

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


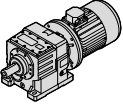

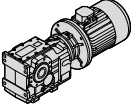

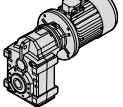
AC  
**Iron**

60Hz

**Nema**





	Índice	Index	Pag. Page
	<b>A</b> Introducción	Introduction	A1
 	<b>B</b> Motorreductores a engranajes cilíndricos ITH	Helical in-line gearmotors ITH	B1
 	<b>C</b> Motoreductores de ejes ortogonales ITB	Helical bevel gearmotors ITB	C1
 	<b>D</b> Motorreductores pendulares ITS	Helical parallel gearmotors ITS	D1
	<b>E</b> Apéndice	Appendix	E1

Esta sección substituye y anula las ediciones y revisiones previas. Si usted obtiene este catálogo a través de canales de distribución no autorizados o fuera de nuestro control, la versión en vigor no estará garantizada. **En todo caso, la versión más actualizada está disponible en nuestra página de internet [www.transtecno.com](http://www.transtecno.com)**

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<b>Índice</b>	<b>Index</b>	<b>Pág. Page</b>
Información General	<i>General information</i>	<b>A2</b>
Velocidad de entrada	<i>Input speed</i>	<b>A2</b>
Relación de reducción	<i>Gear ratio</i>	<b>A2</b>
Velocidad de salida	<i>Output speed</i>	<b>A2</b>
Par requerido	<i>Requested torque</i>	<b>A2</b>
Par nominal	<i>Nominal torque</i>	<b>A3</b>
Par transmitido	<i>Output torque</i>	<b>A3</b>
Rendimiento	<i>Efficiency</i>	<b>A3</b>
Potencia en entrada	<i>Input power</i>	<b>A3</b>
Factor de servicio	<i>Service factor</i>	<b>A4</b>
Factor de servicio clase AGMA	<i>Service class AGMA</i>	<b>A5</b>
Carga radial	<i>Radial load</i>	<b>A13</b>
Carga axial	<i>Axial load</i>	<b>A13</b>
Seleccionando el motorreductor	<i>Selecting the gearmotors</i>	<b>A14</b>
Lubricación	<i>Lubrication</i>	<b>A14</b>
Posición de montaje	<i>Mounting positions</i>	<b>A15</b>
Acoplamiento flexible	<i>Flexible coupling</i>	<b>A16</b>
Temperatura de operación	<i>Operating temperature</i>	<b>A17</b>
Instalación y controles	<i>Installation and inspection</i>	<b>A18</b>
Aplicaciones críticas	<i>Critical applications</i>	<b>A18</b>

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## Información general

## General information

Para una mejor comprensión de los temas y de los datos presentes en el catálogo, proponemos una simbología acompañada por la información necesaria para una selección correcta de los motorreductores y variadores.

*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.*

## Velocidad de entrada

$n_1$  [rpm]

## Input speed

Es la velocidad en la entrada del reductor y está relacionada con el tipo de motor seleccionado.

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

Cuando se requieran otras velocidades, contactar con nuestro servicio técnico.

*When different speeds are required, contact our Technical Service.*

## Relación de reducción

$i$

## Gear ratio

Es una magnitud adimensional y está relacionada con el número de dientes de los engranajes internos del reductor. En los reductores sinfín corona se obtiene dividiendo el número de dientes de la corona entre el número de roscas del tornillo sinfín. Con los datos del catálogo se puede obtener con la siguiente fórmula:

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

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

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

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

## Velocidad de salida

$n_2$  [rpm]

## Output speed

Es la velocidad resultante en el eje de salida del reductor y se obtiene de la fórmula anterior:

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

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

En los motovariadores esto es el resultado de cálculos más complejos, para esto en el catálogo encontrara todos los valores de  $n_2$  en función de la velocidad en entrada y del campo de variación mínimo y máximo.

*In mechanical variators this value is more complicated to calculate. In fact the application data need to be known in order to calculate this value. All the  $n_2$  values are given in this catalogue according to the input speed and allowable range.*

## Par requerido

$Mr_2$  [lb-inch]

## Requested torque

Es el par requerido para la aplicación y es necesario para seleccionar la motorización. Puede ser comunicado por el usuario o calculado a través de los datos de la aplicación (si se conocen).

*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).*

**Par nominal****Mn<sub>2</sub>** [lb-inch]**Nominal torque**

Es el par transmisible a la salida del reductor, en base a la velocidad en entrada n<sub>1</sub> y a la relación de reducción i.

Se calcula considerando un servicio con una carga continua constante, que corresponde a un factor de servicio igual a 1. Este valor no aparece en el catálogo, pero se puede calcular aproximadamente mediante la relación siguiente entre M<sub>2</sub> (par de salida) y SF (factor de servicio):

*This is the output torque that can be transmitted by the gearbox according to input speed n<sub>1</sub> 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<sub>2</sub> (output torque) and sf (service factor):*

$$Mn_2 = M_2 \cdot sf$$

**Par transmitido****M<sub>2</sub>** [lb-inch]**Output torque**

Es el par transmitido en la salida del reductor.

Depende de la potencia P<sub>1</sub> del motor instalado, de las revoluciones de salida n<sub>2</sub> y del rendimiento dinámico Rd.

Se puede calcular mediante la relación:

*This is the gearbox's output torque. It is strictly related to power P<sub>1</sub> of the motor installed, output rpm n<sub>2</sub> and dynamic efficiency Rd. It can be calculated with the following formula:*

$$M_2 = \frac{63025 \cdot P_1 \cdot Rd}{n_2}$$

o:  
or:

$$M_2 = \frac{63025 \cdot P_2}{n_2}$$

dónde:  
where:

$$P_2 = P_2 \cdot R$$

**Rendimiento****Rd****Efficiency**

Los cálculos de rendimiento se basan en el rendimiento dinámico Rd de los reductores.

En los reductores de engranajes el rendimiento medio es 94%.

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

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

**Potencia de entrada****P<sub>1</sub>** [hp]**Input power**

Es la potencia del motor aplicada en la entrada al reductor y se refiere a la velocidad n<sub>1</sub>.

Se puede calcular de la siguiente manera:

*This is the power applied by the motor at the gearbox input in reference to speed n<sub>1</sub>.*

*It can be calculated with the following formula:*

$$P_1 = \frac{M_2 \cdot n_2}{63025 \cdot Rd}$$

**Factor de servicio**

**sf**

**Service factor**

Es un magnitud adimensional que indica el sobredimensionamiento aplicable a una motorización para garantizar la resistencia a los choques y la durabilidad necesaria.

Las tablas del catálogo ofrecen una amplia selección de motorizaciones con factores de servicio diferentes que pueden satisfacer a la mayoría de las aplicaciones.

Para una correcta interpretación de los valores del factor de servicio sf en las selecciones propuestas, encontrarán en las tablas siguientes los valores aproximados de las clases de carga A, B, C, de las horas de funcionamiento cotidiano y del número de arranques por hora.

Una vez definida la clase de carga de la aplicación, se busca en la tabla el correspondiente valor de sf para elegir la unidad más adecuada.

	<b>A - Carga uniforme</b>	$fa \leq 0.3$
Tipo de carga	<b>B - Carga con choques moderados</b>	$fa \leq 3$
	<b>C - Carga con choques fuertes</b>	$fa \leq 10$

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

- Je (kgm<sup>2</sup>) momento de inercia de las masas externas, referido al eje del motor.
- Jm (kgm<sup>2</sup>) momento de inercia del motor.

Para valores > 10 se recomienda contactar con el Servicio Técnico.

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 - Uniform</b>	$fa \leq 0.3$
Type of load	<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>) 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** Clase de carga / Load class  
**Carga uniforme / Uniform load**

		sf								
h/d	n. arranques/hora / 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** Clase de carga / Load class  
**Carga con choques moderados / Moderate shock load**

		sf								
h/d	n. arranques/hora / 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** Clase de carga / Load class  
**Carga con choques fuertes / Heavy shock load**

		sf								
h/d	n. arranques/hora / 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	

Ejemplo de aplicación:

Cinta transportadora atribuible a la clase de carga B (**carga con choques moderados**), previsto para una hora de funcionamiento diaria (h/d) 16 horas y con 8 arranques/hora De la tabla obtenemos: **sf = 1.5**

**A** - Tornillos de Arquímedes para materiales ligeros, ventiladores, líneas de montaje, cintas transportadoras para materiales ligeros, pequeños agitadores, elevadores, máquinas limpiadoras, máquinas llenadoras, máquinas comprobadoras, cintas trasportadoras.

**A** - Screw feeders for light materials, fans, assembly lines, conveyor belts for light materials, small mixers, lifts, cleaning machines, fillers, control machines.

**B** - Dispositivos de enrollado, alimentadores de las máquinas para la madera, montacargas, equilibradores, roscadoras, agitadores medios y mezcladores, cintas transportadoras para materiales pesados, cabrestantes, puertas corredizas, raspadores de abono, máquinas empaquetadoras, hormigoneras, mecanismos para el movimiento de las grúas, fresadoras, plegadoras, bombas de engranajes.

**B** - Winding devices, woodworking machine feeders, goods lifts, balancers, threading machines, medium mixers, conveyor belts for heavy materials, winches, sliding doors, fertilizer scrapers, packing machines, concrete mixers, crane mechanisms, milling cutters, folding machines, gear pumps.

**C** - Agitadores para materiales pesados, cizallas, prensas, centrifugadoras, soportes rotativos, cabrestantes y elevadores para materiales pesados, tornos para la rectificación, molinos de piedras, elevadores de cangilones, perforadoras, moledores a percusión, prensas de excéntrica, plegadoras, mesas giratorias, pulidoras, vibradores, cortadoras.

**C** - Mixers for heavy materials, shears, presses, centrifuges, rotating supports, winches and lifts for heavy materials, grinding lathes, stone mills, bucket elevators, drilling machines, hammer mills, cam presses, folding machines, turntables, tumbling barrels, vibrators, shredders.

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**

## Factor de servicio clase AGMA

## AGMA

## Service class AGMA

Los números de clases AGMA tienen la misma función del factor de servicio.

Las clases de aplicación son I, II y III siendo la clase III la más obligada para servicios críticos.

La relación entre el factor de servicio y las clases de aplicación pueden ser resumidas como sigue:

Aplicación clases AGMA <i>Application class AGMA</i>	Factor de servicio <i>Service factor</i>
I	0.8 - 1.39
II	1.4 - 1.99
III	≥ 2.00

AGMA class numbers have the same function as the service factor. The application classes are I, II, III with class III being the most severe service duty.

The relationship between the service factor and classes of application can be summarized as below:

APLICACIÓN	APPLICATION	OPERACIÓN TOTAL/LOAD DURATION		
		0/3 h	3/10 h	10/24 h
<b>AGITADORES O MEZCLADORAS</b>	<b>AGITATORS (mixers)</b>			
Líquidos Puros	Pure Liquids	I	I	II
Líquidos y Sólidos	Liquids and Solids	I	II	II
Líquidos de densidad variable	Liquids - Variable Density	I	II	II
<b>SOPLADORES</b>	<b>BLOWERS</b>			
Centrífugos	Centrifugal	I	I	II
Lóbulo	Lobe	I	II	II
De Aspas	Vane	I	II	II
<b>FABRICACIÓN DE CERVEZA Y DESTILACIÓN</b>	<b>BREWING AND DISTILLING</b>			
Maquinaria para Embotellado	Bottling Machinery	I	I	II
Ollas de Hervor - Servicio Continuo	Brew Kettles - Continuous Duty	II	II	II
Cocinas - Servicio Continuo	Cookers - Continuous Duty	II	II	II
Cubos de Maceración - Servicio Continuo	Mash Tubs - Continuous Duty	II	II	II
Tolva Dosificadora - Arranques Frecuentes	Scale Hopper - Frequent Starts	II	II	II
<b>ENLATADORAS</b>	<b>CAN FILLING MACHINES</b>	I	I	II
<b>VUELCA VAGONES</b>	<b>CAR DUMPERS</b>	II	III	III
<b>REMOLCADOR DE VAGONES</b>	<b>CAR PULLERS</b>	I	II	II
<b>CLARIFICADORES</b>	<b>CLARIFIERS</b>	I	I	II
<b>CLASIFICADORES</b>	<b>CLASSIFIERS</b>	I	II	II
<b>MAQUINARIA PARA TRABAJAR ARCILLA</b>	<b>CLAY WORKING MACHINERY</b>			
Prensa para ladrillo	Brick Press	II	III	III
Máquina de briquetas	Briquette Machine	II	III	III
Amasadora	Pug Mill	I	II	II
<b>COMPACTADORES</b>	<b>COMPACTORS</b>	III	III	III
<b>COMPRESORES</b>	<b>COMPRESSORS</b>			
Centrífugos	Centrifugal	I	I	II
De Lóbulos	Lobe	I	II	II
Alternativos Multicilíndricos	Reciprocating, Multi-Cylinder	II	III	III
Alternativos de Cilindro Único	Reciprocating, Single-Cylinder	III	III	III

Factor de servicio clase AGMA

AGMA

Service class AGMA

APLICACIÓN	APPLICATION	OPERACIÓN TOTAL/LOAD DURATION		
		0/3 h	3/10 h	10/24 h
<b>TRANSPORTADORAS - PROPÓSITO GENERAL</b>	<b>CONVEYORS - GENERAL PURPOSE</b>			
Uniformemente cargado o alimentado	<i>Uniformly loaded</i>	I	I	II
Servicio pesado	<i>Heavy Duty</i>	I	II	II
Servicio severo	<i>Severe Duty</i>	II	III	III
<b>GRÚAS</b>	<b>CRANES</b>			
Montacargas principal - Servicio medio	<i>Main Hoist - Medium Duty</i>	II	II	II
Montacargas principal - Servicio pesado	<i>Main Hoist - Heavy Duty</i>	III	III	III
Reversa	<i>Reversing</i>	II	II	II
Polipasto	<i>Skip Hoist</i>	II	II	II
Recorrido del Carro	<i>Trolley Drive</i>	II	II	II
Recorrido del Puente	<i>Bridge Drive</i>	II	II	II
<b>TRITURADORAS</b>	<b>CRUSHER</b>			
Piedra o mineral	<i>Stone or Ore</i>	III	III	III
<b>DRAGAS</b>	<b>DREDGES</b>			
Bobinas de cable	<i>Cable Reels</i>	II	II	II
Transportadoras	<i>Conveyors</i>	II	II	II
Unidades de Accionamiento de Cabezal Cortante	<i>Cutter Head Drives</i>	III	III	III
Bombas	<i>Pumps</i>	III	III	III
Cedazos	<i>Screen Drives</i>	III	III	III
Apiladores	<i>Stackers</i>	II	II	II
Cabrestantes Utilitarios (Malacates)	<i>Winches</i>	II	II	II
<b>ELEVADORES</b>	<b>ELEVATORS</b>			
De Cangilones	<i>Bucket</i>	I	II	II
Descarga Centrífuga	<i>Centrifugal Discharge</i>	I	I	II
Escaleras mecánicas	<i>Escalators</i>	I	I	II
Flete	<i>Freight</i>	I	II	II
Descarga por gravedad	<i>Gravity Discharge</i>	I	I	II
<b>EXTRUSORAS</b>	<b>EXTRUDERS</b>			
Generales	<i>General</i>	II	II	II
Plásticos - Variador de velocidad	<i>Plastics - Variable Speed Drive</i>	III	III	III
Plásticos - Accionador de velocidad fija	<i>Plastics - Fixed Speed Drive</i>	III	III	III
Caucho/Hule - Operación de tornillo continuo	<i>Rubber - Continuous Screw Operation</i>	III	III	III
Rubber - Operación de tornillo intermitente	<i>Rubber - Intermittent Screw Operation</i>	III	III	III



## Factor de servicio clase AGMA

## AGMA

## Service class AGMA

APLICACIÓN	APPLICATION	OPERACIÓN TOTAL/LOAD DURATION		
		0/3 h	3/10 h	10/24 h
<b>VENTILADORES</b>	<b>FANS</b>			
Centrífugos	<i>Centrifugal</i>	I	I	II
Torres de enfriamiento	<i>Cooling Towers</i>	III	III	III
Tiro forzado	<i>Forced Draft</i>	II	II	II
Tiro inducido	<i>Induced Draft</i>	II	II	II
Industrial y minería	<i>Industrial and Mine</i>	II	II	II
<b>ALIMENTADORES</b>	<b>FEEDERS</b>			
Salpicaderos (tipo Mandil)	<i>Apron</i>	I	II	II
Correas	<i>Belt</i>	I	II	II
Disco	<i>Disc</i>	I	I	II
Reciprocante	<i>Reciprocating</i>	II	III	III
Tornillo	<i>Screw</i>	I	II	II
<b>INDUSTRIA ALIMENTICIA</b>	<b>FOOD INDUSTRY</b>			
Cocina de Cereales	<i>Cereal Cooker</i>	I	I	II
Mezclador de pasta	<i>Dough Mixer</i>	II	II	II
Picadoras de carne	<i>Meat Grinders</i>	II	II	II
Rebanadoras	<i>Slicers</i>	I	II	II
<b>GENERADORES Y EXCITADORES</b>	<b>GENERATORS AND EXCITERS</b>	II	II	II
<b>MOLINOS DE MARTILLO</b>	<b>HAMMER MILLS</b>	III	III	III
<b>MONTACARGAS</b>	<b>HOISTS</b>			
Alta Resistencia	<i>Heavy Duty</i>	III	III	III
Resistencia Media	<i>Medium Duty</i>	II	II	II
Contenedor	<i>Skip Hoist</i>	II	II	II
<b>LAVADORAS</b>	<b>LAUNDRY</b>			
Tinas	<i>Tumblers</i>	II	II	II
Máquinas de lavado	<i>Washers</i>	II	II	III
<b>INDUSTRIA DE LA MADERA</b>	<b>LUMBER INDUSTRY</b>			
Descortezador - Automático	<i>Barkers - Spindle Feed</i>	II	II	II
Descortezador - Principal	<i>Barkers - Main Drive</i>	III	III	III
Transportador - Quemador	<i>Conveyors - Burner</i>	II	II	II
Transportadoras - Principal o Servicio pesado	<i>Conveyors - Main or Heavy Duty</i>	II	II	II
Transportadora Principal de Troncos	<i>Conveyors - Main log</i>	III	III	III
Conveyors - Sierra de cadena, sierra de troceado	<i>Conveyors - Re-saw, Merry-Go-Round</i>	II	II	II
Transportador - Losas	<i>Conveyors - Siab</i>	III	III	III
Transportador - Carrusel	<i>Conveyors - Transfer</i>	II	II	II
Transferencia por cadena	<i>Chains - Floor</i>	II	II	II
Transferencia de Vía de Grúa	<i>Chains - Green</i>	II	II	III

Factor de servicio clase AGMA

AGMA

Service class AGMA

APLICACIÓN	APPLICATION	OPERACIÓN TOTAL/LOAD DURATION		
		0/3 h	3/10 h	10/24 h
Sierras cortadoras - Cadena	<i>Cut-Off Saws - Chain</i>	II	II	III
Sierras cortadoras - Arrastre	<i>Cut-Off Saws - Drag</i>	II	II	III
Tambores de descortezado	<i>Debarking Drums</i>	III	III	III
Alimentadores - De Canteadora	<i>Feeds - Edger</i>	II	II	II
Alimentadores - Multiple	<i>Feeds - Gang</i>	II	III	III
Alimentadores - de Desbastadora	<i>Feeds - Trimmer</i>	II	II	II
Plataforma de registro	<i>Log Deck</i>	III	III	III
Disparos de registro - tipo inclinado- tipo circular	<i>Log Hauls - Incline - Well Type</i>	III	III	III
Conexión de dispositivos giratorios	<i>Log Turning Devices</i>	III	III	III
Alimentación de la aplanadora	<i>Planer Feed</i>	II	II	II
Aplanadora en inclinación de elevadores	<i>Planer Tilting Hoists</i>	II	II	II
Rodillo - de extracción -activos - de Cajas	<i>Rolls - live-off brg. - Roll Cases</i>	III	III	III
Mesa de Clasificación	<i>Sorting Table</i>	II	II	II
Elevador con caja de volteo	<i>Tipple Hoist</i>	II	II	II
Transportador - De Cadenas	<i>Transfers - Chain</i>	II	II	III
Transportador -Tipo Grúa	<i>Transfers - Craneway</i>	II	II	III
Unidades de batea	<i>Tray Drives</i>	II	II	II
Sepilladora para chapas	<i>Veneer Lathe Drives</i>	II	II	II
<b>LAMINADORAS DE METAL</b>	<b>METAL MILLS</b>			
Accionamiento Principal y Carro de Banco de Estirado	<i>Draw Bench Carriage and Main Drive</i>	II	II	II
Mesa de salida - Controlador Grupal no reversible	<i>Runout Table - Non reversing Group Drives</i>	II	II	II
Mesa de salida - Controlador individual no reversible	<i>Runout Table - Non reversing Individual Drives</i>	III	III	III
Mesas Transportadoras Reversibles	<i>Runout Table - Reversing</i>	III	III	III
Impulsadores de Placa	<i>Slab Pushers</i>	II	II	II
Cizallas	<i>Shears</i>	III	III	III
Trefilado	<i>Wire drawing</i>	II	II	II
Máquina de bobinado de alambre	<i>Wire Winding Machine</i>	II	II	II
<b>BANDAS DE METAL -MAQUINARIA DE PROCESAMIENTO-</b>	<b>METAL STRIP PROCESSING MACHINERY</b>			
Bridas	<i>Bridles</i>	II	II	II
Bobinadoras y Desbobinadoras	<i>Coilers and Uncoilers</i>	I	I	II
Arista - Condensador de ajuste	<i>Edge Trimmers</i>	I	II	II
Laminadora de Rodillos	<i>Flatteners</i>	II	II	II
Acumuladores	<i>Loopers (Accumulators)</i>	I	I	I
Rodillos de arrastre	<i>Pinch Rolls</i>	II	II	I
Cuchillas de corte	<i>Scrap Choppers</i>	II	II	II
Cizalla	<i>Shears</i>	III	III	III
Cortadoras	<i>Slitters</i>	I	II	II

## Factor de servicio clase AGMA

## AGMA

## Service class AGMA

APLICACIÓN	APPLICATION	OPERACIÓN TOTAL/LOAD DURATION		
		0/3 h	3/10 h	10/24 h
<b>MOLINOS TIPO ROTATORIO</b>	<b>MILLS, ROTARY TYPE</b>			
Bola y varilla - Engranaje tipo espolón	Ball and Rod - Spur Ring Gear	III	III	III
Bola y varilla - Engranaje anular helicoidal	Ball and Rod - Helical Ring Gear	II	II	II
Bola y varilla - Conexión directa	Ball and Rod - Direct Connected	III	III	III
Bola y varilla - Hornos de cemento	Ball and Rod - Cement Kilns	II	II	II
Bola y varilla - Secadores y enfriadores	Ball and Rod - Dryers and Coolers	II	II	II
<b>FABRICACIÓN DE PAPEL 1)</b>	<b>PAPER MILLS 1)</b>			
Agitador / Mezclador	Agitator (Mixer)	II	II	II
Agitador para líquidos puros	Agitator for Pure liquors	II	II	II
Descortezadora Híraulica	Barking Drums	III	III	III
Descortezadora - Mecánica	Barkers - Mechanical	III	III	III
Blanqueador	Beater	II	II	II
Batidora Desfibradora	Breaker Stack	II	II	II
Calandrador 2)	Calender 2)	II	II	II
Máquina Convertidora	Chipper	III	III	III
Alimentador de viruta	Chip Feeder	II	II	II
Rodillos de recubrimiento	Coating Rolls	II	II	II
Transportadoras - Viruta, corteza, químicos	Conveyors - Chip, Bark, Chemical	II	II	II
Transportadora - Troncos -incluye placa-	Conveyors - Log (including Slab)	III	III	III
Enrolladores	Couch Rolls	II	II	II
Cortadora	Cutter	III	III	III
Moldes cilíndricos	Cylinder Molds	III	III	III
Secadoras 2)	Dryers 2)			
Máquina de papel	Paper Machine	II	II	II
Transportadoras	Conveyor Type	II	II	II
Prensa de Impresión	Embosser	II	II	II
Extrusora	Extruder	II	II	II
Rodillos Fourdrinier	Fourdrinier Rolls	II	II	II
Refinadores cónicos Jordán	Jordan Pulverizer	II	II	II
Lavadoras y Espesadoras	Kiln Drive	II	II	II
Enrolladora de Papel	Paper Rolls	II	II	II
Tina de Mezcla	Platter	II	II	II
Prensadora -Fieltro y succión-	Presses - Felt & Suction	II	II	II
Despulpadora	Pulper	III	III	III
Bombas de vacío	Pumps - Vacuum	II	II	II
Carretes (tipo superficial)	Reel (Surface Type)	II	II	II
Mallas - Viruta	Screens - Chip	II	II	II

Factor de servicio clase AGMA

AGMA

Service class AGMA

APLICACIÓN	APPLICATION	OPERACIÓN TOTAL/LOAD DURATION		
		0/3 h	3/10 h	10/24 h
Mallas - Rotatoria	Screens - Rotary	II	II	II
Mallas - Vibratoria	Screens - Vibrating	III	III	III
Prensa Encoladora	Size Press	II	II	II
Súper calandradora 3)	Supercalendar3)	II	II	II
Espesador (Motor AC)	Thickener (AC Motor)	II	II	II
Espesador (Motor DC)	Thickener (DC Motor)	II	II	II
Lavadora (Motor AC)	Washer (AC Motor)	II	II	II
Lavadora (Motor DC)	Washer (DC Motor)	II	II	II
Soporte de rollos	Wind and Unwind Stand	I	I	I
Enrolladoras (tipo superficial)	Winders (Surface Type)	II	II	II
Secadoras Yankee 2)	Yankee Dryers 2)	II	II	II
<b>INDUSTRIAS DE PLÁSTICOS - PROCESOS PRIMARIOS</b>	<b>PLASTICS INDUSTRY - PRIMARY PROCESSING</b>			
Mezcladores internos intensivos - por lotes	Intensive Internal Mixers - Batch Mixers	III	III	III
Mezcladores internos intensivos - continuos	Intensive Internal Mixers - Continuous Mixers	II	II	II
Molino de caída por lotes -2 rollos lisos-	Batch Drop Mill - 2 smooth rolls	II	II	II
Alimentación continua, mantenimiento y molino de mezcla	Continuous Feed, Holding & Blend Mill Calendars	II	II	II
<b>INDUSTRIAS DE PLÁSTICOS - PROCESOS SECUNDARIOS</b>	<b>PLASTICS INDUSTRY - SECONDARY PROCESSING</b>			
Moldeadores de Soplado	Blow Molders	II	II	II
De revestimiento	Coating	II	II	II
De Película	Film	II	II	II
De Tubo	Pipe	II	II	II
Pre plastificantes	Pre-Plasticizers	II	II	II
De Barras	Rods	II	II	II
De Lámina	Sheet	II	II	II
De Tubería	Tubing	II	II	II
<b>EXTRACTORES -REMOLQUE DE BARCAZAS</b>	<b>PULLERS - BARGE HAUL</b>	II	II	II
<b>BOMBAS</b>	<b>PUMPS</b>			
Centrifugas	Centrifugal	I	I	II
Dosificadoras	Proportioning	II	II	II
Reciprocante - Actuación simple, 3 o mas cilindros	Reciprocating - Single Acting, 3 or more cylinders	II	II	II
Reciprocante - Actuación doble, 2 o mas cilindros	Reciprocating - Double Acting, 2 or more cylinders	II	II	II
De engrane giratorio	Rotary - Gear Type	I	I	II
Rotatoria -Lóbulo	Rotary - Lobe	I	I	II
Rotatoria -Paletas	Rotary - Vane	I	I	II

## Factor de servicio clase AGMA

## AGMA

## Service class AGMA

APLICACIÓN	APPLICATION	OPERACIÓN TOTAL/LOAD DURATION		
		0/3 h	3/10 h	10/24 h
<b>INDUSTRIA DEL CAUCHO</b>	<b>RUBBER INDUSTRY</b>			
Mezcladores internos intensivos - Mezcladoras por lotes	<i>Intensive Internal - Batch Mixers</i>	III	III	III
Mezcladores internos intensivos -Mezcladores continuos	<i>Intensive Internal - Continuous Mixers</i>	II	II	II
Molinos Mezcladores -2 rodillos lisos	<i>Mixing Mill - 2 smooth rolls</i>	II	II	II
Molinos Mezcladores -2 rollo, 1 rodillo corrugado-	<i>Mixing Mill - 1 or 2 corrugated rolls</i>	III	III	III
Molino de Lote Descendente – 2 rodillos lisos	<i>Batch Drop Mill - 2 smooth rolls</i>	II	II	II
Quebradora en Caliente – 2 rodillos, 1 rodillo corrugado	<i>Cracker Warmer - 2 roll, 1 corrugated roll</i>	III	III	III
Quebradora -2 rodillos corrugados	<i>Cracker - 2 corrugated rolls</i>	III	III	III
Ligas, Alimentación & molinos mezcladores - 2 rodillos	<i>Holding, Feed &amp; Blend Mill - 2 rolls</i>	II	II	II
Refinadores -2 rodillos	<i>Refiner - 2 rolls</i>	II	II	II
Calandrias para Caucho	<i>Calenders</i>	II	II	II
<b>MEZCLADOR DE ARENA</b>	<b>SAND MULLER</b>	II	II	II
<b>EQUIPOS DE TRATAMIENTO DE AGUAS RESIDUALES</b>	<b>SEWAGE DISPOSAL EQUIPMENT</b>			
Cribas de barra	<i>Bar Screens</i>	II	II	II
Alimentadores químicos	<i>Chemical Feeders</i>	II	II	II
Cribas de desagüe	<i>Dewatering Screens</i>	II	II	II
Rompedores de espuma	<i>Scum Breakers</i>	II	II	II
Mezcladores lentos o rápidos	<i>Slow or Rapid Mixers</i>	II	II	II
Colector de Sedimentos	<i>Sludge Collectors</i>	II	II	II
Espesadores	<i>Thickener</i>	II	II	II
Filtros de vacío	<i>Vacuum Filters</i>	II	II	II
<b>CRIBAS</b>	<b>SCREENS</b>			
Para limpieza de Aire	<i>Air Washing</i>	I	I	II
Giratorias de Piedra o Grava	<i>Rotary - Stone or Gravel</i>	II	II	II
Toma de Agua Movil	<i>Traveling Water Intake</i>	I	I	I
<b>TRANSPORTADORES HELICOIDALES</b>	<b>SCREW CONVEYORS</b>			
Uniformemente cargado o alimentado	<i>Uniformly loaded or Fed</i>	I	I	II
Servicio pesado	<i>Heavy Duty</i>	I	II	II
<b>INDUSTRIA AZUCARERA</b>	<b>SUGAR INDUSTRY</b>			
Cortadora de remolacha	<i>Beet Slicer</i>	III	III	III
Cortadoras de Caña	<i>Cane Knives</i>	II	II	II
Trituradoras	<i>Crushers</i>	II	II	II
Molinos (terminal de baja velocidad)	<i>Mills (low speed end)</i>	III	III	III

Factor de servicio clase AGMA

AGMA

Service class AGMA

APLICACIÓN	APPLICATION	OPERACIÓN TOTAL/LOAD DURATION		
		0/3 h	3/10 h	10/24 h
<b>INDUSTRIA TEXTIL</b>	<b>TEXTILE INDUSTRY</b>			
Enrolladoras	<i>Batchers</i>	II	II	II
Calandrias	<i>Calendars</i>	II	II	II
Cardas	<i>Cards</i>	II	II	II
Tambores de Secado	<i>Dry Cans</i>	II	II	II
Secadores	<i>Dyeing Machinery</i>	II	II	II
Telares	<i>Looms</i>	II	II	II
Planchadoras	<i>Mangles</i>	II	II	II
Perchadoras	<i>Nappers</i>	II	II	II
Rellenadoras	<i>Pads</i>	II	II	II
Encoladoras	<i>Slashers</i>	II	II	II
Enjabonadoras	<i>Soapers</i>	II	II	II
Hilanderas	<i>Spinners</i>	II	II	II
Bastidores Tensores	<i>Tenter Frames</i>	II	II	II
Lavadoras	<i>Washers</i>	II	II	II
Enrolladoras	<i>Winders</i>	II	II	II

Notas sobre la tabla de FACTOR DE SERVICIO PARA REDUCTORES:

1) La clasificación de los números listados para la aplicación de la industria del papel son consistentes con los mostrados en la información técnica de la TAPPI (Asociación Técnica de la industria del papel y la pulpa), hoja 0406- 18 1967: factores de servicio para engranajes en servicios pesados en la industria del papel y la pulpa.

2) Solo para transporte anti fricción.

3) Un factor de servicio de 1.00 puede ser aplicado a la velocidad base de una súper calandradora que opera sobre caballos de fuerza con un rango de velocidad constante y en el rango de la constante del torque donde la velocidad de la potencia sea mayor que 1.5 a 1. Un número de clase II es aplicable a súper calandradoras que operan en todo el rango de velocidad con par constante o cuando la gama de velocidades de los caballos de fuerza constante es menor de 1.5 a 1.

Notes to GEARMOTOR SERVICE FACTOR table:

1) The class numbers listed for paper mill applications are consistent with those shown in TAPPI (Technical Association of Pulp and Paper Industry) Technical Information Sheet 0406-18 1967, Service Factors for Gears on major Equipment in the Paper and Pulp Industry.

2) Anti-friction bearings only.

3) A Class Number of I may be applied at base speed of a supercalendar operating over a speed range of part-range constant horsepower and part-range constant torque where the constant horsepower speed range is greater than 1.5 to 1. A Class Number of II is applicable to supercalendars operating over the entire speed range at constant torque or where the constant horsepower speed range is less than 1.5 to 1.



**Carga radial****R; R<sub>2</sub> [lb]****Radial load**

La aplicación en el eje de salida del reductor de piñones, poleas, etc. determina fuerzas radiales que es necesario considerar para evitar excesivo estrés y el riesgo de daños del reductor.

El cálculo de la carga radial externa R que actúa sobre el eje del reductor se puede calcular de la siguiente manera:

*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.*

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

$$R = \frac{2 \cdot M_2 \cdot kr}{d} \leq R_2$$

donde:

**d [inch]** diámetro primitivo del piñón o polea  
**kr** coeficiente con relación al tipo de transmisión:  
**kr = 1.4** transmisión por cadena  
**kr = 1.1** transmisión por cadena  
**kr = 1.5 - 2.5** polea para correa trapecial

where:

**d [inch]** 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

Señalamos que los valores R<sub>2</sub> son válidos para cargas aplicadas a la mitad del eje de salida, entonces la comparación debe hacerse en las mismas condiciones.

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

**Carga axial****A; A<sub>2</sub> [lb]****Axial load**

A veces, junto con la carga radial también puede estar presente una fuerza A que actúa axialmente en el eje de salida; en este caso tener en cuenta que la carga axial admisible A<sub>2</sub> en el eje es:

*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:*

$$A_2 = R_2 \cdot 0.2$$

Si el valor de la carga axial A en el eje resulta superior a A<sub>2</sub>, consultar con nuestro servicio técnico.

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

**Seleccionando el motorreductor****Selecting the gearmotors**

Para seleccionar el motorreductor requerido realizar el siguiente procedimiento:

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

1. Determinar el factor de servicio *f<sub>s</sub>* para la aplicación deseada haciendo referencia a los gráficos dados en la página A6. Esto está hecho considerando la clase de carga, la operación horas/días y el número de puesta en marcha/hora.
2. Si la potencia de salida del motor requerido P (Hp) es conocida, ir al punto 3); si el torque de salida requerido M es conocido, determine la salida de del motor P usando las siguientes fórmulas:

1. Determine the service factor *sf* for the desired application by referring to the charts given on page A6. 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 (Hp) is known, go to item 3); if the required output torque M is known, determine motor output P by using the following formulas:

$$P = \frac{M \cdot n_2}{63025 \cdot Rd}$$

Motor reductor  
Gearmotor

donde Rd es para la eficiencia dinámica (indicada en la página D6) y n<sub>2</sub> indica la salida requerida rpm del motorreductor.



*where Rd stands for the dynamic efficiency (indicated on page D6) and n<sub>2</sub> indicates the required output rpm of the gearmotor.*

**Seleccionando el motorreductor**

**Selecting the gearmotors**

3. Use la gráfica de especificación para buscar la unidad de potencia donde P1 es mayor que o igual a P con una velocidad n2/ n2max que se aproxima al valor deseado. Elija una unidad de potencia donde el factor de servicio indicado fs es igual o mayor que la unidad calculada en el punto 1).

3. Use the specification chart to search for the power unit where P<sub>1</sub> is greater than or equal to P with a speed n<sub>2</sub>/n<sub>2max</sub> 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 <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]
<b>7.5 hp</b>								
5.5 kW (1750 rpm)	28	15418	2,0	III	61,74	<b>ITH143</b>	<b>210TC</b>	5058
	26	16666	1,9	III	66,73			5058
	22	19835	1,6	III	79,43			5058
	20	21437	1,4	III	85,85			5058

Esempio / Example:

**Applicazione / Application:**  
Nastro trasportatore / Conveyor belt

**P** : 7.5 hp  
**sf** : 1.6  
**n<sub>2</sub>** : 22 rpm

Motorizzazione scelta / Power unit selected:

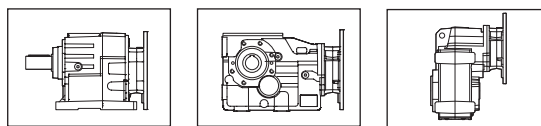
**ITH143** i = 61.74, P<sub>1</sub> = 7.5 hp, sf = 1.6

**Lubricación**

**Lubrication**

Los reductores de las serie ITH, ITB, y ITS se suministran con lubricante sintético viscosidad 320 de larga duración.

All unit sizes of ITH, ITB, and ITS series are complete with a long life synthetic lubricant, viscosity 320.



**ITH**

**ITB**

**ITS**

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

Las tablas indican la cantidad aproximada de lubricante contenido y/o que se debe verter.

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

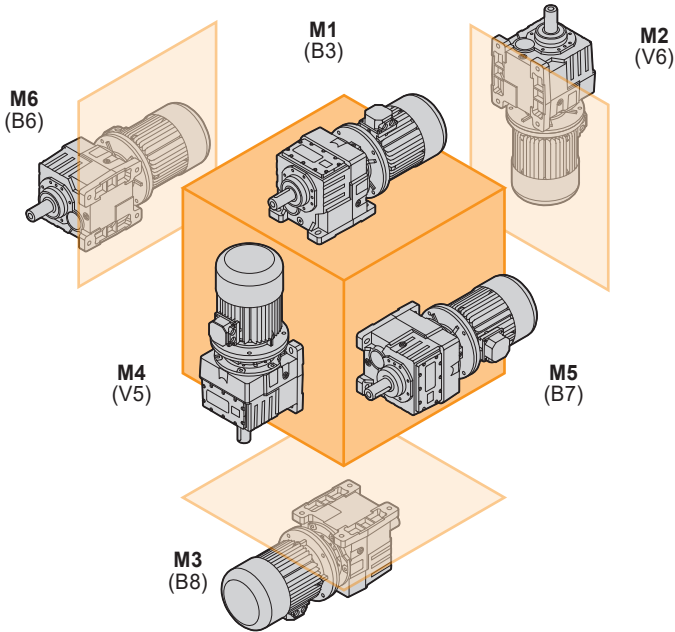
Especifique siempre la posición de montaje deseada al momento de hacer el pedido.

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

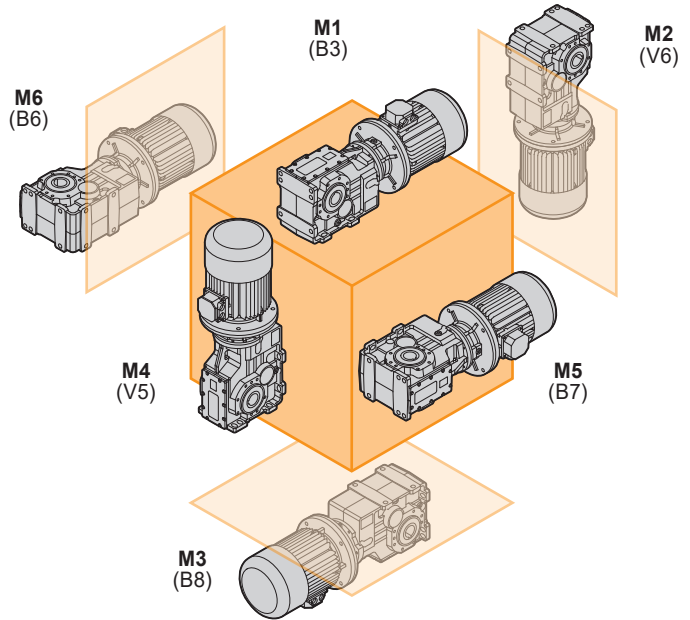
Posición de Montaje

Mounting positions

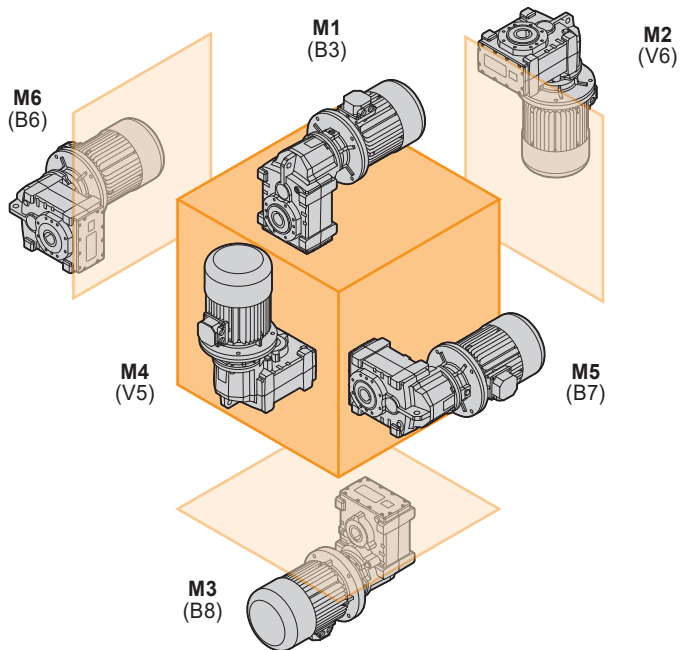
ITH



ITB

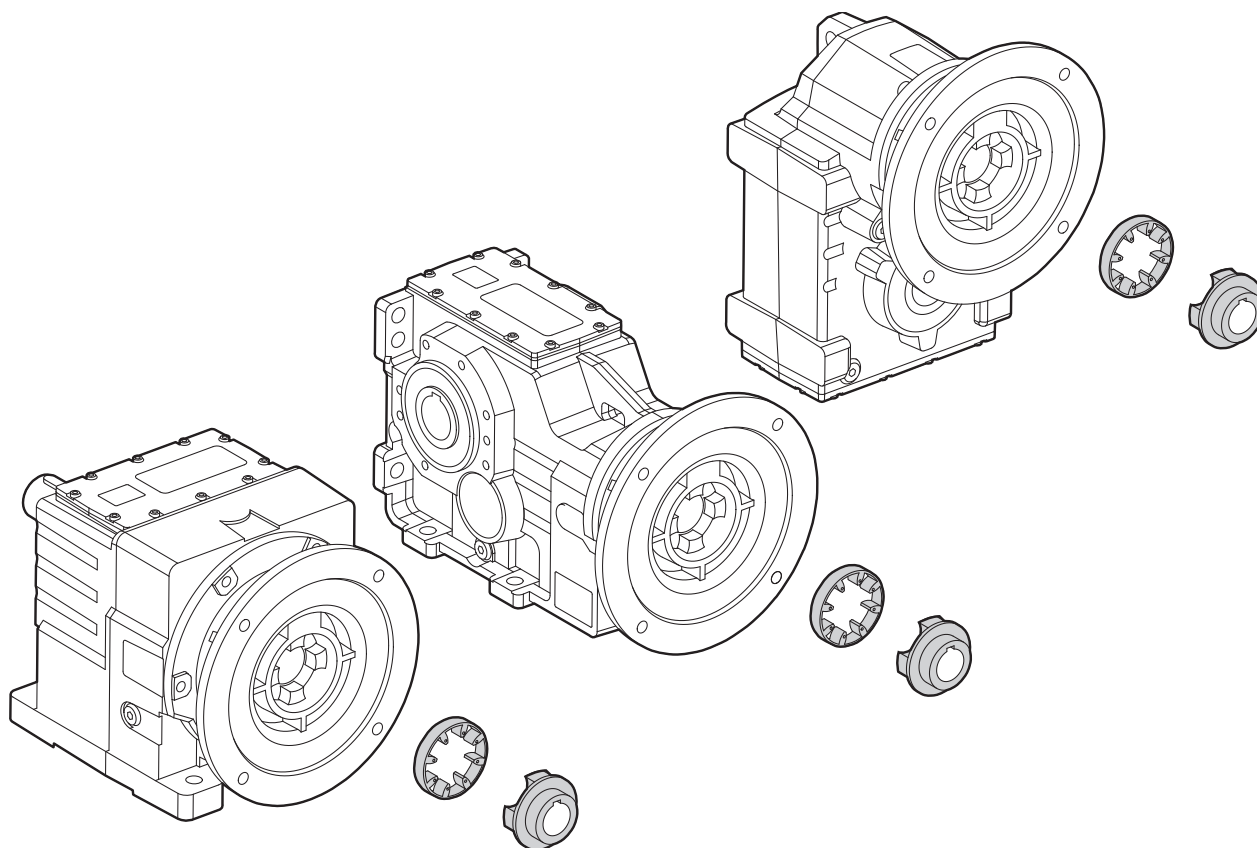


ITS



Acoplamiento flexible

Flexible coupling



La conexión al motor por medio de cople flexible permite los siguientes beneficios:

- Incremento en la rigidez torsional;
- Reducción de vibraciones;
- Amortigua el pico de inercia al arranque del motor;
- Elimina el fenómeno de oxidación entre flecha del motor y cople metálico;
- Reduce la temperatura de operación;
- Fácil desensamble del motor después de largos períodos de operación.

*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 de servicio**

**Operating temperature**

La temperatura ambiente afecta las especificaciones de los reductores.

The environmental temperature affects specifications of gearboxes.

**Gama de temperatura estándar / Standard temperature range**

<b>ITH</b>	-15°C / +50°C	+5°F / +122°F
<b>ITB</b>	-15°C / +50°C	+5°F / +122°F
<b>ITS</b>	-15°C / +50°C	+5°F / +122°F

**Gamas de temperaturas especiales / Special temperature range**

	<-15°C / <+5°F	>+50°C / >+122°F
<b>ITH</b>	reducir la carga radial en la salida al 50% <i>halve the output radial loads</i>	Usar sello de Viton (FPM) <i>use Viton (FPM) oil seals</i>  Usar lubricante para alta temperatura <i>use high temperature lubricant</i>
<b>ITB</b>	reducir la carga radial en la salida al 50% <i>halve the output radial loads</i>	
<b>ITS</b>	reducir la carga radial en la salida al 50% <i>halve the output radial loads</i>	

Si la temperatura es <0°C/F:

- verificar que el motor sea idóneo para trabajar a bajas temperaturas;
- verificar que el motor pueda proveer mayor par de arranque a causa del aumento de la viscosidad del lubricante;
- para una lubricación óptima accionar sin carga algunos minutos;

For temperature <0°C/F 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;

**Instalación y controles**

**Installation and inspection**

Al momento de la instalación del equipo reductor es recomendable verificar que:

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

- Los datos en la placa correspondan al producto pedido;
  - Las superficies de acoplamiento y los ejes sean limpios y sin abolladuras;
  - Las superficies donde se instala el reductor (o motovariador) sean planas y bastante rígidas;
  - El eje de la máquina operadora y del reductor sean correctamente alineados;
  - Se hayan instalados los limitadores de par si hay probabilidad de golpes o bloqueo durante el funcionamiento;
  - Las partes rotativas de las máquinas lleven las protecciones de seguridad necesarias;
  - Para instalaciones al exterior, sean presentes adecuadas protecciones contra la exposición a los agentes atmosféricos;
  - El ambiente de trabajo no sea expuesto a agentes corrosivos (a menos que no haya sido comunicado en el pedido, a fin de preparar el reductor o el motovariador para este uso);
  - Los piñones y poleas sean correctamente ensamblados en el eje de salida o de entrada del reductor, para evitar cargas radiales y/o axiales superiores a las admitidas;
  - Todos los acoplamientos sean tratados con adecuado producto anticorrosivo para evitar oxidaciones;
  - Todos los tornillos de sujeción estén bien apretados;
  - Verificar la cantidad de lubricante acorde a la posición de montaje en todos los reductores.
- *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.*

**Aplicaciones críticas**

**Critical applications**

En estos casos consultar con nuestro Servicio Técnico

*In these cases please contact the Technical Service*

- uso como multiplicador;
  - uso como montacargas;
  - uso en posiciones no contempladas en el catálogo;
  - uso en ambientes con presión diferente de la atmosférica;
  - uso en ambiente con temperaturas <-25°C/-13°F or >+50°C/+122°F
- *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 <-25°C/-13°F or > +50°C / +122°F*



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

**ITH**



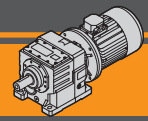
**60Hz**

**Nema**

Motorreductores a engranajes cilíndricos  
**Helical in-line gearmotors**





**Índice**

Características técnicas  
Versiones  
Clasificación  
Sentido de rotación  
Simbología  
Lubricación  
Carga radial en la entrada  
Carga radial en la salida  
Datos técnicos  
Dimensiones  
Accesorios

**Index**

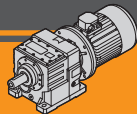
*Technical features*  
*Versions*  
*Classification*  
*Direction of rotation*  
*Symbols*  
*Lubrication*  
*Input radial loads*  
*Output radial loads*  
*Technical data*  
*Dimensions*  
*Accessories*

Pag.  
Page

**B2**  
**B2**  
**B3**  
**B3**  
**B3**  
**B4**  
**B6**  
**B6**  
**B7**  
**B20**  
**B28**

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**ITH**

**Motorreductores a engranajes cilíndricos**  
**Helical in-line gearmotors**

**Nema 60 Hz**

**Características técnicas**

**Technical features**

El motorreductor ITH está diseñado para aplicaciones de uso rudo. Su carcasa fundida en una sola pieza y su diseño modular con distintos accesorios en la entrada y en la salida, incrementan su flexibilidad de uso en múltiples aplicaciones.

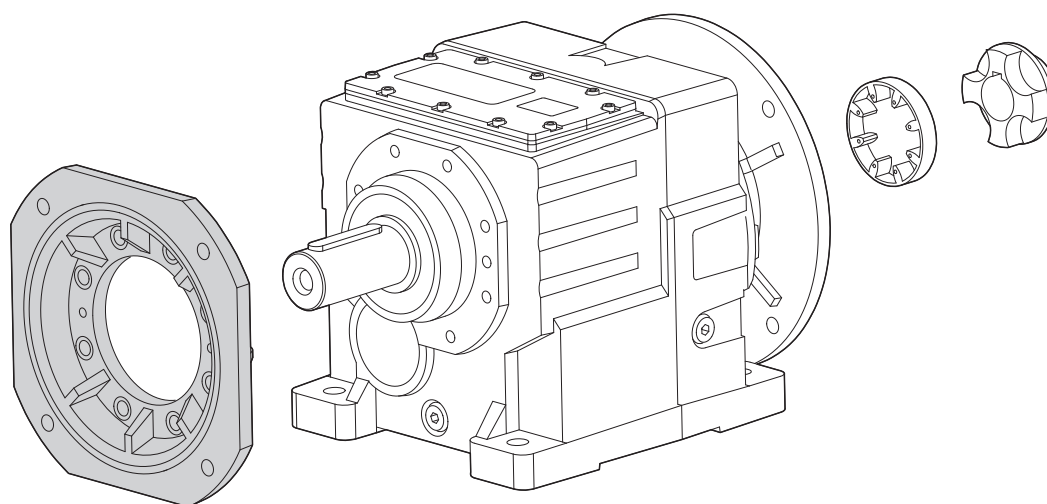
*The ITH gearmotors are intended for heavy duty applications. The robust one pieces casing of the main housing and the modular design of input and output sets increase application flexibility.*

Características principales de la serie ITH:

- Carcasa en hierro fundido;
- Elevada modularidad;
- Lubricación con aceite sintético;
- Acoplamiento a motor con cople flexible;
- Acabado en pintura epóxica RAL 7016.

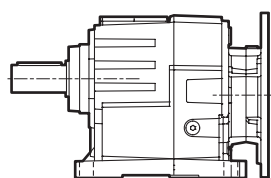
The main features of ITH range are:

- Robust cast iron housings;
- High degree of modularity;
- Lubrication with synthetic oil;
- Coupled to motor with flexible coupling.
- Epoxy powder coating RAL 7016.

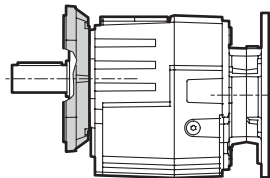


**Clasificación**

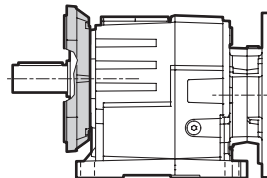
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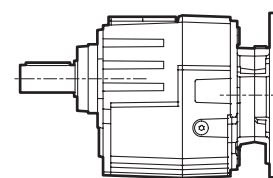
**U**



**F...**

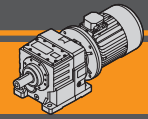


**U/F...**



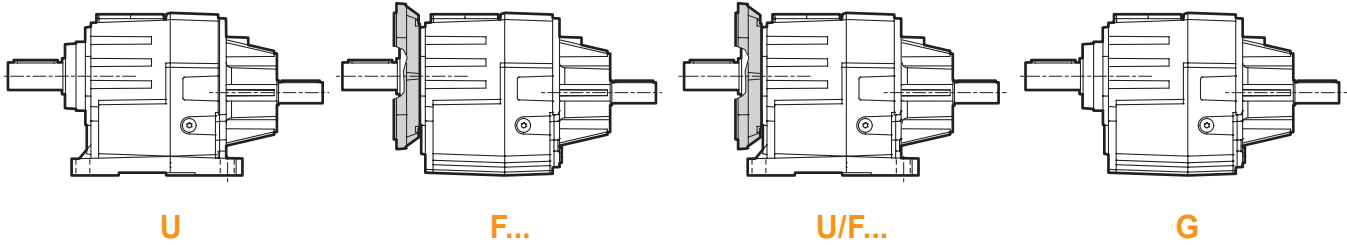
**G**

REDUCTOR / GEARBOX								
ITH	12	2	H	26.28	D1.625	56C	M1	CW
Tipo Type	Tamaño Size	Etapas Stages	Versión Version	Relación de reducción Ratio	Eje de salida Output shaft		Posición de Montaje Mounting position	Dispositivo anti retroceso Backstop device
 ITH	11 12 13 14	2 3	U F... U/F... G	ver tablas see tables	ver tablas see tables	56C 140TC 180TC 210TC 250TC 280TC	M1 (B3) M2 (V6) M3 (B8) M4 (V5) M5 (B7) M6 (B6)	CW CCW

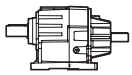


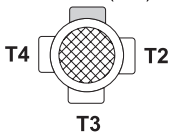
Clasificación

Classification



ITH

REDUCTOR / GEARBOX						
ITHS	12	2	H	26.28	D1.625	M1
Tipo Type	Tamaño Size	Etapas Stages	Versión Version	Relación de reducción Ratio	Eje de salida Output shaft	Posición de Montaje Mounting position
ITHS 	11 12 13 14	2 3	U F... U/F... G	ver tablas see tables	ver tablas see tables	M1 (B3) M2 (V6) M3 (B8) M4 (V5) M5 (B7) M6 (B6)

MOTOR / MOTOR					
7.5hp / 5.5kW	4p	3ph	230/400V	60Hz	T1
Potencia Power	Polos Poles	Fases Phases	Tensión Voltage	Frecuencia Frequency	Posición caja de bornes Terminal box pos.
ver tablas see tables	2p 4p 6p 8p	1ph 3ph	230V 230/400V	50Hz 60Hz	T1 (Std)  T4 T2 T3

Sentidos de rotación

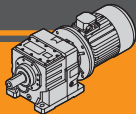
Direction of rotation



Nomenclatura

Symbols

- $n_1$  [rpm] Velocidad de entrada / *Input speed*
- $n_2$  [rpm] Velocidad de salida / *Output speed*
- $i$  Relación de reducción / *Ratio*
- $P_1$  [hp] Potencia en la entrada / *Input power*
- $M_2$  [lb·in] Par en la salida en función de  $P_1$  / *Output torque referred to  $P_1$*
- $Pn_1$  [hp] Potencia nominal en la entrada / *Nominal input power*
- $Mn_2$  [lb·in] Par nominal en la salida en función de  $Pn_1$  / *Nominal output torque referred to  $Pn_1$*
- $sf$  Rendimiento dinámico / *Service factor*
- $R_1$  [lb] Carga radial permitida a la entrada / *Permitted input radial load*
- $A_1$  [lb] Carga axial permitida a la entrada / *Permitted input axial load*
- $R_2$  [lb] Carga radial admisible en la salida / *Maximum output radial load*
- $A_2$  [lb] Carga axial admisible en la salida / *Maximum output axial load*



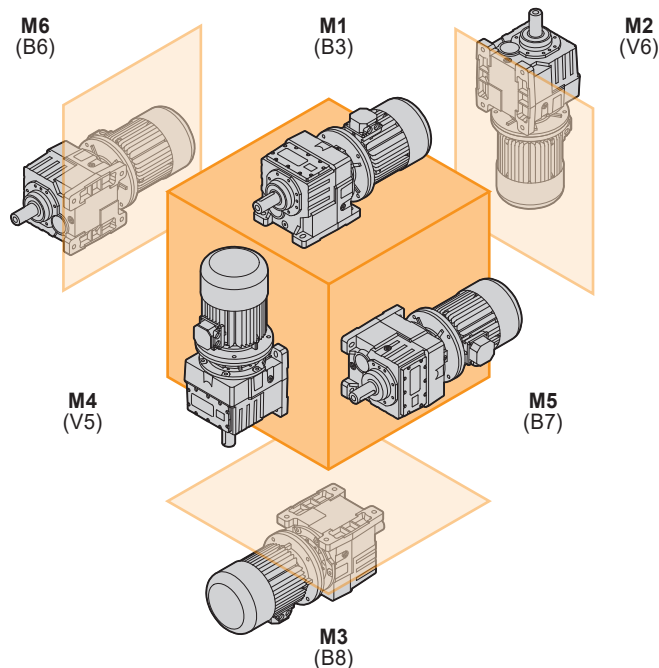
**Lubricación**

**Lubrication**

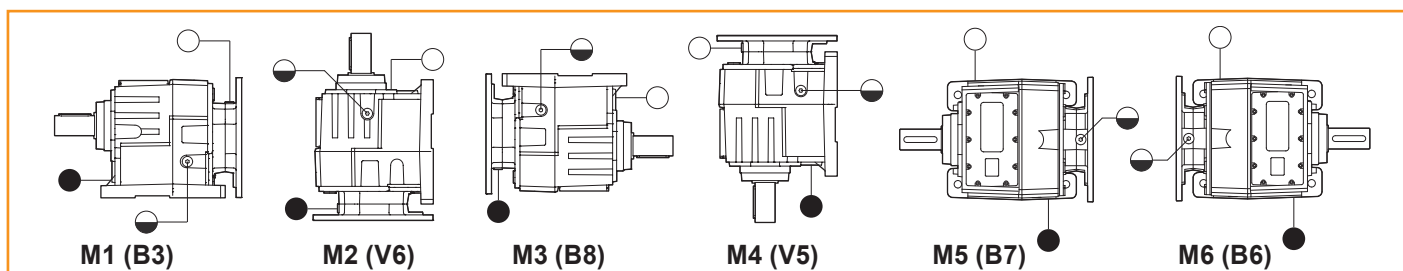
Los moto reductores de la serie ITH - ITHIS se suministran con lubricante sintético viscosidad 320. La cantidad de lubricante dependerá de la posición de montaje requerida.

ITH - ITHIS series gearmotors come complete with synthetic lubricant 320 viscosity. The lubricant quantity depends on mounting position.

**ITH..**



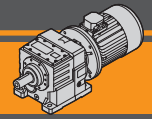
ITH	Cantidad de aceite (US gal) / Oil quantity (US gal)					
	M1 (B3)	M2 (V6)	M3 (B8)	M4 (V5)	M5 (B7)	M6 (B6)
112 113	0.29	1.03	0.97	0.89	0.63	0.63
122 123	0.45	1.32	1.13	1.13	0.81	0.76
132 133	1.18	2.5	2.19	2.27	1.55	1.50
142 143	2.13	3.83	3.03	3.8	2.48	2.37



(Estándar)  
(standard)

- Respiradero y tapón de llenado / Breather and filling plug
- Tapón de nivel de aceite / Oil level plug
- Tapón de drenado de aceite / Oil drain plug

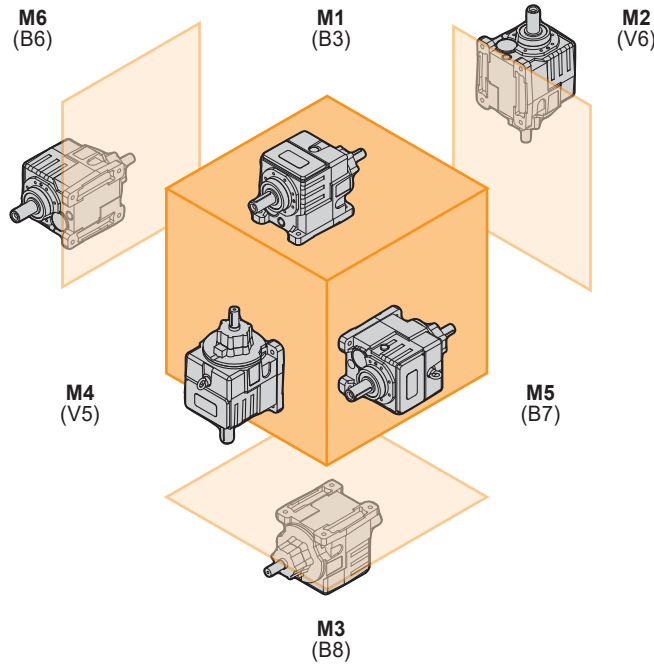




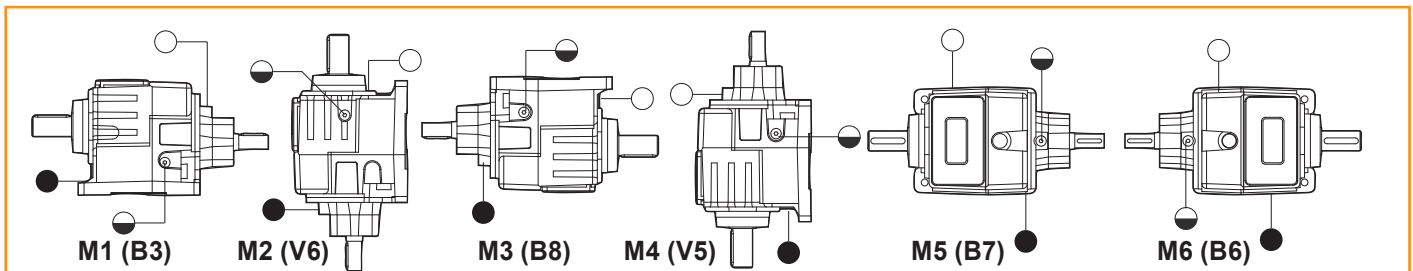
Lubricación

Lubrication

IThis..

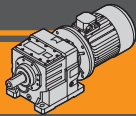


IThis	Cantidad de aceite (US gal) / Oil quantity (US gal)					
	M1 (B3)	M2 (V6)	M3 (B8)	M4 (V5)	M5 (B7)	M6 (B6)
112 113	0.34	1.13	1.03	0.89	0.68	0.68
122 123	0.50	1.42	1.18	1.13	0.87	0.81
132	0.97	2.69	2.29	2.27	1.66	1.61
133	0.92	2.61	2.24		1.61	1.55
142	1.92	4.01	3.14	3.8	2.58	2.48
143	1.87	3.93	3.09		2.53	2.43



(Estándar)  
(standard)

- Respiradero y tapón de llenado / Breather and filling plug
- ◐ Tapón de nivel de aceite / Oil level plug
- Tapón de drenado de aceite / Oil drain plug



**Carga radial en la entrada**

**Input Radial loads**

ITH 113	n <sub>1</sub> [rpm]	Potencia motor / Motor Power [hp]	
		1.5	2
R <sub>1</sub> [lb]	1750	281	
	1150	337	
	850	393	-

ITH 112 ITH 122 - 123 ITH 133 - 143	n <sub>1</sub> [rpm]	Potencia motor / Motor Power [hp]		
		3	5	7.5
R <sub>1</sub> [lb]	1750	404		168
	1150	472	269	-
	850	562	-	-

ITH 132 ITH 142	n <sub>1</sub> [rpm]	Potencia motor / Motor Power [hp]				
		7.5	10	15	20	25
R <sub>1</sub> [lb]	1750	831			629	269
	1150	1101		741	146	-
	850	1180	876	-	-	-

**Carga radial en la entrada**

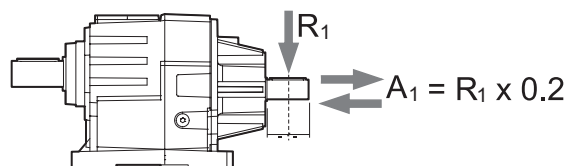
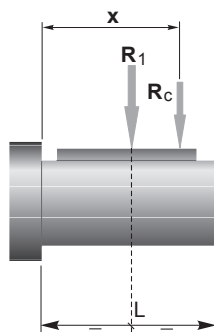
**Input Radial loads**

Las cargas radiales máximas aplicables en la entrada están indicadas en las tablas.

Cuando la carga radial no se aplica en el punto medio del eje, es necesario calcular la carga efectiva a través la siguiente fórmula:

The radial loads maximum input 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:



	ITH 112	ITH 113	ITH 122	ITH 123	ITH 132	ITH 133	ITH 142	ITH 143
a	5.472	5.275	5.472		6.181	5.472	6.181	5.472
b	4.33	4.33	4.33		4.645	4.33	4.645	4.33

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

$$R \leq R_c$$

a, b = valores dados en la tabla  
a, b = values given in the table

**Carga radial en la salida**

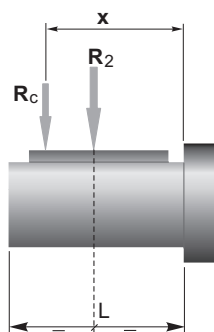
**Output Radial loads**

Las cargas radiales máximas aplicables en la salida están indicadas en la siguiente tabla.

Cuando la carga radial no se aplica en el punto medio del eje, es necesario calcular la carga efectiva a través la siguiente fórmula:

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:



	ITH 112	ITH 113	ITH 122	ITH 123	ITH 132	ITH 133	ITH 142	ITH 143
a	7.244		8.188		9.724		11.259	
b	5.866		6.614		7.755		8.897	
R <sub>2MAX</sub>	1.843		2.810		4.158		5.058	

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

$$R \leq R_c$$

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



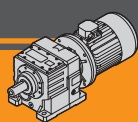








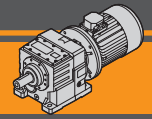








**ITH****Motorreductores a engranajes cilíndricos**  
**Helical in-line gearmotors****Nema 60 Hz****Datos técnicos****Technical data**



$P_1$ [hp]	$n_2$ [rpm]	$M_2$ [lb·in]	sf	AGMA	i			$R_2$ [lb]	$P_1$ [hp]	$n_2$ [rpm]	$M_2$ [lb·in]	sf	AGMA	i			$R_2$ [lb]
<b>0.75 hp</b>									<b>1.0 hp</b>								
0.55 kW (1750 rpm)	8.1	5390	1.6	II	216.00	ITH123	56C	2810	0.75 kW (1750 rpm)	39	1531	4.0	III	44.99	ITH113	56C-140TC	1843
	7.4	5903	1.5	II	236.49			56C		2810	32	1885	3,3	III			55,27
	6.8	6390	1.4	II	256.00		56C	2810		26	2301	2,8	III	67,61		56C-140TC	1843
	6.2	7001	1.2	I	280.29		56C	2810		23	2549	2,4	III	74,96		56C-140TC	1843
	29	1522	11,1	III	60,92	ITH133	56C	4159		19	3124	2,0	II	91,70		56C-140TC	1843
	27	1620	10,4	III	64,74			56C	4159	16	3708	1,7	II	108,91	56C-140TC	1843	
	25	1770	9,5	III	70,88		56C	4159		13	4655	1,3	I	136,65		56C-140TC	1843
	22	1956	8,6	III	78,38		56C	4159		11	5585	1,1	I	163,98		56C-140TC	1843
	20	2177	7,7	III	87,14		56C	4159		10	5903	1,0	I	173,44		56C-140TC	1843
	18	2390	7,0	III	95,67		56C	4159		9,4	6311	1,0	I	185,20		56C-140TC	1843
	16	2744	6,1	III	109,93		56C	4159		8,7	6868	0,9	I	201,58		56C-140TC	1843
	15	3009	5,6	III	120,36		56C	4159		102	593	12,6	III	17,11	ITH122	56C-140TC	2674
	13	3363	5,0	III	134,66		56C	4159		90	682	11,1	III	19,50		56C-140TC	2810
	12	3700	4,6	III	147,98		56C	4159		82	743	10,7	III	21,43		56C-140TC	2810
	11	4054	4,1	III	162,45		56C	4159		73	832	10,4	III	24,00		56C-140TC	2810
	9,1	4779	3,5	III	191,39		56C	4159		67	912	9,5	III	26,28		56C-140TC	2810
	8,4	5231	3,2	III	209,48		56C	4159		60	1027	8,5	III	29,40		56C-140TC	2810
	7,6	5762	2,9	III	230,85		56C	4159		54	1124	7,7	III	32,31		56C-140TC	2810
	16	2779	11,1	III	111,40	ITH143	56C	5058		49	1230	7,0	III	35,47		56C-140TC	2810
	15	3009	10,3	III	120,42			56C	5058	42	1452	6,0	III	41,78	56C-140TC	2810	
	13	3292	9,4	III	131,84		56C	5058		38	1593	5,5	III	45,73		56C-140TC	2810
	12	3682	8,4	III	147,51		56C	5058		35	1752	4,9	III	50,40		56C-140TC	2810
	11	4045	7,7	III	162,10		56C	5058		31	1903	4,5	III	56,00	ITH123	56C-140TC	2810
	9,8	4443	7,0	III	177,95		56C	5058		29	2089	4,2	III	61,31		56C-140TC	2810
	9,0	4841	6,4	III	193,96		56C	5058		25	2399	3,6	III	70,53		56C-140TC	2810
	8,3	5231	5,9	III	209,65		56C	5058		22	2761	3,1	III	81,00		56C-140TC	2810
	7,6	5726	5,4	III	229,46		56C	5058		20	3018	2,9	III	88,68		56C-140TC	2810
	6,9	6311	4,9	III	252,87		56C	5058		17	3585	2,4	III	105,23		56C-140TC	2810
										15	3921	2,2	III	115,21		56C-140TC	2810
										14	4381	2,0	II	128,73		56C-140TC	2810
										12	4903	1,8	II	144,00		56C-140TC	2810
										11	5372	1,6	II	157,66		56C-140TC	2810
										9,8	6063	1,4	II	178,10		56C-140TC	2810
										8,6	6930	1,3	I	203,65		56C-140TC	2810
										8,1	7355	1,2	I	216,00		56C-140TC	2810
										7,4	8054	1,1	I	236,49		56C-140TC	2810
										6,8	8718	1,0	I	256,00		56C-140TC	2810
										6,2	9541	0,9	I	280,29		56C-140TC	2810
										46	1310	12,8	III	37,71	ITH132	56C-140TC	4159
										42	1452	11,6	III	41,80		56C-140TC	4159
										38	1584	10,6	III	45,60		56C-140TC	4159
										35	1735	9,7	III	49,88		56C-140TC	4159
<b>1.0 hp</b>																	
0.75 kW (1750 rpm)	326	186	16,6	III	5,38	ITH112	56C-140TC	987									
	271	221	13,8	III	6,47			56C-140TC	1096								
	222	274	12,9	III	7,88		56C-140TC	1223									
	205	301	11,9	III	8,54		56C-140TC	1280									
	193	319	11,8	III	9,06		56C-140TC	1322									
	170	354	10,4	III	10,28		56C-140TC	1417									
	154	398	10,7	III	11,39		56C-140TC	1499									
	140	434	9,8	III	12,52		56C-140TC	1578									
	118	513	8,6	III	14,80		56C-140TC	1727									
	97	628	7,5	III	18,10		56C-140TC	1843									
	86	708	6,7	III	20,25		56C-140TC	1843									
	74	814	6,5	III	23,52		56C-140TC	1843									
	61	1000	5,8	III	28,77		56C-140TC	1843									
	54	1115	5,4	III	32,18		56C-140TC	1843									
	48	1266	4,8	III	36,35		56C-140TC	1843									
	42	1443	4,2	III	41,57		56C-140TC	1843									
	36	1682	2,7	III	48,27		56C-140TC	1843									





Datos técnicos

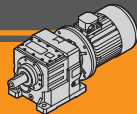
Technical data

P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]
<b>1.0 hp</b>								
0.75 kW (1750 rpm)	29	2071	8,1	III	60,92	ITH133	56C-140TC	4159
	27	2204	7,6	III	64,74		56C-140TC	4159
25	2416	7,0	III	70,88	56C-140TC		4159	
22	2673	6,3	III	78,38	56C-140TC		4159	
20	2965	5,7	III	87,14	56C-140TC		4159	
18	3257	5,2	III	95,67	56C-140TC		4159	
16	3744	4,5	III	109,93	56C-140TC		4159	
15	4098	4,1	III	120,36	56C-140TC		4159	
13	4585	3,7	III	134,66	56C-140TC		4159	
12	5036	3,3	III	147,98	56C-140TC		4159	
11	5532	3,0	III	162,45	56C-140TC		4159	
9,1	6514	2,6	III	191,39	56C-140TC		4159	
8,4	7134	2,4	III	209,48	56C-140TC		4159	
7,6	7859	2,1	III	230,85	56C-140TC		4159	
22	2708	11,5	III	79,43	ITH143		56C-140TC	5058
20	2921	10,6	III	85,85			56C-140TC	5058
16	3797	8,2	III	111,40			56C-140TC	5058
15	4098	7,6	III	120,42		56C-140TC	5058	
13	4487	6,9	III	131,84		56C-140TC	5058	
12	5027	6,2	III	147,51		56C-140TC	5058	
11	5523	5,6	III	162,10		56C-140TC	5058	
9,8	6063	5,1	III	177,95		56C-140TC	5058	
9,0	6603	4,7	III	193,96		56C-140TC	5058	
8,3	7143	4,3	III	209,65		56C-140TC	5058	
7,6	7815	4,0	III	229,46		56C-140TC	5058	
6,9	8612	3,6	III	252,87	56C-140TC	5058		

P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]
<b>1.5 hp</b>								
1.1 kW (1750 rpm)	326	274	11,3	III	5,38	ITH112	56C-140TC	979
	271	327	9,4	III	6,47		56C-140TC	1085
	222	398	8,8	III	7,88		56C-140TC	1208
	205	434	8,1	III	8,54		56C-140TC	1263
	193	460	8,0	III	9,06		56C-140TC	1303
	170	522	7,1	III	10,28		56C-140TC	1395
	154	584	7,3	III	11,39		56C-140TC	1473
	140	637	6,7	III	12,52		56C-140TC	1547
	118	752	5,9	III	14,80		56C-140TC	1686
	97	920	5,1	III	18,10		56C-140TC	1843
	86	1036	4,5	III	20,25		56C-140TC	1843
	74	1204	4,4	III	23,52		56C-140TC	1843
	61	1469	3,9	III	28,77		56C-140TC	1843
	54	1637	3,7	III	32,18		56C-140TC	1843
	48	1850	3,2	III	36,35		56C-140TC	1843
	42	2124	2,8	III	41,57		56C-140TC	1843
	36	2461	1,9	II	48,27		56C-140TC	1843





P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]
<b>1.5 hp</b>								
1.1 kW (1750 rpm)	39	2248	2,8	III	44,99	ITH113	56C-140TC	1843
	32	2761	2,3	III	55,27		56C-140TC	1843
26	3372	1,9	II	67,61	56C-140TC		1843	
23	3744	1,7	II	74,96	56C-140TC		1843	
19	4576	1,4	II	91,70	56C-140TC		1843	
16	5443	1,1	I	108,91	56C-140TC		1843	
13	6824	0,9	I	136,65	56C-140TC		1843	
198	451	12,8	III	8,82	ITH122		56C-140TC	1833
174	513	12,9	III	10,08			56C-140TC	1973
154	575	11,5	III	11,35			56C-140TC	2107
132	682	11,1	III	13,30			56C-140TC	2297
110	814	9,3	III	15,92			56C-140TC	2531
102	876	8,6	III	17,11			56C-140TC	2630
90	991	7,6	III	19,50			56C-140TC	2810
82	1089	7,3	III	21,43			56C-140TC	2810
73	1221	7,1	III	24,00			56C-140TC	2810
67	1336	6,5	III	26,28			56C-140TC	2810
60	1496	5,8	III	29,40		56C-140TC	2810	
54	1646	5,3	III	32,31	56C-140TC	2810		
49	1806	4,8	III	35,47	56C-140TC	2810		
42	2133	4,1	III	41,78	56C-140TC	2810		
38	2337	3,7	III	45,73	56C-140TC	2810		
35	2567	3,4	III	50,40	56C-140TC	2810		
31	2797	3,1	III	56,00	ITH123	56C-140TC	2810	
29	3062	2,8	III	61,31		56C-140TC	2810	
25	3523	2,5	III	70,53		56C-140TC	2810	
22	4045	2,1	III	81,00		56C-140TC	2810	
20	4425	2,0	II	88,68		56C-140TC	2810	
17	5257	1,7	II	105,23		56C-140TC	2810	
15	5753	1,5	II	115,21		56C-140TC	2810	
14	6426	1,3	I	128,73		56C-140TC	2810	
12	7196	1,2	I	144,00		56C-140TC	2810	
11	7877	1,1	I	157,66		56C-140TC	2810	
9,8	8895	1,0	I	178,10	56C-140TC	2810		
8,6	10170	0,9	I	203,65	56C-140TC	2810		
68	1310	10,8	III	25,65	ITH132	56C-140TC	4159	
64	1398	10,7	III	27,48		56C-140TC	4159	
57	1558	9,7	III	30,46		56C-140TC	4159	
51	1761	9,5	III	34,61		56C-140TC	4159	
46	1921	8,7	III	37,71		56C-140TC	4159	
42	2133	7,9	III	41,80		56C-140TC	4159	
38	2328	7,2	III	45,60		56C-140TC	4159	
35	2540	6,6	III	49,88		56C-140TC	4159	

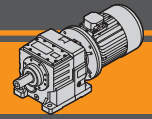
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Datos técnicos



Technical data

P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]	P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]		
<b>1.5 hp</b>									<b>2.0 hp</b>										
1.1 kW (1750 rpm)	29	3045	5,5	III	60,92	ITH133	56C-140TC	4159	1.5 kW (1750 rpm)	39	3062	2,0	II	44,99	ITH113	56C-140TC	1843		
	27	3231	5,2	III	64,74			32		3762	1,6	II	55,27	56C-140TC			1843		
25	3540	4,8	III	70,88	26			4602	1,4	II	67,61	56C-140TC	1843						
22	3912	4,3	III	78,38	23			5107	1,2	I	74,96	56C-140TC	1843						
20	4355	3,9	III	87,14	19			6249	1,0	I	91,70	56C-140TC	1843						
18	4779	3,5	III	95,67	339			363	13,5	III	5,17	ITH122	56C-140TC	1349					
16	5487	3,1	III	109,93	262			469	10,5	III	6,69		56C-140TC	1558					
15	6010	2,8	III	120,36	225			540	9,8	III	7,79		56C-140TC	1695					
13	6727	2,5	III	134,66	198			611	9,4	III	8,82		56C-140TC	1815					
12	7390	2,3	III	147,98	174			699	9,5	III	10,08		56C-140TC	1952					
11	8116	2,1	III	162,45	154			788	8,4	III	11,35		56C-140TC	2080					
9,1	9559	1,8	II	191,39	132			929	8,1	III	13,30		56C-140TC	2263					
8,4	10462	1,6	II	209,48	110			1106	6,8	III	15,92		56C-140TC	2485					
7,6	11533	1,5	II	230,85	102			1186	6,3	III	17,11		56C-140TC	2579					
28	3080	10,0	III	61,74	ITH143			56C-140TC	5058	90	1354		5,5	III			19,50	56C-140TC	2755
26	3337	9,3	III	66,73				82	1487	5,3	III		21,43	56C-140TC			2810		
22	3965	7,8	III	79,43				73	1673	5,2	III		24,00	56C-140TC			2810		
20	4284	7,2	III	85,85		67	1823	4,7	III	26,28	56C-140TC		2810						
16	5567	5,6	III	111,40		60	2045	4,2	III	29,40	56C-140TC		2810						
15	6010	5,2	III	120,42		54	2248	3,9	III	32,31	56C-140TC		2810						
13	6585	4,7	III	131,84		49	2469	3,5	III	35,47	56C-140TC		2810						
12	7364	4,2	III	147,51		42	2903	3,0	III	41,78	56C-140TC		2810						
11	8098	3,8	III	162,10		38	3177	2,7	III	45,73	56C-140TC	2810							
9,8	8886	3,5	III	177,95		35	3505	2,5	III	50,40	56C-140TC	2810							
9,0	9683	3,2	III	193,96		31	3815	2,3	III	56,00	ITH123	56C-140TC	2810						
8,3	10470	3,0	III	209,65		29	4178	2,1	III	61,31		56C-140TC	2810						
7,6	11462	2,7	III	229,46		25	4806	1,8	II	70,53		56C-140TC	2810						
6,9	12630	2,5	III	252,87		22	5514	1,6	II	81,00		56C-140TC	2810						
20	6036	1,4	II	88,68		20	6036	1,4	II	88,68		56C-140TC	2810						
17	7169	1,2	I	105,23		17	7169	1,2	I	105,23		56C-140TC	2810						
15	7851	1,1	I	115,21		15	7851	1,1	I	115,21		56C-140TC	2810						
14	8771	1,0	I	128,73	14	8771	1,0	I	128,73	56C-140TC		2810							
12	9807	0,9	I	144,00	12	9807	0,9	I	144,00	56C-140TC		2810							
194	628	12,7	III	9,03	ITH132	56C-140TC	4159	170	717	11,7		III	10,30	56C-140TC	4159				
170	717	11,7	III	10,30		159	770	11,0	III	11,01		56C-140TC	4159						
159	770	11,0	III	11,01		141	859	12,3	III	12,39		56C-140TC	4159						
141	859	12,3	III	12,39		118	1027	10,3	III	14,80		56C-140TC	4159						
118	1027	10,3	III	14,80		116	1053	11,0	III	15,11		56C-140TC	4159						
116	1053	11,0	III	15,11		94	1301	10,2	III	18,69		56C-140TC	4159						
94	1301	10,2	III	18,69		86	1416	10,0	III	20,31		56C-140TC	4159						
86	1416	10,0	III	20,31		68	1788	7,9	III	25,65		56C-140TC	4159						
68	1788	7,9	III	25,65		64	1912	7,9	III	27,48	56C-140TC	4159							
64	1912	7,9	III	27,48		57	2115	7,1	III	30,46	56C-140TC	4159							
57	2115	7,1	III	30,46		51	2407	7,0	III	34,61	56C-140TC	4159							
51	2407	7,0	III	34,61		46	2620	6,4	III	37,71	56C-140TC	4159							
46	2620	6,4	III	37,71		42	2903	5,8	III	41,80	56C-140TC	4159							
42	2903	5,8	III	41,80		38	3169	5,3	III	45,60	56C-140TC	4159							
38	3169	5,3	III	45,60		35	3469	4,8	III	49,88	56C-140TC	4159							





Datos técnicos

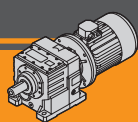
Technical data

P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]
<b>2.0 hp</b>								
1.5 kW (1750 rpm)	29	4151	4,1	III	60,92	ITH133	56C-140TC	4159
	27	4408	3,8	III	64,74		56C-140TC	4159
25	4824	3,5	III	70,88	56C-140TC		4159	
22	5337	3,2	III	78,38	56C-140TC		4159	
20	5939	2,8	III	87,14	56C-140TC		4159	
18	6514	2,6	III	95,67	56C-140TC		4159	
16	7488	2,2	III	109,93	56C-140TC		4159	
15	8196	2,1	III	120,36	56C-140TC		4159	
13	9169	1,8	II	134,66	56C-140TC		4159	
12	10081	1,7	II	147,98	56C-140TC		4159	
11	11063	1,5	II	162,45	56C-140TC		4159	
9,1	13037	1,3	I	191,39	56C-140TC		4159	
8,4	14267	1,2	I	209,48	56C-140TC		4159	
7,6	15719	1,1	I	230,85	56C-140TC		4159	
28	4204	7,4	III	61,74	ITH143		56C-140TC	5058
26	4540	6,8	III	66,73			56C-140TC	5058
22	5408	5,7	III	79,43			56C-140TC	5058
20	5850	5,3	III	85,85		56C-140TC	5058	
16	7585	4,1	III	111,40		56C-140TC	5058	
15	8205	3,8	III	120,42		56C-140TC	5058	
13	8975	3,5	III	131,84		56C-140TC	5058	
12	10046	3,1	III	147,51		56C-140TC	5058	
11	11037	2,8	III	162,10		56C-140TC	5058	
9,8	12117	2,6	III	177,95		56C-140TC	5058	
9,0	13205	2,3	III	193,96	56C-140TC	5058		
8,3	14276	2,2	III	209,65	56C-140TC	5058		
7,6	15630	2,0	II	229,46	56C-140TC	5058		
6,9	17224	1,8	II	252,87	56C-140TC	5058		

<b>3.0 hp</b>								
2.2 kW (1750 rpm)	326	549	5,6	III	5,38	ITH112	140C-180TC	953
	271	664	4,7	III	6,47		140C-180TC	1050
222	805	4,4	III	7,88	140C-180TC		1161	
205	867	4,1	III	8,54	140C-180TC		1209	
193	920	4,0	III	9,06	140C-180TC		1245	
170	1044	3,5	III	10,28	140C-180TC		1323	
154	1159	3,7	III	11,39	140C-180TC		1388	
140	1275	3,3	III	12,52	140C-180TC		1449	
118	1513	2,9	III	14,80	140C-180TC		1559	
97	1850	2,5	III	18,10	140C-180TC		1689	
86	2062	2,3	III	20,25	140C-180TC		1759	
74	2399	2,2	III	23,52	140C-180TC		1843	
61	2938	2,0	II	28,77	140C-180TC		1843	
54	3284	1,8	II	32,18	140C-180TC		1843	
48	3708	1,6	II	36,35	140C-180TC		1843	
42	4240	1,4	II	41,57	140C-180TC		1843	
39	4496	1,4	I	44,99	ITH113		140TC	1843
32	5523	1,1	I	55,27		140TC	1843	
26	6753	0,9	I	67,61		140TC	1843	

P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]
<b>3.0 hp</b>								
2.2 kW (1750 rpm)	339	531	9,2	III	5,17	ITH122	140C-180TC	1336
	262	682	7,1	III	6,69		140C-180TC	1538
225	797	6,7	III	7,79	140C-180TC		1670	
198	903	6,4	III	8,82	140C-180TC		1784	
174	1027	6,5	III	10,08	140C-180TC		1913	
154	1159	5,7	III	11,35	140C-180TC		2034	
132	1354	5,5	III	13,30	140C-180TC		2204	
110	1620	4,6	III	15,92	140C-180TC		2406	
102	1744	4,3	III	17,11	140C-180TC		2491	
90	1991	3,8	III	19,50	140C-180TC		2646	
82	2186	3,6	III	21,43	140C-180TC		2760	
73	2452	3,5	III	24,00	140C-180TC		2810	
67	2682	3,2	III	26,28	140C-180TC		2810	
60	3000	2,9	III	29,40	140C-180TC		2810	
54	3292	2,6	III	32,31	140C-180TC		2810	
49	3620	2,4	III	35,47	140C-180TC		2810	
42	4266	2,0	II	41,78	140C-180TC		2810	
38	4664	1,9	II	45,73	140C-180TC	2810		
35	5142	1,7	II	50,40	140C-180TC	2810		
31	5594	1,6	II	56,00	ITH123	140C-180TC	2810	
29	6125	1,4	II	61,31		140C-180TC	2810	
25	7045	1,2	I	70,53		140C-180TC	2810	
22	8090	1,1	I	81,00	140C-180TC	2810		
194	920	8,6	III	9,03	ITH132	140C-180TC	4159	
170	1053	8,0	III	10,30		140C-180TC	4159	
159	1124	7,5	III	11,01		140C-180TC	4159	
141	1266	8,4	III	12,39		140C-180TC	4159	
118	1513	7,0	III	14,80		140C-180TC	4159	
116	1540	7,5	III	15,11		140C-180TC	4159	
94	1903	7,0	III	18,69		140C-180TC	4159	
86	2071	6,8	III	20,31		140C-180TC	4159	
68	2620	5,4	III	25,65		140C-180TC	4159	
64	2806	5,4	III	27,48		140C-180TC	4159	
57	3107	4,8	III	30,46	140C-180TC	4159		
51	3531	4,8	III	34,61	140C-180TC	4159		
46	3850	4,4	III	37,71	140C-180TC	4159		
42	4266	3,9	III	41,80	140C-180TC	4159		
38	4655	3,6	III	45,60	140C-180TC	4159		
35	5089	3,3	III	49,88	140C-180TC	4159		
29	6080	2,8	III	60,92	ITH133	140C-180TC	4159	
27	6470	2,6	III	64,74		140C-180TC	4159	
25	7081	2,4	III	70,88		140C-180TC	4159	
22	7824	2,1	III	78,38		140C-180TC	4159	
20	8700	1,9	II	87,14		140C-180TC	4159	
18	9559	1,8	II	95,67		140C-180TC	4159	
16	10984	1,5	II	109,93		140C-180TC	4159	
15	12019	1,4	II	120,36		140C-180TC	4159	
13	13453	1,3	I	134,66		140C-180TC	4159	
12	14781	1,1	I	147,98		140C-180TC	4159	
11	16223	1,0	I	162,45	140C-180TC	4159		
9,1	19118	0,9	I	191,39	140C-180TC	4159		

ITH







**ITH**

**Motorreductores a engranajes cilíndricos**  
**Helical in-line gearmotors**

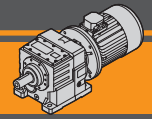
**Nema 60 Hz**

**Datos técnicos**

**Technical data**



P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]	P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]					
<b>3.0 hp</b>									<b>5.0 hp</b>													
2.2 kW (1750 rpm)	<b>107</b>	1673	12,2	III	16,40	<b>ITH142</b>	<b>140C-180TC</b>	5058	3.7 kW (1750 rpm)	<b>60</b>	5045	1,7	II	29,40	<b>ITH122</b>	<b>180TC</b>	2604					
	<b>87</b>	2062	12,0	III	20,24			<b>140C-180TC</b>	5058	<b>54</b>	5541	1,6	II	32,31			<b>180TC</b>	2626				
	<b>67</b>	2655	10,7	III	25,99			<b>140C-180TC</b>	5058	<b>49</b>	6080	1,4	I	35,47			<b>180TC</b>	2630				
	<b>54</b>	3301	8,6	III	32,35			<b>140C-180TC</b>	5058	<b>42</b>	7169	1,2	I	41,78			<b>180TC</b>	2579				
	<b>40</b>	4443	6,4	III	43,57			<b>140C-180TC</b>	5058	<b>38</b>	7842	1,1	I	45,73			<b>180TC</b>	2810				
	<b>37</b>	4833	5,9	III	47,35			<b>140C-180TC</b>	5058	<b>35</b>	8647	1,0	III	50,40			<b>180TC</b>	2810				
	<b>34</b>	5284	5,4	III	51,76			<b>140C-180TC</b>	5058													
	<b>28</b>	6169	5,0	III	61,74			<b>ITH143</b>	<b>140C-180TC</b>	5058	<b>194</b>	1549	5,1	III			9,03	<b>ITH132</b>	<b>180TC</b>	4126		
	<b>26</b>	6665	4,6	III	66,73					<b>140C-180TC</b>	5058	<b>170</b>	1770	4,8			III			10,30	<b>180TC</b>	4159
	<b>22</b>	7930	3,9	III	79,43					<b>140C-180TC</b>	5058	<b>159</b>	1885	4,5			III			11,01	<b>180TC</b>	4159
	<b>20</b>	8576	3,6	III	85,85	<b>140C-180TC</b>	5058			<b>141</b>	2124	5,0	III	12,39	<b>180TC</b>	4159						
	<b>16</b>	11125	2,8	III	111,40	<b>140C-180TC</b>	5058			<b>118</b>	2540	4,2	III	14,80	<b>180TC</b>	4159						
	<b>15</b>	12028	2,6	III	120,42	<b>140C-180TC</b>	5058			<b>116</b>	2593	4,4	III	15,11	<b>180TC</b>	4159						
	<b>13</b>	13170	2,4	III	131,84	<b>140C-180TC</b>	5058			<b>94</b>	3204	4,1	III	18,69	<b>180TC</b>	4159						
	<b>12</b>	14736	2,1	III	147,51	<b>140C-180TC</b>	5058			<b>86</b>	3487	4,1	III	20,31	<b>180TC</b>	4159						
	<b>11</b>	16188	1,9	II	162,10	<b>140C-180TC</b>	5058			<b>68</b>	4399	3,2	III	25,65	<b>180TC</b>	4159						
	<b>9,8</b>	17772	1,7	II	177,95	<b>140C-180TC</b>	5058			<b>64</b>	4717	3,2	III	27,48	<b>180TC</b>	4159						
	<b>9,0</b>	19374	1,6	II	193,96	<b>140C-180TC</b>	5058	<b>57</b>	5222	2,9	III	30,46	<b>180TC</b>	4159								
	<b>8,3</b>	20941	1,5	II	209,65	<b>140C-180TC</b>	5058	<b>51</b>	5939	2,8	III	34,61	<b>180TC</b>	4159								
	<b>7,6</b>	22923	1,4	II	229,46	<b>140C-180TC</b>	5058	<b>46</b>	6470	2,6	III	37,71	<b>180TC</b>	4159								
	<b>6,9</b>	25260	1,2	I	252,87	<b>140C-180TC</b>	5058	<b>42</b>	7169	2,3	III	41,80	<b>180TC</b>	4159								
								<b>38</b>	7824	2,1	III	45,60	<b>180TC</b>	4159								
								<b>35</b>	8559	2,0	II	49,88	<b>180TC</b>	4159								
								<b>29</b>	10231	1,6	II	60,92	<b>ITH133</b>	<b>180TC</b>	4159							
								<b>27</b>	10878	1,5	II	64,74			<b>180TC</b>	4159						
								<b>25</b>	11904	1,4	II	70,88			<b>180TC</b>	4159						
								<b>22</b>	13170	1,3	I	78,38			<b>180TC</b>	4159						
								<b>20</b>	14639	1,1	I	87,14			<b>180TC</b>	4159						
								<b>18</b>	16073	1,0	I	95,67			<b>180TC</b>	4159						
								<b>137</b>	2195	8,9	III	12,78			<b>ITH142</b>	<b>180TC</b>	5058					
								<b>124</b>	2416	8,4	III	14,08					<b>180TC</b>	5058				
								<b>107</b>	2815	7,2	III	16,40					<b>180TC</b>	5058				
								<b>87</b>	3469	7,1	III	20,24					<b>180TC</b>	5058				
								<b>67</b>	4461	6,4	III	25,99	<b>180TC</b>	5058								
								<b>54</b>	5549	5,1	III	32,35	<b>180TC</b>	5058								
								<b>40</b>	7479	3,8	III	43,57	<b>180TC</b>	5058								
								<b>37</b>	8125	3,5	III	47,35	<b>180TC</b>	5058								
								<b>34</b>	8877	3,2	III	51,76	<b>180TC</b>	5058								
								<b>28</b>	10373	3,0	III	61,74	<b>ITH143</b>	<b>180TC</b>			5058					
								<b>26</b>	11214	2,8	III	66,73			<b>180TC</b>	5058						
								<b>22</b>	13347	2,3	III	79,43			<b>180TC</b>	5058						
								<b>20</b>	14418	2,1	III	85,85			<b>180TC</b>	5058						
								<b>16</b>	18710	1,7	II	111,40			<b>180TC</b>	5058						
								<b>15</b>	20224	1,5	II	120,42			<b>180TC</b>	5058						
								<b>13</b>	22145	1,4	II	131,84			<b>180TC</b>	5058						
								<b>12</b>	24782	1,3	II	147,51			<b>180TC</b>	5058						
								<b>11</b>	27234	1,1	I	162,10			<b>180TC</b>	5058						
								<b>9,8</b>	29889	1,0	I	177,95			<b>180TC</b>	5058						
								<b>9,0</b>	32580	1,0	I	193,96	<b>180TC</b>	5058								







Datos técnicos

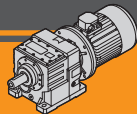
Technical data









P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]
<b>7.5 hp</b>								
5.5 kW (1750 rpm)	<b>326</b>	1372	2,3	III	5,38	ITH112	<b>210TC</b>	876
	<b>271</b>	1646	1,9	II	6,47		<b>210TC</b>	947
<b>222</b>	2009	1,8	II	7,88	<b>210TC</b>		1020	
<b>205</b>	2177	1,6	II	8,54	<b>210TC</b>		1049	
<b>193</b>	2310	1,6	II	9,06	<b>210TC</b>		1069	
<b>170</b>	2620	1,4	II	10,28	<b>210TC</b>		1108	
<b>154</b>	2903	1,5	II	11,39	<b>210TC</b>		1136	
<b>140</b>	3195	1,3	I	12,52	<b>210TC</b>		1156	
<b>97</b>	4620	1,0	I	18,10	<b>210TC</b>		1402	
<b>339</b>	1319	3,7	III	5,17	ITH122		<b>210TC</b>	1275
<b>262</b>	1708	2,9	III	6,69		<b>210TC</b>	1443	
<b>225</b>	1983	2,7	III	7,79		<b>210TC</b>	1550	
<b>198</b>	2248	2,6	III	8,82		<b>210TC</b>	1638	
<b>174</b>	2567	2,6	III	10,08		<b>210TC</b>	1732	
<b>154</b>	2894	2,3	III	11,35		<b>210TC</b>	1816	
<b>132</b>	3390	2,2	III	13,30		<b>210TC</b>	1923	
<b>110</b>	4062	1,9	II	15,92		<b>210TC</b>	2034	
<b>102</b>	4363	1,7	II	17,11		<b>210TC</b>	2073	
<b>90</b>	4974	1,5	II	19,50		<b>210TC</b>	2132	
<b>82</b>	5461	1,5	II	21,43	<b>210TC</b>	2163		
<b>73</b>	6125	1,4	II	24,00	<b>210TC</b>	2183		
<b>67</b>	6700	1,3	I	26,28	<b>210TC</b>	2183		
<b>60</b>	7497	1,2	I	29,40	<b>210TC</b>	2157		
<b>54</b>	8240	1,1	I	32,31	<b>210TC</b>	2626		
<b>49</b>	9045	1,0	I	35,47	<b>210TC</b>	2630		
<b>348</b>	1283	5,9	III	5,03	ITH132	<b>210TC</b>	2994	
<b>287</b>	1558	4,8	III	6,09		<b>210TC</b>	3299	
<b>253</b>	1761	4,5	III	6,91		<b>210TC</b>	3514	
<b>233</b>	1912	4,2	III	7,51		<b>210TC</b>	3662	
<b>209</b>	2133	3,7	III	8,36		<b>210TC</b>	3858	
<b>194</b>	2301	3,5	III	9,03		<b>210TC</b>	4001	
<b>170</b>	2629	3,2	III	10,30		<b>210TC</b>	4159	
<b>159</b>	2806	3,0	III	11,01		<b>210TC</b>	4159	
<b>141</b>	3160	3,4	III	12,39		<b>210TC</b>	4159	
<b>118</b>	3770	2,8	III	14,80		<b>210TC</b>	4159	
<b>116</b>	3850	3,0	III	15,11	<b>210TC</b>	4159		
<b>94</b>	4771	2,8	III	18,69	<b>210TC</b>	4159		
<b>86</b>	5178	2,7	III	20,31	<b>210TC</b>	4159		
<b>68</b>	6541	2,2	III	25,65	<b>210TC</b>	4159		
<b>64</b>	7010	2,1	III	27,48	<b>210TC</b>	4159		
<b>57</b>	7771	1,9	II	30,46	<b>210TC</b>	4159		
<b>51</b>	8824	1,9	II	34,61	<b>210TC</b>	4159		
<b>46</b>	9612	1,7	II	37,71	<b>210TC</b>	4159		
<b>42</b>	10656	1,6	II	41,80	<b>210TC</b>	4159		
<b>38</b>	11630	1,4	II	45,60	<b>210TC</b>	4159		
<b>35</b>	12719	1,3	I	49,88	<b>210TC</b>	4159		
<b>29</b>	15214	1,1	I	60,92	ITH133	<b>210TC</b>	4159	
<b>27</b>	16161	1,0	I	64,74		<b>210TC</b>	4159	
<b>25</b>	17702	1,0	I	70,88		<b>210TC</b>	4159	

P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]
<b>7.5 hp</b>								
5.5 kW (1750 rpm)	<b>285</b>	1567	10,2	III	6,15	ITH142	<b>210TC</b>	4903
	<b>238</b>	1876	8,5	III	7,35		<b>210TC</b>	5058
<b>197</b>	2266	7,8	III	8,88	<b>210TC</b>		5058	
<b>180</b>	2487	7,1	III	9,75	<b>210TC</b>		5058	
<b>169</b>	2638	7,0	III	10,35	<b>210TC</b>		5058	
<b>150</b>	2974	6,3	III	11,65	<b>210TC</b>		5058	
<b>137</b>	3257	6,0	III	12,78	<b>210TC</b>		5058	
<b>124</b>	3593	5,7	III	14,08	<b>210TC</b>		5058	
<b>107</b>	4178	4,9	III	16,40	<b>210TC</b>		5058	
<b>99</b>	4523	5,5	III	17,73	<b>210TC</b>		5058	
<b>87</b>	5160	4,8	III	20,24	<b>210TC</b>	5058		
<b>67</b>	6629	4,3	III	25,99	<b>210TC</b>	5058		
<b>62</b>	7169	4,0	III	28,10	<b>210TC</b>	5058		
<b>54</b>	8249	3,4	III	32,35	<b>210TC</b>	5058		
<b>47</b>	9461	3,0	III	37,09	<b>210TC</b>	5058		
<b>40</b>	11108	2,5	III	43,57	<b>210TC</b>	5058		
<b>37</b>	12072	2,3	III	47,35	<b>210TC</b>	5058		
<b>34</b>	13196	2,1	III	51,76	<b>210TC</b>	5058		
<b>28</b>	15418	2,0	II	61,74	ITH143	<b>210TC</b>	5058	
<b>26</b>	16666	1,9	II	66,73		<b>210TC</b>	5058	
<b>22</b>	19835	1,6	II	79,43		<b>210TC</b>	5058	
<b>20</b>	21437	1,4	II	85,85		<b>210TC</b>	5058	
<b>16</b>	27818	1,1	I	111,40		<b>210TC</b>	5058	
<b>15</b>	30066	1,0	I	120,42		<b>210TC</b>	5058	
<b>13</b>	32925	0,9	I	131,84		<b>210TC</b>	5058	

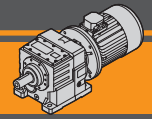
<b>10.0 hp</b>								
7.5 kW (1750 rpm)	<b>326</b>	1868	1,7	II	5,38	ITH112	<b>210TC</b>	830
	<b>271</b>	2248	1,4	II	6,47		<b>210TC</b>	885
<b>222</b>	2735	1,3	I	7,88	<b>210TC</b>		935	
<b>205</b>	2974	1,2	I	8,54	<b>210TC</b>		952	
<b>193</b>	3151	1,1	I	9,06	<b>210TC</b>		963	
<b>170</b>	3576	1,0	I	10,28	<b>210TC</b>		1108	
<b>154</b>	3965	1,1	I	11,39	<b>210TC</b>		1136	
<b>140</b>	4355	1,0	I	12,52	<b>210TC</b>		1156	
<b>339</b>	1797	2,7	III	5,17	ITH122		<b>210TC</b>	1238
<b>262</b>	2328	2,1	III	6,69			<b>210TC</b>	1386
<b>225</b>	2708	2,0	II	7,79		<b>210TC</b>	1477	
<b>198</b>	3071	1,9	II	8,82		<b>210TC</b>	1549	
<b>174</b>	3505	1,9	II	10,08		<b>210TC</b>	1623	
<b>154</b>	3947	1,7	II	11,35		<b>210TC</b>	1684	
<b>132</b>	4629	1,6	II	13,30		<b>210TC</b>	1754	
<b>110</b>	5532	1,4	II	15,92		<b>210TC</b>	1808	
<b>102</b>	5948	1,3	I	17,11		<b>210TC</b>	1820	
<b>90</b>	6780	1,1	I	19,50		<b>210TC</b>	2132	
<b>82</b>	7452	1,1	I	21,43	<b>210TC</b>	2163		
<b>73</b>	8346	1,0	I	24,00	<b>210TC</b>	2183		
<b>67</b>	9134	0,9	I	26,28	<b>210TC</b>	2183		

ITH

**ITH****Motorreductores a engranajes cilíndricos**  
Helical in-line gearmotors**Nema 60 Hz****Datos técnicos****Technical data**













P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]	P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]			
<b>10.0 hp</b>									<b>15.0 hp</b>											
7.5 kW (1750 rpm)	348	1752	4,3	III	5,03			2929	11.0 kW (1750 rpm)	348	2567	2,9	III	5,03			2816			
	287	2115	3,6	III	6,09			210TC	3209	287	3107	2,4	III	6,09			250TC	3053		
	253	2399	3,3	III	6,91			210TC	3405	253	3523	2,3	III	6,91			250TC	3215		
	233	2611	3,1	III	7,51			210TC	3538	233	3832	2,1	III	7,51			250TC	3320		
	209	2903	2,7	III	8,36			210TC	3710	209	4266	1,9	II	8,36			250TC	3452		
	194	3142	2,5	III	9,03			210TC	3834	194	4602	1,7	II	9,03			250TC	3543		
	170	3585	2,3	III	10,30			210TC	4046	170	5257	1,6	II	10,30			250TC	3686		
	159	3832	2,2	III	11,01			210TC	4150	159	5611	1,5	II	11,01			250TC	3751		
	141	4310	2,5	III	12,39			210TC	4159	141	6319	1,7	II	12,39			250TC	3851		
	118	5142	2,1	III	14,80			210TC	4159	118	7550	1,4	II	14,80			250TC	3945		
	116	5248	2,2	III	15,11			210TC	4159	116	7700	1,5	II	15,11			250TC	3950		
	94	6496	2,0	II	18,69			210TC	4159	94	9532	1,4	II	18,69			250TC	3916		
	86	7063	2,0	II	20,31			210TC	4159	86	10355	1,4	II	20,31			250TC	3847		
	68	8922	1,6	II	25,65			210TC	4159	68	13081	1,1	I	25,65			250TC	4159		
	64	9559	1,6	II	27,48			210TC	4159	51	17648	1,0	I	34,61			250TC	4159		
	57	10594	1,4	II	30,46			210TC	4159	285	3133	5,1	III	6,15			ITH142	250TC	4692	
	51	12037	1,4	II	34,61			210TC	4159	238	3753	4,2	III	7,35				250TC	5058	
	46	13117	1,3	I	37,71			210TC	4159	197	4532	3,9	III	8,88				250TC	5058	
	42	14533	1,2	I	41,80			210TC	4159	180	4974	3,6	III	9,75				250TC	5058	
	38	15861	1,1	I	45,60			210TC	4159	169	5275	3,5	III	10,35				250TC	5058	
	35	17347	1,0	I	49,88			210TC	4159	150	5939	3,1	III	11,65				250TC	5058	
	285	2142	7,4	III	6,15			ITH142	210TC	4826	137	6514	3,0	III				12,78	250TC	5058
	238	2558	6,2	III	7,35				210TC	5058	124	7178	2,8	III				14,08	250TC	5058
	197	3089	5,7	III	8,88				210TC	5058	107	8364	2,4	III				16,40	250TC	5058
	180	3390	5,2	III	9,75				210TC	5058	99	9045	2,7	III				17,73	250TC	5058
	169	3602	5,2	III	10,35				210TC	5058	87	10320	2,4	III				20,24	250TC	5058
	150	4054	4,6	III	11,65				210TC	5058	67	13258	2,1	III				25,99	250TC	5058
	137	4443	4,4	III	12,78				210TC	5058	62	14329	2,0	II			28,10	250TC	5058	
	124	4894	4,2	III	14,08				210TC	5058	54	16498	1,7	II			32,35	250TC	5058	
	107	5700	3,6	III	16,40				210TC	5058	47	18914	1,5	II			37,09	250TC	5058	
	99	6169	4,0	III	17,73				210TC	5058	40	22224	1,3	I			43,57	250TC	5058	
	87	7036	3,5	III	20,24				210TC	5058	28	30836	1,0	I			61,74	ITH143	250TC	5058
67	9037	3,1	III	25,99	210TC	5058	26		33323	0,9	I	66,73	250TC	5058						
62	9771	2,9	III	28,10	210TC	5058														
54	11249	2,5	III	32,35	210TC	5058														
47	12896	2,2	III	37,09	210TC	5058														
40	15152	1,9	II	43,57	210TC	5058														
37	16462	1,7	II	47,35	210TC	5058														
34	18002	1,6	II	51,76	210TC	5058														
28	21021	1,5	II	61,74	ITH143	210TC	5058													
26	22720	1,4	II	66,73		210TC	5058													
22	27048	1,1	I	79,43		210TC	5058													
20	29234	1,1	I	85,85		210TC	5058													

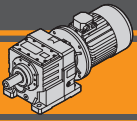




Datos técnicos

Technical data

P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]	P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]						
<b>20.0 hp</b>									<b>25.0 hp</b>														
15.0 kW (1750 rpm)	348	3505	2,1	III	5,03	ITH132		2686	18.5 kW (1750 rpm)	348	4319	1,7	II	5,03	ITH132		2573						
	287	4240	1,8	II	6,09			2874		287	5222	1,4	II	6,09			2718						
	253	4806	1,7	II	6,91			2996		253	5930	1,3	I	6,91			2806						
	233	5222	1,5	II	7,51			3071		233	6443	1,2	I	7,51			2853						
	209	5815	1,4	II	8,36			3157		209	7169	1,1	I	8,36			3157						
	194	6284	1,3	I	9,03			3209		194	7744	1,0	I	9,03			3209						
	170	7169	1,2	I	10,30			3686		170	8842	1,0	I	10,30			3686						
	159	7656	1,1	I	11,01			3751		159	9444	0,9	I	11,01			3751						
	141	8621	1,2	I	12,39			3851		141	10630	1,0	I	12,39			3851						
	118	10293	1,0	I	14,80			3945															
	116	10506	1,1	I	15,11	3950																	
	94	13002	1,0	I	18,69	3916																	
	86	14126	1,0	I	20,31	3847																	
		285	4275	3,7	III	6,15	ITH142			4538		285	5275	3,0	III	6,15	ITH142		4404				
		238	5116	3,1	III	7,35				4866		238	6302	2,5	III	7,35			4685				
		197	6178	2,9	III	8,88				5058		197	7620	2,3	III	8,88			4978				
		180	6780	2,6	III	9,75				5058		180	8364	2,1	III	9,75			5058				
		169	7196	2,6	III	10,35				5058		169	8877	2,1	III	10,35			5058				
		150	8098	2,3	III	11,65				5058		150	9992	1,9	II	11,65			5058				
		137	8886	2,2	III	12,78				5058		137	10957	1,8	II	12,78			5058				
	124	9789	2,1	III	14,08	5058				124	12072	1,7	II	14,08	5058								
	107	11400	1,8	II	16,40	5058				107	14064	1,4	II	16,40	5058								
	99	12338	2,0	II	17,73	5058				99	15214	1,6	II	17,73	5058								
	87	14082	1,8	II	20,24	5058		87	17365	1,4	II	20,24	5058										
	67	18082	1,6	II	25,99	5058		67	22295	1,3	I	25,99	4528										
	62	19542	1,4	II	28,10	5058		62	24101	1,2	I	28,10	5058										
	54	22499	1,3	I	32,35	5058		54	27747	1,0	I	32,35	5038										
	47	25791	1,1	I	37,09	5058		47	31810	0,9	I	37,09	5058										
	40	30305	0,9	I	43,57	5058																	
<b>30.0 hp</b>									<b>30.0 hp</b>														
	22.3 kW (1750 rpm)	348	5204	1,4	II	5,03	ITH132		2460	348	5204	1,4	II	5,03	ITH132		2460						
		287	6302	1,2	I	6,09			2561	287	6302	1,2	I	6,09			2561						
		253	7143	1,1	I	6,91			2806	253	7143	1,1	I	6,91			2806						
		233	7762	1,0	I	7,51			2853	233	7762	1,0	I	7,51			2853						
		209	8647	0,9	I	8,36			3157	209	8647	0,9	I	8,36			3157						
			285	6364	2,5	III			6,15	ITH142		4270		285			6364	2,5	III	6,15	ITH142		4270
			238	7603	2,1	III			7,35			4504		238			7603	2,1	III	7,35			4504
			197	9187	1,9	II			8,88			4736		197			9187	1,9	II	8,88			4736
			180	10081	1,8	II			9,75			4828		180			10081	1,8	II	9,75			4828
			169	10701	1,7	II			10,35			4877		169			10701	1,7	II	10,35			4877
			150	12037	1,5	II	11,65	4946				150	12037	1,5	II	11,65	4946						
			137	13205	1,5	II	12,78	4968				137	13205	1,5	II	12,78	4968						
			124	14559	1,4	II	14,08	4952				124	14559	1,4	II	14,08	4952						
			107	16949	1,2	I	16,40	4828				107	16949	1,2	I	16,40	4828						
			99	18339	1,4	II	17,73	4705				99	18339	1,4	II	17,73	4705						
			87	20932	1,2	I	20,24	4382		87	20932	1,2	I	20,24	4382								
			67	26880	1,1	I	25,99	4528		67	26880	1,1	I	25,99	4528								
			62	29048	1,0	I	28,10	5058		62	29048	1,0	I	28,10	5058								

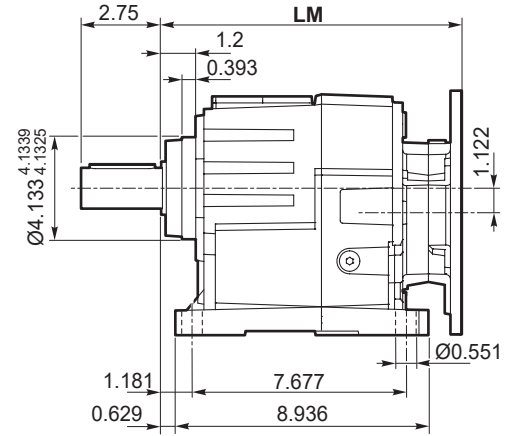
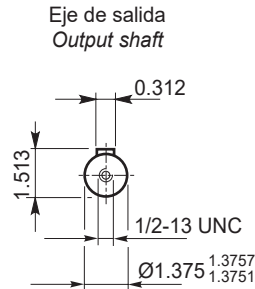
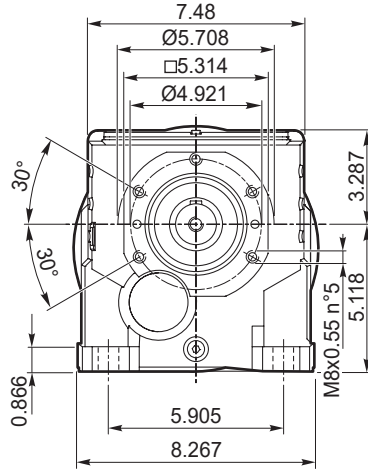


**Dimensiones**

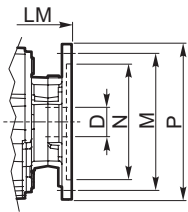
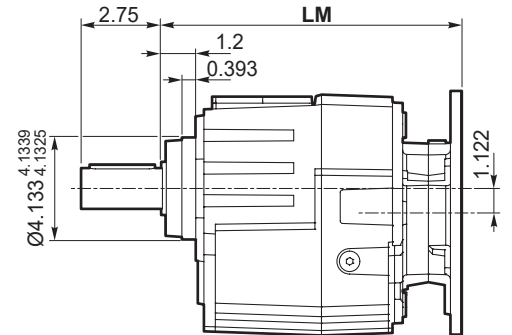
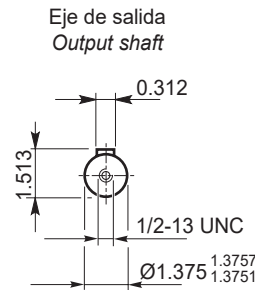
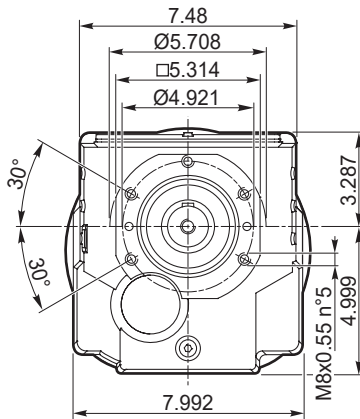
**Dimensions**

**ITH 112 - ITH 113**

**ITH 112 U  
ITH 113 U**

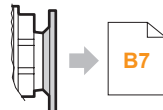


**ITH 112 G  
ITH 113 G**

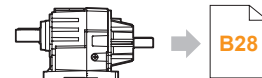


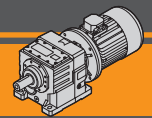
Dimensiones NEMA/ NEMA Dimensions				
	56C	140TC	180TC	210TC
<b>LM</b>	<b>12.125</b>		<b>13.149</b>	
<b>N</b>	4.5		8.5	
<b>M</b>	5.875		7.25	
<b>P</b>	6.5		9	
<b>D</b>	0.625	0.875	1.125	1.375

Bridas Motor  
NEMA C-FACE



ITHIS 112...  
ITHIS 113...



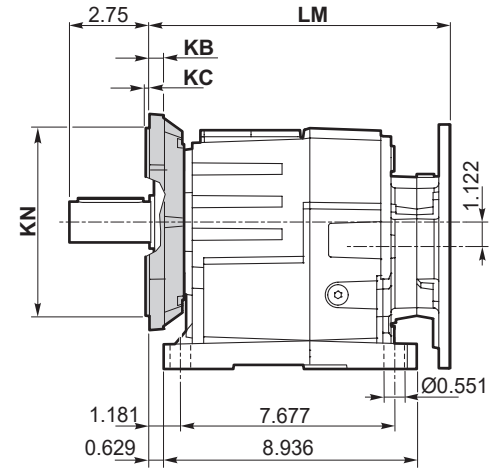
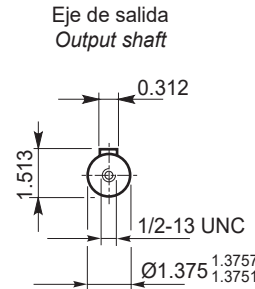
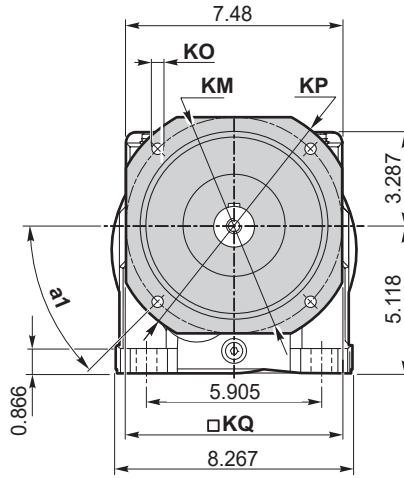


Dimensiones

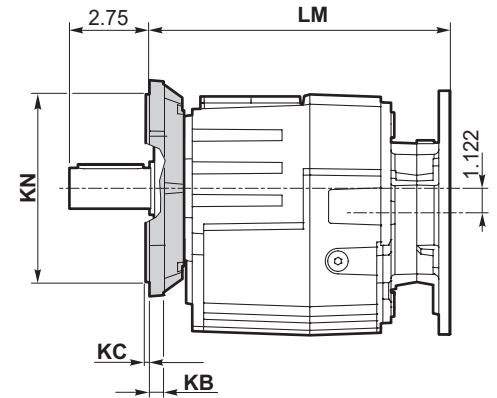
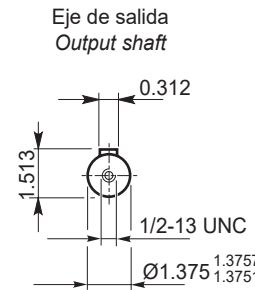
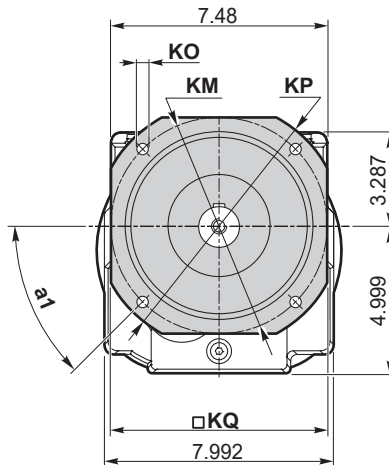
Dimensions

ITH 112 - ITH 113

ITH 112 U/F...  
ITH 113 U/F...



ITH 112 F...  
ITH 113 F...



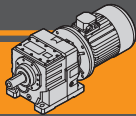
Versión F / F Version

ITH	a <sub>1</sub>	KB	KC	KM	KN	KO	KP	KQ	Brida / Flange	
									Tipo / Type	Peso / Weight [lb]
112 113	45°	0.472	0.157	6.496	5.118 5.1164 5.1148	0.433	7.874	6.496	F200	4.6
	45°	0.472	0.157	8.465	7.086 7.0849 7.0833	0.551	9.843	8.465	F250	7.0

Peso / Weight [lb]

ITH	56C	140TC	180TC	210TC
112 U		59.02		66.60
112 G		55.71		63.29
113 U		60.12	-	-
113 G		56.81	-	-

Nota: Peso del reductor llenado con aceite para la posición de montaje M1 (B3)  
Note: weight of the gearbox filled with oil for M1 (B3) assembly position

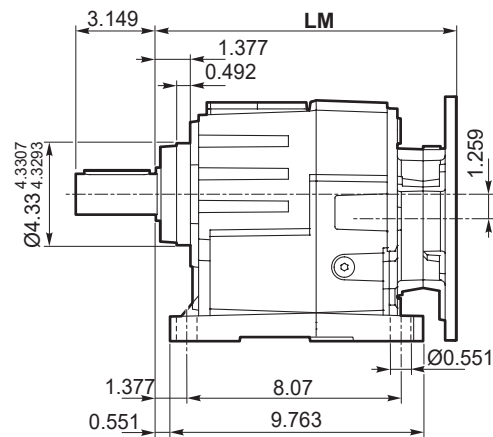
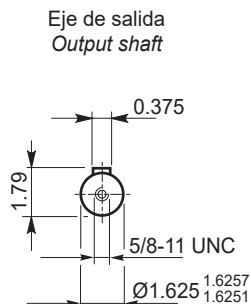
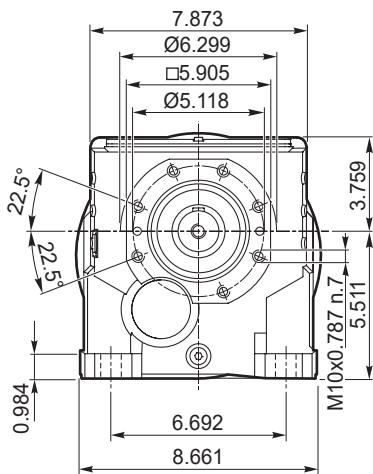


**Dimensiones**

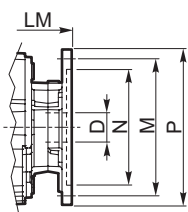
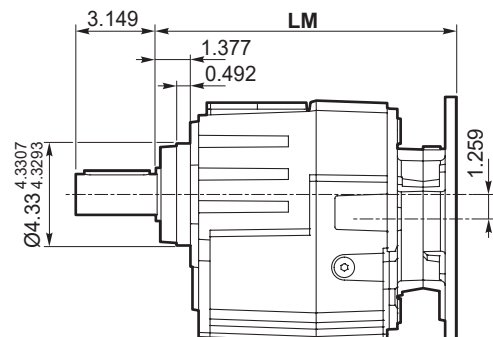
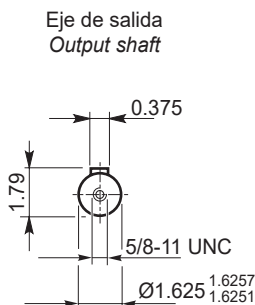
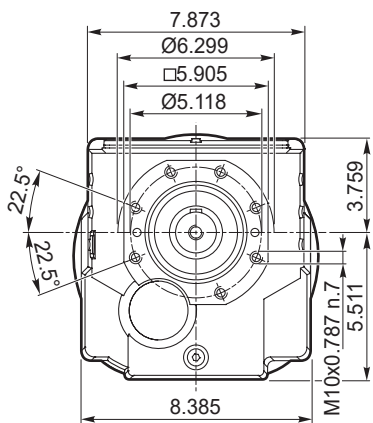
**Dimensions**

**ITH 122 - ITH 123**

**ITH 122 U  
ITH 123 U**

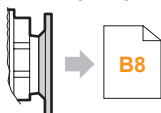


**ITH 122 G  
ITH 123 G**

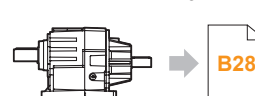


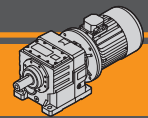
Dimensiones NEMA/ NEMA Dimensions				
	56C	140TC	180TC	210TC
<b>LM</b>	<b>12.933</b>		<b>13.956</b>	
<b>N</b>	4.5		8.5	
<b>M</b>	5.875		7.25	
<b>P</b>	6.5		9	
<b>D</b>	0.625	0.875	1.125	1.375

Bridas Motor  
NEMA C-FACE



ITHIS 122...  
ITHIS 123...



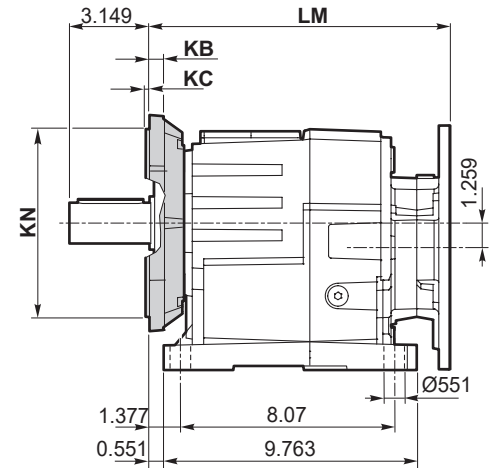
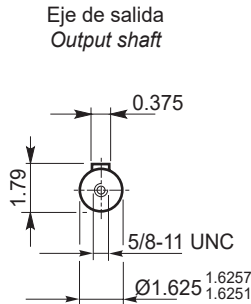
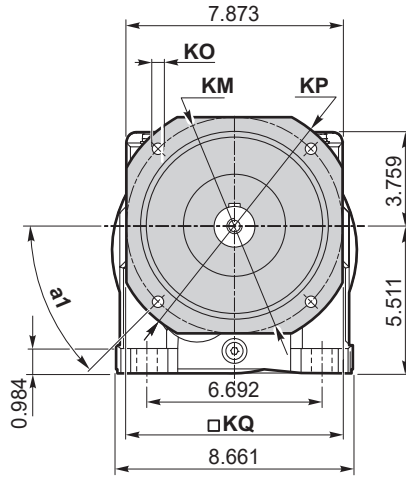


Dimensiones

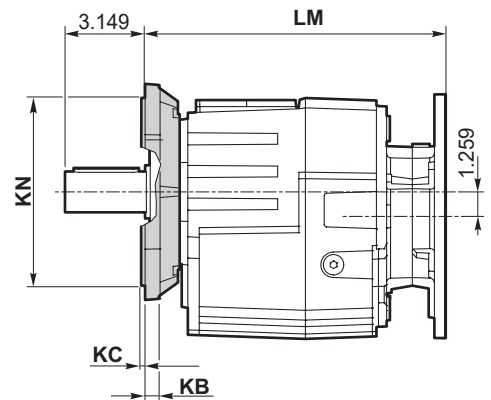
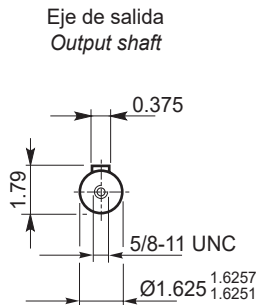
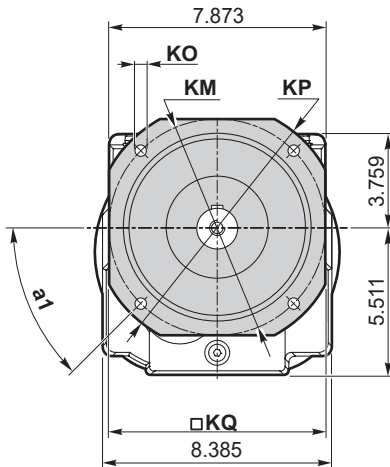
Dimensions

ITH 122- ITH 123

ITH 122 U/F...  
ITH 123 U/F...



ITH 122 F...  
ITH 123 F...



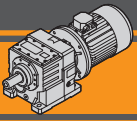
Versión F / F Version

ITH	a <sub>1</sub>	KB	KC	KM	KN f7	KO	KP	KQ	Brida / Flange	
									Tipo / Type	Peso / Weight [lb]
122 123	45°	0.512	0.157	6.496	5.118 5.1164 5.1148	0.433	7.874	6.772	F200	5.7
	45°	0.512	0.157	8.465	7.086 7.0849 7.0833	0.551	9.843	8.465	F250	8.3
	45°	0.512	0.157	10.433	9.055 9.0534 9.0519	0.551	11.811	10.433	F300	12.3

Peso / Weight [lb]

ITH	56C	140TC	180TC	210TC
122 U		74.45		82.03
122 G		70.04		77.62
123 U		76.65	94.23	-
123 G		72.25	79.82	-

Nota: Peso del reductor llenado con aceite para la posición de montaje M1 (B3)  
Note: weight of the gearbox filled with oil for M1 (B3) assembly position

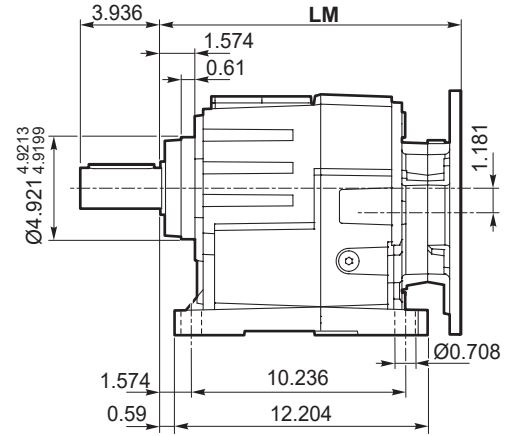
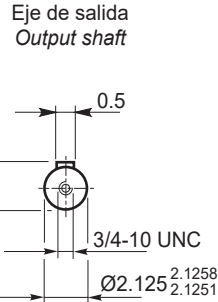
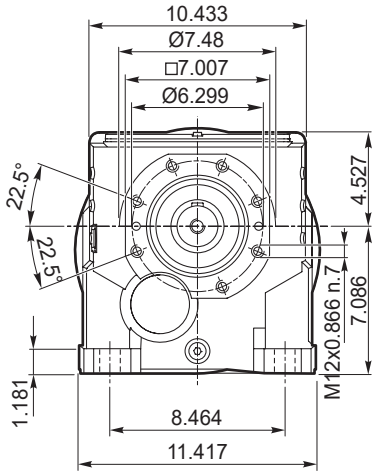


**Dimensiones**

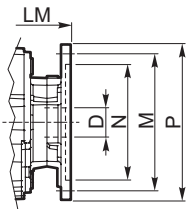
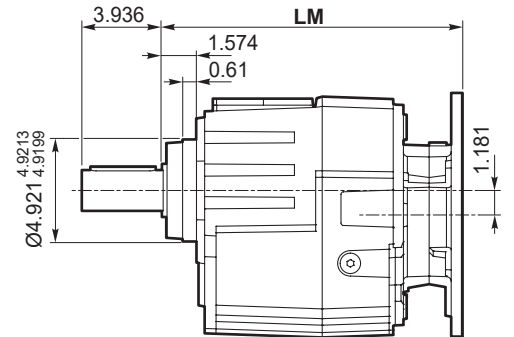
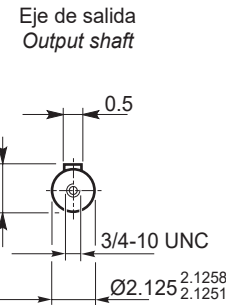
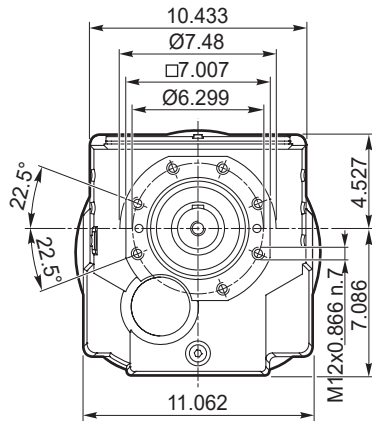
**Dimensions**

**ITH 132 - ITH 133**

**ITH 132 U  
ITH 133 U**

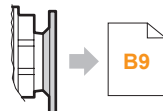


**ITH 132 G  
ITH 133 G**

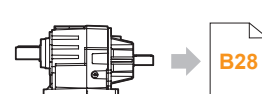


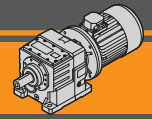
Dimensiones NEMA/ NEMA Dimensions						
	56C	140TC	180TC	210TC	250TC	280TC
<b>LM</b>	14.153		15.177		17.125	17.519
<b>N</b>	4.5		8.5		10.5	
<b>M</b>	5.875		7.25		9	
<b>P</b>	6.5		9		10	11.525
<b>D</b>	0.625	0.875	1.125	1.375	1.625	1.875

Bridas Motor  
NEMA C-FACE



ITHIS 132...  
ITHIS 133...



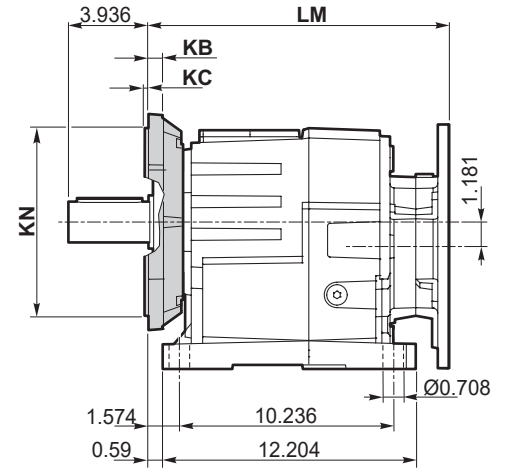
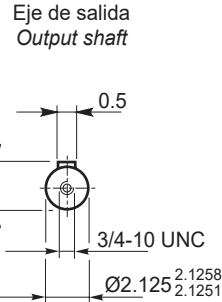
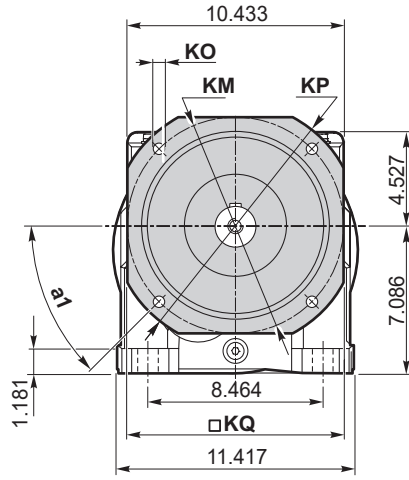


Dimensiones

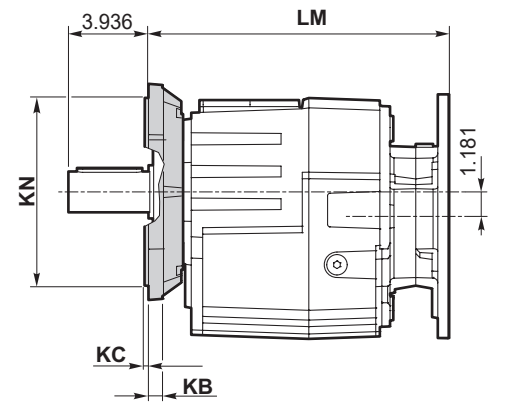
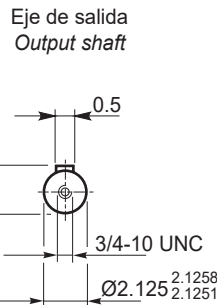
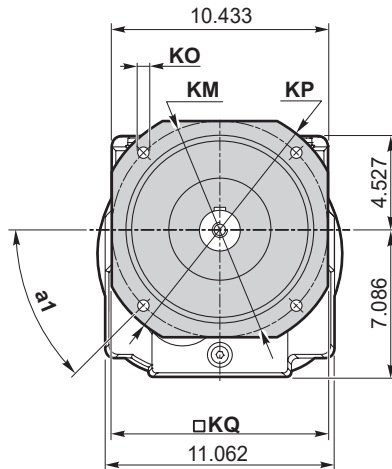
Dimensions

ITH 132- ITH 133

ITH 132 U/F...  
ITH 133 U/F...



ITH 132 F...  
ITH 133 F...



Versión F / F Version

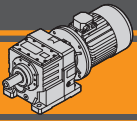
ITH	a <sub>1</sub>	KB	KC	KM	KN f7	KO	KP	KQ	Brida / Flange		
									Tipo / Type	Peso / Weight [lb]	
132 133	45°	0.630	0.157	8.465	7.086 7.0833	7.0849 7.0833	0.551	9.843	8.465	F250	8.3
	45°	0.630	0.157	10.433	9.055 9.0519	9.0534 9.0519	0.551	11.811	10.236	F300	12.3
	45°	0.630	0.157	11.811	9.842 9.8393	9.8408 9.8393	0.709	13.780	11.811	F350	20.0

Peso / Weight [lb]

ITH	56C	140TC	180TC	210TC	250TC	280TC
132 U		135.08		142.66	155.80	158.58
132 G		126.26		133.84	146.98	149.76
133 U		139.49		147.07	-	-
133 G		130.67		138.25	-	-

Nota: Peso del reductor llenado con aceite para la posición de montaje M1 (B3)  
Note: weight of the gearbox filled with oil for M1 (B3) assembly position



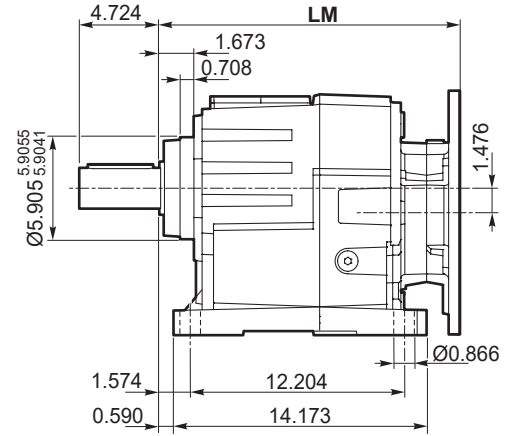
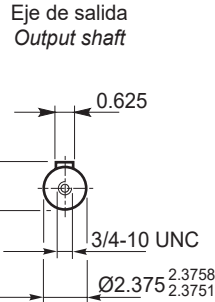
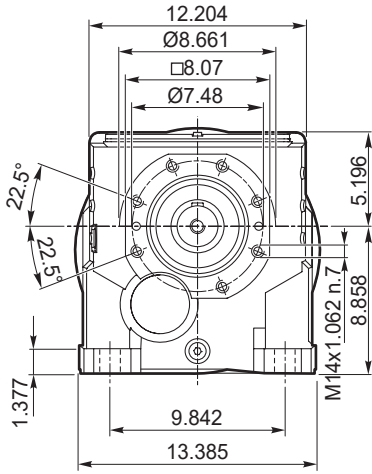


**Dimensiones**

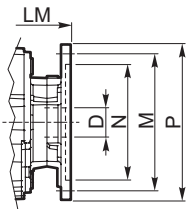
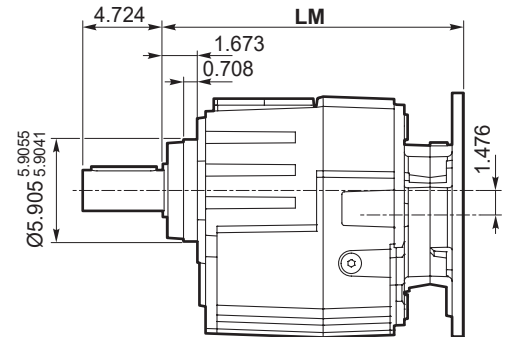
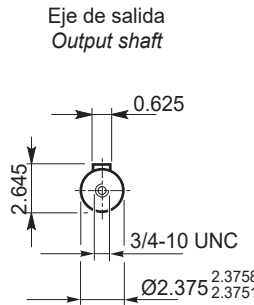
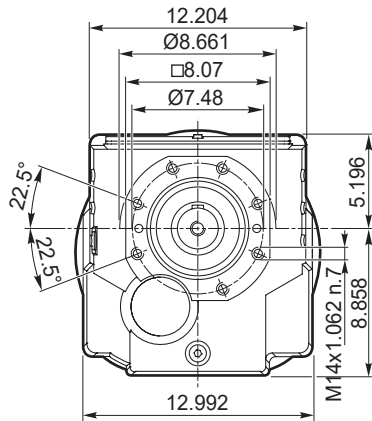
**Dimensions**

**ITH 142 - ITH 143**

**ITH 142 U  
ITH 143 U**

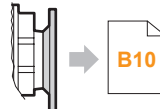


**ITH 142 G  
ITH 143 G**

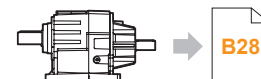


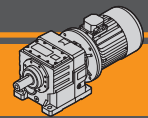
Dimensiones NEMA/ NEMA Dimensions						
	56C	140TC	180TC	210TC	250TC	280TC
<b>LM</b>	15.452		16.476		18.425	18.818
<b>N</b>	4.5			8.5		10.5
<b>M</b>	5.875			7.25		9
<b>P</b>	6.5			9	10	11.252
<b>D</b>	0.625	0.875	1.125	1.375	1.625	1.875

Bridas Motor  
NEMA C-FACE



ITHIS 142...  
ITHIS 143...



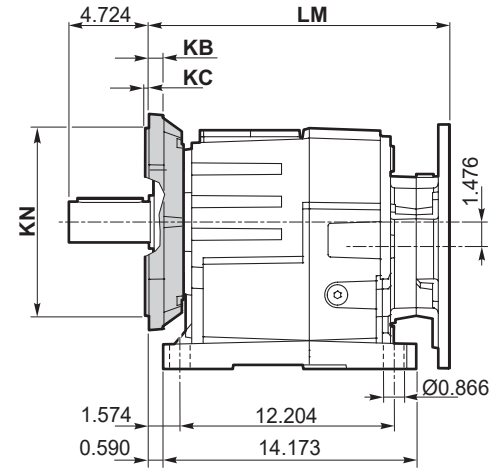
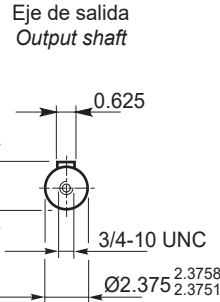
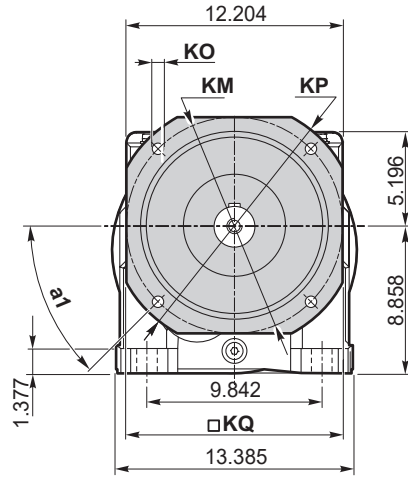


Dimensiones

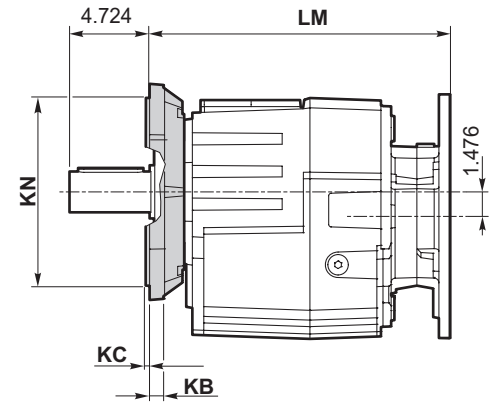
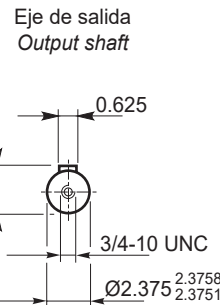
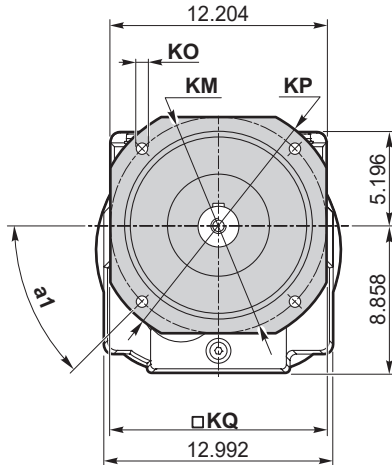
Dimensions

ITH 142- ITH 143

ITH 142 U/F...  
ITH 143 U/F...



ITH 142 F...  
ITH 143 F...



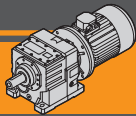
Versión F / F Version

ITH	a <sub>1</sub>	KB	KC	KM	KN f7	KO	KP	KQ	Brida / Flange	
									Tipo / Type	Peso / Weight [lb]
142 143	45°	0.709	0.157	10.433	9.055 9.0534 9.0519	0.551	11.811	10.433	F300	16.3
	45°	0.709	0.197	11.811	9.842 9.8408 9.8393	0.709	13.780	11.811	F350	22.4
	45°	0.709	0.197	15.748	13.748 13.7778 13.7763	0.709	17.717	15.748	F450	37.2

Peso / Weight [lb]

ITH	56C	140TC	180TC	210TC	250TC	280TC
142 U		207.83		215.41	228.55	231.33
142 G		194.60		202.19	215.33	218.10
143 U		214.44		222.03	235.17	-
143 G		201.22		208.80	221.94	-

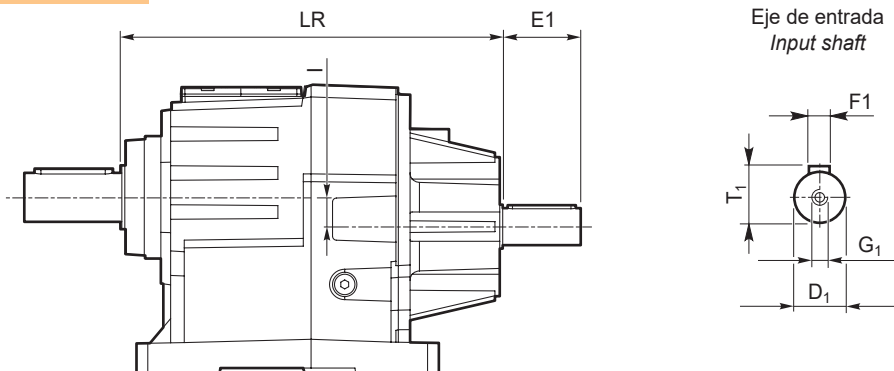
Nota: Peso del reductor llenado con aceite para la posición de montaje M1 (B3)  
Note: weight of the gearbox filled with oil for M1 (B3) assembly position



**Dimensiones**

**Dimensions**

**ITHIS...**



ITHIS	Versión Version	LR	D1	E1	I	T1	F1	G1		
112	U G U/F... F...	12.657	0.875 <sup>0.8742</sup> / <sub>0.8734</sub>	1.969	1.134	0.958	0.188	1/4-20		
113					1.26					
122		13.465		1.625 <sup>1.6254</sup> / <sub>1.6248</sub>	3.15	1.181	1.791		0.375	5/8-11
123						1.476				
132		15.374		1.625 <sup>1.6254</sup> / <sub>1.6248</sub>	3.15	1.181	1.791		0.375	5/8-11
133						1.476				
142		16.673		1.625 <sup>1.6254</sup> / <sub>1.6248</sub>	3.15	1.181	1.791		0.375	5/8-11
143						1.476				

ITHIS	Peso / Weight [lb]
112 U	8.18
112 G	7.79
113 U	8.29
113 G	7.89
122 U	10.19
122 G	9.66
123 U	10.46
123 G	9.93
132 U	19.78
132 G	18.72
133 U	18.83
133 G	17.77
142 U	29.587
142 G	28.00
143 U	28.79
143 G	27.20

Nota: ITHIS133 relación 191,39 – 209,48 – 230,85 / ITHIS143 relación 193,96 – 209,65 – 229,46 – 252,87 pedido bajo demanda.

Favor de contactar al servicio técnico TRANSTECNO.

Note: ITHIS133 ratios 191,39 – 209,48 – 230,85 and ITHIS143 ratios 193,96 – 209,65 – 229,46 – 252,87 available upon request.

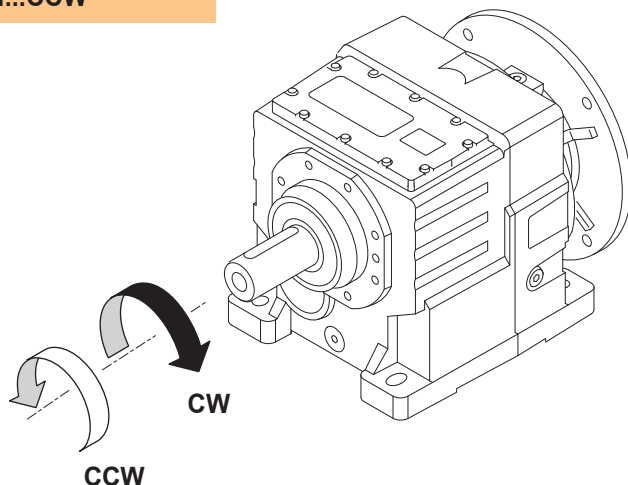
Please contact TRANSTECNO technical service.

**Accesorios**

**Accessories**

**Dispositivo anti-retorno / Backstop device**

**ITH...CW  
ITH...CCW**



El dispositivo anti-retorno permite que la flecha de salida gire en un solo sentido.  
Antes de utilizarlo, especifique la rotación deseada como se muestra en la 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.*

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

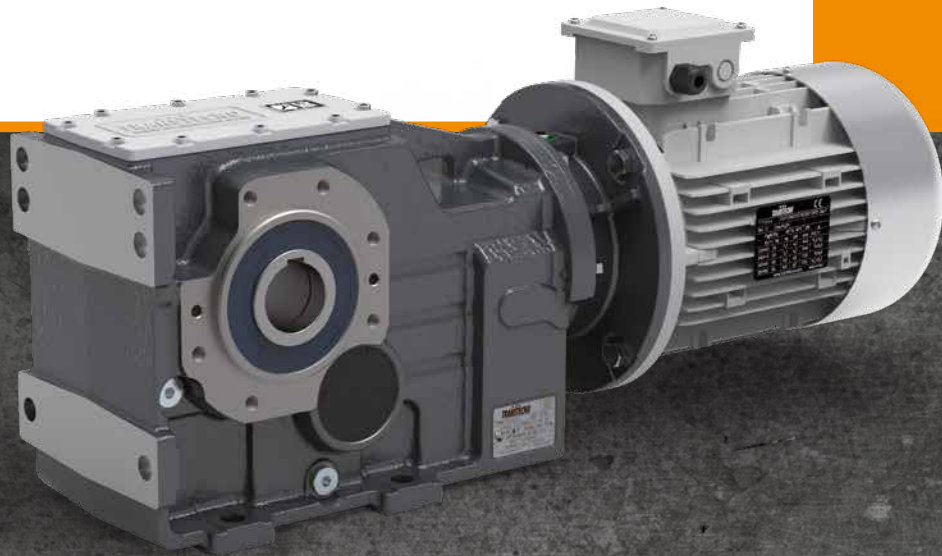
**ITB**



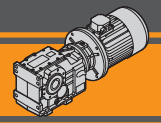
**60Hz**

**Nema**

Motoreductores de ejes ortogonales  
**Helical bevel gearmotors**





**Índice**

Características técnicas  
Clasificación  
Sentido de rotación  
Nomenclatura  
Lubricación  
Carga radial en la entrada  
Carga radial en la salida  
Datos técnicos  
Dimensiones  
Accesorios

**Index**

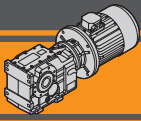
*Technical features*  
*Classification*  
*Direction of rotation*  
*Symbols*  
*Lubrication*  
*Input radial loads*  
*Output radial loads*  
*Technical data*  
*Dimensions*  
*Accessories*

Pag.  
Page

**C2**  
**C3**  
**C4**  
**C4**  
**C5**  
**C7**  
**C7**  
**C8**  
**C16**  
**C23**

Esta sección substituye y anula las ediciones y revisiones previas. Si usted obtiene este catálogo a través de canales de distribución no autorizados o fuera de nuestro control, la versión en vigor no estará garantizada. **En todo caso, la versión más actualizada está disponible en nuestra página de internet [www.transtecno.com](http://www.transtecno.com)**

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### Características técnicas

El motorreductor ITB está diseñado para aplicaciones de uso rudo. Su carcasa fundida en una sola pieza y su diseño modular con distintos accesorios en la entrada y en la salida, incrementan su flexibilidad de uso en múltiples aplicaciones.

Características principales de la serie ITB:

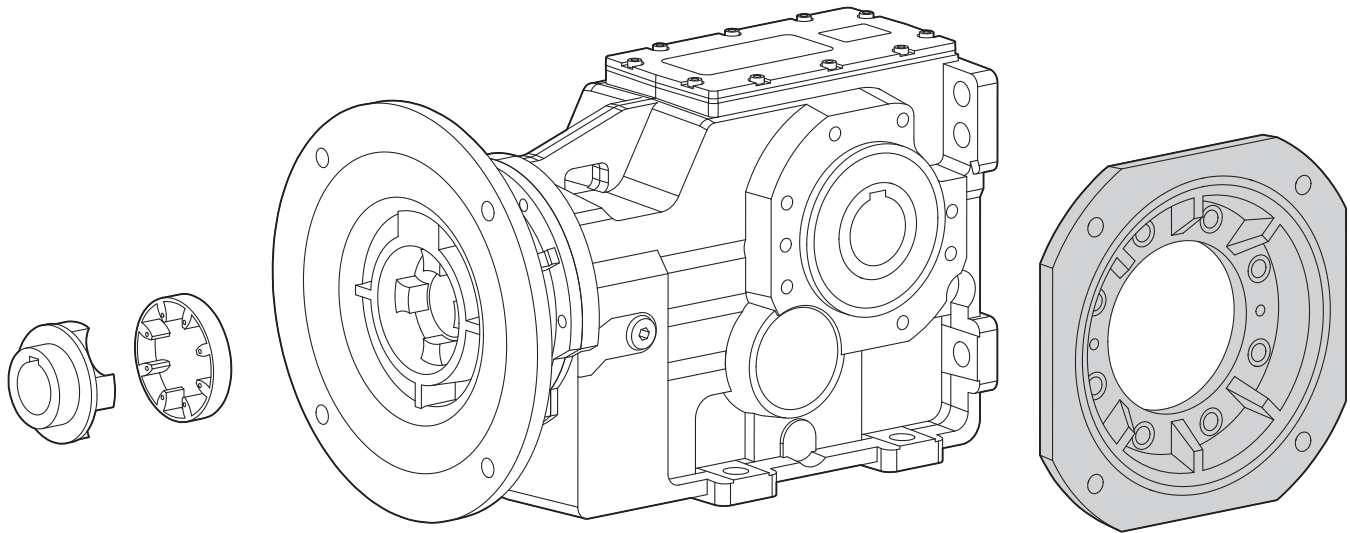
- Carcasa en hierro fundido;
- Elevada modularidad;
- Lubricación con aceite sintético;
- Acoplamiento a motor con cople flexible;
- Acabado en pintura epóxica RAL 7016.

### Technical features

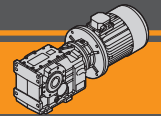
*The ITB gearmotors are intended for heavy duty applications. The robust one pieces casing of the main housing and the modular design of input and output sets increase application flexibility.*

*The main features of ITB 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.*







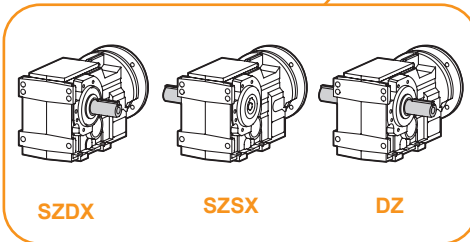
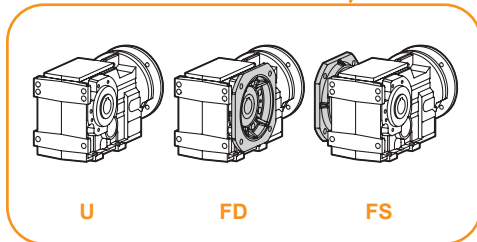
Clasificación

Classification

REDUCTOR / GEARBOX										
ITB	42	3	U	20.12	D1.5	56C	SZDX	BRSX	M1	CW
Tipo Type	Tamaño Size	Etapas Stages	Versión Version	Relación de reducción Ratio	Eje de salida Output shaft		Eje de salida Output shaft	Brazo de reacción Torque arm	Posición de Montaje Mounting position	Dispositivo anti retroceso Backstop device
	42 43 44	3	U F...D F...S	véase tablas see tables	véase tablas see tables	56C 140TC 180TC 250TC 280TC	SZDX SZSX DZ	TADX TASX  BRDX 90°...270° BRSX 0°...270°	M1 (B3) M2 (V6) M3 (B8) M4 (V5) M5 (B7) M6 (B6)	CW CCW

Relación de reducción  
Gearbox Version

Eje de salida  
Output shaft

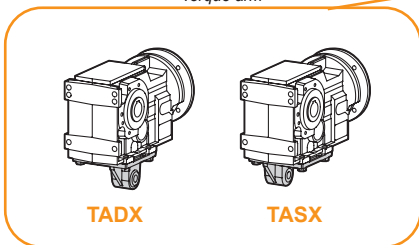


F...D = Lado derecho / Right side  
F...S = Lado izquierdo / Left side

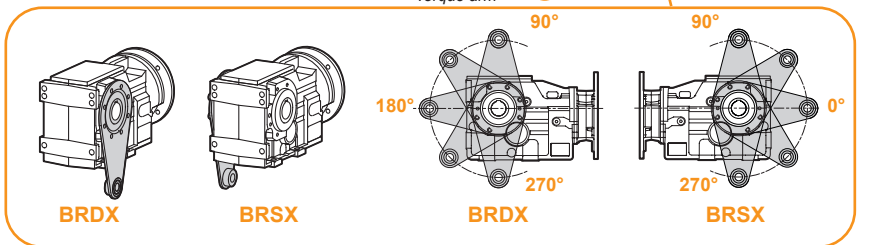
SZDX = Flecha sencilla lado derecho / Single shaft right side  
DZ = Flecha doble / Double shaft  
SZSX = Flecha sencilla lado izquierdo / Single shaft left side

Brazo de reacción  
Torque arm

Brazo de reacción  
Torque arm \*



TADX = Lado derecho / Right side  
TASX = Lado izquierdo / Left side



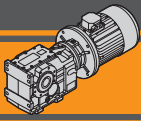
BRDX = Lado derecho / Right side  
BRSX = Lado izquierdo / Left side

\* NOTA: El brazo de reacción se suministra desmontado.  
NOTE: the torque arm will be supplied not assembled.

REDUCTOR / GEARBOX								
ITBIS	42	3	U	20.12	D1.5	SZDX	BRSX	M1
Tipo Type	Tamaño Size	Etapas Stages	Versión Version	Relación de reducción Ratio	Eje de salida Output shaft	Eje de salida Output shaft	Brazo de reacción Torque arm	Posición de Montaje Mounting position
	42 43 44	3	U F...D F...S	véase tablas see tables	véase tablas see tables	SZDX SZSX DZ	BRDX BRSX	M1 (B3) M2 (V6) M3 (B8) M4 (V5) M5 (B7) M6 (B6)

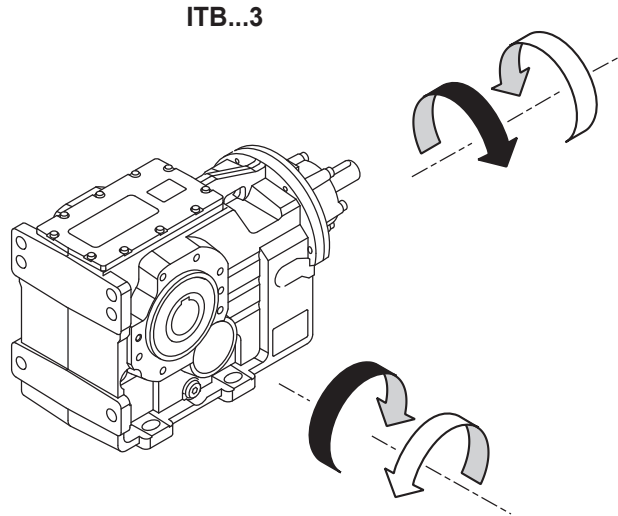
MOTOR / MOTOR						
7.5hp / 5.5kW	4p	3ph	230/400V	60Hz	T1	
Potencia Power	Polos Poles	Fases Phases	Tensión Voltage	Frecuencia Frequency	Posición caja de bornes Terminal box pos.	
véase tablas see tables	2p 4p 6p 8p	1ph 3ph	230V 230/400V	50Hz 60Hz		

ITB



**Sentidos de rotación**

**Direction of rotation**

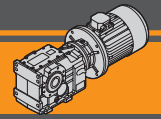


Rotación Inversa bajo solicitud.  
Inverse rotation on request

**Nomenclatura**

**Symbols**

$n_1$	[rpm]	Velocidad de entrada / <i>Input speed</i>
$n_2$	[rpm]	Velocidad de salida / <i>Output speed</i>
$i$		Relación de reducción / <i>Ratio</i>
$P_1$	[hp]	Potencia en la entrada / <i>Input power</i>
$M_2$	[lb·in]	Par en la salida en función de $P_1$ / <i>Output torque referred to <math>P_1</math></i>
$P_{n1}$	[hp]	Potencia nominal en la entrada / <i>Nominal input power</i>
$M_{n2}$	[lb·in]	Par nominal en la salida en función de $P_{n1}$ / <i>Nominal output torque referred to <math>P_{n1}</math></i>
$sf$		Rendimiento dinámico / <i>Service factor</i>
$R_1$	[lb]	Carga radial permitida a la entrada / <i>Permitted input radial load</i>
$A_1$	[lb]	Carga axial permitida a la entrada / <i>Permitted input axial load</i>
$R_2$	[lb]	Carga radial admisible en la salida / <i>Maximum output radial load</i>
$A_2$	[lb]	Carga axial admisible en la salida / <i>Maximum output axial load</i>



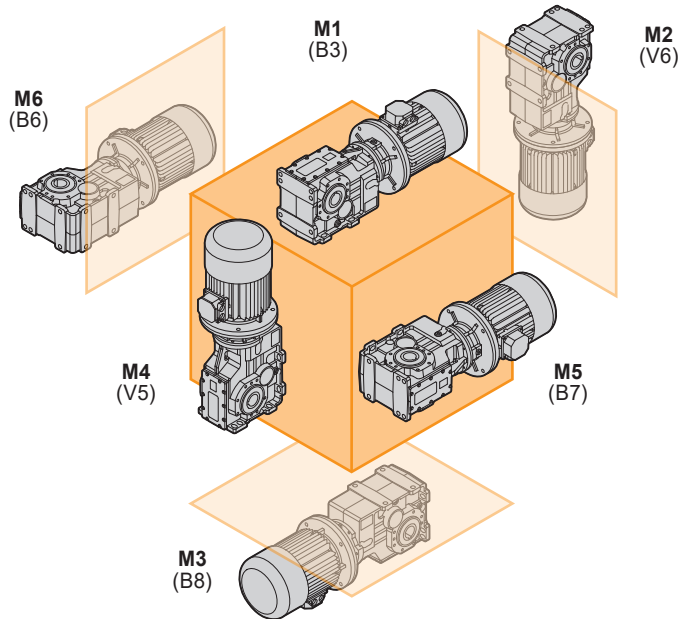
**Lubricación**

**Lubrication**

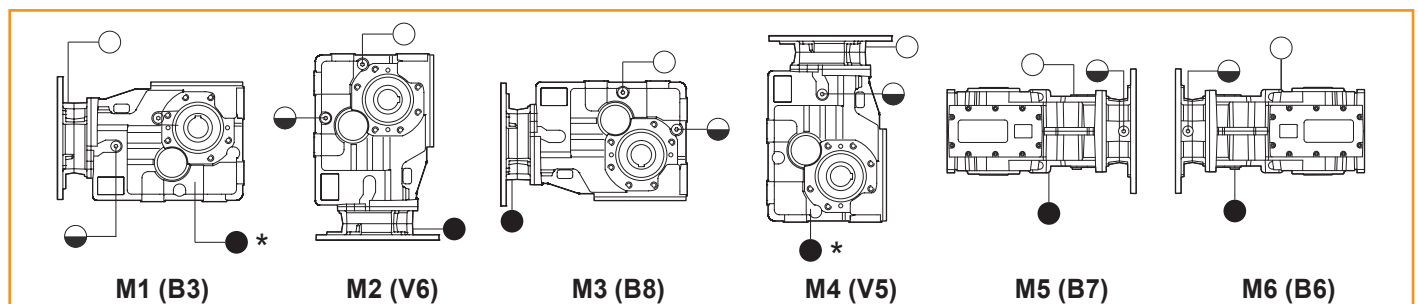
Los motorreductores de la serie ITB se suministran con lubricante sintético viscosidad 320. La cantidad de lubricante dependerá de la posición de montaje requerida.

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

ITB..



ITB	Cantidad de aceite (US gal) / Oil quantity (US gal)					
	M1 (B3)	M2 (V6)	M3 (B8)	M4 (V5)	M5 (B7)	M6 (B6)
423	0.55	0.81	0.79	1.03	0.84	0.6
433	1.13	1.34	1.29	1.9	1.4	1.05
443	1.71	2.35	2.37	3.22	2.32	1.76



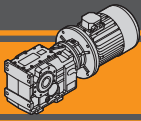
\* Tapón de drenado en posición posterior

\* Oil draining plug in backside position.

○ Respiradero y tapón de llenado / Breather and filling plug

● Tapón de nivel de aceite / Oil level plug

● Tapón de dren de aceite / Oil drain plug



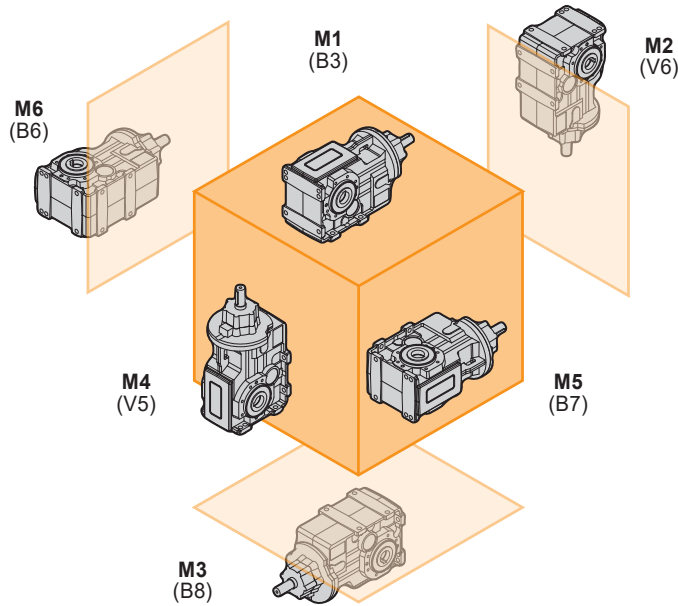
**Lubricación**

**Lubrication**

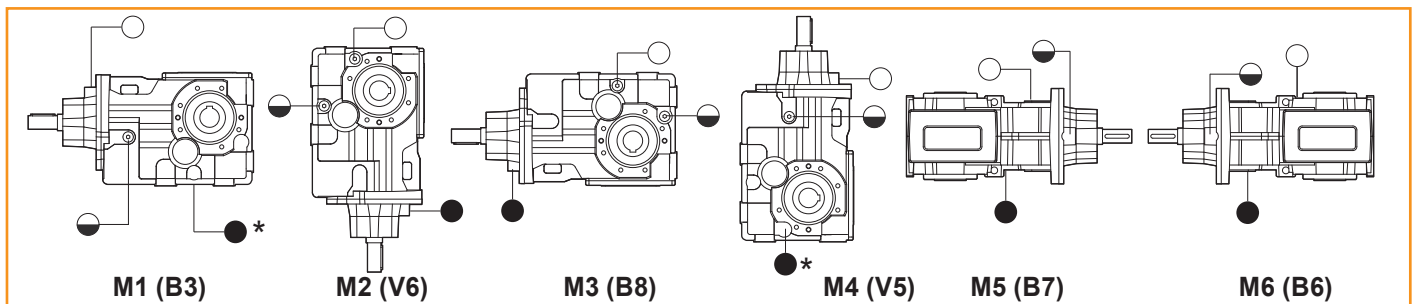
Los reductores de la serie ITBIS se suministran con lubricante sintético viscosidad 320. La cantidad de lubricante dependerá de la posición de montaje requerida.

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

**ITBIS..**



ITBIS	Cantidad de aceite (US gal) / Oil quantity (US gal)					
	M1 (B3)	M2 (V6)	M3 (B8)	M4 (V5)	M5 (B7)	M6 (B6)
423	0.6	0.92	0.84	1.03	0.86	0.66
433	1.18	1.45	1.34	1.9	1.45	1.1
443	1.82	2.53	2.48	3.22	2.43	1.87



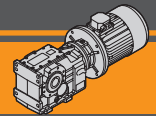
\* Tapón de drenado en posición posterior

\* Oil draining plug in backside position.

○ Respiradero y tapón de llenado / Breather and filling plug

● Tapón de nivel de aceite / Oil level plug

● Tapón de dren de aceite / Oil drain plug



**Carga radial a la entrada**

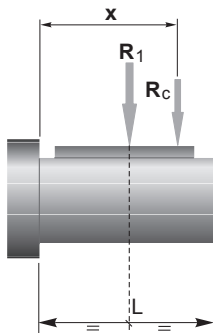
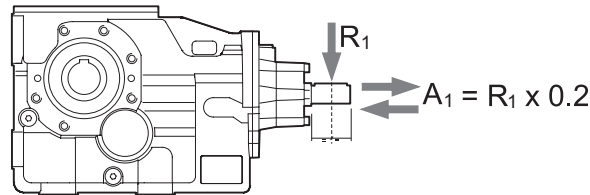
**Input radial loads**

ITB423 ITB433	n <sub>1</sub> [rpm]	Potencia motor / Motor Power [hp]		
		3	5	7.5
R <sub>1</sub> [lb]	1750	404		168
	1150	472	269	-
	850	562	-	-

ITB443	n <sub>1</sub> [rpm]	Potencia motor / Motor Power [hp]				
		7.5	10	15	20	25
R <sub>1</sub> [lb]	1750	831			629	269
	1150	1101		741	146	-
	850	1180	876	-	-	-

Las cargas radiales máximas aplicables están indicadas en las tablas previas.  
Cuando la carga radial no se aplica en el punto medio del eje, es necesario calcular la carga efectiva a través la siguiente fórmula:

*The radial loads maximum input 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:*



	ITB 423	ITB 433	ITB 443
a	5.472		6.181
b	4.330		4.645

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

$$R \leq R_c$$

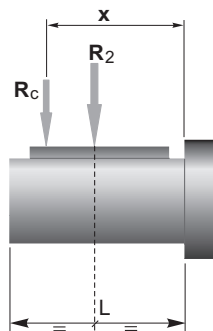
a, b = valores dados en la tabla  
a, b = values given in the table

**Carga radial en la salida**

**Output radial loads**

Las cargas radiales máximas aplicables en la salida están indicadas en la siguiente tabla  
Cuando la carga radial no se aplica en el punto medio del eje, es necesario calcular la carga efectiva a través la siguiente fórmula:

*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:*

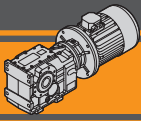


	ITB 423	ITB 433	ITB 443
a	7.165	8.582	9.921
b	5.590	6.614	7.559
R <sub>2MAX</sub>	4.158	5.170	6.969

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

$$R \leq R_c$$

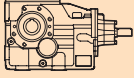
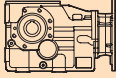
a, b = valores dados en la tabla  
a, b = values given in the table



**Datos técnicos**


**n<sub>1</sub> 1750 rpm**

**Technical data**

	n <sub>2</sub> [rpm]	Mn <sub>2</sub> [lb·in]	Pn <sub>1</sub> [hp]	i	R <sub>2</sub> [lb]		NEMA Motores aplicables NEMA Motor adapters		
<b>ITBIS 423</b>						<b>ITB 423</b>			
						<b>56C</b>	<b>140TC</b>	<b>180TC</b>	<b>210TC</b>
238	4425	17.80	7.34	2160					
191	4425	14.26	9.16	2439					
148	5310	13.24	11.85	2725					
112	5310	10.03	15.64	3174					
96	6196	9.99	18.32	3354					
87	6196	9.10	20.12	3531					
77	7081	9.15	22.85	3665					
62	7081	7.41	28.22	4115					
59	7523	7.52	29.57	4159					
57	7523	7.19	30.90	4159					
51	7523	6.42	34.57	4159					
46	7523	5.85	37.99	4159					*
45	7966	6.04	39.01	4159					*
42	7966	5.65	41.70	4159					*
36	7966	4.79	49.13	4159					
35	7966	4.69	50.19	4159					
33	7966	4.37	53.77	4159					
30	7966	3.97	59.26	4159					
25	7966	3.35	70.40	4159					*
23	8408	3.22	77.08	4159				*	*
20	8408	2.88	86.24	4159				*	*
19	8408	2.63	94.77	4159				*	*
17	8408	2.38	104.04	4159				*	*
14	8408	2.03	122.57	4159				*	*
13	8408	1.84	134.15	4159				*	*
12	8408	1.67	147.84	4159				*	*


**NOTA**

Las áreas resaltadas indican el tamaño de carcasa del motor correspondiente.

 \* =El Factor de servicio (sf) se deberá seleccionar con respecto a la aplicación: Favor de contactar con nuestro Servicio Técnico

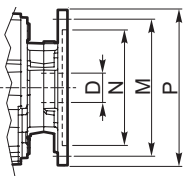
**NOTE**

Highlighted áreas indicate the motor input flange available on each gearbox size.

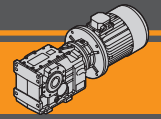
 \* =The service factor (sf) has to be selected depending on application: please contact our Technical Department.

Antes de seleccionar cualquier reductor, favor de revisar los valores de desempeño en las páginas C11 a la C15.

Before selecting any gearbox, please read the performance values shown in the tables on page C11 to C15.



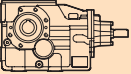
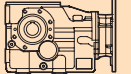
Dimensiones NEMA/ NEMA Dimensions				
	56C	140TC	180TC	210TC
<b>N</b>	4.5		8.5	
<b>M</b>	5.875		7.25	
<b>P</b>	6.5		9	
<b>D</b>	0.625	0.875	1.125	1.375



Datos técnicos

n<sub>1</sub> 1750 rpm


Technical data

	n <sub>2</sub> [rpm]	Mn <sub>2</sub> [lb·in]	Pn <sub>1</sub> [hp]	i	R <sub>2</sub> [lb]		NEMA Motores aplicables NEMA Motor adapters			
<b>ITBIS 433</b>						<b>ITB 433</b>				
						56C	140TC	180TC	210TC	250TC
213	8851	31.83	8.21	2774						
171	8851	25.52	10.25	3133						
132	11506	25.63	13.25	3405						
100	12391	20.93	17.49	3886						
86	14161	20.46	20.44	4060						
78	15046	19.76	22.50	4189						
69	15046	17.45	25.49	4487						
56	15046	14.09	31.56	5047						
53	15046	13.48	32.98	5171						
51	15046	12.85	34.55	5171						
45	15046	11.50	38.66	5171						
41	15046	10.46	42.48	5171						
40	15931	10.81	43.51	5171						*
38	15931	10.08	46.64	5171						*
31	15931	8.42	55.98	5171						*
29	14161	6.96	60.14	5171						
26	14161	6.31	66.27	5171						
22	15931	6.00	78.52	5171					*	*
20	15931	5.49	85.97	5171					*	
18	15931	4.89	96.19	5171					*	
17	15931	4.46	105.70	5171					*	
15	15931	4.06	116.04	5171					*	
13	15931	3.44	136.71	5171					*	
12	15931	3.15	149.63	5171					*	
11	15931	2.85	164.89	5171					*	

ITB


NOTA

Las áreas resaltadas indican el tamaño de carcasa del motor correspondiente.

 \* = El Factor de servicio (sf) se deberá seleccionar con respecto a la aplicación: Favor de contactar con nuestro Servicio Técnico

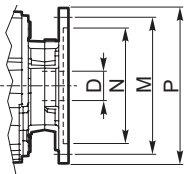
N.B.

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.

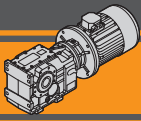
Antes de seleccionar cualquier reductor, favor de revisar los valores de desempeño en las páginas C11 a la C15.

Before selecting any gearbox, please read the performance values shown in the tables on page C11 to C15.



Dimensiones NEMA/ NEMA Dimensions					
	56C	140TC	180TC	210TC	250TC
<b>N</b>	4.5		8.5		
<b>M</b>	5.875			7.25	
<b>P</b>	6.5		9		10
<b>D</b>	0.625	0.875	1.125	1.375	1.625

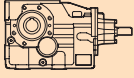
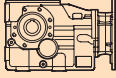




**Datos técnicos**

**n<sub>1</sub> 1750 rpm**

**Technical data**

	n <sub>2</sub> [rpm]	Mn <sub>2</sub> [lb·in]	Pn <sub>1</sub> [hp]	i	R <sub>2</sub> [lb]		NEMA Motores aplicables NEMA Motor adapters				
<b>ITBIS 443</b>						<b>ITB 443</b>					
						<b>56C</b>	<b>140TC</b>	<b>180TC</b>	<b>210TC</b>	<b>250TC</b>	<b>280TC</b>
	<b>222</b>	15046	56.40	7.88	3891						
	<b>184</b>	15046	46.62	9.53	4321						
	<b>149</b>	15931	40.04	11.75	4794						
	<b>124</b>	17702	36.99	14.13	5188						
	<b>102</b>	20357	34.91	17.23	5586						
	<b>76</b>	24782	31.62	23.16	6185						
	<b>71</b>	26552	31.59	24.82	6263						
	<b>58</b>	26552	26.13	30.03	6969						
	<b>47</b>	26552	21.20	37.01	6969						
	<b>44</b>	24782	18.53	39.46	6969						*
	<b>39</b>	28322	18.79	44.51	6969						*
	<b>37</b>	24782	15.35	47.67	6969						
	<b>32</b>	28322	15.44	54.26	6969						*
	<b>24</b>	30978	12.55	72.94	6969					*	*
	<b>19</b>	30978	9.93	92.14	6969					*	*
	<b>14</b>	30978	7.37	124.32	6969					*	*
	<b>13</b>	30978	6.74	135.45	6969						
	<b>12</b>	30978	6.12	150.15	6969				*		
	<b>11</b>	30978	5.59	163.80	6969				*		
	<b>9.8</b>	30978	5.12	179.16	6969				*		

**NOTA**

Las áreas resaltadas indican el tamaño de carcasa del motor correspondiente.



\* = El Factor de servicio (sf) se deberá seleccionar con respecto a la aplicación: Favor de contactar con nuestro Servicio Técnico

**N.B.**

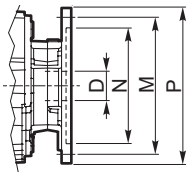
Highlighted areas indicate motor inputs available on each size of unit.



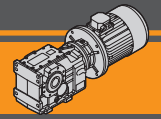
\* = The service factor (sf) has to be selected depending on application: please contact our Technical Department.

Antes de seleccionar cualquier reductor, favor de revisar los valores de desempeño en las páginas C11 a la C15.

Before selecting any gearbox, please read the performance values shown in the tables on page C11 to C15.







Dimensiones NEMA/ NEMA Dimensions						
	56C	140TC	180TC	210TC	250TC	280TC
<b>N</b>	4.5		8.5		10.5	
<b>M</b>	5.875		7.25		9	
<b>P</b>	6.5		9		10	11.252
<b>D</b>	0.625	0.875	1.125	1.375	1.625	1.875



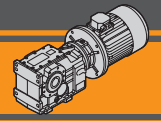
Datos técnicos

Technical data

$P_1$ [hp]	$n_2$ [rpm]	$M_2$ [lb·in]	sf	AGMA	i			$R_2$ [lb]	$P_1$ [hp]	$n_2$ [rpm]	$M_2$ [lb·in]	sf	AGMA	i			$R_2$ [lb]
<b>0.75 hp</b>									<b>1.00 hp</b>								
0.55 kW (1750 rpm)	<b>238</b>	186	24.1	III	7.34	<b>ITB423</b>	<b>56C</b>	2473	0.75 kW (1750 rpm)	<b>238</b>	248	17.7	III	7.34	<b>ITB423</b>	<b>56C-140TC</b>	2467
	<b>191</b>	230	19.3	III	9.16			2788		<b>191</b>	310	14.2	III	9.16			2780
	<b>148</b>	292	17.9	III	11.85			3205		<b>148</b>	407	13.2	III	11.85			3192
	<b>112</b>	389	13.6	III	15.64			3719		<b>112</b>	531	10.0	III	15.64			3699
	<b>96</b>	460	13.5	III	18.32			4048		<b>96</b>	620	9.9	III	18.32			4022
	<b>87</b>	504	12.3	III	20.12			4159		<b>87</b>	682	9.0	III	20.12			4159
	<b>77</b>	566	12.4	III	22.85			4159		<b>77</b>	779	9.1	III	22.85			4159
	<b>62</b>	708	10.0	III	28.22			4159		<b>62</b>	965	7.4	III	28.22			4159
	<b>59</b>	735	10.2	III	29.57			4159		<b>59</b>	1009	7.5	III	29.57			4159
	<b>57</b>	770	9.8	III	30.90			4159		<b>57</b>	1053	7.2	III	30.90			4159
	<b>51</b>	867	8.7	III	34.57			4159		<b>51</b>	1177	6.4	III	34.57			4159
	<b>46</b>	947	7.9	III	37.99			4159		<b>46</b>	1292	5.8	III	37.99			4159
	<b>45</b>	974	8.2	III	39.01			4159		<b>45</b>	1328	6.0	III	39.01			4159
	<b>42</b>	1044	7.6	III	41.70			4159		<b>42</b>	1416	5.6	III	41.70			4159
	<b>36</b>	1230	6.5	III	49.13			4159		<b>36</b>	1673	4.8	III	49.13			4159
	<b>35</b>	1257	6.4	III	50.19			4159		<b>35</b>	1708	4.7	III	50.19			4159
	<b>33</b>	1345	5.9	III	53.77			4159		<b>33</b>	1832	4.4	III	53.77			4159
	<b>30</b>	1478	5.4	III	59.26			4159		<b>30</b>	2018	3.9	III	59.26			4159
	<b>25</b>	1761	4.5	III	70.40			4159		<b>25</b>	2399	3.3	III	70.40			4159
	<b>23</b>	1921	4.4	III	77.08			4159		<b>23</b>	2629	3.2	III	77.08			4159
	<b>20</b>	2151	3.9	III	86.24	4159		<b>20</b>	2938	2.9	III	86.24	4159				
	<b>19</b>	2363	3.6	III	94.77	4159		<b>19</b>	3231	2.6	III	94.77	4159				
	<b>17</b>	2602	3.2	III	104.04	4159		<b>17</b>	3540	2.4	III	104.04	4159				
	<b>14</b>	3062	2.7	III	122.57	4159		<b>14</b>	4178	2.0	II	122.57	4159				
	<b>13</b>	3346	2.5	III	134.15	4159		<b>13</b>	4567	1.8	II	134.15	4159				
	<b>12</b>	3691	2.3	III	147.84	4159		<b>12</b>	5036	1.7	II	147.84	4159				
	<b>31</b>	1398	11.4	III	55.98	<b>ITB433</b>	<b>56C</b>	5171	<b>51</b>	1177	12.8	III	34.55	<b>ITB433</b>	<b>56C-140TC</b>	5171	
	<b>29</b>	1505	9.4	III	60.14			5171		<b>45</b>	1319	11.4	III			38.66	5171
	<b>26</b>	1655	8.6	III	66.27			5171		<b>41</b>	1443	10.4	III			42.48	5171
	<b>22</b>	1965	8.1	III	78.52			5171		<b>40</b>	1478	10.8	III			43.51	5171
	<b>20</b>	2151	7.4	III	85.97			5171		<b>38</b>	1584	10.0	III			46.64	5171
	<b>18</b>	2399	6.6	III	96.19			5171		<b>31</b>	1903	8.4	III			55.98	5171
	<b>17</b>	2638	6.0	III	105.70			5171		<b>29</b>	2045	6.9	III			60.14	5171
	<b>15</b>	2894	5.5	III	116.04			5171		<b>26</b>	2257	6.3	III			66.27	5171
	<b>13</b>	3416	4.7	III	136.71			5171		<b>22</b>	2673	6.0	III			78.52	5171
	<b>12</b>	3735	4.3	III	149.63			5171		<b>20</b>	2930	5.4	III			85.97	5171
	<b>11</b>	4116	3.9	III	164.89	5171		<b>18</b>	3275	4.9	III	96.19	5171				
	<b>14</b>	3107	10.0	III	124.32	<b>ITB443</b>	<b>56C</b>	6969	<b>15</b>	3947	4.0	III	116.04	<b>ITB443</b>	<b>56C-140TC</b>	5171	
	<b>13</b>	3381	9.2	III	135.45			6969		<b>13</b>	4655	3.4	III			136.71	5171
	<b>12</b>	3753	8.3	III	150.15			6969		<b>12</b>	5098	3.1	III			149.63	5171
	<b>11</b>	4089	7.6	III	163.80			6969		<b>11</b>	5611	2.8	III			164.89	5171
	<b>9.8</b>	4470	6.9	III	179.16			6969		<b>24</b>	2487	12.5	III			72.94	6969
										<b>19</b>	3133	9.9	III			92.14	6969
								<b>14</b>	4231	7.3	III	124.32	6969				
								<b>13</b>	4611	6.7	III	135.45	6969				
								<b>12</b>	5116	6.1	III	150.15	6969				
								<b>11</b>	5576	5.6	III	163.80	6969				
								<b>9.8</b>	6098	5.1	III	179.16	6969				





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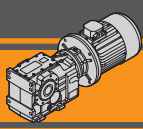


Datos técnicos

Technical data



P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]	P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]							
<b>2.0 hp</b>									<b>3.0 hp</b>															
1.5 kW (1750 rpm)	26	4514	3.1	III	66.27	<b>ITB433</b>	<b>56C-140TC</b>	5171	2.2 kW (1750 rpm)	41	4240	3.5	III	42.48	<b>ITB433</b>	<b>140TC-180TC</b>	5171							
	22	5346	3.0	III	78.52			5171		40	4346	3.7	III	43.51			5171							
	20	5859	2.7	III	85.97			5171		38	4655	3.4	III	46.64			5171							
	18	6550	2.4	III	96.19			5171		31	5594	2.8	III	55.98			5171							
	17	7196	2.2	III	105.70			5171		29	6010	2.4	III	60.14			5171							
	15	7904	2.0	II	116.04			5171		26	6620	2.1	III	66.27			5171							
	13	9311	1.7	II	136.71			5171		22	7842	2.0	II	78.52			5171							
	12	10187	1.6	II	149.63			5171		20	8585	1.9	II	85.97			5171							
	11	11232	1.4	II	164.89			5171		18	9612	1.7	II	96.19			5171							
										17	10559	1.5	II	105.70			5171							
										15	11594	1.4	II	116.04			5171							
							<b>ITB443</b>	<b>56C-140TC</b>		6969	47	3700	7.2	III	37.01	<b>ITB443</b>	<b>140TC-180TC</b>	6969						
	44	2691	9.2	III	39.46	6969				44								3939	6.3	III	39.46	6969		
	39	3036	9.3	III	44.51	6969				39								4443	6.4	III	44.51	6969		
	37	3248	7.6	III	47.67	6969				37								4762	5.2	III	47.67	6969		
	32	3700	7.7	III	54.26	6969				32								5417	5.2	III	54.26	6969		
	24	4965	6.2	III	72.94	6969				24								7284	4.3	III	72.94	6969		
	19	6275	4.9	III	92.14	6969				19								9205	3.4	III	92.14	6969		
	14	8470	3.7	III	124.32	6969				14								12418	2.5	III	124.32	6969		
13	9222	3.4	III	135.45	6969	13			13533	2.3								III	135.45	6969				
12	10223	3.0	III	150.15	6969	12			15002	2.1								III	150.15	6969				
11	11152	2.8	III	163.80	6969	11	16365	1.9	II	163.80								6969						
9.8	12205	2.5	III	179.16	6969	9.8	17896	1.7	II	179.16								6969						
<b>3.0 hp</b>									<b>5.0 hp</b>															
2.2 kW (1750 rpm)	238	735	6.0	III	7.34	<b>ITB423</b>	<b>140TC-180TC</b>	2422	3.7 kW (1750 rpm)	238								1234	3.6	III	7.34	<b>ITB423</b>	<b>180TC</b>	2366
	191	912	4.8	III	9.16			2716		191								1539	2.9	III	9.16			2637
	148	1186	4.5	III	11.85			3097		148								1991	2.7	III	11.85			2979
	112	1558	3.4	III	15.64			3554		112								2627	2.0	II	15.64			3373
	96	1832	3.4	III	18.32			3836		96								3078	2.0	II	18.32			3605
	87	2009	3.1	III	20.12			4010		87								3380	1.8	II	20.12			3743
	77	2283	3.1	III	22.85			4159		77	3839	1.8	II	22.85	3928									
	62	2815	2.5	III	28.22			4159		62	4740	1.5	II	28.22	4159									
	59	2956	2.5	III	29.57			4159		59	4967	1.5	II	29.57	4159									
	57	3089	2.4	III	30.90			4159		57	5190	1.4	I	30.90	4159									
	51	3452	2.2	III	34.57			4159		51	5807	1.3	I	34.57	4159									
	46	3797	2.0	II	37.99			4159		46	6381	1.2	I	37.99	4159									
	45	3894	2.0	II	39.01			4159		45	6554	1.2	I	39.01	4159									
	42	4169	1.9	II	41.70			4159		42	7005	1.1	I	41.70	4159									
	36	4903	1.6	II	49.13			4159		36	8253	1.0	I	49.13	4159									
	35	5010	1.6	II	50.19			4159		35	8432	0.9	I	50.19	4159									
	33	5372	1.5	II	53.77			4159																
	30	5921	1.3	I	59.26	4159																		
							<b>ITB433</b>	<b>140TC-180TC</b>		3239	213	1380	6.4	III	8.21	<b>ITB433</b>	<b>180TC</b>	3189						
	213	823	10.8	III	8.21	3239				171								1721	5.1	III	10.25	3570		
171	1027	8.6	III	10.25	3640	132			2227	5.2								III	13.25	4061				
132	1328	8.7	III	13.25	4166	100			2938	4.2								III	17.49	4644				
100	1744	7.1	III	17.49	4805	86			3433	4.1								III	20.44	4994				
86	2045	6.9	III	20.44	5171	78			3780	4.0								III	22.50	5171				
78	2248	6.7	III	22.50	5171	69			4282	3.5								III	25.49	5171				
69	2549	5.9	III	25.49	5171	56			5301	2.8								III	31.56	5171				
56	3151	4.8	III	31.56	5171	53			5540	2.7								III	32.98	5171				
53	3292	4.6	III	32.98	5171	51			5804	2.6								III	34.55	5171				
51	3452	4.4	III	34.55	5171	45	6494	2.3	III	38.66						5171								
45	3859	3.9	III	38.66	5171																			



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
**Datos técnicos**

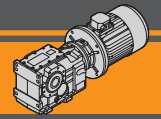
**Technical data**

P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]
<b>5.0 hp</b>								
3.7 kW (1750 rpm)	41	7136	2.1	II	42.48	<b>ITB433</b>	<b>180TC</b>	5171
	40	7310	2.2	II	43.51		<b>180TC</b>	5171
	38	7834	2.0	II	46.64		<b>180TC</b>	5171
	31	9404	1.7	II	55.98		<b>180TC</b>	5171
	29	10102	1.4	I	60.14		<b>180TC</b>	5171
	26	11133	1.3	I	66.27		<b>180TC</b>	5171
	22	13190	1.2	I	78.52		<b>180TC</b>	5171
	20	14442	1.1	I	85.97		<b>180TC</b>	5171
	18	16158	1.0	I	96.19		<b>180TC</b>	5171
	47	6218	4.3	III	37.01	<b>ITB443</b>	<b>180TC</b>	6969
	44	6629	3.7	III	39.46		<b>180TC</b>	6969
	39	7477	3.8	III	44.51		<b>180TC</b>	6969
	37	8007	3.1	III	47.67		<b>180TC</b>	6969
	32	9115	3.1	III	54.26		<b>180TC</b>	6969
	24	12254	2.5	III	72.94		<b>180TC</b>	6969
	19	15478	2.0	II	92.14		<b>180TC</b>	6969
	14	20883	1.5	II	124.32		<b>180TC</b>	6969
	13	22754	1.4	I	135.45		<b>180TC</b>	6969
12	25224	1.2	I	150.15	<b>180TC</b>		6969	
11	27517	1.1	I	163.80	<b>180TC</b>	6969		
9.8	30097	1.0	I	179.16	<b>180TC</b>	6969		

P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]
<b>7.5 hp</b>								
5.5 kW (1750 rpm)	222	1965	7.6	III	7.88	<b>ITB443</b>	<b>210TC</b>	4503
	184	2381	6.3	III	9.53		<b>210TC</b>	4973
	149	2938	5.4	III	11.75		<b>210TC</b>	5537
	124	3531	5.0	III	14.13		<b>210TC</b>	6079
	102	4301	4.7	III	17.23		<b>210TC</b>	6707
	76	5780	4.3	III	23.16		<b>210TC</b>	6969
	71	6196	4.3	III	24.82		<b>210TC</b>	6969
	58	7497	3.5	III	30.03		<b>210TC</b>	6969
	47	9240	2.9	III	37.01		<b>210TC</b>	6969
	44	9851	2.5	III	39.46		<b>210TC</b>	6969
	39	11117	2.5	III	44.51		<b>210TC</b>	6969
	37	11904	2.1	III	47.67		<b>210TC</b>	6969
	32	13550	2.1	III	54.26		<b>210TC</b>	6969
	24	18215	1.7	II	72.94		<b>210TC</b>	6969
	19	23012	1.3	I	92.14		<b>210TC</b>	6969
	14	31040	1.0	I	124.32		<b>210TC</b>	6969
	13	33828	0.9	I	135.45		<b>210TC</b>	6969

P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]
<b>7.5 hp</b>								
5.5 kW (1750 rpm)	238	1832	2.4	III	7.34	<b>ITB423</b>	<b>210TC</b>	2319
	191	2283	1.9	II	9.16		<b>210TC</b>	2571
	148	2956	1.8	II	11.85		<b>210TC</b>	2881
	112	3903	1.4	II	15.64		<b>210TC</b>	3223
	96	4576	1.4	II	18.32		<b>210TC</b>	3413
	87	5027	1.2	I	20.12		<b>210TC</b>	3520
	77	5709	1.2	I	22.85		<b>210TC</b>	3657
	62	7045	1.0	I	28.22		<b>210TC</b>	4159
	59	7382	1.0	I	29.57		<b>210TC</b>	4159
	57	7718	1.0	I	30.90		<b>210TC</b>	4159
	51	8629	0.9	I	34.57	<b>210TC</b>	4159	
	213	2053	4.3	III	8.21	<b>ITB433</b>	<b>210TC</b>	3147
	171	2558	3.5	III	10.25		<b>210TC</b>	3512
	132	3310	3.5	III	13.25		<b>210TC</b>	3974
	100	4363	2.8	III	17.49		<b>210TC</b>	4510
	86	5107	2.8	III	20.44		<b>210TC</b>	4823
	78	5620	2.7	III	22.50		<b>210TC</b>	5019
	69	6364	2.4	III	25.49		<b>210TC</b>	5171
	56	7877	1.9	II	31.56		<b>210TC</b>	5171
	53	8231	1.8	II	32.98		<b>210TC</b>	5171
51	8629	1.7	II	34.55	<b>210TC</b>		5171	
45	9656	1.6	II	38.66	<b>210TC</b>	5171		
41	10612	1.4	II	42.48	<b>210TC</b>	5171		
40	10869	1.5	II	43.51	<b>210TC</b>	5171		
38	11648	1.4	II	46.64	<b>210TC</b>	5171		
31	13975	1.1	I	55.98	<b>210TC</b>	5171		

P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]	
<b>10.0 hp</b>									
7.5 kW (1750 rpm)	238	2505	1.8	II	7.34	<b>ITB423</b>	<b>210TC</b>	2257	
	191	3115	1.4	II	9.16		<b>210TC</b>	2484	
	148	4036	1.3	I	11.85		<b>210TC</b>	2751	
	112	5328	1.0	I	15.64		<b>210TC</b>	3223	
	96	6240	1.0	I	18.32		<b>210TC</b>	3413	
	87	6850	0.9	I	20.12		<b>210TC</b>	3520	
	77	7780	0.9	I	22.85		<b>210TC</b>	3657	
	213	2797	3.2	III	8.21		<b>ITB433</b>	<b>210TC</b>	3092
	171	3487	2.5	III	10.25			<b>210TC</b>	3434
	132	4514	2.5	III	13.25			<b>210TC</b>	3857
	100	5957	2.1	III	17.49			<b>210TC</b>	4331
	86	6957	2.0	II	20.44			<b>210TC</b>	4596
	78	7665	2.0	II	22.50			<b>210TC</b>	4755
	69	8683	1.7	II	25.49			<b>210TC</b>	4952
	56	10745	1.4	II	31.56			<b>210TC</b>	5171
	53	11232	1.3	I	32.98			<b>210TC</b>	5171
	51	11763	1.3	I	34.55			<b>210TC</b>	5171
	45	13161	1.1	I	38.66		<b>210TC</b>	5171	
41	14462	1.0	I	42.48	<b>210TC</b>	5171			
40	14816	1.1	I	43.51	<b>210TC</b>	5171			
38	15878	1.0	I	46.64	<b>210TC</b>	5171			
222	2682	5.6	III	7.88	<b>ITB443</b>	<b>210TC</b>	4459		
184	3248	4.6	III	9.53		<b>210TC</b>	4914		
149	4001	4.0	III	11.75		<b>210TC</b>	5456		
124	4815	3.7	III	14.13		<b>210TC</b>	5971		
102	5868	3.5	III	17.23		<b>210TC</b>	6560		
76	7886	3.1	III	23.16		<b>210TC</b>	6969		
71	8452	3.1	III	24.82		<b>210TC</b>	6969		
58	10223	2.6	III	30.03		<b>210TC</b>	6969		
47	12603	2.1	III	37.01		<b>210TC</b>	6969		
44	13435	1.8	II	39.46		<b>210TC</b>	6969		
39	15161	1.9	II	44.51	<b>210TC</b>	6969			



Datos técnicos

Technical data

P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]
<b>10.0 hp</b>								
7.5 kW (1750 rpm)	37	16232	1.5	II	47.67	<b>ITB443</b>	<b>210TC</b>	6969
	32	18480	1.5	II	54.26			6969
	24	24835	1.2	I	72.94			6969
	19	31376	1.0	I	92.14			6969

P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb·in]	sf	AGMA	i			R <sub>2</sub> [lb]
<b>25.0 hp</b>								
18.5 kW (1750 rpm)	222	6620	2.3	III	7.88	<b>ITB443</b>	<b>280TC</b>	4220
	184	8010	1.9	II	9.53			4593
	149	9869	1.6	II	11.75			5012
	124	11869	1.5	II	14.13			5380
	102	14471	1.4	II	17.23			5756
	76	19454	1.3	I	23.16			6226
	71	20844	1.3	I	24.82			6309
	58	25225	1.1	I	30.03			6969
	47	31093	0.9	I	37.01			6969

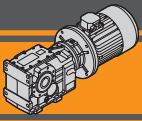
<b>15.0 hp</b>								
11.0 kW (1750 rpm)	213	4098	2.2	III	8.21	<b>ITB433</b>	<b>250TC</b>	2995
	171	5116	1.7	II	10.25			3297
	132	6620	1.7	II	13.25			3654
	100	8736	1.4	II	17.49			4018
	86	10205	1.4	II	20.44			4198
	78	11240	1.3	I	22.50			4293
	69	12727	1.2	I	25.49			4952
	56	15763	1.0	I	31.56			5171
	53	16471	0.9	I	32.98			5171
	222	3939	3.8	III	7.88			<b>ITB443</b>
	184	4762	3.2	III	9.53	4812		
	149	5868	2.7	III	11.75	5315		
	124	7054	2.5	III	14.13	5783		
	102	8603	2.4	III	17.23	6305		
	76	11568	2.1	III	23.16	6969		
	71	12391	2.1	III	24.82	6969		
	58	15002	1.8	II	30.03	6969		
	47	18489	1.4	II	37.01	6969		
	44	19711	1.3	I	39.46	6969		
	39	22233	1.3	I	44.51	6969		
32	27101	1.0	I	54.26	6969			

<b>30.0 hp</b>								
22.3 kW (1750 rpm)	222	7977	1.9	II	7.88	<b>ITB443</b>	<b>280TC</b>	4144
	184	9652	1.6	II	9.53			4491
	149	11896	1.3	I	11.75			4870
	124	14307	1.2	I	14.13			5192
	102	17440	1.2	I	17.23			5500
	76	23445	1.1	I	23.16			6226
	71	25128	1.1	I	24.82			6309
	58	30405	0.9	I	30.03			6969

<b>20.0 hp</b>										
15.0 kW (1750 rpm)	213	5594	1.6	II	8.21	<b>ITB433</b>	<b>250TC</b>	2884		
	171	6974	1.3	I	10.25			3141		
	132	9028	1.3	I	13.25			3422		
	100	11913	1.0	I	17.49			4018		
	86	13913	1.0	I	20.44			4198		
	78	15321	1.0	I	22.50			4293		
	69	17356	0.9	I	25.49			4952		
	222	5364	2.8	III	7.88			<b>ITB443</b>	<b>250TC</b>	4296
	184	6496	2.3	III	9.53					4695
	149	8001	2.0	II	11.75					5153
	124	9621	1.8	II	14.13	5568				
	102	11727	1.7	II	17.23	6012				
	76	15772	1.6	II	23.16	6631				
	71	16905	1.6	II	24.82	6759				
	58	20454	1.3	I	30.03	6969				
	47	25207	1.1	I	37.01	6969				
	44	26880	0.9	I	39.46	6969				
	39	30314	0.9	I	44.51	6969				

ITB



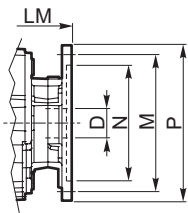
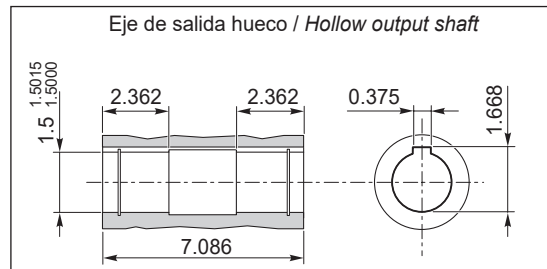
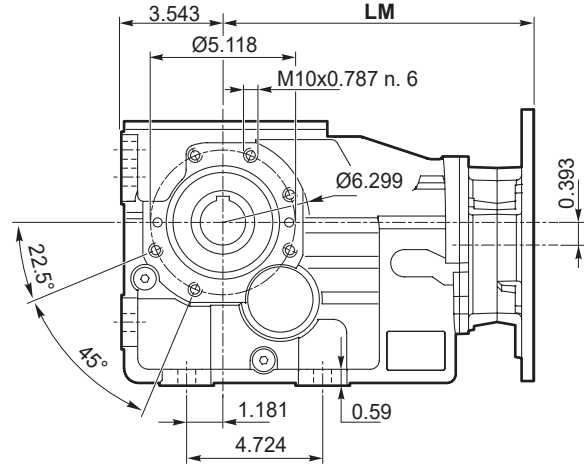
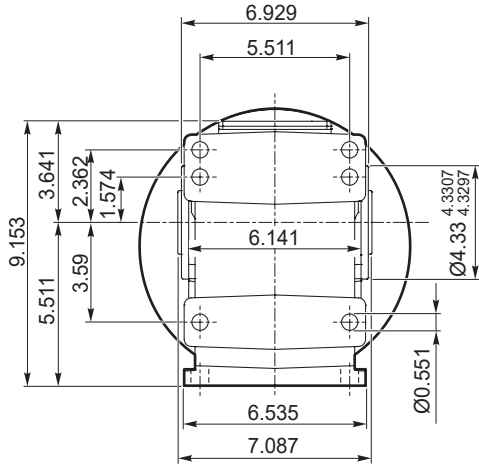


**Dimensiones**

**Dimensions**

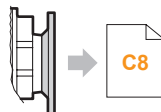
**ITB 423 U**

**ITB 423 U**

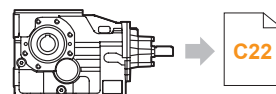


Dimensiones NEMA/ NEMA Dimensions				
	56C	140TC	180TC	210TC
<b>LM</b>		11.75		12.77
<b>N</b>		4.5		8.5
<b>M</b>		5.875		7.25
<b>P</b>		6.5		9
<b>D</b>	0.625	0.875	1.125	1.375

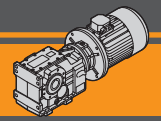
Bridas Motor  
NEMA C-FACE



ITBIS 423..





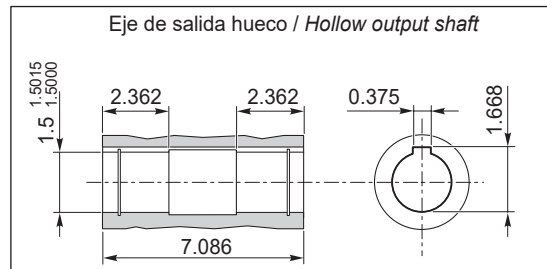
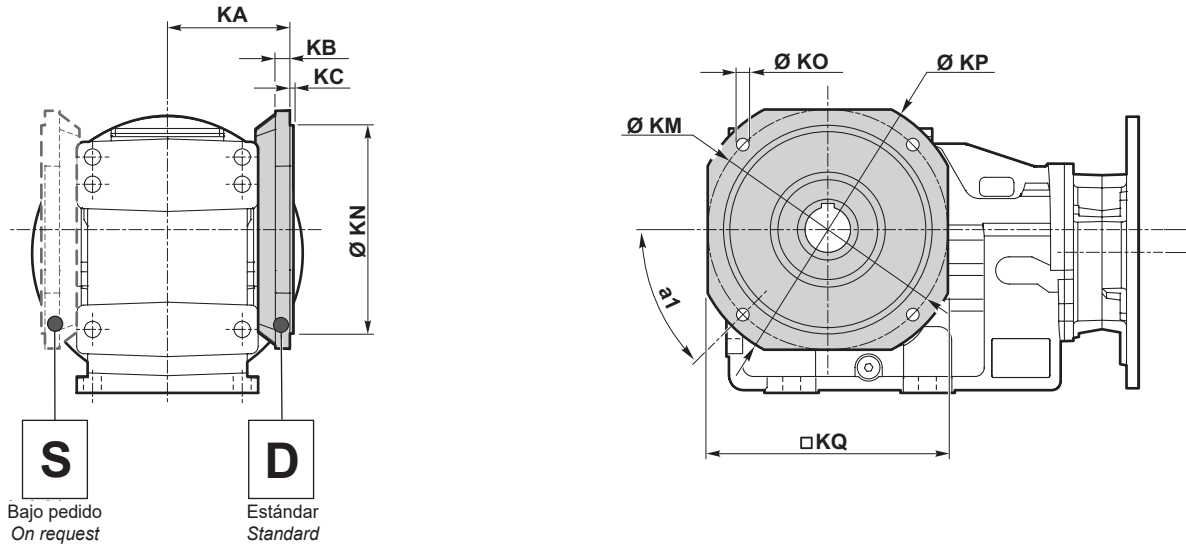


Dimensiones

Dimensions

ITB 423 F...

ITB 423 F...

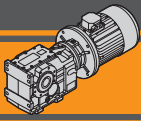


Versión F / F Version											
ITB	a <sub>1</sub>	KA	KB	KC	KM	KN	KO	KP	KQ	Brida / Flange	
										Tipo / Type	Peso / Weight [lb]
423	45°	4.448	0.512	0.157	6.496	5.118 5.1164 5.1148	0.433	7.874	6.772	F200	5.7
	45°	4.448	0.512	0.157	8.465	7.086 7.0849 7.0833	0.551	9.843	8.465	F250	8.3
	45°	4.448	0.512	0.157	10.433	9.055 9.0534 9.0519	0.551	11.811	10.433	F300	12.3

Peso / Weight [lb]				
ITB	56C	140TC	180TC	210TC
423 U	79.96		87.55	

Nota: Peso del reductor llenado con aceite para la posición de montaje M1 (B3)  
Note: weight of the gearbox filled with oil for M1 (B3) assembly position

ITB

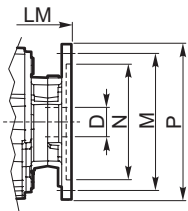
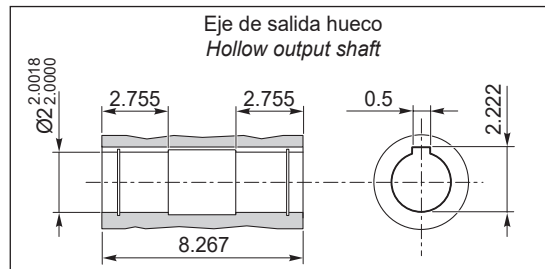
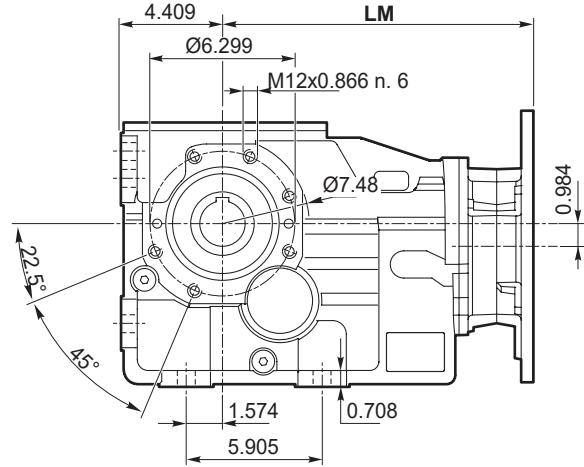
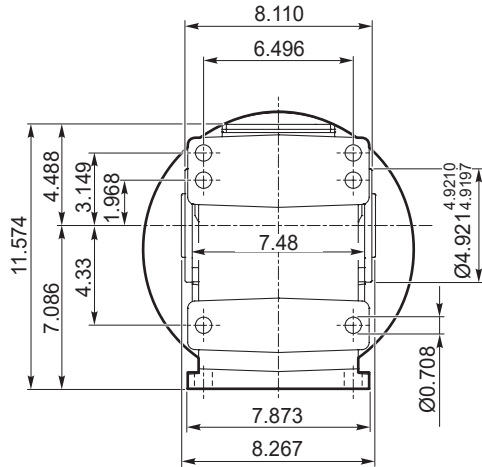


**Dimensiones**

**Dimensions**

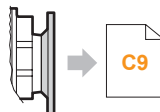
**ITB 433 U**

**ITB 433 U**

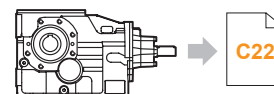


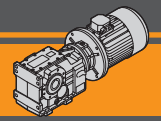
Dimensiones NEMA/ NEMA Dimensions					
	56C	140TC	180TC	210TC	250TC
LM		13.73		14.75	16.7
N		4.5		8.5	
M		5.875		7.25	
P		6.5		9	10
D	0.625	0.875	1.125	1.375	1.625

Bridas Motor  
NEMA C-FACE



ITBIS 433..



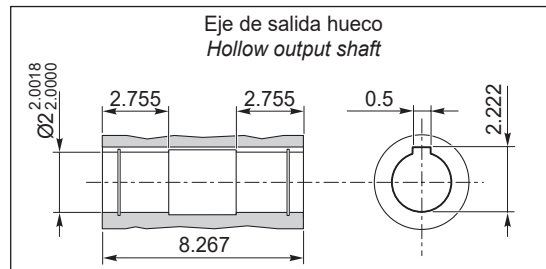
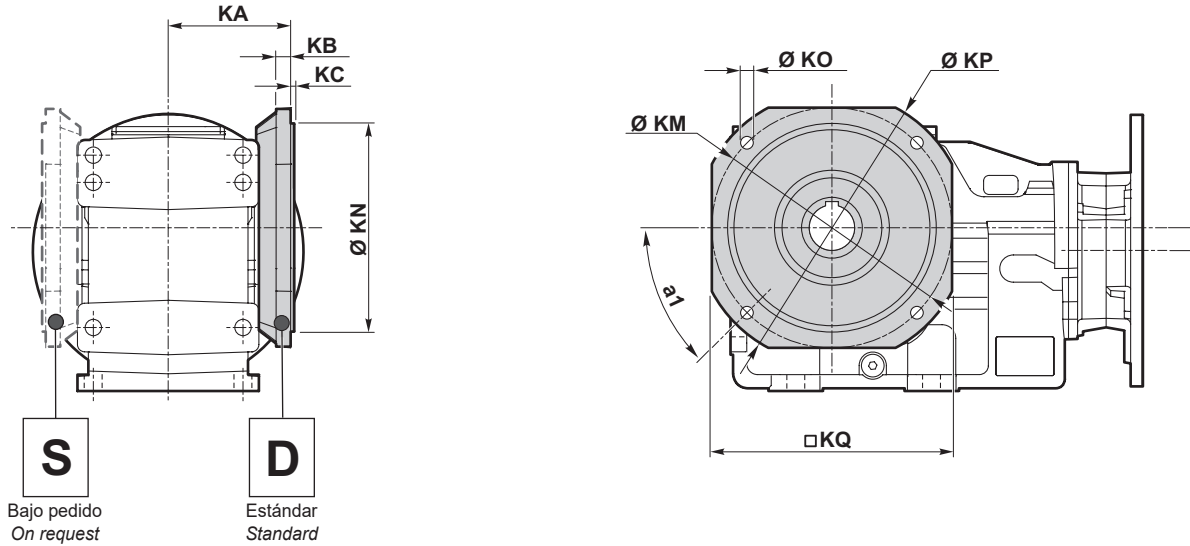


Dimensiones

Dimensions

ITB 433 F...

ITB 433 F...

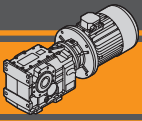


Versión F / F Version											
ITB	a <sub>1</sub>	KA	KB	KC	KM	KN	KO	KP	KQ	Brida / Flange	
										Tipo / Type	Peso / Weight [lb]
433	45°	5.314	0.630	0.157	8.465	7.086 7.0833	0.551	9.843	8.465	F250	8.3
	45°	5.314	0.630	0.157	10.433	9.055 9.0519	0.551	11.811	10.236	F300	12.3
	45°	5.314	0.630	0.157	11.811	9.842 9.8393	0.709	13.780	11.811	F350	20.0

Peso / Weight [lb]					
ITB	56C	140TC	180TC	210TC	250TC
433 U	118.51		126.13		139.27

Nota: Peso del reductor llenado con aceite para la posición de montaje M1 (B3)  
Note: weight of the gearbox filled with oil for M1 (B3) assembly position

ITB

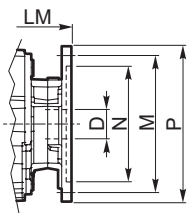
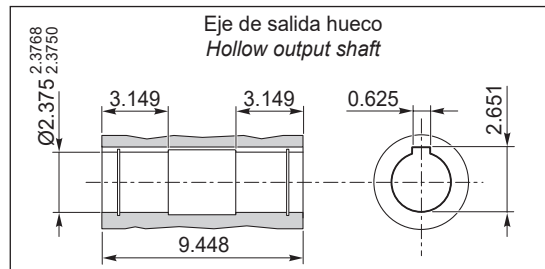
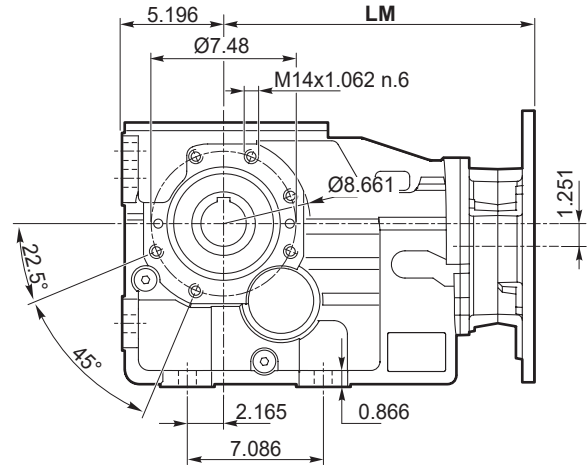
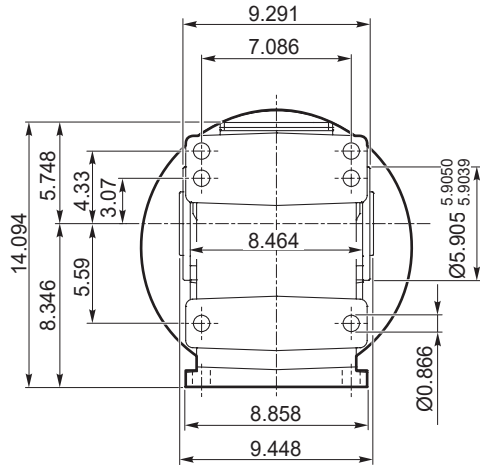


**Dimensiones**

**Dimensions**

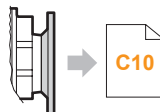
**ITB 443 U**

**ITB 443 U**

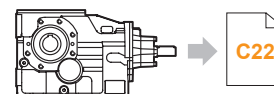


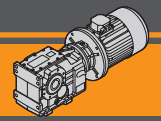
Dimensiones NEMA/ NEMA Dimensions						
	56C	140TC	180TC	210TC	250TC	280TC
<b>LM</b>		15.525		16.549	18.498	18.897
<b>N</b>		4.5		8.5		10.5
<b>M</b>		5.875		7.25		9
<b>P</b>		6.5		9	10	11.252
<b>D</b>	0.625	0.875	1.125	1.375	1.625	1.875

Bridas Motor  
NEMA C-FACE



ITBIS 443..



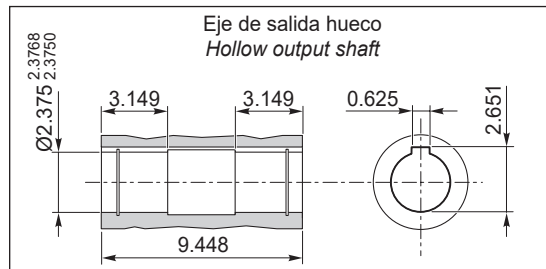
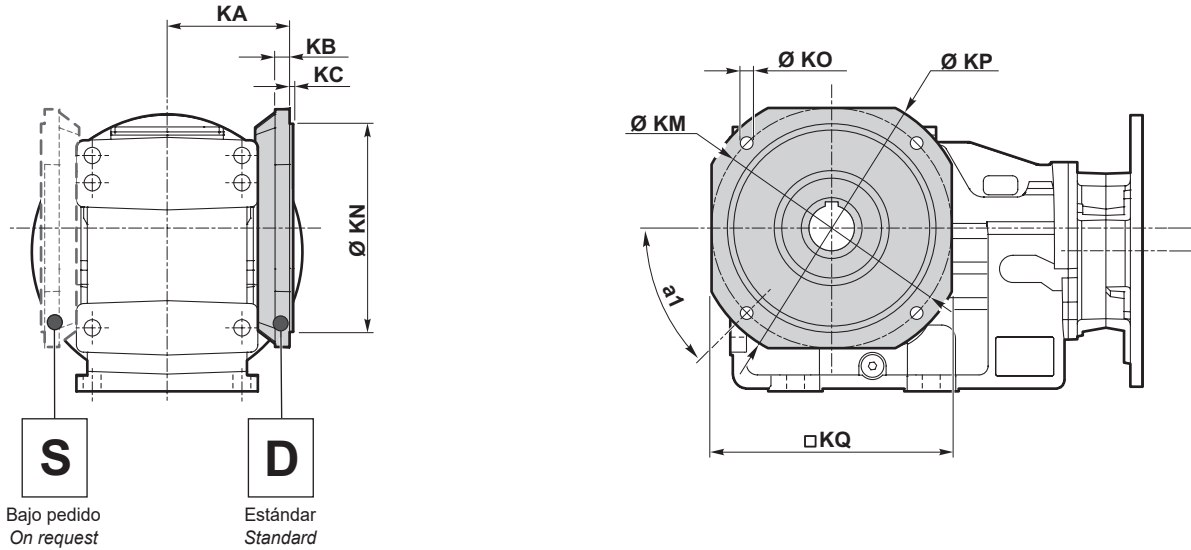


Dimensiones

Dimensions

ITB 443 F...

ITB 443 F...

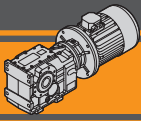


Versión F / F Version											
ITB	a <sub>1</sub>	KA	KB	KC	KM	KN	KO	KP	KQ	Brida / Flange	
										Tipo / Type	Peso / Weight [lb]
443	45°	5.905	0.709	0.157	10.433	9.055 9.0534 9.0519	0.551	11.811	10.433	F300	16.3
	45°	5.905	0.709	0.157	11.811	9.842 9.8408 9.8393	0.709	13.780	11.811	F350	22.4
	45°	5.905	0.709	0.157	15.748	13.779 13.7778 13.7763	0.709	17.717	15.748	F400	37.2

Peso / Weight [lb]							
ITB	56C	140TC	180TC	210TC	250TC	280TC	
443 U		221.06		228.64		241.78	244.56

Nota: Peso del reductor llenado con aceite para la posición de montaje M1 (B3)  
Note: weight of the gearbox filled with oil for M1 (B3) assembly position

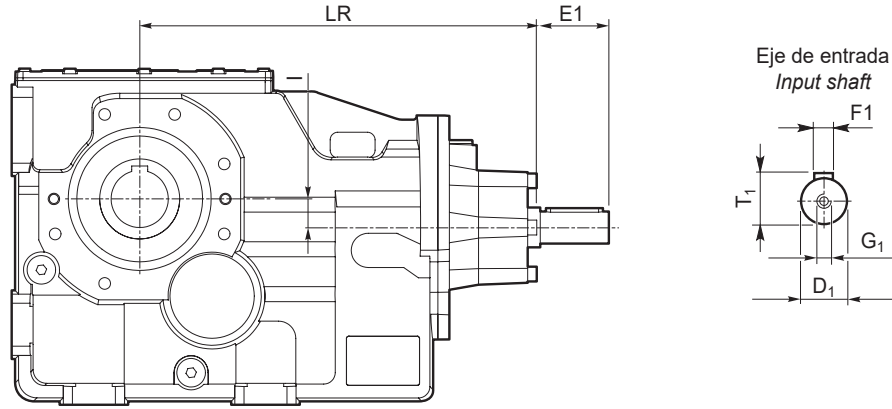
ITB



**Dimensiones**

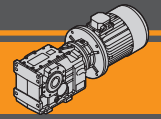
**Dimensions**

**ITBIS..**



ITBIS	Versione Version	LR	D1	E1	I	T1	F1	G1
423	U F	12.283	0.875 <sup>0.8742</sup> / <sub>0.8734</sub>	1.969	1.26	0.958	0.188	1/4-20 UNC
433		14.263	0.875 <sup>0.8742</sup> / <sub>0.8734</sub>	1.969	1.26	0.958	0.188	1/4-20 UNC
443		16.746	1.625 <sup>1.6254</sup> / <sub>1.6248</sub>	3.15	1.476	1.791	0.375	5/8-11 UNC

ITBIS	Peso / Weight [lb]
423 U	87.96
433 U	131.39
443 U	251.1



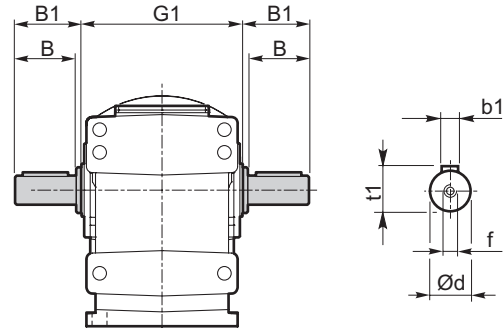
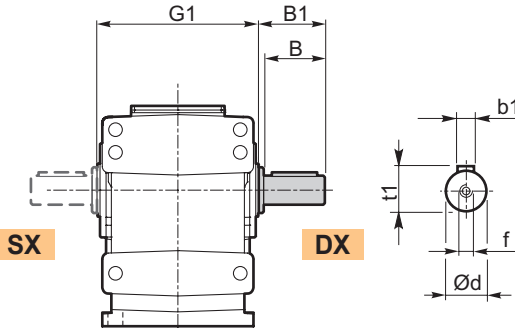
Accesorios

Accessories

Eje de salida / Output shaft

ITB.. SZ..  
ITBIS..SZ..

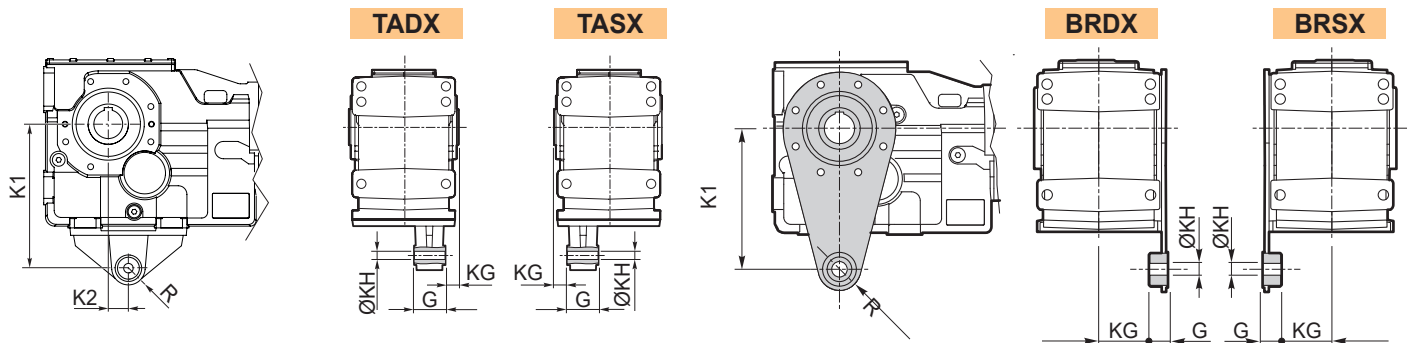
ITB... DZ  
ITBIS..DZ



ITB	d	B	B1	G1	f	b1	t1	Peso / Weight [lb]	
								SZ	DZ
423	1.5 <sup>1.5000</sup> / <sub>1.4988</sub>	2.992	3.149	7.086	5/8-11 UNC	0.375	1.664	4.85	7.05
433	2 <sup>2.0000</sup> / <sub>1.9988</sub>	3.937	4.133	8.267	5/8-11 UNC	0.5	2.218	9.48	13.66
443	2.375 <sup>2.3750</sup> / <sub>2.3738</sub>	4.724	4.921	9.448	3/4-10 UNC	0.625	2.645	15.65	22.70

Brazo de reacción / Torque arm kit

ITB..  
ITBIS..



Brazo de reacción / Torque arm

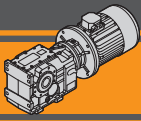
ITB ITBIS	K1	K2	KG	KH	G	R	Peso Weight [lb]
423	7.874	1.181	0.984	0.650	2.362	1.142	6.39
433	9.843	1.378	0.984	0.650	2.362	1.142	9.7
443	11.811	1.378	1.181	0.984	3.150	1.575	17.85

Brazo de reacción / Torque arm

ITB ITBIS	K1	KG	KH	G	R	Peso Weight [lb]
423	7.874	2.697	0.787	0.984	1.181	3.52
433	9.842	3.268	0.984	1.181	1.378	5.95

ITB



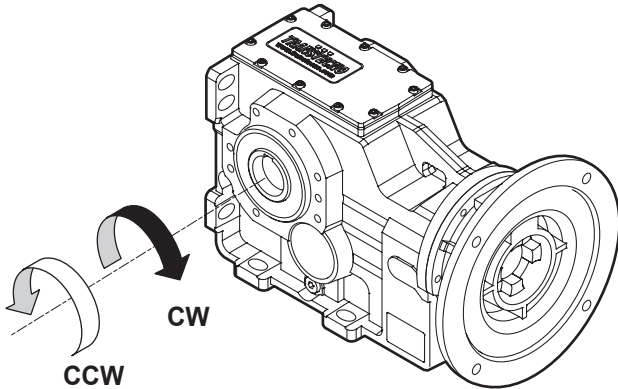


**Accesorios**

**Accessories**

**Dispositivo anti-retorno / Backstop device**

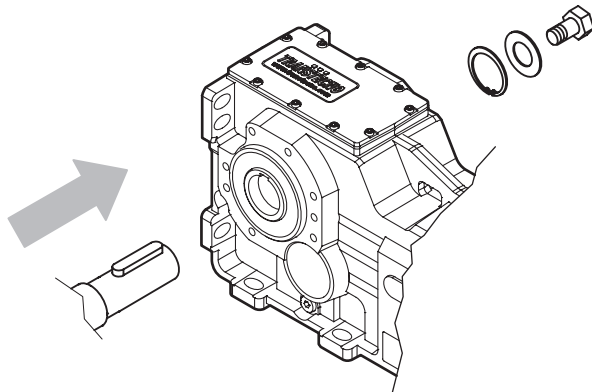
**ITB...CW  
ITB...CCW**



El dispositivo anti-retorno permite que la flecha de salida gire en un solo sentido.  
Antes de utilizarlo, especifique la rotación deseada como se muestra en la 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.*

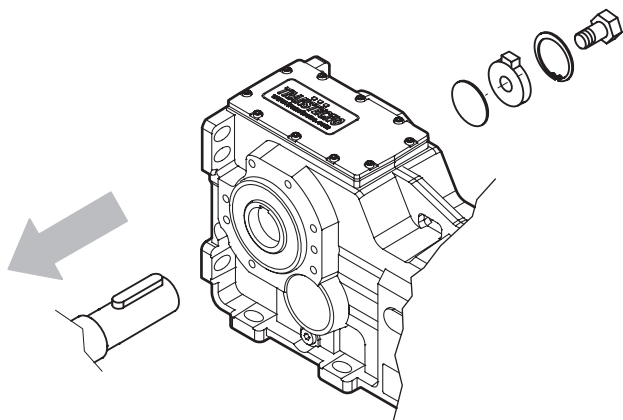
**Kit de montaje para eje solido / Output shaft assembly kit**



Kit de montaje para eje sólido disponible a solicitud.  
Referirse con nuestro departamento técnico para conocer las instrucciones de montaje.

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

**Kit de montaje para eje solido / Output shaft disassembly kit**



Kit de desmontaje para eje sólido disponible a solicitud.  
Referirse con nuestro departamento técnico para conocer las instrucciones de montaje.

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

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

**ITS**



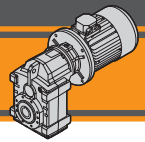
**60Hz**

**Nema**

Motorreductores pendulares  
**Helical parallel gearmotors**





**Índice**

Características técnicas  
Versiones  
Clasificación  
Sentido de rotación  
Nomenclatura  
Lubricación  
Cargas radiales  
Datos técnicos  
Dimensiones  
Accesorios

**Index**

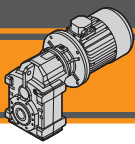
*Technical features*  
*Versions*  
*Classification*  
*Direction of rotation*  
*Symbols*  
*Lubrication*  
*Radial loads*  
*Technical data*  
*Dimensions*  
*Accessories*

Pag.  
Page

**D2**  
**D2**  
**D2**  
**D4**  
**D4**  
**D5**  
**D7**  
**D8**  
**D20**  
**D27**

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**Características técnicas**

**Technical features**

El motorreductor ITS está diseñado para aplicaciones de uso rudo. Su carcasa fundida en una sola pieza y su diseño modular con distintos accesorios en la entrada y en la salida, incrementan su flexibilidad de uso en múltiples aplicaciones.

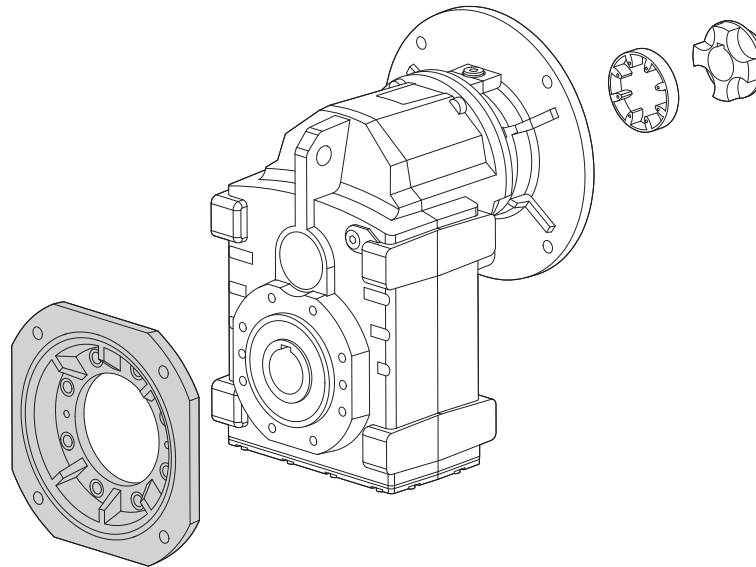
*The ITS gearmotors are intended for heavy duty applications. The robust one pieces casing of the main housing and the modular design of input and output sets increase application flexibility.*

Características principales de la serie ITH:

- Carcasa en hierro fundido;
- Elevada modularidad;
- Lubricación con aceite sintético;
- Acoplamiento a motor con cople flexible;
- Acabado en pintura epóxica RAL 7016.

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.



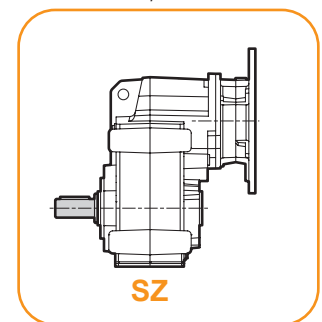
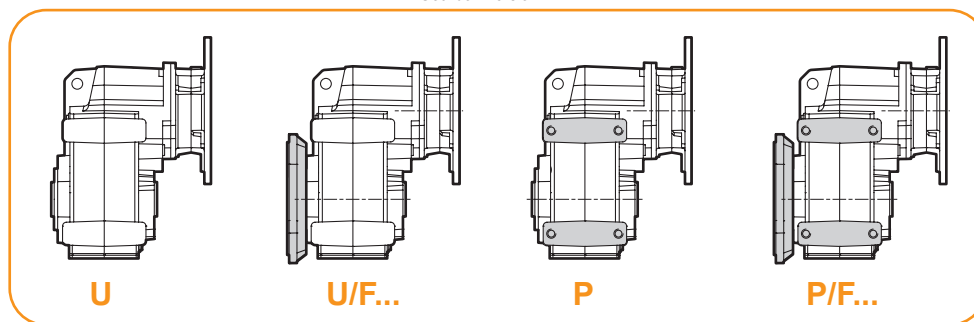
**Clasificación**

**Classification**

**ITS...**

Versión Reductore  
Gearbox Version

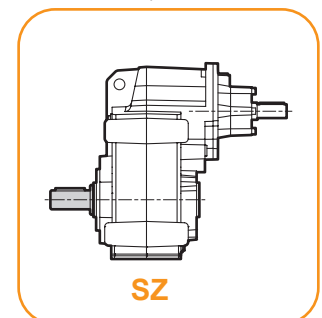
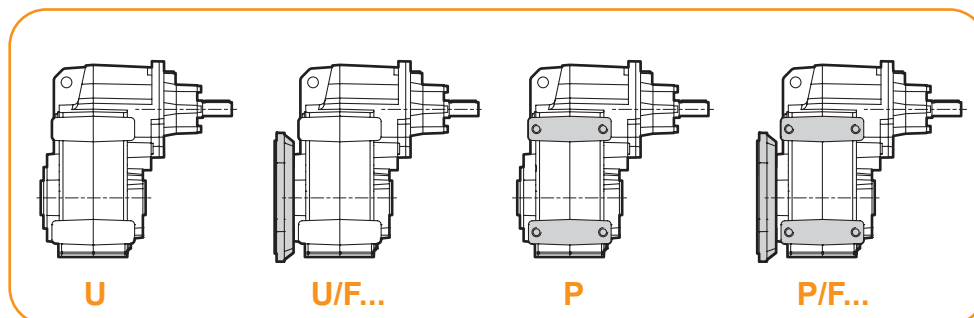
Albero di uscita  
Output shaft

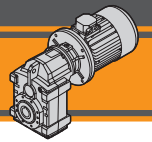


**ITSIS...**

Versión Reductore  
Gearbox Version



Albero di uscita  
Output shaft




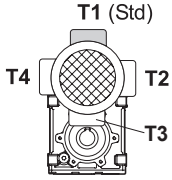


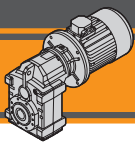
Clasificación

Classification

REDUCTOR / GEARBOX									
ITS	92	2	U	22.92	D1.5	56C	SZ	M1	CW
Tipo Type	Tamaño Size	Etapas Stages	Versión Version	Relación de reducción Ratio	Eje de salida Output shaft		Eje de salida Output shaft	Posición de Montaje Mounting position	Dispositivo anti retroceso Backstop device
 ITS	92 93 94	2 3	U... U/F... P... P/F...	véase tablas see tables	véase tablas see tables	56C 140TC 180TC 210TC 250TC 280TC	SZ	M1 (B3) M2 (V6) M3 (B8) M4 (V5) M5 (B7) M6 (B6)	CW CCW

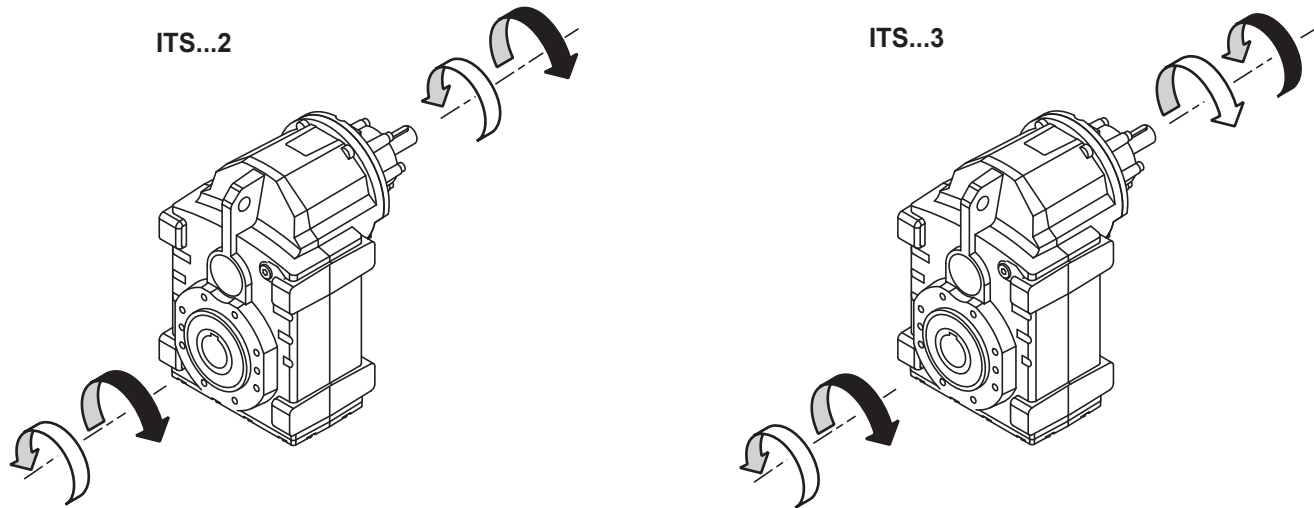
REDUCTOR / GEARBOX							
ITSIS	92	2	U	22.92	D1.5	SZ	M1
Tipo Type	Tamaño Size	Etapas Stages	Versión Version	Relación de reducción Ratio	Eje de salida Output shaft	Eje de salida Output shaft	Posición de Montaje Mounting position
 ITSIS	92 93 94	2 3	U... U/F... P... P/F...	véase tablas see tables	véase tablas see tables	SZ	M1 (B3) M2 (V6) M3 (B8) M4 (V5) M5 (B7) M6 (B6)

MOTOR / MOTOR					
7.5hp / 5.5kW	4p	3ph	230/400V	60Hz	T1
Potencia Power	Polos Poles	Fases Phases	Tensión Voltage	Frecuencia Frequency	Posición caja de bornes Terminal box pos.
véase tablas see tables	2p 4p 6p 8p	1ph 3ph	230V 230/400V	50Hz 60Hz	T1 (Std) 



**Sentidos de rotación**

**Direction of rotation**

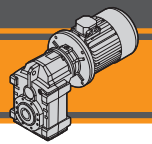


**Nomenclatura**

**Symbols**

$n_1$	[rpm]	Velocidad de entrada / <i>Input speed</i>
$n_2$	[rpm]	Velocidad de salida / <i>Output speed</i>
$i$		Relación de reducción / <i>Ratio</i>
$P_1$	[hp]	Potencia en la entrada / <i>Input power</i>
$M_2$	[lb·in]	Par en la salida en función de $P_1$ / <i>Output torque referred to <math>P_1</math></i>
$P_{n1}$	[hp]	Potencia nominal en la entrada / <i>Nominal input power</i>
$M_{n2}$	[lb·in]	Par nominal en la salida en función de $P_{n1}$ / <i>Nominal output torque referred to <math>P_{n1}</math></i>
$sf$		Rendimiento dinámico / <i>Service factor</i>
$R_1$	[lb]	Carga radial permitida a la entrada / <i>Permitted input radial load</i>
$A_1$	[lb]	Carga axial permitida a la entrada / <i>Permitted input axial load</i>
$R_2$	[lb]	Carga radial admisible en la salida / <i>Maximum output radial load</i>
$A_2$	[lb]	Carga axial admisible en la salida / <i>Maximum output axial load</i>





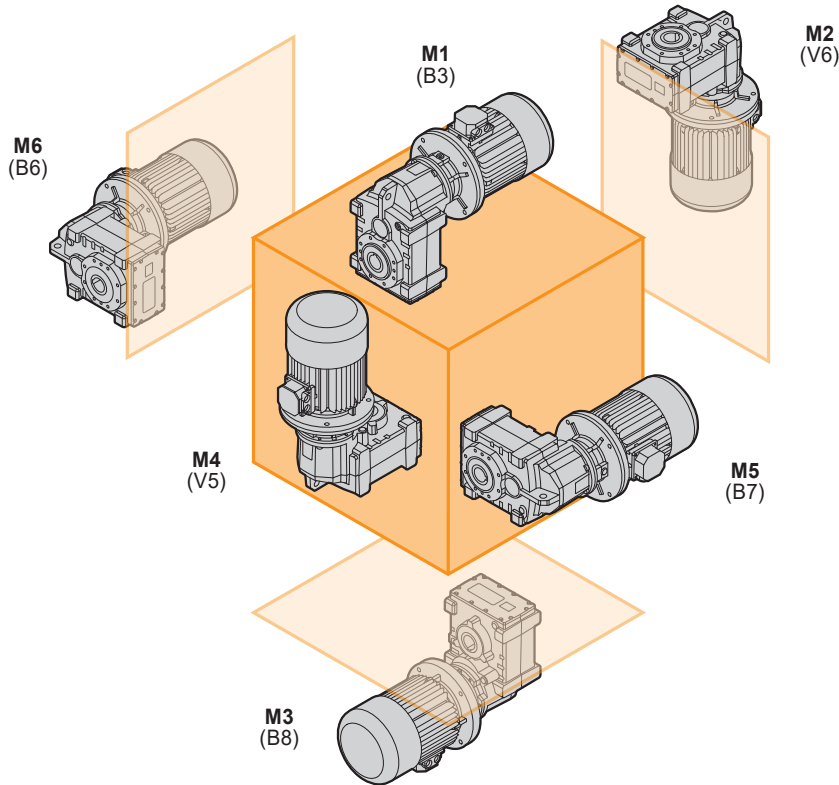
**Lubricación**

**Lubrication**

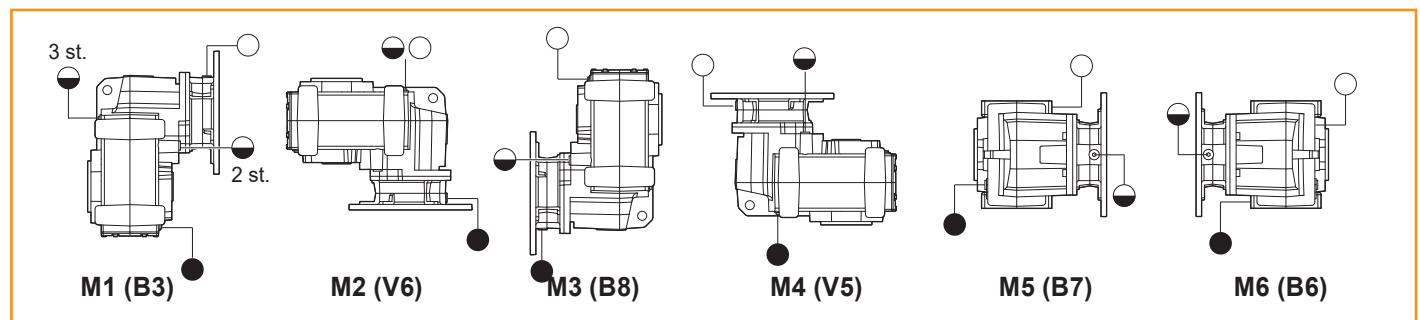
Los moto reductores de la serie ITS se suministran con lubricante sintético viscosidad 320. La cantidad de lubricante dependerá de la posición de montaje requerida.

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

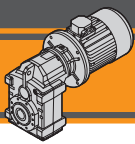
ITS..



ITS	Cantidad de aceite (US gal) / Oil quantity (US gal)					
	M1 (B3)	M2 (V6)	M3 (B8)	M4 (V5)	M5 (B7)	M6 (B6)
922	0.89	1.36	1.10	1.61	0.97	0.95
923	1.29			1.56		
932	1.24	1.84	1.13	2.03	1.18	1.16
933	1.76			1.98		
942	2.40	3.8	2.40	4.06	2.4	2.35
943	3.17			3.99		



- Respiradero y tapón de llenado / Breather and filling plug
- ◐ Tapón de nivel de aceite / Oil level plug
- Tapón de dren de aceite / Oil drain plug



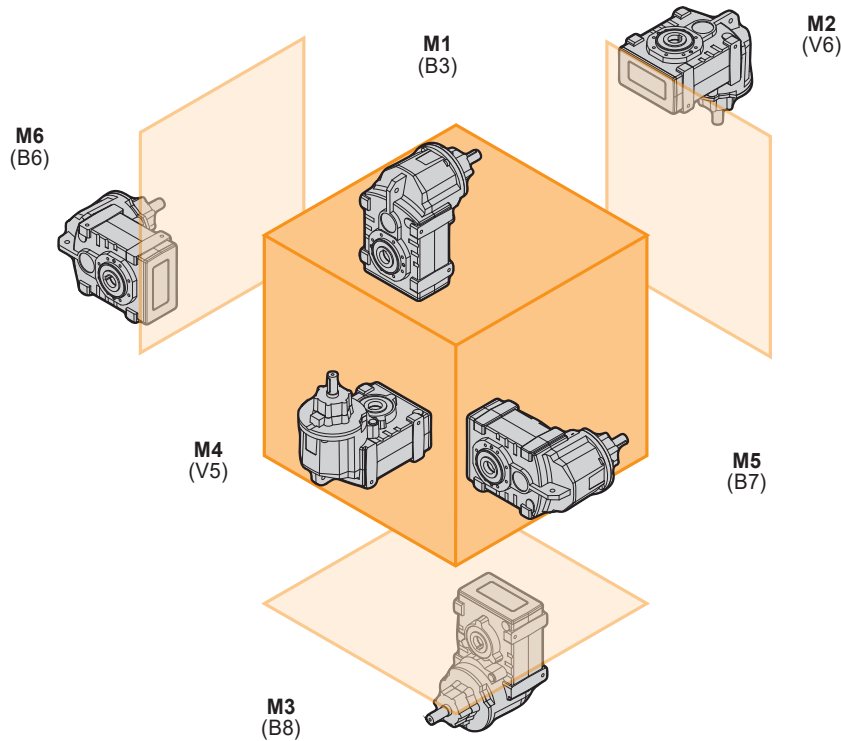
**Lubricación**

**Lubrication**

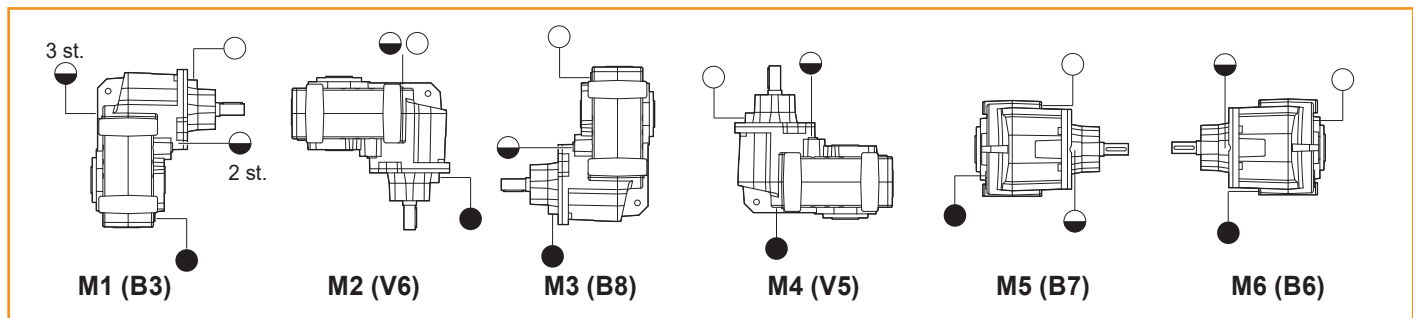
Los reductores de la serie ITSIS se suministran con lubricante sintético viscosidad 320. La cantidad de lubricante dependerá de la posición de montaje requerida.

ITSIS series gearboxes come complete with synthetic lubricant 320 viscosity. The lubricant quantity depends on assembly position.

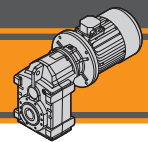
**ITSIS..**



ITSIS	Cantidad de aceite (US gal) / Oil quantity (US gal)					
	M1 (B3)	M2 (V6)	M3 (B8)	M4 (V5)	M5 (B7)	M6 (B6)
922	0.95	1.47	1.16	1.61	1.03	1.00
923	1.34			1.56		
932	1.29	1.95	1.24	2.03	1.24	1.21
933	1.82			1.98		
942	2.45	3.97	2.58	4.06	2.5	2.43
943	3.22	3.90	2.50	3.99	2.45	2.40



- Respiradero y tapón de llenado / Breather and filling plug
- ◐ Tapón de nivel de aceite / Oil level plug
- Tapón de dren de aceite / Oil drain plug



Carga radial a la entrada

Input Radial loads

ITS 922 ITS 923 - 932 ITS 933 - 943	n <sub>1</sub> [rpm]	Potencia motor / Motor Power [hp]		
		3	5	7.5
R <sub>1</sub> [lb]	1750	404		168
	1150	472	269	-
	850	562	-	-

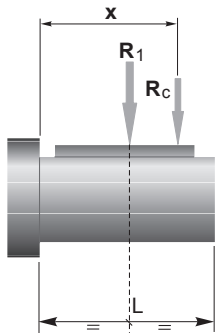
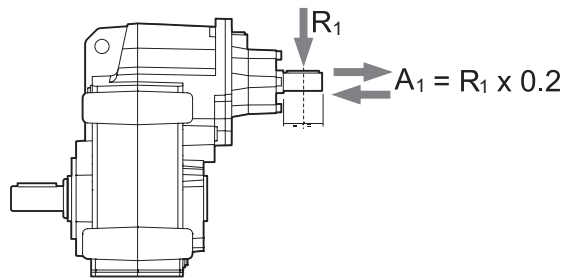
ITS 942	n <sub>1</sub> [rpm]	Potencia motor / Motor Power [hp]				
		7.5	10	15	20	25
R <sub>1</sub> [lb]	1750	831			629	269
	1150	1101		741	146	-
	850	1180	876	-	-	-

Las cargas radiales máximas aplicables están indicadas en las tablas.

Cuando la carga radial no se aplica en el punto medio del eje, es necesario calcular la carga efectiva a través la siguiente fórmula:

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	5.472				6.181	5.472
b	4.330				4.645	4.330

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

a, b = valores dados en la tabla  
a, b = values given in the table

$$R \leq R_c$$

Carga radial en la salida

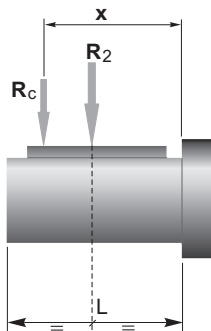
Output radial loads

Las cargas radiales máximas aplicables en la salida están indicadas en la siguiente tabla.

Cuando la carga radial no se aplica en el punto medio del eje, es necesario calcular la carga efectiva a través la siguiente fórmula:

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	7.480	7.165	8.818	8.503	10.314	9.921
b	5.905	5.590	6.850	6.535	7.952	7.559
R <sub>2MAX</sub>	2135	4046	2697	5170	3372	6969

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

a, b = valores dados en la tabla  
a, b = values given in the table

$$R \leq R_c$$

La versión U se suministra con rodamientos esféricos en la salida.  
La versión P se suministra con rodamientos de rodillos en la salida.

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.

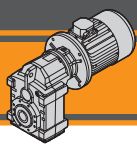












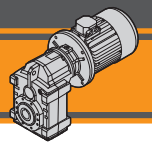




**Datos técnicos**





**Technical data**

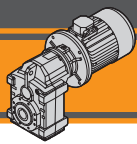
$P_1$ [hp]	$n_2$ [rpm]	$M_2$ [lb-in]	sf	AGMA	i			$R_2 U$ [lb]	$R_2 P$ [lb]	$P_1$ [hp]	$n_2$ [rpm]	$M_2$ [lb-in]	sf	AGMA	i			$R_2 U$ [lb]	$R_2 P$ [lb]				
<b>0.75 hp</b>										<b>1.0 hp</b>													
0.55 kW (1750 rpm)	<b>22</b>	2027	7.4	III	81.00	<b>ITS933</b>	<b>56C</b>	2698	5171	0.75 kW (1750 rpm)	<b>309</b>	195	22.5	III	5.66	<b>ITS922</b>	<b>56C-140TC</b>	676	2368				
	<b>19</b>	2328	6.5	III	93.18			<b>56C</b>	2698	5171		<b>248</b>	248	18.0	III			7.06	<b>56C-140TC</b>	767	2671		
	<b>17</b>	2549	5.9	III	102.02			<b>56C</b>	2698	5171		<b>209</b>	292	15.2	III			8.37	<b>56C-140TC</b>	845	2928		
	<b>15</b>	2930	5.1	III	117.16			<b>56C</b>	2698	5171		<b>192</b>	319	18.1	III			9.13	<b>56C-140TC</b>	888	3070		
	<b>14</b>	3204	4.7	III	128.28			<b>56C</b>	2698	5171		<b>168</b>	363	15.9	III			10.43	<b>56C-140TC</b>	958	3299		
	<b>12</b>	3797	4.0	III	152.21			<b>56C</b>	2698	5171		<b>145</b>	416	13.7	III			12.04	<b>56C-140TC</b>	1039	3563		
	<b>11</b>	4160	3.6	III	166.65			<b>56C</b>	2698	5171		<b>130</b>	469	14.1	III			13.50	<b>56C-140TC</b>	1107	3788		
	<b>9.4</b>	4647	3.2	III	186.19			<b>56C</b>	2698	5171		<b>113</b>	540	12.3	III			15.50	<b>56C-140TC</b>	1196	4077		
	<b>8.6</b>	5089	3.0	III	203.86			<b>56C</b>	2698	5171		<b>98</b>	620	12.9	III			17.81	<b>56C-140TC</b>	1292	4159		
	<b>7.7</b>	5691	2.6	III	228.05			<b>56C</b>	2698	5171		<b>81</b>	752	10.5	III			21.73	<b>56C-140TC</b>	1440	4159		
	<b>6.8</b>	6434	2.3	III	257.61			<b>56C</b>	2698	5171		<b>76</b>	797	10.0	III			22.92	<b>56C-140TC</b>	1482	4159		
	<b>5.9</b>	7355	2.0	II	294.56			<b>56C</b>	2698	5171		<b>74</b>	832	9.6	III			23.80	<b>56C-140TC</b>	1513	4159		
	<b>5.6</b>	7798	1.9	II	312.43			<b>56C</b>	2698	5171		<b>66</b>	929	8.6	III			26.63	<b>56C-140TC</b>	1606	4159		
	<b>5.1</b>	8541	1.8	II	342.07			<b>56C</b>	2698	5171		<b>60</b>	1018	7.8	III			29.26	<b>56C-140TC</b>	1689	4159		
	<b>4.7</b>	9249	1.6	II	370.29			<b>56C</b>	2698	5171		<b>54</b>	1115	7.9	III			32.14	<b>56C-140TC</b>	1775	4159		
	<b>4.3</b>	10125	1.5	II	405.42			<b>56C</b>	2698	5171		<b>50</b>	1221	7.2	III			35.19	<b>56C-140TC</b>	1863	4159		
	<b>19</b>	2345	12.1	III	94.05			<b>ITS943</b>	<b>56C</b>	3372	6969		<b>44</b>	1372	6.5			III	39.38	<b>56C-140TC</b>	1974	4159	
	<b>18</b>	2496	11.3	III	99.94					<b>56C</b>	3372	6969		<b>40</b>	1505			5.9	III	43.27	<b>56C-140TC</b>	2070	4159
	<b>16</b>	2735	10.4	III	109.42					<b>56C</b>	3372	6969		<b>37</b>	1655			5.4	III	47.50	<b>56C-140TC</b>	2136	4159
	<b>15</b>	3018	9.4	III	121.00	<b>56C</b>	3372			6969		<b>31</b>	1947	5.0	III	55.96	<b>56C-140TC</b>	2136	4159				
	<b>13</b>	3363	8.4	III	134.54	<b>56C</b>	3372			6969		<b>29</b>	2133	4.6	III	61.25	<b>56C-140TC</b>	2136	4159				
	<b>12</b>	3691	7.7	III	147.69	<b>56C</b>	3372			6969		<b>26</b>	2345	4.1	III	67.50	<b>56C-140TC</b>	2136	4159				
	<b>10</b>	4240	6.7	III	169.71	<b>56C</b>	3372			6969		<b>23</b>	2558	3.8	III	75.00	<b>ITS923</b>	<b>56C-140TC</b>	2136	4159			
	<b>9.4</b>	4638	6.1	III	185.82	<b>56C</b>	3372			6969		<b>20</b>	2938	3.3	III	86.28			<b>56C-140TC</b>	2136	4159		
	<b>8.4</b>	5195	5.5	III	207.90	<b>56C</b>	3372			6969		<b>19</b>	3213	3.0	III	94.46			<b>56C-140TC</b>	2136	4159		
	<b>7.7</b>	5709	5.0	III	228.46	<b>56C</b>	3372			6969		<b>16</b>	3691	2.6	III	108.48			<b>56C-140TC</b>	2136	4159		
	<b>7.0</b>	6266	4.5	III	250.80	<b>56C</b>	3372			6969		<b>15</b>	4045	2.4	III	118.77			<b>56C-140TC</b>	2136	4159		
	<b>5.9</b>	7382	3.8	III	295.48	<b>56C</b>	3372			6969		<b>12</b>	4797	2.0	II	140.93			<b>56C-140TC</b>	2136	4159		
	<b>5.4</b>	8072	3.5	III	323.40	<b>56C</b>	3372			6969		<b>11</b>	5257	1.9	II	154.30			<b>56C-140TC</b>	2136	4159		
	<b>4.9</b>	8904	3.2	III	356.40	<b>56C</b>	3372			6969		<b>10</b>	5868	1.7	II	172.40			<b>56C-140TC</b>	2136	4159		
												<b>9.3</b>	6426	1.5	II	188.76			<b>56C-140TC</b>	2136	4159		
												<b>8.3</b>	7187	1.4	II	211.15			<b>56C-140TC</b>	2136	4159		
												<b>7.3</b>	8125	1.2	I	238.53			<b>56C-140TC</b>	2136	4159		
												<b>6.4</b>	9284	1.0	I	272.74			<b>56C-140TC</b>	2136	4159		
												<b>6.0</b>	9851	1.0	I	289.29			<b>56C-140TC</b>	2136	4159		
										<b>5.5</b>	10789	0.9	I	316.73	<b>56C-140TC</b>	2136			4159				
										<b>71</b>	859	12.3	III	24.75	<b>ITS932</b>	<b>56C-140TC</b>			1725	5171			
										<b>68</b>	894	13.8	III	25.81					<b>56C-140TC</b>	1765	5171		
										<b>61</b>	1000	12.3	III	28.88					<b>56C-140TC</b>	1877	5171		
										<b>50</b>	1204	12.1	III	34.71					<b>56C-140TC</b>	2075	5171		
										<b>46</b>	1319	11.0	III	38.01					<b>56C-140TC</b>	2178	5171		
										<b>41</b>	1478	9.9	III	42.53			<b>56C-140TC</b>	2315	5171				
										<b>37</b>	1629	9.0	III	46.73			<b>56C-140TC</b>	2433	5171				
										<b>34</b>	1788	8.2	III	51.30			<b>56C-140TC</b>	2554	5171				
										<b>29</b>	2098	6.9	III	60.44			<b>56C-140TC</b>	2698	5171				
										<b>27</b>	2301	6.3	III	66.15			<b>56C-140TC</b>	2698	5171				
										<b>24</b>	2531	5.2	III	72.90			<b>56C-140TC</b>	2698	5171				



Datos técnicos





Technical data

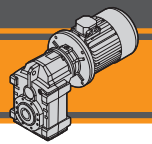
P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb-in]	sf	AGMA	i			R <sub>2</sub> U [lb]	R <sub>2</sub> P [lb]	P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb-in]	sf	AGMA	i			R <sub>2</sub> U [lb]	R <sub>2</sub> P [lb]		
<b>1.0 hp</b>										<b>1.5 hp</b>											
0.75 kW (1750 rpm)	<b>22</b>	2761	5.5	III	81.00	<b>ITS933</b>	<b>56C-140TC</b>	2698	5171	1.1 kW (1750 rpm)	<b>309</b>	292	15.3	III	5.66	<b>ITS922</b>	<b>56C-140TC</b>	673	2361		
	<b>19</b>	3169	4.7	III	93.18			<b>56C-140TC</b>	2698	5171		<b>248</b>	363	12.3	III			7.06	<b>56C-140TC</b>	763	2660
	<b>17</b>	3478	4.3	III	102.02			<b>56C-140TC</b>	2698	5171		<b>209</b>	425	10.4	III			8.37	<b>56C-140TC</b>	839	2915
	<b>15</b>	3992	3.8	III	117.16			<b>56C-140TC</b>	2698	5171		<b>192</b>	469	12.4	III			9.13	<b>56C-140TC</b>	881	3054
	<b>14</b>	4372	3.4	III	128.28			<b>56C-140TC</b>	2698	5171		<b>168</b>	531	10.8	III			10.43	<b>56C-140TC</b>	950	3280
	<b>12</b>	5187	2.9	III	152.21			<b>56C-140TC</b>	2698	5171		<b>145</b>	611	9.4	III			12.04	<b>56C-140TC</b>	1028	3540
	<b>11</b>	5673	2.7	III	166.65			<b>56C-140TC</b>	2698	5171		<b>130</b>	690	9.6	III			13.50	<b>56C-140TC</b>	1095	3760
	<b>9.4</b>	6337	2.4	III	186.19			<b>56C-140TC</b>	2698	5171		<b>113</b>	788	8.4	III			15.50	<b>56C-140TC</b>	1180	4043
	<b>8.6</b>	6939	2.2	III	203.86			<b>56C-140TC</b>	2698	5171		<b>98</b>	912	8.8	III			17.81	<b>56C-140TC</b>	1272	4159
	<b>7.7</b>	7762	1.9	II	228.05			<b>56C-140TC</b>	2698	5171		<b>81</b>	1106	7.2	III			21.73	<b>56C-140TC</b>	1413	4159
	<b>6.8</b>	8771	1.7	II	257.61	<b>56C-140TC</b>	2698	5171		<b>76</b>	1168	6.8	III	22.92	<b>56C-140TC</b>	1453	4159				
	<b>5.9</b>	10028	1.5	II	294.56	<b>56C-140TC</b>	2698	5171		<b>74</b>	1213	6.6	III	23.80	<b>56C-140TC</b>	1482	4159				
	<b>5.6</b>	10639	1.4	II	312.43	<b>56C-140TC</b>	2698	5171		<b>66</b>	1354	5.9	III	26.63	<b>56C-140TC</b>	1570	4159				
	<b>5.1</b>	11648	1.3	I	342.07	<b>56C-140TC</b>	2698	5171		<b>60</b>	1496	5.3	III	29.26	<b>56C-140TC</b>	1646	4159				
	<b>4.7</b>	12612	1.2	I	370.29	<b>56C-140TC</b>	2698	5171		<b>54</b>	1637	5.4	III	32.14	<b>56C-140TC</b>	1725	4159				
	<b>4.3</b>	13807	1.1	I	405.42	<b>56C-140TC</b>	2698	5171		<b>50</b>	1797	4.9	III	35.19	<b>56C-140TC</b>	1807	4159				
	<b>27</b>	2248	12.6	III	64.53	<b>ITS942</b>	<b>56C-140TC</b>	3372	6969		<b>44</b>	2009	4.4	III	39.38	<b>ITS923</b>	<b>56C-140TC</b>	1907	4159		
	<b>25</b>	2452	10.8	III	70.40			<b>56C-140TC</b>	3372	6969		<b>40</b>	2204	4.0	III			43.27	<b>56C-140TC</b>	1992	4159
	<b>23</b>	2682	9.9	III	77.00			<b>56C-140TC</b>	3372	6969		<b>37</b>	2425	3.7	III			47.50	<b>56C-140TC</b>	2078	4159
	<b>19</b>	3204	8.8	III	94.05	<b>ITS943</b>	<b>56C-140TC</b>	3372	6969		<b>31</b>	2850	3.4	III	55.96	<b>ITS932</b>	<b>56C-140TC</b>	2136	4159		
	<b>18</b>	3408	8.3	III	99.94			<b>56C-140TC</b>	3372	6969		<b>29</b>	3124	3.1	III			61.25	<b>56C-140TC</b>	2136	4159
	<b>16</b>	3726	7.6	III	109.42			<b>56C-140TC</b>	3372	6969		<b>26</b>	3443	2.8	III			67.50	<b>56C-140TC</b>	2136	4159
	<b>15</b>	4124	6.9	III	121.00			<b>56C-140TC</b>	3372	6969		<b>23</b>	3744	2.6	III			75.00	<b>56C-140TC</b>	2136	4159
	<b>13</b>	4585	6.2	III	134.54			<b>56C-140TC</b>	3372	6969		<b>20</b>	4310	2.3	III			86.28	<b>56C-140TC</b>	2136	4159
	<b>12</b>	5027	5.6	III	147.69			<b>56C-140TC</b>	3372	6969		<b>19</b>	4717	2.1	III			94.46	<b>56C-140TC</b>	2136	4159
	<b>10</b>	5780	4.9	III	169.71			<b>56C-140TC</b>	3372	6969		<b>16</b>	5417	1.8	II			108.48	<b>56C-140TC</b>	2136	4159
	<b>9.4</b>	6328	4.5	III	185.82			<b>56C-140TC</b>	3372	6969		<b>15</b>	5930	1.6	II			118.77	<b>56C-140TC</b>	2136	4159
	<b>8.4</b>	7081	4.0	III	207.90			<b>56C-140TC</b>	3372	6969		<b>12</b>	7036	1.4	II			140.93	<b>56C-140TC</b>	2136	4159
	<b>7.7</b>	7780	3.6	III	228.46			<b>56C-140TC</b>	3372	6969		<b>11</b>	7709	1.3	I			154.30	<b>56C-140TC</b>	2136	4159
	<b>7.0</b>	8541	3.3	III	250.80	<b>56C-140TC</b>	3372	6969		<b>10</b>	8612	1.1	I	172.40	<b>56C-140TC</b>	2136	4159				
	<b>5.9</b>	10063	2.8	III	295.48	<b>56C-140TC</b>	3372	6969		<b>9.3</b>	9426	1.0	I	188.76	<b>56C-140TC</b>	2136	4159				
	<b>5.4</b>	11010	2.6	III	323.40	<b>56C-140TC</b>	3372	6969		<b>8.3</b>	10541	0.9	I	211.15	<b>56C-140TC</b>	2136	4159				
	<b>4.9</b>	12134	2.3	III	356.40	<b>56C-140TC</b>	3372	6969		<b>134</b>	664	12.0	III	13.06	<b>56C-140TC</b>	1196	4536				
										<b>120</b>	743	10.7	III	14.58	<b>56C-140TC</b>	1272	4810				
										<b>104</b>	859	10.3	III	16.81	<b>56C-140TC</b>	1376	5171				
										<b>91</b>	982	9.0	III	19.24	<b>56C-140TC</b>	1482	5171				
										<b>74</b>	1204	8.8	III	23.57	<b>56C-140TC</b>	1656	5171				
										<b>71</b>	1266	8.4	III	24.75	<b>56C-140TC</b>	1700	5171				
										<b>68</b>	1319	9.4	III	25.81	<b>56C-140TC</b>	1738	5171				
										<b>61</b>	1469	8.4	III	28.88	<b>56C-140TC</b>	1845	5171				
										<b>50</b>	1770	8.2	III	34.71	<b>56C-140TC</b>	2032	5171				
										<b>46</b>	1938	7.5	III	38.01	<b>56C-140TC</b>	2129	5171				
										<b>41</b>	2168	6.7	III	42.53	<b>56C-140TC</b>	2258	5171				
										<b>37</b>	2381	6.1	III	46.73	<b>56C-140TC</b>	2366	5171				
										<b>34</b>	2620	5.6	III	51.30	<b>56C-140TC</b>	2477	5171				
										<b>29</b>	3080	4.7	III	60.44	<b>56C-140TC</b>	2678	5171				
										<b>27</b>	3372	4.3	III	66.15	<b>56C-140TC</b>	2698	5171				
										<b>24</b>	3717	3.6	III	72.90	<b>56C-140TC</b>	2698	5171				



**Datos técnicos**





**Technical data**

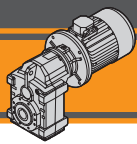
$P_1$ [hp]	$n_2$ [rpm]	$M_2$ [lb-in]	sf	AGMA	i			$R_2 U$ [lb]	$R_2 P$ [lb]	$P_1$ [hp]	$n_2$ [rpm]	$M_2$ [lb-in]	sf	AGMA	i			$R_2 U$ [lb]	$R_2 P$ [lb]			
<b>1.5 hp</b>										<b>2.0 hp</b>												
1.1 kW (1750 rpm)	<b>22</b>	4045	3.7	III	81.00	<b>ITS933</b>	<b>56C-140TC</b>	2698	5171	1.5 kW (1750 rpm)	<b>309</b>	389	11.2	III	5.66	<b>ITS922</b>	<b>56C-140TC</b>	669	2353			
	<b>19</b>	4655	3.2	III	93.18			<b>56C-140TC</b>	2698	5171	<b>248</b>	487	9.0	III	7.06			<b>56C-140TC</b>	758	2649		
	<b>17</b>	5098	3.0	III	102.02			<b>56C-140TC</b>	2698	5171	<b>209</b>	584	7.6	III	8.37			<b>56C-140TC</b>	833	2900		
	<b>15</b>	5850	2.6	III	117.16			<b>56C-140TC</b>	2698	5171	<b>192</b>	637	9.1	III	9.13			<b>56C-140TC</b>	874	3037		
	<b>14</b>	6408	2.3	III	128.28			<b>56C-140TC</b>	2698	5171	<b>168</b>	726	7.9	III	10.43			<b>56C-140TC</b>	940	3259		
	<b>12</b>	7603	2.0	II	152.21			<b>56C-140TC</b>	2698	5171	<b>145</b>	841	6.9	III	12.04			<b>56C-140TC</b>	1016	3514		
	<b>11</b>	8320	1.8	II	166.65			<b>56C-140TC</b>	2698	5171	<b>130</b>	938	7.1	III	13.50			<b>56C-140TC</b>	1080	3728		
	<b>9.4</b>	9302	1.6	II	186.19			<b>56C-140TC</b>	2698	5171	<b>113</b>	1080	6.2	III	15.50			<b>56C-140TC</b>	1162	4003		
	<b>8.6</b>	10178	1.5	II	203.86			<b>56C-140TC</b>	2698	5171	<b>98</b>	1239	6.4	III	17.81			<b>56C-140TC</b>	1249	4159		
	<b>7.7</b>	11391	1.3	I	228.05			<b>56C-140TC</b>	2698	5171	<b>81</b>	1513	5.3	III	21.73			<b>56C-140TC</b>	1383	4159		
	<b>6.8</b>	12869	1.2	I	257.61	<b>56C-140TC</b>	2698	5171	<b>76</b>	1593	5.0	III	22.92	<b>56C-140TC</b>	1420	4159						
	<b>5.9</b>	14710	1.0	I	294.56	<b>56C-140TC</b>	2698	5171	<b>74</b>	1655	4.8	III	23.80	<b>56C-140TC</b>	1446	4159						
	<b>5.6</b>	15604	1.0	I	312.43	<b>56C-140TC</b>	2698	5171	<b>66</b>	1850	4.3	III	26.63	<b>56C-140TC</b>	1527	4159						
	<b>5.1</b>	17082	0.9	I	342.07	<b>56C-140TC</b>	2698	5171	<b>60</b>	2036	3.9	III	29.26	<b>56C-140TC</b>	1597	4159						
	<b>41</b>	2204	10.8	III	43.25	<b>ITS942</b>	<b>56C-140TC</b>	3108	6969	<b>54</b>	2239	4.0	III	32.14	<b>56C-140TC</b>	1668	4159					
	<b>37</b>	2443	9.8	III	47.95			<b>56C-140TC</b>	3283	6969	<b>50</b>	2452	3.6	III	35.19	<b>56C-140TC</b>	1742	4159				
	<b>33</b>	2726	10.4	III	53.43			<b>56C-140TC</b>	3372	6969	<b>44</b>	2735	3.2	III	39.38	<b>56C-140TC</b>	1830	4159				
	<b>30</b>	2965	9.5	III	58.22			<b>56C-140TC</b>	3372	6969	<b>40</b>	3009	2.9	III	43.27	<b>56C-140TC</b>	1903	4159				
	<b>27</b>	3292	8.6	III	64.53			<b>56C-140TC</b>	3372	6969	<b>37</b>	3301	2.7	III	47.50	<b>56C-140TC</b>	1975	4159				
	<b>25</b>	3593	7.4	III	70.40			<b>56C-140TC</b>	3372	6969	<b>31</b>	3894	2.5	III	55.96	<b>56C-140TC</b>	2097	4159				
	<b>23</b>	3930	6.8	III	77.00			<b>56C-140TC</b>	3372	6969	<b>29</b>	4257	2.3	III	61.25	<b>56C-140TC</b>	2136	4159				
	<b>26</b>	4691	2.1	III	67.50			<b>56C-140TC</b>	3372	6969	<b>23</b>	5107	1.9	II	75.00	<b>ITS923</b>	<b>56C-140TC</b>	2136	4159			
	<b>19</b>	4700	6.0	III	94.05			<b>ITS943</b>	<b>56C-140TC</b>	3372	6969	<b>20</b>	5877	1.7	II			86.28	<b>56C-140TC</b>	2136	4159	
	<b>18</b>	4992	5.7	III	99.94					<b>56C-140TC</b>	3372	6969	<b>19</b>	6434	1.5			II	94.46	<b>56C-140TC</b>	2136	4159
	<b>16</b>	5461	5.2	III	109.42	<b>56C-140TC</b>	3372			6969	<b>16</b>	7390	1.3	I	108.48			<b>56C-140TC</b>	2136	4159		
	<b>15</b>	6045	4.7	III	121.00	<b>56C-140TC</b>	3372			6969	<b>15</b>	8090	1.2	I	118.77			<b>56C-140TC</b>	2136	4159		
	<b>13</b>	6718	4.2	III	134.54	<b>56C-140TC</b>	3372			6969	<b>12</b>	9594	1.0	I	140.93			<b>56C-140TC</b>	2136	4159		
	<b>12</b>	7373	3.8	III	147.69	<b>56C-140TC</b>	3372			6969	<b>11</b>	10506	0.9	I	154.30			<b>56C-140TC</b>	2136	4159		
	<b>10</b>	8479	3.3	III	169.71	<b>56C-140TC</b>	3372			6969	<b>194</b>	628	12.0	III	9.03			<b>ITS932</b>	<b>56C-140TC</b>	966	3706	
	<b>9.4</b>	9276	3.1	III	185.82	<b>56C-140TC</b>	3372			6969	<b>177</b>	690	11.6	III	9.90					<b>56C-140TC</b>	1017	3892
	<b>8.4</b>	10382	2.7	III	207.90	<b>56C-140TC</b>	3372			6969	<b>155</b>	788	10.2	III	11.27					<b>56C-140TC</b>	1093	4170
	<b>7.7</b>	11409	2.5	III	228.46	<b>56C-140TC</b>	3372			6969	<b>134</b>	912	8.8	III	13.06	<b>56C-140TC</b>	1186			4509		
	<b>7.0</b>	12524	2.3	III	250.80	<b>56C-140TC</b>	3372	6969	<b>120</b>	1018	7.9	III	14.58	<b>56C-140TC</b>	1260	4779						
	<b>5.9</b>	14754	1.9	II	295.48	<b>56C-140TC</b>	3372	6969	<b>104</b>	1168	7.6	III	16.81	<b>56C-140TC</b>	1361	5148						
	<b>5.4</b>	16153	1.8	II	323.40	<b>56C-140TC</b>	3372	6969	<b>91</b>	1336	6.6	III	19.24	<b>56C-140TC</b>	1463	5171						
	<b>4.9</b>	17799	1.6	II	356.40	<b>56C-140TC</b>	3372	6969	<b>74</b>	1637	6.5	III	23.57	<b>56C-140TC</b>	1629	5171						
									<b>71</b>	1717	6.2	III	24.75	<b>56C-140TC</b>	1671	5171						
									<b>68</b>	1797	6.9	III	25.81	<b>56C-140TC</b>	1708	5171						
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									<b>46</b>	2646	5.5	III	38.01	<b>56C-140TC</b>	2073	5171						
									<b>41</b>	2956	4.9	III	42.53	<b>56C-140TC</b>	2192	5171						
									<b>37</b>	3248	4.5	III	46.73	<b>56C-140TC</b>	2290	5171						
									<b>34</b>	3567	4.1	III	51.30	<b>56C-140TC</b>	2389	5171						
									<b>29</b>	4204	3.5	III	60.44	<b>56C-140TC</b>	2564	5171						
									<b>27</b>	4602	3.2	III	66.15	<b>56C-140TC</b>	2660	5171						
									<b>24</b>	5071	2.6	III	72.90	<b>56C-140TC</b>	2698	5171						



Datos técnicos





Technical data

P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb-in]	sf	AGMA	i			R <sub>2</sub> U [lb]	R <sub>2</sub> P [lb]	P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb-in]	sf	AGMA	i			R <sub>2</sub> U [lb]	R <sub>2</sub> P [lb]						
<b>2.0 hp</b>										<b>3.0 hp</b>															
1.5 kW (1750 rpm)	22	5514	2.7	III	81.00	ITS933	56C-140TC	2698	5171	2.2 kW (1750 rpm)	309	575	7.7	III	5.66	ITS922	140TC-180TC	663	2338						
	19	6346	2.4	III	93.18					2698	5171		248	717	6.1			III	7.06			749	2628		
	17	6948	2.2	III	102.02					2698	5171		209	850	5.2			III	8.37			821	2874		
	15	7983	1.9	II	117.16					2698	5171		192	929	6.2			III	9.13			860	3007		
	14	8736	1.7	II	128.28					2698	5171		168	1062	5.4			III	10.43			923	3222		
	12	10364	1.5	II	152.21					2698	5171		145	1230	4.7			III	12.04			995	3467		
	11	11347	1.3	I	166.65					2698	5171		130	1381	4.8			III	13.50			1055	3673		
	9.4	12683	1.2	I	186.19					2698	5171		113	1584	4.2			III	15.50			1131	3935		
	8.6	13887	1.1	I	203.86					2698	5171		98	1814	4.4			III	17.81			1210	4159		
	7.7	15533	1.0	I	228.05					2698	5171		81	2222	3.6			III	21.73			1329	4159		
	6.8	17542	0.9	I	257.61					2698	5171		76	2337	3.4			III	22.92			1361	4159		
	60	2045	11.7	III	29.42			ITS942	56C-140TC	2490	6969		74	2425	3.3			III	23.80			1384	4159		
	56	2177	12.2	III	31.35							2577	6969		66			2717	2.9	III	26.63			1453	4159
	44	2753	9.6	III	39.60					2917	6969		60	2983	2.7	III	29.26			1511	4159				
	41	3009	7.9	III	43.25					3054	6969		54	3275	2.7	III	32.14			1568	4159				
	37	3337	7.2	III	47.95					3220	6969		50	3593	2.5	III	35.19			1630	4159				
	33	3717	7.6	III	53.43					3372	6969		44	4018	2.2	III	39.38			1695	4159				
	30	4045	7.0	III	58.22					3372	6969		40	4417	2.0	II	43.27			1747	4159				
	27	4487	6.3	III	64.53					3372	6969		37	4841	1.8	II	47.50			1794	4159				
	25	4894	5.4	III	70.40					3372	6969		31	5709	1.7	II	55.96			1862	4159				
	23	5355	5.0	III	77.00					3372	6969		29	6249	1.6	II	61.25			1890	4159				
	19	6408	4.4	III	94.05	ITS943	56C-140TC			3372	6969		26	6886	1.4	II	67.50			1908	4159				
	18	6806	4.2	III	99.94							3372	6969		23	7488	1.3	I	75.00	ITS923	140TC-180TC	1911	4159		
	16	7452	3.8	III	109.42							3372	6969		20	8621	1.1	I	86.28					2136	4159
	15	8240	3.4	III	121.00					3372	6969		19	9435	1.0	I	94.46					2136	4159		
	13	9161	3.1	III	134.54					3372	6969		16	10833	0.9	I	108.48					2136	4159		
	12	10054	2.8	III	147.69					3372	6969		285	628	12.0	III	6.13	ITS932	140TC-180TC			771	2995		
	10	11559	2.5	III	169.71					3372	6969		229	779	9.6	III	7.65							872	3370
	9.4	12657	2.2	III	185.82					3372	6969		194	920	8.2	III	9.03							956	3680
	8.4	14161	2.0	II	207.90					3372	6969		177	1009	7.9	III	9.90							1005	3862
	7.7	15560	1.8	II	228.46					3372	6969		155	1151	6.9	III	11.27							1079	4134
	7.0	17082	1.7	II	250.80					3372	6969		134	1336	6.0	III	13.06							1168	4464
	5.9	20127	1.4	II	295.48					3372	6969		120	1487	5.4	III	14.58							1238	4725
	5.4	22021	1.3	I	323.40					3372	6969		104	1717	5.2	III	16.81							1334	5081
	4.9	24269	1.2	I	356.40			3372	6969		91	1965	4.5	III	19.24							1430	5171		
											74	2407	4.4	III	23.57					1583	5171				
											71	2522	4.2	III	24.75					1622	5171				
											68	2629	4.7	III	25.81					1655	5171				
											61	2947	4.2	III	28.88					1746	5171				
											50	3540	4.1	III	34.71			1899	5171						
											46	3877	3.8	III	38.01			1975	5171						
											41	4337	3.4	III	42.53			2077	5171						
											37	4771	3.1	III	46.73			2157	5171						
											34	5231	2.8	III	51.30			2234	5171						
											29	6169	2.4	III	60.44			2364	5171						
											27	6744	2.2	III	66.15			2429	5171						
											24	7435	1.8	II	72.90			2492	5171						

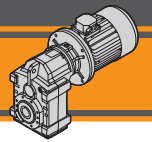


**Datos técnicos**

**Technical data**



P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb-in]	sf	AGMA	i			R <sub>2</sub> U [lb]	R <sub>2</sub> P [lb]	P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb-in]	sf	AGMA	i			R <sub>2</sub> U [lb]	R <sub>2</sub> P [lb]	
<b>3.0 hp</b>										<b>5.0 hp</b>										
2.2 kW (1750 rpm)	<b>22</b>	8090	1.9	II	81.00	<b>ITS933</b>	<b>140TC-180TC</b>	2550	5171	3.7 kW (1750 rpm)	<b>309</b>	974	4.6	III	5.66	<b>ITS922</b>	<b>180TC</b>	647	2302	
	<b>19</b>	9311	1.6	II	93.18		<b>140TC-180TC</b>	2604	5171		<b>248</b>	1213	3.7	III	7.06		<b>180TC</b>	725	2576	
	<b>17</b>	10187	1.5	II	102.02		<b>140TC-180TC</b>	2620	5171		<b>209</b>	1434	3.1	III	8.37		<b>180TC</b>	790	2806	
	<b>15</b>	11701	1.3	I	117.16		<b>140TC-180TC</b>	2609	5171		<b>192</b>	1567	3.7	III	9.13		<b>180TC</b>	825	2929	
	<b>14</b>	12816	1.2	I	128.28		<b>140TC-180TC</b>	2571	5171		<b>168</b>	1788	3.2	III	10.43		<b>180TC</b>	880	3126	
	<b>12</b>	15206	1.0	I	152.21		<b>140TC-180TC</b>	2698	5171		<b>145</b>	2062	2.8	III	12.04		<b>180TC</b>	941	3348	
	<b>11</b>	16648	0.9	I	166.65		<b>140TC-180TC</b>	2698	5171		<b>130</b>	2319	2.9	III	13.50		<b>180TC</b>	990	3530	
	<b>123</b>	1452	12.2	III	14.21		<b>ITS942</b>	<b>140TC-180TC</b>	1650	6068		<b>113</b>	2655	2.5	III		15.50	<b>180TC</b>	1050	3758
	<b>110</b>	1620	13.1	III	15.91			<b>140TC-180TC</b>	1756	6441		<b>98</b>	3054	2.6	III		17.81	<b>180TC</b>	1110	3994
	<b>101</b>	1770	12.0	III	17.33			<b>140TC-180TC</b>	1840	6739		<b>81</b>	3726	2.1	III		21.73	<b>180TC</b>	1191	4159
	<b>92</b>	1947	11.3	III	19.13			<b>140TC-180TC</b>	1941	6969		<b>76</b>	3930	2.0	II		22.92	<b>180TC</b>	1211	4159
	<b>75</b>	2381	9.3	III	23.32	<b>140TC-180TC</b>		2159	6969		<b>74</b>	4080	2.0	II	23.80	<b>180TC</b>	1225	4159		
	<b>60</b>	3000	8.0	III	29.42	<b>140TC-180TC</b>		2439	6969		<b>66</b>	4567	1.7	II	26.63	<b>180TC</b>	1263	4159		
	<b>56</b>	3195	8.3	III	31.35	<b>140TC-180TC</b>		2521	6969		<b>60</b>	5018	1.6	II	29.26	<b>180TC</b>	1290	4159		
	<b>44</b>	4036	6.6	III	39.60	<b>140TC-180TC</b>		2835	6969		<b>54</b>	5514	1.6	II	32.14	<b>180TC</b>	1312	4159		
	<b>41</b>	4417	5.4	III	43.25	<b>140TC-180TC</b>		2960	6969		<b>50</b>	6036	1.5	II	35.19	<b>180TC</b>	1340	4159		
	<b>37</b>	4894	4.9	III	47.95	<b>140TC-180TC</b>		3109	6969		<b>44</b>	6753	1.3	I	39.38	<b>180TC</b>	1349	4159		
	<b>33</b>	5452	5.2	III	53.43	<b>140TC-180TC</b>		3278	6969		<b>40</b>	7426	1.2	I	43.27	<b>180TC</b>	1345	4159		
	<b>30</b>	5939	4.8	III	58.22	<b>140TC-180TC</b>	3372	6969		<b>37</b>	8152	1.1	I	47.50	<b>180TC</b>	1794	4159			
	<b>27</b>	6585	4.3	III	64.53	<b>140TC-180TC</b>	3372	6969		<b>31</b>	9603	1.0	I	55.96	<b>180TC</b>	1862	4159			
	<b>25</b>	7178	3.7	III	70.40	<b>140TC-180TC</b>	3372	6969		<b>29</b>	10506	0.9	I	61.25	<b>180TC</b>	1890	4159			
	<b>23</b>	7851	3.4	III	77.00	<b>140TC-180TC</b>	3372	6969		<b>285</b>	1053	7.1	III	6.13	<b>ITS932</b>	<b>180TC</b>	757	2959		
	<b>19</b>	9391	3.0	III	94.05	<b>ITS943</b>	<b>140TC-180TC</b>	3372	6969		<b>229</b>	1310	5.7	III		7.65	<b>180TC</b>	852	3319	
	<b>18</b>	9984	2.8	III	99.94		<b>140TC-180TC</b>	3372	6969		<b>194</b>	1549	4.9	III		9.03	<b>180TC</b>	930	3614	
	<b>16</b>	10931	2.6	III	109.42		<b>140TC-180TC</b>	3372	6969		<b>177</b>	1699	4.7	III		9.90	<b>180TC</b>	975	3786	
	<b>15</b>	12090	2.3	III	121.00		<b>140TC-180TC</b>	3372	6969		<b>155</b>	1929	4.1	III		11.27	<b>180TC</b>	1042	4041	
	<b>13</b>	13435	2.1	III	134.54		<b>140TC-180TC</b>	3372	6969		<b>134</b>	2239	3.6	III		13.06	<b>180TC</b>	1121	4347	
	<b>12</b>	14754	1.9	II	147.69		<b>140TC-180TC</b>	3372	6969		<b>120</b>	2505	3.2	III		14.58	<b>180TC</b>	1183	4586	
	<b>10</b>	16949	1.7	II	169.71		<b>140TC-180TC</b>	3372	6969		<b>104</b>	2885	3.1	III		16.81	<b>180TC</b>	1265	4908	
	<b>9.4</b>	18560	1.5	II	185.82		<b>140TC-180TC</b>	3372	6969		<b>91</b>	3301	2.7	III		19.24	<b>180TC</b>	1344	5171	
	<b>8.4</b>	20764	1.4	II	207.90		<b>140TC-180TC</b>	3372	6969		<b>74</b>	4045	2.6	III		23.57	<b>180TC</b>	1465	5171	
	<b>7.7</b>	22817	1.2	I	228.46		<b>140TC-180TC</b>	3372	6969		<b>71</b>	4248	2.5	III		24.75	<b>180TC</b>	1494	5171	
	<b>7.0</b>	25048	1.1	I	250.80		<b>140TC-180TC</b>	3372	6969		<b>68</b>	4425	2.8	III	25.81	<b>180TC</b>	1518	5171		
	<b>5.9</b>	29517	1.0	I	295.48	<b>140TC-180TC</b>	3372	6969		<b>61</b>	4956	2.5	III	28.88	<b>180TC</b>	1582	5171			
	<b>5.4</b>	32305	0.9	I	323.40	<b>140TC-180TC</b>	3372	6969		<b>50</b>	5957	2.5	III	34.71	<b>180TC</b>	1680	5171			
										<b>46</b>	6523	2.2	III	38.01	<b>180TC</b>	1723	5171			
										<b>41</b>	7293	2.0	II	42.53	<b>180TC</b>	1782	5171			
										<b>37</b>	8019	1.8	II	46.73	<b>180TC</b>	1814	5171			
										<b>34</b>	8798	1.7	II	51.30	<b>180TC</b>	1837	5171			
										<b>29</b>	10373	1.4	II	60.44	<b>180TC</b>	1849	5171			
										<b>27</b>	11347	1.3	I	66.15	<b>180TC</b>	1835	5171			
										<b>24</b>	12506	1.1	I	72.90	<b>180TC</b>	2492	5171			
										<b>22</b>	13604	1.1	I	81.00	<b>ITS933</b>	<b>180TC</b>	2550	5171		
										<b>19</b>	15657	1.0	I	93.18		<b>180TC</b>	2604	5171		









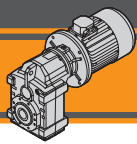
Datos técnicos

Technical data

P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb-in]	sf	AGMA	i			R <sub>2</sub> U [lb]	R <sub>2</sub> P [lb]			
<b>5.0 hp</b>												
3.7 kW (1750 rpm)	123	2443	7.3	III	14.21	<b>ITS942</b>	<b>180TC</b>	1609	5975			
	110	2726	7.8	III	15.91			<b>180TC</b>	1706	6331		
	101	2974	7.1	III	17.33			<b>180TC</b>	1783	6613		
	92	3284	6.7	III	19.13			<b>180TC</b>	1875	6953		
	75	4001	5.5	III	23.32			<b>180TC</b>	2068	6969		
	60	5045	4.7	III	29.42			<b>180TC</b>	2308	6969		
	56	5381	4.9	III	31.35			<b>180TC</b>	2376	6969		
	44	6797	3.9	III	39.60			<b>180TC</b>	2625	6969		
	41	7417	3.2	III	43.25			<b>180TC</b>	2719	6969		
	37	8222	2.9	III	47.95			<b>180TC</b>	2825	6969		
	33	9169	3.1	III	53.43			<b>180TC</b>	2948	6969		
	30	9984	2.8	III	58.22			<b>180TC</b>	3030	6969		
	27	11072	2.6	III	64.53			<b>180TC</b>	3121	6969		
	25	12081	2.2	III	70.40			<b>180TC</b>	3189	6969		
	23	13214	2.0	II	77.00			<b>180TC</b>	3248	6969		
	19	15799	1.8	II	94.05			<b>ITS943</b>	<b>180TC</b>	3324	6969	
	18	16790	1.7	II	99.94					<b>180TC</b>	3327	6969
	16	18383	1.5	II	109.42					<b>180TC</b>	3310	6969
	15	20330	1.4	II	121.00	<b>180TC</b>	3254			6969		
	13	22605	1.3	I	134.54	<b>180TC</b>	3372			6969		
12	24809	1.1	I	147.69	<b>180TC</b>	3372	6969					
10	28508	1.0	I	169.71	<b>180TC</b>	3372	6969					





P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb-in]	sf	AGMA	i			R <sub>2</sub> U [lb]	R <sub>2</sub> P [lb]	
<b>7.5 hp</b>										
5.5 kW (1750 rpm)	309	1443	3.1	III	5.66	<b>ITS922</b>	<b>210TC</b>	633	2271	
	248	1797	2.5	III	7.06			<b>210TC</b>	706	2533
	209	2133	2.1	III	8.37			<b>210TC</b>	765	2749
	192	2328	2.5	III	9.13			<b>210TC</b>	796	2864
	168	2664	2.2	III	10.43			<b>210TC</b>	844	3047
	145	3071	1.9	II	12.04			<b>210TC</b>	896	3248
	130	3443	1.9	II	13.50			<b>210TC</b>	936	3411
	113	3947	1.7	II	15.50			<b>210TC</b>	983	3611
	98	4540	1.8	II	17.81			<b>210TC</b>	1026	3811
	81	5541	1.4	II	21.73			<b>210TC</b>	1076	4088
	76	5841	1.4	II	22.92			<b>210TC</b>	1086	4158
	74	6072	1.3	I	23.80			<b>210TC</b>	1092	4159
	66	6789	1.2	I	26.63			<b>210TC</b>	1263	4159
	60	7461	1.1	I	29.26			<b>210TC</b>	1290	4159
	54	8196	1.1	I	32.14			<b>210TC</b>	1312	4159
	50	8975	1.0	I	35.19			<b>210TC</b>	1340	4159
	44	10046	0.9	I	39.38			<b>210TC</b>	1349	4159
	285	1567	4.8	III	6.13			<b>ITS932</b>	<b>210TC</b>	745
	229	1947	3.9	III	7.65	<b>210TC</b>	836			3277
	194	2301	3.3	III	9.03	<b>210TC</b>	908			3559
	177	2522	3.2	III	9.90	<b>210TC</b>	950			3723
	155	2876	2.8	III	11.27	<b>210TC</b>	1011			3963
	134	3328	2.4	III	13.06	<b>210TC</b>	1082			4250
	120	3717	2.1	III	14.58	<b>210TC</b>	1137			4471
	104	4284	2.1	III	16.81	<b>210TC</b>	1207			4764
	91	4903	1.8	II	19.24	<b>210TC</b>	1273			5050
	74	6010	1.8	II	23.57	<b>210TC</b>	1366			5171
	71	6311	1.7	II	24.75	<b>210TC</b>	1387			5171

P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb-in]	sf	AGMA	i			R <sub>2</sub> U [lb]	R <sub>2</sub> P [lb]			
<b>7.5 hp</b>												
5.5 kW (1750 rpm)	68	6585	1.9	II	25.81	<b>ITS932</b>	<b>210TC</b>	1404	5171			
	61	7364	1.7	II	28.88			<b>210TC</b>	1446	5171		
	50	8851	1.6	II	34.71			<b>210TC</b>	1498	5171		
	46	9692	1.5	II	38.01			<b>210TC</b>	1513	5171		
	41	10842	1.3	I	42.53			<b>210TC</b>	1536	5171		
	37	11913	1.2	I	46.73			<b>210TC</b>	1529	5171		
	34	13081	1.1	I	51.30			<b>210TC</b>	1506	5171		
	221	2018	6.6	III	7.93			<b>ITS942</b>	<b>210TC</b>	1159	4367	
	183	2443	5.4	III	9.59					<b>210TC</b>	1284	4824
	164	2717	5.5	III	10.67					<b>210TC</b>	1358	5097
	148	3018	5.0	III	11.82					<b>210TC</b>	1432	5372
	136	3292	5.4	III	12.91					<b>210TC</b>	1499	5618
	123	3629	4.9	III	14.21					<b>210TC</b>	1574	5899
	110	4054	5.2	III	15.91					<b>210TC</b>	1665	6240
	101	4417	4.8	III	17.33					<b>210TC</b>	1736	6509
	92	4877	4.5	III	19.13					<b>210TC</b>	1820	6831
	75	5948	3.7	III	23.32					<b>210TC</b>	1993	6969
	60	7505	3.2	III	29.42					<b>210TC</b>	2199	6969
	56	7992	3.3	III	31.35	<b>210TC</b>	2255			6969		
	44	10099	2.6	III	39.60	<b>210TC</b>	2450	6969				
41	11028	2.2	III	43.25	<b>210TC</b>	2517	6969					
37	12232	2.0	II	47.95	<b>210TC</b>	2588	6969					
33	13621	2.1	III	53.43	<b>210TC</b>	2673	6969					
30	14843	1.9	II	58.22	<b>210TC</b>	2715	6969					
27	16454	1.7	II	64.53	<b>210TC</b>	2750	6969					
25	17949	1.5	II	70.40	<b>210TC</b>	2763	6969					
23	19640	1.4	II	77.00	<b>210TC</b>	2757	6969					
19	23481	1.2	I	94.05	<b>ITS943</b>	<b>210TC</b>	2650	6969				
18	24959	1.1	I	99.94			<b>210TC</b>	3327	6969			
16	27322	1.0	I	109.42			<b>210TC</b>	3310	6969			
15	30216	0.9	I	121.00			<b>210TC</b>	3254	6969			

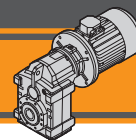


**Datos técnicos**

**Technical data**



P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb-in]	sf	AGMA	i			R <sub>2</sub> U [lb]	R <sub>2</sub> P [lb]	P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb-in]	sf	AGMA	i			R <sub>2</sub> U [lb]	R <sub>2</sub> P [lb]								
<b>10.0 hp</b>										<b>15.0 hp</b>																	
7.5 kW (1750 rpm)	<b>309</b>	1965	2.2	III	5.66	<b>ITS922</b>	<b>210TC</b>	615	2229	11.0 kW (1750 rpm)	<b>285</b>	3133	2.4	III	6.13	<b>ITS932</b>	<b>250TC</b>	702	2818								
	<b>248</b>	2452	1.8	II	7.06								<b>229</b>	3903	1.9			II	7.65								
	<b>209</b>	2912	1.5	II	8.37								<b>194</b>	4611	1.6			II	9.03								
	<b>192</b>	3177	1.8	II	9.13								<b>177</b>	5054	1.6			II	9.90								
	<b>168</b>	3629	1.6	II	10.43								<b>155</b>	5744	1.4			II	11.27								
	<b>145</b>	4186	1.4	II	12.04								<b>134</b>	6665	1.2			I	13.06								
	<b>130</b>	4691	1.4	II	13.50								<b>120</b>	7435	1.1			I	14.58								
	<b>113</b>	5390	1.2	I	15.50								<b>104</b>	8568	1.0			I	16.81								
	<b>98</b>	6196	1.3	I	17.81								<b>91</b>	9815	0.9			I	19.24								
	<b>81</b>	7559	1.1	I	21.73								<b>74</b>	12019	0.9			I	23.57								
	<b>76</b>	7966	1.0	I	22.92																						
	<b>74</b>	8275	1.0	I	23.80																						
	<b>66</b>	9258	0.9	I	26.63																						
	<b>285</b>	2133	3.5	III	6.13			<b>ITS932</b>	<b>210TC</b>	730	2888		<b>221</b>	4045	3.3			III	7.93	<b>ITS942</b>	<b>250TC</b>	1109	4253				
	<b>229</b>	2664	2.8	III	7.65										<b>183</b>			4894	2.7			III	9.59				
	<b>194</b>	3142	2.4	III	9.03										<b>164</b>			5443	2.8			III	10.67				
	<b>177</b>	3443	2.3	III	9.90										<b>148</b>			6027	2.5			III	11.82				
	<b>155</b>	3921	2.0	II	11.27										<b>136</b>			6585	2.7			III	12.91				
	<b>134</b>	4540	1.8	II	13.06										<b>123</b>			7249	2.4			III	14.21				
	<b>120</b>	5071	1.6	II	14.58										<b>110</b>			8116	2.6			III	15.91				
	<b>104</b>	5841	1.5	II	16.81										<b>101</b>			8842	2.4			III	17.33				
	<b>91</b>	6691	1.3	I	19.24										<b>92</b>			9754	2.3			III	19.13				
	<b>74</b>	8196	1.3	I	23.57								<b>75</b>	11895	1.9	II	23.32										
	<b>71</b>	8603	1.2	I	24.75								<b>60</b>	15011	1.6	II	29.42										
	<b>68</b>	8975	1.4	II	25.81								<b>56</b>	15993	1.7	II	31.35										
	<b>61</b>	10046	1.2	I	28.88						<b>44</b>	20197	1.3	I	39.60												
	<b>50</b>	12072	1.2	I	34.71						<b>33</b>	27251	1.0	I	53.43												
	<b>46</b>	13214	1.1	I	38.01																						
	<b>41</b>	14790	1.0	I	42.53																						
	<b>37</b>	16250	0.9	I	46.73																						
	<b>221</b>	2753	4.8	III	7.93	<b>ITS942</b>	<b>210TC</b>	1141	4326		<b>221</b>	5514	2.4	III	7.93	<b>ITS942</b>	<b>250TC</b>	1073	4170								
	<b>183</b>	3337	4.0	III	9.59								<b>183</b>	6673	2.0			II	9.59								
	<b>164</b>	3708	4.1	III	10.67								<b>164</b>	7417	2.0			II	10.67								
	<b>148</b>	4107	3.7	III	11.82								<b>148</b>	8222	1.8			II	11.82								
	<b>136</b>	4487	3.9	III	12.91								<b>136</b>	8975	2.0			II	12.91								
	<b>123</b>	4939	3.6	III	14.21								<b>123</b>	9886	1.8			II	14.21								
	<b>110</b>	5532	3.8	III	15.91								<b>110</b>	11063	1.9			II	15.91								
	<b>101</b>	6027	3.5	III	17.33								<b>101</b>	12055	1.8			II	17.33								
	<b>92</b>	6656	3.3	III	19.13								<b>92</b>	13303	1.7			II	19.13								
	<b>75</b>	8107	2.7	III	23.32								<b>75</b>	16223	1.4			II	23.32								
	<b>60</b>	10231	2.3	III	29.42								<b>60</b>	20463	1.2			I	29.42								
	<b>56</b>	10904	2.4	III	31.35								<b>56</b>	21808	1.2			I	31.35								
	<b>44</b>	13772	1.9	II	39.60						<b>44</b>	27544	1.0	I	53.43												
	<b>41</b>	15046	1.6	II	43.25																						
	<b>37</b>	16675	1.4	II	47.95																						
	<b>33</b>	18578	1.5	II	53.43																						
	<b>30</b>	20242	1.4	II	58.22																						
	<b>27</b>	22446	1.3	I	64.53																						
	<b>19</b>	32022	0.9	I	94.05	<b>ITS943</b>	<b>210TC</b>	2650	6969																		





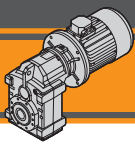
Datos técnicos

Technical data

P <sub>1</sub> [hp]	n <sub>2</sub> [rpm]	M <sub>2</sub> [lb-in]	sf	AGMA	i			R <sub>2</sub> U [lb]	R <sub>2</sub> P [lb]	
<b>25.0 hp</b>										
18.5 kW (1750 rpm)	221	6797	2,0	II	7,93	ITS942	280TC	1041	4098	
	183	8222	1,6	II	9,59			280TC	1123	4462
	164	9152	1,6	II	10,67			280TC	1168	4669
	148	10143	1,5	II	11,82			280TC	1209	4871
	136	11072	1,6	II	12,91			280TC	1242	5044
	123	12196	1,5	II	14,21			280TC	1275	5232
	110	13648	1,6	II	15,91			280TC	1307	5446
	101	14860	1,4	II	17,33			280TC	1326	5602
	92	16409	1,3	I	19,13			280TC	1341	5774
	75	20003	1,1	I	23,32			280TC	1514	6459
	60	25242	0,9	I	29,42			280TC	1798	6969
	56	26889	1,0	I	31,35			280TC	1812	6969

<b>30.0 hp</b>										
22.3 kW (1750 rpm)	221	8196	1,6	II	7,93	ITS942	280TC	1009	4025	
	183	9913	1,3	I	9,59			280TC	1080	4364
	164	11028	1,4	II	10,67			280TC	1117	4554
	148	12223	1,2	I	11,82			280TC	1149	4736
	136	13347	1,3	I	12,91			280TC	1173	4889
	123	14701	1,2	I	14,21			280TC	1194	5052
	110	16445	1,3	I	15,91			280TC	1211	5232
	101	17914	1,2	I	17,33			280TC	1326	5602
	92	19781	1,1	I	19,13			280TC	1341	5774
	75	24109	0,9	I	23,32			280TC	1514	6459

ITS

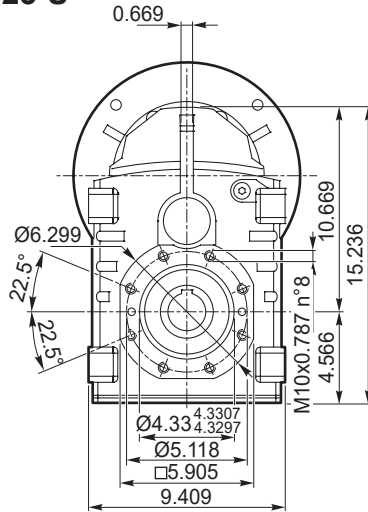


**Dimensiones**

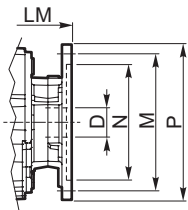
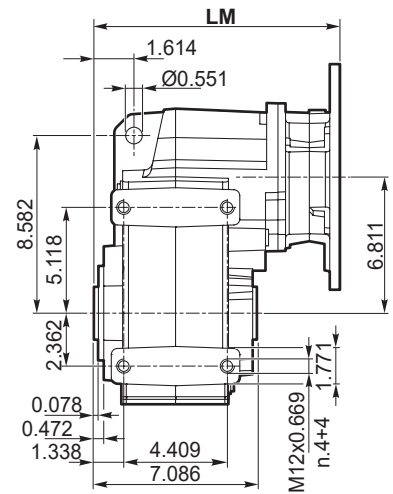
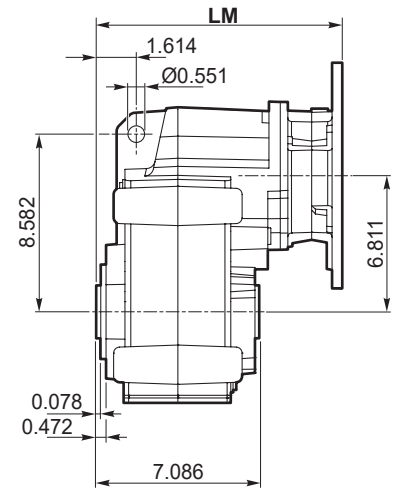
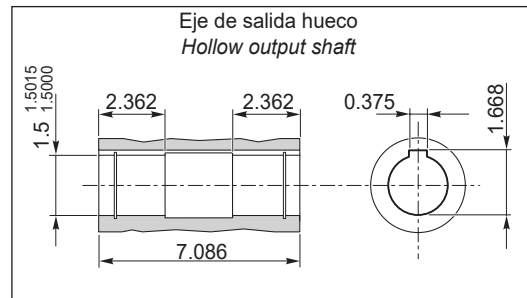
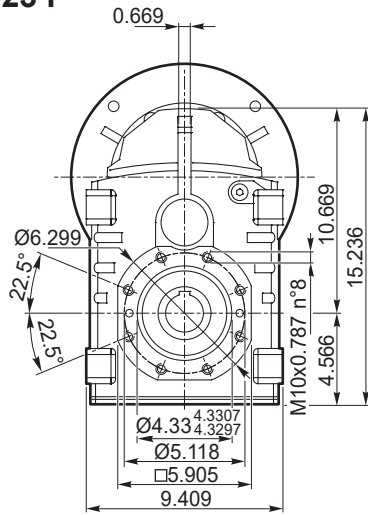
**Dimensions**

**ITS 922 - ITS 923**

**ITS 922 U**  
**ITS 923 U**

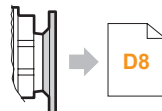


**ITS 922 P**  
**ITS 923 P**

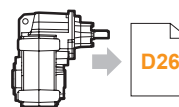


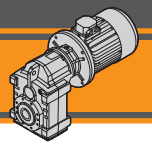
Dimensiones NEMA/ NEMA Dimensions				
	56C	140TC	180TC	210TC
LM		11.87	12.893	
N		4.5	8.5	
M		5.88	7.25	
P		6.5	9	
D	0.625	0.875	1.125	1.375

Bridas Motor  
NEMA C-FACE



ITSIS..



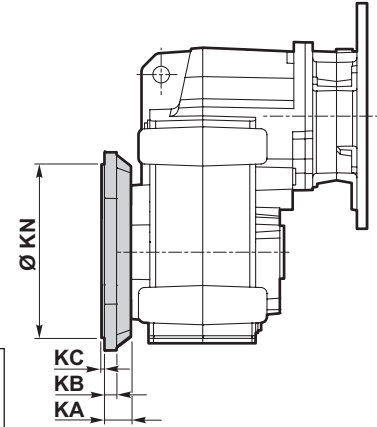
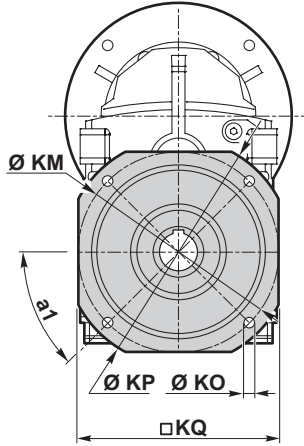


Dimensiones

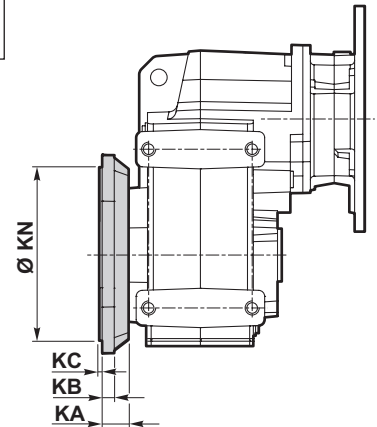
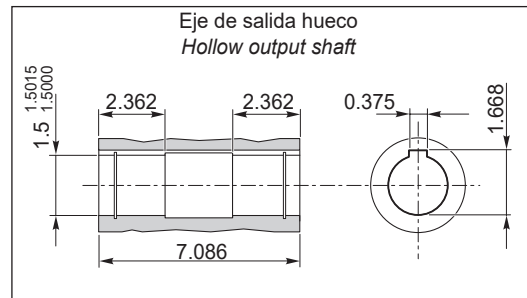
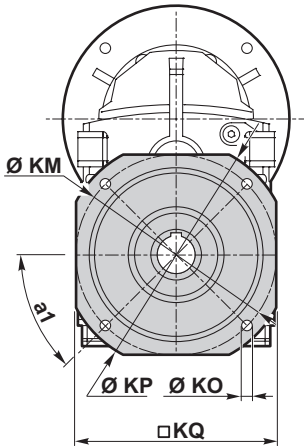
Dimensions

ITS 922 - ITS 923

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



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

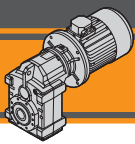


ITS

Versión F / F Version											
ITS	KA	a <sub>1</sub>	KB	KC	Ø KM	KN	KO	□KP	KQ	Brida / Flange	
										Tipo / Type	Peso / Weight [lb]
922 923	1.377	45°	0.512	0.157	6.496	5.118 <sup>5.1164</sup> <sub>5.1148</sub>	0.433	7.874	6.772	F200	5.7
	1.377	45°	0.512	0.157	8.465	7.086 <sup>7.0849</sup> <sub>7.0833</sub>	0.551	9.843	8.465	F250	8.3
	1.377	45°	0.512	0.157	10.433	9.055 <sup>9.0534</sup> <sub>9.0519</sub>	0.551	11.811	10.433	F300	12.3

Peso / Weight [lb]				
ITS	56C	140TC	180TC	210TC
ITS922 U	84.37	84.37	91.95	91.95
ITS922 G	83.27	83.27	90.85	90.85
ITS923 U	86.58	86.58	94.16	94.16
ITS923 G	85.47	85.47	93.06	93.06

Nota: Peso del reductor llenado con aceite para la posición de montaje M1 (B3)  
Note: weight of the gearbox filled with oil for M1 (B3) assembly position

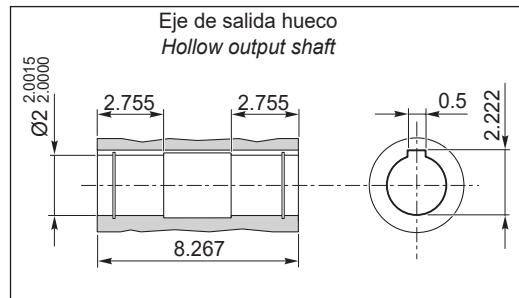
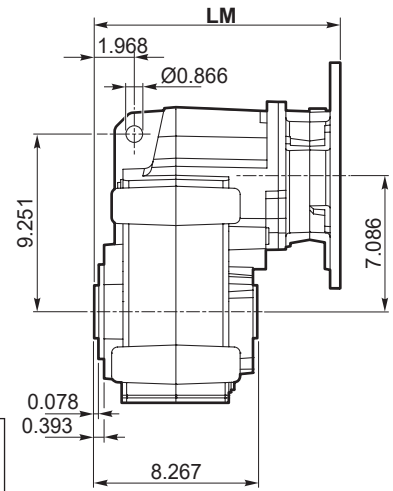
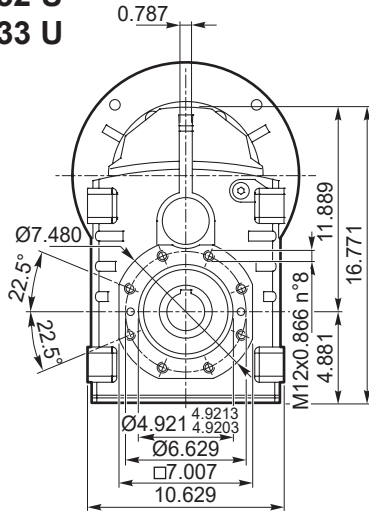


**Dimensiones**

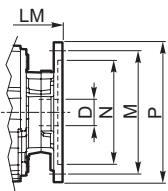
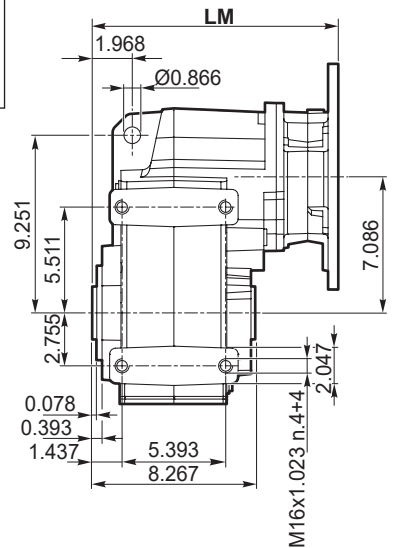
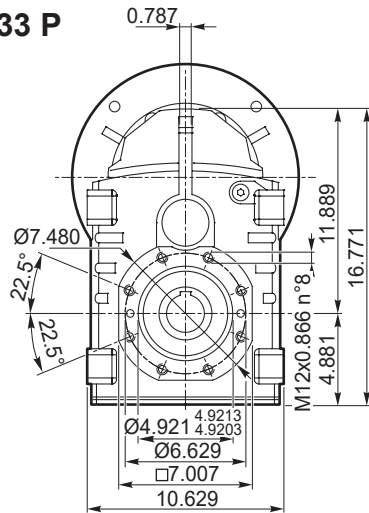
**Dimensions**

**ITS 932 - ITS 933**

**ITS 932 U**  
**ITS 933 U**

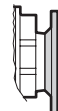


**ITS 932 P**  
**ITS 933 P**

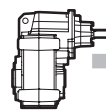


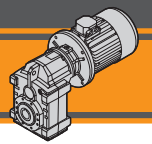
Dimensiones NEMA/ NEMA Dimensions					
	56C	140TC	180TC	210TC	250TC
<b>LM</b>		12.46	13.484		15.433
<b>N</b>		4.5	8.5		
<b>M</b>		5.875	7.25		
<b>P</b>		6.5	9		10
<b>D</b>	0.625	0.875	1.125	1.375	1.625

Bridas Motor  
NEMA C-FACE



ITSIS..



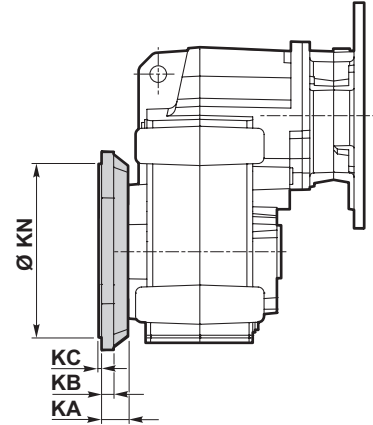
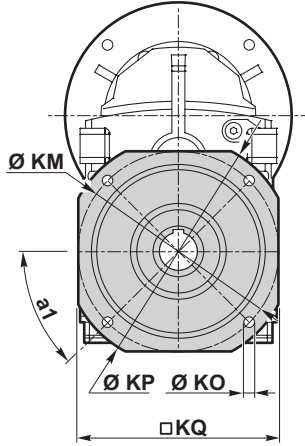


Dimensiones

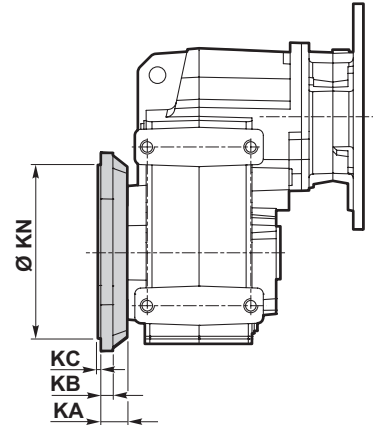
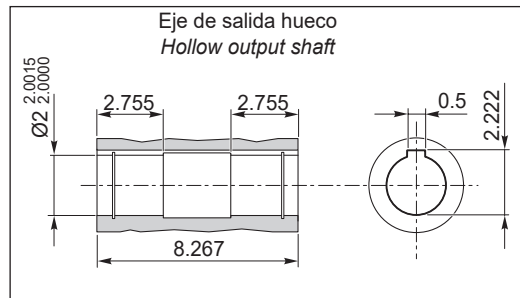
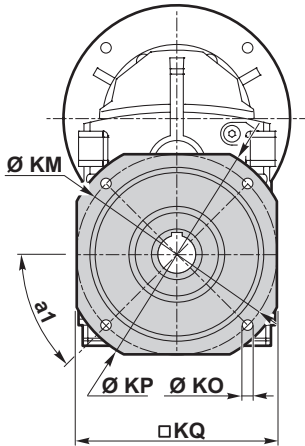
Dimensions

ITS 932 - ITS 933

ITS 932 U/F...  
ITS 933 U/F...



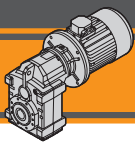
ITS 932 P/F...  
ITS 933 P/F...



ITS

Versión F / F Version													
ITS	KA	a <sub>1</sub>	KB	KC	Ø KM	KN	KO	□KP	KQ	Brida / Flange			
										Tipo / Type	Peso / Weight [lb]		
932 933	1.574	45°	0.630	0.157	8.465	7.086 <sup>7.0849</sup> <sub>7.0833</sub>	0.551	9.843	8.465	F250	8.3		
	1.574	45°	0.630	0.157	10.433	9.055 <sup>9.0534</sup> <sub>9.0519</sub>	0.551	11.811	10.236	F300	12.3		
	1.574	45°	0.630	0.157	11.811	9.842 <sup>9.8408</sup> <sub>9.8393</sub>	0.709	13.780	11.811	F350	20.0		
Peso / Weight [lb]													
ITS	56C			140TC			180TC			210TC		250TC	
ITS932 U	113.03			113.03			120.61			120.61		133.75	
ITS932 G	113.03			113.03			120.61			120.61		133.75	
ITS933 U	113.03			113.03			120.61			120.61		133.75	
ITS933 G	113.03			113.03			120.61			120.61		133.75	

Nota: Peso del reductor llenado con aceite para la posición de montaje M1 (B3)  
Note: weight of the gearbox filled with oil for M1 (B3) assembly position

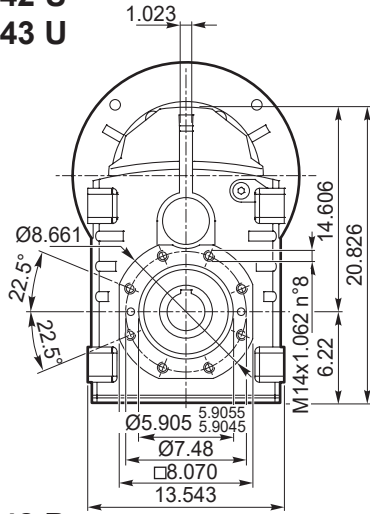


**Dimensiones**

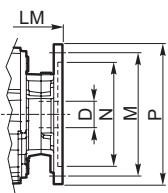
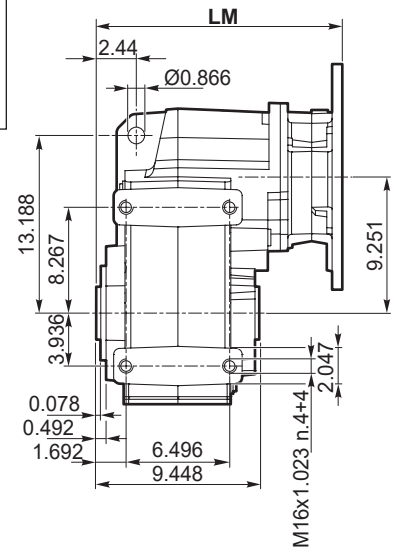
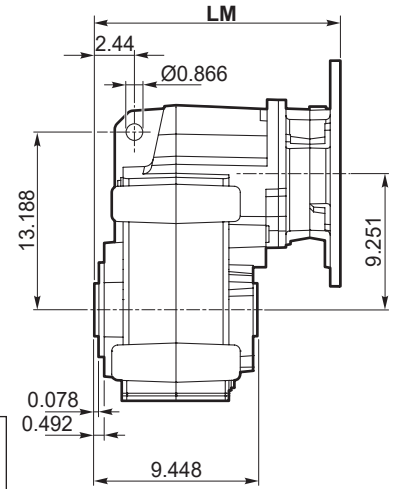
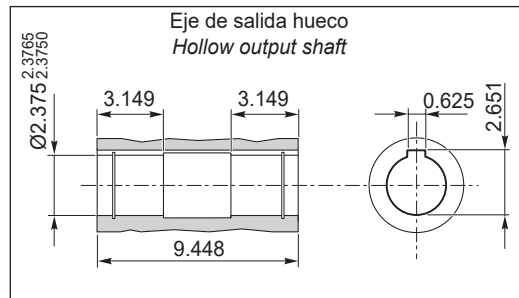
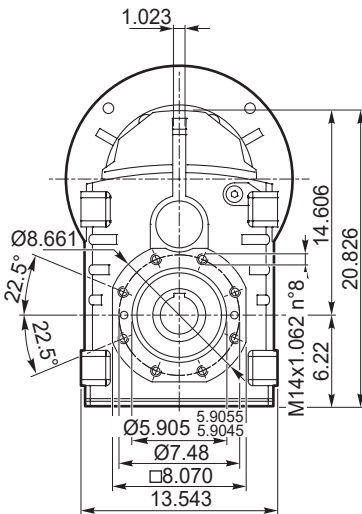
**Dimensions**

**ITS 942 - ITS 943**

**ITS 942 U**  
**ITS 943 U**

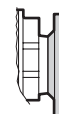


**ITS 942 P**  
**ITS 943 P**



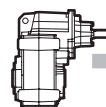
Dimensiones NEMA/ NEMA Dimensions						
	56C	140TC	180TC	210TC	250TC	280TC
<b>LM</b>	13.562		14.586		16.535	16.929
<b>N</b>	4.5			8.5		10.5
<b>M</b>	5.875			7.25		9
<b>P</b>	6.5			9		10
<b>D</b>	0.625	0.875	1.125	1.375	1.625	1.875

Bridas Motor  
NEMA C-FACE

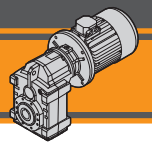


D10

ITSIS..



D26

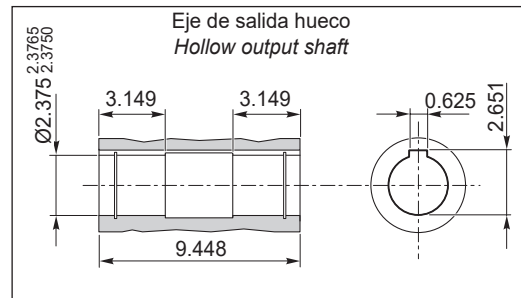
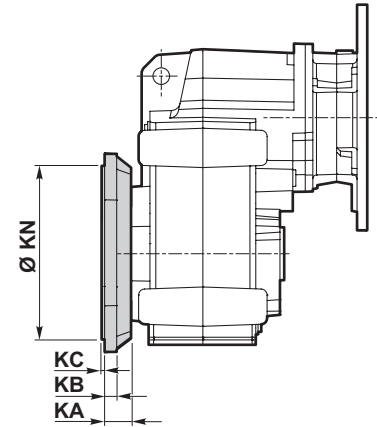
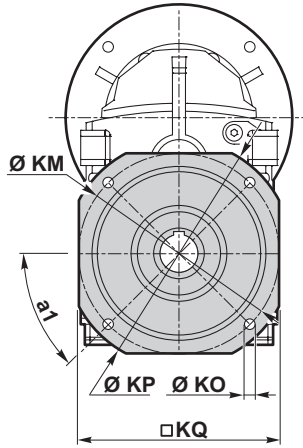


Dimensiones

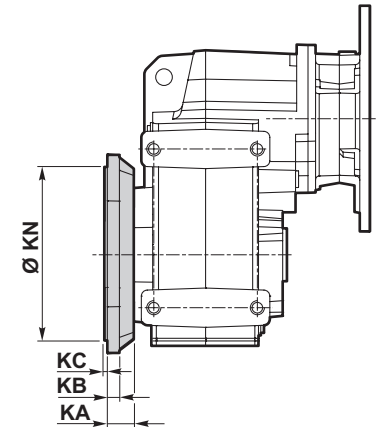
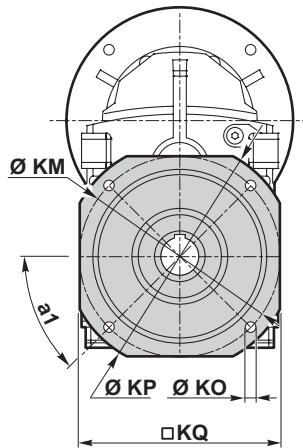
Dimensions

ITS 942 - ITS 943

ITS 942 U/F...  
ITS 943 U/F...



ITS 942 P/F...  
ITS 943 P/F...



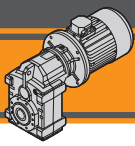
Versión F / F Version											
ITS	KA	a <sub>1</sub>	KB	KC	Ø KM	KN	KO	□KP	KQ	Brida / Flange	
										Tipo / Type	Peso / Weight [lb]
942 943	1.673	45°	0.709	0.157	10.433	9.055 <sup>9.0534</sup> <sub>9.0519</sub>	0.551	11.811	10.433	F300	16.3
	1.673	45°	0.709	0.157	11.811	9.842 <sup>9.8408</sup> <sub>9.8393</sub>	0.709	13.780	11.811	F350	22.4
	1.673	45°	0.709	0.157	15.748	13.779 <sup>13.7778</sup> <sub>13.7763</sub>	0.709	17.717	15.748	F400	37.2

Peso / Weight [lb]							
ITS	56C	140TC	180TC	210TC	250TC	280TC	
ITS942 U	199.01	199.01	206.59	206.59	219.73	222.51	
ITS942 G	196.81	196.81	204.39	204.39	217.53	220.31	
ITS943 U	205.62	205.62	213.21	213.21	226.35	229.13	
ITS943 G	203.42	203.42	211.00	211.00	221.14	226.92	

Nota: Peso del reductor llenado con aceite para la posición de montaje M1 (B3)  
Note: weight of the gearbox filled with oil for M1 (B3) assembly position

ITS

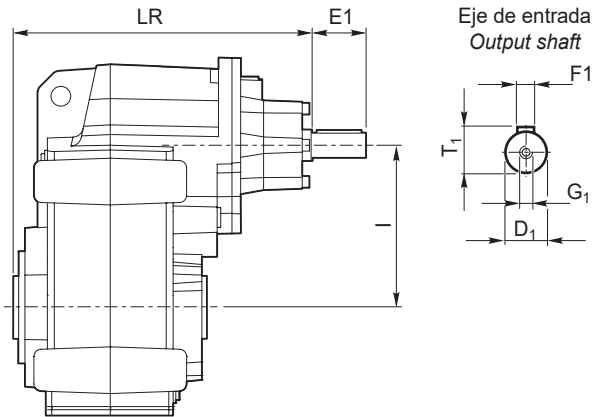




**Dimensiones**

**Dimensions**

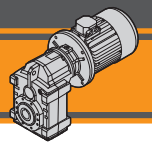
**ITSIS...**



ITHIS	Versione Version	LR	D1	E1	I	T1	F1	G1
922	U P U/F... P/F...	12.401	0.875 <sup>0.8742</sup> / <sub>0.8734</sub>	1.969	1.26	0.958	0.188	1/4-20 UNC
923		12.401	0.875 <sup>0.8742</sup> / <sub>0.8734</sub>	1.969	1.26	0.958	0.188	1/4-20 UNC
932		12.992	0.875 <sup>0.8742</sup> / <sub>0.8734</sub>	1.969	1.26	0.958	0.188	1/4-20 UNC
933		12.992	0.875 <sup>0.8742</sup> / <sub>0.8734</sub>	1.969	1.26	0.958	0.188	1/4-20 UNC
942		14.783	1.625 <sup>1.6254</sup> / <sub>1.6248</sub>	3.15	1.476	1.791	0.375	5/8-11 UNC
943		14.783	1.625 <sup>1.6254</sup> / <sub>1.6248</sub>	3.15	1.476	1.791	0.375	5/8-11 UNC

ITHIS	Peso / Weight [lb]
922 U	98.54
922 P	97.44
923 U	100.75
923 P	99.64
932 U	127.2
932 P	126.1
933 U	131.61
933 P	130.51
942 U	225.09
942 P	222.88
943 U	219.8
943 P	217.59

Nota: ITSIS943 relación 295,48 – 323,40 – 356,40 pedido bajo demanda.  
Favor de contactar al servicio técnico TRANSTECNO.  
Note: ITSIS943 ratios 295,48 – 323,40 – 356,40 available upon request.  
Please contact TRANSTECNO technical service.

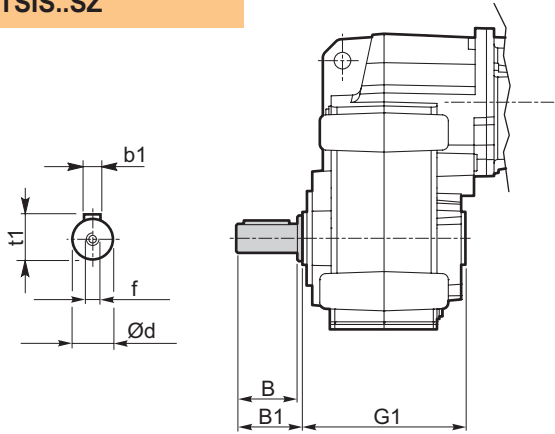


Accesorios

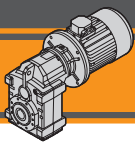
Accessories

Eje de salida / Output shaft

ITS...SZ  
ITSIS..SZ

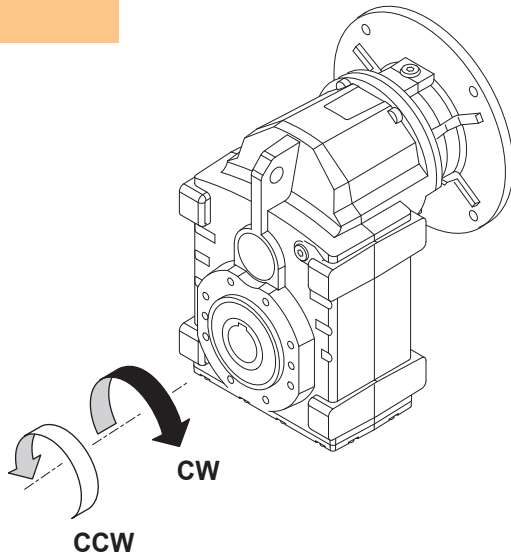


ITS	d	B	B1	G1	f	b1	t1	Peso / Weight [ lb ]
<b>922</b> <b>923</b>	1.5 <sup>1.5000</sup> 1.4988	2.992	3.149	7.086	5/8 - 11 UNC	0.375	1.664	4.85
<b>932</b> <b>933</b>	2 <sup>2.0000</sup> 1.9988	3.937	4.133	8.267	5/8 - 11 UNC	0.5	2.218	9.47
<b>942</b> <b>943</b>	2.375 <sup>2.3750</sup> 2.3738	4.724	4.921	9.448	3/4 - 10 UNC	0.625	2.645	15.65



**Dispositivo anti-retorno / Backstop device**

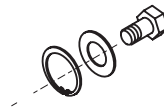
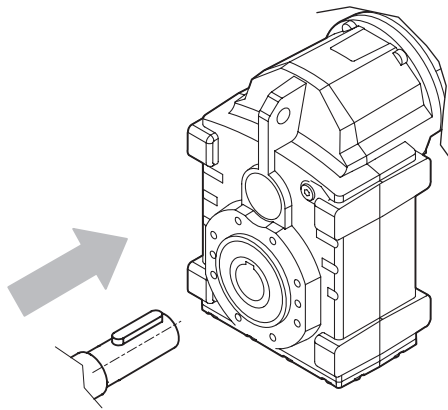
**ITS...CW  
ITS...CCW**



El dispositivo anti-retorno permite que la flecha de salida gire en un solo sentido.  
Antes de utilizarlo, especifique la rotación deseada como se muestra en la 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.*

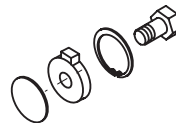
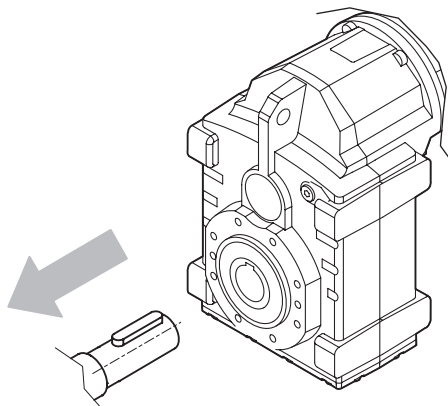
**Kit de montaje para eje solido / Output shaft assembly kit**



Kit de montaje para eje sólido disponible a solicitud.  
Referirse con nuestro departamento técnico para conocer las instrucciones de montaje.

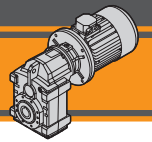
*Output shaft assembly kit available upon request:  
for assembly instructions please contact our Technical Assistance*

**Kit de montaje para eje solido / Output shaft disassembly kit**



Kit de desmontaje para eje sólido disponible a solicitud.  
Referirse con nuestro departamento técnico para conocer las instrucciones de montaje.

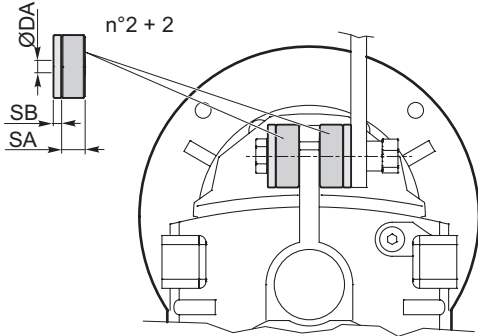
*Output shaft disassembly kit available upon request:  
for assembly instructions please contact our Technical Assistance*



Kit Brazo de reacción / Torque arm kit

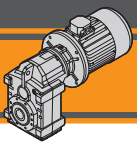
Kit brazo de reacción disponible a solicitud, referirse con nuestro departamento técnico para conocer las instrucciones de montaje.

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



Brazo de reacción / Torque arm

ITS	ØDA	SA	SB
<b>922</b> <b>923</b>	0.511	0.59	0.196
<b>932</b> <b>933</b>	0.826	1.181	0.393
<b>942</b> <b>943</b>	0.826	1.181	0.393



**ITS** Motorreductores pendulares  
Helical parallel gearmotors

**Nema 60 Hz**



Apéndice  
**Appendix**

**60Hz**

**Nema**





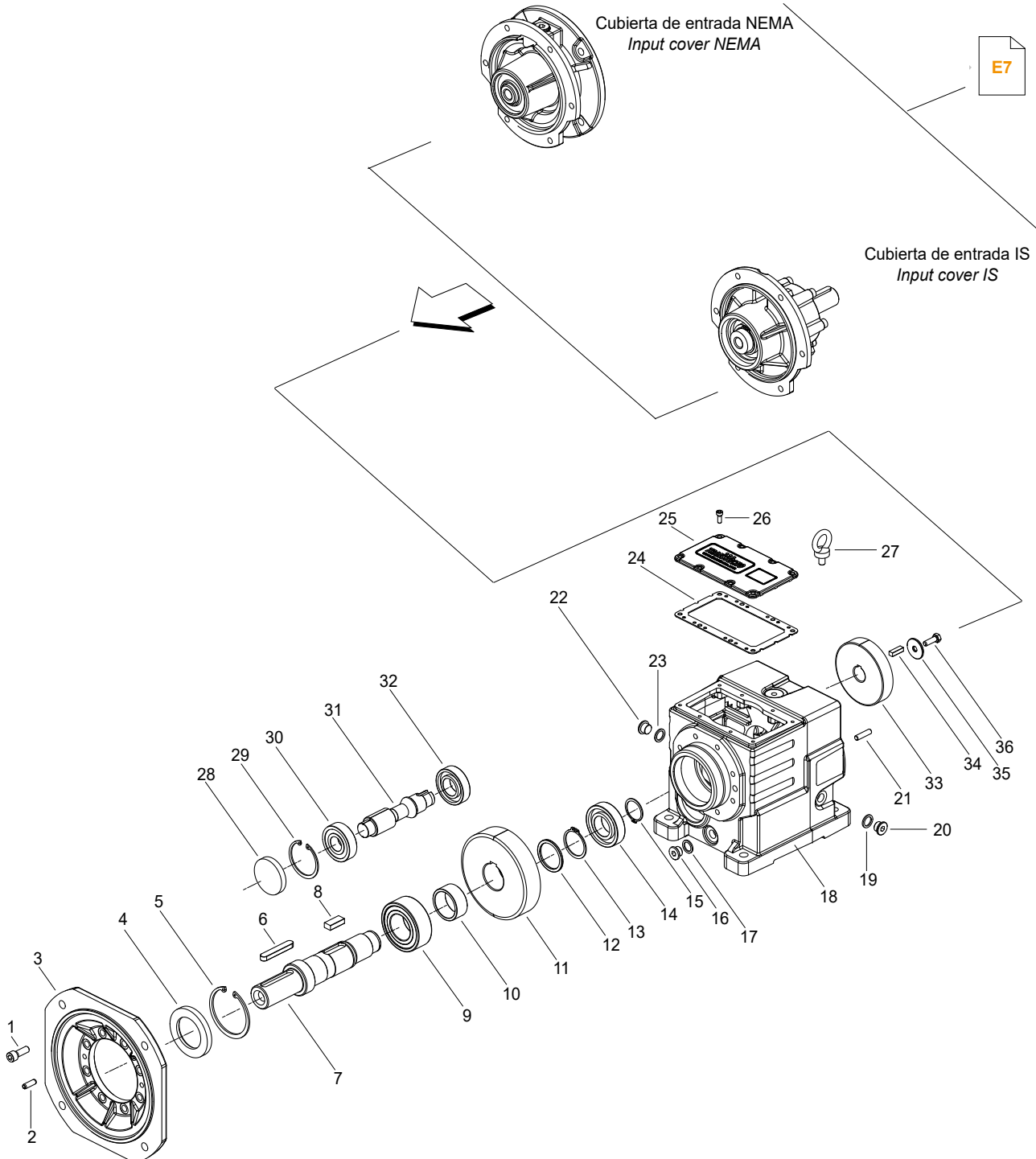


<b>Índice</b>	<b>Index</b>	Pag. Page
Listado de refacciones	<i>Spare parts list</i>	
ITH..2	<i>ITH..2</i>	<b>E2</b>
ITH..3	<i>ITH..3</i>	<b>E3</b>
ITB..	<i>ITB..</i>	<b>E4</b>
ITS..2	<i>ITS..2</i>	<b>E5</b>
ITS..3	<i>ITS..3</i>	<b>E6</b>
Cubierta de entrada	<i>Input cover</i>	<b>E7</b>

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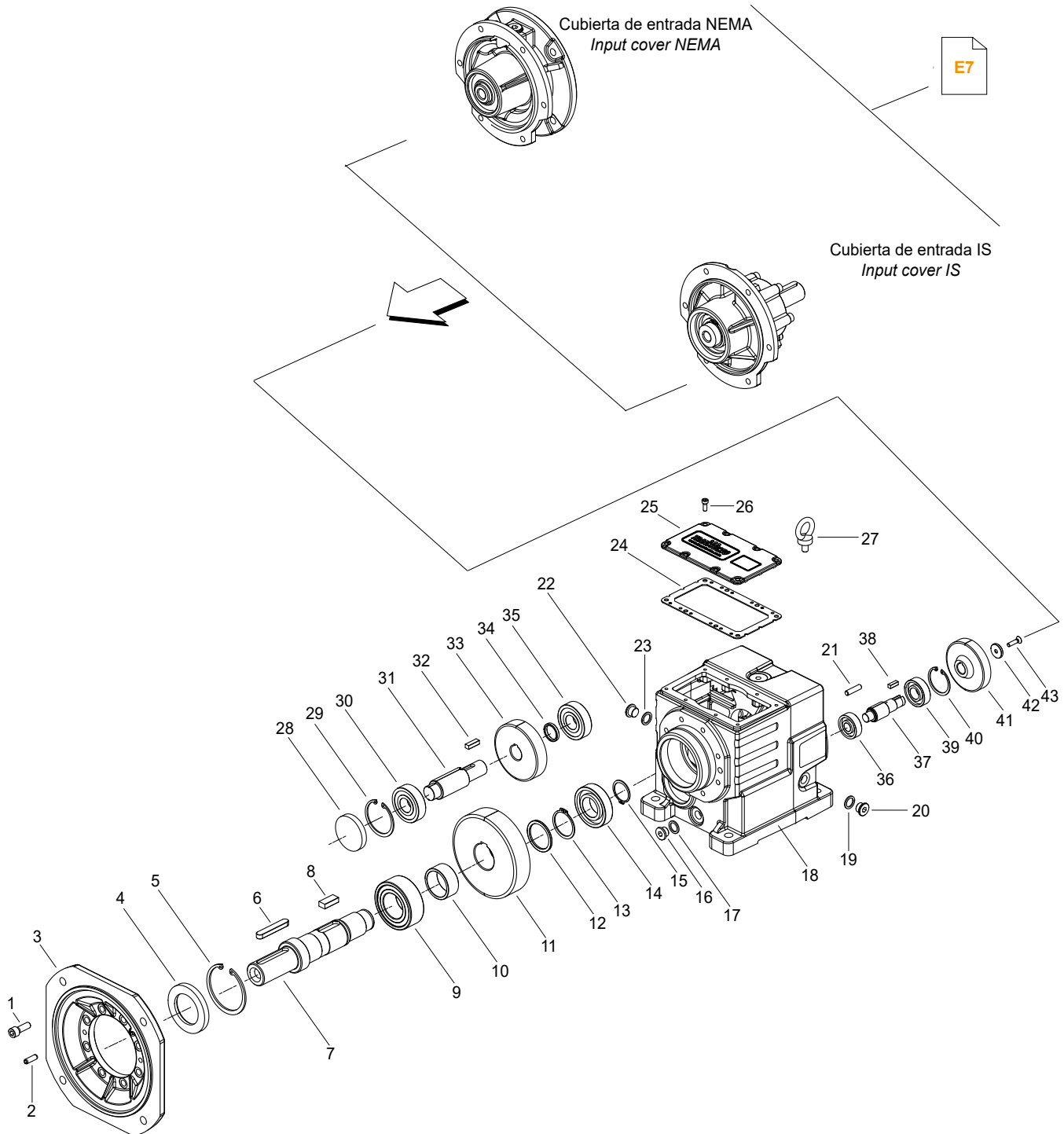
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ITH..2



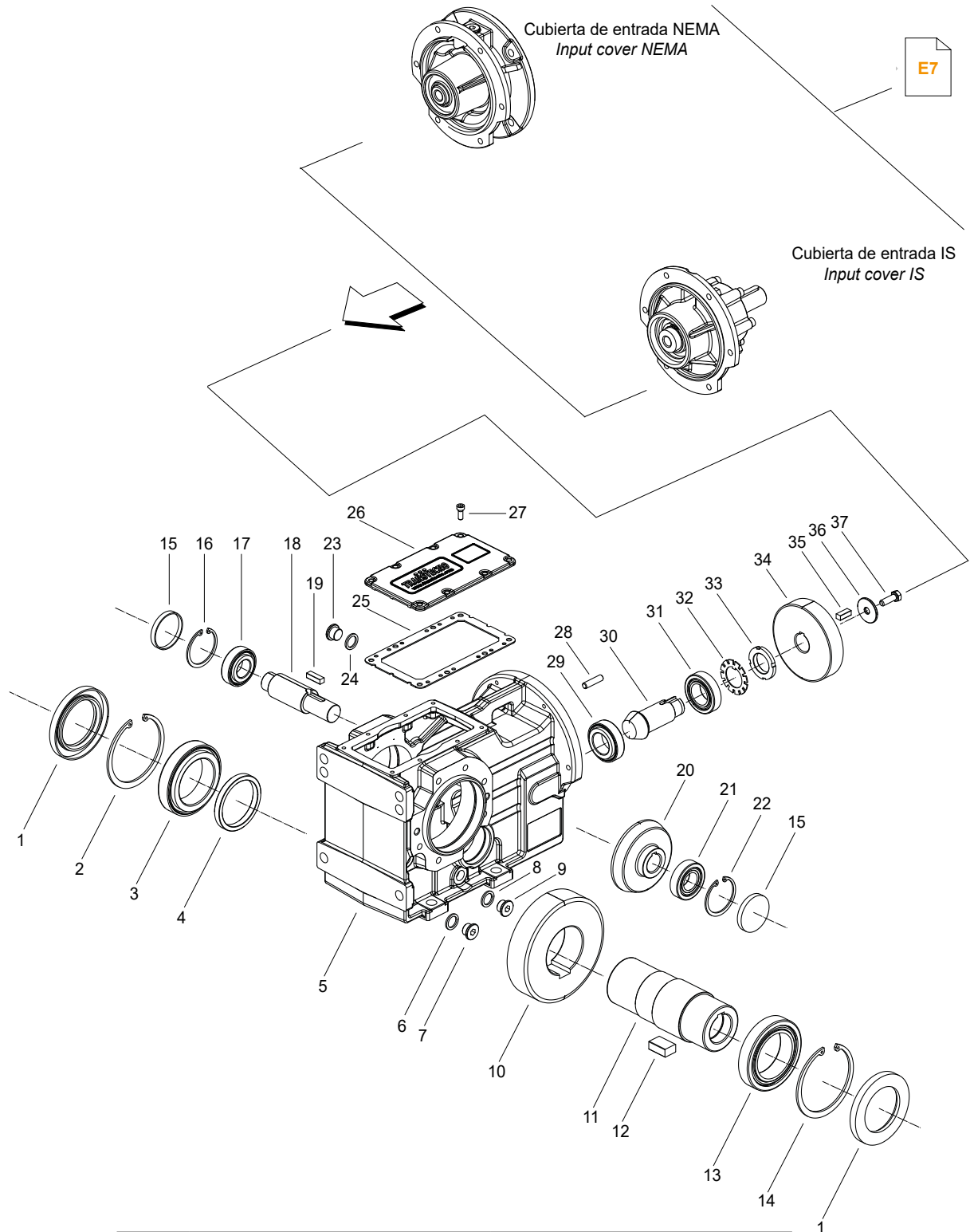
ITH	Sellos de aceite / Oil seals	
	4	28
112	45/80/10	52x10
122	55/85/10	62x10
132	65/100/10	72x10
142	75/120/10	80x10

**ITH..3**



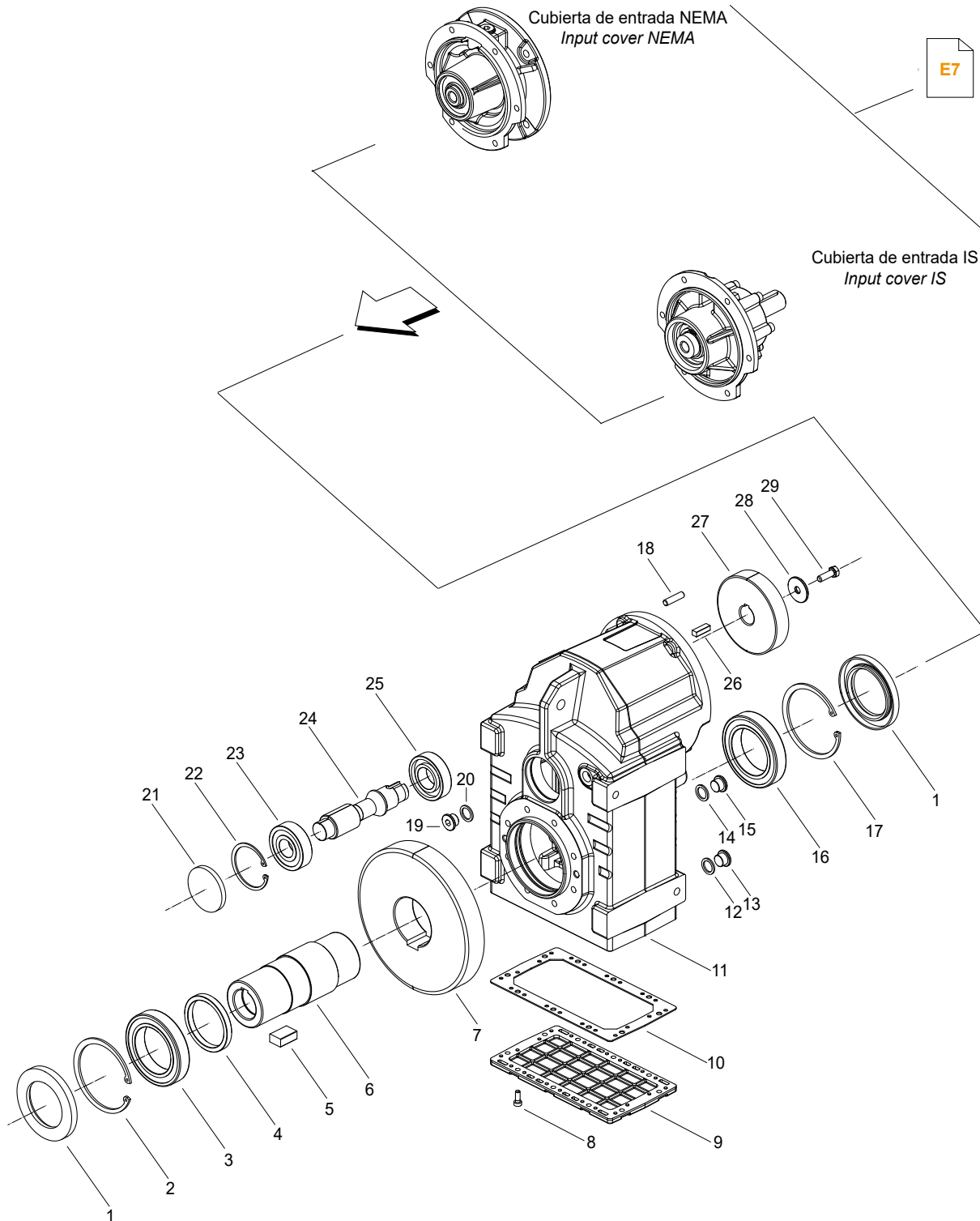
ITH	Sellos de aceite / Oil seals	
	4	RCA
113	45/80/10	52x10
123	55/85/10	62x10
133	65/100/10	72x10
143	75/120/10	80x10

**ITB**



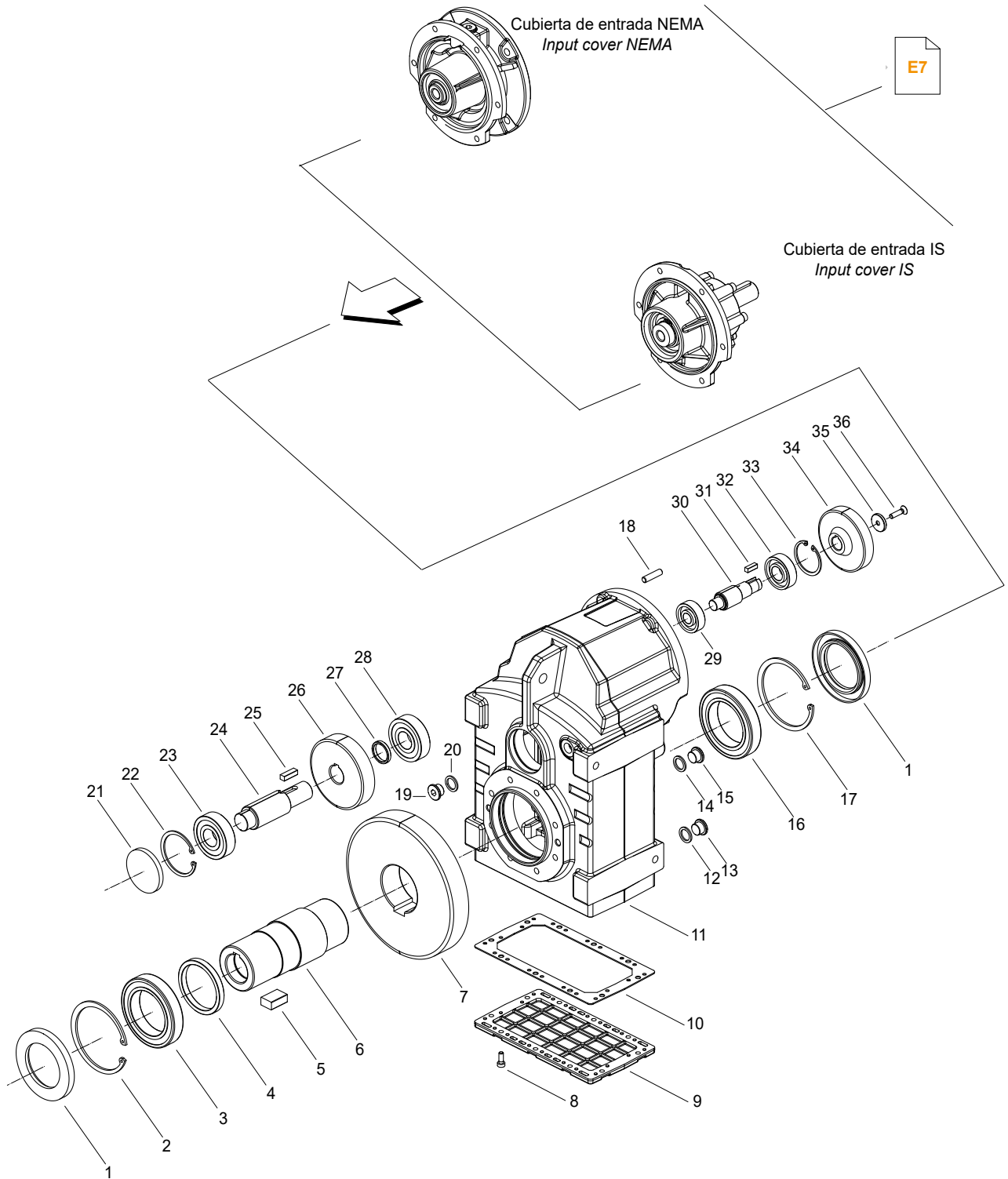
ITB	Sellos de aceite / Oil seals	
	1	RCA
<b>423</b>	65/100/10	52x7
<b>433</b>	70/110/12	72x10
<b>443</b>	85/130/10	80x10

ITS..2



ITS	Sellos de aceite / Oil seals	
	1	RCA
922	65/100/10	62x7
932	70/110/12	62x7
942	85/130/10	72x10

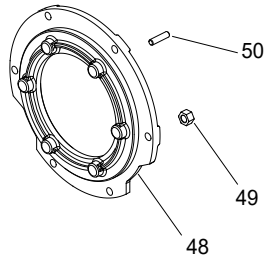
**ITS..3**



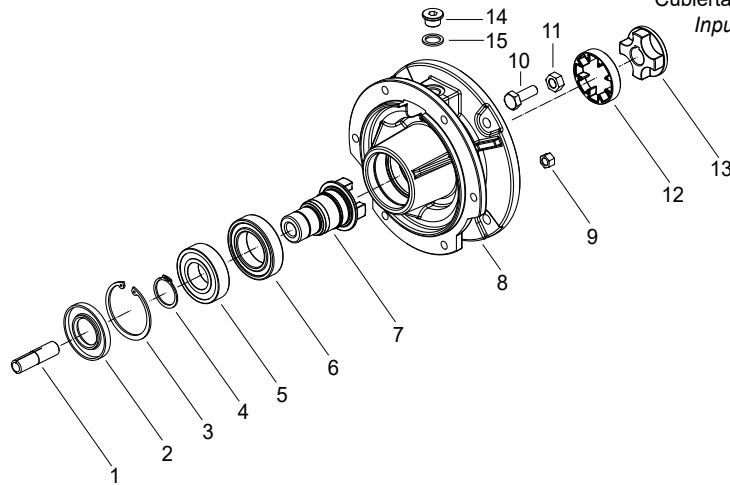
ITS	Sellos de aceite / Oil seals	RCA
	1	21
923	65/100/10	62x10
933	70/110/12	62x10
943	85/130/10	72x10

**CUBIERTA DE ENTRADA - INPUT COVER**

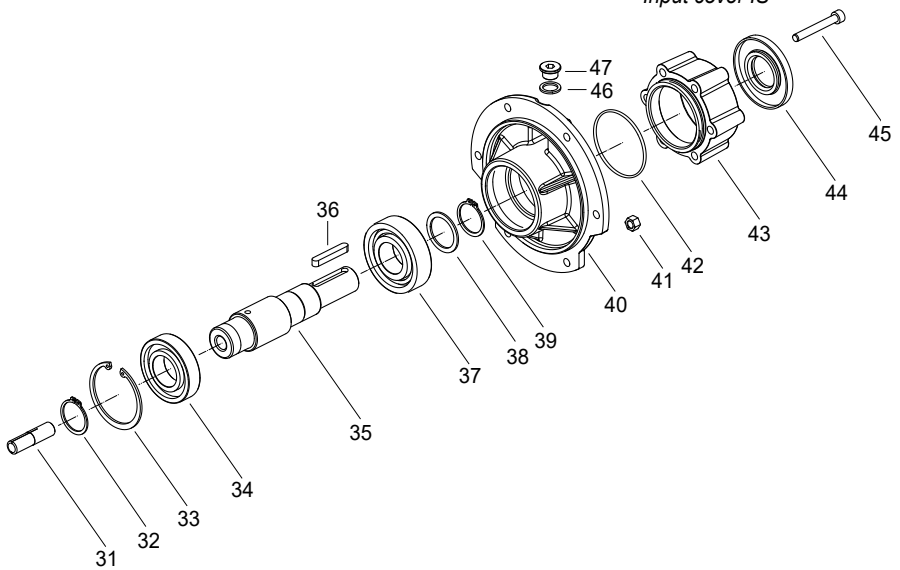
Adaptador de entrada...  
Input adapter...



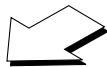
Cubierta de entrada NEMA  
Input cover NEMA



Cubierta de entrada IS  
Input cover IS



ITH..  
ITB..  
ITS..



NEMA	Sellos de aceite / Oil seals
	2
56	30/62/7
140TC	30/62/7
180TC	40/80/10
210TC	40/80/10
250TC	50/110/12
280TC	50/110/12

IS	Sellos de aceite / Oil seals
	44
0.875	35/80/8
1.625	45/100/10





 **TRANSTECNO SRL  
HEADQUARTERS**  
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

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No.4 Xiuyan Road Fengdu Industry Zone  
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Hangzhou City, Zhejiang Province  
311115 – CHINA  
T +86 571 86 92 02 60  
F +86 571 86 92 18 10  
info-china@transtecno.cn  
www.transtecno.cn

 **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 IBÉRICA  
THE MODULAR GEARMOTOR, S.A.**  
Carrer de la Ciència, 45  
08840 Viladecans (Barcelona) - SPAIN  
T +34 931 598 950  
info@transtecno.es  
www.transtecno.es

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

 **TRANSTECNO AANDRIJFTECHNIEK B.V.**  
De Stuwdam 43  
3815 KM Amersfoort - NETHERLANDS  
T +31 (0) 33 20 47 006  
info@transtecnoaandrijftechniek.nl  
www.transtecnoaandrijftechniek.nl

 **TRANSTECNO USA**  
8 Creek Parkway,  
Boothwyn PA 19061-8136  
UNITED STATES  
T + 1 (610) 4970154  
F +1 (610) 497 6085


14561 Frylands Blvd SE  
Monroe, WA 98272 - UNITED STATES  
T +1 360-863-1300  
F +1 360-863-1303  
usaoffice@transtecno.com  
www.transtecno.com

 **TRANSTECNO CANADA**  
51 B Caldari Road Unit 10  
Vaughan, ON L4K 4G3 - CANADA  
T +1 905 761 0762  
F +1 905 761 9265  
canadaoffice@transtecno.com  
www.transtecno.com

 **TRANSTECNO CHILE-PERU**  
Av. Los Libertadores 41  
Parque Industrial - Los Libertadores 16.500  
Santiago, Colina - CHILE  
T +56 2 29633870  
Carretera Panamericana-Sur KM 29.5,  
Interior 1-3, Z.I. Lurin - PERU  
T +51 1 3546259 / +51 1 3434231  
www.transtecno.com

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

 **SALES OFFICE OCEANIA**  
44 Northview drive, Sunshine west 3020  
Victoria - AUSTRALIA  
T +61 03 9312 4722  
F +61 03 9312 4714  
M +61 0438060997  
oceaniaoffice@transtecno.com  
www.transtecno.com.au

 **SALES OFFICE INDIA**  
Woodbine 2003/04, Everest World  
Kolshet Road, Thane west Mumbai 400607  
INDIA  
T +91 982 061 46 98  
indiaoffice@transtecno.com  
www.transtecno.com

 **SALES OFFICE SOUTH KOREA**  
772-41, Bongdong-ro, Bongdong-eup, Wanju-goon  
Chonbuk, 55313  
SOUTH KOREA  
T +82 70 8867 8897  
F +82 504 199 2107  
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koreaoffice@transtecno.com  
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