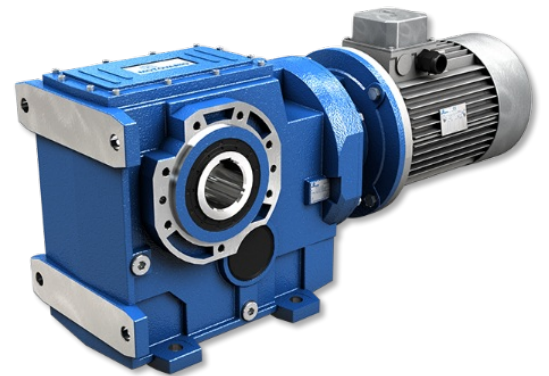


# TECHNICAL CATALOGUE



## HELICAL BEVEL GEARED MOTORS

STANDARD **IEC**  
DIRECTIVE **ATEX** 



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Motovario® corporate philosophy aims to promote the company's brand and products at an international level with determination and transparency, while constantly striving to offer innovative solutions for satisfying and anticipating the demand of the market. Motovario® provides technologically advanced solutions in the transmission components field for industrial and civil applications worldwide.

### The company

At Formigine, the heart of Modena's industrial district, Motovario® boasts a production plant spanning 50,000 m<sup>2</sup> that employs 500 people.

1965 Foundation of Motovario

1998 Acquisition of Spaggiari Trasmissioni, an important brand in the mechanical technology sector.

2006 Motovario acquisition by a private investment fund managed by Synergo SGR, in order to guarantee its development and support its expansion throughout the world.

2014 Acquisition of Pujol.

2015 Acquisition by TECO.

At the core of Motovario® lies an evolved production process based on technological solutions that convert power into movement. Motovario® is at the heart of the production processes that drive industries worldwide. Quality and reliability are the company's fundamental assets. Motovario® is present throughout the world with branches in France, Spain, Germany, England, China, the United States and India. The sales network and customer service guarantee immediate and high-quality support to all customers. In addition, the company boasts a worldwide network of MAC (Motovario Assembly Centre). Qualified assembly centres are present, in Italy, Australia, Benelux, Bulgaria, China, Finland, France, India, Ireland, Israel, Malaysia, Poland, Portugal, South Korea, Spain, Sweden, Turkey, United Kingdom, Ukraine and USA. The company is able to offer a wide range of products: speed variators, right-angle, helical-bevel, shaft-mounted, worm gear reducers and gearmotors, electric motors, inverter and inverter drives. Maximum quality and precision are ensured by the cutting-edge technologies implemented in the production process. 170 numerical control machines, served by LGV lines for storage in automatic warehouses, ensure a high standard of efficiency for the Motovario® production department.

The highly automated assembly lines are supported by a specific computerised system. The process statistical control system manages the production process to avoid rejects, by enabling the operator to monitor all the processing phases. The annealing, tempering, hardening and carburizing treatments are carried out inside the plant. The plant operates on a 24-hour basis, including holidays. Reliability, resilience and versatility are the distinctive features of Motovario® products, the most qualified solution to any power transmission requirement.

### Main fields OF APPLICATIONS

- Mechanical-electromechanical industry (car washing, pumps, barriers & automatic doors, circuit breakers)
- Ceramic industry (ovens, press feeding systems)
- Food, farming, oenology industry
- Wood, marble, glass industry
- Packaging & bottling industry
- Textile, shoes, leather industry
- Transport, logistic industry
- Construction industry
- Milling, animal husbandry, flower industry
- Machine tools & steel industry
- Mining, quarry, cement industry
- Energy industry (solar, nuclear, biomass, wind)
- Amusement industry (theatres, leisure parks, kiddy rides)
- Chemical & pharmaceuticals industry
- Paper & printing industry
- Plastic & rubber industry
- Telecommunications industry (satellite orientation systems, military radar)
- Engineering and consultant companies

### Certifications

Our products can be manufactured to conform with the ATEX Directive 2014/34/UE. In addition, the safety and quality of our motors, geared motors and motovariators is guaranteed by the EAC (EurAsian Conformity) certification, an essential requirement for products exported to the Russian Federation. Our motors are UL certified, which guarantees their safety and quality requirements for the North American market.

### Quality CONCEPT

Motovario® has obtained the quality certification renewal of its production system in conformity to the UNI EN ISO 9001:2008 standard. This internationally recognised certification acknowledges the company's commitment and drive geared towards constantly improving products, projects and services offered. Moreover, the company has obtained the OHSAS 18001:1999 (Occupational Health and Safety Assessment Series) certification, which defines the requirements of the workplace safety and health management system.

### Research & DEVELOPMENT

Technological innovation: a crucial factor for competing in the market. In the company's 50-year history, research and change have been the pivotal factors in guaranteeing competitiveness at a global level, thanks to increasingly advanced products in terms of performance and reliability. Each year the company invests an increasing amount of its turnover in research and development, geared towards promoting the constant study and analysis of products, control processes and performance certification. In order to ensure that customers receive products that comply with the requested performance levels, the company carries out simulations on all new products, including NVH (Noise, Vibration, Harshness) tests effected in the advanced semi-anechoic chamber.

### Customer CARE

Innovative instruments and software applications supporting the technical and logistic requirements of our partners worldwide guarantee a timely and customised service. The experience acquired by Motovario® has led to the creation of the new online portal MyMotovario 4.0, which allows for selecting products and exporting their 3D file. As a result, designers and engineering departments can download the three-dimensional model of the requested product and implement it directly in their own layout. In order to maximise customer service and quality, Motovario® offers all its customers the following online services: Order Tracking, which allows for monitoring the progress of an order in real time, and the Stock Availability service, through which users may check the availability (stock) of our products, both in the Italian plant and in the various branches.

### Motovario chooses technological evolution.

Motovario® has chosen technological evolution and actively collaborates with the Faculty of Engineering of the University of Modena and Reggio Emilia and of the University of Bologna.

**Reliability, sturdiness, versatility**

These are the distinctive traits of Motovario products. A broad range of transmission products that provide a competent, innovative solution to each and every power application need. Cutting-edge tools, unrelenting research efforts and ongoing commitment to upgrading manufacturing equipment to the latest state-of-the-art enable us to offer high quality and performance standards to cater to industry requirements and the broadest variety of applications. Motovario ranks among the leading, well-reputed companies in Italy engaged in the design, manufacture and sales of transmission products for industrial and civil applications. The entire manufacturing process takes place in Formigine and Ubersetto plants, in Modena area, with an overall surface area of over 50.000 sq m. and a workforce of about 500 people. 170 numerically controlled machines and cutting-edge handling, storage and assembly automated systems ensure that all products meet high quality standards. The network includes more than 40 Motovario-certified assembly centres, with the capability to supply products in a broad range of versions, including customised versions, high service capacity and fast response. As a result, our product offering can cater to the needs of all plant engineering sectors, in all industries and for different applications, and includes: speed variators, helical, bevel-helical, parallel helical, worm gear reducers and gearmotors, electric motors and motor-inverters. All of the products we manufacture share such common features as reliability, sturdiness and versatility, topped with a high innovation content. At the heart of a company's technological innovation is the ability to develop integrated tools for computer-aided calculation simulation and management of different processes as part of product development. When simulating operating, setup and process conditions, it is also necessary to analyse and optimize the overall functional design of a product using a synergistic approach. This is achieved by implementing an exhaustive experimental plan, without using interpolation or approximation, as they frequently allow criticalities or any oversizing which is not conducive to maximising quality/cost ratio to go unnoticed.

**High-efficiency method for calculation according to standards**

A set of specific functions have been developed to this end. A few significant examples include functions to:

- Optimise individual reduction ratios and the combinations of the different reduction stages based on parametrisable target normal series;
- Calculate torque values and maximum permissible external forces for gear reducer units, using iterative numeric algorithms to confirm target life/safety values of components;
- Create databases for loading a FEM structural analysis model by automatically writing all reaction components of bearings under all load conditions to a specific file, with automatic selection of critical cases that need to be verified.

Another goal of the method is to create synergy between calculation according to standards and FEM structural calculation and the implementation of FEM model loading procedures, so as to simplify input data, meshing and constraint criteria

**Competitiveness and operational benefits of the new method**

This method offers many practical advantages over traditional calculation procedures within the company, namely:

- Iterative optimisation of project since setup stage;
- Accurate assessment of the various service factors and reliability levels for the entire gear reducer unit and for all operating conditions as per catalogue rating or customer specific requirements;
- Faster support to customers in analysing tailored product configurations;
- Integrated corporate databases that can be updated in real-time.

**Range extension and ongoing evolution**

The steady, significant growth of Motovario Group is achieved thanks to an ongoing search for new calculation and design tools, as well as to customer service. The new tools identified have led to innovation, improved product reliability as well as positive developments in market management. The following software products are used for design, calculation and management:

- Solidworks;
- Kisoft;
- Kissys;
- Ansys;
- FEM modelling analysis software;
- Circuit design and simulation software;
- Specific spreadsheets;
- SAP.

In MyMotovario 4.0 portal, PRODUCT SELECTION includes a section named APPLICATIONS where customers can enter application data and find out which gear reducer suits them best in a matter of minutes.

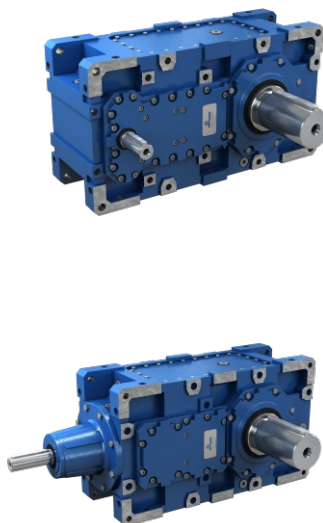


MOTOVARIO Products

<p><b>HELICAL GEAR REDUCERS</b></p> <p>Cast iron or aluminum casing          Output shaft up to 90 mm          Mn<sub>2</sub> up to 8.600 Nm          Reduction stages 1, 2, 3          Ratios up to 354          ATEX units</p>	
<p><b>HELICAL BEVEL GEAR REDUCERS</b></p> <p>Cast iron or aluminum casing          Output shaft up to 110 mm          Mn<sub>2</sub> up to 14.000 Nm          Reduction stages 2, 3          Ratios up to 443          ATEX units</p>	
<p><b>SHAFT MOUNTED GEAR REDUCERS</b></p> <p>Cast iron          Output shaft up to 90 mm          Mn<sub>2</sub> up to 10.250 Nm          Reduction stages 2, 3          Ratios up to 395          ATEX units</p>	
<p><b>WORM GEAR REDUCERS</b></p> <p>Cast iron or aluminum casing          Output shaft up to 50 mm          Mn<sub>2</sub> up to 2.700 Nm          Ratios up to 1083          ATEX units</p>	
<p><b>PLANETARY GEARED UNITS</b></p> <p>Cast iron          Output shaft up to 80 mm          Mn<sub>2</sub> up to 10000 Nm          Reduction stages 1, 2, 3, 4          Ratios up to 2700</p>	

**PARALLEL HELICAL AND BEVEL HELICAL GEAR REDUCERS FOR MIDDLE HEAVY INDUSTRY**

Cast iron casing  
 Output shaft up to 180 mm  
 Mn<sub>2</sub> up to 110.000 Nm  
 Reduction stages 2, 3, 4  
 Ratios up to 431  
 ATEX units



**MOTOVARIATORS AND MOTOVARIATOR-GEAR REDUCERS**

Cast iron or aluminum casing  
 Mn<sub>2</sub> up to 5.000 Nm  
 ATEX units



**ELECTRIC MOTORS**

Power ratings up to 90 kW  
 Poles 2, 4, 6  
 Three-phase and single-phase, built-in brake, dual polarity  
 Protection class up to IP66



**DRIVES**

**DRIVON - motoinverter**

Three phase and single phase power supply  
 High dynamics sensorless vectorial control  
 Power ratings up to 5,5 kW  
 Standard integrated STO  
 Integrated field bus  
 Optional field bus





## ATEX Certification

The gear reducers described in this catalogue, defined as “ATEX”, were designed and manufactured in compliance with: Directive **ATEX 2014/34/UE**.

If used by following the instructions set forth in the INSTALLATION AND USE INSTRUCTIONS Atex Manual (provided as an attachment to the supplied products), ATEX MOTOVARIO gear reducers can be used in one of the following environments:

### Group II

#### Category 2G and 2D

#### Zone 1/21 for gases and dusts (gas group IIB) with the following protection methods:

Protection against ignition:

EN13463-5 (c) constructional safety

EN13463-8 (k) liquid immersion

### Group II

#### Category 3G and 3D

#### Zone 2/22 for gases and dusts

Protection against ignition:

EN13463-5 (c) constructional safety

The room temperature envisaged for the application must range between -20 and + 40 °C (\*).

The products certified for use in Zone 1/21 can be used also in Zone 2/22. To identify the environment inside which the Atex certification of the special gear reducer is limited, refer to Atex Performance Tables.

The classified units are manufactured and marked to comply with the provisions of Directive **ATEX 2014/34/UE**.

### UNINTENDED USE

It is strictly forbidden to use the gear reducer:

- inside an area with equipment category I (mines likely to become endangered by firedamp);
- inside an Area classified as more severe than specified on product label;
- at a room temperature not falling within the specified limits (\*);
- under conditions (P1, n1, M2) that, even individually, exceed the values specified inside Atex Performance Tables.

## 1.4.1 Symbols

Physical dimension	Symbol	Symbol units of measure	Input	Output
Power	P	[kW]	P <sub>1</sub>	P <sub>2</sub>
Requested power	Pr	[kW]	Pr <sub>1</sub>	Pr <sub>2</sub>
Nominal power	Pn	[kW]	Pn <sub>1</sub>	Pn <sub>2</sub>
Torque	M	[Nm]	M <sub>1</sub>	M <sub>2</sub>
Nominal torque	Mn	[Nm]	/	Mn <sub>2</sub>
Requested torque	Mr	[Nm]	Mr <sub>1</sub>	Mr <sub>2</sub>
Speed	n	[rpm]	n <sub>1</sub>	n <sub>2</sub>
Force	F	[N]	/	/
Radial load	Fr	[N]	Fr <sub>1</sub>	Fr <sub>2</sub>
Axial load	Fa	[N]	Fa <sub>1</sub>	Fa <sub>2</sub>
Reduction ratio	i	[ ]	/	/
Dynamic efficiency	η <sub>d</sub>	[ ]	/	/
Service factor	f.s.	[ ]	/	/
Life factor	Fh	[ ]	Fh <sub>1</sub>	Fh <sub>2</sub>
Corrective factor	fh	[ ]	fh <sub>1</sub>	fh <sub>2</sub>
Static	s	[ ]	/	/
Dynamic	d	[ ]	/	/
Calculated	c	[ ]	/	/
Maximum	max	[ ]	/	/
Minimum	min	[ ]	/	/
Moment of inertia	J	[kgm <sup>2</sup> ]	J <sub>1</sub>	J <sub>2</sub>
Ambient temperature	T <sub>amb</sub>	[°C]	/	/
Dimension		[mm]	/	/
Angular backlash	y	[arcmin]	y <sub>1</sub>	y <sub>2</sub>

1.4.2 Formulas

REDUCER		
Starting or stopping time	$t = v / a$	[s]
Velocity in rotary motion	$v = \pi * d * n / 60$ $v = \omega * r$	[m/s]
Speed velocity Angular velocity	$n = 60 * v / (\pi * d)$ $\omega = v / r$	[rpm] [rad/s]
Acceleration or deceleration according to a starting / stopping time	$a = v / t$	[m/s <sup>2</sup> ]
Angular acceleration	$\alpha = n / (9,55 * t)$ $\alpha = \omega / t$	[rad/s <sup>2</sup> ]
Starting or stopping distance (according to acceleration / deceleration or angular velocity)	$s = a * t^2 / 2$ $s = v * t / 2$	[m]
Horizontal translation force	$F = \mu * m * g$	[N]
Vertical translation force (lifting)	$F = m * g$	
Inclined plane translation force	$F = m * g (\mu * \cos\beta + \sin\beta)$	
m= mass [kg]; g= gravity acceleration [m/s <sup>2</sup> ]; μ= friction coefficient; β= angle of inclination		
Moment of inertia	$J = m * v^2 / \omega^2$	[kgm <sup>2</sup> ]
Torque	$M = F * d / 2$ $M = J * \omega / t$	[Nm]

MOTOR and GEARMOTOR		
Starting time	$t_a = (J_{ext} + J_m) * n_n / 9,55 + (M_{peak} - M_r)$	[s]
Braking time	$t_s = (J_{ext} + J_m) * n_n / 9,55 + (M_{peak} + M_r)$	[s]
Motor rotation angle during starting	$\varphi = n_n * t_a / 19,1$	[rad]
Motor rotation angle during braking	$\varphi = n_n * t_s / 19,1$	[rad]
Power available at the shaft of single phase motor	$P = V * I * \eta * \cos\omega$	[W]
Power available at the shaft of three phase motor	$P = 1,73 * V * I * \eta * \cos\omega$	[W]

RUNNING at 60Hz		
Speed velocity at 60Hz	$n_{60Hz} = 1,2 * n_{50Hz}$	[rpm]
Power at 60Hz	$P_{1\ 60Hz} = P_{1\ 50Hz} * V_{60Hz} / V_{50Hz}$	[kW]
If input voltage at 60 Hz (V <sub>60Hz</sub> ) corresponds to winding voltage at 50 Hz (V <sub>50Hz</sub> ), power doesn't change $P_{1\ 60Hz} = P_{1\ 50Hz}$		
If input voltage at 60 Hz (V <sub>60Hz</sub> ) is 20% higher than winding voltage at 50 Hz (V <sub>50Hz</sub> ), power increases by 20% $P_{1\ 60Hz} = 1,2 P_{1\ 50Hz}$		
Torque at 60Hz	$M_{60Hz} = M_{50Hz} * P_{1\ 60Hz} / (1,2 * P_{1\ 50Hz})$	[Nm]
Service factor at 60Hz	$f.s_{60Hz} = f.s_{50Hz} * 1,175 * P_{1\ 50Hz} / P_{1\ 60Hz}$	-

### 1.5.1 Product selection

For correctly selecting a gear reducer or geared motor, several essential pieces of data are required:

1. The rotational input speed to the gear reducer ( $n_1$ ) and the rotational output speed ( $n_2$ ). Through these two values it is possible to calculate the reduction ratio ( $i$ ) of the gear reducer using the following formula:  $i=n_1/n_2$
2. The torque required by the application ( $Mr_2$ ).

The geared motor or gear reducer can be selected once this data is known.

This guide helps you to select the right product in just a few steps:

#### Geared motor selection

1. Determine the application's actual service factor (**s.f.**). This parameter depends on the type of load of the powered machine, the number of starts per hour and the hours of operation (refer to the "Service factor" paragraph).
2. Calculate the input power  $Pr_1$  using the required torque value  $Mr_2$ , the speed  $n_2$  and dynamic efficiency value.  $Pr_1=(Mr_2*n_2)/(9550*\eta_d)$ . The dynamic efficiency value depends on the type of gear reducer and on the number of gear reduction stages. (To calculate the efficiency value see its page).
3. Consult the geared motor performance tables and identify a nominal power value  $Pn_1$  exceeding the required power  $Pr_1$ , such that:  $Pn_1 \geq Pr_1$
4. Once the suitable nominal power has been identified, select the geared motor capable of generating the rotational speed closest to the desired  $n_2$  value and with service factor s.f. greater or equal to that required by the application.

In the geared motor selection tables the combinations include 2-pole, 4-pole and 6-pole motors powered at 50Hz.

#### Gear reducer selection

1. Determine the application's service factor (**s.f.**) (consult to the "Service factor" paragraph on its page).
2. Calculate the reduction ratio  $i$  from the requested output speed  $n_2$  and from the input speed  $n_1$ .  $i=n_1/n_2$
3. Calculate the torque  $Mc_2$  for selecting the gear reducer through the torque required by the application  $Mr_2$  and the service factor s.f.:  $Mc_2=Mr_2*(f.s.)$
4. Consult the Gear Reducer Performance tables looking for the reducer that, with the reduction ratio closer to the calculated one, has a nominal torque  $Mn_2$  so that:  $Mn_2 \geq Mc_2$

#### Checks

Once the gear reducer or geared motor has been selected, the following checks should be performed:

##### A. Thermal power

The gear reducer's thermal power must be equal to or greater than the installed mechanical power, or the power required by the application according to the indications contained in the section (refer to the "Thermal power" paragraph).

##### B. Maximum torque

Generally, the maximum torque (peak instantaneous load) that can be applied to the gear reducer must not exceed 200% of the nominal torque  $Mn_2$  (ATEX -  $M_{2max}$ ).

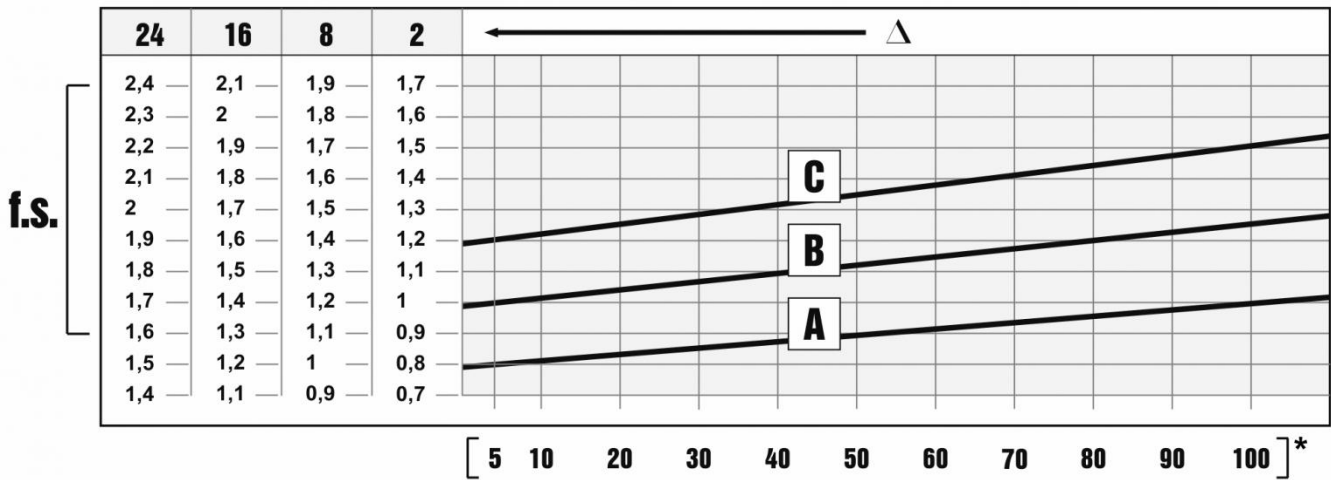
##### C. Radial loads

1. Verify that the radial loads acting on the input and/or output shafts are within with the values indicated in the catalogue. If they exceed these values, increase the size of the gear reducer or modify the external load capacity. During the checking phase, it is important to remember that the values indicated in the catalogue refer to loads acting on the mid-point of the shaft protrusion, therefore, if the load is applied to a different position, appropriate formulas must be used to calculate the admissible load in the desired position (refer to the "Radial loads" paragraph).
2. If accessory output shafts are present, make sure that the applied load is compatible with shaft size. If help is needed: contact MOTOVARIO TECHNICAL SERVICE.

D. If an electric motor is going to be fitted to the selected gear reducer, check for its applicability by referring to the configuration table (see paragraph "Motor flange availability"). From IEC 180 motors, verify if necessary to support the motor with feet. In case of need please contact MOTOVARIO TECHNICAL SERVICE.



**For Atex product selection, use the service factor "f.s. Atex".  
For Atex product Selection, refer to Atex Gear Reducer Performance tables.**



The service factor (f.s.) depends on the operating conditions the gear reducer is subjected to. The parameters that need to be taken into consideration to select the most adequate service factor correctly comprise:

- type of load of the operated machine : A - B - C
- length of daily operating time: hours/day ( $\Delta$ )
- start-up frequency: starts/hour (\*)

**LOAD:**

- **A** - uniform =  $f_a \leq 0,3$
- **B** - moderate shocks =  $f_a \leq 3$
- **C** - heavy shocks =  $f_a \leq 10$

**$f_a = J_e/J_m$**

- $J_e$  [ $\text{kgm}^2$ ] moment of reduced external inertia at the drive-shaft
- $J_m$  [ $\text{kgm}^2$ ] moment of inertia of motor

If  $f_a > 10$  call MOTOVARIO TECHNICAL SERVICE.

In the case of a variable speed reducer, once determined the service factor of the application it is necessary to compare this value with the safety factor of the S reducer reported in the selection tables, verifying  $S \geq f.s.$  condition. The maximum number of admissible starts depends on the type of application. Approximately, the figure must not exceed 5-10 for minute. Contact MOTOVARIO TECHNICAL SERVICE if you have any special requirements.

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

### 1.7.1 Installation

To install the gear reducer it is necessary to note the following recommendations:

- Check the correct direction of rotation of the gear reducer output shaft before fitting the unit to the machine.
- In the case of particularly lengthy periods of storage (4/6 months), if the oil seal is not immersed in the lubricant inside the unit, it is recommended to change it since the rubber could stick to the shaft or may even have lost the elasticity it needs to function properly.
- Whenever possible, protect the gear reducer against solar radiation and bad weather.
- Ensure the motor cools correctly by ensuring good passage of air from the fan side.
- In the case of ambient temperatures  $< -5^{\circ}\text{C}$  or  $> +40^{\circ}\text{C}$  call MOTOVARIO TECHNICAL SERVICE.
- The various parts (pulleys, gear wheels, couplings, shafts, etc.) must be mounted on the solid or hollow shafts using special threaded holes or other systems that anyhow ensure correct operation without risking damage to the bearings or external parts of the units. Lubricate the surfaces in contact to avoid seizure or oxidation.
- Painting must definitely not go over rubber parts and the holes on the breather plugs, if any.
- For units equipped with oil plugs, replace the closed plug used for shipping with the special breather plug.
- Check the correct level of the lubricant through the indicator, if there is one.
- Starting must take place gradually, without immediately applying the maximum load.
- When there are parts, objects or materials under the motor drive that can be damaged by even limited spillage of oil, special protection should be fitted.

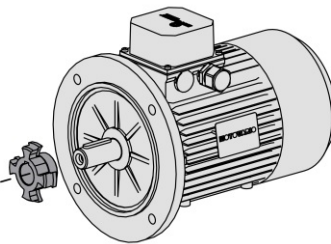
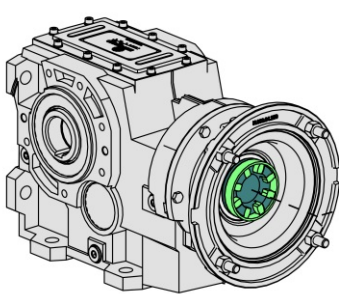
#### Assembling motor on pam flange

When the unit is supplied without motor, it is necessary to follow these recommendation to ensure the correct assembly of the electric motor. Check that the tolerances for the motor shaft and flange correspond to the "standard". Carefully clean the shaft, spigot and surfaces of the flange removing traces of paint and dirt, and confirm the key is fitted correctly. Fit the half coupling/sleeve to the motor shaft (see picture) taking care to ensure the motor shaft and bearings are not damaged by avoiding excessive force and where necessary using assembly equipment. Place the couplings elastic element onto the motor half coupling and position the motor up to the gear unit ensuring the coupling element is aligned with the driven half coupling. Complete the assembly using the fixing bolts. Key-ways with tightened tolerances.

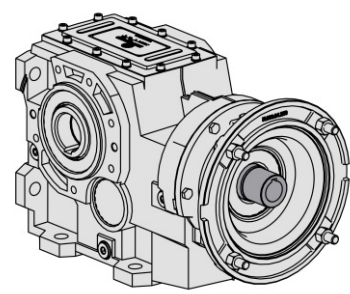


In case of ATEX units, fit gasket (to be requested to Motovario) between PAM flange and motor.

Flexible joint



PAM Sleeve





Motovario products are supplied with the following surface treatment features:

#### Die-cast aluminum alloy cases for gears

Die-cast materials undergo the following surface cleaning operations:

- De-burring by means of a mechanically operated shearing system.
- Accurate shot-peening.
- Painting.
- Washing and passivation.

#### Grey-coloured cast-iron cases for gears

- Die-cast materials are always painted.

**Grey-coloured cast-iron inspection cover:** The gear reducer B... series sizes 140, 150, 160 are supplied with grey-coloured cast-iron closing cover and a metal nameplate printed.



#### Painting specifications:

- Orange-peel blue epoxy-polyester RAL 5010. Polyester resin based heat-hardening powders, altered with epoxy resins.

**Mechanical properties:** Tests carried out onto degreased Unichim white lattens (film thickness: 60 microns) comply with the following specifications: adherence (ISO2409).

**Heat resistance:** 24 HOURS AT 150°C.

**Corrosion strength:** ASTM B 117/97 salt fog from 100 to 500 hours depending on the support's preliminary treatment.

#### Performance:

- Loading capacity in accordance with DIN 3990, ISO 6336, AGMA 2101, ISO 10300, DIN 3991, ISO 281, DIN 743

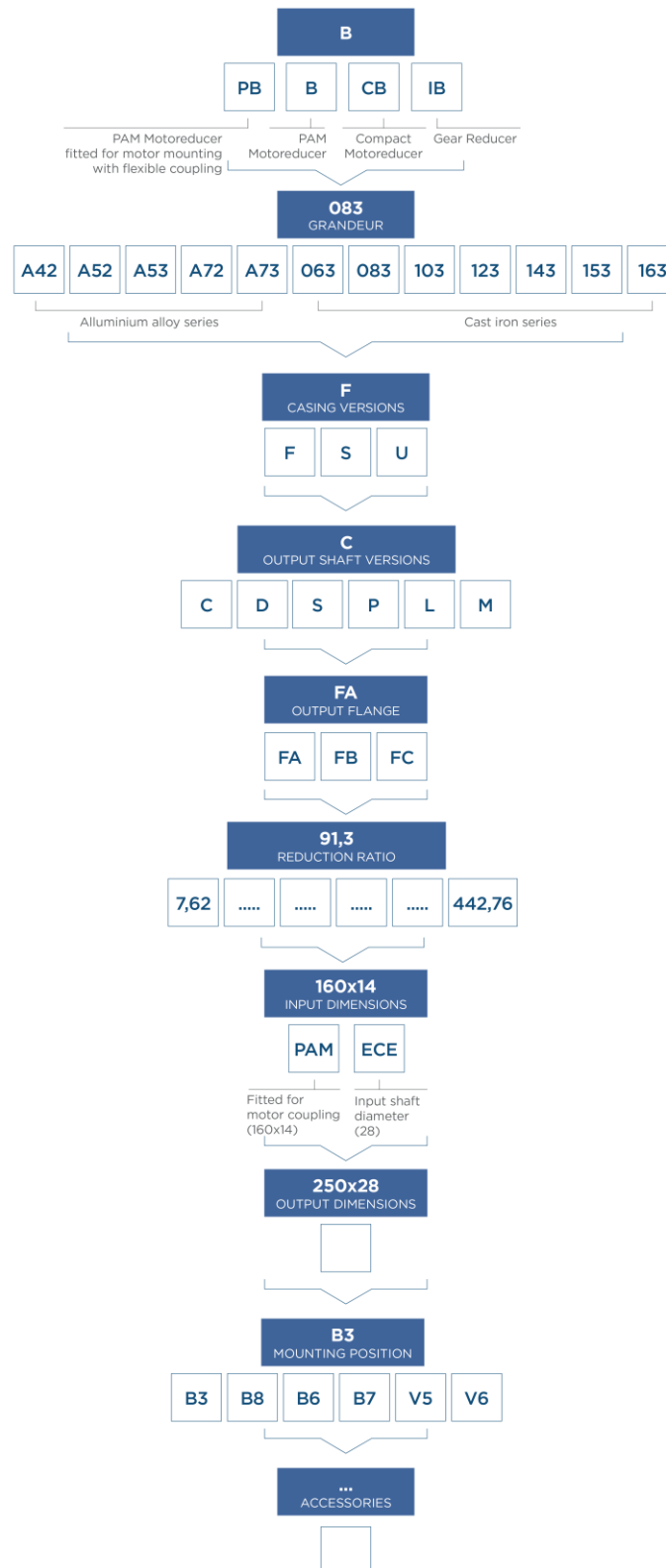
#### Efficiency $\eta$ :

- The efficiency is the ratio between the output power  $P_2$  and the power absorbed by the gear reducer  $P_1$ :  $\eta = P_2/P_1$

B/BA-range helical bevel gear reducers have an average value equal to:

- B..3 stages = 0,9
- BA.2 stages = 0,95
- BA.3 stages = 0,9

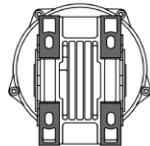
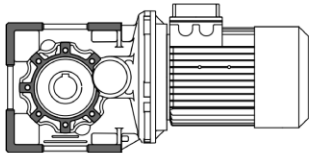
## 2.2.1 Designation



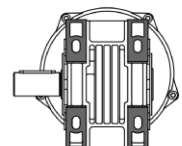
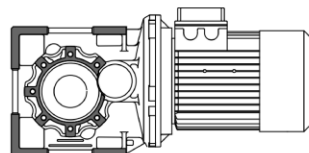
### 2.2.2 Versions

A40-A50-A70

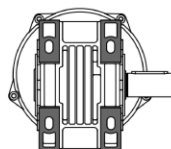
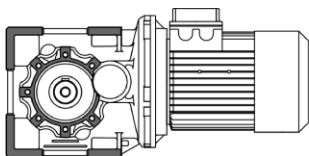
**C FOOT MOUNTING / C HOLLOW SHAFT**



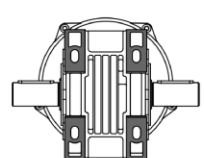
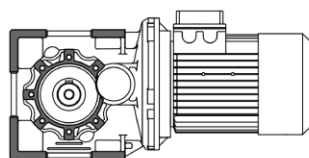
**D FOOT MOUNTING / D SOLID SHAFT**



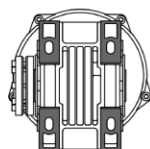
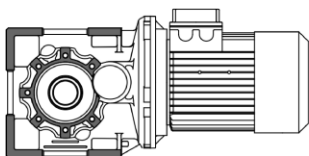
**S FOOT MOUNTING / S SOLID SHAFT**



**P FOOT MOUNTING / P DOUBLE OUTPUT SHAFT**



**L FOOT MOUNTING / L SHRINK DISC SHAFT**



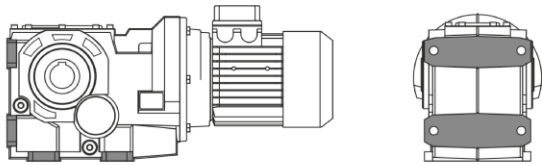
Sizes A42 - A52 - A53 are not available in versions D-S-P.



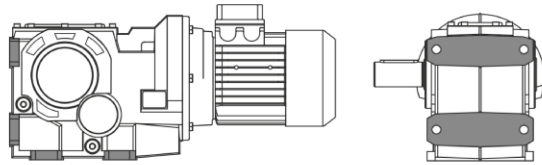
Available for ATEX 3G/3D certification, only.

063 - 083 - 103 - 123

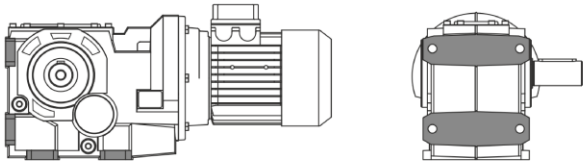
**FC FOOT MOUNTING / C HOLLOW SHAFT**



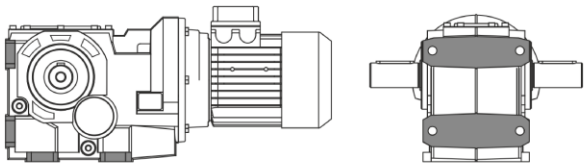
**FD FOOT MOUNTING / D SOLID SHAFT**



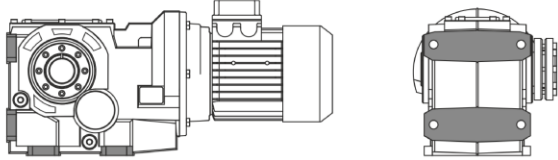
**FS FOOT MOUNTING / S SOLID SHAFT**



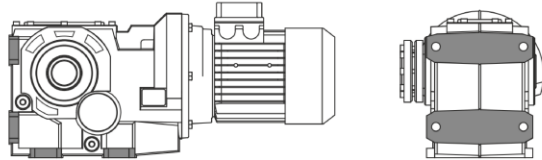
**FP FOOT MOUNTING / P DOUBLE OUTPUT SHAFT**



**FL FOOT MOUNTING / L SHRINK DISC SHAFT**



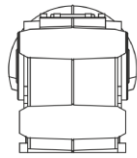
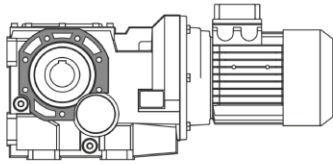
**FM FOOT MOUNTING / M SHRINK DISC SHAFT**



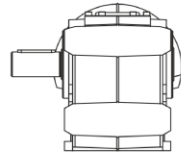
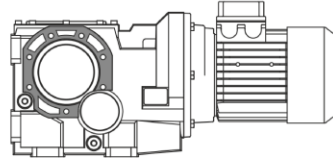
FL, FM versions are available for ATEX 3G/3D certification, only.

063 - 083 - 103 - 123

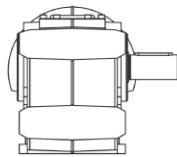
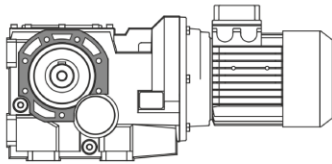
**SC FLANGE MOUNTING / C HOLLOW SHAFT**



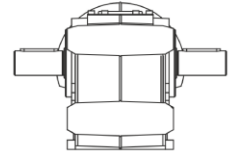
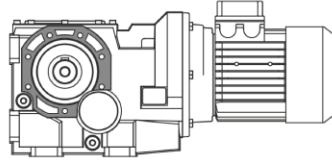
**SD FLANGE MOUNTING / D SOLID SHAFT**



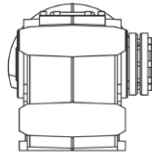
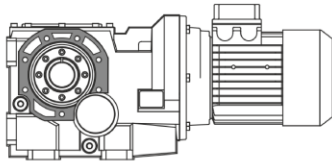
**SS FLANGE MOUNTING / S SOLID SHAFT**



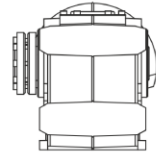
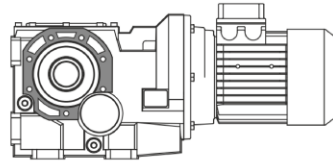
**SP FLANGE MOUNTING / P DOUBLE OUTPUT SHAFT**



**SL FLANGE MOUNTING / L SHRINK DISC SHAFT**



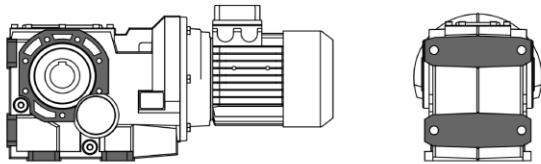
**SM FLANGE MOUNTING / D SHRINK DISC SHAFT**



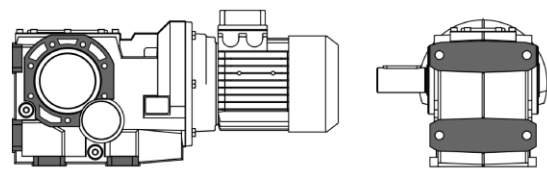
SL, SM versions are available for ATEX 3G/3D certification, only.

063 - 083 - 103 - 123 - 143 - 153 - 163

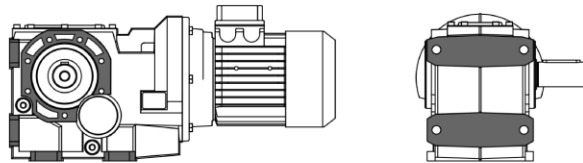
**UC FOOT-FLANGE MOUNTING / C HOLLOW SHAFT**



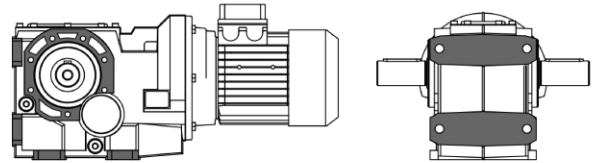
**UD FOOT-FLANGE MOUNTING / D SOLID SHAFT**



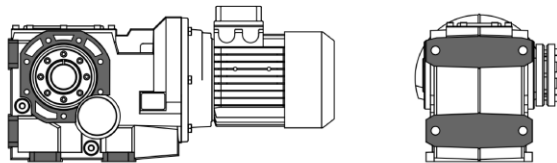
**US FOOT-FLANGE MOUNTING / S SOLID SHAFT**



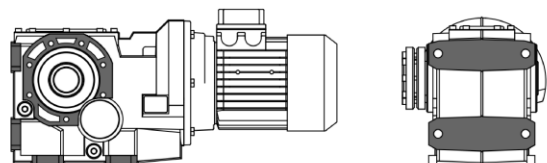
**UP FOOT-FLANGE MOUNTING / P DOUBLE OUTPUT SHAFT**



**UL FOOT-FLANGE MOUNTING / L SHRINK DISC SHAFT**



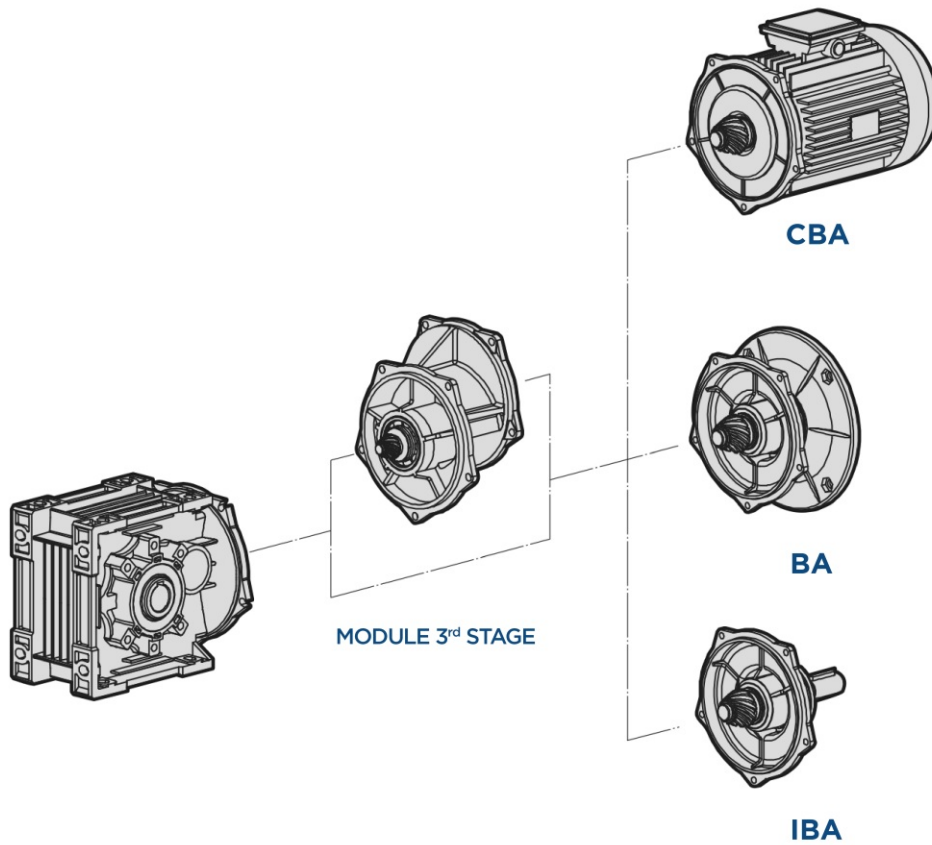
**UM FOOT-FLANGE MOUNTING / M SHRINK DISC SHAFT**



UL, UM versions are available for ATEX 3G/3D certification, only.

### 2.2.3 Modularity

#### BA ALUMINIUM ALLOY SERIES



#### **CBA**

Compact electric motor versions

#### **BA**

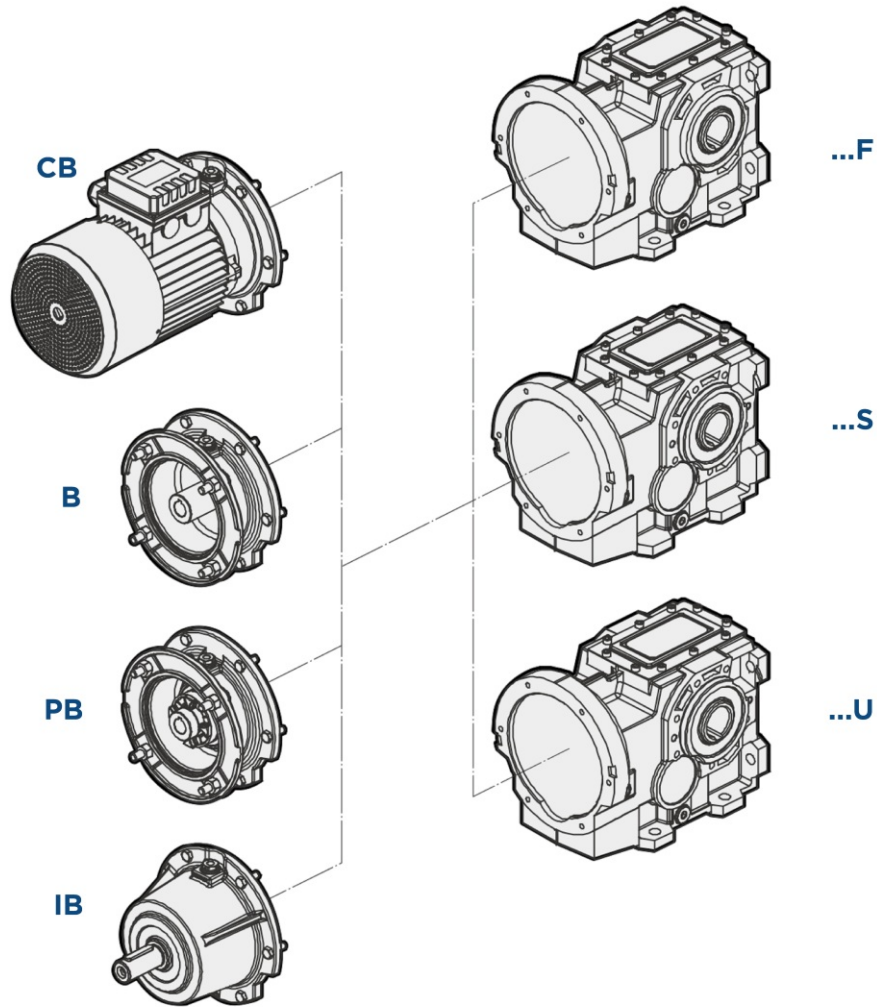
Fitted for motor coupling version (PAM)

#### **IBA**

Input shaft versions



**B GREY CAST IRON SERIES**



**CB**  
Compact electric motor versions

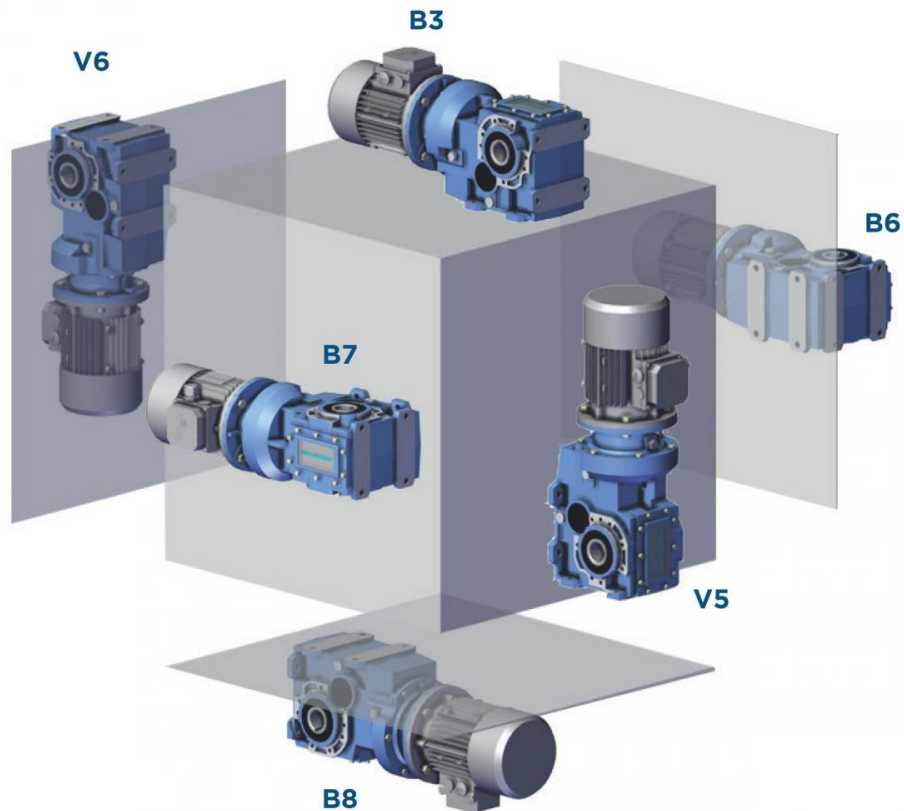
**PB**  
Fitted for motor mounting  
with flexible coupling

**B**  
Fitted for motor coupling version (PAM)

**IB**  
Input shaft versions

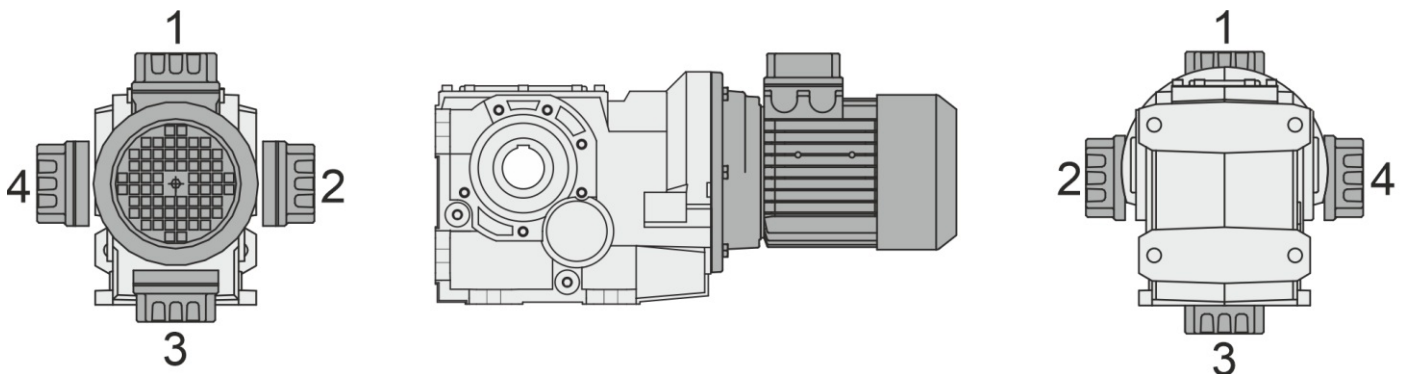
### 2.3.1 Mounting positions

The mounting position of the gear unit identifies its space orientation. B3 mounting position, as from a technical point of view, ensures lower oil splash, better lubrication and less heating.



### 2.3.2 Position of terminal box

Unless otherwise specified when ordering, the gear reducer is supplied with terminal box in position 1.

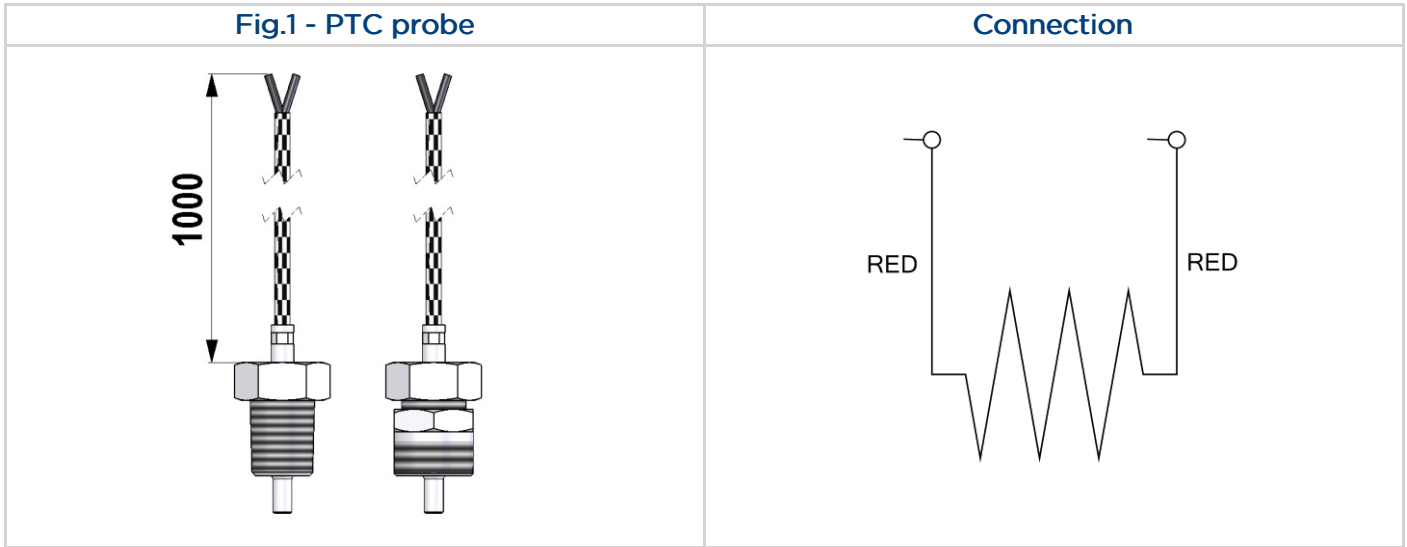


## 2.4 THERMAL PROTECTOR

The reducers of the sizes and ratios in the tables below are provided with a thermal protector (supplied and supplied by the customer). It is a PTC probe (see Fig. 1) with a trigger temperature of 120 °C. The customer shall perform the electric connection to the main electric panel to ensure the resistance thermometer correct operation regardless of the connections necessary for the system operation. The connection must apply the positive safety logic. Main powerboard, connections and logic must, taken together, provide a locking system to prevent, in the event of a shutdown, the unwanted start-up of the device. In case of intervention of the PTC probe, wait about 10 min. before resetting the main powerboard.

Unit electric characteristics:

Power to sensor <280 mW  
 Voltage to sensor <30 Vdc  
 Current to sensor <8 mA

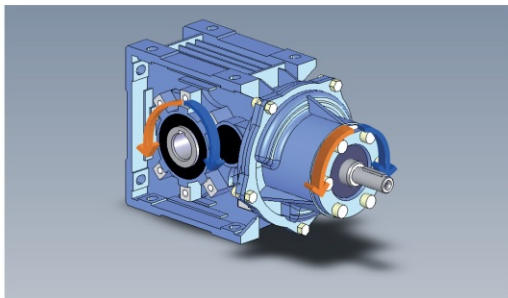


	i		i		i		i		i
<b>B103</b>	17,27	<b>B123</b>	7,97	<b>B143</b>	10,84	<b>B153</b>	10,49	<b>B163</b>	8,89
	19,06		9,62		11,87		12,64		10,58
	23,7		10,33		14,49		14,01		11,87
	26,51		12,48		17,04		15,4		12,81
	30,55		13,84		18,66		18,56		14,08
	33,07		15,38		21 2		20,56		15,52
	35,87		18,58		22,77		23,86		16,39
	41,12		20,61		25,63		25,19		18,02
	44,61		22,78		27,44		28,23		19,9
	47,28		25,89		30,05		30,35		21,94
50,24	27,51	33,01	33,63	24,17					
	30,79	36,67	35,02	26,58					
	31,26	40,29	38,81	28,8					
	34,68	44,16	42,3	30,92					
	40,53	48,35	47,53	34,25					
	44,89		50,56	37,66					
	49,8			40,65					
				45,09					

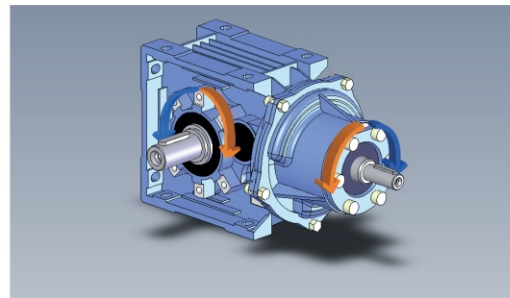
Helical bevel reduction units are supplied as “standard” with rotation as shown in the diagram. On request, the direction of rotation of low speed shaft can be reversed; in this case, it is necessary to specify “opposite rotation to catalogue” when ordering. The “opposite rotation to catalogue” is not possible for sizes BA42 - BA52 - BA53.

### DIRECTION OF ROTATION - HIGH SPEED SHAFT

#### B-CB-IB A42-A52-A72

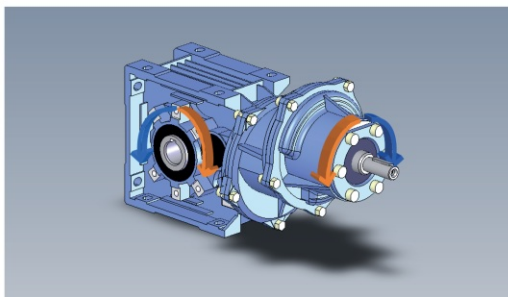


VERSIONS **C-D-P-L**

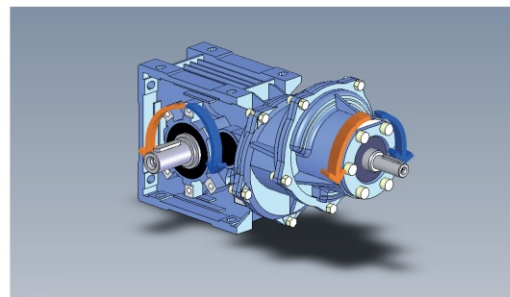


VERSION **S**

#### B-CB-IB A53-A73

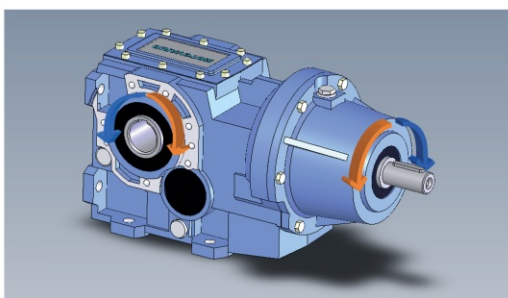


VERSIONS **C-D-P-L**

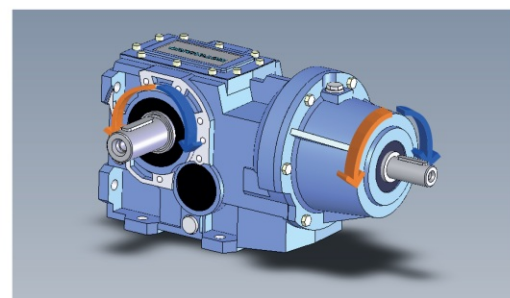


VERSION **S**

#### B-PB-CB-IB 063-163



VERSIONS **C-D-P-L**



VERSION **S-M**

### 2.6.1 Critical applications

B	A40	A50	A70
V6	B	B	B
n1 > 1800	B	B	B
...L : B6 - B7	B	B	B

B	060	080	100	125	140	150	160
V6	B	B	B	B	B	B	B
n1 > 1800	B	B	B	B	A	A	A
...L : B6 - B7	B	B	B	B	B	B	B

✓ Verified application

A Application not recommended

B Check the application and/or call MOTOVARIO TECHNICAL SERVICE.

The shrink disc is designed only to transmit the output torque.

In case of mounting position with radial and/or axial loads, please contact MOTOVARIO TECHNICAL SERVICE.

### 2.6.2 Information

The performance given in the catalogue correspond to mounting position B3 or similar, when the first stage is not entirely immersed in oil. For other mounting positions and/or particular input speeds, refer to the tables that highlight different critical situations for each size of gear reducer. It is also necessary to take due consideration of and carefully assess the following applications by calling MOTOVARIO TECHNICAL SERVICE:

- To avoid the use as multiplier.
- Use in services that could be hazardous for people if the gear reducer fails.
- Applications with especially high inertia.
- Use as a lifting winch.
- Applications with high dynamic strain on the case of the gear reducer.
- In places with  $T_{amb}$  under  $-5^{\circ}\text{C}$  or over  $40^{\circ}\text{C}$ .
- Use in chemically aggressive environments.
- Use in a salty environment.
- Mounting positions not envisaged in the catalogue.
- Use in radioactive environments.
- Use in environments pressures other than atmospheric pressure.

Avoid applications where even partial immersion of the reducer is required.

In the presence of overloading due to full load, braking, shocks or other static and dynamic causes, please verify that the peak torque is less than  $2 \cdot M_{n2}$ .

## 2.7.1 BA Motor flange availability

**B10** = Compact electric motor versions.

These tables report all possible dimensions. Please verify service factor.



NOTE Atex gear reducers: available for 3G/3D certification, only.

	i	063	071	080	090	100	112
<b>CB A42</b>	7,62 ÷ 64,13	B10	B10	B10			
<b>CB A42</b>	78,17	B10	B10				
<b>CB A52</b>	7,91 ÷ 31,63	B10	B10	B10	B10		
<b>CB A52</b>	35,1 ÷ 64,87	B10	B10	B10			
<b>CB A52</b>	79,07	B10	B10				
<b>CB A53</b>	73,7 ÷ 172,53	B10	B10	B10	B10		
<b>CB A53</b>	197,11 ÷ 342,65	B10	B10				
<b>CB A72</b>	8,36 ÷ 22,19				B10	B10	B10
<b>CB A72</b>	27,45 ÷ 40,87			B10	B10	B10	B10
<b>CB A72</b>	45,64 ÷ 67,96			B10	B10		
<b>CB A73</b>	43,89 ÷ 222,93	B10	B10	B10	B10		
<b>CB A73</b>	260,2 ÷ 442,76	B10	B10				

	i	063	071	080	090	100	112
<b>BA42</b>	7,62 ÷ 64,13	B5	B5-B14	B5 - B14			
<b>BA42</b>	78,17	B5	B5-B14				
<b>BA52</b>	7,91 ÷ 31,63	B5	B5-B14	B5-B14	B5-B14		
<b>BA52</b>	35,1 ÷ 64,87	B5	B5-B14	B5-B14			
<b>BA52</b>	79,07	B5	B5-B14				
<b>BA53</b>	73,7 ÷ 172,53	B5	B5-B14	B5-B14	B5-B14		
<b>BA53</b>	197,11 ÷ 342,65	B5	B5-B14				
<b>BA72</b>	8,36 ÷ 22,19				B5-B14	B5-B14	B5-B14
<b>BA72</b>	27,45 ÷ 40,87			B5-B14	B5-B14	B5-B14	B5-B14
<b>BA72</b>	45,64 ÷ 67,96			B5-B14	B5-B14		
<b>BA73</b>	43,89 ÷ 222,93	B5	B5-B14	B5-B14	B5-B14		
<b>BA73</b>	260,2 ÷ 442,76	B5	B5-B14				

## 2.7 MOTOR FLANGE AVAILABILITY

### 2.7.2 B Motor flange availability

**B11** = Compact electric motor versions.

These tables report all possible dimensions. Please verify service factor.

\*Configuration supplied with thermal protector.

\*\*For motor size 063 the PB version does not exist.



NOTE ATEX geared motors (versions with compact electric motor B11): available for 3G/3D certification, only.

CB - B - PB 063					
i	**063	071	080	090	100-112
5,71			B5-B11	B5-B11	B5-B11
6,88			B5-B11	B5-B11	B5-B11
7,32		B5-B11	B5-B11	B5-B11	B5-B11
9,16			B5-B11	B5-B11	B5-B11
10,26			B5-B11	B5-B11	B5-B11
11,03			B5-B11	B5-B11	B5-B11
12,35			B5-B11	B5-B11	B5-B11
13,15		B5-B11	B5-B11	B5-B11	B5-B11
15,18		B5-B11	B5-B11	B5-B11	B5-B11
17,00		B5-B11	B5-B11	B5-B11	B5-B11
22,39		B5-B11	B5-B11	B5-B11	B5-B11
26,09			B5-B11	B5-B11	B5-B11
28,03			B5-B11	B5-B11	B5-B11
33,43		B5-B11	B5-B11	B5-B11	B5-B11
38,58		B5-B11	B5-B11	B5-B11	B5-B11
43,22		B5-B11	B5-B11	B5-B11	B5-B11
50,81		B5-B11	B5-B11	B5-B11	B5-B11
56,93		B5-B11	B5-B11	B5-B11	B5-B11
69,16	B5-B11	B5-B11	B5-B11	B5-B11	
77,48	B5-B11	B5-B11	B5-B11	B5-B11	
90,33	B5-B11	B5-B11	B5-B11		
101,20	B5-B11	B5-B11	B5-B11		
111,74	B5-B11	B5-B11	B5-B11		
124,20	B5-B11	B5-B11	B5-B11		
139,15	B5-B11	B5-B11	B5-B11		
157,42	B5-B11	B5-B11	B5-B11		

CB - B - PB 083					
i	080	090	100	112	132
7,81	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
8,62	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
10,49	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
11,59	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
14,43	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
16,60	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
18,32	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
22,82	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
26,71	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
29,50	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
31,80	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
34,49	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
39,60	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
42,95	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
45,44	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
51,19	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
55,52	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
59,96	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
63,74	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
69,14	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
73,14	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
80,76	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
92,19	B5-B11	B5-B11	B5-B11	B5-B11	
100,57	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11
105,29	B5-B11	B5-B11	B5-B11	B5-B11	
116,25	B5-B11	B5-B11	B5-B11	B5-B11	
126,76	B5-B11	B5-B11	B5-B11	B5-B11	
144,77	B5-B11	B5-B11	B5-B11	B5-B11	

## 2.7 MOTOR FLANGE AVAILABILITY

CB - B - PB 103						
i	080	090	100	112	132	160
*17,27	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
*19,06	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
*23,7	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
*26,51	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
*30,55	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	B5
*33,07	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
*35,87	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
*41,12	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
*44,61	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
*47,28	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
*50,24	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
53,02	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
58,50	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
64,89	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
68,58	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
72,76	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
78,92	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
83,66	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
92,31	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
105,44	B5-B11	B5-B11	B5-B11	B5-B11		
114,80	B5-B11	B5-B11	B5-B11	B5-B11	B5-B11	
120,42	B5-B11	B5-B11	B5-B11	B5-B11		
132,87	B5-B11	B5-B11	B5-B11	B5-B11		
144,69	B5-B11	B5-B11	B5-B11	B5-B11		
165,25	B5-B11	B5-B11	B5-B11	B5-B11		

CB - B - PB 123						
i	090	100	112	132	160	180
*7,97				B5-B11	B5	B5
*9,62				B5-B11	B5	B5
*10,33				B5-B11	B5	B5
*12,48				B5-B11	B5	B5
*13,84				B5-B11	B5	B5
*15,38				B5-B11	B5	B5
*18,58				B5-B11	B5	B5
*20,61				B5-B11	B5	B5
*22,78				B5-B11	B5	B5
*25,89		B5-B11	B5-B11	B5-B11	B5	B5
*27,51				B5-B11	B5	B5
*30,79				B5-B11	B5	B5
*31,26		B5-B11	B5-B11	B5-B11	B5	B5
*34,68		B5-B11	B5-B11	B5-B11	B5	B5
*40,53		B5-B11	B5-B11	B5-B11	B5	B5
*44,89		B5-B11	B5-B11	B5-B11	B5	B5
*49,80		B5-B11	B5-B11	B5-B11	B5	B5
54,30		B5-B11	B5-B11	B5-B11	B5	B5
59,36		B5-B11	B5-B11	B5-B11	B5	B5
62,59		B5-B11	B5-B11	B5-B11	B5	B5
69,43		B5-B11	B5-B11	B5-B11	B5	B5
74,42		B5-B11	B5-B11	B5-B11	B5	B5
80,04	B5-B11	B5-B11	B5-B11	B5-B11		
89,87		B5-B11	B5-B11	B5-B11	B5	B5
99,70		B5-B11	B5-B11	B5-B11	B5	B5
106,65	B5-B11	B5-B11	B5-B11	B5-B11		
119,60	B5-B11	B5-B11	B5-B11	B5-B11		
129,96	B5-B11	B5-B11	B5-B11	B5-B11		
144,43	B5-B11	B5-B11	B5-B11	B5-B11		
160,23	B5-B11	B5-B11	B5-B11	B5-B11		
180,40	B5-B11	B5-B11	B5-B11	B5-B11		



## 2.7 MOTOR FLANGE AVAILABILITY

CB - B - PB 143						
i	100	112	132	160	180	200
*10,84			B5-B11	B5	B5	B5
*11,87			B5-B11	B5	B5	B5
*14,49			B5-B11	B5	B5	B5
*17,04			B5-B11	B5	B5	B5
*18,66			B5-B11	B5	B5	B5
*21,00			B5-B11	B5	B5	B5
*22,77			B5-B11	B5	B5	B5
*25,63			B5-B11	B5	B5	B5
*27,44	B5-B11	B5-B11	B5-B11	B5	B5	B5
*30,05	B5-B11	B5-B11	B5-B11	B5	B5	B5
*33,01			B5-B11	B5	B5	B5
*36,67	B5-B11	B5-B11	B5-B11	B5	B5	B5
*40,29			B5-B11	B5	B5	B5
*44,16	B5-B11	B5-B11	B5-B11	B5	B5	B5
*48,35	B5-B11	B5-B11	B5-B11	B5	B5	B5
53,16	B5-B11	B5-B11	B5-B11	B5	B5	B5
54,63	B5-B11	B5-B11	B5-B11	B5	B5	B5
59,02	B5-B11	B5-B11	B5-B11	B5	B5	B5
64,88	B5-B11	B5-B11	B5-B11	B5	B5	B5
70,43	B5-B11	B5-B11	B5-B11	B5	B5	
77,12	B5-B11	B5-B11	B5-B11	B5	B5	
85,54	B5-B11	B5-B11	B5-B11	B5	B5	B5
94,13	B5-B11	B5-B11	B5-B11	B5	B5	
105,83	B5-B11	B5-B11	B5-B11			
111,94	B5-B11	B5-B11	B5-B11	B5	B5	
124,62	B5-B11	B5-B11	B5-B11	B5	B5	
136,44	B5-B11	B5-B11	B5-B11	B5	B5	
149,59	B5-B11	B5-B11	B5-B11	B5	B5	
166,53	B5-B11	B5-B11	B5-B11	B5	B5	
187,24	B5-B11	B5-B11	B5-B11			

B - PB 153					
i	132	160	180	200	225
*10,49		B5	B5	B5	B5
*12,64		B5	B5	B5	B5
*14,01		B5	B5	B5	B5
*15,40		B5	B5	B5	B5
*18,56		B5	B5	B5	B5
*20,56		B5	B5	B5	B5
*23,86		B5	B5	B5	B5
*25,19	B5	B5	B5	B5	B5
*28,23	B5	B5	B5	B5	B5
*30,35	B5	B5	B5	B5	B5
*33,63	B5	B5	B5	B5	B5
*35,02		B5	B5	B5	B5
*38,81		B5	B5	B5	B5
*42,30	B5	B5	B5	B5	B5
*47,53	B5	B5	B5	B5	B5
*50,56	B5	B5	B5	B5	B5
54,64	B5	B5	B5	B5	B5
57,27	B5	B5	B5	B5	B5
60,92	B5	B5	B5	B5	B5
63,47	B5	B5	B5	B5	B5
71,10	B5	B5	B5		
77,22	B5	B5	B5	B5	B5
83,90	B5	B5	B5		
87,70	B5	B5	B5		
93,05	B5	B5	B5	B5	B5
103,12	B5	B5	B5	B5	B5
123,90	B5	B5	B5		
134,30	B5	B5	B5		
149,30	B5	B5	B5		
165,40	B5	B5	B5		

B - PB 163						
i	160	180	200	225	250	280
*8,89		B5	B5	B5	B5	B5
*10,58		B5	B5	B5	B5	B5
*11,87		B5	B5	B5	B5	B5
*12,81		B5	B5	B5	B5	B5
*14,08		B5	B5	B5	B5	B5
*15,52		B5	B5	B5	B5	B5
*16,39		B5	B5	B5	B5	B5
*18,02	B5	B5	B5	B5	B5	B5
*19,96	B5	B5	B5	B5	B5	
*21,94	B5	B5	B5	B5	B5	B5
*24,17	B5	B5	B5	B5	B5	B5
*26,58	B5	B5	B5	B5	B5	B5
*28,80	B5	B5	B5	B5	B5	
*30,92	B5	B5	B5	B5	B5	B5
*34,25	B5	B5	B5	B5	B5	
*37,66	B5	B5	B5	B5	B5	
*40,65	B5	B5	B5	B5	B5	
*45,09	B5	B5	B5	B5	B5	
51,00	B5	B5	B5	B5	B5	
53,63	B5	B5	B5	B5	B5	
58,97	B5	B5	B5	B5	B5	
69,78	B5	B5	B5	B5		
76,72	B5	B5	B5			
87,54	B5	B5	B5			
96,25	B5	B5	B5			
103,93	B5	B5	B5			
114,27	B5	B5				
126,29	B5	B5				
138,85	B5	B5				
154,83	B5	B5				

## 2.8 OUTPUT SHAFT BEARINGS

BA		BA40		BA50		BA70	
Versions (*)		Standard	On request	Standard	On request	Standard	On request
U	C	1	/	1	/	1	/
	D/S/P	/	/	/	/	1	/
	L/M	1	/	1	/	1	/

( \* ) N.B. sizes A42 - A52 - A53 are not available in versions D-S-P.

B		B060		B080		B100/125		B140/150/160	
Versions		Standard	On request	Standard	On request	Standard	On request	Standard	On request
U	C	2	/	2 (Ø40)	1 (Ø40)	2	/	2	/
				/	1 (Ø45)				
	D/S/P	2	/	2	/	2	/	2	/
	L/M	1	/	1	/	1	/	2	/
F/S	C	1	2	1	2	1	2	/	/
	D/S/P	2	/	2	/	2	/	/	/
	L/M	1	/	1	/	1	/	/	/

1 - Ball Bearing

2 - Roller bearings

/ - Not available

### 2.9.1 Information

The value of the admissible radial load [N] is given in the tables relating to the performance of the gear reducer at issue. It is related to the load applied on the centre line of the shaft and in the most unfavourable conditions of angle of application and direction of rotation. The maximum admissible axial loads are 1/5 of the value of the given radial load when they are applied in combination with the radial load. The tables relating to the output shafts give the maximum admissible value. This value must never be exceeded since it relates to the strength of the case. Particular conditions of radial load higher than the limits of the catalogue may occur. In this case, call our Technical Service and provide details on the application: direction of the load, direction of rotation of the shaft, type of service. In case of double extension shafts with radial load applied on both ends, the max. admissible radial loads must be defined according to the specific running conditions, in this case call our Technical Service. The radial load on the shaft is calculated with the following formula:

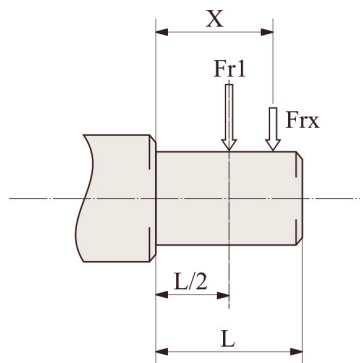
$$Fr_e = (2000 * M * fz) / D \leq Fr1 \text{ or } Fr2$$

- **Fr<sub>e</sub>** [N] Resulting radial load
- **M** [Nm] Torque on the shaft
- **D** [mm] Diameter of the transmission member mounted on the shaft
- **Fr1-Fr2** [N] Value of the maximum admitted radial load (see relative tables)
- **fz** = 1,1 gear pinion - 1,4 chain wheel - 1,7 v-pulley - 2,5 flat pulley

### 2.9.2 Input

When the radial load is not on the centre line of the shaft, it is necessary to adjust the admissible radial load Fr1 with the following formula:  $Fr_x = (Fr1 * a) / (b + x)$

- **a, b** = values given in the tables
- **x** = distance from the point of application of the load to the shaft shoulder



IB	A42 A52 A53 A73	A72
a	84	89
b	64	69
Fr1 max (**)	500	830

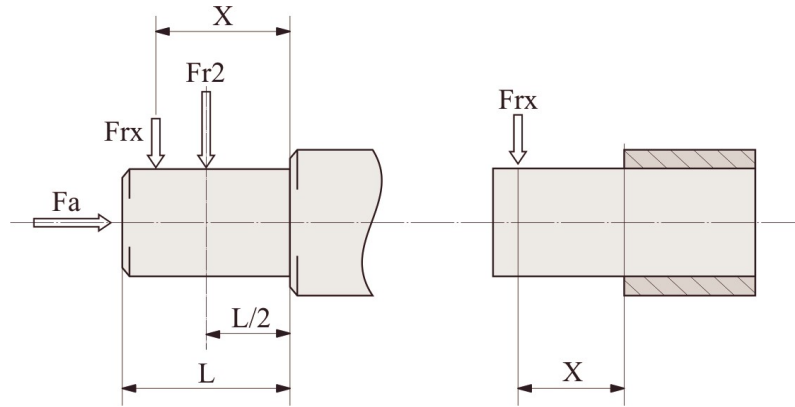
IB	063	083	103	123	143	153	163
a	105	137	137	175	175	225	221
b	80	108	108	135	135	170	166
Fr1 max (**)	2200	2500	3200	4200	7000	10000	12000

(\*\*Fr1 max) Max admissible value of the reducer in static conditions and/or for limited operations. For continuous overhung loads please check the values on the performances tables calculated according to the casing, the shaft and bearings.

2.9.3 Output

When the radial load is not on the centre line of the shaft, it is necessary to adjust the admissible radial load Fr2 with the following formula:  $Fr_x = (Fr_2 \cdot a) / (b + x)$

- a , b = values given in the tables
- x = distance from the point of application of the load to the shaft shoulder



B	A42	A52 A53	A72 A73
a	105	119	145
b	85	94	116
D-S-P (Fr2 max **)	-	-	10000
C (Fr2 max **)	4000	4000	5500

B	063	083	103	123	143	153	163
a	129	190	225	262	306	348	468
b	100	150	175	202	236	278	363
D-S-P (Fr2 max **)	12000	18000	22000	30000	40000	65000	80000
C (Fr2 max **)	8000	12000	15000	20000	40000	65000	65000

(\*\*Fr2 max) Max admissible value of the reducer in static conditions and/or for limited operations. For continuous overhung loads please check the values on the performances tables calculated according to the casing, the shaft and bearings.

### 2.10.1 Information

In cases of ambient temperatures not envisaged in the table, call our Technical Service. In the case of temperatures under  $-30^{\circ}\text{C}$  or over  $60^{\circ}\text{C}$  it is necessary to use oil seals with special properties. For operating ranges with temperatures under  $0^{\circ}\text{C}$  it is necessary to consider the following:

1. The motors need to be suitable for operation at the envisaged ambient temperature.
2. The power of the electric motor needs to be adequate for exceeding the higher starting torques required.
3. In case of cast-iron gear reducers, pay attention to impact loads since cast iron may have problems of fragility at temperatures under  $-15^{\circ}\text{C}$ .
4. During the early stages of service, problems of lubrication may arise due to the high level of viscosity taken on by the oil and so it is wise to have a few minutes of rotation under no load.



#### For ATEX gear reducers:

- Change oil as specified in the "Maintenance" table of the relevant "Use and Installation Instructions" manual (supplied with products).
- The use of oils other than the original one is forbidden.

### 2.10.2 Lubricants

Specifications of lubricants recommended by Motovario.

All units are supplied with LAND OIL GEAR POWER 220 oil, unless otherwise specified by the client.

	B063 ÷ 163		BA42 ÷ A72/3
	Mineral oil		Mineral oil
T <sub>amb</sub> °C ISO/SAE	(-5) ÷ (+40) ISO VG220	(-15) ÷ (+25) ISO VG150	(-5) ÷ (+40) SAE 85W-140
LAND OIL	GEAR POWER 220	-	-
ENI	BLASIA 220	BLASIA 150	ROTRA MP (85W-140)
SHELL	OMALA S2 G 220	OMALA S2 G 150	SPIRAX S2 A 85W-140
KLUBER	Kluberoil GEM 1-220N	Kluberoil GEM 1-150N	Kluberoil GEM 1-460N
MOBIL	MOBILGEAR 600 XP220	MOBILGEAR 600 XP150	-
CASTROL	ALPHA SP 220	ALPHA SP 150	-
BP	ENERGOL GR-XP220	ENERGOL GR-XP150	-
PETRONAS	GEAR MEP 220	GEAR MEP 150	TUTELA TRANSMISSION W 140/M-DA

## 2.10.3 Special lubricants

	$T_{amb}^{\circ C}$	Polyglycol synthetic oil
ENI	(-30) ÷ (+30)	Blasia S 150 (ISO VG150)
	(-20) ÷ (+40)	Blasia S 220 (ISO VG220)
MOBIL	(-45) ÷ (+0)	SHC 624 (ISO VG32)
	(-40) ÷ (+5)	SHC 626 (ISO VG68)
KLUBER	(-40) ÷ (+5)	Klubersynth GH 6-32 (ISO VG32)
	(-35) ÷ 10)	Klubersynth GH 6-80 (ISO VG80)
	(-30) ÷ (+40)	Klubersynth GH 6-150 (ISO VG150)
	(-25) ÷ (+40)	Klubersynth GH 6-220 (ISO VG220)
	(-15) ÷ (+50)	Klubersynth GH 6-460 (ISO VG460)
	(-10) ÷ (+70)	Klubersynth GH 6-680 (ISO VG680)
	$T_{amb}^{\circ C}$	Polyglycol synthetic oil for food grade
KLUBER	(-30) ÷ (+15)	Klubersynth UH1-6 100 (ISO VG100)
	(-25) ÷ (+40)	Klubersynth UH1-6 220 (ISO VG220)
	(-15) ÷ (+40)	Klubersynth UH1-6 320 (ISO VG320)
	(-15) ÷ (+50)	Klubersynth UH1-6 460 (ISO VG460)
	(-10) ÷ (+50)	Klubersynth UH1-6 680 (ISO VG680)

If 'special' lubricant is required please contact MOTOVARIO TECHNICAL SERVICE.

## 2.10.4 Quantity

- For the reduction units B series it is always necessary to specify the mounting position.
- The reduction units BA.. series with 2, 3 stages and B060, are supplied complete with lubricant, have no oil plugs and need no maintenance.
- The gear reducer B series sizes 080, 100 are supplied complete with lubricant and are fitted with oil plugs to suit any mounting position included in the catalogue.
- The gear reducer B series sizes 140, 150, 160 have no lubricant and are fitted with oil plugs to suit any mounting position included in the catalogue. The oil filling can be done on request, in this case it is recommended, after installation, to replace the closed plug used for transportation with the supplied breather plug. When the reduction unit is supplied without lubricant, it is provided with a label to be filled.

It is recommended, after installation, to replace the closed plug used for transportation with the supplied breather plug. Oil quantity in the table (litres ~) are indicative; for a proper use you will have to refer to the level plug or the dipstick. Any level difference could depend on construction tolerances, but also by the placement of the unit or by the mounting surface at the customer's premises. It is appropriate to check and, if necessary, restores the level when the units are installed.

B	A42	A52	A53	A72	A73
B3					
B8					
B6/B7	0,33	0,42	0,63	1	1,21
V5					
V6					

CB	A42	A52	A53	A72	A73
B3					
B8					
B6/B7	0,33	0,42	0,55	1	1,13
V5					
V6					

B-CB	063	083	103	123	143	153	163
B3	1,2	2,5	3,7	5,7	11,1	19	33
B8	1,5	2,8	4,2	7,9	13	17,5	42,8
B6	1,5	3,5	6	8,5	14,5	26	43
B7	1,5	2,8	3,9	7,3	11,8	19	30
V5	2,1	3,7	7	9,9	18,5	32,5	54,5
V6	1,3	2,6	4,5	6,7	10,8	16,5	37,3

## 2.11 MOMENTS OF INERTIA

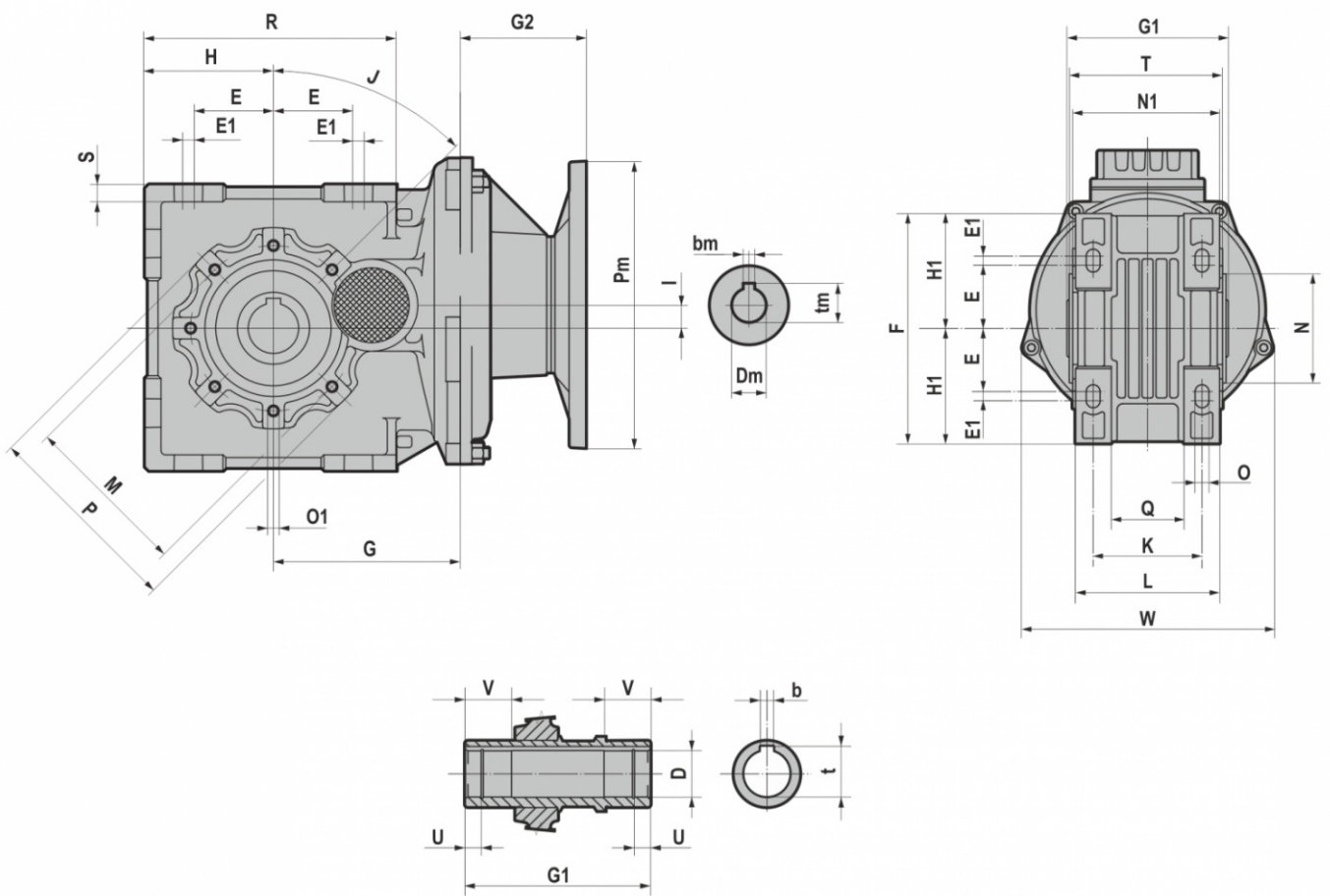
The following values of  $J_1$  moment of inertia are only estimated, referred to the maximum calculated, and to the gearbox input side.

BA-2/3	$J_1$ [Kg*m <sup>2</sup> ]
A42	0,0001
A52/A53	0,0001
A72/A73	0,0003

B	$J_1$ [Kg*m <sup>2</sup> ]
063	0,0001
083	0,0003
103	0,0007
123	0,0010
143	0,0023
153	0,0035
163	0,0093



3.1.1 BA.2



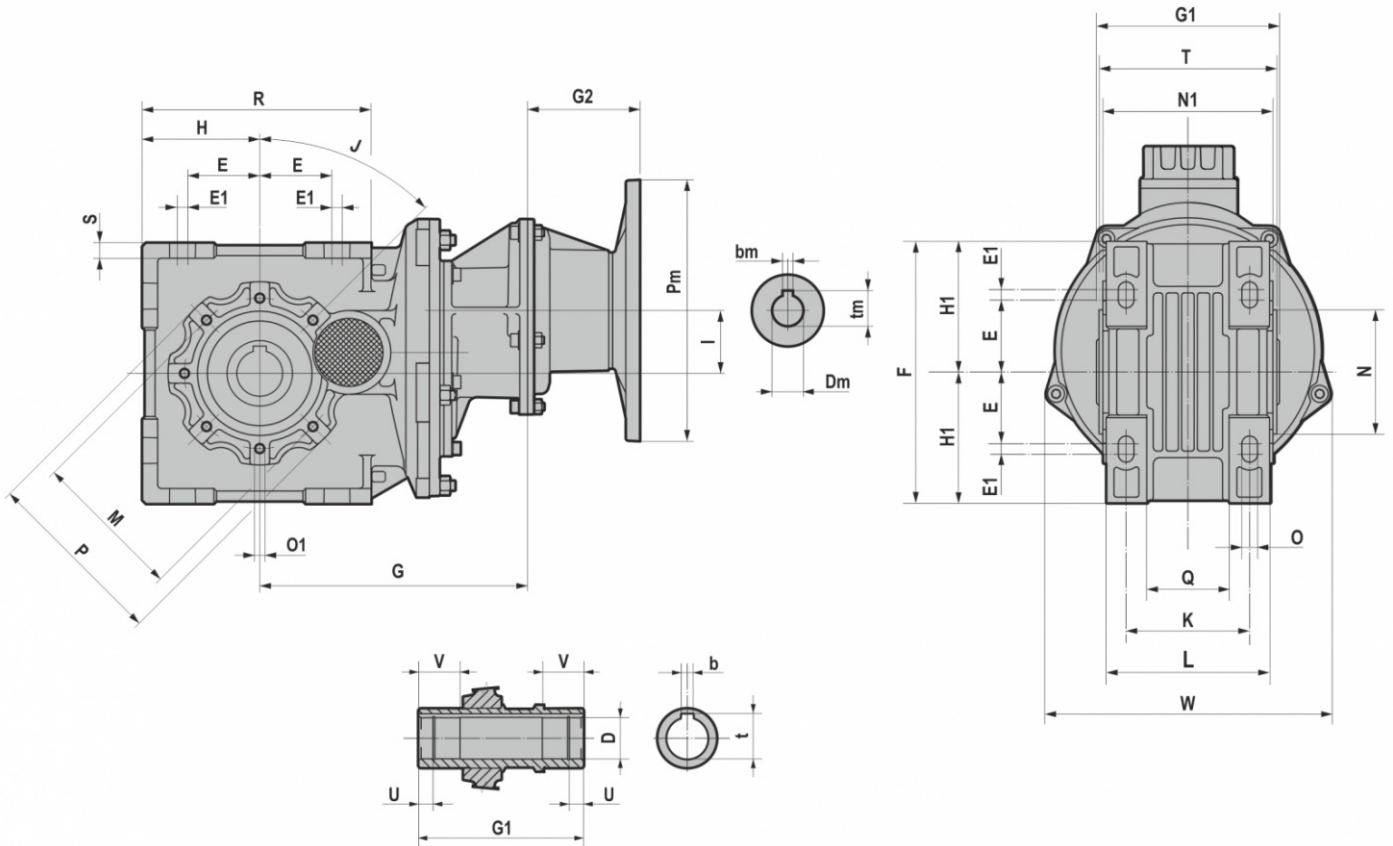
	DH7	b	t	U	V	E	E1	F	G	G1	H	H1	I	J	K	L	M	N	N1	O	O1	P	Q	R	S	T	W
BA42	20	6	22,8	/	30	45	/	130	95	100	65	65	8	45	73,5	90	85	70	92	9	M8x12 n.4	100	45	127,5	8	97	152
BA52	25	8	28,3	/	30	55	/	160	98	112	80	80	4,2	45	80	100	95	80	102	9	M8x14 n.6	110	51	153	10	108	152
	28	8	31,1	/	30	55	/	160	98	112	80	80	4,2	45	80	100	95	80	102	9	M8x14 n.6	110	51	153	10	108	152
BA72	35	10	38,3	12	35	55	8	200	129,5	140	90	100	16	45	94,5	125	115	95	130	12	M8x14 n.7	136	63	175	12	136	218
	30	8	33,3	12	35	55	8	200	129,5	140	90	100	16	45	94,5	125	115	95	130	12	M8x14 n.7	136	63	175	12	136	218

IEC	Pm x Dm		G2	
	Pm x Dm	Pm x Dm	BA42-BA52	BA72
063	140x11	090x11	55	/
071	160x14	105x14	55	/
080	200x19	120x19	86	87,5
090	200x24	140x24	86	87,5
100-112	250x28	160x28	/	87,5

B5	Pm	Dm	bm	tm
063	140	11	4	12,8
071	160	14	5	16,3
080	200	19	6	21,8
090	200	24	8	27,3
100	250	28	8	31,3
112	250	28	8	31,3

B14	Pm	Dm	bm	tm
071	105	14	5	16,3
080	120	19	6	21,8
090	140	24	8	27,3
100	160	28	8	31,3
112	160	28	8	31,3

3.1.2 BA.3



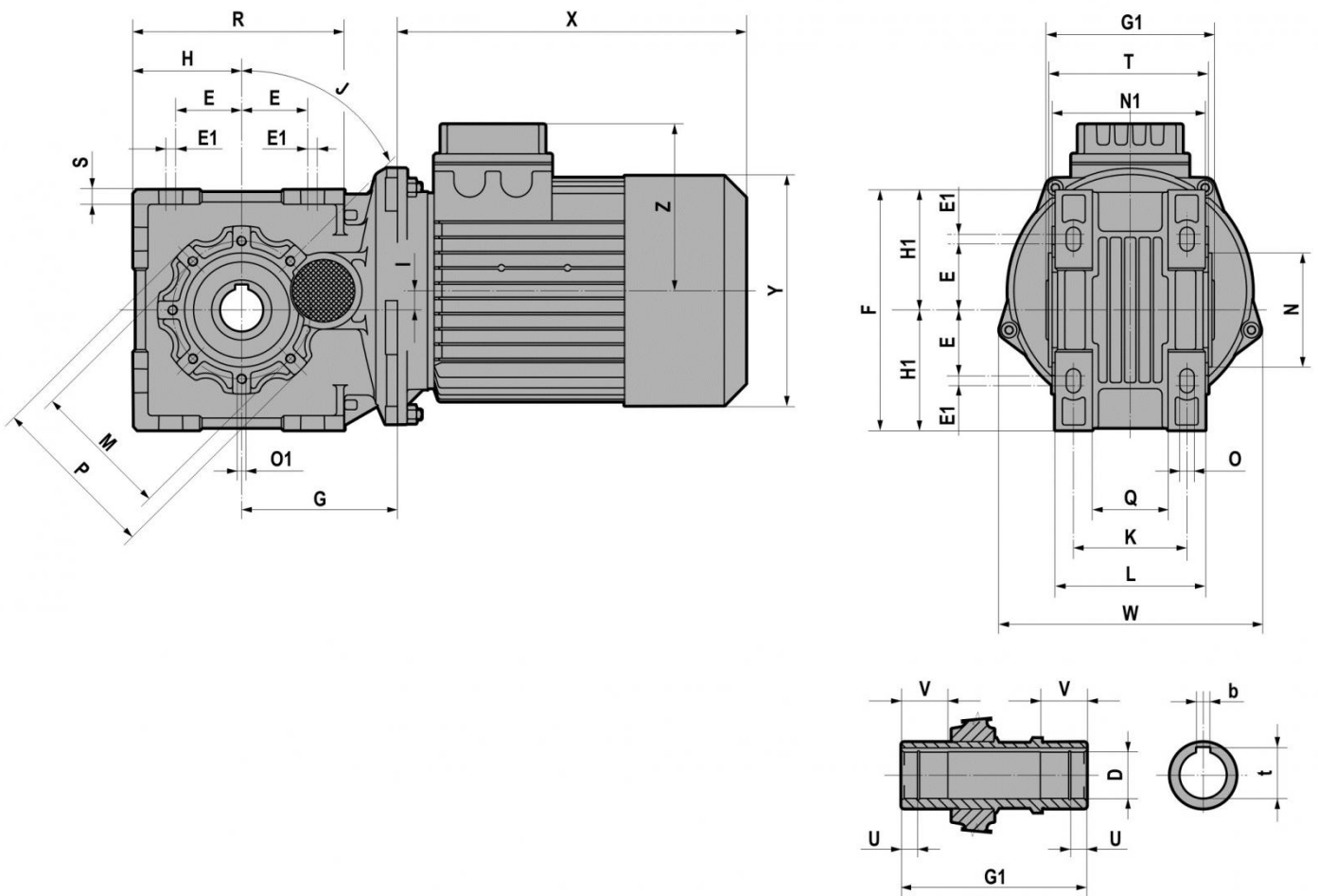
	DH7	b	t	U	V	E	E1	F	G	G1	H	H1	I	J	K	L	M	N	N1	O	O1	P	Q	R	S	T	W
BA53	25	8	28,3	/	30	55	/	160	162	112	80	80	36,2	45	80	100	95	80	102	9	M8x14 n.6	110	51	153	10	108	152
	28	8	31,1																								
BA73	35	10	38,3	12	35	55	8	200	204,5	140	90	100	48	45	94,5	125	115	95	130	12	M8x14 n.7	136	63	175	12	136	218
	30	8	33,3																								

IEC	G2		G2
	Pm x Dm	Pm x Dm	
063	140X11	090x11	55
071	160X14	105x14	55
080	200X19	120x19	86
090	200X24	140x24	86

B5	Pm	Dm	bm	tm
063	140	11	4	12,8
071	160	14	5	16,3
080	200	19	6	21,8
090	200	24	8	27,3

B14	Pm	Dm	bm	tm
071	105	14	5	16,3
080	120	19	6	21,8
090	140	24	8	27,3

3.1.3 CBA.2



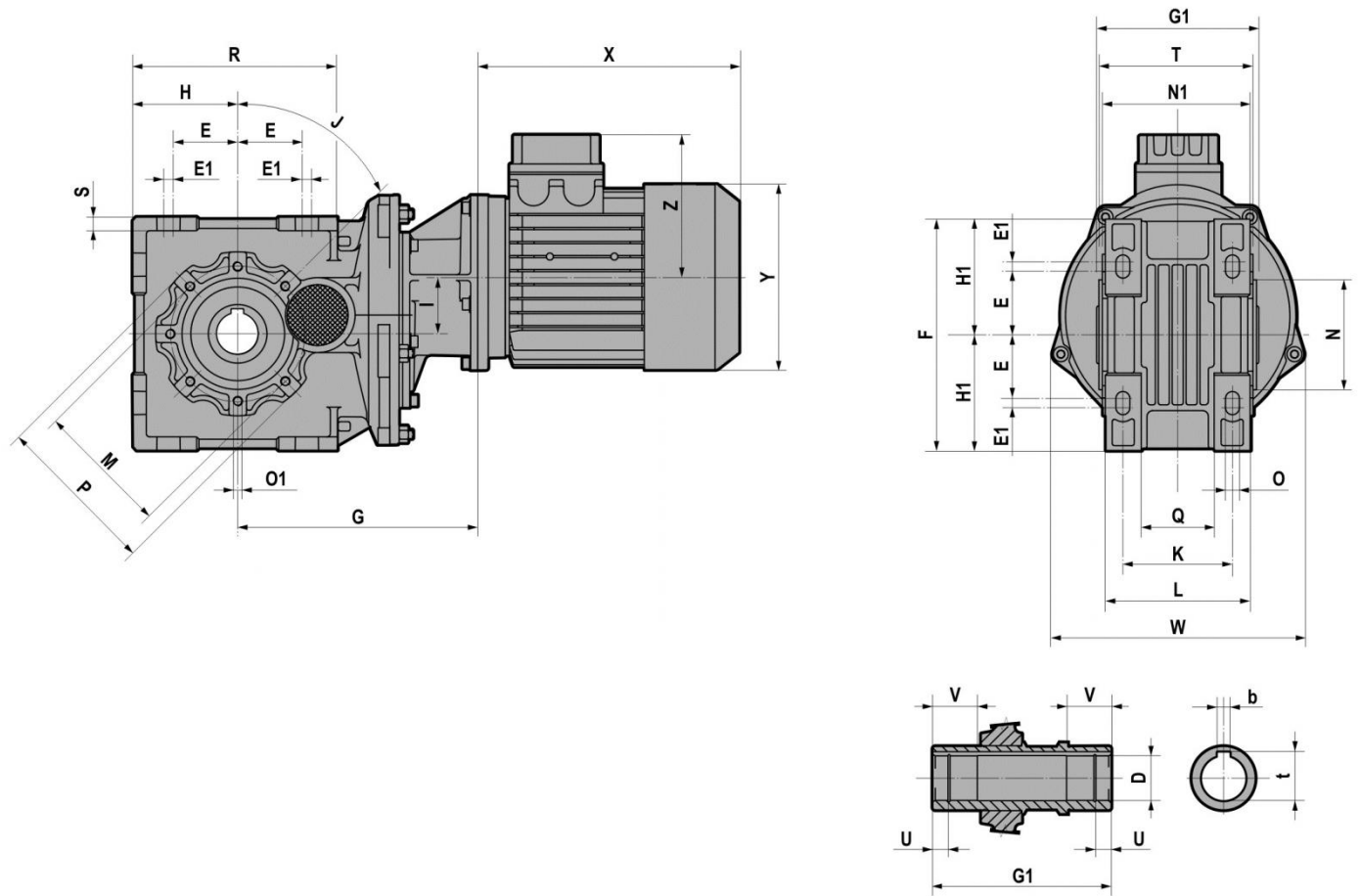
	DH7	b	t	U	V	E	E1	F	G	G1	H	H1	I	J	K	L	M	N	N1	O	O1	P	Q	R	S	T	W
CBA42	20	6	22,8	/	30	45	/	130	95	100	65	65	8	45	73,5	90	85	70	92	9	M8x12 n.4	100	45	127,5	8	97	152
	25	8	28,3	/	30	55	/	160	98	112	80	80	4,2	45	80	100	95	80	102	9	M8x14 n.6	110	51	153	10	108	152
CBA52	28	8	31,1	/	30	55	/	160	98	112	80	80	4,2	45	80	100	95	80	102	9	M8x14 n.6	110	51	153	10	108	152
	35	10	38,3	12	35	55	8	200	129,5	140	90	100	16	45	94,5	125	115	95	130	12	M8x14 n.7	136	63	175	12	136	218
CBA72	30	8	33,3																								

		T (IE1 - IE2 - IE3)						
		O63	O71	O80	O90S	O90L	100	112
CBA42 CBA52	X	180	205	223 *246	237 *270	262 *295	/	/
	Y	121	139	158	173	173	/	/
	Z	104	112	122	130	130	/	/
CBA72	X	/	/	218 *241	232 *265	257 *290	290	302 *326
	Y	/	/	158	173	173	191	211
	Z	/	/	122	130	130	139	154

		TB (IE1 - IE2 - IE3)						
		O63	O71	O80	O90S	O90L	100	112
CBA42 CBA52	X	238	270,5	294 *317	313 *346	338 *371	/	/
	Y	121	139	158	173	173	/	/
	Z	119	129	137	157	157	/	/
CBA72	X	/	/	290 *313	309 *342	334 *367	372	400 *424
	Y	/	/	158	173	173	191	211
	Z	/	/	137	157	157	168	183

\*TP80B4, SH80B4, HSH80B4, TP90S4, SH90S4, HSH90S4, TP90L4, SH90L4, HSH90L4, TP90S6, TP112M4, TP112M6

3.1.4 CBA.3



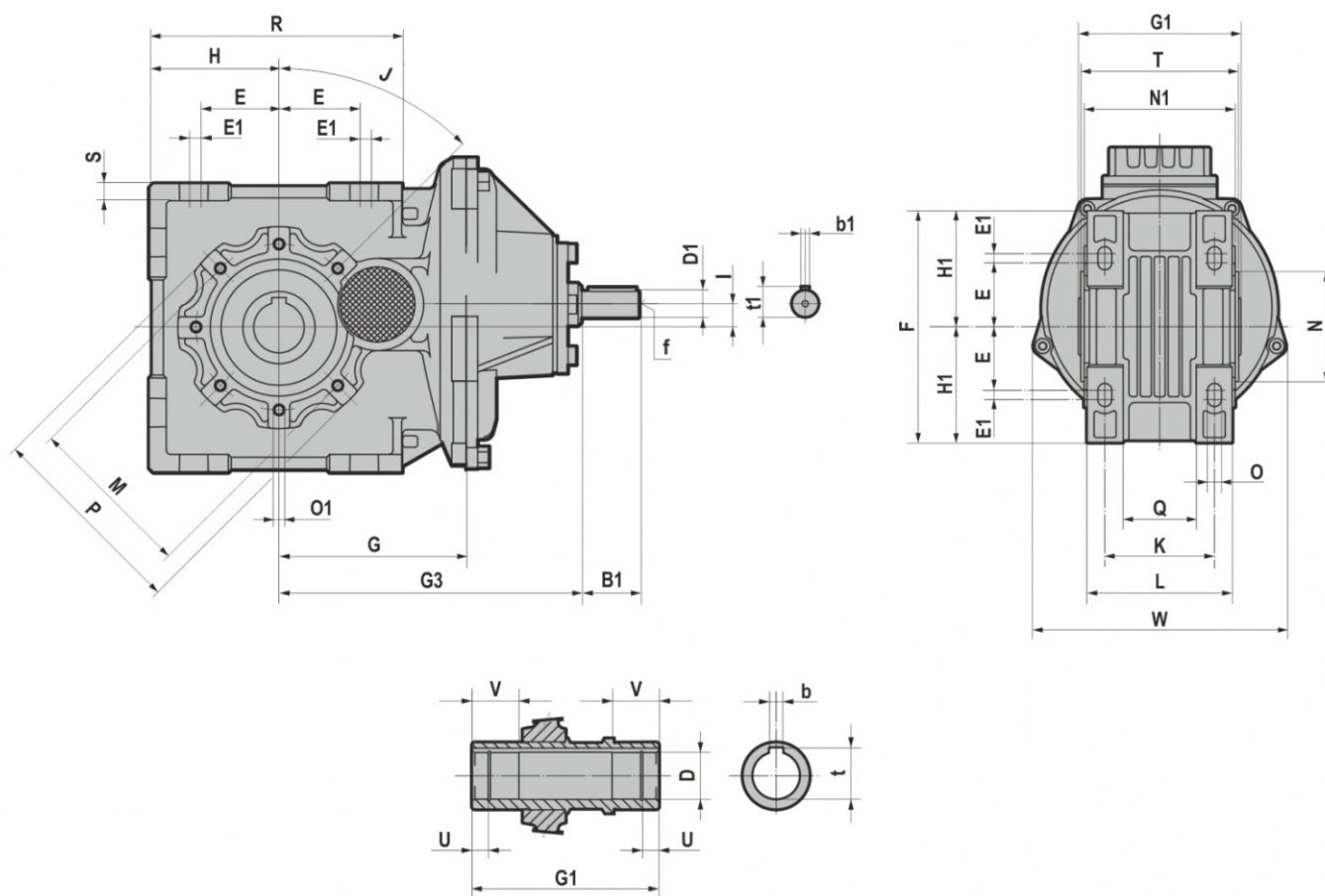
	DH7	b	t	U	V	E	E1	F	G	G1	H	H1	I	J	K	L	M	N	N1	O	O1	P	Q	R	S	T	W
CBA53	25	8	28,3	/	30	55	/	160	162	112	80	80	36,2	45	80	100	95	80	102	9	M8x14 n.6	110	51	153	10	108	152
	28	8	31,1																								
CBA73	35	10	38,3	12	35	55	8	200	204,5	140	90	100	48	45	94,5	125	115	95	130	12	M8x14 n.7	136	63	175	12	136	218
	30	8	33,3																								

		T (IE1 - IE2 - IE3)				
		O63	O71	O80	O90S	O90L
CBA53 CBA73	X	180	205	223 *246	237 *270	262* 295
	Y	121	139	158	173	173
	Z	104	112	122	130	130

		TB (IE1 - IE2 - IE3)				
		O63	O71	O80	O90S	O90L
CBA53 CBA73	X	238	270,5	294 *317	313 *346	338 *371
	Y	121	139	158	173	173
	Z	119	129	137	157	157

\*TP80B4, SH80B4, HSH80B4, TP90S4, SH90S4, HSH90S4, TP90L4, SH90L4, HSH90L4, TP90S6, TP112M4, TP112M6

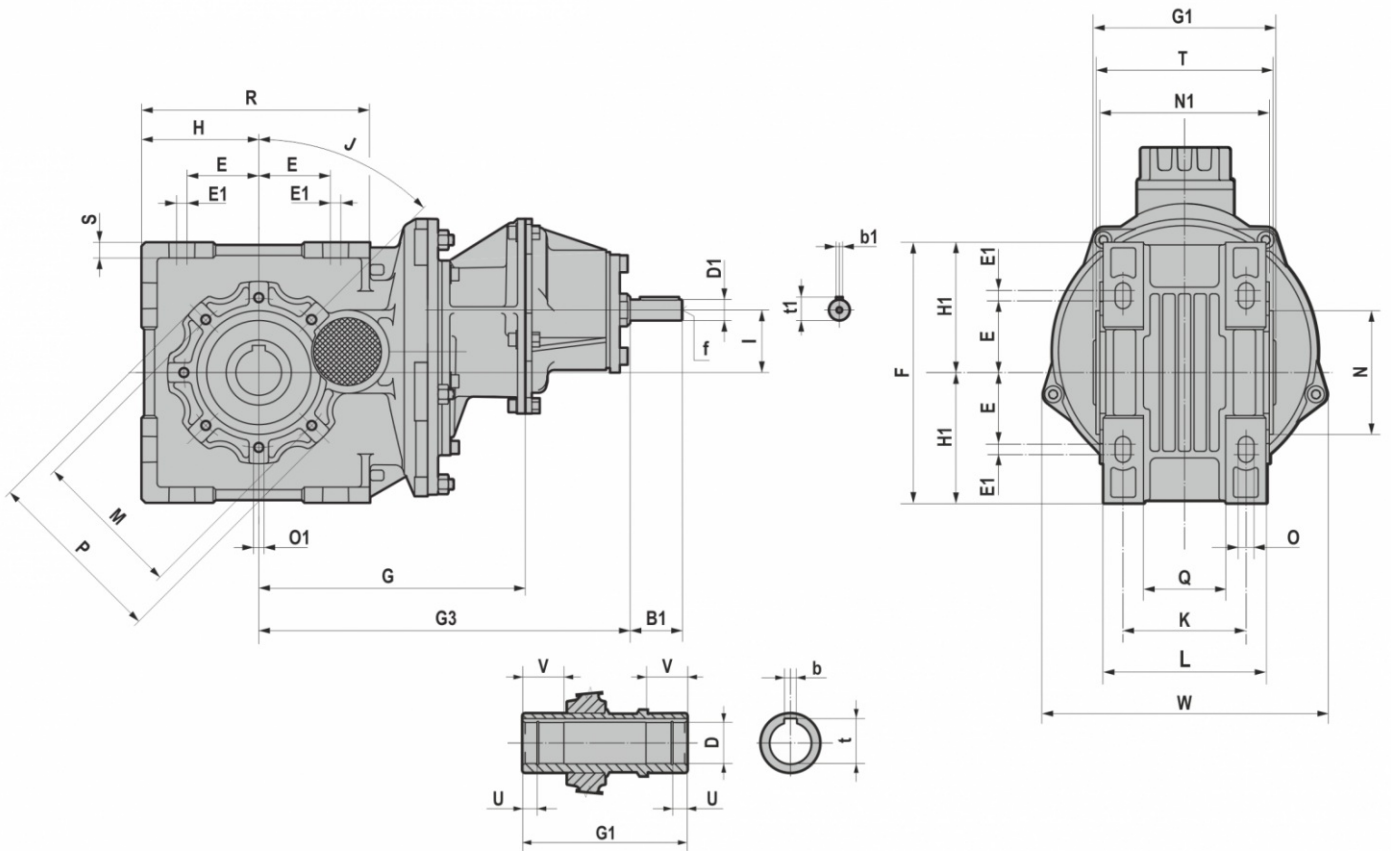
3.1.5 IBA.2



	DH7	b	t	U	V	E	E1	F	G	G1	H	H1	I	J	K	L	M	N	N1	O	O1	P	Q	R	S	T	W
IBA42	20	6	22,8	/	30	45	/	130	95	100	65	65	8	45	73,5	90	85	70	92	9	M8x12 n.4	100	45	127,5	8	97	152
	25	8	28,3	/	30	55	/	160	98	112	80	80	4,2	45	80	100	95	80	102	9	M8x14 n.6	110	51	153	10	108	152
IBA52	28	8	31,1	/	30	55	/	160	98	112	80	80	4,2	45	80	100	95	80	102	9	M8x14 n.6	110	51	153	10	108	152
	35	10	38,3	12	35	55	8	200	129,5	140	90	100	16	45	94,5	125	115	95	130	12	M8x14 n.7	136	63	175	12	136	218
IBA72	30	8	33,3																								

	G3	D1	B1	b1	t1	f
IBA42	175,5	16	40	5	18	M6
IBA52	179	16	40	5	18	M6
IBA72	210	19	40	6	21,5	M6

3.1.6 IBA.3

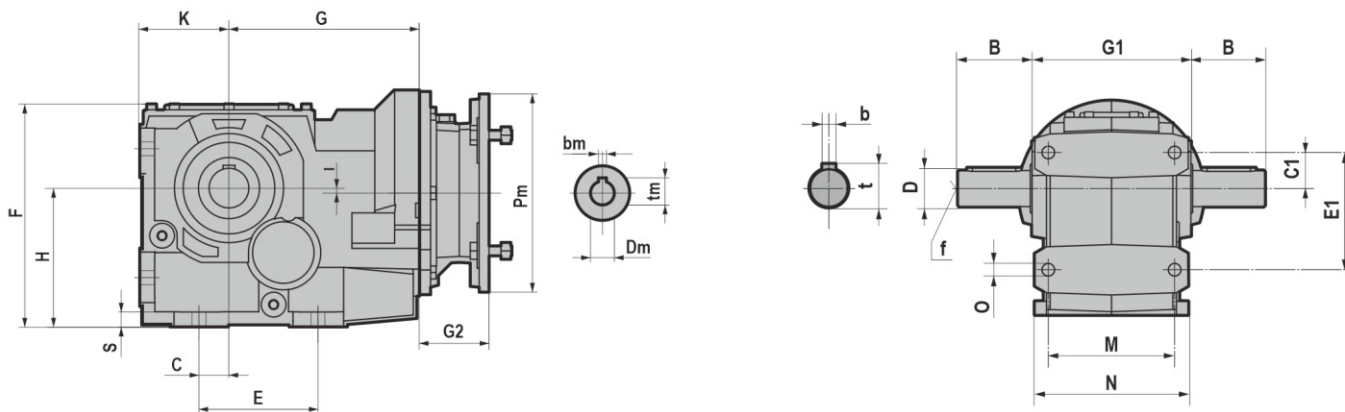


	D	H7	b	t	U	V	E	E1	F	G	G1	H	H1	I	J	K	L	M	N	N1	O	O1	P	Q	R	S	T	W
IBA53	25	8	28,3	/	30	55	/	160	162	112	80	80	36,2	45	80	100	95	80	102	9	M8x14 n.6	110	51	153	10	108	152	
	28	8	31,1																									
IBA73	35	10	38,3	12	35	55	8	200	204,5	140	90	100	48	45	94,5	125	115	95	130	12	M8x14 n.7	136	63	175	12	136	218	
	30	8	33,3																									

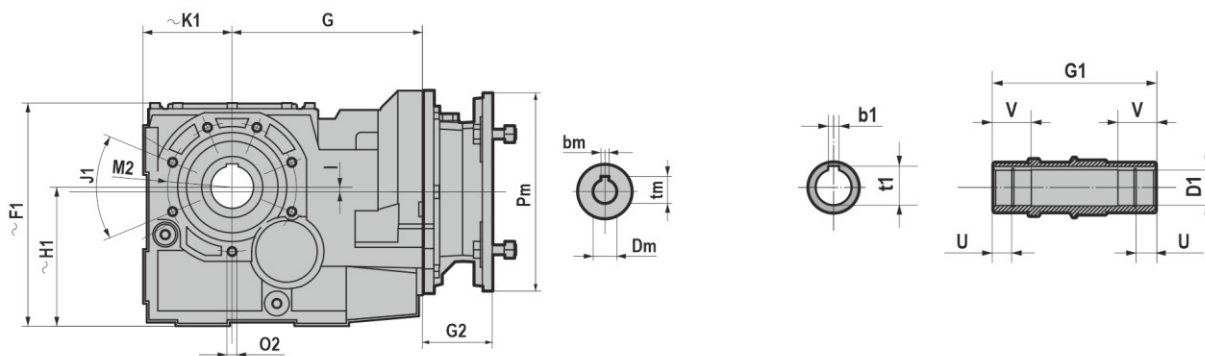
	G3	D1	B1	b1	t1	f
IBA53	242,5	16	40	5	18	M6
IBA73	285	16	40	5	18	M6

3.1.7 B

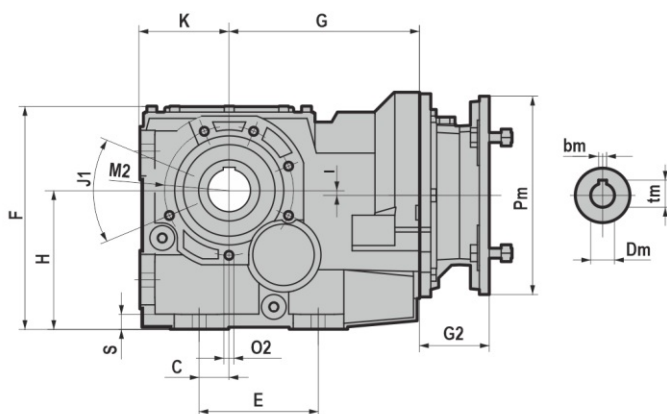
B...F



B...S



B...U



### 3.1 REDUCERS/GEARED MOTORS

	D1 H7	b1	t1	U	V	B	D	b	t	f	C	C1	E	E1	F	F1
<b>B063</b>	35	10	38,3	12	35	58	35 k6	10	38	M12	30	39	130	126	215	219,5
	40	12	43,3													
<b>B083</b>	40	12	43,3	22,25	42	80	40 k6	12	43	M16	30	40	120	130	225	230
	45	14	(**) 47,6													
<b>B103</b>	45	14	48,8	22,25	50	100	50 k6	14	53,5	M16	40	50	150	160	283	288,6
	50	14	53,8													
<b>B123</b>	55	16	59,3	28	70	120	60 m6	18	64	M20	55	78	180	220	341	350
	60	18	64,4													
<b>B143</b>	70	20	74,9	27,5	75	140	70 m6	20	74,5	M20	75	90	240	280	423	/
<b>B153</b>	90	25	95,4	34	90	170	90 m6	25	95	M20	95	110	280	330	498	/
	80	22	85,4													
<b>B163</b>	100	28	106,4	40	100	210	110 m6	28	116	M20	115	155	350	420	615	/

	G	G1	H	H1	I	K	K1	M	N	O	S	J1	M2	O2
<b>B063</b>	174	140	132	137	33	88	92,5	104	126	14	12	45	130	M10x20 (n.6)
<b>B083</b>	192	180	140	145	5	90	95	140	170	14	15	45	130	M10x20 (n.6/7)
<b>B103</b>	213,5	210	180	185,6	25	112	117,6	165	205	18	18	45	165	M12x22 (n.6/7)
<b>B123</b>	246	240	212	221	33,5	132	141	180	230	22	22	45	185	M14x28 (n.7)
<b>B143</b>	279	300	265	/	34	160	/	240	290	22	22	45	200	M14x30 (n.7)
<b>B153</b>	353	350	315	/	35	200	/	270	330	26	26	45	245	M16x32 (n.7)
<b>B163</b>	426,5	445	375	/	47	230,5	/	330	400	38	45	45	298	M18x40 (n.7)

IEC	Pm x Dm	G2						
		B063	B083	B103	B123	B143	B153	B163
<b>063</b>	<b>140x11</b>	57	/	/	/	/	/	/
<b>071</b>	<b>160x14</b>	69,0	/	/	/	/	/	/
<b>080</b>	<b>200x19</b>	90,0	70,0	70,0	/	/	/	/
<b>090</b>	<b>200x24</b>	90,0	70,0	70,0	60,5	/	/	/
<b>100-112</b>	<b>250x28</b>	105,0	85,0	85,0	75,5	75,5	/	/
<b>132</b>	<b>300x38</b>	/	110,0	110,0	100,5	100,5	76,0	/
<b>160</b>	<b>350x42</b>	/	/	157,5	148,0	148,0	123,5	/
<b>180</b>	<b>350x48</b>	/	/	/	148,0	148,0	123,5	109,0
<b>200</b>	<b>400x55</b>	/	/	/	/	185,0	160,5	146,0
<b>225</b>	<b>450x60</b>	/	/	/	/	/	160,5	146,0
<b>250</b>	<b>550*65</b>	/	/	/	/	/	/	175,0
<b>280</b>	<b>550*75</b>	/	/	/	/	/	/	175,0

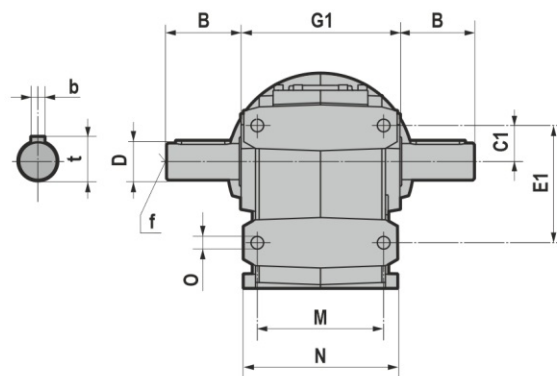
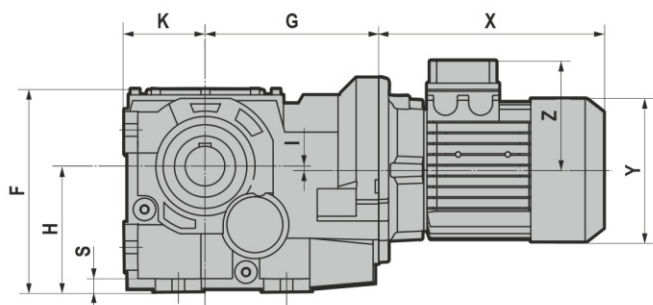
B5	Pm	Dm	bm	tm
<b>063</b>	140	11	4	12,8
<b>071</b>	160	14	5	16,3
<b>080</b>	200	19	6	21,8
<b>090</b>	200	24	8	27,3
<b>100</b>	250	28	8	31,3
<b>112</b>	250	28	8	31,3
<b>132</b>	300	38	10	41,3
<b>160</b>	350	42	12	45,3
<b>180</b>	350	48	14	51,8
<b>200</b>	400	55	16	59,3
<b>225</b>	450	60	18	64,4
<b>250</b>	550	65	18	69,4
<b>280</b>	550	75	20	79,9

(\*\*) Low profile key-way.

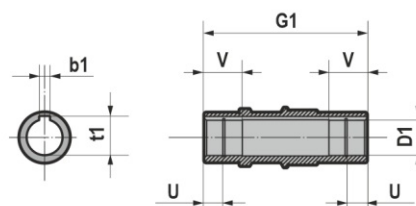
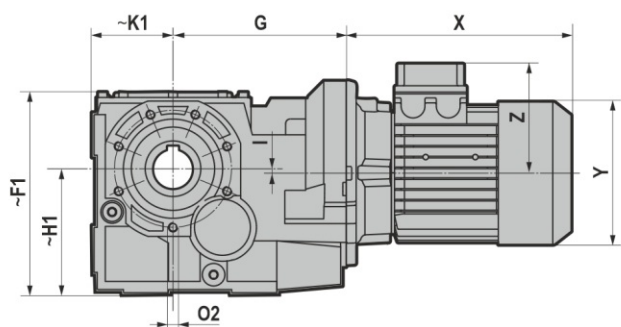


3.1.8 CB

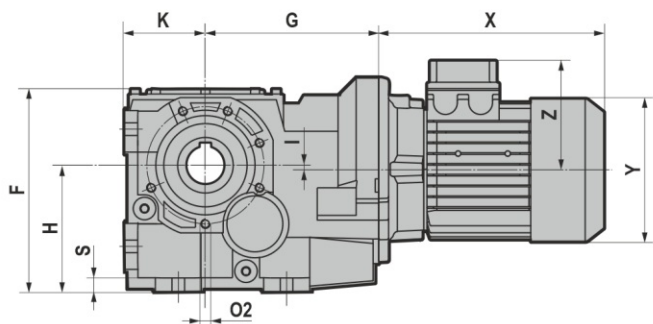
CB...F



CB...S



CB...U



### 3.1 REDUCERS/GEARED MOTORS

	D1 H7	b1	t1	U	V	B	D	b	t	f	C	C1	E	E1	F	F1
CB063	35	10	38,3	12	35	58	35 k6	10	38	M12	30	39	130	126	215	219,5
	40	12	43,3													
CB083	40	12	43,3	22,25	42	80	40 k6	12	43	M16	30	40	120	130	225	230
	45	14	(**) 47,6													
CB103	45	14	48,8	22,25	50	100	50 k6	14	53,5	M16	40	50	150	160	283	288,6
	50	14	53,8													
CB123	55	16	59,3	28	70	120	60 m6	18	64	M20	55	78	180	220	341	350
	60	18	64,4													
CB143	70	20	74,9	27,5	75	140	70 m6	20	74,5	M20	75	90	240	280	423	/
CB153	90	25	95,4	34	90	170	90 m6	25	95	M20	95	110	280	330	498	/
	80	22	85,4													
CB163	100	28	106,4	40	100	210	110 m6	28	116	M20	115	155	350	420	615	/

	G	G1	H	H1	I	K	K1	M	N	O	S	J1	M2	O2
CB063	174	140	132	137	33	88	92,5	104	126	14	12	45	130	M10x20 (n.6)
CB083	192	180	140	145	5	90	95	140	170	14	15	45	130	M10x20 (n.6/7)
CB103	213,5	210	180	185,6	25	112	117,6	165	205	18	18	45	165	M12x22 (n.6/7)
CB123	246	240	212	221	33,5	132	141	180	230	22	22	45	185	M14x28 (n.7)
CB143	279	300	265	/	34	160	/	240	290	22	22	45	200	M14x30 (n.7)
CB153	353	350	315	/	35	200	/	270	330	26	26	45	245	M16x32 (n.7)
CB163	426,5	445	375	/	47	230,5	/	330	400	38	45	45	298	M18x40 (n.7)

T (IE1 - IE2 - IE3)										
	O63	O71	O80	O90S	O90L	100	112	132S	132M	
CB063	X	215	241	268 *291	296 *329	321 *354	333	351 *375	/	/
	Y	121	139	158	173	173	191	211	/	/
	Z	104	112	122	130	130	139	154	/	/
CB083 CB103	X	/	221	248 *271	276 *309	301 *334	335	356 *380	405	443
	Y	/	139	158	173	173	191	211	249	249
	Z	/	112	122	130	130	139	154	194	194
CB123 CB143	X	/	/	/	267 *300	292 *325	326	347 *371	396	434
	Y	/	/	/	173	173	191	211	249	249
	Z	/	/	/	130	130	139	154	194	194

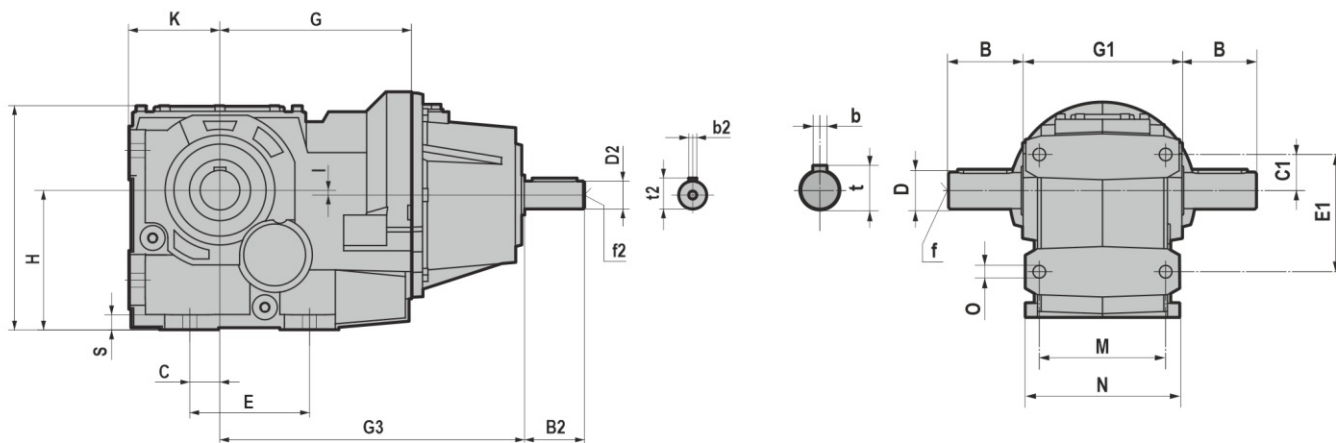
TB (IE1 - IE2 - IE3)										
	O63	O71	O80	O90S	O90L	100	112	132S	132M	
CB063	X	273	307	341 *364	373 *406	398 *431	415	448 *472	/	/
	Y	121	139	158	173	173	191	211	/	/
	Z	119	129	137	157	157	168	183	/	/
CB083 CB103	X	/	287	321 *344	353 *386	378 *411	417	453 *477	505	547
	Y	/	139	158	173	173	191	211	249	249
	Z	/	129	137	157	157	168	183	230	230
CB123 CB143	X	/	/	/	343 *376	368 *401	407	443 *467	495	537
	Y	/	/	/	173	173	191	211	249	249
	Z	/	/	/	157	157	168	183	230	230

\*TP80B4, SH80B4, HSH80B4, TP90S4, SH90S4, HSH90S4, TP90L4, SH90L4, HSH90L4, TP90S6, TP112M4, TP112M6

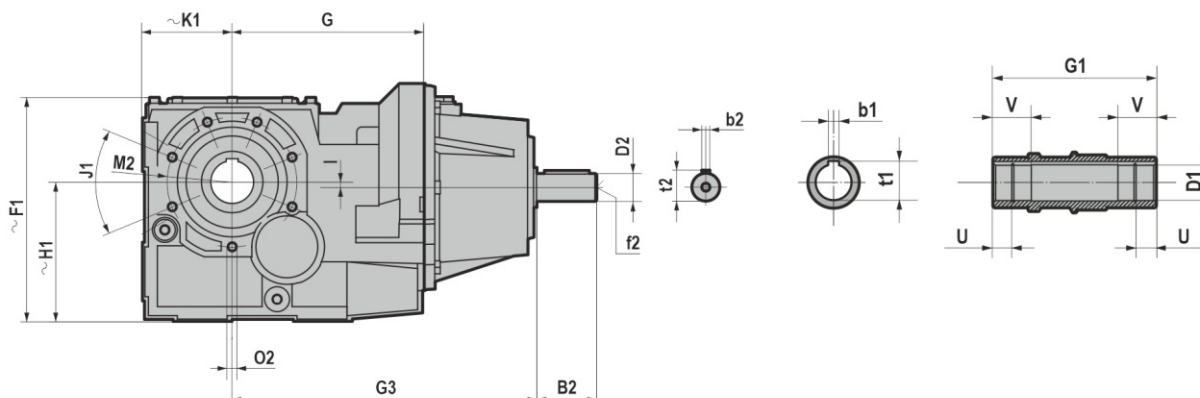
(\*\*) Low profile key-way.

3.1.9 IB

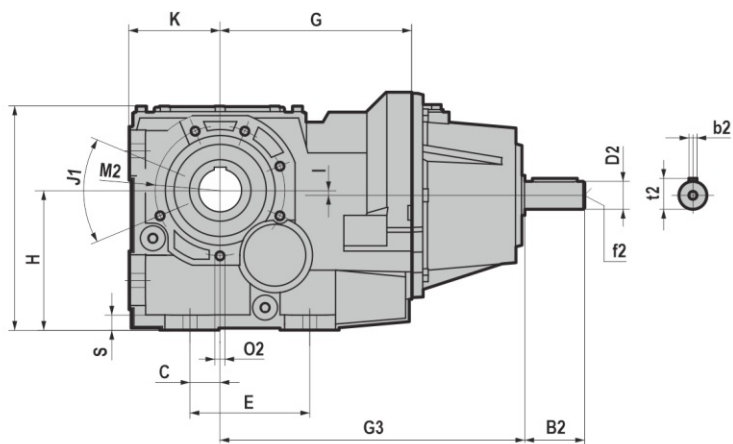
IB...F



IB...S



IB...U



	D1 H7	b1	t1	U	V	B	D	b	t	f	C	C1	E	E1	F	F1
IB063	35	10	38,3	12	35	58	35 k6	10	38	M12	30	39	130	126	215	219,5
	40	12	43,3													
IB083	40	12	43,3	22,25	42	80	40 k6	12	43	M16	30	40	120	130	225	230
	45	14	(**) 47,6													
IB103	45	14	48,8	22,25	50	100	50 k6	14	53,5	M16	40	50	150	160	283	288,6
	50	14	53,8													
IB123	55	16	59,3	28	70	120	60 m6	18	64	M20	55	78	180	220	341	350
	60	18	64,4													
IB143	70	20	74,9	27,5	75	140	70 m6	20	74,5	M20	75	90	240	280	423	/
IB153	90	25	95,4	34	90	170	90 m6	25	95	M20	95	110	280	330	498	/
	80	22	85,4													
IB163	100	28	106,4	40	100	210	110 m6	28	116	M20	115	155	350	420	615	/

	G	G1	H	H1	I	K	K1	M	N	O	S	J1	M2	O2
IB063	174	140	132	137	33	88	92,5	104	126	14	12	45	130	M10x20 (n.6)
IB083	192	180	140	145	5	90	95	140	170	14	15	45	130	M10x20 (n.6/7)
IB103	213,5	210	180	185,6	25	112	117,6	165	205	18	18	45	165	M12x22 (n.6/7)
IB123	246	240	212	221	33,5	132	141	180	230	22	22	45	185	M14x28 (n.7)
IB143	279	300	265	/	34	160	/	240	290	22	22	45	200	M14x30 (n.7)
IB153	353	350	315	/	35	200	/	270	330	26	26	45	245	M16x32 (n.7)
IB163	426,5	445	375	/	47	230,5	/	330	400	38	45	45	298	M18x40 (n.7)

	G3	B2	D2	b2	t2	f2
IB063	264	50	24 j6	8	27	M8
IB083	305	60	28 j6	8	31	M10
IB103	326,5	60	28 j6	8	31	M10
IB123	372,5	80	38 k6	10	41	M12
IB143	405,5	80	38 k6	10	41	M12
IB153	493	110	42 k6	12	45	M16
IB163	561,5	110	48 k6	14	51,5	M16

(\*\*) Low profile key-way.

### 3.2 WEIGHTS

The values reported in the tables are referred to the weight of the gearbox with lubricant included.

\*Weight without motor

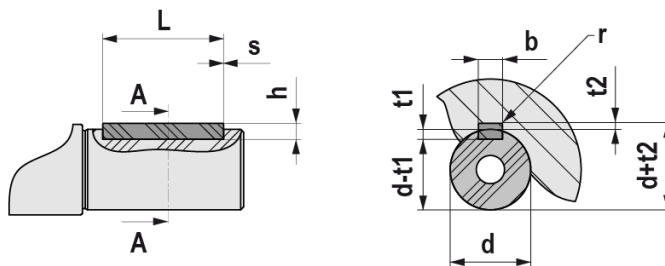
* B-PB	063	071	080-090	100-112	132	160-180	200	225	250	280		IB	- kg
A42	4,8	4,9	5,1	/	/	/	/	/	/	/	~ kg	A42	4,8
A52	5,4	5,5	5,7	/	/	/	/	/	/	/		A52	5,4
A53	7,0	7,1	8,5	/	/	/	/	/	/	/		A53	8,2
A72	/	/	15,3	15,5	/	/	/	/	/	/		A72	15,4
A73	14,2	14,3	15,7	/	/	/	/	/	/	/		A73	15,4
O63	20,6	21	21,6	25,9	/	/	/	/	/	/		O63	23,7
O83	/	/	29,3	31,3	33,8	/	/	/	/	/		O83	33,1
103	/	/	54,8	56,8	59,5	66,2	/	/	/	/		103	58,8
123	/	/	76,6	79	81,7	87,7	/	/	/	/		123	86,5
143	/	/	/	124	127	133	148	/	/	/		143	132
153	/	/	/	/	199	206,5	221	223	/	/		153	213
163	/	/	/	/	/	385,3	449,8	457,1	473,5	473,5		163	455,6

CB	TH			
	63	71	80	
A42	8,08	10,376	15	~ kg
A52	8,88	11,276	15,9	
A53	10,38	12,776	17,4	
A72	/	/	23,3	
A73	17,58	19,976	24,6	
O63	24,78	26,076	31,4	
O83	/	/	37,4	
103	/	/	63,1	

CB	TBH			
	63	71	80	
A42	9,5	12,4	18,1	~ kg
A52	10,3	13,2	19	
A53	11,8	14,7	20,5	
A72	/	/	27,3	
A73	19,1	22	28,6	
O63	26,3	28,3	34,9	
O83	/	/	40,9	
103	/	/	66,5	

CB	TP							
	80	090S	090L	100	112	132S	132M	
A42	16,6	/	/	/	/	/	/	~ kg
A52	17,5	21,9	24	/	/	/	/	
A53	19	23,4	25,5	/	/	/	/	
A72	24,9	29,4	31,5	39,9	55,8	/	/	
A73	26,2	30,7	32,8	/	/	/	/	
O63	33	39,4	41	46,4	66,8	/	/	
O83	39	43,9	45	50	70,3	89,4	93,7	
103	64,7	69,6	70,7	75,7	96	115,1	119,4	
123	/	91,5	92,1	98	116,9	137	138,7	
143	/	/	/	143,3	162,2	182,3	184	

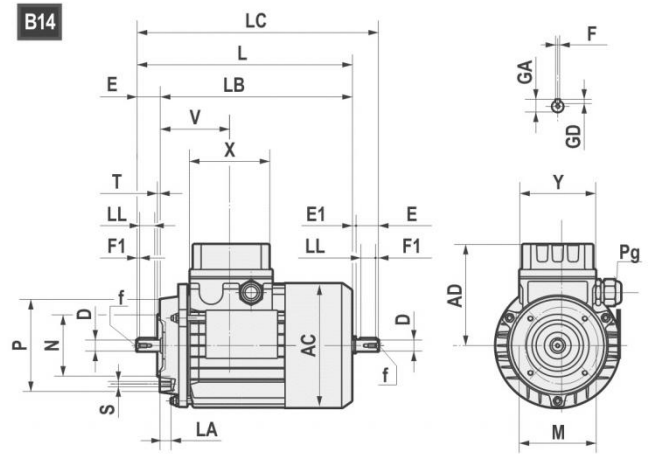
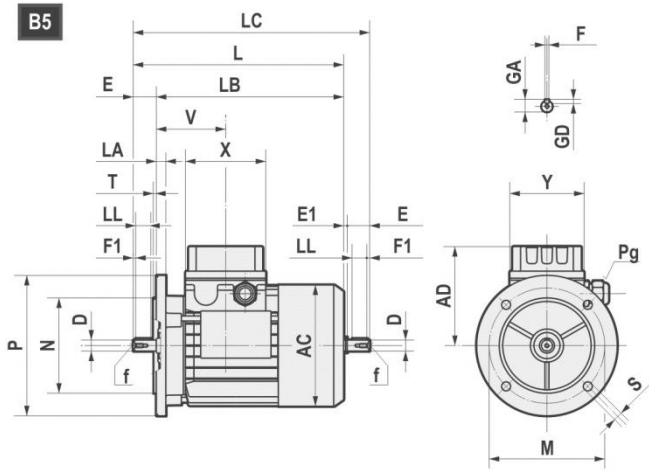
CB	TBP							
	80	090S	090L	100	112	132S	132M	
A42	19,7	/	/	/	/	/	/	~ kg
A52	20,6	26,7	18,9	/	/	/	/	
A53	22,1	28,2	30,4	/	/	/	/	
A72	28,9	32,9	37	48,3	68,5	/	/	
A73	30,2	34,7	38,3	/	/	/	/	
O63	36,5	44,9	46,5	53,3	79,2	/	/	
O83	42,5	49,4	50,5	56,9	82,7	103,3	107,6	
103	68,1	75,1	76,2	82,5	108,4	129,1	133,4	
123	/	97	97,6	104,9	129,3	151	152,7	
143	/	/	/	150,2	174,9	196	198,3	



UNI 6604 - DIN 6885														
d		b x h			Tol. b/h	L		s min / max	b	t1	t2	Tol. t1/t2	r max	
	6	8	2	x	2	h9 / h9	6	20	0,16 0,25	2	1,2	0,1 0	0,08 0,16	
>	8	10	3	x	3		6	36		3	1,8			1,4
>	10	12	4	x	4		8	45		4	2,5			1,8
>	12	17	5	x	5		10	56	5	3	2,3	0,16 0,25		
>	17	22	6	x	6		14	70	6	3	2,8			
>	22	30	8	x	7	h9 / h11	18	90	0,25 0,4	8	4	3,3	0,25 0,4	
>	30	38	10	x	8		22	110		10	5	3,3		
>	38	44	12	x	8		28	140		12	5	3,3		
>	44	50	14	x	9		36	160	14	5,5	3,8	0,2 0		
>	50	58	16	x	10		45	180	16	6	4,3			
>	58	65	18	x	11		50	200	18	7	4,4			
>	65	75	20	x	12		56	110	20	7,5	4,9	0,4 0,6		
>	75	85	22	x	14		63	140	22	9	5,4			
>	85	95	25	x	14		70	160	25	9	5,4			
>	95	110	28	x	16		80	180	28	10	6,4			
>	110	130	32	x	18		90	200	32	11	7,4			
>	130	150	36	x	20		100	160	36	12	8,4	0,3 0	0,7 1	
>	150	170	40	x	22		110	180	40	13	9,4			
>	170	200	45	x	25		125	200	45	14	10,4			



# 3.4 ELECTRIC MOTORS



		AC	AD	L	LB	X	D	E	f	GA	F	GD	LL	Pg	
<b>160M</b>	4-6	314	251	600	490	158	42	110	M16	45	12	8	90	2-M40x1,5	1-M16x1,5
<b>160L</b>	4-6	314	251	645	535	158	42	110	M16	45	12	8	90	2-M40x1,5	1-M16x1,5
<b>180M</b>	4	355	267	680	570	158	48	110	M16	51,5	14	9	100	2-M40x1,5	1-M16x1,5
<b>180L</b>	6	355	267	720	610	158	48	110	M16	51,5	14	9	100	2-M40x1,5	1-M16x1,5
<b>200L</b>	4-6	397	300	785	675	187	55	110	M20	59	16	10	100	2-M50x1,5	1-M16x1,5
<b>225S</b>	4	446	325	820	680	187	60	140	M20	64	18	11	125	2-M50x1,5	1-M16x1,5
<b>225M</b>	4-6	446	325	845	705	187	60	140	M20	64	18	11	125	2-M50x1,5	1-M16x1,5
<b>250M</b>	4-6	485	360	910	770	238	60	140	M20	64	18	11	125	2-M63x1,5	1-M16x1,5
<b>250M</b>	4-6	485	360	910	770	238	65	140	M20	69	18	11	125	2-M63x1,5	1-M16x1,5
<b>280S</b>	4-6	547	390	970	830	238	65	140	M20	69	18	11	125	2-M63x1,5	1-M16x1,5
<b>280S</b>	4-6	547	390	970	830	238	75	140	M20	79,5	20	12	125	2-M63x1,5	1-M16x1,5
<b>280M</b>	4-6	547	390	1025	885	238	65	140	M20	69	18	11	125	2-M63x1,5	1-M16x1,5
<b>280M</b>	4-6	547	390	1025	885	238	75	140	M20	79,5	20	12	125	2-M63x1,5	1-M16x1,5

B5	M	N	P	LA	S	T
<b>160</b>	300	250	350	13	19	5
<b>180</b>	300	250	350	15	19	5
<b>200</b>	350	300	400	17	19	5
<b>225</b>	400	350	450	20	19	5
<b>250</b>	500	450	550	22	19	5
<b>280</b>	500	450	550	22	19	5



### 3.4.2 Standard high efficiency (TS), high (TH, SH, HSH) and premium (TP) motors

Motovario, three-phase, single polarity motors are available in three different versions (IE1-IE2-IE3) in compliance with standard 60034-30-1. The efficiency value is calculated according to the method set forth in standard IEC 60034-2-1.

1. IE1: TS series (standard efficiency) for nominal power less than 0.12 kW,;
2. IE2: TH series (high efficiency) for nominal power greater than or equal to 0.12 kW and less than 0.75 kW;
3. IE3: TP series (premium efficiency) (\*) 4 poles for nominal power greater than or equal to 0.12 kW, 2 and 6 poles for nominal power greater than or equal to 0.75 kW.

Motovario single-phase, single-polarity motors are available in IE2 efficiency class according to IEC 60034-30-1 for nominal power ratings higher than or equal to 0.12 kW and lower than or equal to 2.2 kW. The efficiency value is calculated according to the method set forth in standard IEC 60034-2-1.

Table of Motovario commercial availability

NOMINAL POWER [kW]	EFFICIENCY LEVEL		
	IE1	IE2	IE3
<b><math>P_n &lt; 0,12</math></b>	TS-TBS	-	-
<b><math>0,12 \leq P_n &lt; 0,75</math></b>	-	TH-TBH SH-HSH	TP-TBP (**)
<b><math>P_n \geq 0,75</math></b>	-	SH-HSH	TP-TBP

(\*) Motor TP100LA4 2,2 kW and all TP 6 poles motors are available at 60Hz only upon request. As a consequence, these motors are in IE3 efficiency level at 50 Hz and IE2 at 60 Hz in case of bifrequency electrical design (standard 230/400-265/460V 50-60Hz and optional 200/346-220/380V 50-60Hz, 290/500-330/575V 50-60Hz and 400/690-460/800V 50-60Hz, see chapter on input voltage and frequency).

(\*\*) Only 4 poles.

## 3.4.3 Nominal power - [kW]

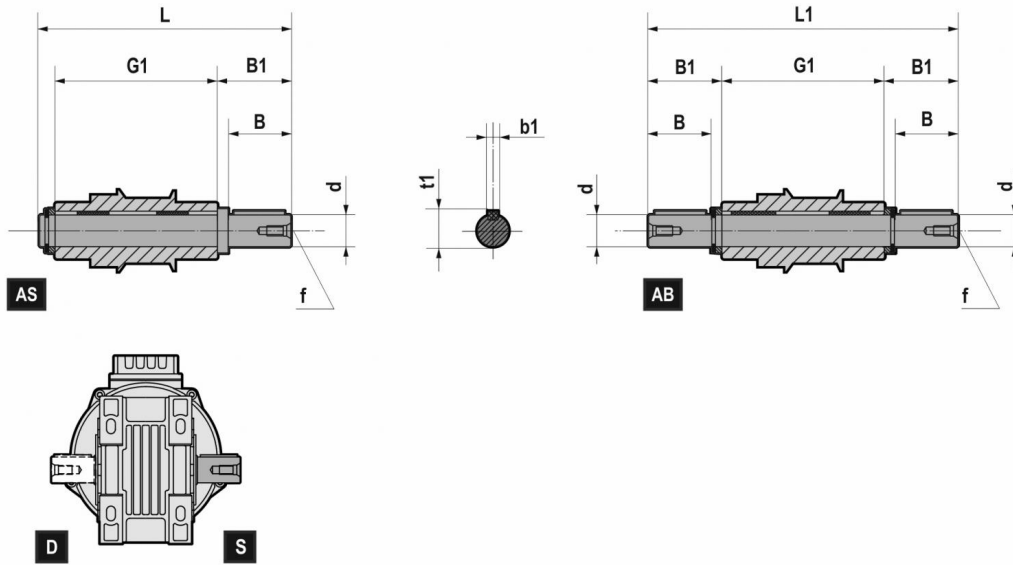
	63A			63B		63C	63D	71A		71B		71C
P.	TS	TH	TP	TH	TP	TH	TH	TH	TP	TH	TP	TH
4	-	0,12	0,12	0,18	0,18	-	0,25	0,25	0,25	0,37	0,37	0,55
6	0,09	-	-	0,12	-	-	-	0,18	-	0,25	-	0,37

	80A		80B		90S	90L	100LR	100LA	100L	112MR	112MS	112M
P.	TH	TP	TH	TP	TP	TP	TP	TP	TP	TP	TP	TP
4	0,55	0,55	-	0,75	1,1	1,5	-	2,2	-	2,2	3	4
6	0,37	-	0,55	-	0,75	-	1,1	-	1,5	-	-	2,2

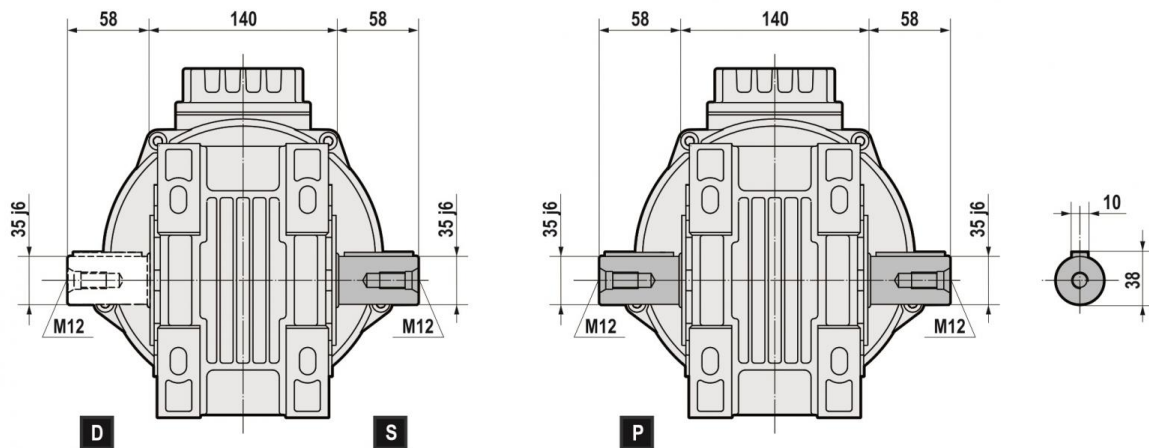
	132S	132MS	132MA	132MB	132M
P.	TP	TP	TP	TP	TP
4	-	5,5	-	-	7,5
6	3	-	4	5,5	-

	160M	160MA	160MB	160L	160LA	180M	180L
P.	TP	TP	TP	TP	TP	TP	TP
4	-	11	-	-	15	18,5	22
6	7,5	-	-	11	-	-	15

	200L	200LA	200LB	225S	225M	250M	280S	280M
P.	TP	TP	TP	TP	TP	TP	TP	TP
4	30	-	-	37	45	55	75	90
6	-	18,5	22	-	-	-	-	-

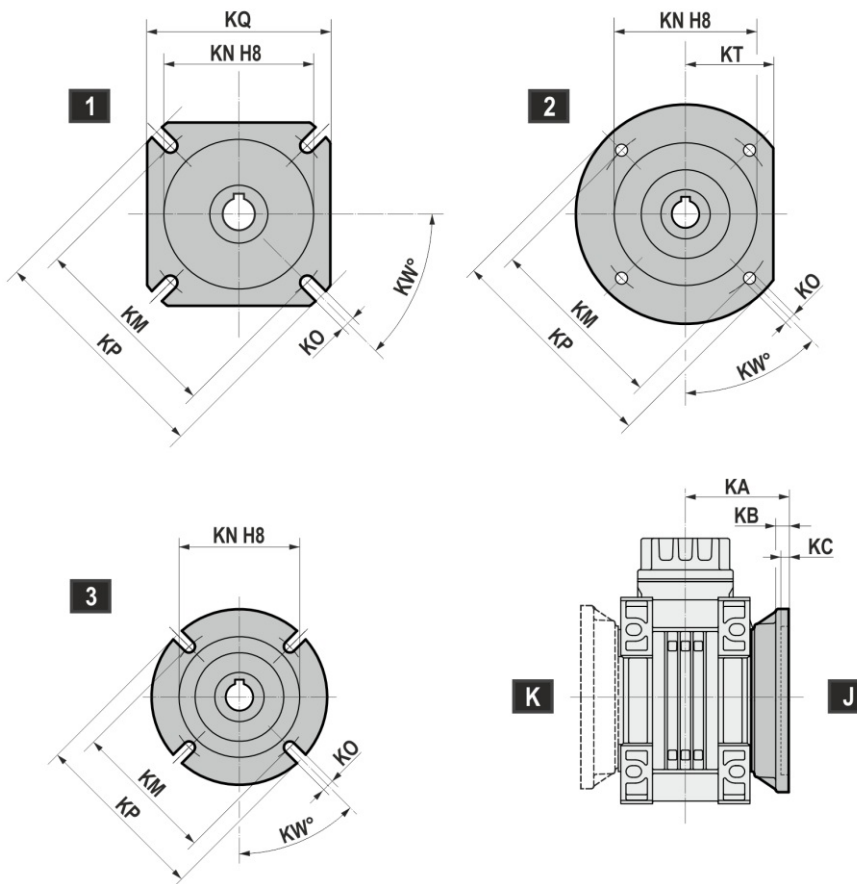


BA70 solid shaft



	d h6	B	B1	G1	L	L1	f	b1	t1
BA42	20	40	43,5	100	151	187	M6	6	22,5
BA52-BA53	25	50	53,5	112	173	219	M10	8	28
B063	35	58	62	140	210,5	264	M12	10	38
B083	40	80	84,25	180	273	348,5	M16	12	43
B103	50	100	105	210	325	420	M16	14	53,5
B123	60	120	125	240	375	490	M20	18	64
B143	70	140	146	300	458	592	M20	20	74,5
B153	90	170	176,5	350	540	703	M20	25	95
B163	100	210	217,5	445	677	880	M20	28	106

## 4.2.1 BA



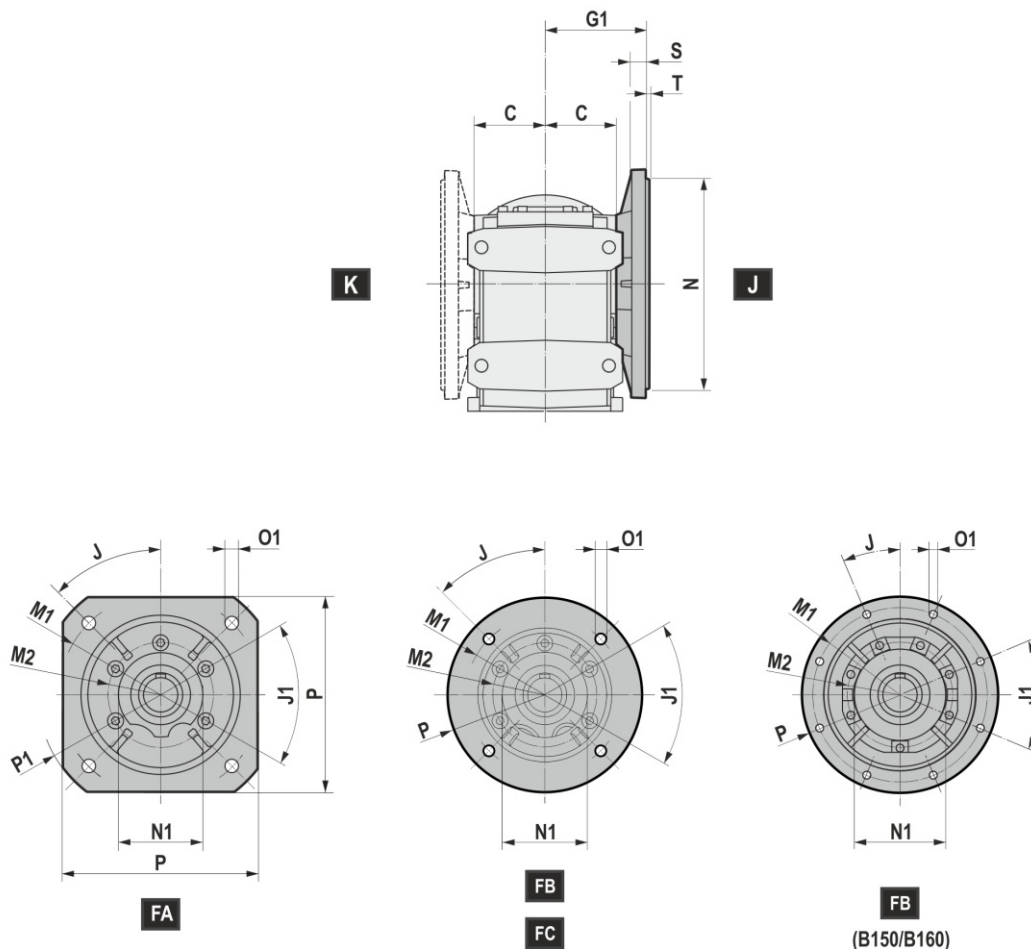
	A42	A52-A53	A72-A73
FA	1	1	1
FB	1	1	3
FC	2	2	-
FD	2	2	-

B.-CB..	KA	KB	KC	KN	KM	KO	KP	KQ	KT	KW	
BA42	FA	92,5	9	5	70	90 min	11 (n°4)	125	110	-	45°
	FB	122,5	9	5	70	90 min	11 (n°4)	125	110	-	45°
	FC	91,5	10	5	110	130	9.5 (n°4)	160	-	66	45°
	FD	74,5	14,5	5	95	115	11 (n°4)	140	-	60	45°
BA52 BA53	FA	80	10	6	115	150	11 (n°4)	180	142	-	45°
	FB	110	10	6	115	150	11 (n°4)	180	142	-	45°
	FC	96	10	5	130	165	11 (n°4)	200	-	80	45°
	FD	105	10	5	130	165	11 (n°4)	200	-	-	45°
BA72 BA73	FA	119	13	6	130	165	14 (n°4)	200	170	-	45°
	FB	98	13	6	110	130	11 (n°4)	160	-	-	45°

Unless specified otherwise, the reduction unit is supplied with the accessories in pos. J referred to position B3/B5.

## 4.2 OUTPUT FLANGE

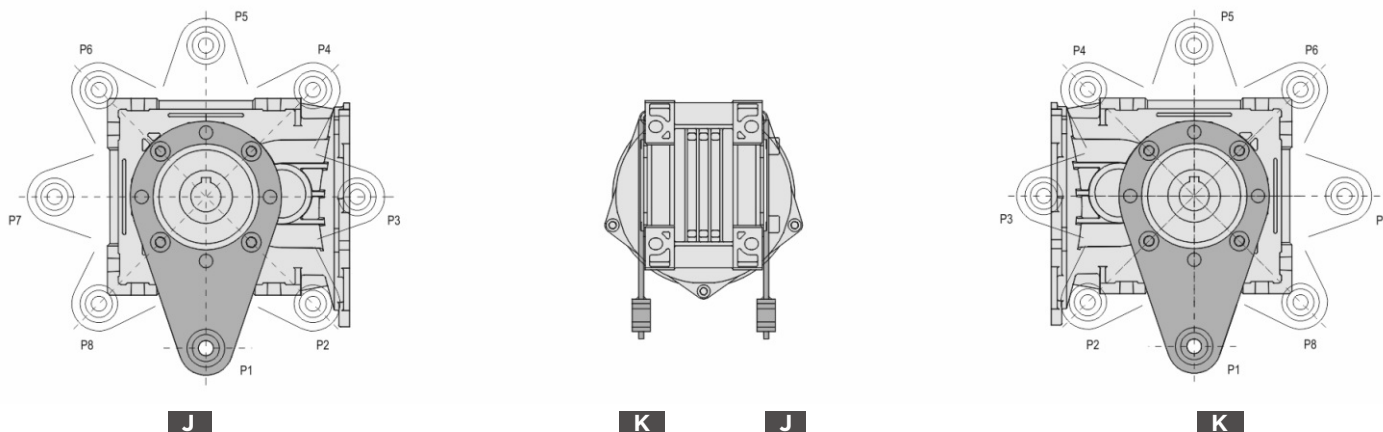
### 4.2.2 B



B..S - B..U	J	J1	M1	M2	N f8	N1	O1	P	P1	S	T	C	G1	
B063	FA	45°	45°	265	130	230	110	14 (n.4)	250	300	15	4	61,5	93,5
	FB	45°	45°	215	130	180	110	14 (n.4)	250	/	15	4		
	FC	45°	45°	165	130	130	110	11 (n.4)	200	/	15	3,5		
B083	FA	45°	45°	265	130	230	110	14 (n.4)	250	300	15	4	78	110
	FB	45°	45°	215	130	180	110	14 (n.4)	250	/	15	4		
	FC	45°	45°	165	130	130	110	11 (n.4)	200	/	15	3,5		
B103	FA	45°	45°	300	165	250	130	18 (n.4)	300	350	16	5	95	135
	FB	45°	45°	265	165	230	130	14 (n.4)	300	/	16	4		
	FC	45°	45°	215	165	180	130	14 (n.4)	250	/	16	4		
B123	FA	45°	45°	350	185	300	150	18 (n.4)	350	400	18	5	107,5	150
	FB	45°	45°	300	185	250	150	18 (n.4)	350	/	18	5		
	FC	45°	45°	265	185	230	150	14 (n.4)	300	/	18	4		
B143	FB	45°	45°	350	200	300	170	18 (n.4)	400	/	18	5	138	187,5
B153	FB	22°30'	45°	400	245	350	210	18 (n.8)	450	/	25	5	162,5	207,5
	FC	45°	45°	350	245	300	210	18 (n.4)	400	/	25	5		
B163	FB	22°30'	45°	500	298	450	255	18 (n.8)	550	/	28	5	202,5	256

Unless specified otherwise, the reduction unit is supplied with the accessories in pos. J referred to position B3/B5.

## 4.3.1 Torque arm: BA Mounting position

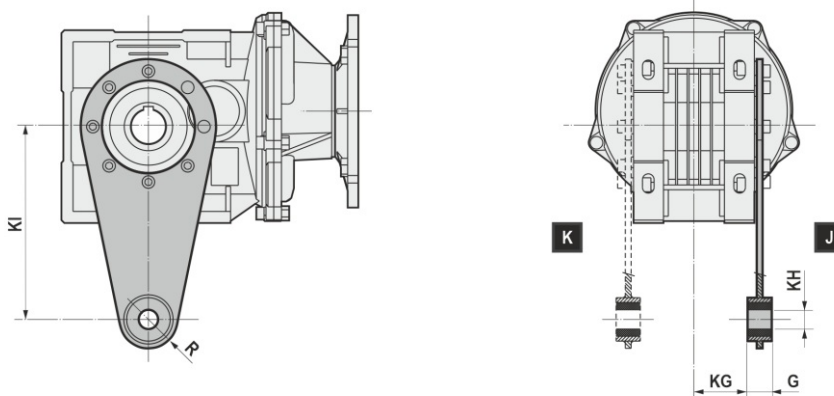


	P1		P2		P3		P4		P5		P6		P7		P8		
	J	K	J	K	J	K	J	K	J	K	J	K	J	K	J	K	
<b>BA42</b>		*	/	/	/	/	/	/			/	/				/	/
<b>BA52/A53</b>			/	/	/	/	/	/									
<b>BA72/A73</b>			/	/	/	/	/	/									

(\*) Not available with Shrink disc

(/) Not available

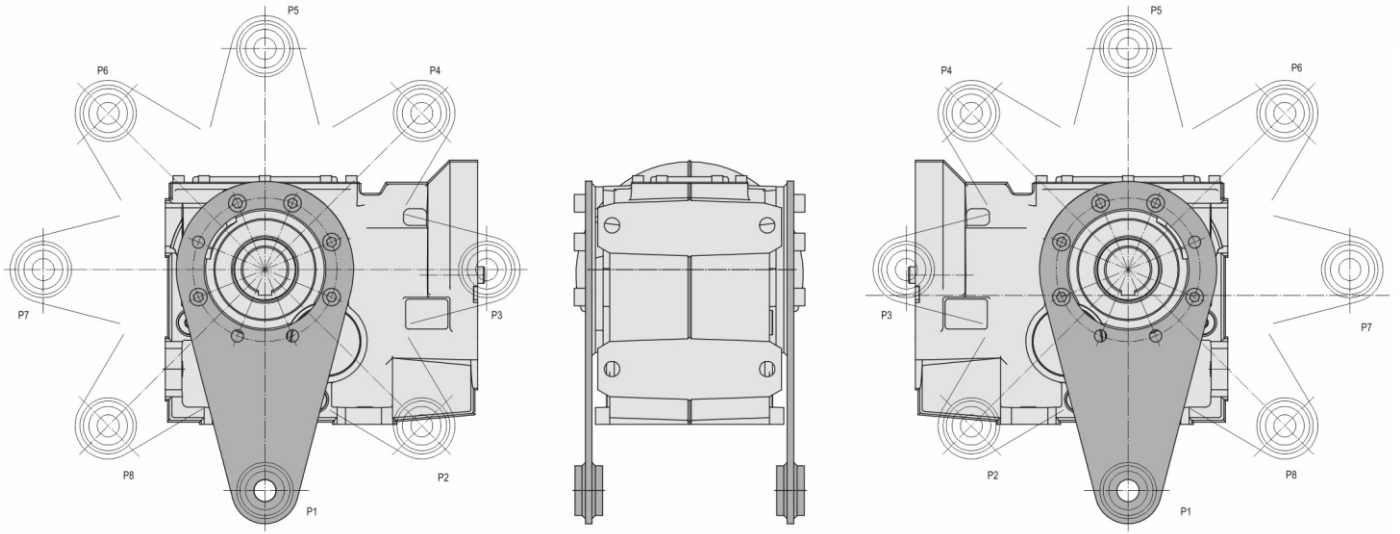
## 4.3.2 Torque arm: BA Dimensions



	KI	KG	KH	G	R
<b>BA42</b>	100	41	10	14	18
<b>BA52/BA53</b>	150	47	10	14	18
<b>BA72/BA73</b>	200	55,5	20	25	30

Unless specified otherwise, the reduction unit is supplied with the accessories in pos. J referred to position B3/B5.

## 4.3.3 Torque arm: B Mounting position



**J**

**K**

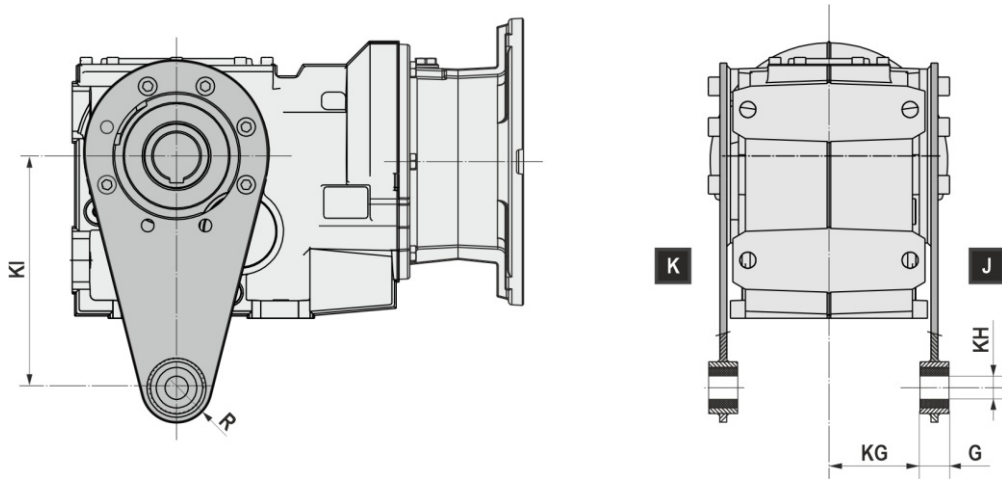
**J**

**K**

	P1		P2		P3		P4		P5		P6		P7		P8		
	J	K	J	K	J	K	J	K	J	K	J	K	J	K	J	K	
<b>B063</b>					/	/											
<b>B083</b>			/	/	/	/											
<b>B103</b>			/	/	/	/											
<b>B123</b>			/	/	/	/											

(/) Not available

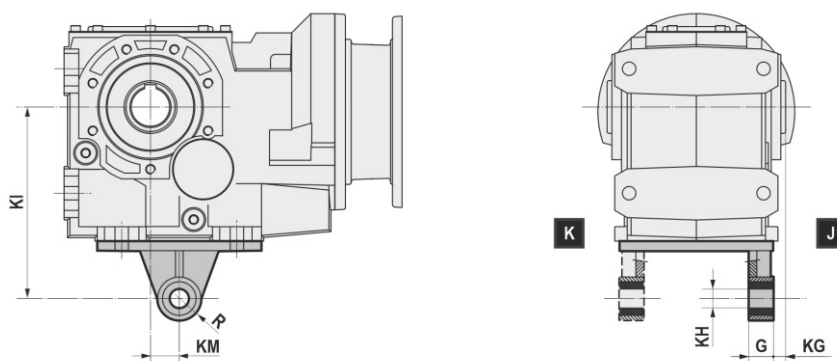
4.3.4 Torque arm: B063-083-103-123 Dimensions



	KI	KG	KH	G	R
B063S	200	62	20	25	30
B083S	200	78,5	20	25	30
B103S	250	95	25	30	35
B123S	300	103,5	25	40	40
B063U	200	62	20	25	30
B083U	200	78,5	20	25	30
B103U	250	95	25	30	35
B123U	300	103,5	25	40	40

Unless specified otherwise, the reduction unit is supplied with the accessories in pos. J referred to position B3/B5.

4.3.5 Torque arm: B143-153-163 Dimensions



	KM	KI	KG	KH	G	R
B143	45	350	40	30	60	45
B153	45	450	45	30	60	45
B163	60	550	7,5	40	110	65

Unless specified otherwise, the reduction unit is supplied with the accessories in pos. J referred to position B3/B5.



# 4.4 BACKSTOP DEVICE

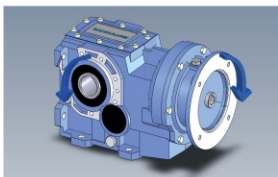
The gear reducer can be supplied with backstop device on input shaft. Backstop device allows output shaft rotation in only one sense of direction; according to the size, it is available in the input flange or in the motor with the same dimensions. It is important to specify the required sense of direction on the order. The backstop device is not available for mounting position V5 with motorsize IEC 100...280. On request, the direction of rotation of low speed shaft can be reversed; in this case, it is necessary to specify "opposite rotation" to catalogue when ordering.



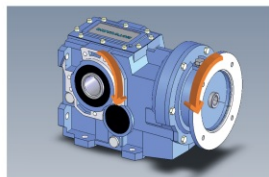
Certified accessory for ATEX 3G/3D, only.

## SENSE OF DIRECTION AVAILABLE STANDARD

BA..2/S - BA..3/C-D-P-L - B..3/C-D-P-L

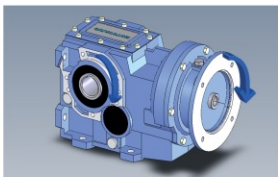


CLOCKWISE SENSE OF DIRECTION REFERRED TO HIGH SPEED SHAFT

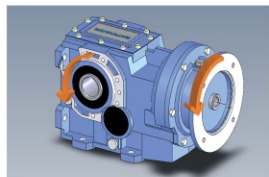


COUNTER CLOCKWISE SENSE OF DIRECTION REFERRED TO HIGH SPEED SHAFT

BA..2/C-D-P-L - BA..3/S - B..3/S-M



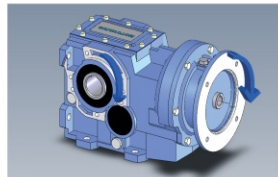
CLOCKWISE SENSE OF DIRECTION REFERRED TO HIGH SPEED SHAFT



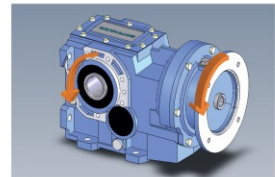
COUNTER CLOCKWISE SENSE OF DIRECTION REFERRED TO HIGH SPEED SHAFT

## SENSE OF DIRECTION AVAILABLE OPPOSITE ROTATION

BA..2/S - BA..3/C-D-P-L - B..3/C-D-P-L

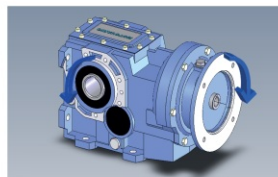


CLOCKWISE SENSE OF DIRECTION REFERRED TO HIGH SPEED SHAFT

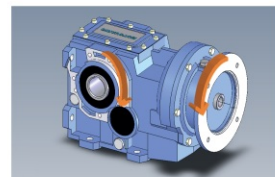


COUNTER CLOCKWISE SENSE OF DIRECTION REFERRED TO HIGH SPEED SHAFT

BA..2/C-D-P-L - BA..3/S - B..3/S-M



CLOCKWISE SENSE OF DIRECTION REFERRED TO HIGH SPEED SHAFT



COUNTER CLOCKWISE SENSE OF DIRECTION REFERRED TO HIGH SPEED SHAFT

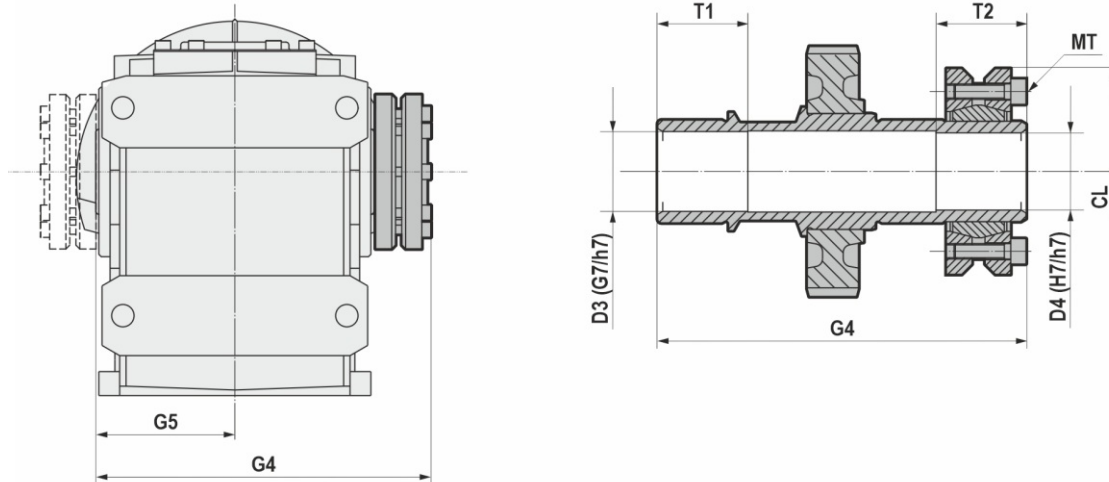
	063	071	080	090	100-112	132	160	180	200	225	250	280
	140x11	160x14	200x19	200x24	250x28	300x38	350x42	350x48	400x55	450x60	550x65	550x75
<b>B063</b>	B5	B5	B5	B5	B5							
<b>B083</b>			B5	B5	B5	B5						
<b>B103</b>			B5	B5	B5	B5	B5					
<b>B123</b>				B5	B5	B5	B5	B5				
<b>B143</b>					B5	B5	B5	B5	B5			
<b>B153</b>						B5	B5	B5	B5	B5		
<b>B163</b>							B5	B5	B5	B5	B5	B5

# 4.5 OUTPUT SHAFT WITH SHRINK DISC

Clean and degrease the surfaces of the shaft to be fitted to. Comply with the indicated tightening torque of screws ( $M_T$ ).



Certified accessory for ATEX 3G/3D, only.

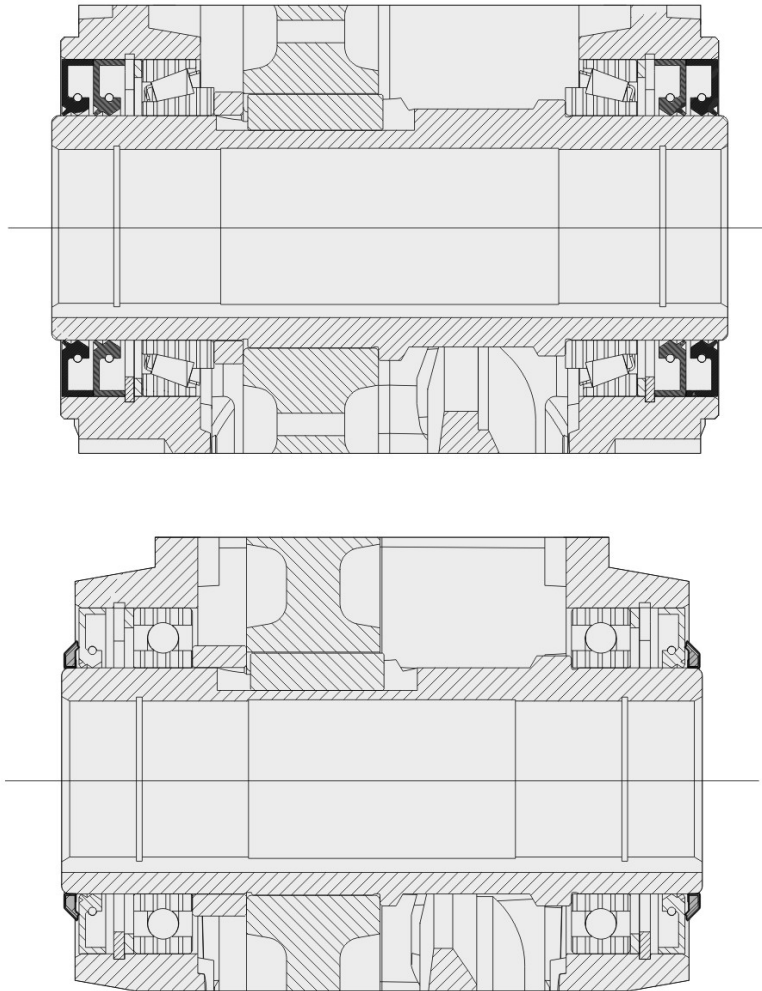


	D3	D4	G4	G5	T1	T2	CL	$M_T$ 12,9 [Nm]
BA42	24	24	130	50	25	35	72	15
BA52-BA53	31	30	143	56	35	35	80	15
BA72-BA73	36	35	173	70	40	35	80	15
B063	36	35	173	70	40	35	80	15
B083	41	40	217	90	50	40	100	15
B103	51	50	248	105	55	40	115	15
B123	61	60	282	120	60	50	145	40
B143	72	70	355	150	70	65	170	40
B153	92	90	415	175	80	75	184	70
B163	102	100	512	222,5	100	100	215	70

## 4.6 REINFORCED OIL SEALS FOR OUTPUT SHAFT

The reinforced seal can be done depending on the gearbox size by means of two oil seals or through the standard oil seal with VRM ring. The difference of the two solutions is explained on the drawings.

On request the gear reducer can be supplied with fluoroelastomer FPM (FKM) seals.

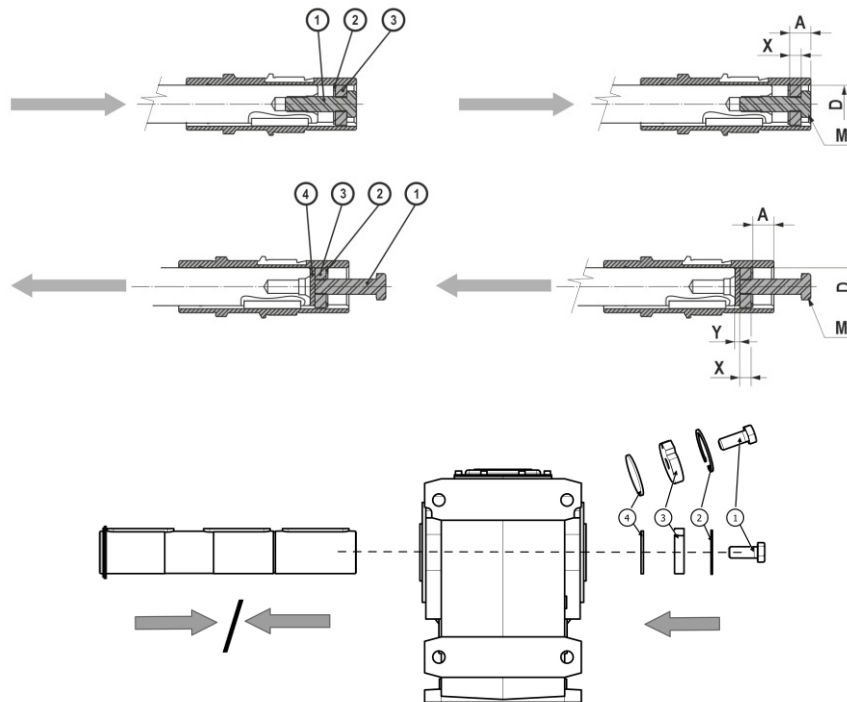


	Double oil seal	VRM ring
B063		x
B083		x
B103		x
B123		x
B143	x	
B153	x	
B163	x	

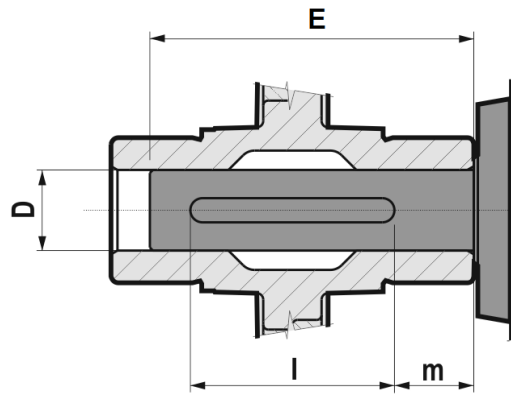
## 4.7 ASSEMBLING/DISASSEMBLING KIT

Mounting/dismounting kit for hollow shaft gear reducers with keyway that includes:

1. Retaining bolt
2. Circlip
3. Fixed nut
4. Forcing washer



	D	A	X	Y	M
BA42	20	-	-	-	-
BA52/BA53	25	-	-	-	-
	28				
BA72/BA73	25	12	12	5	M12x45
	30	13,8	10		M10x35
B063	35	12	12	5	M12x45
	40				M16x50
B083	40	22,25	12	5	M16x50
	45				
B103	50	25	12	5	M16x50
B123	60	28	16	5	M20x70
B143	70	27,5	16	5	M20x70
B153	90	34	20	5	M24x60
B163	100	40	20	5	M24x120



	D H7/h6	E*	l*	m*
BA40	20	90	60	15
BA50	25	95	60	18
	28			
BA70	30	108	80	13
	35			
B063	35	108	80	13
	40			
B083	40	140	100	18
	45			
B103	50	165	120	20
B123	60	185	140	23
B143	70	240	170	35
B153	90	280	200	40
B163	100	370	270	50

(\*) Suggested values.

## 5.1 ATEX AVAILABILITY

BA		ATEX 3G - 3D	ATEX 2G - 2D
BA42-BA5/3	C-D-S-P	✓	NO
	L	✓	NO
BA72/3	C-D-S-P	✓	NO
	L-M	✓	NO
CBA		ATEX 3G - 3D	ATEX 2G - 2D
CBA42-CBA5/3	C-D-S-P	✓	NO
	L	✓	NO
CBA72/3	C-D-S-P	✓	NO
	L-M	✓	NO
B		ATEX 3G - 3D	ATEX 2G - 2D
B063	C-D-S-P	✓	✓ - NO POS. B6/B7
	L-M	✓	NO
B083	C-D-S-P	✓	✓
	L-M	✓	NO
B103	C-D-S-P	✓	✓
	L-M	✓	NO
B123	C-D-S-P	✓	✓
	L-M	✓	NO
B143	C-D-S-P	✓	✓
	L-M	✓	NO
B153	C-D-S-P	✓	✓
	L-M	✓	NO
B163	C-D-S-P	✓	✓
	L-M	✓	NO
CB		ATEX 3G - 3D	ATEX 2G - 2D
CB063	C-D-S-P	✓	NO
	L-M	✓	NO
CB083	C-D-S-P	✓	NO
	L-M	✓	NO
CB103	C-D-S-P	✓	NO
	L-M	✓	NO
CB123	C-D-S-P	✓	NO
	L-M	✓	NO
CB143	C-D-S-P	✓	NO
	L-M	✓	NO

## 6.1 B/BA GEARED MOTORS (50Hz)

## 0,09 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
25,5	32	3,2	33,78	BA42	63A	6	-	3507
18,3	45	2,3	47,12	BA42	63A	6	-	3918
15,0	55	1,9	57,43	BA42	63A	6	-	4000
13,4	61	1,5	64,13	BA42	63A	6	-	4000
13,3	62	2,8	64,87	BA52	63A	6	-	4000
11,7	67	2,8	73,70	BA53	63A	6	-	4000
11,0	75	1,3	78,17	BA42	63A	6	-	4000
10,9	76	2,3	79,07	BA52	63A	6	-	4000
9,2	85	2,2	93,33	BA53	63A	6	-	4000
7,7	101	1,8	111,61	BA53	63A	6	-	4000
6,3	124	1,5	136,53	BA53	63A	6	-	4000
5,7	136	2,8	149,73	BA73	63A	6	10000	5500
5,0	157	1,2	172,53	BA53	63A	6	-	4000
4,8	164	2,4	180,23	BA73	63A	6	10000	5500
4,4	179	1,0	197,11	BA53	63A	6	-	4000
3,9	203	1,9	222,93	BA73	63A	6	10000	5500
3,3	236	1,6	260,20	BA73	63A	6	10000	5500
2,7	292	1,3	321,85	BA73	63A	6	10000	5500
2,4	325	1,2	357,95	BA73	63A	6	10000	5500

## 0,12 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
31,1	36	2,8	28,00	BA42	63B	6	-	3294
28,6	38	2,7	47,12	BA42	63A	4	-	3379
27,8	40	2,6	31,27	BA42	63B	6	-	3417
25,8	43	2,4	33,78	BA42	63B	6	-	3507
23,5	47	2,2	57,43	BA42	63A	4	-	3610
21,1	52	1,8	64,13	BA42	63A	4	-	3745
20,9	53	3,3	64,87	BA52	63A	4	-	4000
20,7	53	3,2	41,97	BA52	63B	6	-	4000
18,5	59	1,7	47,12	BA42	63B	6	-	3918
18,3	57	3,3	73,70	BA53	63A	4	-	4000
17,2	64	1,5	78,17	BA42	63A	4	-	4000
17,0	64	2,7	79,07	BA52	63A	4	-	4000
17,0	65	2,9	51,34	BA52	63B	6	-	4000
15,2	72	1,4	57,43	BA42	63B	6	-	4000
14,5	71	2,6	93,33	BA53	63A	4	-	4000
13,6	81	1,1	64,13	BA42	63B	6	-	4000
13,5	82	2,1	64,87	BA52	63B	6	-	4000
12,1	85	2,2	111,61	BA53	63A	4	-	4000
11,8	88	2,1	73,70	BA53	63B	6	-	4000

## 6.1 B/BA GEARED MOTORS (50Hz)

## 0,12 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
11,0	100	1,7	79,07	BA52	63B	6	-	4000
9,9	104	1,8	136,53	BA53	63A	4	-	4000
9,3	112	1,6	93,33	BA53	63B	6	-	4000
9,0	114	3,3	149,73	BA73	63A	4	10000	5500
7,9	132	1,4	172,53	BA53	63A	4	-	4000
7,8	133	1,4	111,61	BA53	63B	6	-	4000
7,5	138	2,8	180,23	BA73	63A	4	10000	5500
7,2	144	2,6	120,34	BA73	63B	6	10000	5500
6,9	151	1,2	197,11	BA53	63A	4	-	4000
6,4	163	1,1	136,53	BA53	63B	6	-	4000
6,3	167	3,0	139,15	B063	63B	6	12000	7811
6,0	171	2,2	222,93	BA73	63A	4	10000	5500
5,8	179	2,1	149,73	BA73	63B	6	10000	5500
5,6	189	2,7	157,42	B063	63B	6	12000	8000
5,1	199	1,9	260,20	BA73	63A	4	10000	5500
4,9	216	1,8	180,23	BA73	63B	6	10000	5500
4,2	246	1,6	321,85	BA73	63A	4	10000	5500
3,9	267	1,4	222,93	BA73	63B	6	10000	5500
3,7	274	1,4	357,95	BA73	63A	4	10000	5500
3,3	311	1,2	260,20	BA73	63B	6	10000	5500
3,0	338	1,2	442,76	BA73	63A	4	10000	5500

## 0,18 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
69,5	24	3,2	12,95	BA42	71A	6	-	2509
62,2	26	2,9	14,46	BA42	71A	6	-	2603
48,6	33	3,1	28,00	BA42	63B	4	-	2848
43,5	37	2,8	31,27	BA42	63B	4	-	2955
40,3	40	2,6	33,78	BA42	63B	4	-	3032
39,2	42	2,4	22,97	BA42	71A	6	-	3037
32,4	51	3,4	41,97	BA52	63B	4	-	3492
32,1	51	2,0	28,00	BA42	71A	6	-	3244
28,8	57	1,8	47,12	BA42	63B	4	-	3388
28,8	57	1,8	31,27	BA42	71A	6	-	3366
28,5	58	3,0	31,63	BA52	71A	6	-	3620
26,6	62	1,7	33,78	BA42	71A	6	-	3454
26,5	62	3,1	51,34	BA52	63B	4	-	3735
25,6	64	2,7	35,10	BA52	71A	6	-	3748
23,7	69	1,4	57,43	BA42	63B	4	-	3619
21,4	77	2,2	41,97	BA52	71A	6	-	3978
21,2	77	1,2	64,13	BA42	63B	4	-	3754



## 6.1 B/BA GEARED MOTORS (50Hz)

## 0,18 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
21,0	78	2,2	64,87	BA52	63B	4	-	4000
19,1	86	1,2	47,12	BA42	71A	6	-	3859
18,4	84	2,2	73,70	BA53	63B	4	-	4000
17,5	94	2,0	51,34	BA52	71A	6	-	4000
17,2	95	1,8	79,07	BA52	63B	4	-	4000
14,6	107	1,7	93,33	BA53	63B	4	-	4000
14,0	111	3,5	97,29	BA73	63B	4	10000	5500
13,9	119	1,4	64,87	BA52	71A	6	-	4000
12,2	128	1,5	73,70	BA53	71A	6	-	4000
12,2	127	1,4	111,61	BA53	63B	4	-	4000
11,4	145	1,2	79,07	BA52	71A	6	-	4000
11,4	137	2,8	120,34	BA73	63B	4	10000	5500
11,1	140	2,7	80,83	BA73	71A	6	10000	5500
9,9	155	1,2	136,53	BA53	63B	4	-	4000
9,8	158	3,3	139,15	BO63	63B	4	12000	6744
9,6	162	1,1	93,33	BA53	71A	6	-	4000
9,3	169	2,3	97,29	BA73	71A	6	10000	5500
9,1	170	2,2	149,73	BA73	63B	4	10000	5500
8,9	176	2,9	101,20	BO63	71A	6	12000	6893
8,6	179	2,9	157,42	BO63	63B	4	12000	7005
8,1	194	2,6	111,74	BO63	71A	6	12000	7106
7,6	205	1,8	180,23	BA73	63B	4	10000	5500
7,5	209	1,8	120,34	BA73	71A	6	10000	5500
7,2	216	2,4	124,20	BO63	71A	6	12000	7340
6,5	242	2,1	139,15	BO63	71A	6	12000	7597
6,1	253	1,5	222,93	BA73	63B	4	10000	5500
6,0	260	1,5	149,73	BA73	71A	6	10000	5500
5,7	273	1,9	157,42	BO63	71A	6	12000	7885
5,2	296	1,3	260,20	BA73	63B	4	10000	5500
5,0	313	1,2	180,23	BA73	71A	6	10000	5500
4,2	366	1,0	321,85	BA73	63B	4	10000	5500

## 0,25 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
95,4	25	3,2	14,46	BA42	63D/71A	4	-	2252
85,6	27	2,8	10,62	BA42	71B	6	-	2349
70,3	33	2,3	12,95	BA42	71B	6	-	2509
62,9	37	2,1	14,46	BA42	71B	6	-	2603
58,8	38	2,7	22,97	BA42	63D/71A	4	-	2673
55,2	42	2,4	16,47	BA42	71B	6	-	2718
49,2	47	2,1	28,00	BA42	63D/71A	4	-	2807

## 0,25 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
43,6	54	3,2	31,63	BA52	63D/71A	4	-	3132
43,2	53	1,9	31,27	BA42	63D/71A	4	-	2962
40,0	57	1,8	33,78	BA42	63D/71A	4	-	3040
39,6	57	1,8	22,97	BA42	71B	6	-	3037
39,3	59	2,9	35,10	BA52	63D/71A	4	-	3242
36,4	63	2,7	25,03	BA52	71B	6	-	3349
32,5	70	1,4	28,00	BA42	71B	6	-	3244
32,2	70	2,5	41,97	BA52	63D/71A	4	-	3501
29,3	79	1,3	47,12	BA42	63D/71A	4	-	3338
29,1	79	1,3	31,27	BA42	71B	6	-	3366
28,8	80	2,1	31,63	BA52	71B	6	-	3620
26,9	86	2,1	51,34	BA52	63D/71A	4	-	3681
26,9	85	1,2	33,78	BA42	71B	6	-	3454
25,9	88	1,9	35,10	BA52	71B	6	-	3748
23,5	97	1,0	57,43	BA42	63D/71A	4	-	3628
21,6	106	1,6	41,97	BA52	71B	6	-	3978
21,2	109	1,6	64,87	BA52	63D/71A	4	-	3979
18,8	117	1,7	73,70	BA53	63D/71A	4	-	4000
17,7	130	1,4	51,34	BA52	71B	6	-	4000
17,2	126	3,0	52,83	BA73	71B	6	10000	5441
17,1	133	1,3	79,07	BA52	63D/71A	4	-	4000
16,7	129	3,0	80,83	BA73	63D/71A	4	10000	5500
14,4	149	1,2	93,33	BA53	63D/71A	4	-	4000
14,1	163	1,0	64,87	BA52	71B	6	-	4000
14,0	156	2,4	65,35	BA73	71B	6	10000	5500
13,9	154	2,5	97,29	BA73	63D/71A	4	10000	5500
13,3	161	3,2	101,20	B063	63D/71A	4	12000	6062
13,1	165	3,1	69,16	B063	71B	6	12000	6064
12,4	178	1,1	111,61	BA53	63D/71A	4	-	4000
12,3	176	1,1	73,70	BA53	71B	6	-	4000
12,3	178	2,9	111,74	B063	63D/71A	4	12000	6151
11,7	185	2,7	77,48	B063	71B	6	12000	6278
11,2	192	2,0	120,34	BA73	63D/71A	4	10000	5500
11,2	193	2,0	80,83	BA73	71B	6	10000	5500
11,1	198	2,6	124,20	B063	63D/71A	4	12000	6352
10,1	216	2,3	90,33	B063	71B	6	12000	6577
9,7	222	2,4	139,15	B063	63D/71A	4	12000	6678
9,4	232	1,6	97,29	BA73	71B	6	10000	5500
9,0	239	1,6	149,73	BA73	63D/71A	4	10000	5500
9,0	241	2,1	101,20	B063	71B	6	12000	6805
8,6	250	2,0	157,42	B063	63D/71A	4	12000	6929
8,2	266	1,9	111,74	B063	71B	6	12000	7009

## 0,25 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
7,6	287	1,4	180,23	BA73	63D/71A	4	10000	5500
7,6	287	1,3	120,34	BA73	71B	6	10000	5500
7,3	296	1,7	124,20	B063	71B	6	12000	7232
6,6	332	1,5	139,15	B063	71B	6	12000	7476
6,2	355	1,1	222,93	BA73	63D/71A	4	10000	5500
6,1	357	1,1	149,73	BA73	71B	6	10000	5500
5,8	376	1,3	157,42	B063	71B	6	12000	7748

## 0,37 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
131,8	26	3,0	10,62	BA42	71B	4	-	2037
118,1	28	2,7	7,62	BA42	71C/80A	6	-	2118
108,1	31	2,4	12,95	BA42	71B	4	-	2176
96,8	35	2,2	14,46	BA42	71B	4	-	2257
85,0	39	2,5	16,47	BA42	71B	4	-	2357
84,7	40	1,9	10,62	BA42	71C/80A	6	-	2366
77,7	44	3,1	11,57	BA52	71C	6	-	2609
72,6	49	1,5	12,95	BA42	71C/80A	6	-	2473
64,3	55	2,5	14,63	BA52	71C/80A	6	-	2759
62,3	55	1,4	14,46	BA42	71C/80A	6	-	2622
61,0	55	1,8	22,97	BA42	71B	4	-	2634
57,1	62	1,6	16,47	BA42	71C/80A	6	-	2679
55,9	60	2,8	25,03	BA52	71B	4	-	2904
54,9	65	2,7	17,11	BA52	71C/80A	6	-	2907
50,0	67	1,5	28,00	BA42	71B	4	-	2813
45,9	77	2,2	20,46	BA52	71C/80A	6	-	3086
44,7	75	1,3	31,27	BA42	71B	4	-	2919
44,2	76	2,2	31,63	BA52	71B	4	-	3139
41,5	81	1,3	33,78	BA42	71B	4	-	2995
39,9	84	2,0	35,10	BA52	71B	4	-	3250
39,2	87	1,2	22,97	BA42	71C/80A	6	-	3060
37,6	94	1,8	25,03	BA52	71C/80A	6	-	3300
33,6	105	1,0	28,00	BA42	80A	6	-	3198
33,4	101	1,7	41,97	BA52	71B	4	-	3450
28,4	119	1,4	31,63	BA52	71C/80A	6	-	3647
28,4	124	2,9	33,04	BA72	80A	6	9172	4586
27,3	123	1,5	51,34	BA52	71B	4	-	3689
26,8	133	1,3	35,10	BA52	71C/80A	6	-	3694
26,5	120	3,2	52,83	BA73	71B	4	9436	4718
23,0	154	2,2	40,87	BA72	80A	6	9845	4923
21,6	156	1,1	64,87	BA52	71B	4	-	3989

## 0,37 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
21,5	158	1,1	41,97	BA52	71C/80A	6	-	4000
21,4	149	2,5	65,35	BA73	71B	4	10000	5065
21,4	157	2,5	43,89	BA73	71C/80A	6	10000	5041
20,9	155	2,8	43,22	B063	71C	6	12000	5214
20,6	172	1,7	45,64	BA72	80A	6	10000	5107
20,3	157	3,2	69,16	B063	71B	4	12000	5248
19,0	168	1,1	73,70	BA53	71B	4	-	4000
18,5	182	2,8	50,81	B063	71C/80A	6	12000	5367
18,3	193	1,0	51,34	BA52	80A	6	-	4000
18,1	176	2,9	77,48	B063	71B	4	12000	5431
17,8	189	2,0	52,83	BA73	71C/80A	6	10000	5362
17,3	183	2,1	80,83	BA73	71B	4	10000	5437
17,1	207	1,4	54,94	BA72	80A	6	10000	5433
16,5	204	2,5	56,93	B063	71C/80A	6	12000	5554
15,5	205	2,5	90,33	B063	71B	4	12000	5687
14,4	221	1,7	97,29	BA73	71B	4	10000	5500
13,8	234	1,6	65,35	BA73	71C/80A	6	10000	5500
13,8	256	1,1	67,96	BA72	80A	6	10000	5500
13,8	230	2,2	101,20	B063	71B	4	12000	5883
13,6	247	2,1	69,16	B063	71C/80A	6	12000	5885
13,6	247	3,0	69,14	B083	80A	6	18000	9098
12,9	261	2,8	73,14	B083	80A	6	18000	9257
12,5	254	2,0	111,74	B063	71B	4	12000	6057
12,1	277	1,8	77,48	B063	71C/80A	6	12000	6085
11,7	273	1,4	120,34	BA73	71B	4	10000	5500
11,6	288	2,5	80,76	B083	80A	6	18000	9545
11,3	282	1,8	124,20	B063	71B	4	12000	6247
11,1	288	1,3	80,83	BA73	71C/80A	6	10000	5500
10,4	323	1,6	90,33	B063	71C/80A	6	12000	6362
10,2	329	2,2	92,19	B083	80A	6	18000	9940
10,0	316	1,6	139,15	B063	71B	4	12000	6455
9,3	340	1,1	149,73	BA73	71B	4	10000	5500
9,3	361	1,4	101,20	B063	71C/80A	6	12000	6573
9,3	359	2,0	100,57	B083	80A	6	18000	10207
9,2	347	1,1	97,29	BA73	71C/80A	6	10000	5500
8,9	358	1,4	157,42	B063	71B	4	12000	6686
8,9	376	1,9	105,29	B083	80A	6	18000	10350
8,4	399	1,2	111,74	B063	71C/80A	6	12000	6759
8,1	415	1,7	116,25	B083	80A	6	18000	10664
7,4	452	1,6	126,76	B083	80A	6	18000	10945
7,3	443	1,1	124,20	B063	71C/80A	6	12000	7090
6,5	517	1,4	144,77	B083	80A	6	18000	11387

## 6.1 B/BA GEARED MOTORS (50Hz)

## 0,37 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
6,5	516	3,0	144,69	B103	80A	6	22000	14062
6,4	497	1,0	139,15	B063	71C/80A	6	12000	7313
5,7	590	2,6	165,25	B103	80A	6	22000	14653

## 0,55 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
183,8	27	2,9	7,62	BA42	71C/80A	4	-	1827
131,8	38	2,0	10,62	BA42	71C/80A	4	-	2042
123,4	41	1,9	7,62	BA42	80B	6	-	2079
121,0	41	3,3	11,57	BA52	71C/80A	4	-	2251
118,8	43	3,2	7,91	BA52	80B	6	-	2256
109,6	46	1,7	12,95	BA42	71C/80A	4	-	2165
99,4	50	2,7	9,46	BA52	80B	6	-	2395
98,2	52	1,5	14,46	BA42	71C/80A	4	-	2246
97,1	52	2,6	14,63	BA52	71C/80A	4	-	2416
88,4	57	1,3	10,62	BA42	80B	6	-	2323
86,2	59	1,7	16,47	BA42	71C/80A	4	-	2346
83,0	61	2,8	17,11	BA52	71C/80A	4	-	2546
81,3	62	2,2	11,57	BA52	80B	6	-	2561
72,6	69	1,1	12,95	BA42	80B	6	-	2481
68,5	73	2,4	20,46	BA52	71C/80A	4	-	2722
64,3	78	1,7	14,63	BA52	80B	6	-	2769
60,9	82	1,2	22,97	BA42	71C/80A	4	-	2640
57,1	88	1,1	16,47	BA42	80B	6	-	2689
55,9	89	1,9	25,03	BA52	71C/80A	4	-	2911
55,0	92	1,8	17,11	BA52	80B	6	-	2918
50,7	100	1,0	28,00	BA42	71C/80A	4	-	2800
46,0	110	1,5	20,46	BA52	80B	6	-	3097
44,9	113	1,5	31,63	BA52	71C/80A	4	-	3124
43,0	118	3,0	33,04	BA72	80A	4	8031	4016
39,9	125	1,3	35,10	BA52	71C/80A	4	-	3258
37,6	135	1,3	25,03	BA52	80B	6	-	3312
34,8	146	2,3	40,87	BA72	80A	4	8621	4311
34,3	147	2,4	27,45	BA72	80B	6	8653	4326
33,9	150	1,1	41,97	BA52	71C/80A	4	-	3433
32,4	148	2,6	43,89	BA73	71C/80A	4	8828	4414
31,1	163	1,8	45,64	BA72	80A	4	8944	4472
29,7	169	1,0	31,63	BA52	80B	6	-	3581
28,4	177	2,0	33,04	BA72	80B	6	9204	4602
28,1	170	2,5	33,43	B063	80B	6	12000	4666
28,0	172	3,0	50,81	B063	71C/80A	4	12000	4681

## 0,55 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
27,7	183	1,0	51,34	BA52	71C/80A	4	-	3672
26,5	178	2,1	52,83	BA73	71C/80A	4	9459	4730
25,9	196	1,5	54,94	BA72	80A	4	9515	4757
25,0	192	2,7	56,93	B063	71C/80A	4	12000	4842
24,4	196	2,2	38,58	B063	80B	6	12000	4868
23,0	219	1,5	40,87	BA72	80B	6	9880	4940
22,3	215	3,4	63,74	B083	80A	4	18000	7750
21,7	220	1,9	43,22	B063	80B	6	12000	5033
21,7	221	1,7	65,35	BA73	71C/80A	4	10000	5041
21,4	223	1,7	43,89	BA73	80B	6	10000	5059
20,9	242	1,2	67,96	BA72	80A	4	10000	5107
20,7	231	2,6	45,44	B083	80B	6	18000	7918
20,6	244	1,2	45,64	BA72	80B	6	10000	5126
20,5	234	2,2	69,16	B063	71C/80A	4	12000	5126
20,5	233	3,1	69,14	B083	80A	4	18000	7947
19,4	247	2,9	73,14	B083	80A	4	18000	8085
18,5	258	2,0	50,81	B063	80B	6	12000	5274
18,4	260	2,8	51,19	B083	80B	6	18000	8212
18,4	262	1,9	77,48	B063	71C/80A	4	12000	5297
17,8	268	1,4	52,83	BA73	80B	6	10000	5382
17,5	273	2,7	80,76	B083	80A	4	18000	8333
17,4	273	1,4	80,83	BA73	71C/80A	4	10000	5450
17,1	295	1,0	54,94	BA72	80B	6	10000	5452
16,9	282	2,5	55,52	B083	80B	6	18000	8418
16,5	289	1,7	56,93	B063	80B	6	12000	5448
15,7	305	2,4	59,96	B083	80B	6	18000	8616
15,5	305	1,6	90,33	B063	71C/80A	4	12000	5568
15,4	311	2,3	92,19	B083	80A	4	18000	8675
14,8	324	2,2	63,74	B083	80B	6	18000	8777
14,6	329	1,2	97,29	BA73	71C/80A	4	10000	5500
14,4	331	1,1	65,35	BA73	80B	6	10000	5500
14,1	340	2,1	100,57	B083	80A	4	18000	8905
14,0	342	1,5	101,20	B063	71C/80A	4	12000	5713
13,6	351	2,0	69,14	B083	80B	6	18000	8994
13,5	351	1,4	69,16	B063	80B	6	12000	5754
13,5	356	2,0	105,29	B083	80A	4	18000	9029
12,8	372	1,9	73,14	B083	80B	6	18000	9146
12,6	378	1,3	111,74	B063	71C/80A	4	12000	5907
12,2	393	1,8	116,25	B083	80A	4	18000	9300
12,1	394	1,3	77,48	B063	80B	6	12000	5936
11,6	411	1,7	80,76	B083	80B	6	18000	9419
11,2	420	1,2	124,20	B063	71C/80A	4	12000	6079

## 0,55 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
11,2	428	1,7	126,76	B083	80A	4	18000	9541
10,4	459	1,1	90,33	B063	80B	6	12000	6186
10,2	470	1,1	139,15	B063	71C/80A	4	12000	6230
10,2	468	1,5	92,19	B083	80B	6	18000	9793
10,2	469	3,2	92,31	B103	80B	6	22000	12129
9,8	489	1,5	144,77	B083	80A	4	18000	9920
9,8	489	3,1	144,69	B103	80A	4	22000	12285
9,3	511	1,4	100,57	B083	80B	6	18000	10045
8,9	535	1,3	105,29	B083	80B	6	18000	10179
8,9	535	2,8	105,44	B103	80B	6	22000	12635
8,6	558	2,8	165,25	B103	80A	4	22000	12796
8,2	583	2,6	114,80	B103	80B	6	22000	12968
8,1	591	1,2	116,25	B083	80B	6	18000	10473
7,8	611	2,5	120,42	B103	80B	6	22000	13158
7,4	644	1,1	126,76	B083	80B	6	18000	10734
7,1	675	2,3	132,87	B103	80B	6	22000	13557
6,5	735	2,1	144,69	B103	80B	6	22000	13909
5,7	839	1,8	165,25	B103	80B	6	22000	14473

## 0,75 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
189,1	36	2,1	7,62	BA42	80B	4	-	1797
152,2	45	3,1	9,46	BA52	80B	4	-	2070
135,5	51	1,5	10,62	BA42	80B	4	-	2013
124,4	55	2,5	11,57	BA52	80B	4	-	2214
118,8	58	2,4	7,91	BA52	90S	6	-	2248
111,2	62	1,2	12,95	BA42	80B	4	-	2150
99,6	69	1,1	14,46	BA42	80B	4	-	2231
99,3	69	1,9	9,46	BA52	90S	6	-	2403
98,5	70	2,0	14,63	BA52	80B	4	-	2399
87,4	78	1,3	16,47	BA42	80B	4	-	2324
84,2	81	2,1	17,11	BA52	80B	4	-	2522
81,2	85	1,6	11,57	BA52	90S	6	-	2552
75,5	91	3,3	12,44	BA72	90S	6	6671	3335
70,4	97	1,8	20,46	BA52	80B	4	-	2677
64,3	107	1,3	14,63	BA52	90S	6	-	2759
63,0	109	3,3	14,91	BA72	90S	6	7085	3542
57,5	119	1,4	25,03	BA52	80B	4	-	2890
55,0	125	1,3	17,11	BA52	90S	6	-	2928
52,5	130	2,7	27,45	BA72	80B	4	7497	3748
52,4	131	2,8	17,94	BA72	90S	6	7537	3768

## 0,75 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
45,9	150	1,1	20,46	BA52	90S	6	-	3086
45,5	150	1,1	31,63	BA52	80B	4	-	3102
43,6	157	2,3	33,04	BA72	80B	4	8031	4016
43,1	150	2,9	33,43	B063	80B	4	12000	4046
42,4	162	2,2	22,19	BA72	90S	6	8090	4045
42,0	155	2,8	22,39	B063	90S	6	12000	4093
41,0	166	1,0	35,10	BA52	80B	4	-	3235
37,3	173	2,5	38,58	B063	80B	4	12000	4247
36,1	181	2,3	26,09	B063	90S	6	12000	4281
35,3	193	1,7	40,87	BA72	80B	4	8621	4311
34,2	201	1,8	27,45	BA72	90S	6	8622	4311
33,5	194	2,2	28,03	B063	90S	6	12000	4344
33,3	194	2,2	43,22	B063	80B	4	12000	4364
32,8	197	1,9	43,89	BA73	80B	4	8766	4383
31,5	216	1,4	45,64	BA72	80B	4	8861	4430
29,5	220	2,8	31,80	B083	90S	6	18000	7043
28,4	242	1,5	33,04	BA72	90S	6	9172	4586
28,4	228	2,3	50,81	B063	80B	4	12000	4601
28,2	229	3,2	51,19	B083	80B	4	18000	7168
28,1	232	1,9	33,43	B063	90S	6	12000	4571
27,3	239	2,6	34,49	B083	90S	6	18000	7173
27,3	237	1,6	52,83	BA73	80B	4	9304	4652
26,2	260	1,1	54,94	BA72	80B	4	9426	4713
25,9	249	2,9	55,52	B083	80B	4	18000	7285
25,3	255	2,0	56,93	B063	80B	4	12000	4723
24,3	267	1,6	38,58	B063	90S	6	12000	4790
24,1	268	2,7	59,96	B083	80B	4	18000	7520
23,7	274	2,2	39,60	B083	90S	6	18000	7528
23,0	299	1,1	40,87	BA72	90S	6	9845	4923
22,6	285	2,5	63,74	B083	80B	4	18000	7611
22,0	293	1,3	65,35	BA73	80B	4	9987	4993
21,9	298	2,1	42,95	B083	90S	6	18000	7664
21,8	299	1,4	43,22	B063	90S	6	12000	4944
21,5	304	1,2	43,89	BA73	90S	6	10000	5077
20,8	310	1,6	69,16	B063	80B	4	12000	4978
20,8	310	2,3	69,14	B083	80B	4	18000	7783
20,6	315	1,9	45,44	B083	90S	6	18000	7845
19,7	328	2,2	73,14	B083	80B	4	18000	7931
18,6	347	1,4	77,48	B063	80B	4	12000	5175
18,5	352	1,4	50,81	B063	90S	6	12000	5167
18,4	355	2,0	51,19	B083	90S	6	18000	8076
17,8	362	2,0	80,76	B083	80B	4	18000	8151



## 6.1 B/BA GEARED MOTORS (50Hz)

## 0,75 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
17,8	362	1,1	80,83	BA73	80B	4	10000	5360
17,8	366	1,0	52,83	BA73	90S	6	10000	5401
16,9	385	1,9	55,52	B083	90S	6	18000	8272
16,6	394	1,3	56,93	B063	90S	6	12000	5327
15,9	404	1,2	90,33	B063	80B	4	12000	5391
15,7	415	1,7	59,96	B083	90S	6	18000	8460
15,6	413	1,7	92,19	B083	80B	4	18000	8491
14,7	441	1,6	63,74	B083	90S	6	18000	8666
14,5	449	3,3	64,89	B103	90S	6	22000	10806
14,3	450	1,6	100,57	B083	80B	4	18000	8763
14,2	453	1,1	101,20	B063	80B	4	12000	5553
13,7	475	3,1	68,58	B103	90S	6	22000	10919
13,7	472	1,5	105,29	B083	80B	4	18000	8825
13,7	473	3,3	105,44	B103	80B	4	22000	11030
13,6	479	1,1	69,16	B063	90S	6	12000	5572
13,6	479	1,5	69,14	B083	90S	6	18000	8817
12,9	507	1,4	73,14	B083	90S	6	18000	8961
12,9	501	1,0	111,74	B063	80B	4	12000	5665
12,9	504	2,9	72,76	B103	90S	6	22000	11191
12,5	514	3,0	114,80	B103	80B	4	22000	11319
12,4	520	1,4	116,25	B083	80B	4	18000	9080
12,0	539	2,8	120,42	B103	80B	4	22000	11411
12,0	547	2,7	78,92	B103	90S	6	22000	11471
11,6	560	1,3	80,76	B083	90S	6	18000	9273
11,3	568	1,2	126,76	B083	80B	4	18000	9361
11,2	579	2,7	83,66	B103	90S	6	22000	11675
10,8	595	2,6	132,87	B103	80B	4	22000	11732
10,2	639	2,3	92,31	B103	90S	6	22000	12026
10,2	639	1,1	92,19	B083	90S	6	18000	9566
10,0	648	2,4	144,69	B103	80B	4	22000	12037
10,0	648	1,1	144,77	B083	80B	4	18000	9715
9,3	697	1,0	100,57	B083	90S	6	18000	9799
8,9	730	2,1	105,44	B103	90S	6	22000	12514
8,7	740	2,1	165,25	B103	80B	4	22000	12524
8,2	795	1,9	114,80	B103	90S	6	22000	12751
7,8	834	1,8	120,42	B103	90S	6	22000	12933
7,3	900	3,4	129,96	B123	90S	6	30000	18750
7,1	920	1,7	132,87	B103	90S	6	22000	13311
6,5	1002	1,5	144,69	B103	90S	6	22000	13730
6,5	1000	3,0	144,43	B123	90S	6	30000	19323
5,9	1110	2,7	160,23	B123	90S	6	30000	19777
5,7	1145	1,3	165,25	B103	90S	6	22000	14177

## 6.1 B/BA GEARED MOTORS (50Hz)

## 0,75 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
5,2	1250	2,4	180,40	B123	90S	6	30000	20000

## 1,10 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
180,7	55	2,5	7,91	BA52	90S	4	-	1955
151,1	66	2,1	9,46	BA52	90S	4	-	2075
123,6	81	1,6	11,57	BA52	90S	4	-	2235
114,9	87	3,5	12,44	BA72	90S	4	5800	2900
97,8	102	1,3	14,63	BA52	90S	4	-	2399
95,9	104	3,5	14,91	BA72	90S	4	6160	3080
94,4	107	2,8	10,06	BA72	100LR	6	6148	3074
83,6	119	1,4	17,11	BA52	90S	4	-	2546
79,7	125	2,9	17,94	BA72	90S	4	6552	3276
76,3	132	2,3	12,44	BA72	100LR	6	6600	3300
69,9	143	1,2	20,46	BA52	90S	4	-	2683
64,4	155	2,3	22,19	BA72	90S	4	6984	3492
63,8	148	3,0	22,39	B063	90S	4	12000	3546
63,7	158	2,3	14,91	BA72	100LR	6	7009	3505
55,9	171	2,5	17,00	B063	100LR	6	12000	3662
54,9	172	2,6	26,09	B063	90S	4	12000	3707
52,9	190	1,9	17,94	BA72	100LR	6	7456	3728
52,1	192	1,9	27,45	BA72	90S	4	7497	3748
51,0	185	2,3	28,03	B063	90S	4	12000	3785
44,9	210	2,9	31,80	B083	90S	4	18000	6110
43,3	231	1,5	33,04	BA72	90S	4	8031	4016
42,8	235	1,5	22,19	BA72	100LR	6	8004	4002
42,8	221	1,9	33,43	B063	90S	4	12000	3979
42,4	225	1,9	22,39	B063	100LR	6	12000	3961
41,6	229	2,7	22,82	B083	100LR	6	18000	6212
41,5	228	2,7	34,49	B083	90S	4	18000	6262
37,1	256	1,7	38,58	B063	90S	4	12000	4141
36,4	262	1,6	26,09	B063	100LR	6	12000	4133
36,1	262	2,3	39,60	B083	90S	4	18000	6486
35,6	269	2,3	26,71	B083	100LR	6	18000	6512
35,0	285	1,2	40,87	BA72	90S	4	8560	4280
34,6	291	1,2	27,45	BA72	100LR	6	8592	4296
33,9	282	1,5	28,03	B063	100LR	6	12000	4215
33,3	284	2,1	42,95	B083	90S	4	18000	6645
33,1	286	1,5	43,22	B063	90S	4	12000	4247
32,6	290	1,3	43,89	BA73	90S	4	8766	4383
32,2	296	2,1	29,50	B083	100LR	6	18000	6707

## 6.1 B/BA GEARED MOTORS (50Hz)

## 1,10 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
31,5	301	2,0	45,44	B083	90S	4	18000	6799
29,9	320	1,9	31,80	B083	100LR	6	18000	6857
28,8	351	1,0	33,04	BA72	100LR	6	9139	4570
28,4	336	1,3	33,43	B063	100LR	6	12000	4419
28,1	336	1,5	50,81	B063	90S	4	12000	4435
28,0	339	2,1	51,19	B083	90S	4	18000	7041
27,5	347	1,8	34,49	B083	100LR	6	18000	7022
27,1	350	1,1	52,83	BA73	90S	4	9391	4696
25,7	367	1,9	55,52	B083	90S	4	18000	7209
25,1	376	1,4	56,93	B063	90S	4	12000	4569
24,6	388	1,1	38,58	B063	100LR	6	12000	4588
24,0	398	1,5	39,60	B083	100LR	6	18000	7309
23,9	397	1,8	59,96	B083	90S	4	18000	7371
22,4	421	1,7	63,74	B083	90S	4	18000	7456
22,1	432	1,4	42,95	B083	100LR	6	18000	7481
22,0	429	3,4	64,89	B103	90S	4	22000	9316
21,3	448	2,7	44,61	B103	100LR	6	22000	9410
20,9	457	1,3	45,44	B083	100LR	6	18000	7602
20,8	453	3,2	68,58	B103	90S	4	22000	9535
20,6	457	1,1	69,16	B063	90S	4	12000	4825
20,6	457	1,6	69,14	B083	90S	4	18000	7677
20,1	475	2,6	47,28	B103	100LR	6	22000	9578
19,7	481	3,0	72,76	B103	90S	4	22000	9646
19,6	484	1,5	73,14	B083	90S	4	18000	7753
18,9	505	2,9	50,24	B103	100LR	6	22000	9755
18,6	515	1,4	51,19	B083	100LR	6	18000	7861
18,1	522	2,8	78,92	B103	90S	4	22000	9885
17,9	533	2,7	53,02	B103	100LR	6	22000	9914
17,7	534	1,4	80,76	B083	90S	4	18000	7971
17,1	558	1,3	55,52	B083	100LR	6	18000	8041
17,1	553	2,8	83,66	B103	90S	4	22000	10124
16,2	588	2,5	58,50	B103	100LR	6	22000	10211
15,8	603	1,2	59,96	B083	100LR	6	18000	8212
15,5	610	1,2	92,19	B083	90S	4	18000	8267
15,5	610	2,5	92,31	B103	90S	4	22000	10360
14,9	641	1,1	63,74	B083	100LR	6	18000	8350
14,6	652	2,2	64,89	B103	100LR	6	22000	10530
14,2	665	1,1	100,57	B083	90S	4	18000	8464
13,9	689	2,1	68,58	B103	100LR	6	22000	10703
13,7	695	1,0	69,14	B083	100LR	6	18000	8535
13,6	696	1,0	105,29	B083	90S	4	18000	8618
13,6	697	2,2	105,44	B103	90S	4	22000	10843

## 6.1 B/BA GEARED MOTORS (50Hz)

## 1,10 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
13,1	731	2,0	72,76	B103	100LR	6	22000	10891
12,5	759	2,0	114,80	B103	90S	4	22000	11048
12,0	793	1,8	78,92	B103	100LR	6	22000	11153
11,9	796	1,9	120,42	B103	90S	4	22000	11203
11,4	841	1,8	83,66	B103	100LR	6	22000	11343
11,0	860	3,5	129,96	B123	90S	4	30000	16223
10,7	878	1,7	132,87	B103	90S	4	22000	11597
10,3	928	1,7	92,31	B103	100LR	6	22000	11668
9,9	957	1,6	144,69	B103	90S	4	22000	11812
9,9	955	3,1	144,43	B123	90S	4	30000	16612
9,5	1002	3,0	99,70	B123	100LR	6	30000	16778
9,0	1060	1,4	105,44	B103	100LR	6	22000	12118
8,9	1072	2,8	106,65	B123	100LR	6	30000	17093
8,9	1059	2,9	160,23	B123	90S	4	30000	17198
8,7	1093	1,4	165,25	B103	90S	4	22000	12265
8,3	1154	1,3	114,80	B103	100LR	6	22000	12410
7,9	1210	1,3	120,42	B103	100LR	6	22000	12576
7,9	1202	2,5	119,60	B123	100LR	6	30000	17635
7,9	1193	2,5	180,40	B123	90S	4	30000	17661
7,3	1306	2,3	129,96	B123	100LR	6	30000	18032
7,1	1336	1,1	132,87	B103	100LR	6	22000	12921
7,0	1371	3,1	136,44	B143	100LR	6	40000	40000
6,6	1454	1,1	144,69	B103	100LR	6	22000	13223
6,6	1452	2,1	144,43	B123	100LR	6	30000	18541
6,4	1504	2,8	149,59	B143	100LR	6	40000	40000
5,9	1611	1,9	160,23	B123	100LR	6	30000	19045
5,7	1674	2,6	166,53	B143	100LR	6	40000	40000
5,3	1813	1,6	180,40	B123	100LR	6	30000	19624
5,1	1882	2,3	187,24	B143	100LR	6	40000	40000

## 1,50 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
180,8	75	1,8	7,91	BA52	90L	4	-	1959
164,4	79	2,6	5,71	B063	100L	6	9188	2625
151,2	90	1,5	9,46	BA52	90L	4	-	2080
142,2	96	3,1	10,06	BA72	90L	4	5365	2682
136,6	95	2,6	6,88	B063	100L	6	9686	2767
128,4	102	2,5	7,32	B063	100L	6	9900	2829
123,6	111	1,2	11,57	BA52	90L	4	-	2235
114,9	118	2,6	12,44	BA72	90L	4	5800	2900
112,5	123	2,4	8,36	BA72	100L	6	5821	2910

## 6.1 B/BA GEARED MOTORS (50Hz)

## 1,50 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
102,6	127	2,6	9,16	B063	100L	6	10546	3013
96,0	142	2,5	14,91	BA72	90L	4	6131	3065
93,4	147	2,0	10,06	BA72	100L	6	6192	3096
91,6	142	2,6	10,26	B063	100L	6	10936	3124
85,2	153	2,6	11,03	B063	100L	6	11131	3180
84,1	154	2,9	17,00	B063	90L	4	11249	3214
83,6	163	1,1	17,11	BA52	90L	4	-	2528
79,7	171	2,1	17,94	BA72	90L	4	6506	3253
76,1	171	2,4	12,35	B063	100L	6	11534	3296
75,5	182	1,6	12,44	BA72	100L	6	6647	3323
71,5	182	2,3	13,15	B063	100L	6	11741	3354
64,5	212	1,7	22,19	BA72	90L	4	7000	3500
63,9	202	2,1	22,39	B063	90L	4	12000	3455
63,1	218	1,6	14,91	BA72	100L	6	7034	3517
61,9	210	2,0	15,18	B063	100L	6	12000	3481
56,6	230	2,7	16,60	B083	100L	6	18000	5586
55,3	236	1,8	17,00	B063	100L	6	12000	3592
54,8	235	1,8	26,09	B063	90L	4	12000	3611
53,6	241	2,5	26,71	B083	90L	4	18000	5695
52,4	262	1,4	17,94	BA72	100L	6	7509	3755
52,1	261	1,3	27,45	BA72	90L	4	7550	3775
51,3	254	2,4	18,32	B083	100L	6	18000	5771
51,1	253	1,7	28,03	B063	90L	4	12000	3682
48,5	266	2,2	29,50	B083	90L	4	18000	5889
45,0	287	2,1	31,80	B083	90L	4	18000	5983
43,3	315	1,1	33,04	BA72	90L	4	7993	3997
42,8	302	1,4	33,43	B063	90L	4	12000	3859
42,4	325	1,1	22,19	BA72	100L	6	8032	4016
41,9	311	1,4	22,39	B063	100L	6	12000	3877
41,5	311	1,9	34,49	B083	90L	4	18000	6164
41,2	316	1,9	22,82	B083	100L	6	18000	6134
37,1	348	1,2	38,58	B063	90L	4	12000	3997
36,2	357	1,7	39,60	B083	90L	4	18000	6388
36,0	361	1,2	26,09	B063	100L	6	12000	4032
35,2	370	1,6	26,71	B083	100L	6	18000	6439
33,5	388	1,1	28,03	B063	100L	6	12000	4094
33,3	388	1,5	42,95	B083	90L	4	18000	6565
33,1	390	1,1	43,22	B063	90L	4	12000	4113
31,9	409	1,5	29,50	B083	100L	6	18000	6602
31,5	410	1,5	45,44	B083	90L	4	18000	6643
30,7	423	2,7	30,55	B103	100L	6	22000	8340
30,2	426	2,9	47,28	B103	90L	4	22000	8377

## 6.1 B/BA GEARED MOTORS (50Hz)

## 1,50 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
29,5	440	1,4	31,80	B083	100L	6	18000	6763
28,5	453	3,2	50,24	B103	90L	4	22000	8568
28,4	458	2,6	33,07	B103	100L	6	22000	8541
28,2	458	1,1	50,81	B063	90L	4	12000	4299
27,9	462	1,6	51,19	B083	90L	4	18000	6868
27,3	478	1,3	34,49	B083	100L	6	18000	6897
27,0	478	3,0	53,02	B103	90L	4	22000	8653
26,2	497	2,5	35,87	B103	100L	6	22000	8723
25,8	501	1,4	55,52	B083	90L	4	18000	7011
24,4	528	2,8	58,50	B103	90L	4	22000	8967
23,9	541	1,3	59,96	B083	90L	4	18000	7159
23,7	549	1,1	39,60	B083	100L	6	18000	7162
22,9	570	2,2	41,12	B103	100L	6	22000	9085
22,4	575	1,3	63,74	B083	90L	4	18000	7279
22,1	585	2,5	64,89	B103	90L	4	22000	9245
21,9	595	1,0	42,95	B083	100L	6	18000	7321
21,0	618	2,0	44,61	B103	100L	6	22000	9334
20,8	619	2,3	68,58	B103	90L	4	22000	9397
20,6	624	1,1	69,14	B083	90L	4	18000	7480
19,9	655	1,9	47,28	B103	100L	6	22000	9465
19,6	656	2,2	72,76	B103	90L	4	22000	9521
19,5	660	1,1	73,14	B083	90L	4	18000	7592
18,7	696	2,1	50,24	B103	100L	6	22000	9634
18,4	709	1,0	51,19	B083	100L	6	18000	7687
18,1	712	2,0	78,92	B103	90L	4	22000	9729
17,7	734	2,0	53,02	B103	100L	6	22000	9815
17,1	755	2,0	83,66	B103	90L	4	22000	9915
16,1	810	1,8	58,50	B103	100L	6	22000	10096
15,5	832	1,8	92,31	B103	90L	4	22000	10239
15,0	867	3,3	62,59	B123	100L	6	30000	14432
14,5	899	1,6	64,89	B103	100L	6	22000	10366
13,7	950	1,5	68,58	B103	100L	6	22000	10528
13,6	951	1,6	105,44	B103	90L	4	22000	10568
13,5	962	2,9	69,43	B123	100L	6	30000	14851
13,4	962	3,1	106,65	B123	90L	4	30000	14903
12,9	1008	1,4	72,76	B103	100L	6	22000	10736
12,6	1031	2,9	74,42	B123	100L	6	30000	15133
12,5	1035	1,5	114,80	B103	90L	4	22000	10821
12,0	1078	2,8	119,60	B123	90L	4	30000	15401
11,9	1093	1,3	78,92	B103	100L	6	22000	10980
11,9	1086	1,4	120,42	B103	90L	4	22000	10965
11,7	1109	2,7	80,04	B123	100L	6	30000	15476

## 6.1 B/BA GEARED MOTORS (50Hz)

## 1,50 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
11,2	1159	1,3	83,66	B103	100L	6	22000	11123
11,0	1172	2,6	129,96	B123	90L	4	30000	15716
10,7	1198	1,3	132,87	B103	90L	4	22000	11329
10,5	1245	2,4	89,87	B123	100L	6	30000	15911
10,2	1279	1,2	92,31	B103	100L	6	22000	11424
10,0	1304	3,2	94,13	B143	100L	6	40000	40000
9,9	1302	2,2	144,43	B123	90L	4	30000	16245
9,9	1305	1,2	144,69	B103	90L	4	22000	11526
9,4	1381	2,1	99,70	B123	100L	6	30000	16388
8,9	1461	1,1	105,44	B103	100L	6	22000	11834
8,9	1466	2,9	105,83	B143	100L	6	40000	40000
8,9	1445	2,0	160,23	B123	90L	4	30000	16681
8,8	1477	2,0	106,65	B123	100L	6	30000	16670
8,7	1490	1,0	165,25	B103	90L	4	22000	12005
8,4	1551	2,8	111,94	B143	100L	6	40000	40000
8,0	1627	1,8	180,40	B123	90L	4	30000	17121
7,9	1657	1,8	119,60	B123	100L	6	30000	17150
7,6	1726	2,4	124,62	B143	100L	6	40000	40000
7,3	1801	1,6	129,96	B123	100L	6	30000	17497
6,9	1890	2,3	136,44	B143	100L	6	40000	40000
6,5	2001	1,5	144,43	B123	100L	6	30000	17892
6,3	2072	2,1	149,59	B143	100L	6	40000	40000
5,9	2220	1,3	160,23	B123	100L	6	30000	18320
5,7	2307	1,8	166,53	B143	100L	6	40000	40000
5,3	2499	1,2	180,40	B123	100L	6	30000	18843
5,1	2594	1,6	187,24	B143	100L	6	40000	40000

## 2,20 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
251,9	75	2,8	5,71	B063	100LA	4	7944	2270
209,3	91	2,7	6,88	B063	100LA	4	8415	2404
196,6	97	2,6	7,32	B063	100LA	4	8572	2449
172,3	116	2,6	8,36	BA72	100LA	4	5043	2522
168,0	114	1,8	5,71	B063	112M	6	8936	2553
157,2	121	2,6	9,16	B063	100LA	4	9079	2594
143,1	140	2,2	10,06	BA72	100LA	4	5328	2664
140,3	135	2,5	10,26	B063	100LA	4	9457	2702
139,5	137	1,8	6,88	B063	112M	6	9428	2694
131,1	146	1,7	7,32	B063	112M	6	9597	2742
130,6	145	2,7	11,03	B063	100LA	4	9615	2747
122,9	155	2,3	7,81	B083	112M	6	15230	4352

## 2,20 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
116,5	163	2,5	12,35	B063	100LA	4	9967	2848
115,7	173	1,7	12,44	BA72	100LA	4	5759	2879
114,9	175	1,7	8,36	BA72	112M	6	5821	2910
111,3	172	2,5	8,62	B083	112M	6	15692	4483
109,5	173	2,5	13,15	B063	100LA	4	10103	2887
104,8	182	1,9	9,16	B063	112M	6	10309	2945
96,6	207	1,7	14,91	BA72	100LA	4	6131	3065
95,4	211	1,4	10,06	BA72	112M	6	6192	3096
94,9	200	2,2	15,18	B063	100LA	4	10470	2992
93,5	204	1,9	10,26	B063	112M	6	10633	3038
91,5	209	2,3	10,49	B083	112M	6	16795	4799
87,1	219	1,8	11,03	B063	112M	6	10748	3071
86,8	218	2,8	16,60	B083	100LA	4	16909	4831
84,7	223	1,9	17,00	B063	100LA	4	10858	3102
82,9	231	2,3	11,59	B083	112M	6	17132	4895
80,3	249	1,4	17,94	BA72	100LA	4	6491	3246
78,6	241	2,5	18,32	B083	100LA	4	17409	4974
77,7	246	1,7	12,35	B063	112M	6	11170	3191
77,1	262	1,1	12,44	BA72	112M	6	6647	3323
73,0	262	1,6	13,15	B063	112M	6	11260	3217
66,5	287	2,0	14,43	B083	112M	6	18000	5217
64,9	308	1,2	22,19	BA72	100LA	4	6968	3484
64,4	313	1,1	14,91	BA72	112M	6	6985	3493
64,3	294	1,5	22,39	B063	100LA	4	11604	3316
63,3	302	1,4	15,18	B063	112M	6	11773	3364
63,1	300	2,1	22,82	B083	100LA	4	18000	5279
57,8	330	1,9	16,60	B083	112M	6	18000	5478
56,5	338	1,2	17,00	B063	112M	6	12000	3459
55,2	343	1,3	26,09	B063	100LA	4	12000	3456
53,9	351	1,7	26,71	B083	100LA	4	18000	5564
52,4	365	1,7	18,32	B083	112M	6	18000	5583
51,4	368	1,2	28,03	B063	100LA	4	12000	3523
50,4	379	2,7	19,06	B103	112M	6	22000	7048
48,8	388	1,6	29,50	B083	100LA	4	18000	5720
47,2	401	2,8	30,55	B103	100LA	4	22000	7224
45,3	418	1,5	31,80	B083	100LA	4	18000	5817
43,5	434	2,8	33,07	B103	100LA	4	22000	7366
42,1	454	1,3	22,82	B083	112M	6	18000	5981
41,7	453	1,4	34,49	B083	100LA	4	18000	5925
40,5	472	2,2	23,70	B103	112M	6	22000	7592
40,1	471	2,6	35,87	B103	100LA	4	22000	7515
36,4	520	1,2	39,60	B083	100LA	4	18000	6183



## 2,20 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
36,2	527	2,0	26,51	B103	112M	6	22000	7774
35,9	532	1,1	26,71	B083	112M	6	18000	6237
35,0	540	2,3	41,12	B103	100LA	4	22000	7823
33,5	564	1,1	42,95	B083	100LA	4	18000	6316
32,5	587	1,0	29,50	B083	112M	6	18000	6399
32,3	586	2,1	44,61	B103	100LA	4	22000	8011
31,7	597	1,0	45,44	B083	100LA	4	18000	6398
31,4	608	1,9	30,55	B103	112M	6	22000	8101
30,4	621	1,9	47,28	B103	100LA	4	22000	8213
29,0	658	1,9	33,07	B103	112M	6	22000	8288
28,7	660	2,2	50,24	B103	100LA	4	22000	8291
28,1	673	1,1	51,19	B083	100LA	4	18000	6618
27,1	697	2,1	53,02	B103	100LA	4	22000	8419
26,8	714	1,7	35,87	B103	112M	6	22000	8482
25,9	729	1,0	55,52	B083	100LA	4	18000	6706
24,6	769	1,9	58,50	B103	100LA	4	22000	8708
23,7	806	2,5	40,53	B123	112M	6	30000	12339
23,3	818	1,5	41,12	B103	112M	6	22000	8815
23,0	822	3,4	62,59	B123	100LA	4	30000	12471
22,2	852	1,7	64,89	B103	100LA	4	22000	8964
21,5	887	1,3	44,61	B103	112M	6	22000	9095
21,4	893	2,4	44,89	B123	112M	6	30000	12793
21,0	901	1,6	68,58	B103	100LA	4	22000	9102
20,8	912	3,0	69,43	B123	100LA	4	30000	12849
20,3	941	1,3	47,28	B103	112M	6	22000	9161
19,8	956	1,5	72,76	B103	100LA	4	22000	9268
19,3	977	3,1	74,42	B123	100LA	4	30000	12991
19,3	991	2,4	49,80	B123	112M	6	30000	13148
19,1	1000	1,4	50,24	B103	112M	6	22000	9394
18,2	1037	1,4	78,92	B103	100LA	4	22000	9457
18,1	1055	1,4	53,02	B103	112M	6	22000	9450
18,0	1051	2,9	80,04	B123	100LA	4	30000	13242
17,7	1080	2,5	54,30	B123	112M	6	30000	13446
17,2	1099	1,4	83,66	B103	100LA	4	22000	9588
16,4	1164	1,2	58,50	B103	112M	6	22000	9701
16,2	1181	2,3	59,36	B123	112M	6	30000	13644
16,0	1180	2,5	89,87	B123	100LA	4	30000	13741
15,6	1213	1,3	92,31	B103	100LA	4	22000	9805
15,3	1236	3,4	94,13	B143	100LA	4	40000	40000
15,3	1245	2,3	62,59	B123	112M	6	30000	13828
14,8	1291	1,1	64,89	B103	112M	6	22000	9967
14,8	1290	3,3	64,88	B143	112M	6	40000	40000

## 2,20 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
14,4	1310	2,3	99,70	B123	100LA	4	30000	14103
14,0	1364	1,1	68,58	B103	112M	6	22000	10110
13,8	1381	2,1	69,43	B123	112M	6	30000	14298
13,7	1385	1,1	105,44	B103	100LA	4	22000	10185
13,6	1390	3,1	105,83	B143	100LA	4	40000	40000
13,6	1401	3,0	70,43	B143	112M	6	40000	40000
13,5	1400	2,1	106,65	B123	100LA	4	30000	14338
13,2	1447	1,0	72,76	B103	112M	6	22000	10263
12,9	1480	2,1	74,42	B123	112M	6	30000	14538
12,9	1470	2,9	111,94	B143	100LA	4	40000	40000
12,6	1508	1,0	114,80	B103	100LA	4	22000	10443
12,5	1535	2,8	77,12	B143	112M	6	40000	40000
12,1	1571	1,9	119,60	B123	100LA	4	30000	14736
12,0	1593	1,9	80,04	B123	112M	6	30000	14789
11,6	1637	2,6	124,62	B143	100LA	4	40000	40000
11,3	1702	2,5	85,54	B143	112M	6	40000	40000
11,1	1707	1,8	129,96	B123	100LA	4	30000	14974
10,7	1788	1,7	89,87	B123	112M	6	30000	15076
10,6	1792	2,4	136,44	B143	100LA	4	40000	40000
10,2	1873	2,3	94,13	B143	112M	6	40000	40000
10,0	1897	1,6	144,43	B123	100LA	4	30000	15335
9,6	1964	2,1	149,59	B143	100LA	4	40000	40000
9,6	1983	1,5	99,70	B123	112M	6	30000	15533
9,1	2105	2,1	105,83	B143	112M	6	40000	40000
9,0	2104	1,4	160,23	B123	100LA	4	30000	15730
9,0	2122	1,4	106,65	B123	112M	6	30000	15651
8,6	2187	1,9	166,53	B143	100LA	4	40000	40000
8,6	2227	2,0	111,94	B143	112M	6	40000	40000
8,1	2379	1,2	119,60	B123	112M	6	30000	16124
8,0	2369	1,3	180,40	B123	100LA	4	30000	16072
7,7	2479	1,8	124,62	B143	112M	6	40000	40000
7,7	2459	1,7	187,24	B143	100LA	4	40000	40000
7,4	2586	1,1	129,96	B123	112M	6	30000	16382
7,0	2715	1,5	136,44	B143	112M	6	40000	40000
6,6	2873	1,0	144,43	B123	112M	6	30000	16697
6,4	2976	1,4	149,59	B143	112M	6	40000	40000
5,8	3313	1,2	166,53	B143	112M	6	40000	40000
5,1	3725	1,1	187,24	B143	112M	6	40000	40000

## 3,00 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
253,7	102	2,0	5,71	B063	112MS	4	7788	2225
210,8	122	2,0	6,88	B063	112MS	4	8215	2347
198,0	130	1,9	7,32	B063	112MS	4	8362	2389
185,7	139	2,6	7,81	B083	112MS	4	13279	3794
173,5	157	1,9	8,36	BA72	112MS	4	5020	2510
168,2	153	2,7	8,62	B083	112MS	4	13681	3909
158,3	163	1,9	9,16	B063	112MS	4	8901	2543
144,1	189	1,6	10,06	BA72	112MS	4	5340	2670
141,3	183	1,8	10,26	B063	112MS	4	9181	2623
138,2	187	2,5	10,49	B083	112MS	4	14504	4144
131,5	196	2,0	11,03	B063	112MS	4	9360	2674
125,1	206	2,6	11,59	B083	112MS	4	14932	4266
124,2	210	1,7	7,81	B083	132S	6	14957	4273
117,4	220	1,8	12,35	B063	112MS	4	9645	2756
116,5	234	1,3	12,44	BA72	112MS	4	5732	2866
112,5	232	1,9	8,62	B083	132S	6	15394	4398
110,3	234	1,8	13,15	B063	112MS	4	9802	2801
100,5	257	2,3	14,43	B083	112MS	4	15911	4546
97,3	280	1,3	14,91	BA72	112MS	4	6088	3044
95,5	270	1,6	15,18	B063	112MS	4	10165	2904
92,5	282	1,6	10,49	B083	132S	6	16331	4666
87,4	295	2,1	16,60	B083	112MS	4	16556	4730
85,3	302	1,4	17,00	B063	112MS	4	10454	2987
83,7	311	1,7	11,59	B083	132S	6	16744	4784
80,8	337	1,1	17,94	BA72	112MS	4	6476	3238
79,1	326	1,9	18,32	B083	112MS	4	17022	4863
67,2	387	1,5	14,43	B083	132S	6	17787	5082
64,8	398	1,1	22,39	B063	112MS	4	11145	3184
63,5	406	1,5	22,82	B083	112MS	4	18000	5164
61,2	421	2,4	23,70	B103	112MS	4	22000	6556
58,5	446	1,4	16,60	B083	132S	6	18000	5276
56,2	464	2,2	17,27	B103	132S	6	22000	6740
54,7	471	2,3	26,51	B103	112MS	4	22000	6776
54,3	475	1,3	26,71	B083	112MS	4	18000	5385
52,9	492	1,2	18,32	B083	132S	6	18000	5415
50,9	512	2,0	19,06	B103	132S	6	22000	6914
49,2	525	1,2	29,50	B083	112MS	4	18000	5525
47,5	543	2,1	30,55	B103	112MS	4	22000	7060
45,6	565	1,1	31,80	B083	112MS	4	18000	5632
43,9	588	2,1	33,07	B103	112MS	4	22000	7222
40,9	636	1,6	23,70	B103	132S	6	22000	7381
40,4	638	1,9	35,87	B103	112MS	4	22000	7390

## 6.1 B/BA GEARED MOTORS (50Hz)

## 3,00 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
36,6	712	1,5	26,51	B103	132S	6	22000	7595
35,8	721	2,8	40,53	B123	112MS	4	30000	10747
35,3	731	1,7	41,12	B103	112MS	4	22000	7679
35,3	739	2,7	27,51	B123	132S	6	30000	10779
32,5	793	1,5	44,61	B103	112MS	4	22000	7853
32,3	798	2,7	44,89	B123	112MS	4	30000	11046
31,7	820	1,4	30,55	B103	132S	6	22000	7920
31,5	827	2,4	30,79	B123	132S	6	30000	11109
31,0	839	2,4	31,26	B123	132S	6	30000	11184
30,7	841	1,5	47,28	B103	112MS	4	22000	7979
29,3	888	1,4	33,07	B103	132S	6	22000	8069
29,1	886	2,6	49,80	B123	112MS	4	30000	11353
28,9	893	1,6	50,24	B103	112MS	4	22000	8111
28,0	931	2,1	34,68	B123	132S	6	30000	11491
27,3	943	1,5	53,02	B103	112MS	4	22000	8229
27,0	963	1,3	35,87	B103	132S	6	22000	8246
26,7	966	2,8	54,30	B123	112MS	4	30000	11610
24,8	1040	1,4	58,50	B103	112MS	4	22000	8446
24,4	1056	2,6	59,36	B123	112MS	4	30000	11876
23,9	1089	1,8	40,53	B123	132S	6	30000	11954
23,5	1105	1,1	41,12	B103	132S	6	22000	8570
23,2	1113	2,5	62,59	B123	112MS	4	30000	12034
22,3	1154	1,3	64,89	B103	112MS	4	22000	8676
21,7	1198	1,0	44,61	B103	132S	6	22000	8728
21,6	1205	1,8	44,89	B123	132S	6	30000	12258
21,1	1219	1,2	68,58	B103	112MS	4	22000	8800
20,9	1235	2,3	69,43	B123	112MS	4	30000	12345
20,6	1253	3,4	70,43	B143	112MS	4	40000	40000
19,9	1294	1,1	72,76	B103	112MS	4	22000	8932
19,5	1337	1,7	49,80	B123	132S	6	30000	12566
19,5	1323	2,3	74,42	B123	112MS	4	30000	12551
19,3	1349	1,1	50,24	B103	132S	6	22000	8992
18,8	1371	3,1	77,12	B143	112MS	4	40000	40000
18,4	1403	1,0	78,92	B103	112MS	4	22000	9114
18,3	1424	1,0	53,02	B103	132S	6	22000	9112
18,3	1427	3,0	53,16	B143	132S	6	40000	40000
18,1	1423	2,1	80,04	B123	112MS	4	30000	12768
17,9	1458	1,9	54,30	B123	132S	6	30000	12790
17,8	1467	2,9	54,63	B143	132S	6	40000	40000
17,3	1488	1,0	83,66	B103	112MS	4	22000	9244
17,0	1521	2,8	85,54	B143	112MS	4	40000	40000
16,5	1585	2,7	59,02	B143	132S	6	40000	40000

## 6.1 B/BA GEARED MOTORS (50Hz)

## 3,00 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
16,3	1594	1,7	59,36	B123	132S	6	30000	13051
16,1	1598	1,9	89,87	B123	112MS	4	30000	13108
15,5	1681	1,7	62,59	B123	132S	6	30000	13234
15,4	1674	2,6	94,13	B143	112MS	4	40000	40000
15,0	1742	2,5	64,88	B143	132S	6	40000	40000
14,5	1773	1,7	99,70	B123	112MS	4	30000	13409
13,9	1865	1,5	69,43	B123	132S	6	30000	13529
13,7	1891	2,2	70,43	B143	132S	6	40000	40000
13,7	1882	2,3	105,83	B143	112MS	4	40000	40000
13,6	1897	1,6	106,65	B123	112MS	4	30000	13601
13,0	1998	1,5	74,42	B123	132S	6	30000	13721
13,0	1991	2,1	111,94	B143	112MS	4	40000	40000
12,5	2070	2,0	77,12	B143	132S	6	40000	40000
12,1	2149	1,4	80,04	B123	132S	6	30000	13891
12,1	2127	1,4	119,60	B123	112MS	4	30000	13918
11,6	2216	1,9	124,62	B143	112MS	4	40000	40000
11,5	2253	3,0	83,89	B153	132S	6	65000	65000
11,3	2297	1,8	85,54	B143	132S	6	40000	40000
11,2	2311	1,3	129,96	B123	112MS	4	30000	14141
11,1	2354	2,9	87,65	B153	132S	6	65000	65000
10,8	2413	1,2	89,87	B123	132S	6	30000	14196
10,6	2426	1,8	136,44	B143	112MS	4	40000	40000
10,4	2498	2,7	93,05	B153	132S	6	65000	65000
10,3	2527	1,7	94,13	B143	132S	6	40000	40000
10,0	2568	1,2	144,43	B123	112MS	4	30000	14412
9,7	2677	1,1	99,70	B123	132S	6	30000	14480
9,7	2660	1,6	149,59	B143	112MS	4	40000	40000
9,4	2768	2,4	103,12	B153	132S	6	65000	65000
9,2	2841	1,5	105,83	B143	132S	6	40000	40000
9,1	2863	1,0	106,65	B123	132S	6	30000	14638
9,0	2849	1,0	160,23	B123	112MS	4	30000	14663
8,7	2961	1,4	166,53	B143	112MS	4	40000	40000
8,7	3006	1,4	111,94	B143	132S	6	40000	40000
7,8	3346	1,3	124,62	B143	132S	6	40000	40000
7,8	3326	2,0	123,88	B153	132S	6	65000	65000
7,7	3330	1,3	187,24	B143	112MS	4	40000	40000
7,2	3605	1,9	134,27	B153	132S	6	65000	65000
7,1	3663	1,2	136,44	B143	132S	6	40000	40000
6,5	4016	1,1	149,59	B143	132S	6	40000	40000
6,5	4007	1,7	149,26	B153	132S	6	65000	65000
5,9	4441	1,5	165,42	B153	132S	6	65000	65000

## 4,00 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
253,7	136	1,5	5,71	B063	112M	4	7635	2182
210,8	163	1,5	6,88	B063	112M	4	8031	2295
198,0	174	1,5	7,32	B063	112M	4	8167	2333
185,7	185	1,9	7,81	B083	112M	4	13092	3741
173,5	210	1,4	8,36	BA72	112M	4	5032	2516
168,2	205	2,1	8,62	B083	112M	4	13501	3857
158,3	217	1,4	9,16	B063	112M	4	8671	2478
144,1	252	1,2	10,06	BA72	112M	4	5352	2676
141,3	243	1,4	10,26	B063	112M	4	8922	2549
138,2	249	1,9	10,49	B083	112M	4	14280	4080
131,5	261	1,5	11,03	B063	112M	4	9080	2594
125,2	275	2,0	11,59	B083	112M	4	14683	4195
124,2	280	1,3	7,81	B083	132MA	6	14674	4193
117,4	293	1,4	12,35	B063	112M	4	9314	2661
112,5	309	1,4	8,62	B083	132MA	6	15081	4309
110,3	312	1,4	13,15	B063	112M	4	9451	2700
100,5	342	1,7	14,43	B083	112M	4	15565	4447
95,5	360	1,2	15,18	B063	112M	4	9759	2788
92,5	376	1,2	10,49	B083	132MA	6	15948	4556
87,4	393	1,5	16,60	B083	112M	4	16188	4625
85,3	403	1,1	17,00	B063	112M	4	10013	2861
84,0	409	2,4	17,27	B103	112M	4	20628	5894
83,7	415	1,3	11,59	B083	132MA	6	16325	4664
79,1	434	1,4	18,32	B083	112M	4	16582	4738
76,1	452	2,2	19,06	B103	112M	4	21183	6052
67,2	517	1,1	14,43	B083	132MA	6	17264	4933
63,5	541	1,1	22,82	B083	112M	4	17558	5017
63,0	550	2,7	15,38	B123	132MA	6	30000	9001
61,2	562	1,8	23,70	B103	112M	4	22000	6454
58,5	594	1,0	16,60	B083	132MA	6	17865	5104
56,2	619	1,6	17,27	B103	132MA	6	22000	6612
54,7	629	1,7	26,51	B103	112M	4	22000	6647
52,2	665	2,4	18,58	B123	132MA	6	30000	9474
50,9	682	1,5	19,06	B103	132MA	6	22000	6774
47,5	724	1,6	30,55	B103	112M	4	22000	6911
47,1	738	2,4	20,61	B123	132MA	6	30000	9712
46,4	741	2,7	31,26	B123	112M	4	30000	9760
43,9	784	1,6	33,07	B103	112M	4	22000	7061
42,5	816	2,5	22,78	B123	132MA	6	30000	9996
41,8	822	2,4	34,68	B123	112M	4	30000	10045
40,9	848	1,2	23,70	B103	132MA	6	22000	7205
40,4	850	1,4	35,87	B103	112M	4	22000	7229

## 6.1 B/BA GEARED MOTORS (50Hz)

## 4,00 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
37,5	927	2,2	25,89	B123	132MA	6	30000	10299
36,6	949	1,1	26,51	B103	132MA	6	22000	7420
35,7	961	2,1	40,53	B123	112M	4	30000	10449
35,3	985	2,1	27,51	B123	132MA	6	30000	10456
35,2	975	1,2	41,12	B103	112M	4	22000	7492
32,5	1058	1,2	44,61	B103	112M	4	22000	7636
32,3	1065	2,0	44,89	B123	112M	4	30000	10714
31,7	1094	1,1	30,55	B103	132MA	6	22000	7673
31,5	1103	1,8	30,79	B123	132MA	6	30000	10774
31,0	1119	1,8	31,26	B123	132MA	6	30000	10813
30,7	1121	1,1	47,28	B103	112M	4	22000	7762
29,3	1184	1,0	33,07	B103	132MA	6	22000	7825
29,1	1181	2,0	49,80	B123	112M	4	30000	10965
28,9	1191	1,2	50,24	B103	112M	4	22000	7867
28,0	1242	1,6	34,68	B123	132MA	6	30000	11079
27,4	1257	1,1	53,02	B103	112M	4	22000	7984
27,3	1260	3,4	53,16	B143	112M	4	37978	37978
26,7	1287	2,1	54,30	B123	112M	4	30000	11205
26,6	1295	3,3	54,63	B143	112M	4	38246	38246
26,5	1313	2,6	36,67	B143	132MA	6	38171	38171
24,8	1387	1,0	58,50	B103	112M	4	22000	8175
24,6	1399	3,0	59,02	B143	112M	4	39007	39007
24,5	1407	1,9	59,36	B123	112M	4	30000	11431
24,1	1442	2,4	40,29	B143	132MA	6	39094	39094
23,9	1451	1,4	40,53	B123	132MA	6	30000	11447
23,2	1484	1,9	62,59	B123	112M	4	30000	11547
22,4	1538	2,8	64,88	B143	112M	4	39942	39942
22,0	1581	2,2	44,16	B143	132MA	6	39995	39995
21,6	1607	1,3	44,89	B123	132MA	6	30000	11725
20,8	1647	1,7	69,43	B123	112M	4	30000	11821
20,5	1670	2,5	70,43	B143	112M	4	40000	40000
20,1	1731	2,1	48,35	B143	132MA	6	40000	40000
19,5	1765	1,7	74,42	B123	112M	4	30000	11989
19,5	1783	1,3	49,80	B123	132MA	6	30000	11950
18,8	1828	2,3	77,12	B143	112M	4	40000	40000
18,3	1903	2,2	53,16	B143	132MA	6	40000	40000
18,1	1898	1,6	80,04	B123	112M	4	30000	12145
17,9	1944	1,4	54,30	B123	132MA	6	30000	12152
17,8	1956	2,2	54,63	B143	132MA	6	40000	40000
17,0	2028	2,1	85,54	B143	112M	4	40000	40000
16,4	2113	2,0	59,02	B143	132MA	6	40000	40000
16,3	2125	1,3	59,36	B123	132MA	6	30000	12353

## 6.1 B/BA GEARED MOTORS (50Hz)

## 4,00 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
16,1	2131	1,4	89,87	B123	112M	4	30000	12424
16,0	2181	3,1	60,92	B153	132MA	6	65000	65000
15,5	2241	1,2	62,59	B123	132MA	6	30000	12490
15,4	2232	1,9	94,13	B143	112M	4	40000	40000
15,3	2272	3,0	63,47	B153	132MA	6	65000	65000
15,0	2323	1,8	64,88	B143	132MA	6	40000	40000
14,5	2364	1,3	99,70	B123	112M	4	30000	12633
14,0	2486	1,1	69,43	B123	132MA	6	30000	12683
13,7	2522	1,7	70,43	B143	132MA	6	40000	40000
13,7	2510	1,7	105,83	B143	112M	4	40000	40000
13,6	2529	1,2	106,65	B123	112M	4	30000	12770
13,6	2547	2,7	71,15	B153	132MA	6	65000	65000
13,0	2664	1,1	74,42	B123	132MA	6	30000	12838
13,0	2655	1,6	111,94	B143	112M	4	40000	40000
12,6	2761	1,5	77,12	B143	132MA	6	40000	40000
12,5	2764	2,4	77,22	B153	132MA	6	65000	65000
12,1	2865	1,0	80,04	B123	132MA	6	30000	12969
12,1	2836	1,1	119,60	B123	112M	4	30000	12987
11,6	2955	1,4	124,62	B143	112M	4	40000	40000
11,6	3003	2,3	83,89	B153	132MA	6	65000	65000
11,3	3062	1,4	85,54	B143	132MA	6	40000	40000
11,1	3138	2,2	87,65	B153	132MA	6	65000	65000
10,6	3235	1,3	136,44	B143	112M	4	40000	40000
10,4	3331	2,0	93,05	B153	132MA	6	65000	65000
10,3	3370	1,3	94,13	B143	132MA	6	40000	40000
9,7	3547	1,2	149,59	B143	112M	4	40000	40000
9,4	3692	1,8	103,12	B153	132MA	6	65000	65000
9,2	3789	1,1	105,83	B143	132MA	6	40000	40000
8,7	3949	1,1	166,53	B143	112M	4	40000	40000
8,7	4007	1,1	111,94	B143	132MA	6	40000	40000
7,8	4435	1,5	123,88	B153	132MA	6	65000	65000
7,2	4806	1,4	134,27	B153	132MA	6	65000	65000
6,5	5343	1,3	149,26	B153	132MA	6	65000	65000
5,9	5921	1,1	165,42	B153	132MA	6	65000	65000

## 5,50 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
188,3	252	1,4	7,81	B083	132MS	4	12811	3660
170,5	277	1,5	8,62	B083	132MS	4	13164	3761
140,1	338	1,4	10,49	B083	132MS	4	13850	3957
126,9	373	1,4	11,59	B083	132MS	4	14187	4054



## 5,50 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
121,8	392	2,7	7,97	B123	132MB	6	25591	7312
112,5	425	1,0	8,62	B083	132MB	6	14651	4186
101,9	464	1,3	14,43	B083	132MS	4	14996	4285
100,8	473	2,7	9,62	B123	132MB	6	26973	7707
88,6	534	1,1	16,60	B083	132MS	4	15511	4432
85,2	555	1,8	17,27	B103	132MS	4	20145	5756
80,2	589	1,0	18,32	B083	132MS	4	15874	4535
79,2	598	2,6	18,58	B123	132MS	4	28852	8244
77,7	615	2,3	12,48	B123	132MB	6	28936	8267
77,1	613	1,6	19,06	B103	132MS	4	20619	5891
71,3	663	2,7	20,61	B123	132MS	4	29545	8441
70,0	682	2,2	13,84	B123	132MB	6	29732	8495
64,5	733	2,8	22,78	B123	132MS	4	30000	8663
63,0	757	2,0	15,38	B123	132MB	6	30000	8727
62,0	763	1,3	23,70	B103	132MS	4	21938	6268
56,9	839	2,7	17,04	B143	132MB	6	30302	30302
56,8	833	2,4	25,89	B123	132MS	4	30000	8946
56,2	850	1,2	17,27	B103	132MB	6	22000	6419
55,4	853	1,3	26,51	B103	132MS	4	22000	6430
53,4	885	2,3	27,51	B123	132MS	4	30000	9081
52,2	915	1,7	18,58	B123	132MB	6	30000	9143
50,9	938	1,1	19,06	B103	132MB	6	22000	6581
48,1	983	1,2	30,55	B103	132MS	4	22000	6665
47,7	990	2,0	30,79	B123	132MS	4	30000	9361
47,1	1014	1,8	20,61	B123	132MB	6	30000	9372
47,0	1005	2,0	31,26	B123	132MS	4	30000	9395
44,5	1064	1,1	33,07	B103	132MS	4	22000	6808
42,5	1121	1,8	22,78	B123	132MB	6	30000	9590
42,4	1116	1,8	34,68	B123	132MS	4	30000	9622
41,0	1153	1,1	35,87	B103	132MS	4	22000	6942
37,9	1262	2,6	25,63	B143	132MB	6	33697	33697
37,5	1275	1,6	25,89	B123	132MB	6	30000	9865
36,4	1296	2,7	40,29	B143	132MS	4	34018	34018
36,2	1303	1,5	40,53	B123	132MS	4	30000	9943
35,3	1354	1,5	27,51	B123	132MB	6	30000	9971
35,3	1351	2,5	27,44	B143	132MB	6	34185	34185
33,3	1420	2,4	44,16	B143	132MS	4	34849	34849
32,7	1444	1,5	44,89	B123	132MS	4	30000	10158
32,3	1479	2,3	30,05	B143	132MB	6	34945	34945
31,5	1516	1,3	30,79	B123	132MB	6	30000	10204
31,0	1539	1,3	31,26	B123	132MB	6	30000	10235
30,4	1555	2,3	48,35	B143	132MS	4	35553	35553

## 6.1 B/BA GEARED MOTORS (50Hz)

## 5,50 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
29,5	1602	1,4	49,80	B123	132MS	4	30000	10370
29,4	1625	2,1	33,01	B143	132MB	6	35816	35816
28,0	1707	1,2	34,68	B123	132MB	6	30000	10461
27,7	1709	2,5	53,16	B143	132MS	4	36402	36402
27,1	1746	1,6	54,30	B123	132MS	4	30000	10540
26,9	1757	2,4	54,63	B143	132MS	4	36515	36515
26,5	1805	1,9	36,67	B143	132MB	6	36686	36686
24,9	1898	2,2	59,02	B143	132MS	4	37153	37153
24,8	1909	1,4	59,36	B123	132MS	4	30000	10695
24,0	1983	1,7	40,29	B143	132MB	6	37452	37452
23,9	1995	1,0	40,53	B123	132MB	6	30000	10750
23,5	2013	1,4	62,59	B123	132MS	4	30000	10792
23,2	2041	3,3	63,47	B153	132MS	4	65000	65000
22,9	2082	2,8	42,30	B153	132MB	6	65000	65000
22,7	2087	2,0	64,88	B143	132MS	4	37978	37978
22,0	2174	1,6	44,16	B143	132MB	6	38103	38103
21,2	2233	1,2	69,43	B123	132MS	4	30000	10993
20,8	2266	1,9	70,43	B143	132MS	4	38632	38632
20,6	2288	3,0	71,15	B153	132MS	4	65000	65000
20,4	2340	2,5	47,53	B153	132MB	6	65000	65000
20,1	2380	1,5	48,35	B143	132MB	6	38893	38893
19,8	2393	1,2	74,42	B123	132MS	4	30000	11082
19,2	2489	2,7	50,56	B153	132MB	6	65000	65000
19,1	2484	2,7	77,22	B153	132MS	4	65000	65000
19,0	2480	1,7	77,12	B143	132MS	4	39336	39336
18,3	2574	1,2	80,04	B123	132MS	4	30000	11200
18,2	2617	1,6	53,16	B143	132MB	6	39533	39533
17,9	2673	1,0	54,30	B123	132MB	6	30000	11209
17,8	2689	1,6	54,63	B143	132MB	6	39735	39735
17,8	2690	2,5	54,64	B153	132MB	6	65000	65000
17,5	2698	2,5	83,89	B153	132MS	4	65000	65000
17,2	2751	1,5	85,54	B143	132MS	4	40000	40000
16,9	2819	2,4	57,27	B153	132MB	6	65000	65000
16,7	2819	2,4	87,65	B153	132MS	4	65000	65000
16,4	2905	1,5	59,02	B143	132MB	6	40000	40000
16,3	2890	1,0	89,87	B123	132MS	4	30000	11351
15,9	2999	2,3	60,92	B153	132MB	6	65000	65000
15,8	2993	2,3	93,05	B153	132MS	4	65000	65000
15,6	3027	1,4	94,13	B143	132MS	4	40000	40000
15,3	3125	2,2	63,47	B153	132MB	6	65000	65000
15,0	3194	1,3	64,88	B143	132MB	6	40000	40000
14,3	3316	2,0	103,12	B153	132MS	4	65000	65000

## 6.1 B/BA GEARED MOTORS (50Hz)

## 5,50 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
13,9	3404	1,2	105,83	B143	132MS	4	40000	40000
13,8	3467	1,2	70,43	B143	132MB	6	40000	40000
13,6	3502	2,0	71,15	B153	132MB	6	65000	65000
13,1	3600	1,2	111,94	B143	132MS	4	40000	40000
12,6	3796	1,1	77,12	B143	132MB	6	40000	40000
12,5	3802	1,8	77,22	B153	132MB	6	65000	65000
11,9	3984	1,7	123,88	B153	132MS	4	65000	65000
11,8	4008	1,1	124,62	B143	132MS	4	40000	40000
11,6	4129	1,7	83,89	B153	132MB	6	65000	65000
11,3	4211	1,0	85,54	B143	132MB	6	40000	40000
11,1	4314	1,6	87,65	B153	132MB	6	65000	65000
10,9	4318	1,6	134,27	B153	132MS	4	65000	65000
10,4	4580	1,5	93,05	B153	132MB	6	65000	65000
9,9	4800	1,4	149,26	B153	132MS	4	65000	65000
9,4	5076	1,3	103,12	B153	132MB	6	65000	65000
8,9	5320	1,3	165,42	B153	132MS	4	65000	65000
7,8	6098	1,1	123,88	B153	132MB	6	65000	65000
7,3	6609	1,0	134,27	B153	132MB	6	65000	65000

## 7,50 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
187,0	345	1,0	7,81	B083	132M	4	12415	3547
169,3	381	1,1	8,62	B083	132M	4	12729	3637
139,2	464	1,0	10,49	B083	132M	4	13371	3820
126,0	512	1,1	11,59	B083	132M	4	13660	3903
117,0	551	2,4	12,48	B123	132M	4	25194	7198
105,5	611	2,3	13,84	B123	132M	4	25837	7382
95,0	679	2,2	15,38	B123	132M	4	26583	7595
84,5	763	1,3	17,27	B103	132M	4	19522	5578
78,6	820	1,9	18,58	B123	132M	4	27840	7954
76,6	841	1,2	19,06	B103	132M	4	20046	5727
70,8	910	2,0	20,61	B123	132M	4	28482	8138
64,1	1006	2,0	22,78	B123	132M	4	29185	8338
56,4	1143	1,8	25,89	B123	132M	4	30000	8574
53,2	1212	2,7	27,44	B143	132M	4	29770	29770
53,1	1215	1,7	27,51	B123	132M	4	30000	8671
48,6	1327	2,6	30,05	B143	132M	4	30424	30424
47,4	1360	1,5	30,79	B123	132M	4	30000	8870
46,7	1381	1,5	31,26	B123	132M	4	30000	8908
44,2	1457	2,3	33,01	B143	132M	4	31099	31099
42,1	1531	1,3	34,68	B123	132M	4	30000	9082

## 6.1 B/BA GEARED MOTORS (50Hz)

## 7,50 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
39,8	1619	2,1	36,67	B143	132M	4	31847	31847
36,2	1779	2,0	40,29	B143	132M	4	32504	32504
36,0	1790	1,1	40,53	B123	132M	4	30000	9316
33,1	1950	1,8	44,16	B143	132M	4	33133	33133
32,5	1982	1,1	44,89	B123	132M	4	30000	9473
30,7	2099	2,8	47,53	B153	132M	4	60664	60664
30,2	2135	1,7	48,35	B143	132M	4	33782	33782
29,3	2199	1,1	49,80	B123	132M	4	30000	9600
28,9	2233	3,0	50,56	B153	132M	4	61906	61906
27,5	2347	1,8	53,16	B143	132M	4	34349	34349
26,9	2398	1,1	54,30	B123	132M	4	30000	9708
26,7	2413	2,8	54,64	B153	132M	4	63203	63203
26,7	2412	1,8	54,63	B143	132M	4	34562	34562
25,5	2529	2,7	57,27	B153	132M	4	64077	64077
24,8	2606	1,6	59,02	B143	132M	4	35033	35033
24,6	2621	1,0	59,36	B123	132M	4	30000	9790
24,0	2690	2,5	60,92	B153	132M	4	65000	65000
23,3	2763	1,0	62,59	B123	132M	4	30000	9836
23,0	2803	2,4	63,47	B153	132M	4	65000	65000
22,5	2865	1,5	64,88	B143	132M	4	35541	35541
20,7	3110	1,4	70,43	B143	132M	4	35986	35986
20,5	3141	2,2	71,15	B153	132M	4	65000	65000
18,9	3405	1,3	77,12	B143	132M	4	36439	36439
18,9	3410	2,0	77,22	B153	132M	4	65000	65000
17,4	3704	1,8	83,89	B153	132M	4	65000	65000
17,1	3777	1,1	85,54	B143	132M	4	36899	36899
16,6	3870	1,8	87,65	B153	132M	4	65000	65000
15,7	4109	1,7	93,05	B153	132M	4	65000	65000
15,5	4156	1,0	94,13	B143	132M	4	37282	37282
14,2	4553	1,5	103,12	B153	132M	4	65000	65000
11,8	5469	1,2	123,88	B153	132M	4	65000	65000
10,9	5928	1,1	134,27	B153	132M	4	65000	65000
9,8	6591	1,0	149,26	B153	132M	4	65000	65000

## 11,00 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
185,2	511	1,6	7,97	B123	160MA	4	21443	6126
153,3	617	1,5	9,62	B123	160MA	4	22483	6424
142,7	662	1,8	10,33	B123	160MA	4	22879	6537
121,8	784	1,4	7,97	B123	160L	6	23714	6775
118,2	800	1,6	12,48	B123	160MA	4	23911	6832

## 11,00 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
106,5	887	1,6	13,84	B123	160MA	4	24471	6992
101,8	928	2,0	14,49	B143	160MA	4	24187	24187
100,8	947	1,4	9,62	B123	160L	6	24720	7063
95,9	986	1,5	15,38	B123	160MA	4	25027	7151
93,9	1017	1,4	10,33	B123	160L	6	25092	7169
89,5	1067	2,0	10,84	B143	160L	6	24927	24927
86,6	1092	2,1	17,04	B143	160MA	4	25160	25160
81,7	1168	1,9	11,87	B143	160L	6	25464	25464
79,4	1191	1,3	18,58	B123	160MA	4	25985	7424
79,1	1196	2,2	18,66	B143	160MA	4	25699	25699
77,7	1229	1,2	12,48	B123	160L	6	26034	7438
76,7	1245	2,6	12,64	B153	160L	6	45297	45297
71,6	1321	1,4	20,61	B123	160MA	4	26483	7567
70,2	1346	1,9	21,00	B143	160MA	4	26394	26394
70,1	1363	1,1	13,84	B123	160L	6	26520	7577
69,2	1379	2,6	14,01	B153	160L	6	46724	46724
67,0	1426	1,6	14,49	B143	160L	6	26627	26627
64,8	1460	2,1	22,77	B143	160MA	4	26864	26864
64,7	1460	1,4	22,78	B123	160MA	4	26938	7696
63,1	1514	1,0	15,38	B123	160L	6	26984	7710
63,0	1516	2,4	15,40	B153	160L	6	48069	48069
57,6	1643	1,8	25,63	B143	160MA	4	27533	27533
57,0	1659	1,2	25,89	B123	160MA	4	27472	7849
56,9	1678	1,4	17,04	B143	160L	6	27541	27541
53,7	1759	1,9	27,44	B143	160MA	4	27910	27910
53,6	1763	1,1	27,51	B123	160MA	4	27705	7916
52,3	1827	2,4	18,56	B153	160L	6	50804	50804
52,0	1837	1,4	18,66	B143	160L	6	28032	28032
49,1	1926	1,8	30,05	B143	160MA	4	28396	28396
47,9	1974	1,0	30,79	B123	160MA	4	28096	8027
47,2	2004	1,0	31,26	B123	160MA	4	28143	8041
47,2	2024	2,3	20,56	B153	160L	6	52359	52359
46,2	2067	1,4	21,00	B143	160L	6	28645	28645
44,7	2116	1,6	33,01	B143	160MA	4	28879	28879
43,9	2156	2,7	33,63	B153	160MA	4	53512	53512
42,6	2242	1,4	22,77	B143	160L	6	29044	29044
42,1	2245	2,6	35,02	B153	160MA	4	54142	54142
40,7	2349	2,1	23,86	B153	160L	6	54664	54664
40,2	2351	1,5	36,67	B143	160MA	4	29389	29389
38,5	2480	2,0	25,19	B153	160L	6	55521	55521
38,0	2487	2,3	38,81	B153	160MA	4	55766	55766
37,8	2523	1,3	25,63	B143	160L	6	29586	29586

## 11,00 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
36,6	2583	1,3	40,29	B143	160MA	4	29812	29812
35,3	2702	1,2	27,44	B143	160L	6	29876	29876
34,9	2711	2,1	42,30	B153	160MA	4	57150	57150
34,4	2779	2,1	28,23	B153	160L	6	57351	57351
33,7	2835	2,6	28,80	B163	160L	6	80000	65000
33,4	2831	1,2	44,16	B143	160MA	4	30190	30190
32,3	2958	1,1	30,05	B143	160L	6	30227	30227
32,0	2988	1,9	30,35	B153	160L	6	58529	58529
31,4	3044	2,7	30,92	B163	160L	6	80000	65000
31,0	3047	1,9	47,53	B153	160MA	4	59058	59058
30,5	3099	1,2	48,35	B143	160MA	4	30524	30524
29,4	3250	1,0	33,01	B143	160L	6	30547	30547
29,2	3241	2,1	50,56	B153	160MA	4	60082	60082
28,9	3269	3,4	51,00	B163	160MA	4	80000	65000
28,8	3311	1,7	33,63	B153	160L	6	60224	60224
28,3	3372	2,6	34,25	B163	160L	6	80000	65000
27,7	3407	1,3	53,16	B143	160MA	4	30825	30825
27,7	3447	1,7	35,02	B153	160L	6	60897	60897
27,5	3438	3,2	53,63	B163	160MA	4	80000	65000
27,0	3501	1,2	54,63	B143	160MA	4	30902	30902
27,0	3502	2,0	54,64	B153	160MA	4	61380	61380
25,8	3671	1,9	57,27	B153	160MA	4	62173	62173
25,8	3708	2,4	37,66	B163	160L	6	80000	65000
25,0	3783	1,1	59,02	B143	160MA	4	31091	31091
25,0	3820	1,5	38,81	B153	160L	6	62624	62624
25,0	3780	2,9	58,97	B163	160MA	4	80000	65000
24,2	3905	1,8	60,92	B153	160MA	4	63222	63222
23,9	4002	2,3	40,65	B163	160L	6	80000	65000
23,2	4068	1,7	63,47	B153	160MA	4	63921	63921
22,9	4164	1,4	42,30	B153	160L	6	64086	64086
22,7	4159	1,0	64,88	B143	160MA	4	31262	31262
21,5	4439	2,0	45,09	B163	160L	6	80000	65000
21,1	4472	2,5	69,78	B163	160MA	4	80000	65000
20,7	4560	1,5	71,15	B153	160MA	4	65000	65000
20,4	4679	1,2	47,53	B153	160L	6	65000	65000
19,2	4978	1,4	50,56	B153	160L	6	65000	65000
19,2	4917	2,3	76,72	B163	160MA	4	80000	65000
19,1	4950	1,4	77,22	B153	160MA	4	65000	65000
19,0	5021	2,2	51,00	B163	160L	6	80000	65000
18,1	5279	2,1	53,63	B163	160L	6	80000	65000
17,8	5379	1,3	54,64	B153	160L	6	65000	65000
17,6	5377	1,3	83,89	B153	160MA	4	65000	65000

## 11,00 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
16,9	5638	1,2	57,27	B153	160L	6	65000	65000
16,9	5611	2,0	87,54	B163	160MA	4	80000	65000
16,8	5618	1,2	87,65	B153	160MA	4	65000	65000
16,5	5805	1,9	58,97	B163	160L	6	80000	65000
15,9	5997	1,1	60,92	B153	160L	6	65000	65000
15,9	5964	1,1	93,05	B153	160MA	4	65000	65000
15,3	6248	1,1	63,47	B153	160L	6	65000	65000
15,3	6169	1,8	96,25	B163	160MA	4	80000	65000
14,3	6610	1,0	103,12	B153	160MA	4	65000	65000
14,2	6662	1,7	103,93	B163	160MA	4	80000	65000
13,9	6869	1,6	69,78	B163	160L	6	80000	65000
12,9	7325	1,5	114,27	B163	160MA	4	80000	65000
12,6	7552	1,5	76,72	B163	160L	6	80000	65000
11,7	8095	1,4	126,29	B163	160MA	4	80000	65000
11,1	8617	1,3	87,54	B163	160L	6	80000	65000
10,6	8900	1,2	138,85	B163	160MA	4	80000	65000
10,1	9475	1,2	96,25	B163	160L	6	80000	65000
9,5	9924	1,1	154,83	B163	160MA	4	80000	65000
9,3	10231	1,1	103,93	B163	160L	6	80000	65000

## 15,00 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
185,2	696	1,2	7,97	B123	160LA	4	20589	5883
153,3	841	1,1	9,62	B123	160LA	4	21453	6129
142,7	903	1,3	10,33	B123	160LA	4	21771	6220
136,1	947	1,8	10,84	B143	160LA	4	21649	21649
124,3	1037	1,7	11,87	B143	160LA	4	22112	22112
123,0	1058	1,0	7,97	B123	180L	6	22361	6389
118,2	1091	1,2	12,48	B123	160LA	4	22574	6450
106,5	1210	1,1	13,84	B123	160LA	4	22988	6568
101,9	1278	1,0	9,62	B123	180L	6	23100	6600
101,8	1266	1,5	14,49	B143	160LA	4	23110	23110
95,9	1345	1,1	15,38	B123	160LA	4	23379	6680
95,8	1346	2,7	15,40	B153	160LA	4	41822	41822
94,8	1373	1,1	10,33	B123	180L	6	23356	6673
93,4	1394	2,3	10,49	B153	180L	6	42116	42116
90,4	1440	1,5	10,84	B143	180L	6	23641	23641
86,6	1489	1,6	17,04	B143	160LA	4	23893	23893
82,6	1577	1,4	11,87	B143	180L	6	24062	24062
79,5	1622	2,5	18,56	B153	160LA	4	44196	44196
79,1	1631	1,6	18,66	B143	160LA	4	24312	24312

## 15,00 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
77,5	1680	1,9	12,64	B153	180L	6	44499	44499
71,7	1797	2,4	20,56	B153	160LA	4	45545	45545
71,6	1801	1,0	20,61	B123	160LA	4	24275	6936
70,2	1835	1,4	21,00	B143	160LA	4	24832	24832
69,9	1862	1,9	14,01	B153	180L	6	45852	45852
67,7	1925	1,2	14,49	B143	180L	6	24931	24931
64,8	1990	1,6	22,77	B143	160LA	4	25171	25171
64,7	1991	1,0	22,78	B123	160LA	4	24497	6999
63,6	2046	1,8	15,40	B153	180L	6	47121	47121
61,8	2085	2,1	23,86	B153	160LA	4	47544	47544
58,6	2202	2,2	25,19	B153	160LA	4	48287	48287
57,6	2240	1,3	25,63	B143	160LA	4	25627	25627
57,5	2264	1,0	17,04	B143	180L	6	25559	25559
53,7	2399	1,4	27,44	B143	160LA	4	25870	25870
52,8	2465	1,8	18,56	B153	180L	6	49686	49686
52,5	2479	1,0	18,66	B143	180L	6	25869	25869
52,2	2468	2,3	28,23	B153	160LA	4	49873	49873
49,1	2626	1,3	30,05	B143	160LA	4	26162	26162
48,6	2653	2,2	30,35	B153	160LA	4	50894	50894
47,7	2732	1,7	20,56	B153	180L	6	51133	51133
46,7	2790	1,0	21,00	B143	180L	6	26220	26220
44,7	2885	1,2	33,01	B143	160LA	4	26424	26424
44,7	2916	2,6	21,94	B163	180L	6	80000	65000
43,9	2940	2,0	33,63	B153	160LA	4	52362	52362
43,1	2994	2,9	34,25	B163	160LA	4	80000	65000
43,0	3026	1,1	22,77	B143	180L	6	26421	26421
42,1	3061	1,9	35,02	B153	160LA	4	52944	52944
41,1	3170	1,5	23,86	B153	180L	6	53262	53262
40,5	3212	2,4	24,17	B163	180L	6	80000	65000
40,2	3205	1,1	36,67	B143	160LA	4	26662	26662
39,2	3292	2,7	37,66	B163	160LA	4	80000	65000
38,9	3347	1,5	25,19	B153	180L	6	54049	54049
38,0	3392	1,7	38,81	B153	160LA	4	54439	54439
36,9	3531	2,3	26,58	B163	180L	6	80000	65000
36,3	3553	2,6	40,65	B163	160LA	4	80000	65000
34,9	3697	1,6	42,30	B153	160LA	4	55704	55704
34,7	3751	1,5	28,23	B153	180L	6	55717	55717
34,0	3827	1,9	28,80	B163	180L	6	80000	65000
32,7	3941	2,2	45,09	B163	160LA	4	80000	65000
32,3	4032	1,4	30,35	B153	180L	6	56783	56783
31,7	4109	2,0	30,92	B163	180L	6	80000	65000
31,0	4155	1,4	47,53	B153	160LA	4	57433	57433



## 6.1 B/BA GEARED MOTORS (50Hz)

## 15,00 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
29,2	4419	1,5	50,56	B153	160LA	4	58353	58353
29,1	4469	1,3	33,63	B153	180L	6	58306	58306
28,9	4458	2,5	51,00	B163	160LA	4	80000	65000
28,6	4551	1,9	34,25	B163	180L	6	80000	65000
28,0	4653	1,2	35,02	B153	180L	6	58905	58905
27,5	4688	2,4	53,63	B163	160LA	4	80000	65000
27,0	4776	1,4	54,64	B153	160LA	4	59512	59512
26,0	5004	1,8	37,66	B163	180L	6	80000	65000
25,8	5006	1,4	57,27	B153	160LA	4	60215	60215
25,3	5156	1,1	38,81	B153	180L	6	60434	60434
25,0	5154	2,2	58,97	B163	160LA	4	80000	65000
24,2	5325	1,3	60,92	B153	160LA	4	61139	61139
24,1	5402	1,7	40,65	B163	180L	6	80000	65000
23,2	5620	1,0	42,30	B153	180L	6	61713	61713
23,2	5548	1,2	63,47	B153	160LA	4	61750	61750
21,7	5991	1,4	45,09	B163	180L	6	80000	65000
21,1	6099	1,8	69,78	B163	160LA	4	80000	65000
20,7	6219	1,1	71,15	B153	160LA	4	63449	63449
19,4	6718	1,0	50,56	B153	180L	6	64347	64347
19,2	6776	1,6	51,00	B163	180L	6	80000	65000
19,2	6706	1,7	76,72	B163	160LA	4	80000	65000
19,1	6750	1,0	77,22	B153	160LA	4	64660	64660
18,3	7126	1,6	53,63	B163	180L	6	80000	65000
16,9	7651	1,5	87,54	B163	160LA	4	80000	65000
16,6	7835	1,4	58,97	B163	180L	6	80000	65000
15,3	8413	1,3	96,25	B163	160LA	4	80000	65000
14,2	9084	1,2	103,93	B163	160LA	4	80000	65000
14,0	9271	1,2	69,78	B163	180L	6	80000	65000
12,9	9988	1,1	114,27	B163	160LA	4	80000	65000
12,8	10194	1,1	76,72	B163	180L	6	80000	65000
11,7	11038	1,0	126,29	B163	160LA	4	80000	65000

## 18,50 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
142,2	1118	1,1	10,33	B123	180M	4	20814	5947
140,1	1135	2,2	10,49	B153	180M	4	36966	36966
135,6	1172	1,4	10,84	B143	180M	4	20959	20959
123,9	1284	1,4	11,87	B143	180M	4	21354	21354
116,3	1367	2,0	12,64	B153	180M	4	39075	39075
104,9	1515	1,9	14,01	B153	180M	4	40275	40275
101,5	1567	1,2	14,49	B143	180M	4	22181	22181

## 6.1 B/BA GEARED MOTORS (50Hz)

## 18,50 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
95,5	1666	2,2	15,40	B153	180M	4	41402	41402
93,4	1719	1,9	10,49	B153	200LA	6	41639	41639
90,4	1776	1,2	10,84	B143	200LA	6	22569	22569
86,3	1843	1,3	17,04	B143	180M	4	22796	22796
82,6	1945	1,2	11,87	B143	200LA	6	22889	22889
79,2	2007	2,0	18,56	B153	180M	4	43683	43683
78,8	2018	1,3	18,66	B143	180M	4	23109	23109
77,5	2072	1,6	12,64	B153	200LA	6	43924	43924
71,5	2224	1,9	20,56	B153	180M	4	44973	44973
70,0	2271	1,1	21,00	B143	180M	4	23476	23476
69,9	2296	1,6	14,01	B153	200LA	6	45215	45215
64,6	2463	1,3	22,77	B143	180M	4	23698	23698
63,6	2524	1,4	15,40	B153	200LA	6	46421	46421
61,6	2581	1,7	23,86	B153	180M	4	46874	46874
59,8	2685	2,7	16,39	B163	200LA	6	75172	65000
58,4	2724	1,8	25,19	B153	180M	4	47578	47578
57,4	2772	1,0	25,63	B143	180M	4	23967	23967
55,3	2875	2,7	26,58	B163	180M	4	76928	65000
54,4	2952	2,5	18,02	B163	200LA	6	77244	65000
53,6	2968	1,1	27,44	B143	180M	4	24090	24090
52,8	3041	1,4	18,56	B153	200LA	6	48842	48842
52,1	3054	1,9	28,23	B153	180M	4	49073	49073
51,0	3115	2,4	28,80	B163	180M	4	78709	65000
49,1	3270	2,4	19,96	B163	200LA	6	79518	65000
48,9	3250	1,0	30,05	B143	180M	4	24210	24210
48,4	3283	1,8	30,35	B153	180M	4	50031	50031
47,7	3370	1,4	20,56	B153	200LA	6	50198	50198
47,5	3345	2,5	30,92	B163	180M	4	80000	65000
44,7	3596	2,1	21,94	B163	200LA	6	80000	65000
43,7	3638	1,6	33,63	B153	180M	4	51401	51401
42,9	3705	2,3	34,25	B163	180M	4	80000	65000
42,0	3788	1,5	35,02	B153	180M	4	51942	51942
41,1	3910	1,2	23,86	B153	200LA	6	52177	52177
40,5	3961	1,9	24,17	B163	200LA	6	80000	65000
39,0	4074	2,2	37,66	B163	180M	4	80000	65000
38,9	4128	1,2	25,19	B153	200LA	6	52903	52903
37,9	4198	1,4	38,81	B153	180M	4	53324	53324
36,9	4355	1,8	26,58	B163	200LA	6	80000	65000
36,2	4397	2,1	40,65	B163	180M	4	80000	65000
34,8	4575	1,3	42,30	B153	180M	4	54484	54484
34,7	4626	1,2	28,23	B153	200LA	6	54433	54433
34,0	4720	1,6	28,80	B163	200LA	6	80000	65000

## 6.1 B/BA GEARED MOTORS (50Hz)

## 18,50 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
32,6	4877	1,8	45,09	B163	180M	4	80000	65000
32,3	4973	1,2	30,35	B153	200LA	6	55403	55403
31,7	5068	1,6	30,92	B163	200LA	6	80000	65000
30,9	5142	1,1	47,53	B153	180M	4	56057	56057
29,1	5512	1,0	33,63	B153	200LA	6	56776	56776
29,1	5469	1,2	50,56	B153	180M	4	56886	56886
28,8	5517	2,0	51,00	B163	180M	4	80000	65000
28,6	5613	1,5	34,25	B163	200LA	6	80000	65000
28,0	5738	1,0	35,02	B153	200LA	6	57313	57313
27,4	5801	1,9	53,63	B163	180M	4	80000	65000
26,9	5910	1,2	54,64	B153	180M	4	57922	57922
26,0	6172	1,4	37,66	B163	200LA	6	80000	65000
25,7	6195	1,1	57,27	B153	180M	4	58546	58546
24,9	6378	1,7	58,97	B163	180M	4	80000	65000
24,1	6590	1,0	60,92	B153	180M	4	59360	59360
24,1	6662	1,4	40,65	B163	200LA	6	80000	65000
21,7	7389	1,2	45,09	B163	200LA	6	80000	65000
21,1	7547	1,5	69,78	B163	180M	4	80000	65000
19,2	8358	1,3	51,00	B163	200LA	6	80000	65000
19,2	8298	1,3	76,72	B163	180M	4	80000	65000
18,3	8788	1,3	53,63	B163	200LA	6	80000	65000
16,8	9469	1,2	87,54	B163	180M	4	80000	65000
16,6	9663	1,1	58,97	B163	200LA	6	80000	65000
15,3	10411	1,1	96,25	B163	180M	4	80000	65000

## 22,00 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
140,1	1350	1,8	10,49	B153	180L	4	36651	36651
135,6	1394	1,2	10,84	B143	180L	4	20251	20251
123,9	1527	1,1	11,87	B143	180L	4	20579	20579
116,3	1626	1,7	12,64	B153	180L	4	38696	38696
104,9	1802	1,6	14,01	B153	180L	4	39855	39855
101,5	1863	1,0	14,49	B143	180L	4	21235	21235
95,5	1981	1,8	15,40	B153	180L	4	40939	40939
93,4	2045	1,6	10,49	B153	200LB	6	41162	41162
90,4	2112	1,0	10,84	B143	200LB	6	21497	21497
86,3	2192	1,1	17,04	B143	180L	4	21684	21684
82,6	2313	2,4	11,87	B163	200LB	6	67760	65000
79,2	2387	1,7	18,56	B153	180L	4	43126	43126
78,8	2400	1,1	18,66	B143	180L	4	21891	21891
77,5	2464	1,3	12,64	B153	200LB	6	43349	43349

## 22,00 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
76,5	2496	2,5	12,81	B163	200LB	6	69268	65000
71,5	2645	1,6	20,56	B153	180L	4	44355	44355
69,9	2730	1,3	14,01	B153	200LB	6	44578	44578
69,6	2745	2,4	14,08	B163	200LB	6	71175	65000
67,0	2823	2,1	21,94	B163	180L	4	71998	65000
64,6	2929	1,1	22,77	B143	180L	4	22211	22211
63,6	3001	1,2	15,40	B153	200LB	6	45720	45720
63,1	3025	2,4	15,52	B163	200LB	6	73163	65000
61,6	3069	1,5	23,86	B153	180L	4	46158	46158
60,8	3109	2,4	24,17	B163	180L	4	73993	65000
59,8	3193	2,2	16,39	B163	200LB	6	74284	65000
58,4	3240	1,5	25,19	B153	180L	4	46821	46821
55,3	3419	2,2	26,58	B163	180L	4	75978	65000
54,4	3511	2,1	18,02	B163	200LB	6	76268	65000
52,8	3616	1,2	18,56	B153	200LB	6	47998	47998
52,1	3631	1,6	28,23	B153	180L	4	48226	48226
51,0	3705	2,0	28,80	B163	180L	4	77679	65000
49,1	3889	2,0	19,96	B163	200LB	6	78437	65000
48,4	3904	1,5	30,35	B153	180L	4	49120	49120
47,7	4007	1,2	20,56	B153	200LB	6	49263	49263
47,5	3978	2,1	30,92	B163	180L	4	79200	65000
44,7	4276	1,8	21,94	B163	200LB	6	80000	65000
43,7	4326	1,3	33,63	B153	180L	4	50392	50392
42,9	4406	2,0	34,25	B163	180L	4	80000	65000
42,0	4504	1,3	35,02	B153	180L	4	50891	50891
41,1	4649	1,0	23,86	B153	200LB	6	51092	51092
40,5	4711	1,6	24,17	B163	200LB	6	80000	65000
39,0	4845	1,8	37,66	B163	180L	4	80000	65000
38,9	4908	1,0	25,19	B153	200LB	6	51758	51758
37,9	4992	1,2	38,81	B153	180L	4	52159	52159
36,9	5179	1,5	26,58	B163	200LB	6	80000	65000
36,2	5229	1,8	40,65	B163	180L	4	80000	65000
34,8	5441	1,1	42,30	B153	180L	4	53215	53215
34,7	5502	1,1	28,23	B153	200LB	6	53149	53149
34,0	5612	1,3	28,80	B163	200LB	6	80000	65000
32,6	5800	1,5	45,09	B163	180L	4	80000	65000
31,7	6026	1,4	30,92	B163	200LB	6	80000	65000
29,1	6504	1,1	50,56	B153	180L	4	55368	55368
28,8	6560	1,7	51,00	B163	180L	4	80000	65000
28,6	6675	1,3	34,25	B163	200LB	6	80000	65000
27,4	6898	1,6	53,63	B163	180L	4	80000	65000
26,0	7339	1,2	37,66	B163	200LB	6	80000	65000

## 22,00 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
24,9	7585	1,5	58,97	B163	180L	4	80000	65000
24,1	7922	1,2	40,65	B163	200LB	6	80000	65000
21,1	8975	1,2	69,78	B163	180L	4	80000	65000
19,2	9939	1,1	51,00	B163	200LB	6	80000	65000
19,2	9868	1,1	76,72	B163	180L	4	80000	65000
18,3	10451	1,1	53,63	B163	200LB	6	80000	65000

## 30,00 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Motor Size	Pole	Fr2 D-S-P [N]	Fr2 C [N]
140,6	1834	1,3	10,49	B153	200L	4	35897	35897
124,3	2075	2,1	11,87	B163	200L	4	59114	59114
116,7	2210	1,2	12,64	B153	200L	4	37793	37793
115,2	2239	1,8	12,81	B163	200L	4	60424	60424
105,3	2449	1,2	14,01	B153	200L	4	38858	38858
104,7	2462	1,8	14,08	B163	200L	4	62080	62080
95,8	2692	1,3	15,40	B153	200L	4	39847	39847
95,0	2713	1,8	15,52	B163	200L	4	63806	63806
90,0	2864	2,0	16,39	B163	200L	4	64778	64778
81,9	3149	1,9	18,02	B163	200L	4	66499	65000
79,5	3244	1,3	18,56	B153	200L	4	41817	41817
73,9	3489	1,9	19,96	B163	200L	4	68378	65000
71,7	3595	1,2	20,56	B153	200L	4	42908	42908
67,2	3836	1,5	21,94	B163	200L	4	70141	65000
61,8	4171	1,1	23,86	B153	200L	4	44485	44485
61,0	4226	1,7	24,17	B163	200L	4	71953	65000
58,6	4403	1,1	25,19	B153	200L	4	45057	45057
55,5	4646	1,6	26,58	B163	200L	4	73741	65000
52,2	4935	1,2	28,23	B153	200L	4	46253	46253
51,2	5035	1,5	28,80	B163	200L	4	75261	65000
48,6	5305	1,1	30,35	B153	200L	4	47002	47002
47,7	5406	1,5	30,92	B163	200L	4	76609	65000
43,1	5988	1,4	34,25	B163	200L	4	78546	65000
39,2	6584	1,4	37,66	B163	200L	4	80000	65000
36,3	7107	1,3	40,65	B163	200L	4	80000	65000
32,7	7883	1,1	45,09	B163	200L	4	80000	65000
28,9	8915	1,2	51,00	B163	200L	4	80000	65000
27,5	9375	1,2	53,63	B163	200L	4	80000	65000
25,0	10308	1,1	58,97	B163	200L	4	80000	65000

## 37,00 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
167,0	1904	1,3	8,89	B163	225S	4	53581	53581
141,5	2247	1,1	10,49	B153	225S	4	35205	35205
140,4	2265	1,3	10,58	B163	225S	4	56303	56303
125,1	2542	1,7	11,87	B163	225S	4	58158	58158
115,9	2743	1,5	12,81	B163	225S	4	59400	59400
105,4	3016	1,4	14,08	B163	225S	4	60964	60964
96,4	3298	1,1	15,40	B153	225S	4	38861	38861
95,7	3324	1,5	15,52	B163	225S	4	62586	62586
90,6	3509	1,6	16,39	B163	225S	4	63497	63497
82,4	3858	1,5	18,02	B163	225S	4	65101	65000
80,0	3974	1,0	18,56	B153	225S	4	40642	40642
74,4	4274	1,5	19,96	B163	225S	4	66841	65000
67,7	4699	1,2	21,94	B163	225S	4	68462	65000
61,4	5177	1,4	24,17	B163	225S	4	70115	65000
55,9	5692	1,3	26,58	B163	225S	4	71732	65000
51,6	6168	1,2	28,80	B163	225S	4	73094	65000
48,0	6622	1,3	30,92	B163	225S	4	74292	65000
43,4	7335	1,2	34,25	B163	225S	4	75993	65000
39,4	8065	1,1	37,66	B163	225S	4	77542	65000
36,5	8706	1,1	40,65	B163	225S	4	78763	65000
29,1	10922	1,0	51,00	B163	225S	4	80000	65000

## 45,00 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
167,0	2316	1,1	8,89	B163	225M	4	52862	52862
140,4	2754	1,0	10,58	B163	225M	4	55447	55447
125,1	3091	1,4	11,87	B163	225M	4	57198	57198
115,9	3336	1,2	12,81	B163	225M	4	58364	58364
105,4	3668	1,2	14,08	B163	225M	4	59825	59825
95,7	4043	1,2	15,52	B163	225M	4	61331	61331
90,6	4268	1,3	16,39	B163	225M	4	62171	62171
82,4	4692	1,3	18,02	B163	225M	4	63643	63643
74,4	5198	1,3	19,96	B163	225M	4	65226	65000
67,7	5715	1,0	21,94	B163	225M	4	66687	65000
61,4	6296	1,2	24,17	B163	225M	4	68160	65000
55,9	6922	1,1	26,58	B163	225M	4	69582	65000
48,0	8054	1,0	30,92	B163	225M	4	71790	65000

## 6.1 B/BA GEARED MOTORS (50Hz)

## 55,00 kW

n2 [rpm]	M2 [Nm]	fs	i	Gear reducer	Size	Motor Pole	Fr2 D-S-P [N]	Fr2 C [N]
125,1	3778	1,1	11,87	B163	250M	4	55998	55998
95,7	4941	1,0	15,52	B163	250M	4	59761	59761
90,6	5216	1,1	16,39	B163	250M	4	60514	60514
82,4	5735	1,0	18,02	B163	250M	4	61821	61821
74,4	6353	1,0	19,96	B163	250M	4	63208	63208

## IBA42

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
77	7,62	1,95	229,8	373	-	1684
77	10,62	1,40	164,7	355	-	1882
77	12,95	1,15	135,2	406	-	2010
77	14,46	1,03	121,0	443	-	2085
102	16,47	1,19	106,2	579	-	2178
103	22,97	0,86	76,2	355	-	2433
102	28,00	0,70	62,5	406	-	2599
102	31,27	0,63	56,0	443	-	2697
103	33,78	0,59	51,8	458	-	2767
102	47,12	0,42	37,1	355	-	3092
102	57,43	0,34	30,5	406	-	3303
92	64,13	0,28	27,3	406	-	3426
95	78,17	0,23	22,4	406	-	3660

## IBA52

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
137	7,91	3,34	221,2	373	-	1828
137	9,46	2,79	185,0	414	-	1940
136	11,57	2,27	151,2	405	-	2075
137	14,63	1,81	119,7	392	-	2243
171	17,11	1,93	102,3	529	-	2363
171	20,46	1,61	85,5	414	-	2508
170	25,03	1,31	69,9	405	-	2683
172	31,63	1,05	55,3	392	-	2900
171	35,10	0,94	49,9	446	-	3003
172	41,97	0,79	41,7	414	-	3187
188	51,34	0,71	34,1	445	-	3409
172	64,87	0,51	27,0	356	-	3685
171	79,07	0,42	22,1	406	-	3936

## IBA53

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
189	73,70	0,52	23,7	472	-	3845
186	93,33	0,41	18,8	472	-	4000
187	111,61	0,34	15,7	472	-	4000
186	136,53	0,28	12,8	472	-	4000
190	172,53	0,22	10,1	472	-	4000
186	197,11	0,19	8,9	472	-	4000
183	249,08	0,15	7,0	472	-	4000



## IBA53

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
185	271,16	0,14	6,5	472	-	4000
180	342,65	0,11	5,1	472	-	4000

## IBA72

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
298	8,36	6,88	209,4	664	4715	2357
298	10,06	5,71	174,0	685	5016	2508
298	12,44	4,62	140,6	667	5384	2692
358	14,91	4,63	117,4	826	5718	2859
358	17,94	3,85	97,5	685	6083	3041
358	22,19	3,11	78,8	667	6529	3265
358	27,45	2,52	63,8	667	7009	3504
358	33,04	2,09	53,0	685	7456	3728
340	40,87	1,60	42,8	635	8003	4002
298	45,64	1,26	38,3	646	8303	4152
298	54,94	1,05	31,9	685	8833	4416
296	67,96	0,84	25,8	667	9481	4741

## IBA73

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
384	43,89	1,78	39,9	330	8196	4098
384	52,83	1,48	33,1	411	8718	4359
382	65,35	1,19	26,8	400	9358	4679
384	80,83	0,97	21,6	400	10000	5023
382	97,29	0,80	18,0	411	10000	5343
384	120,34	0,65	14,5	400	10000	5500
384	149,73	0,52	11,7	398	10000	5500
386	180,23	0,44	9,7	411	10000	5500
384	222,93	0,35	7,8	400	10000	5500
382	260,20	0,30	6,7	424	10000	5500
388	321,85	0,25	5,4	400	10000	5500
374	357,95	0,21	4,9	445	10000	5500
394	442,76	0,18	4,0	400	10000	5500

## IB063

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
191	5,71	6,80	306,2	367	6520	1863

## IB063

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
243	6,88	7,20	254,4	388	6797	1942
252	7,32	7,01	239,0	415	6927	1979
256	9,16	5,70	191,0	375	7105	2030
277	10,26	5,50	170,5	368	7197	2056
325	11,03	6,00	158,7	395	7337	2096
334	12,35	5,50	141,7	428	7536	2153
362	13,15	5,60	133,1	462	7702	2200
426	15,18	5,72	115,3	559	8195	2341
432	17,00	5,17	102,9	618	8562	2446
432	22,39	3,93	78,2	756	9618	2748
432	26,09	3,37	67,1	817	10248	2928
432	28,03	3,14	62,4	843	10554	3016
432	33,43	2,63	52,3	899	11338	3240
432	38,58	2,28	45,4	938	12000	3431
432	43,22	2,04	40,5	965	12000	3590
510	50,81	2,04	34,4	999	12000	3827
510	56,93	1,82	30,7	1020	12000	4001
510	69,16	1,50	25,3	1050	12000	4315
510	77,48	1,34	22,6	1065	12000	4508
510	90,33	1,15	19,4	1083	12000	4779
510	101,20	1,03	17,3	1095	12000	4990
510	111,74	0,93	15,7	1104	12000	5180
510	124,20	0,84	14,1	1113	12000	5390
510	139,15	0,75	12,6	1121	12000	5623
510	157,42	0,66	11,1	1129	12000	5887

## IB083

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
330	7,81	8,60	224,1	1764	11107	3173
347	8,62	8,20	202,9	1657	11159	3188
468	10,49	9,08	166,8	1804	11869	3391
489	11,59	8,60	151,0	1750	11965	3419
524	14,43	7,40	121,3	1916	12849	3671
610	16,60	7,48	105,5	2011	13450	3843
610	18,32	6,78	95,5	2104	14004	4001
610	22,82	5,44	76,7	2281	15298	4371
610	26,71	4,65	65,5	2386	16288	4654
610	29,50	4,21	59,3	2444	16936	4839
610	31,80	3,91	55,0	2484	17443	4984
610	34,49	3,60	50,7	2500	18000	5144
610	39,60	3,14	44,2	2500	18000	5427

## IB083

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
610	42,95	2,89	40,7	2500	18000	5600
610	45,44	2,73	38,5	2500	18000	5722
725	51,19	2,88	34,2	2500	18000	5989
725	55,52	2,66	31,5	2500	18000	6177
725	59,96	2,46	29,2	2500	18000	6359
725	63,74	2,32	27,4	2500	18000	6507
725	69,14	2,13	25,3	2500	18000	6710
725	73,14	2,02	23,9	2500	18000	6853
725	80,76	1,83	21,7	2500	18000	7111
725	92,19	1,60	19,0	2500	18000	7470
725	100,57	1,47	17,4	2500	18000	7714
725	105,29	1,40	16,6	2500	18000	7846
725	116,25	1,27	15,1	2500	18000	8137
725	126,76	1,16	13,8	2500	18000	8400
725	144,77	1,02	12,1	2500	18000	8818

## IB103

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
1001	17,27	11,80	101,3	1508	16670	4763
1010	19,06	10,79	91,8	1646	17345	4956
1010	23,70	8,68	73,8	1907	18922	5406
1080	26,51	8,29	66,0	1953	19508	5574
1155	30,55	7,70	57,3	2029	20367	5819
1225	33,07	7,54	52,9	2047	20749	5928
1225	35,87	6,95	48,8	2120	21439	6125
1225	41,12	6,07	42,5	2230	22000	6469
1225	44,61	5,59	39,2	2288	22000	6680
1225	47,28	5,27	37,0	2327	22000	6835
1450	50,24	5,88	34,8	2366	22000	7000
1450	53,02	5,57	33,0	2398	22000	7149
1450	58,50	5,05	29,9	2453	22000	7429
1450	64,89	4,55	27,0	2505	22000	7732
1450	68,58	4,31	25,5	2530	22000	7899
1450	72,76	4,06	24,1	2556	22000	8081
1450	78,92	3,74	22,2	2589	22000	8336
1535	83,66	3,74	20,9	2590	22000	8446
1535	92,31	3,39	19,0	2626	22000	8771
1535	105,44	2,96	16,6	2671	22000	9227
1535	114,80	2,72	15,2	2696	22000	9529
1535	120,42	2,60	14,5	2709	22000	9703
1535	132,87	2,35	13,2	2735	22000	10069

## IB103

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
1535	144,69	2,16	12,1	2755	22000	10396
1535	165,25	1,89	10,6	2783	22000	10924

## IB123

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
696	7,97	17,80	219,7	2647	16004	4572
784	9,62	16,60	181,9	2656	16152	4615
1010	10,33	19,90	169,3	2610	15860	4531
1097	12,48	17,90	140,2	2849	17434	4981
1163	13,84	17,10	126,4	2910	17910	5117
1511	15,38	20,00	113,8	3019	18865	5390
1590	18,58	17,43	94,2	3150	20227	5779
1751	20,61	17,30	84,9	3129	19967	5705
1824	22,78	16,30	76,8	3117	19706	5630
2020	25,89	15,89	67,6	3223	21077	6022
2020	27,51	14,95	63,6	3269	21748	6214
2020	30,79	13,36	56,8	3347	23031	6580
2020	31,26	13,16	56,0	3357	23207	6631
2020	34,68	11,86	50,5	3421	24438	6982
2020	40,53	10,15	43,2	3504	26365	7533
2165	44,89	9,82	39,0	3521	26820	7663
2310	49,80	9,44	35,1	3539	27343	7812
2730	54,30	10,24	32,2	3577	28534	8153
2730	59,36	9,36	29,5	3613	29797	8514
2820	62,59	9,17	28,0	3622	30000	8610
2815	69,43	8,25	25,2	3659	30000	9052
2990	74,42	8,18	23,5	3663	30000	9109
2990	80,04	7,61	21,9	3687	30000	9436
2990	89,87	6,77	19,5	3721	30000	9971
2990	99,70	6,11	17,6	3749	30000	10470
2990	106,65	5,71	16,4	3765	30000	10802
2990	119,60	5,09	14,6	3791	30000	11385
2990	129,96	4,68	13,5	3808	30000	11822
2990	144,43	4,22	12,1	3827	30000	12394
2990	160,23	3,80	10,9	3844	30000	12976
2990	180,40	3,37	9,7	3862	30000	13667

## IB143

$Mn_2$ [Nm]	i	$Pn_1$ [kW]	n2 [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
1411	10,84	26,50	161,4	2401	14322	14322
1457	11,87	25,00	147,5	2491	14730	14730
1579	14,49	22,20	120,8	2764	16364	16364
2276	17,04	27,20	102,7	2916	17477	17477
2346	18,66	25,60	93,8	2886	17100	17100
2186	21,00	21,20	83,3	2900	17009	17009
2628	22,77	23,50	76,8	2885	16597	16597
2429	25,63	19,30	68,3	2964	17182	17182
3325	27,44	24,67	63,8	3033	17889	17889
3395	30,05	23,01	58,2	3098	18551	18551
3395	33,01	20,94	53,0	3179	19580	19580
3470	36,67	19,27	47,7	3245	20470	20470
3470	40,29	17,54	43,4	3313	21570	21570
3470	44,16	16,00	39,6	3374	22675	22675
3615	48,35	15,22	36,2	3404	23201	23201
4270	53,16	16,36	32,9	3458	24414	24414
4270	54,63	15,92	32,0	3473	24770	24770
4270	59,02	14,73	29,6	3512	25798	25798
4270	64,88	13,40	27,0	3557	27093	27093
4270	70,43	12,34	24,9	3592	28249	28249
4270	77,12	11,27	22,7	3627	29562	29562
4270	85,54	10,16	20,5	3664	31114	31114
4270	94,13	9,24	18,6	3695	32591	32591
4270	105,83	8,22	16,5	3729	34468	34468
4270	111,94	7,77	15,6	3744	35392	35392
4270	124,62	6,98	14,0	3770	37208	37208
4270	136,44	6,37	12,8	3790	38793	38793
4270	149,59	5,81	11,7	3809	40000	40000
4270	166,53	5,22	10,5	3829	40000	40000
4270	187,24	4,64	9,3	3848	40000	40000

## IB153

$Mn_2$ [Nm]	i	$Pn_1$ [kW]	n2 [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
2072	10,49	40,20	166,8	7203	30265	30265
2272	12,64	36,60	138,4	7657	32579	32579
2395	14,01	34,80	124,9	7651	33227	33227
3177	15,40	42,00	113,6	7852	34499	34499
3454	18,56	37,90	94,3	7860	35747	35747
3606	20,56	35,70	85,1	7905	36575	36575
3738	23,86	31,90	73,3	8125	38588	38588
4886	25,19	39,50	69,5	8193	39314	39314

## IB153

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
4811	28,23	34,70	62,0	8109	39527	39527
5351	30,35	35,90	57,7	8232	40748	40748
5650	33,63	34,20	52,0	8393	42534	42534
5572	35,02	32,40	50,0	8451	43252	43252
5785	38,81	30,35	45,1	8590	45125	45125
5785	42,30	27,85	41,4	8696	46743	46743
5780	47,53	24,76	36,8	8826	49012	49012
6835	50,56	27,52	34,6	8889	50248	50248
6835	54,64	25,47	32,0	8963	51837	51837
6835	57,27	24,30	30,6	9005	52821	52821
6835	60,92	22,84	28,7	9057	54136	54136
6835	63,47	21,93	27,6	9090	55024	55024
6835	71,15	19,56	24,6	9174	57559	57559
6835	77,22	18,02	22,7	9229	59440	59440
6835	83,89	16,59	20,9	9281	61391	61391
6835	87,65	15,88	20,0	9306	62448	62448
6835	93,05	14,96	18,8	9339	63911	63911
6835	103,12	13,50	17,0	9392	65000	65000
6835	123,88	11,23	14,1	9473	65000	65000
6835	134,27	10,36	13,0	9504	65000	65000
6835	149,26	9,32	11,7	9541	65000	65000
6835	165,42	8,41	10,6	9574	65000	65000

## IB163

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
2114	8,89	48,40	196,8	7268	42738	42738
2441	10,58	47,00	165,5	7338	44107	44107
3626	11,87	62,20	147,4	7730	46651	46651
3460	12,81	55,00	136,6	7578	46354	46354
3680	14,08	53,20	124,3	7599	46974	46974
4208	15,52	55,20	112,8	7748	48363	48363
4780	16,39	59,40	106,8	7908	49696	49696
4982	18,02	56,30	97,1	8015	50972	50972
5587	19,96	57,00	87,7	8179	52815	52815
4915	21,94	45,60	79,8	8428	55548	55548
6173	24,17	52,00	72,4	8585	57740	57740
6423	26,58	49,20	65,8	8652	59139	59139
7375	28,80	52,14	60,8	8905	62694	62694
7822	30,92	51,50	56,6	8835	62446	62446
8600	34,25	51,12	51,1	8932	64581	64581
8890	37,66	48,06	46,5	9015	66599	65000

## IB163

$Mn_2$ [Nm]	i	$Pn_1$ [kW]	n2 [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
9180	40,65	45,98	43,0	9072	68159	65000
8675	45,09	39,17	38,8	9256	72405	65000
11110	51,00	44,35	34,3	9301	74583	65000
11110	53,63	42,18	32,6	9351	76188	65000
11110	58,97	38,36	29,7	9439	79289	65000
11110	69,78	32,42	25,1	9575	80000	65000
11110	76,72	29,49	22,8	9642	80000	65000
11110	87,54	25,84	20,0	9726	80000	65000
11110	96,25	23,50	18,2	9779	80000	65000
11110	103,93	21,77	16,8	9819	80000	65000
11110	114,27	19,80	15,3	9864	80000	65000
11110	126,29	17,91	13,9	9907	80000	65000
11110	138,85	16,29	12,6	9944	80000	65000
11110	154,83	14,61	11,3	9983	80000	65000

## IBA42

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
77	7,62	1,56	183,8	373	-	1814
77	10,62	1,12	131,8	355	-	2027
77	12,95	0,92	108,1	406	-	2165
77	14,46	0,82	96,8	443	-	2246
102	16,47	0,96	85,0	579	-	2346
103	22,97	0,69	60,9	355	-	2621
102	28,00	0,56	50,0	406	-	2800
102	31,27	0,50	44,8	443	-	2905
103	33,78	0,47	41,4	458	-	2981
102	47,12	0,33	29,7	355	-	3331
102	57,43	0,27	24,4	406	-	3558
92	64,13	0,22	21,8	406	-	3691
95	78,17	0,19	17,9	406	-	3943

## IBA52

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
137	7,91	2,67	176,9	373	-	1969
137	9,46	2,23	148,0	414	-	2090
136	11,57	1,81	121,0	405	-	2235
137	14,63	1,45	95,7	392	-	2416
171	17,11	1,54	81,8	529	-	2546
171	20,46	1,29	68,4	414	-	2702
170	25,03	1,05	55,9	405	-	2890
172	31,63	0,84	44,3	392	-	3124
171	35,10	0,75	39,9	446	-	3235
172	41,97	0,63	33,4	414	-	3433
188	51,34	0,57	27,3	445	-	3672
172	64,87	0,41	21,6	356	-	3970
171	79,07	0,33	17,7	406	-	4000

## IBA53

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
189	73,70	0,42	19,0	472	-	4000
186	93,33	0,32	15,0	472	-	4000
187	111,61	0,27	12,5	472	-	4000
186	136,53	0,22	10,2	472	-	4000
190	172,53	0,18	8,1	472	-	4000
186	197,11	0,15	7,1	472	-	4000
183	249,08	0,12	5,6	472	-	4000



## IBA53

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
185	271,16	0,11	5,2	472	-	4000
180	342,65	0,09	4,1	472	-	4000

## IBA72

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
298	8,36	5,50	167,5	664	5079	2540
298	10,06	4,57	139,2	685	5403	2701
298	12,44	3,70	112,5	667	5800	2900
358	14,91	3,71	93,9	826	6160	3080
358	17,94	3,08	78,0	685	6552	3276
358	22,19	2,49	63,1	667	7033	3517
358	27,45	2,01	51,0	667	7550	3775
358	33,04	1,67	42,4	685	8031	4016
340	40,87	1,28	34,2	635	8621	4311
298	45,64	1,01	30,7	646	8944	4472
298	54,94	0,84	25,5	685	9515	4757
296	67,96	0,67	20,6	667	10000	5107

## IBA73

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
384	43,89	1,43	31,9	330	8828	4414
384	52,83	1,18	26,5	411	9391	4696
382	65,35	0,95	21,4	400	10000	5041
384	80,83	0,77	17,3	400	10000	5411
382	97,29	0,64	14,4	411	10000	5500
384	120,34	0,52	11,6	400	10000	5500
384	149,73	0,42	9,3	398	10000	5500
386	180,23	0,35	7,8	411	10000	5500
384	222,93	0,28	6,3	400	10000	5500
382	260,20	0,24	5,4	424	10000	5500
388	321,85	0,20	4,3	400	10000	5500
374	357,95	0,17	3,9	445	10000	5500
394	442,76	0,14	3,2	400	10000	5500

## IB063

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
208	5,71	5,93	245,0	314	7034	2010

## IB063

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
244	6,88	5,78	203,5	337	7335	2096
252	7,32	5,61	191,2	365	7475	2136
321	9,16	5,70	152,8	323	7673	2192
347	10,26	5,50	136,4	315	7774	2221
390	11,03	5,76	127,0	345	7927	2265
417	12,35	5,50	113,3	380	8142	2326
426	13,15	5,28	106,5	416	8322	2378
426	15,18	4,57	92,3	519	8853	2529
432	17,00	4,14	82,3	581	9248	2642
432	22,39	3,14	62,5	728	10385	2967
432	26,09	2,70	53,7	794	11063	3161
432	28,03	2,51	49,9	821	11393	3255
432	33,43	2,10	41,9	881	12000	3496
432	38,58	1,82	36,3	922	12000	3703
432	43,22	1,63	32,4	951	12000	3874
510	50,81	1,63	27,6	987	12000	4129
510	56,93	1,46	24,6	1009	12000	4316
510	69,16	1,20	20,2	1041	12000	4654
510	77,48	1,07	18,1	1057	12000	4861
510	90,33	0,92	15,5	1076	12000	5154
510	101,20	0,82	13,8	1089	12000	5380
510	111,74	0,74	12,5	1098	12000	5585
510	124,20	0,67	11,3	1108	12000	5811
510	139,15	0,60	10,1	1116	12000	6062
510	157,42	0,53	8,9	1125	12000	6346

## IB083

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
360	7,81	7,51	179,3	1685	11980	3423
432	8,62	8,16	162,4	1571	12040	3440
468	10,49	7,26	133,4	1728	12807	3659
540	11,59	7,59	120,8	1671	12915	3690
585	14,43	6,60	97,0	1847	13870	3963
610	16,60	5,99	84,4	1948	14518	4148
610	18,32	5,42	76,4	2047	15115	4319
610	22,82	4,35	61,4	2235	16508	4717
610	26,71	3,72	52,4	2346	17573	5021
610	29,50	3,37	47,5	2408	18000	5220
610	31,80	3,12	44,0	2451	18000	5376
610	34,49	2,88	40,6	2494	18000	5549
610	39,60	2,51	35,4	2500	18000	5853

## IB083

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
610	42,95	2,31	32,6	2500	18000	6039
610	45,44	2,19	30,8	2500	18000	6171
725	51,19	2,31	27,4	2500	18000	6458
725	55,52	2,13	25,2	2500	18000	6660
725	59,96	1,97	23,4	2500	18000	6856
725	63,74	1,85	22,0	2500	18000	7016
725	69,14	1,71	20,2	2500	18000	7234
725	73,14	1,61	19,1	2500	18000	7388
725	80,76	1,46	17,3	2500	18000	7666
725	92,19	1,28	15,2	2500	18000	8052
725	100,57	1,17	13,9	2500	18000	8315
725	105,29	1,12	13,3	2500	18000	8457
725	116,25	1,02	12,0	2500	18000	8771
725	126,76	0,93	11,0	2500	18000	9053
725	144,77	0,82	9,7	2500	18000	9503

## IB103

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
1010	17,27	9,53	81,1	1414	17992	5141
1010	19,06	8,63	73,5	1561	18718	5348
1010	23,70	6,94	59,1	1839	20415	5833
1080	26,51	6,64	52,8	1887	21050	6014
1155	30,55	6,16	45,8	1969	21978	6279
1225	33,07	6,03	42,3	1987	22000	6398
1225	35,87	5,56	39,0	2065	22000	6610
1225	41,12	4,85	34,0	2182	22000	6979
1225	44,61	4,47	31,4	2244	22000	7207
1225	47,28	4,22	29,6	2286	22000	7374
1450	50,24	4,70	27,9	2327	22000	7552
1450	53,02	4,45	26,4	2361	22000	7712
1450	58,50	4,04	23,9	2419	22000	8013
1450	64,89	3,64	21,6	2474	22000	8340
1450	68,58	3,44	20,4	2502	22000	8519
1450	72,76	3,25	19,2	2529	22000	8715
1450	78,92	2,99	17,7	2564	22000	8990
1535	83,66	2,99	16,7	2565	22000	9109
1535	92,31	2,71	15,2	2604	22000	9459
1535	105,44	2,37	13,3	2651	22000	9950
1535	114,80	2,18	12,2	2678	22000	10275
1535	120,42	2,08	11,6	2692	22000	10462
1535	132,87	1,88	10,5	2719	22000	10856

## IB103

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
1535	144,69	1,73	9,7	2740	22000	11208
1535	165,25	1,51	8,5	2770	22000	11776

## IB123

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
871	7,97	17,80	175,8	2561	17308	4945
980	9,62	16,60	145,5	2570	17484	4995
1263	10,33	19,90	135,5	2521	17181	4909
1371	12,48	17,90	112,2	2775	18875	5393
1453	13,84	17,10	101,1	2841	19393	5541
1515	15,38	16,04	91,0	2957	20420	5834
1590	18,58	13,94	75,4	3095	21892	6255
1805	20,61	14,27	67,9	3073	21629	6180
2020	22,78	14,44	61,5	3061	21364	6104
2020	25,89	12,71	54,1	3174	22840	6526
2020	27,51	11,96	50,9	3223	23562	6732
2020	30,79	10,69	45,5	3306	24944	7127
2020	31,26	10,52	44,8	3316	25133	7181
2020	34,68	9,49	40,4	3384	26458	7559
2020	40,53	8,12	34,5	3473	28532	8152
2165	44,89	7,86	31,2	3490	29033	8295
2310	49,80	7,56	28,1	3510	29606	8459
2730	54,30	8,19	25,8	3550	30000	8825
2730	59,36	7,49	23,6	3589	30000	9214
2820	62,59	7,34	22,4	3598	30000	9319
2815	69,43	6,60	20,2	3638	30000	9795
2990	74,42	6,54	18,8	3641	30000	9859
2990	80,04	6,08	17,5	3667	30000	10211
2990	89,87	5,42	15,6	3703	30000	10788
2990	99,70	4,89	14,0	3733	30000	11324
2990	106,65	4,57	13,1	3750	30000	11682
2990	119,60	4,07	11,7	3777	30000	12309
2990	129,96	3,75	10,8	3795	30000	12780
2990	144,43	3,37	9,7	3816	30000	13395
2990	160,23	3,04	8,7	3834	30000	14022
2990	180,40	2,70	7,8	3853	30000	14766

## IB143

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
1763	10,84	26,50	129,2	2299	15530	15530
1821	11,87	25,00	118,0	2395	15973	15973
1974	14,49	22,20	96,7	2685	17731	17731
2310	17,04	22,08	82,2	2847	18933	18933
2600	18,66	22,70	75,0	2815	18542	18542
2733	21,00	21,20	66,7	2830	18460	18460
3180	22,77	22,75	61,5	2813	18031	18031
3036	25,63	19,30	54,6	2898	18668	18668
3325	27,44	19,74	51,0	2971	19429	19429
3395	30,05	18,41	46,6	3040	20146	20146
3395	33,01	16,75	42,4	3126	21254	21254
3470	36,67	15,41	38,2	3197	22216	22216
3470	40,29	14,03	34,8	3269	23399	23399
3470	44,16	12,80	31,7	3334	24589	24589
3615	48,35	12,18	28,9	3366	25162	25162
4270	53,16	13,08	26,3	3424	26469	26469
4270	54,63	12,73	25,6	3439	26852	26852
4270	59,02	11,79	23,7	3481	27958	27958
4270	64,88	10,72	21,6	3528	29352	29352
4270	70,43	9,87	19,9	3566	30597	30597
4270	77,12	9,02	18,1	3603	32010	32010
4270	85,54	8,13	16,4	3643	33680	33680
4270	94,13	7,39	14,9	3675	35271	35271
4270	105,83	6,57	13,2	3712	37290	37290
4270	111,94	6,21	12,5	3728	38286	38286
4270	124,62	5,58	11,2	3755	40000	40000
4270	136,44	5,10	10,3	3777	40000	40000
4270	149,59	4,65	9,4	3797	40000	40000
4270	166,53	4,18	8,4	3818	40000	40000
4270	187,24	3,71	7,5	3838	40000	40000

## IB153

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
2590	10,49	40,20	133,4	7032	32656	32656
2841	12,64	36,60	110,7	7516	35147	35147
2993	14,01	34,80	99,9	7509	35853	35853
3615	15,40	38,24	90,9	7723	37222	37222
4317	18,56	37,90	75,5	7732	38582	38582
4507	20,56	35,70	68,1	7780	39483	39483
4672	23,86	31,90	58,7	8014	41653	41653
4915	25,19	31,79	55,6	8085	42436	42436

## IB153

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
5780	28,23	33,35	49,6	7997	42686	42686
5780	30,35	31,02	46,1	8128	44001	44001
5780	33,63	27,99	41,6	8298	45923	45923
5785	35,02	26,91	40,0	8361	46696	46696
5785	38,81	24,28	36,1	8509	48712	48712
5785	42,30	22,28	33,1	8621	50453	50453
5780	47,53	19,81	29,4	8759	52896	52896
6835	50,56	22,02	27,7	8826	54227	54227
6835	54,64	20,38	25,6	8904	55937	55937
6835	57,27	19,44	24,4	8949	56996	56996
6835	60,92	18,27	23,0	9005	58412	58412
6835	63,47	17,54	22,1	9039	59367	59367
6835	71,15	15,65	19,7	9130	62097	62097
6835	77,22	14,42	18,1	9188	64121	64121
6835	83,89	13,27	16,7	9243	65000	65000
6835	87,65	12,70	16,0	9270	65000	65000
6835	93,05	11,97	15,1	9305	65000	65000
6835	103,12	10,80	13,6	9361	65000	65000
6835	123,88	8,99	11,3	9447	65000	65000
6835	134,27	8,29	10,4	9480	65000	65000
6835	149,26	7,46	9,4	9520	65000	65000
6835	165,42	6,73	8,5	9554	65000	65000

## IB163

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
2642	8,89	48,40	157,4	7073	46145	46145
3052	10,58	47,00	132,4	7148	47640	47640
4533	11,87	62,20	118,0	7565	50376	50376
4325	12,81	55,00	109,3	7403	50078	50078
4600	14,08	53,20	99,4	7426	50762	50762
5260	15,52	55,20	90,2	7584	52265	52265
5975	16,39	59,40	85,4	7754	53698	53698
6227	18,02	56,30	77,7	7869	55082	55082
6984	19,96	57,00	70,2	8043	57072	57072
6143	21,94	45,60	63,8	8307	60008	60008
7590	24,17	51,14	57,9	8475	62369	62369
8025	26,58	49,18	52,7	8546	63887	63887
7375	28,80	41,71	48,6	8815	67696	65000
8315	30,92	43,80	45,3	8740	67456	65000
8600	34,25	40,90	40,9	8844	69762	65000
8890	37,66	38,45	37,2	8932	71943	65000

## IB163

$Mn_2$ [Nm]	i	$Pn_1$ [kW]	$n_2$ [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
9180	40,65	36,78	34,4	8992	73630	65000
8675	45,09	31,34	31,1	9189	78186	65000
11110	51,00	35,48	27,4	9236	80000	65000
11110	53,63	33,74	26,1	9289	80000	65000
11110	58,97	30,69	23,7	9382	80000	65000
11110	69,78	25,94	20,1	9527	80000	65000
11110	76,72	23,59	18,2	9599	80000	65000
11110	87,54	20,67	16,0	9688	80000	65000
11110	96,25	18,80	14,6	9745	80000	65000
11110	103,93	17,41	13,5	9787	80000	65000
11110	114,27	15,84	12,2	9835	80000	65000
11110	126,29	14,33	11,1	9881	80000	65000
11110	138,85	13,03	10,1	9921	80000	65000
11110	154,83	11,69	9,0	9962	80000	65000

## IBA42

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
77	7,62	1,26	149,7	373	-	1943
77	10,62	0,90	107,3	355	-	2171
77	12,95	0,74	88,0	406	-	2319
77	14,46	0,66	78,8	443	-	2406
102	16,47	0,77	69,2	579	-	2512
103	22,97	0,56	49,6	355	-	2807
102	28,00	0,45	40,7	406	-	2998
102	31,27	0,41	36,5	443	-	3111
103	33,78	0,38	33,8	458	-	3192
102	47,12	0,27	24,2	355	-	3567
102	57,43	0,22	19,9	406	-	3810
92	64,13	0,18	17,8	406	-	3952
95	78,17	0,15	14,6	406	-	4000

## IBA52

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
137	7,91	2,15	144,1	373	-	2108
137	9,46	1,80	120,5	414	-	2238
136	11,57	1,46	98,5	405	-	2393
137	14,63	1,17	77,9	392	-	2587
171	17,11	1,24	66,6	529	-	2726
171	20,46	1,04	55,7	414	-	2894
170	25,03	0,84	45,5	405	-	3095
172	31,63	0,68	36,0	392	-	3346
171	35,10	0,61	32,5	446	-	3464
172	41,97	0,51	27,2	414	-	3677
188	51,34	0,46	22,2	445	-	3932
172	64,87	0,33	17,6	356	-	4000
171	79,07	0,27	14,4	406	-	4000

## IBA53

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
189	73,70	0,34	15,5	472	-	4000
186	93,33	0,26	12,2	472	-	4000
187	111,61	0,22	10,2	472	-	4000
186	136,53	0,18	8,3	472	-	4000
190	172,53	0,14	6,6	472	-	4000
186	197,11	0,12	5,8	472	-	4000
183	249,08	0,10	4,6	472	-	4000



## IBA53

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
185	271,16	0,09	4,2	472	-	4000
180	342,65	0,07	3,3	472	-	4000

## IBA72

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
298	8,36	4,44	136,4	664	5439	2720
298	10,06	3,69	113,3	685	5786	2893
298	12,44	2,98	91,6	667	6211	3105
358	14,91	2,99	76,5	826	6596	3298
358	17,94	2,48	63,5	685	7017	3508
358	22,19	2,01	51,4	667	7532	3766
358	27,45	1,62	41,5	667	8085	4043
358	33,04	1,35	34,5	685	8600	4300
340	40,87	1,03	27,9	635	9232	4616
298	45,64	0,81	25,0	646	9578	4789
298	54,94	0,67	20,8	685	10000	5095
296	67,96	0,54	16,8	667	10000	5469

## IBA73

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
384	43,89	1,15	26,0	330	9454	4727
384	52,83	0,95	21,6	411	10000	5028
382	65,35	0,77	17,4	400	10000	5398
384	80,83	0,62	14,1	400	10000	5500
382	97,29	0,52	11,7	411	10000	5500
384	120,34	0,42	9,5	400	10000	5500
384	149,73	0,34	7,6	398	10000	5500
386	180,23	0,28	6,3	411	10000	5500
384	222,93	0,23	5,1	400	10000	5500
382	260,20	0,19	4,4	424	10000	5500
388	321,85	0,16	3,5	400	10000	5500
374	357,95	0,14	3,2	445	10000	5500
394	442,76	0,12	2,6	400	10000	5500

## IB063

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
208	5,71	4,78	199,5	292	7587	2168

## IB063

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
244	6,88	4,66	165,7	316	7919	2263
252	7,32	4,52	155,7	344	8070	2306
332	9,16	4,76	124,4	301	8305	2373
374	10,26	4,79	111,1	294	8426	2407
390	11,03	4,64	103,4	324	8593	2455
418	12,35	4,44	92,3	359	8832	2523
426	13,15	4,25	86,7	396	9025	2579
426	15,18	3,69	75,1	502	9594	2741
432	17,00	3,34	67,0	566	10019	2863
432	22,39	2,53	50,9	716	11236	3210
432	26,09	2,17	43,7	784	11961	3417
432	28,03	2,02	40,7	812	12000	3518
432	33,43	1,70	34,1	873	12000	3776
432	38,58	1,47	29,6	915	12000	3997
432	43,22	1,31	26,4	945	12000	4181
510	50,81	1,32	22,4	982	12000	4453
510	56,93	1,18	20,0	1004	12000	4654
510	69,16	0,97	16,5	1037	12000	5015
510	77,48	0,86	14,7	1054	12000	5237
510	90,33	0,74	12,6	1073	12000	5550
510	101,20	0,66	11,3	1086	12000	5793
510	111,74	0,60	10,2	1096	12000	6012
510	124,20	0,54	9,2	1105	12000	6253
510	139,15	0,48	8,2	1115	12000	6522
510	157,42	0,43	7,2	1123	12000	6826

## IB083

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
360	7,81	6,05	146,0	1652	12911	3689
432	8,62	6,58	132,2	1535	12995	3713
468	10,49	5,86	108,6	1696	13824	3950
540	11,59	6,12	98,4	1638	13958	3988
585	14,43	5,32	79,0	1818	14991	4283
610	16,60	4,83	68,7	1922	15692	4483
610	18,32	4,37	62,2	2023	16331	4666
610	22,82	3,51	50,0	2216	17821	5092
610	26,71	3,00	42,7	2330	18000	5417
610	29,50	2,72	38,6	2393	18000	5631
610	31,80	2,52	35,9	2437	18000	5798
610	34,49	2,32	33,0	2481	18000	5983
610	39,60	2,02	28,8	2500	18000	6308

## IB083

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
610	42,95	1,87	26,5	2500	18000	6507
610	45,44	1,76	25,1	2500	18000	6648
725	51,19	1,86	22,3	2500	18000	6955
725	55,52	1,71	20,5	2500	18000	7172
725	59,96	1,59	19,0	2500	18000	7382
725	63,74	1,49	17,9	2500	18000	7553
725	69,14	1,38	16,5	2500	18000	7786
725	73,14	1,30	15,6	2500	18000	7950
725	80,76	1,18	14,1	2500	18000	8248
725	92,19	1,03	12,4	2500	18000	8661
725	100,57	0,95	11,3	2500	18000	8943
725	105,29	0,90	10,8	2500	18000	9095
725	116,25	0,82	9,8	2500	18000	9430
725	126,76	0,75	9,0	2500	18000	9733
725	144,77	0,66	7,9	2500	18000	10214

## IB103

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
1010	17,27	7,68	66,0	1375	19436	5553
1010	19,06	6,96	59,8	1525	20213	5775
1010	23,70	5,60	48,1	1810	22000	6294
1080	26,51	5,35	43,0	1860	22000	6492
1155	30,55	4,96	37,3	1943	22000	6779
1225	33,07	4,86	34,5	1962	22000	6910
1225	35,87	4,48	31,8	2042	22000	7137
1225	41,12	3,91	27,7	2162	22000	7532
1225	44,61	3,61	25,6	2226	22000	7776
1225	47,28	3,40	24,1	2268	22000	7955
1450	50,24	3,79	22,7	2310	22000	8144
1450	53,02	3,59	21,5	2345	22000	8316
1450	58,50	3,25	19,5	2405	22000	8638
1450	64,89	2,93	17,6	2462	22000	8988
1450	68,58	2,78	16,6	2490	22000	9180
1450	72,76	2,62	15,7	2518	22000	9389
1450	78,92	2,41	14,4	2554	22000	9683
1535	83,66	2,41	13,6	2554	22000	9815
1535	92,31	2,18	12,3	2594	22000	10189
1535	105,44	1,91	10,8	2642	22000	10714
1535	114,80	1,76	9,9	2670	22000	11062
1535	120,42	1,67	9,5	2685	22000	11262
1535	132,87	1,52	8,6	2712	22000	11684

## IB103

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
1535	144,69	1,39	7,9	2734	22000	12061
1535	165,25	1,22	6,9	2765	22000	12669

## IB123

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
1080	7,97	17,80	143,1	2525	18833	5381
1216	9,62	16,60	118,5	2534	19084	5452
1445	10,33	18,36	110,3	2484	18801	5372
1445	12,48	15,21	91,3	2745	20614	5890
1515	13,84	14,37	82,3	2812	21189	6054
1515	15,38	12,93	74,1	2931	22289	6368
1590	18,58	11,24	61,4	3073	23884	6824
1805	20,61	11,50	55,3	3050	23665	6761
2020	22,78	11,64	50,0	3037	23443	6698
2020	25,89	10,25	44,0	3153	25023	7149
2020	27,51	9,64	41,4	3203	25796	7370
2020	30,79	8,61	37,0	3288	27274	7793
2020	31,26	8,48	36,5	3299	27477	7851
2020	34,68	7,65	32,9	3368	28895	8256
2020	40,53	6,54	28,1	3459	30000	8890
2165	44,89	6,33	25,4	3477	30000	9055
2310	49,80	6,09	22,9	3497	30000	9242
2730	54,30	6,60	21,0	3539	30000	9634
2730	59,36	6,04	19,2	3578	30000	10050
2820	62,59	5,92	18,2	3588	30000	10168
2815	69,43	5,32	16,4	3628	30000	10678
2990	74,42	5,28	15,3	3632	30000	10758
2990	80,04	4,91	14,2	3658	30000	11135
2990	89,87	4,37	12,7	3696	30000	11752
2990	99,70	3,94	11,4	3726	30000	12326
2990	106,65	3,68	10,7	3744	30000	12709
2990	119,60	3,28	9,5	3772	30000	13380
2990	129,96	3,02	8,8	3790	30000	13884
2990	144,43	2,72	7,9	3811	30000	14543
2990	160,23	2,45	7,1	3830	30000	15214
2990	180,40	2,18	6,3	3849	30000	16009

## IB143

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
2165	10,84	26,23	105,2	2257	17051	17051
2240	11,87	24,79	96,1	2355	17540	17540
2240	14,49	20,31	78,7	2653	19421	19421
2310	17,04	17,80	66,9	2818	20722	20722
2600	18,66	18,30	61,1	2785	20361	20361
2890	21,00	18,08	54,3	2801	20331	20331
3180	22,77	18,34	50,1	2784	19930	19930
3325	25,63	17,04	44,5	2870	20640	20640
3325	27,44	15,91	41,5	2945	21455	21455
3395	30,05	14,84	37,9	3016	22236	22236
3395	33,01	13,51	34,5	3104	23422	23422
3470	36,67	12,43	31,1	3177	24465	24465
3470	40,29	11,31	28,3	3251	25732	25732
3470	44,16	10,32	25,8	3317	27005	27005
3615	48,35	9,82	23,6	3350	27648	27648
4270	53,16	10,55	21,4	3409	29045	29045
4270	54,63	10,26	20,9	3425	29456	29456
4270	59,02	9,50	19,3	3468	30639	30639
4270	64,88	8,64	17,6	3516	32132	32132
4270	70,43	7,96	16,2	3555	33463	33463
4270	77,12	7,27	14,8	3593	34976	34976
4270	85,54	6,56	13,3	3634	36763	36763
4270	94,13	5,96	12,1	3667	38465	38465
4270	105,83	5,30	10,8	3704	40000	40000
4270	111,94	5,01	10,2	3721	40000	40000
4270	124,62	4,50	9,2	3749	40000	40000
4270	136,44	4,11	8,4	3771	40000	40000
4270	149,59	3,75	7,6	3792	40000	40000
4270	166,53	3,37	6,8	3813	40000	40000
4270	187,24	2,99	6,1	3834	40000	40000

## IB153

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
3212	10,49	40,20	108,7	6961	35245	35245
3250	12,64	33,76	90,2	7457	37910	37910
3615	14,01	33,88	81,4	7450	38700	38700
3615	15,40	30,83	74,0	7669	40164	40164
4335	18,56	30,68	61,4	7678	41686	41686
4695	20,56	29,98	55,4	7727	42683	42683
4845	23,86	26,67	47,8	7967	45019	45019
4915	25,19	25,63	45,3	8041	45863	45863

## IB153

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
5780	28,23	26,89	40,4	7950	46211	46211
5780	30,35	25,01	37,6	8084	47617	47617
5780	33,63	22,57	33,9	8259	49675	49675
5785	35,02	21,69	32,6	8323	50502	50502
5785	38,81	19,58	29,4	8474	52659	52659
5785	42,30	17,96	26,9	8590	54522	54522
5780	47,53	15,97	24,0	8731	57136	57136
6835	50,56	17,75	22,6	8800	58561	58561
6835	54,64	16,43	20,9	8880	60391	60391
6835	57,27	15,67	19,9	8926	61524	61524
6835	60,92	14,73	18,7	8983	63040	63040
6835	63,47	14,14	18,0	9019	64061	64061
6835	71,15	12,62	16,0	9111	65000	65000
6835	77,22	11,62	14,8	9171	65000	65000
6835	83,89	10,70	13,6	9227	65000	65000
6835	87,65	10,24	13,0	9255	65000	65000
6835	93,05	9,65	12,2	9291	65000	65000
6835	103,12	8,70	11,1	9348	65000	65000
6835	123,88	7,25	9,2	9436	65000	65000
6835	134,27	6,69	8,5	9470	65000	65000
6835	149,26	6,01	7,6	9511	65000	65000
6835	165,42	5,43	6,9	9546	65000	65000

## IB163

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
3277	8,89	48,40	128,2	6992	49918	49918
3785	10,58	47,00	107,8	7069	51605	51605
5565	11,87	61,57	96,0	7496	54517	54517
5365	12,81	55,00	89,0	7330	54285	54285
5705	14,08	53,20	81,0	7353	55080	55080
6524	15,52	55,20	73,5	7516	56720	56720
7160	16,39	57,38	69,6	7690	58246	58246
7520	18,02	54,81	63,3	7807	59766	59766
7735	19,96	50,90	57,1	7986	61920	61920
7515	21,94	44,97	52,0	8257	65037	65000
7590	24,17	41,23	47,2	8429	67572	65000
8025	26,58	39,65	42,9	8502	69244	65000
7375	28,80	33,63	39,6	8778	73249	65000
8315	30,92	35,31	36,9	8700	73095	65000
8600	34,25	32,97	33,3	8807	75594	65000
8890	37,66	31,00	30,3	8897	77959	65000

## IB163

$Mn_2$ [Nm]	i	$Pn_1$ [kW]	$n_2$ [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
9180	40,65	29,65	28,0	8959	79796	65000
8675	45,09	25,26	25,3	9160	80000	65000
11110	51,00	28,61	22,4	9209	80000	65000
11110	53,63	27,21	21,3	9264	80000	65000
11110	58,97	24,74	19,3	9359	80000	65000
11110	69,78	20,91	16,3	9508	80000	65000
11110	76,72	19,02	14,9	9581	80000	65000
11110	87,54	16,67	13,0	9672	80000	65000
11110	96,25	15,16	11,8	9730	80000	65000
11110	103,93	14,04	11,0	9774	80000	65000
11110	114,27	12,77	10,0	9823	80000	65000
11110	126,29	11,55	9,0	9870	80000	65000
11110	138,85	10,51	8,2	9911	80000	65000
11110	154,83	9,42	7,4	9953	80000	65000

## IBA42

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
77	7,62	0,99	118,2	373	-	2102
77	10,62	0,71	84,7	355	-	2349
77	12,95	0,58	69,5	406	-	2509
77	14,46	0,52	62,2	443	-	2603
102	16,47	0,61	54,6	579	-	2718
103	22,97	0,44	39,2	355	-	3037
102	28,00	0,36	32,1	406	-	3244
102	31,27	0,32	28,8	443	-	3366
103	33,78	0,30	26,6	458	-	3454
102	47,12	0,21	19,1	355	-	3859
102	57,43	0,17	15,7	406	-	4000
92	64,13	0,14	14,0	406	-	4000
95	78,17	0,12	11,5	406	-	4000

## IBA52

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
137	7,91	1,70	113,8	373	-	2281
137	9,46	1,42	95,1	414	-	2421
136	11,57	1,15	77,8	405	-	2589
137	14,63	0,92	61,5	392	-	2799
171	17,11	0,98	52,6	529	-	2950
171	20,46	0,82	44,0	414	-	3131
170	25,03	0,67	36,0	405	-	3349
172	31,63	0,53	28,4	392	-	3620
171	35,10	0,48	25,6	446	-	3748
172	41,97	0,40	21,4	414	-	3978
188	51,34	0,36	17,5	445	-	4000
172	64,87	0,26	13,9	356	-	4000
171	79,07	0,21	11,4	406	-	4000

## IBA53

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
189	73,70	0,27	12,2	472	-	4000
186	93,33	0,21	9,6	472	-	4000
187	111,61	0,17	8,1	472	-	4000
186	136,53	0,14	6,6	472	-	4000
190	172,53	0,11	5,2	472	-	4000
186	197,11	0,10	4,6	472	-	4000
183	249,08	0,08	3,6	472	-	4000



## IBA53

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
185	271,16	0,07	3,3	472	-	4000
180	342,65	0,05	2,6	472	-	4000

## IBA72

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
298	8,36	3,50	107,7	664	5885	2942
298	10,06	2,91	89,5	685	6260	3130
298	12,44	2,35	72,3	667	6720	3360
358	14,91	2,36	60,4	826	7137	3568
358	17,94	1,96	50,2	685	7592	3796
358	22,19	1,58	40,5	667	8150	4075
358	27,45	1,28	32,8	667	8748	4374
358	33,04	1,06	27,2	685	9306	4653
340	40,87	0,82	22,0	635	9989	4995
298	45,64	0,64	19,7	646	10000	5182
298	54,94	0,53	16,4	685	10000	5500
296	67,96	0,43	13,2	667	10000	5500

## IBA73

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
384	43,89	0,91	20,5	330	10000	5115
384	52,83	0,75	17,0	411	10000	5441
382	65,35	0,61	13,8	400	10000	5500
384	80,83	0,49	11,1	400	10000	5500
382	97,29	0,41	9,2	411	10000	5500
384	120,34	0,33	7,5	400	10000	5500
384	149,73	0,27	6,0	398	10000	5500
386	180,23	0,22	5,0	411	10000	5500
384	222,93	0,18	4,0	400	10000	5500
382	260,20	0,15	3,5	424	10000	5500
388	321,85	0,12	2,8	400	10000	5500
374	357,95	0,11	2,5	445	10000	5500
394	442,76	0,09	2,0	400	10000	5500

## IB063

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
208	5,71	3,77	157,5	270	8278	2365

## IB063

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
244	6,88	3,68	130,8	294	8651	2472
252	7,32	3,57	122,9	324	8817	2519
332	9,16	3,76	98,2	280	9099	2600
374	10,26	3,78	87,7	272	9246	2642
390	11,03	3,67	81,6	302	9432	2695
418	12,35	3,51	72,8	339	9701	2772
426	13,15	3,36	68,4	377	9913	2832
426	15,18	2,91	59,3	485	10527	3008
432	17,00	2,63	52,9	551	10989	3140
432	22,39	2,00	40,2	705	12000	3516
432	26,09	1,72	34,5	774	12000	3740
432	28,03	1,60	32,1	803	12000	3849
432	33,43	1,34	26,9	865	12000	4128
432	38,58	1,16	23,3	909	12000	4367
432	43,22	1,04	20,8	939	12000	4565
510	50,81	1,04	17,7	977	12000	4860
510	56,93	0,93	15,8	1000	12000	5076
510	69,16	0,76	13,0	1034	12000	5467
510	77,48	0,68	11,6	1050	12000	5707
510	90,33	0,59	10,0	1070	12000	6045
510	101,20	0,52	8,9	1083	12000	6308
510	111,74	0,47	8,1	1094	12000	6544
510	124,20	0,43	7,2	1103	12000	6805
510	139,15	0,38	6,5	1113	12000	7097
510	157,42	0,34	5,7	1122	12000	7425

## IB083

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
360	7,81	4,78	115,2	1619	14076	4022
432	8,62	5,19	104,4	1500	14190	4054
468	10,49	4,62	85,8	1664	15098	4314
540	11,59	4,83	77,7	1604	15267	4362
585	14,43	4,20	62,4	1789	16398	4685
610	16,60	3,81	54,2	1895	17165	4904
610	18,32	3,45	49,1	2000	17855	5102
610	22,82	2,77	39,4	2197	18000	5562
610	26,71	2,37	33,7	2314	18000	5914
610	29,50	2,14	30,5	2378	18000	6145
610	31,80	1,99	28,3	2423	18000	6325
610	34,49	1,83	26,1	2468	18000	6525
610	39,60	1,60	22,7	2500	18000	6877

## IB083

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
610	42,95	1,47	20,9	2500	18000	7092
610	45,44	1,39	19,8	2500	18000	7245
725	51,19	1,47	17,6	2500	18000	7577
725	55,52	1,35	16,2	2500	18000	7811
725	59,96	1,25	15,0	2500	18000	8038
725	63,74	1,18	14,1	2500	18000	8223
725	69,14	1,09	13,0	2500	18000	8475
725	73,14	1,03	12,3	2500	18000	8653
725	80,76	0,93	11,1	2500	18000	8975
725	92,19	0,82	9,8	2500	18000	9421
725	100,57	0,75	8,9	2500	18000	9726
725	105,29	0,71	8,6	2500	18000	9890
725	116,25	0,65	7,7	2500	18000	10253
725	126,76	0,59	7,1	2500	18000	10580
725	144,77	0,52	6,2	2500	18000	11100

## IB103

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
1010	17,27	6,06	52,1	1336	21247	6070
1010	19,06	5,50	47,2	1490	22000	6311
1010	23,70	4,42	38,0	1782	22000	6872
1080	26,51	4,22	34,0	1833	22000	7090
1155	30,55	3,92	29,5	1918	22000	7406
1225	33,07	3,84	27,2	1937	22000	7552
1225	35,87	3,54	25,1	2019	22000	7797
1225	41,12	3,09	21,9	2142	22000	8224
1225	44,61	2,85	20,2	2207	22000	8488
1225	47,28	2,69	19,0	2251	22000	8681
1450	50,24	2,99	17,9	2294	22000	8886
1450	53,02	2,84	17,0	2330	22000	9072
1450	58,50	2,57	15,4	2391	22000	9420
1450	64,89	2,32	13,9	2449	22000	9798
1450	68,58	2,19	13,1	2478	22000	10006
1450	72,76	2,07	12,4	2506	22000	10232
1450	78,92	1,90	11,4	2544	22000	10550
1535	83,66	1,90	10,8	2544	22000	10697
1535	92,31	1,72	9,8	2585	22000	11102
1535	105,44	1,51	8,5	2634	22000	11670
1535	114,80	1,39	7,8	2662	22000	12046
1535	120,42	1,32	7,5	2677	22000	12262
1535	132,87	1,20	6,8	2706	22000	12718

## IB103

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
1535	144,69	1,10	6,2	2728	22000	13125
1535	165,25	0,96	5,5	2760	22000	13783

## IB123

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
1085	7,97	14,12	113,0	2489	20762	5932
1300	9,62	14,01	93,6	2498	21113	6032
1445	10,33	14,50	87,1	2447	20861	5960
1445	12,48	12,00	72,1	2714	22821	6520
1515	13,84	11,35	65,0	2783	23470	6706
1515	15,38	10,21	58,5	2905	24658	7045
1590	18,58	8,87	48,5	3050	26410	7546
1805	20,61	9,08	43,7	3027	26253	7501
2020	22,78	9,19	39,5	3014	26094	7455
2020	25,89	8,09	34,8	3132	27801	7943
2020	27,51	7,61	32,7	3184	28638	8182
2020	30,79	6,80	29,2	3271	30000	8639
2020	31,26	6,70	28,8	3282	30000	8701
2020	34,68	6,04	25,9	3353	30000	9139
2020	40,53	5,17	22,2	3446	30000	9825
2165	44,89	5,00	20,1	3464	30000	10019
2310	49,80	4,81	18,1	3485	30000	10236
2730	54,30	5,21	16,6	3528	30000	10660
2730	59,36	4,77	15,2	3568	30000	11110
2820	62,59	4,67	14,4	3578	30000	11246
2815	69,43	4,20	13,0	3619	30000	11796
2990	74,42	4,17	12,1	3623	30000	11899
2990	80,04	3,87	11,2	3650	30000	12306
2990	89,87	3,45	10,0	3688	30000	12973
2990	99,70	3,11	9,0	3719	30000	13593
2990	106,65	2,91	8,4	3738	30000	14008
2990	119,60	2,59	7,5	3766	30000	14733
2990	129,96	2,39	6,9	3785	30000	15277
2990	144,43	2,15	6,2	3807	30000	15990
2990	160,23	1,93	5,6	3826	30000	16715
2990	180,40	1,72	5,0	3845	30000	17575

## IB143

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
2165	10,84	20,71	83,0	2214	18991	18991
2240	11,87	19,57	75,8	2315	19538	19538
2240	14,49	16,03	62,1	2620	21572	21572
2310	17,04	14,05	52,8	2789	22997	22997
2600	18,66	14,45	48,2	2756	22681	22681
2890	21,00	14,27	42,9	2771	22722	22722
3180	22,77	14,48	39,5	2754	22363	22363
3325	25,63	13,45	35,1	2843	23168	23168
3325	27,44	12,56	32,8	2919	24049	24049
3395	30,05	11,71	29,9	2992	24912	24912
3395	33,01	10,66	27,3	3082	26194	26194
3470	36,67	9,81	24,5	3157	27341	27341
3470	40,29	8,93	22,3	3233	28710	28710
3470	44,16	8,15	20,4	3300	30087	30087
3615	48,35	7,75	18,6	3334	30819	30819
4270	53,16	8,33	16,9	3395	32330	32330
4270	54,63	8,10	16,5	3411	32773	32773
4270	59,02	7,50	15,2	3455	34052	34052
4270	64,88	6,82	13,9	3504	35666	35666
4270	70,43	6,29	12,8	3544	37106	37106
4270	77,12	5,74	11,7	3583	38741	38741
4270	85,54	5,18	10,5	3625	40000	40000
4270	94,13	4,70	9,6	3659	40000	40000
4270	105,83	4,18	8,5	3697	40000	40000
4270	111,94	3,95	8,0	3714	40000	40000
4270	124,62	3,55	7,2	3743	40000	40000
4270	136,44	3,24	6,6	3766	40000	40000
4270	149,59	2,96	6,0	3786	40000	40000
4270	166,53	2,66	5,4	3808	40000	40000
4270	187,24	2,36	4,8	3830	40000	40000

## IB153

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
3250	10,49	32,11	85,8	6890	38488	38488
3250	12,64	26,65	71,2	7398	41370	41370
3615	14,01	26,75	64,2	7391	42266	42266
3615	15,40	24,34	58,4	7615	43850	43850
4335	18,56	24,22	48,5	7624	45580	45580
4695	20,56	23,67	43,8	7675	46701	46701
4845	23,86	21,05	37,7	7920	49243	49243
4915	25,19	20,23	35,7	7996	50164	50164

## IB153

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
5780	28,23	21,23	31,9	7903	50642	50642
5780	30,35	19,75	29,7	8040	52163	52163
5780	33,63	17,82	26,8	8219	54387	54387
5785	35,02	17,13	25,7	8285	55282	55282
5785	38,81	15,45	23,2	8440	57613	57613
5785	42,30	14,18	21,3	8559	59628	59628
5780	47,53	12,61	18,9	8704	62454	62454
6835	50,56	14,01	17,8	8774	63995	63995
6835	54,64	12,97	16,5	8856	65000	65000
6835	57,27	12,37	15,7	8903	65000	65000
6835	60,92	11,63	14,8	8961	65000	65000
6835	63,47	11,16	14,2	8998	65000	65000
6835	71,15	9,96	12,7	9092	65000	65000
6835	77,22	9,18	11,7	9154	65000	65000
6835	83,89	8,45	10,7	9211	65000	65000
6835	87,65	8,08	10,3	9240	65000	65000
6835	93,05	7,62	9,7	9277	65000	65000
6835	103,12	6,87	8,7	9335	65000	65000
6835	123,88	5,72	7,3	9425	65000	65000
6835	134,27	5,28	6,7	9460	65000	65000
6835	149,26	4,75	6,0	9502	65000	65000
6835	165,42	4,28	5,4	9538	65000	65000

## IB163

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
4151	8,89	48,40	101,2	6911	54659	54659
4794	10,58	47,00	85,1	6990	56595	56595
5565	11,87	48,61	75,8	7428	59722	59722
6360	12,81	51,48	70,3	7257	59584	59584
6940	14,08	51,09	63,9	7281	60524	60524
7230	15,52	48,29	58,0	7448	62338	62338
7160	16,39	45,30	54,9	7626	63977	63977
7520	18,02	43,27	50,0	7746	65672	65000
7735	19,96	40,18	45,1	7929	68031	65000
7515	21,94	35,51	41,0	8206	71371	65000
7590	24,17	32,55	37,2	8383	74121	65000
8025	26,58	31,30	33,9	8457	75990	65000
7375	28,80	26,55	31,2	8740	80000	65000
8315	30,92	27,88	29,1	8661	80000	65000
8600	34,25	26,03	26,3	8770	80000	65000
8890	37,66	24,47	23,9	8863	80000	65000

## IB163

$Mn_2$ [Nm]	i	$Pn_1$ [kW]	$n_2$ [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
9180	40,65	23,41	22,1	8926	80000	65000
8675	45,09	19,95	20,0	9132	80000	65000
11110	51,00	22,58	17,6	9182	80000	65000
11110	53,63	21,48	16,8	9238	80000	65000
11110	58,97	19,53	15,3	9336	80000	65000
11110	69,78	16,51	12,9	9488	80000	65000
11110	76,72	15,01	11,7	9563	80000	65000
11110	87,54	13,16	10,3	9656	80000	65000
11110	96,25	11,97	9,3	9716	80000	65000
11110	103,93	11,08	8,7	9761	80000	65000
11110	114,27	10,08	7,9	9811	80000	65000
11110	126,29	9,12	7,1	9859	80000	65000
11110	138,85	8,30	6,5	9901	80000	65000
11110	154,83	7,44	5,8	9944	80000	65000

## IBA42

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
77	7,62	0,77	91,9	373	-	2286
77	10,62	0,55	65,9	355	-	2554
77	12,95	0,45	54,1	406	-	2728
77	14,46	0,40	48,4	443	-	2830
102	16,47	0,47	42,5	579	-	2956
103	22,97	0,34	30,5	355	-	3303
102	28,00	0,28	25,0	406	-	3528
102	31,27	0,25	22,4	443	-	3660
103	33,78	0,23	20,7	458	-	3756
102	47,12	0,16	14,9	355	-	4000
102	57,43	0,14	12,2	406	-	4000
92	64,13	0,11	10,9	406	-	4000
95	78,17	0,09	9,0	406	-	4000

## IBA52

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
137	7,91	1,32	88,5	373	-	2480
137	9,46	1,10	74,0	414	-	2633
136	11,57	0,89	60,5	405	-	2816
137	14,63	0,71	47,9	392	-	3044
171	17,11	0,76	40,9	529	-	3208
171	20,46	0,64	34,2	414	-	3405
170	25,03	0,52	28,0	405	-	3641
172	31,63	0,41	22,1	392	-	3936
171	35,10	0,37	19,9	446	-	4000
172	41,97	0,31	16,7	414	-	4000
188	51,34	0,28	13,6	445	-	4000
172	64,87	0,20	10,8	356	-	4000
171	79,07	0,16	8,8	406	-	4000

## IBA53

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
189	73,70	0,21	9,5	472	-	4000
186	93,33	0,16	7,5	472	-	4000
187	111,61	0,13	6,3	472	-	4000
186	136,53	0,11	5,1	472	-	4000
190	172,53	0,09	4,1	472	-	4000
186	197,11	0,08	3,5	472	-	4000
183	249,08	0,06	2,8	472	-	4000



## IBA53

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
185	271,16	0,05	2,6	472	-	4000
180	342,65	0,04	2,0	472	-	4000

## IBA72

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
298	8,36	2,71	83,8	664	6399	3200
298	10,06	2,25	69,6	685	6807	3404
298	12,44	1,82	56,3	667	7307	3654
358	14,91	1,83	47,0	826	7761	3880
358	17,94	1,52	39,0	685	8255	4128
358	22,19	1,23	31,5	667	8862	4431
358	27,45	0,99	25,5	667	9512	4756
358	33,04	0,82	21,2	685	10000	5059
340	40,87	0,63	17,1	635	10000	5431
298	45,64	0,50	15,3	646	10000	5500
298	54,94	0,41	12,7	685	10000	5500
296	67,96	0,33	10,3	667	10000	5500

## IBA73

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
384	43,89	0,70	15,9	330	10000	5500
384	52,83	0,58	13,2	411	10000	5500
382	65,35	0,47	10,7	400	10000	5500
384	80,83	0,38	8,7	400	10000	5500
382	97,29	0,32	7,2	411	10000	5500
384	120,34	0,26	5,8	400	10000	5500
384	149,73	0,21	4,7	398	10000	5500
386	180,23	0,17	3,9	411	10000	5500
384	222,93	0,14	3,1	400	10000	5500
382	260,20	0,12	2,7	424	10000	5500
388	321,85	0,10	2,2	400	10000	5500
374	357,95	0,08	2,0	445	10000	5500
394	442,76	0,07	1,6	400	10000	5500

## IB063

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
208	5,71	2,92	122,5	259	9097	2599

## IB063

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
244	6,88	2,85	101,8	283	9519	2720
252	7,32	2,76	95,6	313	9703	2772
332	9,16	2,91	76,4	269	10049	2871
374	10,26	2,92	68,2	261	10229	2923
390	11,03	2,84	63,5	292	10438	2982
418	12,35	2,71	56,7	329	10744	3070
426	13,15	2,60	53,2	367	10978	3137
426	15,18	2,25	46,1	477	11646	3327
432	17,00	2,04	41,2	543	12000	3472
432	22,39	1,55	31,3	699	12000	3880
432	26,09	1,33	26,8	769	12000	4124
432	28,03	1,24	25,0	798	12000	4242
432	33,43	1,04	20,9	861	12000	4545
432	38,58	0,90	18,1	905	12000	4805
432	43,22	0,80	16,2	936	12000	5020
510	50,81	0,81	13,8	974	12000	5340
510	56,93	0,72	12,3	997	12000	5576
510	69,16	0,59	10,1	1032	12000	6000
510	77,48	0,53	9,0	1049	12000	6261
510	90,33	0,45	7,8	1069	12000	6629
510	101,20	0,40	6,9	1082	12000	6914
510	111,74	0,37	6,3	1092	12000	7171
510	124,20	0,33	5,6	1102	12000	7454
510	139,15	0,29	5,0	1112	12000	7771
510	157,42	0,26	4,5	1121	12000	8000

## IB083

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
360	7,81	3,70	89,6	1603	15452	4415
432	8,62	4,02	81,2	1482	15607	4459
468	10,49	3,58	66,7	1648	16610	4746
540	11,59	3,74	60,4	1588	16825	4807
585	14,43	3,25	48,5	1775	18000	5163
610	16,60	2,95	42,2	1882	18000	5405
610	18,32	2,67	38,2	1988	18000	5620
610	22,82	2,15	30,7	2187	18000	6120
610	26,71	1,83	26,2	2306	18000	6502
610	29,50	1,66	23,7	2371	18000	6753
610	31,80	1,54	22,0	2417	18000	6949
610	34,49	1,42	20,3	2462	18000	7166
610	39,60	1,24	17,7	2500	18000	7549

## IB083

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
610	42,95	1,14	16,3	2500	18000	7783
610	45,44	1,08	15,4	2500	18000	7948
725	51,19	1,14	13,7	2500	18000	8309
725	55,52	1,05	12,6	2500	18000	8563
725	59,96	0,97	11,7	2500	18000	8810
725	63,74	0,91	11,0	2500	18000	9011
725	69,14	0,84	10,1	2500	18000	9284
725	73,14	0,80	9,6	2500	18000	9478
725	80,76	0,72	8,7	2500	18000	9828
725	92,19	0,63	7,6	2500	18000	10313
725	100,57	0,58	7,0	2500	18000	10644
725	105,29	0,55	6,7	2500	18000	10822
725	116,25	0,50	6,0	2500	18000	11216
725	126,76	0,46	5,5	2500	18000	11571
725	144,77	0,40	4,8	2500	18000	12000

## IB103

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
1010	17,27	4,69	40,5	1316	22000	6685
1010	19,06	4,25	36,7	1472	22000	6946
1010	23,70	3,42	29,5	1768	22000	7556
1080	26,51	3,27	26,4	1819	22000	7800
1155	30,55	3,03	22,9	1905	22000	8149
1225	33,07	2,97	21,2	1925	22000	8314
1225	35,87	2,74	19,5	2007	22000	8581
1225	41,12	2,39	17,0	2132	22000	9045
1225	44,61	2,20	15,7	2198	22000	9331
1225	47,28	2,08	14,8	2242	22000	9541
1450	50,24	2,32	13,9	2286	22000	9764
1450	53,02	2,19	13,2	2322	22000	9966
1450	58,50	1,99	12,0	2384	22000	10344
1450	64,89	1,79	10,8	2443	22000	10755
1450	68,58	1,70	10,2	2472	22000	10980
1450	72,76	1,60	9,6	2501	22000	11226
1450	78,92	1,47	8,9	2538	22000	11572
1535	83,66	1,47	8,4	2539	22000	11738
1535	92,31	1,33	7,6	2580	22000	12177
1535	105,44	1,17	6,6	2630	22000	12794
1535	114,80	1,07	6,1	2659	22000	13203
1535	120,42	1,02	5,8	2674	22000	13438
1535	132,87	0,93	5,3	2702	22000	13933

## IB103

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
1535	144,69	0,85	4,8	2725	22000	14376
1535	165,25	0,75	4,2	2757	22000	15000

## IB123

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
1085	7,97	10,93	87,9	2471	23098	6599
1300	9,62	10,84	72,8	2480	23587	6739
1445	10,33	11,22	67,7	2428	23384	6681
1445	12,48	9,29	56,1	2699	25514	7290
1515	13,84	8,78	50,6	2768	26255	7501
1515	15,38	7,90	45,5	2892	27546	7870
1590	18,58	6,87	37,7	3039	29486	8425
1805	20,61	7,03	34,0	3015	29423	8407
2020	22,78	7,11	30,7	3002	29358	8388
2020	25,89	6,26	27,0	3122	30000	8918
2020	27,51	5,89	25,4	3174	30000	9178
2020	30,79	5,26	22,7	3262	30000	9674
2020	31,26	5,18	22,4	3273	30000	9742
2020	34,68	4,67	20,2	3345	30000	10217
2020	40,53	4,00	17,3	3440	30000	10963
2165	44,89	3,87	15,6	3458	30000	11193
2310	49,80	3,72	14,1	3479	30000	11450
2730	54,30	4,03	12,9	3522	30000	11911
2730	59,36	3,69	11,8	3563	30000	12399
2820	62,59	3,62	11,2	3573	30000	12557
2815	69,43	3,25	10,1	3615	30000	13155
2990	74,42	3,22	9,4	3619	30000	13287
2990	80,04	3,00	8,8	3646	30000	13729
2990	89,87	2,67	7,8	3685	30000	14454
2990	99,70	2,41	7,0	3716	30000	15128
2990	106,65	2,25	6,6	3734	30000	15579
2990	119,60	2,01	5,8	3763	30000	16367
2990	129,96	1,85	5,4	3782	30000	16958
2990	144,43	1,66	4,8	3804	30000	17732
2990	160,23	1,50	4,4	3824	30000	18520
2990	180,40	1,33	3,9	3843	30000	19455

## IB143

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
2165	10,84	16,03	64,6	2193	21383	21383
2240	11,87	15,15	59,0	2294	22002	22002
2240	14,49	12,41	48,3	2603	24212	24212
2310	17,04	10,88	41,1	2775	25785	25785
2600	18,66	11,18	37,5	2741	25542	25542
2890	21,00	11,04	33,3	2757	25686	25686
3180	22,77	11,20	30,7	2739	25396	25396
3325	25,63	10,41	27,3	2829	26320	26320
3325	27,44	9,72	25,5	2906	27277	27277
3395	30,05	9,07	23,3	2980	28240	28240
3395	33,01	8,25	21,2	3071	29633	29633
3470	36,67	7,59	19,1	3147	30904	30904
3470	40,29	6,91	17,4	3223	32391	32391
3470	44,16	6,30	15,8	3292	33887	33887
3615	48,35	6,00	14,5	3326	34732	34732
4270	53,16	6,45	13,2	3387	36374	36374
4270	54,63	6,27	12,8	3404	36856	36856
4270	59,02	5,81	11,9	3448	38246	38246
4270	64,88	5,28	10,8	3499	39999	39999
4270	70,43	4,86	9,9	3538	40000	40000
4270	77,12	4,44	9,1	3578	40000	40000
4270	85,54	4,01	8,2	3620	40000	40000
4270	94,13	3,64	7,4	3655	40000	40000
4270	105,83	3,24	6,6	3693	40000	40000
4270	111,94	3,06	6,2	3710	40000	40000
4270	124,62	2,75	5,6	3740	40000	40000
4270	136,44	2,51	5,1	3763	40000	40000
4270	149,59	2,29	4,7	3784	40000	40000
4270	166,53	2,06	4,2	3806	40000	40000
4270	187,24	1,83	3,7	3828	40000	40000

## IB153

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
3250	10,49	24,85	66,7	6854	42333	42333
3250	12,64	20,63	55,4	7368	45464	45464
3615	14,01	20,70	50,0	7362	46495	46495
3615	15,40	18,84	45,5	7588	48216	48216
4335	18,56	18,75	37,7	7598	50211	50211
4695	20,56	18,32	34,0	7649	51486	51486
4845	23,86	16,29	29,3	7897	54271	54271
4915	25,19	15,66	27,8	7974	55283	55283

## IB153

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
5780	28,23	16,43	24,8	7879	55940	55940
5780	30,35	15,28	23,1	8018	57593	57593
5780	33,63	13,79	20,8	8200	60009	60009
5785	35,02	13,26	20,0	8266	60981	60981
5785	38,81	11,96	18,0	8423	63514	63514
5785	42,30	10,97	16,6	8543	65000	65000
5780	47,53	9,76	14,7	8690	65000	65000
6835	50,56	10,85	13,8	8761	65000	65000
6835	54,64	10,04	12,8	8844	65000	65000
6835	57,27	9,58	12,2	8891	65000	65000
6835	60,92	9,00	11,5	8950	65000	65000
6835	63,47	8,64	11,0	8987	65000	65000
6835	71,15	7,71	9,8	9083	65000	65000
6835	77,22	7,10	9,1	9145	65000	65000
6835	83,89	6,54	8,3	9203	65000	65000
6835	87,65	6,26	8,0	9232	65000	65000
6835	93,05	5,89	7,5	9269	65000	65000
6835	103,12	5,32	6,8	9329	65000	65000
6835	123,88	4,43	5,7	9420	65000	65000
6835	134,27	4,08	5,2	9455	65000	65000
6835	149,26	3,67	4,7	9497	65000	65000
6835	165,42	3,32	4,2	9534	65000	65000

## IB163

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
4915	8,89	44,35	78,7	6870	60316	60316
5715	10,58	43,36	66,2	6950	62569	62569
5565	11,87	37,62	59,0	7393	65940	65000
6360	12,81	39,84	54,6	7221	65940	65000
6940	14,08	39,54	49,7	7245	67071	65000
7230	15,52	37,38	45,1	7413	69097	65000
7160	16,39	35,06	42,7	7594	70864	65000
7520	18,02	33,49	38,9	7715	72773	65000
7735	19,96	31,10	35,1	7901	75377	65000
7515	21,94	27,48	31,9	8181	78965	65000
7590	24,17	25,19	29,0	8360	80000	65000
8025	26,58	24,23	26,3	8435	80000	65000
7375	28,80	20,55	24,3	8721	80000	65000
8315	30,92	21,58	22,6	8641	80000	65000
8600	34,25	20,15	20,4	8752	80000	65000
8890	37,66	18,94	18,6	8846	80000	65000

## IB163

$Mn_2$ [Nm]	i	$Pn_1$ [kW]	n2 [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
9180	40,65	18,12	17,2	8909	80000	65000
8675	45,09	15,44	15,5	9118	80000	65000
11110	51,00	17,48	13,7	9169	80000	65000
11110	53,63	16,62	13,1	9225	80000	65000
11110	58,97	15,12	11,9	9324	80000	65000
11110	69,78	12,78	10,0	9478	80000	65000
11110	76,72	11,62	9,1	9554	80000	65000
11110	87,54	10,18	8,0	9648	80000	65000
11110	96,25	9,26	7,3	9709	80000	65000
11110	103,93	8,58	6,7	9754	80000	65000
11110	114,27	7,80	6,1	9805	80000	65000
11110	126,29	7,06	5,5	9854	80000	65000
11110	138,85	6,42	5,0	9896	80000	65000
11110	154,83	5,76	4,5	9939	80000	65000

## IBA42

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
77	7,62	0,55	65,7	373	-	2557
77	10,62	0,39	47,1	355	-	2857
77	12,95	0,32	38,6	406	-	3052
77	14,46	0,29	34,6	443	-	3166
102	16,47	0,33	30,4	579	-	3307
103	22,97	0,24	21,8	355	-	3695
102	28,00	0,20	17,9	406	-	3946
102	31,27	0,18	16,0	443	-	4000
103	33,78	0,16	14,8	458	-	4000
102	47,12	0,12	10,6	355	-	4000
102	57,43	0,10	8,7	406	-	4000
92	64,13	0,08	7,8	406	-	4000
95	78,17	0,07	6,4	406	-	4000

## IBA52

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
137	7,91	0,94	63,2	373	-	2775
137	9,46	0,78	52,9	414	-	2945
136	11,57	0,63	43,2	405	-	3150
137	14,63	0,51	34,2	392	-	3405
171	17,11	0,54	29,2	529	-	3588
171	20,46	0,45	24,4	414	-	3809
170	25,03	0,37	20,0	405	-	4000
172	31,63	0,29	15,8	392	-	4000
171	35,10	0,26	14,2	446	-	4000
172	41,97	0,22	11,9	414	-	4000
188	51,34	0,20	9,7	445	-	4000
172	64,87	0,14	7,7	356	-	4000
171	79,07	0,12	6,3	406	-	4000

## IBA53

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
189	73,70	0,15	6,8	472	-	4000
186	93,33	0,11	5,4	472	-	4000
187	111,61	0,10	4,5	472	-	4000
186	136,53	0,08	3,7	472	-	4000
190	172,53	0,06	2,9	472	-	4000
186	197,11	0,05	2,5	472	-	4000
183	249,08	0,04	2,0	472	-	4000



## IBA53

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
185	271,16	0,04	1,8	472	-	4000
180	342,65	0,03	1,5	472	-	4000

## IBA72

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
298	8,36	1,93	59,8	664	7159	3579
298	10,06	1,60	49,7	685	7615	3808
298	12,44	1,29	40,2	667	8174	4087
358	14,91	1,30	33,5	826	8682	4341
358	17,94	1,08	27,9	685	9235	4618
358	22,19	0,87	22,5	667	9913	4957
358	27,45	0,70	18,2	667	10000	5321
358	33,04	0,59	15,1	685	10000	5500
340	40,87	0,45	12,2	635	10000	5500
298	45,64	0,35	10,9	646	10000	5500
298	54,94	0,29	9,1	685	10000	5500
296	67,96	0,24	7,4	667	10000	5500

## IBA73

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
384	43,89	0,50	11,4	330	10000	5500
384	52,83	0,41	9,5	411	10000	5500
382	65,35	0,33	7,7	400	10000	5500
384	80,83	0,27	6,2	400	10000	5500
382	97,29	0,22	5,1	411	10000	5500
384	120,34	0,18	4,2	400	10000	5500
384	149,73	0,15	3,3	398	10000	5500
386	180,23	0,12	2,8	411	10000	5500
384	222,93	0,10	2,2	400	10000	5500
382	260,20	0,08	1,9	424	10000	5500
388	321,85	0,07	1,6	400	10000	5500
374	357,95	0,06	1,4	445	10000	5500
394	442,76	0,05	1,1	400	10000	5500

## IB063

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
208	5,71	2,08	87,5	248	10312	2946

## IB063

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
244	6,88	2,02	72,7	273	10809	3088
252	7,32	1,96	68,3	303	11020	3149
332	9,16	2,07	54,6	258	11462	3275
374	10,26	2,08	48,7	250	11694	3341
390	11,03	2,02	45,3	281	11938	3411
418	12,35	1,93	40,5	319	12000	3514
426	13,15	1,85	38,0	358	12000	3590
426	15,18	1,60	33,0	469	12000	3804
432	17,00	1,45	29,4	535	12000	3966
432	22,39	1,10	22,3	693	12000	4423
432	26,09	0,94	19,2	764	12000	4695
432	28,03	0,88	17,8	793	12000	4827
432	33,43	0,74	15,0	858	12000	5166
432	38,58	0,64	13,0	902	12000	5456
432	43,22	0,57	11,6	933	12000	5696
510	50,81	0,57	9,8	972	12000	6054
510	56,93	0,51	8,8	995	12000	6317
510	69,16	0,42	7,2	1030	12000	6792
510	77,48	0,38	6,5	1047	12000	7083
510	90,33	0,32	5,5	1068	12000	7494
510	101,20	0,29	4,9	1081	12000	7812
510	111,74	0,26	4,5	1091	12000	8000
510	124,20	0,23	4,0	1101	12000	8000
510	139,15	0,21	3,6	1111	12000	8000
510	157,42	0,18	3,2	1120	12000	8000

## IB083

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
360	7,81	2,63	64,0	1587	17494	4998
432	8,62	2,86	58,0	1464	17713	5061
468	10,49	2,54	47,6	1633	18000	5387
540	11,59	2,66	43,1	1571	18000	5469
585	14,43	2,31	34,6	1761	18000	5875
610	16,60	2,10	30,1	1869	18000	6150
610	18,32	1,90	27,3	1976	18000	6390
610	22,82	1,52	21,9	2177	18000	6949
610	26,71	1,30	18,7	2297	18000	7376
610	29,50	1,18	16,9	2364	18000	7657
610	31,80	1,09	15,7	2410	18000	7875
610	34,49	1,01	14,5	2456	18000	8118
610	39,60	0,88	12,6	2500	18000	8546

## IB083

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
610	42,95	0,81	11,6	2500	18000	8807
610	45,44	0,77	11,0	2500	18000	8992
725	51,19	0,81	9,8	2500	18000	9395
725	55,52	0,74	9,0	2500	18000	9679
725	59,96	0,69	8,3	2500	18000	9955
725	63,74	0,65	7,8	2500	18000	10179
725	69,14	0,60	7,2	2500	18000	10485
725	73,14	0,57	6,8	2500	18000	10701
725	80,76	0,51	6,2	2500	18000	11092
725	92,19	0,45	5,4	2500	18000	11634
725	100,57	0,41	5,0	2500	18000	12000
725	105,29	0,39	4,8	2500	18000	12000
725	116,25	0,36	4,3	2500	18000	12000
725	126,76	0,33	3,9	2500	18000	12000
725	144,77	0,29	3,5	2500	18000	12000

## IB103

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
1010	17,27	3,34	28,9	1296	22000	7600
1010	19,06	3,02	26,2	1454	22000	7891
1010	23,70	2,43	21,1	1753	22000	8572
1080	26,51	2,32	18,9	1805	22000	8854
1155	30,55	2,16	16,4	1893	22000	9254
1225	33,07	2,11	15,1	1912	22000	9447
1225	35,87	1,95	13,9	1996	22000	9745
1225	41,12	1,70	12,2	2122	22000	10264
1225	44,61	1,57	11,2	2189	22000	10584
1225	47,28	1,48	10,6	2234	22000	10819
1450	50,24	1,65	9,9	2278	22000	11068
1450	53,02	1,56	9,4	2315	22000	11293
1450	58,50	1,41	8,6	2377	22000	11715
1450	64,89	1,27	7,7	2436	22000	12175
1450	68,58	1,21	7,3	2466	22000	12427
1450	72,76	1,14	6,9	2495	22000	12701
1450	78,92	1,05	6,3	2533	22000	13088
1535	83,66	1,05	6,0	2534	22000	13283
1535	92,31	0,95	5,4	2576	22000	13773
1535	105,44	0,83	4,7	2626	22000	14463
1535	114,80	0,76	4,4	2655	22000	14920
1535	120,42	0,73	4,2	2670	22000	15000
1535	132,87	0,66	3,8	2699	22000	15000

## IB103

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
1535	144,69	0,61	3,5	2722	22000	15000
1535	165,25	0,53	3,0	2754	22000	15000

## IB123

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
1085	7,97	7,77	62,8	2453	26584	7595
1300	9,62	7,71	52,0	2462	27285	7796
1445	10,33	7,97	48,4	2410	27163	7761
1445	12,48	6,60	40,1	2683	29542	8441
1515	13,84	6,24	36,1	2754	30000	8692
1515	15,38	5,62	32,5	2878	30000	9104
1590	18,58	4,88	26,9	3027	30000	9738
1805	20,61	5,00	24,3	3004	30000	9762
2020	22,78	5,06	21,9	2990	30000	9786
2020	25,89	4,45	19,3	3112	30000	10378
2020	27,51	4,19	18,2	3164	30000	10668
2020	30,79	3,74	16,2	3253	30000	11223
2020	31,26	3,68	16,0	3265	30000	11299
2020	34,68	3,32	14,4	3337	30000	11830
2020	40,53	2,84	12,3	3433	30000	12663
2165	44,89	2,75	11,1	3452	30000	12950
2310	49,80	2,65	10,0	3473	30000	13267
2730	54,30	2,87	9,2	3517	30000	13782
2730	59,36	2,62	8,4	3558	30000	14327
2820	62,59	2,57	8,0	3568	30000	14518
2815	69,43	2,31	7,2	3610	30000	15187
2990	74,42	2,29	6,7	3614	30000	15364
2990	80,04	2,13	6,2	3642	30000	15858
2990	89,87	1,90	5,6	3681	30000	16668
2990	99,70	1,71	5,0	3712	30000	17421
2990	106,65	1,60	4,7	3731	30000	17925
2990	119,60	1,43	4,2	3761	30000	18805
2990	129,96	1,31	3,9	3780	30000	19466
2990	144,43	1,18	3,5	3802	30000	20000
2990	160,23	1,06	3,1	3822	30000	20000
2990	180,40	0,95	2,8	3842	30000	20000

## IB143

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
2165	10,84	11,39	46,1	2171	24968	24968
2240	11,87	10,76	42,1	2274	25696	25696
2240	14,49	8,82	34,5	2587	28165	28165
2310	17,04	7,73	29,3	2760	29959	29959
2600	18,66	7,95	26,8	2726	29831	29831
2890	21,00	7,85	23,8	2742	30135	30135
3180	22,77	7,96	22,0	2724	29954	29954
3325	25,63	7,40	19,5	2815	31059	31059
3325	27,44	6,91	18,2	2894	32128	32128
3395	30,05	6,44	16,6	2968	33240	33240
3395	33,01	5,87	15,2	3060	34796	34796
3470	36,67	5,40	13,6	3137	36252	36252
3470	40,29	4,91	12,4	3214	37914	37914
3470	44,16	4,48	11,3	3283	39586	39586
3615	48,35	4,26	10,3	3318	40000	40000
4270	53,16	4,58	9,4	3380	40000	40000
4270	54,63	4,46	9,2	3397	40000	40000
4270	59,02	4,13	8,5	3442	40000	40000
4270	64,88	3,75	7,7	3493	40000	40000
4270	70,43	3,46	7,1	3533	40000	40000
4270	77,12	3,16	6,5	3573	40000	40000
4270	85,54	2,85	5,8	3616	40000	40000
4270	94,13	2,59	5,3	3651	40000	40000
4270	105,83	2,30	4,7	3690	40000	40000
4270	111,94	2,18	4,5	3707	40000	40000
4270	124,62	1,95	4,0	3737	40000	40000
4270	136,44	1,78	3,7	3760	40000	40000
4270	149,59	1,63	3,3	3781	40000	40000
4270	166,53	1,46	3,0	3804	40000	40000
4270	187,24	1,30	2,7	3826	40000	40000

## IB153

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
3250	10,49	17,67	47,6	6819	48046	48046
3250	12,64	14,66	39,5	7339	51544	51544
3615	14,01	14,72	35,7	7332	52779	52779
3615	15,40	13,39	32,5	7561	54701	54701
4335	18,56	13,32	26,9	7571	57095	57095
4695	20,56	13,02	24,3	7623	58602	58602
4845	23,86	11,58	21,0	7874	61748	61748
4915	25,19	11,13	19,9	7951	62895	62895

## IB153

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
5780	28,23	11,68	17,7	7856	63827	63827
5780	30,35	10,86	16,5	7997	65000	65000
5780	33,63	9,80	14,9	8180	65000	65000
5785	35,02	9,42	14,3	8247	65000	65000
5785	38,81	8,50	12,9	8406	65000	65000
5785	42,30	7,80	11,8	8527	65000	65000
5780	47,53	6,94	10,5	8676	65000	65000
6835	50,56	7,71	9,9	8748	65000	65000
6835	54,64	7,13	9,2	8832	65000	65000
6835	57,27	6,81	8,7	8880	65000	65000
6835	60,92	6,40	8,2	8939	65000	65000
6835	63,47	6,14	7,9	8977	65000	65000
6835	71,15	5,48	7,0	9074	65000	65000
6835	77,22	5,05	6,5	9137	65000	65000
6835	83,89	4,65	6,0	9195	65000	65000
6835	87,65	4,45	5,7	9225	65000	65000
6835	93,05	4,19	5,4	9262	65000	65000
6835	103,12	3,78	4,8	9322	65000	65000
6835	123,88	3,15	4,0	9415	65000	65000
6835	134,27	2,90	3,7	9450	65000	65000
6835	149,26	2,61	3,4	9493	65000	65000
6835	165,42	2,36	3,0	9530	65000	65000

## IB163

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
4915	8,89	31,53	56,2	6830	68733	65000
5715	10,58	30,82	47,3	6910	71467	65000
5565	11,87	26,74	42,1	7359	75194	65000
6360	12,81	28,32	39,0	7184	75410	65000
6940	14,08	28,10	35,5	7209	76831	65000
7230	15,52	26,57	32,2	7379	79173	65000
7160	16,39	24,92	30,5	7562	80000	65000
7520	18,02	23,81	27,8	7685	80000	65000
7735	19,96	22,11	25,1	7872	80000	65000
7515	21,94	19,53	22,8	8156	80000	65000
7590	24,17	17,91	20,7	8337	80000	65000
8025	26,58	17,22	18,8	8413	80000	65000
7375	28,80	14,60	17,4	8702	80000	65000
8315	30,92	15,34	16,2	8622	80000	65000
8600	34,25	14,32	14,6	8733	80000	65000
8890	37,66	13,46	13,3	8828	80000	65000

## IB163

Mn <sub>2</sub> [Nm]	i	Pn <sub>1</sub> [kW]	n <sub>2</sub> [rpm]	Fr1 [N]	Fr2 D-S-P [N]	Fr2 C [N]
9180	40,65	12,88	12,3	8893	80000	65000
8675	45,09	10,97	11,1	9104	80000	65000
11110	51,00	12,42	9,8	9155	80000	65000
11110	53,63	11,82	9,3	9212	80000	65000
11110	58,97	10,75	8,5	9312	80000	65000
11110	69,78	9,08	7,2	9468	80000	65000
11110	76,72	8,26	6,5	9545	80000	65000
11110	87,54	7,24	5,7	9641	80000	65000
11110	96,25	6,58	5,2	9702	80000	65000
11110	103,93	6,10	4,8	9747	80000	65000
11110	114,27	5,54	4,4	9799	80000	65000
11110	126,29	5,02	4,0	9848	80000	65000
11110	138,85	4,56	3,6	9891	80000	65000
11110	154,83	4,09	3,2	9935	80000	65000

**ATTENTION!**

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