Same fixing points in both sides

#### KFT 105...3 Ph... TEFC

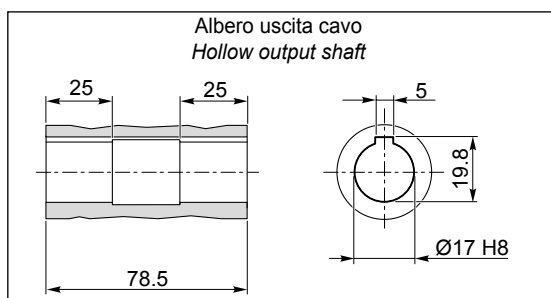


#### KFT 105...3 Ph... TENV

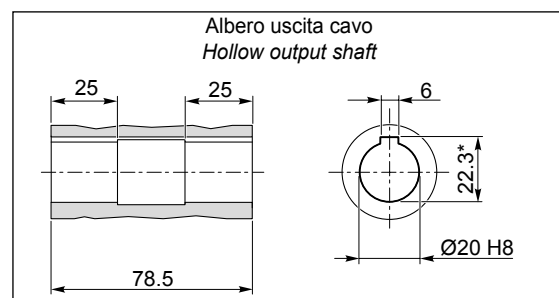


NOTA: Stessi fissaggi da entrambi i lati  
NOTE: Same fixing points in both sides

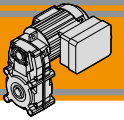
#### O17



#### O20



\*Sede linguetta ribassata / Special Keyway



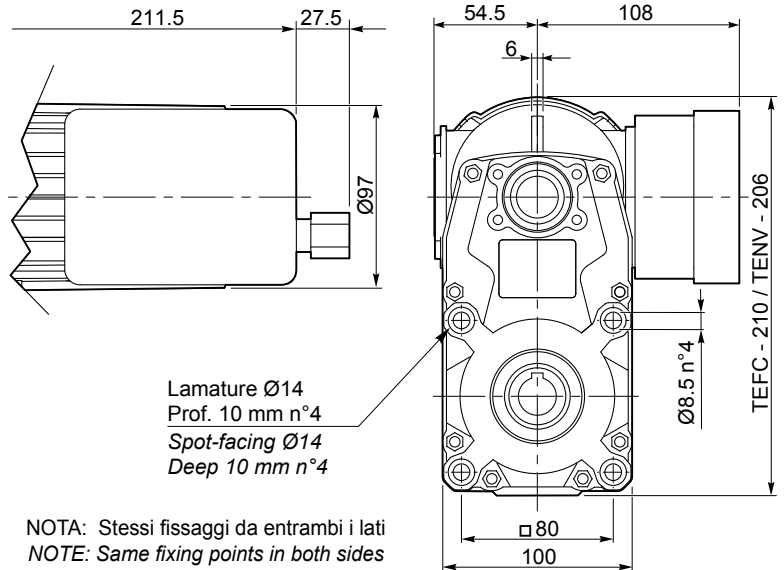
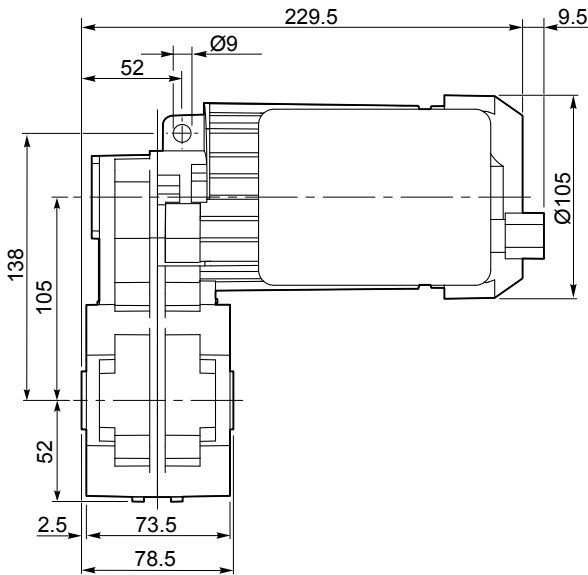
Dimensioni

Dimensions

**KFT 105... 120W**

**KFT 105...1 Ph... TEFC**

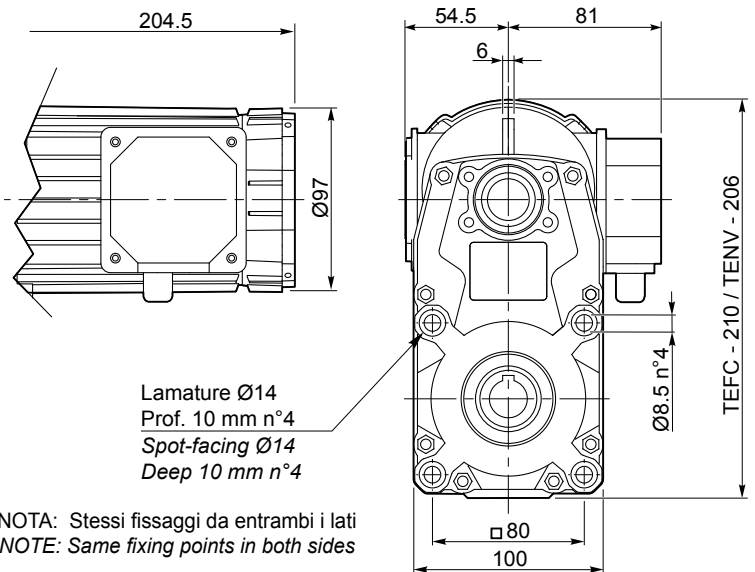
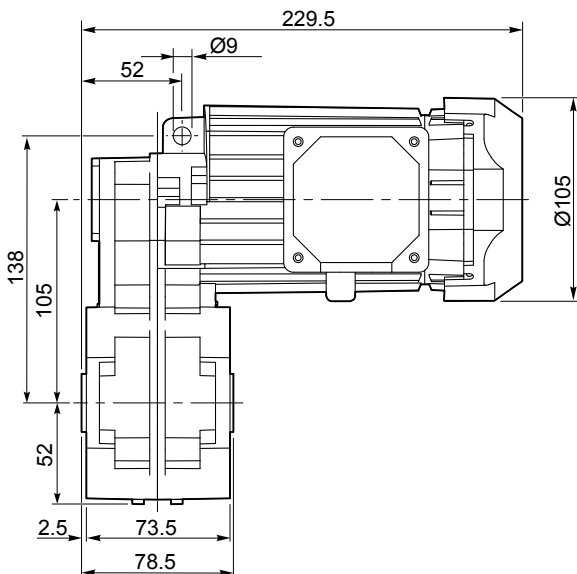
**KFT 105...1 Ph...TENV**



NOTA: Stessi fissaggi da entrambi i lati  
NOTE: Same fixing points in both sides

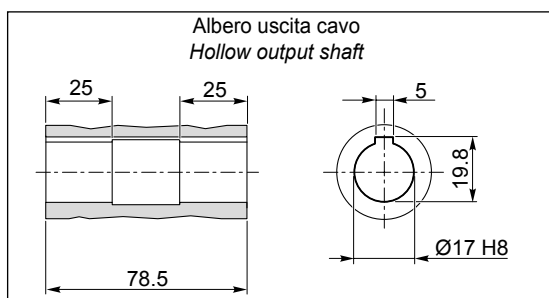
**KFT 105...3 Ph... TEFC**

**KFT 105...3 Ph... TENV**

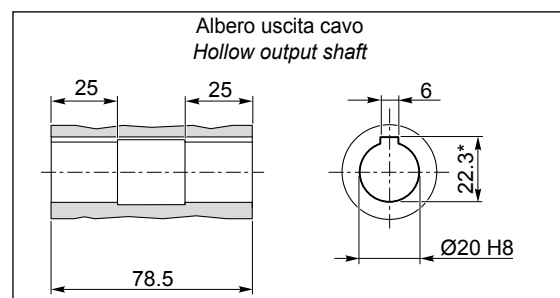


NOTA: Stessi fissaggi da entrambi i lati  
NOTE: Same fixing points in both sides

**O17**



**O20**

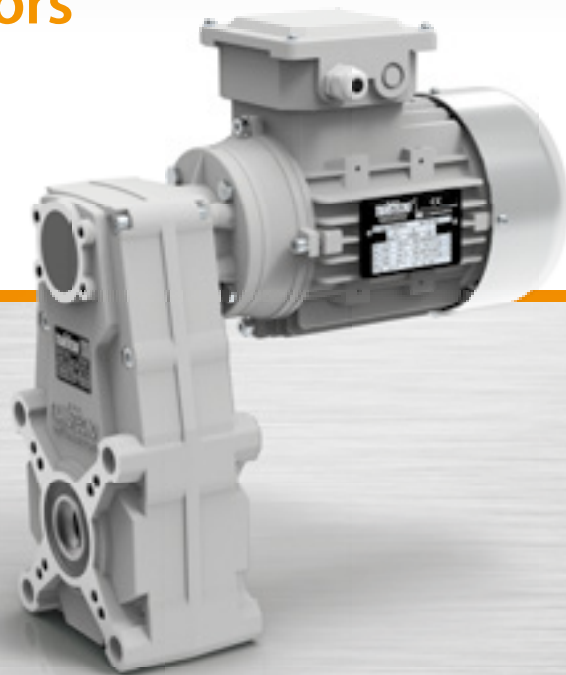


\*Sede linguetta ribassata/ Special Keyway



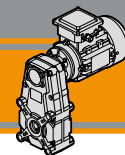


Motoriduttori pendolari  
**Helical parallel gearmotors**





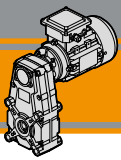




<b>Indice</b>	<b>Index</b>	Pag. Page
Caratteristiche tecniche	<i>Technical features</i>	<b>C2</b>
Designazione	<i>Classification</i>	<b>C2</b>
Sensi di rotazione	<i>Direction of rotation</i>	<b>C3</b>
Simbologia	<i>Symbols</i>	<b>C3</b>
Lubrificazione	<i>Lubrication</i>	<b>C3</b>
Carichi radiali	<i>Radial loads</i>	<b>C4</b>
Dati tecnici	<i>Technical data</i>	<b>C5</b>
Dimensioni	<i>Dimensions</i>	<b>C8</b>

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata, l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet [www.transtecno.com](http://www.transtecno.com)**

*This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels, the most up to date content is not guaranteed. In this case the latest version is available on our web site [www.transtecno.com](http://www.transtecno.com)*



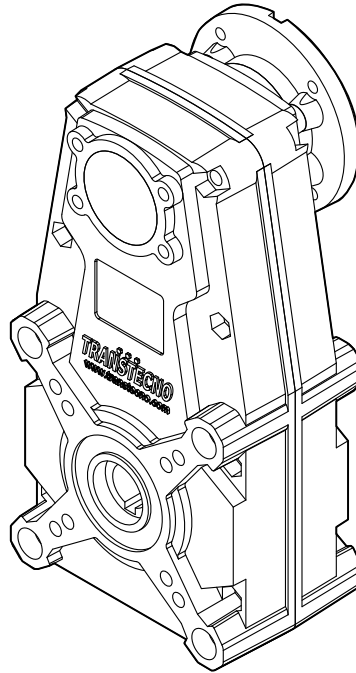
## Caratteristiche tecniche

## Technical features

I motoriduttori pendolari della serie FT hanno le seguenti caratteristiche principali:

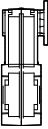

FT helical parallel gearmotors range has the following main features:

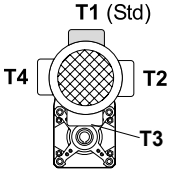
- Carcassa in pressofusione di alluminio
- Lubrificazione permanente con olio sintetico.
- Ingranaggi cilindrici a denti elicoidali, induriti e rettificati.
- Die-cast aluminum housings
- Permanent synthetic oil long-life lubrication.
- Ground- hardened helical gears.

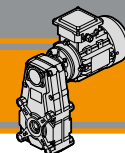


## Designazione

## Classification

RIDUTTORE / GEARBOX						
FT	146	U	60.63	O20	56	B5
Tipo Type	Grandezza Size	Versione Version	Rapporto Ratio	Albero cavo uscita Hollow output shaft	IEC	Forma costruttiva Version
	105/3 105/4 146 196	U...	vedi tabelle see tables	vedi tabelle see tables	 56 63 71 80 90	B5 B14

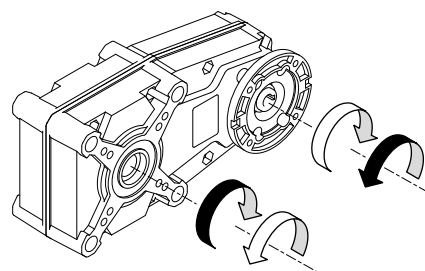
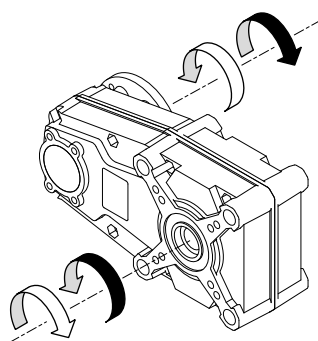
MOTORE / MOTOR					
0.09kW	4p	3ph	230/400V	50Hz	T1
Potenza Power	Poli Poles	Fasi Phases	Tensione Voltage	Frequenza Frequency	Pos. morsetteria Terminal box pos.
vedi tabelle see tables	2p 4p 6p 8p	1ph 3ph	230V 230/400V	50Hz 60Hz	



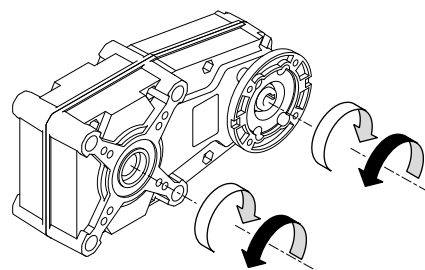
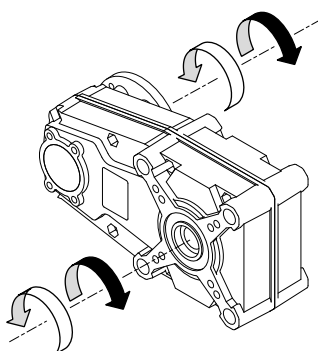
Sensi di rotazione

Direction of rotation

FT105/3  
FT146  
FT196



FT105/4



Simbologia

Symbols

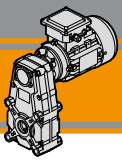
$n_1$	[min <sup>-1</sup> ]	Velocità in ingresso / <i>Input speed</i>
$n_2$	[min <sup>-1</sup> ]	Velocità in uscita / <i>Output speed</i>
$i$		Rapporto di riduzione / <i>Ratio</i>
$P_1$	[kW]	Potenza in entrata / <i>Input power</i>
$M_2$	[Nm]	Coppia nominale in uscita in funzione di $P_1$ / <i>Output torque referred to <math>P_1</math></i>
$P_{n1}$	[kW]	Potenza nominale in entrata / <i>Nominal input power</i>
$M_{n2}$	[Nm]	Coppia nominale in uscita in funzione di $P_{n1}$ / <i>Nominal output torque referred to <math>P_{n1}</math></i>
$sf$		Fattore di servizio / <i>Service factor</i>
$R_2$	[N]	Carico radiale ammissibile in uscita / <i>Permitted output radial load</i>
$A_2$	[N]	Carico assiale ammissibile in uscita / <i>Permitted output axial load</i>

Lubrificazione

Lubrication

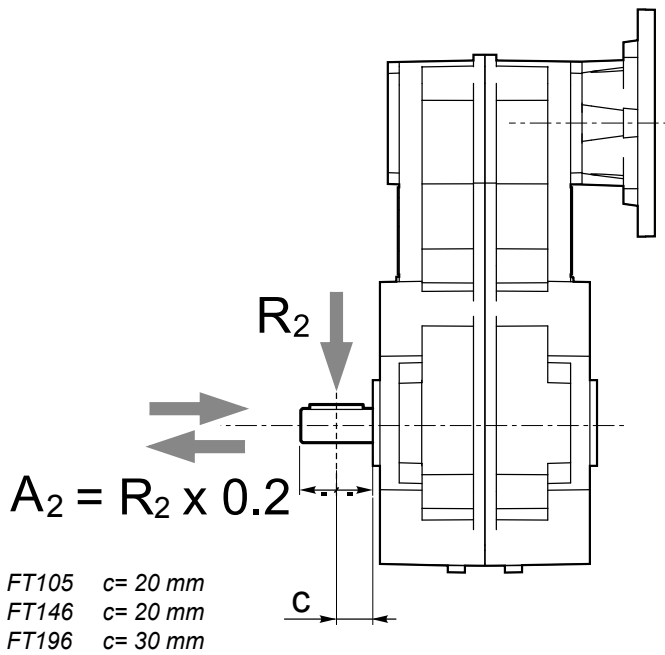
Tutti i motoriduttori sono forniti completi di lubrificante sintetico viscosità 320, pertanto possono essere installati in qualunque posizione di montaggio e non necessitano di manutenzione.

*Permanent synthetic oil long-life lubrication ( viscosity grade 320) makes it possible to use the gearmotors in all mounting positions; for this reason they can be installed in any assembly position and do not require maintenance.*



**Carichi radiali**

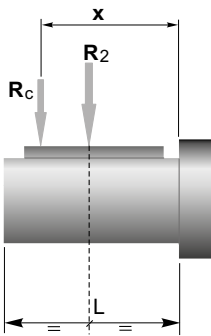
**Radial loads**



$n_2$ [min <sup>-1</sup> ]	$R_2$ [N]		
	FT105	FT146	FT196
70	1500	2500	3500
40	1700	2700	4000
30	1850	2850	4600
20	2000	3000	5500
10	2000	3000	7000
5	2000	3000	7000

Quando il carico radiale risultante non è applicato sulla mezzeria dell'albero occorre calcolare quello effettivo con la seguente formula:

When the resulting radial load is not applied on the centre line of the shaft it is necessary to calculate the effective load with the following formula:

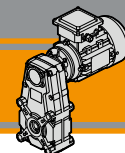


	FT105	FT146	FT196
<b>a</b>	82	82,5	132
<b>b</b>	62	62,5	102
<b>R<sub>2MAX</sub></b>	2000	3000	7000

$$R_c = \frac{R_2 \cdot a}{(b+x)} \leq R_{2MAX}$$

$$R \leq R_c$$


a, b = valori riportati nella tabella  
a, b = values given in the table



## Dati tecnici


$n_1$  1400 min<sup>-1</sup>

## Technical data

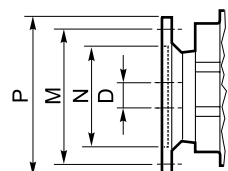
	$n_2$ [min <sup>-1</sup> ]	$Mn_2$ [Nm]	$Pn_1$ [kW]	$i$	IEC Motori applicabili IEC Motor adapters		
<b>FT105</b>					<b>56B14</b>		
<b>FT105/3</b>	68	40	0.30	20.57			
	42	50	0.23	33.32			
	32	65	0.23	44.36			
	26	65	0.18	54.87			
	20	65	0.14	71.84			
	18	65	0.13	77.07			
	16	65	0.11	88.87			
	11	65	0.081	124.81			
	7.7	65	0.056	181.35			
	6.2	65	0.045	224.32			
4.4	65	0.032	315.05				
<b>FT105/4</b>	3.8	65	0.028	368.19			
	2.6	65	0.019	534.98			
	2.1	65	0.015	661.76			
	1.5	65	0.011	929.40			
<b>FT146</b>					<b>56 B5/B14</b>	<b>63 B5/B14</b>	<b>71 B5/B14</b>
<b>FT146</b>	75	80	0.65	18.75			
	53		0.47	26.17			
	50		0.43	28.26			
	40	100	0.44	35.07			
	35		0.39	39.44			
	30		0.33	46.44			
	26		0.29	52.86			
	23	110	0.28	60.63			
	20		0.24	70.00			
	17		0.20	84.63			
	15		0.18	95.61			
	12		0.15	113.40			*
10	0.13		133.45			*	
9.3	0.11	150.18			*		
8.7	120	0.11	160.43			*	
7.8		0.10	178.83			*	
6.3		0.082	223.92			*	
5.9		0.077	236.83			*	
4.7		0.061	300.07		*	*	
3.5		0.046	397.38		*	*	
<b>FT196</b>					<b>71 B5/B14</b>	<b>80 B5/B14</b>	<b>90 B5/B14</b>
<b>FT196</b>	69	350	2.6	20.41			
	40	400	1.8	34.81			
	33	450	1.6	42.61			
	24	500	1.3	59.36			
	19	550	1.1	72.68			
	15		0.92	92.82			
	11		0.69	123.95			*
	8.9		0.51	158.02			
	6.9		0.42	201.80			
	5.2		0.32	269.47			

N.B.

Le aree evidenziate indicano l'applicabilità della corrispondente grandezza motore.


 \* = Il fattore di servizio (sf) deve essere scelto in funzione dell'applicazione: si prega di contattare il nostro Servizio Tecnico.

Prima di eseguire la scelta del motoriduttore riferirsi alle prestazioni elencate nelle tabelle pag. C6.



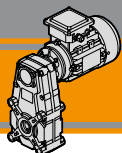
N.B.

Highlighted areas indicate motor inputs available on each size of unit.

 \* = The service factor (sf) has to be selected depending on application: please contact our Technical Department.

Before selecting any gearbox, please read the performance values shown in the tables on page C6.





Dimensioni IEC / IEC Dimensions										
	56 B5	56 B14	63 B5	63 B14	71 B5	71 B14	80 B5	80 B14	90 B5	90 B14
<b>N</b>	80	50	95	60	110	70	130	80	130	95
<b>M</b>	100	65	115	75	130	85	165	100	165	115
<b>P</b>	120	80	140	90	160	105	200	120	200	140
	9		11		14		19		24	



# FT Motoriduttori pendolari Helical parallel gearmotors

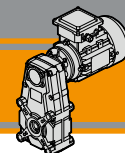
## Dati tecnici

## Technical data

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i			P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i					
<b>0.09</b>							<b>0.12</b>									
56B4 (1400 min <sup>-1</sup> )	<b>68</b>	12	3.4	20.57	<b>FT105/3</b>	<b>B14</b>	63A4 (1400 min <sup>-1</sup> )	<b>75</b>	14	5.6	18.75	<b>FT146</b>	<b>B5/B14</b>			
	<b>42</b>	19	2.6	33.32			<b>B14</b>	<b>53</b>	20	4.0	26.17			<b>B5/B14</b>		
	<b>32</b>	26	2.5	44.36			<b>B14</b>	<b>50</b>	22	3.7	28.26			<b>B5/B14</b>		
	<b>26</b>	32	2.1	54.87			<b>B14</b>	<b>40</b>	27	3.7	35.07			<b>B5/B14</b>		
	<b>20</b>	41	1.6	71.84			<b>B14</b>	<b>35</b>	30	3.3	39.44			<b>B5/B14</b>		
	<b>18</b>	44	1.5	77.07			<b>B14</b>	<b>30</b>	36	2.8	46.44			<b>B5/B14</b>		
	<b>16</b>	51	1.3	88.87			<b>B14</b>	<b>26</b>	41	2.5	52.86			<b>B5/B14</b>		
	<b>11</b>	72	0.90	124.81			<b>B14</b>	<b>23</b>	47	2.4	60.63			<b>B5/B14</b>		
	<b>7.7</b>	105	0.62	181.35			<b>B14</b>	<b>20</b>	54	2.0	70.00			<b>B5/B14</b>		
	<b>6.2</b>	110	0.59	224.32			<b>B14</b>	<b>17</b>	65	1.7	84.63			<b>B5/B14</b>		
	<b>4.4</b>	110	0.59	315.05	<b>B14</b>	<b>15</b>	74	1.5	95.61	<b>B5/B14</b>						
							<b>12</b>	87	1.3	113.40	<b>B5/B14</b>					
	<b>3.8</b>	120	0.54	368.19	<b>FT105/4</b>	<b>B14</b>	<b>10</b>	103	1.1	133.45	<b>B5/B14</b>					
	<b>2.6</b>	120	0.54	534.98			<b>B14</b>	<b>9.3</b>	116	0.95	150.18	<b>B5/B14</b>				
	<b>2.1</b>	120	0.54	661.76			<b>B14</b>	<b>8.7</b>	123	0.97	160.43	<b>B5/B14</b>				
	<b>1.5</b>	120	0.54	929.40			<b>B14</b>	<b>7.8</b>	138	0.87	178.83	<b>B5/B14</b>				
							<b>6.3</b>	172	0.70	223.92	<b>B5/B14</b>					
	<b>75</b>	11	7.4	18.75	<b>FT146</b>	<b>B5/B14</b>	<b>0.18</b>									
	<b>53</b>	15	5.3	26.17			63B4 (1400 min <sup>-1</sup> )	<b>75</b>	22	3.7	18.75	<b>FT146</b>	<b>B5/B14</b>			
	<b>50</b>	16	4.9	28.26			<b>53</b>	30	2.6	26.17	<b>B5/B14</b>					
	<b>40</b>	20	4.9	35.07			<b>50</b>	33	2.5	28.26	<b>B5/B14</b>					
	<b>35</b>	23	4.4	39.44			<b>40</b>	40	2.5	35.07	<b>B5/B14</b>					
	<b>30</b>	27	3.7	46.44			<b>35</b>	46	2.2	39.44	<b>B5/B14</b>					
	<b>27</b>	31	3.3	52.86			<b>30</b>	54	1.9	46.44	<b>B5/B14</b>					
	<b>23</b>	35	3.1	60.63			<b>26</b>	61	1.6	52.86	<b>B5/B14</b>					
	<b>20</b>	40	2.7	70.00			<b>23</b>	70	1.6	60.63	<b>B5/B14</b>					
	<b>17</b>	49	2.3	84.63			<b>20</b>	81	1.4	70.00	<b>B5/B14</b>					
	<b>15</b>	55	2.0	95.61			<b>17</b>	98	1.1	84.63	<b>B5/B14</b>					
	<b>12</b>	65	1.7	113.40			<b>15</b>	110	1.0	95.61	<b>B5/B14</b>					
	<b>10</b>	77	1.4	133.45			<b>12</b>	131	0.84	113.40	<b>B5/B14</b>					
	<b>9.3</b>	87	1.3	150.18			<b>10</b>	154	0.72	133.45	<b>B5/B14</b>					
	<b>8.7</b>	93	1.3	160.43			<b>B5/B14</b>	<b>0.22</b>								
	<b>7.8</b>	103	1.2	178.83			<b>B5/B14</b>	63C4 (1400 min <sup>-1</sup> )	<b>75</b>	26	3.0			18.75	<b>FT146</b>	<b>B5/B14</b>
	<b>6.3</b>	129	0.94	223.92	<b>B5/B14</b>	<b>53</b>	37	2.2	26.17							
	<b>5.9</b>	137	0.88	236.83	<b>B5/B14</b>	<b>50</b>	40	2.0	28.26							
	<b>4.7</b>	170	0.70	300.07	<b>B5/B14</b>	<b>40</b>	49	2.0	35.07							
	<b>3.5</b>	170	0.70	397.38	<b>B5/B14</b>	<b>35</b>	56	1.8	39.44							
						<b>30</b>	66	1.5	46.44							
						<b>26</b>	75	1.3	52.86							
						<b>23</b>	86	1.3	60.63							
						<b>20</b>	99	1.1	70.00							
						<b>17</b>	119	0.93	84.63							
						<b>15</b>	135	0.82	95.61							



N.B.  
Verificare sempre che la coppia M2 utilizzata non ecceda il valore indicato nelle caselle in grigio



N.B.  
Please check that the output torque M2 does not exceed the value in the grey areas







### Dati tecnici

### Technical data

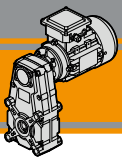
P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i				
<b>0.25</b>								
71A4 (1400 min <sup>-1</sup> )	75	30	2.7	18.75	FT146	B5/B14		
	53	42	1.9	26.17		B5/B14		
	50	45	1.8	28.26		B5/B14		
	40	56	1.8	35.07		B5/B14		
	35	63	1.6	39.44		B5/B14		
	30	74	1.3	46.44		B5/B14		
	26	85	1.2	52.86		B5/B14		
	23	97	1.1	60.63		B5/B14		
	20	112	0.98	70.00		B5/B14		
	17	136	0.81	84.63		B5/B14		
	15	153	0.72	95.61		B5/B14		
	69	33	10.7	20.41		FT196	B5/B14	
		40	56	7.2			34.81	B5/B14
		33	68	6.6			42.61	B5/B14
24		95	5.3	59.36	B5/B14			
19		117	4.7	72.68	B5/B14			
15		149	3.7	92.82	B5/B14			
11		199	2.8	123.95	B5/B14			
8.9		253	2.2	158.02	B5/B14			
6.9		323	1.7	201.80	B5/B14			
5.2		432	1.3	269.47	B5/B14			

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		
<b>0.75</b>						
80B4 (1400 min <sup>-1</sup> )	69	98	3.6	20.41	FT196	B5/B14
	40	167	2.4	34.81		B5/B14
	33	205	2.2	42.61		B5/B14
	24	285	1.8	59.36		B5/B14
	19	350	1.6	72.68		B5/B14
	15	446	1.2	92.82		B5/B14
	11	596	0.92	123.95		B5/B14
<b>1.1</b>						
90S4 (1400 min <sup>-1</sup> )	69	144	2.4	20.41	FT196	B5/B14
	40	246	1.6	34.81		B5/B14
	33	301	1.5	42.61		B5/B14
	24	419	1.2	59.36		B5/B14
	19	513	1.1	72.68		B5/B14
	15	655	0.84	92.82		B5/B14
<b>1.5</b>						
90L4 (1400 min <sup>-1</sup> )	69	196	1.8	20.41	FT196	B5/B14
	40	335	1.2	34.81		B5/B14
	33	410	1.1	42.61		B5/B14
	24	571	0.88	59.36		B5/B14
	19	699	0.79	72.68		B5/B14

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i				
<b>0.37</b>								
71B4 (1400 min <sup>-1</sup> )	75	44	1.8	18.75	FT146	B5/B14		
	53	62	1.3	26.17		B5/B14		
	50	67	1.2	28.26		B5/B14		
	40	83	1.2	35.07		B5/B14		
	35	94	1.1	39.44		B5/B14		
	30	110	0.91	46.44		B5/B14		
	26	125	0.80	52.86		B5/B14		
	23	144	0.76	60.63		B5/B14		
	69	48	7.2	20.41		FT196	B5/B14	
		40	83	4.8			34.81	B5/B14
		33	101	4.5			42.61	B5/B14
		24	141	3.6			59.36	B5/B14
		19	172	3.2			72.68	B5/B14
		15	220	2.5			92.82	B5/B14
11		294	1.9	123.95	B5/B14			
8.9		375	1.5	158.02	B5/B14			
6.9		479	1.1	201.80	B5/B14			
5.2		639	0.86	269.47	B5/B14			

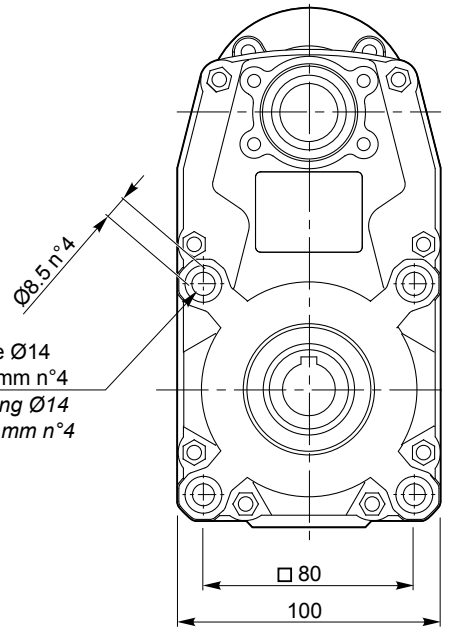
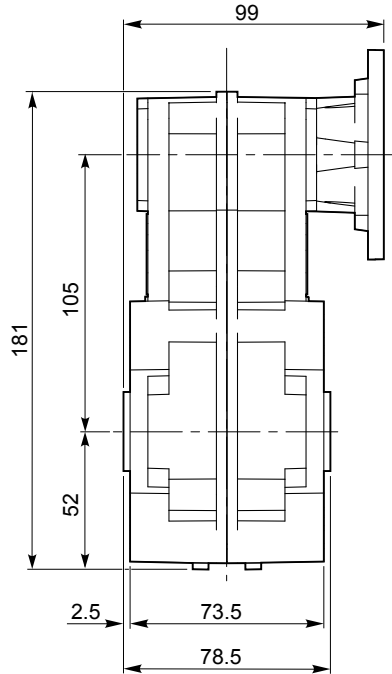
P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i		
<b>0.55</b>						
80A4 (1400 min <sup>-1</sup> )	69	72	4.9	20.41	FT196	B5/B14
	40	123	3.2	34.81		B5/B14
	33	150	3.0	42.61		B5/B14
	24	209	2.4	59.36		B5/B14
	19	255	2.1	72.68		B5/B14
	15	327	1.7	92.82		B5/B14
	11	437	1.3	123.95		B5/B14
	8.9	557	1.0	158.02		B5/B14
	6.9	712	0.77	201.80		B5/B14

FT



**FT 105**

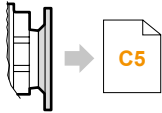
**FT 105...U**



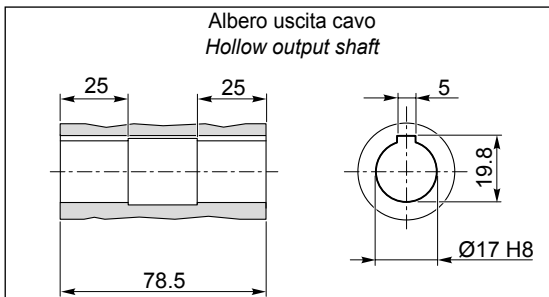
Kg 4.2

NOTA: Stessi fissaggi da entrambi i lati  
NOTE: Same fixing points in both sides

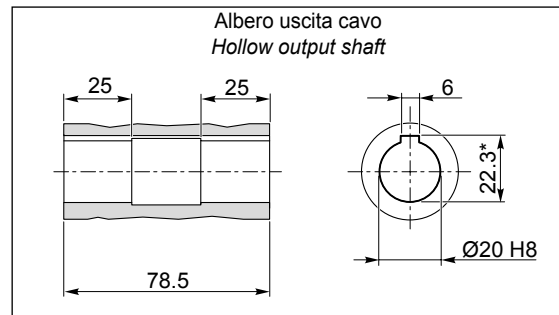
IEC Motori applicabili  
IEC Motor adapters



**O17**

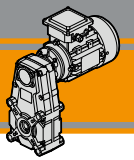


**O20**



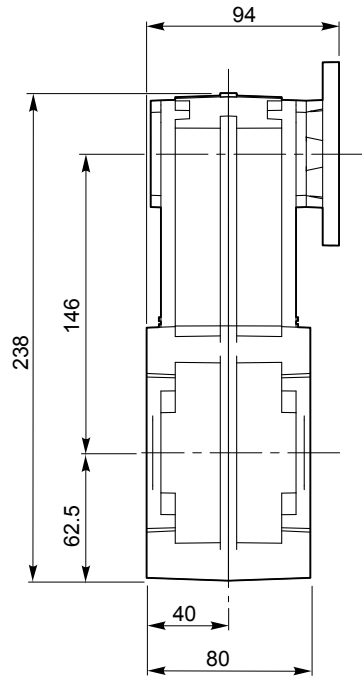
\*: Sede linguetta ribassata / Special keyway





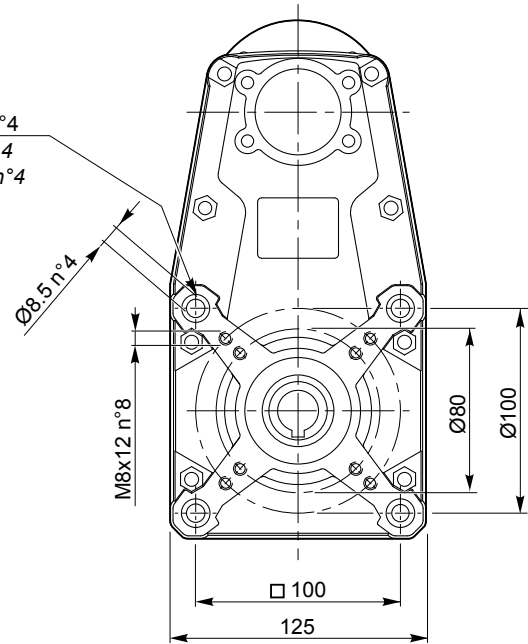
FT 146

FT 146 U



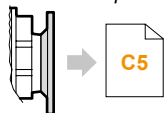
Lamature Ø14  
Prof. 9.5 mm n°4  
Spot-facing Ø14  
Deep 9.5 mm n°4

**Kg** 4.7

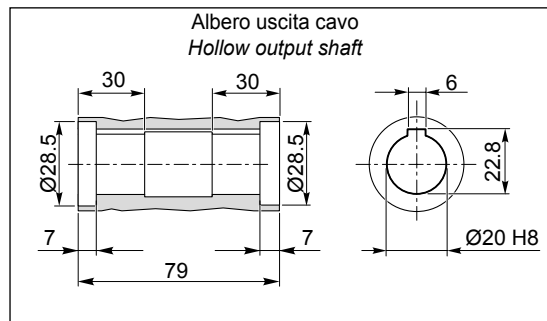


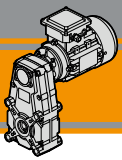
NOTA: Stessi fissaggi da entrambi i lati  
NOTE: Same fixing points in both sides

IEC Motori applicabili  
IEC Motor adapters



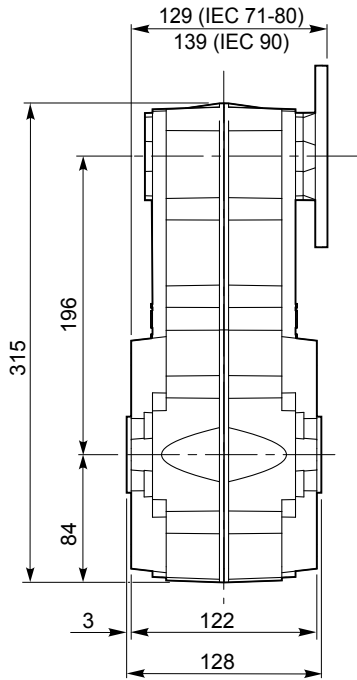
O20





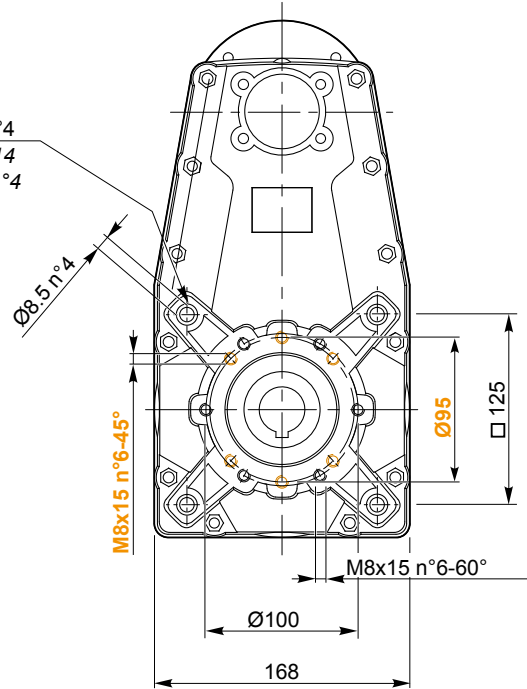
**FT 196**

**FT 196 U**



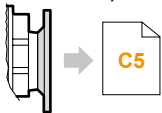
Lamature Ø14  
Prof. 11 mm n°4  
Spot-facing Ø14  
Deep 11 mm n°4

**Kg** 12.1

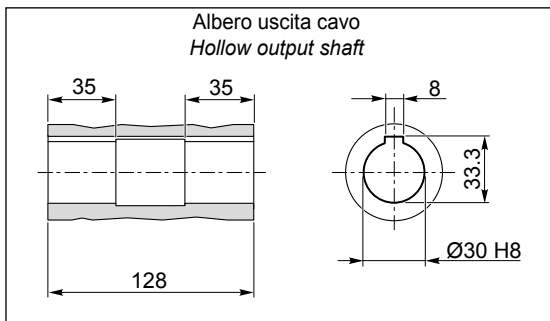


NOTA: Stessi fissaggi da entrambi i lati  
NOTE: Same fixing points in both sides

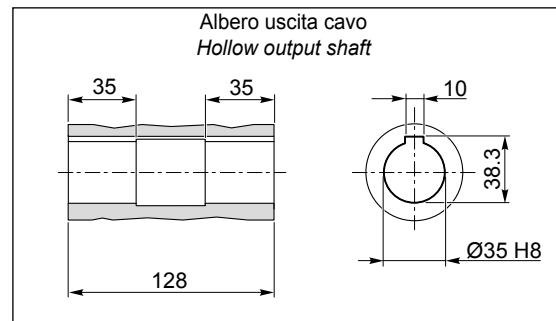
IEC Motori applicabili  
IEC Motor adapters



**O30**

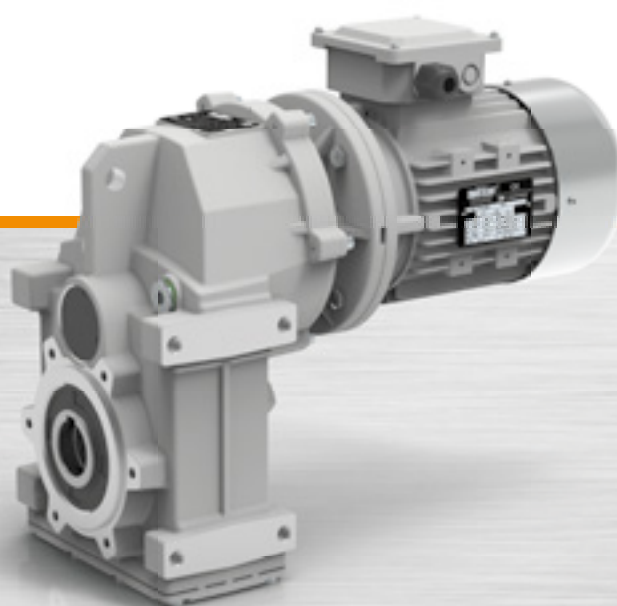


**O35**

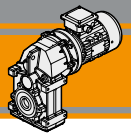




**Motoriduttori pendolari**  
**Helical parallel gearmotors**



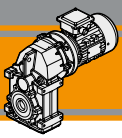




<b>Indice</b>	<b>Index</b>	Pag. Page
Caratteristiche tecniche	<i>Technical features</i>	<b>D2</b>
Designazione	<i>Classification</i>	<b>D3</b>
Sensi di rotazione	<i>Direction of rotation</i>	<b>D4</b>
Simbologia	<i>Symbols</i>	<b>D4</b>
Lubrificazione	<i>Lubrication</i>	<b>D4</b>
Carichi radiali	<i>Radial loads</i>	<b>D5</b>
Dati tecnici	<i>Technical data</i>	<b>D6</b>
Dimensioni	<i>Dimensions</i>	<b>D12</b>
Accessori	<i>Accessories</i>	<b>D16</b>

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata, l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet [www.transtecno.com](http://www.transtecno.com)**

*This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels, the most up to date content is not guaranteed. **In this case the latest version is available on our web site [www.transtecno.com](http://www.transtecno.com)***



## Caratteristiche tecniche

## Technical features

I motoriduttori pendolari della serie ATS sono caratterizzati da un elevato grado di modularità: partendo da un corpo di base è possibile configurarlo secondo le esigenze con diversi kit in entrata ed in uscita.

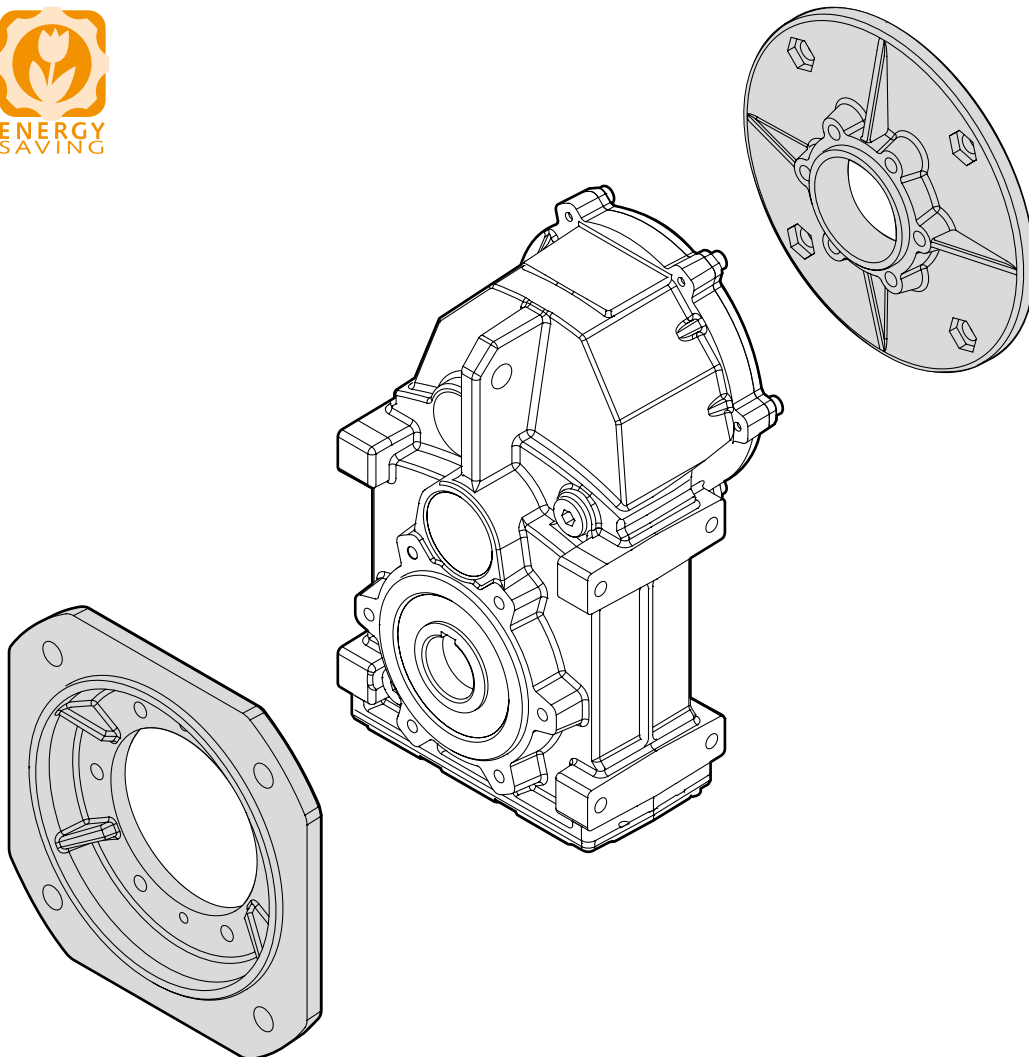
*The high degree of modularity is a design feature of ATS helical parallel range. It is possible to set up the version required by using input and output kits.*

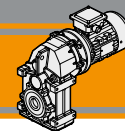
Caratteristiche comuni a tutta la serie:

*The main features of ATS range are:*

- Carcasa monoblocco in pressofusione di alluminio
- Flangia ingresso in pressofusione di alluminio
- Lubrificazione permanente con olio sintetico
- Ingranaggi cilindrici a denti elicoidali, induriti e rettificati
- Flange di uscita in ghisa

- *Die-cast aluminium monobloc housing*
- *Die-cast aluminium input flange*
- *Permanent synthetic oil long-life lubrication*
- *Ground-hardened helical gears*
- *Cast iron output flanges*

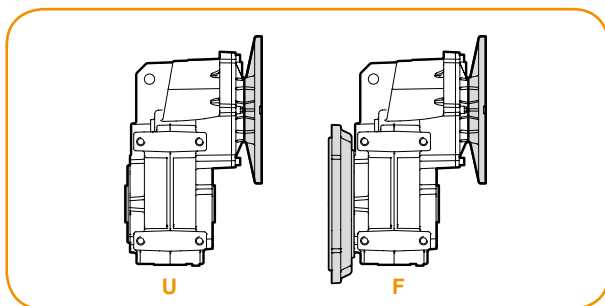




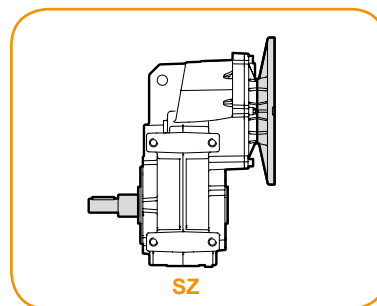
## Designazione

## Classification

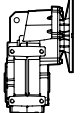
Versione Riduttore  
Gearbox Version



Albero di uscita  
Output shaft

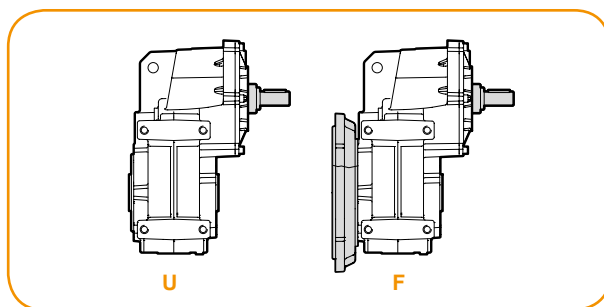


### RIDUTTORE / GEARBOX

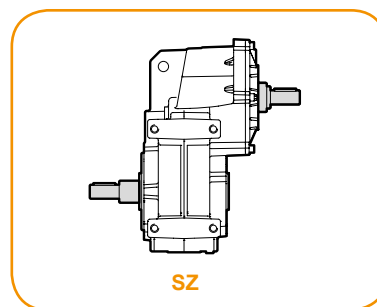
ATS	90	2	U	29.65	D35	90	B5	SZ
Tipo Type	Grandezza Size	Stadi Stages	Versione Version	Rapporto Ratio	Albero cavo uscita Hollow output shaft	IEC 	Forma costruttiva Version	Albero uscita maschio Solid output shaft
	<b>90</b> <b>91</b>	<b>2</b> <b>3</b>	<b>U...</b> <b>F...</b>	vedi tabelle see tables	vedi tabelle see tables	<b>63..</b> — <b>112..</b>	<b>B5</b> <b>B14</b>	<b>SZ</b>

ATS

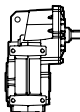
Versione Riduttore  
Gearbox Version



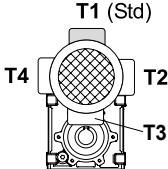
Albero di uscita  
Output shaft

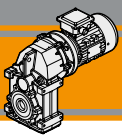
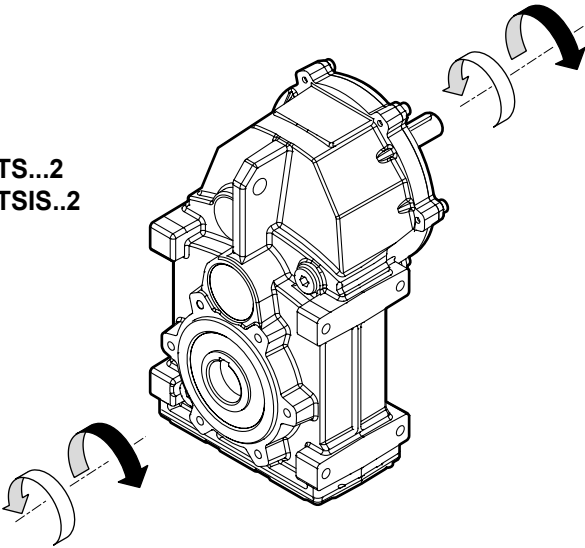
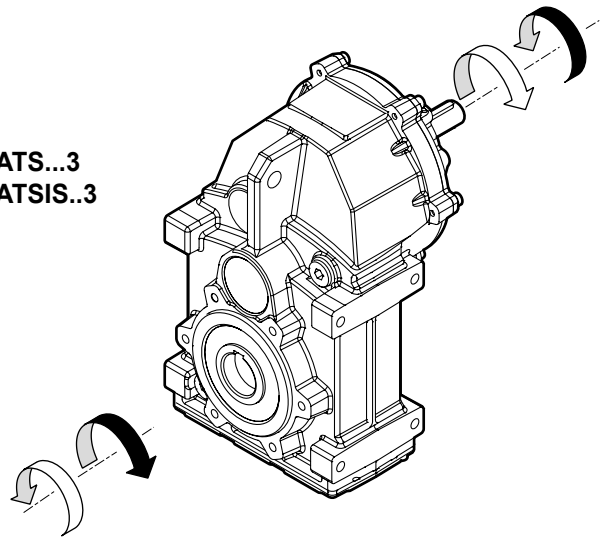


### RIDUTTORE / GEARBOX

ATSIS	90	2	U	29.65	D35	SZ
Tipo Type	Grandezza Size	Stadi Stages	Versione Version	Rapporto Ratio	Albero cavo uscita Hollow output shaft	Albero uscita maschio Solid output shaft
	<b>90</b> <b>91</b>	<b>2</b> <b>3</b>	<b>U...</b> <b>F...</b>	vedi tabelle see tables	vedi tabelle see tables	<b>SZ</b>

### MOTORE / MOTOR

0.75kW	4p	3ph	230/400V	50Hz	T1
Potenza Power	Poli Poles	Fasi Phases	Tensione Voltage	Frequenza Frequency	Pos. morsetteria Terminal box pos.
vedi tabelle see tables	<b>2p</b> <b>4p</b> <b>6p</b> <b>8p</b>	<b>1ph</b> <b>3ph</b>	<b>230V</b> <b>230/400V</b>	<b>50Hz</b> <b>60Hz</b>	

**Sensi di rotazione****Direction of rotation****ATS...2**  
**ATSIS..2****ATS...3**  
**ATSIS..3****Simbologia****Symbols**

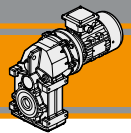
$n_1$	[min <sup>-1</sup> ]	Velocità in ingresso / <i>Input speed</i>
$n_2$	[min <sup>-1</sup> ]	Velocità in uscita / <i>Output speed</i>
$i$		Rapporto di riduzione / <i>Ratio</i>
$P_1$	[kW]	Potenza in entrata / <i>Input power</i>
$M_2$	[Nm]	Coppia nominale in uscita in funzione di $P_1$ / <i>Output torque referred to <math>P_1</math></i>
$P_{n1}$	[kW]	Potenza nominale in entrata / <i>Nominal input power</i>
$M_{n2}$	[Nm]	Coppia nominale in uscita in funzione di $P_{n1}$ / <i>Nominal output torque referred to <math>P_{n1}</math></i>
$sf$		Fattore di servizio / <i>Service factor</i>
$R_2$	[N]	Carico radiale ammissibile in uscita / <i>Permitted output radial load</i>
$A_2$	[N]	Carico assiale ammissibile in uscita / <i>Permitted output axial load</i>

**Lubrificazione****Lubrication**

Tutti i motoriduttori sono forniti completi di lubrificante sintetico viscosità 320, pertanto possono essere installati in qualunque posizione di montaggio e non necessitano di manutenzione.

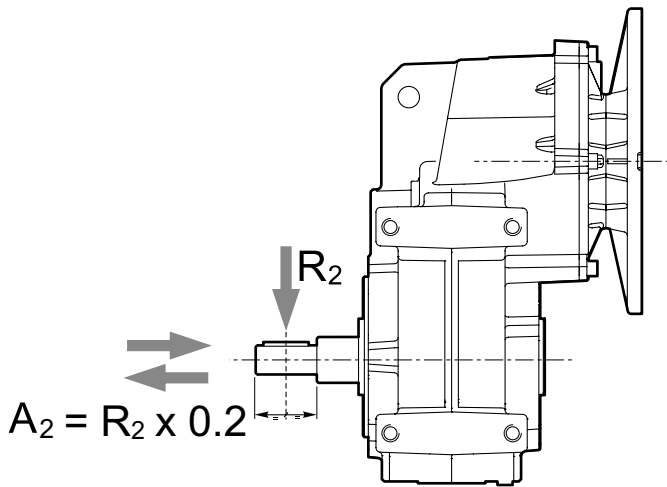
*Permanent synthetic oil long-life lubrication ( viscosity grade 320) makes it possible to use the gearmotors in all mounting positions; for this reason they can be installed in any assembly position and do not require maintenance.*





Carichi radiali

Radial loads

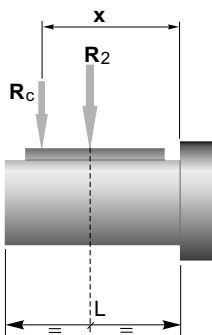


$n_2$ [min <sup>-1</sup> ]	$R_2$ [N]	
	ATS 902 ATS 903	ATS 912 ATS 913
240	2400	3600
180	2400	4200
150	2400	4200
120	2500	4600
100	2800	4800
85	3090	5100
70	3150	5250
55	3630	6000
40	4440	6900
30	5100	7800
20	6000	9500
15	6000	10000
10	6000	10000
5	6000	10000

ATS

Quando il carico radiale risultante non è applicato sulla mezza-  
ria dell'albero occorre calcolare quello effettivo con la seguente  
formula:

When the resulting radial load is not applied on the centre line  
of the shaft it is necessary to calculate the effective load with the  
following formula:

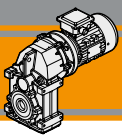


	ATS 902 ATS 903	ATS 912 ATS 913
<b>a</b>	152	174.5
<b>b</b>	97	114.5
<b>R<sub>2MAX</sub></b>	6000	10000

$$R_c = \frac{R_2 \cdot a}{(b + x)} \leq R_{2MAX}$$

$$R \leq R_c$$


*a, b = valori riportati nella tabella*  
*a, b = values given in the table*



## Dati tecnici


$n_1$  1400 min<sup>-1</sup>

## Technical data

	$n_2$ [min <sup>-1</sup> ]	$Mn_2$ [Nm]	$Pn_1$ [kW]	$i$	IEC Motori applicabili IEC Motor adapters				
					71 B5	80 B5/B14	90 B5/B14	100 B5/B14	112 B5/B14
<b>ATSIS 902</b>									
	239	200	5.2	5.87	B				
	178	250	4.9	7.87	B				
	148	300	4.8	9.47	B				
	121	350	4.6	11.53	B				
	106	350	4.0	13.26	B				
	89.3	350	3.4	15.68	B				
	84.0	350	3.2	16.68	B				*
	73.3	400	3.2	19.09	B				*
	63.7	400	2.8	21.96	B				*
	52.8	400	2.3	26.50	B				*
	50.7	400	2.2	27.61	B				*
	47.2	400	2.1	29.65	B				*
	41.8	400	1.8	33.49	B			*	*
	39.0	400	1.7	35.87	B			*	*
	36.6	400	1.6	38.29	B			*	*
	31.9	400	1.4	43.88	B			*	*
	28.5	400	1.3	49.09	B			*	*
	26.6	400	1.2	52.71	B			*	*
	25.2	400	1.1	55.45	B			*	*
	22.1	400	0.98	63.41	B		*	*	*
	19.0	400	0.85	73.64	B		*	*	*
	16.0	400	0.71	87.27	B		*	*	*


<b>ATSIS 903</b>					63 B5	71 B5/B14	80 B5/B14	90 B5/B14
	14.0	400	0.62	100.33				*
	11.1	400	0.50	125.89				*
	10.6	400	0.47	131.65				*
	10.0	400	0.45	139.88			*	*
	9.3	400	0.41	151.07			*	*
	8.4	400	0.38	166.13			*	*
	8.1	400	0.36	172.40			*	*
	6.7	400	0.30	208.45			*	*
	6.3	400	0.28	223.41			*	*
	5.6	400	0.25	250.14			*	*
	4.3	400	0.19	323.65		*	*	*
	4.1	400	0.18	345.59		*	*	*
	3.7	400	0.17	376.15		*	*	*
	3.3	400	0.15	424.21		*	*	*

N.B.  
Le aree evidenziate indicano l'applicabilità della corrispondente grandezza motore.  
**B** = Boccola di riduzione in acciaio.

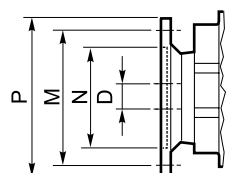
 \* = Il fattore di servizio (sf) deve essere scelto in funzione dell'applicazione: si prega di contattare il nostro Servizio Tecnico.

Prima di eseguire la scelta del motoriduttore riferirsi alle prestazioni elencate nelle tabelle dalla pag. D8 alla pag. D11

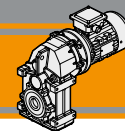
N.B.  
Highlighted areas indicate motor inputs available on each size of unit.  
**B** = Metal shaft sleeve.

 \* = The service factor (sf) has to be selected depending on application: please contact our Technical Department.

Before selecting any gearbox, please read the performance values shown in the tables on page D8 to D11.




Dimensioni IEC / IEC Dimensions									
	63 B5	71 B5	71 B14	80 B5	80 B14	90 B5	90 B14	100/112 B5	100/112 B14
<b>N</b>	95	110	70	130	80	130	95	180	110
<b>M</b>	115	130	85	165	100	165	115	215	130
<b>P</b>	140	160	105	200	120	200	140	250	160
<b>D</b>	11	14		19		24		28	



Dati tecnici


$n_1$  1400 min<sup>-1</sup>

Technical data

	$n_2$ [min <sup>-1</sup> ]	$Mn_2$ [Nm]	$Pn_1$ [kW]	$i$	IEC Motori applicabili IEC Motor adapters					
					71 B5	80 B5/B14	90 B5/B14	100 B5/B14	112 B5/B14	
<b>ATSIS 912</b>										
	245.0	350	9.4	5.71	B					
	183	350	7.0	7.66	B					
	158	400	6.9	8.85	B					
	152	400	6.6	9.22	B					
	125	400	5.4	11.23	B					
	118	400	5.1	11.87	B					
	108	500	5.9	12.92	B					
	98.0	500	5.3	14.29	B					
	86.2	500	4.7	16.24	B					
	80.5	500	4.4	17.39	B					
	70.0	600	4.6	20.01	B					
	66.3	600	4.3	21.10	B					
	55.6	600	3.6	25.16	B					
	54.2	600	3.5	25.81	B					*
	48.5	600	3.2	28.88	B					*
	42.8	600	2.9	32.69	B					*
	37.5	600	2.5	37.30	B					*
	35.0	600	2.3	39.98	B					*
	31.3	600	2.1	44.73	B					*
	27.7	600	1.9	50.53	B			*		*
	24.2	600	1.6	57.77	B			*		*
	20.9	600	1.4	67.09	B			*		*
	17.6	600	1.2	79.52	B			*		*


<b>ATSIS913</b>					63 B5	71 B5/B14	80 B5/B14	90 B5/B14
	17.0	600	1.1	82.28				
	14.9	600	1.0	93.96				
	13.8	600	0.92	101.41				*
	11.4	600	0.76	122.61				*
	10.7	600	0.71	131.41				*
	9.5	600	0.64	147.13				*
	8.9	600	0.60	157.08				*
	7.4	600	0.49	189.92				*
	6.9	600	0.46	203.55			*	*
	6.1	600	0.41	227.91			*	*
	4.7	600	0.32	294.88			*	*
	4.4	600	0.30	314.87			*	*
	4.1	600	0.27	342.72			*	*
	3.6	600	0.24	386.51			*	*

N.B.  
Le aree evidenziate indicano l'applicabilità della corrispondente grandezza motore.  
**B** = Boccola di riduzione in acciaio.

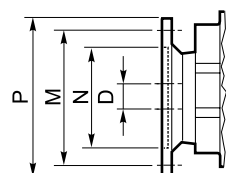
 \* = Il fattore di servizio (sf) deve essere scelto in funzione dell'applicazione: si prega di contattare il nostro Servizio Tecnico.

Prima di eseguire la scelta del motoriduttore riferirsi alle prestazioni elencate nelle tabelle dalla pag. D8 alla pag. D11

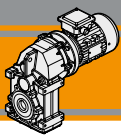
N.B.  
Highlighted areas indicate motor inputs available on each size of unit.  
**B** = Metal shaft sleeve.

 \* = The service factor (sf) has to be selected depending on application: please contact our Technical Department.

Before selecting any gearbox, please read the performance values shown in the tables on page D8 to D11.



Dimensioni IEC / IEC Dimensions									
	63 B5	71 B5	71 B14	80 B5	80 B14	90 B5	90 B14	100/112 B5	100/112 B14
<b>N</b>	95	110	70	130	80	130	95	180	110
<b>M</b>	115	130	85	165	100	165	115	215	130
<b>P</b>	140	160	105	200	120	200	140	250	160
<b>D</b>	11	14		19		24		28	







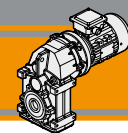
# ATS

## Motoriduttori pendolari Helical parallel gearmotors

### Dati tecnici





### Technical data

$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i			$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i		
<b>0.12</b>							<b>0.25</b>						
63A4 (1400 min <sup>-1</sup> )	14.0	77	5.2	100.33	ATS903	B5	71A4 (1400 min <sup>-1</sup> )	238	10	20.8	5.87	ATS902	B5
	11.1	97	4.1	125.89		B5		178	13	19.4	7.87		B5
	10.6	101	3.9	131.65		B5		148	16	19.3	9.47		B5
	10.0	108	3.7	139.88		B5		121	19	18.5	11.53		B5
	9.3	116	3.4	151.07		B5		106	22	16.1	13.26		B5
	8.4	128	3.1	166.13		B5		89.3	26	13.6	15.68		B5
	8.1	133	3.0	172.40		B5		84.0	27	12.8	16.68		B5
	6.7	160	2.5	208.45		B5		73.3	31	12.8	19.09		B5
	6.3	172	2.3	223.41		B5		63.7	36	11.1	21.96		B5
	5.6	192	2.1	250.14		B5		52.8	43	9.2	26.50		B5
	4.3	249	1.6	323.65	B5	50.7		45	8.8	27.61	B5		
	4.1	266	1.5	345.59	B5	47.2		49	8.2	29.65	B5		
	3.7	289	1.4	376.15	B5	41.8		55	7.3	33.49	B5		
	3.3	326	1.2	424.21	B5	39.0		59	6.8	35.87	B5		
	6.9	157	3.8	203.55	ATS913	B5		36.6	61	6.5	38.29	B5	
	6.1	175	3.4	227.91		B5		31.9	70	5.7	43.88	B5	
	4.7	227	2.6	294.88		B5		28.5	79	5.1	49.09	B5	
	4.4	242	2.5	314.87		B5		26.6	84	4.7	52.71	B5	
	4.1	264	2.3	342.72		B5		25.2	89	4.5	55.45	B5	
	3.6	297	2.0	386.51		B5		22.1	102	3.9	63.41	B5	
				B5		19.0	118	3.4	73.64	B5			
				B5		16.0	140	2.9	87.27	B5			
<b>0.18</b>							14.0	161	2.5	100.33	ATS903	B5/B14	
63B4 (1400 min <sup>-1</sup> )	14.0	116	3.5	100.33	ATS903	B5	11.1	202	2.0	125.89		B5/B14	
	11.1	145	2.8	125.89		B5	10.6	211	1.9	131.65		B5/B14	
	10.6	152	2.6	131.65		B5	10.0	224	1.8	139.88		B5/B14	
	10.0	161	2.5	139.88		B5	9.3	242	1.7	151.07		B5/B14	
	9.3	174	2.3	151.07		B5	8.4	266	1.5	166.13		B5/B14	
	8.4	192	2.1	166.13		B5	8.1	276	1.4	172.40		B5/B14	
	8.1	199	2.0	172.40		B5	6.7	334	1.2	208.45		B5/B14	
	6.7	241	1.7	208.45		B5	6.3	358	1.1	223.41		B5/B14	
	6.3	258	1.6	223.41		B5	5.6	401	1.0	250.14		B5/B14	
	5.6	289	1.4	250.14		B5	13.8	163	3.7	101.41	ATS913	B5/B14	
	4.3	374	1.1	323.65	B5	11.4	197	3.1	122.61	B5/B14			
	4.1	399	1.0	345.59	B5	10.7	211	2.8	131.41	B5/B14			
	3.7	434	0.9	376.15	B5	10.7	211	2.8	131.41	B5/B14			
	3.3	490	0.8	424.21	B5	9.5	236	2.5	147.13	B5/B14			
	9.5	170	3.5	147.13	ATS913	B5	8.9	252	2.4	157.08		B5/B14	
	8.9	181	3.3	157.08		B5	7.4	304	2.0	189.92		B5/B14	
	7.4	219	2.7	189.92		B5	6.9	326	1.8	203.55		B5/B14	
	6.9	235	2.6	203.55		B5	6.1	365	1.6	227.91		B5/B14	
	6.1	263	2.3	227.91		B5	4.7	473	1.3	294.88		B5/B14	
	4.7	340	1.8	294.88		B5	4.4	505	1.2	314.87	B5/B14		
4.4	363	1.7	314.87	B5		4.1	549	1.1	342.72	B5/B14			
4.1	396	1.5	342.72	B5		3.6	620	1.0	386.51	B5/B14			
3.6	446	1.3	386.51	B5						B5/B14			

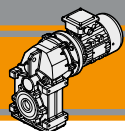


Dati tecnici

Technical data





P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i			P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i				
<b>0.37</b>							<b>0.55</b>								
71B4 (1400 min <sup>-1</sup> )	<b>239</b>	14	14.1	5.87	<b>ATS902</b>	<b>B5</b>	80A4 (1400 min <sup>-1</sup> )	<b>239</b>	21	9.5	5.87	<b>ATS902</b>	<b>B5/B14</b>		
	<b>178</b>	19	13.1	7.87			<b>B5</b>		<b>178</b>	28	8.8			7.87	<b>B5/B14</b>
	<b>148</b>	23	13.1	9.47			<b>B5</b>		<b>148</b>	34	8.8			9.47	<b>B5/B14</b>
	<b>121</b>	28	12.5	11.53			<b>B5</b>		<b>121</b>	42	8.4			11.53	<b>B5/B14</b>
	<b>106</b>	32	10.9	13.26			<b>B5</b>		<b>106</b>	48	7.3			13.26	<b>B5/B14</b>
	<b>89.3</b>	38	9.2	15.68			<b>B5</b>		<b>89.3</b>	56	6.2			15.68	<b>B5/B14</b>
	<b>84.0</b>	40	8.7	16.68			<b>B5</b>		<b>84.0</b>	60	5.8			16.68	<b>B5/B14</b>
	<b>73.3</b>	46	8.6	19.09			<b>B5</b>		<b>73.3</b>	69	5.8			19.09	<b>B5/B14</b>
	<b>63.7</b>	53	7.5	21.96			<b>B5</b>		<b>63.7</b>	79	5.1			21.96	<b>B5/B14</b>
	<b>52.8</b>	64	6.2	26.50			<b>B5</b>		<b>52.8</b>	95	4.2			26.50	<b>B5/B14</b>
	<b>50.7</b>	67	6.0	27.61			<b>B5</b>		<b>50.7</b>	99	4.0			27.61	<b>B5/B14</b>
	<b>47.2</b>	72	5.6	29.65			<b>B5</b>		<b>47.2</b>	107	3.7			29.65	<b>B5/B14</b>
	<b>41.8</b>	81	4.9	33.49			<b>B5</b>		<b>41.8</b>	121	3.3			33.49	<b>B5/B14</b>
	<b>39.0</b>	87	4.6	35.87			<b>B5</b>		<b>39.0</b>	129	3.1			35.87	<b>B5/B14</b>
	<b>36.6</b>	91	4.4	38.29			<b>B5</b>		<b>36.6</b>	135	3.0			38.29	<b>B5/B14</b>
	<b>31.9</b>	104	3.8	43.88			<b>B5</b>		<b>31.9</b>	155	2.6			43.88	<b>B5/B14</b>
	<b>28.5</b>	116	3.4	49.09			<b>B5</b>		<b>28.5</b>	173	2.3			49.09	<b>B5/B14</b>
	<b>26.6</b>	125	3.2	52.71			<b>B5</b>		<b>26.6</b>	186	2.2			52.71	<b>B5/B14</b>
	<b>25.2</b>	132	3.0	55.45			<b>B5</b>		<b>25.2</b>	196	2.0			55.45	<b>B5/B14</b>
	<b>22.1</b>	150	2.7	63.41			<b>B5</b>		<b>22.1</b>	224	1.8			63.41	<b>B5/B14</b>
	<b>19.0</b>	175	2.3	73.64			<b>B5</b>		<b>19.0</b>	260	1.5			73.64	<b>B5/B14</b>
	<b>16.0</b>	207	1.9	87.27			<b>B5</b>		<b>16.0</b>	308	1.3			87.27	<b>B5/B14</b>
	<b>14.0</b>	238	1.7	100.33	<b>ATS903</b>	<b>B5/B14</b>	<b>14.0</b>	354	1.1	100.33	<b>ATS903</b>	<b>B5/B14</b>			
	<b>11.1</b>	299	1.3	125.89			<b>11.1</b>	444	0.9	125.89			<b>B5/B14</b>		
	<b>10.6</b>	312	1.3	131.65			<b>10.6</b>	464	0.9	131.65			<b>B5/B14</b>		
	<b>10.0</b>	332	1.2	139.88			<b>10.0</b>								
	<b>9.3</b>	358	1.1	151.07	<b>ATS912</b>	<b>B5/B14</b>	<b>31.3</b>	158	3.8	44.73	<b>ATS912</b>	<b>B5/B14</b>			
	<b>8.4</b>	394	1.0	166.13			<b>27.7</b>	178	3.4	50.53			<b>B5/B14</b>		
	<b>8.1</b>	409	1.0	172.40			<b>24.2</b>	204	2.9	57.77			<b>B5/B14</b>		
	<b>24.2</b>	137	4.4	57.77			<b>20.9</b>	237	2.5	67.09			<b>B5/B14</b>		
	<b>20.9</b>	159	3.8	67.09	<b>ATS912</b>	<b>B5</b>	<b>17.6</b>	280	2.1	79.52	<b>ATS912</b>	<b>B5/B14</b>			
	<b>17.6</b>	189	3.2	79.52			<b>17.0</b>	290	2.1	82.28			<b>B5/B14</b>		
	<b>17.0</b>	195	3.1	82.28	<b>ATS913</b>	<b>B5/B14</b>	<b>14.9</b>	331	1.8	93.96	<b>ATS913</b>	<b>B5/B14</b>			
	<b>14.9</b>	223	2.7	93.96			<b>13.8</b>	358	1.7	101.41			<b>B5/B14</b>		
	<b>13.8</b>	241	2.5	101.41			<b>11.4</b>	432	1.4	122.61			<b>B5/B14</b>		
	<b>11.4</b>	291	2.1	122.61			<b>10.7</b>	463	1.3	131.41			<b>B5/B14</b>		
	<b>10.7</b>	312	1.9	131.41			<b>9.5</b>	519	1.2	147.13			<b>B5/B14</b>		
	<b>9.5</b>	349	1.7	147.13			<b>8.9</b>	554	1.1	157.08			<b>B5/B14</b>		
	<b>8.9</b>	373	1.6	157.08			<b>7.4</b>	670	0.9	189.92			<b>B5/B14</b>		
	<b>7.4</b>	451	1.3	189.92			<b>B5/B14</b>								
	<b>6.9</b>	483	1.2	203.55			<b>B5/B14</b>								
	<b>6.1</b>	541	1.1	227.91			<b>B5/B14</b>								
	<b>4.7</b>	700	0.9	294.88	<b>B5/B14</b>										

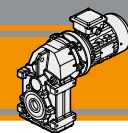
ATS



## Dati tecnici





## Technical data

$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i			$P_1$ [kW]	$n_2$ [min <sup>-1</sup> ]	$M_2$ [Nm]	sf	i						
<b>0.75</b>							<b>1.1</b>										
80B4 (1400 min <sup>-1</sup> )	239	29	6.9	5.87	ATS902	B5/B14	90S4 (1400 min <sup>-1</sup> )	239	42	4.7	5.87	ATS902	B5/B14				
	178	39	6.5	7.87				178	57	4.4	7.87			B5/B14			
	148	47	6.4	9.47				148	68	4.4	9.47						
	121	57	6.2	11.53				121	83	4.2	11.53			B5/B14			
	106	65	5.4	13.26				106	96	3.7	13.26			B5/B14			
	89.3	77	4.5	15.68				89.3	113	3.1	15.68			B5/B14			
	84.0	82	4.3	16.68				84.0	120	2.9	16.68			B5/B14			
	73.3	94	4.3	19.09				73.3	138	2.9	19.09			B5/B14			
	63.7	108	3.7	21.96				63.7	158	2.5	21.96			B5/B14			
	52.8	130	3.1	26.50				52.8	191	2.1	26.50			B5/B14			
	50.7	136	2.9	27.61				50.7	199	2.0	27.61			B5/B14			
	47.2	146	2.7	29.65				47.2	214	1.9	29.65			B5/B14			
	41.8	164	2.4	33.49				41.8	241	1.7	33.49			B5/B14			
	39.0	176	2.3	35.87				39.0	258	1.5	35.87			B5/B14			
	36.6	184	2.2	38.29				36.6	270	1.5	38.29			B5/B14			
	31.9	211	1.9	43.88				31.9	310	1.3	43.88			B5/B14			
	28.5	236	1.7	49.09				28.5	346	1.2	49.09			B5/B14			
	26.6	253	1.6	52.71				26.6	372	1.1	52.71			B5/B14			
	25.2	267	1.5	55.45				25.2	391	1.0	55.45			B5/B14			
	22.1	305	1.3	63.41				B5/B14	66.3	152	3.9			21.10	ATS912	B5/B14	
	19.0	354	1.1	73.64				B5/B14	55.6	181	3.3			25.16		B5/B14	
	16.0	420	1.0	87.27				B5/B14	54.2	186	3.2			25.81		B5/B14	
	42.8	157	3.8	32.69				ATS912	B5/B14	48.5	204			2.9		28.88	B5/B14
	37.5	179	3.3	37.30					B5/B14	42.8	231			2.6		32.69	B5/B14
	35.0	192	3.1	39.98					B5/B14	37.5	263			2.3		37.30	B5/B14
	31.3	215	2.8	44.73					B5/B14	35.0	282			2.1	39.98	B5/B14	
	27.7	243	2.5	50.53					B5/B14	31.3	315			1.9	44.73	B5/B14	
	24.2	278	2.2	57.77					B5/B14	27.7	356			1.7	50.53	B5/B14	
	20.9	323	1.9	67.09				B5/B14	24.2	407	1.5			57.77	B5/B14		
	17.6	382	1.6	79.52				B5/B14	20.9	473	1.3			67.09	B5/B14		
	17.0	396	1.5	82.28				ATS913	B5/B14	17.6	561			1.1	79.52	B5/B14	
	14.9	452	1.3	93.96					B5/B14	17.0	580			1.0	82.28	ATS913	B5/B14
13.8	488	1.2	101.41	B5/B14	14.9	663	0.9		93.96	B5/B14							
11.4	590	1.0	122.61	B5/B14													
10.7	632	0.9	131.41	B5/B14													

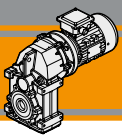


**Dati tecnici**

**Technical data**

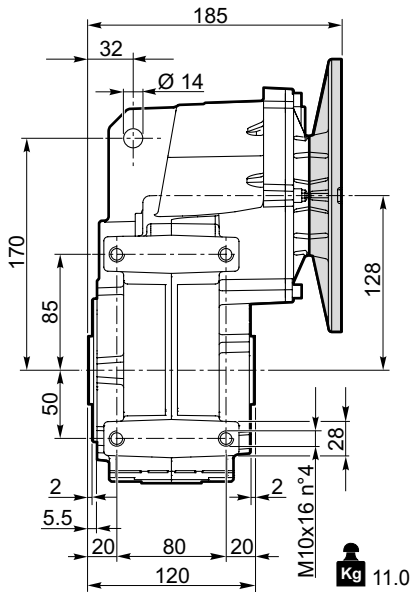
P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i			P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i											
<b>1.5</b>							<b>2.2</b>															
90L4 (1400 min <sup>-1</sup> )	239	58	3.5	5.87	ATS902	B5/B14	100LA4	42.8	461	1.3	32.69	ATS912	B5/B14									
	178	77	3.2	7.87			100LA4	37.5	526	1.1	37.30											
	148	93	3.2	9.47			100LA4	35.0	564	1.1	39.98											
	121	113	3.1	11.53			100LA4	31.3	631	1.0	44.73											
	106	130	2.7	13.26																		
	89.3	154	2.3	15.68																		
	84.0	164	2.1	16.68																		
	73.3	188	2.1	19.09																		
	63.7	216	1.9	21.96																		
	52.8	260	1.5	26.50																		
	50.7	271	1.5	27.61																		
	47.2	291	1.4	29.65																		
	41.8	329	1.2	33.49																		
	39.0	352	1.1	35.87																		
	36.6	368	1.1	38.29																		
	31.9	422	0.9	43.88																		
	108.4	127	3.9	12.92			ATS912	B5/B14	245.0	112	3.1			5.71	ATS912	B5/B14						
	98.0	140	3.6	14.29					182.7	151	2.3			7.66			182.7	151	2.3	7.66		
	86.2	160	3.1	16.24					158.2	174	2.3			8.85			158.2	174	2.3	8.85		
	80.5	171	2.9	17.39					151.8	181	2.2			9.22			151.8	181	2.2	9.22		
70.0	197	3.1	20.01	124.7	221	1.8			11.23	124.7	221	1.8	11.23									
66.3	207	2.9	21.10	117.9	233	1.7			11.87	117.9	233	1.7	11.87									
55.6	247	2.4	25.16	108.4	254	2.0			12.92	108.4	254	2.0	12.92									
54.2	254	2.4	25.81	98.0	281	1.8			14.29	98.0	281	1.8	14.29									
48.5	278	2.2	28.88	86.2	319	1.6			16.24	86.2	319	1.6	16.24									
42.8	314	1.9	32.69	80.5	342	1.5			17.39	80.5	342	1.5	17.39									
37.5	359	1.7	37.30	70.0	393	1.5			20.01	70.0	393	1.5	20.01									
35.0	385	1.6	39.98	66.3	415	1.4			21.10	66.3	415	1.4	21.10									
31.3	430	1.4	44.73	55.6	494	1.2			25.16	55.6	494	1.2	25.16									
27.7	486	1.2	50.53	54.2	507	1.2			25.81	54.2	507	1.2	25.81									
24.2	556	1.1	57.77	48.5	555	1.1			28.88	48.5	555	1.1	28.88									
				42.8	629	1.0			32.69	42.8	629	1.0	32.69									
<b>2.2</b>									<b>4.0</b>													
100LA4 (1400 min <sup>-1</sup> )	239	85	2.4	5.87	ATS902	B5/B14			112M4	239	154	1.3	5.87	ATS902			B5/B14					
	178	113	2.2	7.87					112M4	178	206	1.2	7.87					112M4	178	206	1.2	7.87
	148	136	2.2	9.47					112M4	148	248	1.2	9.47					112M4	148	248	1.2	9.47
	121	166	2.1	11.53			112M4	121	302	1.2	11.53	112M4	121		302	1.2		11.53				
	106	191	1.8	13.26			112M4	106	347	1.0	13.26	112M4	106		347	1.0		13.26				
	89.3	226	1.5	15.68			112M4	89.3	411	0.9	15.68	112M4	89.3		411	0.9		15.68				
	84.0	240	1.5	16.68																		
	73.3	275	1.5	19.09																		
	63.7	316	1.3	21.96																		
	52.8	382	1.0	26.50																		
	50.7	398	1.0	27.61																		
	47.2	427	0.9	29.65																		
	245.0	82	4.3	5.71			ATS912	B5/B14	245.0	150	2.3	5.71	ATS912		B5/B14							
	182.7	110	3.2	7.66					245.0	201	1.7	7.66				245.0		201	1.7	7.66		
	158.2	128	3.1	8.85					182.7	232	1.7	8.85				182.7		232	1.7	8.85		
	151.8	133	3.0	9.22					151.8	242	1.7	9.22				151.8		242	1.7	9.22		
	124.7	162	2.5	11.23					124.7	294	1.4	11.23				124.7		294	1.4	11.23		
	117.9	171	2.3	11.87					117.9	311	1.3	11.87				117.9		311	1.3	11.87		
	108.4	186	2.7	12.92					108.4	338	1.5	12.92				108.4		338	1.5	12.92		
	98.0	206	2.4	14.29					98.0	374	1.3	14.29				98.0		374	1.3	14.29		
86.2	234	2.1	16.24	86.2	425	1.2			16.24	86.2	425	1.2		16.24								
80.5	251	2.0	17.39	80.5	456	1.1			17.39	80.5	456	1.1		17.39								
70.0	288	2.1	20.01	70.0	524	1.1			20.01	70.0	524	1.1		20.01								
66.3	304	2.0	21.10	66.3	553	1.1			21.10	66.3	553	1.1		21.10								
55.6	362	1.7	25.16	55.6	659	0.9			25.16	55.6	659	0.9		25.16								
54.2	372	1.6	25.81																			
48.5	407	1.5	28.88																			

ATS

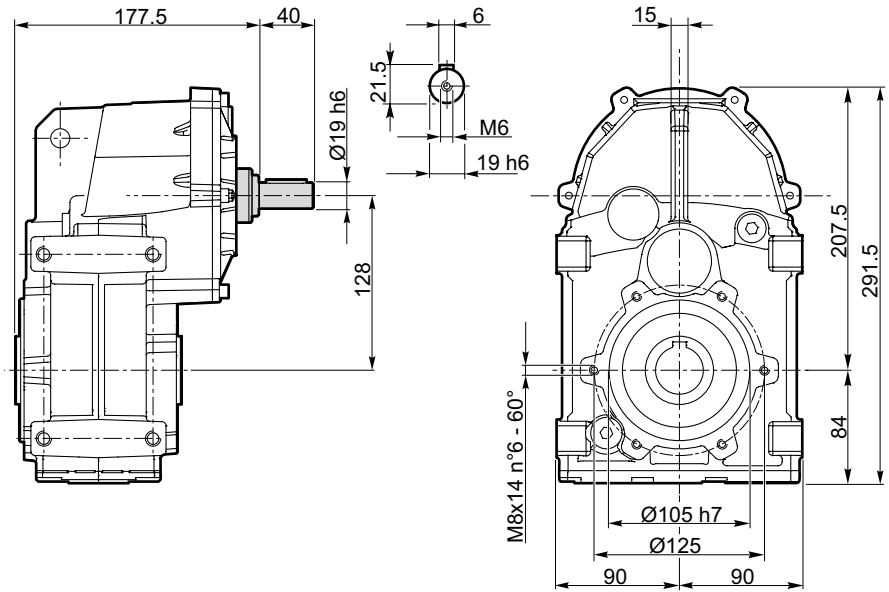


**ATS 902**

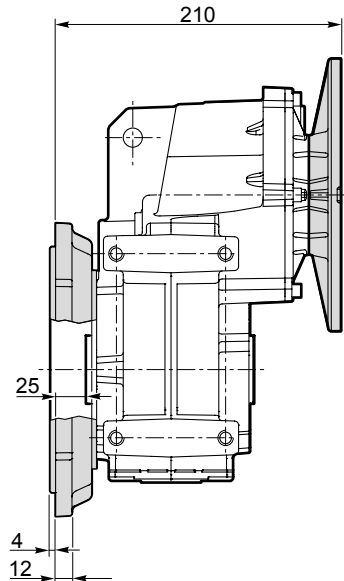
**ATS 902 U..**



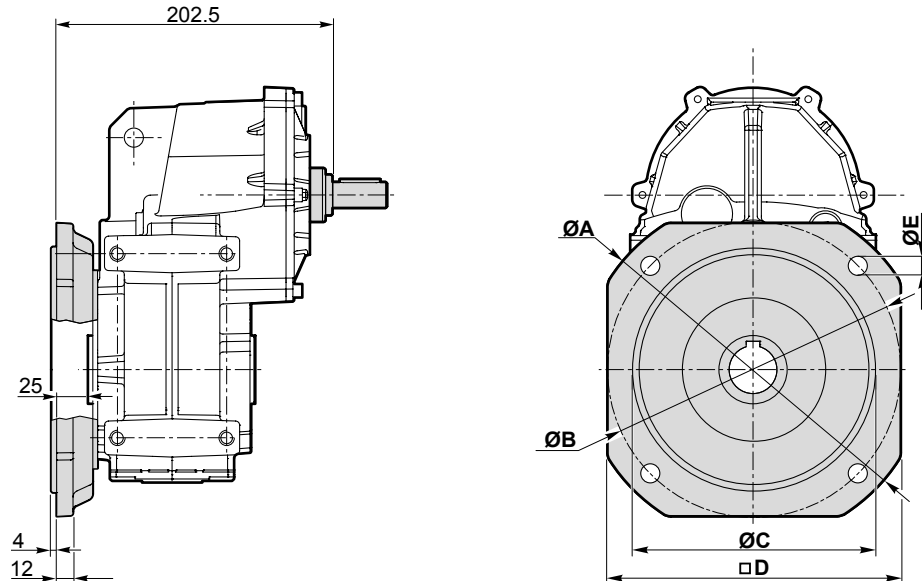
**ATSIS 902 U..**



**ATS 902 F..**



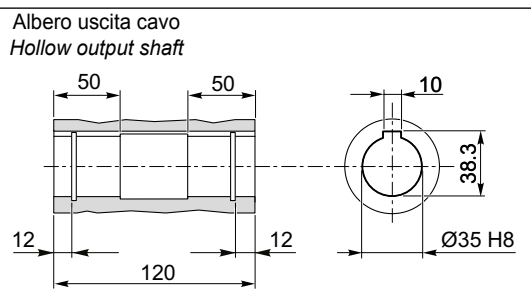
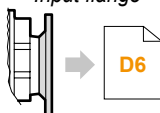
**ATSIS 902 F..**



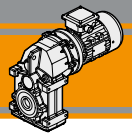
Versione F / F Version							
ATS ATSIS	ØA	ØB	ØC f7	□D	ØE	Flangia / Flange	
						Tipo / Type	Peso / Weight [kg]
902	200	165	130	165	11	F200	2
	250	215	180	215	14	F250	3.2

**ATS 902.. D35 - ATSIS 902.. D35**

Flangia entrata  
Input flange







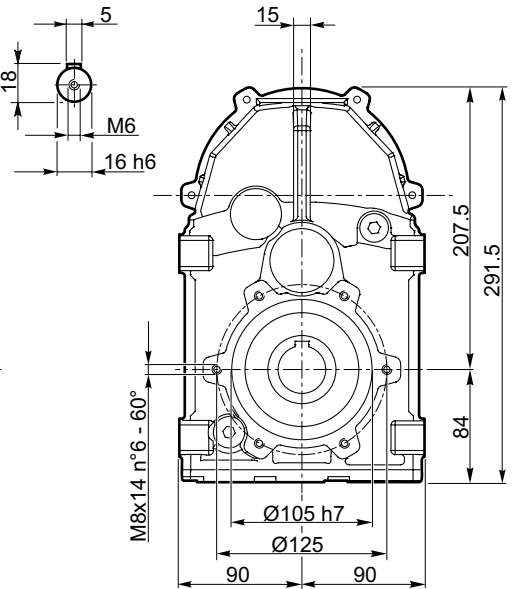
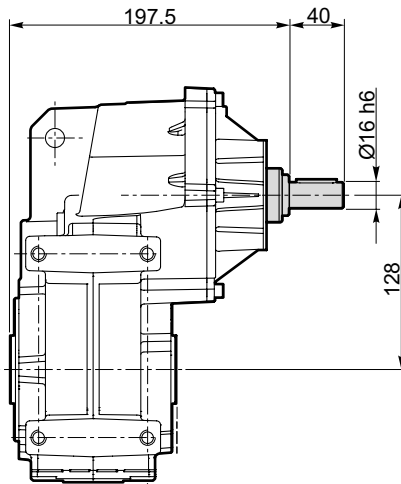
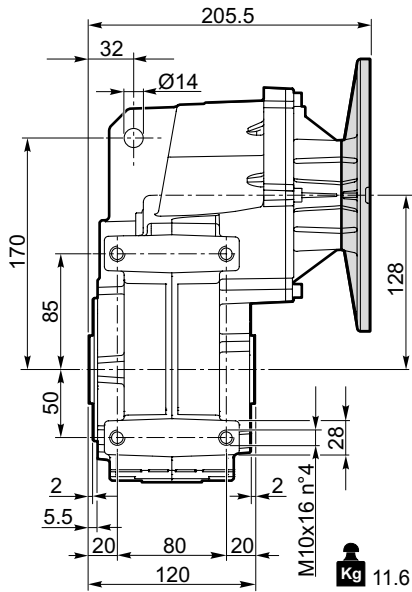
Dimensioni

Dimensions

**ATS 903**

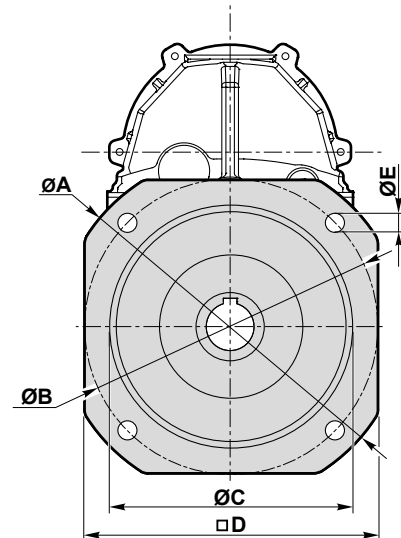
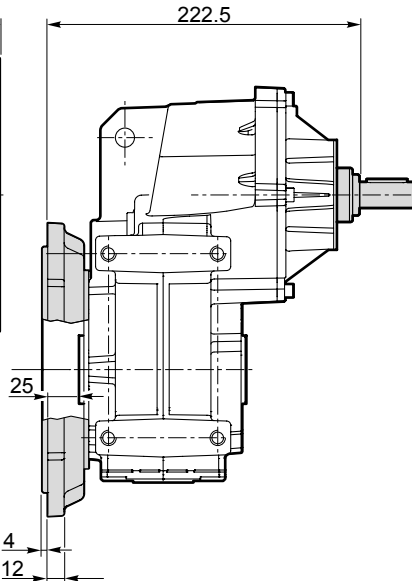
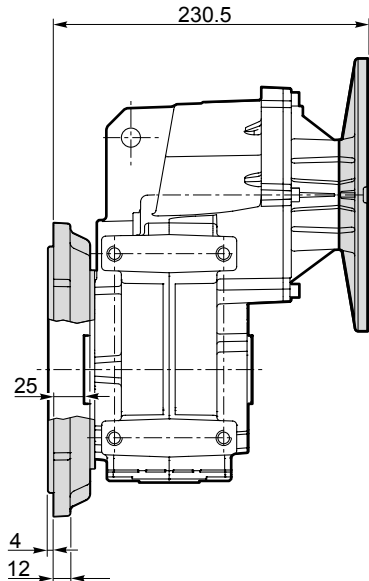
**ATS 903 U..**

**ATSIS 903 U..**



**ATS 903 F..**

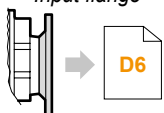
**ATSIS 903 F..**



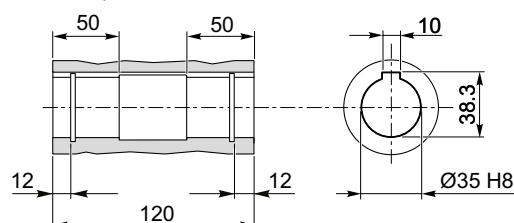
Versione F / F Version							
ATS ATSIS	ØA	ØB	ØC f7	□D	ØE	Flangia / Flange	
						Tipo / Type	Peso / Weight [kg]
903	200	165	130	165	11	F200	2
	250	215	180	215	14	F250	3.2

**ATS 903.. D35 - ATSIS 903.. D35**

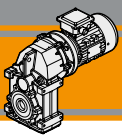
Flangia entrata  
Input flange



Albero uscita cavo  
Hollow output shaft



ATS

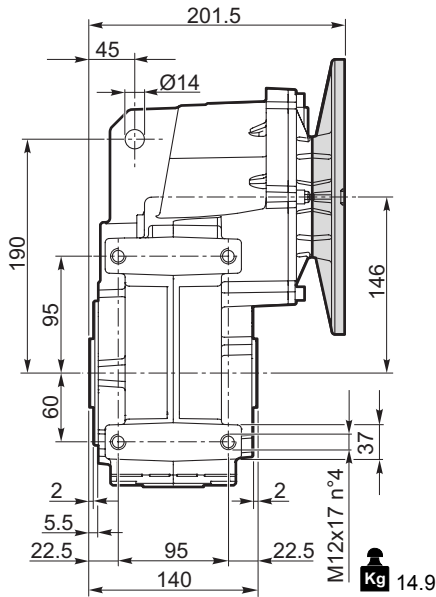


Dimensioni

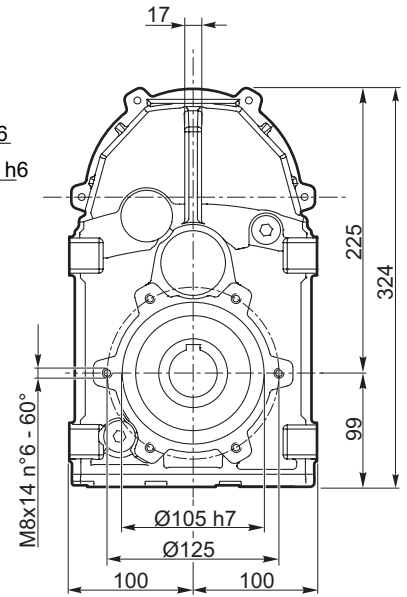
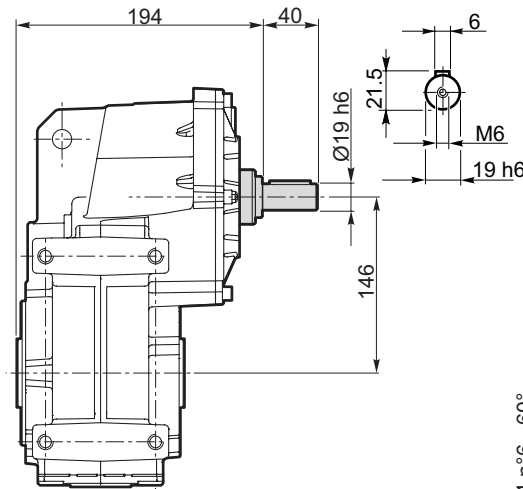
Dimensions

**ATS 912**

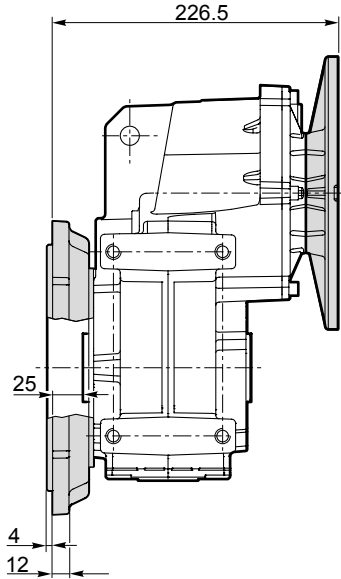
**ATS 912 U..**



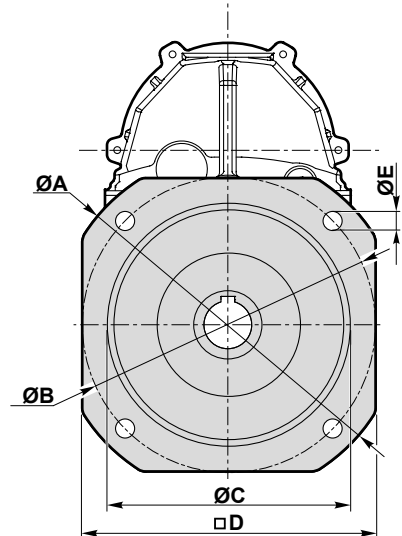
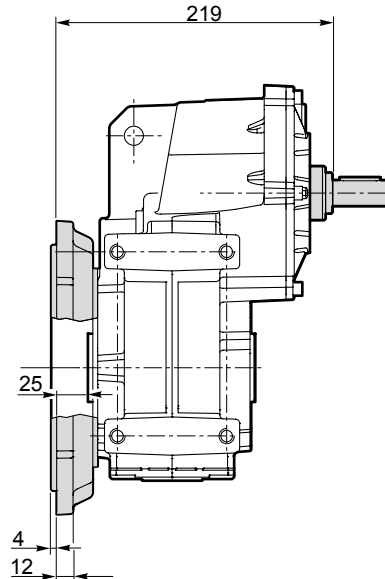
**ATSIS 912 U..**



**ATS 912 F..**



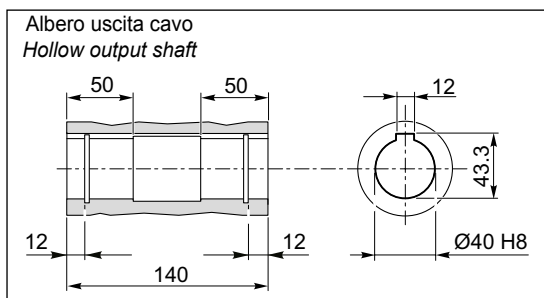
**ATSIS 912 F..**



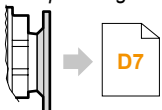
Versione F / F Version

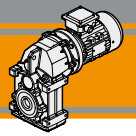
ATS ATSIS	ØA	ØB	ØC f7	□D	ØE	Flangia / Flange	
						Tipo / Type	Peso / Weight [kg]
912	200	165	130	165	11	F200	2
	250	215	180	215	14	F250	3.2

**ATS 912.. D40 - ATSIS 912.. D40**



Flangia entrata  
Input flange



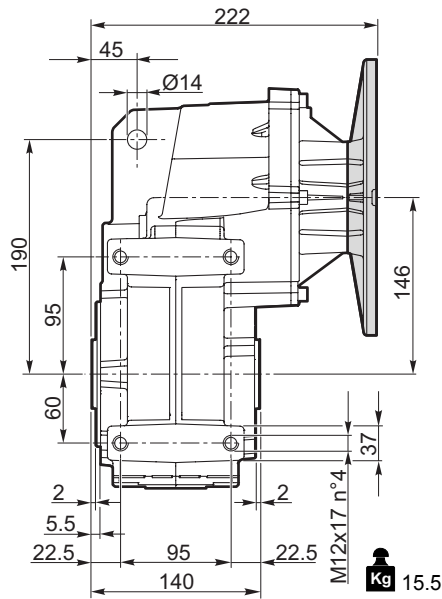


Dimensioni

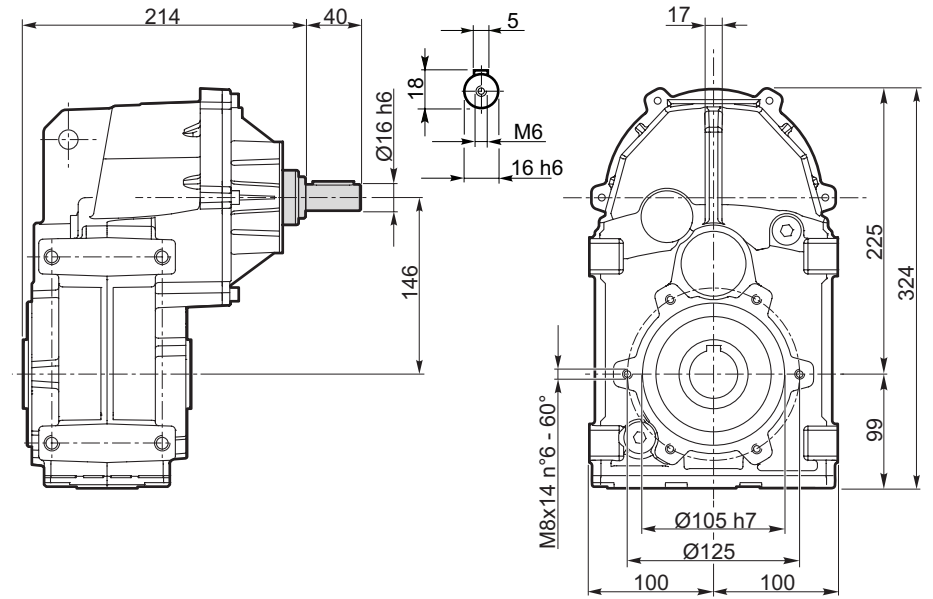
Dimensions

**ATS 913**

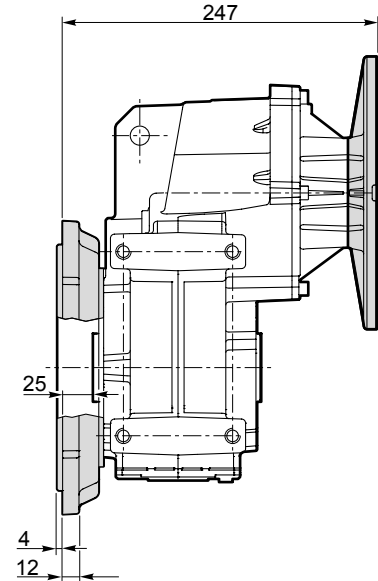
**ATS 913 U..**



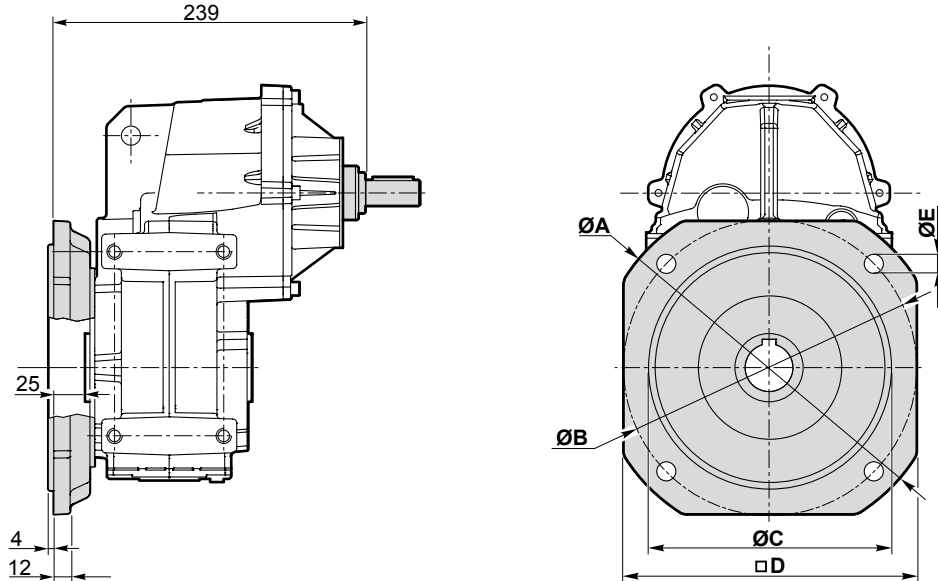
**ATSIS 913 U..**



**ATS 913 F..**



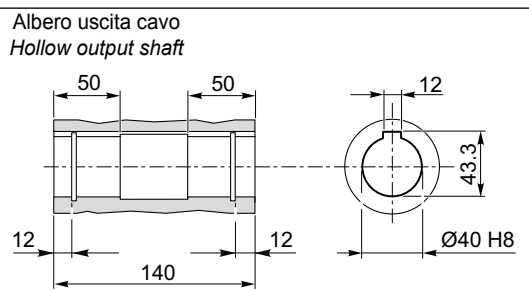
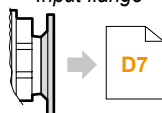
**ATSIS 913 F..**

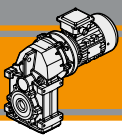


Versione F / F Version							
ATS ATSIS	$\varnothing A$	$\varnothing B$	$\varnothing C$ f7	$\square D$	$\varnothing E$	Flangia / Flange	
						Tipo / Type	Peso / Weight [kg]
<b>913</b>	200	165	130	165	11	<b>F200</b>	2
	250	215	180	215	14	<b>F250</b>	3.2

**ATS 913.. D40 - ATSIS 913.. D40**

Flangia entrata  
Input flange





**Accessori**

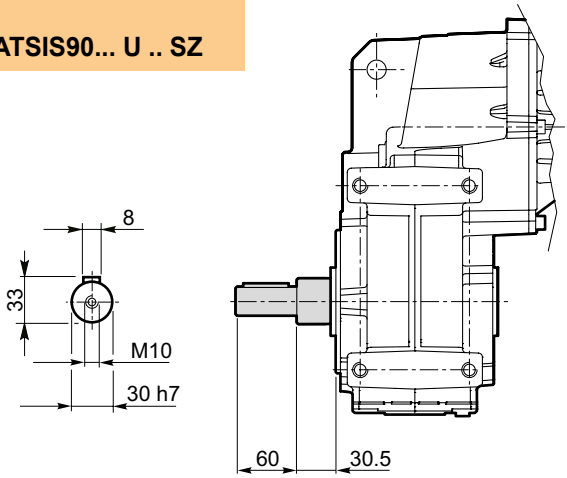
**Accessories**

**Albero lento semplice**

**Single output shaft**

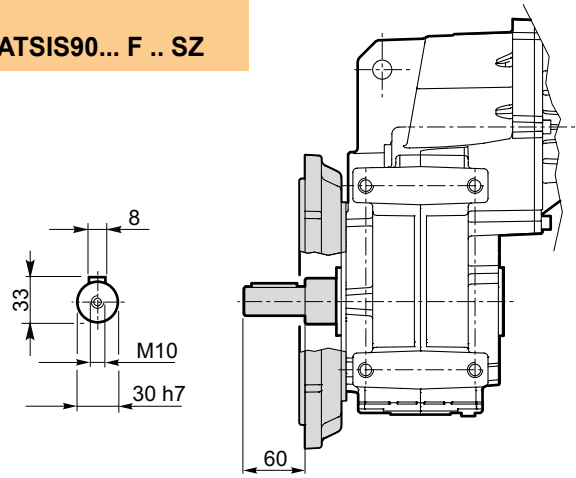
**ATS90... U .. SZ**

**ATSIS90... U .. SZ**



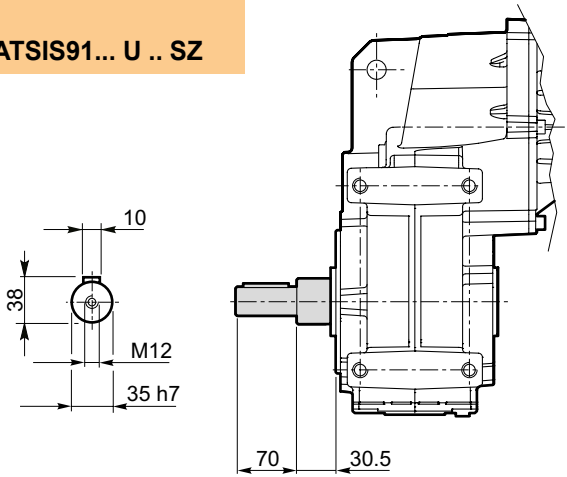
**ATS90... F .. SZ**

**ATSIS90... F .. SZ**



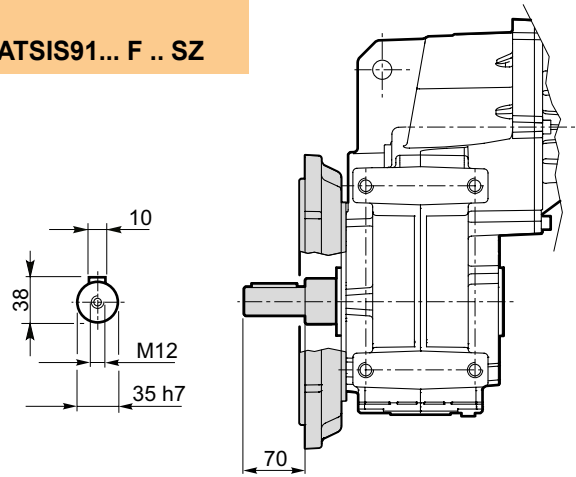
**ATS91... U .. SZ**

**ATSIS91... U .. SZ**



**ATS91... F .. SZ**

**ATSIS91... F .. SZ**

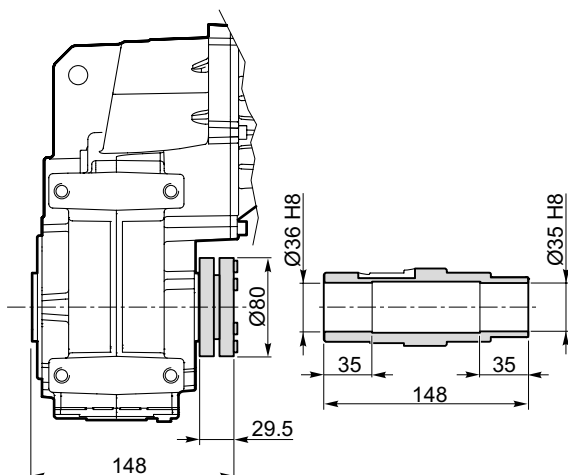


**Albero lento con calettatore**

**Output shaft with shrink disk**

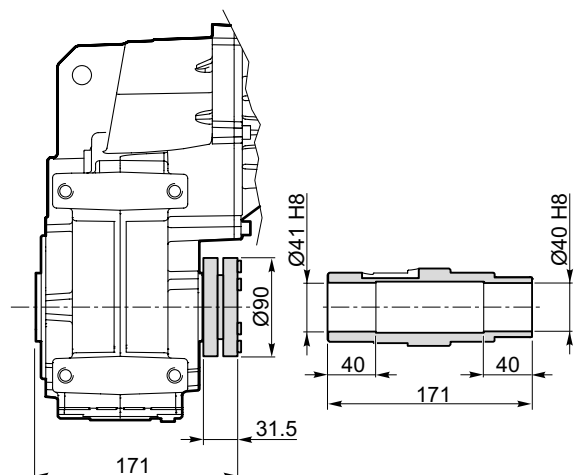
**ATS90... U .. G35**

**ATSIS90... U .. G35**



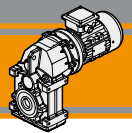
**ATS91... U .. G40**

**ATSIS91... U .. G40**



Kit albero uscita con calettatore disponibile a richiesta:  
per le istruzioni di montaggio riferirsi al nostro Servizio Tecnico.

Output shaft kit with shrink disk available on request:  
for assembly instructions please contact our Technical Service



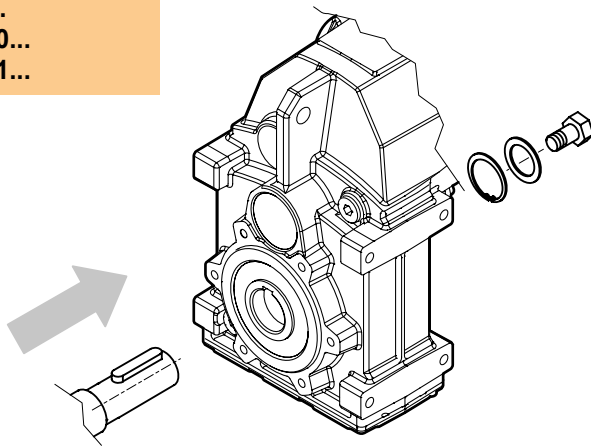
**Accessori**

**Accessories**

**Kit di montaggio albero uscita**

**Output shaft assembly kit**

ATS90...  
ATS91...  
ATSIS90...  
ATSIS91...



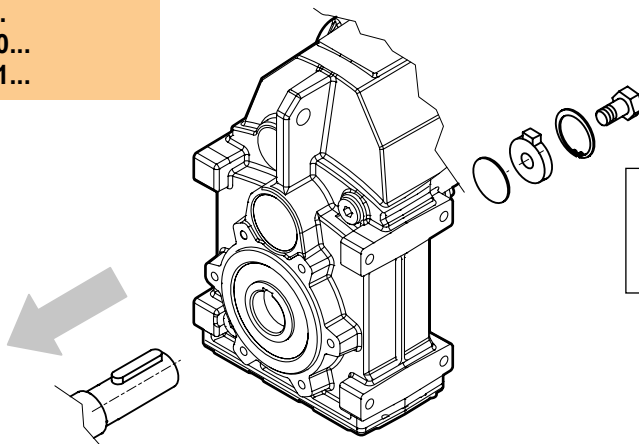
Kit di montaggio albero uscita disponibile a richiesta:  
per le istruzioni di montaggio riferirsi al nostro Servizio Tecnico.

*Output shaft assembly kit available upon request:  
for assembly instructions please contact our Technical Assistance*

**Kit di smontaggio albero uscita**

**Output shaft disassembly kit**

ATS90...  
ATS91...  
ATSIS90...  
ATSIS91...



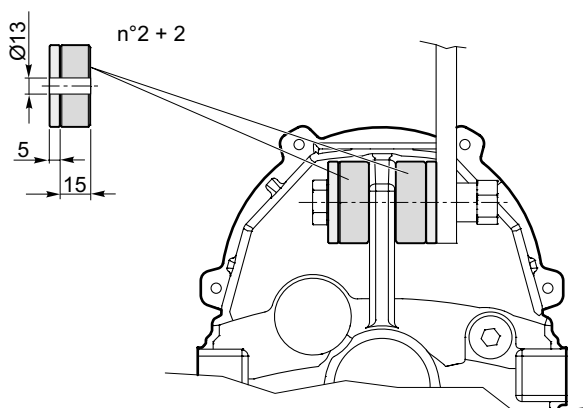
Kit di smontaggio albero uscita disponibile a richiesta:  
per le istruzioni di montaggio riferirsi al nostro Servizio Tecnico.

*Output shaft disassembly kit available upon request:  
for assembly instructions please contact our Technical Assistance*

**Kit braccio di reazione**

**Torque arm kit**

ATS90...U  
ATS91...U  
ATSIS90...U  
ATSIS91...U



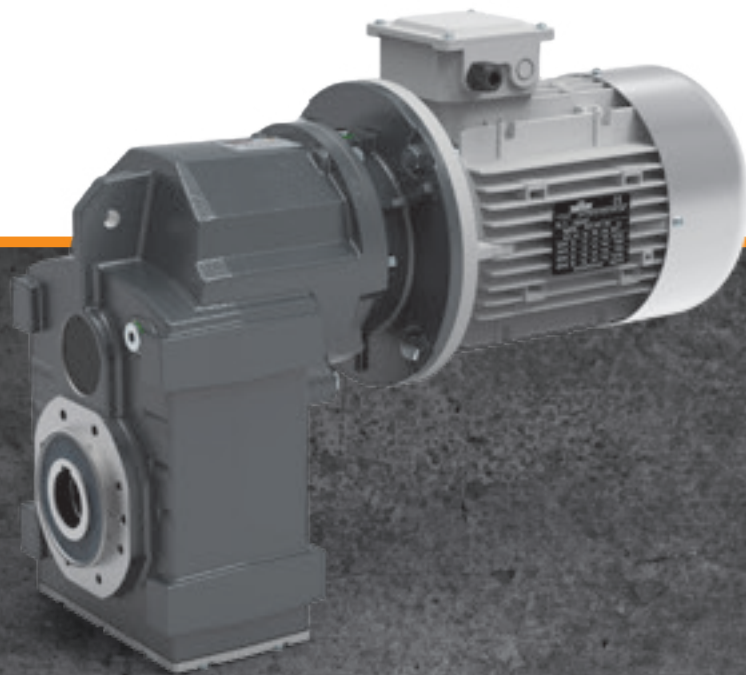
Kit braccio di reazione disponibile a richiesta:  
per le istruzioni di montaggio riferirsi al nostro Servizio Tecnico.

*Torque arm kit available upon request:  
for assembly instructions please contact our Technical Assistance*

**ATS**

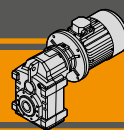


Motoriduttori pendolari  
**Helical parallel gearmotors**





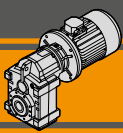




<b>Indice</b>	<b>Index</b>	Pag. Page
Caratteristiche tecniche	<i>Technical features</i>	<b>E2</b>
Versioni	<i>Versions</i>	<b>E2</b>
Designazione	<i>Classification</i>	<b>E3</b>
Sensi di rotazione	<i>Direction of rotation</i>	<b>E4</b>
Simbologia	<i>Symbols</i>	<b>E4</b>
Lubrificazione	<i>Lubrication</i>	<b>E5</b>
Carichi radiali	<i>Radial loads</i>	<b>E6</b>
Dati tecnici	<i>Technical data</i>	<b>E8</b>
Dimensioni	<i>Dimensions</i>	<b>E18</b>
Accessori	<i>Accessories</i>	<b>E25</b>

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata, l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet [www.transtecno.com](http://www.transtecno.com)**

*This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels, the most up to date content is not guaranteed. In this case the latest version is available on our web site [www.transtecno.com](http://www.transtecno.com)*



# ITS Motoriduttori pendolari Helical parallel gearmotors

## Caratteristiche tecniche

I motoriduttori della serie ITS sono dedicati ad applicazioni industriali che presentano carichi particolarmente gravosi. La costruzione robusta con carcassa in ghisa e l'elevata modularità dei diversi kit di entrata e di uscita li rendono adatti ad ogni tipo di applicazione.

Caratteristiche comuni a tutta la serie sono:

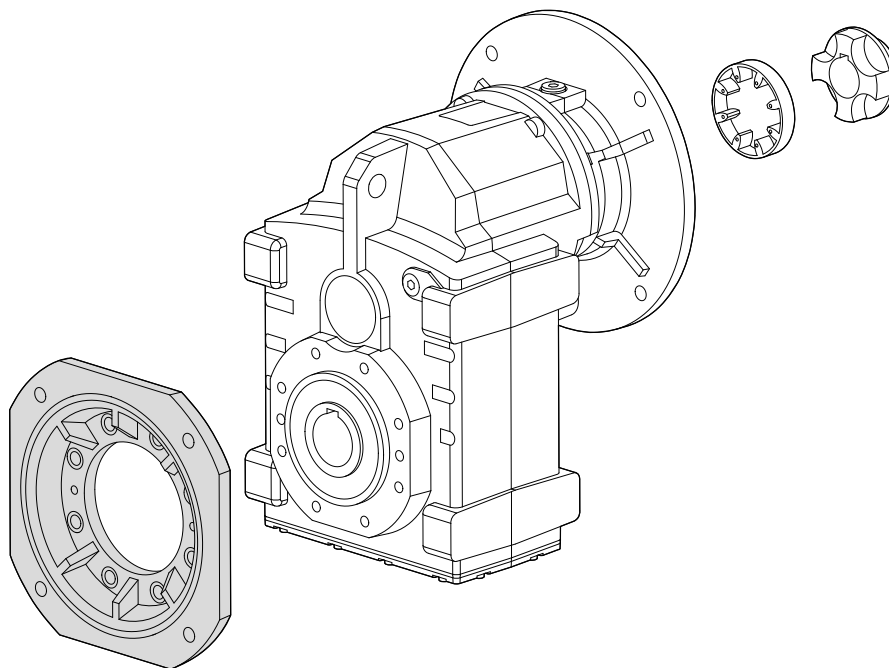
- Costruzione robusta con carcassa in ghisa
- Elevata modularità
- Lubrificazione con olio sintetico
- Accoppiamento al motore tramite giunto elastico
- Verniciatura a polvere epossidica RAL 7016 di spessore medio 0,10 – 0,15 mm

## Technical features

The ITS gearmotors are intended for heavy duty applications. The robust one pieces casing of the main housing and the modular design of input and output sets increase application flexibility.

The main features of ITS range are:

- Robust cast iron housings
- High degree of modularity
- Lubrication with synthetic oil
- Coupled to motor with flexible coupling
- Epoxy powder coating RAL 7016 average thickness 0,10 – 0,15 mm.



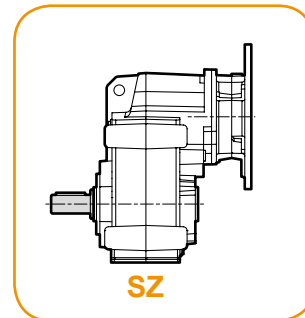
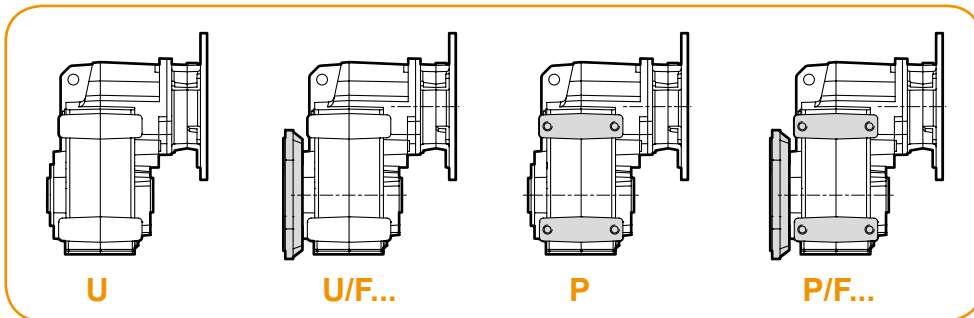
## Versioni

## Versions

ITS...

Versione Riduttore  
Gearbox Version

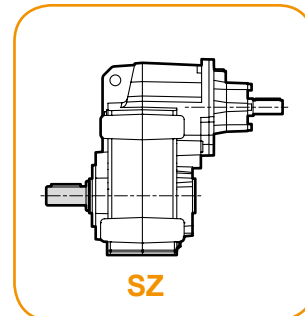
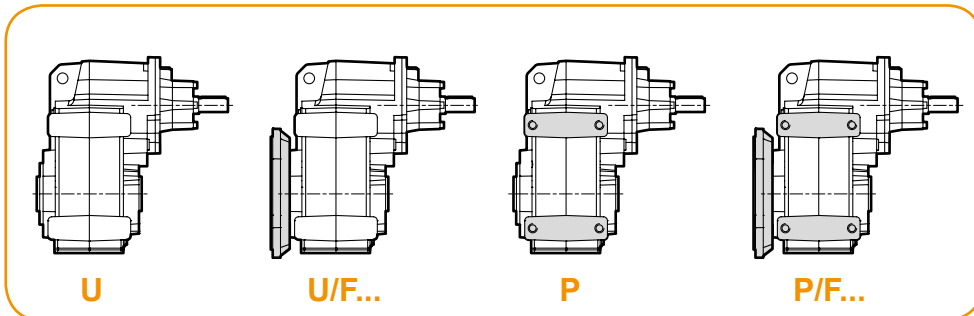
Albero di uscita  
Output shaft

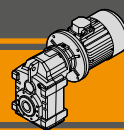


ITSIS...

Versione Riduttore  
Gearbox Version



Albero di uscita  
Output shaft




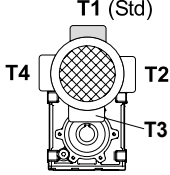


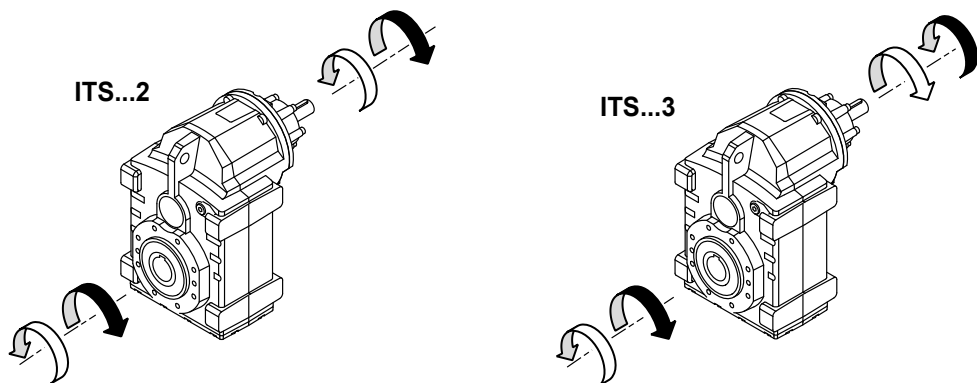
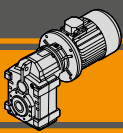
## Designazione

## Classification

RIDUTTORE / GEARBOX										
ITS	92	2	U	22.92	D40	132	B5	SZ	M1	CW
Tipo Type	Grandezza Size	Stadi Stages	Versione Version	Rapporto Ratio	Albero uscita Output shaft	IEC 	Forma costruttiva Version	Albero uscita maschio Solid outout shaft	Posizione di montaggio Mounting position	Dispositivo antiretro Backstop device
	92 93 94	2 3	U... U/F... P... P/F...	vedi tabelle see tables	vedi tabelle see tables	80.. — 180..	B5 B14	SZ	M1 (B3) M2 (V6) M3 (B8) M4 (V5) M5 (B7) M6 (B6)	CW CCW

RIDUTTORE / GEARBOX							
ITSIS	92	2	U	22.92	D40	SZ	M1
Tipo Type	Grandezza Size	Stadi Stages	Versione Version	Rapporto Ratio	Albero uscita Output shaft	Albero uscita maschio Solid outout shaft	Posizione di montaggio Mounting position
	92 93 94	2 3	U... U/F... P... P/F...	vedi tabelle see tables	vedi tabelle see tables	SZ	M1 (B3) M2 (V6) M3 (B8) M4 (V5) M5 (B7) M6 (B6)

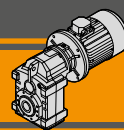
MOTORE / MOTOR						
5,5 kW	4p	3ph	230/400V	50Hz	T1	
Potenza Power	Poli Poles	Fasi Phases	Tensione Voltage	Frequenza Frequency	Pos. morsetteria Terminal box pos.	
vedi tabelle see tables	2p 4p 6p 8p	1ph 3ph	230/400V 220/380V ... 230V	50Hz 60Hz		



**Simbologia**

**Symbols**

$n_1$	[min <sup>-1</sup> ]	Velocità in ingresso / <i>Input speed</i>
$n_2$	[min <sup>-1</sup> ]	Velocità in uscita / <i>Output speed</i>
$i$		Rapporto di riduzione / <i>Ratio</i>
$P_1$	[kW]	Potenza in entrata / <i>Input power</i>
$M_2$	[Nm]	Coppia nominale in uscita in funzione di $P_1$ / <i>Output torque referred to <math>P_1</math></i>
$P_{n1}$	[kW]	Potenza nominale in entrata / <i>Nominal input power</i>
$M_{n2}$	[Nm]	Coppia nominale in uscita in funzione di $P_{n1}$ / <i>Nominal output torque referred to <math>P_{n1}</math></i>
$sf$		Fattore di servizio / <i>Service factor</i>
$R_1$	[N]	Carico radiale ammissibile in entrata / <i>Permitted input radial load</i>
$A_1$	[N]	Carico assiale ammissibile in entrata / <i>Permitted input axial load</i>
$R_{2U}$	[N]	Carico radiale ammissibile in uscita per la versione "U..." / <i>Permitted output radial load for "U..." version</i>
$R_{2P}$	[N]	Carico radiale ammissibile in uscita per la versione "P..." / <i>Permitted output radial load for "P..." version</i>
$R_2$	[N]	Carico radiale ammissibile in uscita / <i>Permitted output radial load</i>
$A_2$	[N]	Carico assiale ammissibile in uscita / <i>Permitted output axial load</i>

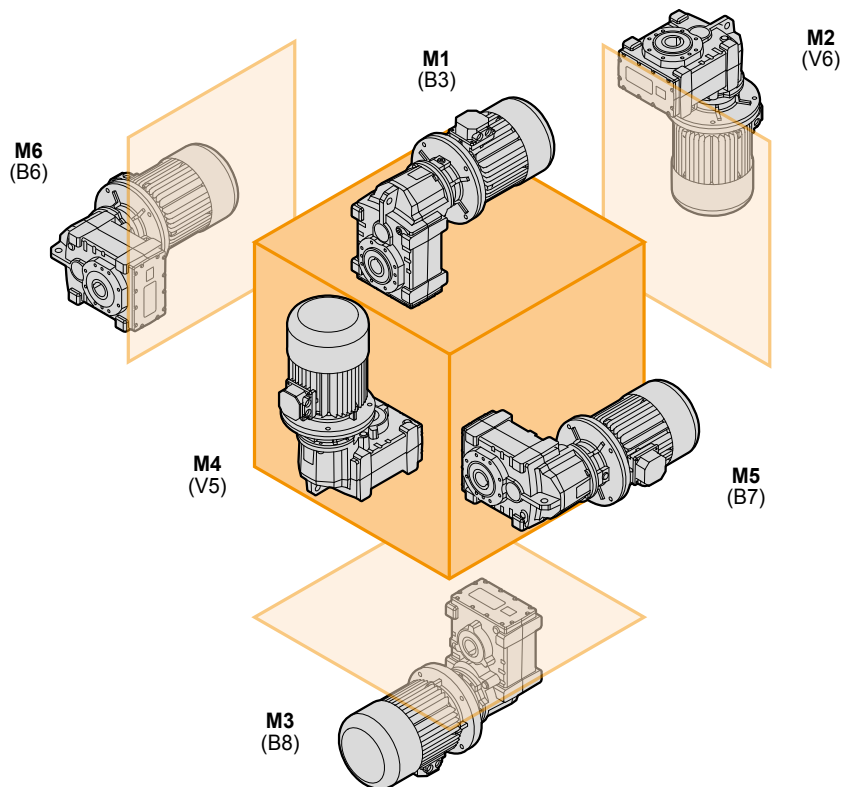


## Lubrificazione

## Lubrication

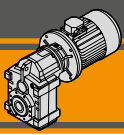
I motoriduttori della serie ITS sono forniti completi di lubrificante sintetico viscosità 320. La quantità di lubrificante dipende dalla posizione di montaggio.

*ITS series gearmotors come complete with synthetic lubricant 320 viscosity. The lubricant quantity depends on assembly position.*



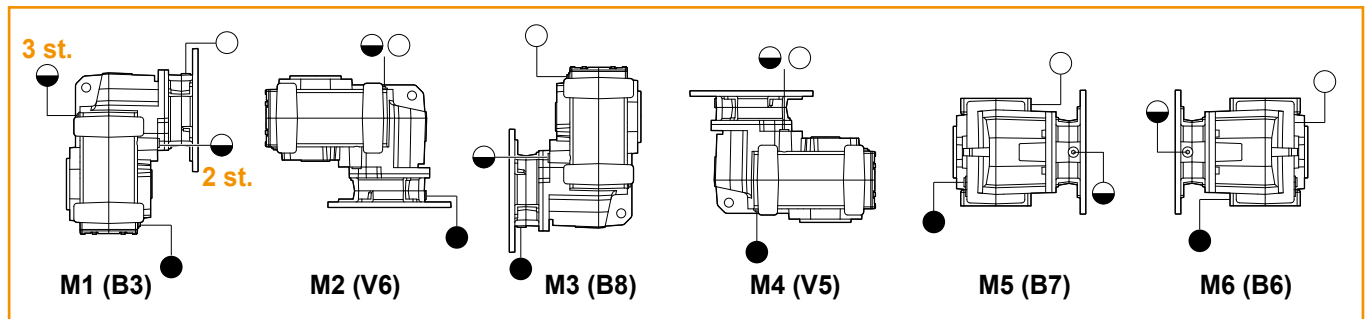
ITS

ITS	Quantità di olio (litri) / Oil quantity (litres)					
	M1 (B3)	M2 (V6)	M3 (B8)	M4 (V5)	M5 (B7)	M6 (B6)
922	3,4	5,2	4,2	6,1	3,7	3,6
923	4,9					
932	4,7	7,0	4,3	7,7	4,5	4,4
933	6,7					
942	9,1	14,4	9,1	15,4	9,1	8,9
943	12,0					



# ITS Motoriduttori pendolari Helical parallel gearmotors

ITSIS	Quantità di olio (litri) / Oil quantity (litres)					
	M1 (B3)	M2 (V6)	M3 (B8)	M4 (V5)	M5 (B7)	M6 (B6)
922	3,6	5,6	4,4	6,1	3,9	3,8
923	5,1					
932	4,9	7,4	4,7	7,7	4,7	4,6
933	6,9					
942	9,3	15,1	9,8	15,4	9,5	9,3
943	12,2	14,8	9,5	15,4	9,3	9,1



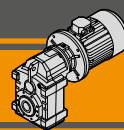
- Sfiato e tappo di riempimento / Breather and filling plug
- ◐ Livello olio / Oil level plug
- Tappo di scarico / Oil drain plug

## Carichi radiali in entrata

## Input Radial loads

ITS 922 ITS 923 -932 ITS 933 - 943	$n_1$ [min <sup>-1</sup> ]	Potenza motore/ Motor Power [kW]			
		2.2	3.0	4.0	5.5
$R_1$ [N]	1400	1800			750
	900	2100		1200	-
	500	2500	-	-	-

ITS 942	$n_1$ [min <sup>-1</sup> ]	Potenza motore/ Motor Power [kW]					
		5.5	7.5	9.2	11.0	15.0	18.5
$R_1$ [N]	1400	3700				2800	1200
	900	4900			3300	650	-
	500	5250	3900	1300	-	-	-

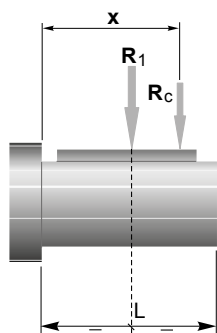
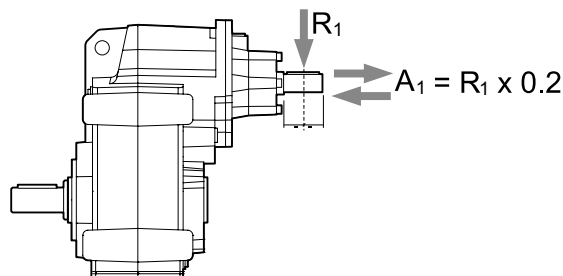


I carichi radiali uscita massimi applicabili sono riportati nelle tabelle precedenti.

Quando il carico radiale risultante non è applicato sulla mezzeria dell'albero occorre calcolare quello effettivo con la seguente formula:

*The radial loads maximum output applicable are indicated in the previous tables.*

*When the resulting radial load is not applied on the centre line of the shaft it is necessary to calculate the effective load with the following formula:*



	ITS922	ITS923	ITS932	ITS933	ITS942	ITS943
a		139			157	139
b		110			118	110

$$R_c = \frac{R_1 \cdot a}{(b+x)} \leq R_1$$

$$R \leq R_c$$

*a, b = valori riportati nella tabella  
a, b = values given in the table*

## Carichi radiali in uscita

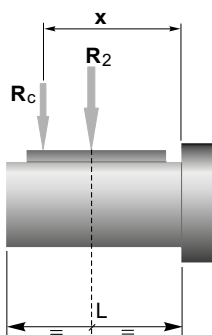
I carichi radiali uscita massimi applicabili sono riportati nelle tabelle dati tecnici.

Quando il carico radiale risultante non è applicato sulla mezzeria dell'albero occorre calcolare quello effettivo con la seguente formula:

## Output radial loads

*The radial loads maximum output applicable are indicated in the technical data table.*

*When the resulting radial load is not applied on the centre line of the shaft it is necessary to calculate the effective load with the following formula:*



ITS	922 U... 923 U...	922 P... 923 P...	932 U... 933 U...	932 P... 933 P...	942 U... 943 U...	942 P... 943 P...
a	190	182	224	216	262	252
b	150	142	174	166	202	192
R <sub>2MAX</sub>	9500	18000	12000	23000	15000	31000

$$R_c = \frac{R_2 \cdot a}{(b+x)} \leq R_{2MAX}$$

$$R \leq R_c$$

*a, b = valori riportati nella tabella  
a, b = values given in the table*

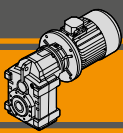
La versione U utilizza cuscinetti a sfere sull'asse di uscita mentre la versione P utilizza cuscinetti a rulli conici.

E' possibile utilizzare cuscinetti a rulli conici anche sulla versione U a richiesta.

*U version has ball bearings on the output side.*

*P version uses taper roller bearings.*

*It's possible to have taper roller bearings for U version upon request.*





# ITS Motoriduttori pendolari Helical parallel gearmotors

## Dati tecnici

$n_1$  1400 min<sup>-1</sup>


## Technical data

	$n_2$ [min <sup>-1</sup> ]	$Mn_2$ [Nm]	$Pn_1$ [kW]	$i$	$R_2 U$ [N]	$R_2 P$ [N]		IEC Motori applicabili IEC Motor adapters									
<b>ITSIS 922</b>								<b>ITS 922</b>									
								<b>80B5</b>	<b>90B5/B14</b>	<b>100B5/B14</b>	<b>112B5/B14</b>	<b>132B5/B14</b>					
248	500	13.50	5.66	2492	9368												
198	500	10.82	7.06	2835	10580												
167	500	9.13	8.37	3131	11619												
153	650	10.87	9.13	3078	11708												
134	650	9.51	10.43	3327	12602												
116	650	8.24	12.04	3618	13638												
104	750	8.48	13.50	3685	14122												
90	750	7.39	15.50	3994	15236												
79	900	7.72	17.81	4012	15753												
64	900	6.32	21.73	4506	17576												
61	900	6.00	22.92	4648	18095												
59	900	5.78	23.80	4751	18500												
53	900	5.16	26.63	5073	18500								*				
48	900	4.70	29.26	5360	18500								*				
44	1000	4.75	32.14	5361	18500								*				
40	1000	4.43	35.19	5652	18500								*				
36	1000	3.96	39.38	6035	18500								*				
32	1000	3.60	43.27	6376	18500								*				
30	1000	3.28	47.50	6733	18500						*	*					
25	1100	3.07	55.96	6992	18500						*						
23	1100	2.80	61.25	7371	18500						*						
21	1100	2.54	67.50	7800	18500						*						

<b>ITSIS 923</b>							
19	1100	2.29	75.00	8295	18500		
16	1100	1.99	86.28	9001	18500		
15	1100	1.82	94.46	9500	18500		
13	1100	1.58	108.48	9500	18500		
12	1100	1.44	118.77	9500	18500		
9.9	1100	1.22	140.93	9500	18500		
9.1	1100	1.11	154.30	9500	18500		
8.1	1100	1.00	172.40	9500	18500		
7.4	1100	0.91	188.76	9500	18500		
6.6	1100	0.81	211.15	9500	18500		
5.9	1100	0.72	238.53	9500	18500		
5.1	1100	0.63	272.74	9500	18500		
4.8	1100	0.59	289.29	9500	18500		
4.4	1100	0.54	316.73	9500	18500		
4.1	1100	0.50	342.86	9500	18500		
3.7	1100	0.46	375.38	9500	18500		


<b>ITS 923</b>					
71B5	80B5	90B5/B14	100B5/B14	112B5/B14	
				*	
			*	*	
			*	*	
			*	*	
			*	*	
			*	*	
			*	*	
		*	*	*	
		*	*	*	
		*	*	*	
		*	*	*	
	*	*	*	*	
	*	*	*	*	

N.B.  
Le aree evidenziate indicano l'applicabilità della corrispondente grandezza motore.

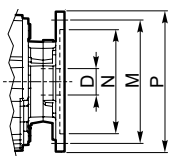
 \* = Il fattore di servizio (sf) deve essere scelto in funzione dell'applicazione: si prega di contattare il nostro Servizio Tecnico.

Prima di eseguire la scelta del motoriduttore riferirsi alle prestazioni elencate nelle tabelle dalla pag. E11 alla pag. E17.

N.B.  
Highlighted areas indicate motor inputs available on each size of unit.

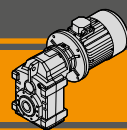
 \* = The service factor (sf) has to be selected depending on application: please contact our Technical Department.

Before selecting any gearbox, please read the performance values shown in the tables on page E11 to E17.



Dimensioni IEC / IEC Dimensions								
	71 B5	80 B5	90 B5	90 B14	100/112 B5	100/112 B14	132 B5	132 B14
<b>N</b>	110	130	130	95	180	110	230	130
<b>M</b>	130	165	165	115	215	130	265	165
<b>P</b>	160	200	200	140	250	160	300	200
<b>D</b>	14	19	24		28		38	







Dati tecnici

$n_1$  1400 min<sup>-1</sup>


Technical data

		$n_2$ [min <sup>-1</sup> ]	$Mn_2$ [Nm]	$Pn_1$ [kW]	$i$	$R_2 U$ [N]	$R_2 P$ [N]						
								IEC Motori applicabili IEC Motor adapters					
<b>ITSIS 932</b>													
								<b>80B5</b>	<b>90B5/B14</b>	<b>100B5/B14</b>	<b>112B5/B14</b>	<b>132B5/B14</b>	<b>160B5</b>
228	850	21.16	6.13	2770	11626								
183	850	16.96	7.65	3152	13130								
155	850	14.37	9.03	3472	14386								
141	900	13.88	9.90	3606	14984								
124	900	12.20	11.27	3889	16091								
107	900	10.52	13.06	4238	17453								
96	900	9.43	14.58	4519	18541								*
83	1000	9.09	16.81	4754	19661								*
73	1000	7.94	19.24	5144	21179								*
59	1200	7.77	23.57	5412	22749								*
57	1200	7.40	24.75	5568	23000								*
54	1400	8.28	25.81	5306	23000								
49	1400	7.40	28.88	5665	23000								
40	1650	7.26	34.71	5714	23000								*
37	1650	6.63	38.01	6024	23000								
33	1650	6.05	42.53	6432	23000								
30	1650	5.51	46.73	6796	23000								
27	1650	5.02	51.30	7176	23000								
23	1650	4.26	60.44	7896	23000								
21	1650	3.89	66.15	8323	23000								
19	1500	3.21	72.90	9358	23000						*		

<b>ITSIS 933</b>						
17	1700	3.27	81.00	9172	23000	
15	1700	2.85	93.18	9953	23000	
14	1700	2.60	102.02	10493	23000	
12	1700	2.26	117.16	11376	23000	
11	1700	2.07	128.28	12000	23000	
9.2	1700	1.74	152.21	12000	23000	
8.4	1700	1.59	166.65	12000	23000	
7.5	1700	1.42	186.19	12000	23000	
6.9	1700	1.30	203.86	12000	23000	
6.1	1700	1.16	228.05	12000	23000	
5.4	1700	1.03	257.61	12000	23000	
4.8	1700	0.90	294.56	12000	23000	
4.5	1700	0.85	312.43	12000	23000	
4.1	1700	0.78	342.07	12000	23000	
3.8	1700	0.72	370.29	12000	23000	
3.5	1700	0.65	405.42	12000	23000	


<b>ITS 933</b>				
71B5	80B5	90B5/B14	100B5/B14	112B5/B14
				*
				*
				*
				*
				*
			*	*
			*	*
			*	*
			*	*
			*	*
			*	*
		*	*	*
		*	*	*
		*	*	*
		*	*	*

N.B.  
Le aree evidenziate indicano l'applicabilità della corrispondente grandezza motore.

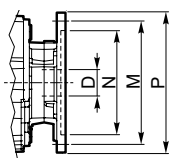
 \* = Il fattore di servizio (sf) deve essere scelto in funzione dell'applicazione: si prega di contattare il nostro Servizio Tecnico.

Prima di eseguire la scelta del motoriduttore riferirsi alle prestazioni elencate nelle tabelle dalla pag. E11 alla pag. E17.

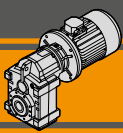
N.B.  
Highlighted areas indicate motor inputs available on each size of unit.

 \* = The service factor (sf) has to be selected depending on application: please contact our Technical Department.

Before selecting any gearbox, please read the performance values shown in the tables on page E11 to E17.





Dimensioni IEC / IEC Dimensions									
	71 B5	80 B5	90 B5	90 B14	100/112 B5	100/112 B14	132 B5	132 B14	160 B5
N	110	130	130	95	180	110	230	130	250
M	130	165	165	115	215	130	265	165	300
P	160	200	200	140	250	160	300	200	350
D	14	19	24		28		38		42



## Dati tecnici

$n_1$  1400 min<sup>-1</sup>

## Technical data

	$n_2$ [min <sup>-1</sup> ]	$Mn_2$ [Nm]	$Pn_1$ [kW]	$i$	$R_2 U$ [N]	$R_2 P$ [N]		IEC Motori applicabili IEC Motor adapters
<b>ITSIS 942</b>							<b>ITS 942</b>	
								90B5/B14 100B5/B14 112B5/B14 132B5/B14 160B5 180B5
	177	1500	28.90	7.93	4206	17268		
	146	1500	23.89	9.59	4701	19178		
	131	1700	24.34	10.67	4816	19916		
	118	1700	21.96	11.82	5113	21074	*	*
	109	2000	23.66	12.91	5070	21422		
	99	2000	21.49	14.21	5364	22590		
	88	2400	23.04	15.91	5258	22990		
	81	2400	21.15	17.33	5527	24097		
	73	2500	19.96	19.13	5725	25158		
	60	2500	16.37	23.32	6426	28055		*
	48	2700	14.01	29.42	7022	31000		*
	45	3000	14.61	31.35	6763	31000		*
	35	3000	11.57	39.60	7751	31000		*
	32	2700	9.53	43.25	8792	31000		
	29	2700	8.60	47.95	9337	31000		
	26	3200	9.34	53.43	8754	31000		
	24	3200	8.57	58.22	9203	31000		
	22	3200	7.73	64.53	9773	31000		
	20	3000	6.65	70.40	10842	31000		
	18	3000	6.08	77.00	11424	31000		

## ITSIS 943

	15	3200	5.31	94.05	12175	31000
	14	3200	4.99	99.94	12614	31000
	13	3200	4.56	109.42	13299	31000
	12	3200	4.12	121.00	14102	31000
	10	3200	3.71	134.54	15000	31000
	9.5	3200	3.38	147.69	15000	31000
	8.2	3200	2.94	169.71	15000	31000
	7.5	3200	2.69	185.82	15000	31000
	6.7	3200	2.40	207.90	15000	31000
	6.1	3200	2.18	228.46	15000	31000
	5.6	3200	1.99	250.80	15000	31000
	4.7	3200	1.69	295.48	15000	31000
	4.3	3200	1.54	323.40	15000	31000
	3.9	3200	1.40	356.40	15000	31000

## ITS 943

80B5	90B5/B14	100B5/B14	112B5/B14	132B5/B14
				*
				*
				*
			*	*
			*	*
			*	*
			*	*
			*	*
		*	*	*
		*	*	*
		*	*	*
		*	*	*

N.B.

Le aree evidenziate indicano l'applicabilità della corrispondente grandezza motore.



\* = Il fattore di servizio (sf) deve essere scelto in funzione dell'applicazione: si prega di contattare il nostro Servizio Tecnico.

Prima di eseguire la scelta del motoriduttore riferirsi alle prestazioni elencate nelle tabelle dalla pag. E11 alla pag. E17.

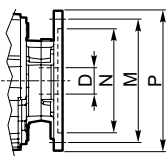
N.B.

Highlighted areas indicate motor inputs available on each size of unit.

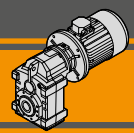


\* = The service factor (sf) has to be selected depending on application: please contact our Technical Department.

Before selecting any gearbox, please read the performance values shown in the tables on page E11 to E17.










Dimensioni IEC / IEC Dimensions									
	80 B5	90 B5	90 B14	100/112 B5	100/112 B14	132 B5	132 B14	160 B5	180 B5
<b>N</b>	130	130	95	180	110	230	130	250	250
<b>M</b>	165	165	115	215	130	265	165	300	300
<b>P</b>	200	200	140	250	160	300	200	350	350
<b>D</b>	19	24		28		38		42	48






Dati tecnici




Technical data

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i			R <sub>2 U</sub> [N]	R <sub>2 P</sub> [N]	
<b>0.25</b>									
71A4 (1400 min <sup>-1</sup> )	5.9	382	2.9	238.53	ITS923		9500	18500	
	5.1	437	2.5	272.74			B5	9500	18500
	4.8	464	2.4	289.29			B5	9500	18500
	4.4	508	2.2	316.73			B5	9500	18500
	4.1	550	2.0	342.86			B5	9500	18500
	3.7	602	1.8	375.38	B5	9500	18500		
	5.4	413	4.1	257.61	ITS933		12000	23000	
	4.8	472	3.6	294.56			B5	12000	23000
	4.5	501	3.4	312.43			B5	12000	23000
	4.1	548	3.1	342.07			B5	12000	23000
3.8	594	2.9	370.29	B5			12000	23000	
3.5	650	2.6	405.42	B5	12000	23000			

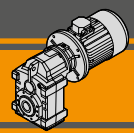
P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i			R <sub>2 U</sub> [N]	R <sub>2 P</sub> [N]	
<b>0.55</b>									
80A4 (1400 min <sup>-1</sup> )	19	265	4.2	75.00	ITS923		9500	18500	
	16	304	3.6	86.28			B5	9500	18500
	15	333	3.3	94.46			B5	9500	18500
	13	383	2.9	108.48			B5	9500	18500
	12	419	2.6	118.77			B5	9500	18500
	9.9	497	2.2	140.93	B5	9500	18500		
	9.1	544	2.0	154.30	B5	9500	18500		
	8.1	608	1.8	172.40	B5	9500	18500		
	7.4	666	1.7	188.76	B5	9500	18500		
	6.6	745	1.5	211.15	B5	9500	18500		
5.9	841	1.3	238.53	B5	9500	18500			
5.1	962	1.1	272.74	B5	9500	18500			
4.8	1020	1.1	289.29	B5	9500	18500			
4.4	1117	1.0	316.73	B5	9500	18500			

<b>0.37</b>									
71B4 (1400 min <sup>-1</sup> )	5.9	566	1.9	238.53	ITS923		9500	18500	
	5.1	647	1.7	272.74			B5	9500	18500
	4.8	686	1.6	289.29			B5	9500	18500
	4.4	751	1.5	316.73			B5	9500	18500
	4.1	813	1.4	342.86			B5	9500	18500
	3.7	891	1.2	375.38	B5	9500	18500		
	5.4	611	2.8	257.61	ITS933		12000	23000	
	4.8	699	2.4	294.56			B5	12000	23000
	4.5	741	2.3	312.43			B5	12000	23000
	4.1	812	2.1	342.07			B5	12000	23000
3.8	879	1.9	370.29	B5			12000	23000	
3.5	962	1.8	405.42	B5	12000	23000			

<b>0.55</b>									
80A4 (1400 min <sup>-1</sup> )	247	20	25	5.66	ITS922		3016	10554	
	198	25	20	7.06			B5	3424	11905
	167	30	17	8.37			B5	3775	13059
	153	33	20	9.13			B5	3969	13693
	134	38	17	10.43			B5	4283	14723
	116	43	15	12.04			B5	4647	15910
	104	49	15	13.50			B5	4958	16920
	90	56	13	15.50			B5	5359	18223
	79	64	14	17.81			B5	5795	18500
	64	78	11	21.73			B5	6474	18500
	61	83	11	22.92			B5	6667	18500
	59	86	11	23.80			B5	6807	18500
	53	96	9.4	26.63			B5	7240	18500
	48	105	8.5	29.26			B5	7623	18500
	44	116	8.6	32.14			B5	8021	18500
	40	124	8.1	35.19			B5	8430	18500
	36	139	7.2	39.38			B5	8951	18500
	32	153	6.6	43.27			B5	9408	18500
	29	168	6.0	47.50			B5	9500	18500
	25	197	5.6	55.96			B5	9500	18500
23	216	5.1	61.25	B5	9500	18500			
21	238	4.6	67.50	B5	9500	18500			



30	165	10.0	46.73	ITS932		B5	10992	23000
27	181	9.1	51.30			B5	11559	23000
23	213	7.7	60.44			B5	12000	23000
21	233	7.1	66.15			B5	12000	23000
19	257	5.8	72.90			B5	12000	23000
17	286	6.0	81.00	ITS933		B5	12000	23000
15	329	5.2	93.18			B5	12000	23000
14	360	4.7	102.02			B5	12000	23000
12	413	4.1	117.16			B5	12000	23000
11	452	3.8	128.28			B5	12000	23000
9.2	537	3.2	152.21			B5	12000	23000
8.4	588	2.9	166.65			B5	12000	23000
7.5	657	2.6	186.19			B5	12000	23000
6.9	719	2.4	203.86			B5	12000	23000
6.1	804	2.1	228.05			B5	12000	23000
5.4	908	1.9	257.61			B5	12000	23000
4.8	1039	1.6	294.56			B5	12000	23000
4.5	1102	1.5	312.43			B5	12000	23000
4.1	1206	1.4	342.07			B5	12000	23000
3.8	1306	1.3	370.29			B5	12000	23000
3.5	1430	1.2	405.42	B5	12000	23000		
15	332	9.6	94.05	ITS943		B5	15000	31000
14	352	9.1	99.94			B5	15000	31000
13	386	8.3	109.42			B5	15000	31000
12	427	7.5	121.00			B5	15000	31000
10	474	6.7	134.54			B5	15000	31000
9.5	521	6.1	147.69			B5	15000	31000
8.2	599	5.3	169.71			B5	15000	31000
7.5	655	4.9	185.82			B5	15000	31000
6.7	733	4.4	207.90			B5	15000	31000
6.1	806	4.0	228.46			B5	15000	31000
5.6	884	3.6	250.80	B5	15000	31000		
4.7	1042	3.1	295.48	B5	15000	31000		
4.3	1141	2.8	323.40	B5	15000	31000		
3.9	1257	2.5	356.40	B5	15000	31000		









Dati tecnici

Technical data

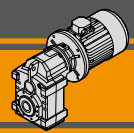
P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i			R <sub>2 U</sub> [N]	R <sub>2 P</sub> [N]
<b>1.1</b>								
90S4 (1400 min <sup>-1</sup> )	17	571	3.0	81.00	ITS933	B5/B14	12000	23000
	15	657	2.6	93.18		B5/B14	12000	23000
	14	720	2.4	102.02		B5/B14	12000	23000
	12	826	2.1	117.16		B5/B14	12000	23000
	11	905	1.9	128.28		B5/B14	12000	23000
	9.2	1074	1.6	152.21		B5/B14	12000	23000
	8.4	1175	1.4	166.65		B5/B14	12000	23000
	7.5	1313	1.3	186.19		B5/B14	12000	23000
	6.9	1438	1.2	203.86		B5/B14	12000	23000
	6.1	1608	1.1	228.05		B5/B14	12000	23000
5.4	1817	0.9	257.61	B5/B14	12000	23000		
32	312	8.7	43.25	ITS942	B5/B14	13823	31000	
	29	345	7.8		47.95	B5/B14	14603	31000
	26	377	8.5		53.43	B5/B14	15000	31000
	24	411	7.8		58.22	B5/B14	15000	31000
	22	455	7.0		64.53	B5/B14	15000	31000
	20	497	6.0		70.40	B5/B14	15000	31000
	18	543	5.5		77.00	B5/B14	15000	31000
	15	663	4.8		94.05	ITS943	B5/B14	15000
14		705	4.5	99.94	B5/B14		15000	31000
13		772	4.1	109.42	B5/B14		15000	31000
12		853	3.7	121.00	B5/B14		15000	31000
10		949	3.4	134.54	B5/B14		15000	31000
9.5		1042	3.1	147.69	B5/B14		15000	31000
8.2		1197	2.7	169.71	B5/B14		15000	31000
7.5		1311	2.4	185.82	B5/B14		15000	31000
6.7		1466	2.2	207.90	B5/B14		15000	31000
6.1		1611	2.0	228.46	B5/B14		15000	31000
5.6	1769	1.8	250.80	B5/B14	15000	31000		
4.7	2084	1.5	295.48	B5/B14	15000	31000		
4.3	2281	1.4	323.40	B5/B14	15000	31000		
3.9	2514	1.3	356.40	B5/B14	15000	31000		

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i			R <sub>2 U</sub> [N]	R <sub>2 P</sub> [N]
<b>1.5</b>								
90L4 (1400 min <sup>-1</sup> )	247	56	9.0	5.66	ITS922	B5/B14	2977	10467
	198	69	7.2	7.06		B5/B14	3370	11782
	167	82	6.1	8.37		B5/B14	3704	12900
	153	90	7.2	9.13		B5/B14	3887	13510
	134	102	6.3	10.43		B5/B14	4182	14498
	116	118	5.5	12.04		B5/B14	4520	15630
	104	133	5.7	13.50		B5/B14	4805	16585
	90	152	4.9	15.50		B5/B14	5169	17808
	79	175	5.1	17.81		B5/B14	5558	18500
	64	213	4.2	21.73		B5/B14	6150	18500
	61	225	4.0	22.92		B5/B14	6315	18500
	59	234	3.9	23.80		B5/B14	6433	18500
	53	262	3.4	26.63		B5/B14	6794	18500
	48	287	3.1	29.26		B5/B14	7104	18500
	44	316	3.2	32.14		B5/B14	7420	18500
	40	338	3.0	35.19		B5/B14	7750	18500
	36	379	2.6	39.38		B5/B14	8139	18500
	32	416	2.4	43.27		B5/B14	8465	18500
	29	457	2.2	47.50		B5/B14	8785	18500
	25	538	2.0	55.96		B5/B14	9328	18500
23	589	1.9	61.25	B5/B14	9500	18500		
21	649	1.7	67.50	B5/B14	9500	18500		
19	721	1.5	75.00	ITS923	B5/B14	9500	18500	
	16	830	1.3		86.28	B5/B14	9500	18500
	15	909	1.2		94.46	B5/B14	9500	18500
	13	1043	1.1		108.48	B5/B14	9500	18500
	12	1142	1.0		118.77	B5/B14	9500	18500

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i			R <sub>2 U</sub> [N]	R <sub>2 P</sub> [N]	
<b>1.5</b>									
90L4 (1400 min <sup>-1</sup> )	155	89	9.6	9.03	ITS932	B5/B14	4297	16485	
	141	97	9.3	9.90		B5/B14	4523	17311	
	124	111	8.1	11.27		B5/B14	4861	18549	
	107	128	7.0	13.06		B5/B14	5275	20059	
	96	143	6.3	14.58		B5/B14	5603	21257	
	83	165	6.1	16.81		B5/B14	6053	22900	
	73	189	5.3	19.24		B5/B14	6509	23000	
	59	232	5.2	23.57		B5/B14	7248	23000	
	57	243	4.9	24.75		B5/B14	7434	23000	
	54	254	5.5	25.81		B5/B14	7597	23000	
	48	284	4.9	28.88		B5/B14	8047	23000	
	40	341	4.8	34.71		B5/B14	8824	23000	
	37	373	4.4	38.01		B5/B14	9222	23000	
	33	409	4.0	42.53		B5/B14	9751	23000	
	30	449	3.7	46.73		B5/B14	10188	23000	
	27	493	3.3	51.30		B5/B14	10626	23000	
	23	581	2.8	60.44		B5/B14	11404	23000	
	21	636	2.6	66.15		B5/B14	11831	23000	
	19	701	2.1	72.90		B5/B14	12000	23000	
	17	779	2.2	81.00		ITS933	B5/B14	12000	23000
15		896	1.9	93.18	B5/B14		12000	23000	
14		981	1.7	102.02	B5/B14		12000	23000	
12		1127	1.5	117.16	B5/B14		12000	23000	
11		1234	1.4	128.28	B5/B14		12000	23000	
9.2		1464	1.2	152.21	B5/B14		12000	23000	
8.4		1603	1.1	166.65	B5/B14		12000	23000	
7.5		1791	0.9	186.19	B5/B14		12000	23000	
48		289	9.3	29.42	ITS942		B5/B14	11078	31000
		45	308	9.7			31.35	B5/B14	11463
	35	389	7.7	39.60		B5/B14	12974	31000	
	32	425	6.4	43.25		B5/B14	13584	31000	
	29	471	5.7	47.95		B5/B14	14322	31000	
	26	514	6.2	53.43		B5/B14	15000	31000	
	24	560	5.7	58.22		B5/B14	15000	31000	
	22	621	5.2	64.53		B5/B14	15000	31000	
	20	677	4.4	70.40		B5/B14	15000	31000	
	18	741	4.1	77.00		B5/B14	15000	31000	
15	905	3.5	94.05	ITS943	B5/B14	15000	31000		
	14	961	3.3		99.94	B5/B14	15000	31000	
	13	1052	3.0		109.42	B5/B14	15000	31000	
	12	1164	2.7		121.00	B5/B14	15000	31000	
	10	1294	2.5		134.54	B5/B14	15000	31000	
	9.5	1421	2.3		147.69	B5/B14	15000	31000	
	8.2	1632	2.0		169.71	B5/B14	15000	31000	
	7.5	1787	1.8		185.82	B5/B14	15000	31000	
	6.7	2000	1.6		207.90	B5/B14	15000	31000	
	6.1	2197	1.5		228.46	B5/B14	15000	31000	
5.6	2412	1.3	250.80	B5/B14	15000	31000			
4.7	2842	1.1	295.48	B5/B14	15000	31000			
4.3	3111	1.0	323.40	B5/B14	15000	31000			













Dati tecnici

Technical data

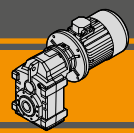
P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i			R <sub>2 U</sub> [N]	R <sub>2 P</sub> [N]
<b>2.2</b>								
100LA4 (1400 min <sup>-1</sup> )	98	205	9.8	14.21	ITS942	B5/B14	7340	26991
	88	229	10	15.91		B5/B14	7809	28652
	81	250	9.6	17.33		B5/B14	8183	29976
	73	276	9.1	19.13		B5/B14	8636	31000
	60	336	7.4	23.32		B5/B14	9604	31000
	48	424	6.4	29.42		B5/B14	10851	31000
	45	452	6.6	31.35		B5/B14	11212	31000
	35	571	5.3	39.60		B5/B14	12611	31000
	32	623	4.3	43.25		B5/B14	13167	31000
	29	691	3.9	47.95		B5/B14	13831	31000
	26	754	4.2	53.43	B5/B14	14582	31000	
	24	821	3.9	58.22	B5/B14	15000	31000	
	22	910	3.5	64.53	B5/B14	15000	31000	
	20	993	3.0	70.40	B5/B14	15000	31000	
	18	1086	2.8	77.00	B5/B14	15000	31000	
	15	1327	2.4	94.05	ITS943	B5/B14	15000	31000
	14	1410	2.3	99.94		B5/B14	15000	31000
	13	1544	2.1	109.42		B5/B14	15000	31000
	12	1707	1.9	121.00		B5/B14	15000	31000
	10	1898	1.7	134.54		B5/B14	15000	31000
9.5	2083	1.5	147.69	B5/B14		15000	31000	
8.2	2394	1.3	169.71	B5/B14		15000	31000	
7.5	2621	1.2	185.82	B5/B14		15000	31000	
6.7	2933	1.1	207.90	B5/B14		15000	31000	
6.1	3223	1.0	228.46	B5/B14		15000	31000	

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i			R <sub>2 U</sub> [N]	R <sub>2 P</sub> [N]
<b>3.0</b>								
100LB4 (1400 min <sup>-1</sup> )	247	111	4.5	5.66	ITS922	B5/B14	2916	10329
	198	139	3.6	7.06		B5/B14	3284	11589
	167	164	3.0	8.37		B5/B14	3591	12648
	153	179	3.6	9.13		B5/B14	3757	13222
	134	205	3.2	10.43		B5/B14	4022	14143
	116	237	2.7	12.04		B5/B14	4319	15186
	104	265	2.8	13.50		B5/B14	4565	16056
	90	304	2.5	15.50		B5/B14	4870	17153
	79	350	2.6	17.81		B5/B14	5185	18309
	64	427	2.1	21.73		B5/B14	5639	18500
	61	450	2.0	22.92		B5/B14	5759	18500
	59	468	1.9	23.80		B5/B14	5843	18500
	53	523	1.7	26.63		B5/B14	6089	18500
	48	575	1.6	29.26		B5/B14	6286	18500
	44	631	1.6	32.14		B5/B14	6470	18500
	40	677	1.5	35.19		B5/B14	6677	18500
	36	757	1.3	39.38		B5/B14	6856	18500
	32	832	1.2	43.27		B5/B14	6976	18500
	29	914	1.1	47.50		B5/B14	7059	18500
	25	1077	1.0	55.96		B5/B14	7090	18500

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i			R <sub>2 U</sub> [N]	R <sub>2 P</sub> [N]	
<b>3.0</b>									
100LB4 (1400 min <sup>-1</sup> )	228	121	7.1	6.13	ITS932	B5/B14	3401	13251	
	183	150	5.7	7.65		B5/B14	3840	14890	
	155	177	4.8	9.03		B5/B14	4201	16240	
	141	194	4.6	9.90		B5/B14	4412	17029	
	124	221	4.1	11.27		B5/B14	4725	18204	
	107	257	3.5	13.06		B5/B14	5103	19626	
	96	286	3.1	14.58		B5/B14	5398	20743	
	83	330	3.0	16.81		B5/B14	5796	22260	
	73	378	2.6	19.24		B5/B14	6191	23000	
	59	463	2.6	23.57		B5/B14	6809	23000	
	57	486	2.5	24.75		B5/B14	6960	23000	
	54	507	2.8	25.81		B5/B14	7091	23000	
	48	567	2.5	28.88		B5/B14	7442	23000	
	40	682	2.4	34.71		B5/B14	8014	23000	
	37	747	2.2	38.01		B5/B14	8287	23000	
	33	818	2.0	42.53		B5/B14	8657	23000	
	30	899	1.8	46.73		B5/B14	8918	23000	
	27	987	1.7	51.30		B5/B14	9154	23000	
	23	1163	1.4	60.44		B5/B14	9496	23000	
	21	1272	1.3	66.15		B5/B14	9629	23000	
	19	1402	1.1	72.90		B5/B14	9715	23000	
	17	1558	1.1	81.00		ITS933	B5/B14	9724	23000
	15	1792	0.9	93.18			B5/B14	9562	23000
	98	279	7.2	14.21		ITS942	B5/B14	7258	26808
	88	313	7.7	15.91			B5/B14	7711	28435
	81	340	7.1	17.33			B5/B14	8071	29728
	73	376	6.7	19.13			B5/B14	8504	31000
	60	458	5.5	23.32			B5/B14	9425	31000
	48	578	4.7	29.42			B5/B14	10592	31000
	45	616	4.9	31.35			B5/B14	10925	31000
	35	778	3.9	39.60			B5/B14	12196	31000
	32	850	3.2	43.25			B5/B14	12689	31000
	29	942	2.9	47.95			B5/B14	13269	31000
	26	1028	3.1	53.43			B5/B14	13929	31000
	24	1120	2.9	58.22			B5/B14	14413	31000
	22	1241	2.6	64.53		B5/B14	14983	31000	
	20	1354	2.2	70.40		B5/B14	15000	31000	
	18	1481	2.0	77.00		B5/B14	15000	31000	
	15	1809	1.8	94.05		ITS943	B5/B14	15000	31000
	14	1923	1.7	99.94			B5/B14	15000	31000
13	2105	1.5	109.42	B5/B14	15000		31000		
12	2328	1.4	121.00	B5/B14	15000		31000		
10	2588	1.2	134.54	B5/B14	15000		31000		
9.5	2841	1.1	147.69	B5/B14	15000		31000		
8.2	3265	1.0	169.71	B5/B14	15000		31000		















Dati tecnici



Technical data



P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i			R <sub>2 U</sub> [N]	R <sub>2 P</sub> [N]
<b>7.5</b>								
132MA4 (1400 min <sup>-1</sup> )	228	301	2.8	6.13	ITS932	B5/B14	3245	12848
	183	376	2.3	7.65			3618	14323
155	444	1.9	9.03	3912			15506	
141	486	1.9	9.90	4078			16183	
124	553	1.6	11.27	4316			17170	
107	642	1.4	13.06	4585			18326	
96	716	1.3	14.58	4782			19201	
83	825	1.2	16.81	5025			20338	
73	945	1.1	19.24	5237			21409	
59	1158	1.0	23.57	5492			22947	
57	1216	1.0	24.75	5538			23000	
54	1268	1.1	25.81	5571			23000	
48	1418	1.0	28.88	5627	23000			
40	1705	1.0	34.71	5583	23000			
177	389	3.9	7.93	ITS942	B5/B14	5076	19243	
146	471	3.2	9.59			5601	21210	
131	524	3.2	10.67			5911	22378	
118	581	2.9	11.82			6220	23553	
108	634	3.2	12.91			6492	24597	
98	698	2.9	14.21			6797	25781	
88	781	3.1	15.91			7160	27212	
81	851	2.8	17.33			7440	28332	
73	940	2.7	19.13			7767	29663	
60	1145	2.2	23.32			8415	31000	
48	1445	1.9	29.42			9133	31000	
45	1540	1.9	31.35			9312	31000	
35	1945	1.5	39.60	9861	31000			
32	2124	1.3	43.25	10004	31000			
29	2355	1.1	47.95	10108	31000			
26	2569	1.2	53.43	10256	31000			
24	2800	1.1	58.22	10206	31000			
22	3103	1.0	64.53	10030	31000			

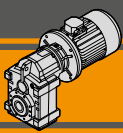
P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i			R <sub>2 U</sub> [N]	R <sub>2 P</sub> [N]	
<b>9.2</b>									
132L4 (1400 min <sup>-1</sup> )	247	341	1.5	5.66	ITS922	B5/B14	2666	9762	
	198	425	1.2	7.06			2928	10789	
	167	504	1.0	8.37			3125	11607	
	153	550	1.2	9.13			3222	12030	
	134	629	1.0	10.43			3361	12676	
228	370	2.3	6.13	ITS932	B5/B14	3186	12696		
183	461	1.8	7.65			3534	14108		
155	544	1.6	9.03			3804	15229		
141	596	1.5	9.90			3952	15864		
124	679	1.3	11.27			4161	16779		
107	787	1.1	13.06			4390	17835		
96	878	1.0	14.58			4550	18619		
83	1012	1.0	16.81			4734	19612		
177	477	3.1	7.93			ITS942	B5/B14	5007	19086
146	578	2.6	9.59					5508	20999
131	643	2.6	10.67					5800	22130
118	712	2.4	11.82					6089	23262
108	778	2.6	12.91	6342	24263				
98	856	2.3	14.21	6623	25394				
88	958	2.5	15.91	6952	26750				
81	1044	2.3	17.33	7202	27805				
73	1153	2.2	19.13	7488	29048				
60	1405	1.8	23.32	8034	31000				
48	1773	1.5	29.42	8582	31000				
45	1889	1.6	31.35	8703	31000				
35	2386	1.3	39.60	8979	31000				
32	2606	1.0	43.25	8990	31000				
29	2889	0.9	47.95	8914	31000				
26	3152	1.0	53.43	8869	31000				

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i			R <sub>2 U</sub> [N]	R <sub>2 P</sub> [N]		
<b>11.0</b>										
160M4 (1400 min <sup>-1</sup> )	228	442	1.9	6.13	ITS932	B5	3123	12535		
	183	551	1.5	7.65			3446	13881		
	155	651	1.3	9.03			3688	14935		
	141	713	1.3	9.90			3819	15526		
	124	812	1.1	11.27			3997	16366		
	107	941	1.0	13.06			4183	17315		
	177	571	2.6	7.93			ITS942	B5	4934	18920
	146	691	2.2	9.59					5409	20776
	131	768	2.2	10.67					5683	21867
	118	851	2.0	11.82					5952	22953
	108	930	2.2	12.91					6184	23910
	98	1024	2.0	14.21					6438	24983
88	1146	2.1	15.91	6732	26261					
81	1248	1.9	17.33	6950	27246					
73	1378	1.8	19.13	7193	28397					
60	1680	1.5	23.32	7630	30695					
48	2119	1.3	29.42	7999	31000					
45	2258	1.3	31.35	8058	31000					
35	2853	1.1	39.60	8046	31000					

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i			R <sub>2 U</sub> [N]	R <sub>2 P</sub> [N]
<b>15.0</b>								
160L4 (1400 min <sup>-1</sup> )	228	603	1.4	6.13	ITS932	B5	2984	12177
	183	752	1.1	7.65			3248	13377
	155	887	1.0	9.03			3432	14283
177	779	1.9	7.93	ITS942	B5	4771	18551	
146	942	1.6	9.59			5189	20280	
131	1048	1.6	10.67			5423	21282	
118	1161	1.5	11.82			5646	22267	
108	1268	1.6	12.91			5832	23124	
98	1396	1.4	14.21			6028	24070	
88	1563	1.5	15.91			6242	25174	
81	1702	1.4	17.33			6389	26006	
73	1879	1.3	19.13			6537	26950	
60	2291	1.1	23.32			6733	28729	

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i			R <sub>2 U</sub> [N]	R <sub>2 P</sub> [N]
<b>18.5</b>								
180M4 (1400 min <sup>-1</sup> )	177	960	1.6	7.93	ITS942	B5	4629	18228
	146	1162	1.3	9.59			4997	19846
	131	1292	1.3	10.67			5196	20770
	118	1432	1.2	11.82			5378	21667
	108	1564	1.3	12.91			5524	22436
	98	1722	1.2	14.21			5670	23271
	88	1927	1.2	15.91			5814	24224
	81	2099	1.1	17.33			5898	24920
73	2318	1.1	19.13	5963	25685			

P <sub>1</sub> [kW]	n <sub>2</sub> [min <sup>-1</sup> ]	M <sub>2</sub> [Nm]	sf	i			R <sub>2 U</sub> [N]	R <sub>2 P</sub> [N]
<b>22.0</b>								
180L4 (1400 min <sup>-1</sup> )	177	1142	1.3	7.93	ITS942	B5	4487	17905
	146	1382	1.1	9.59			4805	19412
	131	1537	1.1	10.67			4968	20258
	118	1703	1.0	11.82			5110	21067
	108	1859	1.1	12.91			5217	21749
	98	2048	1.0	14.21			5311	22473
	88	2292	1.0	15.91			5385	23273

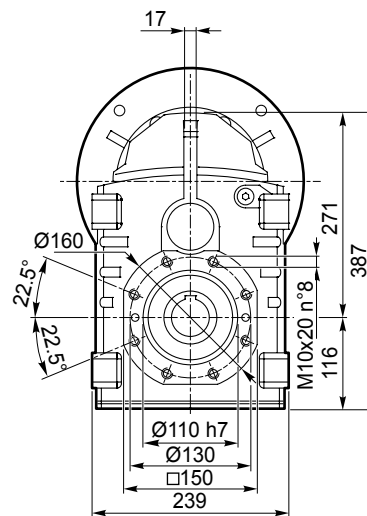
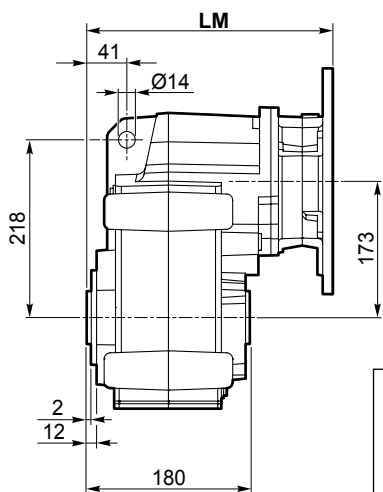


**Dimensioni**

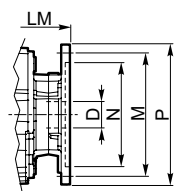
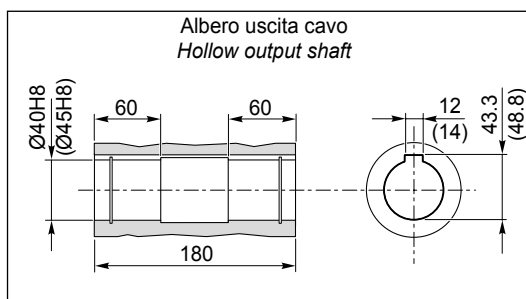
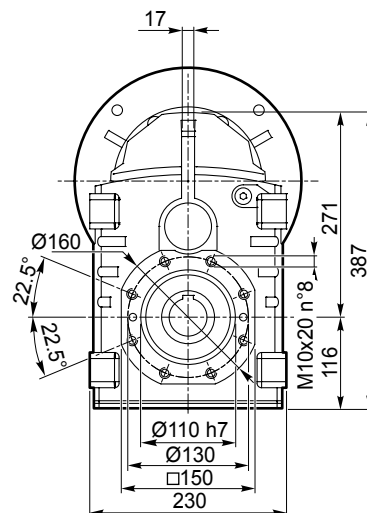
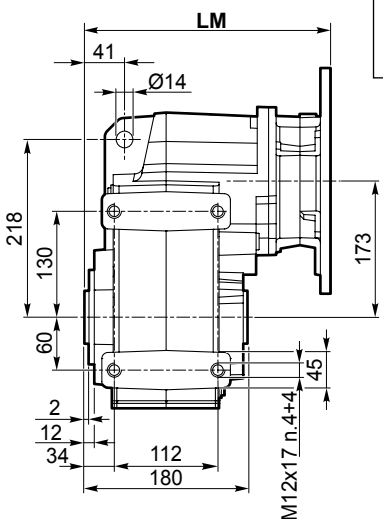
**Dimensions**

**ITS 922 - ITS 923**

**ITS 922 U  
ITS 923 U**



**ITS 922 P  
ITS 923 P**

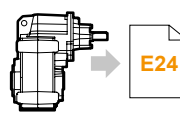


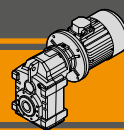
Dimensioni IEC / IEC Dimensions								
	71 B5	80 B5	90 B5	90 B14	100/112 B5	100/112 B14	132 B5	132 B14
<b>LM</b>	282.5	282.5	282.5	287	286.5	287	307.5	
<b>N</b>	110	130	130	95	180	110	230	130
<b>M</b>	130	165	165	115	215	130	265	165
<b>P</b>	160	200	200	140	250	160	300	200
<b>D</b>	14	19	24		28		38	

IEC Motori applicabili  
IEC Motor adapters



ITSIS..



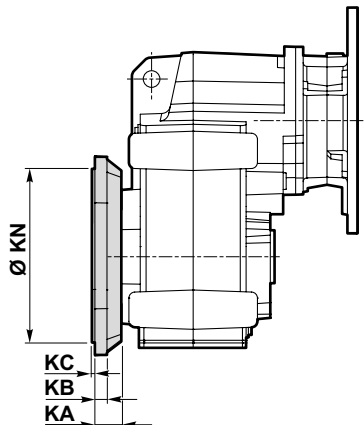


Dimensioni

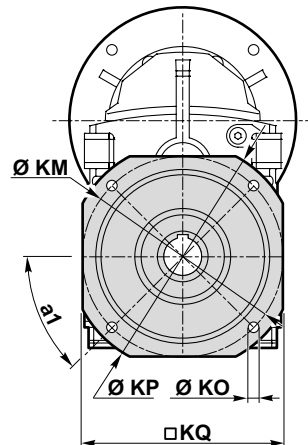
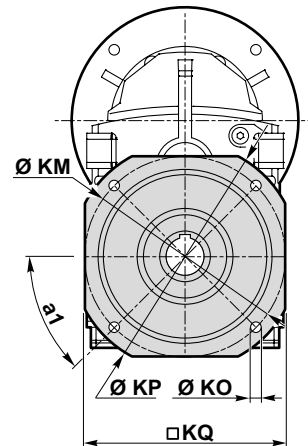
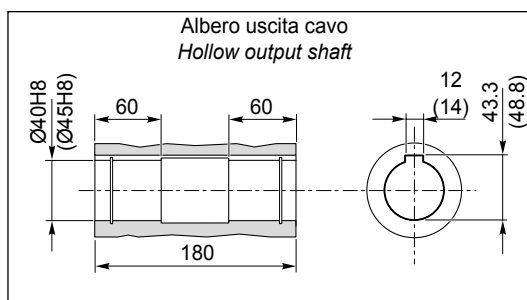
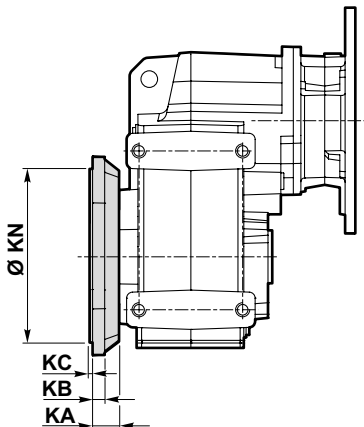
Dimensions

ITS 922 - ITS 923

ITS 922 U/F...  
ITS 923 U/F...



ITS 922 P/F...  
ITS 923 P/F...



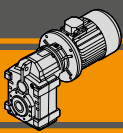
ITS

Versione F / F Version											
ITS	KA	a <sub>1</sub>	KB	KC	Ø KM	KN f7	KO	KP □	KQ	Flangia / Flange	Peso / Weight [kg]
										Tipo / Type	
922 923	35	45°	13	4	165	130	11	200	172	F200	2.6
	35	45°	13	4	215	180	14	250	215	F250	3.8
	35	45°	13	4	265	230	14	300	265	F300	5.6

Peso / Weight [kg]									
ITS	71 B5	80 B5	90 B5	90 B14	100/112 B5	100/112 B14	132 B5	132 B14	
922 U	-	42	42	41	44	42	47	44	
922 P	-	42	42	41	44	41	47	44	
923 U	44	45	45	44	47	44			-
923 P	44	44	44	43	46	44			-

Nota: peso del riduttore complessivo di olio per la posizione M1 (B3)  
Note: weight of the gearbox filled with oil for M1 (B3) assembly position



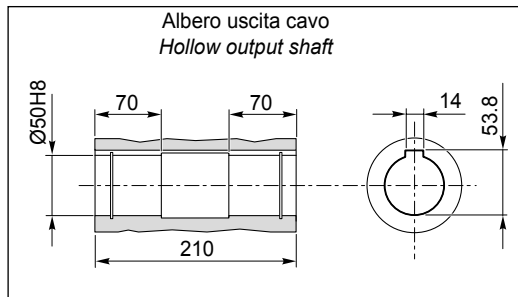
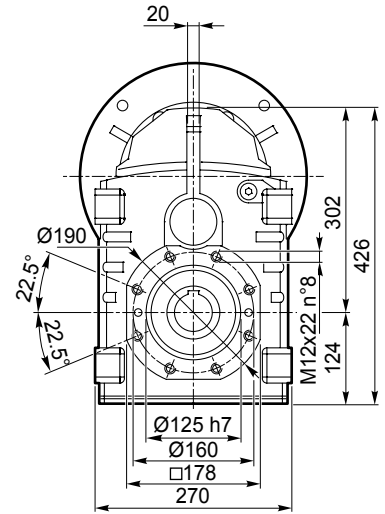
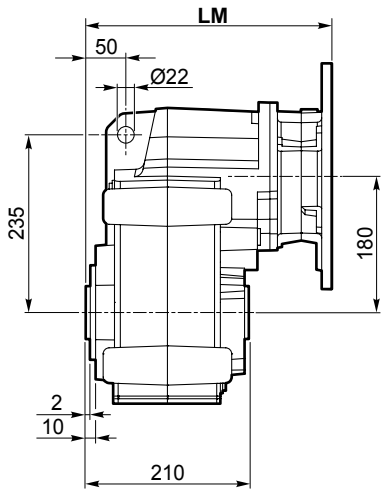


**Dimensioni**

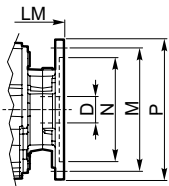
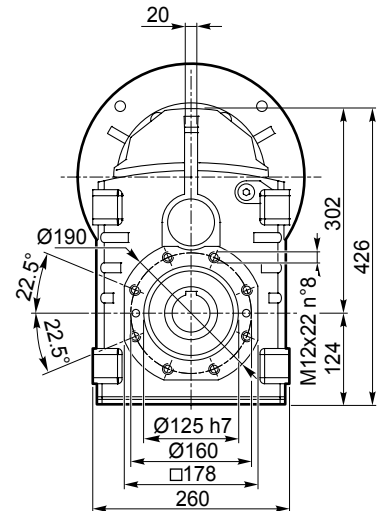
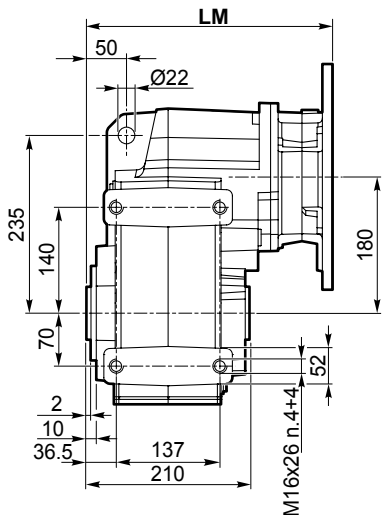
**Dimensions**

**ITS 932 - ITS 933**

**ITS 932 U  
ITS 933 U**

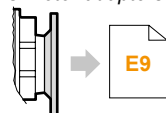


**ITS 932 P  
ITS 933 P**

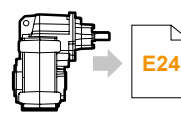


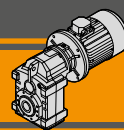
Dimensioni IEC / IEC Dimensions									
	71 B5	80 B5	90 B5	90 B14	100/112 B5	100/112 B14	132 B5	132 B14	160 B5
<b>LM</b>	297.5	297.5	297.5	302	301.5	302	322.5		372.5
<b>N</b>	110	130	130	95	180	110	230	130	250
<b>M</b>	130	165	165	115	215	130	265	165	300
<b>P</b>	160	200	200	140	250	160	300	200	350
<b>D</b>	14	19	24		28		38		42

IEC Motori applicabili  
IEC Motor adapters



ITSIS..





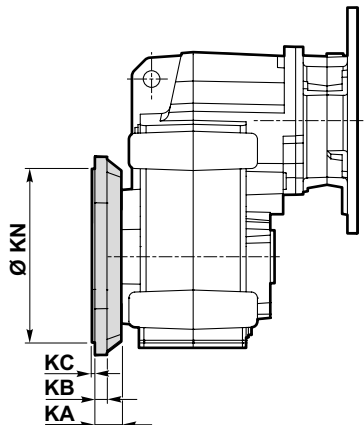
Dimensioni

Dimensions

ITS 932 - ITS 933

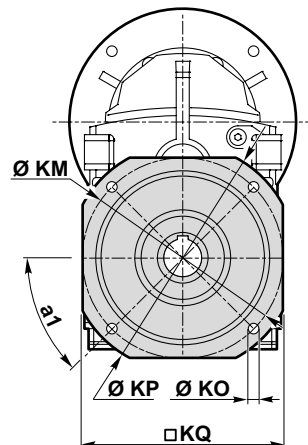
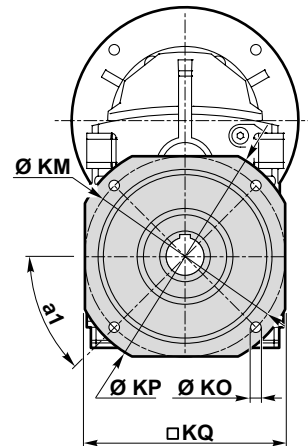
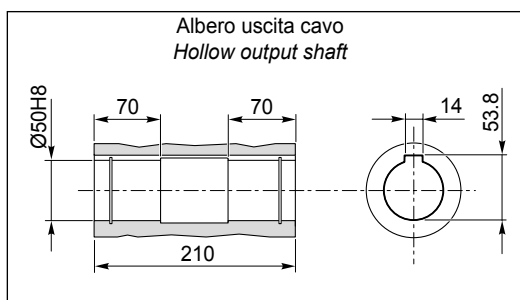
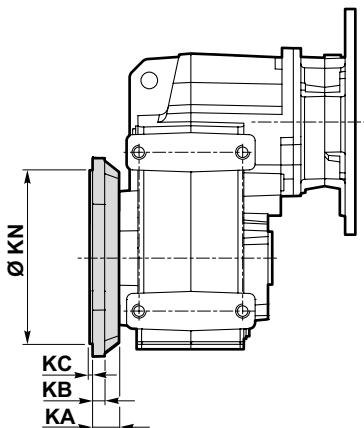
ITS 932 U/F...

ITS 933 U/F...



ITS 932 P/F...

ITS 933 P/F...



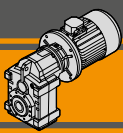
ITS

Versione F / F Version											
ITS	KA	a <sub>1</sub>	KB	KC	Ø KM	KN f7	KO	KP □	KQ	Flangia / Flange	Peso / Weight [kg]
										Tipo / Type	
932 933	40	45°	16	4	215	180	14	250	215	F250	4.8
	40	45°	16	4	265	230	14	300	265	F300	7.1
	40	45°	16	4	300	250	18	350	300	F350	9.1

Peso / Weight [kg]										
ITS	71 B5	80 B5	90 B5	90 B14	100/112 B5	100/112 B14	132 B5	132 B14	160 B5	
932 U	-	55	55	54	57	54	60	57	68	
932 P	-	54	54	53	56	54	59	56	68	
933 U	58	59	59	58	61	58	-	-	-	
933 P	58	58	58	57	60	58	-	-	-	

Nota: peso del riduttore complessivo di olio per la posizione M1 (B3)  
Note: weight of the gearbox filled with oil for M1 (B3) assembly position



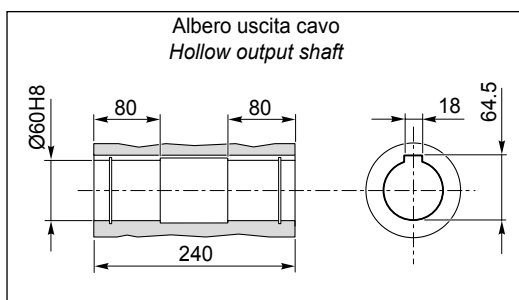
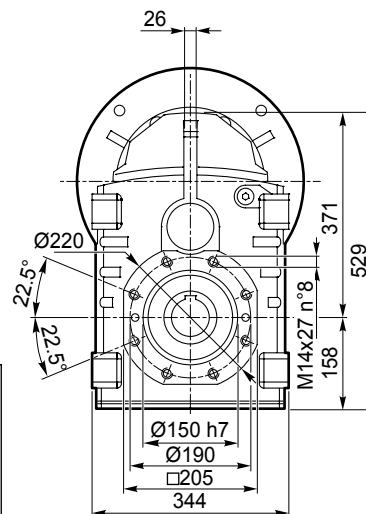
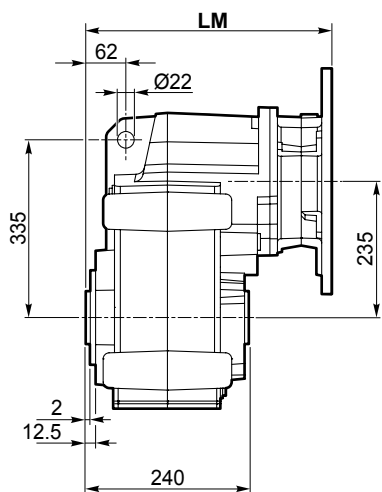


**Dimensioni**

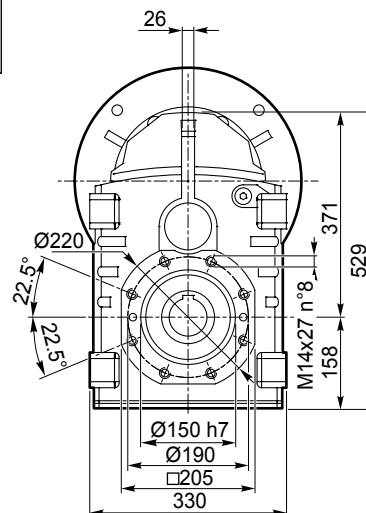
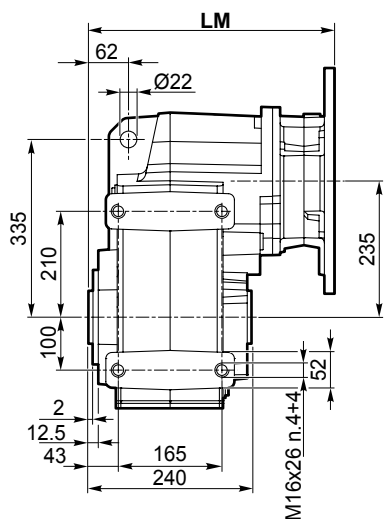
**Dimensions**

**ITS 942 - ITS 943**

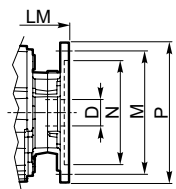
**ITS 942 U  
ITS 943 U**



**ITS 942 P  
ITS 943 P**



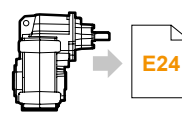
Dimensioni IEC / IEC Dimensions									
	80 B5	90 B5	90 B14	100/112 B5	100/112 B14	132 B5	132 B14	160 B5	180 B5
<b>LM</b>	325.5	325.5	330	329.5	330	350.5		400.5	400.5
<b>N</b>	130	130	95	180	110	230	130	250	250
<b>M</b>	165	165	115	215	130	265	165	300	300
<b>P</b>	200	200	140	250	160	300	200	350	350
<b>D</b>	19	24		28		38		42	48

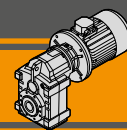


IEC Motori applicabili  
IEC Motor adapters



ITSIS..





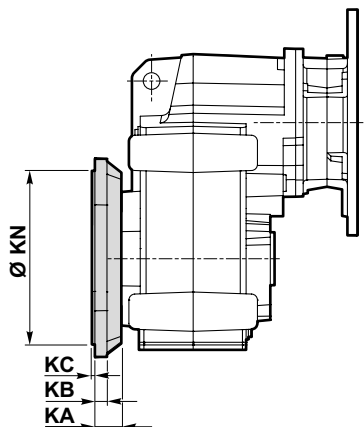
Dimensioni

Dimensions

ITS 942 - ITS 943

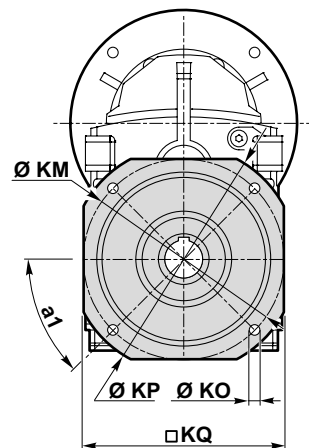
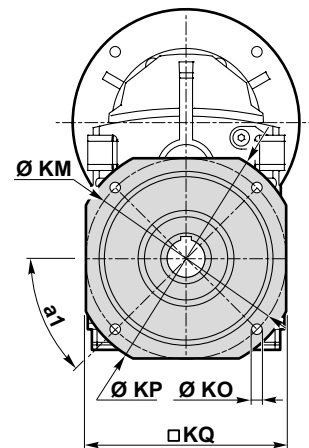
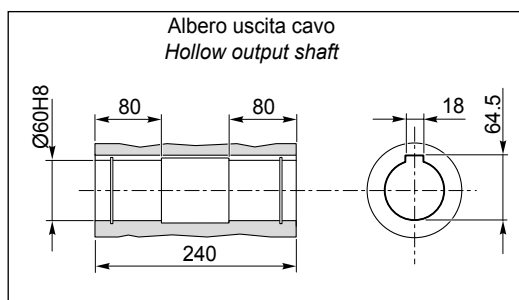
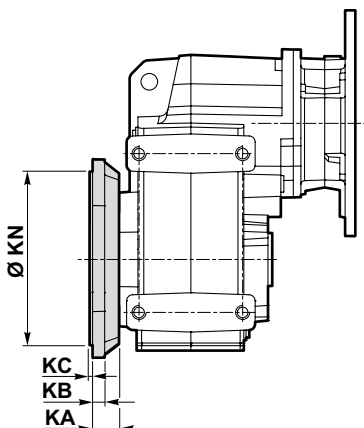
ITS 942 U/F...

ITS 943 U/F...



ITS 942 P/F...

ITS 943 P/F...

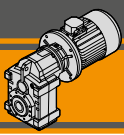


ITS

Versione F / F Version											
ITS	KA	a <sub>1</sub>	KB	KC	Ø KM	KN f7	KO	KP □	KQ	Flangia / Flange	Peso / Weight [kg]
										Tipo / Type	
942 943	42.5	45°	18	4	265	230	14	300	265	F300	7.4
	42.5	45°	18	5	300	250	18	350	300	F350	10.2
	42.5	45°	18	5	400	350	18	450	400	F450	16.9

Peso / Weight [kg]										
ITS	80 B5	90 B5	90 B14	100/112 B5	100/112 B14	132 B5	132 B14	160 B5	180 B5	
942 U	-	93	92	95	92	98	95	109	109	
942 P	-	92	91	94	91	97	94	108	108	
943 U	99	99	98	101	98	104	101	-	-	
943 P	98	98	97	100	97	103	100	-	-	

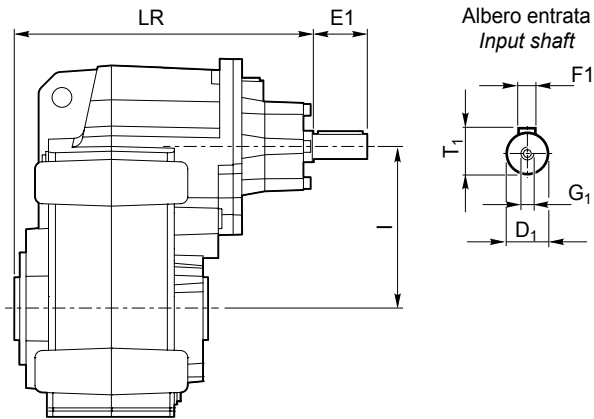
Nota: peso del riduttore complessivo di olio per la posizione M1 (B3)  
Note: weight of the gearbox filled with oil for M1 (B3) assembly position



**Dimensioni**

**Dimensions**

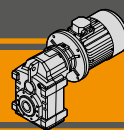
ITSIS...



ITHIS	Versione Version	LR	D1	E1	I	T1	F1	G1
922	U P U/F... P/F...	315	28	60	173	31	8	M10
923		315	28	60	173	31	8	M10
932		330	28	60	180	31	8	M10
933		330	28	60	180	31	8	M10
942		375.5	38	80	235	41	10	M12
943		358	28	60	235	31	8	M10

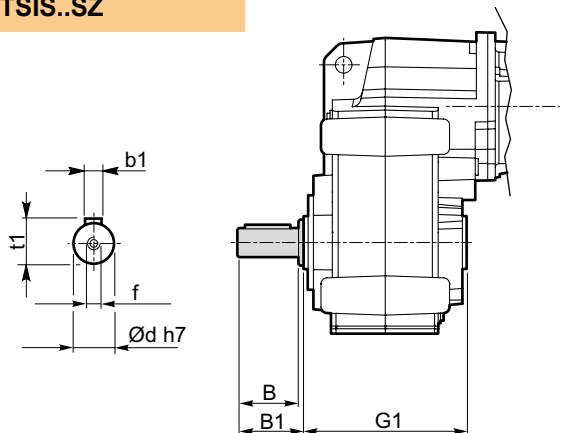
ITHIS	Peso / Weight [kg]
922 U	43
922 P	43
923 U	46
923 P	45
932 U	56
932 P	55
933 U	60
933 P	59
942 U	99
942 P	98
943 U	100
943 P	99





Albero lento / Output shaft

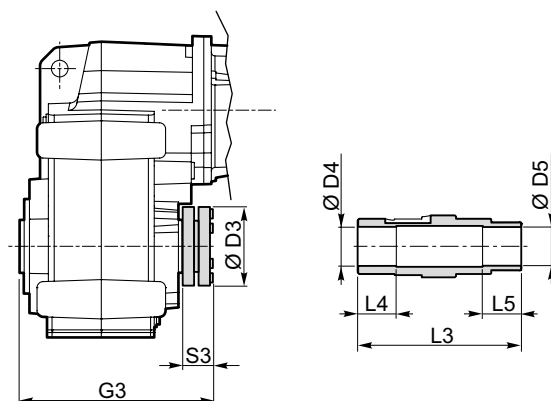
ITS...SZ  
ITSIS..SZ



ITS	d h7	B	B1	G1	f	b1	t1	Peso / Weight [ kg ]
<b>922</b> <b>923</b>	40	80	84	180	M16	12	43	2.2
<b>932</b> <b>933</b>	50	100	105	210	M16	14	53.5	4.3
<b>942</b> <b>943</b>	60	120	125	240	M20	18	64	7.1

Albero lento con calettatore / Output shaft with shrink disk

ITS...G...  
ITSIS..G..



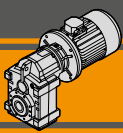
Albero lento con calettatore / Output shaft with shrink disk

ITS	D3	D4 H8	D5 H8	G3	L3	L4	L5	S3	G4	
<b>922/3</b>	<b>G40</b>	100	41	40	217.5	215	45	45	34.5	90
	<b>G45</b>	100	46	45	217.5	215	45	45	34.5	90
<b>932/3</b>	<b>G50</b>	110	51	50	247.5	245	50	50	34.5	105
<b>942/3</b>	<b>G60</b>	138	61	60	280.5	279	60	60	37.5	120

Kit albero uscita con calettatore disponibile a richiesta:  
per le istruzioni di montaggio riferirsi al nostro Servizio Tecnico.

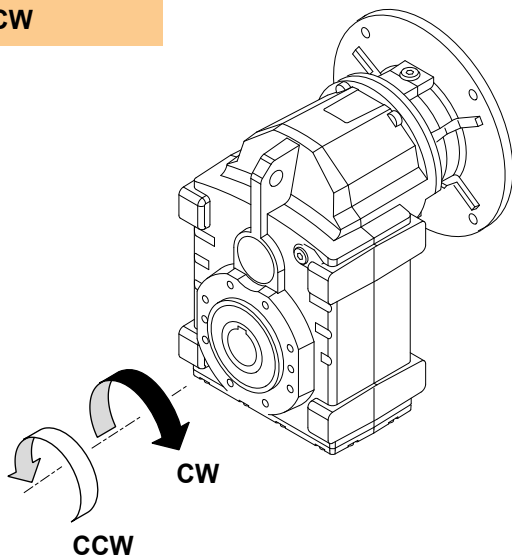
Output shaft kit with shrink disk available on request:  
for assembly instructions please contact our Technical Service





Dispositivo antiretro / Backstop device

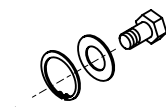
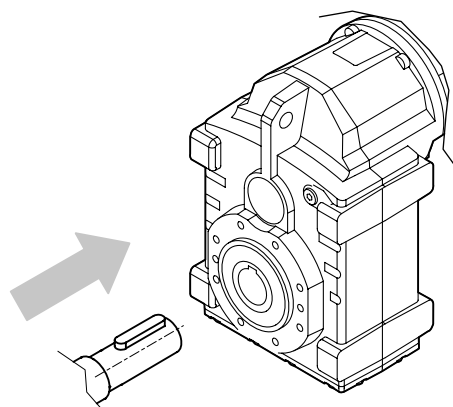
ITS...CW  
ITS...CCW



Il dispositivo antiretro permette la rotazione dell'albero in un solo senso senza creare ingombri aggiuntivi. Prima di utilizzarlo è necessario specificare il senso di rotazione dell'albero di uscita come mostrato in figura.

*The backstop device allows the output shaft to rotate in just one direction. Before using it, please specify output shaft rotation direction as shown in the figure.*

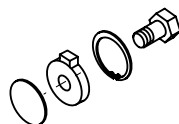
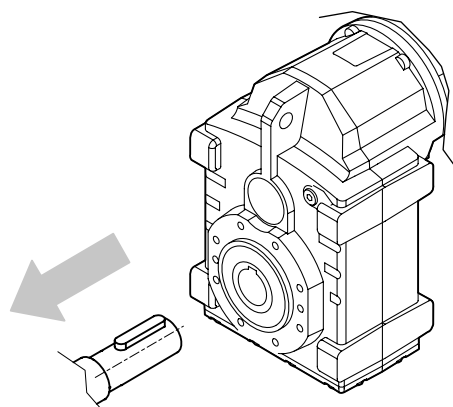
Kit di montaggio albero uscita / Output shaft assembly kit



Kit di montaggio albero uscita disponibile a richiesta: per le istruzioni di montaggio riferirsi al nostro Servizio Tecnico.

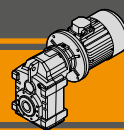
*Output shaft assembly kit available upon request: for assembly instructions please contact our Technical Assistance*

Kit di smontaggio albero uscita / Output shaft disassembly kit



Kit di smontaggio albero uscita disponibile a richiesta: per le istruzioni di montaggio riferirsi al nostro Servizio Tecnico.

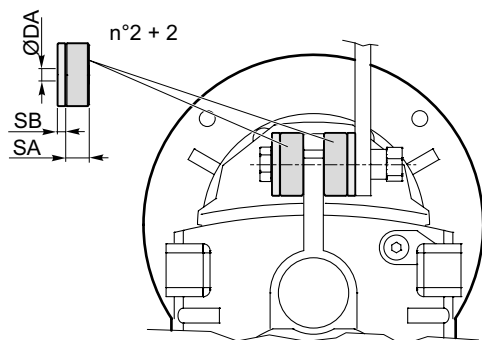
*Output shaft disassembly kit available upon request: for assembly instructions please contact our Technical Assistance*



Kit braccio di reazione / Torque arm kit

Kit braccio di reazione disponibile a richiesta:  
per le istruzioni di montaggio riferirsi al nostro Servizio Tecnico.

*Torque arm kit available upon request:  
for assembly instructions please contact our Technical Assistance*



Braccio di reazione / Torque arm

ITS	ØDA	SA	SB
<b>922</b> <b>923</b>	13	15	5
<b>932</b> <b>933</b>	21	30	10
<b>942</b> <b>943</b>	21	30	10



Appendice  
Appendix



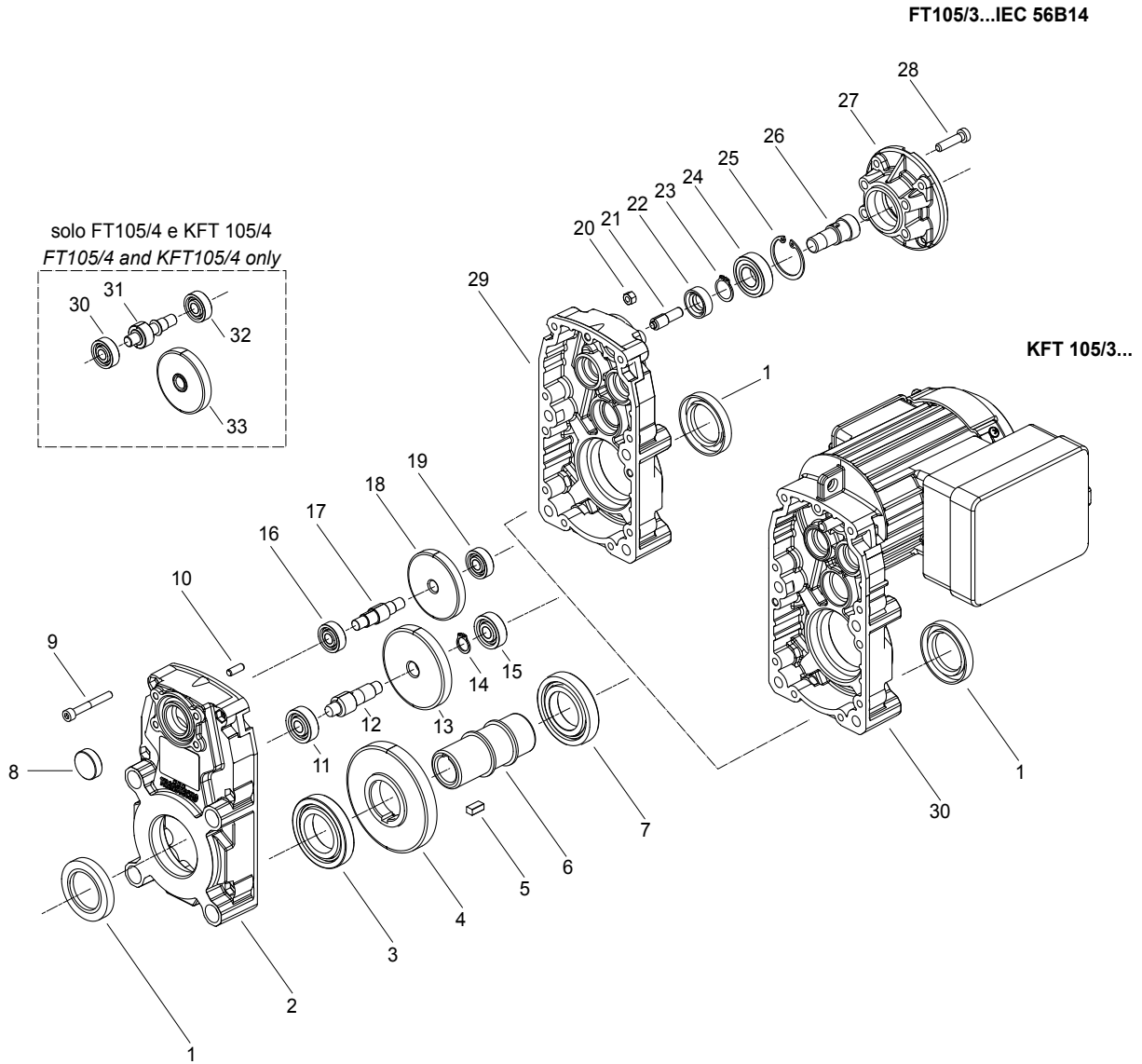


<b>Indice</b>	<b>Index</b>	Pag. Page
Liste parti di ricambio	<i>Spare parts list</i>	
KFT105-FT105	<i>KFT105-FT105</i>	<b>F2</b>
FT146-FT196	<i>FT146-FT196</i>	<b>F3</b>
ATS..2	<i>ATS..2</i>	<b>F4</b>
ATS..3	<i>ATS..3</i>	<b>F5</b>
ITS..2	<i>ITS..2</i>	<b>F6</b>
ITS..3	<i>ITS..3</i>	<b>F7</b>
Coperchio entrata	<i>Input cover</i>	<b>F8</b>

Questa sezione annulla e sostituisce ogni precedente edizione o revisione. Qualora questa sezione non Vi sia giunta in distribuzione controllata, l'aggiornamento dei dati ivi contenuto non è assicurato. **In tal caso la versione più aggiornata è disponibile sul nostro sito internet [www.transtecno.com](http://www.transtecno.com)**

*This section replaces any previous edition and revision. If you obtained this catalogue other than through controlled distribution channels, the most up to date content is not guaranteed. **In this case the latest version is available on our web site [www.transtecno.com](http://www.transtecno.com)***

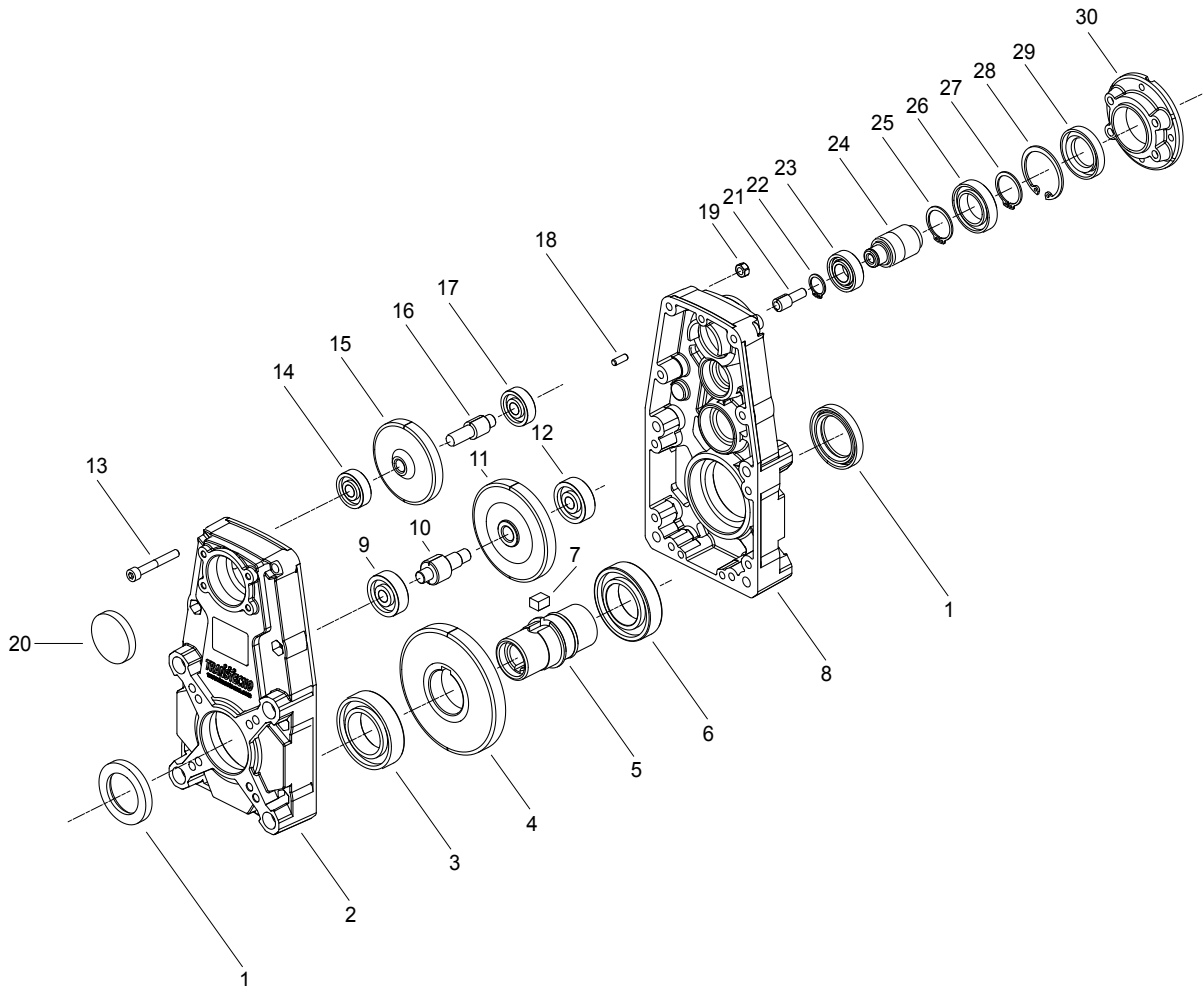
**KFT105 - FT105**



	Anelli di tenuta / Oil seals		RCA
	1	8	22
<b>FT105</b>			
<b>KFT105</b>	30/47/07	12/22/07	22x7

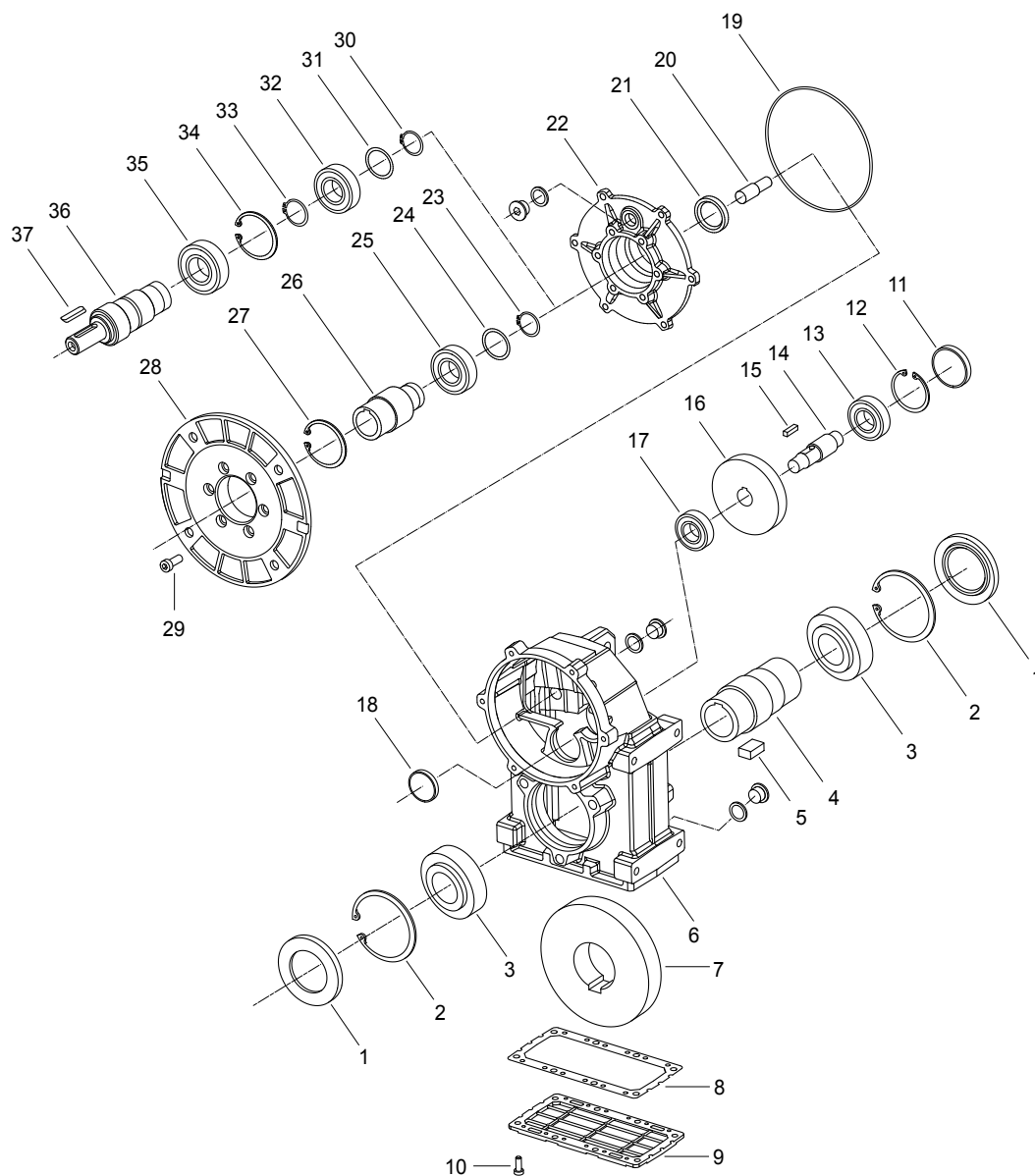


**FT146 - FT196**



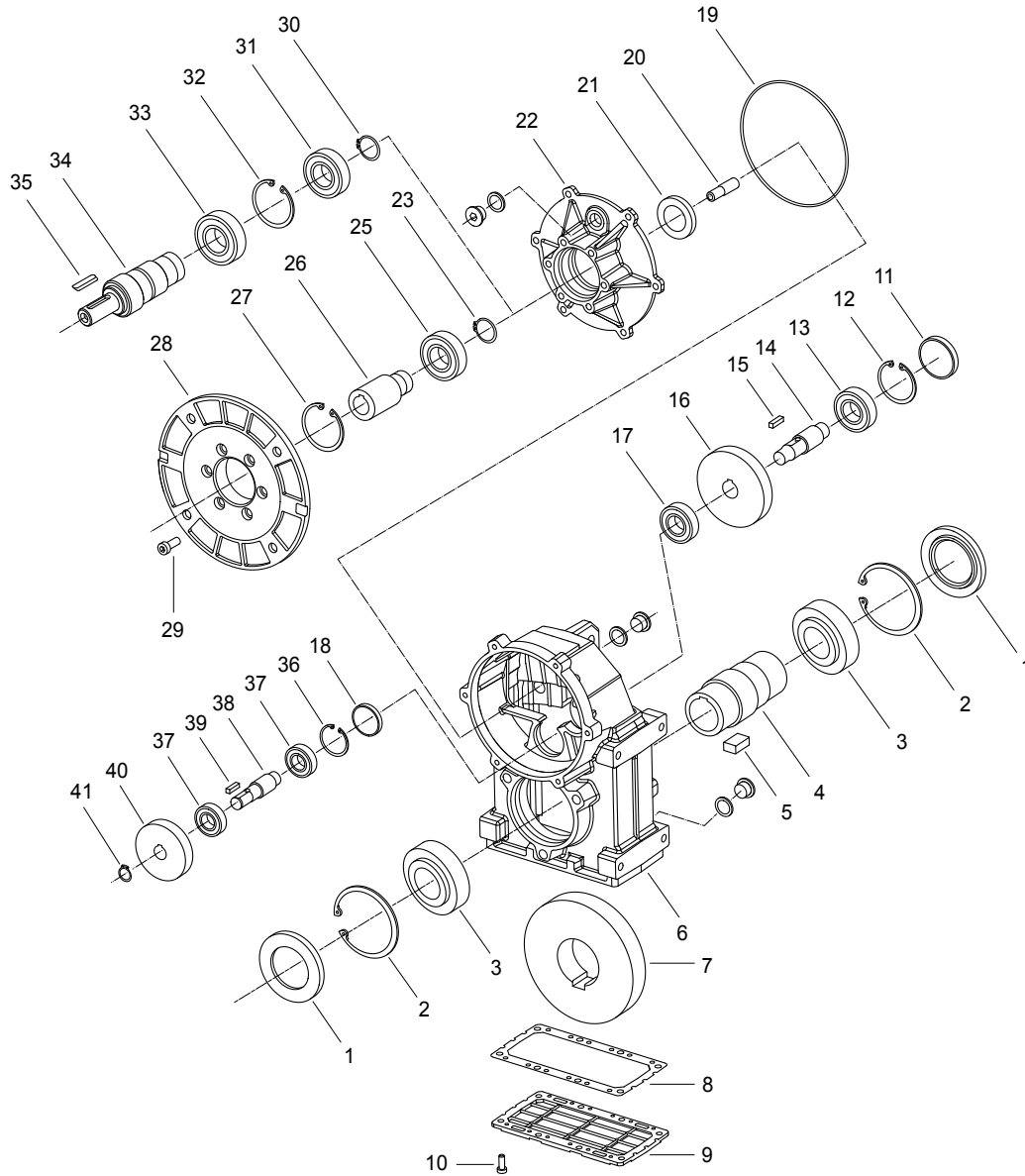
FT	Anelli di tenuta / Oil seals		RCA
	1	20	29
<b>146</b>	35/52/07	25/42/07	42x7
<b>196</b>	50/72/08	30/47/08	47x7

ATS .2



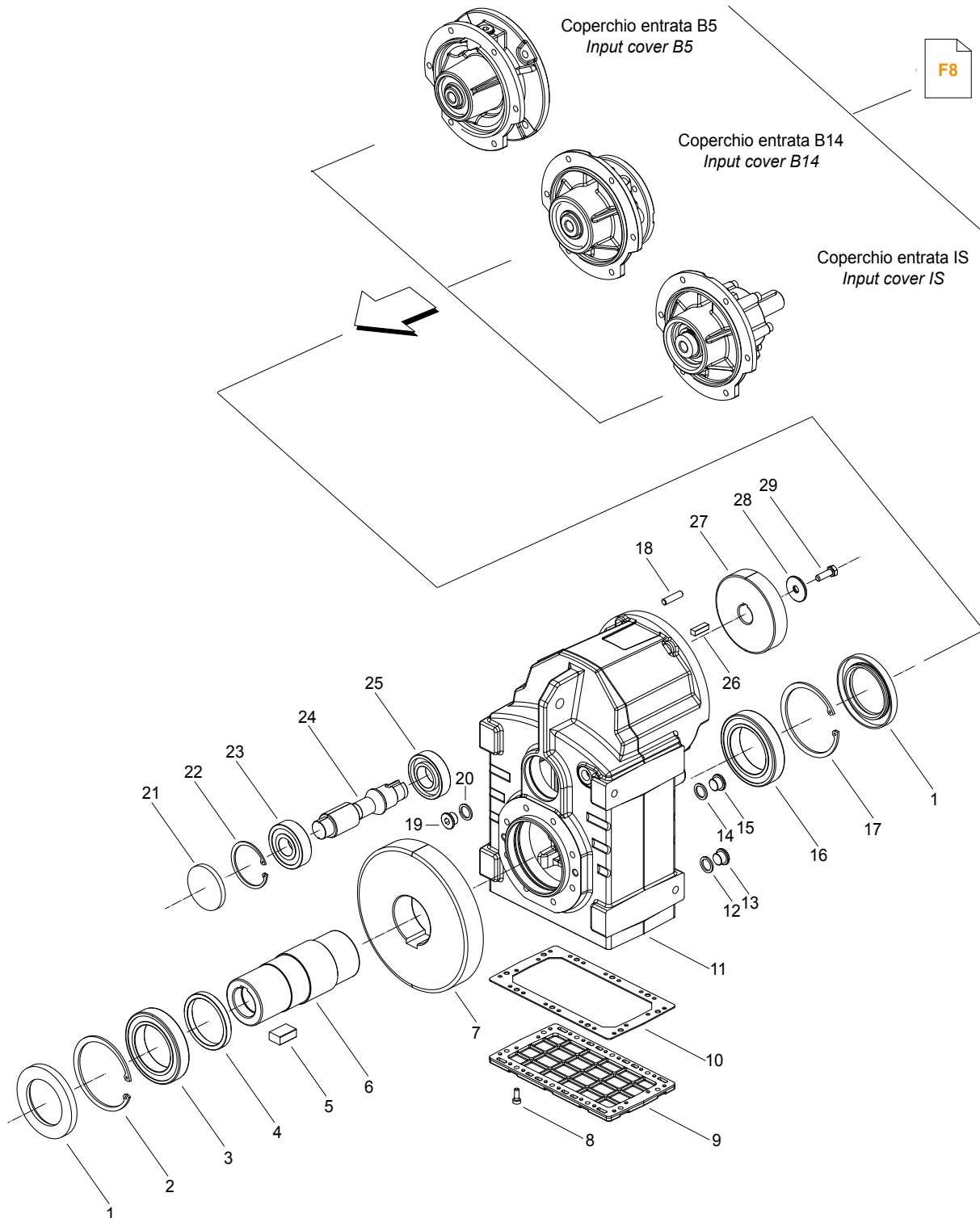
ATS	Anelli di tenuta / Oil seals		RCA
	1	21	11
902	50/80/8	30/42/7	47x7
912	60/95/8	30/42/7	47x7

**ATS ..3**



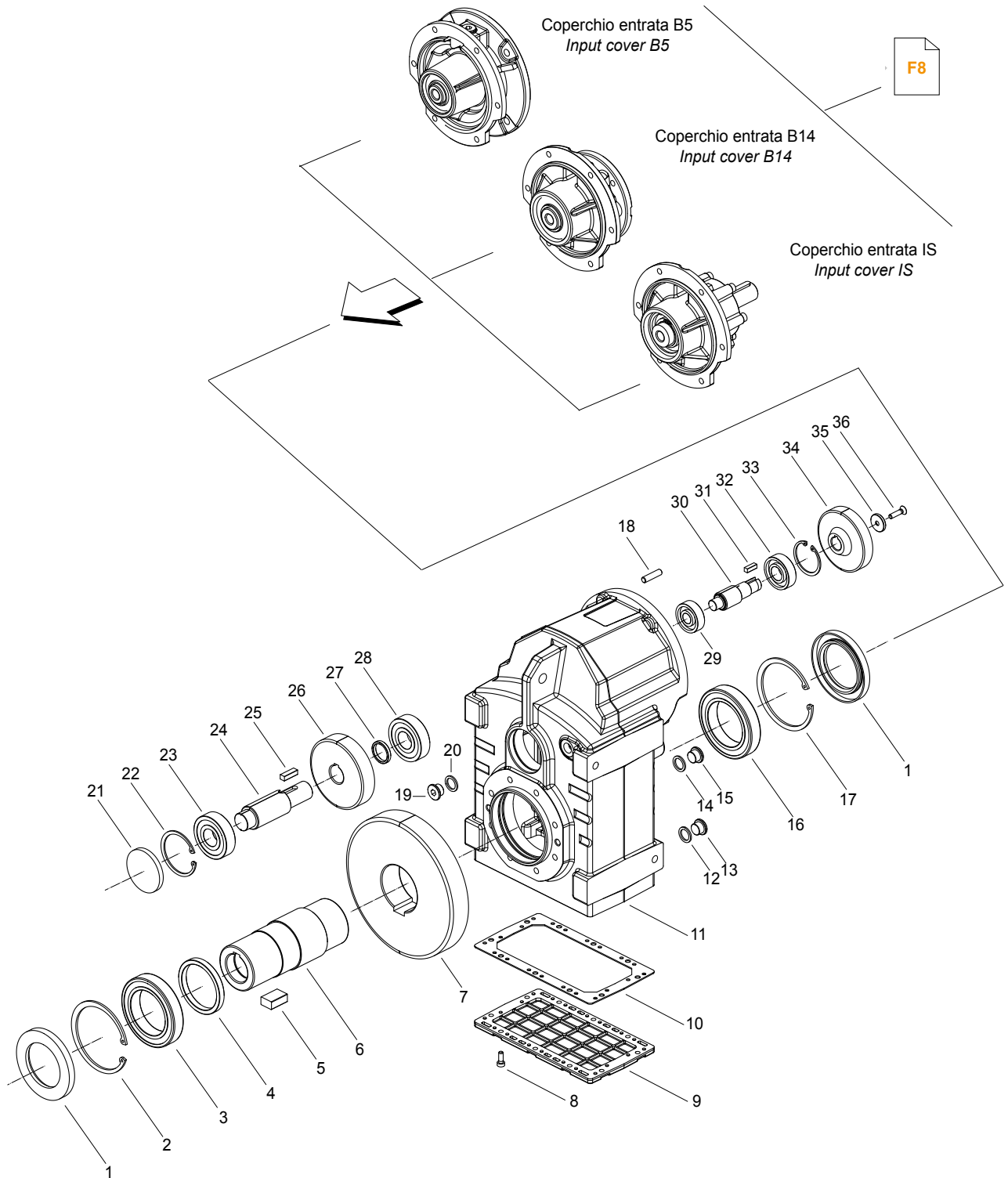
ATS	Anelli di tenuta / Oil seals		RCA
	1	21	11
903	50/80/8	25/47/7	47x7
913	60/95/8	25/47/7	47x7

ITS ..2



ITS	Anelli di tenuta / Oil seals	
		RCA
	<b>1</b>	<b>21</b>
<b>922</b>	65/100/10	62x7
<b>932</b>	70/110/12	62x7
<b>942</b>	85/130/10	72x10

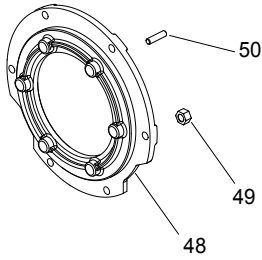
ITS ..3



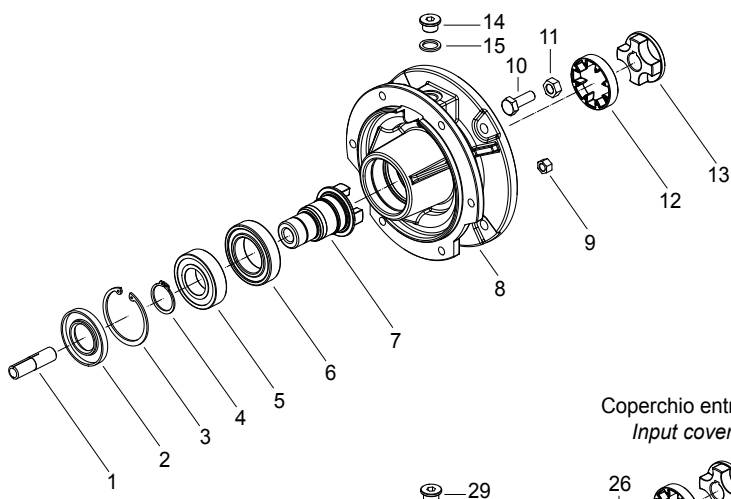
ITS	Anelli di tenuta / Oil seals	
		RCA
	<b>1</b>	<b>21</b>
<b>923</b>	65/100/10	62x10
<b>933</b>	70/110/12	62x10
<b>943</b>	85/130/10	72x10

**COPERCHIO ENTRATA - INPUT COVER**

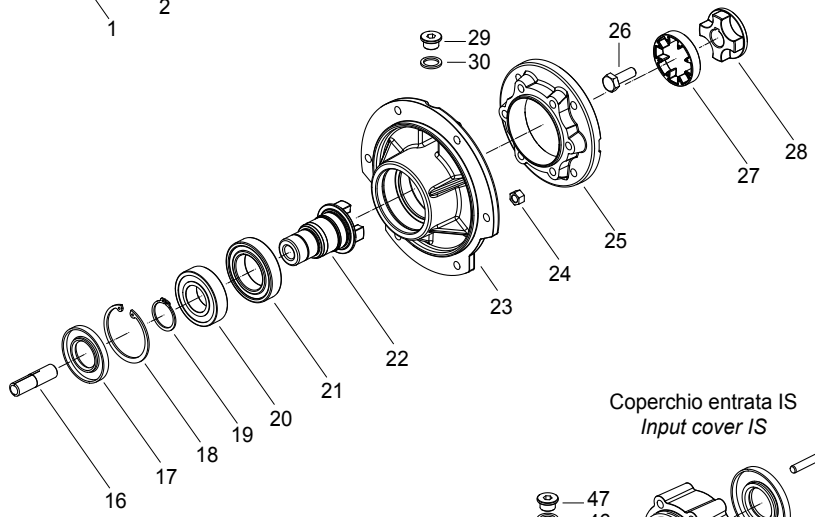
Adattatore entrata...  
Input adapter...



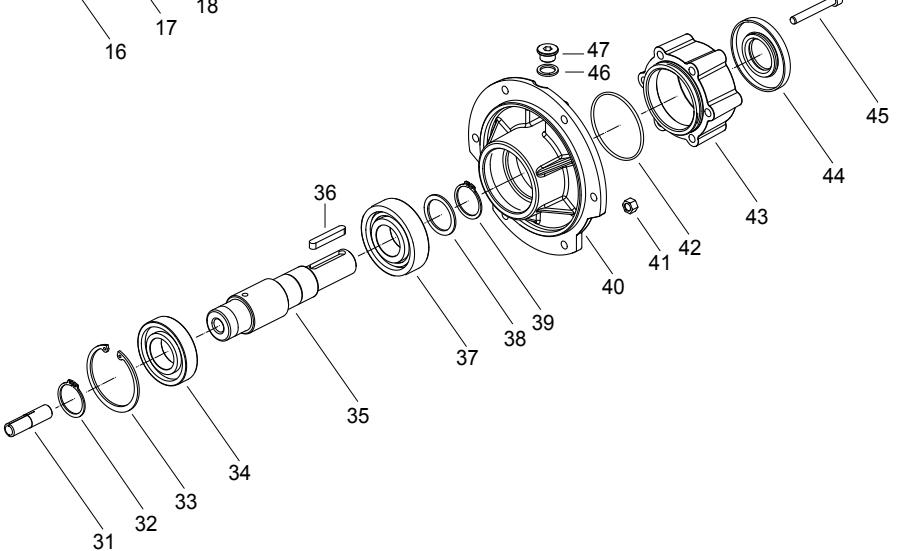
Coperchio entrata B5  
Input cover B5



Coperchio entrata B14  
Input cover B14



Coperchio entrata IS  
Input cover IS



ITS..

IEC B5	Anelli di tenuta / Oil seals
	2
71	30/62/7
80/90	30/62/7
100/112	35/72/7
132	40/80/10
160/180	50/110/12
200	60/130/12

IEC B14	Anelli di tenuta / Oil seals
	17
90	35/72/7
100/112	35/72/7

IS	Anelli di tenuta / Oil seals
	44
24	35/80/8
28	35/80/8
38	45/100/10





**MA TRANSTECNO S.A.P.I. DE C.V.**  
 Av. Mundial # 176, Parque Industrial  
 JM Apodaca, Nuevo León,  
 C.P. 66600  
 MÉXICO  
 T +52 8113340920  
 info@transtecno.com.mx  
 www.transtecno.com.mx



**TRANSTECNO SRL**  
 Via Caduti di Sabbiano, 11/D-E  
 40011 Anzola dell'Emilia (BO)  
 ITALY  
 T+39 051 64 25 811  
 F +39 051 73 49 43  
 sales@transtecno.com  
 www.transtecno.com



**HANGZHOU TRANSTECNO POWER TRANSMISSIONS CO LTD**  
 No.4 Xiuyan Road Fengdu Industry Zone  
 Pingyao Town Yuhang District  
 Hangzhou City, Zhejiang Province  
 311115 – CHINA  
 T +86 571 86 92 02 60  
 F +86 571 86 92 18 10  
 info-china@transtecno.com  
 www.transtecno.cn



**TRANSTECNO U.S.A. LLC**  
 5440 S.W. 156th Place Miami,  
 FL 33185 - USA  
 Tel: +1 (305) 220-4423  
 Fax: +1 (305) 220-5945  
 usaoffice@transtecno.com



**TRANSTECNO B.V.**  
 De Stuwdam, 43  
 3815 KM Amersfoort - NETHERLANDS  
 Tel: +31(0) 33 45 19 505  
 Fax: +31(0) 33 45 19 506  
 info@transtecno.nl  
 www.transtecno.nl



**SALES OFFICE GUANGZHOU**  
 Room 401A, LeTian Building, No.188 TangAn Road,  
 Tianhe District, Guangzhou City, 510665 - CHINA  
 Tel: +86 571 86920260-826  
 Fax: +86 013185001627  
 guangzhouoffice@transtecno.com



**SALES OFFICE BRAZIL**  
 Rua Dr. Freire Alemão 155 / 402 - CEP. 90450-060  
 Auxiliadora Porto Alegre RS - BRAZIL  
 Tel: +55 51 3251 5447  
 Fax: +55 51 3251 5447  
 Mobile: +55 51 811 45 962  
 braziloffice@transtecno.com  
 www.transtecno.com.br



**TRANSTECNO IBÉRICA  
 THE MODULAR GERMOTOR, S.A.**  
 C/Enginy, 2 Nave 6 - 08850 Gavà (Barcelona) - SPAIN  
 Tel: +34 931 598 950  
 info@transtecno.es  
 www.transtecno.es



**SALES OFFICE INDIA**  
 A/10, Anagha, S.N. Road, Mulund (W) Mumbai  
 400080 - INDIA  
 Tel: +91 9820614698  
 Fax-Italy: +39 051 733 904  
 indiaoffice@transtecno.com



**SALES OFFICE FRANCE**  
 12 Impasse des Mûriers  
 38300 Ruy - FRANCE  
 Tel: +33 (0) 6 85 12 09 87  
 Fax-Italy: +39 051 733 904  
 franceoffice@transtecno.com  
 www.transtecno.fr



**SALES OFFICE SOUTH KOREA**  
 D-304 Songdo BRC Smart Valley 30, Songdomirae-ro,  
 Yeonsu-gu, Incheon, 406-840 - SOUTH KOREA  
 Tel: +82 70 8288 2107  
 Fax: +82 32 815 2107  
 Mobile: +82 10 5094 2107  
 koreaoffice@transtecno.com



**SALES OFFICE OCEANIA**  
 44 Northview drive, Sunshine west 3020  
 Victoria - AUSTRALIA  
 Tel: +61 03 9312 4722  
 Fax: +61 03 9312 4714  
 Mobile: +61 0438 060 997  
 oceaniaoffice@transtecno.com  
 www.transtecno.com.au

**TRANSTECNO®**  
 the modular gearmotor

www.transtecno.com