L-force catalogue

# Automation systems
# Drive solutions

# Controls
# Inverters
# Motors
# Gearboxes
# Engineering Tools

**Motors:** MF three-phase AC motors

**Gearboxes:** GST helical gearboxes, GFL shaft-mounted helical gearboxes

Lenze
As easy as that.

# Contents of the L-force catalogue


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| | | A matter of principle: the right products for every application. | |
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**Selected portfolio**

**Additional portfolio**

# Lenze makes many things easy for you.

With our motivated and committed approach, we work together with you to create the best possible solution and set your ideas in motion - whether you are looking to optimise an existing machine or develop a new one. We always strive to make things easy and seek perfection therein. This is anchored in our thinking, in our services and in every detail of our products. It's as easy as that!

## 1

### Developing ideas

Are you looking to build the best machine possible and already have some initial ideas? Then get these down on paper together with us, starting with small innovative details and stretching all the way to completely new machines. Working together, we will develop an intelligent and sustainable concept that is perfectly aligned with your specific requirements.

## 2

### Drafting concepts

We see welcome challenges in your machine tasks, supporting you with our comprehensive expertise and providing valuable impetus for your innovations. We take a holistic view of the individual motion and control functions here and draw up consistent, end-to-end drive and automation solutions for you - keeping everything as easy as possible and as extensive as necessary.

## 3

### Implementing solutions

Our easy formula for satisfied customers is to establish an active partnership with fast decision-making processes and an individually tailored offer. We have been using this simple principle to meet the ever more specialised customer requirements in the field of mechanical engineering for many years.

## 4

### Manufacturing machines

Functional diversity in perfect harmony: as one of the few full-range providers in the market, we can provide you with precisely those products that you actually need for any machine task – no more and no less. Our L-force product portfolio, a consistent platform for implementing drive and automation tasks, is invaluable in this regard.

## 5

### Ensuring productivity

Productivity, reliability and new performance peaks on a daily basis – these are our key success factors for your machine. After delivery, we offer you cleverly devised service concepts to ensure continued safe operation. The primary focus here is on technical support, based on the excellent application expertise of our highly-skilled and knowledgeable after-sales team.

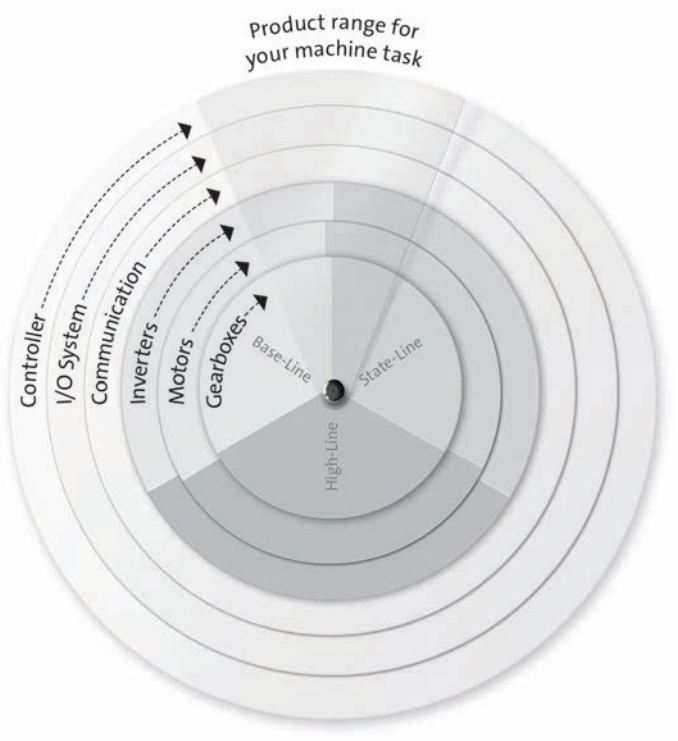
# A matter of principle: the right products for every application.

Lenze's extensive L-force product portfolio follows a very simple principle. The functions of our finely scaled products are assigned to the three lines Base-Line, State-Line or High-Line.

But what does this mean for you? It allows you to quickly recognise which products represent the best solution for your own specific requirements.

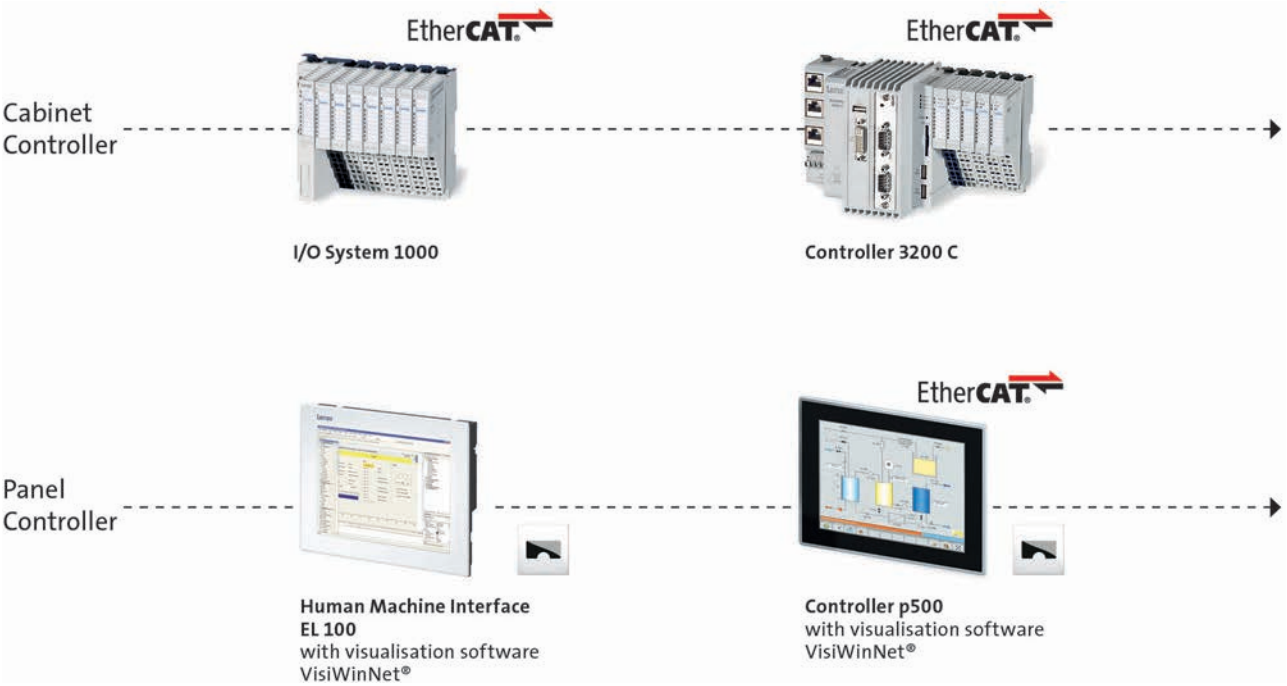
**Powerful products with a major impact:**
- Easy handling
- High quality and durability
- Reliable technologies in tune with the latest developments

Lenze products undergo the most stringent testing in our own laboratory. This allows us to ensure that you will receive consistently high quality and a long service life. In addition to this, five logistics centres ensure that the Lenze products you select are available for quick delivery anywhere across the globe. It's as easy as that!

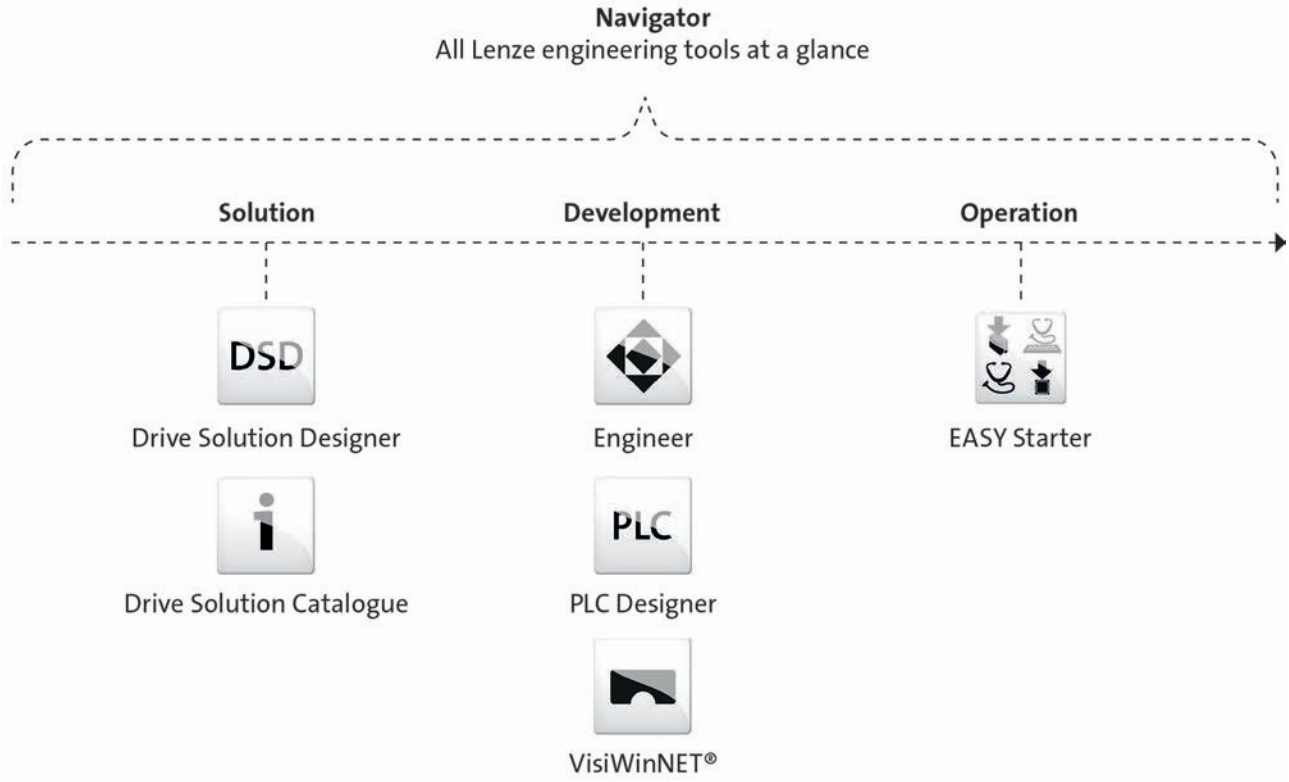


# L-force product portfolio

## Controls

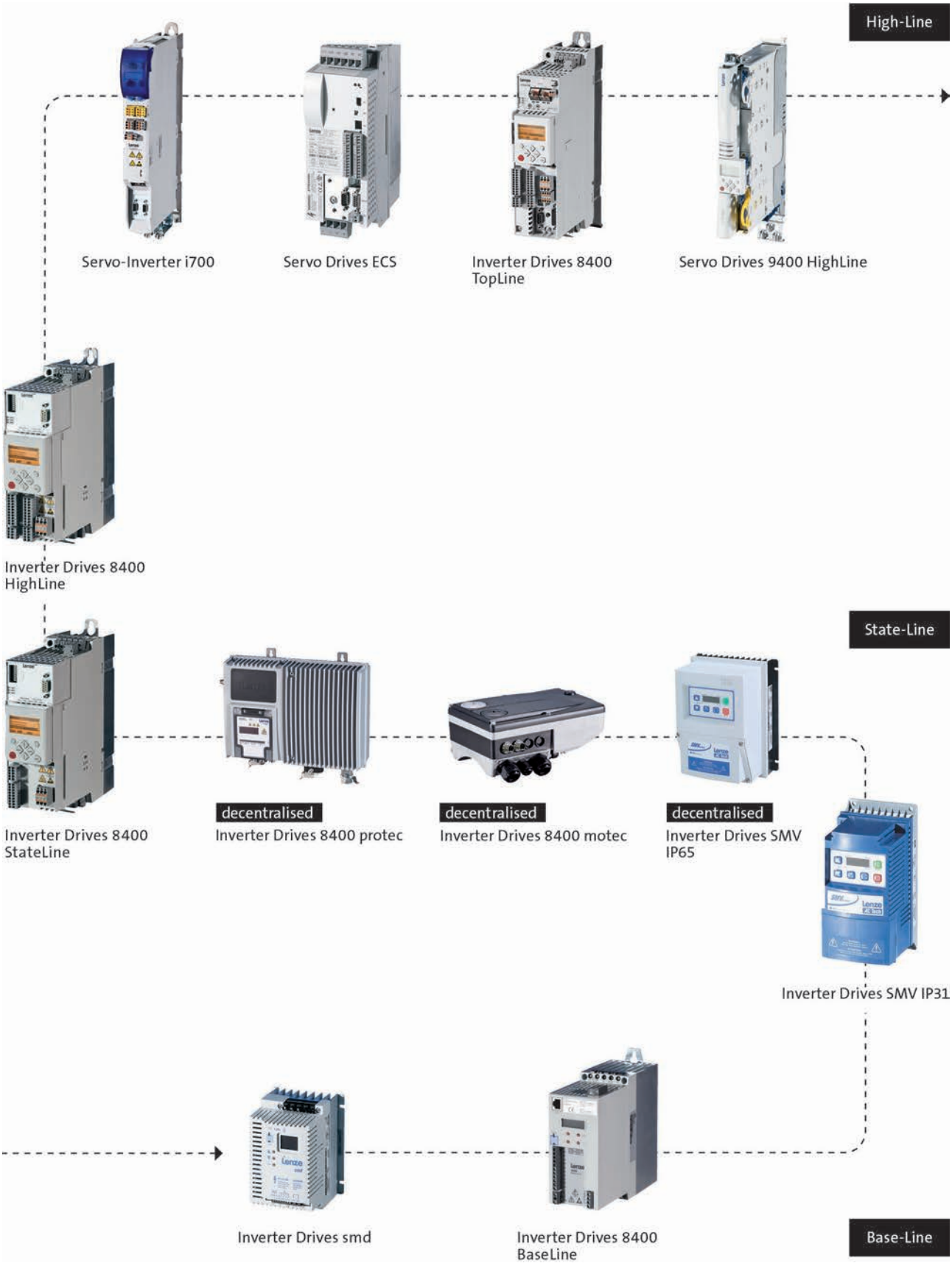



## Engineering Tools



# L-force product portfolio

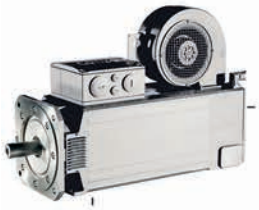
## Inverters



# L-force product portfolio

**Motors**

High-Line



MQA asynchronous servo motors



SDSGS synchronous servo motors



MDXKS synchronous servo motors



Synchronous servo motors MCS



Asynchronous servo motors MCA



Asynchronous servo motors SDSGA

State-Line



MF three-phase AC motors



MH three-phase AC motors



MD three-phase AC motors

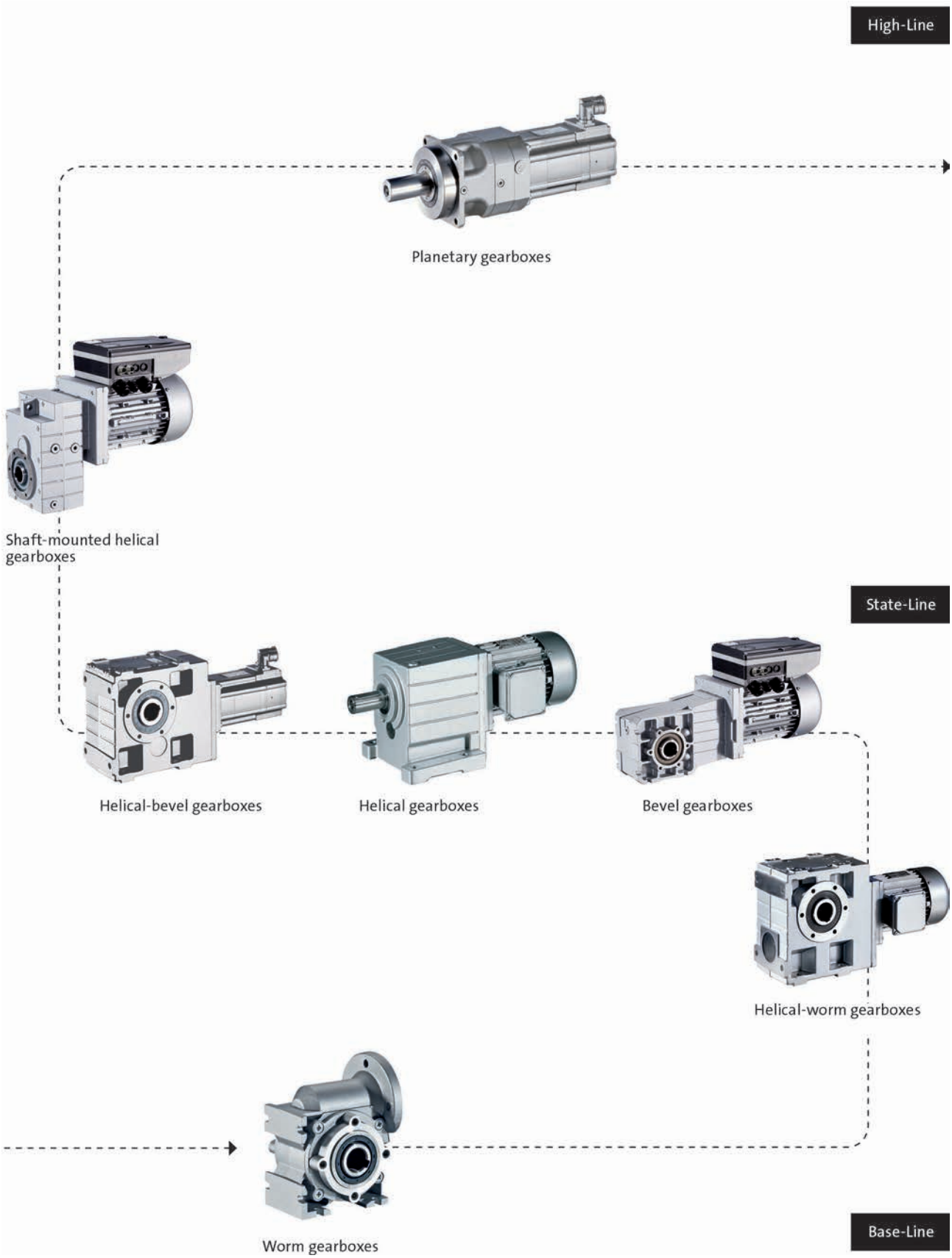


Basic MD/MH three-phase AC motors

Base-Line

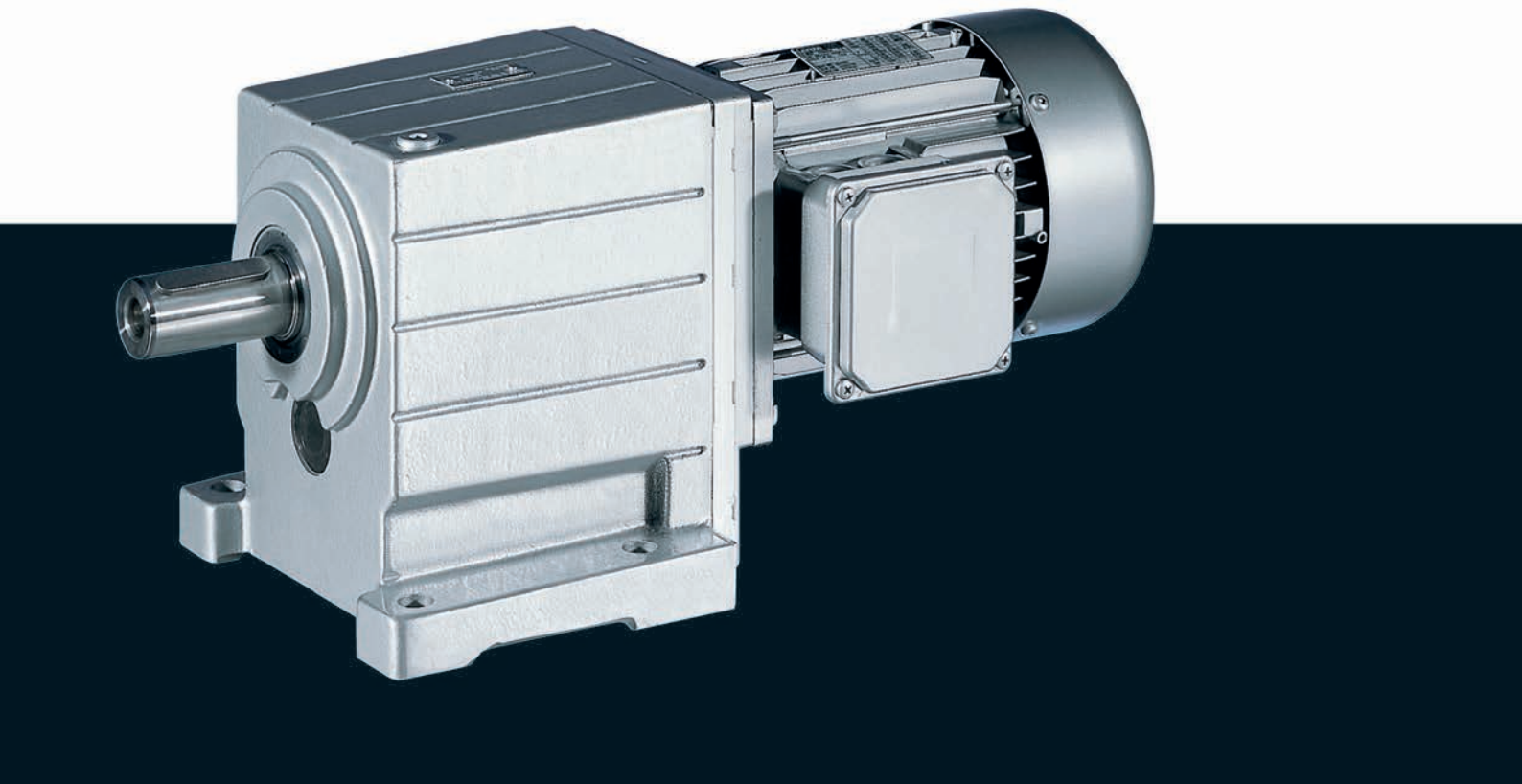
# L-force product portfolio

**Gearboxes**



# GST helical gearboxes

**0.55 to 22 kW**



# GST helical gearboxes

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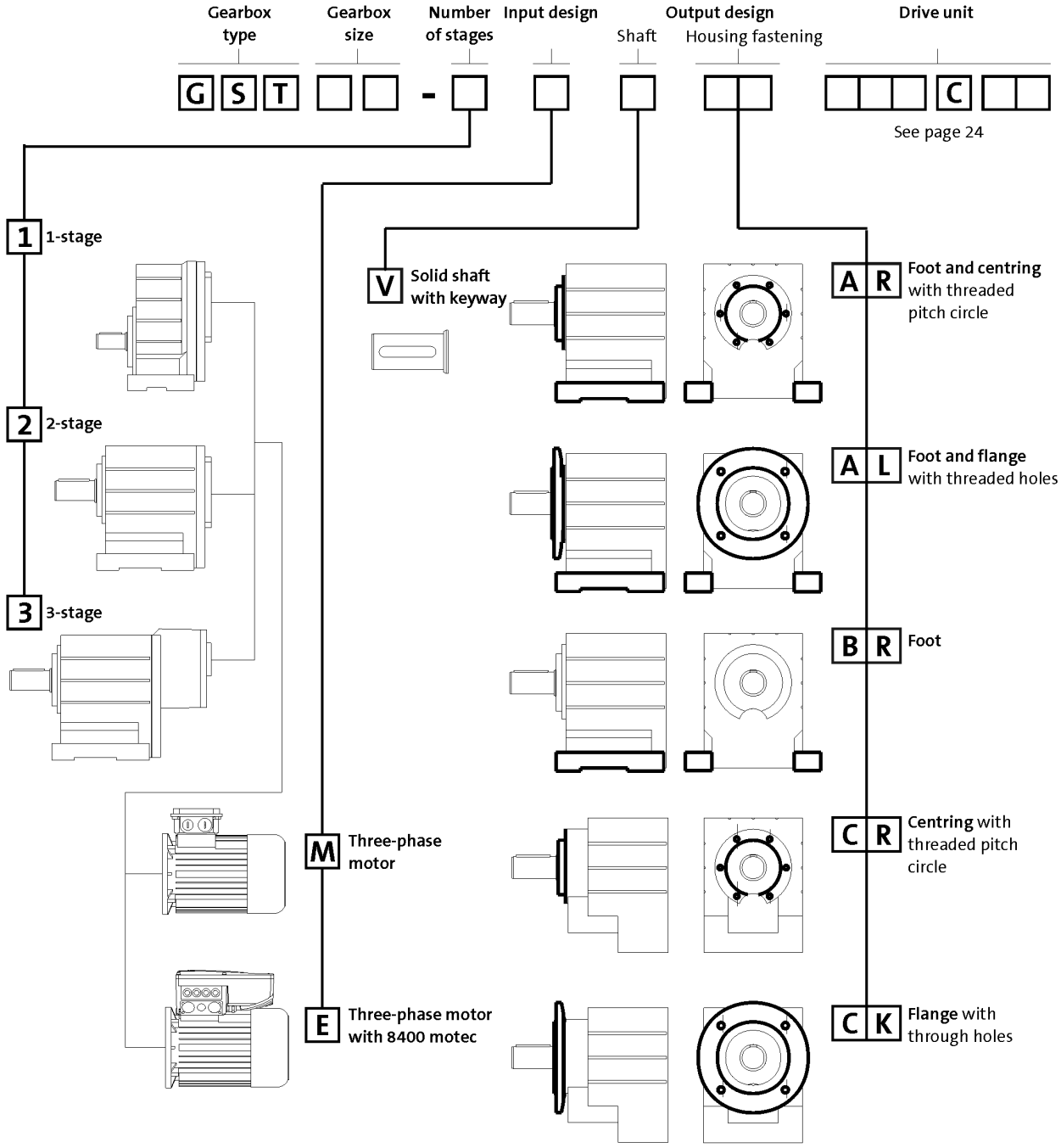
## List of abbreviations

| | | |
|---|---|---|
| $\eta_{c=1}$ | | Efficiency |
| c | | Load capacity |
| $f_N$ | [Hz] | Rated frequency |
| $F_{ax,max}$ | [N] | Max. axial force |
| $F_{rad,max}$ | [N] | Max. radial force |
| $H_{max}$ | [m] | Site altitude |
| i | | Ratio |
| J | [kgcm²] | Moment of inertia |
| m | [kg] | Mass |
| $M_2$ | [Nm] | Output torque |
| $n_2$ | [r/min] | Output speed |
| $n_N$ | [r/min] | Rated speed |
| $P_N$ | [kW] | Rated power |
| $S_{hü}$ | [1/h] | Transition operating frequency |
| $T_{opr,max}$ | [°C] | Max. ambient operating temperature |
| $T_{opr,min}$ | [°C] | Min. ambient operating temperature |
| $U_{N,\Delta}$ | [V] | Rated voltage |
| $U_{N,Y}$ | [V] | Rated voltage |

| | |
|---|---|
| CE | Communauté Européenne |
| CSA | Canadian Standards Association |
| DIN | Deutsches Institut für Normung e.V. |
| EMC | Electromagnetic compatibility |
| EN | European standard |
| IEC | International Electrotechnical Commission |
| IM | International Mounting Code |
| IP | International Protection Code |
| NEMA | National Electrical Manufacturers Association |
| UL | Underwriters Laboratory Listed Product |
| UR | Underwriters Laboratory Recognized Product |
| VDE | Verband deutscher Elektrotechniker (Association of German Electrical Engineers) |
| CCC | China Compulsory Certificate |
| GOST | Certificate for Russian Federation |
| cURus | Combined certification marks of UL for the USA and Canada |
| UkrSEPRO | Certificate for Ukraine |



## Product key



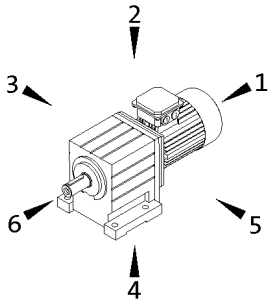
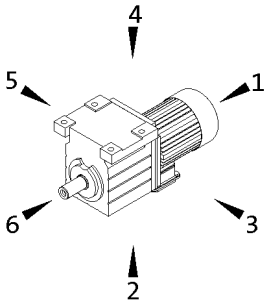
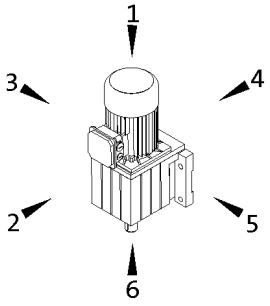
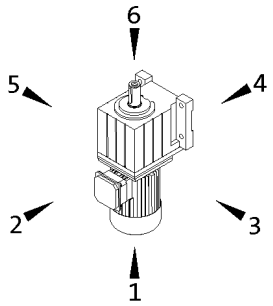
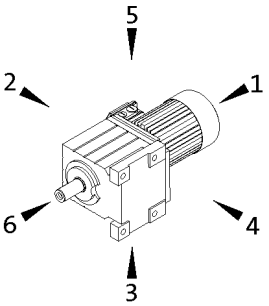
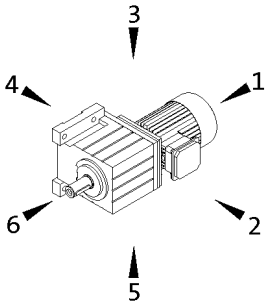

| | Output design | | |
|---|---|---|---|
| | V | K | L |
| | d x l [mm] | Øa2 [mm] | Øa2 [mm] |
| GST03-2 | 14x28 | 120/140/160 | |
| | 20x40 | 120/140/160 | |
| GST04-1 | 16x32 | 120/140/160 | |
| GST04-2 | 20x40 | 120/140/160 | 120/140 |
| GST05-1 | 20x40 | 120/140/160/200 | |
| GST05-2/3 | 25x50 | 120/140/160/200 | 120/140/160 |
| GST06-1 | 25x50 | 160/200 | |

| | Output design | | |
|---|---|---|---|
| | V | K | L |
| | d x l [mm] | Øa2 [mm] | Øa2 [mm] |
| GST06-2/3 | 30x60 | 160/200 | 160/200 |
| GST07-1 | 30x60 | 200/250 | |
| GST07-2/3 | 40x80 | 200/250 | 200/250 |
| GST09-1 | 40x80 | 250/300 | |
| GST09-2/3 | 50x100 | 250/300 | 250/300 |
| GST11-2/3 | 60x120 | 300/350 | 300/350 |
| GST14-2/3 | 80x160 | 350/400 | 350/400 |



## Product key

**Mounting position (A...F) and position of system blocks (1...6)**

| A | B | C |
|---|---|---|
|  |  |  |
| **D** | **E** | **F** |
|  |  |  |

Terminal box / motec: 2, 3, 4, 5

**Gearbox designs**

| Basic versions | |
|---|---|
| Motor efficiency | Standard efficiency<br>Increased efficiency (IE2) |
| Surface and corrosion protection | No OKS (unpainted, aluminium housing) for GST03<br>OKS-G (primer: grey)<br>OKS-S (paint: RAL 7012) |
| Lubricant | CLP 460 (mineral) |
| Ventilation | Oil control plugs for GST05 ... 14<br>Breather elements for GST06 ... 14 |

| Options | |
|---|---|
| Surface and corrosion protection | OKS-G (primer: grey) for GST03-2<br>OKS-S (special paint according to RAL)<br>OKS-M (special paint according to RAL)<br>OKS-L (special paint according to RAL) |
| Lubricant | CLP HC 320 (synthetic)<br>CLP HC 220 USDA H1 (synthetic) |
| Shaft sealing rings | Driven shaft: Viton |
| Bearings | Driven shaft: reinforced for GST04 ... 09-2/3 |
| Ventilation | Breather elements for GST05<br>Compensation reservoir for GST09 ... 14-2 in mounting position C |
| Nameplate | Metal nameplate (supplied loose)<br>Adhesive nameplate (supplied loose) |



## Product information

Lenze provides a geared motor construction kit, which covers a wide range of requirements. Numerous drive-side and output-side options enable precise adaptation of the drive to the specific application. This is the basis for versatile applications and functional scalability of our gearboxes and geared motors.
The modular concept and high power density make extremely compact sizes possible. Optimised teeth profiles and ground gears ensure low-noise operation and low backlash. The gearboxes are of compact and hence space-saving construction.

**Robust design with high efficiency**

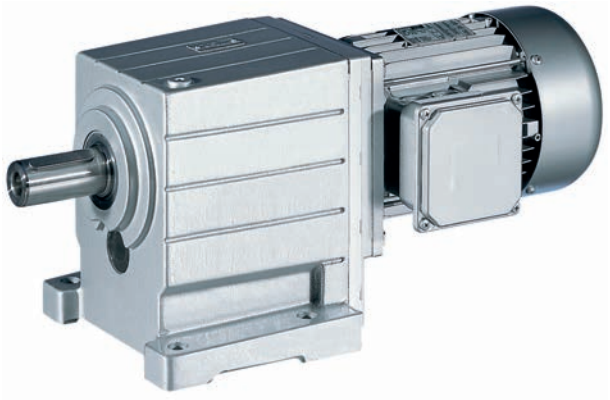
Together with three-phase AC motors, our helical gearboxes form a compact and powerful drive unit. They are rugged in design and feature high permissible radial forces, closely stepped speed reduction ratios and minimum backlash. The gearboxes are available as 1 and 2 and 3-stage versions with a torque of up to 5,920 Nm and a ratio of up to i= 435.

**Inverters for motor-proximity installation**

The Drive Package with decentralised Inverter Drives 8400 motec covers a power range up to 7.5 kW.

**Designs**

- 1-stage, 2-stage and 3-stage gearboxes
- Solid shaft with keyway
- Foot or flange mounting
- With MF three-phase AC motors (inverter-optimised) power range 0.55 ... 22 kW



**Helical geared motor GST07-2M VBR 100-32**



## Functions and features

| Gearbox type | GST |
|---|---|
| **Housing** | |
| Design | Cuboid |
| Material | Aluminium / cast iron |
| **Solid shaft** | |
| Design | with keyway to DIN 6885 |
| Tolerance | m6 (d > 50 mm)<br>k6 (d ≤ 50 mm) |
| Material | Tempered steel C45 or 42CrMo4 |
| **Hollow shaft** | |
| Design | |
| Tolerance | |
| Material | |
| **Toothed parts** | |
| Design | Optimised tooth flanks and profile geometry<br>Ground tooth flanks |
| Material | Case-hardened steel |
| **Shaft-hub joint** | |
| | 1st stage/prestage/helical (bevel) gearbox: Friction-type connection<br>Output stage (= 2nd, 3rd or 4th stage): Friction-type or positive-fit connection |
| **Shaft sealing rings** | |
| Design | With dust lip |
| Material | NB / FP |
| **Bearing** | |
| Design | Ball bearing / tapered-roller bearing depending on size and design |
| **Lubricants** | |
| Standard | DIN 51502 |
| Quantities | corresponding to mounting position (see operating instructions) |
| **Mechanical efficiency** | |
| 1-stage gearboxes [$\eta_{c=1}$] | 0.98 |
| 2-stage gearboxes [$\eta_{c=1}$] | 0.97 |
| 3-stage gearboxes [$\eta_{c=1}$] | 0.95 |
| 4-stage gearboxes [$\eta_{c=1}$] | |
| Notes | |



## Functions and features

### Lubricants

Lenze gearboxes and geared motors are ready for operation on delivery and are filled with lubricants specific to both the drive and the design. The mounting position and design specified in the order are key factors in choosing the volume of lubricant.

**The lubricants listed in the lubricant table are approved for use in Lenze drives.**

**Lubricant table**

| Mode | CLP 460 | CLP HC 320 | CLP HC 220<br>USDA H1 |
|---|---|---|---|
| Ambient temperature [°C] | 0 ... +40 | -25 ... +50 | -20 ... +40 |
| Specification | Mineral based oil with additives | Synthetic-based oil (synthetic hydrocarbon / poly-alpha-olefin oil) | |
| Note | | | For food processing industry |
| Changing interval | 16000 operating hours<br>not later than after three years (oil temperature 70...80 °C) | 25000 operating hours<br>not later than after three years (oil temperature 70...80 °C) | 16000 operating hours<br>not later than after three years (oil temperature 70...80 °C) |
| Fuchs | Fuchs Renolin<br>CLP 460 | Fuchs Renolin<br>Unisyn CLP 320 | bremer & leguil<br>Cassida Fluid GL 220 |
| Klüber | Klüberoil<br>GEM1-460 N | Klübersynth<br>GEM4-320 N | Klüberoil<br>4 UH1-220 N |
| Shell | Shell Omala<br>460 | Shell Omala<br>Oil HD 320 | |

► Please contact your Lenze office if you are operating at ambient temperatures in areas up to < -20 °C > or up to +40°C.



## Functions and features

### Surface and corrosion protection

For optimum protection of geared motors against ambient conditions, the surface and corrosion protection system (OKS) offers tailor-made solutions.

Various surface coatings combined with other protective measures ensure that the geared motors operate reliably even at high air humidity, in outdoor installations or in the presence of atmospheric impurities. Any colour from the RAL Classic collection can be chosen for the top coat. The geared motors are also available unpainted (no surface and corrosion protection).

| Surface and corrosion protection system | Applications | Measures |
|---|---|---|
| | Catalogue text | Catalogue text |
| OKS-G<br>(primed) | • Dependent on subsequent top coat applied | • 1K priming coat (grey)<br>• Zinc-coated screws<br>• Rust-free breather elements<br>Optional measures<br>• Stainless steel nameplate |
| OKS-S<br>(small) | • Standard applications<br>• Internal installation in heated buildings<br>• Air humidity up to 90% | • Surface coating as per corrosivity category C1 (in line with EN 12944-2)<br>• Zinc-coated screws<br>• Rust-free breather elements<br>Optional measures<br>• Stainless steel nameplate |
| OKS-M<br>(medium) | • Internal installation in non-heated buildings<br>• Covered, protected external installation<br>• Air humidity up to 95% | • Surface coating as per corrosivity category C2 (in line with EN 12944-2)<br>• Zinc-coated screws<br>• Rust-free breather elements<br>Optional measures<br>• Stainless steel shaft<br>• Stainless steel nameplate<br>• Rust-free shrink disc (on request) |
| OKS-L<br>(high) | • External installation<br>• Air humidity above 95%<br>• Chemical industry plants<br>• Food industry | • Surface coating as per corrosivity category C3 (in line with EN 12944-2)<br>• Blower cover and B end shield additionally primed<br>• Cable glands with gaskets<br>• Corrosion-resistant brake with cover ring, stainless friction plate, and chrome-plated armature plate (on request)<br>• All screws/screw plugs zinc-coated<br>• Stainless breather elements<br>• Threaded holes that are not used are closed by means of plastic plugs<br>Optional measures<br>• Sealed recesses on motor (on request)<br>• Stainless steel shaft<br>• Stainless steel nameplate<br>• Rust-free shrink disc (on request)<br>• Additional priming coat on cast iron fan<br>• Oil expansion tank and torque plates painted separately and supplied loose |



## Functions and features

### Structure of surface coating

| Surface and corrosion protection system | Corrosivity category | Surface coating | Colour |
|---|---|---|---|
| | DIN EN ISO 12944-2 | Structure | |
| Without OKS (uncoated) | | Dipping primed gearbox | |
| OKS-G (primed) | | Dipping primed gearbox<br>1K priming coat | |
| OKS-S (small) | C1 | Dipping primed gearbox<br>2K-PUR top coat | Standard: RAL 7012<br>Optional: RAL Classic |
| OKS-M (medium) | C2 | Dipping primed gearbox<br>1K priming coat<br>2K-PUR top coat | Standard: RAL 7012<br>Optional: RAL Classic |
| OKS-L (high) | C3 | Dipping primed gearbox<br>2K-EP priming coat<br>2K-PUR top coat | Standard: RAL 7012<br>Optional: RAL Classic |

► The gearboxes GST 03 have an aluminium housing, therefore a dipping primer is dispensed with in the case of these gearboxes.



## Functions and features

**Ventilation**

**Gearboxes without ventilation**
No ventilation is required for gearboxes GST03 ... 04.

**Gearboxes that may optionally be equipped with ventilation**
Special measures are not usually required when using gearbox GST05. In borderline cases, e.g. at input speeds > 2000 r/min, we recommend the use of breather elements which we can supply if required.

**Gearboxes with ventilation**
Gearboxes GST06...14 are supplied with breather elements as standard.

**Special measures for mounting position C (motor on top)**
We recommend that an oil compensation reservoir is always used with gearbox sizes G□□09...14 in this mounting position. This reservoir can be purchased as an option. For illustrations and measures see accessories chapter.

This is not required at higher ratios or low input speeds. Please contact Lenze in this event.



## Dimensioning

**General information about the data provided in this catalogue**

**Powers, torques and speeds**
The powers, torques and speeds specified in this catalogue are rounded values and are valid under the following conditions:

- Operating time/day = 8 h (100% OT)
- Duty class I for up to 10 switching operations/h
- Mounting positions and designs in this catalogue
- Standard lubricant
- $T_{amb}$ = 20 °C for gearboxes,
  $T_{amb}$ = 40 °C for motors (in accordance with EN 60034)
- Site altitude < = 1000 m amsl
- The selection tables provide the permissible mechanical powers and torques. For notes on the thermal power limit, see chapter drive dimensioning.
- The rated power specified for motors and geared motors applies to operating mode S1 (in accordance with EN 60034).

Under different operating conditions, the values obtained may vary from those listed here.
In the case of extreme operating conditions, please consult your Lenze sales office.



## Dimensioning

### Thermal power limit

The thermal power limit, defined by the heat balance, limits the permissible gearbox continuous power. It may be less than the mechanical power ratings listed in the selection tables.

The thermal power limit is affected by:
- the churning losses in the lubricant. These are determined by the mounting position and the circumferential speed of the wheels
- the load and the speed
- the ambient conditions: temperature, air circulation, input or dissipation via shafts and the foundation

Please consult your Lenze subsidiary
- if the following input speeds $n_1$ are exceeded on a continuous basis (continuous is defined as more than 8 h/day):

| Motor frame size | Mounting position A, B, E, F | Mounting position C, D |
|---|---|---|
| 063 ... 100 | 3000 r/min | 3000 r/min |
| 112 ... 132 | 3000 r/min | 1500 r/min |
| 160 ... 225 | 2000 r/min | 1500 r/min |

- if the following input speeds $n_1$ are exceeded:

| Motor frame size | Mounting position A, B, E, F | Mounting position C, D |
|---|---|---|
| 063 ... 100 | 4000 r/min | 3000 r/min |
| 112 ... 132 | 4000 r/min | 2000 r/min |
| 160 ... 225 | 3000 r/min | 1500 r/min |

- or if you are using the following gearbox type, size and ratio combinations at an input speed of $n_1$ > 1500 r/min:

| Gearbox type | Gearbox size | Ratio i |
|---|---|---|
| GST helical gearbox | 07, 09, 11, 14 | ≤ 10 |

### Possible ways of extending the application area

- synthetic lubricant (option)
- shaft sealing rings made from FP material/Viton (option)
- reduction in lubricant quantity
- cooling of the geared motor by means of air convection on the machine/system



## Dimensioning

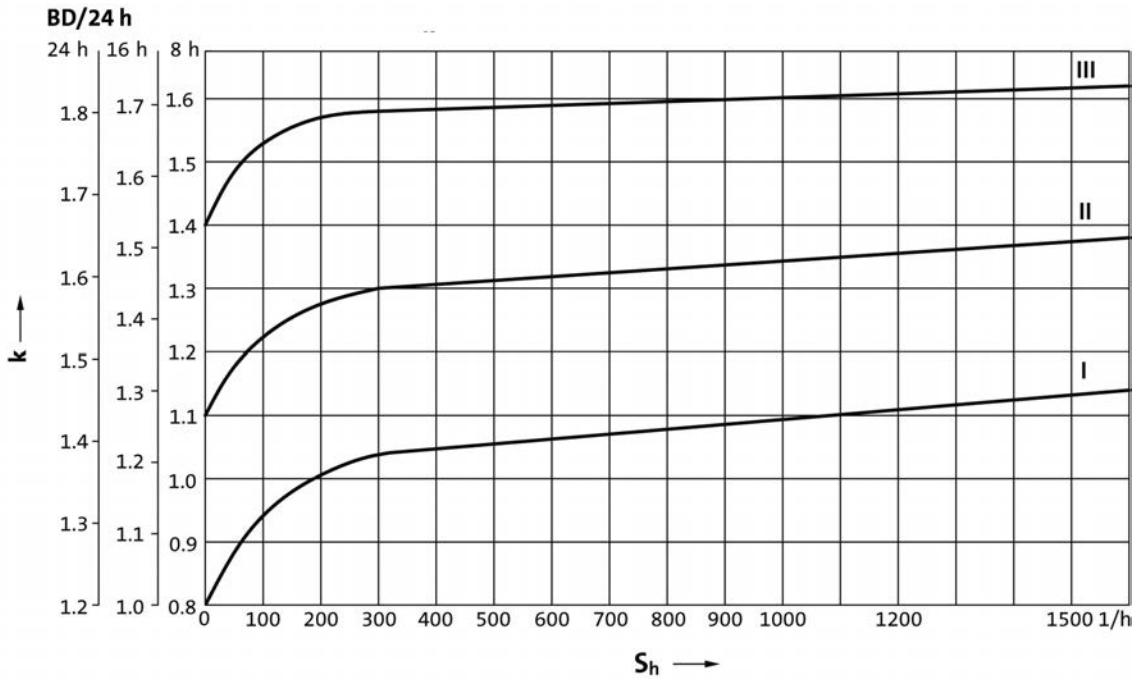
### Load capacity and application factor

**Load capacity c of gearbox**
Rated value for the load capacity of Lenze geared motors.
- c is the ratio of the permissible rated torque of the gearbox to the rated torque supplied by the drive component (e.g. the built-in Lenze motor).
- The value of c must always be greater than the value of the application factor k calculated for the application.

**Application factor k (according to DIN 3990)**
Takes into account the influence of temporally variable loads which are actually present during the anticipated operating time of gearboxes and geared motors.
k is determined by:
- the type of load
- the load intensity
- temporal influences

| Duty class | Load type |
|---|---|
| I | Smooth operation, small or light jolts |
| II | Uneven operation, average jolts |
| III | Uneven operation, severe jolts and/or alternating load |

**Application factor k**




6.4

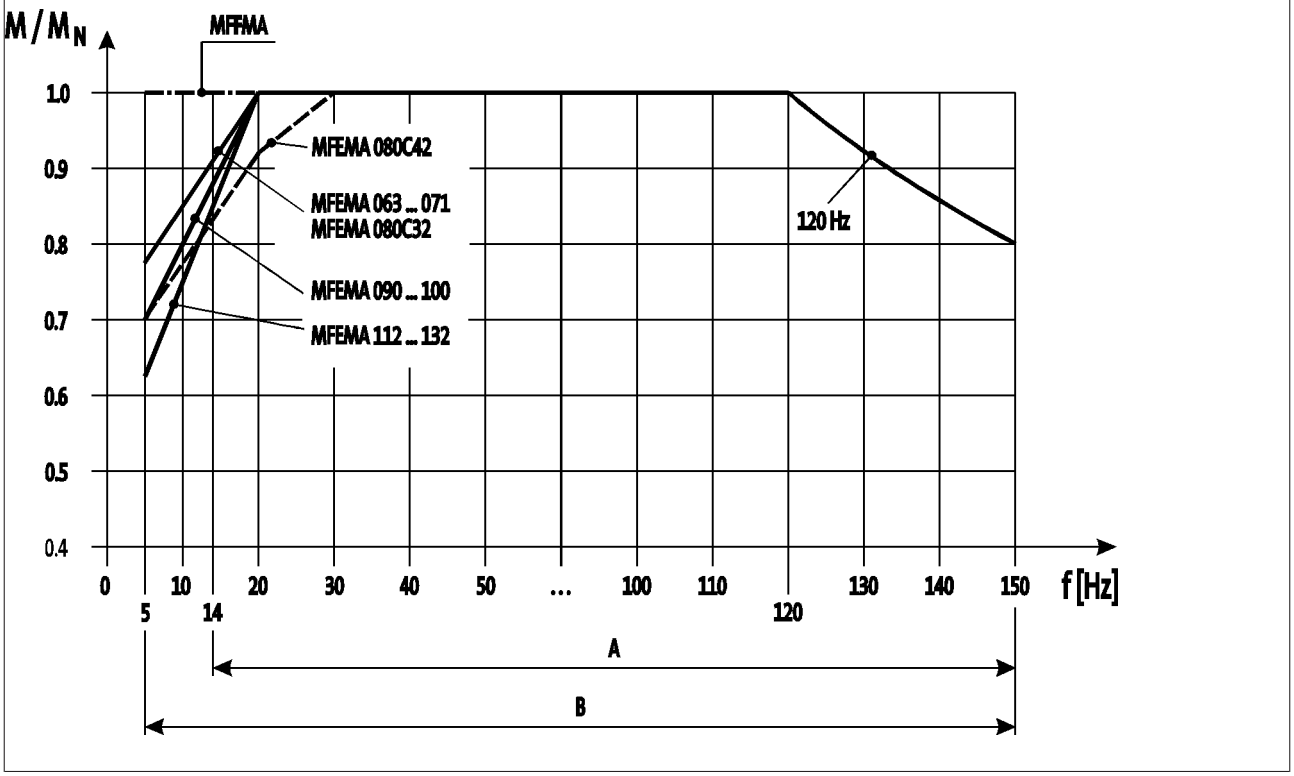


## Dimensioning

**Torque derating at low motor frequencies**

Motor size-dependent torque reduction, taking into account the thermal response during operation on the inverter.

**Torque characteristics**




A = Operation with integral fan and brake
B = Operation with integral fan and brake control "Holding current reduction"

► The motor specifications stated in this catalogue for inverter operation apply to operation with a Lenze inverter. If you are uncertain, get in touch with the manufacturer of the inverter to ask whether the device is capable of driving the motor with the stated specifications (e.g. setting range, base frequency).

**You can use the Drive Solution Designer for precise drive dimensioning.**

The Drive Solution Designer helps you to carry out a fast and high-quality drive dimensioning.
The software includes well-founded and proven knowledge on drive applications and electro-mechanical drive components.

Please contact your Lenze sales office.



## Dimensioning

### Notes on the selection tables

The selection tables show the available combinations of gearbox type, number of stages, ratio and motor. The following legend indicates the structure of the selection tables.

**Gearbox type**

GST helical gearbox



Technical data

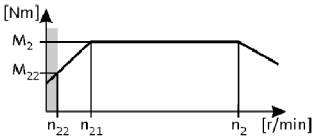
Selection tables

**Rated power $P_N$ of the drive motor in relation to the rated frequency**

► 120 Hz: $P_N$ = 0.55 kW

**Speed setting range** $n_{22}/n_2$ = 1 ... 24.0

**Speed range of the drive motor** $n_1$ = 143.3 ... 3440 r/min



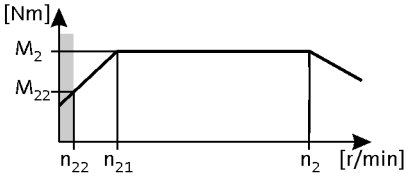

| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 70 | 293 | - | 1680 | 2.3 | 3.0 | 4.5 | 2.048 | GST04-1M□□□063C32 | E84AV□□□5514□□0 | 79 |
| 64 | 268 | - | 1536 | 2.6 | 3.0 | 3.9 | 2.240 | GST05-1M□□□063C32 | E84AV□□□5514□□0 | 79 |

**Product key of geared motor**

**Product key of inverter**

**Speed and torque information**

The speed and torque information applies to self-ventilated and forced-ventilated drives. Externally cooled drives can always output the torque $M_2$ in all the setting ranges. In the case of self-ventilated drives, a reduction to $M_{22}$ is necessary in the lower speed range.




The following applies to self-ventilated geared motors: $n_{22}$ is the minimum speed at which the torque $M_{22}$ is permissible. From $n_{21}$ to $n_2$, the maximum torque is $M_2$. The following applies to forced-ventilated geared motors: From the minimum speed $n_{22}$ to $n_2$, the maximum torque is $M_2$

**Ratio i**

**The load capacity c of the gearbox c is the ratio of the gearbox's rated torque to the rated torque of the three-phase motor (calculated in respect of its application to the output shaft). c must always be greater than the application factor k determined for the application.**

$$c = \frac{M_{2,zul}}{M_{1N} \cdot i \cdot \eta_{Getr}} > k$$

**Page number for dimensions**



## Notes on ordering

**We want to be sure that you receive the correct products in good time.**

To allow us to achieve this we need:
- your address and your company data
- our product key for the individual products in this catalogue
- your delivery date and delivery address

**Ordering procedure**
Please use the ordering information checklist to ensure that you provide all the ordering information required for the various products.

The ordering information checklist, the product key, the basic versions, options, mounting position and position of the system blocks will be found in the General – Product key section.

A list of Lenze's worldwide sales offices can be found on the Internet: www.Lenze.com.



## Ordering details checklist

☐ **Offer**



☐ **Order**

**Customer No.**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

**Job No.**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

**Fax No.** _____

## Sender

Company _____ Made out by (name) _____

Street/P.O. Box _____ Department _____

P.O. Box, City _____ Telephone No. _____

Date _____ Signature _____

**Delivery address (if different)**

Street/P.O. Box _____ Desired delivery date _____

P.O. Box, City _____ Dispatching notes _____

**Invoice recipient (if different)**

Street/P.O. Box _____

Postal code, City _____



## Ordering details checklist

Customer No. ☐☐☐☐☐☐☐☐

Job No. ☐☐☐☐☐☐☐☐☐☐

Page __

Quantity ☐

**Efficiency class** ☐ Standard efficiency ☐ High efficiency (IE2)

**Rated frequency** ☐ 50 Hz ☐ 60 Hz ☐ 87 Hz

**Ratio i** ☐

GST ☐☐ – ☐ 1 ☐ 2 ☐ 3 ☐ M ☐ E [☐ V] Solid shaft d = ☐ mm (only with GST03)

☐ A ☐ B ☐ C ☐ R ☐ K ☐ L Flange $a_2$ = ☐ mm

Motor frame size ☐☐☐C☐☐

**Mounting position** A ☐ B ☐ C ☐ D ☐ E ☐ F ☐

**Position of system blocks** Terminal box 2 ☐ 3 ☐ 4 ☐ 5 ☐

**Surface and corrosion protection**

GST03 ☐ Without OKS (unpainted)

GST04 ... 14 ☐ OKS-S colour: RAL 7012 ☐ OKS-G (primed)

## Options

6.4

**Special lubricants** ☐ CLP HC 320 (synthetic) ☐ CLP HC 220 USDA H1 (for the food industry)

**Surface and corrosion protection** ☐ OKS-S (small) ☐ OKS-M (medium) RAL ☐

☐ OKS-L (high) ☐ OKS-G (primed) only with GST03

**Output shaft bearing** ☐ Reinforced bearing for GST04 ... 09-2

**Shaft sealing rings** ☐ Viton

**Breathing** ☐ Breather elements for GST05 ☐ Compensation reservoir in mounting position for GST 09 ... 14-2



## Ordering details checklist

**Three-phase AC motors options**

**Customer No.** ☐☐☐☐☐☐☐☐

**Job No.** ☐☐☐☐☐☐☐☐☐☐

Page __

**Motor connection**

Terminal box
- ☐ with plug-in connector ICN 6-pin. Adhere to permissible rated motor current 20 A!
- ☐ with plug-in connector ICN 8-pin. Adhere to permissible rated motor current 20 A!
- ☐ with plug-in connector HAN10E. Adhere to permissible rated current 16 A!
- ☐ with plug-in connector HAN-Modular. Adhere to permissible rated current 16 / 40 A!

Cable entry: only with M□□MAXX/LL063 ... 132 or terminal box with plug-in connector in position 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

**Blower**

☐ 1~ ☐ 3~

☐ Terminal box with plug-in connector ICN

Terminal box position 2 ☐ 3 ☐ 4 ☐ 5 ☐

**Spring-applied brake**

Brake version: ☐ Standard ☐ Longlife

Brake size ☐

Characteristic torque ☐ Nm

Rated voltage AC ☐ DC ☐ ☐ V

Rectifier: Only in the case of AC supply voltage

- ☐ Half-wave rectifier
- ☐ Bridge rectifier
- ☐ Bridge/half-wave rectifier (overexcitation)
- ☐ Bridge/half-wave rectifier (holding current reduction)

Brake options: Manual release lever in position 2 ☐ 3 ☐ 4 ☐ 5 ☐

☐ Low-noise version (Standard in the case of brake with speed/position encoder)

6.4



## Ordering details checklist

**Three-phase AC motors options**

**Customer No.** ☐☐☐☐☐☐☐☐

**Job No.** ☐☐☐☐☐☐☐☐☐☐

Page __

**Speed/position encoder**

| | | | | | |
|---|---|---|---|---|---|
| Resolver | ☐ RS1 | | | | |
| Incremental encoder HTL | ☐ IG128-24V-H | ☐ IG512-24V-H | ☐ IG1024-24V-H | ☐ IG2048-24V-H | |
| Incremental encoder TTL | | ☐ IG512-5V-T | ☐ IG1024-5V-T | ☐ IG2048-5V-T | |
| Feedback with ICN connector | ☐ IG128-24V-H not possible with plug-in connector! | | | | |

**Motor protection**

☐ PTC ☐ KTY 83-110 ☐ KTY 84-130

**Approval**

☐ UL/CSA approval: cURus ☐ CCC ☐ China Energy Label

**Further options**

Indication of supply voltage only for motor frame sizes 112C32 to 225C22

☐ Δ; 400V-50Hz; 460V-60Hz

☐ Y/Δ; 400/230V-50Hz; 460/265V-60Hz (-/400V-87Hz possible in operation with frequency inverter)

☐ Protection cover

☐ 2nd shaft end

☐ Handwheel

☐ Increased centrifugal mass

☐ 2nd nameplate (adhesive nameplate/metal nameplate)

6.4



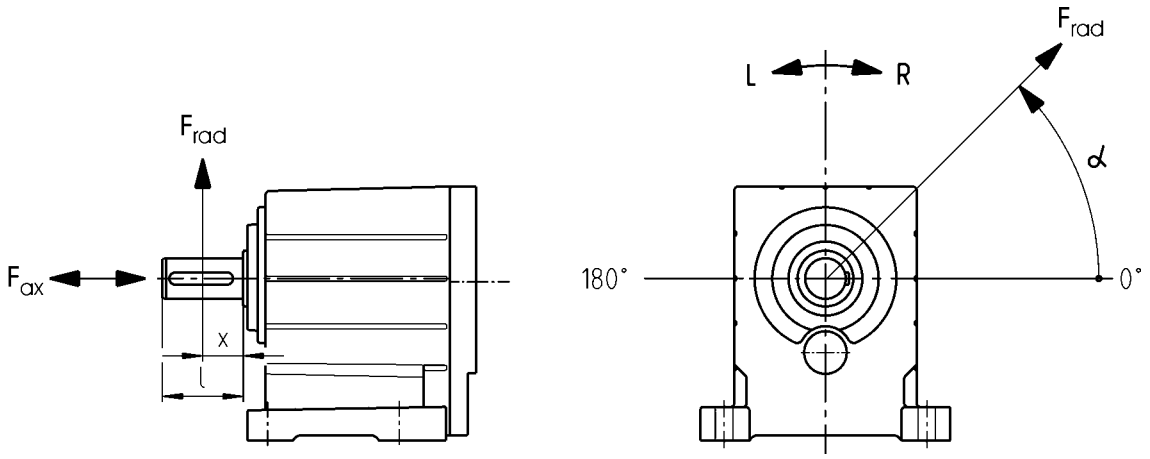
## Permissible radial and axial forces at output

**Permissible radial force**
$F_{rad,per} = \min(f_w \times f_\alpha \times F_{rad,max}$ ; $f_w \times F_{rad,max}$ at $n_2 \leq 50$ r/min)

**Permissible axial force**
$F_{ax,per} = F_{ax,max}$ if $F_{rad} = 0$

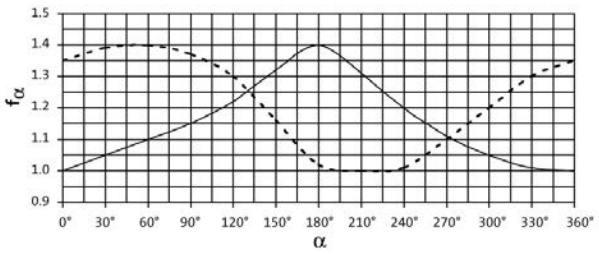
If $F_{rad}$ **and** $F_{ax} \neq 0$, please contact Lenze.

**Application of forces**

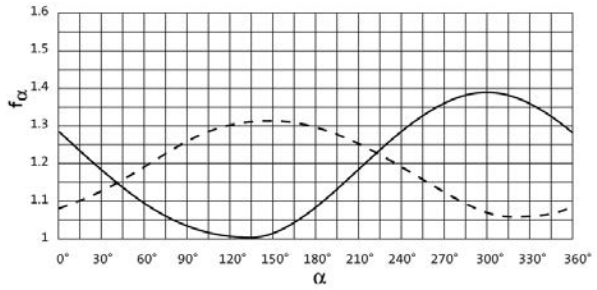



**Effective direction factor $f_\alpha$ at output shaft**

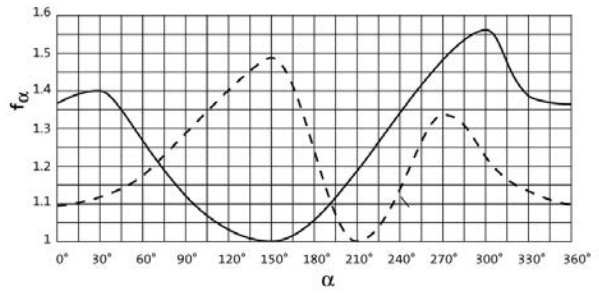
GST03-2



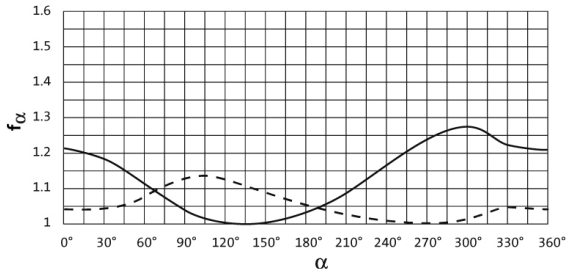

GST04...09-1




GST04...09-2, 3




GST11...14-2, 3



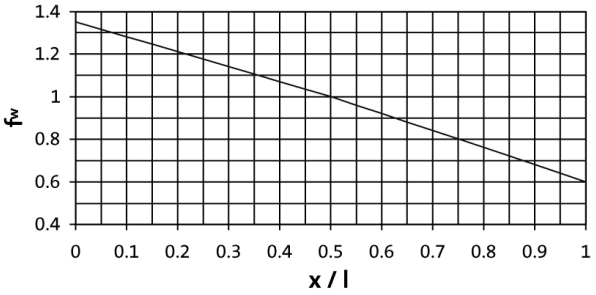
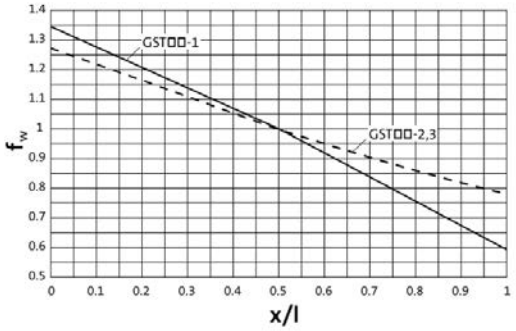

——— Direction of rotation R
— — — Direction of rotation L

6.4



## Permissible radial and axial forces at output

### Additional load factor $f_w$ at output shaft

| GST03-2 | GST04...09-1, 2, 3 |
|---|---|
|  |  |





**GST□□-1**

| Size | $n_2$ [r/min] | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Gearbox | 2500 | 1600 | 1000 | 600 | 400 | 200 | 125 | 80 | ≤50 |

| | Max. radial force, Solid shaft | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ |
| | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] |
| GST04 | 100 | 180 | 440 | 600 | 850 | 1050 | 1050 | 1050 | 1050 |
| GST05 | 100 | 250 | 550 | 750 | 1400 | 2000 | 2300 | 2300 | 2300 |
| GST06 | 200 | 600 | 800 | 800 | 1100 | 2200 | 2900 | 3500 | 3500 |
| GST07 | 700 | 1000 | 1200 | 1300 | 1900 | 3000 | 3900 | 4700 | 5300 |
| GST09 | 1750 | 2200 | 2500 | 2500 | 3500 | 6200 | 7900 | 9000 | 9500 |

| | Max. axial force, Solid shaft | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ |
| | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] |
| GST04 | 600 | 800 | 1000 | 1300 | 1400 | 1400 | 1400 | 1400 | 1400 |
| GST05 | 800 | 1100 | 1400 | 2000 | 2000 | 2000 | 2000 | 2000 | 2000 |
| GST06 | 900 | 1200 | 1500 | 2000 | 2500 | 2500 | 2500 | 2500 | 2500 |
| GST07 | 1200 | 1600 | 2000 | 2700 | 3300 | 3700 | 3700 | 3700 | 3700 |
| GST09 | 2500 | 3400 | 4300 | 5700 | 6800 | 7000 | 7000 | 7000 | 7000 |

6.4

- Application of force $F_{rad}$: centre of shaft journal (x = l/2)
- $F_{ax,max}$ only valid with $F_{rad}$ = 0



## Permissible radial and axial forces at output

**GST□□-2 / 3 with standard bearings**

| Size | $n_2$ [r/min] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Gearbox | 1000 | 630 | 400 | 250 | 160 | 100 | 63 | 40 | 25 | ≤16 |

| | Max. radial force, Solid shaft | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ |
| | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] |
| GST03 | 100 | 300 | 630 | 710 | 800 | 920 | 1100 | 1400 | 1500 | 1500 |
| GST04 | 730 | 950 | 1250 | 1450 | 1700 | 2100 | 2500 | 2650 | 2650 | 2650 |
| GST05 | 1150 | 1500 | 1950 | 2200 | 2600 | 3000 | 3500 | 3800 | 3900 | 3900 |
| GST06 | 140 | 750 | 2350 | 2600 | 3100 | 3600 | 4300 | 4350 | 4350 | 4350 |
| GST07 | 140 | 2050 | 3400 | 3800 | 4500 | 5400 | 6400 | 7600 | 9100 | 9500 |
| GST09 | 1500 | 1950 | 6800 | 7600 | 9400 | 11500 | 11500 | 11500 | 11500 | 11500 |
| GST11 | 11500 | 14400 | 17000 | 19000 | 21000 | 21000 | 21000 | 21000 | 21000 | 21000 |
| GST14 | 16600 | 20700 | 24000 | 27000 | 31000 | 36000 | 39000 | 40000 | 40000 | 40000 |

| | Max. axial force, Solid shaft | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ |
| | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] |
| GST03 | 300 | 400 | 600 | 700 | 800 | 900 | 1000 | 1000 | 1000 | 1000 |
| GST04 | 600 | 800 | 1100 | 1300 | 1650 | 2000 | 2000 | 2000 | 2000 | 2000 |
| GST05 | 1200 | 1600 | 2000 | 2300 | 2650 | 3100 | 3600 | 3600 | 3600 | 3600 |
| GST06 | 500 | 600 | 850 | 900 | 1250 | 1800 | 2600 | 3600 | 4800 | 4800 |
| GST07 | 1100 | 1500 | 1900 | 2200 | 2900 | 3900 | 5300 | 7000 | 7000 | 7000 |
| GST09 | 1300 | 1800 | 2300 | 2800 | 4000 | 5600 | 8100 | 11000 | 12000 | 12000 |
| GST11 | 5700 | 7600 | 9500 | 10000 | 11000 | 14000 | 16000 | 16000 | 16000 | 16000 |
| GST14 | 9000 | 12000 | 15000 | 16000 | 18000 | 20000 | 20000 | 20000 | 20000 | 20000 |

► Application of force $F_{rad}$: centre of shaft journal (x = l/2)
► $F_{ax,max}$ only valid with $F_{rad}$ = 0



## Permissible radial and axial forces at output

**GST□□-2 / 3 with reinforced bearing**

| Size | $n_2$ [r/min] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Gearbox | 1000 | 630 | 400 | 250 | 160 | 100 | 63 | 40 | 25 | ≤16 |

| | Max. radial force, Solid shaft (reinforced bearings)) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ |
| | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] |
| GST04 | 1900 | 2350 | 2850 | 3150 | 3550 | 3750 | 3750 | 3750 | 3750 | 3750 |
| GST05 | 3350 | 3950 | 4900 | 5400 | 5400 | 5400 | 5400 | 5400 | 5400 | 5400 |
| GST06 | 4250 | 5100 | 6300 | 7000 | 7700 | 7700 | 7700 | 7700 | 7700 | 7700 |
| GST07 | 5650 | 6850 | 8500 | 9500 | 10500 | 12500 | 13000 | 13000 | 13000 | 13000 |
| GST09 | 11300 | 14000 | 16500 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 | 17000 |

| | Max. axial force, Solid shaft (reinforced bearings)) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ |
| | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] |
| GST04 | 1000 | 1300 | 1700 | 1900 | 2200 | 2500 | 2500 | 2500 | 2500 | 2500 |
| GST05 | 2100 | 2800 | 3600 | 3900 | 4300 | 4500 | 4500 | 4500 | 4500 | 4500 |
| GST06 | 2100 | 2800 | 3500 | 3600 | 4200 | 4900 | 5700 | 5700 | 5700 | 5700 |
| GST07 | 3300 | 4400 | 5500 | 6100 | 7100 | 8300 | 9000 | 9000 | 9000 | 9000 |
| GST09 | 4800 | 6400 | 8000 | 9000 | 10500 | 12500 | 14000 | 14000 | 14000 | 14000 |

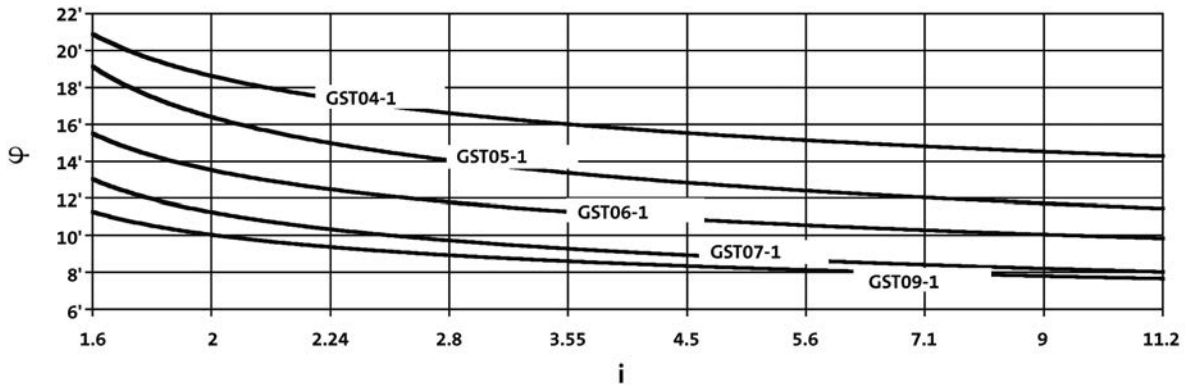
- Application of force $F_{rad}$: centre of shaft journal (x = l/2)
- $F_{ax,max}$ only valid with $F_{rad}$ = 0



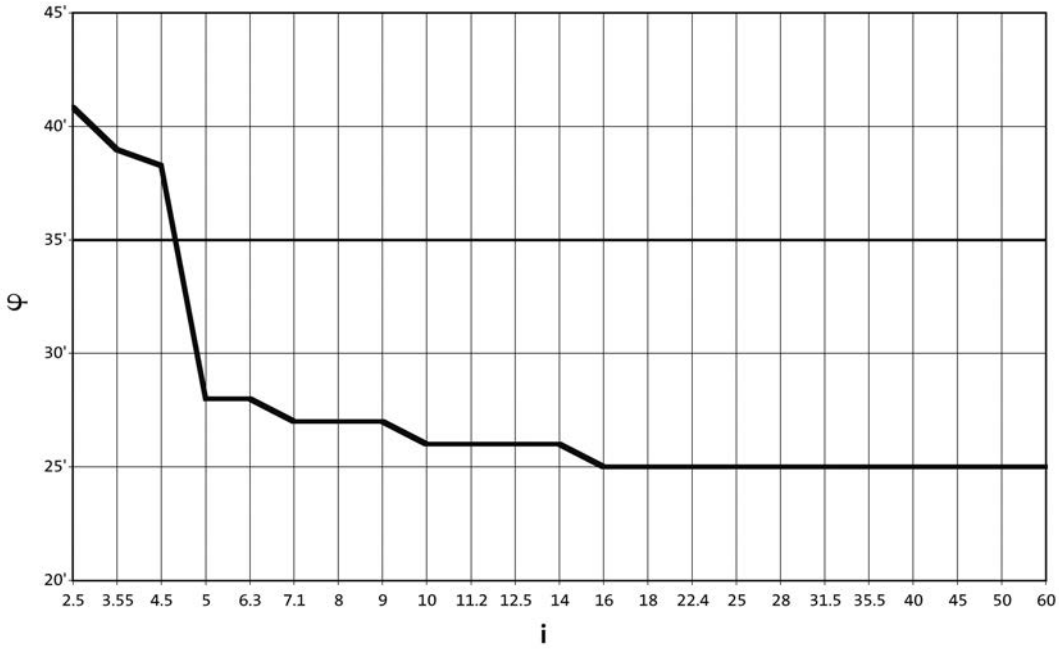
### Output backlash in angular minutes

► Backlash ϕ depending on ratio i

GST04...09-1




GST03-2



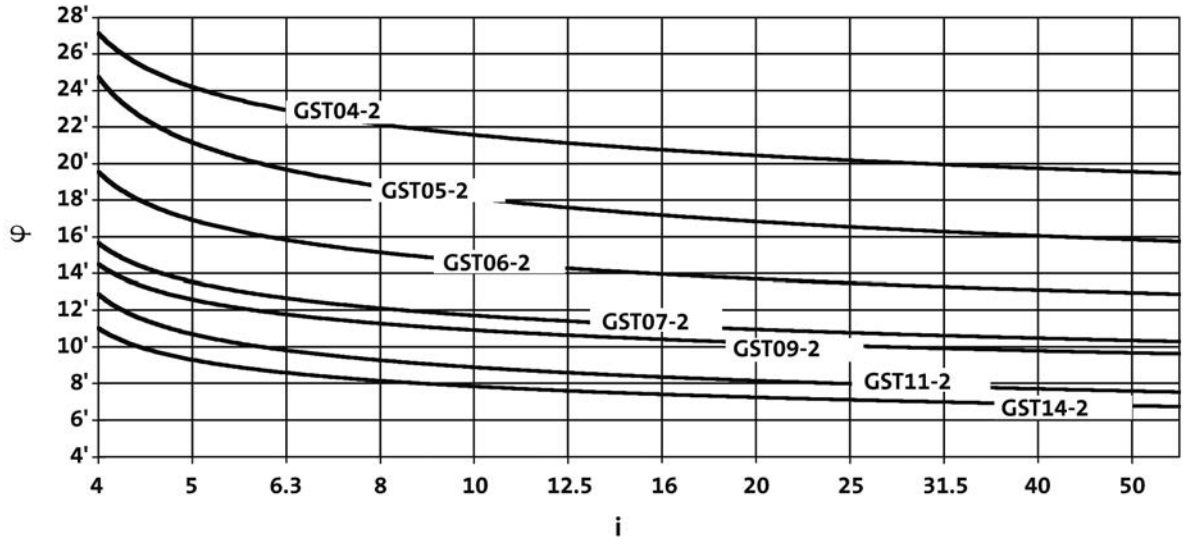

6.4



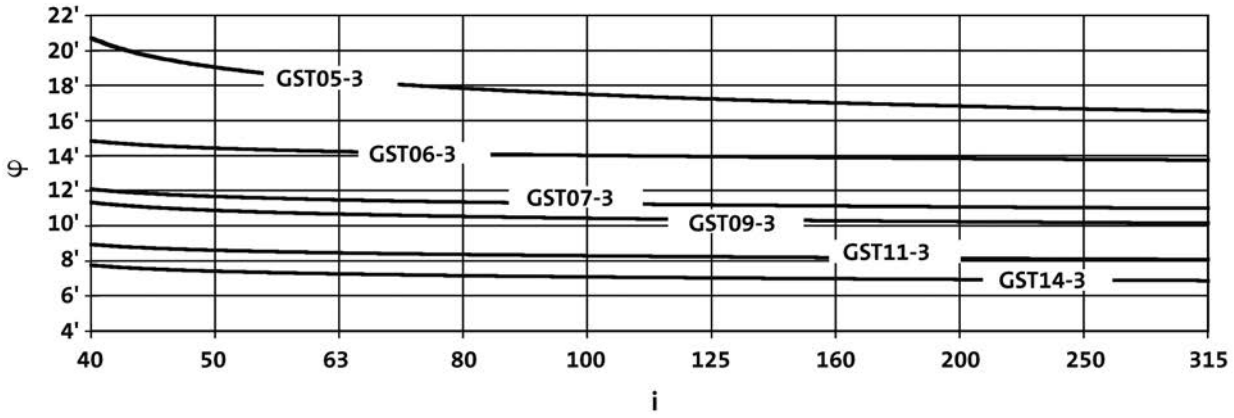
## Output backlash in angular minutes

► Backlash ϕ depending on ratio i

GST04...14-2




GST05...14-3




6.4



## Moments of inertia

**GST□□-1**

► Moment of inertia (J) depending on ratio i

| Gearbox | | | GST04 |
|---|---|---|---|
| 1.600 | J | [kgcm²] | 0.267 |
| 2.048 | J | [kgcm²] | 0.194 |
| 2.240 | J | [kgcm²] | 0.172 |
| 2.857 | J | [kgcm²] | 0.126 |
| 3.500 | J | [kgcm²] | 0.099 |
| 4.400 | J | [kgcm²] | 0.067 |
| 5.667 | J | [kgcm²] | 0.047 |
| 7.182 | J | [kgcm²] | 0.031 |
| 9.000 | J | [kgcm²] | 0.022 |
| 11.857 | J | [kgcm²] | 0.013 |

| Gearbox | | | GST05 |
|---|---|---|---|
| 1.600 | J | [kgcm²] | 0.760 |
| 2.048 | J | [kgcm²] | 0.549 |
| 2.240 | J | [kgcm²] | 0.480 |
| 2.857 | J | [kgcm²] | 0.354 |
| 3.500 | J | [kgcm²] | 0.272 |
| 4.556 | J | [kgcm²] | 0.175 |
| 5.667 | J | [kgcm²] | 0.129 |
| 7.333 | J | [kgcm²] | 0.062 |
| 8.900 | J | [kgcm²] | 0.060 |
| 11.375 | J | [kgcm²] | 0.039 |

| Gearbox | | | GST06 |
|---|---|---|---|
| 1.600 | J | [kgcm²] | 2.010 |
| 2.048 | J | [kgcm²] | 1.460 |
| 2.240 | J | [kgcm²] | 1.270 |
| 2.857 | J | [kgcm²] | 0.969 |
| 3.500 | J | [kgcm²] | 0.736 |
| 4.556 | J | [kgcm²] | 0.481 |
| 5.667 | J | [kgcm²] | 0.359 |
| 7.333 | J | [kgcm²] | 0.226 |
| 8.900 | J | [kgcm²] | 0.167 |
| 11.250 | J | [kgcm²] | 0.109 |

| Gearbox | | | GST07 |
|---|---|---|---|
| 1.625 | J | [kgcm²] | 6.120 |
| 2.000 | J | [kgcm²] | 4.780 |
| 2.240 | J | [kgcm²] | 4.020 |
| 2.857 | J | [kgcm²] | 2.690 |
| 3.500 | J | [kgcm²] | 2.150 |
| 4.556 | J | [kgcm²] | 1.370 |
| 5.583 | J | [kgcm²] | 1.050 |
| 7.333 | J | [kgcm²] | 0.664 |
| 8.900 | J | [kgcm²] | 0.494 |
| 11.250 | J | [kgcm²] | 0.320 |

| Gearbox | | | GST09 |
|---|---|---|---|
| 1.560 | J | [kgcm²] | 22.200 |
| 2.048 | J | [kgcm²] | 15.600 |
| 2.333 | J | [kgcm²] | 12.200 |
| 2.810 | J | [kgcm²] | 9.580 |
| 3.444 | J | [kgcm²] | 7.300 |
| 4.667 | J | [kgcm²] | 4.600 |
| 5.667 | J | [kgcm²] | 3.510 |
| 7.333 | J | [kgcm²] | 2.260 |
| 8.900 | J | [kgcm²] | 1.660 |
| 11.250 | J | [kgcm²] | 1.110 |

► The moments of inertia relate to the drive shaft of the gearbox.
► The total moment of inertia is calculated by adding the values of the gearbox, motor and accessories.



## Moments of inertia

**GST□□-2**

► Moment of inertia (J) depending on ratio i

| Gearbox | | | GST03 |
|---|---|---|---|
| 2.597 | J | [kgcm²] | 0.260 |
| 3.413 | J | [kgcm²] | 0.169 |
| 4.368 | J | [kgcm²] | 0.117 |
| 5.312 | J | [kgcm²] | 0.179 |
| 5.965 | J | [kgcm²] | 0.173 |
| 6.982 | J | [kgcm²] | 0.122 |
| 7.840 | J | [kgcm²] | 0.119 |
| 8.935 | J | [kgcm²] | 0.089 |
| 10.033 | J | [kgcm²] | 0.086 |
| 11.429 | J | [kgcm²] | 0.059 |
| 12.833 | J | [kgcm²] | 0.057 |
| 14.836 | J | [kgcm²] | 0.041 |
| 16.660 | J | [kgcm²] | 0.040 |
| 19.013 | J | [kgcm²] | 0.028 |
| 21.350 | J | [kgcm²] | 0.027 |
| 24.595 | J | [kgcm²] | 0.019 |
| 27.618 | J | [kgcm²] | 0.019 |
| 32.000 | J | [kgcm²] | 0.012 |
| 35.933 | J | [kgcm²] | 0.012 |
| 41.455 | J | [kgcm²] | 0.008 |
| 46.550 | J | [kgcm²] | 0.008 |
| 52.909 | J | [kgcm²] | 0.005 |
| 59.413 | J | [kgcm²] | 0.005 |

| Gearbox | | | GST04 |
|---|---|---|---|
| 2.956 | J | [kgcm²] | 0.337 |
| 3.333 | J | [kgcm²] | 0.324 |
| 4.053 | J | [kgcm²] | 0.312 |
| 4.571 | J | [kgcm²] | 0.300 |
| 5.187 | J | [kgcm²] | 0.222 |
| 5.850 | J | [kgcm²] | 0.215 |
| 6.400 | J | [kgcm²] | 0.189 |
| 7.040 | J | [kgcm²] | 0.264 |
| 8.000 | J | [kgcm²] | 0.257 |
| 9.010 | J | [kgcm²] | 0.193 |
| 9.856 | J | [kgcm²] | 0.170 |
| 11.200 | J | [kgcm²] | 0.166 |
| 12.571 | J | [kgcm²] | 0.126 |
| 14.286 | J | [kgcm²] | 0.123 |
| 15.400 | J | [kgcm²] | 0.098 |
| 17.500 | J | [kgcm²] | 0.097 |
| 19.360 | J | [kgcm²] | 0.063 |
| 22.000 | J | [kgcm²] | 0.062 |
| 24.933 | J | [kgcm²] | 0.044 |
| 28.333 | J | [kgcm²] | 0.043 |
| 31.600 | J | [kgcm²] | 0.030 |
| 35.909 | J | [kgcm²] | 0.030 |
| 39.600 | J | [kgcm²] | 0.021 |
| 45.000 | J | [kgcm²] | 0.021 |
| 52.171 | J | [kgcm²] | 0.013 |
| 59.286 | J | [kgcm²] | 0.013 |

► The moments of inertia relate to the drive shaft of the gearbox.
► The total moment of inertia is calculated by adding the values of the gearbox, motor and accessories.



## Moments of inertia

**GST□□-2**

► Moment of inertia (J) depending on ratio i

| Gearbox | | | GST05 |
|---|---|---|---|
| 2.956 | J | [kgcm²] | 0.986 |
| 3.333 | J | [kgcm²] | 0.944 |
| 4.053 | J | [kgcm²] | 0.903 |
| 4.571 | J | [kgcm²] | 0.864 |
| 5.187 | J | [kgcm²] | 0.637 |
| 5.850 | J | [kgcm²] | 0.613 |
| 6.400 | J | [kgcm²] | 0.533 |
| 7.238 | J | [kgcm²] | 0.400 |
| 8.163 | J | [kgcm²] | 0.388 |
| 9.010 | J | [kgcm²] | 0.543 |
| 10.000 | J | [kgcm²] | 0.300 |
| 11.200 | J | [kgcm²] | 0.462 |
| 13.016 | J | [kgcm²] | 0.178 |
| 14.356 | J | [kgcm²] | 0.131 |
| 16.190 | J | [kgcm²] | 0.128 |
| 17.500 | J | [kgcm²] | 0.271 |
| 20.044 | J | [kgcm²] | 0.164 |
| 22.778 | J | [kgcm²] | 0.161 |
| 24.933 | J | [kgcm²] | 0.119 |
| 28.333 | J | [kgcm²] | 0.117 |
| 32.267 | J | [kgcm²] | 0.079 |
| 36.667 | J | [kgcm²] | 0.078 |
| 39.160 | J | [kgcm²] | 0.058 |
| 44.500 | J | [kgcm²] | 0.057 |
| 50.050 | J | [kgcm²] | 0.039 |
| 56.875 | J | [kgcm²] | 0.038 |

| Gearbox | | | GST06 |
|---|---|---|---|
| 3.033 | J | [kgcm²] | 2.720 |
| 3.333 | J | [kgcm²] | 2.610 |
| 4.160 | J | [kgcm²] | 2.510 |
| 4.571 | J | [kgcm²] | 2.410 |
| 5.324 | J | [kgcm²] | 1.760 |
| 5.850 | J | [kgcm²] | 1.710 |
| 6.400 | J | [kgcm²] | 1.470 |
| 7.040 | J | [kgcm²] | 2.070 |
| 8.163 | J | [kgcm²] | 1.060 |
| 9.010 | J | [kgcm²] | 1.500 |
| 10.000 | J | [kgcm²] | 0.820 |
| 11.200 | J | [kgcm²] | 1.260 |
| 12.571 | J | [kgcm²] | 0.955 |
| 14.286 | J | [kgcm²] | 0.932 |
| 15.400 | J | [kgcm²] | 0.748 |
| 17.500 | J | [kgcm²] | 0.733 |
| 20.044 | J | [kgcm²] | 0.457 |
| 22.778 | J | [kgcm²] | 0.450 |
| 24.933 | J | [kgcm²] | 0.332 |
| 28.333 | J | [kgcm²] | 0.326 |
| 32.267 | J | [kgcm²] | 0.221 |
| 36.667 | J | [kgcm²] | 0.218 |
| 39.160 | J | [kgcm²] | 0.162 |
| 44.500 | J | [kgcm²] | 0.160 |
| 49.500 | J | [kgcm²] | 0.110 |
| 56.250 | J | [kgcm²] | 0.108 |

► The moments of inertia relate to the drive shaft of the gearbox.
► The total moment of inertia is calculated by adding the values of the gearbox, motor and accessories.



## Moments of inertia

**GST□□-2**

► Moment of inertia (J) depending on ratio i

| Gearbox | | | GST07 |
|---|---|---|---|
| 3.048 | J | [kgcm²] | 8.200 |
| 3.350 | J | [kgcm²] | 7.920 |
| 4.225 | J | [kgcm²] | 7.650 |
| 4.643 | J | [kgcm²] | 7.390 |
| 5.200 | J | [kgcm²] | 5.640 |
| 5.714 | J | [kgcm²] | 5.460 |
| 6.400 | J | [kgcm²] | 4.490 |
| 7.150 | J | [kgcm²] | 6.270 |
| 8.125 | J | [kgcm²] | 6.040 |
| 8.800 | J | [kgcm²] | 4.730 |
| 9.856 | J | [kgcm²] | 3.900 |
| 11.200 | J | [kgcm²] | 3.780 |
| 12.571 | J | [kgcm²] | 2.860 |
| 14.286 | J | [kgcm²] | 2.790 |
| 15.400 | J | [kgcm²] | 2.260 |
| 17.500 | J | [kgcm²] | 2.210 |
| 20.044 | J | [kgcm²] | 1.380 |
| 22.778 | J | [kgcm²] | 1.350 |
| 24.567 | J | [kgcm²] | 1.020 |
| 27.917 | J | [kgcm²] | 1.010 |
| 32.267 | J | [kgcm²] | 0.664 |
| 36.667 | J | [kgcm²] | 0.653 |
| 39.160 | J | [kgcm²] | 0.487 |
| 44.500 | J | [kgcm²] | 0.479 |
| 49.500 | J | [kgcm²] | 0.330 |
| 56.250 | J | [kgcm²] | 0.325 |

| Gearbox | | | GST09 |
|---|---|---|---|
| 4.056 | J | [kgcm²] | 27.000 |
| 4.457 | J | [kgcm²] | 25.900 |
| 5.324 | J | [kgcm²] | 18.100 |
| 5.850 | J | [kgcm²] | 17.500 |
| 6.667 | J | [kgcm²] | 14.200 |
| 7.305 | J | [kgcm²] | 11.300 |
| 8.027 | J | [kgcm²] | 11.000 |
| 9.010 | J | [kgcm²] | 15.200 |
| 10.267 | J | [kgcm²] | 12.400 |
| 11.667 | J | [kgcm²] | 12.100 |
| 12.362 | J | [kgcm²] | 9.790 |
| 14.048 | J | [kgcm²] | 9.530 |
| 15.156 | J | [kgcm²] | 7.650 |
| 17.222 | J | [kgcm²] | 7.490 |
| 20.533 | J | [kgcm²] | 4.500 |
| 23.333 | J | [kgcm²] | 4.410 |
| 24.933 | J | [kgcm²] | 3.380 |
| 28.333 | J | [kgcm²] | 3.320 |
| 32.267 | J | [kgcm²] | 2.250 |
| 36.667 | J | [kgcm²] | 2.210 |
| 39.160 | J | [kgcm²] | 1.640 |
| 44.500 | J | [kgcm²] | 1.620 |
| 49.500 | J | [kgcm²] | 1.120 |
| 56.250 | J | [kgcm²] | 1.100 |

► The moments of inertia relate to the drive shaft of the gearbox.
► The total moment of inertia is calculated by adding the values of the gearbox, motor and accessories.



## Moments of inertia

**GST□□-2**

► Moment of inertia (J) depending on ratio i

| Gearbox | | | GST11 |
|---|---|---|---|
| 4.056 | J | [kgcm²] | 82.200 |
| 4.457 | J | [kgcm²] | 79.000 |
| 5.324 | J | [kgcm²] | 55.400 |
| 5.850 | J | [kgcm²] | 53.500 |
| 6.400 | J | [kgcm²] | 45.700 |
| 6.864 | J | [kgcm²] | 67.500 |
| 7.800 | J | [kgcm²] | 65.100 |
| 9.010 | J | [kgcm²] | 46.800 |
| 9.856 | J | [kgcm²] | 40.200 |
| 11.200 | J | [kgcm²] | 39.000 |
| 12.571 | J | [kgcm²] | 29.400 |
| 14.286 | J | [kgcm²] | 28.700 |
| 15.400 | J | [kgcm²] | 23.000 |
| 17.500 | J | [kgcm²] | 22.500 |
| 20.289 | J | [kgcm²] | 14.300 |
| 23.056 | J | [kgcm²] | 14.100 |
| 24.933 | J | [kgcm²] | 10.600 |
| 28.333 | J | [kgcm²] | 10.400 |
| 32.267 | J | [kgcm²] | 7.040 |
| 36.667 | J | [kgcm²] | 6.930 |
| 39.160 | J | [kgcm²] | 5.150 |
| 44.500 | J | [kgcm²] | 5.080 |
| 49.500 | J | [kgcm²] | 3.520 |
| 56.250 | J | [kgcm²] | 3.440 |

| Gearbox | | | GST14 |
|---|---|---|---|
| 4.225 | J | [kgcm²] | 226.000 |
| 4.643 | J | [kgcm²] | 216.000 |
| 5.200 | J | [kgcm²] | 168.000 |
| 5.714 | J | [kgcm²] | 161.000 |
| 6.286 | J | [kgcm²] | 141.000 |
| 7.150 | J | [kgcm²] | 183.000 |
| 8.027 | J | [kgcm²] | 100.000 |
| 8.800 | J | [kgcm²] | 139.000 |
| 9.841 | J | [kgcm²] | 75.100 |
| 11.000 | J | [kgcm²] | 119.000 |
| 12.362 | J | [kgcm²] | 89.000 |
| 14.048 | J | [kgcm²] | 86.600 |
| 15.156 | J | [kgcm²] | 67.600 |
| 17.222 | J | [kgcm²] | 66.000 |
| 20.044 | J | [kgcm²] | 45.800 |
| 22.778 | J | [kgcm²] | 44.900 |
| 24.567 | J | [kgcm²] | 33.200 |
| 27.917 | J | [kgcm²] | 32.600 |
| 32.267 | J | [kgcm²] | 21.500 |
| 36.667 | J | [kgcm²] | 21.200 |
| 39.160 | J | [kgcm²] | 15.700 |
| 44.500 | J | [kgcm²] | 15.500 |
| 49.500 | J | [kgcm²] | 10.600 |
| 56.250 | J | [kgcm²] | 10.500 |

► The moments of inertia relate to the drive shaft of the gearbox.
► The total moment of inertia is calculated by adding the values of the gearbox, motor and accessories.



## Moments of inertia

**GST□□-3**

► Moment of inertia (J) depending on ratio i

| Gearbox | | | GST05 |
|---|---|---|---|
| 36.267 | J | [kgcm²] | 0.195 |
| 46.259 | J | [kgcm²] | 0.141 |
| 56.667 | J | [kgcm²] | 0.108 |
| 63.467 | J | [kgcm²] | 0.192 |
| 71.238 | J | [kgcm²] | 0.073 |
| 80.952 | J | [kgcm²] | 0.139 |
| 91.746 | J | [kgcm²] | 0.050 |
| 99.167 | J | [kgcm²] | 0.107 |
| 116.277 | J | [kgcm²] | 0.033 |
| 124.667 | J | [kgcm²] | 0.072 |
| 145.714 | J | [kgcm²] | 0.023 |
| 160.556 | J | [kgcm²] | 0.050 |
| 179.067 | J | [kgcm²] | 0.033 |
| 191.973 | J | [kgcm²] | 0.014 |
| 224.400 | J | [kgcm²] | 0.023 |
| 255.000 | J | [kgcm²] | 0.023 |
| 295.638 | J | [kgcm²] | 0.014 |
| 335.952 | J | [kgcm²] | 0.014 |

| Gearbox | | | GST06 |
|---|---|---|---|
| 39.200 | J | [kgcm²] | 0.362 |
| 44.000 | J | [kgcm²] | 0.195 |
| 51.022 | J | [kgcm²] | 0.320 |
| 53.900 | J | [kgcm²] | 0.178 |
| 67.760 | J | [kgcm²] | 0.114 |
| 70.156 | J | [kgcm²] | 0.160 |
| 80.952 | J | [kgcm²] | 0.203 |
| 87.267 | J | [kgcm²] | 0.150 |
| 99.167 | J | [kgcm²] | 0.150 |
| 109.707 | J | [kgcm²] | 0.096 |
| 124.667 | J | [kgcm²] | 0.096 |
| 141.289 | J | [kgcm²] | 0.063 |
| 160.556 | J | [kgcm²] | 0.063 |
| 179.067 | J | [kgcm²] | 0.043 |
| 203.485 | J | [kgcm²] | 0.042 |
| 231.733 | J | [kgcm²] | 0.040 |
| 255.000 | J | [kgcm²] | 0.029 |
| 290.400 | J | [kgcm²] | 0.027 |
| 330.000 | J | [kgcm²] | 0.027 |
| 382.590 | J | [kgcm²] | 0.026 |
| 434.762 | J | [kgcm²] | 0.025 |

| Gearbox | | | GST07 |
|---|---|---|---|
| 39.200 | J | [kgcm²] | 0.974 |
| 44.000 | J | [kgcm²] | 0.534 |
| 51.022 | J | [kgcm²] | 0.843 |
| 53.900 | J | [kgcm²] | 0.484 |
| 65.079 | J | [kgcm²] | 0.313 |
| 70.156 | J | [kgcm²] | 0.431 |
| 79.762 | J | [kgcm²] | 0.536 |
| 85.983 | J | [kgcm²] | 0.400 |
| 97.708 | J | [kgcm²] | 0.399 |
| 111.915 | J | [kgcm²] | 0.238 |
| 127.176 | J | [kgcm²] | 0.237 |
| 139.211 | J | [kgcm²] | 0.166 |
| 158.194 | J | [kgcm²] | 0.166 |
| 180.156 | J | [kgcm²] | 0.108 |
| 204.722 | J | [kgcm²] | 0.107 |
| 236.622 | J | [kgcm²] | 0.101 |
| 248.458 | J | [kgcm²] | 0.077 |
| 268.889 | J | [kgcm²] | 0.101 |
| 326.333 | J | [kgcm²] | 0.073 |
| 367.033 | J | [kgcm²] | 0.094 |
| 417.083 | J | [kgcm²] | 0.067 |

| Gearbox | | | GST09 |
|---|---|---|---|
| 40.136 | J | [kgcm²] | 2.140 |
| 43.267 | J | [kgcm²] | 1.550 |
| 49.167 | J | [kgcm²] | 1.530 |
| 53.044 | J | [kgcm²] | 1.380 |
| 60.278 | J | [kgcm²] | 1.370 |
| 71.867 | J | [kgcm²] | 1.170 |
| 81.667 | J | [kgcm²] | 1.160 |
| 93.541 | J | [kgcm²] | 0.706 |
| 99.167 | J | [kgcm²] | 1.070 |
| 113.585 | J | [kgcm²] | 0.652 |
| 129.074 | J | [kgcm²] | 0.649 |
| 141.289 | J | [kgcm²] | 0.458 |
| 160.556 | J | [kgcm²] | 0.456 |
| 182.844 | J | [kgcm²] | 0.297 |
| 207.778 | J | [kgcm²] | 0.295 |
| 236.622 | J | [kgcm²] | 0.275 |
| 252.167 | J | [kgcm²] | 0.212 |
| 268.889 | J | [kgcm²] | 0.275 |
| 326.333 | J | [kgcm²] | 0.198 |
| 363.000 | J | [kgcm²] | 0.255 |
| 412.500 | J | [kgcm²] | 0.183 |

► The moments of inertia relate to the drive shaft of the gearbox.
► The total moment of inertia is calculated by adding the values of the gearbox, motor and accessories.



## Moments of inertia

**GST□□-3**

► Moment of inertia (J) depending on ratio i

| Gearbox | | | GST11 |
|---|---|---|---|
| 40.816 | J | [kgcm²] | 6.360 |
| 44.000 | J | [kgcm²] | 5.660 |
| 50.000 | J | [kgcm²] | 5.600 |
| 57.968 | J | [kgcm²] | 4.770 |
| 61.250 | J | [kgcm²] | 4.080 |
| 71.011 | J | [kgcm²] | 3.520 |
| 80.694 | J | [kgcm²] | 3.500 |
| 87.267 | J | [kgcm²] | 3.220 |
| 99.167 | J | [kgcm²] | 3.200 |
| 112.933 | J | [kgcm²] | 2.930 |
| 129.074 | J | [kgcm²] | 1.940 |
| 146.993 | J | [kgcm²] | 1.770 |
| 158.194 | J | [kgcm²] | 1.400 |
| 180.156 | J | [kgcm²] | 1.290 |
| 207.778 | J | [kgcm²] | 0.880 |
| 236.622 | J | [kgcm²] | 0.818 |
| 252.167 | J | [kgcm²] | 0.633 |
| 268.889 | J | [kgcm²] | 0.816 |
| 326.333 | J | [kgcm²] | 0.589 |
| 363.000 | J | [kgcm²] | 0.756 |
| 412.500 | J | [kgcm²] | 0.545 |

| Gearbox | | | GST14 |
|---|---|---|---|
| 40.185 | J | [kgcm²] | 24.400 |
| 42.580 | J | [kgcm²] | 18.300 |
| 48.386 | J | [kgcm²] | 18.100 |
| 53.148 | J | [kgcm²] | 20.500 |
| 59.321 | J | [kgcm²] | 13.200 |
| 69.042 | J | [kgcm²] | 11.500 |
| 78.457 | J | [kgcm²] | 11.400 |
| 93.541 | J | [kgcm²] | 6.570 |
| 96.157 | J | [kgcm²] | 10.400 |
| 106.296 | J | [kgcm²] | 6.520 |
| 130.278 | J | [kgcm²] | 6.000 |
| 139.211 | J | [kgcm²] | 4.420 |
| 158.194 | J | [kgcm²] | 4.400 |
| 171.111 | J | [kgcm²] | 5.490 |
| 204.722 | J | [kgcm²] | 2.860 |
| 236.622 | J | [kgcm²] | 2.650 |
| 248.458 | J | [kgcm²] | 2.060 |
| 268.889 | J | [kgcm²] | 2.650 |
| 326.333 | J | [kgcm²] | 1.920 |
| 363.000 | J | [kgcm²] | 2.450 |
| 412.500 | J | [kgcm²] | 1.780 |

► The moments of inertia relate to the drive shaft of the gearbox.
► The total moment of inertia is calculated by adding the values of the gearbox, motor and accessories.



## Weights

**GST□□-1M VBR**

| | | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22 | 132C32 |
|---|---|---|---|---|---|---|---|---|---|---|
| **GST04** | m | [kg] | 8 | 10 | 16 | | | | | |
| **GST05** | m | [kg] | 12 | 14 | 19 | 27 | 35 | | | |
| **GST06** | m | [kg] | 16 | 18 | 23 | 31 | 40 | 53 | | |
| **GST07** | m | [kg] | | | 33 | 41 | 49 | 62 | 92 | |
| **GST09** | m | [kg] | | | | 55 | 64 | 76 | 107 | |

**GST□□-1M VCR**

| | | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22 | 132C32 |
|---|---|---|---|---|---|---|---|---|---|---|
| **GST04** | m | [kg] | 8 | 10 | 15 | | | | | |
| **GST05** | m | [kg] | 11 | 13 | 18 | 26 | 34 | | | |
| **GST06** | m | [kg] | 15 | 17 | 21 | 30 | 38 | 51 | | |
| **GST07** | m | [kg] | | | 29 | 38 | 46 | 59 | 89 | |
| **GST09** | m | [kg] | | | | 51 | 59 | 72 | 102 | |

► Weights with oil filling for mounting position A; all values are approximate.
The weights relate to the basic version. Bear in mind that additional weights may be needed, e.g. for motor options.



## Weights

**GST□□-1M VCK**

| | | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22 | 132C32 |
|---|---|---|---|---|---|---|---|---|---|---|
| **GST04** | m | [kg] | 9 | 11 | 16 | | | | | |
| **GST05** | m | [kg] | 13 | 15 | 19 | 27 | 36 | | | |
| **GST06** | m | [kg] | 18 | 20 | 24 | 33 | 41 | 54 | | |
| **GST07** | m | [kg] | | | 33 | 42 | 50 | 63 | 93 | |
| **GST09** | m | [kg] | | | | 58 | 66 | 79 | 109 | |

► Weights with oil filling for mounting position A; all values are approximate.
The weights relate to the basic version. Bear in mind that additional weights may be needed, e.g. for motor options.



## Weights

**GST□□-2M VAR / VBR**

| | | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12 | 100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|---|
| **GST03** | m | [kg] | 6 | | | | | | | |
| **GST04** | m | [kg] | 10 | 12 | 18 | | | | | |
| **GST05** | m | [kg] | 16 | 18 | 22 | 30 | 39 | | | |
| **GST06** | m | [kg] | 23 | 25 | 29 | 38 | 46 | | 59 | |
| **GST07** | m | [kg] | | | 45 | 53 | 61 | | 74 | 104 |
| **GST09** | m | [kg] | | | | 80 | 88 | | 101 | 131 |
| **GST11** | m | [kg] | | | | | 134 | | 146 | 176 |
| **GST14** | m | [kg] | | | | | | | 238 | 265 |

**GST□□-2M VCR**

| | | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12 | 100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|---|
| **GST03** | m | [kg] | 6 | | | | | | | |
| **GST04** | m | [kg] | 10 | 12 | 17 | | | | | |
| **GST05** | m | [kg] | 14 | 16 | 21 | 29 | 37 | | | |
| **GST06** | m | [kg] | 20 | 22 | 27 | 35 | 44 | | 57 | |
| **GST07** | m | [kg] | | | 40 | 48 | 57 | | 70 | 100 |
| **GST09** | m | [kg] | | | | 71 | 80 | | 92 | 123 |
| **GST11** | m | [kg] | | | | | 120 | | 131 | 161 |
| **GST14** | m | [kg] | | | | | | | 210 | 237 |

► Weights with oil filling for mounting position A; all values are approximate.
The weights relate to the basic version. Bear in mind that additional weights may be needed, e.g. for motor options.



## Weights

**GST□□-2M VCK**

| | | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12 | 100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|---|
| **GST03** | m | [kg] | 7 | | | | | | | |
| **GST04** | m | [kg] | 11 | 13 | 18 | | | | | |
| **GST05** | m | [kg] | 16 | 18 | 22 | 30 | 39 | | | |
| **GST06** | m | [kg] | 23 | 25 | 30 | 38 | 47 | | 60 | |
| **GST07** | m | [kg] | | | 44 | 52 | 61 | | 74 | 104 |
| **GST09** | m | [kg] | | | | 78 | 87 | | 99 | 130 |
| **GST11** | m | [kg] | | | | | 130 | | 142 | 171 |
| **GST14** | m | [kg] | | | | | | | 226 | 253 |

**GST□□-2M VAL**

| | | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12 | 100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|---|
| **GST04** | m | [kg] | 11 | 13 | 19 | | | | | |
| **GST05** | m | [kg] | 17 | 19 | 24 | 32 | 40 | | | |
| **GST06** | m | [kg] | 26 | 28 | 32 | 41 | 49 | | 62 | |
| **GST07** | m | [kg] | | | 49 | 57 | 65 | | 78 | 108 |
| **GST09** | m | [kg] | | | | 87 | 95 | | 108 | 138 |
| **GST11** | m | [kg] | | | | | 145 | | 157 | 186 |
| **GST14** | m | [kg] | | | | | | | 254 | 281 |

► Weights with oil filling for mounting position A; all values are approximate.
The weights relate to the basic version. Bear in mind that additional weights may be needed, e.g. for motor options.



## Weights

**GST□□-3M VAR / VBR**

| | | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 | 090C32 | 100C12 | 100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GST05** | m | [kg] | 16 | 19 | | | | | | | |
| **GST06** | m | [kg] | 26 | 29 | | 34 | | | | | |
| **GST07** | m | [kg] | 46 | 48 | | 53 | 61 | 69 | | | |
| **GST09** | m | [kg] | 78 | 80 | | 85 | 93 | 101 | | 114 | |
| **GST11** | m | [kg] | | | | 139 | 147 | 156 | | 169 | 198 |
| **GST14** | m | [kg] | | | | | 253 | 262 | | 274 | 305 |

**GST□□-3M VCR**

| | | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 | 090C32 | 100C12 | 100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GST05** | m | [kg] | 15 | 17 | | | | | | | |
| **GST06** | m | [kg] | 24 | 26 | | 31 | | | | | |
| **GST07** | m | [kg] | 41 | 44 | | 48 | 56 | 65 | | | |
| **GST09** | m | [kg] | 69 | 71 | | 76 | 84 | 93 | | 106 | |
| **GST11** | m | [kg] | | | | 124 | 132 | 141 | | 154 | 183 |
| **GST14** | m | [kg] | | | | | 225 | 234 | | 246 | 277 |

► Weights with oil filling for mounting position A; all values are approximate.
The weights relate to the basic version. Bear in mind that additional weights may be needed, e.g. for motor options.



## Weights

**GST□□-3M VCK**

| | | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 | 090C32 | 100C12 | 100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GST05** | m | [kg] | 16 | 19 | | | | | | | |
| **GST06** | m | [kg] | 27 | 29 | | 34 | | | | | |
| **GST07** | m | [kg] | 45 | 48 | | 52 | 60 | 69 | | | |
| **GST09** | m | [kg] | 76 | 78 | | 83 | 91 | 100 | | 113 | |
| **GST11** | m | [kg] | | | | 135 | 143 | 151 | | 164 | 194 |
| **GST14** | m | [kg] | | | | | 241 | 249 | | 262 | 292 |

**GST□□-3M VAL**

| | | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 | 090C32 | 100C12 | 100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GST05** | m | [kg] | 18 | 20 | | | | | | | |
| **GST06** | m | [kg] | 29 | 32 | | 37 | | | | | |
| **GST07** | m | [kg] | 50 | 52 | | 57 | 65 | 73 | | | |
| **GST09** | m | [kg] | 85 | 87 | | 92 | 100 | 108 | | 121 | |
| **GST11** | m | [kg] | | | | 150 | 158 | 166 | | 179 | 209 |
| **GST14** | m | [kg] | | | | | 269 | 277 | | 290 | 320 |

► Weights with oil filling for mounting position A; all values are approximate.
The weights relate to the basic version. Bear in mind that additional weights may be needed, e.g. for motor options.

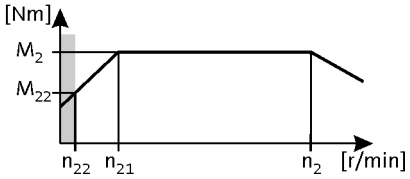


## Selection tables

► 120 Hz: $P_N$ = 0.55 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 143.3 ... 3440 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 70 | 293 | - | 1680 | 2.3 | 3.0 | 4.5 | 2.048 | GST04-1M□□□063C32 | E84AV□□□5514□□0 | 78 |
| 64 | 268 | - | 1536 | 2.6 | 3.0 | 3.9 | 2.240 | GST05-1M□□□063C32 | E84AV□□□5514□□0 | 78 |
| 50 | 210 | - | 1204 | 3.3 | 4.0 | 4.1 | 2.857 | GST04-1M□□□063C32 | E84AV□□□5514□□0 | 78 |
| 41 | 171 | - | 983 | 4.0 | 5.0 | 3.6 | 3.500 | GST04-1M□□□063C32 | E84AV□□□5514□□0 | 78 |
| 33 | 137 | - | 788 | 4.9 | 7.0 | 2.5 | 4.368 | GST03-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 33 | 136 | - | 782 | 5.0 | 7.0 | 2.9 | 4.400 | GST04-1M□□□063C32 | E84AV□□□5514□□0 | 78 |
| 28 | 116 | - | 663 | 5.8 | 8.0 | 4.5 | 5.187 | GST04-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 25 | 106 | - | 607 | 6.5 | 9.0 | 2.2 | 5.667 | GST04-1M□□□063C32 | E84AV□□□5514□□0 | 78 |
| 25 | 106 | - | 607 | 6.5 | 9.0 | 3.2 | 5.667 | GST05-1M□□□063C32 | E84AV□□□5514□□0 | 78 |
| 22 | 94 | - | 538 | 7.2 | 10 | 3.9 | 6.400 | GST05-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 20 | 84 | - | 479 | 8.2 | 11 | 1.8 | 7.182 | GST04-1M□□□063C32 | E84AV□□□5514□□0 | 78 |
| 20 | 82 | - | 469 | 8.4 | 11 | 2.8 | 7.333 | GST05-1M□□□063C32 | E84AV□□□5514□□0 | 78 |
| 20 | 82 | - | 469 | 8.4 | 11 | 3.2 | 7.333 | GST06-1M□□□063C32 | E84AV□□□5514□□0 | 78 |
| 18 | 74 | - | 421 | 9.2 | 12 | 4.5 | 8.163 | GST05-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 16 | 67 | - | 387 | 10 | 13 | 2.4 | 8.900 | GST05-1M□□□063C32 | E84AV□□□5514□□0 | 78 |
| 16 | 67 | - | 387 | 10 | 13 | 2.8 | 8.900 | GST06-1M□□□063C32 | E84AV□□□5514□□0 | 78 |
| 16 | 67 | - | 385 | 10 | 13 | 1.9 | 8.935 | GST03-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 16 | 67 | - | 382 | 10 | 14 | 1.0 | 9.000 | GST04-1M□□□063C32 | E84AV□□□5514□□0 | 78 |
| 15 | 61 | - | 349 | 11 | 15 | 3.4 | 9.856 | GST04-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 14 | 60 | - | 343 | 11 | 15 | 1.8 | 10.033 | GST03-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 13 | 54 | - | 307 | 13 | 17 | 2.7 | 11.200 | GST04-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 13 | 53 | - | 306 | 13 | 17 | 2.2 | 11.250 | GST06-1M□□□063C32 | E84AV□□□5514□□0 | 78 |
| 13 | 53 | - | 302 | 13 | 17 | 1.2 | 11.375 | GST05-1M□□□063C32 | E84AV□□□5514□□0 | 78 |
| 13 | 53 | - | 301 | 13 | 17 | 1.6 | 11.429 | GST03-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 11 | 48 | - | 274 | 14 | 19 | 2.8 | 12.571 | GST04-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 11 | 47 | - | 268 | 14 | 19 | 1.5 | 12.833 | GST03-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 10 | 42 | - | 241 | 16 | 21 | 2.2 | 14.286 | GST04-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 10 | 42 | - | 240 | 16 | 21 | 3.2 | 14.356 | GST05-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 9.7 | 40 | - | 232 | 17 | 22 | 1.3 | 14.836 | GST03-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 9.3 | 39 | - | 223 | 17 | 23 | 2.6 | 15.400 | GST04-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 8.6 | 36 | - | 207 | 19 | 25 | 1.4 | 16.660 | GST03-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 8.2 | 34 | - | 197 | 20 | 26 | 2.1 | 17.500 | GST04-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 7.5 | 32 | - | 181 | 21 | 28 | 1.3 | 19.013 | GST03-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 7.4 | 31 | - | 178 | 22 | 29 | 2.1 | 19.360 | GST04-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 6.7 | 28 | - | 161 | 24 | 32 | 1.2 | 21.350 | GST03-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 6.5 | 27 | - | 156 | 25 | 33 | 1.6 | 22.000 | GST04-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 5.8 | 24 | - | 140 | 28 | 36 | 1.1 | 24.595 | GST03-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 5.8 | 24 | - | 138 | 28 | 37 | 1.7 | 24.933 | GST04-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 5.2 | 22 | - | 125 | 31 | 41 | 0.9 | 27.618 | GST03-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 5.1 | 21 | - | 121 | 32 | 42 | 1.3 | 28.333 | GST04-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 5.1 | 21 | - | 121 | 32 | 42 | 3.0 | 28.333 | GST05-2M□□□063C32 | E84AV□□□5514□□0 | 84 |

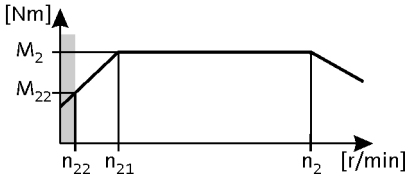


## Selection tables

► 120 Hz: $P_N$ = 0.55 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 143.3 ... 3440 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4.5 | 19 | - | 109 | 35 | 47 | 1.3 | 31.600 | GST04-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 4.4 | 19 | - | 107 | 36 | 48 | 3.0 | 32.267 | GST05-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 4.0 | 17 | - | 96 | 40 | 53 | 1.0 | 35.909 | GST04-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 4.0 | 17 | - | 95 | 40 | 53 | 2.2 | 36.267 | GST05-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 3.9 | 16 | - | 94 | 41 | 54 | 2.3 | 36.667 | GST05-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 3.7 | 15 | - | 88 | 44 | 58 | 2.5 | 39.160 | GST05-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 3.7 | 15 | - | 88 | 44 | 58 | 3.1 | 39.160 | GST06-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 3.6 | 15 | - | 87 | 44 | 59 | 1.1 | 39.600 | GST04-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 3.2 | 14 | - | 77 | 50 | 66 | 2.2 | 44.500 | GST05-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 3.2 | 13 | - | 76 | 51 | 67 | 0.9 | 45.000 | GST04-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 3.1 | 13 | - | 74 | 51 | 68 | 2.1 | 46.259 | GST05-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 2.9 | 12 | - | 70 | 56 | 73 | 2.8 | 49.500 | GST06-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 2.9 | 12 | - | 69 | 56 | 74 | 1.5 | 50.050 | GST05-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 2.5 | 11 | - | 61 | 64 | 84 | 1.5 | 56.875 | GST05-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 2.5 | 11 | - | 61 | 63 | 83 | 1.8 | 56.667 | GST05-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 2.6 | 11 | - | 61 | 63 | 83 | 2.8 | 56.250 | GST06-2M□□□063C32 | E84AV□□□5514□□0 | 84 |
| 2.3 | 9.5 | - | 54 | 70 | 93 | 1.5 | 63.467 | GST05-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 2.0 | 8.4 | - | 48 | 79 | 104 | 1.5 | 71.238 | GST05-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 1.8 | 7.4 | - | 43 | 89 | 118 | 1.2 | 80.952 | GST05-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 1.8 | 7.4 | - | 43 | 89 | 118 | 2.7 | 80.952 | GST06-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 1.6 | 6.9 | - | 39 | 96 | 127 | 2.8 | 87.267 | GST06-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 1.6 | 6.5 | - | 38 | 101 | 134 | 1.2 | 91.746 | GST05-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 1.5 | 6.1 | - | 35 | 110 | 145 | 1.0 | 99.167 | GST05-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 1.5 | 6.1 | - | 35 | 110 | 145 | 2.2 | 99.167 | GST06-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 1.3 | 5.5 | - | 31 | 121 | 160 | 2.2 | 109.707 | GST06-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 1.2 | 5.2 | - | 30 | 128 | 170 | 1.0 | 116.277 | GST05-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 1.2 | 4.8 | - | 28 | 138 | 182 | 1.8 | 124.667 | GST06-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 1.0 | 4.3 | - | 24 | 156 | 206 | 1.7 | 141.289 | GST06-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 0.9 | 3.8 | - | 22 | 175 | 231 | 2.9 | 158.194 | GST07-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 0.9 | 3.7 | - | 21 | 177 | 234 | 1.4 | 160.556 | GST06-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 0.8 | 3.4 | - | 19 | 198 | 261 | 1.4 | 179.067 | GST06-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 0.8 | 3.3 | - | 19 | 199 | 263 | 2.6 | 180.156 | GST07-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 0.7 | 3.0 | - | 17 | 225 | 297 | 1.1 | 203.485 | GST06-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 0.7 | 2.9 | - | 17 | 226 | 299 | 2.3 | 204.722 | GST07-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 0.6 | 2.6 | - | 15 | 256 | 338 | 1.1 | 231.733 | GST06-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 0.6 | 2.5 | - | 15 | 261 | 345 | 2.0 | 236.622 | GST07-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 0.6 | 2.4 | - | 14 | 274 | 363 | 1.9 | 248.458 | GST07-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 0.5 | 2.2 | - | 13 | 297 | 392 | 1.7 | 268.889 | GST07-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 0.4 | 1.8 | - | 11 | 360 | 476 | 1.4 | 326.333 | GST07-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 0.4 | 1.7 | - | 9.5 | 401 | 530 | 2.8 | 363.000 | GST09-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 0.4 | 1.6 | - | 9.4 | 405 | 536 | 1.3 | 367.033 | GST07-3M□□□063C32 | E84AV□□□5514□□0 | 90 |

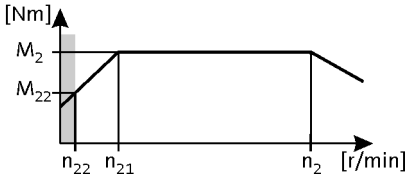


## Selection tables

► 120 Hz: $P_N$ = 0.55 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 143.3 ... 3440 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.3 | 1.4 | - | 8.3 | 461 | 609 | 1.1 | 417.083 | GST07-3M□□□063C32 | E84AV□□□5514□□0 | 90 |
| 0.4 | 1.5 | - | 8.3 | 456 | 602 | 2.6 | 412.500 | GST09-3M□□□063C32 | E84AV□□□5514□□0 | 90 |

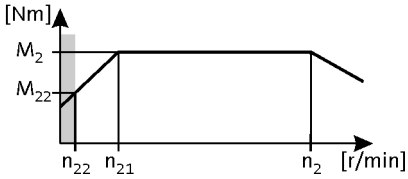


## Selection tables

► 120 Hz: $P_N$ = 0.75 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 141.7 ... 3400 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 69 | 293 | - | 1661 | 3.2 | 4.0 | 3.3 | 2.048 | GST04-1M□□□063C42 | E84AV□□□7514□□0 | 78 |
| 63 | 268 | - | 1518 | 3.5 | 5.0 | 2.9 | 2.240 | GST05-1M□□□063C42 | E84AV□□□7514□□0 | 78 |
| 50 | 210 | - | 1190 | 4.4 | 6.0 | 3.0 | 2.857 | GST04-1M□□□063C42 | E84AV□□□7514□□0 | 78 |
| 41 | 171 | - | 971 | 5.4 | 7.0 | 2.6 | 3.500 | GST04-1M□□□063C42 | E84AV□□□7514□□0 | 78 |
| 32 | 137 | - | 778 | 6.7 | 9.0 | 1.8 | 4.368 | GST03-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 32 | 136 | - | 773 | 6.8 | 9.0 | 2.1 | 4.400 | GST04-1M□□□063C42 | E84AV□□□7514□□0 | 78 |
| 31 | 132 | - | 746 | 7.1 | 10 | 2.7 | 4.556 | GST05-1M□□□063C42 | E84AV□□□7514□□0 | 78 |
| 27 | 116 | - | 655 | 7.9 | 11 | 3.3 | 5.187 | GST04-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 25 | 106 | - | 600 | 8.8 | 12 | 1.6 | 5.667 | GST04-1M□□□063C42 | E84AV□□□7514□□0 | 78 |
| 25 | 106 | - | 600 | 8.8 | 12 | 2.3 | 5.667 | GST05-1M□□□063C42 | E84AV□□□7514□□0 | 78 |
| 22 | 94 | - | 531 | 9.8 | 13 | 2.9 | 6.400 | GST05-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 22 | 94 | - | 531 | 9.8 | 13 | 3.2 | 6.400 | GST04-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 20 | 84 | - | 473 | 11 | 15 | 1.3 | 7.182 | GST04-1M□□□063C42 | E84AV□□□7514□□0 | 78 |
| 19 | 82 | - | 464 | 11 | 15 | 2.1 | 7.333 | GST05-1M□□□063C42 | E84AV□□□7514□□0 | 78 |
| 19 | 82 | - | 464 | 11 | 15 | 2.3 | 7.333 | GST06-1M□□□063C42 | E84AV□□□7514□□0 | 78 |
| 17 | 74 | - | 417 | 13 | 17 | 3.3 | 8.163 | GST05-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 16 | 67 | - | 382 | 14 | 19 | 1.7 | 8.900 | GST05-1M□□□063C42 | E84AV□□□7514□□0 | 78 |
| 16 | 67 | - | 382 | 14 | 19 | 2.0 | 8.900 | GST06-1M□□□063C42 | E84AV□□□7514□□0 | 78 |
| 16 | 67 | - | 381 | 14 | 18 | 1.4 | 8.935 | GST03-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 16 | 67 | - | 377 | 14 | 18 | 2.6 | 9.010 | GST04-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 14 | 61 | - | 345 | 15 | 20 | 2.4 | 9.856 | GST04-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 14 | 60 | - | 339 | 15 | 21 | 1.3 | 10.033 | GST03-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 13 | 54 | - | 304 | 17 | 23 | 2.0 | 11.200 | GST04-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 13 | 54 | - | 304 | 17 | 23 | 2.9 | 11.200 | GST05-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 13 | 53 | - | 302 | 18 | 23 | 1.6 | 11.250 | GST06-1M□□□063C42 | E84AV□□□7514□□0 | 78 |
| 12 | 53 | - | 298 | 18 | 23 | 1.2 | 11.429 | GST03-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 11 | 48 | - | 271 | 19 | 26 | 2.0 | 12.571 | GST04-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 11 | 47 | - | 265 | 20 | 26 | 1.1 | 12.833 | GST03-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 11 | 46 | - | 261 | 20 | 27 | 2.7 | 13.016 | GST05-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 9.9 | 42 | - | 238 | 22 | 29 | 1.6 | 14.286 | GST04-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 9.9 | 42 | - | 237 | 22 | 29 | 2.3 | 14.356 | GST05-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 9.6 | 40 | - | 229 | 23 | 30 | 1.0 | 14.836 | GST03-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 9.2 | 39 | - | 221 | 24 | 32 | 1.9 | 15.400 | GST04-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 8.8 | 37 | - | 210 | 25 | 33 | 2.6 | 16.190 | GST05-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 8.5 | 36 | - | 204 | 26 | 34 | 1.0 | 16.660 | GST03-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 8.1 | 34 | - | 194 | 27 | 36 | 1.5 | 17.500 | GST04-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 7.5 | 32 | - | 179 | 29 | 39 | 0.9 | 19.013 | GST03-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 7.3 | 31 | - | 176 | 30 | 40 | 1.5 | 19.360 | GST04-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 7.1 | 30 | - | 170 | 31 | 41 | 3.1 | 20.044 | GST05-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 6.4 | 27 | - | 155 | 34 | 45 | 1.2 | 22.000 | GST04-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 6.2 | 26 | - | 149 | 35 | 47 | 2.7 | 22.778 | GST05-2M□□□063C42 | E84AV□□□7514□□0 | 84 |

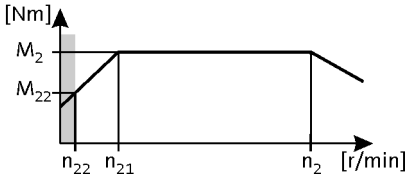


## Selection tables

► 120 Hz: $P_N$ = 0.75 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 141.7 ... 3400 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 5.7 | 24 | - | 136 | 38 | 51 | 1.2 | 24.933 | GST04-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 5.7 | 24 | - | 136 | 38 | 51 | 2.6 | 24.933 | GST05-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 5.0 | 21 | - | 120 | 43 | 58 | 0.9 | 28.333 | GST04-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 5.0 | 21 | - | 120 | 43 | 58 | 2.2 | 28.333 | GST05-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 4.5 | 19 | - | 108 | 48 | 65 | 1.0 | 31.600 | GST04-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 4.4 | 19 | - | 105 | 49 | 66 | 2.2 | 32.267 | GST05-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 4.4 | 19 | - | 105 | 49 | 66 | 2.6 | 32.267 | GST06-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 3.9 | 17 | - | 94 | 55 | 73 | 1.6 | 36.267 | GST05-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 3.9 | 16 | - | 93 | 56 | 75 | 1.7 | 36.667 | GST05-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 3.9 | 16 | - | 93 | 56 | 75 | 2.6 | 36.667 | GST06-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 3.6 | 15 | - | 87 | 60 | 80 | 1.8 | 39.160 | GST05-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 3.6 | 15 | - | 87 | 60 | 80 | 2.3 | 39.160 | GST06-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 3.2 | 14 | - | 76 | 68 | 91 | 1.6 | 44.500 | GST05-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 3.2 | 14 | - | 76 | 68 | 91 | 2.5 | 44.500 | GST06-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 3.1 | 13 | - | 74 | 70 | 93 | 1.5 | 46.259 | GST05-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 2.9 | 12 | - | 69 | 76 | 101 | 2.0 | 49.500 | GST06-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 2.8 | 12 | - | 68 | 77 | 102 | 1.1 | 50.050 | GST05-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 2.8 | 12 | - | 67 | 77 | 103 | 3.0 | 51.022 | GST06-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 2.6 | 11 | - | 63 | 81 | 109 | 3.1 | 53.900 | GST06-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 2.5 | 11 | - | 60 | 87 | 116 | 1.1 | 56.875 | GST05-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 2.5 | 11 | - | 60 | 85 | 114 | 1.3 | 56.667 | GST05-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 2.5 | 11 | - | 60 | 86 | 115 | 2.0 | 56.250 | GST06-2M□□□063C42 | E84AV□□□7514□□0 | 84 |
| 2.2 | 9.5 | - | 54 | 96 | 128 | 1.1 | 63.467 | GST05-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 2.1 | 8.9 | - | 50 | 102 | 136 | 2.6 | 67.760 | GST06-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 2.0 | 8.6 | - | 49 | 106 | 141 | 2.4 | 70.156 | GST06-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 2.0 | 8.4 | - | 48 | 107 | 143 | 1.1 | 71.238 | GST05-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 1.8 | 7.4 | - | 42 | 122 | 163 | 2.0 | 80.952 | GST06-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 1.6 | 6.9 | - | 39 | 131 | 176 | 2.0 | 87.267 | GST06-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 1.4 | 6.1 | - | 34 | 149 | 200 | 1.6 | 99.167 | GST06-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 1.3 | 5.5 | - | 31 | 165 | 221 | 1.6 | 109.707 | GST06-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 1.3 | 5.4 | - | 30 | 169 | 225 | 3.0 | 111.915 | GST07-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 1.1 | 4.8 | - | 27 | 188 | 251 | 1.3 | 124.667 | GST06-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 1.1 | 4.7 | - | 27 | 192 | 256 | 2.7 | 127.176 | GST07-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 1.0 | 4.3 | - | 24 | 213 | 284 | 1.3 | 141.289 | GST06-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 1.0 | 4.3 | - | 24 | 210 | 280 | 2.4 | 139.211 | GST07-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 0.9 | 3.8 | - | 22 | 238 | 319 | 2.1 | 158.194 | GST07-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 0.9 | 3.7 | - | 21 | 242 | 323 | 1.0 | 160.556 | GST06-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 0.8 | 3.4 | - | 19 | 270 | 361 | 1.0 | 179.067 | GST06-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 0.8 | 3.3 | - | 19 | 271 | 363 | 1.9 | 180.156 | GST07-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 0.8 | 3.3 | - | 19 | 275 | 368 | 2.9 | 182.844 | GST09-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 0.7 | 2.9 | - | 17 | 308 | 412 | 1.7 | 204.722 | GST07-3M□□□063C42 | E84AV□□□7514□□0 | 90 |

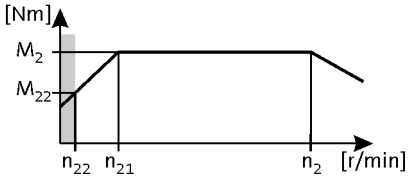


## Selection tables

► 120 Hz: $P_N$ = 0.75 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 141.7 ... 3400 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.7 | 2.9 | - | 16 | 313 | 418 | 2.9 | 207.778 | GST09-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 0.6 | 2.5 | - | 14 | 356 | 476 | 1.4 | 236.622 | GST07-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 0.6 | 2.4 | - | 14 | 374 | 500 | 1.4 | 248.458 | GST07-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 0.6 | 2.4 | - | 14 | 380 | 508 | 2.5 | 252.167 | GST09-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 0.6 | 2.5 | - | 14 | 356 | 476 | 2.9 | 236.622 | GST09-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 0.5 | 2.2 | - | 13 | 405 | 541 | 1.3 | 268.889 | GST07-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 0.5 | 2.2 | - | 13 | 405 | 541 | 2.9 | 268.889 | GST09-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 0.4 | 1.8 | - | 10 | 491 | 657 | 1.0 | 326.333 | GST07-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 0.4 | 1.8 | - | 10 | 491 | 657 | 2.4 | 326.333 | GST09-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 0.4 | 1.7 | - | 9.4 | 547 | 731 | 2.0 | 363.000 | GST09-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 0.4 | 1.6 | - | 9.3 | 553 | 739 | 0.9 | 367.033 | GST07-3M□□□063C42 | E84AV□□□7514□□0 | 90 |
| 0.3 | 1.5 | - | 8.2 | 621 | 830 | 1.9 | 412.500 | GST09-3M□□□063C42 | E84AV□□□7514□□0 | 90 |

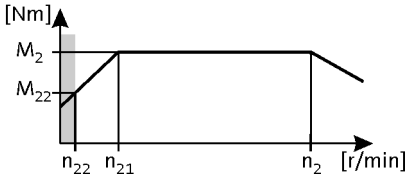


## Selection tables

► 120 Hz: $P_N$ = 1.10 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.4 ... 3490 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 71 | 293 | - | 1704 | 4.7 | 6.0 | 2.8 | 2.048 | GST04-1M□□□071C32 | E84AV□□□1124□□0 | 78 |
| 65 | 268 | - | 1558 | 5.1 | 7.0 | 2.8 | 2.240 | GST04-1M□□□071C32 | E84AV□□□1124□□0 | 78 |
| 51 | 210 | - | 1222 | 6.5 | 9.0 | 2.2 | 2.857 | GST04-1M□□□071C32 | E84AV□□□1124□□0 | 78 |
| 42 | 171 | - | 997 | 8.0 | 10 | 1.8 | 3.500 | GST04-1M□□□071C32 | E84AV□□□1124□□0 | 78 |
| 33 | 136 | - | 793 | 10 | 13 | 1.4 | 4.400 | GST04-1M□□□071C32 | E84AV□□□1124□□0 | 78 |
| 32 | 132 | - | 766 | 10 | 14 | 3.0 | 4.556 | GST05-1M□□□071C32 | E84AV□□□1124□□0 | 78 |
| 28 | 116 | - | 673 | 12 | 15 | 2.5 | 5.187 | GST04-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 26 | 106 | - | 616 | 13 | 17 | 1.1 | 5.667 | GST04-1M□□□071C32 | E84AV□□□1124□□0 | 78 |
| 26 | 106 | - | 616 | 13 | 17 | 2.4 | 5.667 | GST05-1M□□□071C32 | E84AV□□□1124□□0 | 78 |
| 26 | 106 | - | 616 | 13 | 17 | 3.0 | 5.667 | GST06-1M□□□071C32 | E84AV□□□1124□□0 | 78 |
| 25 | 103 | - | 597 | 13 | 17 | 2.4 | 5.850 | GST04-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 23 | 94 | - | 545 | 14 | 19 | 2.2 | 6.400 | GST04-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 20 | 82 | - | 476 | 17 | 22 | 1.6 | 7.333 | GST05-1M□□□071C32 | E84AV□□□1124□□0 | 78 |
| 20 | 82 | - | 476 | 17 | 22 | 2.7 | 7.333 | GST06-1M□□□071C32 | E84AV□□□1124□□0 | 78 |
| 18 | 74 | - | 428 | 18 | 24 | 3.6 | 8.163 | GST05-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 16 | 67 | - | 392 | 20 | 26 | 1.2 | 8.900 | GST05-1M□□□071C32 | E84AV□□□1124□□0 | 78 |
| 16 | 67 | - | 392 | 20 | 26 | 2.2 | 8.900 | GST06-1M□□□071C32 | E84AV□□□1124□□0 | 78 |
| 16 | 67 | - | 387 | 20 | 26 | 1.8 | 9.010 | GST04-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 15 | 61 | - | 354 | 22 | 29 | 1.7 | 9.856 | GST04-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 15 | 60 | - | 349 | 22 | 29 | 3.2 | 10.000 | GST05-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 13 | 54 | - | 312 | 25 | 33 | 1.4 | 11.200 | GST04-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 13 | 54 | - | 312 | 25 | 33 | 2.9 | 11.200 | GST05-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 13 | 53 | - | 310 | 26 | 33 | 1.3 | 11.250 | GST06-1M□□□071C32 | E84AV□□□1124□□0 | 78 |
| 12 | 48 | - | 278 | 28 | 37 | 1.4 | 12.571 | GST04-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 11 | 46 | - | 268 | 29 | 38 | 2.7 | 13.016 | GST05-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 10 | 42 | - | 244 | 32 | 42 | 1.1 | 14.286 | GST04-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 10 | 42 | - | 243 | 32 | 42 | 2.5 | 14.356 | GST05-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 9.4 | 39 | - | 227 | 35 | 45 | 1.3 | 15.400 | GST04-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 9.0 | 37 | - | 216 | 36 | 47 | 2.7 | 16.190 | GST05-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 8.3 | 34 | - | 199 | 39 | 51 | 1.0 | 17.500 | GST04-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 8.3 | 34 | - | 199 | 39 | 51 | 2.4 | 17.500 | GST05-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 7.5 | 31 | - | 180 | 43 | 57 | 1.1 | 19.360 | GST04-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 7.3 | 30 | - | 174 | 45 | 59 | 2.3 | 20.044 | GST05-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 6.4 | 26 | - | 153 | 51 | 67 | 1.9 | 22.778 | GST05-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 5.8 | 24 | - | 140 | 56 | 73 | 1.9 | 24.933 | GST05-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 5.1 | 21 | - | 123 | 64 | 83 | 1.5 | 28.333 | GST05-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 4.5 | 19 | - | 108 | 72 | 94 | 1.5 | 32.267 | GST05-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 4.5 | 19 | - | 108 | 72 | 94 | 3.1 | 32.267 | GST06-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 4.0 | 17 | - | 96 | 80 | 104 | 1.1 | 36.267 | GST05-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 4.0 | 16 | - | 95 | 82 | 107 | 1.2 | 36.667 | GST05-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 4.0 | 16 | - | 95 | 82 | 107 | 2.6 | 36.667 | GST06-2M□□□071C32 | E84AV□□□1124□□0 | 84 |

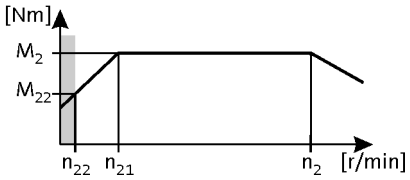


## Selection tables

► 120 Hz: $P_N$ = 1.10 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.4 ... 3490 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 3.7 | 15 | - | 89 | 88 | 114 | 1.2 | 39.160 | GST05-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 3.7 | 15 | - | 89 | 87 | 113 | 2.4 | 39.200 | GST06-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 3.7 | 15 | - | 89 | 88 | 114 | 2.5 | 39.160 | GST06-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 3.3 | 14 | - | 79 | 97 | 127 | 2.5 | 44.000 | GST06-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 3.3 | 14 | - | 78 | 100 | 130 | 1.1 | 44.500 | GST05-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 3.3 | 14 | - | 78 | 100 | 130 | 2.4 | 44.500 | GST06-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 3.1 | 13 | - | 75 | 102 | 133 | 1.0 | 46.259 | GST05-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 2.9 | 12 | - | 71 | 111 | 145 | 1.6 | 49.500 | GST06-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 2.9 | 12 | - | 68 | 113 | 147 | 2.1 | 51.022 | GST06-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 2.7 | 11 | - | 65 | 119 | 155 | 2.1 | 53.900 | GST06-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 2.6 | 11 | - | 62 | 125 | 163 | 0.9 | 56.667 | GST05-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 2.6 | 11 | - | 62 | 126 | 164 | 1.6 | 56.250 | GST06-2M□□□071C32 | E84AV□□□1124□□0 | 84 |
| 2.2 | 8.9 | - | 52 | 150 | 195 | 1.8 | 67.760 | GST06-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 2.1 | 8.6 | - | 50 | 155 | 202 | 1.7 | 70.156 | GST06-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 1.8 | 7.5 | - | 44 | 176 | 229 | 2.9 | 79.762 | GST07-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 1.8 | 7.4 | - | 43 | 179 | 233 | 1.4 | 80.952 | GST06-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 1.7 | 7.0 | - | 41 | 190 | 247 | 2.7 | 85.983 | GST07-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 1.7 | 6.9 | - | 40 | 193 | 251 | 1.4 | 87.267 | GST06-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 1.5 | 6.1 | - | 36 | 216 | 281 | 2.4 | 97.708 | GST07-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 1.5 | 6.1 | - | 35 | 219 | 285 | 1.1 | 99.167 | GST06-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 1.3 | 5.5 | - | 32 | 242 | 316 | 1.1 | 109.707 | GST06-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 1.3 | 5.4 | - | 31 | 247 | 322 | 2.1 | 111.915 | GST07-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 1.1 | 4.7 | - | 27 | 281 | 366 | 1.8 | 127.176 | GST07-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 1.0 | 4.3 | - | 25 | 308 | 400 | 1.7 | 139.211 | GST07-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 0.9 | 3.8 | - | 22 | 349 | 455 | 1.5 | 158.194 | GST07-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 0.8 | 3.3 | - | 19 | 398 | 518 | 1.3 | 180.156 | GST07-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 0.8 | 3.3 | - | 19 | 404 | 526 | 2.9 | 182.844 | GST09-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 0.7 | 2.9 | - | 17 | 452 | 589 | 1.1 | 204.722 | GST07-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 0.7 | 2.9 | - | 17 | 459 | 598 | 2.6 | 207.778 | GST09-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 0.6 | 2.5 | - | 15 | 523 | 681 | 1.0 | 236.622 | GST07-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 0.6 | 2.5 | - | 15 | 523 | 681 | 2.3 | 236.622 | GST09-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 0.6 | 2.4 | - | 14 | 549 | 715 | 0.9 | 248.458 | GST07-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 0.6 | 2.4 | - | 14 | 557 | 725 | 2.1 | 252.167 | GST09-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 0.5 | 2.2 | - | 13 | 594 | 773 | 2.0 | 268.889 | GST09-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 0.5 | 1.8 | - | 11 | 721 | 939 | 1.6 | 326.333 | GST09-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 0.4 | 1.7 | - | 9.6 | 802 | 1044 | 1.5 | 363.000 | GST09-3M□□□071C32 | E84AV□□□1124□□0 | 90 |
| 0.4 | 1.5 | - | 8.5 | 911 | 1187 | 1.3 | 412.500 | GST09-3M□□□071C32 | E84AV□□□1124□□0 | 90 |

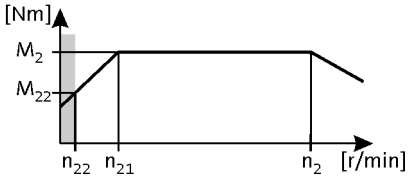


## Selection tables

► 120 Hz: $P_N$ = 1.50 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 143.8 ... 3450 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 70 | 293 | - | 1685 | 6.4 | 8.0 | 2.1 | 2.048 | GST04-1M□□□071C42 | E84AV□□□1524□□0 | 78 |
| 70 | 293 | - | 1685 | 6.4 | 8.0 | 3.1 | 2.048 | GST05-1M□□□071C42 | E84AV□□□1524□□0 | 78 |
| 64 | 268 | - | 1540 | 7.0 | 9.0 | 2.0 | 2.240 | GST04-1M□□□071C42 | E84AV□□□1524□□0 | 78 |
| 64 | 268 | - | 1540 | 7.0 | 9.0 | 3.1 | 2.240 | GST05-1M□□□071C42 | E84AV□□□1524□□0 | 78 |
| 50 | 210 | - | 1208 | 8.9 | 12 | 1.6 | 2.857 | GST04-1M□□□071C42 | E84AV□□□1524□□0 | 78 |
| 50 | 210 | - | 1208 | 8.9 | 12 | 2.9 | 2.857 | GST05-1M□□□071C42 | E84AV□□□1524□□0 | 78 |
| 50 | 210 | - | 1208 | 8.9 | 12 | 3.1 | 2.857 | GST06-1M□□□071C42 | E84AV□□□1524□□0 | 78 |
| 41 | 171 | - | 986 | 11 | 14 | 1.3 | 3.500 | GST04-1M□□□071C42 | E84AV□□□1524□□0 | 78 |
| 41 | 171 | - | 986 | 11 | 14 | 2.6 | 3.500 | GST05-1M□□□071C42 | E84AV□□□1524□□0 | 78 |
| 33 | 136 | - | 784 | 14 | 18 | 1.1 | 4.400 | GST04-1M□□□071C42 | E84AV□□□1524□□0 | 78 |
| 32 | 132 | - | 757 | 14 | 19 | 2.2 | 4.556 | GST05-1M□□□071C42 | E84AV□□□1524□□0 | 78 |
| 32 | 132 | - | 757 | 14 | 19 | 2.6 | 4.556 | GST06-1M□□□071C42 | E84AV□□□1524□□0 | 78 |
| 28 | 116 | - | 665 | 16 | 21 | 1.8 | 5.187 | GST04-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 28 | 116 | - | 665 | 16 | 21 | 3.1 | 5.187 | GST05-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 25 | 106 | - | 609 | 18 | 23 | 1.8 | 5.667 | GST05-1M□□□071C42 | E84AV□□□1524□□0 | 78 |
| 25 | 106 | - | 609 | 18 | 23 | 2.2 | 5.667 | GST06-1M□□□071C42 | E84AV□□□1524□□0 | 78 |
| 25 | 103 | - | 590 | 18 | 24 | 1.7 | 5.850 | GST04-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 25 | 103 | - | 590 | 18 | 24 | 3.1 | 5.850 | GST05-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 23 | 94 | - | 539 | 20 | 26 | 1.6 | 6.400 | GST04-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 23 | 94 | - | 539 | 20 | 26 | 3.1 | 6.400 | GST05-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 20 | 83 | - | 477 | 22 | 29 | 2.8 | 7.238 | GST05-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 20 | 82 | - | 471 | 23 | 30 | 1.2 | 7.333 | GST05-1M□□□071C42 | E84AV□□□1524□□0 | 78 |
| 20 | 82 | - | 471 | 23 | 30 | 2.0 | 7.333 | GST06-1M□□□071C42 | E84AV□□□1524□□0 | 78 |
| 18 | 74 | - | 423 | 25 | 33 | 2.7 | 8.163 | GST05-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 18 | 74 | - | 423 | 25 | 33 | 3.1 | 8.163 | GST06-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 16 | 67 | - | 388 | 28 | 36 | 1.6 | 8.900 | GST06-1M□□□071C42 | E84AV□□□1524□□0 | 78 |
| 16 | 67 | - | 383 | 28 | 36 | 1.3 | 9.010 | GST04-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 16 | 67 | - | 383 | 28 | 36 | 2.5 | 9.010 | GST05-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 15 | 61 | - | 350 | 30 | 40 | 1.2 | 9.856 | GST04-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 14 | 60 | - | 345 | 31 | 40 | 2.3 | 10.000 | GST05-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 13 | 54 | - | 308 | 34 | 45 | 1.0 | 11.200 | GST04-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 13 | 54 | - | 308 | 34 | 45 | 2.1 | 11.200 | GST05-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 13 | 53 | - | 307 | 35 | 46 | 0.9 | 11.250 | GST06-1M□□□071C42 | E84AV□□□1524□□0 | 78 |
| 11 | 48 | - | 274 | 38 | 51 | 1.0 | 12.571 | GST04-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 11 | 48 | - | 274 | 38 | 51 | 3.1 | 12.571 | GST06-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 11 | 46 | - | 265 | 40 | 52 | 2.0 | 13.016 | GST05-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 10 | 42 | - | 242 | 44 | 58 | 3.1 | 14.286 | GST06-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 10 | 42 | - | 240 | 44 | 58 | 1.8 | 14.356 | GST05-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 9.3 | 39 | - | 224 | 47 | 62 | 1.0 | 15.400 | GST04-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 8.9 | 37 | - | 213 | 50 | 65 | 2.0 | 16.190 | GST05-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 8.2 | 34 | - | 197 | 54 | 71 | 1.7 | 17.500 | GST05-2M□□□071C42 | E84AV□□□1524□□0 | 84 |

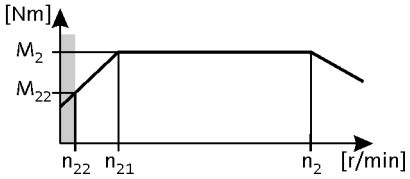


## Selection tables

► 120 Hz: $P_N$ = 1.50 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 143.8 ... 3450 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 7.2 | 30 | - | 172 | 61 | 81 | 1.7 | 20.044 | GST05-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 7.2 | 30 | - | 172 | 61 | 81 | 2.9 | 20.044 | GST06-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 6.3 | 26 | - | 152 | 70 | 92 | 1.4 | 22.778 | GST05-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 6.3 | 26 | - | 152 | 70 | 92 | 2.9 | 22.778 | GST06-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 5.8 | 24 | - | 138 | 76 | 100 | 1.4 | 24.933 | GST05-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 5.8 | 24 | - | 138 | 76 | 100 | 2.4 | 24.933 | GST06-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 5.1 | 21 | - | 122 | 87 | 114 | 1.1 | 28.333 | GST05-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 5.1 | 21 | - | 122 | 87 | 114 | 2.4 | 28.333 | GST06-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 4.5 | 19 | - | 107 | 99 | 130 | 1.1 | 32.267 | GST05-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 4.5 | 19 | - | 107 | 99 | 130 | 2.2 | 32.267 | GST06-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 3.9 | 16 | - | 94 | 112 | 148 | 1.9 | 36.667 | GST06-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 3.7 | 15 | - | 88 | 120 | 158 | 0.9 | 39.160 | GST05-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 3.7 | 15 | - | 88 | 120 | 158 | 1.8 | 39.160 | GST06-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 3.7 | 15 | - | 88 | 118 | 156 | 1.8 | 39.200 | GST06-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 3.2 | 14 | - | 78 | 136 | 179 | 1.7 | 44.500 | GST06-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 3.3 | 14 | - | 78 | 133 | 175 | 1.8 | 44.000 | GST06-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 3.3 | 14 | - | 78 | 133 | 175 | 3.2 | 44.000 | GST07-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 2.9 | 12 | - | 70 | 151 | 199 | 1.2 | 49.500 | GST06-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 2.8 | 12 | - | 68 | 154 | 202 | 1.5 | 51.022 | GST06-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 2.7 | 11 | - | 64 | 162 | 214 | 1.6 | 53.900 | GST06-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 2.7 | 11 | - | 64 | 162 | 214 | 3.2 | 53.900 | GST07-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 2.6 | 11 | - | 61 | 172 | 227 | 1.2 | 56.250 | GST06-2M□□□071C42 | E84AV□□□1524□□0 | 84 |
| 2.2 | 9.2 | - | 53 | 196 | 258 | 2.6 | 65.079 | GST07-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 2.1 | 8.9 | - | 51 | 204 | 269 | 1.3 | 67.760 | GST06-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 2.1 | 8.6 | - | 49 | 211 | 278 | 1.2 | 70.156 | GST06-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 2.1 | 8.6 | - | 49 | 211 | 278 | 2.4 | 70.156 | GST07-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 1.8 | 7.4 | - | 43 | 244 | 321 | 1.0 | 80.952 | GST06-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 1.8 | 7.5 | - | 43 | 240 | 317 | 2.1 | 79.762 | GST07-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 1.7 | 6.9 | - | 40 | 263 | 346 | 1.0 | 87.267 | GST06-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 1.7 | 7.0 | - | 40 | 259 | 341 | 2.0 | 85.983 | GST07-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 1.5 | 6.4 | - | 37 | 282 | 371 | 3.2 | 93.541 | GST09-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 1.5 | 6.1 | - | 35 | 294 | 388 | 1.7 | 97.708 | GST07-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 1.3 | 5.4 | - | 31 | 337 | 444 | 1.5 | 111.915 | GST07-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 1.3 | 5.3 | - | 30 | 342 | 451 | 3.2 | 113.585 | GST09-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 1.1 | 4.7 | - | 27 | 383 | 505 | 1.3 | 127.176 | GST07-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 1.1 | 4.7 | - | 27 | 389 | 512 | 3.0 | 129.074 | GST09-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 1.0 | 4.3 | - | 25 | 419 | 552 | 1.2 | 139.211 | GST07-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 1.0 | 4.3 | - | 24 | 426 | 561 | 2.7 | 141.289 | GST09-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 0.9 | 3.8 | - | 22 | 476 | 628 | 1.1 | 158.194 | GST07-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 0.9 | 3.7 | - | 22 | 484 | 637 | 2.4 | 160.556 | GST09-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 0.8 | 3.3 | - | 19 | 543 | 715 | 0.9 | 180.156 | GST07-3M□□□071C42 | E84AV□□□1524□□0 | 90 |

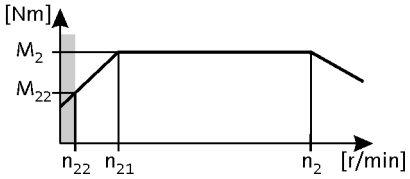


## Selection tables

► 120 Hz: $P_N$ = 1.50 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 143.8 ... 3450 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.8 | 3.3 | - | 19 | 551 | 726 | 2.1 | 182.844 | GST09-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 0.7 | 2.9 | - | 17 | 626 | 824 | 1.9 | 207.778 | GST09-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 0.6 | 2.5 | - | 15 | 713 | 939 | 1.6 | 236.622 | GST09-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 0.6 | 2.4 | - | 14 | 760 | 1001 | 1.5 | 252.167 | GST09-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 0.5 | 2.2 | - | 13 | 810 | 1067 | 1.5 | 268.889 | GST09-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 0.4 | 1.8 | - | 11 | 983 | 1295 | 1.2 | 326.333 | GST09-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 0.4 | 1.7 | - | 9.5 | 1093 | 1440 | 1.1 | 363.000 | GST09-3M□□□071C42 | E84AV□□□1524□□0 | 90 |
| 0.4 | 1.5 | - | 8.4 | 1242 | 1637 | 0.9 | 412.500 | GST09-3M□□□071C42 | E84AV□□□1524□□0 | 90 |

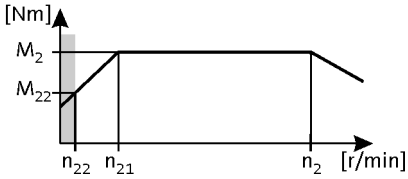


## Selection tables

► 120 Hz: $P_N$ = 2.20 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.8 ... 3500 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 71 | 293 | - | 1709 | 9.1 | 12 | 1.4 | 2.048 | GST04-1M□□□080C32 | E84AV□□□2224□□0 | 78 |
| 65 | 268 | - | 1563 | 9.9 | 13 | 1.4 | 2.240 | GST04-1M□□□080C32 | E84AV□□□2224□□0 | 78 |
| 65 | 268 | - | 1563 | 9.9 | 13 | 3.0 | 2.240 | GST05-1M□□□080C32 | E84AV□□□2224□□0 | 78 |
| 51 | 210 | - | 1225 | 13 | 17 | 1.1 | 2.857 | GST04-1M□□□080C32 | E84AV□□□2224□□0 | 78 |
| 51 | 210 | - | 1225 | 13 | 17 | 2.4 | 2.857 | GST05-1M□□□080C32 | E84AV□□□2224□□0 | 78 |
| 42 | 171 | - | 1000 | 16 | 21 | 0.9 | 3.500 | GST04-1M□□□080C32 | E84AV□□□2224□□0 | 78 |
| 42 | 171 | - | 1000 | 16 | 21 | 2.0 | 3.500 | GST05-1M□□□080C32 | E84AV□□□2224□□0 | 78 |
| 32 | 132 | - | 768 | 20 | 27 | 1.5 | 4.556 | GST05-1M□□□080C32 | E84AV□□□2224□□0 | 78 |
| 32 | 132 | - | 768 | 20 | 27 | 2.9 | 4.556 | GST06-1M□□□080C32 | E84AV□□□2224□□0 | 78 |
| 28 | 116 | - | 675 | 23 | 30 | 1.2 | 5.187 | GST04-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 28 | 116 | - | 675 | 23 | 30 | 2.2 | 5.187 | GST05-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 26 | 108 | - | 627 | 25 | 33 | 2.9 | 5.583 | GST07-1M□□□080C32 | E84AV□□□2224□□0 | 78 |
| 26 | 106 | - | 618 | 25 | 34 | 1.2 | 5.667 | GST05-1M□□□080C32 | E84AV□□□2224□□0 | 78 |
| 26 | 106 | - | 618 | 25 | 34 | 2.4 | 5.667 | GST06-1M□□□080C32 | E84AV□□□2224□□0 | 78 |
| 25 | 103 | - | 598 | 26 | 34 | 1.2 | 5.850 | GST04-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 25 | 103 | - | 598 | 26 | 34 | 2.2 | 5.850 | GST05-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 23 | 94 | - | 547 | 28 | 37 | 1.1 | 6.400 | GST04-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 23 | 94 | - | 547 | 28 | 37 | 2.1 | 6.400 | GST05-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 20 | 83 | - | 484 | 32 | 42 | 1.9 | 7.238 | GST05-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 20 | 82 | - | 477 | 33 | 43 | 1.7 | 7.333 | GST06-1M□□□080C32 | E84AV□□□2224□□0 | 78 |
| 20 | 82 | - | 477 | 33 | 43 | 2.7 | 7.333 | GST07-1M□□□080C32 | E84AV□□□2224□□0 | 78 |
| 18 | 74 | - | 429 | 36 | 48 | 1.8 | 8.163 | GST05-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 16 | 67 | - | 393 | 39 | 53 | 1.2 | 8.900 | GST06-1M□□□080C32 | E84AV□□□2224□□0 | 78 |
| 16 | 67 | - | 393 | 39 | 53 | 2.2 | 8.900 | GST07-1M□□□080C32 | E84AV□□□2224□□0 | 78 |
| 16 | 67 | - | 389 | 39 | 53 | 0.9 | 9.010 | GST04-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 16 | 67 | - | 389 | 39 | 53 | 1.7 | 9.010 | GST05-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 15 | 60 | - | 350 | 44 | 58 | 1.6 | 10.000 | GST05-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 13 | 54 | - | 313 | 49 | 65 | 1.5 | 11.200 | GST05-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 13 | 54 | - | 313 | 49 | 65 | 3.2 | 11.200 | GST06-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 13 | 53 | - | 311 | 50 | 67 | 1.3 | 11.250 | GST07-1M□□□080C32 | E84AV□□□2224□□0 | 78 |
| 12 | 48 | - | 278 | 55 | 73 | 3.0 | 12.571 | GST06-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 11 | 46 | - | 269 | 57 | 76 | 1.4 | 13.016 | GST05-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 10 | 42 | - | 245 | 62 | 83 | 2.8 | 14.286 | GST06-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 10 | 42 | - | 244 | 63 | 84 | 1.3 | 14.356 | GST05-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 9.5 | 39 | - | 227 | 67 | 90 | 3.0 | 15.400 | GST06-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 9.0 | 37 | - | 216 | 71 | 94 | 1.3 | 16.190 | GST05-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 8.3 | 34 | - | 200 | 76 | 102 | 1.2 | 17.500 | GST05-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 8.3 | 34 | - | 200 | 76 | 102 | 2.6 | 17.500 | GST06-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 7.3 | 30 | - | 175 | 88 | 117 | 1.2 | 20.044 | GST05-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 7.3 | 30 | - | 175 | 88 | 117 | 2.6 | 20.044 | GST06-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 6.4 | 26 | - | 154 | 99 | 133 | 0.9 | 22.778 | GST05-2M□□□080C32 | E84AV□□□2224□□0 | 84 |

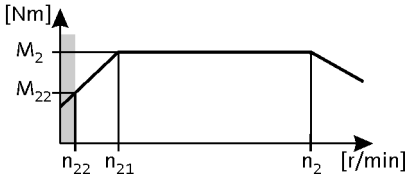


## Selection tables

► 120 Hz: $P_N$ = 2.20 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.8 ... 3500 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6.4 | 26 | - | 154 | 99 | 133 | 2.0 | 22.778 | GST06-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 5.9 | 24 | - | 140 | 109 | 145 | 1.0 | 24.933 | GST05-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 5.9 | 24 | - | 140 | 109 | 145 | 2.1 | 24.933 | GST06-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 5.2 | 21 | - | 124 | 124 | 165 | 1.6 | 28.333 | GST06-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 4.5 | 19 | - | 109 | 141 | 188 | 1.7 | 32.267 | GST06-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 4.5 | 19 | - | 109 | 141 | 188 | 3.1 | 32.267 | GST07-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 4.0 | 16 | - | 96 | 160 | 214 | 1.3 | 36.667 | GST06-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 4.0 | 16 | - | 96 | 160 | 214 | 2.8 | 36.667 | GST07-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 3.7 | 15 | - | 89 | 169 | 225 | 1.2 | 39.200 | GST06-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 3.7 | 15 | - | 89 | 171 | 228 | 1.4 | 39.160 | GST06-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 3.7 | 15 | - | 89 | 171 | 228 | 2.4 | 39.160 | GST07-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 3.7 | 15 | - | 89 | 169 | 225 | 2.6 | 39.200 | GST07-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 3.3 | 14 | - | 80 | 189 | 252 | 1.3 | 44.000 | GST06-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 3.3 | 14 | - | 80 | 189 | 252 | 2.7 | 44.000 | GST07-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 3.3 | 14 | - | 79 | 194 | 259 | 1.2 | 44.500 | GST06-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 3.3 | 14 | - | 79 | 194 | 259 | 2.6 | 44.500 | GST07-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 3.0 | 12 | - | 71 | 216 | 288 | 1.6 | 49.500 | GST07-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 2.9 | 12 | - | 69 | 219 | 293 | 1.1 | 51.022 | GST06-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 2.9 | 12 | - | 69 | 219 | 293 | 2.3 | 51.022 | GST07-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 2.7 | 11 | - | 65 | 232 | 309 | 1.1 | 53.900 | GST06-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 2.7 | 11 | - | 65 | 232 | 309 | 2.2 | 53.900 | GST07-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 2.6 | 11 | - | 62 | 246 | 328 | 1.6 | 56.250 | GST07-2M□□□080C32 | E84AV□□□2224□□0 | 84 |
| 2.2 | 9.2 | - | 54 | 280 | 373 | 1.8 | 65.079 | GST07-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 2.1 | 8.6 | - | 50 | 302 | 403 | 1.7 | 70.156 | GST07-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 1.8 | 7.5 | - | 44 | 343 | 458 | 1.5 | 79.762 | GST07-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 1.8 | 7.4 | - | 43 | 351 | 469 | 3.2 | 81.667 | GST09-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 1.7 | 7.0 | - | 41 | 370 | 493 | 1.4 | 85.983 | GST07-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 1.6 | 6.4 | - | 37 | 402 | 537 | 2.9 | 93.541 | GST09-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 1.5 | 6.1 | - | 36 | 420 | 561 | 1.2 | 97.708 | GST07-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 1.5 | 6.1 | - | 35 | 427 | 569 | 2.7 | 99.167 | GST09-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 1.3 | 5.4 | - | 31 | 481 | 642 | 1.0 | 111.915 | GST07-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 1.3 | 5.3 | - | 31 | 489 | 652 | 2.4 | 113.585 | GST09-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 1.2 | 4.7 | - | 28 | 547 | 730 | 0.9 | 127.176 | GST07-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 1.1 | 4.7 | - | 27 | 555 | 741 | 2.1 | 129.074 | GST09-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 1.0 | 4.3 | - | 25 | 608 | 811 | 1.9 | 141.289 | GST09-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 1.0 | 4.1 | - | 24 | 632 | 843 | 3.0 | 146.993 | GST11-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 0.9 | 3.7 | - | 22 | 691 | 921 | 1.7 | 160.556 | GST09-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 0.9 | 3.8 | - | 22 | 680 | 908 | 2.9 | 158.194 | GST11-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 0.8 | 3.3 | - | 19 | 786 | 1049 | 1.5 | 182.844 | GST09-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 0.8 | 3.3 | - | 19 | 775 | 1034 | 2.5 | 180.156 | GST11-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 0.7 | 2.9 | - | 17 | 894 | 1192 | 1.3 | 207.778 | GST09-3M□□□080C32 | E84AV□□□2224□□0 | 90 |

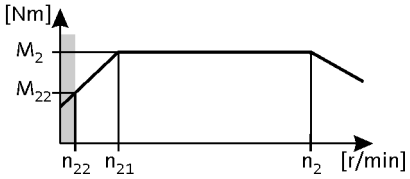


## Selection tables

► 120 Hz: $P_N$ = 2.20 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.8 ... 3500 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.7 | 2.9 | - | 17 | 894 | 1192 | 2.2 | 207.778 | GST11-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 0.6 | 2.5 | - | 15 | 1018 | 1357 | 1.1 | 236.622 | GST09-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 0.6 | 2.5 | - | 15 | 1018 | 1357 | 1.9 | 236.622 | GST11-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 0.6 | 2.4 | - | 14 | 1084 | 1447 | 1.1 | 252.167 | GST09-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 0.6 | 2.4 | - | 14 | 1084 | 1447 | 1.8 | 252.167 | GST11-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 0.5 | 2.2 | - | 13 | 1156 | 1543 | 1.0 | 268.889 | GST09-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 0.5 | 2.2 | - | 13 | 1156 | 1543 | 1.8 | 268.889 | GST11-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 0.5 | 1.8 | - | 11 | 1403 | 1872 | 1.4 | 326.333 | GST11-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 0.4 | 1.7 | - | 9.6 | 1561 | 2082 | 1.2 | 363.000 | GST11-3M□□□080C32 | E84AV□□□2224□□0 | 90 |
| 0.4 | 1.5 | - | 8.5 | 1774 | 2366 | 1.1 | 412.500 | GST11-3M□□□080C32 | E84AV□□□2224□□0 | 90 |

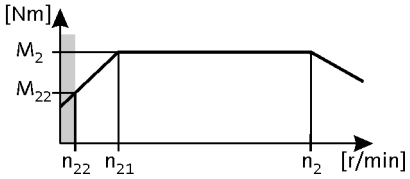


## Selection tables

► 120 Hz: $P_N$ = 3.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.0 ... 3480 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 71 | 440 | - | 1700 | 13 | 17 | 1.0 | 2.048 | GST04-1M□□□080C42 | E84AV□□□3024□□0 | 78 |
| 71 | 440 | - | 1700 | 13 | 17 | 2.4 | 2.048 | GST05-1M□□□080C42 | E84AV□□□3024□□0 | 78 |
| 71 | 440 | - | 1700 | 13 | 17 | 3.1 | 2.048 | GST06-1M□□□080C42 | E84AV□□□3024□□0 | 78 |
| 65 | 402 | - | 1554 | 14 | 18 | 1.0 | 2.240 | GST04-1M□□□080C42 | E84AV□□□3024□□0 | 78 |
| 65 | 402 | - | 1554 | 14 | 18 | 2.2 | 2.240 | GST05-1M□□□080C42 | E84AV□□□3024□□0 | 78 |
| 65 | 402 | - | 1554 | 14 | 18 | 3.1 | 2.240 | GST06-1M□□□080C42 | E84AV□□□3024□□0 | 78 |
| 51 | 315 | - | 1218 | 17 | 23 | 1.7 | 2.857 | GST05-1M□□□080C42 | E84AV□□□3024□□0 | 78 |
| 51 | 315 | - | 1218 | 17 | 23 | 2.9 | 2.857 | GST06-1M□□□080C42 | E84AV□□□3024□□0 | 78 |
| 51 | 315 | - | 1218 | 17 | 23 | 3.1 | 2.857 | GST07-1M□□□080C42 | E84AV□□□3024□□0 | 78 |
| 41 | 257 | - | 994 | 21 | 28 | 1.4 | 3.500 | GST05-1M□□□080C42 | E84AV□□□3024□□0 | 78 |
| 41 | 257 | - | 994 | 21 | 28 | 2.6 | 3.500 | GST06-1M□□□080C42 | E84AV□□□3024□□0 | 78 |
| 32 | 198 | - | 764 | 28 | 37 | 1.1 | 4.556 | GST05-1M□□□080C42 | E84AV□□□3024□□0 | 78 |
| 32 | 198 | - | 764 | 28 | 37 | 2.1 | 4.556 | GST06-1M□□□080C42 | E84AV□□□3024□□0 | 78 |
| 32 | 198 | - | 764 | 28 | 37 | 2.6 | 4.556 | GST07-1M□□□080C42 | E84AV□□□3024□□0 | 78 |
| 28 | 174 | - | 671 | 31 | 41 | 0.9 | 5.187 | GST04-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 28 | 174 | - | 671 | 31 | 41 | 1.6 | 5.187 | GST05-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 27 | 169 | - | 654 | 32 | 43 | 3.1 | 5.324 | GST06-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 26 | 161 | - | 623 | 34 | 45 | 2.1 | 5.583 | GST07-1M□□□080C42 | E84AV□□□3024□□0 | 78 |
| 26 | 159 | - | 614 | 35 | 46 | 1.7 | 5.667 | GST06-1M□□□080C42 | E84AV□□□3024□□0 | 78 |
| 25 | 154 | - | 595 | 35 | 47 | 1.6 | 5.850 | GST05-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 25 | 154 | - | 595 | 35 | 47 | 3.1 | 5.850 | GST06-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 23 | 141 | - | 544 | 38 | 51 | 1.5 | 6.400 | GST05-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 23 | 141 | - | 544 | 38 | 51 | 3.1 | 6.400 | GST06-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 20 | 124 | - | 481 | 43 | 58 | 1.4 | 7.238 | GST05-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 20 | 123 | - | 475 | 45 | 60 | 1.3 | 7.333 | GST06-1M□□□080C42 | E84AV□□□3024□□0 | 78 |
| 20 | 123 | - | 475 | 45 | 60 | 2.0 | 7.333 | GST07-1M□□□080C42 | E84AV□□□3024□□0 | 78 |
| 18 | 110 | - | 426 | 49 | 65 | 1.3 | 8.163 | GST05-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 18 | 110 | - | 426 | 49 | 65 | 2.9 | 8.163 | GST06-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 16 | 101 | - | 391 | 54 | 72 | 1.6 | 8.900 | GST07-1M□□□080C42 | E84AV□□□3024□□0 | 78 |
| 16 | 100 | - | 386 | 54 | 72 | 1.2 | 9.010 | GST05-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 16 | 100 | - | 386 | 54 | 72 | 2.7 | 9.010 | GST06-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 15 | 90 | - | 348 | 60 | 80 | 1.2 | 10.000 | GST05-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 15 | 90 | - | 348 | 60 | 80 | 2.5 | 10.000 | GST06-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 13 | 80 | - | 311 | 67 | 90 | 1.1 | 11.200 | GST05-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 13 | 80 | - | 311 | 67 | 90 | 2.4 | 11.200 | GST06-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 13 | 80 | - | 309 | 68 | 91 | 0.9 | 11.250 | GST07-1M□□□080C42 | E84AV□□□3024□□0 | 78 |
| 12 | 72 | - | 277 | 75 | 100 | 2.2 | 12.571 | GST06-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 12 | 72 | - | 277 | 75 | 100 | 3.1 | 12.571 | GST07-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 11 | 69 | - | 267 | 78 | 104 | 1.0 | 13.016 | GST05-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 10 | 63 | - | 244 | 86 | 114 | 2.0 | 14.286 | GST06-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 10 | 63 | - | 244 | 86 | 114 | 3.1 | 14.286 | GST07-2M□□□080C42 | E84AV□□□3024□□0 | 84 |

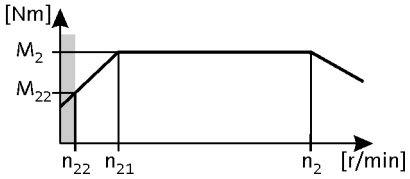


## Selection tables

► 120 Hz: $P_N$ = 3.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.0 ... 3480 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 10 | 63 | - | 242 | 86 | 115 | 0.9 | 14.356 | GST05-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 9.4 | 58 | - | 226 | 92 | 123 | 2.2 | 15.400 | GST06-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 9.0 | 56 | - | 215 | 97 | 129 | 1.0 | 16.190 | GST05-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 8.3 | 51 | - | 199 | 105 | 140 | 1.9 | 17.500 | GST06-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 7.2 | 45 | - | 174 | 120 | 160 | 1.9 | 20.044 | GST06-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 7.2 | 45 | - | 174 | 120 | 160 | 2.9 | 20.044 | GST07-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 6.4 | 40 | - | 153 | 137 | 182 | 1.5 | 22.778 | GST06-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 6.4 | 40 | - | 153 | 137 | 182 | 2.9 | 22.778 | GST07-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 5.9 | 37 | - | 142 | 147 | 196 | 2.4 | 24.567 | GST07-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 5.8 | 36 | - | 140 | 149 | 199 | 1.6 | 24.933 | GST06-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 5.2 | 32 | - | 125 | 167 | 223 | 2.4 | 27.917 | GST07-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 5.1 | 32 | - | 123 | 170 | 226 | 1.2 | 28.333 | GST06-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 4.5 | 28 | - | 108 | 193 | 258 | 1.2 | 32.267 | GST06-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 4.5 | 28 | - | 108 | 193 | 258 | 2.3 | 32.267 | GST07-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 4.0 | 25 | - | 95 | 220 | 293 | 0.9 | 36.667 | GST06-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 4.0 | 25 | - | 95 | 220 | 293 | 2.1 | 36.667 | GST07-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 3.7 | 23 | - | 89 | 235 | 313 | 1.0 | 39.160 | GST06-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 3.7 | 23 | - | 89 | 235 | 313 | 1.8 | 39.160 | GST07-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 3.7 | 23 | - | 89 | 231 | 308 | 1.9 | 39.200 | GST07-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 3.3 | 21 | - | 79 | 260 | 346 | 0.9 | 44.000 | GST06-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 3.3 | 21 | - | 79 | 260 | 346 | 1.9 | 44.000 | GST07-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 3.3 | 20 | - | 78 | 267 | 355 | 1.9 | 44.500 | GST07-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 2.9 | 18 | - | 70 | 297 | 395 | 1.2 | 49.500 | GST07-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 2.8 | 18 | - | 68 | 301 | 401 | 1.7 | 51.022 | GST07-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 2.7 | 17 | - | 66 | 313 | 417 | 3.1 | 53.044 | GST09-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 2.7 | 17 | - | 65 | 318 | 424 | 1.6 | 53.900 | GST07-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 2.6 | 16 | - | 62 | 337 | 449 | 1.2 | 56.250 | GST07-2M□□□080C42 | E84AV□□□3024□□0 | 84 |
| 2.4 | 15 | - | 58 | 356 | 474 | 3.1 | 60.278 | GST09-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 2.2 | 14 | - | 54 | 384 | 512 | 1.3 | 65.079 | GST07-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 2.1 | 13 | - | 50 | 414 | 552 | 1.2 | 70.156 | GST07-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 2.0 | 13 | - | 48 | 424 | 565 | 2.5 | 71.867 | GST09-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 1.8 | 11 | - | 44 | 471 | 628 | 1.1 | 79.762 | GST07-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 1.8 | 11 | - | 43 | 482 | 643 | 2.3 | 81.667 | GST09-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 1.7 | 11 | - | 41 | 507 | 677 | 1.0 | 85.983 | GST07-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 1.6 | 9.6 | - | 37 | 552 | 736 | 2.1 | 93.541 | GST09-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 1.5 | 9.1 | - | 35 | 585 | 780 | 1.9 | 99.167 | GST09-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 1.3 | 7.9 | - | 31 | 670 | 894 | 1.7 | 113.585 | GST09-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 1.1 | 7.0 | - | 27 | 762 | 1016 | 1.5 | 129.074 | GST09-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 1.1 | 7.0 | - | 27 | 762 | 1016 | 2.6 | 129.074 | GST11-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 1.0 | 6.4 | - | 25 | 834 | 1112 | 1.4 | 141.289 | GST09-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 1.0 | 6.1 | - | 24 | 867 | 1157 | 2.2 | 146.993 | GST11-3M□□□080C42 | E84AV□□□3024□□0 | 90 |

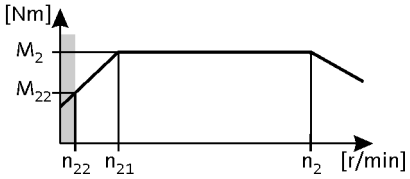


## Selection tables

► 120 Hz: $P_N$ = 3.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.0 ... 3480 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.9 | 5.6 | - | 22 | 947 | 1263 | 1.2 | 160.556 | GST09-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 0.9 | 5.7 | - | 22 | 934 | 1245 | 2.1 | 158.194 | GST11-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 0.8 | 4.9 | - | 19 | 1079 | 1439 | 1.1 | 182.844 | GST09-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 0.8 | 5.0 | - | 19 | 1063 | 1417 | 1.8 | 180.156 | GST11-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 0.7 | 4.3 | - | 17 | 1226 | 1635 | 0.9 | 207.778 | GST09-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 0.7 | 4.3 | - | 17 | 1226 | 1635 | 1.6 | 207.778 | GST11-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 0.6 | 3.8 | - | 15 | 1396 | 1862 | 1.4 | 236.622 | GST11-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 0.6 | 3.6 | - | 14 | 1488 | 1984 | 1.3 | 252.167 | GST11-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 0.5 | 3.4 | - | 13 | 1587 | 2116 | 1.3 | 268.889 | GST11-3M□□□080C42 | E84AV□□□3024□□0 | 90 |
| 0.4 | 2.8 | - | 11 | 1926 | 2568 | 1.1 | 326.333 | GST11-3M□□□080C42 | E84AV□□□3024□□0 | 90 |

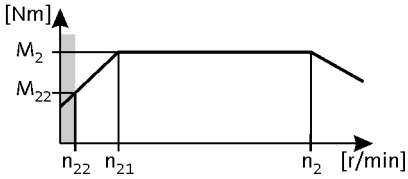


## Selection tables

► 120 Hz: $P_N$ = 4.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.0 ... 3480 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 71 | 293 | - | 1700 | 16 | 22 | 1.8 | 2.048 | GST05-1M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 71 | 293 | - | 1700 | 16 | 22 | 2.5 | 2.048 | GST06-1M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 65 | 268 | - | 1554 | 17 | 24 | 1.7 | 2.240 | GST05-1M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 65 | 268 | - | 1554 | 17 | 24 | 2.4 | 2.240 | GST06-1M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 51 | 210 | - | 1218 | 22 | 31 | 1.3 | 2.857 | GST05-1M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 51 | 210 | - | 1218 | 22 | 31 | 2.3 | 2.857 | GST06-1M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 51 | 210 | - | 1218 | 22 | 31 | 2.9 | 2.857 | GST07-1M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 41 | 171 | - | 994 | 27 | 38 | 1.1 | 3.500 | GST05-1M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 41 | 171 | - | 994 | 27 | 38 | 2.1 | 3.500 | GST06-1M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 32 | 132 | - | 764 | 35 | 49 | 1.6 | 4.556 | GST06-1M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 32 | 132 | - | 764 | 35 | 49 | 2.4 | 4.556 | GST07-1M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 28 | 116 | - | 671 | 39 | 55 | 1.2 | 5.187 | GST05-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 27 | 113 | - | 654 | 40 | 57 | 2.8 | 5.324 | GST06-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 26 | 108 | - | 623 | 42 | 60 | 2.0 | 5.583 | GST07-1M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 26 | 106 | - | 614 | 43 | 61 | 1.3 | 5.667 | GST06-1M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 25 | 103 | - | 595 | 44 | 62 | 1.2 | 5.850 | GST05-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 25 | 103 | - | 595 | 44 | 62 | 2.7 | 5.850 | GST06-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 23 | 94 | - | 544 | 48 | 68 | 1.2 | 6.400 | GST05-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 23 | 94 | - | 544 | 48 | 68 | 2.5 | 6.400 | GST06-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 20 | 83 | - | 481 | 54 | 77 | 1.1 | 7.238 | GST05-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 20 | 82 | - | 475 | 56 | 79 | 1.0 | 7.333 | GST06-1M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 20 | 82 | - | 475 | 56 | 79 | 1.7 | 7.333 | GST07-1M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 20 | 82 | - | 475 | 56 | 79 | 2.0 | 7.333 | GST09-1M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 18 | 74 | - | 426 | 61 | 87 | 1.0 | 8.163 | GST05-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 18 | 74 | - | 426 | 61 | 87 | 2.2 | 8.163 | GST06-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 16 | 67 | - | 391 | 67 | 96 | 1.4 | 8.900 | GST07-1M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 16 | 67 | - | 391 | 67 | 96 | 1.8 | 8.900 | GST09-1M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 16 | 67 | - | 386 | 67 | 96 | 0.9 | 9.010 | GST05-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 16 | 67 | - | 386 | 67 | 96 | 2.1 | 9.010 | GST06-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 15 | 60 | - | 348 | 75 | 107 | 1.9 | 10.000 | GST06-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 13 | 54 | - | 311 | 84 | 119 | 1.8 | 11.200 | GST06-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 13 | 53 | - | 309 | 85 | 122 | 1.4 | 11.250 | GST09-1M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 12 | 48 | - | 277 | 94 | 134 | 1.7 | 12.571 | GST06-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 12 | 48 | - | 277 | 94 | 134 | 2.9 | 12.571 | GST07-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 10 | 42 | - | 244 | 107 | 152 | 1.5 | 14.286 | GST06-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 10 | 42 | - | 244 | 107 | 152 | 2.9 | 14.286 | GST07-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 9.4 | 39 | - | 226 | 115 | 164 | 1.7 | 15.400 | GST06-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 8.3 | 34 | - | 199 | 131 | 186 | 1.4 | 17.500 | GST06-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 7.2 | 30 | - | 174 | 149 | 214 | 1.4 | 20.044 | GST06-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 7.2 | 30 | - | 174 | 149 | 214 | 2.8 | 20.044 | GST07-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 6.4 | 26 | - | 153 | 170 | 243 | 1.1 | 22.778 | GST06-2M□□□090C32 | E84AV□□□4024□□0 | 84 |

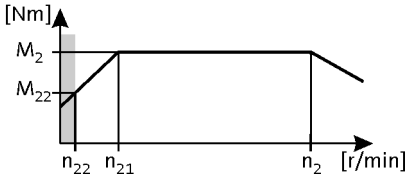


## Selection tables

► 120 Hz: $P_N$ = 4.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.0 ... 3480 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6.4 | 26 | - | 153 | 170 | 243 | 2.4 | 22.778 | GST07-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 5.9 | 24 | - | 142 | 183 | 262 | 2.3 | 24.567 | GST07-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 5.8 | 24 | - | 140 | 186 | 266 | 1.2 | 24.933 | GST06-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 5.2 | 22 | - | 125 | 208 | 297 | 2.0 | 27.917 | GST07-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 5.1 | 21 | - | 123 | 211 | 302 | 0.9 | 28.333 | GST06-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 4.5 | 19 | - | 108 | 241 | 344 | 0.9 | 32.267 | GST06-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 4.5 | 19 | - | 108 | 241 | 344 | 1.8 | 32.267 | GST07-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 4.5 | 19 | - | 108 | 241 | 344 | 2.3 | 32.267 | GST09-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 4.0 | 16 | - | 95 | 273 | 391 | 1.5 | 36.667 | GST07-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 4.0 | 16 | - | 95 | 273 | 391 | 2.3 | 36.667 | GST09-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 3.7 | 15 | - | 89 | 288 | 411 | 1.4 | 39.200 | GST07-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 3.7 | 15 | - | 89 | 292 | 417 | 1.5 | 39.160 | GST07-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 3.7 | 15 | - | 89 | 292 | 417 | 2.0 | 39.160 | GST09-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 3.6 | 15 | - | 87 | 295 | 421 | 2.7 | 40.136 | GST09-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 3.4 | 14 | - | 80 | 318 | 454 | 2.7 | 43.267 | GST09-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 3.3 | 14 | - | 79 | 323 | 462 | 1.5 | 44.000 | GST07-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 3.3 | 14 | - | 78 | 332 | 474 | 1.4 | 44.500 | GST07-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 3.3 | 14 | - | 78 | 332 | 474 | 2.2 | 44.500 | GST09-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 3.0 | 12 | - | 71 | 361 | 516 | 2.7 | 49.167 | GST09-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 2.9 | 12 | - | 70 | 369 | 527 | 1.1 | 49.500 | GST07-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 2.9 | 12 | - | 70 | 369 | 527 | 1.7 | 49.500 | GST09-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 2.8 | 12 | - | 68 | 375 | 535 | 1.2 | 51.022 | GST07-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 2.7 | 11 | - | 66 | 390 | 557 | 2.4 | 53.044 | GST09-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 2.7 | 11 | - | 65 | 396 | 565 | 1.2 | 53.900 | GST07-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 2.6 | 11 | - | 62 | 419 | 599 | 1.1 | 56.250 | GST07-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 2.6 | 11 | - | 62 | 419 | 599 | 1.7 | 56.250 | GST09-2M□□□090C32 | E84AV□□□4024□□0 | 84 |
| 2.4 | 10 | - | 58 | 443 | 632 | 2.4 | 60.278 | GST09-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 2.2 | 9.2 | - | 54 | 478 | 683 | 1.0 | 65.079 | GST07-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 2.1 | 8.6 | - | 50 | 515 | 736 | 0.9 | 70.156 | GST07-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 2.0 | 8.4 | - | 48 | 528 | 754 | 1.9 | 71.867 | GST09-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 1.8 | 7.4 | - | 43 | 600 | 857 | 1.8 | 81.667 | GST09-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 1.6 | 6.4 | - | 37 | 687 | 981 | 1.6 | 93.541 | GST09-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 1.5 | 6.1 | - | 35 | 728 | 1040 | 1.5 | 99.167 | GST09-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 1.3 | 5.3 | - | 31 | 834 | 1192 | 1.3 | 113.585 | GST09-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 1.1 | 4.7 | - | 27 | 948 | 1354 | 1.1 | 129.074 | GST09-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 1.1 | 4.7 | - | 27 | 948 | 1354 | 2.0 | 129.074 | GST11-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 1.0 | 4.3 | - | 25 | 1038 | 1482 | 1.0 | 141.289 | GST09-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 1.0 | 4.1 | - | 24 | 1079 | 1542 | 1.7 | 146.993 | GST11-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 0.9 | 3.7 | - | 22 | 1179 | 1684 | 0.9 | 160.556 | GST09-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 0.9 | 3.8 | - | 22 | 1162 | 1660 | 1.6 | 158.194 | GST11-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 0.8 | 3.3 | - | 19 | 1323 | 1890 | 1.4 | 180.156 | GST11-3M□□□090C32 | E84AV□□□4024□□0 | 90 |

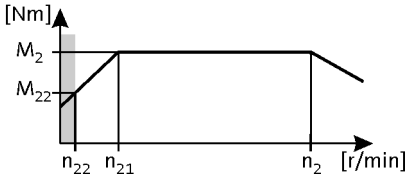


## Selection tables

► 120 Hz: $P_N$ = 4.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.0 ... 3480 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.7 | 2.9 | - | 17 | 1526 | 2180 | 1.2 | 207.778 | GST11-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 0.7 | 2.9 | - | 17 | 1503 | 2148 | 2.5 | 204.722 | GST14-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 0.6 | 2.5 | - | 15 | 1738 | 2482 | 1.0 | 236.622 | GST11-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 0.6 | 2.5 | - | 15 | 1738 | 2482 | 2.2 | 236.622 | GST14-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 0.6 | 2.4 | - | 14 | 1852 | 2645 | 1.0 | 252.167 | GST11-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 0.6 | 2.4 | - | 14 | 1825 | 2606 | 2.2 | 248.458 | GST14-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 0.5 | 2.2 | - | 13 | 1975 | 2821 | 1.0 | 268.889 | GST11-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 0.5 | 2.2 | - | 13 | 1975 | 2821 | 2.0 | 268.889 | GST14-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 0.4 | 1.8 | - | 11 | 2396 | 3423 | 1.6 | 326.333 | GST14-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 0.4 | 1.7 | - | 9.6 | 2666 | 3808 | 1.4 | 363.000 | GST14-3M□□□090C32 | E84AV□□□4024□□0 | 90 |
| 0.4 | 1.5 | - | 8.4 | 3029 | 4327 | 1.3 | 412.500 | GST14-3M□□□090C32 | E84AV□□□4024□□0 | 90 |

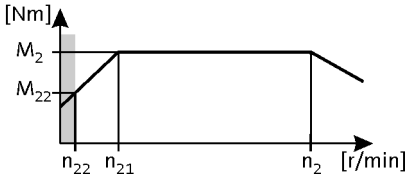


## Selection tables

► 120 Hz: $P_N$ = 5.50 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 146.9 ... 3525 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 73 | 300 | - | 1763 | 21 | 29 | 3.2 | 2.000 | GST07-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 72 | 293 | - | 1722 | 21 | 30 | 1.3 | 2.048 | GST05-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 72 | 293 | - | 1722 | 21 | 30 | 1.8 | 2.048 | GST06-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 66 | 268 | - | 1574 | 23 | 33 | 1.2 | 2.240 | GST05-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 66 | 268 | - | 1574 | 23 | 33 | 1.8 | 2.240 | GST06-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 66 | 268 | - | 1574 | 23 | 33 | 3.1 | 2.240 | GST07-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 51 | 210 | - | 1234 | 29 | 42 | 1.0 | 2.857 | GST05-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 51 | 210 | - | 1234 | 29 | 42 | 1.7 | 2.857 | GST06-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 51 | 210 | - | 1234 | 29 | 42 | 2.8 | 2.857 | GST07-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 42 | 171 | - | 1007 | 36 | 51 | 1.5 | 3.500 | GST06-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 42 | 171 | - | 1007 | 36 | 51 | 2.5 | 3.500 | GST07-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 32 | 132 | - | 774 | 47 | 67 | 1.2 | 4.556 | GST06-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 32 | 132 | - | 774 | 47 | 67 | 2.1 | 4.556 | GST07-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 32 | 129 | - | 755 | 48 | 69 | 3.0 | 4.667 | GST09-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 28 | 116 | - | 680 | 53 | 75 | 0.9 | 5.187 | GST05-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 28 | 113 | - | 662 | 54 | 77 | 2.0 | 5.324 | GST06-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 26 | 108 | - | 631 | 57 | 82 | 1.8 | 5.583 | GST07-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 26 | 106 | - | 622 | 58 | 83 | 1.0 | 5.667 | GST06-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 26 | 106 | - | 622 | 58 | 83 | 2.5 | 5.667 | GST09-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 25 | 103 | - | 603 | 59 | 85 | 0.9 | 5.850 | GST05-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 25 | 103 | - | 603 | 59 | 85 | 2.0 | 5.850 | GST06-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 23 | 94 | - | 551 | 65 | 93 | 1.9 | 6.400 | GST06-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 20 | 82 | - | 481 | 75 | 108 | 1.4 | 7.333 | GST07-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 20 | 82 | - | 481 | 75 | 108 | 2.0 | 7.333 | GST09-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 18 | 74 | - | 432 | 83 | 118 | 1.6 | 8.163 | GST06-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 17 | 68 | - | 401 | 89 | 127 | 3.1 | 8.800 | GST07-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 17 | 67 | - | 396 | 91 | 131 | 1.1 | 8.900 | GST07-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 17 | 67 | - | 396 | 91 | 131 | 1.7 | 8.900 | GST09-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 16 | 67 | - | 391 | 91 | 130 | 1.5 | 9.010 | GST06-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 15 | 61 | - | 358 | 100 | 143 | 2.9 | 9.856 | GST07-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 15 | 60 | - | 353 | 101 | 145 | 1.4 | 10.000 | GST06-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 13 | 54 | - | 315 | 113 | 162 | 1.3 | 11.200 | GST06-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 13 | 54 | - | 315 | 113 | 162 | 2.8 | 11.200 | GST07-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 13 | 53 | - | 313 | 116 | 165 | 1.3 | 11.250 | GST09-1M□□□100C12 | E84AV□□□5524□□0 | 78 |
| 12 | 48 | - | 280 | 127 | 182 | 1.2 | 12.571 | GST06-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 12 | 48 | - | 280 | 127 | 182 | 2.5 | 12.571 | GST07-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 10 | 42 | - | 247 | 145 | 207 | 1.1 | 14.286 | GST06-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 10 | 42 | - | 247 | 145 | 207 | 2.3 | 14.286 | GST07-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 9.5 | 39 | - | 229 | 156 | 223 | 1.2 | 15.400 | GST06-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 9.5 | 39 | - | 229 | 156 | 223 | 2.5 | 15.400 | GST07-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 8.4 | 34 | - | 201 | 177 | 253 | 1.1 | 17.500 | GST06-2M□□□100C12 | E84AV□□□5524□□0 | 84 |

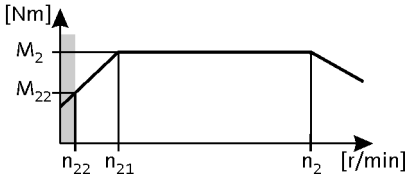


## Selection tables

► 120 Hz: $P_N$ = 5.50 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 146.9 ... 3525 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 8.4 | 34 | - | 201 | 177 | 253 | 2.3 | 17.500 | GST07-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 7.3 | 30 | - | 176 | 203 | 290 | 1.0 | 20.044 | GST06-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 7.3 | 30 | - | 176 | 203 | 290 | 2.0 | 20.044 | GST07-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 6.5 | 26 | - | 155 | 231 | 329 | 1.8 | 22.778 | GST07-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 6.0 | 24 | - | 144 | 249 | 355 | 1.7 | 24.567 | GST07-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 5.9 | 24 | - | 141 | 252 | 361 | 2.9 | 24.933 | GST09-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 5.3 | 22 | - | 126 | 283 | 404 | 1.5 | 27.917 | GST07-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 5.2 | 21 | - | 124 | 287 | 410 | 2.9 | 28.333 | GST09-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 4.6 | 19 | - | 109 | 327 | 467 | 1.3 | 32.267 | GST07-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 4.6 | 19 | - | 109 | 327 | 467 | 2.3 | 32.267 | GST09-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 4.6 | 19 | - | 109 | 327 | 467 | 2.9 | 32.267 | GST11-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 4.0 | 16 | - | 96 | 371 | 530 | 1.1 | 36.667 | GST07-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 4.0 | 16 | - | 96 | 371 | 530 | 2.3 | 36.667 | GST09-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 4.0 | 16 | - | 96 | 371 | 530 | 2.9 | 36.667 | GST11-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 3.8 | 15 | - | 90 | 391 | 558 | 1.1 | 39.200 | GST07-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 3.8 | 15 | - | 90 | 396 | 566 | 1.1 | 39.160 | GST07-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 3.8 | 15 | - | 90 | 396 | 566 | 1.9 | 39.160 | GST09-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 3.8 | 15 | - | 90 | 396 | 566 | 2.4 | 39.160 | GST11-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 3.7 | 15 | - | 88 | 400 | 572 | 2.0 | 40.136 | GST09-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 3.4 | 14 | - | 82 | 431 | 616 | 2.0 | 43.267 | GST09-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 3.3 | 14 | - | 80 | 439 | 627 | 1.1 | 44.000 | GST07-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 3.3 | 14 | - | 79 | 450 | 643 | 1.0 | 44.500 | GST07-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 3.3 | 14 | - | 79 | 450 | 643 | 2.1 | 44.500 | GST09-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 3.3 | 14 | - | 79 | 450 | 643 | 2.7 | 44.500 | GST11-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 3.0 | 12 | - | 72 | 490 | 700 | 2.0 | 49.167 | GST09-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 3.0 | 12 | - | 71 | 501 | 716 | 1.7 | 49.500 | GST09-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 3.0 | 12 | - | 71 | 501 | 716 | 2.2 | 49.500 | GST11-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 2.9 | 12 | - | 69 | 509 | 727 | 0.9 | 51.022 | GST07-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 2.8 | 11 | - | 67 | 529 | 755 | 1.7 | 53.044 | GST09-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 2.6 | 11 | - | 63 | 569 | 813 | 1.7 | 56.250 | GST09-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 2.6 | 11 | - | 63 | 569 | 813 | 2.2 | 56.250 | GST11-2M□□□100C12 | E84AV□□□5524□□0 | 84 |
| 2.5 | 10 | - | 61 | 578 | 826 | 3.0 | 57.968 | GST11-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 2.4 | 10 | - | 59 | 601 | 858 | 1.7 | 60.278 | GST09-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 2.4 | 9.8 | - | 58 | 611 | 872 | 3.0 | 61.250 | GST11-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 2.1 | 8.5 | - | 50 | 708 | 1011 | 2.5 | 71.011 | GST11-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 2.0 | 8.4 | - | 49 | 716 | 1023 | 1.4 | 71.867 | GST09-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 1.8 | 7.4 | - | 44 | 804 | 1149 | 2.3 | 80.694 | GST11-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 1.8 | 7.4 | - | 43 | 814 | 1163 | 1.3 | 81.667 | GST09-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 1.7 | 6.9 | - | 40 | 870 | 1243 | 2.0 | 87.267 | GST11-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 1.6 | 6.4 | - | 38 | 932 | 1332 | 1.1 | 93.541 | GST09-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 1.5 | 6.1 | - | 36 | 989 | 1412 | 1.1 | 99.167 | GST09-3M□□□100C12 | E84AV□□□5524□□0 | 90 |

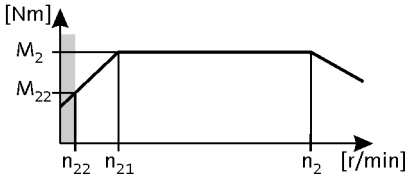


## Selection tables

► 120 Hz: $P_N$ = 5.50 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 146.9 ... 3525 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.5 | 6.1 | - | 36 | 989 | 1412 | 1.9 | 99.167 | GST11-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 1.3 | 5.3 | - | 31 | 1132 | 1618 | 0.9 | 113.585 | GST09-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 1.3 | 5.3 | - | 31 | 1126 | 1608 | 1.6 | 112.933 | GST11-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 1.1 | 4.7 | - | 27 | 1287 | 1838 | 1.4 | 129.074 | GST11-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 1.1 | 4.6 | - | 27 | 1299 | 1855 | 3.0 | 130.278 | GST14-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 1.1 | 4.3 | - | 25 | 1388 | 1982 | 2.7 | 139.211 | GST14-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 1.0 | 4.1 | - | 24 | 1465 | 2093 | 1.2 | 146.993 | GST11-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 0.9 | 3.8 | - | 22 | 1577 | 2253 | 1.2 | 158.194 | GST11-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 0.9 | 3.8 | - | 22 | 1577 | 2253 | 2.5 | 158.194 | GST14-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 0.9 | 3.5 | - | 21 | 1706 | 2437 | 2.3 | 171.111 | GST14-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 0.8 | 3.3 | - | 20 | 1796 | 2565 | 1.0 | 180.156 | GST11-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 0.7 | 2.9 | - | 17 | 2071 | 2959 | 0.9 | 207.778 | GST11-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 0.7 | 2.9 | - | 17 | 2041 | 2915 | 1.9 | 204.722 | GST14-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 0.6 | 2.5 | - | 15 | 2359 | 3370 | 1.6 | 236.622 | GST14-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 0.6 | 2.4 | - | 14 | 2477 | 3538 | 1.6 | 248.458 | GST14-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 0.6 | 2.2 | - | 13 | 2680 | 3829 | 1.5 | 268.889 | GST14-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 0.5 | 1.8 | - | 11 | 3253 | 4647 | 1.2 | 326.333 | GST14-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 0.4 | 1.7 | - | 9.7 | 3618 | 5169 | 1.1 | 363.000 | GST14-3M□□□100C12 | E84AV□□□5524□□0 | 90 |
| 0.4 | 1.5 | - | 8.6 | 4112 | 5874 | 1.0 | 412.500 | GST14-3M□□□100C12 | E84AV□□□5524□□0 | 90 |

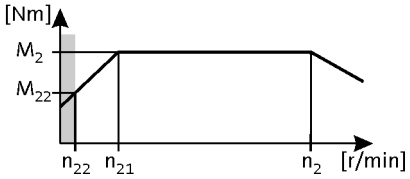


## Selection tables

► 120 Hz: $P_N$ = 7.50 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 146.5 ... 3515 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 73 | 300 | - | 1758 | 28 | 40 | 2.3 | 2.000 | GST07-1M□□□100C32 | E84AV□□□7524□□0 | 78 |
| 72 | 293 | - | 1717 | 29 | 41 | 1.0 | 2.048 | GST05-1M□□□100C32 | E84AV□□□7524□□0 | 78 |
| 72 | 293 | - | 1717 | 29 | 41 | 1.3 | 2.048 | GST06-1M□□□100C32 | E84AV□□□7524□□0 | 78 |
| 65 | 268 | - | 1569 | 32 | 45 | 1.3 | 2.240 | GST06-1M□□□100C32 | E84AV□□□7524□□0 | 78 |
| 65 | 268 | - | 1569 | 32 | 45 | 2.3 | 2.240 | GST07-1M□□□100C32 | E84AV□□□7524□□0 | 78 |
| 52 | 214 | - | 1251 | 40 | 56 | 3.1 | 2.810 | GST09-1M□□□100C32 | E84AV□□□7524□□0 | 78 |
| 51 | 210 | - | 1230 | 40 | 57 | 1.2 | 2.857 | GST06-1M□□□100C32 | E84AV□□□7524□□0 | 78 |
| 51 | 210 | - | 1230 | 40 | 57 | 2.1 | 2.857 | GST07-1M□□□100C32 | E84AV□□□7524□□0 | 78 |
| 42 | 171 | - | 1004 | 49 | 70 | 1.1 | 3.500 | GST06-1M□□□100C32 | E84AV□□□7524□□0 | 78 |
| 42 | 171 | - | 1004 | 49 | 70 | 1.8 | 3.500 | GST07-1M□□□100C32 | E84AV□□□7524□□0 | 78 |
| 32 | 132 | - | 772 | 64 | 91 | 1.5 | 4.556 | GST07-1M□□□100C32 | E84AV□□□7524□□0 | 78 |
| 31 | 129 | - | 753 | 66 | 94 | 2.2 | 4.667 | GST09-1M□□□100C32 | E84AV□□□7524□□0 | 78 |
| 28 | 115 | - | 676 | 72 | 103 | 3.1 | 5.200 | GST07-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 28 | 113 | - | 660 | 74 | 105 | 1.5 | 5.324 | GST06-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 26 | 108 | - | 630 | 78 | 112 | 1.3 | 5.583 | GST07-1M□□□100C32 | E84AV□□□7524□□0 | 78 |
| 26 | 106 | - | 620 | 80 | 114 | 1.9 | 5.667 | GST09-1M□□□100C32 | E84AV□□□7524□□0 | 78 |
| 26 | 105 | - | 615 | 79 | 113 | 3.0 | 5.714 | GST07-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 25 | 103 | - | 601 | 81 | 116 | 1.4 | 5.850 | GST06-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 23 | 94 | - | 549 | 89 | 127 | 1.4 | 6.400 | GST06-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 23 | 94 | - | 549 | 89 | 127 | 2.8 | 6.400 | GST07-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 20 | 82 | - | 481 | 101 | 144 | 3.1 | 7.305 | GST09-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 20 | 82 | - | 479 | 103 | 147 | 1.0 | 7.333 | GST07-1M□□□100C32 | E84AV□□□7524□□0 | 78 |
| 20 | 82 | - | 479 | 103 | 147 | 1.5 | 7.333 | GST09-1M□□□100C32 | E84AV□□□7524□□0 | 78 |
| 18 | 75 | - | 438 | 111 | 159 | 3.1 | 8.027 | GST09-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 18 | 74 | - | 431 | 113 | 161 | 1.2 | 8.163 | GST06-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 17 | 68 | - | 399 | 122 | 174 | 2.3 | 8.800 | GST07-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 17 | 67 | - | 395 | 125 | 179 | 1.2 | 8.900 | GST09-1M□□□100C32 | E84AV□□□7524□□0 | 78 |
| 16 | 67 | - | 390 | 125 | 178 | 1.1 | 9.010 | GST06-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 15 | 61 | - | 357 | 136 | 195 | 2.1 | 9.856 | GST07-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 15 | 60 | - | 352 | 138 | 198 | 1.0 | 10.000 | GST06-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 13 | 54 | - | 314 | 155 | 221 | 1.0 | 11.200 | GST06-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 13 | 54 | - | 314 | 155 | 221 | 2.0 | 11.200 | GST07-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 13 | 53 | - | 312 | 158 | 226 | 1.0 | 11.250 | GST09-1M□□□100C32 | E84AV□□□7524□□0 | 78 |
| 12 | 49 | - | 284 | 171 | 244 | 3.1 | 12.362 | GST09-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 12 | 48 | - | 280 | 174 | 249 | 1.8 | 12.571 | GST07-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 10 | 43 | - | 250 | 194 | 278 | 3.1 | 14.048 | GST09-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 10 | 42 | - | 246 | 198 | 282 | 1.7 | 14.286 | GST07-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 9.5 | 39 | - | 228 | 213 | 305 | 1.8 | 15.400 | GST07-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 8.4 | 34 | - | 201 | 242 | 346 | 1.7 | 17.500 | GST07-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 7.3 | 30 | - | 175 | 277 | 396 | 1.5 | 20.044 | GST07-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 7.1 | 29 | - | 171 | 284 | 406 | 2.5 | 20.533 | GST09-2M□□□100C32 | E84AV□□□7524□□0 | 84 |

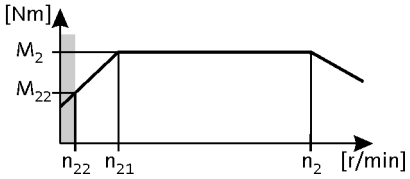


## Selection tables

► 120 Hz: $P_N$ = 7.50 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 146.5 ... 3515 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 6.4 | 26 | - | 154 | 315 | 450 | 1.3 | 22.778 | GST07-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 6.3 | 26 | - | 151 | 323 | 461 | 2.5 | 23.333 | GST09-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 6.0 | 24 | - | 143 | 340 | 486 | 1.2 | 24.567 | GST07-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 5.9 | 24 | - | 141 | 345 | 493 | 2.1 | 24.933 | GST09-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 5.3 | 22 | - | 126 | 386 | 552 | 1.1 | 27.917 | GST07-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 5.2 | 21 | - | 124 | 392 | 560 | 2.1 | 28.333 | GST09-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 4.5 | 19 | - | 109 | 447 | 638 | 0.9 | 32.267 | GST07-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 4.5 | 19 | - | 109 | 447 | 638 | 1.7 | 32.267 | GST09-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 4.5 | 19 | - | 109 | 447 | 638 | 2.1 | 32.267 | GST11-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 4.0 | 16 | - | 96 | 507 | 725 | 1.7 | 36.667 | GST09-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 4.0 | 16 | - | 96 | 507 | 725 | 2.1 | 36.667 | GST11-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 3.7 | 15 | - | 90 | 542 | 774 | 1.4 | 39.160 | GST09-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 3.7 | 15 | - | 90 | 542 | 774 | 1.8 | 39.160 | GST11-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 3.7 | 15 | - | 88 | 547 | 782 | 1.5 | 40.136 | GST09-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 3.6 | 15 | - | 86 | 556 | 795 | 2.7 | 40.816 | GST11-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 3.4 | 14 | - | 81 | 590 | 843 | 1.5 | 43.267 | GST09-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 3.3 | 14 | - | 80 | 600 | 857 | 2.7 | 44.000 | GST11-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 3.3 | 14 | - | 79 | 616 | 880 | 1.6 | 44.500 | GST09-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 3.3 | 14 | - | 79 | 616 | 880 | 2.0 | 44.500 | GST11-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 3.0 | 12 | - | 72 | 670 | 958 | 1.5 | 49.167 | GST09-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 3.0 | 12 | - | 71 | 685 | 979 | 1.2 | 49.500 | GST09-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 3.0 | 12 | - | 71 | 685 | 979 | 1.6 | 49.500 | GST11-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 2.9 | 12 | - | 70 | 682 | 974 | 2.7 | 50.000 | GST11-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 2.8 | 11 | - | 66 | 723 | 1033 | 1.3 | 53.044 | GST09-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 2.6 | 11 | - | 63 | 779 | 1112 | 1.2 | 56.250 | GST09-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 2.6 | 11 | - | 63 | 779 | 1112 | 1.6 | 56.250 | GST11-2M□□□100C32 | E84AV□□□7524□□0 | 84 |
| 2.5 | 10 | - | 61 | 790 | 1129 | 2.2 | 57.968 | GST11-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 2.4 | 10 | - | 58 | 822 | 1174 | 1.3 | 60.278 | GST09-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 2.4 | 9.8 | - | 57 | 835 | 1193 | 2.2 | 61.250 | GST11-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 2.1 | 8.5 | - | 50 | 968 | 1383 | 1.8 | 71.011 | GST11-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 2.0 | 8.4 | - | 49 | 980 | 1400 | 1.0 | 71.867 | GST09-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 1.8 | 7.4 | - | 44 | 1100 | 1571 | 1.7 | 80.694 | GST11-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 1.8 | 7.4 | - | 43 | 1113 | 1590 | 0.9 | 81.667 | GST09-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 1.7 | 6.9 | - | 40 | 1190 | 1699 | 1.5 | 87.267 | GST11-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 1.6 | 6.4 | - | 38 | 1275 | 1822 | 2.7 | 93.541 | GST14-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 1.5 | 6.1 | - | 35 | 1352 | 1931 | 1.4 | 99.167 | GST11-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 1.4 | 5.6 | - | 33 | 1449 | 2070 | 2.7 | 106.296 | GST14-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 1.3 | 5.3 | - | 31 | 1540 | 2199 | 1.2 | 112.933 | GST11-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 1.1 | 4.7 | - | 27 | 1760 | 2514 | 1.1 | 129.074 | GST11-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 1.1 | 4.6 | - | 27 | 1776 | 2537 | 2.2 | 130.278 | GST14-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 1.1 | 4.3 | - | 25 | 1898 | 2711 | 2.0 | 139.211 | GST14-3M□□□100C32 | E84AV□□□7524□□0 | 90 |

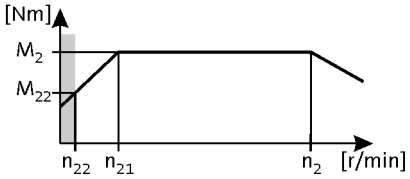


## Selection tables

► 120 Hz: $P_N$ = 7.50 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 146.5 ... 3515 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.9 | 3.8 | - | 22 | 2156 | 3081 | 1.8 | 158.194 | GST14-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 0.9 | 3.5 | - | 21 | 2333 | 3332 | 1.7 | 171.111 | GST14-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 0.7 | 2.9 | - | 17 | 2791 | 3987 | 1.4 | 204.722 | GST14-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 0.6 | 2.5 | - | 15 | 3226 | 4608 | 1.2 | 236.622 | GST14-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 0.6 | 2.4 | - | 14 | 3387 | 4838 | 1.2 | 248.458 | GST14-3M□□□100C32 | E84AV□□□7524□□0 | 90 |
| 0.5 | 2.2 | - | 13 | 3665 | 5236 | 1.1 | 268.889 | GST14-3M□□□100C32 | E84AV□□□7524□□0 | 90 |

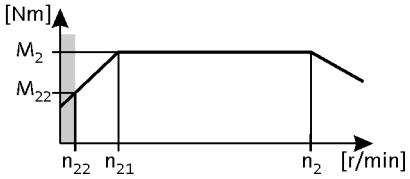


## Selection tables

► 120 Hz: $P_N$ = 11.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 147.1 ... 3530 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 74 | 300 | - | 1765 | 38 | 59 | 1.6 | 2.000 | GST07-1M□□□112C22 | E84AV□□□1134□□0 | 78 |
| 72 | 293 | - | 1724 | 38 | 60 | 0.9 | 2.048 | GST06-1M□□□112C22 | E84AV□□□1134□□0 | 78 |
| 72 | 293 | - | 1724 | 38 | 60 | 3.2 | 2.048 | GST09-1M□□□112C22 | E84AV□□□1134□□0 | 78 |
| 66 | 268 | - | 1576 | 42 | 66 | 1.5 | 2.240 | GST07-1M□□□112C22 | E84AV□□□1134□□0 | 78 |
| 63 | 257 | - | 1513 | 44 | 68 | 2.9 | 2.333 | GST09-1M□□□112C22 | E84AV□□□1134□□0 | 78 |
| 52 | 214 | - | 1256 | 53 | 82 | 2.5 | 2.810 | GST09-1M□□□112C22 | E84AV□□□1134□□0 | 78 |
| 52 | 210 | - | 1236 | 54 | 84 | 1.4 | 2.857 | GST07-1M□□□112C22 | E84AV□□□1134□□0 | 78 |
| 43 | 174 | - | 1025 | 65 | 101 | 2.2 | 3.444 | GST09-1M□□□112C22 | E84AV□□□1134□□0 | 78 |
| 42 | 171 | - | 1009 | 66 | 103 | 1.3 | 3.500 | GST07-1M□□□112C22 | E84AV□□□1134□□0 | 78 |
| 32 | 132 | - | 775 | 86 | 134 | 1.0 | 4.556 | GST07-1M□□□112C22 | E84AV□□□1134□□0 | 78 |
| 32 | 129 | - | 756 | 88 | 137 | 1.7 | 4.667 | GST09-1M□□□112C22 | E84AV□□□1134□□0 | 78 |
| 28 | 115 | - | 679 | 96 | 150 | 2.1 | 5.200 | GST07-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 28 | 113 | - | 663 | 98 | 154 | 1.0 | 5.324 | GST06-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 28 | 113 | - | 663 | 98 | 154 | 3.2 | 5.324 | GST09-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 26 | 108 | - | 632 | 105 | 164 | 0.9 | 5.583 | GST07-1M□□□112C22 | E84AV□□□1134□□0 | 78 |
| 26 | 106 | - | 623 | 106 | 166 | 1.5 | 5.667 | GST09-1M□□□112C22 | E84AV□□□1134□□0 | 78 |
| 26 | 105 | - | 618 | 106 | 165 | 2.0 | 5.714 | GST07-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 25 | 103 | - | 603 | 108 | 169 | 1.0 | 5.850 | GST06-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 25 | 103 | - | 603 | 108 | 169 | 3.2 | 5.850 | GST09-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 23 | 94 | - | 552 | 118 | 185 | 0.9 | 6.400 | GST06-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 23 | 94 | - | 552 | 118 | 185 | 1.9 | 6.400 | GST07-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 22 | 90 | - | 530 | 123 | 193 | 2.9 | 6.667 | GST09-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 20 | 82 | - | 483 | 135 | 211 | 2.5 | 7.305 | GST09-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 20 | 82 | - | 481 | 138 | 215 | 1.2 | 7.333 | GST09-1M□□□112C22 | E84AV□□□1134□□0 | 78 |
| 18 | 75 | - | 440 | 148 | 232 | 2.5 | 8.027 | GST09-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 17 | 68 | - | 401 | 163 | 254 | 1.6 | 8.800 | GST07-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 17 | 67 | - | 397 | 167 | 261 | 1.0 | 8.900 | GST09-1M□□□112C22 | E84AV□□□1134□□0 | 78 |
| 16 | 67 | - | 392 | 167 | 260 | 3.2 | 9.010 | GST09-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 15 | 61 | - | 358 | 182 | 285 | 1.5 | 9.856 | GST07-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 14 | 58 | - | 344 | 190 | 296 | 2.9 | 10.267 | GST09-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 13 | 54 | - | 315 | 207 | 323 | 1.4 | 11.200 | GST07-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 13 | 51 | - | 303 | 216 | 337 | 2.7 | 11.667 | GST09-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 12 | 49 | - | 286 | 228 | 357 | 2.5 | 12.362 | GST09-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 12 | 48 | - | 281 | 232 | 363 | 1.2 | 12.571 | GST07-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 12 | 48 | - | 281 | 232 | 363 | 3.1 | 12.571 | GST11-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 11 | 43 | - | 251 | 260 | 406 | 2.4 | 14.048 | GST09-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 10 | 42 | - | 247 | 264 | 413 | 1.2 | 14.286 | GST07-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 10 | 42 | - | 247 | 264 | 413 | 3.1 | 14.286 | GST11-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 9.7 | 40 | - | 233 | 280 | 438 | 2.5 | 15.156 | GST09-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 9.6 | 39 | - | 229 | 285 | 445 | 1.2 | 15.400 | GST07-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 8.5 | 35 | - | 205 | 318 | 497 | 2.4 | 17.222 | GST09-2M□□□112C22 | E84AV□□□1134□□0 | 84 |

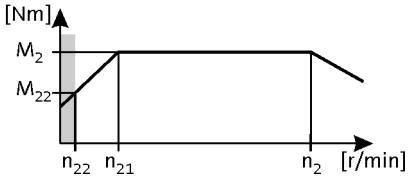


## Selection tables

► 120 Hz: $P_N$ = 11.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 147.1 ... 3530 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 8.4 | 34 | - | 202 | 323 | 505 | 1.1 | 17.500 | GST07-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 7.3 | 30 | - | 176 | 370 | 579 | 1.0 | 20.044 | GST07-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 7.3 | 30 | - | 174 | 375 | 586 | 2.5 | 20.289 | GST11-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 7.2 | 29 | - | 172 | 379 | 593 | 1.9 | 20.533 | GST09-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 6.4 | 26 | - | 153 | 426 | 666 | 2.5 | 23.056 | GST11-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 6.3 | 26 | - | 151 | 431 | 674 | 1.9 | 23.333 | GST09-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 5.9 | 24 | - | 142 | 461 | 720 | 1.7 | 24.933 | GST09-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 5.9 | 24 | - | 142 | 461 | 720 | 2.1 | 24.933 | GST11-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 5.2 | 21 | - | 125 | 524 | 818 | 1.6 | 28.333 | GST09-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 5.2 | 21 | - | 125 | 524 | 818 | 2.1 | 28.333 | GST11-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 4.6 | 19 | - | 109 | 596 | 932 | 1.3 | 32.267 | GST09-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 4.6 | 19 | - | 109 | 596 | 932 | 1.6 | 32.267 | GST11-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 4.6 | 19 | - | 109 | 596 | 932 | 2.0 | 32.267 | GST14-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 4.0 | 16 | - | 96 | 678 | 1059 | 1.2 | 36.667 | GST09-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 4.0 | 16 | - | 96 | 678 | 1059 | 1.6 | 36.667 | GST11-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 4.0 | 16 | - | 96 | 678 | 1059 | 2.0 | 36.667 | GST14-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 3.8 | 15 | - | 90 | 724 | 1131 | 1.1 | 39.160 | GST09-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 3.8 | 15 | - | 90 | 724 | 1131 | 1.4 | 39.160 | GST11-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 3.8 | 15 | - | 90 | 724 | 1131 | 1.7 | 39.160 | GST14-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 3.7 | 15 | - | 88 | 731 | 1142 | 1.0 | 40.136 | GST09-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 3.6 | 15 | - | 87 | 743 | 1161 | 1.9 | 40.816 | GST11-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 3.5 | 14 | - | 83 | 775 | 1211 | 3.2 | 42.580 | GST14-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 3.4 | 14 | - | 82 | 788 | 1231 | 1.0 | 43.267 | GST09-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 3.3 | 14 | - | 80 | 801 | 1251 | 1.8 | 44.000 | GST11-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 3.3 | 14 | - | 79 | 822 | 1285 | 1.1 | 44.500 | GST09-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 3.3 | 14 | - | 79 | 822 | 1285 | 1.5 | 44.500 | GST11-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 3.3 | 14 | - | 79 | 822 | 1285 | 1.9 | 44.500 | GST14-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 3.0 | 12 | - | 73 | 881 | 1376 | 3.2 | 48.386 | GST14-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 3.0 | 12 | - | 72 | 895 | 1398 | 1.0 | 49.167 | GST09-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 3.0 | 12 | - | 71 | 915 | 1429 | 1.2 | 49.500 | GST11-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 3.0 | 12 | - | 71 | 915 | 1429 | 1.5 | 49.500 | GST14-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 2.9 | 12 | - | 71 | 910 | 1422 | 1.8 | 50.000 | GST11-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 2.8 | 11 | - | 66 | 967 | 1512 | 3.0 | 53.148 | GST14-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 2.6 | 11 | - | 63 | 1039 | 1624 | 1.2 | 56.250 | GST11-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 2.6 | 11 | - | 63 | 1039 | 1624 | 1.5 | 56.250 | GST14-2M□□□112C22 | E84AV□□□1134□□0 | 84 |
| 2.5 | 10 | - | 61 | 1055 | 1649 | 1.5 | 57.968 | GST11-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 2.5 | 10 | - | 60 | 1080 | 1687 | 2.7 | 59.321 | GST14-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 2.4 | 9.8 | - | 58 | 1115 | 1742 | 1.5 | 61.250 | GST11-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 2.1 | 8.7 | - | 51 | 1257 | 1964 | 2.4 | 69.042 | GST14-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 2.1 | 8.5 | - | 50 | 1293 | 2020 | 1.2 | 71.011 | GST11-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 1.9 | 7.7 | - | 45 | 1428 | 2231 | 2.4 | 78.457 | GST14-3M□□□112C22 | E84AV□□□1134□□0 | 90 |

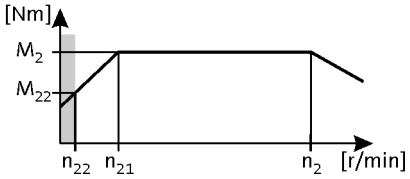


## Selection tables

► 120 Hz: $P_N$ = 11.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 147.1 ... 3530 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.8 | 7.4 | - | 44 | 1469 | 2295 | 1.2 | 80.694 | GST11-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 1.7 | 6.9 | - | 41 | 1588 | 2482 | 1.0 | 87.267 | GST11-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 1.6 | 6.4 | - | 38 | 1703 | 2660 | 2.0 | 93.541 | GST14-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 1.5 | 6.2 | - | 37 | 1750 | 2735 | 2.0 | 96.157 | GST14-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 1.5 | 6.1 | - | 36 | 1805 | 2820 | 0.9 | 99.167 | GST11-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 1.4 | 5.6 | - | 33 | 1935 | 3023 | 1.9 | 106.296 | GST14-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 1.1 | 4.6 | - | 27 | 2371 | 3705 | 1.5 | 130.278 | GST14-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 1.1 | 4.3 | - | 25 | 2534 | 3959 | 1.4 | 139.211 | GST14-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 0.9 | 3.8 | - | 22 | 2879 | 4499 | 1.2 | 158.194 | GST14-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 0.9 | 3.5 | - | 21 | 3115 | 4866 | 1.2 | 171.111 | GST14-3M□□□112C22 | E84AV□□□1134□□0 | 90 |
| 0.7 | 2.9 | - | 17 | 3726 | 5822 | 1.0 | 204.722 | GST14-3M□□□112C22 | E84AV□□□1134□□0 | 90 |

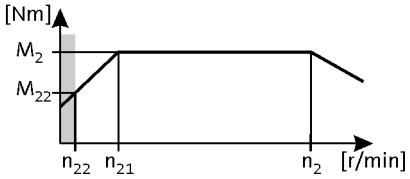


## Selection tables

► 120 Hz: $P_N$ = 15.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 148.3 ... 3560 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 74 | 300 | - | 1780 | 51 | 79 | 1.2 | 2.000 | GST07-1M□□□132C12 | E84AV□□□1534□□0 | 78 |
| 72 | 293 | - | 1739 | 52 | 81 | 3.1 | 2.048 | GST09-1M□□□132C12 | E84AV□□□1534□□0 | 78 |
| 66 | 268 | - | 1589 | 57 | 89 | 1.1 | 2.240 | GST07-1M□□□132C12 | E84AV□□□1534□□0 | 78 |
| 64 | 257 | - | 1526 | 59 | 93 | 3.0 | 2.333 | GST09-1M□□□132C12 | E84AV□□□1534□□0 | 78 |
| 53 | 214 | - | 1267 | 71 | 111 | 2.8 | 2.810 | GST09-1M□□□132C12 | E84AV□□□1534□□0 | 78 |
| 52 | 210 | - | 1246 | 73 | 113 | 1.1 | 2.857 | GST07-1M□□□132C12 | E84AV□□□1534□□0 | 78 |
| 43 | 174 | - | 1034 | 87 | 137 | 2.4 | 3.444 | GST09-1M□□□132C12 | E84AV□□□1534□□0 | 78 |
| 42 | 171 | - | 1017 | 89 | 139 | 0.9 | 3.500 | GST07-1M□□□132C12 | E84AV□□□1534□□0 | 78 |
| 32 | 129 | - | 763 | 118 | 185 | 1.5 | 4.667 | GST09-1M□□□132C12 | E84AV□□□1534□□0 | 78 |
| 29 | 115 | - | 685 | 130 | 203 | 1.6 | 5.200 | GST07-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 26 | 106 | - | 628 | 144 | 225 | 1.6 | 5.667 | GST09-1M□□□132C12 | E84AV□□□1534□□0 | 78 |
| 26 | 105 | - | 623 | 143 | 223 | 1.5 | 5.714 | GST07-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 23 | 94 | - | 556 | 160 | 250 | 1.4 | 6.400 | GST07-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 22 | 90 | - | 534 | 167 | 260 | 3.1 | 6.667 | GST09-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 20 | 82 | - | 487 | 183 | 285 | 2.9 | 7.305 | GST09-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 19 | 75 | - | 444 | 201 | 313 | 2.7 | 8.027 | GST09-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 17 | 68 | - | 405 | 220 | 344 | 1.2 | 8.800 | GST07-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 17 | 67 | - | 395 | 225 | 352 | 2.4 | 9.010 | GST09-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 15 | 61 | - | 361 | 246 | 385 | 1.1 | 9.856 | GST07-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 14 | 58 | - | 347 | 257 | 401 | 2.2 | 10.267 | GST09-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 13 | 54 | - | 318 | 280 | 437 | 1.0 | 11.200 | GST07-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 13 | 51 | - | 305 | 292 | 456 | 2.0 | 11.667 | GST09-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 12 | 49 | - | 288 | 309 | 483 | 1.9 | 12.362 | GST09-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 12 | 48 | - | 283 | 314 | 491 | 0.9 | 12.571 | GST07-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 11 | 43 | - | 253 | 351 | 548 | 1.8 | 14.048 | GST09-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 9.8 | 40 | - | 235 | 379 | 592 | 1.9 | 15.156 | GST09-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 9.6 | 39 | - | 231 | 385 | 601 | 0.9 | 15.400 | GST07-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 8.6 | 35 | - | 207 | 430 | 672 | 1.7 | 17.222 | GST09-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 7.3 | 30 | - | 176 | 507 | 792 | 3.0 | 20.289 | GST11-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 7.2 | 29 | - | 173 | 513 | 802 | 1.6 | 20.533 | GST09-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 6.4 | 26 | - | 154 | 576 | 900 | 2.8 | 23.056 | GST11-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 6.4 | 26 | - | 153 | 583 | 911 | 1.4 | 23.333 | GST09-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 6.0 | 24 | - | 143 | 623 | 973 | 1.4 | 24.933 | GST09-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 6.0 | 24 | - | 143 | 623 | 973 | 2.4 | 24.933 | GST11-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 5.2 | 21 | - | 126 | 708 | 1106 | 1.2 | 28.333 | GST09-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 5.2 | 21 | - | 126 | 708 | 1106 | 2.3 | 28.333 | GST11-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 4.6 | 19 | - | 110 | 806 | 1260 | 1.9 | 32.267 | GST11-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 4.6 | 19 | - | 110 | 806 | 1260 | 3.2 | 32.267 | GST14-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 4.1 | 16 | - | 97 | 916 | 1432 | 1.7 | 36.667 | GST11-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 4.1 | 16 | - | 97 | 916 | 1432 | 3.2 | 36.667 | GST14-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 3.8 | 15 | - | 91 | 979 | 1529 | 1.6 | 39.160 | GST11-2M□□□132C12 | E84AV□□□1534□□0 | 84 |

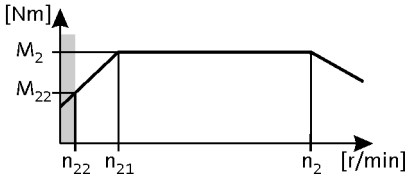


## Selection tables

► 120 Hz: $P_N$ = 15.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 148.3 ... 3560 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 3.8 | 15 | - | 91 | 979 | 1529 | 2.7 | 39.160 | GST14-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 3.7 | 15 | - | 89 | 989 | 1545 | 2.5 | 40.185 | GST14-3M□□□132C12 | E84AV□□□1534□□0 | 90 |
| 3.6 | 15 | - | 87 | 1005 | 1570 | 1.4 | 40.816 | GST11-3M□□□132C12 | E84AV□□□1534□□0 | 90 |
| 3.5 | 14 | - | 84 | 1048 | 1637 | 2.5 | 42.580 | GST14-3M□□□132C12 | E84AV□□□1534□□0 | 90 |
| 3.4 | 14 | - | 81 | 1083 | 1692 | 1.3 | 44.000 | GST11-3M□□□132C12 | E84AV□□□1534□□0 | 90 |
| 3.3 | 14 | - | 80 | 1112 | 1737 | 1.6 | 44.500 | GST11-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 3.3 | 14 | - | 80 | 1112 | 1737 | 3.0 | 44.500 | GST14-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 3.1 | 12 | - | 74 | 1191 | 1861 | 2.5 | 48.386 | GST14-3M□□□132C12 | E84AV□□□1534□□0 | 90 |
| 3.0 | 12 | - | 72 | 1237 | 1933 | 2.1 | 49.500 | GST14-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 3.0 | 12 | - | 71 | 1231 | 1923 | 1.3 | 50.000 | GST11-3M□□□132C12 | E84AV□□□1534□□0 | 90 |
| 2.8 | 11 | - | 67 | 1308 | 2044 | 2.2 | 53.148 | GST14-3M□□□132C12 | E84AV□□□1534□□0 | 90 |
| 2.6 | 11 | - | 63 | 1406 | 2196 | 2.1 | 56.250 | GST14-2M□□□132C12 | E84AV□□□1534□□0 | 84 |
| 2.6 | 10 | - | 61 | 1427 | 2229 | 1.1 | 57.968 | GST11-3M□□□132C12 | E84AV□□□1534□□0 | 90 |
| 2.5 | 10 | - | 60 | 1460 | 2281 | 2.2 | 59.321 | GST14-3M□□□132C12 | E84AV□□□1534□□0 | 90 |
| 2.4 | 9.8 | - | 58 | 1507 | 2355 | 1.1 | 61.250 | GST11-3M□□□132C12 | E84AV□□□1534□□0 | 90 |
| 2.2 | 8.7 | - | 52 | 1699 | 2655 | 1.7 | 69.042 | GST14-3M□□□132C12 | E84AV□□□1534□□0 | 90 |
| 2.1 | 8.5 | - | 50 | 1748 | 2731 | 0.9 | 71.011 | GST11-3M□□□132C12 | E84AV□□□1534□□0 | 90 |
| 1.9 | 7.7 | - | 45 | 1931 | 3017 | 1.7 | 78.457 | GST14-3M□□□132C12 | E84AV□□□1534□□0 | 90 |
| 1.6 | 6.4 | - | 38 | 2302 | 3597 | 1.5 | 93.541 | GST14-3M□□□132C12 | E84AV□□□1534□□0 | 90 |
| 1.5 | 6.2 | - | 37 | 2367 | 3698 | 1.5 | 96.157 | GST14-3M□□□132C12 | E84AV□□□1534□□0 | 90 |
| 1.4 | 5.6 | - | 34 | 2616 | 4088 | 1.4 | 106.296 | GST14-3M□□□132C12 | E84AV□□□1534□□0 | 90 |
| 1.1 | 4.6 | - | 27 | 3206 | 5010 | 1.1 | 130.278 | GST14-3M□□□132C12 | E84AV□□□1534□□0 | 90 |
| 1.1 | 4.3 | - | 26 | 3426 | 5353 | 1.0 | 139.211 | GST14-3M□□□132C12 | E84AV□□□1534□□0 | 90 |
| 0.9 | 3.8 | - | 23 | 3893 | 6083 | 0.9 | 158.194 | GST14-3M□□□132C12 | E84AV□□□1534□□0 | 90 |



## Selection tables

► 120 Hz: $P_N$ = 18.50 kW

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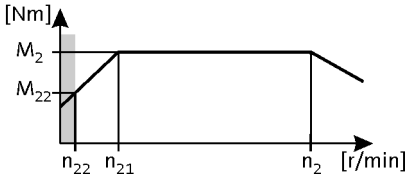
$n_1$ = 148.3 ... 3560 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 74 | 300 | - | 1780 | 63 | 98 | 0.9 | 2.000 | GST07-1M□□□132C22 | E84AV□□□1834□□0 | 78 |
| 72 | 293 | - | 1739 | 64 | 100 | 2.5 | 2.048 | GST09-1M□□□132C22 | E84AV□□□1834□□0 | 78 |
| 66 | 268 | - | 1589 | 70 | 110 | 0.9 | 2.240 | GST07-1M□□□132C22 | E84AV□□□1834□□0 | 78 |
| 64 | 257 | - | 1526 | 73 | 114 | 2.4 | 2.333 | GST09-1M□□□132C22 | E84AV□□□1834□□0 | 78 |
| 53 | 214 | - | 1267 | 88 | 137 | 2.3 | 2.810 | GST09-1M□□□132C22 | E84AV□□□1834□□0 | 78 |
| 43 | 174 | - | 1034 | 108 | 168 | 2.0 | 3.444 | GST09-1M□□□132C22 | E84AV□□□1834□□0 | 78 |
| 32 | 129 | - | 763 | 146 | 228 | 1.2 | 4.667 | GST09-1M□□□132C22 | E84AV□□□1834□□0 | 78 |
| 29 | 115 | - | 685 | 160 | 250 | 1.3 | 5.200 | GST07-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 28 | 113 | - | 669 | 164 | 256 | 2.9 | 5.324 | GST09-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 26 | 106 | - | 628 | 177 | 277 | 1.3 | 5.667 | GST09-1M□□□132C22 | E84AV□□□1834□□0 | 78 |
| 26 | 105 | - | 623 | 176 | 275 | 1.2 | 5.714 | GST07-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 25 | 103 | - | 609 | 180 | 282 | 2.7 | 5.850 | GST09-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 23 | 94 | - | 556 | 197 | 308 | 1.1 | 6.400 | GST07-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 22 | 90 | - | 534 | 205 | 321 | 2.5 | 6.667 | GST09-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 20 | 82 | - | 487 | 225 | 352 | 2.4 | 7.305 | GST09-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 19 | 75 | - | 444 | 247 | 387 | 2.2 | 8.027 | GST09-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 17 | 68 | - | 405 | 271 | 424 | 0.9 | 8.800 | GST07-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 17 | 67 | - | 395 | 278 | 434 | 1.9 | 9.010 | GST09-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 14 | 58 | - | 347 | 316 | 494 | 1.8 | 10.267 | GST09-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 13 | 51 | - | 305 | 360 | 562 | 1.6 | 11.667 | GST09-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 12 | 49 | - | 288 | 381 | 595 | 1.6 | 12.362 | GST09-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 12 | 48 | - | 283 | 387 | 605 | 3.1 | 12.571 | GST11-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 11 | 43 | - | 253 | 433 | 676 | 1.4 | 14.048 | GST09-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 10 | 42 | - | 249 | 440 | 688 | 2.8 | 14.286 | GST11-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 9.8 | 40 | - | 235 | 467 | 730 | 1.6 | 15.156 | GST09-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 9.6 | 39 | - | 231 | 475 | 742 | 3.1 | 15.400 | GST11-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 8.6 | 35 | - | 207 | 531 | 829 | 1.4 | 17.222 | GST09-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 8.5 | 34 | - | 203 | 539 | 843 | 2.8 | 17.500 | GST11-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 7.3 | 30 | - | 176 | 625 | 977 | 2.4 | 20.289 | GST11-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 7.2 | 29 | - | 173 | 633 | 989 | 1.3 | 20.533 | GST09-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 6.4 | 26 | - | 154 | 711 | 1110 | 2.2 | 23.056 | GST11-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 6.4 | 26 | - | 153 | 719 | 1124 | 1.1 | 23.333 | GST09-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 6.0 | 24 | - | 145 | 757 | 1183 | 3.2 | 24.567 | GST14-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 6.0 | 24 | - | 143 | 768 | 1201 | 1.1 | 24.933 | GST09-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 6.0 | 24 | - | 143 | 768 | 1201 | 2.0 | 24.933 | GST11-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 5.3 | 22 | - | 128 | 860 | 1344 | 3.2 | 27.917 | GST14-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 5.2 | 21 | - | 126 | 873 | 1364 | 0.9 | 28.333 | GST09-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 5.2 | 21 | - | 126 | 873 | 1364 | 1.8 | 28.333 | GST11-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 4.6 | 19 | - | 110 | 994 | 1554 | 1.5 | 32.267 | GST11-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 4.6 | 19 | - | 110 | 994 | 1554 | 2.6 | 32.267 | GST14-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 4.1 | 16 | - | 97 | 1130 | 1766 | 1.4 | 36.667 | GST11-2M□□□132C22 | E84AV□□□1834□□0 | 84 |

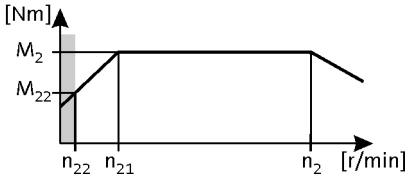


## Selection tables

► 120 Hz: $P_N$ = 18.50 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 148.3 ... 3560 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4.1 | 16 | - | 97 | 1130 | 1766 | 2.6 | 36.667 | GST14-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 3.8 | 15 | - | 91 | 1207 | 1886 | 1.3 | 39.160 | GST11-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 3.8 | 15 | - | 91 | 1207 | 1886 | 2.2 | 39.160 | GST14-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 3.7 | 15 | - | 89 | 1220 | 1906 | 2.0 | 40.185 | GST14-3M□□□132C22 | E84AV□□□1834□□0 | 90 |
| 3.6 | 15 | - | 87 | 1239 | 1936 | 1.1 | 40.816 | GST11-3M□□□132C22 | E84AV□□□1834□□0 | 90 |
| 3.5 | 14 | - | 84 | 1293 | 2020 | 2.0 | 42.580 | GST14-3M□□□132C22 | E84AV□□□1834□□0 | 90 |
| 3.4 | 14 | - | 81 | 1336 | 2087 | 1.1 | 44.000 | GST11-3M□□□132C22 | E84AV□□□1834□□0 | 90 |
| 3.3 | 14 | - | 80 | 1371 | 2143 | 1.3 | 44.500 | GST11-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 3.3 | 14 | - | 80 | 1371 | 2143 | 2.4 | 44.500 | GST14-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 3.1 | 12 | - | 74 | 1469 | 2295 | 2.0 | 48.386 | GST14-3M□□□132C22 | E84AV□□□1834□□0 | 90 |
| 3.0 | 12 | - | 72 | 1525 | 2383 | 1.7 | 49.500 | GST14-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 3.0 | 12 | - | 71 | 1518 | 2371 | 1.1 | 50.000 | GST11-3M□□□132C22 | E84AV□□□1834□□0 | 90 |
| 2.8 | 11 | - | 67 | 1613 | 2521 | 1.8 | 53.148 | GST14-3M□□□132C22 | E84AV□□□1834□□0 | 90 |
| 2.6 | 11 | - | 63 | 1733 | 2708 | 1.7 | 56.250 | GST14-2M□□□132C22 | E84AV□□□1834□□0 | 84 |
| 2.5 | 10 | - | 60 | 1801 | 2814 | 1.8 | 59.321 | GST14-3M□□□132C22 | E84AV□□□1834□□0 | 90 |
| 2.2 | 8.7 | - | 52 | 2096 | 3275 | 1.4 | 69.042 | GST14-3M□□□132C22 | E84AV□□□1834□□0 | 90 |
| 1.9 | 7.7 | - | 45 | 2382 | 3721 | 1.4 | 78.457 | GST14-3M□□□132C22 | E84AV□□□1834□□0 | 90 |
| 1.6 | 6.4 | - | 38 | 2839 | 4436 | 1.2 | 93.541 | GST14-3M□□□132C22 | E84AV□□□1834□□0 | 90 |
| 1.5 | 6.2 | - | 37 | 2919 | 4561 | 1.2 | 96.157 | GST14-3M□□□132C22 | E84AV□□□1834□□0 | 90 |
| 1.4 | 5.6 | - | 34 | 3227 | 5041 | 1.1 | 106.296 | GST14-3M□□□132C22 | E84AV□□□1834□□0 | 90 |
| 1.1 | 4.6 | - | 27 | 3954 | 6179 | 0.9 | 130.278 | GST14-3M□□□132C22 | E84AV□□□1834□□0 | 90 |

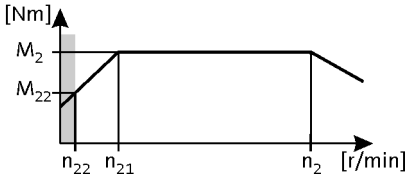


## Selection tables

► 120 Hz: $P_N$ = 22.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 147.9 ... 3550 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 72 | 293 | - | 1734 | 76 | 119 | 2.1 | 2.048 | GST09-1M□□□132C32 | E84AV□□□2234□□0 | 78 |
| 63 | 257 | - | 1521 | 87 | 136 | 2.0 | 2.333 | GST09-1M□□□132C32 | E84AV□□□2234□□0 | 78 |
| 53 | 214 | - | 1264 | 105 | 164 | 1.9 | 2.810 | GST09-1M□□□132C32 | E84AV□□□2234□□0 | 78 |
| 43 | 174 | - | 1031 | 129 | 201 | 1.7 | 3.444 | GST09-1M□□□132C32 | E84AV□□□2234□□0 | 78 |
| 32 | 129 | - | 761 | 174 | 272 | 1.0 | 4.667 | GST09-1M□□□132C32 | E84AV□□□2234□□0 | 78 |
| 28 | 115 | - | 683 | 191 | 299 | 1.1 | 5.200 | GST07-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 28 | 113 | - | 667 | 196 | 306 | 2.4 | 5.324 | GST09-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 26 | 106 | - | 627 | 211 | 330 | 1.1 | 5.667 | GST09-1M□□□132C32 | E84AV□□□2234□□0 | 78 |
| 26 | 105 | - | 621 | 210 | 328 | 1.0 | 5.714 | GST07-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 25 | 103 | - | 607 | 215 | 336 | 2.3 | 5.850 | GST09-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 23 | 94 | - | 555 | 235 | 368 | 0.9 | 6.400 | GST07-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 23 | 94 | - | 555 | 235 | 368 | 3.2 | 6.400 | GST11-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 22 | 90 | - | 533 | 245 | 383 | 2.1 | 6.667 | GST09-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 20 | 82 | - | 486 | 268 | 419 | 2.0 | 7.305 | GST09-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 18 | 75 | - | 442 | 295 | 461 | 1.8 | 8.027 | GST09-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 16 | 67 | - | 394 | 331 | 517 | 1.6 | 9.010 | GST09-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 15 | 61 | - | 360 | 362 | 566 | 3.1 | 9.856 | GST11-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 14 | 58 | - | 346 | 377 | 590 | 1.5 | 10.267 | GST09-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 13 | 54 | - | 317 | 412 | 643 | 2.8 | 11.200 | GST11-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 13 | 51 | - | 304 | 429 | 670 | 1.4 | 11.667 | GST09-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 12 | 49 | - | 287 | 454 | 710 | 1.3 | 12.362 | GST09-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 12 | 48 | - | 282 | 462 | 722 | 2.6 | 12.571 | GST11-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 11 | 43 | - | 253 | 516 | 807 | 1.2 | 14.048 | GST09-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 10 | 42 | - | 249 | 525 | 820 | 2.4 | 14.286 | GST11-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 9.8 | 40 | - | 234 | 557 | 870 | 1.3 | 15.156 | GST09-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 9.6 | 39 | - | 231 | 566 | 884 | 2.6 | 15.400 | GST11-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 8.6 | 35 | - | 206 | 633 | 989 | 1.2 | 17.222 | GST09-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 8.5 | 34 | - | 203 | 643 | 1005 | 2.3 | 17.500 | GST11-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 7.4 | 30 | - | 177 | 737 | 1151 | 2.9 | 20.044 | GST14-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 7.3 | 30 | - | 175 | 746 | 1165 | 2.0 | 20.289 | GST11-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 7.2 | 29 | - | 173 | 755 | 1179 | 1.1 | 20.533 | GST09-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 6.5 | 26 | - | 156 | 837 | 1308 | 2.9 | 22.778 | GST14-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 6.4 | 26 | - | 154 | 847 | 1324 | 1.9 | 23.056 | GST11-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 6.3 | 26 | - | 152 | 858 | 1340 | 1.0 | 23.333 | GST09-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 6.0 | 24 | - | 145 | 903 | 1411 | 2.7 | 24.567 | GST14-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 5.9 | 24 | - | 142 | 916 | 1432 | 0.9 | 24.933 | GST09-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 5.9 | 24 | - | 142 | 916 | 1432 | 1.7 | 24.933 | GST11-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 5.3 | 22 | - | 127 | 1026 | 1603 | 2.7 | 27.917 | GST14-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 5.2 | 21 | - | 125 | 1041 | 1627 | 1.5 | 28.333 | GST11-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 4.6 | 19 | - | 110 | 1186 | 1853 | 1.3 | 32.267 | GST11-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 4.6 | 19 | - | 110 | 1186 | 1853 | 2.2 | 32.267 | GST14-2M□□□132C32 | E84AV□□□2234□□0 | 84 |

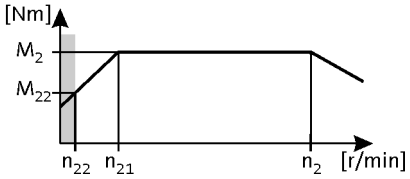


## Selection tables

► 120 Hz: $P_N$ = 22.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 147.9 ... 3550 r/min



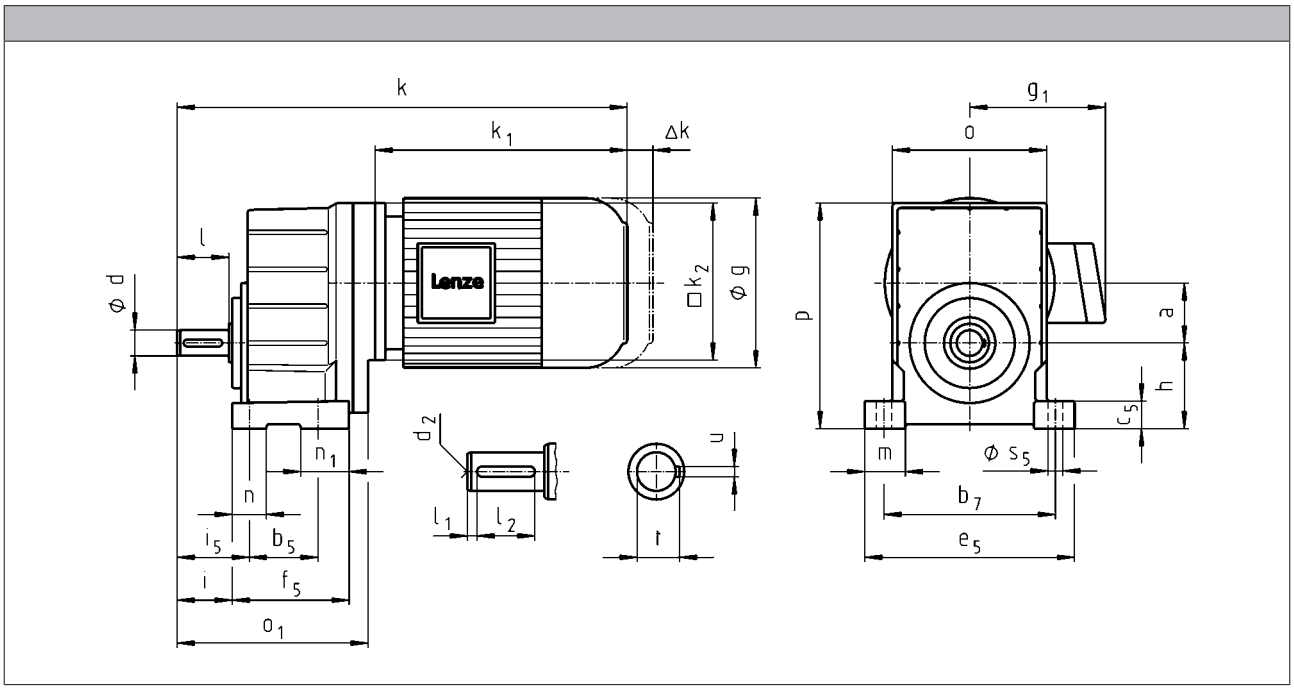

| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 4.0 | 16 | - | 97 | 1348 | 2105 | 1.2 | 36.667 | GST11-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 4.0 | 16 | - | 97 | 1348 | 2105 | 2.2 | 36.667 | GST14-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 3.8 | 15 | - | 91 | 1439 | 2249 | 1.1 | 39.160 | GST11-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 3.8 | 15 | - | 91 | 1439 | 2249 | 1.8 | 39.160 | GST14-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 3.7 | 15 | - | 88 | 1455 | 2273 | 1.7 | 40.185 | GST14-3M□□□132C32 | E84AV□□□2234□□0 | 90 |
| 3.6 | 15 | - | 87 | 1478 | 2309 | 0.9 | 40.816 | GST11-3M□□□132C32 | E84AV□□□2234□□0 | 90 |
| 3.5 | 14 | - | 83 | 1541 | 2408 | 1.7 | 42.580 | GST14-3M□□□132C32 | E84AV□□□2234□□0 | 90 |
| 3.4 | 14 | - | 81 | 1593 | 2489 | 0.9 | 44.000 | GST11-3M□□□132C32 | E84AV□□□2234□□0 | 90 |
| 3.3 | 14 | - | 80 | 1635 | 2555 | 1.1 | 44.500 | GST11-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 3.3 | 14 | - | 80 | 1635 | 2555 | 2.0 | 44.500 | GST14-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 3.1 | 12 | - | 73 | 1752 | 2737 | 1.7 | 48.386 | GST14-3M□□□132C32 | E84AV□□□2234□□0 | 90 |
| 3.0 | 12 | - | 72 | 1819 | 2842 | 1.4 | 49.500 | GST14-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 3.0 | 12 | - | 71 | 1810 | 2828 | 0.9 | 50.000 | GST11-3M□□□132C32 | E84AV□□□2234□□0 | 90 |
| 2.8 | 11 | - | 67 | 1924 | 3006 | 1.5 | 53.148 | GST14-3M□□□132C32 | E84AV□□□2234□□0 | 90 |
| 2.6 | 11 | - | 63 | 2067 | 3230 | 1.4 | 56.250 | GST14-2M□□□132C32 | E84AV□□□2234□□0 | 84 |
| 2.5 | 10 | - | 60 | 2147 | 3355 | 1.5 | 59.321 | GST14-3M□□□132C32 | E84AV□□□2234□□0 | 90 |
| 2.1 | 8.7 | - | 51 | 2499 | 3905 | 1.2 | 69.042 | GST14-3M□□□132C32 | E84AV□□□2234□□0 | 90 |
| 1.9 | 7.7 | - | 45 | 2840 | 4438 | 1.2 | 78.457 | GST14-3M□□□132C32 | E84AV□□□2234□□0 | 90 |
| 1.6 | 6.4 | - | 38 | 3386 | 5291 | 1.0 | 93.541 | GST14-3M□□□132C32 | E84AV□□□2234□□0 | 90 |
| 1.5 | 6.2 | - | 37 | 3481 | 5439 | 1.0 | 96.157 | GST14-3M□□□132C32 | E84AV□□□2234□□0 | 90 |
| 1.4 | 5.6 | - | 33 | 3848 | 6012 | 0.9 | 106.296 | GST14-3M□□□132C32 | E84AV□□□2234□□0 | 90 |





## Dimensions

**GST□□-1M VBR**





| | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22 | 132C32 |
|---|---|---|---|---|---|---|---|---|---|
| g | | 123 | 139 | 156 | 176 | 194 | 218 | 258 | |
| $g_1$ | MFEMAXX | 100 | 109 | 150 | 157 | 166 | 176 | 195 | |
| | MFEMABR | 107 | 118 | 132 | 137 | 147 | 158 | 187 | |
| $k_1$ | MFEMAXX | 187 | 207 | 224.5 | 274 | 324 | 319 | 403 | |
| $k_2$ | | 120 | | 145 | 180 | | 222 | 265 | |
| Δ k | MFEMABR | 40 | 52 | 73 | 68 | 76 | 90 | 109.5 | |
| | MFFMAXX | 128 | | | | 109 | 102 | 115 | |
| | MFFMABR | 170 | 165 | 183 | 181 | 170 | 183 | 201.5 | |
| | | k | | | | | | | |
| **GST04** | | 331 | 351 | 373 | | | | | |
| **GST05** | | 352 | 372 | 394 | 454 | 504 | | | |
| **GST06** | | 375 | 395 | 417 | 477 | 527 | 528 | | |
| **GST07** | | | | 446 | 506 | 556 | 557 | 649 | |
| **GST09** | | | | | 549 | 599 | 600 | 692 | |

| | a | h[1)] | o[1)] | p[1)] |
|---|---|---|---|---|
| **GST04** | 36 | 50 | 100 | 138 |
| **GST05** | 45 | 63 | 115 | 168 |
| **GST06** | 56 | 80 | 145 | 211 |
| **GST07** | 70 | 100 | 180 | 264 |
| **GST09** | 89 | 125 | 222 | 329 |

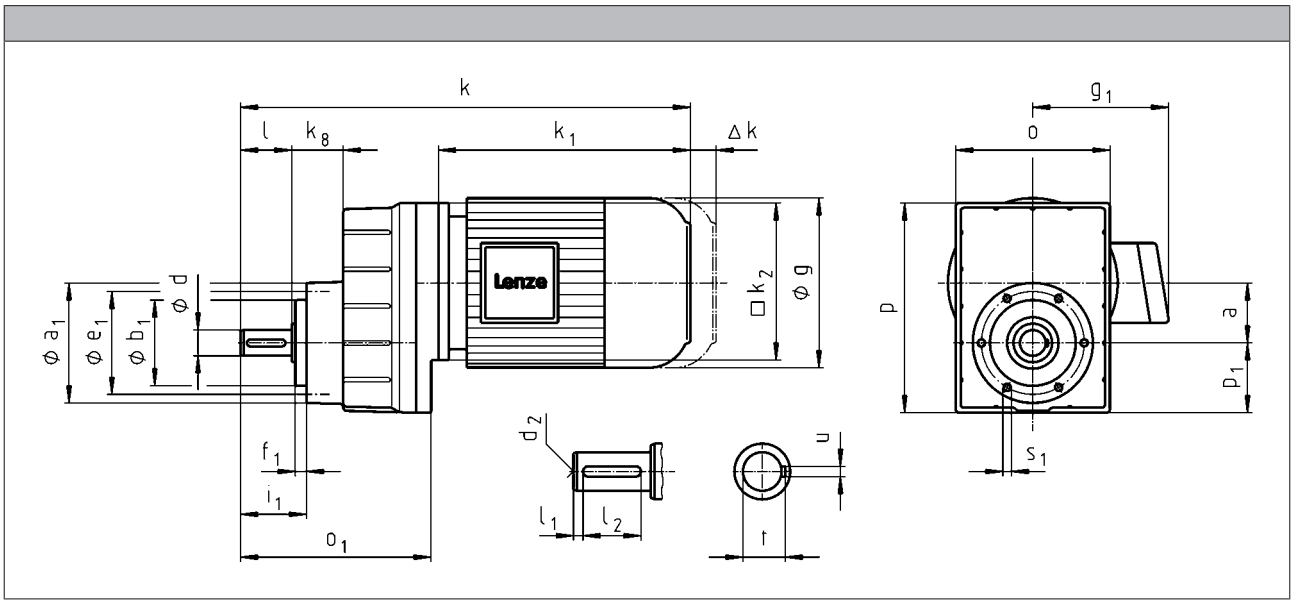
| | d | $d_2$ | l | $l_1$ | $l_2$ | u | t | i | $i_5$ | $o_1$ | $b_5$ | $b_7$ | $c_5$ | $e_5$ | $f_5$ | m | n | $n_1$ | $s_5$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | k6 | | | | | | | | | | | | | | | | | | |
| **GST04** | 16 | M5 | 32 | 6 | 20 | 5 | 18 | 35 | 45 | 134 | 55 | 105 | 17 | 128 | 80 | 24 | 20 | 25 | 9 |
| **GST05** | 20 | M6 | 40 | 6 | 28 | 6 | 22.5 | 43 | 56 | 165 | 70 | 125 | 22 | 154 | 99 | 32 | 26 | 29 | 11 |
| **GST06** | 25 | M10 | 50 | 4 | 40 | 8 | 28 | 53 | 68 | 191 | 72 | 160 | 27 | 194 | 115 | 37 | 30 | 43 | 13.5 |
| **GST07** | 30 | M10 | 60 | 7.5 | 45 | 8 | 33 | 64 | 84 | 223 | 80 | 200 | 35 | 245 | 137 | 48 | 40 | 57 | 18 |
| **GST09** | 40 | M16 | 80 | 8.5 | 63 | 12 | 43 | 84 | 107 | 271 | 105 | 245 | 43 | 296 | 161 | 51 | 45 | 56 | 18 |

[1)] $k_2$ !



## Dimensions

**GST□□-1M VCR**





| | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22 | 132C32 |
|---|---|---|---|---|---|---|---|---|---|
| g | | 123 | 139 | 156 | 176 | 194 | 218 | 258 | |
| $g_1$ | MFEMAXX | 100 | 109 | 150 | 157 | 166 | 176 | 195 | |
| | MFEMABR | 107 | 118 | 132 | 137 | 147 | 158 | 187 | |
| $k_1$ | MFEMAXX | 187 | 207 | 224.5 | 274 | 324 | 319 | 403 | |
| $k_2$ | | 120 | | 145 | 180 | | 222 | 265 | |
| Δ k | MFEMABR | 40 | 52 | 73 | 68 | 76 | 90 | 109.5 | |
| | MFFMAXX | 128 | | | | 109 | 102 | 115 | |
| | MFFMABR | 170 | 165 | 183 | 181 | 170 | 183 | 201.5 | |
| | | k | | | | | | | |
| **GST04** | | 331 | 351 | 373 | | | | | |
| **GST05** | | 352 | 372 | 394 | 454 | 504 | | | |
| **GST06** | | 375 | 395 | 417 | 477 | 527 | 528 | | |
| **GST07** | | | | 446 | 506 | 556 | 557 | 649 | |
| **GST09** | | | | | 549 | 599 | 600 | 692 | |

| | a | $k_8$ | o[1)] | p[1)] | $p_1$ |
|---|---|---|---|---|---|
| **GST04** | 36 | 35 | 100 | 129 | 41 |
| **GST05** | 45 | 43 | 115 | 156 | 51 |
| **GST06** | 56 | 48 | 145 | 194 | 63 |
| **GST07** | 70 | 60 | 180 | 245 | 82 |
| **GST09** | 89 | 74 | 222 | 304 | 101 |

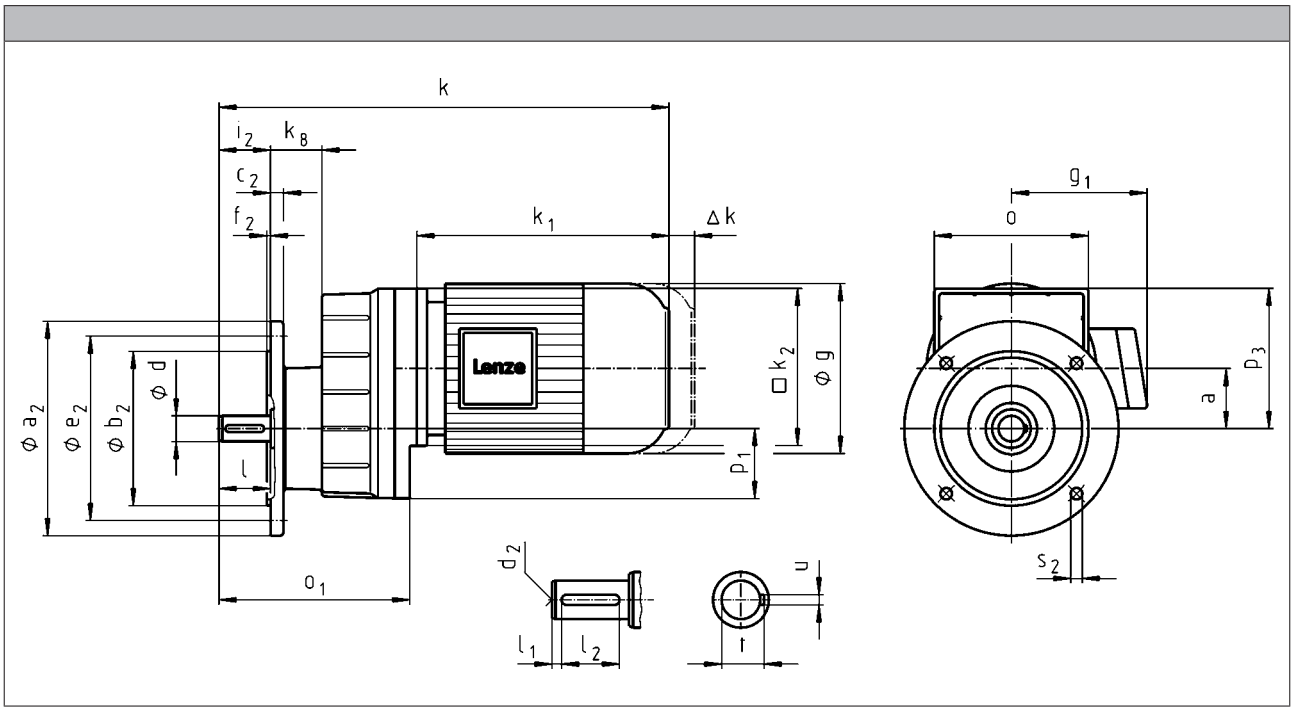
| | d | $d_2$ | l | $l_1$ | $l_2$ | u | t | $i_1$ | $o_1$ | $a_1$ | $b_1$ | $e_1$ | $f_1$ | $s_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | k6 | | | | | | | | | | h7 | | | |
| **GST04** | 16 | M5 | 32 | 6 | 20 | 5 | 18 | 43 | 134 | 72 | 48 | 61 | 8 | M5x10 |
| **GST05** | 20 | M6 | 40 | 6 | 28 | 6 | 22.5 | 52 | 165 | 88 | 58 | 74 | 9 | M6x10 |
| **GST06** | 25 | M10 | 50 | 4 | 40 | 8 | 28 | 64 | 191 | 109 | 70 | 90 | 11 | M8x14 |
| **GST07** | 30 | M10 | 60 | 7.5 | 45 | 8 | 33 | 77 | 223 | 140 | 100 | 120 | 13 | M10x18 |
| **GST09** | 40 | M16 | 80 | 8.5 | 63 | 12 | 43 | 100 | 271 | 174 | 120 | 145 | 15 | M12x20 |

[1)] $k_2$ !



## Dimensions

**GST□□-1M VCK**





| | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22 | 132C32 |
|---|---|---|---|---|---|---|---|---|---|
| g | | 123 | 139 | 156 | 176 | 194 | 218 | 258 | |
| $g_1$ | MFEMAXX | 100 | 109 | 150 | 157 | 166 | 176 | 195 | |
| | MFEMABR | 107 | 118 | 132 | 137 | 147 | 158 | 187 | |
| $k_1$ | MFEMAXX | 187 | 207 | 224.5 | 274 | 324 | 319 | 403 | |
| $k_2$ | | 120 | | 145 | 180 | | 222 | 265 | |
| Δ k | MFEMABR | 40 | 52 | 73 | 68 | 76 | 90 | 109.5 | |
| | MFFMAXX | 128 | | | | 109 | 102 | 115 | |
| | MFFMABR | 170 | 165 | 183 | 181 | 170 | 183 | 201.5 | |
| | | k | | | | | | | |
| **GST04** | | 331 | 351 | 373 | | | | | |
| **GST05** | | 352 | 372 | 394 | 454 | 504 | | | |
| **GST06** | | 375 | 395 | 417 | 477 | 527 | 528 | | |
| **GST07** | | | | 446 | 506 | 556 | 557 | 649 | |
| **GST09** | | | | | 549 | 599 | 600 | 692 | |

| | a | $k_8$ | $o^{1)}$ | $p_1$ | $p_3^{1)}$ |
|---|---|---|---|---|---|
| **GST04** | 36 | 35 | 100 | 41 | 88 |
| **GST05** | 45 | 43 | 115 | 51 | 105 |
| **GST06** | 56 | 48 | 145 | 63 | 131 |
| **GST07** | 70 | 60 | 180 | 82 | 164 |
| **GST09** | 89 | 74 | 222 | 101 | 204 |

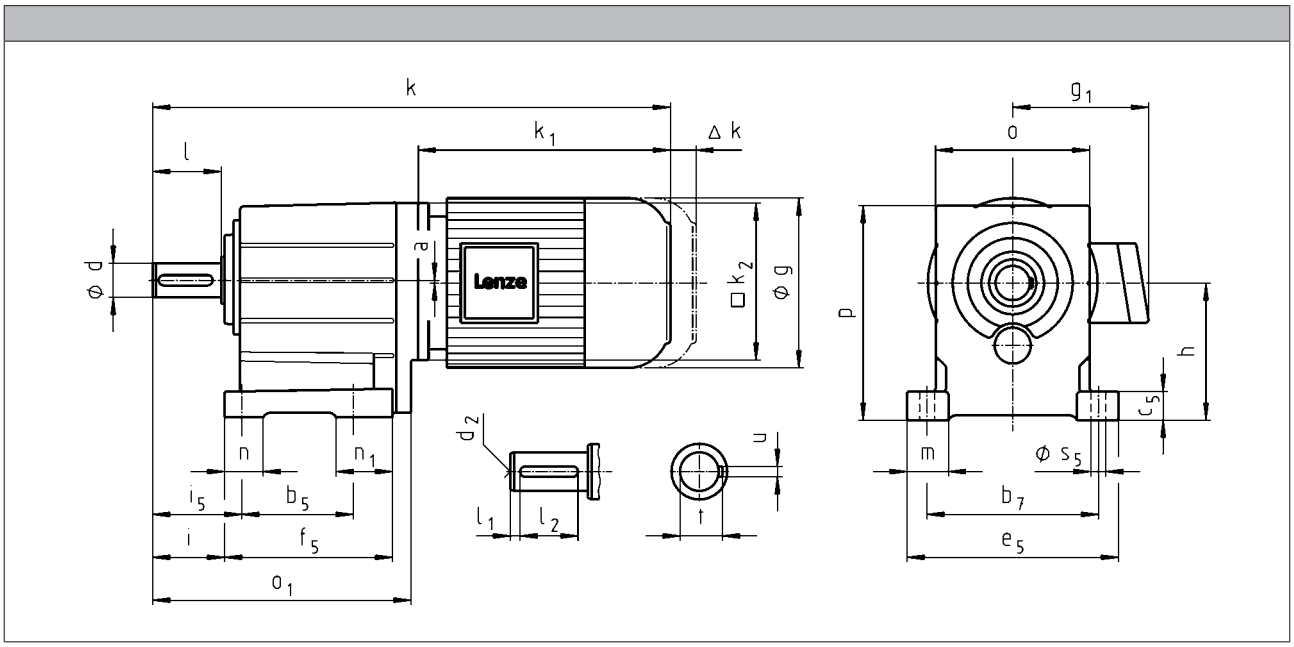
| | d | $d_2$ | l | $l_1$ | $l_2$ | u | t | $i_2$ | $o_1$ | $a_2$ | $b_2$ | $c_2$ | $e_2$ | $f_2$ | $s_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | k6 | | | | | | | | | | j7 | | | | |
| **GST04** | 16 | M5 | 32 | 6 | 20 | 5 | 18 | 32 | 134 | 120<br>140<br>160 | 80<br>95<br>110 | 10<br>10<br>10 | 100<br>115<br>130 | 3<br>3<br>3.5 | 7<br>9<br>9 |
| **GST05** | 20 | M6 | 40 | 6 | 28 | 6 | 22.5 | 40 | 165 | 120<br>140<br>160<br>200 | 80<br>95<br>110<br>130 | 10<br>10<br>10<br>12 | 100<br>115<br>130<br>165 | 3<br>3<br>3.5<br>3.5 | 7<br>9<br>9<br>11 |
| **GST06** | 25 | M10 | 50 | 4 | 40 | 8 | 28 | 50 | 191 | 160<br>200 | 110<br>130 | 12<br>12 | 130<br>165 | 3.5<br>3.5 | 9<br>11 |
| **GST07** | 30 | M10 | 60 | 7.5 | 45 | 8 | 33 | 60 | 223 | 200<br>250 | 130<br>180 | 14<br>15 | 165<br>215 | 3.5<br>4 | 11<br>13.5 |
| **GST09** | 40 | M16 | 80 | 8.5 | 63 | 12 | 43 | 80 | 271 | 250<br>300 | 180<br>230 | 16<br>18 | 215<br>265 | 4<br>4 | 13.5<br>13.5 |

[1] $k_2$ !



## Dimensions

**GST□□-2M VBR**





| | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12 | 100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|
| g | | 123 | 139 | 156 | 176 | 194 | | 218 | 258 |
| $g_1$ | MFEMAXX | 100 | 109 | 150 | 157 | 166 | | 176 | 195 |
| | MFEMABR | 107 | 118 | 132 | 137 | 147 | | 158 | 187 |
| $k_1$ | MFEMAXX | 187 | 207 | 224.5 | 274 | 324 | | 319 | 403 |
| $k_2$ | | 120 | | 145 | 180 | | | 222 | 265 |
| Δ k | MFEMABR | 40 | 52 | 73 | 68 | 76 | | 90 | 109.5 |
| | MFFMAXX | 128 | | | | 109 | | 102 | 115 |
| | MFFMABR | 170 | 165 | 183 | 181 | 170 | | 183 | 201.5 |
| | | k | | | | | | | |
| **GST03** | | 329 | | | | | | | |
| **GST04** | | 371 | 391 | 413 | | | | | |
| **GST05** | | 401 | 421 | 443 | 503 | 553 | | | |
| **GST06** | | 427 | 447 | 469 | 529 | 579 | | 580 | |
| **GST07** | | | | 525 | 585 | 635 | | 636 | 728 |
| **GST09** | | | | | 648 | 698 | | 699 | 791 |
| **GST11** | | | | | | 755 | | 756 | 848 |
| **GST14** | | | | | | | | 846 | 938 |

| | a | h[1)] | o[1)] | p[1)] |
|---|---|---|---|---|
| **GST03** | 2 | 65 | 90 | 101 |
| **GST04** | 0 | 80 | 100 | 132 |
| **GST05** | 1 | 100 | 115 | 158.5 |
| **GST06** | 2 | 125 | 145 | 198 |
| **GST07** | 3 | 160 | 180 | 251 |
| **GST09** | 4 | 200 | 222 | 311 |
| **GST11** | 4 | 250 | 270 | 385 |
| **GST14** | 6 | 315 | 328 | 479 |

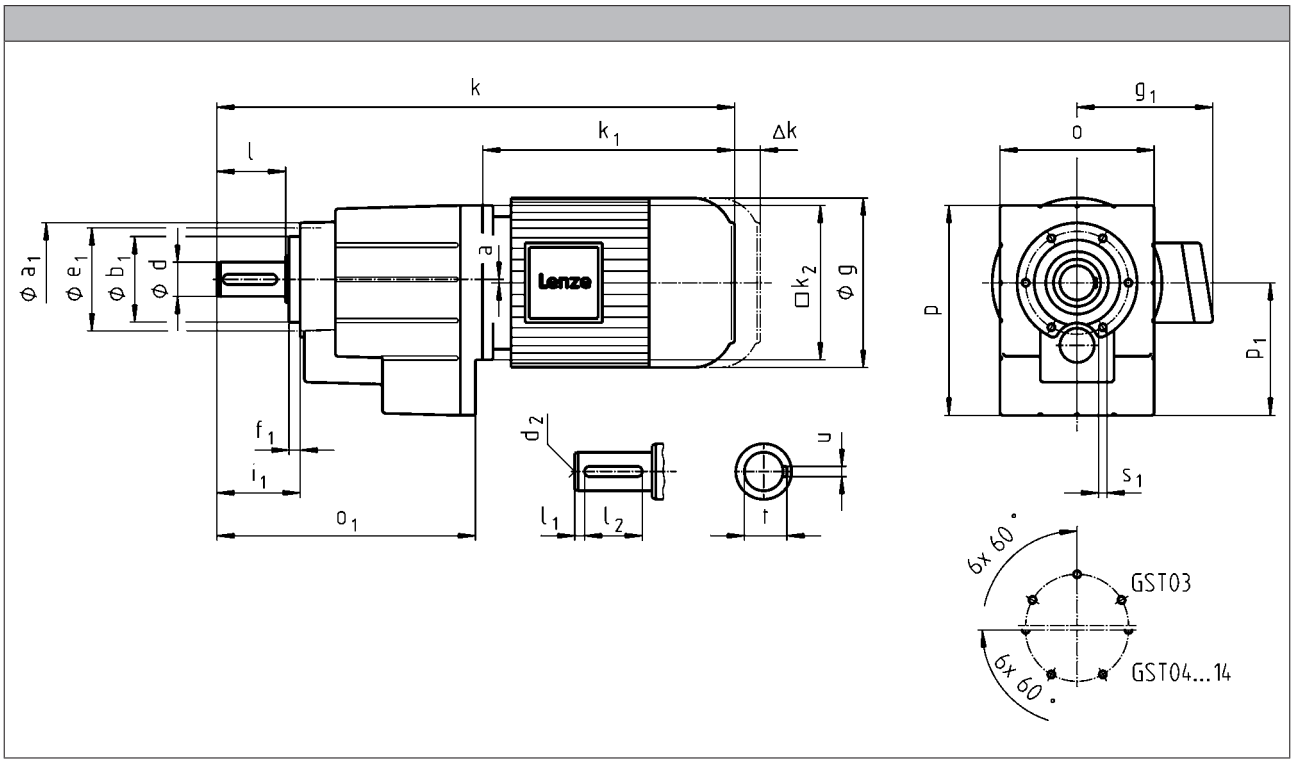
| | d<br>k6 | d<br>m6 | $d_2$ | l | $l_1$ | $l_2$ | u | t | i | $i_5$ | $o_1$ | $b_5$ | $b_7$ | $c_5$ | $e_5$ | $f_5$ | m | n | $n_1$ | $s_5$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GST03** | 14<br>20 | | M5<br>M6 | 28<br>40 | 4<br>5 | 20<br>28 | 5<br>6 | 16<br>22.5 | 34<br>46 | 40<br>52 | 127<br>139 | 60 | 91 | 11 | 105 | 84 | 20 | | | 6.6 |
| **GST04** | 20 | | M6 | 40 | 5 | 28 | 6 | 22.5 | 43 | 53 | 174 | 76 | 105 | 18 | 129 | 112 | 24.5 | 20 | 36 | 9 |
| **GST05** | 25 | | M10 | 50 | 4 | 40 | 8 | 28 | 53 | 66 | 214 | 90 | 125 | 23 | 155 | 139 | 32.5 | 26 | 49 | 11 |
| **GST06** | 30 | | M10 | 60 | 6 | 45 | 8 | 33 | 64 | 79 | 243 | 106 | 160 | 28 | 196 | 157 | 38 | 35 | 52 | 13.5 |
| **GST07** | 40 | | M16 | 80 | 7 | 63 | 12 | 43 | 84 | 104 | 302 | 130 | 200 | 34 | 247 | 196 | 48.5 | 45 | 66 | 18 |
| **GST09** | 50 | | M16 | 100 | 8 | 80 | 14 | 53.5 | 105 | 127.5 | 370 | 165 | 245 | 44 | 298 | 239 | 54 | 48 | 74 | 18 |
| **GST11** | | 60 | M20 | 120 | 8 | 100 | 18 | 64 | 125 | 155 | 433 | 200 | 300 | 54 | 368 | 280 | 69 | 65 | 80 | 22 |
| **GST14** | | 80 | M20 | 160 | 15 | 125 | 22 | 85 | 165 | 200 | 533 | 250 | 380 | 65 | 460 | 340 | 85 | 85 | 91 | 26 |

[1)] $k_2$ !



## Dimensions

**GST□□-2M VCR**





| | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12 | 100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|
| g | | 123 | 139 | 156 | 176 | 194 | | 218 | 258 |
| $g_1$ | MFEMAXX | 100 | 109 | 150 | 157 | 166 | | 176 | 195 |
| | MFEMABR | 107 | 118 | 132 | 137 | 147 | | 158 | 187 |
| $k_1$ | MFEMAXX | 187 | 207 | 224.5 | 274 | 324 | | 319 | 403 |
| $k_2$ | | 120 | | 145 | 180 | | | 222 | 265 |
| Δ k | MFEMABR | 40 | 52 | 73 | 68 | 76 | | 90 | 109.5 |
| | MFFMAXX | 128 | | | | 109 | | 102 | 115 |
| | MFFMABR | 170 | 165 | 183 | 181 | 170 | | 183 | 201.5 |
| | | k | | | | | | | |
| **GST03** | | 329 | | | | | | | |
| **GST04** | | 371 | 391 | 413 | | | | | |
| **GST05** | | 401 | 421 | 443 | 503 | 553 | | | |
| **GST06** | | 427 | 447 | 469 | 529 | 579 | | 580 | |
| **GST07** | | | | 525 | 585 | 635 | | 636 | 728 |
| **GST09** | | | | | 648 | 698 | | 699 | 791 |
| **GST11** | | | | | | 755 | | 756 | 848 |
| **GST14** | | | | | | | | 846 | 938 |

| | a | o[1)] | p[1)] | $p_1$ |
|---|---|---|---|---|
| **GST03** | 2 | 90 | 100 | 64 |
| **GST04** | 0 | 100 | 129 | 77 |
| **GST05** | 1 | 115 | 156 | 98 |
| **GST06** | 2 | 145 | 194 | 121 |
| **GST07** | 3 | 180 | 245 | 155 |
| **GST09** | 4 | 222 | 304 | 194 |
| **GST11** | 4 | 270 | 378 | 243 |
| **GST14** | 6 | 328 | 470 | 306 |

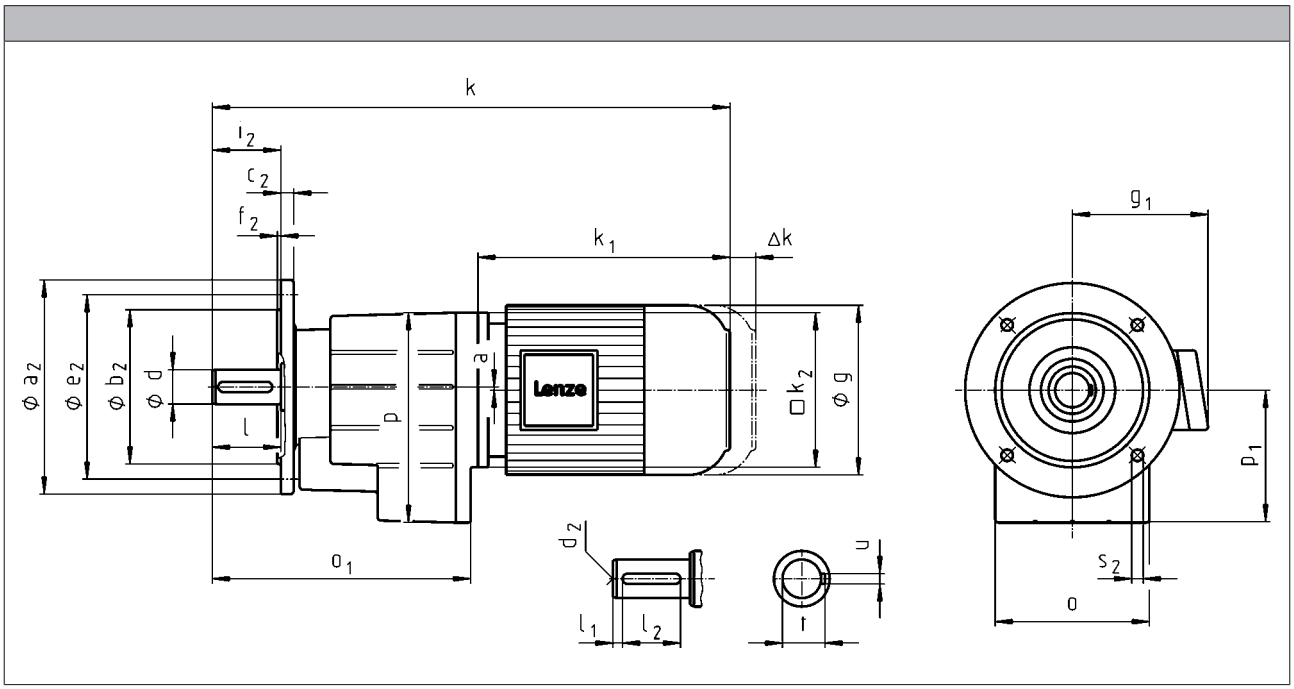
| | d | d | $d_2$ | l | $l_1$ | $l_2$ | u | t | $i_1$ | $o_1$ | $a_1$ | $b_1$ | $e_1$ | $f_1$ | $s_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | k6 | m6 | | | | | | | | | | h7 | | | |
| **GST03** | 14<br>20 | | M5<br>M6 | 28<br>40 | 4<br>5 | 20<br>28 | 5<br>6 | 16<br>22.5 | 39<br>51 | 127<br>139 | 71 | 48 | 61 | 8 | M5x10 |
| **GST04** | 20 | | M6 | 40 | 5 | 28 | 6 | 22.5 | 51 | 174 | 72 | 48 | 61 | 8 | M5x10 |
| **GST05** | 25 | | M10 | 50 | 4 | 40 | 8 | 28 | 62 | 214 | 88 | 58 | 74 | 9 | M6x12 |
| **GST06** | 30 | | M10 | 60 | 6 | 45 | 8 | 33 | 74 | 243 | 109 | 70 | 90 | 10 | M8x14 |
| **GST07** | 40 | | M16 | 80 | 7 | 63 | 12 | 43 | 97 | 302 | 140 | 100 | 120 | 13 | M10x18 |
| **GST09** | 50 | | M16 | 100 | 8 | 80 | 14 | 53.5 | 120 | 370 | 174 | 120 | 145 | 15 | M12x20 |
| **GST11** | | 60 | M20 | 120 | 8 | 100 | 18 | 64 | 143 | 433 | 215 | 150 | 185 | 18 | M16x26 |
| **GST14** | | 80 | M20 | 160 | 15 | 125 | 22 | 85 | 187 | 533 | 265 | 195 | 230 | 22 | M20x34 |

[1)] $k_2$ !



## Dimensions

**GST□□-2M VCK**





| | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12 | 100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|
| g | | 123 | 139 | 156 | 176 | 194 | | 218 | 258 |
| $g_1$ | MFEMAXX | 100 | 109 | 150 | 157 | 166 | | 176 | 195 |
| | MFEMABR | 107 | 118 | 132 | 137 | 147 | | 158 | 187 |
| $k_1$ | MFEMAXX | 187 | 207 | 224.5 | 274 | 324 | | 319 | 403 |
| $k_2$ | | 120 | | 145 | 180 | | | 222 | 265 |
| Δ k | MFEMABR | 40 | 52 | 73 | 68 | 76 | | 90 | 109.5 |
| | MFFMAXX | 128 | | | | 109 | | 102 | 115 |
| | MFFMABR | 170 | 165 | 183 | 181 | 170 | | 183 | 201.5 |
| | | k | | | | | | | |
| **GST03** | | 329 | | | | | | | |
| **GST04** | | 371 | 391 | 413 | | | | | |
| **GST05** | | 401 | 421 | 443 | 503 | 553 | | | |
| **GST06** | | 427 | 447 | 469 | 529 | 579 | | 580 | |
| **GST07** | | | | 525 | 585 | 635 | | 636 | 728 |
| **GST09** | | | | | 648 | 698 | | 699 | 791 |
| **GST11** | | | | | | 755 | | 756 | 848 |
| **GST14** | | | | | | | | 846 | 938 |

| | a | o[1)] | p[1)] | $p_1$ |
|---|---|---|---|---|
| **GST03** | 2 | 90 | 100 | 64 |
| **GST04** | 0 | 100 | 129 | 77 |
| **GST05** | 1 | 115 | 156 | 98 |
| **GST06** | 2 | 145 | 194 | 121 |
| **GST07** | 3 | 180 | 245 | 155 |
| **GST09** | 4 | 222 | 304 | 194 |
| **GST11** | 4 | 270 | 378 | 243 |
| **GST14** | 6 | 328 | 470 | 306 |

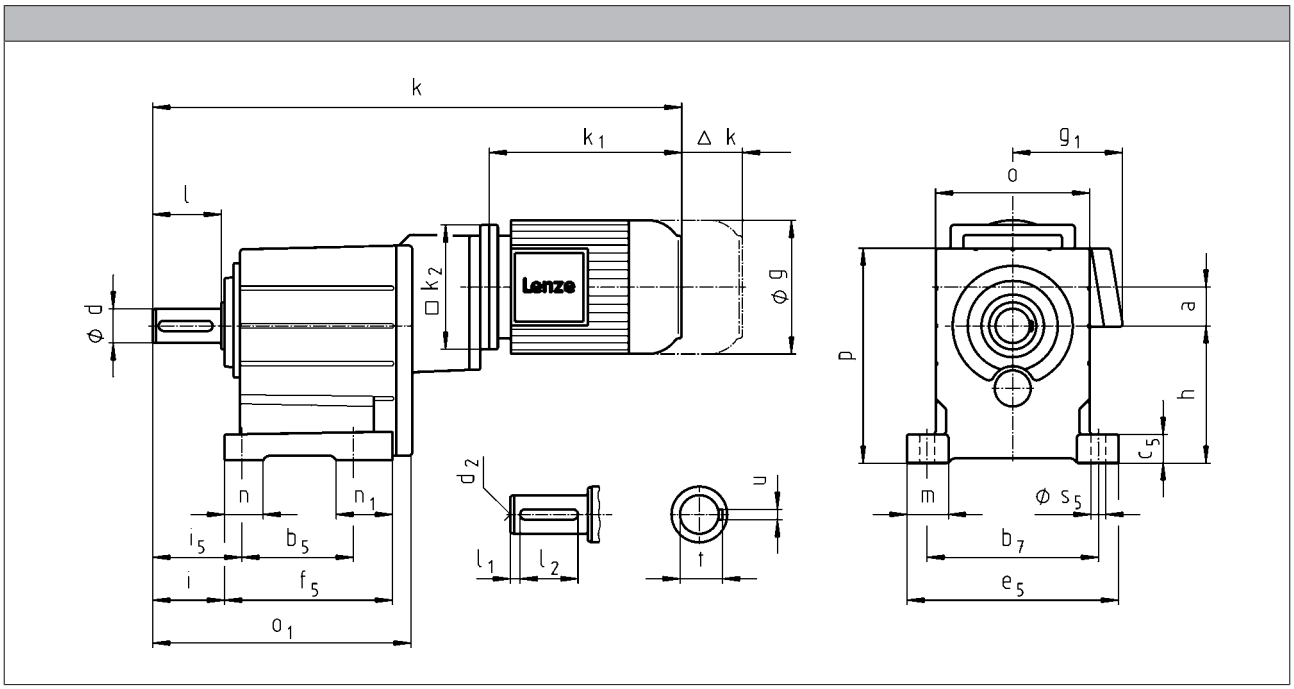
| | d<br>k6 | d<br>m6 | $d_2$ | l | $l_1$ | $l_2$ | u | t | $i_2$ | $o_1$ | $a_2$ | $b_2$<br>j7 | $c_2$ | $e_2$ | $f_2$ | $s_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GST03** | 14<br>20 | | M5<br>M6 | 28<br>40 | 4<br>5 | 20<br>28 | 5<br>6 | 16<br>22.5 | 28<br>40 | 127<br>139 | 120<br>140<br>160 | 80<br>95<br>110 | 10<br>10<br>10 | 100<br>115<br>130 | 3<br>3<br>3.5 | 7<br>9<br>9 |
| **GST04** | 20 | | M6 | 40 | 5 | 28 | 6 | 22.5 | 40 | 174 | 120<br>140<br>160 | 80<br>95<br>110 | 10<br>10<br>10 | 100<br>115<br>130 | 3<br>3<br>3.5 | 7<br>9<br>9 |
| **GST05** | 25 | | M10 | 50 | 4 | 40 | 8 | 28 | 50 | 214 | 120<br>140<br>160<br>200 | 80<br>95<br>110<br>130 | 10<br>10<br>10<br>12 | 100<br>115<br>130<br>165 | 3<br>3<br>3.5<br>3.5 | 7<br>9<br>9<br>11 |
| **GST06** | 30 | | M10 | 60 | 6 | 45 | 8 | 33 | 60 | 243 | 160<br>200 | 110<br>130 | 12<br>12 | 130<br>165 | 3.5<br>3.5 | 9<br>11 |
| **GST07** | 40 | | M16 | 80 | 7 | 63 | 12 | 43 | 80 | 302 | 200<br>250 | 130<br>180 | 14<br>15 | 165<br>215 | 3.5<br>4 | 11<br>13.5 |
| **GST09** | 50 | | M16 | 100 | 8 | 80 | 14 | 53.5 | 100 | 370 | 250<br>300 | 180<br>230 | 16<br>18 | 215<br>265 | 4<br>4 | 13.5<br>13.5 |
| **GST11** | | 60 | M20 | 120 | 8 | 100 | 18 | 64 | 120 | 433 | 300<br>350 | 230<br>250 | 18<br>20 | 265<br>300 | 4<br>5 | 14<br>18 |
| **GST14** | | 80 | M20 | 160 | 15 | 125 | 22 | 85 | 160 | 533 | 350<br>400 | 250<br>300 | 22<br>24 | 300<br>350 | 5<br>5 | 18<br>18 |

[1)] $k_2$ !



## Dimensions

**GST□□-3M VBR**




| | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 |
|---|---|---|---|---|---|
| g | | 123 | 139 | | 156 |
| $g_1$ | MFEMAXX | 100 | 109 | | 150 |
| | MFEMABR | 107 | 118 | | 132 |
| $k_1$ | MFEMAXX | 187 | 207 | | 224.5 |
| $k_2$ | | 120 | | | 145 |
| Δ k | MFEMABR | 40 | 52 | | 73 |
| | MFFMAXX | 128 | | | |
| | MFFMABR | 170 | 165 | | 183 |
| | | k | | | |
| **GST05** | | 477 | 497 | | |
| **GST06** | | 520 | 540 | | 563 |
| **GST07** | | 587 | 607 | | 630 |
| **GST09** | | 668 | 688 | | 711 |
| **GST11** | | | | | 787 |



| | | 090C32 | 100C12 | 100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|
| g | | 176 | 194 | | 218 | 258 |
| $g_1$ | MFEMAXX | 157 | 166 | | 176 | 195 |
| | MFEMABR | 137 | 147 | | 158 | 187 |
| $k_1$ | MFEMAXX | 274 | 324 | | 319 | 403 |
| $k_2$ | | 180 | | | 222 | 265 |
| Δ k | MFEMABR | 68 | 76 | | 90 | 109.5 |
| | MFFMAXX | 128 | 109 | | 102 | 115 |
| | MFFMABR | 181 | 170 | | 183 | 201.5 |
| | | k | | | | |
| **GST07** | | 689 | 739 | | | |
| **GST09** | | 770 | 820 | | 821 | |
| **GST11** | | 846 | 896 | | 897 | 989 |
| **GST14** | | 970 | 1020 | | 1021 | 1113 |

| | a | h | o[1)] | p[1)] |
|---|---|---|---|---|
| **GST05** | 35 | 100 | 115 | 158.5 |
| **GST06** | 34 | 125 | 145 | 198 |
| **GST07** | 42 | 160 | 180 | 251 |
| **GST09** | 52 | 200 | 222 | 311 |
| **GST11** | 66 | 250 | 270 | 385 |
| **GST14** | 83 | 315 | 328 | 479 |

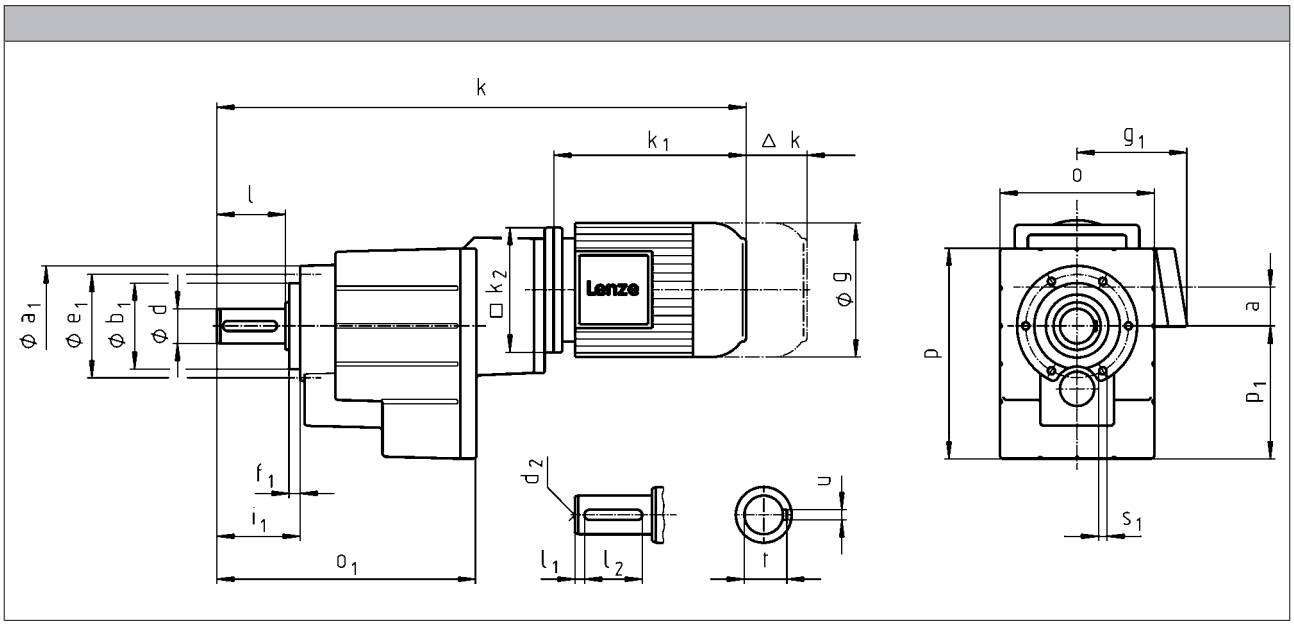
| | d | d | $d_2$ | l | $l_1$ | $l_2$ | u | t | i | $i_5$ | $o_1$ | $b_5$ | $b_7$ | $c_5$ | $e_5$ | $f_5$ | m | n | $n_1$ | $s_5$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | k6 | m6 | | | | | | | | | | | | | | | | | | |
| **GST05** | 25 | | M10 | 50 | 4 | 40 | 8 | 28 | 53 | 66 | 208 | 90 | 125 | 23 | 155 | 139 | 32.5 | 26 | 49 | 11 |
| **GST06** | 30 | | M10 | 60 | 6 | 45 | 8 | 33 | 64 | 79 | 240 | 106 | 160 | 28 | 196 | 157 | 38 | 35 | 52 | 13.5 |
| **GST07** | 40 | | M16 | 80 | 7 | 63 | 12 | 43 | 84 | 104 | 302 | 130 | 200 | 34 | 247 | 196 | 48.5 | 45 | 66 | 18 |
| **GST09** | 50 | | M16 | 100 | 8 | 80 | 14 | 53.5 | 105 | 127.5 | 370 | 165 | 245 | 44 | 298 | 239 | 54 | 48 | 74 | 18 |
| **GST11** | | 60 | M20 | 120 | 8 | 100 | 18 | 64 | 125 | 155 | 433 | 200 | 300 | 54 | 368 | 280 | 69 | 65 | 80 | 22 |
| **GST14** | | 80 | M20 | 160 | 15 | 125 | 22 | 85 | 165 | 200 | 533 | 250 | 380 | 65 | 460 | 340 | 85 | 85 | 91 | 26 |

[1)] $k_2$ !



## Dimensions

**GST□□-3M VCR**




| | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 |
|---|---|---|---|---|---|
| g | | 123 | 139 | | 156 |
| $g_1$ | MFEMAXX | 100 | 109 | | 150 |
| | MFEMABR | 107 | 118 | | 132 |
| $k_1$ | MFEMAXX | 187 | 207 | | 224.5 |
| $k_2$ | | 120 | | | 145 |
| Δ k | MFEMABR | 40 | 52 | | 73 |
| | MFFMAXX | 128 | | | |
| | MFFMABR | 170 | 165 | | 183 |
| | | k | | | |
| **GST05** | | 477 | 497 | | |
| **GST06** | | 520 | 540 | | 563 |
| **GST07** | | 587 | 607 | | 630 |
| **GST09** | | 668 | 688 | | 711 |
| **GST11** | | | | | 787 |



| | | 090C32 | 100C12 | 100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|
| g | | 176 | 194 | | 218 | 258 |
| $g_1$ | MFEMAXX | 157 | 166 | | 176 | 195 |
| | MFEMABR | 137 | 147 | | 158 | 187 |
| $k_1$ | MFEMAXX | 274 | 324 | | 319 | 403 |
| $k_2$ | | 180 | | | 222 | 265 |
| Δ k | MFEMABR | 68 | 76 | | 90 | 109.5 |
| | MFFMAXX | 128 | 109 | | 102 | 115 |
| | MFFMABR | 181 | 170 | | 183 | 201.5 |
| | | k | | | | |
| **GST07** | | 689 | 739 | | | |
| **GST09** | | 770 | 820 | | 821 | |
| **GST11** | | 846 | 896 | | 897 | 989 |
| **GST14** | | 970 | 1020 | | 1021 | 1113 |

| | a | o[1)] | p[1)] | $p_1$ |
|---|---|---|---|---|
| **GST05** | 35 | 115 | 156 | 98 |
| **GST06** | 34 | 145 | 194 | 121 |
| **GST07** | 42 | 180 | 245 | 155 |
| **GST09** | 52 | 222 | 304 | 194 |
| **GST11** | 66 | 270 | 378 | 243 |
| **GST14** | 83 | 328 | 470 | 306 |

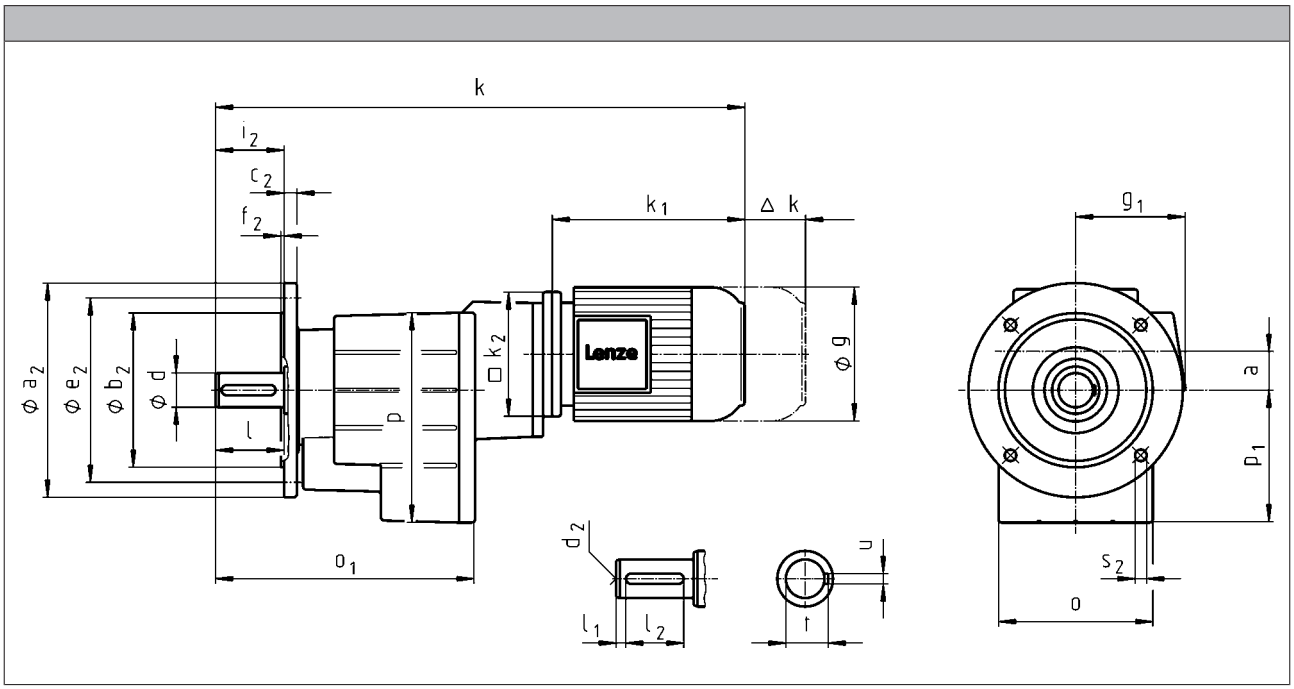
| | d | d | $d_2$ | l | $l_1$ | $l_2$ | u | t | $i_1$ | $o_1$ | $a_1$ | $b_1$ | $e_1$ | $f_1$ | $s_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | k6 | m6 | | | | | | | | | | h7 | | | |
| **GST05** | 25 | | M10 | 50 | 4 | 40 | 8 | 28 | 62 | 208 | 88 | 58 | 74 | 9 | M6x12 |
| **GST06** | 30 | | M10 | 60 | 6 | 45 | 8 | 33 | 74 | 240 | 109 | 70 | 90 | 10 | M8x14 |
| **GST07** | 40 | | M16 | 80 | 7 | 63 | 12 | 43 | 97 | 302 | 140 | 100 | 120 | 13 | M10x18 |
| **GST09** | 50 | | M16 | 100 | 8 | 80 | 14 | 53.5 | 120 | 370 | 174 | 120 | 145 | 15 | M12x20 |
| **GST11** | | 60 | M20 | 120 | 8 | 100 | 18 | 64 | 143 | 433 | 215 | 150 | 185 | 18 | M16x26 |
| **GST14** | | 80 | M20 | 160 | 15 | 125 | 22 | 85 | 187 | 533 | 265 | 195 | 230 | 22 | M20x34 |

[1)] $k_2$ !



## Dimensions

**GST□□-3M VCK**




| | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 |
|---|---|---|---|---|---|
| g | | 123 | 139 | | 156 |
| $g_1$ | MFEMAXX | 100 | 109 | | 150 |
| | MFEMABR | 107 | 118 | | 132 |
| $k_1$ | MFEMAXX | 187 | 207 | | 224.5 |
| $k_2$ | | 120 | | | 145 |
| Δ k | MFEMABR | 40 | 52 | | 73 |
| | MFFMAXX | 128 | | | |
| | MFFMABR | 170 | 165 | | 183 |
| | | k | | | |
| **GST05** | | 477 | 497 | | |
| **GST06** | | 520 | 540 | | 563 |
| **GST07** | | 587 | 607 | | 630 |
| **GST09** | | 668 | 688 | | 711 |
| **GST11** | | | | | 787 |



| | | 090C32 | 100C12 | 100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|
| g | | 176 | 194 | | 218 | 258 |
| $g_1$ | MFEMAXX | 157 | 166 | | 176 | 195 |
| | MFEMABR | 137 | 147 | | 158 | 187 |
| $k_1$ | MFEMAXX | 274 | 324 | | 319 | 403 |
| $k_2$ | | 180 | | | 222 | 265 |
| Δ k | MFEMABR | 68 | 76 | | 90 | 109.5 |
| | MFFMAXX | 128 | 109 | | 102 | 115 |
| | MFFMABR | 181 | 170 | | 183 | 201.5 |
| | | k | | | | |
| **GST07** | | 689 | 739 | | | |
| **GST09** | | 770 | 820 | | 821 | |
| **GST11** | | 846 | 896 | | 897 | 989 |
| **GST14** | | 970 | 1020 | | 1021 | 1113 |

| | a | o[1)] | p[1)] | $p_1$ |
|---|---|---|---|---|
| **GST05** | 35 | 115 | 156 | 98 |
| **GST06** | 34 | 145 | 194 | 121 |
| **GST07** | 42 | 180 | 245 | 155 |
| **GST09** | 52 | 222 | 304 | 194 |
| **GST11** | 66 | 270 | 378 | 243 |
| **GST14** | 83 | 328 | 470 | 306 |

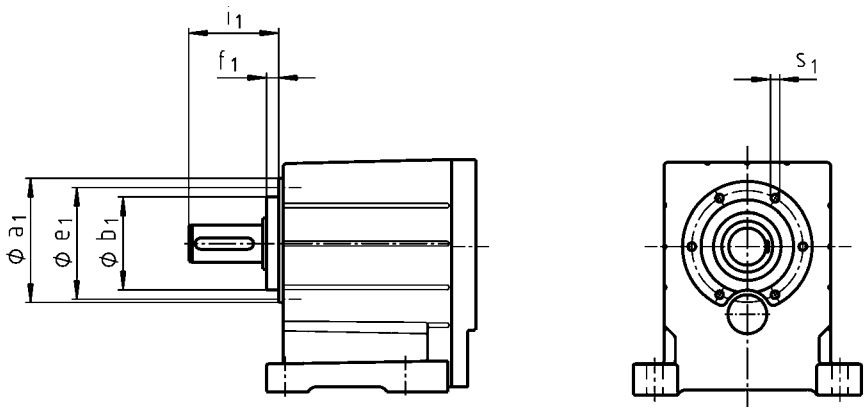
| | d | d | $d_2$ | l | $l_1$ | $l_2$ | u | t | $i_2$ | $o_1$ | $a_2$ | $b_2$ | $c_2$ | $e_2$ | $f_2$ | $s_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | k6 | m6 | | | | | | | | | | j7 | | | | |
| **GST05** | 25 | | M10 | 50 | 4 | 40 | 8 | 28 | 50 | 208 | 120<br>140<br>160<br>200 | 80<br>95<br>110<br>130 | 10<br>10<br>10<br>12 | 100<br>115<br>130<br>165 | 3<br>3<br>3.5<br>3.5 | 7<br>9<br>9<br>11 |
| **GST06** | 30 | | M10 | 60 | 6 | 45 | 8 | 33 | 60 | 240 | 160<br>200 | 110<br>130 | 12<br>12 | 130<br>165 | 3.5<br>3.5 | 9<br>11 |
| **GST07** | 40 | | M16 | 80 | 7 | 63 | 12 | 43 | 80 | 302 | 200<br>250 | 130<br>180 | 14<br>15 | 165<br>215 | 3.5<br>4 | 11<br>13.5 |
| **GST09** | 50 | | M16 | 100 | 8 | 80 | 14 | 53.5 | 100 | 370 | 250<br>300 | 180<br>230 | 16<br>18 | 215<br>265 | 4<br>4 | 13.5<br>13.5 |
| **GST11** | | 60 | M20 | 120 | 8 | 100 | 18 | 64 | 120 | 433 | 300<br>350 | 230<br>250 | 18<br>20 | 265<br>300 | 4<br>5 | 14<br>18 |
| **GST14** | | 80 | M20 | 160 | 15 | 125 | 22 | 85 | 160 | 533 | 350<br>400 | 250<br>300 | 22<br>24 | 300<br>350 | 5<br>5 | 18<br>18 |

[1)] $k_2$ !





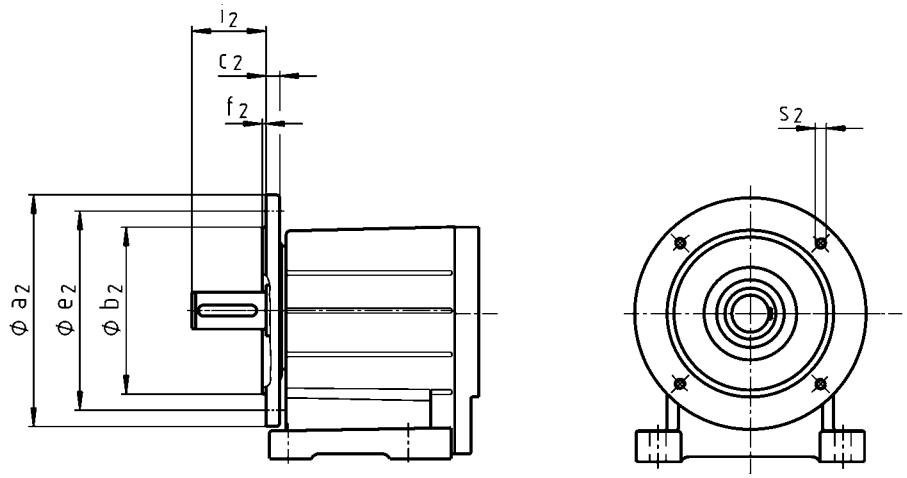
## GST□□-2/3M VAR




| | $a_1$ | $b_1$ | $e_1$ | $f_1$ | $i_1$ | $s_1$ |
|---|---|---|---|---|---|---|
| | | h7 | | | | |
| GST04 | 72 | 48 | 61 | 8.0 | 51.0 | M5x10 |
| GST05 | 88 | 58 | 74 | 9.0 | 62.0 | M6x12 |
| GST06 | 109 | 70 | 90 | 10.0 | 74.0 | M8x14 |
| GST07 | 140 | 100 | 120 | 13.0 | 97.0 | M10x18 |
| GST09 | 174 | 120 | 145 | 15.0 | 120.0 | M12x20 |
| GST11 | 215 | 150 | 185 | 18.0 | 143.0 | M16x26 |
| GST14 | 265 | 195 | 230 | 22.0 | 187.0 | M20x34 |



## GST□□-2/3M VAL

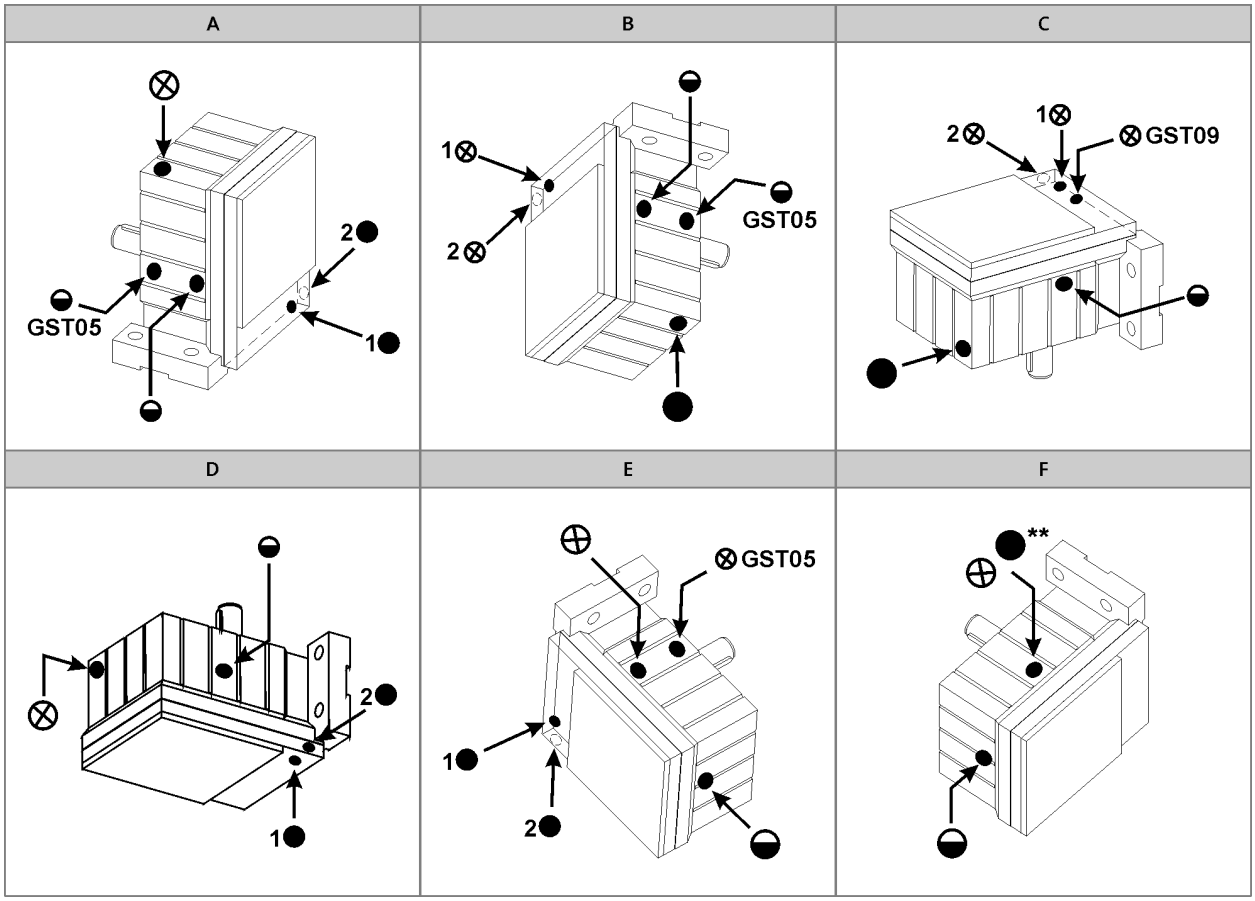



| | $a_2$ | $b_2$ | $c_2$ | $e_2$ | $f_2$ | $i_2$ | $s_2$ |
|---|---|---|---|---|---|---|---|
| | | j7 | | | | | |
| GST04 | 120<br>140 | 80<br>95 | 10<br>10 | 100<br>115 | 3.0<br>3.0 | 40 | M6<br>M8 |
| GST05 | 120<br>140<br>160 | 80<br>95<br>110 | 10<br>10<br>10 | 100<br>115<br>130 | 3.0<br>3.0<br>3.5 | 50 | M6<br>M8<br>M8 |
| GST06 | 160<br>200 | 110<br>130 | 12<br>12 | 130<br>165 | 3.5<br>3.5 | 60 | M8<br>M10 |
| GST07 | 200<br>250 | 130<br>180 | 14<br>15 | 165<br>215 | 3.5<br>4.0 | 80 | M10<br>M12 |
| GST09 | 250<br>300 | 180<br>230 | 16<br>18 | 215<br>265 | 4.0<br>4.0 | 100 | M12<br>M12 |
| GST11 | 300<br>350 | 230<br>250 | 18<br>20 | 265<br>300 | 4.0<br>5.0 | 120 | M12<br>M16 |
| GST14 | 350<br>400 | 250<br>300 | 22<br>24 | 300<br>350 | 5.0<br>5.0 | 160 | M16<br>M16 |

## Ventilations

**Position of ventilation, sealing elements and oil level check**

**GST05...09-1**



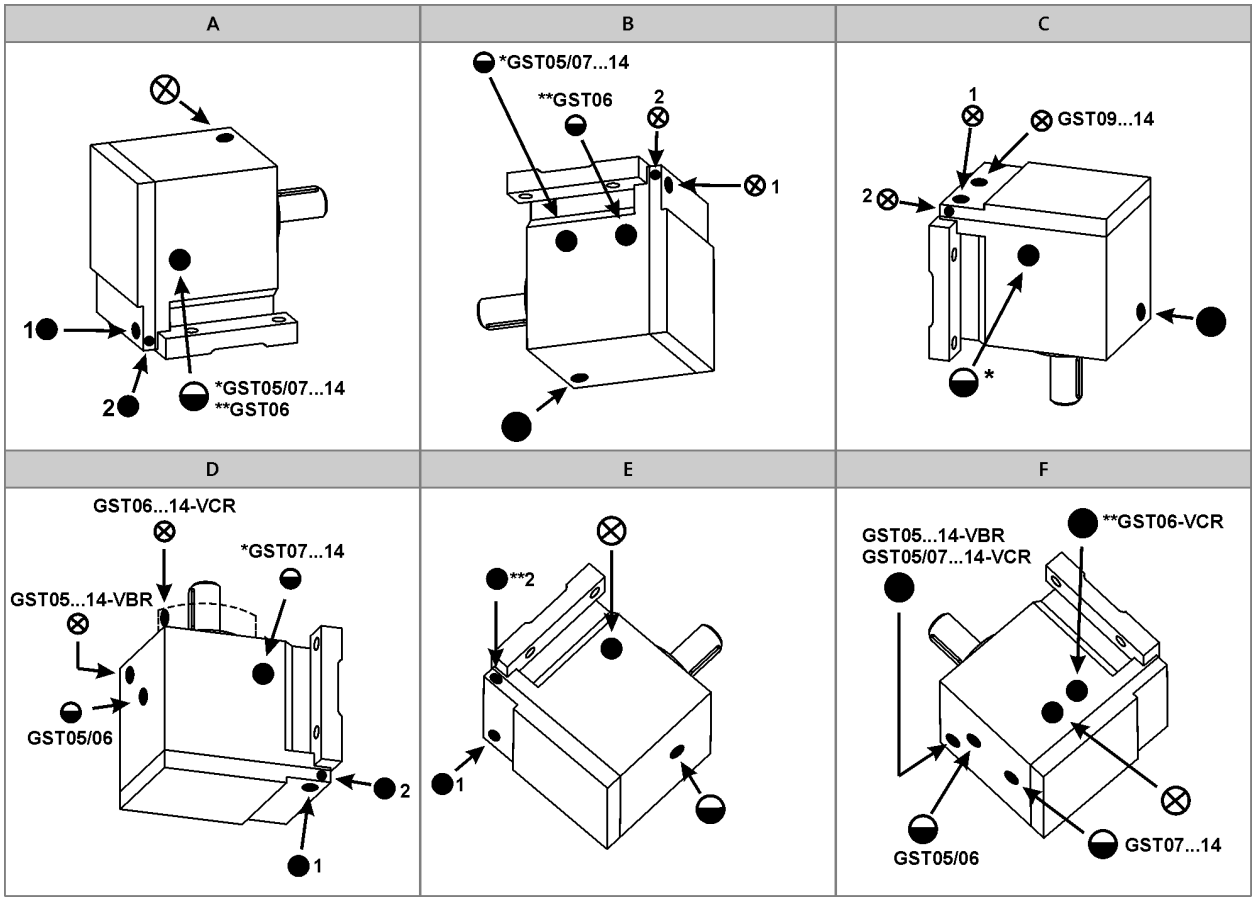

**A ... F** Mounting position
⊗ Ventilation / Oil filler plug
● Oil drain plug
◒ Oil control plug
* On both sides
** On opposite side

Item 1 standard
Item 2 only with:
- GST05-1M V□□ 090C□□
- GST05-1M V□□ 100C□□
- GST06-1M V□□ 112C□□
- GST07-1M V□□ 160C□□

## Ventilations

**Position of ventilation, sealing elements and oil level check**

**GST05...14-2**




**A ... F** Mounting position
⊗ Ventilation / Oil filler plug
● Oil drain plug
◒ Oil control plug
* On both sides
** On opposite side

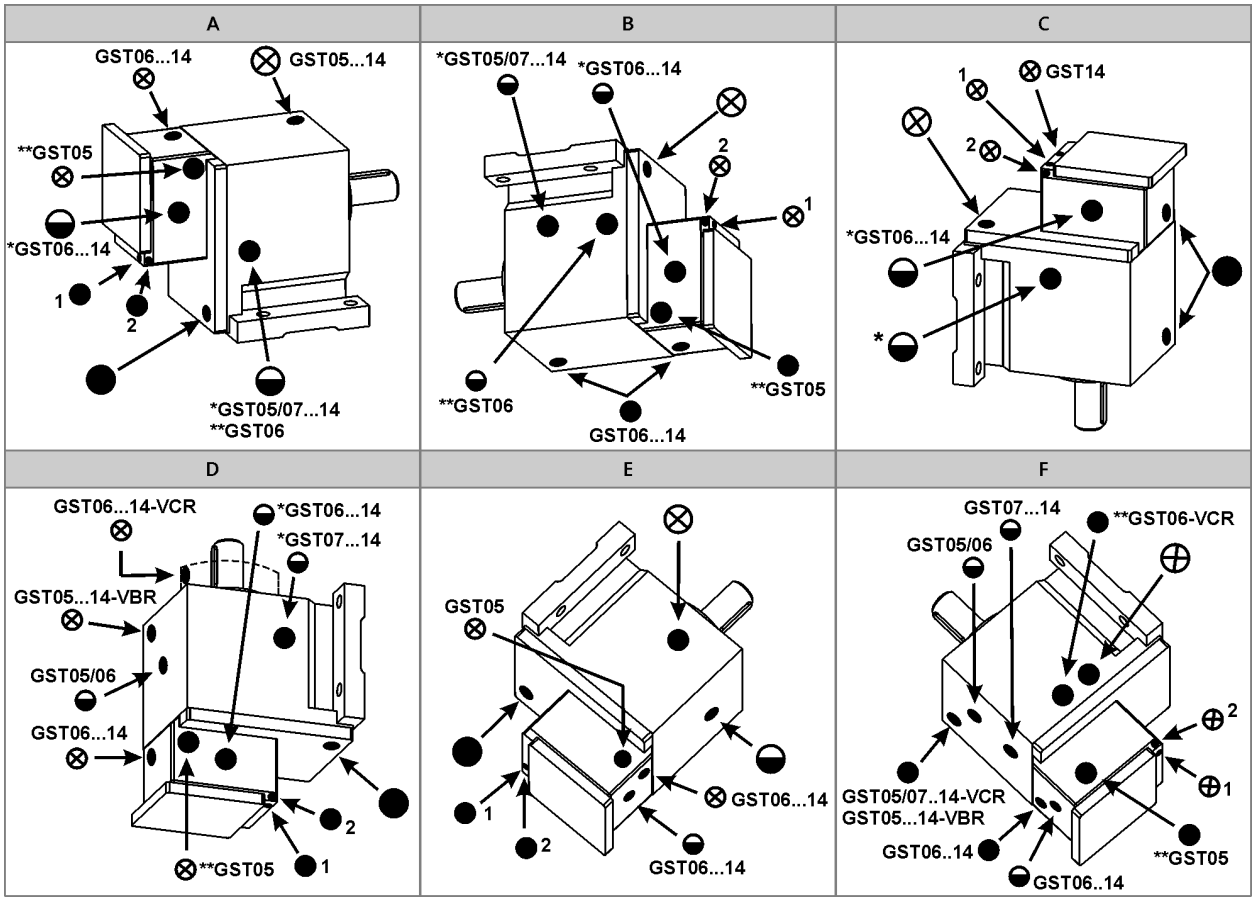
Item 1 standard
Item 2 only with:
- GST05-2M V□□ 090C□□
- GST05-2M V□□ 100C□□
- GST06-2M V□□ 112C□□
- GST07-2M V□□ 160C□□



## Ventilations

**Position of ventilation, sealing elements and oil level check**

**GST05...14-3**




**A ... F** Mounting position
⊗ Ventilation / Oil filler plug
● Oil drain plug
◒ Oil control plug
* On both sides
** On opposite side

Item 1 standard
Item 2 only with:
- GST07-3M V□□ 090C□□
- GST07-3M V□□ 100C□□
- GST09-3M V□□ 112C□□

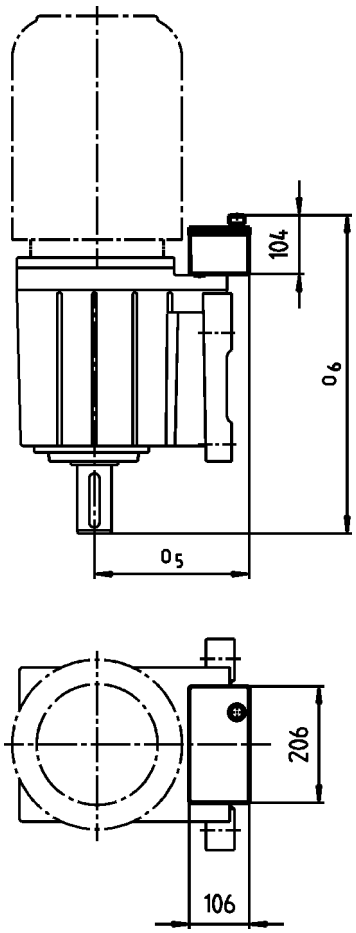
6.4



## Ventilations

### Compensation reservoir for mounting position C

**GST□□-2**




| Motor | 090<br>100 | 112 | 132 | 160<br>180<br>225 |
|---|---|---|---|---|

6.4

| | $o_5$ | $o_6$ | $o_5$ | $o_6$ | $o_5$ | $o_6$ | $o_5$ | $o_6$ |
|---|---|---|---|---|---|---|---|---|
| | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] |
| GST09 | 206 | 477 | 226 | 477 | 245 | 477 | 260 | 477 |
| GST11 | 208 | 536 | 230 | 540 | 254 | 540 | 268 | 540 |
| GST14 | | | 252 | 640 | 282 | 640 | 282 | 640 |

► Terminal box position 4 not permitted.



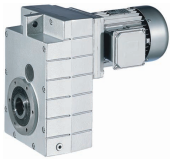


# GFL shaft-mounted helical gearboxes

**0.55 to 22 kW**



# GFL shaft-mounted helical gearboxes



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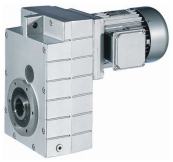
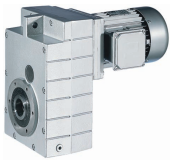


## List of abbreviations

| | | |
|---|---|---|
| $\eta_{c=1}$ | | Efficiency |
| c | | Load capacity |
| $f_N$ | [Hz] | Rated frequency |
| $F_{ax,max}$ | [N] | Max. axial force |
| $F_{rad,max}$ | [N] | Max. radial force |
| $H_{max}$ | [m] | Site altitude |
| i | | Ratio |
| J | [kgcm²] | Moment of inertia |
| m | [kg] | Mass |
| $M_2$ | [Nm] | Output torque |
| $n_2$ | [r/min] | Output speed |
| $n_N$ | [r/min] | Rated speed |
| $P_N$ | [kW] | Rated power |
| $S_{hü}$ | [1/h] | Transition operating frequency |
| $T_{opr,max}$ | [°C] | Max. ambient operating temperature |
| $T_{opr,min}$ | [°C] | Min. ambient operating temperature |
| $U_{N,\Delta}$ | [V] | Rated voltage |
| $U_{N,Y}$ | [V] | Rated voltage |

| | |
|---|---|
| CE | Communauté Européenne |
| CSA | Canadian Standards Association |
| DIN | Deutsches Institut für Normung e.V. |
| EMC | Electromagnetic compatibility |
| EN | European standard |
| IEC | International Electrotechnical Commission |
| IM | International Mounting Code |
| IP | International Protection Code |
| NEMA | National Electrical Manufacturers Association |
| UL | Underwriters Laboratory Listed Product |
| UR | Underwriters Laboratory Recognized Product |
| VDE | Verband deutscher Elektrotechniker (Association of German Electrical Engineers) |
| CCC | China Compulsory Certificate |
| GOST | Certificate for Russian Federation |
| cURus | Combined certification marks of UL for the USA and Canada |
| UkrSEPRO | Certificate for Ukraine |



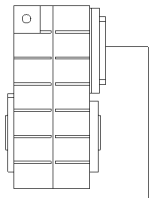
## Product key

Gearbox type | Gearbox size | Number of stages | Input design | Shaft | Output design: Housing fastening | Drive unit

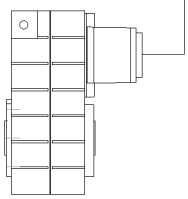
G F L [ ] [ ] - [ ] [ ] [ ] [ ] [ ] [ ] [ ] C [ ] [ ]

See page 24

**2** 2-stage



**3** 3-stage



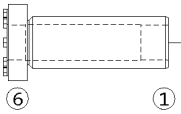
**V** Solid shaft with keyway



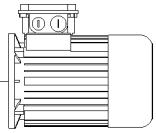
**H** Hollow shaft with keyway



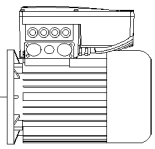
**S** Hollow shaft with shrink disc (in position 6 or 1)



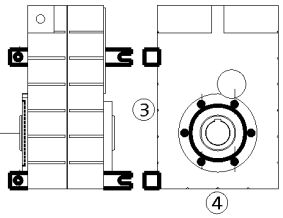

**M** Three-phase motor



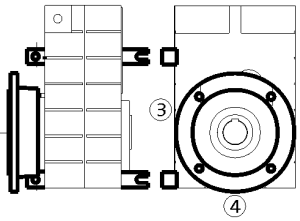
**E** Three-phase motor with 8400 motec



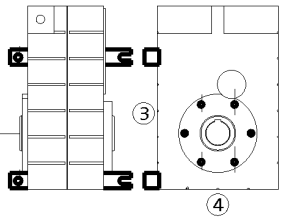
**A R** Foot (position 3 or 4) **and centring** with threaded pitch circle



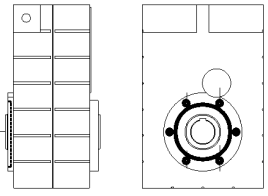

**A K** Foot (position 3 or 4) **and flange** with through holes



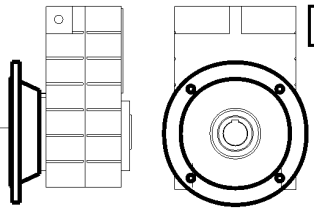

**B R** Foot (position 3 or 4) and threaded pitch circle



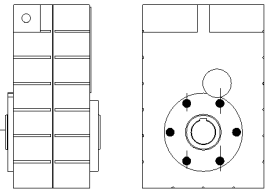

**C R** Centring with threaded pitch circle



**C K** Flange with through holes

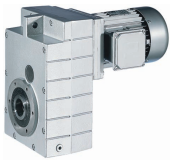


**D R** Threaded pitch circle



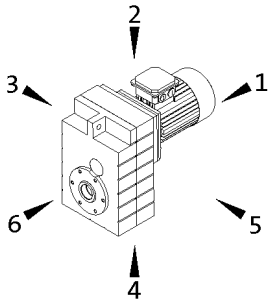
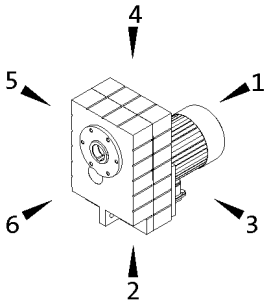
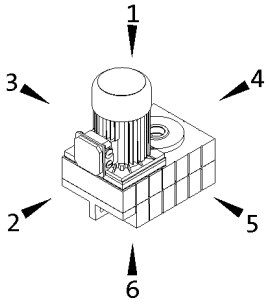
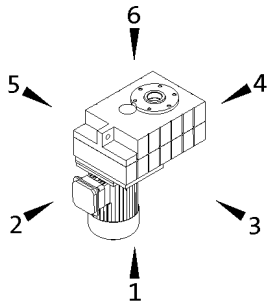
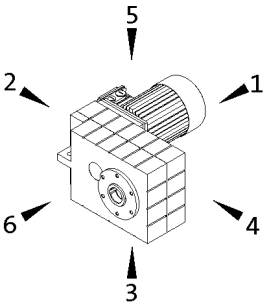
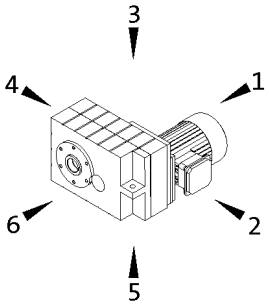
| | Output design | | | |
|---|---|---|---|---|
| | V | H | S | K |
| | d x l [mm] | d [mm] | d [mm] | Øa2 [mm] |
| GFL04-2[2)] | 25x50 | 25/30 | 25/30 | 160 |
| GFL05-2/3 | 30x60 | 30/35 | 35 | 200 |
| GFL06-2/3 | 40x80 | 40/45 | 40 | 200[1)]/250 |
| GFL07-2/3 | 50x100 | 50/55 | 50 | 250/300 |
| GFL09-2/3 | 60x120 | 60/70 | 65 | 350 |
| GFL11-2/3 | 80x160 | 70/80 | 80 | 400/450 |
| GFL14-2/3 | 100x200 | 100 | 100 | 450 |

[1)] Only in the case of H and S type of output
[2)] Output H version not possible with motor size 090



## Product key

### Mounting position (A to F) and position of system blocks (1 to 6)

| A | B | C |
|---|---|---|
|  |  |  |
| **D** | **E** | **F** |
|  |  |  |

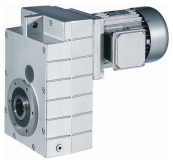
Hollow shaft: 0
Solid shaft: 6
Hollow shaft with shrink disc: 1, 6

Without foot: 0
Foot: 3, 4
Terminal box / motec: 2, 3, 4, 5

### Gearbox designs

| Basic versions | |
|---|---|
| Motor efficiency | Standard efficiency<br>Increased efficiency (IE2) |
| Surface and corrosion protection | OKS-G (primer: grey)<br>OKS-S (paint: RAL 7012) |
| Lubricant | CLP 460 (mineral) |
| Ventilation | Oil control plugs for GFL05 to 14<br>Breather elements for GFL06 ... 14 |

| Options | |
|---|---|
| Surface and corrosion protection | OKS-S (special paint according to RAL)<br>OKS-M (special paint according to RAL)<br>OKS-L (special paint according to RAL) |
| Lubricant | CLP HC 320 (synthetic)<br>CLP HC 220 USDA H1 (synthetic) |
| Shaft sealing rings | Driven shaft: Viton |
| Ventilation | Breather elements for GFL05<br>Compensation reservoir for GFL09 to 14-2 in mounting position C |
| Accessories | Rubber buffer for torque plate<br>Shrink disc cover<br>Mounting set for hollow shaft circlip |
| Nameplate | Metal nameplate (supplied loose)<br>Adhesive nameplate (supplied loose) |



## Product information

Lenze provides a geared motor construction kit, which covers a wide range of requirements. Numerous drive-side and output-side options enable precise adaptation of the drive to the specific application. This is the basis for versatile applications and functional scalability of our gearboxes and geared motors.
The modular concept and high power density make extremely compact sizes possible. Optimised teeth profiles and ground gears ensure low-noise operation and low backlash. The gearboxes are of compact and hence space-saving construction.

**Designs**

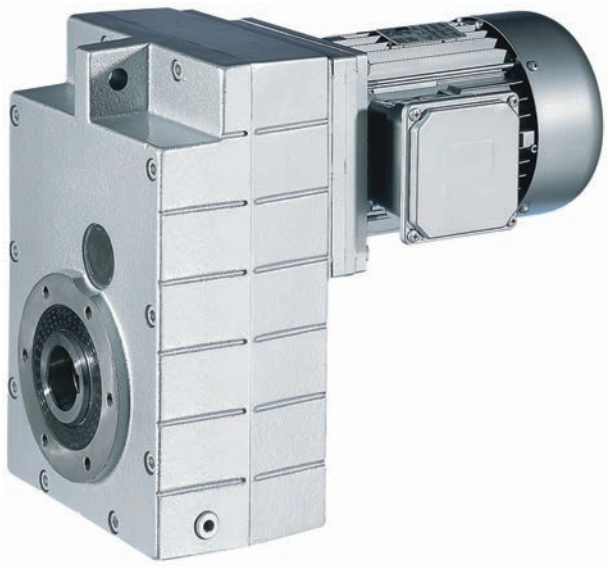
- 2-stage and 3-stage gearboxes
- Hollow shaft with keyway or shrink disc
- Solid shaft with keyway
- Foot or flange mounting
- Torque plate, including rubber buffer
- With MF three-phase AC motors (inverter-optimised) power range 0.55 ... 22 kW

**Compact and powerful**

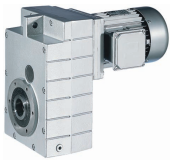
In combination with three-phase AC motors, our shaft-mounted helical gearboxes form a compact and effective drive unit. The low level of backlash of the gear teeth ensures highest precision. In addition, they can also distribute the power output and torque via an output shaft on both sides. The gearboxes are available in 2- and 3-stage versions with a torque of up to 11,615  Nm and a ratio of up to i=856.

**Inverters for motor-proximity installation**

The Drive Package with decentralised Inverter Drives 8400 motec covers a power range up to 7.5 kW.

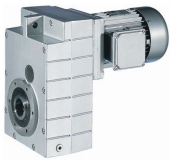


**Shaft-mounted helical geared motor GFL07-2M HCR 100-32**



## Functions and features

| Gearbox type | GFL |
|---|---|
| **Housing** | |
| Design | Cuboid |
| Material | Aluminium / cast iron |
| **Solid shaft** | |
| Design | with keyway to DIN 6885 |
| Tolerance | k6 (d ≤ 50 mm)<br>m6 (d > 50 mm) |
| Material | Tempered steel C45 or 42CrMo4 |
| **Hollow shaft** | |
| Design | H: with keyway<br>S: smooth |
| Tolerance | Bore H7 |
| Material | Tempered steel C45 |
| **Toothed part** | |
| Design | Ground tooth flanks<br>Optimised tooth flank geometry |
| Material | Case-hardened steel |
| **Shaft-hub joint** | |
| | 1st stage/prestage/helical (bevel) gearbox: Friction-type connection<br>Output stage (= 2nd, 3rd or 4th stage): Friction-type or positive-fit connection |
| **Shaft sealing rings** | |
| Design | With dust lip |
| Material | NB / FP |
| **Bearing** | |
| Design | Ball bearing / tapered-roller bearing depending on size and design |
| **Schmierstoffe** | |
| Standard | DIN 51502 |
| Quantities | corresponding to mounting position (see operating instructions) |
| **Mechanical efficiency** | |
| 1-stage gearboxes [$\eta_{c=1}$] | |
| 2-stage gearboxes [$\eta_{c=1}$] | 0.97 |
| 3-stage gearboxes [$\eta_{c=1}$] | 0.95 |
| 4-stage gearboxes [$\eta_{c=1}$] | |
| Notes | |



## Functions and features

### Lubricants

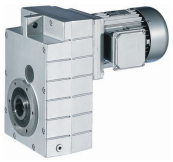
Lenze gearboxes and geared motors are ready for operation on delivery and are filled with lubricants specific to both the drive and the design. The mounting position and design specified in the order are key factors in choosing the volume of lubricant.

**The lubricants listed in the lubricant table are approved for use in Lenze drives.**

**Lubricant table**

| Mode | CLP 460 | CLP HC 320 | CLP HC 220<br>USDA H1 |
|---|---|---|---|
| Ambient temperature [°C] | 0 ... +40 | -25 ... +50 | -20 ... +40 |
| Specification | Mineral based oil with additives | Synthetic-based oil (synthetic hydrocarbon / poly-alpha-olefin oil) | |
| Note | | | For food processing industry |
| Changing interval | 16000 operating hours<br>not later than after three years (oil temperature 70 to 80 °C) | 25000 operating hours<br>not later than after three years (oil temperature 70 to 80 °C) | 16000 operating hours<br>not later than after three years (oil temperature 70 to 80 °C) |
| Fuchs | Fuchs Renolin<br>CLP 460 | Fuchs Renolin<br>Unisyn CLP 320 | bremer & leguil<br>Cassida Fluid GL 220 |
| Klüber | Klüberoil<br>GEM1-460 N | Klübersynth<br>GEM4-320 N | Klüberoil<br>4 UH1-220 N |
| Shell | Shell Omala<br>S2 G 460 | Shell Omala<br>S4 GX HD 320 | |

► Please contact your Lenze sales office if you are operating at ambient temperatures in areas up to< -20 °C bzw. > or up to +40°C.



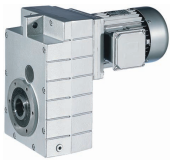
## Functions and features

### Surface and corrosion protection

For optimum protection of geared motors against ambient conditions, the surface and corrosion protection system (OKS) offers tailor-made solutions.

Various surface coatings combined with other protective measures ensure that the geared motors operate reliably even at high air humidity, in outdoor installations or in the presence of atmospheric impurities. Any colour from the RAL Classic collection can be chosen for the top coat. The geared motors are also available unpainted (no surface and corrosion protection).

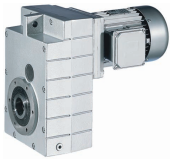
| Surface and corrosion protection system | Applications | Measures |
|---|---|---|
| | Catalogue text | Catalogue text |
| OKS-G<br>(primed) | • Dependent on subsequent top coat applied | • 2K PUR priming coat (grey)<br>• Zinc-coated screws<br>• Rust-free breather elements<br>Optional measures<br>• Stainless steel nameplate |
| OKS-S<br>(small) | • Standard applications<br>• Internal installation in heated buildings<br>• Air humidity up to 90% | • Surface coating as per corrosivity category C1 (in line with EN 12944-2)<br>• Zinc-coated screws<br>• Rust-free breather elements<br>Optional measures<br>• Stainless steel nameplate |
| OKS-M<br>(medium) | • Internal installation in non-heated buildings<br>• Covered, protected external installation<br>• Air humidity up to 95% | • Surface coating as per corrosivity category C2 (in line with EN 12944-2)<br>• Zinc-coated screws<br>• Rust-free breather elements<br>Optional measures<br>• Stainless steel shaft<br>• Stainless steel nameplate<br>• Rust-free shrink disc (on request) |
| OKS-L<br>(high) | • External installation<br>• Air humidity above 95%<br>• Chemical industry plants<br>• Food industry | • Surface coating as per corrosivity category C3 (in line with EN 12944-2)<br>• Blower cover and B end shield additionally primed<br>• Cable glands with gaskets<br>• Corrosion-resistant brake with cover ring, stainless friction plate, and chrome-plated armature plate (on request)<br>• All screws/screw plugs zinc-coated<br>• Stainless breather elements<br>• Threaded holes that are not used are closed by means of plastic plugs<br>Optional measures<br>• Sealed recesses on motor (on request)<br>• Stainless steel shaft<br>• Stainless steel nameplate<br>• Rust-free shrink disc (on request)<br>• Additional priming coat on cast iron fan<br>• Oil expansion tank and torque plates painted separately and supplied loose |



## Functions and features

### Structure of surface coating

| Surface and corrosion protection system | Corrosivity category | Surface coating | Colour |
|---|---|---|---|
| | DIN EN ISO 12944-2 | Structure | |
| Without OKS<br>(uncoated) | | Dipping primed gearbox | |
| OKS-G<br>(primed) | | Dipping primed gearbox<br>2K PUR priming coat | |
| OKS-S<br>(small) | C1 | Dipping primed gearbox<br>2K-PUR top coat | Standard: RAL 7012<br>Optional: RAL Classic |
| OKS-M<br>(medium) | C2 | Dipping primed gearbox<br>2K PUR priming coat<br>2K-PUR top coat | Standard: RAL 7012<br>Optional: RAL Classic |
| OKS-L<br>(high) | C3 | Dipping primed gearbox<br>2K PUR priming coat<br>2K-PUR top coat | Standard: RAL 7012<br>Optional: RAL Classic |



## Functions and features

**Ventilation**

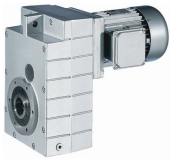
**Non-ventilated gearboxes**
No ventilation is required for the GFL04 gearbox.

**Gearboxes that may optionally be equipped with ventilation**
Special measures are not usually required when using the GFL05 gearbox. In borderline cases, e.g. at input speeds > 2000 rpm, we recommend the use of breather elements, which we can supply if required.

**Ventilated gearboxes**
The gearboxes GFL06 to 14 are supplied with breather elements as standard.

**Special measures for mounting position C (motor on top)**
We recommend that an oil compensation reservoir is always used with gearbox sizes G□□09 to 14 in this mounting position. This reservoir can be purchased as an option. For illustrations and measures, please refer to the Accessories chapter.

This is not required at higher ratios or low input speeds. Please contact Lenze for confirmation in this case.



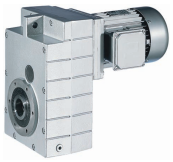
## Dimensioning

**General information about the data provided in this catalogue**

**Powers, torques and speeds**
The powers, torques and speeds specified in this catalogue are rounded values and are valid under the following conditions:

- Operating time/day = 8 h (100% OT)
- Duty class I for up to 10 switching operations/h
- Mounting positions and designs in this catalogue
- Standard lubricant
- $T_{amb}$ = 20 °C for gearboxes,
  $T_{amb}$ = 40 °C for motors (in accordance with EN 60034)
- Site altitude < = 1000 m amsl
- The selection tables provide the permissible mechanical powers and torques. For notes on the thermal power limit, see chapter drive dimensioning.
- The rated power specified for motors and geared motors applies to operating mode S1 (in accordance with EN 60034).

Under different operating conditions, the values obtained may vary from those listed here.
In the case of extreme operating conditions, please consult your Lenze sales office.



## Dimensioning

### Thermal power limit

The thermal power limit, defined by the heat balance, limits the permissible gearbox continuous power. It may be less than the mechanical power ratings listed in the selection tables.

The thermal power limit is affected by:
- the churning losses in the lubricant. These are determined by the mounting position and the circumferential speed of the wheels
- the load and the speed
- the ambient conditions: temperature, air circulation, input or dissipation via shafts and the foundation

Please consult your Lenze sales office
- if the following input speeds $n_1$ are exceeded on a continuous basis (continuous is defined as more than 8 h/day):

| Motor frame size | Mounting position A, B, E, F | Mounting position C, D |
|---|---|---|
| 063 ... 100 | 3000 r/min | 3000 r/min |
| 112 ... 132 | 3000 r/min | 1500 r/min |
| 160 ... 225 | 2000 r/min | 1500 r/min |

- if the following input speeds $n_1$ are exceeded:

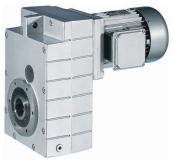
| Motor frame size | Mounting position A, B, E, F | Mounting position C, D |
|---|---|---|
| 063 ... 100 | 4000 r/min | 3000 r/min |
| 112 ... 132 | 4000 r/min | 2000 r/min |
| 160 ... 225 | 3000 r/min | 1500 r/min |

- or if you are using the following gearbox type, size and ratio combinations at an input speed of $n_1 > 1500$ r/min:

| Gearbox type | Gearbox size | Ratio i |
|---|---|---|
| GFL shaft-mounted helical gearbox | 07, 09, 11, 14 | ≤ 16 |

### Possible ways of extending the application area

- synthetic lubricant (option)
- shaft sealing rings made from FP material/Viton (option)
- reduction in lubricant quantity
- cooling of the geared motor by means of air convection on the machine/system



## Dimensioning

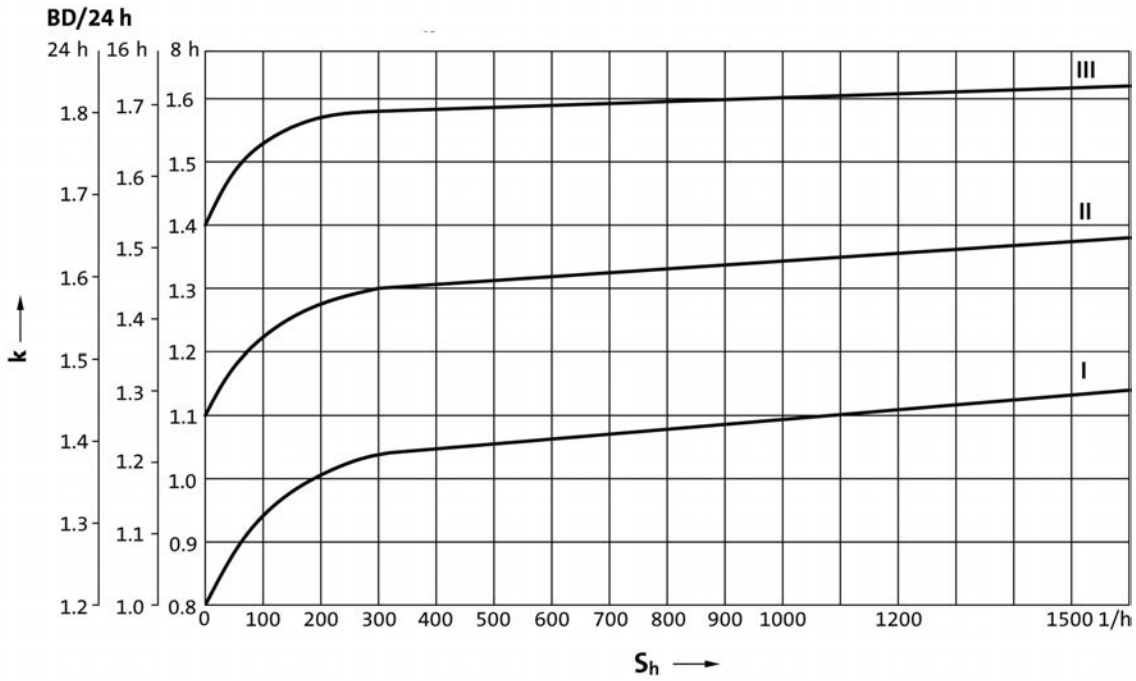
### Load capacity and application factor

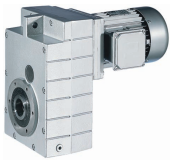
**Load capacity c of gearbox**
Rated value for the load capacity of Lenze geared motors.
- c is the ratio of the permissible rated torque of the gearbox to the rated torque supplied by the drive component (e.g. the built-in Lenze motor).
- The value of c must always be greater than the value of the application factor k calculated for the application.

**Application factor k (according to DIN 3990)**
Takes into account the influence of temporally variable loads which are actually present during the anticipated operating time of gearboxes and geared motors.
k is determined by:
- the type of load
- the load intensity
- temporal influences

| Duty class | Load type |
|---|---|
| I | Smooth operation, small or light jolts |
| II | Uneven operation, average jolts |
| III | Uneven operation, severe jolts and/or alternating load |

**Application factor k**



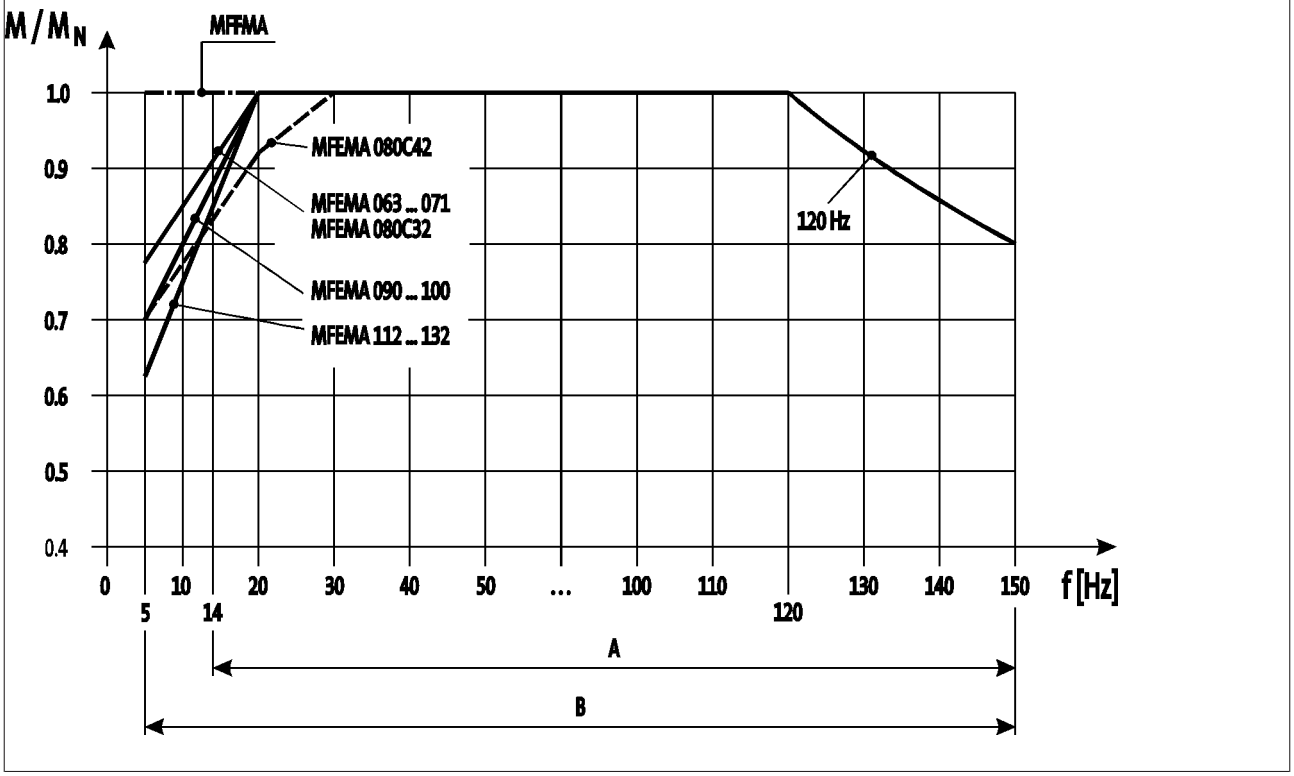


## Dimensioning

**Torque derating at low motor frequencies**

Motor size-dependent torque reduction, taking into account the thermal response during operation on the inverter.

**Torque characteristics**




A = Operation with integral fan and brake
B = Operation with integral fan and brake control "Holding current reduction"

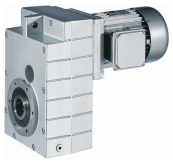
► The motor specifications stated in this catalogue for inverter operation apply to operation with a Lenze inverter. If you are uncertain, get in touch with the manufacturer of the inverter to ask whether the device is capable of driving the motor with the stated specifications (e.g. setting range, base frequency).

6.6

**You can use the Drive Solution Designer for precise drive dimensioning.**

The Drive Solution Designer helps you to carry out a fast and high-quality drive dimensioning.
The software includes well-founded and proven knowledge on drive applications and electro-mechanical drive components.

Please contact your Lenze sales office.



## Dimensioning

### Notes on the selection tables

The selection tables show the available combinations of gearbox type, number of stages, ratio and motor. They are used only to provide basic orientation.
The following legend indicates the structure of the selection tables.

**Gearbox type**

GST helical gearbox

Technical data



Selection tables

**Rated power $P_N$ of the drive motor in relation to the rated frequency**

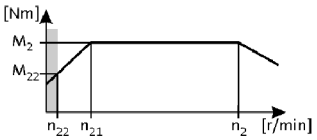
► 120 Hz: $P_N$ = 0.55 kW

**Speed setting range**

$n_{22}/n_2$ = 1 ... 24.0

**Speed range of the drive motor**

$n_1$ = 143.3 ... 3440 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 70 | 293 | - | 1680 | 2.3 | 3.0 | 4.5 | 2.048 | GST04-1M□□□063C32 | E84AV□□□5514□□0 | 79 |
| 64 | 268 | - | 1536 | 2.6 | 3.0 | 3.9 | 2.240 | GST05-1M□□□063C32 | E84AV□□□5514□□0 | 79 |

**Product key of geared motor**

**Product key of inverter**

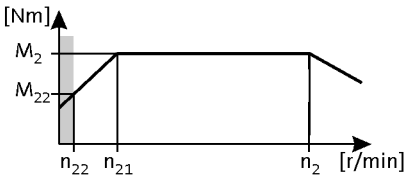
**Speed and torque information**

**Ratio i**

**Page number for dimensions**

**Speed and torque information**

The speed and torque information applies to self-ventilated and forced-ventilated drives. Externally cooled drives can always output the torque $M_2$ in all the setting ranges. In the case of self-ventilated drives, a reduction to $M_{22}$ is necessary in the lower speed range.

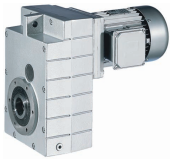



The following applies to self-ventilated geared motors: $n_{22}$ is the minimum speed at which the torque $M_{22}$ is permissible. From $n_{21}$ to $n_2$, the maximum torque is $M_2$. The following applies to forced-ventilated geared motors: From the minimum speed $n_{22}$ to $n_2$, the maximum torque is $M_2$

**The load capacity c of the gearbox c is the ratio of the gearbox's rated torque to the rated torque of the three-phase motor (calculated in respect of its application to the output shaft). c must always be greater than the application factor k determined for the application.**

$$c = \frac{M_{2,zul}}{M_{1N} \cdot i \cdot \eta_{Getr}} > k$$

6.6



## Notes on ordering

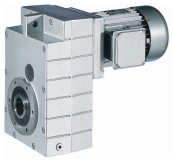
**We want to be sure that you receive the correct products in good time.**

To allow us to achieve this we need:
- your address and your company data
- our product key for the individual products in this catalogue
- your delivery date and delivery address

**Ordering procedure**
Please use the ordering information checklist to ensure that you provide all the ordering information required for the various products.

The ordering information checklist, the product key, the basic versions, options, mounting position and position of the system blocks will be found in the General – Product key section.

A list of Lenze's worldwide sales offices can be found on the Internet: www.Lenze.com.



## Ordering details checklist

☐ **Offer**

Page __ of __

☐ **Order**

**Customer No.**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| | | | | | | | |

**Job No.**

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |

**Fax No.** _____

### Sender

Company

Made out by (name)

Street/P.O. Box

Department

P.O. Box, City

Telephone No.

Date Signature

**Delivery address (if different)**

Street/P.O. Box

Desired delivery date

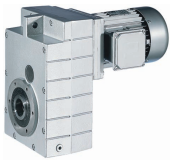
P.O. Box, City

Dispatching notes

**Invoice recipient (if different)**

Street/P.O. Box

Postal code, City



## Ordering details checklist

**Customer No.** ☐☐☐☐☐☐☐☐

**Job No.** ☐☐☐☐☐☐☐☐☐☐

Page __

**Quantity** ☐

**Efficiency class** ☐ Standard efficiency ☐ High efficiency (IE2)

**Rated frequency** ☐ 50 Hz ☐ 60 Hz ☐ 87 Hz

**Ratio i** ☐

**GFL** ☐☐ – ☐ 2 / 3 ☐ M / E ☐ V / H / S

☐ A / B / C / D ☐ R / K

Motor frame size ☐☐☐C☐☐

Hollow shaft d = ☐ mm

Flange $a_2$ = ☐ mm

**Mounting position** A ☐ B ☐ C ☐ D ☐ E ☐ F ☐

**Position of system blocks**

Shaft/shrink disc: 0 ☐ 6 ☐ 1 ☐

Foot: 0 ☐ 3 ☐ 4 ☐

Terminal box: 2 ☐ 3 ☐ 4 ☐ 5 ☐

**Surface and corrosion protection** ☐ OKS-S colour: RAL 7012 ☐ OKS-G (primed)

## Options

**Special lubricants** ☐ CLP HC 320 (synthetic) ☐ CLP HC 220 USDA H1 (for the food industry)

**Surface and corrosion protection** ☐ OKS-S (small) ☐ OKS-M (medium) ☐

☐ OKS-L (high) ☐ OKS-G (primed)

**Accessories** ☐ Rubber buffer for torque support

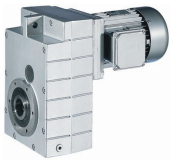
☐ Mounting set for hollow-shaft circlip

☐ Hollow shaft cover, hoseproof

**Shaft sealing rings** ☐ Viton

**Breathing** ☐ Breather elements for GFL05 ☐ Compensation reservoir in mounting position for GFL09 ... 14-2

6.6



## Ordering details checklist

**Three-phase AC motors options**

**Customer No.** ☐☐☐☐☐☐☐☐

**Job No.** ☐☐☐☐☐☐☐☐☐☐

Page __

**Motor connection**

Terminal box
- ☐ with plug-in connector ICN 6-pin. Adhere to permissible rated motor current 20 A!
- ☐ with plug-in connector ICN 8-pin. Adhere to permissible rated motor current 20 A!
- ☐ with plug-in connector HAN10E. Adhere to permissible rated current 16 A!
- ☐ with plug-in connector HAN-Modular. Adhere to permissible rated current 16 / 40 A!

Cable entry
only with M□□MAXX/LL063 ... 132
or terminal box with plug-in connector
in position 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐

**Blower**

☐ 1~ ☐ 3~

☐ Terminal box with plug-in connector ICN

Terminal box position 2 ☐ 3 ☐ 4 ☐ 5 ☐

**Spring-applied brake**

Brake version ☐ Standard ☐ Longlife

Brake size ☐

Characteristic torque ☐ Nm

Rated voltage AC ☐ DC ☐ ☐ V

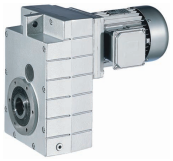
Rectifier
Only in the case of AC supply voltage

- ☐ Half-wave rectifier
- ☐ Bridge rectifier
- ☐ Bridge/half-wave rectifier (overexcitation)
- ☐ Bridge/half-wave rectifier (holding current reduction)

Brake options
Manual release lever in position 2 ☐ 3 ☐ 4 ☐ 5 ☐

☐ Low-noise version (Standard in the case of brake with speed/position encoder)

6.6



## Ordering details checklist

**Three-phase AC motors options**

**Customer No.** ☐☐☐☐☐☐☐☐

**Job No.** ☐☐☐☐☐☐☐☐☐☐

Page __

**Speed/position encoder**

| | | | | | |
|---|---|---|---|---|---|
| Resolver | ☐ RS1 | | | | |
| Incremental encoder HTL | ☐ IG128-24V-H | ☐ IG512-24V-H | ☐ IG1024-24V-H | ☐ IG2048-24V-H | |
| Incremental encoder TTL | | ☐ IG512-5V-T | ☐ IG1024-5V-T | ☐ IG2048-5V-T | |
| Feedback with ICN connector | ☐ IG128-24V-H not possible with plug-in connector! | | | | |

**Motor protection**

☐ PTC ☐ KTY 83-110 ☐ KTY 84-130

**Approval**

☐ UL/CSA approval: cURus ☐ CCC ☐ China Energy Label

**Further options**

Indication of supply voltage only for motor frame sizes 112C32 to 225C22

☐ Δ; 400V-50Hz; 460V-60Hz

☐ Y/Δ; 400/230V-50Hz; 460/265V-60Hz (-/400V-87Hz possible in operation with frequency inverter)

☐ Protection cover

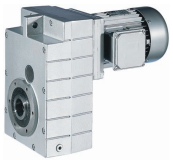
☐ 2nd shaft end

☐ Handwheel

☐ Increased centrifugal mass

☐ 2nd nameplate (adhesive nameplate/metal nameplate)

6.6



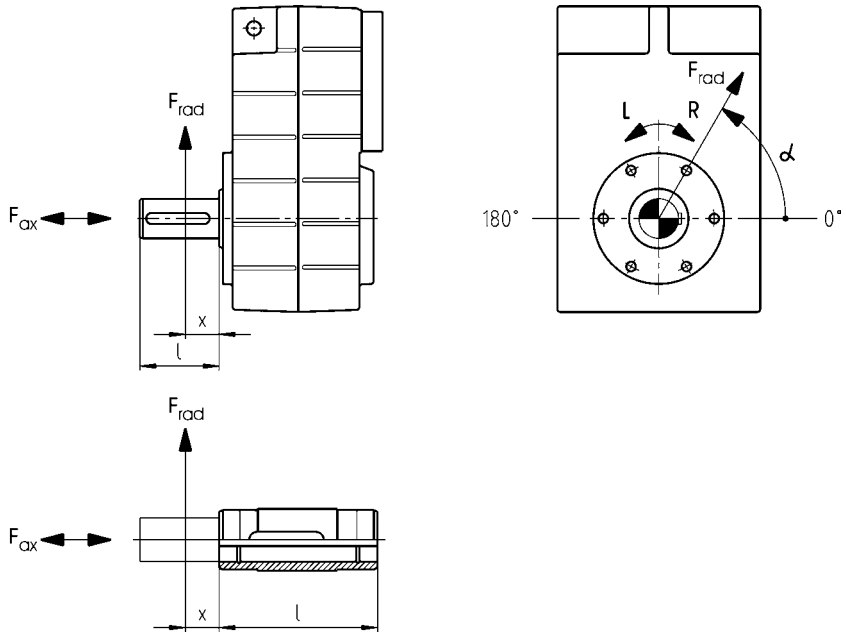
## Permissible radial and axial forces at output

**Permissible radial force**
$F_{rad,per} = \min(f_w \times f_\alpha \times F_{rad,max}\ ;\ f_w \times F_{rad,max}$ at $n_2 \leq 16$ r/min)

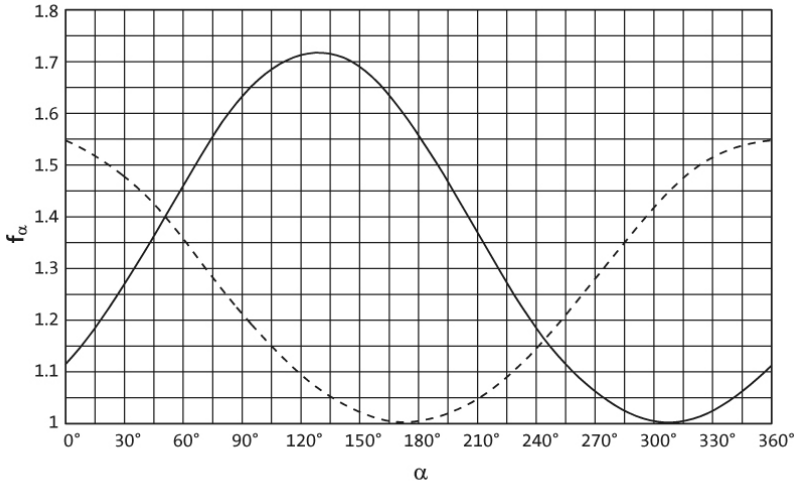
**Permissible axial force**
$F_{ax,per} = F_{ax,max}$ if $F_{rad} = 0$

If $F_{rad}$ **and** $F_{ax} \neq 0$, please contact your Lenze sales office.

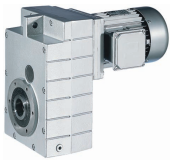
**Application of forces**




**Effective direction factor $f_\alpha$ at output shaft**

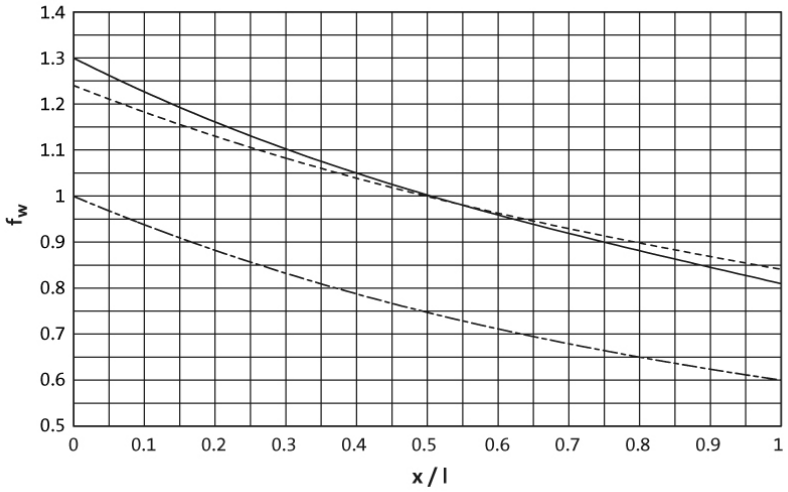



——— Direction of rotation R
— — — Direction of rotation L



## Permissible radial and axial forces at output

**Additional load factor $f_w$ at output shaft**




——— Solid shaft (V□□)
— · — Hollow shaft (H□□)
— — — Solid shaft with flange (V□K)

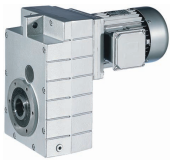
**GFL□□-2/3□ H□□**

| Size | $n_2$ [r/min] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Gearbox | 1000 | 630 | 400 | 250 | 160 | 100 | 63 | 40 | 25 | ≤16 |

| | Max. radial force, Hollow shaft | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ |
| | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] |
| GFL04 | 2100 | 2700 | 2800 | 3200 | 3800 | 4600 | 5500 | 6300 | 7000 | 7000 |
| GFL05 | 1800 | 2400 | 3000 | 3400 | 4100 | 5000 | 6000 | 7100 | 8000 | 8000 |
| GFL06 | 2400 | 3300 | 4300 | 4700 | 5000 | 6600 | 8500 | 10800 | 12000 | 12000 |
| GFL07 | 2200 | 3400 | 4500 | 5100 | 6400 | 7900 | 9300 | 11500 | 15000 | 16000 |
| GFL09 | | | 5000 | 6000 | 7200 | 10500 | 13000 | 15000 | 22000 | 24000 |
| GFL11 | | | 7300 | 8700 | 10000 | 14200 | 19000 | 23000 | 27000 | 30000 |
| GFL14 | | | 8000 | 9000 | 9500 | 11500 | 14000 | 18000 | 30000 | 45000 |

| | Max. axial force, Hollow shaft | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ |
| | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] |
| GFL04 | 1300 | 1700 | 2200 | 2600 | 3200 | 4200 | 5300 | 5500 | 5500 | 5500 |
| GFL05 | 1600 | 2200 | 2800 | 3600 | 4200 | 5900 | 6600 | 6600 | 6600 | 6600 |
| GFL06 | 2400 | 3200 | 4000 | 5200 | 6000 | 8500 | 10000 | 10000 | 10000 | 10000 |
| GFL07 | 2000 | 2700 | 3400 | 4700 | 6000 | 8500 | 12000 | 14000 | 14000 | 14000 |
| GFL09 | | | 3100 | 4200 | 5800 | 10000 | 13500 | 17000 | 21000 | 21000 |
| GFL11 | | | 4700 | 6000 | 7500 | 14000 | 19000 | 25000 | 27000 | 27000 |
| GFL14 | | | 4000 | 5000 | 6200 | 7500 | 11000 | 17500 | 31000 | 35000 |

- Application of force $F_{rad}$: at hollow shaft end face (x = 0)
- $F_{ax,max}$ only valid with $F_{rad}$ = 0
- Neither radial nor axial forces are permissible for the hollow shaft with shrink disc (S□□).



## Permissible radial and axial forces at output

**GFL□□-2/3□ V□R**

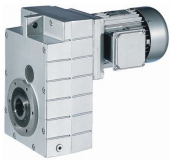
| Size | $n_2$ [r/min] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Gearbox | 1000 | 630 | 400 | 250 | 160 | 100 | 63 | 40 | 25 | ≤16 |

| | Max. radial force, Solid shaft without flange | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ |
| | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] |
| GFL04 | 1650 | 2100 | 2300 | 2700 | 3200 | 3600 | 3600 | 3600 | 3600 | 3600 |
| GFL05 | 1400 | 1900 | 2400 | 2700 | 3200 | 4000 | 4800 | 5800 | 6200 | 6200 |
| GFL06 | 1850 | 2500 | 3200 | 3600 | 3900 | 5100 | 6500 | 8400 | 9000 | 9000 |
| GFL07 | 1650 | 2600 | 3200 | 3600 | 3900 | 5100 | 6500 | 8400 | 9000 | 9000 |
| GFL09 [1] | | | 3800 | 4400 | 5500 | 8000 | 10000 | 12000 | 18000 | 18000 |
| GFL11 [1] | | | 5500 | 6300 | 7300 | 11200 | 14500 | 17400 | 20500 | 23000 |
| GFL14 | | | 47000 | 54000 | 62000 | 65000 | 65000 | 65000 | 65000 | 65000 |

| | Max. axial force, Solid shaft without flange | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ |
| | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] |
| GFL04 | 1300 | 1700 | 2200 | 2600 | 3200 | 4200 | 5300 | 5500 | 5500 | 5500 |
| GFL05 | 1600 | 2200 | 2800 | 3600 | 4200 | 5900 | 6600 | 6600 | 6600 | 6600 |
| GFL06 | 2400 | 3200 | 4000 | 5200 | 6000 | 8500 | 10000 | 10000 | 10000 | 10000 |
| GFL07 | 2000 | 2700 | 3400 | 4700 | 6000 | 8500 | 12000 | 14000 | 14000 | 14000 |
| GFL09 [1] | | | 3100 | 4200 | 5800 | 10000 | 13500 | 17000 | 21000 | 21000 |
| GFL11 [1] | | | 4700 | 6000 | 7500 | 14000 | 19000 | 25000 | 27000 | 27000 |
| GFL14 | | | 25000 | 27000 | 29000 | 32000 | 35000 | 35000 | 35000 | 35000 |

[1] Reinforced output shaft bearings are available on request for V□R versions.

- Application of force $F_{rad}$: centre of shaft journal (x = l/2)
- $F_{ax,max}$ only valid with $F_{rad}$ = 0



## Permissible radial and axial forces at output

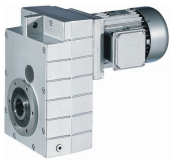
**GFL□□-2/3□ V□K**

| Size | $n_2$ [r/min] | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Gearbox | 1000 | 630 | 400 | 250 | 160 | 100 | 63 | 40 | 25 | ≤16 |

| | Max. radial force, Solid shaft with flange | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ | $F_{rad,max}$ |
| | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] |
| GFL04 | 2300 | 2800 | 3200 | 3700 | 4400 | 4600 | 4600 | 4600 | 4600 | 4600 |
| GFL05 | 2900 | 3700 | 4300 | 5100 | 5900 | 6800 | 7000 | 7000 | 7000 | 7000 |
| GFL06 | 4000 | 5000 | 6100 | 7000 | 7800 | 9600 | 10000 | 10000 | 10000 | 10000 |
| GFL07 | 4000 | 5200 | 6400 | 7400 | 8900 | 10500 | 12000 | 13000 | 14000 | 14000 |
| GFL09 | | | 7800 | 9000 | 10500 | 14000 | 15000 | 15000 | 15000 | 15000 |
| GFL11 | | | 12500 | 14500 | 17000 | 21500 | 26000 | 30000 | 30000 | 30000 |
| GFL14 | | | 18000 | 20000 | 23000 | 27500 | 32000 | 38000 | 43000 | 43000 |

| | Max. axial force, Solid shaft with flange | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ | $F_{ax,max}$ |
| | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] | [N] |
| GFL04 | 1300 | 1700 | 2200 | 2600 | 3200 | 4200 | 4400 | 4400 | 4400 | 4400 |
| GFL05 | 1800 | 2400 | 3100 | 3900 | 4800 | 6400 | 6600 | 6600 | 6600 | 6600 |
| GFL06 | 2500 | 3400 | 4300 | 5500 | 6500 | 8500 | 10000 | 10000 | 10000 | 10000 |
| GFL07 | 3600 | 4800 | 6100 | 6500 | 7000 | 9500 | 11500 | 11500 | 11500 | 11500 |
| GFL09 | | | 6100 | 6500 | 7000 | 9500 | 11500 | 11500 | 11500 | 11500 |
| GFL11 | | | 6800 | 8500 | 10500 | 17000 | 22000 | 27000 | 27000 | 27000 |
| GFL14 | | | 6000 | 8000 | 10000 | 13000 | 19000 | 26000 | 35000 | 35000 |

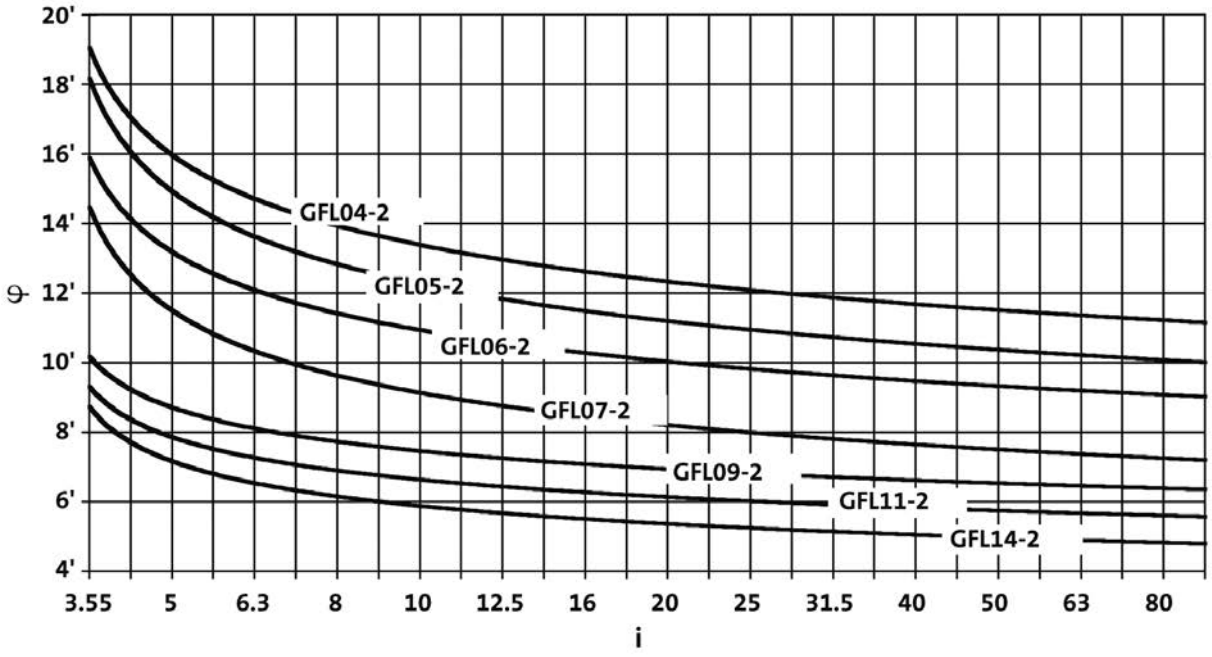
- Application of force $F_{rad}$: centre of shaft journal (x = l/2)
- $F_{ax,max}$ only valid with $F_{rad}$ = 0



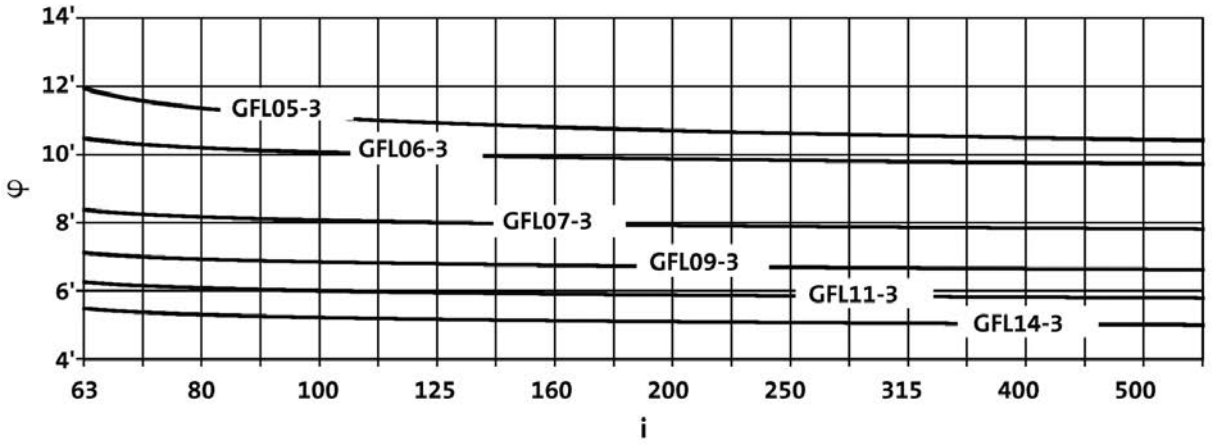
## Output backlash in angular minutes

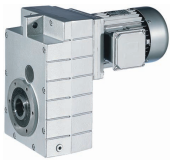
► Backlash ϕ depending on ratio i

**GFL04 to 14-2**




**GFL05 to 14-3**





## Moments of inertia

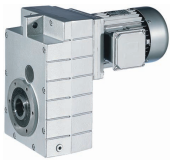
**GFL□□-2**

► Moment of inertia (J) depending on ratio i

| Gearbox | | | GFL04 |
|---|---|---|---|
| 3.659 | J | [kgcm²] | 1.510 |
| 5.018 | J | [kgcm²] | 0.858 |
| 5.833 | J | [kgcm²] | 0.925 |
| 6.422 | J | [kgcm²] | 0.555 |
| 7.025 | J | [kgcm²] | 0.473 |
| 8.379 | J | [kgcm²] | 0.666 |
| 9.333 | J | [kgcm²] | 0.613 |
| 10.238 | J | [kgcm²] | 0.366 |
| 11.491 | J | [kgcm²] | 0.410 |
| 12.800 | J | [kgcm²] | 0.382 |
| 14.706 | J | [kgcm²] | 0.282 |
| 16.087 | J | [kgcm²] | 0.245 |
| 17.920 | J | [kgcm²] | 0.230 |
| 20.519 | J | [kgcm²] | 0.171 |
| 22.857 | J | [kgcm²] | 0.163 |
| 25.136 | J | [kgcm²] | 0.129 |
| 28.000 | J | [kgcm²] | 0.123 |
| 31.600 | J | [kgcm²] | 0.086 |
| 35.200 | J | [kgcm²] | 0.082 |
| 40.697 | J | [kgcm²] | 0.058 |
| 45.333 | J | [kgcm²] | 0.056 |
| 51.579 | J | [kgcm²] | 0.038 |
| 57.455 | J | [kgcm²] | 0.037 |
| 64.636 | J | [kgcm²] | 0.026 |
| 72.000 | J | [kgcm²] | 0.025 |
| 85.156 | J | [kgcm²] | 0.016 |
| 94.857 | J | [kgcm²] | 0.015 |

| Gearbox | | | GFL05 |
|---|---|---|---|
| 3.333 | J | [kgcm²] | 1.677 |
| 4.571 | J | [kgcm²] | 2.133 |
| 5.133 | J | [kgcm²] | 2.372 |
| 5.667 | J | [kgcm²] | 2.329 |
| 6.400 | J | [kgcm²] | 0.822 |
| 7.040 | J | [kgcm²] | 1.470 |
| 7.771 | J | [kgcm²] | 1.450 |
| 9.010 | J | [kgcm²] | 0.951 |
| 9.946 | J | [kgcm²] | 0.885 |
| 11.360 | J | [kgcm²] | 1.082 |
| 12.800 | J | [kgcm²] | 1.012 |
| 14.538 | J | [kgcm²] | 0.746 |
| 15.904 | J | [kgcm²] | 0.603 |
| 17.920 | J | [kgcm²] | 0.609 |
| 20.286 | J | [kgcm²] | 0.428 |
| 22.857 | J | [kgcm²] | 0.434 |
| 24.850 | J | [kgcm²] | 0.345 |
| 28.000 | J | [kgcm²] | 0.331 |
| 32.344 | J | [kgcm²] | 0.204 |
| 36.444 | J | [kgcm²] | 0.195 |
| 40.233 | J | [kgcm²] | 0.148 |
| 45.333 | J | [kgcm²] | 0.142 |
| 52.067 | J | [kgcm²] | 0.093 |
| 58.667 | J | [kgcm²] | 0.090 |
| 63.190 | J | [kgcm²] | 0.068 |
| 71.200 | J | [kgcm²] | 0.064 |
| 80.763 | J | [kgcm²] | 0.043 |
| 91.000 | J | [kgcm²] | 0.042 |

► The moments of inertia relate to the drive shaft of the gearbox.
► The total moment of inertia is calculated by adding the values of the gearbox, motor and accessories.



## Moments of inertia

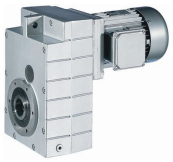
**GFL□□-2**

► Moment of inertia (J) depending on ratio i

| Gearbox | | | GFL06 |
|---|---|---|---|
| 3.675 | J | [kgcm²] | 7.755 |
| 5.211 | J | [kgcm²] | 6.636 |
| 5.750 | J | [kgcm²] | 6.044 |
| 6.450 | J | [kgcm²] | 3.651 |
| 7.147 | J | [kgcm²] | 4.044 |
| 8.400 | J | [kgcm²] | 4.264 |
| 9.463 | J | [kgcm²] | 3.879 |
| 10.092 | J | [kgcm²] | 2.520 |
| 11.520 | J | [kgcm²] | 1.730 |
| 12.978 | J | [kgcm²] | 2.610 |
| 14.743 | J | [kgcm²] | 1.950 |
| 16.128 | J | [kgcm²] | 1.680 |
| 18.169 | J | [kgcm²] | 1.570 |
| 20.571 | J | [kgcm²] | 1.190 |
| 23.175 | J | [kgcm²] | 1.130 |
| 25.200 | J | [kgcm²] | 0.904 |
| 28.389 | J | [kgcm²] | 0.861 |
| 32.800 | J | [kgcm²] | 0.581 |
| 36.951 | J | [kgcm²] | 0.556 |
| 40.800 | J | [kgcm²] | 0.425 |
| 45.963 | J | [kgcm²] | 0.407 |
| 52.800 | J | [kgcm²] | 0.264 |
| 59.481 | J | [kgcm²] | 0.251 |
| 64.080 | J | [kgcm²] | 0.193 |
| 72.189 | J | [kgcm²] | 0.187 |
| 81.000 | J | [kgcm²] | 0.125 |
| 91.250 | J | [kgcm²] | 0.121 |

| Gearbox | | | GFL07 |
|---|---|---|---|
| 3.350 | J | [kgcm²] | 19.570 |
| 4.643 | J | [kgcm²] | 11.988 |
| 5.159 | J | [kgcm²] | 11.120 |
| 5.695 | J | [kgcm²] | 18.094 |
| 6.400 | J | [kgcm²] | 9.831 |
| 7.150 | J | [kgcm²] | 11.878 |
| 8.324 | J | [kgcm²] | 13.113 |
| 9.379 | J | [kgcm²] | 12.037 |
| 9.714 | J | [kgcm²] | 8.030 |
| 11.538 | J | [kgcm²] | 8.520 |
| 13.000 | J | [kgcm²] | 7.970 |
| 14.200 | J | [kgcm²] | 6.350 |
| 15.904 | J | [kgcm²] | 5.270 |
| 17.920 | J | [kgcm²] | 4.980 |
| 20.286 | J | [kgcm²] | 3.470 |
| 22.857 | J | [kgcm²] | 3.268 |
| 24.850 | J | [kgcm²] | 2.645 |
| 28.000 | J | [kgcm²] | 2.525 |
| 32.344 | J | [kgcm²] | 1.690 |
| 36.444 | J | [kgcm²] | 1.610 |
| 39.642 | J | [kgcm²] | 1.250 |
| 44.667 | J | [kgcm²] | 1.200 |
| 52.067 | J | [kgcm²] | 0.783 |
| 58.667 | J | [kgcm²] | 0.753 |
| 63.190 | J | [kgcm²] | 0.573 |
| 71.200 | J | [kgcm²] | 0.555 |
| 79.875 | J | [kgcm²] | 0.366 |
| 90.000 | J | [kgcm²] | 0.358 |

► The moments of inertia relate to the drive shaft of the gearbox.
► The total moment of inertia is calculated by adding the values of the gearbox, motor and accessories.



## Moments of inertia

**GFL□□-2**

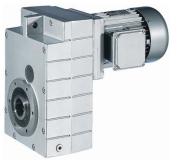
► Moment of inertia (J) depending on ratio i

| Gearbox | | | GFL09 |
|---|---|---|---|
| 6.864 | J | [kgcm²] | 41.300 |
| 7.466 | J | [kgcm²] | 38.700 |
| 9.010 | J | [kgcm²] | 26.800 |
| 9.799 | J | [kgcm²] | 25.300 |
| 11.167 | J | [kgcm²] | 19.500 |
| 12.307 | J | [kgcm²] | 27.600 |
| 14.333 | J | [kgcm²] | 20.000 |
| 16.333 | J | [kgcm²] | 15.500 |
| 18.407 | J | [kgcm²] | 14.600 |
| 19.667 | J | [kgcm²] | 12.100 |
| 22.164 | J | [kgcm²] | 11.300 |
| 24.111 | J | [kgcm²] | 9.040 |
| 27.173 | J | [kgcm²] | 8.630 |
| 32.667 | J | [kgcm²] | 5.430 |
| 36.815 | J | [kgcm²] | 5.210 |
| 39.667 | J | [kgcm²] | 4.070 |
| 44.704 | J | [kgcm²] | 3.920 |
| 51.333 | J | [kgcm²] | 2.590 |
| 57.852 | J | [kgcm²] | 2.500 |
| 62.300 | J | [kgcm²] | 1.890 |
| 70.211 | J | [kgcm²] | 1.830 |
| 78.750 | J | [kgcm²] | 1.250 |
| 88.750 | J | [kgcm²] | 1.210 |

| Gearbox | | | GFL11 |
|---|---|---|---|
| 6.864 | J | [kgcm²] | 124.000 |
| 7.466 | J | [kgcm²] | 116.000 |
| 9.010 | J | [kgcm²] | 79.600 |
| 9.799 | J | [kgcm²] | 74.800 |
| 10.720 | J | [kgcm²] | 65.000 |
| 12.480 | J | [kgcm²] | 81.500 |
| 14.538 | J | [kgcm²] | 58.400 |
| 15.904 | J | [kgcm²] | 51.300 |
| 17.920 | J | [kgcm²] | 48.300 |
| 20.286 | J | [kgcm²] | 36.100 |
| 22.857 | J | [kgcm²] | 34.300 |
| 24.850 | J | [kgcm²] | 26.900 |
| 28.000 | J | [kgcm²] | 25.700 |
| 32.739 | J | [kgcm²] | 17.100 |
| 36.889 | J | [kgcm²] | 16.500 |
| 40.233 | J | [kgcm²] | 12.600 |
| 45.333 | J | [kgcm²] | 12.200 |
| 52.067 | J | [kgcm²] | 8.080 |
| 58.667 | J | [kgcm²] | 7.810 |
| 63.190 | J | [kgcm²] | 5.900 |
| 71.200 | J | [kgcm²] | 5.720 |
| 79.875 | J | [kgcm²] | 3.870 |
| 90.000 | J | [kgcm²] | 3.760 |

| Gearbox | | | GFL14 |
|---|---|---|---|
| 7.150 | J | [kgcm²] | 344.000 |
| 7.777 | J | [kgcm²] | 321.000 |
| 8.800 | J | [kgcm²] | 247.000 |
| 9.571 | J | [kgcm²] | 232.000 |
| 11.538 | J | [kgcm²] | 242.000 |
| 13.000 | J | [kgcm²] | 225.000 |
| 14.200 | J | [kgcm²] | 625.000 |
| 15.620 | J | [kgcm²] | 156.000 |
| 17.600 | J | [kgcm²] | 146.000 |
| 19.948 | J | [kgcm²] | 111.000 |
| 22.476 | J | [kgcm²] | 105.000 |
| 24.456 | J | [kgcm²] | 83.200 |
| 27.556 | J | [kgcm²] | 79.400 |
| 32.344 | J | [kgcm²] | 52.900 |
| 36.444 | J | [kgcm²] | 50.700 |
| 39.642 | J | [kgcm²] | 38.000 |
| 44.667 | J | [kgcm²] | 36.600 |
| 52.067 | J | [kgcm²] | 24.600 |
| 58.667 | J | [kgcm²] | 23.800 |
| 63.190 | J | [kgcm²] | 18.000 |
| 71.200 | J | [kgcm²] | 17.400 |
| 79.875 | J | [kgcm²] | 11.800 |
| 90.000 | J | [kgcm²] | 11.500 |

► The moments of inertia relate to the drive shaft of the gearbox.
► The total moment of inertia is calculated by adding the values of the gearbox, motor and accessories.



## Moments of inertia

**GFL□□-3**

► Moment of inertia (J) depending on ratio i

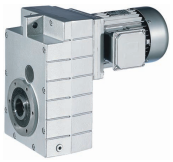
| Gearbox | | | GFL05 |
|---|---|---|---|
| 61.653 | J | [kgcm²] | 0.202 |
| 78.639 | J | [kgcm²] | 0.145 |
| 90.123 | J | [kgcm²] | 0.197 |
| 101.547 | J | [kgcm²] | 0.196 |
| 114.952 | J | [kgcm²] | 0.142 |
| 129.524 | J | [kgcm²] | 0.141 |
| 140.817 | J | [kgcm²] | 0.109 |
| 158.667 | J | [kgcm²] | 0.109 |
| 177.027 | J | [kgcm²] | 0.073 |
| 199.467 | J | [kgcm²] | 0.073 |
| 227.989 | J | [kgcm²] | 0.051 |
| 256.889 | J | [kgcm²] | 0.050 |
| 288.948 | J | [kgcm²] | 0.033 |
| 325.576 | J | [kgcm²] | 0.033 |
| 362.100 | J | [kgcm²] | 0.023 |
| 408.000 | J | [kgcm²] | 0.023 |
| 477.052 | J | [kgcm²] | 0.014 |
| 537.524 | J | [kgcm²] | 0.014 |

| Gearbox | | | GFL06 |
|---|---|---|---|
| 66.213 | J | [kgcm²] | 0.292 |
| 72.000 | J | [kgcm²] | 0.264 |
| 81.111 | J | [kgcm²] | 0.259 |
| 88.200 | J | [kgcm²] | 0.190 |
| 99.361 | J | [kgcm²] | 0.187 |
| 116.571 | J | [kgcm²] | 0.091 |
| 131.323 | J | [kgcm²] | 0.208 |
| 144.320 | J | [kgcm²] | 0.110 |
| 162.583 | J | [kgcm²] | 0.109 |
| 179.520 | J | [kgcm²] | 0.102 |
| 202.237 | J | [kgcm²] | 0.101 |
| 231.200 | J | [kgcm²] | 0.068 |
| 260.457 | J | [kgcm²] | 0.067 |
| 293.018 | J | [kgcm²] | 0.044 |
| 299.200 | J | [kgcm²] | 0.064 |
| 367.200 | J | [kgcm²] | 0.030 |
| 413.667 | J | [kgcm²] | 0.030 |
| 475.200 | J | [kgcm²] | 0.029 |
| 535.333 | J | [kgcm²] | 0.028 |
| 576.720 | J | [kgcm²] | 0.028 |
| 649.700 | J | [kgcm²] | 0.028 |
| 759.806 | J | [kgcm²] | 0.017 |
| 855.954 | J | [kgcm²] | 0.017 |

| Gearbox | | | GFL07 |
|---|---|---|---|
| 65.306 | J | [kgcm²] | 0.790 |
| 72.452 | J | [kgcm²] | 0.894 |
| 81.636 | J | [kgcm²] | 0.880 |
| 92.413 | J | [kgcm²] | 0.609 |
| 104.127 | J | [kgcm²] | 0.601 |
| 113.206 | J | [kgcm²] | 0.448 |
| 127.556 | J | [kgcm²] | 0.442 |
| 147.347 | J | [kgcm²] | 0.275 |
| 166.025 | J | [kgcm²] | 0.271 |
| 183.285 | J | [kgcm²] | 0.194 |
| 206.519 | J | [kgcm²] | 0.192 |
| 224.636 | J | [kgcm²] | 0.180 |
| 253.111 | J | [kgcm²] | 0.179 |
| 290.706 | J | [kgcm²] | 0.112 |
| 327.556 | J | [kgcm²] | 0.111 |
| 352.811 | J | [kgcm²] | 0.081 |
| 397.533 | J | [kgcm²] | 0.080 |
| 430.222 | J | [kgcm²] | 0.104 |
| 522.133 | J | [kgcm²] | 0.075 |
| 562.391 | J | [kgcm²] | 0.073 |
| 633.680 | J | [kgcm²] | 0.073 |
| 718.786 | J | [kgcm²] | 0.047 |
| 809.900 | J | [kgcm²] | 0.046 |

| Gearbox | | | GFL09 |
|---|---|---|---|
| 63.326 | J | [kgcm²] | 2.344 |
| 73.173 | J | [kgcm²] | 2.472 |
| 82.465 | J | [kgcm²] | 2.428 |
| 93.333 | J | [kgcm²] | 1.679 |
| 105.185 | J | [kgcm²] | 1.651 |
| 114.333 | J | [kgcm²] | 1.230 |
| 128.852 | J | [kgcm²] | 1.212 |
| 148.815 | J | [kgcm²] | 0.773 |
| 167.712 | J | [kgcm²] | 0.762 |
| 185.111 | J | [kgcm²] | 0.548 |
| 208.617 | J | [kgcm²] | 0.541 |
| 224.778 | J | [kgcm²] | 0.505 |
| 253.321 | J | [kgcm²] | 0.500 |
| 290.889 | J | [kgcm²] | 0.313 |
| 327.827 | J | [kgcm²] | 0.310 |
| 353.033 | J | [kgcm²] | 0.226 |
| 397.863 | J | [kgcm²] | 0.224 |
| 424.247 | J | [kgcm²] | 0.286 |
| 514.881 | J | [kgcm²] | 0.208 |
| 554.470 | J | [kgcm²] | 0.201 |
| 624.879 | J | [kgcm²] | 0.200 |
| 700.875 | J | [kgcm²] | 0.130 |
| 789.875 | J | [kgcm²] | 0.129 |

► The moments of inertia relate to the drive shaft of the gearbox.
► The total moment of inertia is calculated by adding the values of the gearbox, motor and accessories.



## Moments of inertia

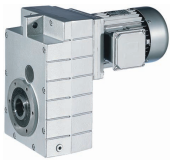
**GFL□□-3**

► Moment of inertia (J) depending on ratio i

| Gearbox | | | GFL11 |
|---|---|---|---|
| 65.306 | J | [kgcm²] | 6.967 |
| 73.335 | J | [kgcm²] | 7.844 |
| 82.631 | J | [kgcm²] | 7.707 |
| 93.540 | J | [kgcm²] | 5.050 |
| 105.397 | J | [kgcm²] | 4.965 |
| 114.586 | J | [kgcm²] | 3.712 |
| 129.111 | J | [kgcm²] | 3.656 |
| 149.144 | J | [kgcm²] | 2.299 |
| 168.049 | J | [kgcm²] | 2.265 |
| 182.792 | J | [kgcm²] | 1.661 |
| 205.963 | J | [kgcm²] | 1.639 |
| 224.636 | J | [kgcm²] | 1.515 |
| 253.111 | J | [kgcm²] | 1.501 |
| 267.259 | J | [kgcm²] | 1.865 |
| 327.556 | J | [kgcm²] | 1.373 |
| 358.077 | J | [kgcm²] | 0.679 |
| 403.467 | J | [kgcm²] | 0.673 |
| 430.222 | J | [kgcm²] | 0.853 |
| 522.133 | J | [kgcm²] | 0.623 |
| 562.391 | J | [kgcm²] | 0.599 |
| 633.680 | J | [kgcm²] | 0.596 |
| 710.888 | J | [kgcm²] | 0.385 |
| 801.000 | J | [kgcm²] | 0.384 |

| Gearbox | | | GFL14 |
|---|---|---|---|
| 64.296 | J | [kgcm²] | 26.316 |
| 68.708 | J | [kgcm²] | 19.862 |
| 77.418 | J | [kgcm²] | 19.381 |
| 85.037 | J | [kgcm²] | 21.590 |
| 104.889 | J | [kgcm²] | 9.324 |
| 114.126 | J | [kgcm²] | 8.318 |
| 128.593 | J | [kgcm²] | 8.144 |
| 136.889 | J | [kgcm²] | 16.779 |
| 156.148 | J | [kgcm²] | 5.917 |
| 170.074 | J | [kgcm²] | 6.962 |
| 202.074 | J | [kgcm²] | 3.692 |
| 224.636 | J | [kgcm²] | 4.742 |
| 253.111 | J | [kgcm²] | 4.697 |
| 273.778 | J | [kgcm²] | 5.759 |
| 332.444 | J | [kgcm²] | 4.300 |
| 352.811 | J | [kgcm²] | 2.163 |
| 397.533 | J | [kgcm²] | 2.145 |
| 430.222 | J | [kgcm²] | 2.727 |
| 522.133 | J | [kgcm²] | 1.984 |
| 562.391 | J | [kgcm²] | 1.910 |
| 633.680 | J | [kgcm²] | 1.903 |
| 710.888 | J | [kgcm²] | 1.259 |
| 801.000 | J | [kgcm²] | 1.254 |

► The moments of inertia relate to the drive shaft of the gearbox.
► The total moment of inertia is calculated by adding the values of the gearbox, motor and accessories.



## Weights

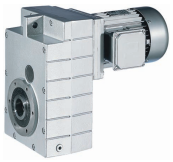
**GFL□□-2M HAR / HBR**

| | | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|
| **GFL04** | m | [kg] | 12 | 14 | 19 | | | | |
| **GFL05** | m | [kg] | 25 | 28 | 32 | 40 | 49 | | |
| **GFL06** | m | [kg] | 41 | 43 | 47 | 56 | 64 | 77 | |
| **GFL07** | m | [kg] | | | 75 | 83 | 91 | 104 | 134 |
| **GFL09** | m | [kg] | | | | 132 | 141 | 153 | 184 |
| **GFL11** | m | [kg] | | | | | 233 | 245 | 274 |
| **GFL14** | m | [kg] | | | | | | 396 | 424 |

**GFL□□-2M HCR / HDR**

| | | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|
| **GFL04** | m | [kg] | 11 | 13 | 18 | | | | |
| **GFL05** | m | [kg] | 24 | 26 | 31 | 39 | 47 | | |
| **GFL06** | m | [kg] | 38 | 40 | 45 | 53 | 62 | 74 | |
| **GFL07** | m | [kg] | | | 71 | 79 | 87 | 100 | 130 |
| **GFL09** | m | [kg] | | | | 125 | 134 | 146 | 177 |
| **GFL11** | m | [kg] | | | | | 219 | 231 | 260 |
| **GFL14** | m | [kg] | | | | | | 373 | 401 |

► Weights with oil filling for mounting position A; all values are approximate.
The weights relate to the basic version. Bear in mind that additional weights may be needed, e.g. for motor options.



## Weights

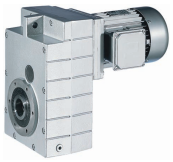
**GFL□□-2M HAK**

| | | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|
| **GFL04** | m | [kg] | 14 | 16 | 22 | | | | |
| **GFL05** | m | [kg] | 29 | 32 | 36 | 44 | 53 | | |
| **GFL06** | m | [kg] | 48 | 50 | 54 | 63 | 71 | 84 | |
| **GFL07** | m | [kg] | | | 86 | 94 | 102 | 115 | 145 |
| **GFL09** | m | [kg] | | | | 148 | 157 | 169 | 200 |
| **GFL11** | m | [kg] | | | | | 257 | 269 | 298 |
| **GFL14** | m | [kg] | | | | | | 429 | 457 |

**GFL□□-2M HCK**

| | | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|
| **GFL04** | m | [kg] | 13 | 15 | 21 | | | | |
| **GFL05** | m | [kg] | 28 | 30 | 35 | 43 | 51 | | |
| **GFL06** | m | [kg] | 45 | 47 | 52 | 60 | 69 | 81 | |
| **GFL07** | m | [kg] | | | 82 | 90 | 98 | 111 | 141 |
| **GFL09** | m | [kg] | | | | 141 | 150 | 162 | 193 |
| **GFL11** | m | [kg] | | | | | 243 | 255 | 284 |
| **GFL14** | m | [kg] | | | | | | 406 | 434 |

► Weights with oil filling for mounting position A; all values are approximate.
The weights relate to the basic version. Bear in mind that additional weights may be needed, e.g. for motor options.



## Weights

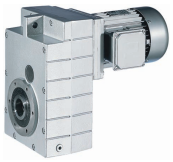
**GFL□□-2M VAR / VBR**

| | | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|
| **GFL04** | m | [kg] | 12 | 15 | 20 | 27 | | | |
| **GFL05** | m | [kg] | 26 | 29 | 33 | 41 | 50 | | |
| **GFL06** | m | [kg] | 43 | 45 | 50 | 58 | 67 | 79 | |
| **GFL07** | m | [kg] | | | 80 | 88 | 96 | 109 | 139 |
| **GFL09** | m | [kg] | | | | 140 | 149 | 161 | 192 |
| **GFL11** | m | [kg] | | | | | 249 | 261 | 290 |
| **GFL14** | m | [kg] | | | | | | 429 | 457 |

**GFL□□-2M VCR / VDR**

| | | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|
| **GFL04** | m | [kg] | 11 | 14 | 19 | 26 | | | |
| **GFL05** | m | [kg] | 25 | 27 | 32 | 40 | 48 | | |
| **GFL06** | m | [kg] | 41 | 43 | 47 | 56 | 64 | 77 | |
| **GFL07** | m | [kg] | | | 76 | 84 | 92 | 105 | 135 |
| **GFL09** | m | [kg] | | | | 133 | 142 | 154 | 185 |
| **GFL11** | m | [kg] | | | | | 235 | 247 | 276 |
| **GFL14** | m | [kg] | | | | | | 406 | 434 |

► Weights with oil filling for mounting position A; all values are approximate.
The weights relate to the basic version. Bear in mind that additional weights may be needed, e.g. for motor options.



## Weights

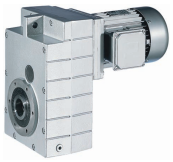
**GFL□□-2M VAK**

| | | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|
| **GFL04** | m | [kg] | 15 | 17 | 22 | 30 | | | |
| **GFL05** | m | [kg] | 30 | 33 | 37 | 45 | 54 | | |
| **GFL06** | m | [kg] | 50 | 52 | 57 | 65 | 74 | 86 | |
| **GFL07** | m | [kg] | | | 91 | 99 | 107 | 120 | 150 |
| **GFL09** | m | [kg] | | | | 156 | 165 | 177 | 208 |
| **GFL11** | m | [kg] | | | | | 273 | 285 | 314 |
| **GFL14** | m | [kg] | | | | | | 462 | 490 |

**GFL□□-2M VCK**

| | | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|
| **GFL04** | m | [kg] | 14 | 16 | 21 | 29 | | | |
| **GFL05** | m | [kg] | 29 | 31 | 36 | 44 | 52 | | |
| **GFL06** | m | [kg] | 48 | 50 | 54 | 63 | 71 | 84 | |
| **GFL07** | m | [kg] | | | 87 | 95 | 103 | 116 | 146 |
| **GFL09** | m | [kg] | | | | 149 | 158 | 170 | 201 |
| **GFL11** | m | [kg] | | | | | 259 | 271 | 300 |
| **GFL14** | m | [kg] | | | | | | 439 | 467 |

► Weights with oil filling for mounting position A; all values are approximate.
The weights relate to the basic version. Bear in mind that additional weights may be needed, e.g. for motor options.



## Weights

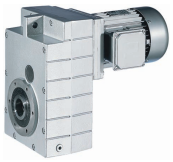
**GFL□□-2M SAR / SBR**

| | | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|
| **GFL04** | m | [kg] | 12 | 15 | 20 | 27 | | | |
| **GFL05** | m | [kg] | 26 | 29 | 33 | 41 | 50 | | |
| **GFL06** | m | [kg] | 42 | 44 | 48 | 57 | 65 | 78 | |
| **GFL07** | m | [kg] | | | 76 | 84 | 93 | 106 | 135 |
| **GFL09** | m | [kg] | | | | 135 | 144 | 156 | 187 |
| **GFL11** | m | [kg] | | | | | 238 | 250 | 279 |
| **GFL14** | m | [kg] | | | | | | 407 | 435 |

**GFL□□-2M SCR / SDR**

| | | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|
| **GFL04** | m | [kg] | 11 | 14 | 19 | 26 | | | |
| **GFL05** | m | [kg] | 25 | 27 | 32 | 40 | 48 | | |
| **GFL06** | m | [kg] | 39 | 41 | 46 | 54 | 63 | 75 | |
| **GFL07** | m | [kg] | | | 72 | 80 | 89 | 102 | 131 |
| **GFL09** | m | [kg] | | | | 128 | 137 | 149 | 180 |
| **GFL11** | m | [kg] | | | | | 224 | 236 | 265 |
| **GFL14** | m | [kg] | | | | | | 384 | 412 |

► Weights with oil filling for mounting position A; all values are approximate.
The weights relate to the basic version. Bear in mind that additional weights may be needed, e.g. for motor options.



## Weights

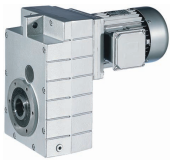
**GFL□□-2M SAK**

| | | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|
| **GFL05** | m | [kg] | 30 | 33 | 37 | 45 | 54 | | |
| **GFL06** | m | [kg] | 49 | 51 | 55 | 64 | 72 | 85 | |
| **GFL07** | m | [kg] | | | 87 | 95 | 104 | 117 | 146 |
| **GFL09** | m | [kg] | | | | 151 | 160 | 172 | 203 |
| **GFL11** | m | [kg] | | | | | 262 | 274 | 303 |
| **GFL14** | m | [kg] | | | | | | 440 | 468 |

**GFL□□-2M SCK**

| | | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|
| **GFL05** | m | [kg] | 29 | 31 | 36 | 44 | 52 | | |
| **GFL06** | m | [kg] | 46 | 48 | 53 | 61 | 70 | 82 | |
| **GFL07** | m | [kg] | | | 83 | 91 | 100 | 113 | 142 |
| **GFL09** | m | [kg] | | | | 144 | 153 | 165 | 196 |
| **GFL11** | m | [kg] | | | | | 248 | 260 | 289 |
| **GFL14** | m | [kg] | | | | | | 417 | 445 |

► Weights with oil filling for mounting position A; all values are approximate.
The weights relate to the basic version. Bear in mind that additional weights may be needed, e.g. for motor options.



## Weights

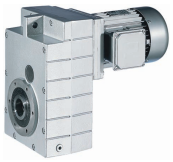
**GFL□□-3M HAR / HBR**

| | | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12 | 132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GFL05** | m | [kg] | 26 | 28 | | | | | | | |
| **GFL06** | m | [kg] | 44 | 46 | | 51 | | | | | |
| **GFL07** | m | [kg] | 76 | 78 | | 83 | 91 | | | | |
| **GFL09** | m | [kg] | 130 | 132 | | 137 | 145 | 154 | | | |
| **GFL11** | m | [kg] | | | | 237 | 245 | 254 | 267 | 297 | |
| **GFL14** | m | [kg] | | | | | 411 | 419 | 432 | 462 | |

**GFL□□-3M HCR / HDR**

| | | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12 | 132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GFL05** | m | [kg] | 25 | 27 | | | | | | | |
| **GFL06** | m | [kg] | 42 | 44 | | 49 | | | | | |
| **GFL07** | m | [kg] | 72 | 74 | | 79 | 87 | | | | |
| **GFL09** | m | [kg] | 123 | 125 | | 130 | 138 | 147 | | | |
| **GFL11** | m | [kg] | | | | 223 | 231 | 240 | 253 | 283 | |
| **GFL14** | m | [kg] | | | | | 388 | 396 | 409 | 439 | |

► Weights with oil filling for mounting position A; all values are approximate.
The weights relate to the basic version. Bear in mind that additional weights may be needed, e.g. for motor options.



## Weights

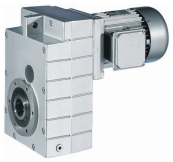
**GFL□□-3M HAK**

| | | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12 | 132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GFL05** | m | [kg] | 30 | 32 | | | | | | | |
| **GFL06** | m | [kg] | 51 | 53 | | 58 | | | | | |
| **GFL07** | m | [kg] | 87 | 89 | | 94 | 102 | | | | |
| **GFL09** | m | [kg] | 146 | 148 | | 153 | 161 | 170 | | | |
| **GFL11** | m | [kg] | | | | 261 | 269 | 278 | 291 | 321 | |
| **GFL14** | m | [kg] | | | | | 444 | 452 | 465 | 495 | |

**GFL□□-3M HCK**

| | | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12 | 132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GFL05** | m | [kg] | 29 | 31 | | | | | | | |
| **GFL06** | m | [kg] | 49 | 51 | | 56 | | | | | |
| **GFL07** | m | [kg] | 83 | 85 | | 90 | 98 | | | | |
| **GFL09** | m | [kg] | 139 | 141 | | 146 | 154 | 163 | | | |
| **GFL11** | m | [kg] | | | | 247 | 255 | 264 | 277 | 307 | |
| **GFL14** | m | [kg] | | | | | 421 | 429 | 442 | 472 | |

► Weights with oil filling for mounting position A; all values are approximate.
The weights relate to the basic version. Bear in mind that additional weights may be needed, e.g. for motor options.



## Weights

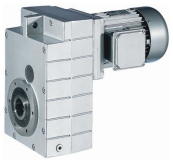
**GFL□□-3M VAR / VBR**

| | | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12 | 132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GFL05** | m | [kg] | 27 | 29 | | | | | | | |
| **GFL06** | m | [kg] | 47 | 49 | | 54 | | | | | |
| **GFL07** | m | [kg] | 81 | 83 | | 88 | 96 | | | | |
| **GFL09** | m | [kg] | 138 | 140 | | 145 | 153 | 162 | | | |
| **GFL11** | m | [kg] | | | | 253 | 261 | 270 | 283 | 313 | |
| **GFL14** | m | [kg] | | | | | 444 | 452 | 465 | 495 | |

**GFL□□-3M VCR / VDR**

| | | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12 | 132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GFL05** | m | [kg] | 26 | 28 | | | | | | | |
| **GFL06** | m | [kg] | 44 | 46 | | 51 | | | | | |
| **GFL07** | m | [kg] | 77 | 79 | | 84 | 92 | | | | |
| **GFL09** | m | [kg] | 131 | 133 | | 138 | 146 | 155 | | | |
| **GFL11** | m | [kg] | | | | 239 | 247 | 256 | 269 | 299 | |
| **GFL14** | m | [kg] | | | | | 421 | 429 | 442 | 472 | |

► Weights with oil filling for mounting position A; all values are approximate.
The weights relate to the basic version. Bear in mind that additional weights may be needed, e.g. for motor options.



## Weights

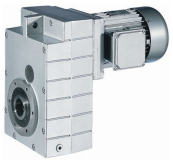
**GFL□□-3M VAK**

| | | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12 | 132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GFL05** | m | [kg] | 31 | 33 | | | | | | | |
| **GFL06** | m | [kg] | 54 | 56 | | 61 | | | | | |
| **GFL07** | m | [kg] | 92 | 94 | | 99 | 107 | | | | |
| **GFL09** | m | [kg] | 154 | 156 | | 161 | 169 | 178 | | | |
| **GFL11** | m | [kg] | | | | 277 | 285 | 294 | 307 | 337 | |
| **GFL14** | m | [kg] | | | | | 477 | 485 | 498 | 528 | |

**GFL□□-3M HCK**

| | | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12 | 132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GFL05** | m | [kg] | 30 | 32 | | | | | | | |
| **GFL06** | m | [kg] | 51 | 53 | | 58 | | | | | |
| **GFL07** | m | [kg] | 88 | 90 | | 95 | 103 | | | | |
| **GFL09** | m | [kg] | 147 | 149 | | 154 | 162 | 171 | | | |
| **GFL11** | m | [kg] | | | | 263 | 271 | 280 | 293 | 323 | |
| **GFL14** | m | [kg] | | | | | 454 | 462 | 475 | 505 | |

► Weights with oil filling for mounting position A; all values are approximate.
The weights relate to the basic version. Bear in mind that additional weights may be needed, e.g. for motor options.



## Weights

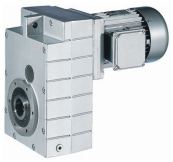
**GFL□□-3M SAR / SBR**

| | | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12 | 132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GFL05** | m | [kg] | 27 | 29 | | | | | | | |
| **GFL06** | m | [kg] | 45 | 47 | | 52 | | | | | |
| **GFL07** | m | [kg] | 77 | 80 | | 84 | 92 | | | | |
| **GFL09** | m | [kg] | 133 | 135 | | 140 | 148 | 157 | | | |
| **GFL11** | m | [kg] | | | | 242 | 250 | 259 | 272 | 302 | |
| **GFL14** | m | [kg] | | | | | 422 | 430 | 443 | 473 | |

**GFL□□-3M SCR / SDR**

| | | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12 | 132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GFL05** | m | [kg] | 26 | 28 | | | | | | | |
| **GFL06** | m | [kg] | 43 | 45 | | 50 | | | | | |
| **GFL07** | m | [kg] | 73 | 76 | | 80 | 88 | | | | |
| **GFL09** | m | [kg] | 126 | 128 | | 133 | 141 | 150 | | | |
| **GFL11** | m | [kg] | | | | 228 | 236 | 245 | 258 | 288 | |
| **GFL14** | m | [kg] | | | | | 399 | 407 | 420 | 450 | |

► Weights with oil filling for mounting position A; all values are approximate.
The weights relate to the basic version. Bear in mind that additional weights may be needed, e.g. for motor options.



## Weights

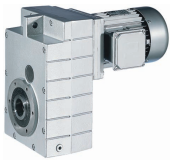
**GFL□□-3M SAK**

| | | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12 | 132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GFL05** | m | [kg] | 31 | 33 | | | | | | | |
| **GFL06** | m | [kg] | 52 | 54 | | 59 | | | | | |
| **GFL07** | m | [kg] | 88 | 91 | | 95 | 103 | | | | |
| **GFL09** | m | [kg] | 149 | 151 | | 156 | 164 | 173 | | | |
| **GFL11** | m | [kg] | | | | 266 | 274 | 283 | 296 | 326 | |
| **GFL14** | m | [kg] | | | | | 455 | 463 | 476 | 506 | |

**GFL□□-3M SCK**

| | | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12 | 132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GFL05** | m | [kg] | 30 | 32 | | | | | | | |
| **GFL06** | m | [kg] | 50 | 52 | | 57 | | | | | |
| **GFL07** | m | [kg] | 84 | 87 | | 91 | 99 | | | | |
| **GFL09** | m | [kg] | 142 | 144 | | 149 | 157 | 166 | | | |
| **GFL11** | m | [kg] | | | | 252 | 260 | 269 | 282 | 312 | |
| **GFL14** | m | [kg] | | | | | 432 | 440 | 453 | 483 | |

► Weights with oil filling for mounting position A; all values are approximate.
The weights relate to the basic version. Bear in mind that additional weights may be needed, e.g. for motor options.

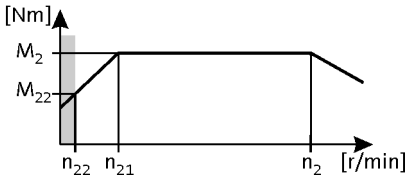


## Selection tables

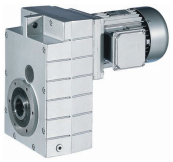
► 120 Hz: $P_N$ = 0.55 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 143.3 ... 3440 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 22 | 94 | - | 538 | 7.2 | 10 | 3.9 | 6.400 | GFL05-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 20 | 85 | - | 490 | 7.9 | 10 | 4.5 | 7.025 | GFL04-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 14 | 59 | - | 336 | 12 | 15 | 4.5 | 10.238 | GFL04-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 9.8 | 41 | - | 234 | 17 | 22 | 4.5 | 14.706 | GFL04-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 9.0 | 38 | - | 216 | 18 | 24 | 3.9 | 15.904 | GFL05-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 8.0 | 34 | - | 192 | 20 | 27 | 3.9 | 17.920 | GFL05-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 7.0 | 29 | - | 168 | 23 | 30 | 4.1 | 20.519 | GFL04-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 6.3 | 26 | - | 151 | 26 | 34 | 3.7 | 22.857 | GFL04-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 5.7 | 24 | - | 137 | 28 | 37 | 4.2 | 25.136 | GFL04-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 5.1 | 21 | - | 123 | 31 | 42 | 3.5 | 28.000 | GFL04-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 4.5 | 19 | - | 109 | 35 | 47 | 3.4 | 31.600 | GFL04-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 4.1 | 17 | - | 98 | 40 | 52 | 2.8 | 35.200 | GFL04-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 3.5 | 15 | - | 85 | 46 | 60 | 2.7 | 40.697 | GFL04-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 3.2 | 13 | - | 76 | 51 | 67 | 2.2 | 45.333 | GFL04-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 2.8 | 12 | - | 67 | 58 | 76 | 2.1 | 51.579 | GFL04-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 2.8 | 12 | - | 66 | 58 | 77 | 3.2 | 52.067 | GFL05-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 2.5 | 10 | - | 60 | 64 | 85 | 1.8 | 57.455 | GFL04-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 2.4 | 10 | - | 59 | 66 | 87 | 3.2 | 58.667 | GFL05-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 2.3 | 9.7 | - | 56 | 68 | 90 | 2.0 | 61.653 | GFL05-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 2.3 | 9.5 | - | 54 | 71 | 94 | 2.6 | 63.190 | GFL05-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 2.2 | 9.4 | - | 54 | 72 | 95 | 3.1 | 64.080 | GFL06-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 2.2 | 9.3 | - | 53 | 73 | 96 | 1.2 | 64.636 | GFL04-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 2.0 | 8.3 | - | 48 | 81 | 107 | 1.3 | 72.000 | GFL04-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 2.0 | 8.4 | - | 48 | 80 | 106 | 2.8 | 71.200 | GFL05-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 1.8 | 7.6 | - | 44 | 87 | 115 | 1.9 | 78.639 | GFL05-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 1.8 | 7.4 | - | 43 | 91 | 120 | 1.5 | 80.763 | GFL05-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 1.8 | 7.4 | - | 43 | 91 | 120 | 2.8 | 81.000 | GFL06-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 1.6 | 6.6 | - | 38 | 102 | 135 | 1.5 | 91.000 | GFL05-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 1.6 | 6.7 | - | 38 | 100 | 132 | 2.2 | 90.123 | GFL05-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 1.6 | 6.6 | - | 38 | 102 | 135 | 2.8 | 91.250 | GFL06-2M□□□063C32 | E84AV□□□5514□□0 | 74 |
| 1.4 | 5.9 | - | 34 | 112 | 148 | 2.1 | 101.547 | GFL05-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 1.3 | 5.2 | - | 30 | 127 | 168 | 1.9 | 114.952 | GFL05-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 1.2 | 5.2 | - | 30 | 129 | 170 | 3.0 | 116.571 | GFL06-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 1.1 | 4.6 | - | 27 | 143 | 189 | 1.7 | 129.524 | GFL05-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 1.1 | 4.6 | - | 26 | 145 | 192 | 3.0 | 131.323 | GFL06-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 1.0 | 4.3 | - | 24 | 156 | 206 | 1.6 | 140.817 | GFL05-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 1.0 | 4.2 | - | 24 | 159 | 211 | 2.5 | 144.320 | GFL06-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.9 | 3.8 | - | 22 | 175 | 232 | 1.4 | 158.667 | GFL05-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.9 | 3.7 | - | 21 | 180 | 237 | 2.5 | 162.583 | GFL06-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.8 | 3.4 | - | 19 | 196 | 258 | 1.3 | 177.027 | GFL05-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.8 | 3.3 | - | 19 | 198 | 262 | 2.2 | 179.520 | GFL06-3M□□□063C32 | E84AV□□□5514□□0 | 82 |

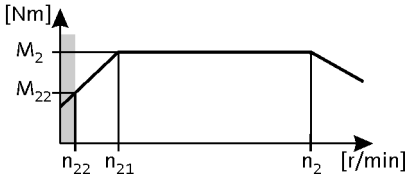


## Selection tables

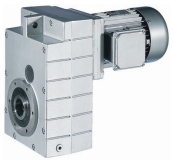
► 120 Hz: $P_N$ = 0.55 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 143.3 ... 3440 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 0.7 | 3.0 | - | 17 | 220 | 291 | 1.1 | 199.467 | GFL05-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.7 | 3.0 | - | 17 | 223 | 295 | 2.0 | 202.237 | GFL06-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.6 | 2.6 | - | 15 | 252 | 333 | 1.0 | 227.989 | GFL05-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.6 | 2.6 | - | 15 | 255 | 337 | 1.8 | 231.200 | GFL06-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.6 | 2.3 | - | 13 | 288 | 380 | 1.5 | 260.457 | GFL06-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.5 | 2.0 | - | 12 | 330 | 437 | 1.3 | 299.200 | GFL06-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.5 | 2.1 | - | 12 | 324 | 428 | 1.5 | 293.018 | GFL06-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.5 | 2.1 | - | 12 | 321 | 424 | 3.1 | 290.706 | GFL07-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.4 | 1.8 | - | 11 | 362 | 478 | 2.5 | 327.556 | GFL07-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.4 | 1.7 | - | 9.8 | 390 | 515 | 2.6 | 352.811 | GFL07-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.4 | 1.6 | - | 9.4 | 406 | 536 | 1.2 | 367.200 | GFL06-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.4 | 1.5 | - | 8.7 | 439 | 580 | 2.1 | 397.533 | GFL07-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.4 | 1.5 | - | 8.3 | 457 | 604 | 1.0 | 413.667 | GFL06-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.3 | 1.4 | - | 8.0 | 475 | 628 | 1.9 | 430.222 | GFL07-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.3 | 1.3 | - | 7.2 | 525 | 693 | 0.9 | 475.200 | GFL06-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.3 | 1.2 | - | 6.6 | 577 | 762 | 1.6 | 522.133 | GFL07-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.3 | 1.1 | - | 6.2 | 612 | 809 | 2.5 | 554.470 | GFL09-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.3 | 1.1 | - | 6.1 | 621 | 821 | 1.3 | 562.391 | GFL07-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.2 | 1.0 | - | 5.5 | 690 | 912 | 2.4 | 624.879 | GFL09-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.2 | 1.0 | - | 5.4 | 700 | 925 | 1.3 | 633.680 | GFL07-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.2 | 0.9 | - | 4.9 | 774 | 1023 | 2.0 | 700.875 | GFL09-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.2 | 0.8 | - | 4.8 | 794 | 1049 | 1.0 | 718.786 | GFL07-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.2 | 0.8 | - | 4.4 | 872 | 1153 | 1.9 | 789.875 | GFL09-3M□□□063C32 | E84AV□□□5514□□0 | 82 |
| 0.2 | 0.7 | - | 4.3 | 894 | 1182 | 1.0 | 809.900 | GFL07-3M□□□063C32 | E84AV□□□5514□□0 | 82 |

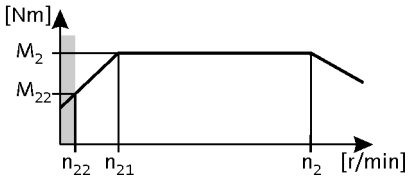


## Selection tables

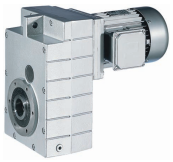
► 120 Hz: $P_N$ = 0.75 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 141.7 ... 3400 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 22 | 94 | - | 531 | 9.8 | 13 | 2.9 | 6.400 | GFL05-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 20 | 85 | - | 484 | 11 | 14 | 3.3 | 7.025 | GFL04-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 14 | 59 | - | 332 | 16 | 21 | 3.3 | 10.238 | GFL04-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 9.6 | 41 | - | 231 | 23 | 30 | 3.3 | 14.706 | GFL04-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 8.9 | 38 | - | 214 | 24 | 33 | 2.9 | 15.904 | GFL05-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 7.9 | 34 | - | 190 | 27 | 37 | 2.9 | 17.920 | GFL05-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 6.9 | 29 | - | 166 | 31 | 42 | 3.0 | 20.519 | GFL04-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 6.2 | 26 | - | 149 | 35 | 47 | 2.7 | 22.857 | GFL04-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 5.6 | 24 | - | 135 | 38 | 51 | 3.1 | 25.136 | GFL04-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 5.1 | 21 | - | 121 | 43 | 57 | 2.5 | 28.000 | GFL04-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 4.5 | 19 | - | 108 | 48 | 65 | 2.5 | 31.600 | GFL04-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 4.4 | 19 | - | 105 | 49 | 66 | 3.1 | 32.344 | GFL05-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 4.0 | 17 | - | 97 | 54 | 72 | 2.0 | 35.200 | GFL04-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 3.9 | 17 | - | 93 | 56 | 75 | 3.1 | 36.444 | GFL05-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 3.5 | 15 | - | 85 | 62 | 82 | 2.6 | 40.233 | GFL05-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 3.5 | 15 | - | 84 | 62 | 83 | 1.9 | 40.697 | GFL04-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 3.1 | 13 | - | 75 | 69 | 93 | 1.6 | 45.333 | GFL04-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 3.1 | 13 | - | 75 | 69 | 93 | 2.6 | 45.333 | GFL05-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 2.8 | 12 | - | 66 | 79 | 105 | 1.6 | 51.579 | GFL04-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 2.7 | 12 | - | 65 | 80 | 106 | 2.3 | 52.067 | GFL05-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 2.7 | 11 | - | 64 | 81 | 108 | 2.6 | 52.800 | GFL06-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 2.5 | 10 | - | 59 | 88 | 117 | 1.3 | 57.455 | GFL04-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 2.4 | 10 | - | 58 | 90 | 120 | 2.3 | 58.667 | GFL05-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 2.4 | 10 | - | 57 | 91 | 122 | 2.6 | 59.481 | GFL06-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 2.3 | 9.7 | - | 55 | 93 | 124 | 1.4 | 61.653 | GFL05-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 2.2 | 9.5 | - | 54 | 97 | 129 | 1.9 | 63.190 | GFL05-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 2.2 | 9.4 | - | 53 | 98 | 131 | 2.3 | 64.080 | GFL06-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 2.0 | 8.4 | - | 48 | 109 | 146 | 2.0 | 71.200 | GFL05-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 2.0 | 8.3 | - | 47 | 110 | 147 | 1.0 | 72.000 | GFL04-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 2.0 | 8.3 | - | 47 | 110 | 148 | 2.5 | 72.189 | GFL06-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 1.8 | 7.6 | - | 43 | 118 | 158 | 1.4 | 78.639 | GFL05-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 1.8 | 7.4 | - | 42 | 124 | 165 | 1.1 | 80.763 | GFL05-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 1.8 | 7.4 | - | 42 | 124 | 166 | 2.0 | 81.000 | GFL06-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 1.8 | 7.4 | - | 42 | 122 | 163 | 2.9 | 81.111 | GFL06-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 1.6 | 6.8 | - | 39 | 133 | 178 | 2.6 | 88.200 | GFL06-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 1.6 | 6.7 | - | 38 | 136 | 181 | 1.6 | 90.123 | GFL05-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 1.6 | 6.6 | - | 37 | 139 | 186 | 1.1 | 91.000 | GFL05-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 1.6 | 6.6 | - | 37 | 140 | 187 | 2.0 | 91.250 | GFL06-2M□□□063C42 | E84AV□□□7514□□0 | 74 |
| 1.4 | 5.9 | - | 34 | 153 | 204 | 1.5 | 101.547 | GFL05-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 1.4 | 6.0 | - | 34 | 150 | 200 | 2.6 | 99.361 | GFL06-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 1.2 | 5.2 | - | 30 | 173 | 231 | 1.4 | 114.952 | GFL05-3M□□□063C42 | E84AV□□□7514□□0 | 82 |

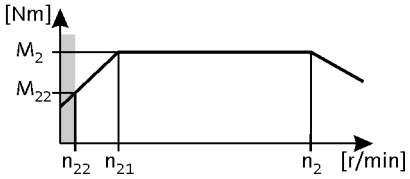


## Selection tables

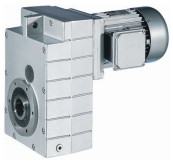
► 120 Hz: $P_N$ = 0.75 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 141.7 ... 3400 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 1.2 | 5.2 | - | 29 | 176 | 235 | 2.2 | 116.571 | GFL06-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 1.1 | 4.6 | - | 26 | 195 | 261 | 1.2 | 129.524 | GFL05-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 1.1 | 4.6 | - | 26 | 198 | 264 | 2.2 | 131.323 | GFL06-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 1.0 | 4.3 | - | 24 | 212 | 284 | 1.2 | 140.817 | GFL05-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 1.0 | 4.2 | - | 24 | 217 | 291 | 1.8 | 144.320 | GFL06-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.9 | 3.8 | - | 21 | 239 | 319 | 1.0 | 158.667 | GFL05-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.9 | 3.7 | - | 21 | 245 | 327 | 1.8 | 162.583 | GFL06-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.8 | 3.4 | - | 19 | 267 | 356 | 0.9 | 177.027 | GFL05-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.8 | 3.3 | - | 19 | 270 | 361 | 1.6 | 179.520 | GFL06-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.8 | 3.3 | - | 19 | 276 | 369 | 2.9 | 183.285 | GFL07-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.7 | 3.0 | - | 17 | 305 | 407 | 1.4 | 202.237 | GFL06-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.7 | 2.9 | - | 17 | 311 | 416 | 2.9 | 206.519 | GFL07-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.6 | 2.6 | - | 15 | 348 | 465 | 1.3 | 231.200 | GFL06-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.6 | 2.7 | - | 15 | 338 | 452 | 2.8 | 224.636 | GFL07-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.5 | 2.3 | - | 13 | 392 | 524 | 1.1 | 260.457 | GFL06-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.6 | 2.4 | - | 13 | 381 | 510 | 2.4 | 253.111 | GFL07-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.5 | 2.1 | - | 12 | 441 | 590 | 1.1 | 293.018 | GFL06-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.5 | 2.1 | - | 12 | 438 | 585 | 2.3 | 290.706 | GFL07-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.5 | 2.1 | - | 12 | 438 | 586 | 2.9 | 290.889 | GFL09-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.5 | 2.0 | - | 11 | 451 | 602 | 1.0 | 299.200 | GFL06-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.4 | 1.8 | - | 10 | 493 | 659 | 1.8 | 327.556 | GFL07-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.4 | 1.8 | - | 10 | 494 | 660 | 2.9 | 327.827 | GFL09-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.4 | 1.7 | - | 9.6 | 531 | 710 | 1.9 | 352.811 | GFL07-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.4 | 1.7 | - | 9.6 | 532 | 711 | 2.5 | 353.033 | GFL09-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.4 | 1.5 | - | 8.6 | 599 | 800 | 1.5 | 397.533 | GFL07-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.4 | 1.5 | - | 8.6 | 599 | 801 | 2.5 | 397.863 | GFL09-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.3 | 1.4 | - | 8.0 | 639 | 854 | 2.9 | 424.247 | GFL09-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.3 | 1.4 | - | 7.9 | 648 | 866 | 1.4 | 430.222 | GFL07-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.3 | 1.2 | - | 6.6 | 775 | 1037 | 2.5 | 514.881 | GFL09-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.3 | 1.2 | - | 6.5 | 786 | 1051 | 1.2 | 522.133 | GFL07-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.3 | 1.1 | - | 6.1 | 847 | 1132 | 1.0 | 562.391 | GFL07-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.3 | 1.1 | - | 6.1 | 835 | 1116 | 1.8 | 554.470 | GFL09-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.2 | 1.0 | - | 5.4 | 954 | 1276 | 0.9 | 633.680 | GFL07-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.2 | 1.0 | - | 5.4 | 941 | 1258 | 1.7 | 624.879 | GFL09-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.2 | 0.9 | - | 4.9 | 1055 | 1411 | 1.4 | 700.875 | GFL09-3M□□□063C42 | E84AV□□□7514□□0 | 82 |
| 0.2 | 0.8 | - | 4.3 | 1190 | 1590 | 1.4 | 789.875 | GFL09-3M□□□063C42 | E84AV□□□7514□□0 | 82 |

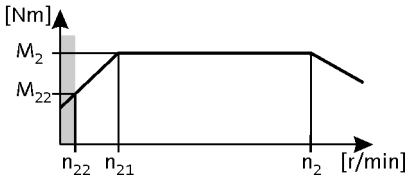


## Selection tables

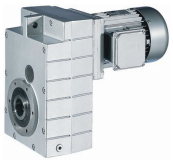
► 120 Hz: $P_N$ = 1.10 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.4 ... 3490 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 23 | 93 | - | 543 | 14 | 19 | 3.9 | 6.422 | GFL04-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 21 | 85 | - | 497 | 16 | 21 | 3.9 | 7.025 | GFL04-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 16 | 67 | - | 387 | 20 | 26 | 4.2 | 9.010 | GFL05-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 14 | 59 | - | 341 | 23 | 30 | 3.9 | 10.238 | GFL04-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 9.9 | 41 | - | 237 | 33 | 43 | 3.2 | 14.706 | GFL04-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 9.0 | 37 | - | 217 | 36 | 47 | 2.9 | 16.087 | GFL04-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 8.1 | 34 | - | 195 | 40 | 52 | 2.4 | 17.920 | GFL04-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 7.1 | 29 | - | 170 | 46 | 60 | 2.3 | 20.519 | GFL04-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 6.4 | 26 | - | 153 | 51 | 67 | 1.9 | 22.857 | GFL04-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 5.8 | 24 | - | 139 | 56 | 73 | 2.1 | 25.136 | GFL04-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 5.2 | 21 | - | 125 | 63 | 82 | 1.8 | 28.000 | GFL04-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 4.6 | 19 | - | 110 | 71 | 92 | 1.7 | 31.600 | GFL04-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 4.5 | 19 | - | 108 | 73 | 95 | 3.1 | 32.344 | GFL05-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 4.1 | 17 | - | 99 | 79 | 103 | 1.4 | 35.200 | GFL04-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 4.0 | 17 | - | 96 | 82 | 106 | 2.5 | 36.444 | GFL05-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 3.6 | 15 | - | 87 | 90 | 118 | 2.5 | 40.233 | GFL05-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 3.6 | 15 | - | 86 | 91 | 119 | 1.3 | 40.697 | GFL04-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 3.2 | 13 | - | 77 | 102 | 132 | 1.1 | 45.333 | GFL04-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 3.2 | 13 | - | 77 | 102 | 132 | 2.1 | 45.333 | GFL05-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 2.8 | 12 | - | 67 | 117 | 152 | 1.7 | 52.067 | GFL05-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 2.8 | 11 | - | 66 | 118 | 154 | 3.1 | 52.800 | GFL06-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 2.5 | 10 | - | 60 | 132 | 171 | 1.6 | 58.667 | GFL05-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 2.4 | 10 | - | 59 | 133 | 174 | 3.0 | 59.481 | GFL06-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 2.4 | 9.7 | - | 57 | 136 | 177 | 1.0 | 61.653 | GFL05-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 2.3 | 9.5 | - | 55 | 142 | 185 | 1.3 | 63.190 | GFL05-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 2.3 | 9.4 | - | 55 | 144 | 187 | 2.5 | 64.080 | GFL06-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 2.2 | 9.1 | - | 53 | 146 | 191 | 2.5 | 66.213 | GFL06-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 2.0 | 8.4 | - | 49 | 160 | 208 | 1.4 | 71.200 | GFL05-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 2.0 | 8.3 | - | 49 | 159 | 207 | 2.3 | 72.000 | GFL06-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 2.0 | 8.3 | - | 48 | 162 | 211 | 2.8 | 72.189 | GFL06-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 1.9 | 7.6 | - | 44 | 174 | 226 | 0.9 | 78.639 | GFL05-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 1.8 | 7.4 | - | 43 | 182 | 237 | 1.6 | 81.000 | GFL06-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 1.8 | 7.4 | - | 43 | 179 | 233 | 2.0 | 81.111 | GFL06-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 1.7 | 6.8 | - | 40 | 195 | 254 | 1.8 | 88.200 | GFL06-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 1.6 | 6.7 | - | 39 | 199 | 259 | 1.1 | 90.123 | GFL05-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 1.6 | 6.6 | - | 38 | 205 | 267 | 1.6 | 91.250 | GFL06-2M□□□071C32 | E84AV□□□1124□□0 | 74 |
| 1.5 | 6.0 | - | 35 | 220 | 286 | 1.8 | 99.361 | GFL06-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 1.4 | 5.9 | - | 34 | 224 | 292 | 1.1 | 101.547 | GFL05-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 1.3 | 5.3 | - | 31 | 250 | 326 | 3.0 | 113.206 | GFL07-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 1.3 | 5.2 | - | 30 | 254 | 331 | 0.9 | 114.952 | GFL05-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 1.3 | 5.2 | - | 30 | 258 | 335 | 1.5 | 116.571 | GFL06-3M□□□071C32 | E84AV□□□1124□□0 | 82 |

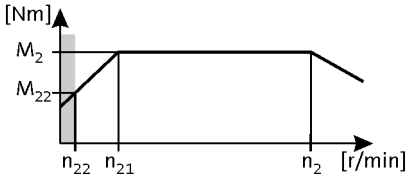


## Selection tables

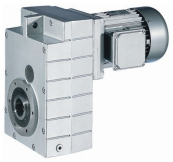
► 120 Hz: $P_N$ = 1.10 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.4 ... 3490 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.1 | 4.6 | - | 27 | 290 | 378 | 1.5 | 131.323 | GFL06-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 1.1 | 4.7 | - | 27 | 282 | 367 | 3.0 | 127.556 | GFL07-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 1.0 | 4.2 | - | 24 | 319 | 415 | 1.3 | 144.320 | GFL06-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 1.0 | 4.1 | - | 24 | 325 | 424 | 2.6 | 147.347 | GFL07-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.9 | 3.7 | - | 22 | 359 | 468 | 1.2 | 162.583 | GFL06-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.9 | 3.6 | - | 21 | 367 | 478 | 2.5 | 166.025 | GFL07-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.8 | 3.3 | - | 19 | 397 | 516 | 1.1 | 179.520 | GFL06-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.8 | 3.3 | - | 19 | 405 | 527 | 2.2 | 183.285 | GFL07-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.7 | 3.0 | - | 17 | 447 | 582 | 1.0 | 202.237 | GFL06-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.7 | 2.9 | - | 17 | 456 | 594 | 2.0 | 206.519 | GFL07-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.7 | 2.7 | - | 16 | 496 | 646 | 2.0 | 224.636 | GFL07-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.6 | 2.6 | - | 15 | 511 | 665 | 0.9 | 231.200 | GFL06-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.6 | 2.4 | - | 14 | 559 | 728 | 1.6 | 253.111 | GFL07-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.5 | 2.1 | - | 12 | 642 | 836 | 1.6 | 290.706 | GFL07-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.5 | 2.1 | - | 12 | 643 | 837 | 3.0 | 290.889 | GFL09-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.4 | 1.8 | - | 11 | 724 | 942 | 1.3 | 327.556 | GFL07-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.4 | 1.8 | - | 11 | 724 | 943 | 3.0 | 327.827 | GFL09-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.4 | 1.7 | - | 9.9 | 779 | 1015 | 1.3 | 352.811 | GFL07-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.4 | 1.7 | - | 9.9 | 780 | 1016 | 2.6 | 353.033 | GFL09-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.4 | 1.5 | - | 8.8 | 878 | 1144 | 1.0 | 397.533 | GFL07-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.4 | 1.5 | - | 8.8 | 879 | 1144 | 2.6 | 397.863 | GFL09-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.3 | 1.4 | - | 8.2 | 937 | 1220 | 2.1 | 424.247 | GFL09-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.3 | 1.4 | - | 8.1 | 950 | 1238 | 1.0 | 430.222 | GFL07-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.3 | 1.2 | - | 6.8 | 1137 | 1481 | 1.7 | 514.881 | GFL09-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.3 | 1.1 | - | 6.3 | 1225 | 1595 | 1.3 | 554.470 | GFL09-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.2 | 1.0 | - | 5.6 | 1380 | 1797 | 1.2 | 624.879 | GFL09-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.2 | 0.9 | - | 5.0 | 1548 | 2016 | 1.0 | 700.875 | GFL09-3M□□□071C32 | E84AV□□□1124□□0 | 82 |
| 0.2 | 0.8 | - | 4.4 | 1745 | 2272 | 1.0 | 789.875 | GFL09-3M□□□071C32 | E84AV□□□1124□□0 | 82 |

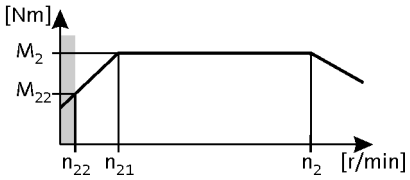


## Selection tables

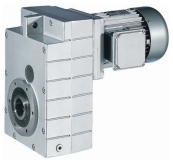
► 120 Hz: $P_N$ = 1.50 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 143.8 ... 3450 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 23 | 94 | - | 539 | 20 | 26 | 3.1 | 6.400 | GFL05-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 22 | 93 | - | 537 | 20 | 26 | 2.9 | 6.422 | GFL04-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 21 | 85 | - | 491 | 22 | 28 | 2.8 | 7.025 | GFL04-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 16 | 67 | - | 383 | 28 | 36 | 3.1 | 9.010 | GFL05-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 15 | 60 | - | 347 | 30 | 40 | 3.1 | 9.946 | GFL05-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 14 | 59 | - | 337 | 31 | 41 | 2.9 | 10.238 | GFL04-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 9.9 | 41 | - | 237 | 45 | 59 | 3.1 | 14.538 | GFL05-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 9.8 | 41 | - | 235 | 45 | 59 | 2.3 | 14.706 | GFL04-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 9.0 | 38 | - | 217 | 49 | 64 | 3.1 | 15.904 | GFL05-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 8.9 | 37 | - | 215 | 49 | 65 | 2.1 | 16.087 | GFL04-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 8.0 | 34 | - | 193 | 55 | 72 | 1.8 | 17.920 | GFL04-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 8.0 | 34 | - | 193 | 55 | 72 | 3.1 | 17.920 | GFL05-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 7.1 | 30 | - | 170 | 62 | 82 | 2.9 | 20.286 | GFL05-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 7.0 | 29 | - | 168 | 63 | 83 | 1.7 | 20.519 | GFL04-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 7.0 | 29 | - | 168 | 63 | 83 | 3.1 | 20.571 | GFL06-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 6.3 | 26 | - | 151 | 70 | 92 | 1.4 | 22.857 | GFL04-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 6.3 | 26 | - | 151 | 70 | 92 | 2.6 | 22.857 | GFL05-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 6.2 | 26 | - | 149 | 71 | 93 | 3.1 | 23.175 | GFL06-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 5.8 | 24 | - | 139 | 76 | 100 | 2.9 | 24.850 | GFL05-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 5.7 | 24 | - | 137 | 77 | 101 | 1.6 | 25.136 | GFL04-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 5.1 | 21 | - | 123 | 86 | 113 | 1.3 | 28.000 | GFL04-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 5.1 | 21 | - | 123 | 86 | 113 | 2.4 | 28.000 | GFL05-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 4.6 | 19 | - | 109 | 97 | 127 | 1.3 | 31.600 | GFL04-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 4.4 | 19 | - | 107 | 99 | 130 | 2.3 | 32.344 | GFL05-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 4.4 | 18 | - | 105 | 100 | 132 | 2.9 | 32.800 | GFL06-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 4.1 | 17 | - | 98 | 108 | 142 | 1.0 | 35.200 | GFL04-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 3.9 | 17 | - | 95 | 111 | 147 | 1.9 | 36.444 | GFL05-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 3.9 | 16 | - | 93 | 113 | 149 | 2.9 | 36.951 | GFL06-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 3.6 | 15 | - | 86 | 123 | 162 | 1.8 | 40.233 | GFL05-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 3.5 | 15 | - | 85 | 124 | 164 | 1.0 | 40.697 | GFL04-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 3.5 | 15 | - | 85 | 125 | 164 | 2.4 | 40.800 | GFL06-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 3.2 | 13 | - | 76 | 139 | 183 | 1.5 | 45.333 | GFL05-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 3.1 | 13 | - | 75 | 141 | 185 | 2.4 | 45.963 | GFL06-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 2.8 | 12 | - | 66 | 159 | 210 | 1.3 | 52.067 | GFL05-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 2.7 | 11 | - | 65 | 161 | 213 | 2.2 | 52.800 | GFL06-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 2.5 | 10 | - | 59 | 179 | 236 | 1.2 | 58.667 | GFL05-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 2.4 | 10 | - | 58 | 182 | 240 | 2.2 | 59.481 | GFL06-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 2.3 | 9.5 | - | 55 | 193 | 255 | 1.0 | 63.190 | GFL05-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 2.2 | 9.4 | - | 54 | 196 | 258 | 1.8 | 64.080 | GFL06-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 2.2 | 9.1 | - | 52 | 199 | 263 | 1.8 | 66.213 | GFL06-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 2.0 | 8.4 | - | 49 | 218 | 287 | 1.0 | 71.200 | GFL05-2M□□□071C42 | E84AV□□□1524□□0 | 74 |

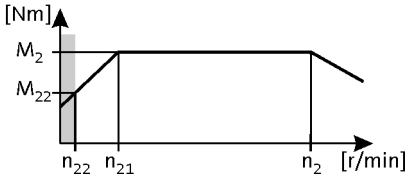


## Selection tables

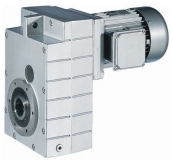
► 120 Hz: $P_N$ = 1.50 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 143.8 ... 3450 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 2.0 | 8.3 | - | 48 | 217 | 286 | 1.7 | 72.000 | GFL06-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 2.0 | 8.3 | - | 48 | 221 | 291 | 2.0 | 72.189 | GFL06-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 2.0 | 8.3 | - | 48 | 218 | 288 | 2.9 | 72.452 | GFL07-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 1.8 | 7.4 | - | 43 | 248 | 326 | 1.2 | 81.000 | GFL06-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 1.8 | 7.4 | - | 43 | 244 | 322 | 1.5 | 81.111 | GFL06-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 1.8 | 7.4 | - | 42 | 246 | 324 | 2.9 | 81.636 | GFL07-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 1.6 | 6.8 | - | 39 | 266 | 350 | 1.3 | 88.200 | GFL06-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 1.6 | 6.6 | - | 38 | 279 | 368 | 1.2 | 91.250 | GFL06-2M□□□071C42 | E84AV□□□1524□□0 | 74 |
| 1.6 | 6.5 | - | 37 | 278 | 367 | 2.5 | 92.413 | GFL07-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 1.5 | 6.0 | - | 35 | 299 | 394 | 1.3 | 99.361 | GFL06-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 1.4 | 5.8 | - | 33 | 314 | 413 | 2.5 | 104.127 | GFL07-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 1.3 | 5.3 | - | 31 | 341 | 449 | 2.2 | 113.206 | GFL07-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 1.2 | 5.2 | - | 30 | 351 | 463 | 1.1 | 116.571 | GFL06-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 1.1 | 4.7 | - | 27 | 384 | 506 | 2.2 | 127.556 | GFL07-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 1.1 | 4.6 | - | 26 | 396 | 521 | 1.1 | 131.323 | GFL06-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 1.0 | 4.2 | - | 24 | 435 | 573 | 0.9 | 144.320 | GFL06-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 1.0 | 4.1 | - | 23 | 444 | 585 | 1.9 | 147.347 | GFL07-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 1.0 | 4.0 | - | 23 | 448 | 591 | 3.2 | 148.815 | GFL09-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.9 | 3.7 | - | 21 | 490 | 645 | 0.9 | 162.583 | GFL06-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.9 | 3.6 | - | 21 | 500 | 659 | 1.8 | 166.025 | GFL07-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.9 | 3.6 | - | 21 | 505 | 666 | 3.2 | 167.712 | GFL09-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.8 | 3.3 | - | 19 | 552 | 727 | 1.6 | 183.285 | GFL07-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.8 | 3.2 | - | 19 | 558 | 735 | 2.7 | 185.111 | GFL09-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.7 | 2.9 | - | 17 | 622 | 819 | 1.5 | 206.519 | GFL07-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.7 | 2.9 | - | 17 | 628 | 828 | 2.7 | 208.617 | GFL09-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.6 | 2.7 | - | 15 | 677 | 891 | 1.4 | 224.636 | GFL07-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.6 | 2.7 | - | 15 | 677 | 892 | 2.6 | 224.778 | GFL09-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.6 | 2.4 | - | 14 | 762 | 1004 | 1.2 | 253.111 | GFL07-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.6 | 2.4 | - | 14 | 763 | 1005 | 2.6 | 253.321 | GFL09-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.5 | 2.1 | - | 12 | 876 | 1154 | 1.1 | 290.706 | GFL07-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.5 | 2.1 | - | 12 | 876 | 1154 | 2.2 | 290.889 | GFL09-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.4 | 1.8 | - | 11 | 987 | 1300 | 0.9 | 327.556 | GFL07-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.4 | 1.8 | - | 11 | 987 | 1301 | 2.2 | 327.827 | GFL09-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.4 | 1.7 | - | 9.8 | 1063 | 1400 | 0.9 | 352.811 | GFL07-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.4 | 1.7 | - | 9.8 | 1063 | 1401 | 1.9 | 353.033 | GFL09-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.4 | 1.5 | - | 8.7 | 1198 | 1579 | 1.9 | 397.863 | GFL09-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.3 | 1.4 | - | 8.1 | 1278 | 1683 | 1.5 | 424.247 | GFL09-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.3 | 1.2 | - | 6.7 | 1551 | 2043 | 1.3 | 514.881 | GFL09-3M□□□071C42 | E84AV□□□1524□□0 | 82 |
| 0.3 | 1.1 | - | 6.2 | 1670 | 2200 | 0.9 | 554.470 | GFL09-3M□□□071C42 | E84AV□□□1524□□0 | 82 |

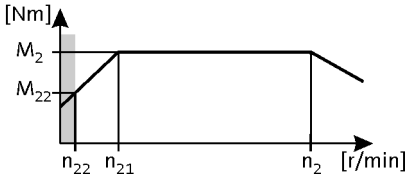


## Selection tables

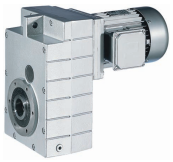
► 120 Hz: $P_N$ = 2.20 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.8 ... 3500 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 23 | 93 | - | 545 | 28 | 37 | 2.3 | 6.422 | GFL04-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 21 | 85 | - | 498 | 31 | 41 | 2.1 | 7.025 | GFL04-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 16 | 67 | - | 389 | 39 | 53 | 3.8 | 9.010 | GFL05-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 14 | 59 | - | 342 | 45 | 60 | 2.0 | 10.238 | GFL04-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 10 | 41 | - | 241 | 64 | 85 | 2.7 | 14.538 | GFL05-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 9.9 | 41 | - | 238 | 64 | 86 | 1.6 | 14.706 | GFL04-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 9.2 | 38 | - | 220 | 69 | 93 | 2.5 | 15.904 | GFL05-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 9.1 | 37 | - | 218 | 70 | 94 | 1.5 | 16.087 | GFL04-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 8.1 | 34 | - | 195 | 78 | 104 | 1.2 | 17.920 | GFL04-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 8.1 | 34 | - | 195 | 78 | 104 | 2.3 | 17.920 | GFL05-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 7.2 | 30 | - | 173 | 89 | 118 | 2.1 | 20.286 | GFL05-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 7.1 | 29 | - | 171 | 90 | 120 | 1.2 | 20.519 | GFL04-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 6.4 | 26 | - | 153 | 100 | 133 | 0.9 | 22.857 | GFL04-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 6.4 | 26 | - | 153 | 100 | 133 | 1.8 | 22.857 | GFL05-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 5.9 | 24 | - | 141 | 109 | 145 | 2.0 | 24.850 | GFL05-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 5.8 | 24 | - | 139 | 110 | 146 | 1.1 | 25.136 | GFL04-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 5.2 | 21 | - | 125 | 122 | 163 | 1.6 | 28.000 | GFL05-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 5.1 | 21 | - | 123 | 124 | 165 | 3.1 | 28.389 | GFL06-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 4.5 | 19 | - | 108 | 141 | 188 | 1.6 | 32.344 | GFL05-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 4.5 | 18 | - | 107 | 143 | 191 | 2.9 | 32.800 | GFL06-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 4.0 | 17 | - | 96 | 159 | 212 | 1.3 | 36.444 | GFL05-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 4.0 | 16 | - | 95 | 161 | 215 | 2.4 | 36.951 | GFL06-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 3.6 | 15 | - | 87 | 176 | 234 | 1.3 | 40.233 | GFL05-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 3.6 | 15 | - | 86 | 178 | 238 | 2.4 | 40.800 | GFL06-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 3.2 | 13 | - | 77 | 198 | 264 | 1.0 | 45.333 | GFL05-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 3.2 | 13 | - | 76 | 201 | 268 | 2.0 | 45.963 | GFL06-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 2.8 | 12 | - | 67 | 227 | 303 | 3.1 | 52.067 | GFL07-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 2.8 | 11 | - | 66 | 231 | 308 | 1.8 | 52.800 | GFL06-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 2.5 | 10 | - | 60 | 256 | 342 | 3.1 | 58.667 | GFL07-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 2.5 | 10 | - | 59 | 260 | 346 | 1.5 | 59.481 | GFL06-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 2.3 | 9.4 | - | 55 | 280 | 373 | 1.3 | 64.080 | GFL06-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 2.3 | 9.5 | - | 55 | 276 | 368 | 2.4 | 63.190 | GFL07-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 2.2 | 9.2 | - | 54 | 281 | 375 | 2.2 | 65.306 | GFL07-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 2.2 | 9.1 | - | 53 | 285 | 380 | 1.2 | 66.213 | GFL06-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 2.0 | 8.3 | - | 49 | 310 | 413 | 1.1 | 72.000 | GFL06-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 2.0 | 8.3 | - | 49 | 315 | 420 | 1.4 | 72.189 | GFL06-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 2.1 | 8.4 | - | 49 | 311 | 415 | 2.7 | 71.200 | GFL07-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 2.0 | 8.3 | - | 48 | 312 | 416 | 2.0 | 72.452 | GFL07-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 1.8 | 7.5 | - | 44 | 349 | 465 | 1.6 | 79.875 | GFL07-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 1.8 | 7.4 | - | 43 | 349 | 465 | 1.0 | 81.111 | GFL06-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 1.8 | 7.4 | - | 43 | 351 | 468 | 2.0 | 81.636 | GFL07-3M□□□080C32 | E84AV□□□2224□□0 | 82 |

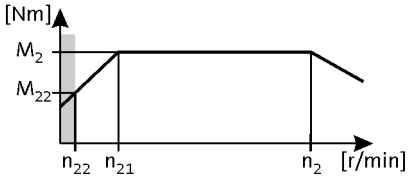


## Selection tables

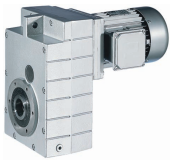
► 120 Hz: $P_N$ = 2.20 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.8 ... 3500 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 1.7 | 6.8 | - | 40 | 379 | 506 | 0.9 | 88.200 | GFL06-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 1.6 | 6.7 | - | 39 | 393 | 524 | 1.6 | 90.000 | GFL07-2M□□□080C32 | E84AV□□□2224□□0 | 74 |
| 1.6 | 6.5 | - | 38 | 397 | 530 | 1.7 | 92.413 | GFL07-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 1.6 | 6.4 | - | 38 | 401 | 535 | 3.0 | 93.333 | GFL09-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 1.5 | 6.0 | - | 35 | 427 | 570 | 0.9 | 99.361 | GFL06-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 1.4 | 5.8 | - | 34 | 448 | 597 | 1.7 | 104.127 | GFL07-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 1.4 | 5.7 | - | 33 | 452 | 603 | 3.0 | 105.185 | GFL09-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 1.3 | 5.3 | - | 31 | 487 | 649 | 1.5 | 113.206 | GFL07-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 1.3 | 5.3 | - | 31 | 492 | 656 | 2.7 | 114.333 | GFL09-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 1.1 | 4.7 | - | 27 | 549 | 732 | 1.5 | 127.556 | GFL07-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 1.1 | 4.7 | - | 27 | 554 | 739 | 2.7 | 128.852 | GFL09-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 1.0 | 4.1 | - | 24 | 634 | 845 | 1.3 | 147.347 | GFL07-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 1.0 | 4.0 | - | 24 | 640 | 854 | 2.3 | 148.815 | GFL09-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.9 | 3.6 | - | 21 | 714 | 952 | 1.2 | 166.025 | GFL07-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.9 | 3.6 | - | 21 | 721 | 962 | 2.3 | 167.712 | GFL09-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.8 | 3.3 | - | 19 | 788 | 1052 | 1.1 | 183.285 | GFL07-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.8 | 3.2 | - | 19 | 796 | 1062 | 2.0 | 185.111 | GFL09-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.7 | 2.9 | - | 17 | 888 | 1185 | 1.0 | 206.519 | GFL07-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.7 | 2.9 | - | 17 | 897 | 1197 | 2.0 | 208.617 | GFL09-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.7 | 2.7 | - | 16 | 966 | 1289 | 1.0 | 224.636 | GFL07-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.7 | 2.7 | - | 16 | 967 | 1290 | 1.8 | 224.778 | GFL09-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.6 | 2.4 | - | 14 | 1089 | 1453 | 1.8 | 253.321 | GFL09-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.6 | 2.3 | - | 13 | 1149 | 1533 | 3.2 | 267.259 | GFL11-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.5 | 2.1 | - | 12 | 1251 | 1669 | 1.5 | 290.889 | GFL09-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.4 | 1.8 | - | 11 | 1410 | 1881 | 1.5 | 327.827 | GFL09-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.5 | 1.8 | - | 11 | 1409 | 1879 | 2.8 | 327.556 | GFL11-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.4 | 1.7 | - | 9.9 | 1518 | 2025 | 1.3 | 353.033 | GFL09-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.4 | 1.7 | - | 9.8 | 1540 | 2054 | 2.4 | 358.077 | GFL11-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.4 | 1.5 | - | 8.8 | 1711 | 2282 | 1.3 | 397.863 | GFL09-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.4 | 1.5 | - | 8.7 | 1735 | 2315 | 2.4 | 403.467 | GFL11-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.3 | 1.4 | - | 8.3 | 1825 | 2434 | 1.1 | 424.247 | GFL09-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.3 | 1.4 | - | 8.1 | 1850 | 2468 | 2.3 | 430.222 | GFL11-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.3 | 1.2 | - | 6.7 | 2245 | 2995 | 1.9 | 522.133 | GFL11-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.3 | 1.1 | - | 6.2 | 2419 | 3226 | 1.6 | 562.391 | GFL11-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.2 | 1.0 | - | 5.5 | 2725 | 3635 | 1.5 | 633.680 | GFL11-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.2 | 0.8 | - | 4.9 | 3057 | 4078 | 1.2 | 710.888 | GFL11-3M□□□080C32 | E84AV□□□2224□□0 | 82 |
| 0.2 | 0.8 | - | 4.4 | 3445 | 4595 | 1.2 | 801.000 | GFL11-3M□□□080C32 | E84AV□□□2224□□0 | 82 |

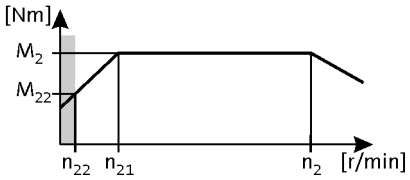


## Selection tables

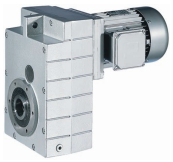
► 120 Hz: $P_N$ = 3.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.0 ... 3480 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 23 | 141 | - | 544 | 38 | 51 | 2.6 | 6.400 | GFL05-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 23 | 140 | - | 542 | 39 | 51 | 1.7 | 6.422 | GFL04-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 23 | 140 | - | 540 | 39 | 52 | 3.1 | 6.450 | GFL06-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 21 | 128 | - | 495 | 42 | 56 | 1.5 | 7.025 | GFL04-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 16 | 100 | - | 386 | 54 | 72 | 2.8 | 9.010 | GFL05-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 15 | 91 | - | 350 | 60 | 79 | 2.6 | 9.946 | GFL05-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 14 | 89 | - | 345 | 61 | 81 | 3.1 | 10.092 | GFL06-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 14 | 88 | - | 340 | 61 | 82 | 1.5 | 10.238 | GFL04-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 10 | 62 | - | 239 | 87 | 116 | 2.0 | 14.538 | GFL05-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 9.9 | 61 | - | 237 | 88 | 118 | 1.2 | 14.706 | GFL04-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 9.8 | 61 | - | 236 | 88 | 118 | 3.1 | 14.743 | GFL06-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 9.1 | 57 | - | 219 | 95 | 127 | 1.8 | 15.904 | GFL05-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 9.0 | 56 | - | 216 | 96 | 129 | 1.1 | 16.087 | GFL04-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 9.0 | 56 | - | 216 | 97 | 129 | 3.1 | 16.128 | GFL06-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 8.1 | 50 | - | 194 | 107 | 143 | 1.6 | 17.920 | GFL05-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 8.0 | 50 | - | 192 | 109 | 145 | 3.1 | 18.169 | GFL06-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 7.2 | 44 | - | 172 | 122 | 162 | 1.6 | 20.286 | GFL05-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 7.2 | 44 | - | 172 | 122 | 162 | 3.1 | 20.286 | GFL07-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 7.1 | 44 | - | 169 | 123 | 164 | 2.9 | 20.571 | GFL06-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 6.3 | 39 | - | 152 | 137 | 183 | 1.3 | 22.857 | GFL05-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 6.3 | 39 | - | 152 | 137 | 183 | 3.1 | 22.857 | GFL07-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 6.3 | 39 | - | 150 | 139 | 185 | 2.5 | 23.175 | GFL06-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 5.8 | 36 | - | 140 | 149 | 199 | 1.5 | 24.850 | GFL05-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 5.8 | 36 | - | 138 | 151 | 201 | 2.8 | 25.200 | GFL06-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 5.2 | 32 | - | 124 | 168 | 224 | 1.2 | 28.000 | GFL05-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 5.1 | 32 | - | 123 | 170 | 227 | 2.3 | 28.389 | GFL06-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 4.5 | 28 | - | 108 | 194 | 258 | 1.1 | 32.344 | GFL05-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 4.5 | 28 | - | 108 | 194 | 258 | 2.9 | 32.344 | GFL07-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 4.4 | 27 | - | 106 | 197 | 262 | 2.1 | 32.800 | GFL06-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 4.0 | 25 | - | 96 | 218 | 291 | 0.9 | 36.444 | GFL05-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 4.0 | 25 | - | 96 | 218 | 291 | 2.9 | 36.444 | GFL07-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 3.9 | 24 | - | 94 | 221 | 295 | 1.8 | 36.951 | GFL06-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 3.7 | 23 | - | 88 | 238 | 317 | 2.4 | 39.642 | GFL07-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 3.6 | 22 | - | 87 | 241 | 321 | 0.9 | 40.233 | GFL05-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 3.6 | 22 | - | 85 | 244 | 326 | 1.7 | 40.800 | GFL06-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 3.3 | 20 | - | 78 | 268 | 357 | 2.4 | 44.667 | GFL07-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 3.2 | 20 | - | 76 | 275 | 367 | 1.4 | 45.963 | GFL06-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 2.8 | 17 | - | 67 | 312 | 416 | 2.3 | 52.067 | GFL07-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 2.8 | 17 | - | 66 | 316 | 422 | 1.3 | 52.800 | GFL06-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 2.4 | 15 | - | 59 | 356 | 475 | 1.1 | 59.481 | GFL06-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 2.5 | 15 | - | 59 | 352 | 469 | 2.3 | 58.667 | GFL07-2M□□□080C42 | E84AV□□□3024□□0 | 74 |

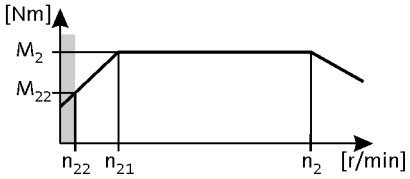


## Selection tables

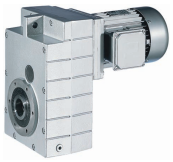
► 120 Hz: $P_N$ = 3.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.0 ... 3480 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 2.3 | 14 | - | 55 | 379 | 505 | 1.8 | 63.190 | GFL07-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 2.3 | 14 | - | 55 | 374 | 498 | 2.6 | 63.326 | GFL09-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 2.3 | 14 | - | 54 | 384 | 512 | 1.0 | 64.080 | GFL06-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 2.2 | 14 | - | 53 | 391 | 521 | 0.9 | 66.213 | GFL06-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 2.2 | 14 | - | 53 | 385 | 514 | 1.6 | 65.306 | GFL07-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 2.0 | 13 | - | 49 | 427 | 569 | 2.0 | 71.200 | GFL07-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 2.0 | 13 | - | 48 | 433 | 577 | 1.0 | 72.189 | GFL06-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 2.0 | 12 | - | 48 | 428 | 570 | 1.5 | 72.452 | GFL07-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 2.0 | 12 | - | 48 | 432 | 576 | 2.5 | 73.173 | GFL09-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 1.8 | 11 | - | 44 | 479 | 638 | 1.2 | 79.875 | GFL07-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 1.8 | 11 | - | 43 | 482 | 642 | 1.5 | 81.636 | GFL07-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 1.8 | 11 | - | 42 | 487 | 649 | 2.5 | 82.465 | GFL09-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 1.6 | 10 | - | 39 | 539 | 719 | 1.2 | 90.000 | GFL07-2M□□□080C42 | E84AV□□□3024□□0 | 74 |
| 1.6 | 9.7 | - | 38 | 545 | 727 | 1.3 | 92.413 | GFL07-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 1.6 | 9.6 | - | 37 | 551 | 734 | 2.2 | 93.333 | GFL09-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 1.4 | 8.6 | - | 33 | 614 | 819 | 1.3 | 104.127 | GFL07-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 1.4 | 8.6 | - | 33 | 621 | 828 | 2.2 | 105.185 | GFL09-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 1.3 | 8.0 | - | 31 | 668 | 891 | 1.1 | 113.206 | GFL07-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 1.3 | 7.9 | - | 30 | 675 | 900 | 2.0 | 114.333 | GFL09-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 1.1 | 7.1 | - | 27 | 753 | 1004 | 1.1 | 127.556 | GFL07-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 1.1 | 7.0 | - | 27 | 760 | 1014 | 2.0 | 128.852 | GFL09-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 1.0 | 6.1 | - | 24 | 870 | 1159 | 0.9 | 147.347 | GFL07-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 1.0 | 6.1 | - | 23 | 878 | 1171 | 1.7 | 148.815 | GFL09-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 1.0 | 6.0 | - | 23 | 880 | 1173 | 3.2 | 149.144 | GFL11-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.9 | 5.4 | - | 21 | 980 | 1306 | 0.9 | 166.025 | GFL07-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.9 | 5.4 | - | 21 | 990 | 1320 | 1.7 | 167.712 | GFL09-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.9 | 5.4 | - | 21 | 992 | 1322 | 3.2 | 168.049 | GFL11-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.8 | 4.9 | - | 19 | 1092 | 1456 | 1.5 | 185.111 | GFL09-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.8 | 4.9 | - | 19 | 1079 | 1438 | 2.7 | 182.792 | GFL11-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.7 | 4.3 | - | 17 | 1231 | 1641 | 1.5 | 208.617 | GFL09-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.7 | 4.4 | - | 17 | 1215 | 1621 | 2.7 | 205.963 | GFL11-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.7 | 4.0 | - | 16 | 1326 | 1769 | 1.3 | 224.778 | GFL09-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.7 | 4.0 | - | 16 | 1326 | 1767 | 2.4 | 224.636 | GFL11-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.6 | 3.6 | - | 14 | 1495 | 1993 | 1.3 | 253.321 | GFL09-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.6 | 3.6 | - | 14 | 1494 | 1991 | 2.4 | 253.111 | GFL11-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.5 | 3.4 | - | 13 | 1577 | 2103 | 2.3 | 267.259 | GFL11-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.5 | 3.1 | - | 12 | 1717 | 2289 | 1.1 | 290.889 | GFL09-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.4 | 2.8 | - | 11 | 1935 | 2579 | 1.1 | 327.827 | GFL09-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.4 | 2.8 | - | 11 | 1933 | 2577 | 2.0 | 327.556 | GFL11-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.4 | 2.6 | - | 9.9 | 2083 | 2778 | 1.0 | 353.033 | GFL09-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.4 | 2.5 | - | 9.7 | 2113 | 2817 | 1.8 | 358.077 | GFL11-3M□□□080C42 | E84AV□□□3024□□0 | 82 |

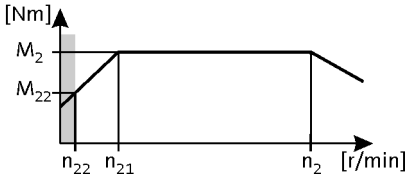


## Selection tables

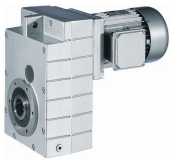
► 120 Hz: $P_N$ = 3.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.0 ... 3480 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.4 | 2.3 | - | 8.8 | 2348 | 3130 | 1.0 | 397.863 | GFL09-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.4 | 2.2 | - | 8.6 | 2381 | 3174 | 1.8 | 403.467 | GFL11-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.3 | 2.1 | - | 8.1 | 2539 | 3385 | 1.7 | 430.222 | GFL11-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.3 | 1.7 | - | 6.7 | 3081 | 4108 | 1.4 | 522.133 | GFL11-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.3 | 1.6 | - | 6.2 | 3319 | 4425 | 1.1 | 562.391 | GFL11-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.2 | 1.4 | - | 5.5 | 3739 | 4986 | 1.1 | 633.680 | GFL11-3M□□□080C42 | E84AV□□□3024□□0 | 82 |
| 0.2 | 1.3 | - | 4.9 | 4195 | 5593 | 0.9 | 710.888 | GFL11-3M□□□080C42 | E84AV□□□3024□□0 | 82 |

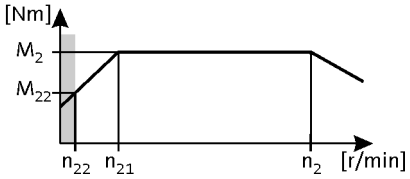


## Selection tables

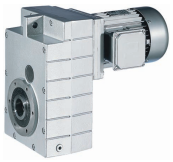
► 120 Hz: $P_N$ = 4.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.0 ... 3480 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 23 | 94 | - | 544 | 48 | 68 | 1.9 | 6.400 | GFL05-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 23 | 93 | - | 542 | 48 | 68 | 1.2 | 6.422 | GFL04-2M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 23 | 93 | - | 540 | 48 | 69 | 2.9 | 6.450 | GFL06-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 21 | 85 | - | 495 | 52 | 75 | 1.1 | 7.025 | GFL04-2M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 16 | 67 | - | 386 | 67 | 96 | 2.1 | 9.010 | GFL05-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 15 | 60 | - | 350 | 74 | 106 | 2.0 | 9.946 | GFL05-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 14 | 60 | - | 345 | 75 | 108 | 2.9 | 10.092 | GFL06-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 14 | 59 | - | 340 | 76 | 109 | 1.1 | 10.238 | GFL04-2M□□□090C32 | E84AV□□□4024□□0 | 78 |
| 10 | 41 | - | 239 | 108 | 155 | 1.5 | 14.538 | GFL05-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 9.8 | 41 | - | 236 | 110 | 157 | 2.9 | 14.743 | GFL06-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 9.1 | 38 | - | 219 | 119 | 169 | 1.4 | 15.904 | GFL05-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 9.0 | 37 | - | 216 | 120 | 172 | 2.8 | 16.128 | GFL06-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 8.1 | 34 | - | 194 | 134 | 191 | 1.2 | 17.920 | GFL05-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 8.0 | 33 | - | 192 | 136 | 194 | 2.3 | 18.169 | GFL06-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 7.2 | 30 | - | 172 | 151 | 216 | 1.2 | 20.286 | GFL05-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 7.2 | 30 | - | 172 | 151 | 216 | 2.9 | 20.286 | GFL07-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 7.1 | 29 | - | 169 | 153 | 219 | 2.2 | 20.571 | GFL06-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 6.3 | 26 | - | 152 | 170 | 243 | 1.0 | 22.857 | GFL05-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 6.3 | 26 | - | 152 | 170 | 243 | 2.9 | 22.857 | GFL07-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 6.3 | 26 | - | 150 | 173 | 247 | 1.8 | 23.175 | GFL06-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 5.8 | 24 | - | 140 | 185 | 265 | 1.1 | 24.850 | GFL05-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 5.8 | 24 | - | 138 | 188 | 268 | 2.1 | 25.200 | GFL06-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 5.2 | 21 | - | 124 | 209 | 298 | 0.9 | 28.000 | GFL05-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 5.1 | 21 | - | 123 | 212 | 302 | 1.7 | 28.389 | GFL06-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 4.5 | 19 | - | 108 | 241 | 345 | 2.8 | 32.344 | GFL07-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 4.4 | 18 | - | 106 | 245 | 349 | 1.6 | 32.800 | GFL06-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 4.0 | 17 | - | 96 | 272 | 388 | 2.8 | 36.444 | GFL07-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 3.9 | 16 | - | 94 | 276 | 394 | 1.3 | 36.951 | GFL06-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 3.7 | 15 | - | 88 | 296 | 422 | 2.3 | 39.642 | GFL07-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 3.6 | 15 | - | 85 | 304 | 435 | 1.3 | 40.800 | GFL06-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 3.3 | 13 | - | 78 | 333 | 476 | 2.3 | 44.667 | GFL07-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 3.2 | 13 | - | 76 | 343 | 490 | 1.1 | 45.963 | GFL06-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 2.8 | 12 | - | 68 | 383 | 547 | 2.3 | 51.333 | GFL09-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 2.8 | 12 | - | 67 | 388 | 555 | 1.9 | 52.067 | GFL07-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 2.8 | 11 | - | 66 | 394 | 562 | 1.0 | 52.800 | GFL06-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 2.5 | 10 | - | 60 | 431 | 616 | 2.3 | 57.852 | GFL09-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 2.5 | 10 | - | 59 | 437 | 625 | 1.7 | 58.667 | GFL07-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 2.3 | 9.6 | - | 56 | 465 | 664 | 2.0 | 62.300 | GFL09-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 2.3 | 9.5 | - | 55 | 471 | 673 | 1.6 | 63.190 | GFL07-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 2.3 | 9.5 | - | 55 | 465 | 664 | 2.0 | 63.326 | GFL09-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 2.2 | 9.2 | - | 53 | 480 | 685 | 1.2 | 65.306 | GFL07-3M□□□090C32 | E84AV□□□4024□□0 | 82 |

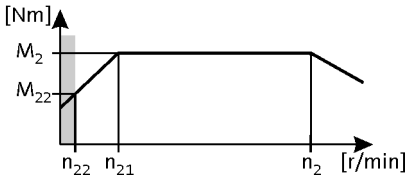


## Selection tables

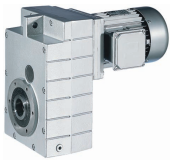
► 120 Hz: $P_N$ = 4.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.0 ... 3480 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 2.1 | 8.6 | - | 50 | 523 | 748 | 2.2 | 70.211 | GFL09-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 2.0 | 8.4 | - | 49 | 531 | 758 | 1.6 | 71.200 | GFL07-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 2.0 | 8.3 | - | 48 | 532 | 760 | 1.1 | 72.452 | GFL07-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 2.0 | 8.2 | - | 48 | 537 | 768 | 1.9 | 73.173 | GFL09-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 1.8 | 7.5 | - | 44 | 596 | 851 | 1.0 | 79.875 | GFL07-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 1.8 | 7.6 | - | 44 | 587 | 839 | 1.7 | 78.750 | GFL09-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 1.8 | 7.4 | - | 43 | 600 | 856 | 1.1 | 81.636 | GFL07-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 1.8 | 7.3 | - | 42 | 606 | 865 | 1.9 | 82.465 | GFL09-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 1.6 | 6.7 | - | 39 | 671 | 959 | 0.9 | 90.000 | GFL07-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 1.6 | 6.8 | - | 39 | 662 | 945 | 1.7 | 88.750 | GFL09-2M□□□090C32 | E84AV□□□4024□□0 | 74 |
| 1.6 | 6.5 | - | 38 | 679 | 969 | 0.9 | 92.413 | GFL07-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 1.6 | 6.4 | - | 37 | 685 | 979 | 1.6 | 93.333 | GFL09-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 1.6 | 6.4 | - | 37 | 687 | 981 | 3.1 | 93.540 | GFL11-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 1.4 | 5.8 | - | 33 | 765 | 1092 | 0.9 | 104.127 | GFL07-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 1.4 | 5.7 | - | 33 | 772 | 1103 | 1.6 | 105.185 | GFL09-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 1.4 | 5.7 | - | 33 | 774 | 1106 | 3.1 | 105.397 | GFL11-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 1.3 | 5.3 | - | 30 | 840 | 1199 | 1.5 | 114.333 | GFL09-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 1.1 | 4.7 | - | 27 | 946 | 1352 | 1.5 | 128.852 | GFL09-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 1.0 | 4.0 | - | 23 | 1093 | 1561 | 1.3 | 148.815 | GFL09-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 1.0 | 4.0 | - | 23 | 1095 | 1565 | 2.4 | 149.144 | GFL11-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.9 | 3.6 | - | 21 | 1232 | 1759 | 1.3 | 167.712 | GFL09-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.9 | 3.6 | - | 21 | 1234 | 1763 | 2.4 | 168.049 | GFL11-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.8 | 3.2 | - | 19 | 1359 | 1942 | 1.1 | 185.111 | GFL09-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.8 | 3.3 | - | 19 | 1342 | 1918 | 2.1 | 182.792 | GFL11-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.7 | 2.9 | - | 17 | 1532 | 2189 | 1.1 | 208.617 | GFL09-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.7 | 2.9 | - | 17 | 1512 | 2161 | 2.1 | 205.963 | GFL11-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.7 | 3.0 | - | 17 | 1484 | 2120 | 2.5 | 202.074 | GFL14-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.7 | 2.7 | - | 16 | 1651 | 2358 | 1.0 | 224.778 | GFL09-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.7 | 2.7 | - | 16 | 1650 | 2357 | 1.8 | 224.636 | GFL11-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.6 | 2.4 | - | 14 | 1860 | 2657 | 1.0 | 253.321 | GFL09-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.6 | 2.4 | - | 14 | 1859 | 2655 | 1.8 | 253.111 | GFL11-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.5 | 2.3 | - | 13 | 1963 | 2804 | 1.7 | 267.259 | GFL11-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.4 | 1.8 | - | 11 | 2405 | 3436 | 1.5 | 327.556 | GFL11-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.4 | 1.7 | - | 9.9 | 2591 | 3701 | 2.2 | 352.811 | GFL14-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.4 | 1.7 | - | 9.7 | 2630 | 3756 | 1.3 | 358.077 | GFL11-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.4 | 1.5 | - | 8.8 | 2919 | 4170 | 2.2 | 397.533 | GFL14-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.4 | 1.5 | - | 8.6 | 2963 | 4233 | 1.3 | 403.467 | GFL11-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.3 | 1.4 | - | 8.1 | 3159 | 4513 | 1.3 | 430.222 | GFL11-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.3 | 1.4 | - | 8.1 | 3159 | 4513 | 2.2 | 430.222 | GFL14-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.3 | 1.2 | - | 6.7 | 3834 | 5477 | 1.0 | 522.133 | GFL11-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.3 | 1.2 | - | 6.7 | 3834 | 5477 | 1.8 | 522.133 | GFL14-3M□□□090C32 | E84AV□□□4024□□0 | 82 |

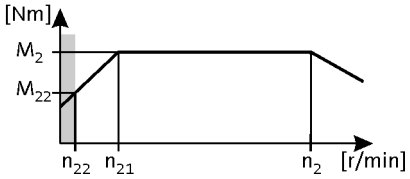


## Selection tables

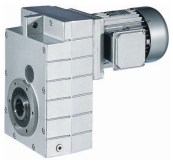
► 120 Hz: $P_N$ = 4.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 145.0 ... 3480 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 0.3 | 1.1 | - | 6.2 | 4130 | 5900 | 1.5 | 562.391 | GFL14-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.2 | 1.0 | - | 5.5 | 4653 | 6648 | 1.4 | 633.680 | GFL14-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.2 | 0.8 | - | 4.9 | 5220 | 7458 | 1.2 | 710.888 | GFL14-3M□□□090C32 | E84AV□□□4024□□0 | 82 |
| 0.2 | 0.8 | - | 4.3 | 5882 | 8403 | 1.1 | 801.000 | GFL14-3M□□□090C32 | E84AV□□□4024□□0 | 82 |

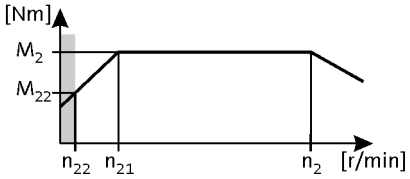


## Selection tables

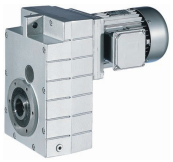
► 120 Hz: $P_N$ = 5.50 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 146.9 ... 3525 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 23 | 94 | - | 551 | 65 | 93 | 1.4 | 6.400 | GFL05-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 23 | 93 | - | 547 | 65 | 93 | 2.8 | 6.450 | GFL06-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 16 | 67 | - | 391 | 91 | 130 | 1.5 | 9.010 | GFL05-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 15 | 60 | - | 354 | 101 | 144 | 1.4 | 9.946 | GFL05-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 15 | 60 | - | 349 | 102 | 146 | 2.4 | 10.092 | GFL06-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 10 | 41 | - | 243 | 147 | 210 | 1.1 | 14.538 | GFL05-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 10 | 41 | - | 239 | 149 | 213 | 2.3 | 14.743 | GFL06-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 9.2 | 38 | - | 222 | 161 | 230 | 1.0 | 15.904 | GFL05-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 9.1 | 37 | - | 219 | 163 | 233 | 2.1 | 16.128 | GFL06-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 8.2 | 34 | - | 197 | 181 | 259 | 0.9 | 17.920 | GFL05-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 8.1 | 33 | - | 194 | 184 | 263 | 1.7 | 18.169 | GFL06-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 7.2 | 30 | - | 174 | 205 | 293 | 3.2 | 20.286 | GFL07-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 7.1 | 29 | - | 171 | 208 | 297 | 1.6 | 20.571 | GFL06-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 6.4 | 26 | - | 154 | 231 | 330 | 2.8 | 22.857 | GFL07-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 6.3 | 26 | - | 152 | 235 | 335 | 1.4 | 23.175 | GFL06-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 5.9 | 24 | - | 142 | 252 | 359 | 3.2 | 24.850 | GFL07-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 5.8 | 24 | - | 140 | 255 | 364 | 1.5 | 25.200 | GFL06-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 5.3 | 21 | - | 126 | 283 | 405 | 2.6 | 28.000 | GFL07-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 5.2 | 21 | - | 124 | 287 | 410 | 1.3 | 28.389 | GFL06-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 4.5 | 19 | - | 109 | 327 | 468 | 2.5 | 32.344 | GFL07-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 4.5 | 18 | - | 108 | 332 | 474 | 1.2 | 32.800 | GFL06-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 4.0 | 17 | - | 97 | 369 | 527 | 2.0 | 36.444 | GFL07-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 4.0 | 16 | - | 95 | 374 | 534 | 1.0 | 36.951 | GFL06-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 3.7 | 15 | - | 89 | 401 | 573 | 2.1 | 39.642 | GFL07-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 3.7 | 15 | - | 89 | 401 | 574 | 2.9 | 39.667 | GFL09-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 3.6 | 15 | - | 86 | 413 | 590 | 1.0 | 40.800 | GFL06-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 3.3 | 13 | - | 79 | 452 | 646 | 1.7 | 44.667 | GFL07-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 3.3 | 13 | - | 79 | 452 | 646 | 2.9 | 44.704 | GFL09-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 2.9 | 12 | - | 69 | 520 | 742 | 2.3 | 51.333 | GFL09-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 2.8 | 12 | - | 68 | 527 | 753 | 1.5 | 52.067 | GFL07-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 2.8 | 12 | - | 68 | 527 | 753 | 2.9 | 52.067 | GFL11-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 2.5 | 10 | - | 61 | 586 | 836 | 2.3 | 57.852 | GFL09-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 2.5 | 10 | - | 60 | 594 | 848 | 1.3 | 58.667 | GFL07-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 2.5 | 10 | - | 60 | 594 | 848 | 2.9 | 58.667 | GFL11-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 2.4 | 9.6 | - | 57 | 631 | 901 | 1.9 | 62.300 | GFL09-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 2.3 | 9.5 | - | 56 | 640 | 914 | 1.2 | 63.190 | GFL07-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 2.3 | 9.5 | - | 56 | 631 | 902 | 1.4 | 63.326 | GFL09-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 2.3 | 9.5 | - | 56 | 640 | 914 | 2.4 | 63.190 | GFL11-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 2.3 | 9.2 | - | 54 | 651 | 930 | 2.9 | 65.306 | GFL11-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 2.1 | 8.4 | - | 50 | 721 | 1029 | 1.2 | 71.200 | GFL07-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 2.1 | 8.6 | - | 50 | 711 | 1015 | 2.1 | 70.211 | GFL09-2M□□□100C12 | E84AV□□□5524□□0 | 74 |

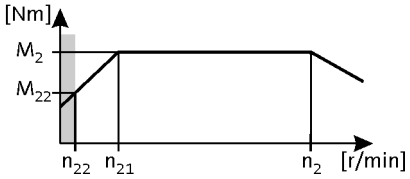


## Selection tables

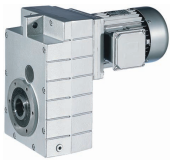
► 120 Hz: $P_N$ = 5.50 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 146.9 ... 3525 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 2.1 | 8.4 | - | 50 | 721 | 1029 | 2.7 | 71.200 | GFL11-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 2.0 | 8.2 | - | 48 | 729 | 1042 | 1.4 | 73.173 | GFL09-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 2.0 | 8.2 | - | 48 | 731 | 1044 | 2.6 | 73.335 | GFL11-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 1.9 | 7.6 | - | 45 | 797 | 1139 | 1.4 | 78.750 | GFL09-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 1.8 | 7.5 | - | 44 | 808 | 1155 | 2.2 | 79.875 | GFL11-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 1.8 | 7.3 | - | 43 | 822 | 1174 | 1.4 | 82.465 | GFL09-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 1.8 | 7.3 | - | 43 | 824 | 1177 | 2.6 | 82.631 | GFL11-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 1.7 | 6.8 | - | 40 | 898 | 1283 | 1.3 | 88.750 | GFL09-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 1.6 | 6.7 | - | 39 | 911 | 1301 | 2.2 | 90.000 | GFL11-2M□□□100C12 | E84AV□□□5524□□0 | 74 |
| 1.6 | 6.4 | - | 38 | 930 | 1329 | 1.2 | 93.333 | GFL09-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 1.6 | 6.4 | - | 38 | 932 | 1332 | 2.3 | 93.540 | GFL11-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 1.4 | 5.7 | - | 34 | 1049 | 1498 | 1.2 | 105.185 | GFL09-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 1.4 | 5.7 | - | 33 | 1051 | 1501 | 2.3 | 105.397 | GFL11-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 1.3 | 5.3 | - | 31 | 1140 | 1628 | 1.1 | 114.333 | GFL09-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 1.3 | 5.2 | - | 31 | 1142 | 1632 | 2.0 | 114.586 | GFL11-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 1.1 | 4.7 | - | 27 | 1284 | 1835 | 1.1 | 128.852 | GFL09-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 1.1 | 4.7 | - | 27 | 1287 | 1839 | 2.0 | 129.111 | GFL11-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 1.0 | 4.0 | - | 24 | 1483 | 2119 | 0.9 | 148.815 | GFL09-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 1.0 | 4.0 | - | 24 | 1487 | 2124 | 1.7 | 149.144 | GFL11-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.9 | 3.8 | - | 23 | 1557 | 2224 | 3.2 | 156.148 | GFL14-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.9 | 3.6 | - | 21 | 1672 | 2388 | 0.9 | 167.712 | GFL09-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.9 | 3.6 | - | 21 | 1675 | 2393 | 1.7 | 168.049 | GFL11-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.8 | 3.3 | - | 19 | 1822 | 2603 | 1.5 | 182.792 | GFL11-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.7 | 2.9 | - | 17 | 2053 | 2933 | 1.5 | 205.963 | GFL11-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.7 | 3.0 | - | 17 | 2014 | 2878 | 2.6 | 202.074 | GFL14-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.7 | 2.7 | - | 16 | 2239 | 3199 | 1.3 | 224.636 | GFL11-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.7 | 2.7 | - | 16 | 2239 | 3199 | 2.6 | 224.636 | GFL14-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.6 | 2.4 | - | 14 | 2523 | 3604 | 1.3 | 253.111 | GFL11-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.6 | 2.4 | - | 14 | 2523 | 3604 | 2.6 | 253.111 | GFL14-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.6 | 2.3 | - | 13 | 2664 | 3806 | 1.3 | 267.259 | GFL11-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.5 | 2.2 | - | 13 | 2729 | 3899 | 2.4 | 273.778 | GFL14-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.5 | 1.8 | - | 11 | 3265 | 4665 | 1.1 | 327.556 | GFL11-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.4 | 1.8 | - | 11 | 3314 | 4734 | 2.1 | 332.444 | GFL14-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.4 | 1.7 | - | 10 | 3517 | 5024 | 2.0 | 352.811 | GFL14-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.4 | 1.7 | - | 9.8 | 3569 | 5099 | 1.0 | 358.077 | GFL11-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.4 | 1.5 | - | 8.9 | 3963 | 5661 | 1.9 | 397.533 | GFL14-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.4 | 1.5 | - | 8.7 | 4022 | 5745 | 1.0 | 403.467 | GFL11-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.3 | 1.4 | - | 8.2 | 4289 | 6126 | 0.9 | 430.222 | GFL11-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.3 | 1.4 | - | 8.2 | 4289 | 6126 | 1.6 | 430.222 | GFL14-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.3 | 1.2 | - | 6.8 | 5205 | 7435 | 1.3 | 522.133 | GFL14-3M□□□100C12 | E84AV□□□5524□□0 | 82 |
| 0.3 | 1.1 | - | 6.3 | 5606 | 8009 | 1.1 | 562.391 | GFL14-3M□□□100C12 | E84AV□□□5524□□0 | 82 |

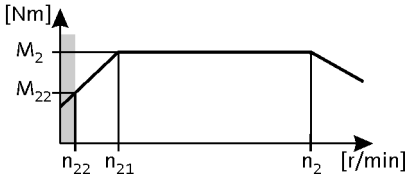


## Selection tables

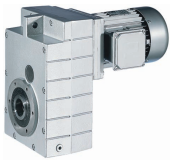
► 120 Hz: $P_N$ = 5.50 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 146.9 ... 3525 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 0.2 | 1.0 | - | 5.6 | 6317 | 9024 | 1.0 | 633.680 | GFL14-3M□□□100C12 | E84AV□□□5524□□0 | 82 |

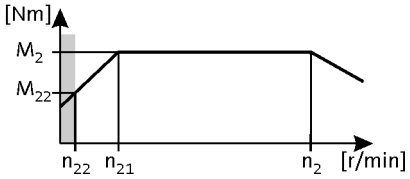


## Selection tables

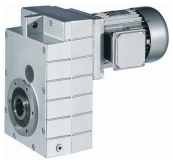
► 120 Hz: $P_N$ = 7.50 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 146.5 ... 3515 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 23 | 94 | - | 549 | 89 | 127 | 1.0 | 6.400 | GFL05-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 23 | 94 | - | 549 | 89 | 127 | 3.0 | 6.400 | GFL07-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 23 | 93 | - | 545 | 89 | 128 | 2.1 | 6.450 | GFL06-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 16 | 67 | - | 390 | 125 | 178 | 1.1 | 9.010 | GFL05-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 15 | 62 | - | 362 | 134 | 192 | 3.1 | 9.714 | GFL07-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 15 | 60 | - | 353 | 138 | 197 | 1.1 | 9.946 | GFL05-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 15 | 60 | - | 348 | 140 | 200 | 1.7 | 10.092 | GFL06-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 10 | 42 | - | 248 | 197 | 281 | 3.1 | 14.200 | GFL07-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 9.9 | 41 | - | 238 | 204 | 292 | 1.7 | 14.743 | GFL06-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 9.2 | 38 | - | 221 | 220 | 314 | 2.8 | 15.904 | GFL07-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 9.1 | 37 | - | 218 | 223 | 319 | 1.5 | 16.128 | GFL06-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 8.2 | 34 | - | 196 | 248 | 354 | 2.5 | 17.920 | GFL07-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 8.1 | 33 | - | 194 | 251 | 359 | 1.3 | 18.169 | GFL06-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 7.5 | 31 | - | 179 | 272 | 389 | 3.1 | 19.667 | GFL09-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 7.2 | 30 | - | 173 | 281 | 401 | 2.4 | 20.286 | GFL07-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 7.1 | 29 | - | 171 | 285 | 407 | 1.2 | 20.571 | GFL06-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 6.6 | 27 | - | 159 | 307 | 438 | 3.1 | 22.164 | GFL09-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 6.4 | 26 | - | 154 | 316 | 452 | 2.1 | 22.857 | GFL07-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 6.3 | 26 | - | 152 | 321 | 458 | 1.0 | 23.175 | GFL06-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 5.9 | 24 | - | 141 | 344 | 491 | 2.3 | 24.850 | GFL07-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 5.8 | 24 | - | 140 | 349 | 498 | 1.1 | 25.200 | GFL06-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 5.2 | 21 | - | 126 | 388 | 554 | 1.9 | 28.000 | GFL07-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 5.2 | 21 | - | 124 | 393 | 561 | 0.9 | 28.389 | GFL06-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 4.5 | 19 | - | 109 | 448 | 640 | 1.8 | 32.344 | GFL07-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 4.5 | 18 | - | 108 | 452 | 646 | 2.5 | 32.667 | GFL09-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 4.0 | 17 | - | 96 | 504 | 721 | 1.5 | 36.444 | GFL07-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 4.0 | 16 | - | 96 | 510 | 728 | 2.5 | 36.815 | GFL09-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 3.7 | 15 | - | 89 | 549 | 784 | 1.5 | 39.642 | GFL07-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 3.7 | 15 | - | 89 | 549 | 784 | 2.1 | 39.667 | GFL09-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 3.3 | 13 | - | 79 | 618 | 883 | 1.2 | 44.667 | GFL07-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 3.3 | 13 | - | 79 | 619 | 884 | 2.1 | 44.704 | GFL09-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 2.9 | 12 | - | 69 | 710 | 1015 | 1.7 | 51.333 | GFL09-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 2.8 | 12 | - | 68 | 721 | 1029 | 1.1 | 52.067 | GFL07-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 2.8 | 12 | - | 68 | 721 | 1029 | 2.1 | 52.067 | GFL11-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 2.5 | 10 | - | 61 | 801 | 1144 | 1.7 | 57.852 | GFL09-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 2.5 | 10 | - | 60 | 812 | 1160 | 0.9 | 58.667 | GFL07-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 2.5 | 10 | - | 60 | 812 | 1160 | 2.1 | 58.667 | GFL11-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 2.3 | 9.5 | - | 56 | 863 | 1233 | 1.0 | 63.326 | GFL09-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 2.4 | 9.6 | - | 56 | 862 | 1232 | 1.4 | 62.300 | GFL09-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 2.3 | 9.5 | - | 56 | 875 | 1249 | 1.8 | 63.190 | GFL11-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 2.2 | 9.2 | - | 54 | 890 | 1272 | 2.2 | 65.306 | GFL11-3M□□□100C32 | E84AV□□□7524□□0 | 82 |

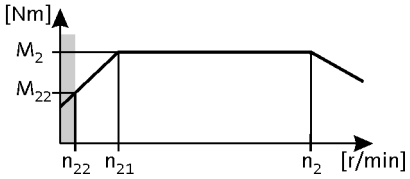


## Selection tables

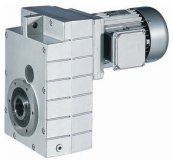
► 120 Hz: $P_N$ = 7.50 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 146.5 ... 3515 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 2.1 | 8.6 | - | 50 | 972 | 1388 | 1.6 | 70.211 | GFL09-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 2.1 | 8.4 | - | 49 | 985 | 1408 | 2.0 | 71.200 | GFL11-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 2.0 | 8.2 | - | 48 | 998 | 1425 | 1.0 | 73.173 | GFL09-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 2.0 | 8.2 | - | 48 | 1000 | 1428 | 1.9 | 73.335 | GFL11-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 1.9 | 7.6 | - | 45 | 1090 | 1557 | 1.0 | 78.750 | GFL09-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 1.8 | 7.5 | - | 44 | 1105 | 1579 | 1.6 | 79.875 | GFL11-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 1.8 | 7.3 | - | 43 | 1124 | 1606 | 1.0 | 82.465 | GFL09-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 1.8 | 7.3 | - | 43 | 1126 | 1609 | 1.9 | 82.631 | GFL11-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 1.7 | 6.8 | - | 40 | 1228 | 1755 | 1.0 | 88.750 | GFL09-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 1.6 | 6.7 | - | 39 | 1246 | 1779 | 1.6 | 90.000 | GFL11-2M□□□100C32 | E84AV□□□7524□□0 | 74 |
| 1.6 | 6.4 | - | 38 | 1275 | 1822 | 1.7 | 93.540 | GFL11-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 1.4 | 5.7 | - | 34 | 1430 | 2043 | 2.7 | 104.889 | GFL14-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 1.4 | 5.7 | - | 33 | 1437 | 2053 | 1.7 | 105.397 | GFL11-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 1.3 | 5.2 | - | 31 | 1562 | 2231 | 1.5 | 114.586 | GFL11-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 1.3 | 5.3 | - | 31 | 1556 | 2223 | 2.7 | 114.126 | GFL14-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 1.1 | 4.7 | - | 27 | 1760 | 2514 | 1.5 | 129.111 | GFL11-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 1.1 | 4.7 | - | 27 | 1753 | 2504 | 2.7 | 128.593 | GFL14-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 1.0 | 4.0 | - | 24 | 2033 | 2904 | 1.3 | 149.144 | GFL11-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 0.9 | 3.8 | - | 23 | 2129 | 3041 | 2.3 | 156.148 | GFL14-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 0.9 | 3.6 | - | 21 | 2291 | 3273 | 1.3 | 168.049 | GFL11-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 0.9 | 3.5 | - | 21 | 2318 | 3312 | 2.4 | 170.074 | GFL14-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 0.8 | 3.3 | - | 19 | 2492 | 3560 | 1.1 | 182.792 | GFL11-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 0.7 | 2.9 | - | 17 | 2808 | 4011 | 1.1 | 205.963 | GFL11-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 0.7 | 3.0 | - | 17 | 2755 | 3935 | 1.9 | 202.074 | GFL14-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 0.7 | 2.7 | - | 16 | 3062 | 4375 | 1.0 | 224.636 | GFL11-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 0.7 | 2.7 | - | 16 | 3062 | 4375 | 1.9 | 224.636 | GFL14-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 0.6 | 2.4 | - | 14 | 3450 | 4929 | 1.0 | 253.111 | GFL11-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 0.6 | 2.4 | - | 14 | 3450 | 4929 | 1.9 | 253.111 | GFL14-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 0.6 | 2.3 | - | 13 | 3643 | 5205 | 0.9 | 267.259 | GFL11-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 0.5 | 2.2 | - | 13 | 3732 | 5332 | 1.7 | 273.778 | GFL14-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 0.4 | 1.8 | - | 11 | 4532 | 6474 | 1.5 | 332.444 | GFL14-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 0.4 | 1.7 | - | 10 | 4809 | 6871 | 1.4 | 352.811 | GFL14-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 0.4 | 1.5 | - | 8.8 | 5419 | 7741 | 1.4 | 397.533 | GFL14-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 0.3 | 1.4 | - | 8.2 | 5865 | 8378 | 1.2 | 430.222 | GFL14-3M□□□100C32 | E84AV□□□7524□□0 | 82 |
| 0.3 | 1.2 | - | 6.7 | 7118 | 10168 | 1.0 | 522.133 | GFL14-3M□□□100C32 | E84AV□□□7524□□0 | 82 |

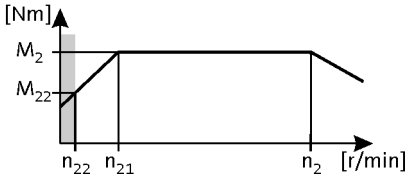


## Selection tables

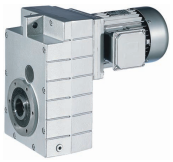
► 120 Hz: $P_N$ = 11.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 147.1 ... 3530 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 23 | 94 | - | 552 | 118 | 185 | 2.3 | 6.400 | GFL07-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 23 | 93 | - | 547 | 119 | 186 | 1.4 | 6.450 | GFL06-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 16 | 67 | - | 392 | 167 | 260 | 3.2 | 9.010 | GFL09-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 15 | 62 | - | 363 | 180 | 281 | 2.4 | 9.714 | GFL07-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 15 | 61 | - | 360 | 181 | 283 | 3.2 | 9.799 | GFL09-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 15 | 60 | - | 350 | 187 | 291 | 1.2 | 10.092 | GFL06-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 13 | 54 | - | 316 | 206 | 322 | 2.9 | 11.167 | GFL09-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 10 | 42 | - | 249 | 262 | 410 | 2.1 | 14.200 | GFL07-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 10 | 42 | - | 246 | 265 | 414 | 3.2 | 14.333 | GFL09-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 10 | 41 | - | 239 | 272 | 426 | 1.1 | 14.743 | GFL06-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 9.3 | 38 | - | 222 | 294 | 459 | 1.9 | 15.904 | GFL07-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 9.1 | 37 | - | 219 | 298 | 466 | 1.0 | 16.128 | GFL06-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 9.0 | 37 | - | 216 | 302 | 472 | 2.9 | 16.333 | GFL09-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 8.2 | 34 | - | 197 | 331 | 517 | 1.7 | 17.920 | GFL07-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 8.0 | 33 | - | 192 | 340 | 532 | 2.9 | 18.407 | GFL09-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 7.5 | 31 | - | 180 | 363 | 568 | 2.5 | 19.667 | GFL09-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 7.3 | 30 | - | 174 | 375 | 586 | 1.6 | 20.286 | GFL07-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 7.3 | 30 | - | 174 | 375 | 586 | 3.1 | 20.286 | GFL11-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 6.6 | 27 | - | 159 | 410 | 640 | 2.5 | 22.164 | GFL09-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 6.4 | 26 | - | 154 | 422 | 660 | 1.4 | 22.857 | GFL07-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 6.4 | 26 | - | 154 | 422 | 660 | 3.1 | 22.857 | GFL11-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 6.1 | 25 | - | 146 | 446 | 696 | 2.5 | 24.111 | GFL09-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 5.9 | 24 | - | 142 | 459 | 718 | 1.6 | 24.850 | GFL07-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 5.4 | 22 | - | 130 | 502 | 785 | 2.5 | 27.173 | GFL09-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 5.3 | 21 | - | 126 | 517 | 808 | 1.3 | 28.000 | GFL07-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 4.6 | 19 | - | 109 | 598 | 934 | 1.3 | 32.344 | GFL07-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 4.5 | 18 | - | 108 | 604 | 943 | 1.9 | 32.667 | GFL09-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 4.5 | 18 | - | 108 | 605 | 945 | 2.5 | 32.739 | GFL11-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 4.0 | 17 | - | 97 | 673 | 1052 | 1.0 | 36.444 | GFL07-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 4.0 | 16 | - | 96 | 680 | 1063 | 1.9 | 36.815 | GFL09-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 4.0 | 16 | - | 96 | 682 | 1065 | 2.5 | 36.889 | GFL11-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 3.7 | 15 | - | 89 | 733 | 1145 | 1.0 | 39.642 | GFL07-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 3.7 | 15 | - | 89 | 733 | 1145 | 1.7 | 39.667 | GFL09-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 3.7 | 15 | - | 88 | 744 | 1162 | 2.1 | 40.233 | GFL11-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 3.3 | 13 | - | 79 | 826 | 1291 | 1.7 | 44.704 | GFL09-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 3.2 | 13 | - | 78 | 838 | 1309 | 2.1 | 45.333 | GFL11-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 2.9 | 12 | - | 69 | 949 | 1482 | 1.3 | 51.333 | GFL09-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 2.8 | 12 | - | 68 | 962 | 1503 | 1.6 | 52.067 | GFL11-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 2.8 | 12 | - | 68 | 962 | 1503 | 2.0 | 52.067 | GFL14-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 2.5 | 10 | - | 61 | 1069 | 1670 | 1.3 | 57.852 | GFL09-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 2.5 | 10 | - | 60 | 1084 | 1694 | 1.6 | 58.667 | GFL11-2M□□□112C22 | E84AV□□□1134□□0 | 74 |

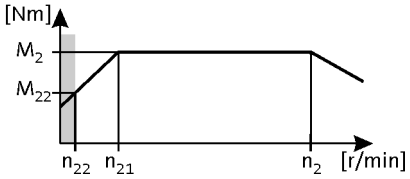


## Selection tables

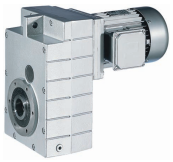
► 120 Hz: $P_N$ = 11.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 147.1 ... 3530 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 2.5 | 10 | - | 60 | 1084 | 1694 | 2.0 | 58.667 | GFL14-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 2.4 | 9.6 | - | 57 | 1151 | 1799 | 1.1 | 62.300 | GFL09-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 2.3 | 9.5 | - | 56 | 1168 | 1825 | 1.4 | 63.190 | GFL11-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 2.3 | 9.5 | - | 56 | 1168 | 1825 | 1.7 | 63.190 | GFL14-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 2.3 | 9.3 | - | 55 | 1170 | 1829 | 2.6 | 64.296 | GFL14-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 2.3 | 9.2 | - | 54 | 1189 | 1857 | 1.5 | 65.306 | GFL11-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 2.1 | 8.7 | - | 51 | 1251 | 1954 | 2.6 | 68.708 | GFL14-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 2.1 | 8.6 | - | 50 | 1297 | 2027 | 1.2 | 70.211 | GFL09-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 2.1 | 8.4 | - | 50 | 1316 | 2056 | 1.5 | 71.200 | GFL11-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 2.1 | 8.4 | - | 50 | 1316 | 2056 | 1.9 | 71.200 | GFL14-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 2.0 | 8.2 | - | 48 | 1335 | 2086 | 1.3 | 73.335 | GFL11-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 1.9 | 7.8 | - | 46 | 1409 | 2202 | 2.6 | 77.418 | GFL14-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 1.8 | 7.5 | - | 44 | 1476 | 2306 | 1.2 | 79.875 | GFL11-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 1.8 | 7.5 | - | 44 | 1476 | 2306 | 1.5 | 79.875 | GFL14-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 1.8 | 7.3 | - | 43 | 1504 | 2350 | 1.3 | 82.631 | GFL11-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 1.7 | 7.1 | - | 42 | 1548 | 2419 | 2.5 | 85.037 | GFL14-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 1.6 | 6.7 | - | 39 | 1663 | 2599 | 1.2 | 90.000 | GFL11-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 1.6 | 6.7 | - | 39 | 1663 | 2599 | 1.5 | 90.000 | GFL14-2M□□□112C22 | E84AV□□□1134□□0 | 74 |
| 1.6 | 6.4 | - | 38 | 1703 | 2660 | 1.1 | 93.540 | GFL11-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 1.4 | 5.7 | - | 34 | 1918 | 2998 | 1.1 | 105.397 | GFL11-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 1.4 | 5.7 | - | 34 | 1909 | 2983 | 2.1 | 104.889 | GFL14-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 1.3 | 5.2 | - | 31 | 2086 | 3259 | 1.0 | 114.586 | GFL11-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 1.3 | 5.3 | - | 31 | 2077 | 3246 | 2.0 | 114.126 | GFL14-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 1.1 | 4.7 | - | 28 | 2341 | 3657 | 2.0 | 128.593 | GFL14-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 1.1 | 4.7 | - | 27 | 2350 | 3672 | 1.0 | 129.111 | GFL11-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 1.1 | 4.4 | - | 26 | 2492 | 3893 | 1.8 | 136.889 | GFL14-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 0.9 | 3.8 | - | 23 | 2842 | 4441 | 1.8 | 156.148 | GFL14-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 0.9 | 3.5 | - | 21 | 3096 | 4837 | 1.6 | 170.074 | GFL14-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 0.7 | 3.0 | - | 18 | 3678 | 5747 | 1.5 | 202.074 | GFL14-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 0.7 | 2.7 | - | 16 | 4089 | 6389 | 1.3 | 224.636 | GFL14-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 0.6 | 2.4 | - | 14 | 4607 | 7199 | 1.3 | 253.111 | GFL14-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 0.5 | 2.2 | - | 13 | 4983 | 7786 | 1.2 | 273.778 | GFL14-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 0.4 | 1.8 | - | 11 | 6051 | 9455 | 1.1 | 332.444 | GFL14-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 0.4 | 1.7 | - | 10 | 6422 | 10034 | 1.0 | 352.811 | GFL14-3M□□□112C22 | E84AV□□□1134□□0 | 82 |
| 0.4 | 1.5 | - | 8.9 | 7236 | 11306 | 1.0 | 397.533 | GFL14-3M□□□112C22 | E84AV□□□1134□□0 | 82 |

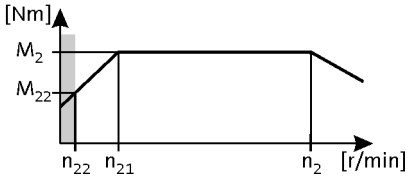


## Selection tables

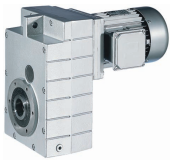
► 120 Hz: $P_N$ = 15.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 148.3 ... 3560 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 23 | 94 | - | 556 | 160 | 250 | 2.0 | 6.400 | GFL07-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 17 | 67 | - | 395 | 225 | 352 | 4.3 | 9.010 | GFL09-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 15 | 62 | - | 367 | 243 | 379 | 1.9 | 9.714 | GFL07-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 13 | 54 | - | 319 | 279 | 436 | 4.0 | 11.167 | GFL09-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 10 | 42 | - | 251 | 355 | 554 | 1.5 | 14.200 | GFL07-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 10 | 42 | - | 248 | 358 | 560 | 3.2 | 14.333 | GFL09-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 9.3 | 38 | - | 224 | 397 | 621 | 1.4 | 15.904 | GFL07-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 9.1 | 37 | - | 218 | 408 | 638 | 2.9 | 16.333 | GFL09-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 8.3 | 34 | - | 199 | 448 | 700 | 1.3 | 17.920 | GFL07-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 8.1 | 33 | - | 193 | 460 | 719 | 2.6 | 18.407 | GFL09-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 7.5 | 31 | - | 181 | 491 | 768 | 2.5 | 19.667 | GFL09-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 7.3 | 30 | - | 176 | 507 | 792 | 1.2 | 20.286 | GFL07-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 6.7 | 27 | - | 161 | 554 | 865 | 2.3 | 22.164 | GFL09-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 6.5 | 26 | - | 156 | 571 | 892 | 1.0 | 22.857 | GFL07-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 6.2 | 25 | - | 148 | 602 | 941 | 2.5 | 24.111 | GFL09-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 6.0 | 24 | - | 143 | 621 | 970 | 1.2 | 24.850 | GFL07-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 5.5 | 22 | - | 131 | 679 | 1061 | 2.2 | 27.173 | GFL09-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 5.3 | 21 | - | 127 | 700 | 1093 | 1.0 | 28.000 | GFL07-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 4.5 | 18 | - | 109 | 816 | 1275 | 2.0 | 32.667 | GFL09-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 4.5 | 18 | - | 109 | 818 | 1278 | 3.1 | 32.739 | GFL11-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 4.0 | 16 | - | 97 | 920 | 1437 | 1.8 | 36.815 | GFL09-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 4.0 | 16 | - | 97 | 922 | 1440 | 2.7 | 36.889 | GFL11-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 3.7 | 15 | - | 90 | 991 | 1549 | 1.7 | 39.667 | GFL09-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 3.7 | 15 | - | 89 | 1005 | 1571 | 2.6 | 40.233 | GFL11-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 3.3 | 13 | - | 80 | 1117 | 1745 | 1.5 | 44.704 | GFL09-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 3.3 | 13 | - | 79 | 1133 | 1770 | 2.3 | 45.333 | GFL11-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 2.9 | 12 | - | 68 | 1301 | 2033 | 2.2 | 52.067 | GFL11-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 2.9 | 12 | - | 68 | 1301 | 2033 | 3.2 | 52.067 | GFL14-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 2.5 | 10 | - | 61 | 1466 | 2290 | 2.0 | 58.667 | GFL11-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 2.5 | 10 | - | 61 | 1466 | 2290 | 3.2 | 58.667 | GFL14-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 2.4 | 9.5 | - | 56 | 1579 | 2467 | 1.9 | 63.190 | GFL11-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 2.4 | 9.5 | - | 56 | 1579 | 2467 | 2.7 | 63.190 | GFL14-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 2.3 | 9.2 | - | 55 | 1607 | 2511 | 1.1 | 65.306 | GFL11-3M□□□132C12 | E84AV□□□1534□□0 | 82 |
| 2.3 | 9.3 | - | 55 | 1582 | 2473 | 1.9 | 64.296 | GFL14-3M□□□132C12 | E84AV□□□1534□□0 | 82 |
| 2.2 | 8.7 | - | 52 | 1691 | 2642 | 1.9 | 68.708 | GFL14-3M□□□132C12 | E84AV□□□1534□□0 | 82 |
| 2.1 | 8.4 | - | 50 | 1779 | 2780 | 1.9 | 71.200 | GFL11-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 2.1 | 8.4 | - | 50 | 1779 | 2780 | 3.0 | 71.200 | GFL14-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 2.0 | 8.2 | - | 49 | 1805 | 2820 | 1.0 | 73.335 | GFL11-3M□□□132C12 | E84AV□□□1534□□0 | 82 |
| 1.9 | 7.8 | - | 46 | 1905 | 2977 | 1.9 | 77.418 | GFL14-3M□□□132C12 | E84AV□□□1534□□0 | 82 |
| 1.9 | 7.5 | - | 45 | 1996 | 3118 | 2.1 | 79.875 | GFL14-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 1.8 | 7.3 | - | 43 | 2034 | 3178 | 1.0 | 82.631 | GFL11-3M□□□132C12 | E84AV□□□1534□□0 | 82 |

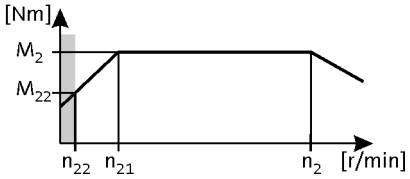


## Selection tables

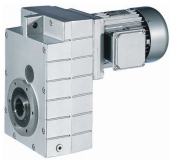
► 120 Hz: $P_N$ = 15.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 148.3 ... 3560 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.7 | 7.1 | - | 42 | 2093 | 3270 | 1.8 | 85.037 | GFL14-3M□□□132C12 | E84AV□□□1534□□0 | 82 |
| 1.7 | 6.7 | - | 40 | 2249 | 3514 | 2.1 | 90.000 | GFL14-2M□□□132C12 | E84AV□□□1534□□0 | 74 |
| 1.4 | 5.7 | - | 34 | 2581 | 4034 | 1.6 | 104.889 | GFL14-3M□□□132C12 | E84AV□□□1534□□0 | 82 |
| 1.3 | 5.3 | - | 31 | 2809 | 4389 | 1.4 | 114.126 | GFL14-3M□□□132C12 | E84AV□□□1534□□0 | 82 |
| 1.2 | 4.7 | - | 28 | 3165 | 4945 | 1.4 | 128.593 | GFL14-3M□□□132C12 | E84AV□□□1534□□0 | 82 |
| 1.1 | 4.4 | - | 26 | 3369 | 5264 | 1.3 | 136.889 | GFL14-3M□□□132C12 | E84AV□□□1534□□0 | 82 |
| 1.0 | 3.8 | - | 23 | 3843 | 6005 | 1.3 | 156.148 | GFL14-3M□□□132C12 | E84AV□□□1534□□0 | 82 |
| 0.9 | 3.5 | - | 21 | 4186 | 6540 | 1.2 | 170.074 | GFL14-3M□□□132C12 | E84AV□□□1534□□0 | 82 |
| 0.7 | 2.7 | - | 16 | 5529 | 8638 | 1.0 | 224.636 | GFL14-3M□□□132C12 | E84AV□□□1534□□0 | 82 |
| 0.6 | 2.4 | - | 14 | 6229 | 9733 | 1.0 | 253.111 | GFL14-3M□□□132C12 | E84AV□□□1534□□0 | 82 |

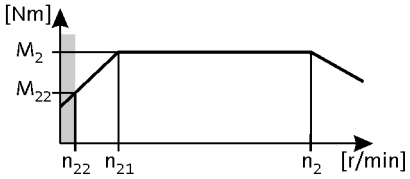


## Selection tables

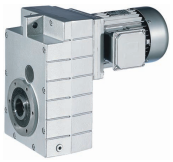
► 120 Hz: $P_N$ = 18.50 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 148.3 ... 3560 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 23 | 94 | - | 556 | 197 | 308 | 1.6 | 6.400 | GFL07-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 17 | 67 | - | 395 | 278 | 434 | 3.5 | 9.010 | GFL09-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 15 | 62 | - | 367 | 299 | 468 | 1.6 | 9.714 | GFL07-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 13 | 54 | - | 319 | 344 | 538 | 3.2 | 11.167 | GFL09-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 10 | 42 | - | 251 | 438 | 684 | 1.3 | 14.200 | GFL07-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 10 | 42 | - | 248 | 442 | 690 | 2.6 | 14.333 | GFL09-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 9.3 | 38 | - | 224 | 490 | 766 | 1.2 | 15.904 | GFL07-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 9.1 | 37 | - | 218 | 503 | 787 | 2.3 | 16.333 | GFL09-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 8.3 | 34 | - | 199 | 552 | 863 | 1.0 | 17.920 | GFL07-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 8.1 | 33 | - | 193 | 567 | 886 | 2.1 | 18.407 | GFL09-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 7.5 | 31 | - | 181 | 606 | 947 | 2.0 | 19.667 | GFL09-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 7.3 | 30 | - | 176 | 625 | 977 | 1.0 | 20.286 | GFL07-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 7.3 | 30 | - | 176 | 625 | 977 | 3.1 | 20.286 | GFL11-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 6.7 | 27 | - | 161 | 683 | 1067 | 1.8 | 22.164 | GFL09-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 6.5 | 26 | - | 156 | 704 | 1101 | 2.8 | 22.857 | GFL11-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 6.2 | 25 | - | 148 | 743 | 1161 | 2.0 | 24.111 | GFL09-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 6.0 | 24 | - | 143 | 766 | 1197 | 1.0 | 24.850 | GFL07-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 6.0 | 24 | - | 143 | 766 | 1197 | 3.0 | 24.850 | GFL11-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 5.5 | 22 | - | 131 | 837 | 1308 | 1.8 | 27.173 | GFL09-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 5.3 | 21 | - | 127 | 863 | 1348 | 2.7 | 28.000 | GFL11-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 4.5 | 18 | - | 109 | 1007 | 1573 | 1.6 | 32.667 | GFL09-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 4.5 | 18 | - | 109 | 1009 | 1576 | 2.5 | 32.739 | GFL11-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 4.0 | 16 | - | 97 | 1135 | 1773 | 1.5 | 36.815 | GFL09-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 4.0 | 16 | - | 97 | 1137 | 1776 | 2.2 | 36.889 | GFL11-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 3.7 | 15 | - | 90 | 1222 | 1910 | 1.4 | 39.667 | GFL09-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 3.7 | 15 | - | 90 | 1222 | 1909 | 3.2 | 39.642 | GFL14-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 3.7 | 15 | - | 89 | 1240 | 1937 | 2.1 | 40.233 | GFL11-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 3.3 | 13 | - | 80 | 1378 | 2153 | 1.2 | 44.704 | GFL09-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 3.3 | 13 | - | 80 | 1377 | 2151 | 3.2 | 44.667 | GFL14-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 3.3 | 13 | - | 79 | 1397 | 2183 | 1.9 | 45.333 | GFL11-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 2.9 | 12 | - | 68 | 1605 | 2507 | 1.8 | 52.067 | GFL11-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 2.9 | 12 | - | 68 | 1605 | 2507 | 2.6 | 52.067 | GFL14-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 2.5 | 10 | - | 61 | 1808 | 2825 | 1.6 | 58.667 | GFL11-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 2.5 | 10 | - | 61 | 1808 | 2825 | 2.6 | 58.667 | GFL14-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 2.4 | 9.5 | - | 56 | 1947 | 3043 | 1.6 | 63.190 | GFL11-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 2.4 | 9.5 | - | 56 | 1947 | 3043 | 2.2 | 63.190 | GFL14-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 2.3 | 9.3 | - | 55 | 1952 | 3049 | 1.6 | 64.296 | GFL14-3M□□□132C22 | E84AV□□□1834□□0 | 82 |
| 2.2 | 8.7 | - | 52 | 2086 | 3259 | 1.6 | 68.708 | GFL14-3M□□□132C22 | E84AV□□□1834□□0 | 82 |
| 2.1 | 8.4 | - | 50 | 2194 | 3428 | 1.5 | 71.200 | GFL11-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 2.1 | 8.4 | - | 50 | 2194 | 3428 | 2.4 | 71.200 | GFL14-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 1.9 | 7.8 | - | 46 | 2350 | 3672 | 1.6 | 77.418 | GFL14-3M□□□132C22 | E84AV□□□1834□□0 | 82 |

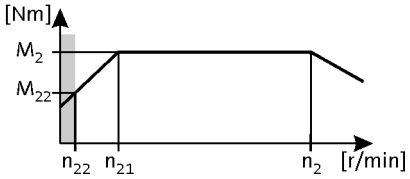


## Selection tables

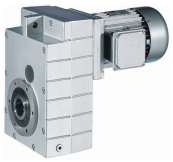
► 120 Hz: $P_N$ = 18.50 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 148.3 ... 3560 r/min




| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 1.9 | 7.5 | - | 45 | 2461 | 3846 | 1.7 | 79.875 | GFL14-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 1.7 | 7.1 | - | 42 | 2581 | 4033 | 1.5 | 85.037 | GFL14-3M□□□132C22 | E84AV□□□1834□□0 | 82 |
| 1.7 | 6.7 | - | 40 | 2773 | 4334 | 1.7 | 90.000 | GFL14-2M□□□132C22 | E84AV□□□1834□□0 | 74 |
| 1.4 | 5.7 | - | 34 | 3184 | 4975 | 1.3 | 104.889 | GFL14-3M□□□132C22 | E84AV□□□1834□□0 | 82 |
| 1.3 | 5.3 | - | 31 | 3464 | 5413 | 1.2 | 114.126 | GFL14-3M□□□132C22 | E84AV□□□1834□□0 | 82 |
| 1.2 | 4.7 | - | 28 | 3903 | 6099 | 1.2 | 128.593 | GFL14-3M□□□132C22 | E84AV□□□1834□□0 | 82 |
| 1.1 | 4.4 | - | 26 | 4155 | 6492 | 1.1 | 136.889 | GFL14-3M□□□132C22 | E84AV□□□1834□□0 | 82 |
| 1.0 | 3.8 | - | 23 | 4740 | 7406 | 1.0 | 156.148 | GFL14-3M□□□132C22 | E84AV□□□1834□□0 | 82 |
| 0.9 | 3.5 | - | 21 | 5162 | 8066 | 1.0 | 170.074 | GFL14-3M□□□132C22 | E84AV□□□1834□□0 | 82 |

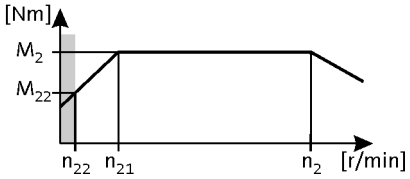


## Selection tables

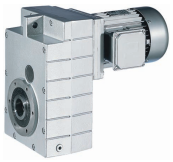
► 120 Hz: $P_N$ = 22.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 147.9 ... 3550 r/min




| $n_{22}$ | $n_{21}$ | | $n_2$ | $M_{22}$ | $M_2$ | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| [r/min] | [r/min] | | [r/min] | [Nm] | [Nm] | | | | | |
| 23 | 94 | - | 555 | 235 | 368 | 1.4 | 6.400 | GFL07-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 16 | 67 | - | 394 | 331 | 517 | 3.0 | 9.010 | GFL09-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 15 | 62 | - | 365 | 357 | 558 | 1.3 | 9.714 | GFL07-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 15 | 61 | - | 362 | 360 | 563 | 3.0 | 9.799 | GFL09-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 14 | 56 | - | 331 | 394 | 616 | 3.2 | 10.720 | GFL11-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 13 | 54 | - | 318 | 410 | 641 | 2.7 | 11.167 | GFL09-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 10 | 42 | - | 250 | 522 | 815 | 1.1 | 14.200 | GFL07-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 10 | 42 | - | 248 | 527 | 823 | 2.2 | 14.333 | GFL09-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 9.3 | 38 | - | 223 | 585 | 913 | 1.0 | 15.904 | GFL07-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 9.3 | 38 | - | 223 | 585 | 913 | 3.1 | 15.904 | GFL11-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 9.1 | 37 | - | 217 | 600 | 938 | 2.0 | 16.333 | GFL09-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 8.3 | 34 | - | 198 | 659 | 1029 | 2.8 | 17.920 | GFL11-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 8.0 | 33 | - | 193 | 677 | 1057 | 1.8 | 18.407 | GFL09-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 7.5 | 31 | - | 181 | 723 | 1129 | 1.7 | 19.667 | GFL09-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 7.3 | 30 | - | 175 | 746 | 1165 | 2.6 | 20.286 | GFL11-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 6.7 | 27 | - | 160 | 815 | 1273 | 1.5 | 22.164 | GFL09-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 6.5 | 26 | - | 155 | 840 | 1313 | 2.3 | 22.857 | GFL11-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 6.1 | 25 | - | 147 | 886 | 1385 | 1.7 | 24.111 | GFL09-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 6.0 | 24 | - | 143 | 913 | 1427 | 2.6 | 24.850 | GFL11-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 5.4 | 22 | - | 131 | 999 | 1560 | 1.5 | 27.173 | GFL09-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 5.3 | 21 | - | 127 | 1029 | 1608 | 2.3 | 28.000 | GFL11-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 4.6 | 19 | - | 110 | 1189 | 1857 | 2.9 | 32.344 | GFL14-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 4.5 | 18 | - | 109 | 1201 | 1876 | 1.4 | 32.667 | GFL09-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 4.5 | 18 | - | 108 | 1203 | 1880 | 2.1 | 32.739 | GFL11-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 4.1 | 17 | - | 97 | 1339 | 2093 | 2.9 | 36.444 | GFL14-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 4.0 | 16 | - | 96 | 1353 | 2114 | 1.2 | 36.815 | GFL09-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 4.0 | 16 | - | 96 | 1356 | 2118 | 1.9 | 36.889 | GFL11-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 3.7 | 15 | - | 90 | 1458 | 2278 | 1.2 | 39.667 | GFL09-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 3.7 | 15 | - | 90 | 1457 | 2276 | 2.7 | 39.642 | GFL14-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 3.7 | 15 | - | 88 | 1479 | 2310 | 1.8 | 40.233 | GFL11-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 3.3 | 13 | - | 80 | 1642 | 2565 | 2.7 | 44.667 | GFL14-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 3.3 | 13 | - | 79 | 1643 | 2567 | 1.0 | 44.704 | GFL09-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 3.3 | 13 | - | 78 | 1666 | 2603 | 1.6 | 45.333 | GFL11-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 2.8 | 12 | - | 68 | 1913 | 2990 | 1.5 | 52.067 | GFL11-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 2.8 | 12 | - | 68 | 1913 | 2990 | 2.2 | 52.067 | GFL14-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 2.5 | 10 | - | 61 | 2156 | 3369 | 1.3 | 58.667 | GFL11-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 2.5 | 10 | - | 61 | 2156 | 3369 | 2.2 | 58.667 | GFL14-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 2.3 | 9.5 | - | 56 | 2322 | 3628 | 1.3 | 63.190 | GFL11-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 2.3 | 9.5 | - | 56 | 2322 | 3628 | 1.8 | 63.190 | GFL14-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 2.3 | 9.3 | - | 55 | 2327 | 3637 | 1.3 | 64.296 | GFL14-3M□□□132C32 | E84AV□□□2234□□0 | 82 |
| 2.2 | 8.7 | - | 52 | 2487 | 3886 | 1.3 | 68.708 | GFL14-3M□□□132C32 | E84AV□□□2234□□0 | 82 |

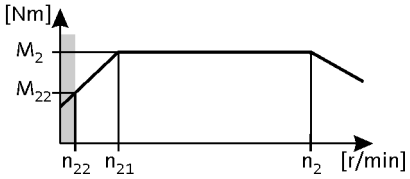


## Selection tables

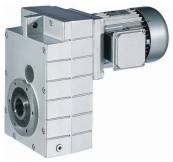
► 120 Hz: $P_N$ = 22.00 kW

$n_{22}/n_2$ = 1 ... 24.0

$n_1$ = 147.9 ... 3550 r/min

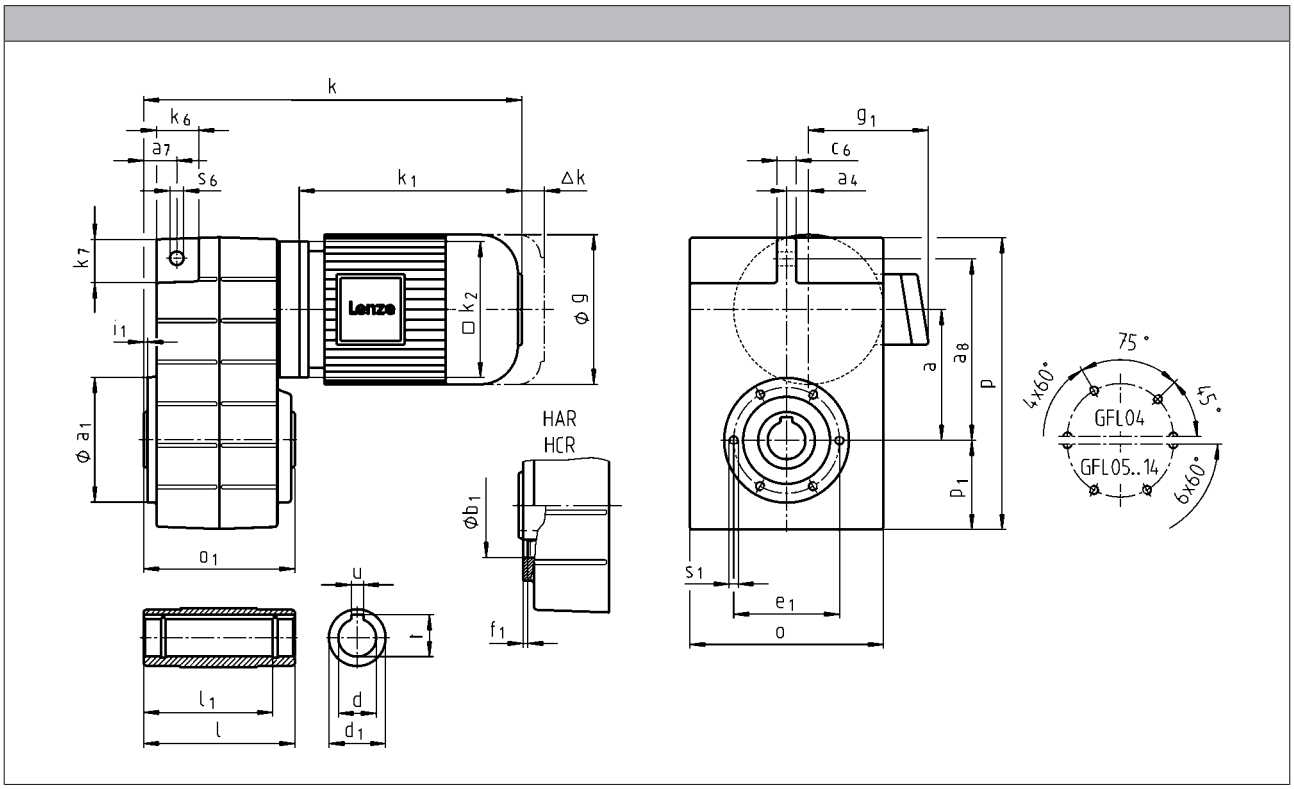



| $n_{22}$ [r/min] | $n_{21}$ [r/min] | | $n_2$ [r/min] | $M_{22}$ [Nm] | $M_2$ [Nm] | c | i | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 2.1 | 8.4 | - | 50 | 2617 | 4088 | 1.3 | 71.200 | GFL11-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 2.1 | 8.4 | - | 50 | 2617 | 4088 | 2.0 | 71.200 | GFL14-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 1.9 | 7.8 | - | 46 | 2802 | 4379 | 1.3 | 77.418 | GFL14-3M□□□132C32 | E84AV□□□2234□□0 | 82 |
| 1.9 | 7.5 | - | 44 | 2935 | 4587 | 1.4 | 79.875 | GFL14-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 1.7 | 7.1 | - | 42 | 3078 | 4810 | 1.2 | 85.037 | GFL14-3M□□□132C32 | E84AV□□□2234□□0 | 82 |
| 1.6 | 6.7 | - | 39 | 3307 | 5168 | 1.4 | 90.000 | GFL14-2M□□□132C32 | E84AV□□□2234□□0 | 74 |
| 1.4 | 5.7 | - | 34 | 3797 | 5933 | 1.1 | 104.889 | GFL14-3M□□□132C32 | E84AV□□□2234□□0 | 82 |
| 1.3 | 5.3 | - | 31 | 4131 | 6455 | 1.0 | 114.126 | GFL14-3M□□□132C32 | E84AV□□□2234□□0 | 82 |
| 1.2 | 4.7 | - | 28 | 4655 | 7273 | 1.0 | 128.593 | GFL14-3M□□□132C32 | E84AV□□□2234□□0 | 82 |



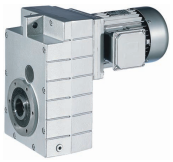
## Dimensions

**GFL□□-2M H□R**



# GFL shaft-mounted helical gearboxes

Technical data



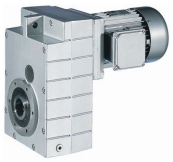
| | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|
| g | | 123 | 139 | 156 | 176 | 194 | 218 | 258 |
| $g_1$ | MFEMAXX | 100 | 109 | 150 | 157 | 166 | 176 | 195 |
| | MFEMABR | 107 | 118 | 132 | 137 | 147 | 158 | 187 |
| $k_1$ | MFEMAXX | 187 | 207 | 224.5 | 274 | 324 | 319 | 403 |
| $k_2$ | | 120 | | 145 | 180 | | 222 | 265 |
| Δ k | MFEMABR | 40 | 52 | 73 | 68 | 76 | 90 | 109.5 |
| | MFFMAXX | 128 | | | | 109 | 102 | 115 |
| | MFFMABR | 170 | 165 | 183 | 181 | 170 | 183 | 201.5 |
| | | k | | | | | | |
| **GFL04** | | 312 | 332 | 354 | | | | |
| **GFL05** | | 333 | 353 | 376 | 435 | 485 | | |
| **GFL06** | | 346 | 366 | 389 | 448 | 498 | 499 | |
| **GFL07** | | | | 422 | 481 | 531 | 532 | 624 |
| **GFL09** | | | | | 515 | 565 | 566 | 658 |
| **GFL11** | | | | | | 606 | 607 | 699 |
| **GFL14** | | | | | | | 652 | 744 |

| | a | $a_4$ | $a_7$ | $a_8$ | $c_6$ | $k_6$ | $k_7$ | o[1] | p[1] | $p_1$ | $s_6$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GFL04** | 90.5 | 12.5 | 22.5 | 128 | 14 | 32 | 35 | 148 | 214 | 69 | 12.5 |
| **GFL05** | 112.5 | 18.5 | 29 | 155 | 16 | 35 | 38 | 165 | 252 | 78 | 14 |
| **GFL06** | 140 | 22 | 35 | 195 | 20 | 46 | 46 | 206 | 315 | 98 | 14 |
| **GFL07** | 173 | 29 | 44 | 240 | 25 | 56 | 56 | 256 | 386 | 118 | 18 |
| **GFL09** | 220 | 37.5 | 50 | 300 | 32 | 70 | 70 | 318 | 486 | 149 | 22 |
| **GFL11** | 276.5 | 50 | 65 | 375 | 40 | 84 | 90 | 395 | 600 | 181 | 26 |
| **GFL14** | 339 | 65 | 80 | 455 | 50 | 100 | 114 | 490 | 740 | 228 | 32 |

| | d[2] | $d_1$ | l | $l_1$ | u | t | $i_1$ | $o_1$ | $a_1$ | $b_1$ | $e_1$ | $f_1$ | $s_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | H7 | | | | JS9 | +0,2 | | | | H7 | | | |
| **GFL04** | 25<br>30 | 45<br>45 | 115<br>115 | 100<br>100 | 8<br>8 | 28.3<br>33.3 | 2.5<br>2.5 | 115<br>115 | 110 | 75 | 90 | 3 | M6x12 |
| **GFL05** | 30<br>35 | 50<br>50 | 140<br>140 | 124<br>124 | 8<br>10 | 33.3<br>38.3 | 4<br>4 | 140<br>140 | 118 | 80 | 100 | 4 | M8x14 |
| **GFL06** | 40<br>45 | 65<br>65 | 160<br>160 | 140<br>140 | 12<br>14 | 43.3<br>48.8 | 5<br>5 | 160<br>160 | 140 | 100 | 120 | 4 | M10x16 |
| **GFL07** | 50<br>55 | 75<br>75 | 200<br>200 | 175<br>175 | 14<br>16 | 53.8<br>59.3 | 5<br>5 | 200<br>200 | 165 | 115 | 140 | 5 | M12x18 |
| **GFL09** | 60<br>70 | 95<br>95 | 240<br>240 | 210<br>210 | 18<br>20 | 64.4<br>74.9 | 5<br>5 | 240<br>240 | 205 | 145 | 175 | 6 | M16x24 |
| **GFL11** | 70<br>80 | 108<br>108 | 290<br>290 | 250<br>250 | 20<br>22 | 74.9<br>85.4 | 6<br>6 | 290<br>290 | 240 | 170 | 205 | 4 | M20x32 |
| **GFL14** | 100 | 135 | 350 | 305 | 28 | 106.4 | 7 | 350 | 290 | 170 | 250 | 6 | M24x35 |

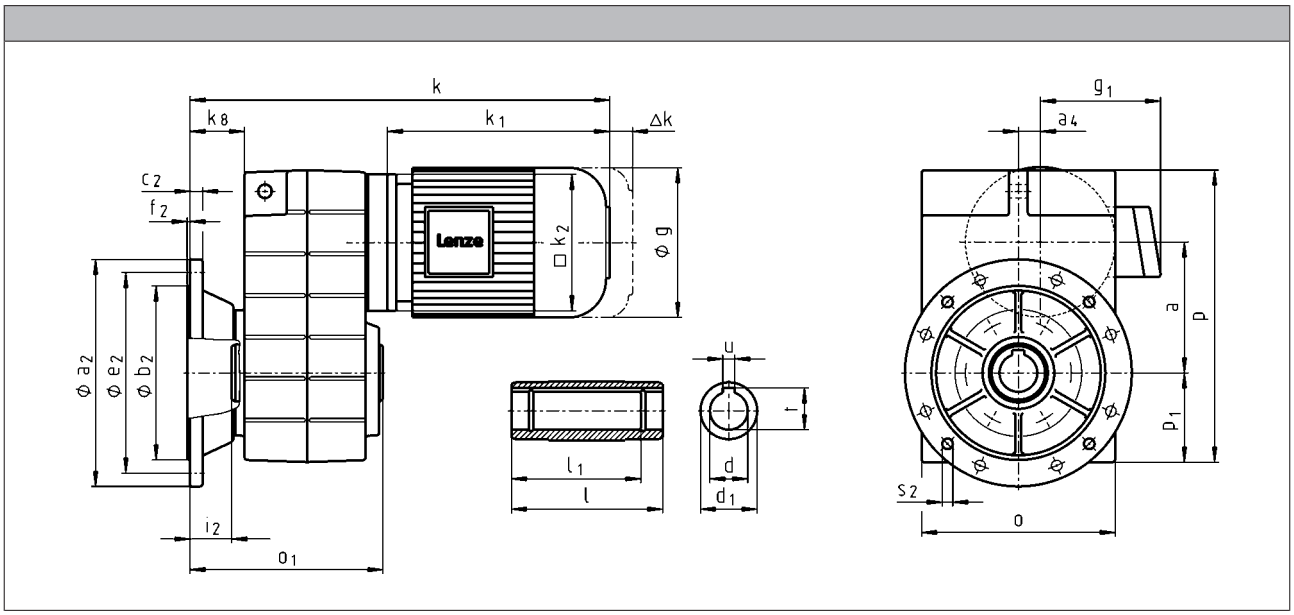
[1] $k_2$ !

[2] Not suitable for through machine shaft at motor end:
GFL04-2M H□□ 080C□□; d=30
GFL05-2M H□□ 100C□□; d=35
GFL06-2M H□□ 132C□□; d=40/45
GFL07-2M H□□ 160C□□; d=50/55
GFL11-2M H□□ 225C□□; d=80



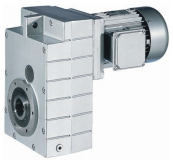
## Dimensions

**GFL□□-2M HCK**



# GFL shaft-mounted helical gearboxes

Technical data



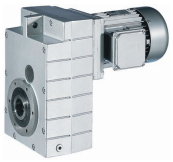
| | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|
| g | | 123 | 139 | 156 | 176 | 194 | 218 | 258 |
| $g_1$ | MFEMAXX | 100 | 109 | 150 | 157 | 166 | 176 | 195 |
| | MFEMABR | 107 | 118 | 132 | 137 | 147 | 158 | 187 |
| $k_1$ | MFEMAXX | 187 | 207 | 224.5 | 274 | 324 | 319 | 403 |
| $k_2$ | | 120 | | 145 | 180 | | 222 | 265 |
| Δ k | MFEMABR | 40 | 52 | 73 | 68 | 76 | 90 | 109.5 |
| | MFFMAXX | 128 | | | | 109 | 102 | 115 |
| | MFFMABR | 170 | 165 | 183 | 181 | 170 | 183 | 201.5 |
| | | k | | | | | | |
| | **GFL04** | 345 | 365 | 387 | | | | |
| | **GFL05** | 366 | 386 | 409 | 468 | 518 | | |
| | **GFL06** | 387 | 407 | 430 | 489 | 539 | 540 | |
| | **GFL07** | | | 477 | 536 | 586 | 587 | 679 |
| | **GFL09** | | | | 575 | 625 | 626 | 718 |
| | **GFL11** | | | | | 666 | 667 | 759 |
| | **GFL14** | | | | | | 712 | 804 |

| | a | $a_4$ | $k_8$ | o[1)] | p[1)] | $p_1$ |
|---|---|---|---|---|---|---|
| **GFL04** | 90.5 | 12.5 | 41.8 | 148 | 214 | 69 |
| **GFL05** | 112.5 | 18.5 | 46 | 165 | 252 | 78 |
| **GFL06** | 140 | 22 | 55.5 | 206 | 315 | 98 |
| **GFL07** | 173 | 29 | 72.5 | 256 | 386 | 118 |
| **GFL09** | 220 | 37.5 | 77.5 | 318 | 486 | 149 |
| **GFL11** | 276.5 | 50 | 85.5 | 395 | 600 | 181 |
| **GFL14** | 339 | 65 | 89.5 | 490 | 740 | 228 |

| | d[2)] | $d_1$ | l | $l_1$ | u | t | $i_2$ | $o_1$ | $a_2$ | $b_2$ | $c_2$ | $e_2$ | $f_2$ | $s_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | H7 | | | | JS9 | +0,2 | | | | j7 | | | | |
| **GFL04** | 25<br>30 | 45<br>45 | 115<br>115 | 100<br>100 | 8<br>8 | 28.3<br>33.3 | 33.5<br>33.5 | 148<br>148 | 160 | 110 | 10 | 130 | 3.5 | 4 x 9 |
| **GFL05** | 30<br>35 | 50<br>50 | 140<br>140 | 124<br>124 | 8<br>10 | 33.3<br>38.3 | 33<br>33 | 173<br>173 | 200 | 130 | 12 | 165 | 4 | 4 x 11 |
| **GFL06** | 40<br>45 | 65<br>65 | 160<br>160 | 140<br>140 | 12<br>14 | 43.3<br>48.8 | 42<br>41 | 201<br>201 | 250 | 180 | 15 | 215 | 4 | 4 x 14 |
| **GFL07** | 50<br>55 | 75<br>75 | 200<br>200 | 175<br>175 | 14<br>16 | 53.8<br>59.3 | 55<br>55 | 255<br>255 | 250<br>300 | 180<br>230 | 15<br>17 | 215<br>265 | 4<br>4 | 4 x 14<br>4 x 14 |
| **GFL09** | 60<br>70 | 95<br>95 | 240<br>240 | 210<br>210 | 18<br>20 | 64.4<br>74.9 | 60<br>60 | 300<br>300 | 350 | 250 | 18 | 300 | 4 | 4 x 17.5 |
| **GFL11** | 70<br>80 | 108<br>108 | 290<br>290 | 250<br>250 | 20<br>22 | 74.9<br>85.4 | 60<br>60 | 350<br>350 | 400<br>450 | 300<br>350 | 20<br>22 | 350<br>400 | 5<br>5 | 4 x 17.5<br>8 x 17.5 |
| **GFL14** | 100 | 135 | 350 | 305 | 28 | 106.4 | 60 | 410 | 450 | 350 | 22 | 400 | 5 | 8 x 17.5 |

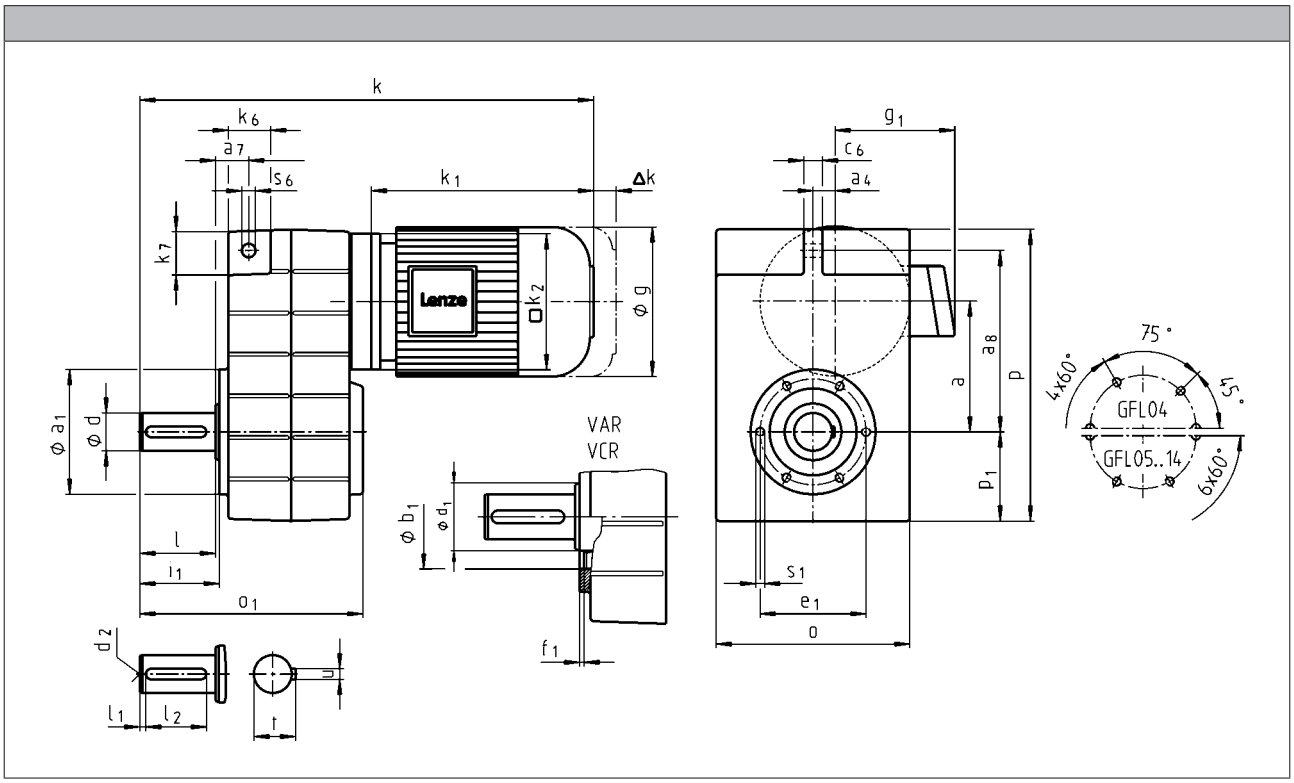
[1)] $k_2$ !

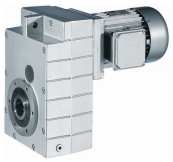
[2)] Not suitable for through machine shaft at motor end:
GFL04-2M H□□ 080C□□; d=30
GFL05-2M H□□ 100C□□; d=35
GFL06-2M H□□ 132C□□; d=40/45
GFL07-2M H□□ 160C□□; d=50/55
GFL11-2M H□□ 225C□□; d=80



## Dimensions

**GFL□□-2M V□R**



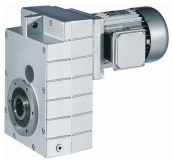


| | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|
| g | | 123 | 139 | 156 | 176 | 194 | 218 | 258 |
| $g_1$ | MFEMAXX | 100 | 109 | 150 | 157 | 166 | 176 | 195 |
| | MFEMABR | 107 | 118 | 132 | 137 | 147 | 158 | 187 |
| $k_1$ | MFEMAXX | 187 | 207 | 224.5 | 274 | 324 | 319 | 403 |
| $k_2$ | | 120 | | 145 | 180 | | 222 | 265 |
| Δ k | MFEMABR | 40 | 52 | 73 | 68 | 76 | 90 | 109.5 |
| | MFFMAXX | 128 | | | | 109 | 102 | 115 |
| | MFFMABR | 170 | 165 | 183 | 181 | 170 | 183 | 201.5 |
| | | k | | | | | | |
| **GFL04** | | 362 | 382 | 404 | 464 | | | |
| **GFL05** | | 393 | 413 | 436 | 495 | 545 | | |
| **GFL06** | | 426 | 446 | 469 | 528 | 578 | 579 | |
| **GFL07** | | | | 522 | 581 | 631 | 632 | 724 |
| **GFL09** | | | | | 635 | 685 | 686 | 778 |
| **GFL11** | | | | | | 766 | 767 | 859 |
| **GFL14** | | | | | | | 852 | 944 |

| | a | $a_4$ | $a_7$ | $a_8$ | $c_6$ | $k_6$ | $k_7$ | $o^{1)}$ | $p^{1)}$ | $p_1$ | $s_6$ |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **GFL04** | 90.5 | 12.5 | 22.5 | 128 | 14 | 32 | 35 | 148 | 214 | 69 | 12.5 |
| **GFL05** | 112.5 | 18.5 | 29 | 155 | 16 | 35 | 38 | 165 | 252 | 78 | 14 |
| **GFL06** | 140 | 22 | 35 | 195 | 20 | 46 | 46 | 206 | 315 | 98 | 14 |
| **GFL07** | 173 | 29 | 44 | 240 | 25 | 56 | 56 | 256 | 386 | 118 | 18 |
| **GFL09** | 220 | 37.5 | 50 | 300 | 32 | 70 | 70 | 318 | 486 | 149 | 22 |
| **GFL11** | 276.5 | 50 | 65 | 375 | 40 | 84 | 90 | 395 | 600 | 181 | 26 |
| **GFL14** | 339 | 65 | 80 | 455 | 50 | 100 | 114 | 490 | 740 | 228 | 32 |

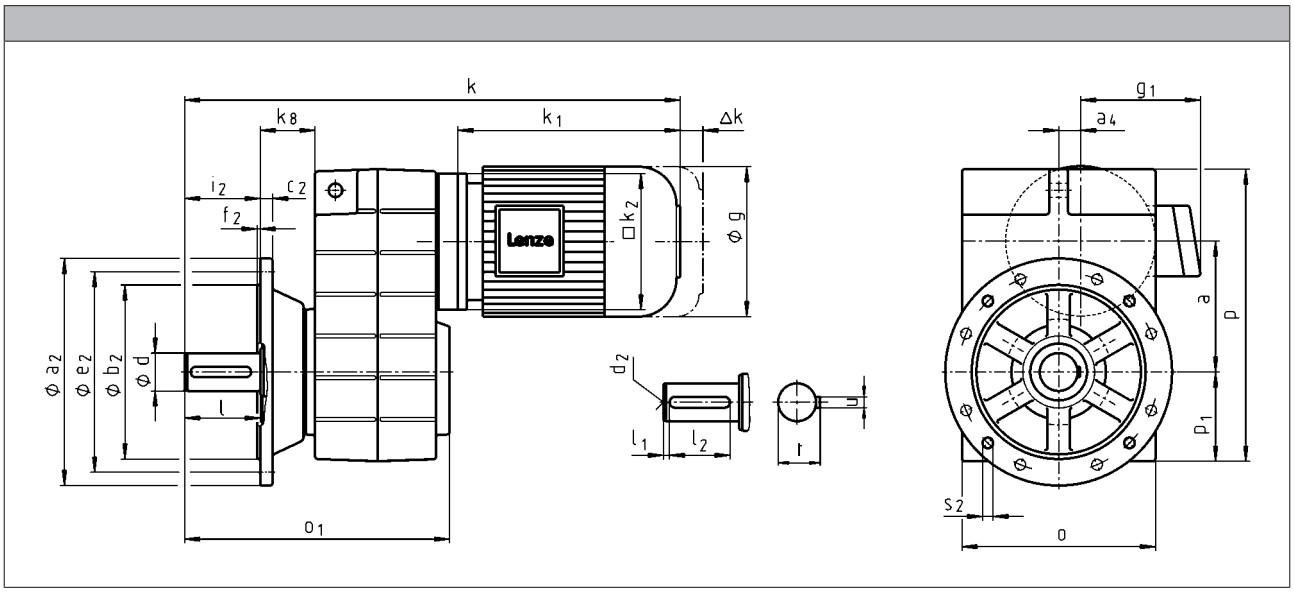
| | d | d | $d_1$ | $d_2$ | l | $l_1$ | $l_2$ | u | t | $o_1$ | $a_1$ | $b_1$ | $e_1$ | $f_1$ | $s_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | k6 | m6 | | | | | | | | | | H7 | | | |
| **GFL04** | 25 | | 45 | M10 | 50 | 6 | 40 | 8 | 28 | 162.5 | 110 | 75 | 90 | 3 | M6x12 |
| **GFL05** | 30 | | 45 | M10 | 60 | 6 | 45 | 8 | 33 | 196.5 | 118 | 80 | 100 | 4 | M8x14 |
| **GFL06** | 40 | | 65 | M16 | 80 | 7 | 63 | 12 | 43 | 235.5 | 140 | 100 | 120 | 4 | M10x16 |
| **GFL07** | 50 | | 75 | M16 | 100 | 8 | 80 | 14 | 53.5 | 295.5 | 165 | 115 | 140 | 5 | M12x18 |
| **GFL09** | | 60 | 95 | M20 | 120 | 8 | 100 | 18 | 64 | 355.5 | 205 | 145 | 175 | 6 | M16x24 |
| **GFL11** | | 80 | 108 | M20 | 160 | 15 | 125 | 22 | 85 | 444.5 | 240 | 170 | 205 | 4 | M20x32 |
| **GFL14** | | 100 | 135 | M24 | 200 | 18 | 160 | 28 | 106 | 543.5 | 290 | 170 | 250 | 6 | M24x35 |

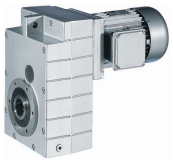
[1)] $k_2$ !



## Dimensions

**GFL□□-2M VCK**



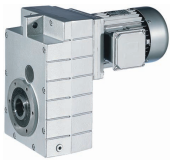


| | | 063C32<br>063C42 | 071C32<br>071C42 | 080C32<br>080C42 | 090C32 | 100C12<br>100C32 | 112C22 | 132C12<br>132C22<br>132C32 |
|---|---|---|---|---|---|---|---|---|
| g | | 123 | 139 | 156 | 176 | 194 | 218 | 258 |
| $g_1$ | MFEMAXX | 100 | 109 | 150 | 157 | 166 | 176 | 195 |
| | MFEMABR | 107 | 118 | 132 | 137 | 147 | 158 | 187 |
| $k_1$ | MFEMAXX | 187 | 207 | 224.5 | 274 | 324 | 319 | 403 |
| $k_2$ | | 120 | | 145 | 180 | | 222 | 265 |
| Δ k | MFEMABR | 40 | 52 | 73 | 68 | 76 | 90 | 109.5 |
| | MFFMAXX | 128 | | | | 109 | 102 | 115 |
| | MFFMABR | 170 | 165 | 183 | 181 | 170 | 183 | 201.5 |
| | | k | | | | | | |
| **GFL04** | | 395 | 415 | 437 | 497 | | | |
| **GFL05** | | 426 | 446 | 469 | 528 | 578 | | |
| **GFL06** | | 467 | 487 | 510 | 569 | 619 | 620 | |
| **GFL07** | | | | 577 | 636 | 686 | 687 | 779 |
| **GFL09** | | | | | 695 | 745 | 746 | 838 |
| **GFL11** | | | | | | 826 | 827 | 919 |
| **GFL14** | | | | | | | 912 | 1004 |

| | a | $a_4$ | $k_8$ | o[1)] | p[1)] | $p_1$ |
|---|---|---|---|---|---|---|
| **GFL04** | 90.5 | 12.5 | 41.8 | 148 | 214 | 69 |
| **GFL05** | 112.5 | 18.5 | 46 | 165 | 252 | 78 |
| **GFL06** | 140 | 22 | 55.5 | 206 | 315 | 98 |
| **GFL07** | 173 | 29 | 72.5 | 256 | 386 | 118 |
| **GFL09** | 220 | 37.5 | 77.5 | 318 | 486 | 149 |
| **GFL11** | 276.5 | 50 | 85.5 | 395 | 600 | 181 |
| **GFL14** | 339 | 65 | 89.5 | 490 | 740 | 228 |

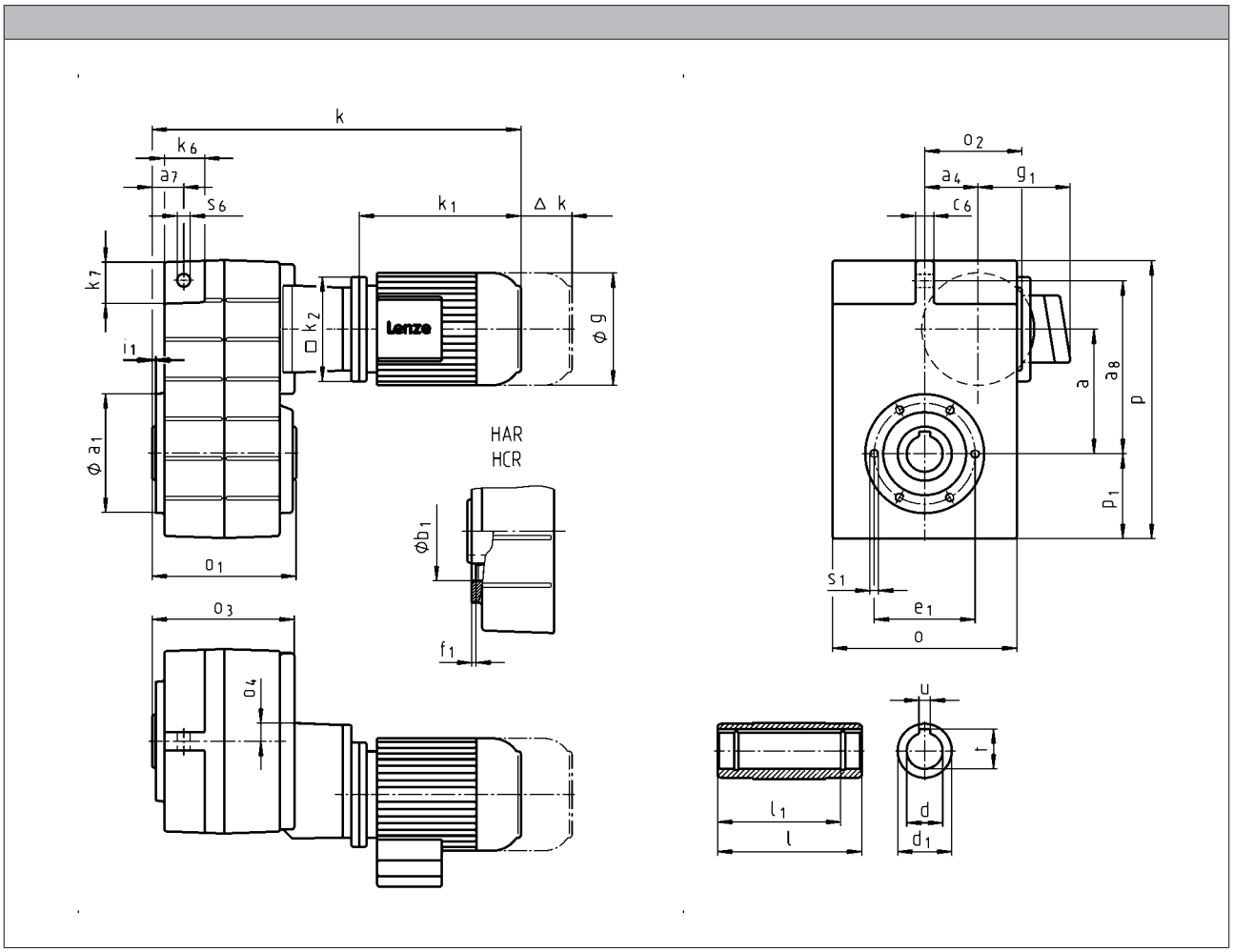
| | d | d | $d_1$ | $d_2$ | l | $l_1$ | $l_2$ | u | t | $i_2$ | $o_1$ | $a_2$ | $b_2$ | $c_2$ | $e_2$ | $f_2$ | $s_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | k6 | m6 | | | | | | | | | | | j7 | | | | |
| **GFL04** | 25 | | 45 | M10 | 50 | 6 | 40 | 8 | 28 | 50 | 195.5 | 160 | 110 | 10 | 130 | 3.5 | 4 x 9 |
| **GFL05** | 30 | | 45 | M10 | 60 | 6 | 45 | 8 | 33 | 60 | 229.5 | 200 | 130 | 12 | 165 | 4 | 4 x 11 |
| **GFL06** | 40 | | 65 | M16 | 80 | 7 | 63 | 12 | 43 | 80 | 276.5 | 250 | 180 | 15 | 215 | 4 | 4 x 14 |
| **GFL07** | 50 | | 75 | M16 | 100 | 8 | 80 | 14 | 53.5 | 100 | 350.5 | 250<br>300 | 180<br>230 | 15<br>17 | 215<br>265 | 4<br>4 | 4 x 14<br>4 x 14 |
| **GFL09** | | 60 | 95 | M20 | 120 | 8 | 100 | 18 | 64 | 120 | 415.5 | 350 | 250 | 18 | 300 | 4 | 4 x 17.5 |
| **GFL11** | | 80 | 108 | M20 | 160 | 15 | 125 | 22 | 85 | 160 | 504.5 | 400<br>450 | 300<br>350 | 20<br>22 | 350<br>400 | 5<br>5 | 4 x 17.5<br>8 x 17.5 |
| **GFL14** | | 100 | 135 | M24 | 200 | 18 | 160 | 28 | 106 | 200 | 603.5 | 450 | 350 | 22 | 400 | 5 | 8 x 17.5 |

[1)] $k_2$ !

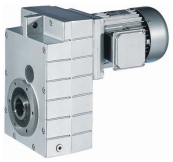


## Dimensions

**GFL□□-3M H□R**




| | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 |
|---|---|---|---|---|---|
| g | | 123 | 139 | | 156 |
| $g_1$ | MFEMAXX | 100 | 109 | | 150 |
| | MFEMABR | 107 | 118 | | 132 |
| $k_1$ | MFEMAXX | 187 | 207 | | 224.5 |
| $k_2$ | | 120 | | | 145 |
| Δ k | MFEMABR | 40 | 52 | | 73 |
| | MFFMAXX | 128 | | | |
| | MFFMABR | 170 | 165 | | 183 |
| | | k | | | |
| **GFL05** | | 410 | 430 | | |
| **GFL06** | | 440 | 460 | | 482 |
| **GFL07** | | 484 | 504 | | 526 |
| **GFL09** | | 536 | 556 | | 578 |
| **GFL11** | | | | | 638 |

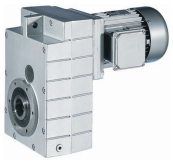


| | | 090C32 | 100C12<br>100C32 | 112C22 | 132C12 | 132C22<br>132C32 |
|---|---|---|---|---|---|---|
| g | | 176 | 194 | 218 | 258 | |
| $g_1$ | MFEMAXX | 157 | 166 | 176 | 195 | |
| | MFEMABR | 137 | 147 | 158 | 187 | |
| $k_1$ | MFEMAXX | 274 | 324 | 319 | 403 | |
| $k_2$ | | 180 | | 222 | 265 | |
| Δ k | MFEMABR | 68 | 76 | 90 | 109.5 | |
| | MFFMAXX | 128 | 109 | 102 | 115 | |
| | MFFMABR | 181 | 170 | 183 | 201.5 | |
| | | k | | | | |
| | **GFL07** | 586 | | | | |
| | **GFL09** | 638 | 688 | | | |
| | **GFL11** | 698 | 748 | 749 | 841 | |
| | **GFL14** | 777 | 827 | 828 | 920 | |

| | a | $a_4$ | $a_7$ | $a_8$ | $c_6$ | $k_6$ | $k_7$ | $o^{1)}$ | $o_2$ | $o_3$ | $o_4$ | $p^{1)}$ | $p_1$ | $s_6$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GFL05** | 112.5 | 54.5 | 29 | 155 | 16 | 35 | 38 | 165 | 106.5 | 140.5 | 22.6 | 252 | 78 | 14 |
| **GFL06** | 140 | 58 | 35 | 195 | 20 | 46 | 46 | 206 | 111 | 159.5 | 20.2 | 315 | 98 | 14 |
| **GFL07** | 173 | 74 | 44 | 240 | 25 | 56 | 56 | 256 | 135 | 199 | 24 | 386 | 118 | 18 |
| **GFL09** | 220 | 93.5 | 50 | 300 | 32 | 70 | 70 | 318 | 170 | 237.5 | 27 | 486 | 149 | 22 |
| **GFL11** | 276.5 | 120 | 65 | 375 | 40 | 84 | 90 | 395 | 216 | 284.5 | 33.5 | 600 | 181 | 26 |
| **GFL14** | 339 | 154 | 80 | 455 | 50 | 100 | 114 | 490 | 271 | 339.5 | 38 | 740 | 228 | 32 |

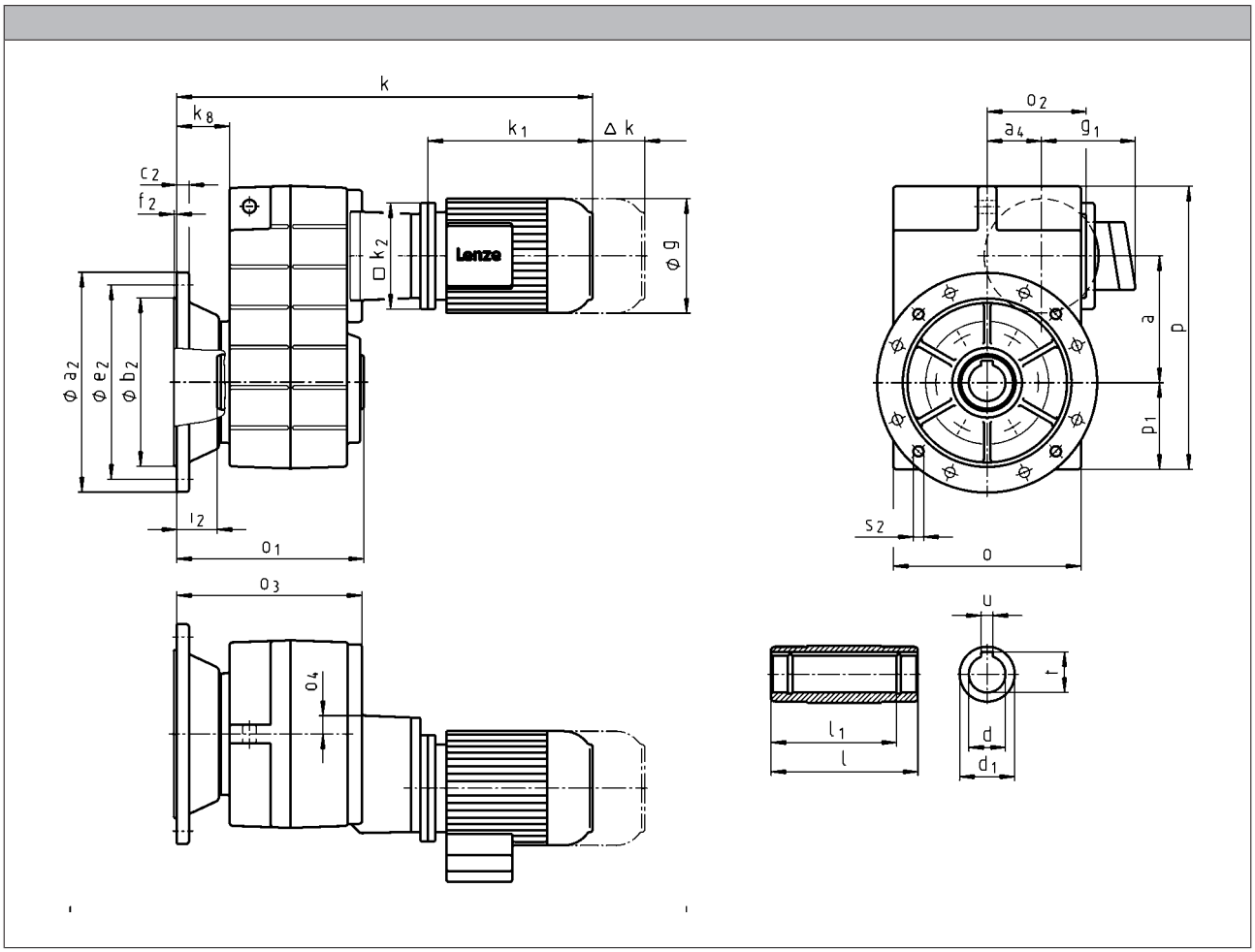
| | d<br>H7 | $d_1$ | l | $l_1$ | u<br>JS9 | t<br>+0,2 | $i_1$ | $o_1$ | $a_1$ | $b_1$<br>H7 | $e_1$ | $f_1$ | $s_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GFL05** | 30<br>35 | 50<br>50 | 140<br>140 | 124<br>124 | 8<br>10 | 33.3<br>38.3 | 4<br>4 | 140<br>140 | 118 | 80 | 100 | 4 | M8x14 |
| **GFL06** | 40<br>45 | 65<br>65 | 160<br>160 | 140<br>140 | 12<br>14 | 43.3<br>48.8 | 5<br>5 | 160<br>160 | 140 | 100 | 120 | 4 | M10x16 |
| **GFL07** | 50<br>55 | 75<br>75 | 200<br>200 | 175<br>175 | 14<br>16 | 53.8<br>59.3 | 5<br>5 | 200<br>200 | 165 | 115 | 140 | 5 | M12x18 |
| **GFL09** | 60<br>70 | 95<br>95 | 240<br>240 | 210<br>210 | 18<br>20 | 64.4<br>74.9 | 5<br>5 | 240<br>240 | 205 | 145 | 175 | 6 | M16x24 |
| **GFL11** | 70<br>80 | 108<br>108 | 290<br>290 | 250<br>250 | 20<br>22 | 74.9<br>85.4 | 6<br>6 | 290<br>290 | 240 | 170 | 205 | 4 | M20x32 |
| **GFL14** | 100 | 135 | 350 | 305 | 28 | 106.4 | 7 | 350 | 290 | 170 | 250 | 6 | M24x35 |

[1)] $k_2$ !

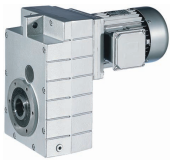


## Dimensions

**GFL□□-3M HCK**




| | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 |
|---|---|---|---|---|---|
| g | | 123 | 139 | | 156 |
| $g_1$ | MFEMAXX | 100 | 109 | | 150 |
| | MFEMABR | 107 | 118 | | 132 |
| $k_1$ | MFEMAXX | 187 | 207 | | 224.5 |
| $k_2$ | | 120 | | | 145 |
| Δ k | MFEMABR | 40 | 52 | | 73 |
| | MFFMAXX | 128 | | | |
| | MFFMABR | 170 | 165 | | 183 |
| | | k | | | |
| **GFL05** | | 443 | 463 | | |
| **GFL06** | | 481 | 501 | | 523 |
| **GFL07** | | 539 | 559 | | 581 |
| **GFL09** | | 596 | 616 | | 638 |
| **GFL11** | | | | | 698 |

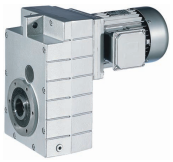


| | | 090C32 | 100C12<br>100C32 | 112C22 | 132C12 | 132C22<br>132C32 |
|---|---|---|---|---|---|---|
| g | | 176 | 194 | 218 | 258 | |
| $g_1$ | MFEMAXX | 157 | 166 | 176 | 195 | |
| | MFEMABR | 137 | 147 | 158 | 187 | |
| $k_1$ | MFEMAXX | 274 | 324 | 319 | 403 | |
| $k_2$ | | 180 | | 222 | 265 | |
| Δ k | MFEMABR | 68 | 76 | 90 | 109.5 | |
| | MFFMAXX | 128 | 109 | 102 | 115 | |
| | MFFMABR | 181 | 170 | 183 | 201.5 | |
| | | k | | | | |
| | **GFL07** | 641 | | | | |
| | **GFL09** | 698 | 748 | | | |
| | **GFL11** | 758 | 808 | 809 | 901 | |
| | **GFL14** | 837 | 887 | 888 | 980 | |

| | a | $a_4$ | $k_8$ | o[1)] | $o_2$ | $o_3$ | $o_4$ | p[1)] | $p_1$ |
|---|---|---|---|---|---|---|---|---|---|
| **GFL05** | 112.5 | 54.5 | 46 | 165 | 106.5 | 173.5 | 22.6 | 252 | 78 |
| **GFL06** | 140 | 58 | 55.5 | 206 | 111 | 200.5 | 20.2 | 315 | 98 |
| **GFL07** | 173 | 74 | 72.5 | 256 | 135 | 254 | 24 | 386 | 118 |
| **GFL09** | 220 | 93.5 | 77.5 | 318 | 170 | 297.5 | 27 | 486 | 149 |
| **GFL11** | 276.5 | 120 | 85.5 | 395 | 216 | 344.5 | 33.5 | 600 | 181 |
| **GFL14** | 339 | 154 | 89.5 | 490 | 271 | 399.5 | 38 | 740 | 228 |

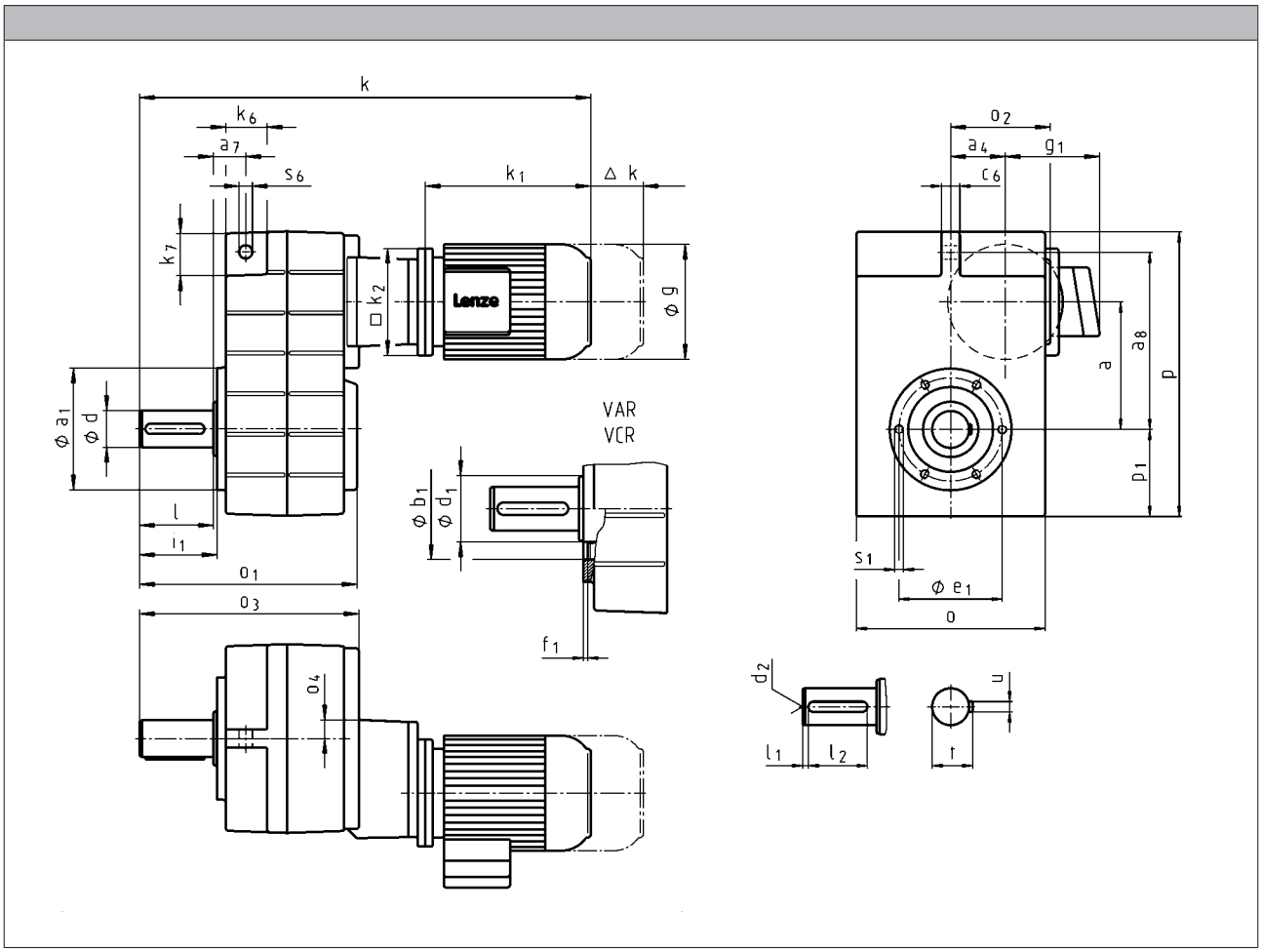
| | d | $d_1$ | l | $l_1$ | u | t | $i_2$ | $o_1$ | $a_2$ | $b_2$ | $c_2$ | $e_2$ | $f_2$ | $s_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | H7 | | | | JS9 | +0,2 | | | | j7 | | | | |
| **GFL05** | 30<br>35 | 50<br>50 | 140<br>140 | 124<br>124 | 8<br>10 | 33.3<br>38.3 | 33<br>33 | 173<br>173 | 200 | 130 | 12 | 165 | 4 | 4 x 11 |
| **GFL06** | 40<br>45 | 65<br>65 | 160<br>160 | 140<br>140 | 12<br>14 | 43.3<br>48.8 | 42<br>41 | 201<br>201 | 250 | 180 | 15 | 215 | 4 | 4 x 14 |
| **GFL07** | 50<br>55 | 75<br>75 | 200<br>200 | 175<br>175 | 14<br>16 | 53.8<br>59.3 | 55<br>55 | 255<br>255 | 250<br>300 | 180<br>230 | 15<br>17 | 215<br>265 | 4<br>4 | 4 x 14<br>4 x 14 |
| **GFL09** | 60<br>70 | 95<br>95 | 240<br>240 | 210<br>210 | 18<br>20 | 64.4<br>74.9 | 60<br>60 | 300<br>300 | 350 | 250 | 18 | 300 | 4 | 4 x<br>17.5 |
| **GFL11** | 70<br>80 | 108<br>108 | 290<br>290 | 250<br>250 | 20<br>22 | 74.9<br>85.4 | 60<br>60 | 350<br>350 | 400<br>450 | 300<br>350 | 20<br>22 | 350<br>400 | 5<br>5 | 4 x<br>17.5<br>8 x<br>17.5 |
| **GFL14** | 100 | 135 | 350 | 305 | 28 | 106.4 | 60 | 410 | 450 | 350 | 22 | 400 | 5 | 8 x<br>17.5 |

[1)] $k_2$ !

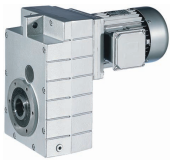


## Dimensions

**GFL□□-3M V□R**




| | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 |
|---|---|---|---|---|---|
| g | | 123 | 139 | | 156 |
| $g_1$ | MFEMAXX | 100 | 109 | | 150 |
| | MFEMABR | 107 | 118 | | 132 |
| $k_1$ | MFEMAXX | 187 | 207 | | 224.5 |
| $k_2$ | | 120 | | | 145 |
| Δ k | MFEMABR | 40 | 52 | | 73 |
| | MFFMAXX | 128 | | | |
| | MFFMABR | 170 | 165 | | 183 |
| | | k | | | |
| | **GFL05** | 470 | 490 | | |
| | **GFL06** | 520 | 540 | | 562 |
| | **GFL07** | 584 | 604 | | 626 |
| | **GFL09** | 656 | 676 | | 698 |
| | **GFL11** | | | | 798 |

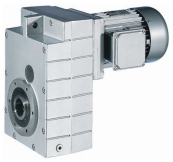


| | | 090C32 | 100C12<br>100C32 | 112C22 | 132C12 | 132C22<br>132C32 |
|---|---|---|---|---|---|---|
| g | | 176 | 194 | 218 | 258 | |
| $g_1$ | MFEMAXX | 157 | 166 | 176 | 195 | |
| | MFEMABR | 137 | 147 | 158 | 187 | |
| $k_1$ | MFEMAXX | 274 | 324 | 319 | 403 | |
| $k_2$ | | 180 | | 222 | 265 | |
| Δ k | MFEMABR | 68 | 76 | 90 | 109.5 | |
| | MFFMAXX | 128 | 109 | 102 | 115 | |
| | MFFMABR | 181 | 170 | 183 | 201.5 | |
| | | k | | | | |
| | **GFL07** | 686 | | | | |
| | **GFL09** | 758 | 808 | | | |
| | **GFL11** | 858 | 908 | 909 | 1001 | |
| | **GFL14** | 977 | 1027 | 1028 | 1120 | |

| | a | $a_4$ | $a_7$ | $a_8$ | $c_6$ | $k_6$ | $k_7$ | o[1)] | $o_2$ | $o_3$ | $o_4$ | p[1)] | $p_1$ | $s_6$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **GFL05** | 112.5 | 54.5 | 29 | 155 | 16 | 35 | 38 | 165 | 106.5 | 200.5 | 22.6 | 252 | 78 | 14 |
| **GFL06** | 140 | 58 | 35 | 195 | 20 | 46 | 46 | 206 | 111 | 239.5 | 20.2 | 315 | 98 | 14 |
| **GFL07** | 173 | 74 | 44 | 240 | 25 | 56 | 56 | 256 | 135 | 299 | 24 | 386 | 118 | 18 |
| **GFL09** | 220 | 93.5 | 50 | 300 | 32 | 70 | 70 | 318 | 170 | 357.5 | 27 | 486 | 149 | 22 |
| **GFL11** | 276.5 | 120 | 65 | 375 | 40 | 84 | 90 | 395 | 216 | 444.5 | 33.5 | 600 | 181 | 26 |
| **GFL14** | 339 | 154 | 80 | 455 | 50 | 100 | 114 | 490 | 271 | 539.5 | 38 | 740 | 228 | 32 |

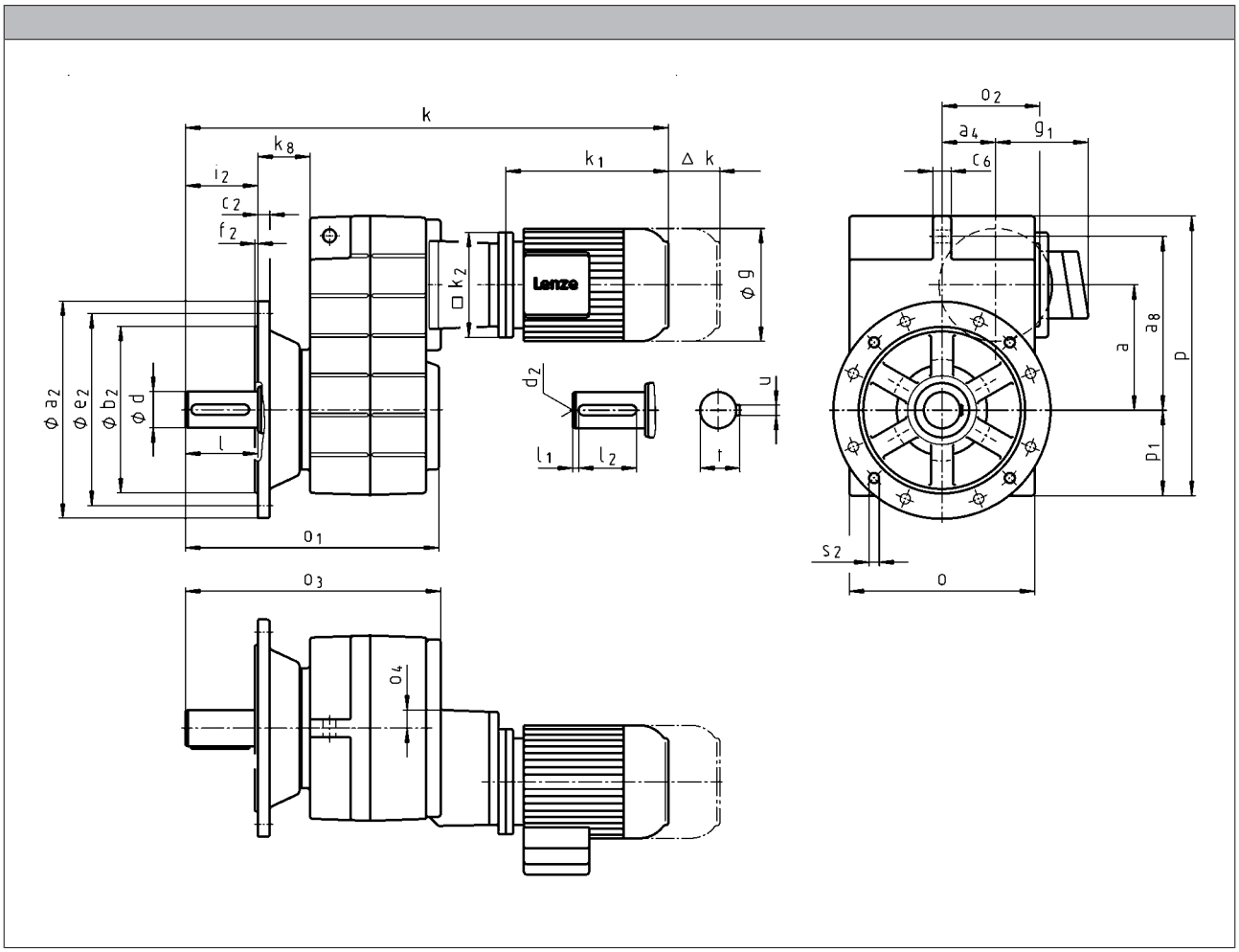
| | d | d | $d_1$ | $d_2$ | l | $l_1$ | $l_2$ | u | t | $o_1$ | $a_1$ | $b_1$ | $e_1$ | $f_1$ | $s_1$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | k6 | m6 | | | | | | | | | | H7 | | | |
| **GFL05** | 30 | | 45 | M10 | 60 | 6 | 45 | 8 | 33 | 196.5 | 118 | 80 | 100 | 4 | M8x14 |
| **GFL06** | 40 | | 65 | M16 | 80 | 7 | 63 | 12 | 43 | 235.5 | 140 | 100 | 120 | 4 | M10x16 |
| **GFL07** | 50 | | 75 | M16 | 100 | 8 | 80 | 14 | 53.5 | 295.5 | 165 | 115 | 140 | 5 | M12x18 |
| **GFL09** | | 60 | 95 | M20 | 120 | 8 | 100 | 18 | 64 | 355.5 | 205 | 145 | 175 | 6 | M16x24 |
| **GFL11** | | 80 | 108 | M20 | 160 | 15 | 125 | 22 | 85 | 444.5 | 240 | 170 | 205 | 4 | M20x32 |
| **GFL14** | | 100 | 135 | M24 | 200 | 18 | 160 | 28 | 106 | 543.5 | 290 | 170 | 250 | 6 | M24x35 |

[1)] $k_2$ !



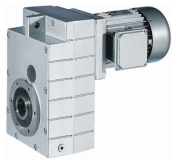
## Dimensions

**GFL□□-3M VCK**




| | | 063C32<br>063C42 | 071C32 | 071C42 | 080C32<br>080C42 |
|---|---|---|---|---|---|
| g | | 123 | 139 | | 156 |
| $g_1$ | MFEMAXX | 100 | 109 | | 150 |
| | MFEMABR | 107 | 118 | | 132 |
| $k_1$ | MFEMAXX | 187 | 207 | | 224.5 |
| $k_2$ | | 120 | | | 145 |
| Δ k | MFEMABR | 40 | 52 | | 73 |
| | MFFMAXX | 128 | | | |
| | MFFMABR | 170 | 165 | | 183 |
| | | k | | | |
| **GFL05** | | 503 | 523 | | |
| **GFL06** | | 561 | 581 | | 603 |
| **GFL07** | | 639 | 659 | | 681 |
| **GFL09** | | 716 | 736 | | 758 |
| **GFL11** | | | | | 858 |

6.6

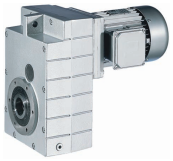


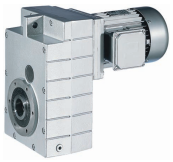
| | | 090C32 | 100C12<br>100C32 | 112C22 | 132C12 | 132C22<br>132C32 |
|---|---|---|---|---|---|---|
| g | | 176 | 194 | 218 | 258 | |
| $g_1$ | MFEMAXX | 157 | 166 | 176 | 195 | |
| | MFEMABR | 137 | 147 | 158 | 187 | |
| $k_1$ | MFEMAXX | 274 | 324 | 319 | 403 | |
| $k_2$ | | 180 | | 222 | 265 | |
| Δ k | MFEMABR | 68 | 76 | 90 | 109.5 | |
| | MFFMAXX | 128 | 109 | 102 | 115 | |
| | MFFMABR | 181 | 170 | 183 | 201.5 | |
| | | k | | | | |
| | **GFL07** | 741 | | | | |
| | **GFL09** | 818 | 868 | | | |
| | **GFL11** | 918 | 968 | 969 | 1061 | |
| | **GFL14** | 1037 | 1087 | 1088 | 1180 | |

| | a | $a_4$ | $k_8$ | o[1)] | $o_2$ | $o_3$ | $o_4$ | p[1)] | $p_1$ |
|---|---|---|---|---|---|---|---|---|---|
| **GFL05** | 112.5 | 54.5 | 46 | 165 | 106.5 | 233.5 | 22.6 | 252 | 78 |
| **GFL06** | 140 | 58 | 55.5 | 206 | 111 | 280.5 | 20.2 | 315 | 98 |
| **GFL07** | 173 | 74 | 72.5 | 256 | 135 | 354 | 24 | 386 | 118 |
| **GFL09** | 220 | 93.5 | 77.5 | 318 | 170 | 417.5 | 27 | 486 | 149 |
| **GFL11** | 276.5 | 120 | 85.5 | 395 | 216 | 504.5 | 33.5 | 600 | 181 |
| **GFL14** | 339 | 154 | 89.5 | 490 | 271 | 599.5 | 38 | 740 | 228 |

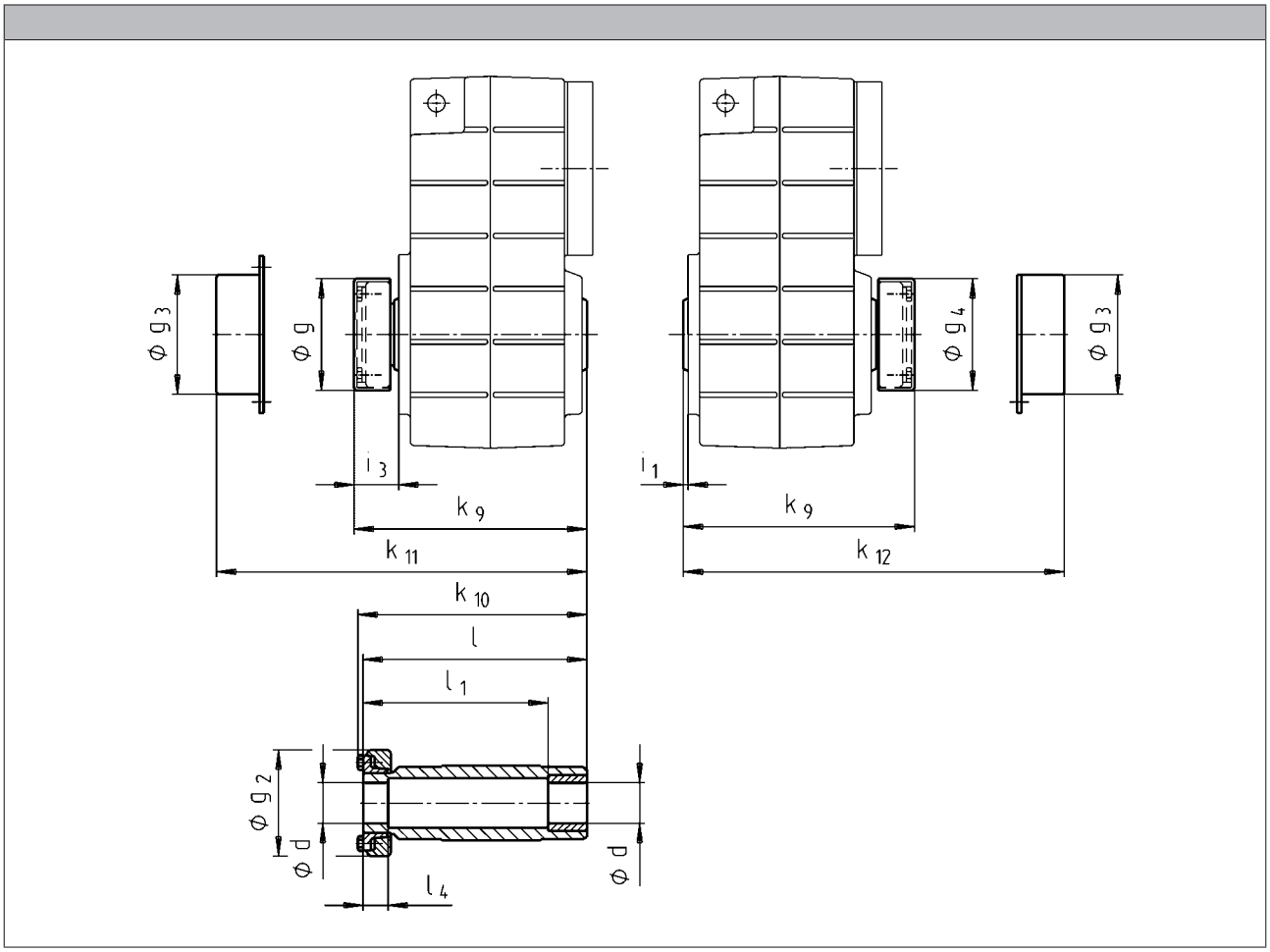
| | d | d | $d_1$ | $d_2$ | l | $l_1$ | $l_2$ | u | t | $i_2$ | $o_1$ | $a_2$ | $b_2$ | $c_2$ | $e_2$ | $f_2$ | $s_2$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | k6 | m6 | | | | | | | | | | | j7 | | | | |
| **GFL05** | 30 | | 45 | M10 | 60 | 6 | 45 | 8 | 33 | 60 | 229.5 | 200 | 130 | 12 | 165 | 4 | 4 x 11 |
| **GFL06** | 40 | | 65 | M16 | 80 | 7 | 63 | 12 | 43 | 80 | 276.5 | 250 | 180 | 15 | 215 | 4 | 4 x 14 |
| **GFL07** | 50 | | 75 | M16 | 100 | 8 | 80 | 14 | 53.5 | 100 | 350.5 | 250<br>300 | 180<br>230 | 15<br>17 | 215<br>265 | 4<br>4 | 4 x 14<br>4 x 14 |
| **GFL09** | | 60 | 95 | M20 | 120 | 8 | 100 | 18 | 64 | 120 | 415.5 | 350 | 250 | 18 | 300 | 4 | 4 x 17.5 |
| **GFL11** | | 80 | 108 | M20 | 160 | 15 | 125 | 22 | 85 | 160 | 504.5 | 400<br>450 | 300<br>350 | 20<br>22 | 350<br>400 | 5<br>5 | 4 x 17.5<br>8 x 17.5 |
| **GFL14** | | 100 | 135 | M24 | 200 | 18 | 160 | 28 | 106 | 200 | 603.5 | 450 | 350 | 22 | 400 | 5 | 8 x 17.5 |

[1)] $k_2$ !





## Hollow shaft with shrink disc

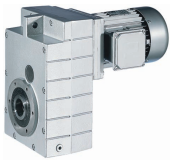



| | d [1] | $g_2$ | $g_3$ | $g_4$ | $i_1$ | $k_9$ | $k_{10}$ | $k_{11}$ | $k_{12}$ | l | $l_1$ | $l_4$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | h6 | | | | | | | | | | | |
| GFL04 | 25<br>30 | 72 | 79 | 76 | 2.5 | 150 | 148 | 154 | 154 | 142 | 122 | 26 |
| GFL04 | 25<br>30 | 72 | 79 | 76 | 2.5 | 150 | 148 | 154 | 154 | 142 | 122 | 26 |
| GFL05 | 35 | 80 | 90 | 84 | 4.0 | 176 | 174 | 179 | 180 | 168 | 148 | 28 |
| GFL06 | 40 | 90 | 100 | 94 | 5.0 | 202 | 200 | 204 | 205 | 194 | 164 | 30 |
| GFL07 | 50 | 110 | 124 | 116 | 5.0 | 241 | 238 | 244 | 245 | 232 | 192 | 26 |
| GFL09 | 65 | 141 | 159 | 147 | 5.0 | 288 | 285 | 287 | 288 | 278 | 228 | 30 |
| GFL11 | 80 | 170 | 191 | 176 | 6.0 | 347 | 344 | 349 | 350 | 338 | 238 | 42 |
| GFL14 | 100 | 215 | 253 | 221 | 7.0 | 418 | 415 | 421 | 422 | 407 | 307 | 55 |

[1] Machine shaft design.

► Output flange and hollow shaft with shrink disc (design S□K) is only possible with shrink disc in position 1.

► Not suitable for through machine shaft at motor end:
GFL04-2M S□□ 080C□□; d=30
GFL05-2M S□□ 100C□□; d=35
GFL06-2M S□□ 132C□□; d=40
GFL07-2M S□□ 160C□□; d=50
GFL11-2M S□□ 225C□□; d=80



## Hollow shaft with shrink disc

► Ensure that the strength of the machine shaft material is adequate in shrink disc designs.
When using typical steels, e.g. C45, 42CrMo4, the torques listed in the selection tables can be used without restriction.
Please consult us if you wish to use material that is considerably weaker. Medium surface roughness Rz must not exceed 15 µm (turning is sufficient).

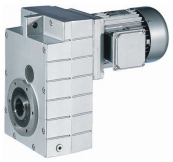
**Combination options with shrink disc in position 1 (drive end)**

**GFL□□-2M**

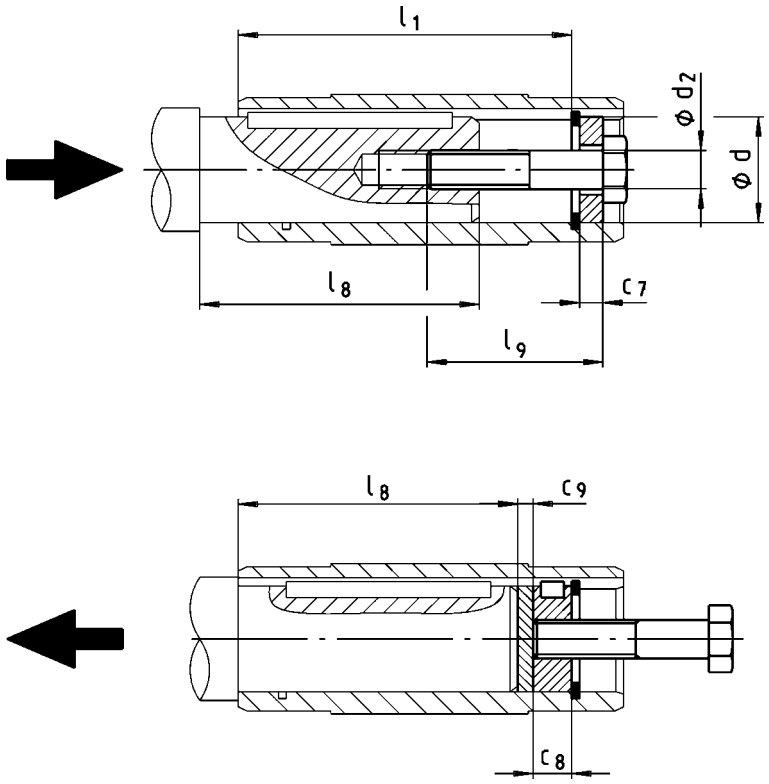
| Gearbox | Motor frame size |
|---|---|
| GFL04 | |
| GFL05 | 063 [1)]<br>071 [1)] |
| GFL06 | 063<br>071<br>080<br>090 [1)]<br>100 [1)] |
| GFL07 | 080<br>090<br>100<br>112 [1)] |
| GFL09 | 090<br>100<br>112<br>132 |
| GFL11 | 100<br>112<br>132<br>160<br>180<br>225 |
| GFL14 | 112<br>132<br>160<br>180<br>225 |

[1)] Only possible without cover

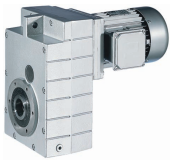
► For geared motors GFL□□-2M/E S... with shrink disc position 1: terminal box position / motec position 4 not possible!



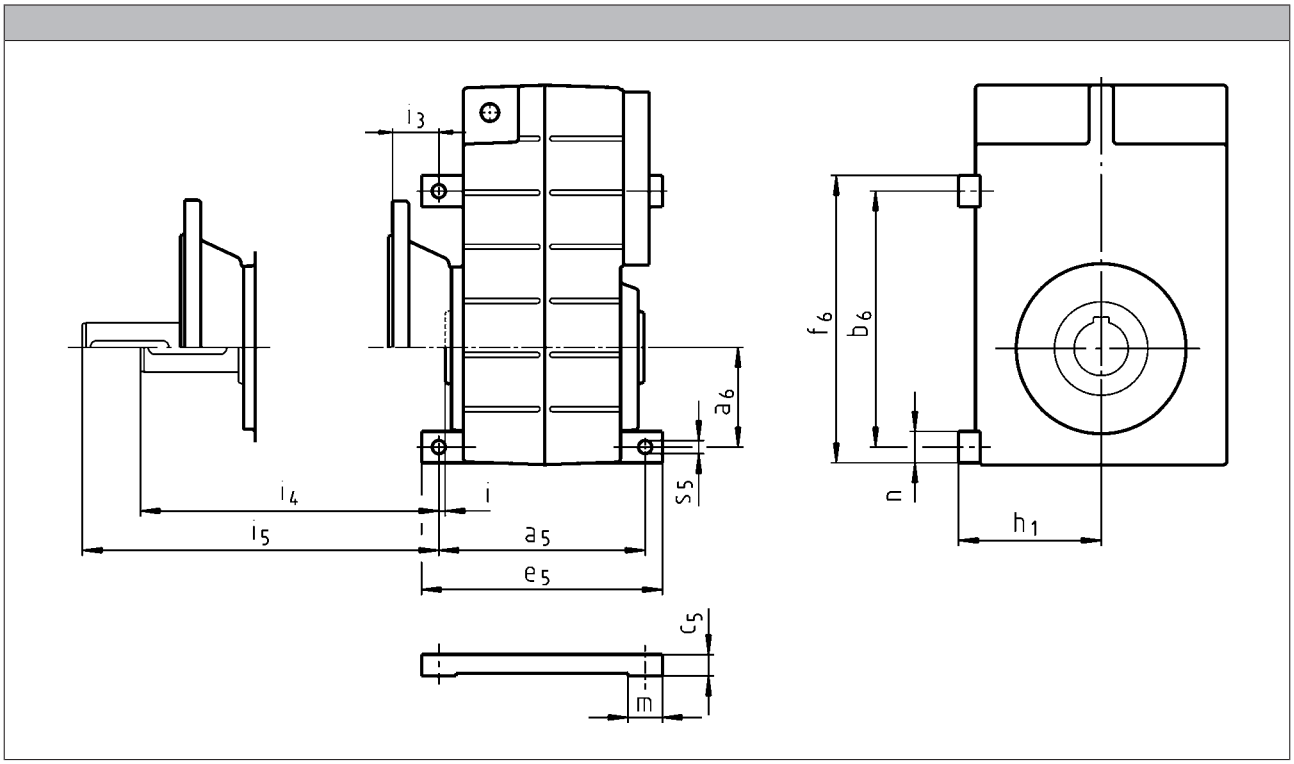
**Mounting set for hollow shaft circlip:**
**Proposed design for auxiliary tools**




| | d | $l_1$ | $d_2$ | $l_9$ | $c_7$ | $c_8$ | $c_9$ | $l_{8,\,max}$ |
|---|---|---|---|---|---|---|---|---|
| | H7 | | | | | | | |
| GFL04 | 25<br>30 | 100 | M10 | 40 | 5 | 10 | 3 | 85 |
| | | | | | 6 | | | |
| GFL05 | 30<br>35 | 124 | | | | | | 107 |
| | | | M12 | 50 | 7 | 12 | | |
| GFL06 | 40<br>45 | 140 | M16 | 60 | 8 | 16 | 4 | 118 |
| | | | | | 9 | | | |
| GFL07 | 50<br>55 | 175 | | | 10 | | 5 | 148 |
| | | | M20 | 80 | 11 | 20 | | |
| GFL09 | 60<br>70 | 210 | | | 13 | | | 182 |
| | | | | | 14 | | | |
| GFL11 | 70<br>80 | 250 | | | | | 6 | 221 |
| | | | | | 16 | | | |
| GFL14 | 100 | 305 | M24 | 100 | 20 | 24 | 8 | 270 |

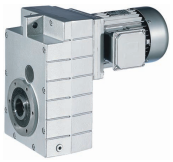


## Foot mounting in position 3

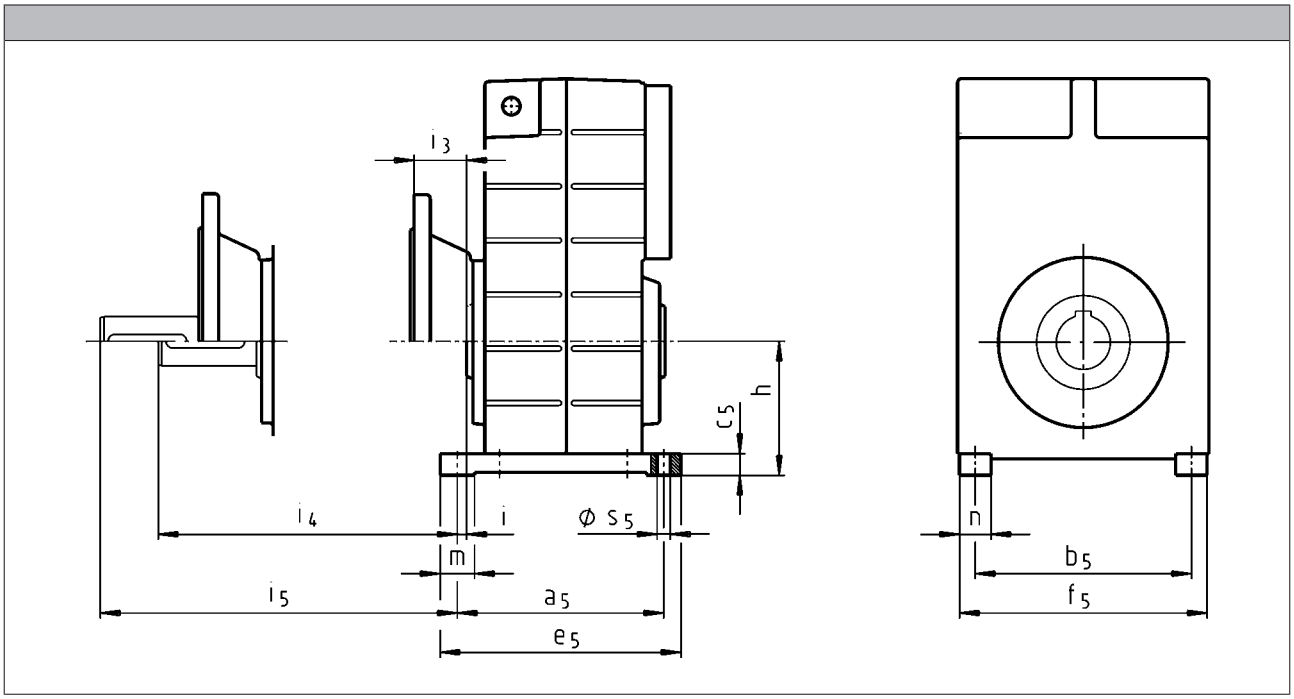



| | $a_5$ | $a_6$ | $b_6$ | $c_5$ | $e_5$ | $f_6$ | $h_1$ | i | $i_3$ | $i_4$ | $i_5$ | m | n | $s_5$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GFL04 | 130 | 47 | 115 | 18 | 152 | 140 | 90 | 4.5 | 28.5 | 45.5 | 78.5 | 22 | 25 | 6.6 |
| GFL05 | 160 | 65 | 167 | 21 | 185 | 192 | 100 | 2.0 | 31.0 | 58.0 | 91.0 | 25 | | 9.0 |
| GFL06 | 175 | 80 | 205 | 27 | 205 | 233 | 125 | | 39.0 | 78.0 | 119 | 30 | 28 | 11.0 |
| GFL07 | 220 | 100 | 260 | 31 | 255 | 292 | 155 | 3.0 | 52.0 | 97.0 | 152 | 35 | 32 | 13.5 |
| GFL09 | 260 | 125 | 335 | 36 | 300 | 375 | 190 | | 57.0 | 117 | 177 | 40 | 40 | 17.5 |
| GFL11 | 315 | 155 | 435 | 48 | 365 | 485 | 240 | | | 157 | 217 | 50 | 50 | 22.0 |
| GFL14 | 375 | 200 | 540 | 57 | 430 | 600 | 295 | | | 197 | 257 | 55 | 60 | 26.0 |

Foot design is not available for the following combinations:
- GFL04: Motor frame size 090
- GFL05: Motor frame size 090
- GFL05: Motor frame size 100
- GFL06: Motor frame size 112
- GFL06: Motor frame size 132
- GFL07: Motor frame size 160

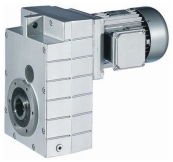


### Foot mounting in position 4

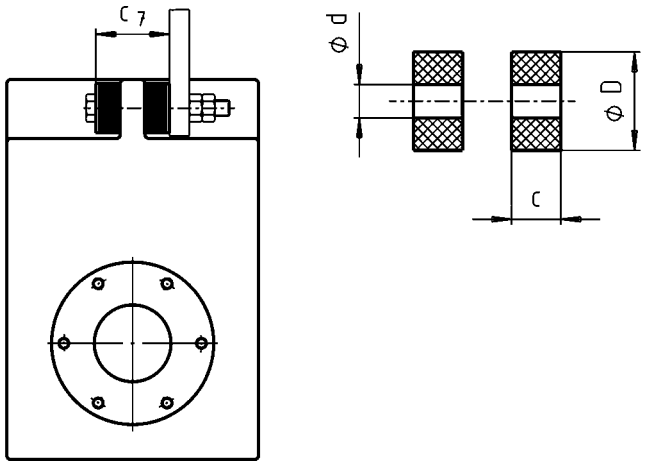



| | $a_5$ | $b_5$ | $c_5$ | $e_5$ | $f_5$ | h | i | $i_3$ | $i_4$ | $i_5$ | m | n | $s_5$ |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| GFL04 | 130 | 108 | 18 | 152 | 133.0 | 85 | 4.5 | 28.5 | 45.5 | 78.5 | 22 | 25 | 6.6 |
| GFL05 | 160 | 140 | 21 | 185 | 165.0 | 95 | 2.0 | 31.0 | 58.0 | 91.0 | 25 | | 9.0 |
| GFL06 | 175 | 175 | 27 | 205 | 203.0 | 120 | | 39.0 | 78.0 | 119 | 30 | 28 | 11.0 |
| GFL07 | 220 | 220 | 31 | 255 | 252.0 | 145 | 3.0 | 52.0 | 97.0 | 152 | 35 | 32 | 13.5 |
| GFL09 | 260 | 275 | 36 | 300 | 315.0 | 180 | | 57.0 | 117 | 177 | 40 | 40 | 17.5 |
| GFL11 | 315 | 340 | 48 | 365 | 390.0 | 224 | | | 157 | 217 | 50 | 50 | 22.0 |
| GFL14 | 375 | 425 | 57 | 430 | 485.0 | 278 | | | 197 | 257 | 55 | 60 | 26.0 |

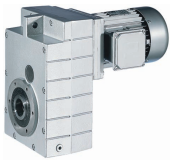
► In mounting positions E and F, the oil check bore hole/oil-sight glass are located between the feet in position 4!



## Rubber buffer for torque plate



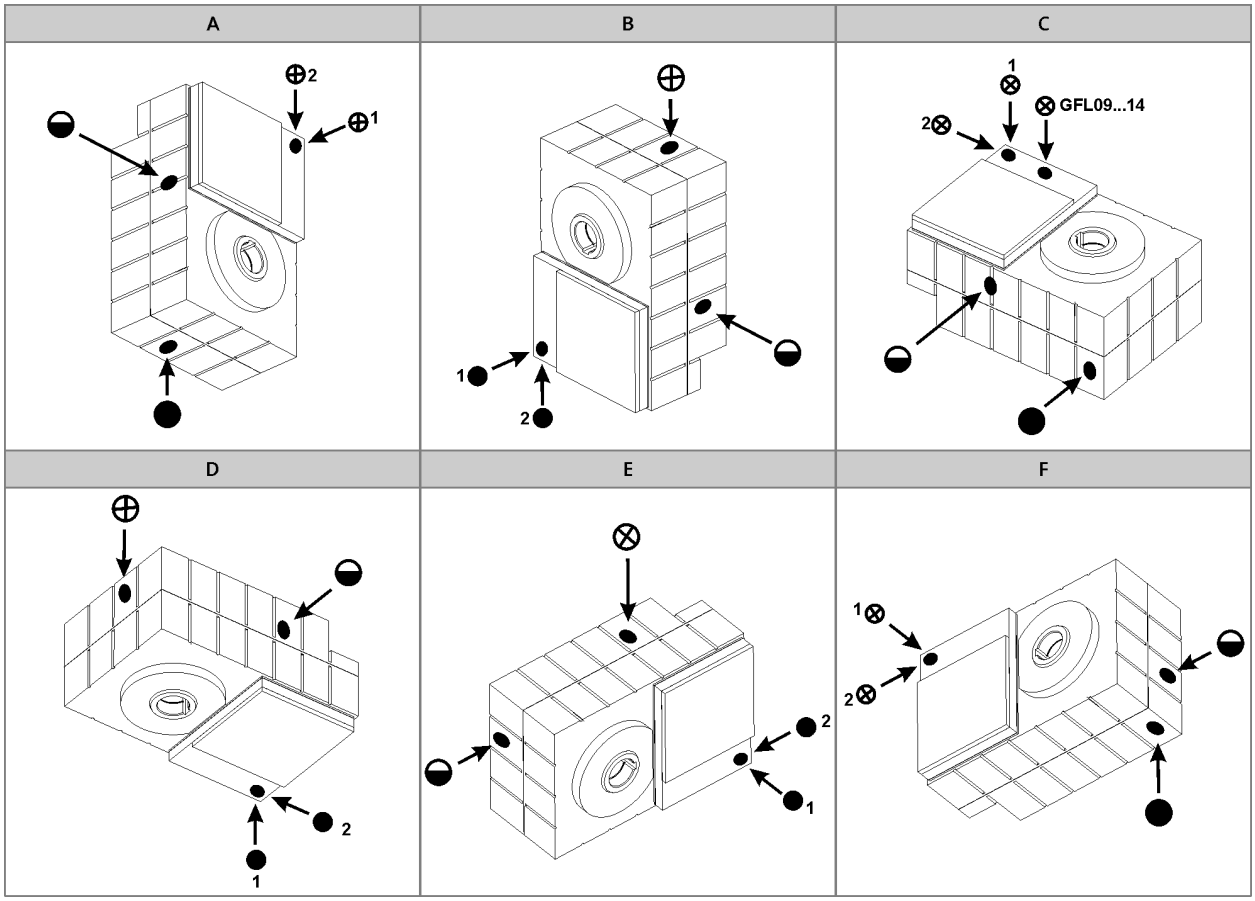

| | d | D | c | $c_7$ |
|---|---|---|---|---|
| GFL04 | 11 | 30 | 14.5 | 43 |
| GFL05 | 11 | 30 | 14.5 | 45 |
| GFL06 | 13 | 40 | 15.0 | 50 |
| GFL07 | 17 | 50 | 27.0 | 79 |
| GFL09 | 21 | 60 | 28.0 | 88 |
| GFL11 | 26 | 72 | 29.0 | 98 |
| GFL14 | 33 | 92 | 30.0 | 110 |



## Ventilations

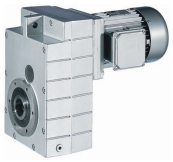
**Position of ventilation, sealing elements and oil level check**

**GFL05...14-2**




**A to F** Mounting position
⊗ Ventilation / Oil filler plug
● Oil drain plug
◒ Oil control plug
* On both sides
** On opposite side

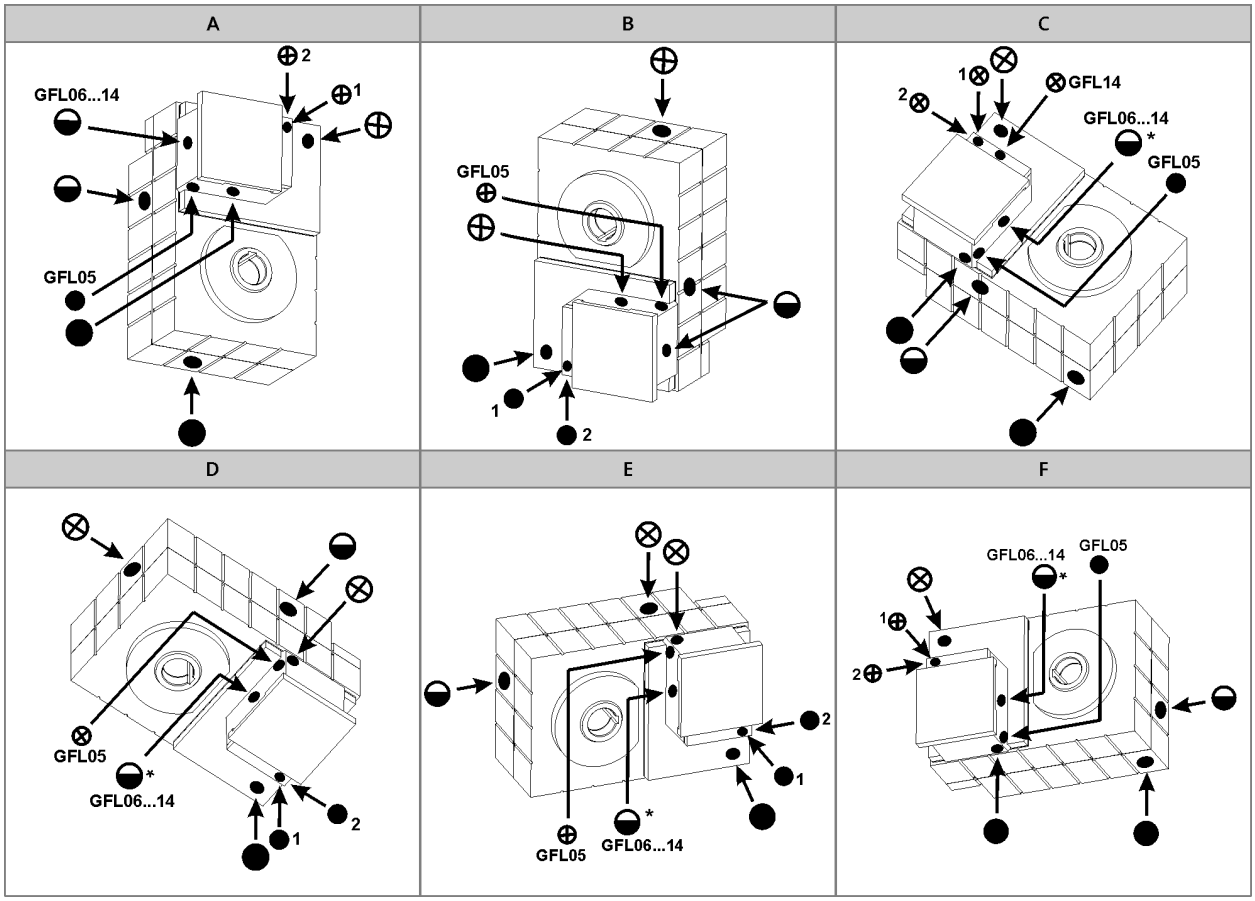
Item 1 standard
Item 2 only with:
- GFL05-2M □□□ 090C□□
- GFL05-2M □□□ 100C□□
- GFL06-2M □□□ 112C□□
- GFL07-2M □□□ 160C□□



## Ventilations

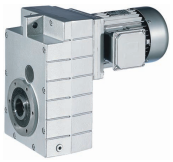
**Position of ventilation, sealing elements and oil level check**

**GFL05...14-3**




**A to F** Mounting position
⊗ Ventilation / Oil filler plug
● Oil drain plug
◒ Oil control plug
* On both sides
** On opposite side

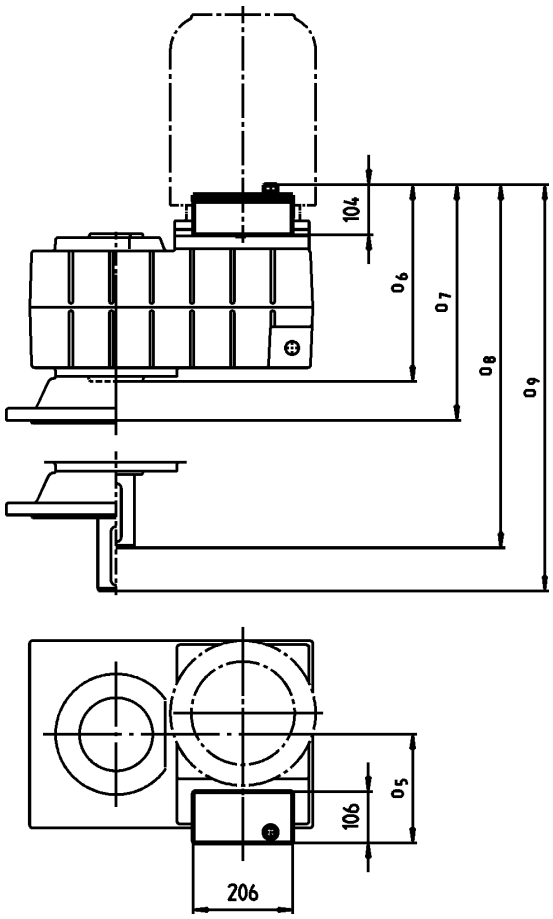
Item 1 standard
Item 2 only with:
- GFL07-3M □□□ 090C□□
- GFL07-3M □□□ 100C□□
- GFL09-3M □□□ 112C□□



## Ventilations

**Compensation reservoir for mounting position C**

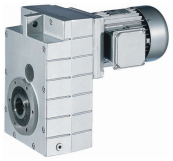
**GFL□□-2**




| Motor | 090<br>100 | | | | | 112 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | $o_5$ | $o_6$ | $o_7$ | $o_8$ | $o_9$ | $o_5$ | $o_6$ | $o_7$ | $o_8$ | $o_9$ |
| | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] |
| GFL09 | 165 | 344 | 405 | 464 | 525 | 187 | 344 | 405 | 464 | 525 |
| GFL11 | 154 | 387 | 448 | 547 | 608 | 176 | 391 | 452 | 551 | 612 |
| GFL14 | | | | | | 181 | 446 | 507 | 646 | 707 |

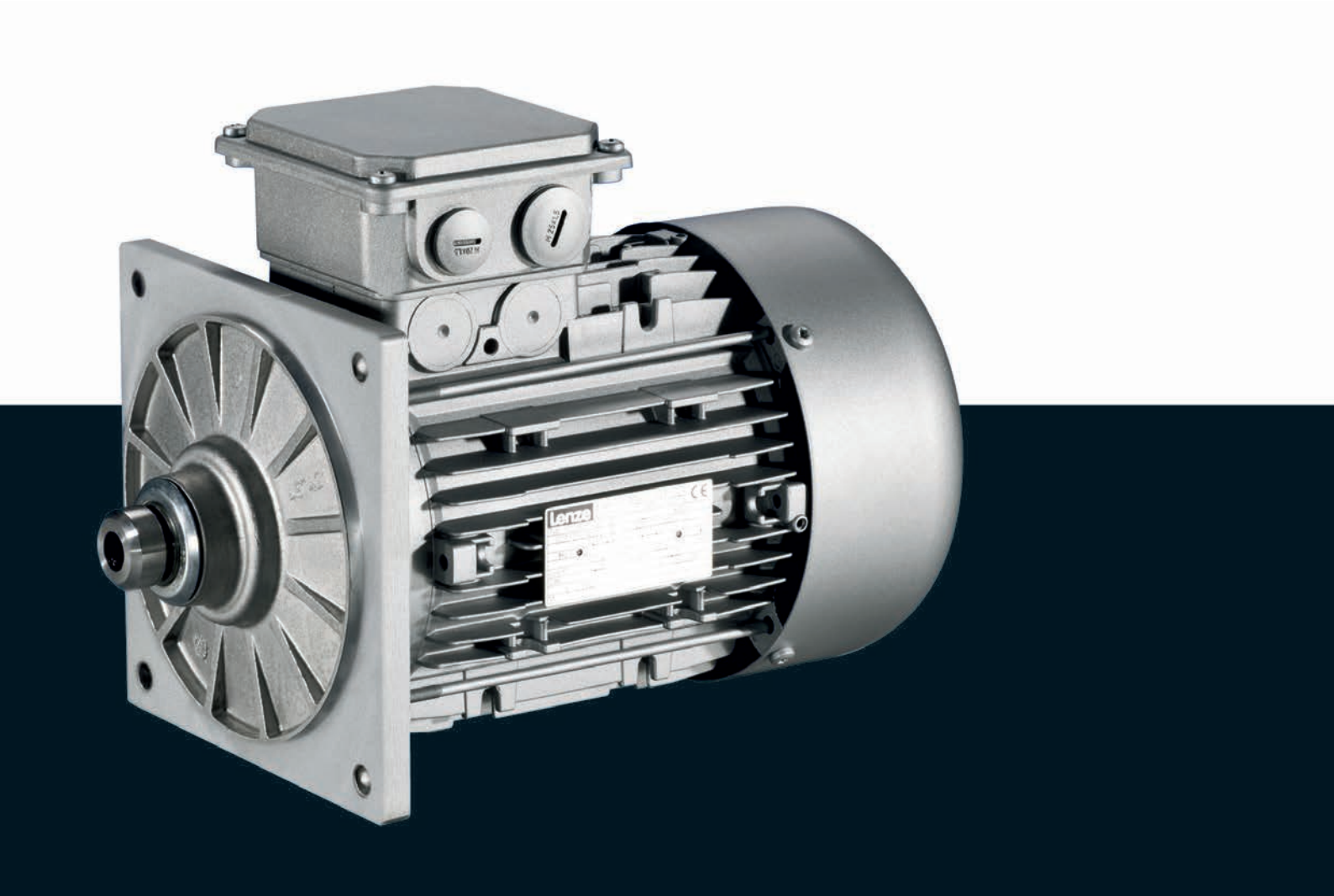
| Motor | 132 | | | | | 160<br>180<br>225 | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | $o_5$ | $o_6$ | $o_7$ | $o_8$ | $o_9$ | $o_5$ | $o_6$ | $o_7$ | $o_8$ | $o_9$ |
| | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] |
| GFL09 | 204 | 344 | 405 | 464 | 525 | 219 | 344 | 405 | 464 | 525 |
| GFL11 | 200 | 391 | 452 | 551 | 612 | 214 | 391 | 452 | 551 | 612 |
| GFL14 | 211 | 446 | 507 | 646 | 707 | 211 | 446 | 507 | 646 | 707 |

- Terminal box position 3 not permitted.
- Foot in position 3 not permitted.



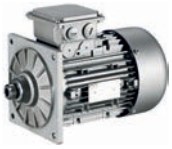
# MF three-phase AC motors

**0.55 to 22 kW**



# MF three-phase AC motors

Contents

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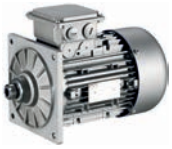


## List of abbreviations

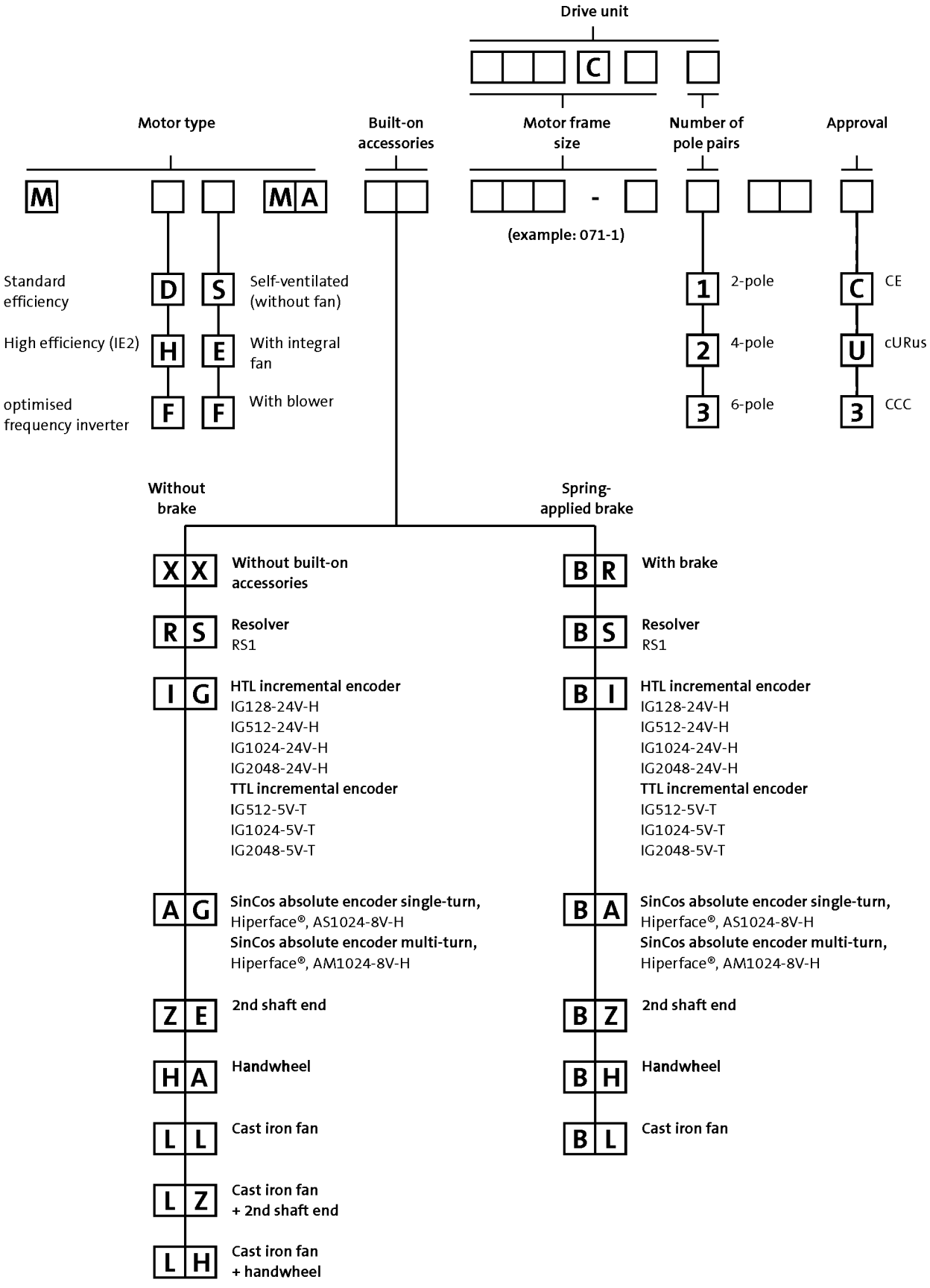
| | | |
|---|---|---|
| $\eta_{100\,\%}$ | [%] | Efficiency |
| $\eta_{75\,\%}$ | [%] | Efficiency |
| $\eta_{50\,\%}$ | [%] | Efficiency |
| cos ϕ | | Power factor |
| $I_N$ | [A] | Rated current |
| $I_{max}$ | [A] | Max. current consumption |
| J | [kgcm²] | Moment of inertia |
| m | [kg] | Mass |
| $M_a$ | [Nm] | Starting torque |
| $M_b$ | [Nm] | Stalling torque |
| $M_{max}$ | [Nm] | Max. torque |
| $M_N$ | [Nm] | Rated torque |
| $n_N$ | [r/min] | Rated speed |
| $P_N$ | [kW] | Rated power |
| $P_{max}$ | [kW] | Max. power input |

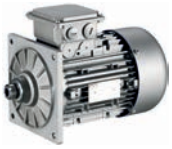
| | | |
|---|---|---|
| $U_{max}$ | [V] | Max. mains voltage |
| $U_{min}$ | [V] | Min. mains voltage |
| $U_{N,\Delta}$ | [V] | Rated voltage |
| $U_{N,Y}$ | [V] | Rated voltage |

| | |
|---|---|
| CE | Communauté Européenne |
| CSA | Canadian Standards Association |
| DIN | Deutsches Institut für Normung e.V. |
| EMC | Electromagnetic compatibility |
| EN | European standard |
| IEC | International Electrotechnical Commission |
| IM | International Mounting Code |
| IP | International Protection Code |
| NEMA | National Electrical Manufacturers Association |
| UL | Underwriters Laboratory Listed Product |
| UR | Underwriters Laboratory Recognized Product |
| VDE | Verband deutscher Elektrotechniker (Association of German Electrical Engineers) |
| CCC | China Compulsory Certificate |
| GOST | Certificate for Russian Federation |
| cURus | Combined certification marks of UL for the USA and Canada |
| UkrSEPRO | Certificate for Ukraine |



## Product key

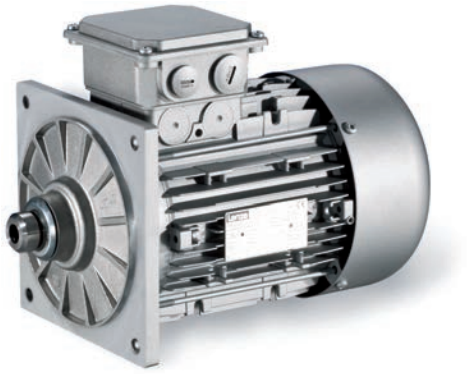

Drive unit
C
Motor type
Built-on accessories
Motor frame size
Number of pole pairs
Approval
M
M A
-
(example: 071-1)
Standard efficiency
D
S
Self-ventilated (without fan)
High efficiency (IE2)
H
E
With integral fan
optimised frequency inverter
F
F
With blower
1
2-pole
2
4-pole
3
6-pole
C
CE
U
cURus
3
CCC
Without brake
Spring-applied brake
X X
Without built-on accessories
R S
Resolver
RS1
I G
HTL incremental encoder
IG128-24V-H
IG512-24V-H
IG1024-24V-H
IG2048-24V-H
TTL incremental encoder
IG512-5V-T
IG1024-5V-T
IG2048-5V-T
A G
SinCos absolute encoder single-turn,
Hiperface®, AS1024-8V-H
SinCos absolute encoder multi-turn,
Hiperface®, AM1024-8V-H
Z E
2nd shaft end
H A
Handwheel
L L
Cast iron fan
L Z
Cast iron fan
+ 2nd shaft end
L H
Cast iron fan
+ handwheel
B R
With brake
B S
Resolver
RS1
B I
HTL incremental encoder
IG128-24V-H
IG512-24V-H
IG1024-24V-H
IG2048-24V-H
TTL incremental encoder
IG512-5V-T
IG1024-5V-T
IG2048-5V-T
B A
SinCos absolute encoder single-turn,
Hiperface®, AS1024-8V-H
SinCos absolute encoder multi-turn,
Hiperface®, AM1024-8V-H
B Z
2nd shaft end
B H
Handwheel
B L
Cast iron fan



## Product information

Special motors have been designed for direct attachment to Lenze gearboxes.

These motors are attached to the gearbox without the use of a clutch. Torque transmission between the toothing and the motor shaft is friction-locked via a tapered connection here.
This motor design means that the geared motors only require a small installation space.



L-force MF three-phase AC motors are available in a power range from 0.55 to 22 kW and have been fully optimised for inverter operation.

The benefits for you:
- Up to sizes smaller than standard three-phase AC motors
- The motors exceed the minimum efficiency levels of efficiency class IE2
- Large speed setting range: 1:24 (without field weakening)
- Dynamic thanks to a low moment of inertia

**Basic versions**
- The thermal sensors integrated as standard allow for permanent temperature monitoring and are coordinated to the motor winding's temperature class F (155°C).
- The motors of the basic version are adapted to ambient conditions by enclosure IP55.
- In tough operating conditions, the surface and corrosion protection system is provided to reliably protect the motor from corrosive media.

**Options**
- Various brake sizes – each available with several braking torques – can be combined with the three-phase AC motors.
- The LongLife version of the brake can easily reach 10 x $10^6$ switching cycles.
- A resolver and various incremental and absolute value encoders can be fitted for speed and position detection.
- For fast commissioning, the motors are also available with connectors for the power connection, brake, blower and feedback.
- Instead of an integral fan, the motor can optionally be equipped with a blower. No torque reduction is then necessary, even at speeds below 20 Hz.
- For drive tasks in decentralised applications, the motor can be ordered with the motec inverter connected to the terminal box.
- The motors are available with cURus, GOST-R, CCC and UkrSepro approval.
- Smooth start/braking is possible by increasing the motor's centrifugal mass with a cast iron fan.
- The motor can be equipped with a handwheel for manual setup or emergency operations.
- To protect the fan from falling objects, the fan cover can be equipped with a protection cover.
- A 2nd shaft end is available for further modifications.



## Functions and features

| Size | | | | |
|---|---|---|---|---|
| Motor | 063 | 071 | 080 | 090 |
| **Spring-applied brake** | | | | |
| Design | Standard or LongLife design<br>Reduced or standard braking torque<br>With rectifier<br>With manual release lever<br>Low noise | | Standard or LongLife design<br>Reduced, standard or increased braking torque<br>With rectifier<br>With manual release lever<br>Low noise | |
| **Feedback** | | | | |
| Design | Resolver<br>Incremental encoder<br>Absolute value encoder (multi-turn) | | | |
| **Thermal sensor** | | | | |
| Thermal contact | TKO | | | |
| Thermal detector | KTY83-110<br>KTY84-130 | | | |
| PTC thermistor | PTC | | | |
| **Motor connection** | | | | |
| Power connection | Terminal box<br>ICN connector<br>HAN10E connector<br>HAN modular connector | | | |
| Brake connection | Terminal box<br>ICN connector<br>HAN modular connector<br>HAN10E connector | | | |
| Blower connection | Terminal box<br>ICN connector | | | |
| Feedback connection | Terminal box<br>ICN connector | | | |
| Temperature sensor connection | Terminal box<br>TKO or PTC at connector in the power connection<br>KTY at connector in the feedback connection | | | |
| **Shaft bearings** | | | | |
| Position of the locating bearing | Standard motors (B3, B5, B14): side B<br>Motors for gearbox direct mounting: side A | | | |
| Bearing type | Deep-groove ball bearing with high-temperature resistant grease, 2 sealing discs or cover plates | | | |
| **Colour** | | | | |
| | Not coated<br>Primed<br>Paint in various corrosion-protection designs in accordance with RAL colours | | | |
| **Further options** | | | | |
| | Protection cover | Protection cover<br>2nd shaft end | | |



## Functions and features

| Size | | | |
|---|---|---|---|
| Motor | 100 | 112 | 132 |
| **Spring-applied brake** | | | |
| Design | Standard or LongLife design<br>Reduced, standard or increased braking torque<br>With rectifier<br>With manual release lever<br>Low noise | Standard design<br>Reduced, standard or increased braking torque<br>With rectifier<br>With manual release lever<br>Low noise | |
| **Feedback** | | | |
| Design | Resolver<br>Incremental encoder<br>Absolute value encoder (multi-turn) | | |
| **Thermal sensor** | | | |
| Thermal contact | TKO | | |
| Thermal detector | KTY83-110<br>KTY84-130 | | |
| PTC thermistor | PTC | | |
| **Motor connection** | | | |
| Power connection | Terminal box<br>ICN connector<br>HAN10E connector<br>HAN modular connector | Terminal box | Terminal box<br>HAN modular connector |
| Brake connection | Terminal box<br>ICN connector<br>HAN modular connector<br>HAN10E connector | Terminal box | Terminal box<br>HAN modular connector |
| Blower connection | Terminal box<br>ICN connector | | |
| Feedback connection | Terminal box<br>ICN connector | | |
| Temperature sensor connection | Terminal box<br>TKO or PTC at connector in the power connection<br>KTY at connector in the feedback connection | Terminal box<br>KTY at connector in the feedback connection | |
| **Shaft bearings** | | | |
| Position of the locating bearing | Standard motors (B3, B5, B14): side B<br>Motors for gearbox direct mounting: side A | | |
| Bearing type | Deep-groove ball bearing with high-temperature resistant grease, 2 sealing discs or cover plates | | |
| **Colour** | | | |
| | Not coated<br>Primed<br>Paint in various corrosion-protection designs in accordance with RAL colours | | |
| **Further options** | | | |
| | Protection cover<br>2nd shaft end | | |



## Functions and features

### Surface and corrosion protection

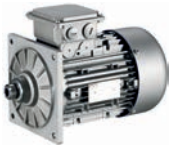
For optimum protection of three-phase AC motors against ambient conditions, the surface and corrosion protection system (OKS) offers tailor-made solutions.

Various surface coatings ensure that the motors operate reliably even at high air humidity, in outdoor installation or in the presence of atmospheric impurities. Any colour from the RAL Classic collection can be chosen for the top coat. The three-phase AC motors are also available unpainted (no surface and corrosion protection).

| Surface and corrosion protection system | Applications | Measures |
|---|---|---|
| OKS-G<br>(primed) | • Dependent on subsequent top coat applied | • 2K PUR priming coat (grey) |
| OKS-S<br>(small) | • Standard applications<br>• Internal installation in heated buildings<br>• Air humidity up to 90% | • Surface coating as per corrosivity category C1 (in line with EN 12944-2) |
| OKS-M<br>(medium) | • Internal installation in non-heated buildings<br>• Covered, protected external installation<br>• Air humidity up to 95% | • Surface coating as per corrosivity category C2 (in line with EN 12944-2) |
| OKS-L<br>(high) | • External installation<br>• Air humidity above 95%<br>• Chemical industry plants<br>• Food industry | • Surface coating as per corrosivity category C3 (in line with EN 12944-2)<br>• Blower cover and B end shield additionally primed<br>• Screws zinc-coated<br>• Cable glands with gaskets<br>• Corrosion-resistant brake with cover ring, stainless friction plate, and chrome-plated armature plate (on request)<br>Optional measures:<br>• Motor recesses sealed off (on request) |

### Structure of surface coating

| Surface and corrosion protection system | Corrosivity category | Surface coating | Colour |
|---|---|---|---|
| | DIN EN ISO 12944-2 | Structure | |
| Without OKS<br>(uncoated) | | | |
| OKS-G<br>(primed) | | 2K PUR priming coat | |
| OKS-S<br>(small) | C1 | 2K-PUR top coat | Standard: RAL 7012<br>Optional: RAL Classic |
| OKS-M<br>(medium) | C2 | 2K PUR priming coat<br>2K-PUR top coat | |
| OKS-L<br>(high) | C3 | | |

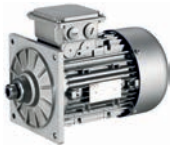


## Motor – inverter assignment

**Rated frequency 120 Hz**

- ► Decentralised inverter 8400 motec (E84DVB)
- ► Inverter Drives 8400 (E84AV)

| Rated power | Product key | | |
|---|---|---|---|
| | Motor | Inverter | |
| $P_N$ | | | |
| [kW] | | | |
| 0.55 | MF□□□□□063-32 | E84DVB□5514S□□□2□ | |
| 0.75 | MF□□□□□063-42 | E84DVB□7514S□□□2□ | |
| 1.10 | MF□□□□□071-32 | E84DVB□1124S□□□2□ | |
| 1.50 | MF□□□□□071-42 | E84DVB□1524S□□□2□ | |
| 2.20 | MF□□□□□080-32 | E84DVB□2224S□□□2□ | |
| 3.00 | MF□□□□□080-42 | E84DVB□3024S□□□2□ | |
| 4.00 | MF□□□□□090-32 | E84DVB□4024S□□□2□ | |
| 5.50 | MF□□□□□100-12 | E84DVB□5524S□□□2□ | |
| 7.50 | MF□□□□□100-32 | E84DVB□7524S□□□2□ | |
| 11.0 | MF□□□□□112-22 | | |
| 15.0 | MF□□□□□132-12 | | |
| 18.5 | MF□□□□□132-22 | | |
| 22.0 | MF□□□□□132-32 | | |

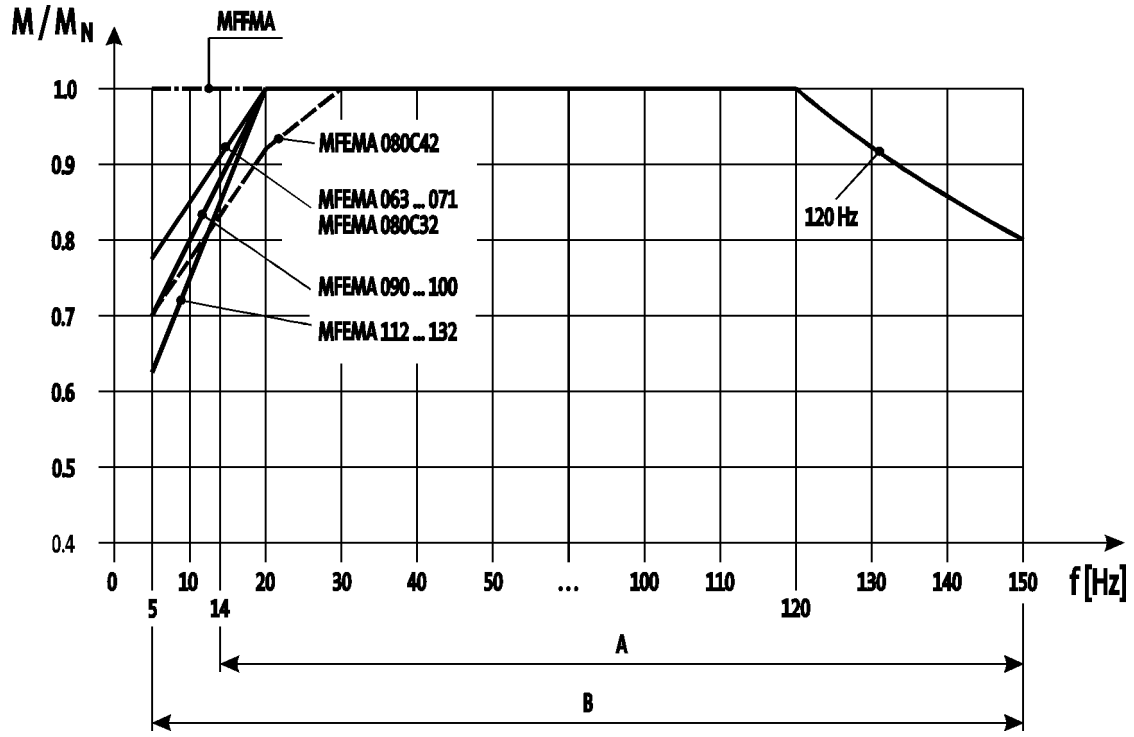


## Dimensioning

**Torque derating at low motor frequencies**

Motor size-dependent torque reduction, taking into account the thermal response during operation on the inverter.

**Torque characteristics**



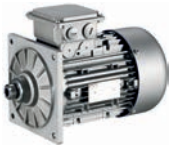

A = Operation with integral fan and brake
B = Operation with integral fan and brake control "Holding current reduction"

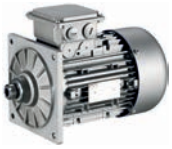
► The motor specifications stated in this catalogue for inverter operation apply to operation with a Lenze inverter. If you are uncertain, get in touch with the manufacturer of the inverter to ask whether the device is capable of driving the motor with the stated specifications (e.g. setting range, base frequency).

**You can use the Drive Solution Designer for precise drive dimensioning.**

The Drive Solution Designer helps you to carry out a fast and high-quality drive dimensioning.
The software includes well-founded and proven knowledge on drive applications and electro-mechanical drive components.

Please contact your Lenze sales office.





## Standards and operating conditions

| | | | |
|---|---|---|---|
| **Enclosure** | | | |
| EN 60529 | | | IP55 |
| **Approval** | | | |
| Class | | | cURus<br>CCC<br>GOST-R<br>UkrSepro |
| **Temperature class** | | | |
| IEC/EN 60034-1; utilisation | | | B |
| IEC/EN 60034-1; insulation system (enamel-insulated wire) | | | F |
| **Min. ambient operating temperature** | | | |
| | $T_{opr,min}$ | [°C] | -20 |
| **Max. ambient operating temperature** | | | |
| | $T_{opr,max}$ | [°C] | 40 |
| With power reduction | $T_{opr,max}$ | [°C] | 60 |
| **Site altitude** | | | |
| Amsl | $H_{max}$ | [m] | 4000 |
| **Max. speed** | | | |
| | $n_{max}$ | [r/min] | 4500 |



## Rated data for 120 Hz

### 4-pole motors

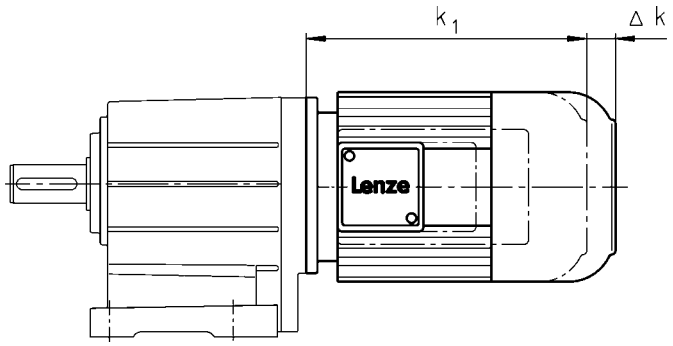
| | $P_N$ | $n_N$ | $U_{N,\Delta}$ | $I_{N,\Delta}$ | $U_{N,Y}$ | $I_{N,Y}$ |
|---|---|---|---|---|---|---|
| | | | ± 10 % | | ± 10 % | |
| | [kW] | [r/min] | [V] | [A] | [V] | [A] |
| MF□□□□□063-32 | 0.55 | 3440 | 200 | 3.20 | 345 | 1.80 |
| MF□□□□□063-42 | 0.75 | 3400 | 210 | 4.00 | 370 | 2.30 |
| MF□□□□□071-32 | 1.10 | 3490 | 200 | 5.50 | 345 | 3.20 |
| MF□□□□□071-42 | 1.50 | 3450 | 205 | 6.80 | 360 | 3.90 |
| MF□□□□□080-32 | 2.20 | 3500 | 200 | 9.10 | 345 | 5.30 |
| MF□□□□□080-42 | 3.00 | 3480 | 210 | 11.4 | 370 | 6.60 |
| MF□□□□□090-32 | 4.00 | 3480 | | | 370 | 8.50 |
| MF□□□□□100-12 | 5.50 | 3525 | | | 340 | 12.9 |
| MF□□□□□100-32 | 7.50 | 3515 | | | 375 | 15.9 |
| MF□□□□□112-22 | 11.0 | 3530 | | | 370 | 23.5 |
| MF□□□□□132-12 | 15.0 | 3560 | | | 370 | 31.2 |
| MF□□□□□132-22 | 18.5 | 3560 | | | 360 | 39.0 |
| MF□□□□□132-32 | 22.0 | 3550 | | | 380 | 44.5 |

| | $M_N$ | $M_{max}$ | cos ϕ | $\eta_{75\,\%}$ | $\eta_{100\,\%}$ | J [1)] | m [1)] |
|---|---|---|---|---|---|---|---|
| | [Nm] | [Nm] | | [%] | [%] | [kgcm²] | [kg] |
| MF□□□□□063-32 | 1.53 | 6.00 | 0.68 | 75.0 | 75.0 | 3.70 | 4.40 |
| MF□□□□□063-42 | 2.11 | 8.00 | 0.69 | 79.6 | 79.6 | 3.70 | 4.40 |
| MF□□□□□071-32 | 3.01 | 12.0 | 0.77 | 81.4 | 81.4 | 12.8 | 6.40 |
| MF□□□□□071-42 | 4.15 | 16.0 | 0.80 | 82.8 | 82.8 | 12.8 | 6.40 |
| MF□□□□□080-32 | 6.00 | 24.0 | 0.86 | 84.3 | 84.3 | 28.0 | 11.0 |
| MF□□□□□080-42 | 8.20 | 32.0 | 0.86 | 85.5 | 85.5 | 28.0 | 11.0 |
| MF□□□□□090-32 | 10.9 | 44.0 | 0.85 | 87.0 | 86.6 | 32.0 | 18.0 |
| MF□□□□□100-12 | 14.9 | 60.0 | 0.81 | 87.9 | 87.7 | 61.0 | 26.5 |
| MF□□□□□100-32 | 20.3 | 80.0 | 0.81 | 88.9 | 88.7 | 61.0 | 26.5 |
| MF□□□□□112-22 | 29.7 | 120 | 0.78 | 89.8 | 89.8 | 107 | 38.0 |
| MF□□□□□132-12 | 40.3 | 160 | 0.84 | 88.9 | 90.6 | 336 | 66.0 |
| MF□□□□□132-22 | 49.6 | 200 | 0.84 | 89.9 | 91.2 | 336 | 66.0 |
| MF□□□□□132-32 | 59.2 | 240 | 0.83 | 90.5 | 91.6 | 336 | 66.0 |

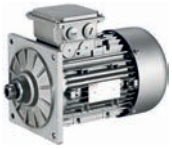
[1)] Without accessories



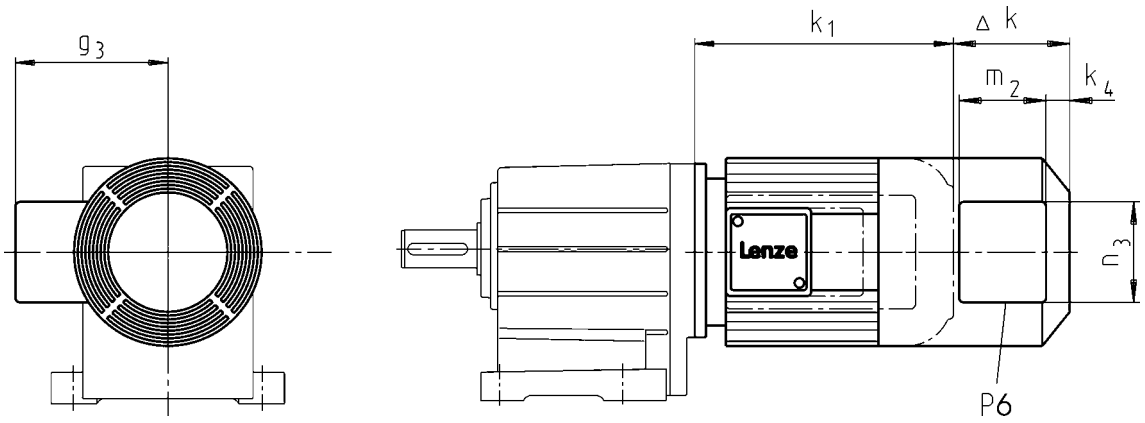
## Dimensions, self-ventilated (4-pole)




| | Motor type | | | |
|---|---|---|---|---|
| | MFEMAXX | MFEMABR | MFEMABS<br>MFEMABI<br>MFEMABA | MFEMARS<br>MFEMAIG<br>MFEMAAG |
| **Motor frame size** | | | | |
| | Δ k | Δ k | Δ k | Δ k |
| | [mm] | [mm] | [mm] | [mm] |
| 063-32<br>063-42 | 0 | 40 | 103 | 56 |
| 071-32<br>071-42 | | 52 | 96 | 52 |
| 080-32<br>080-42 | | 73 | 111 | 111 |
| 090-32 | | 68 | 105 | 87 |
| 100-12<br>100-32 | | 76 | 101 | 81 |
| 112-22 | | 90 | 120 | 80 |
| 132-12<br>132-22<br>132-32 | | 110 | 125 | 103 |



## Dimensions, forced ventilated (4-pole)



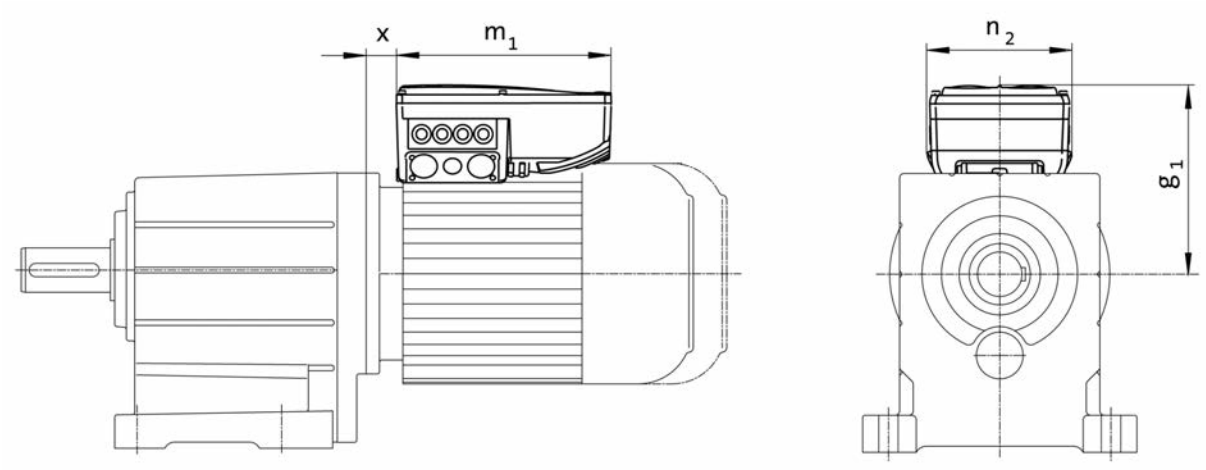

| Motor type | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | MFFMAXX | MFFMABR | MFFMABS<br>MFFMABI<br>MFFMABA | MFFMARS<br>MFFMAIG<br>MFFMAAG | | | | | |

| Motor frame size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Δ k | Δ k | Δ k | Δ k | $k_4$ | $g_3$ | $m_2$ | $n_3$ | $P_6$ |
| | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] |
| 063-32<br>063-42 | 128 | 170 | 170 | 128 | 12 | 115 | 95 | 105 | 1x M16x1.5 |
| 071-32<br>071-42 | | 165 | 165 | | | 122 | | | |
| 080-32<br>080-42 | | 183 | 183 | | 13 | 132 | 96 | 106 | |
| 090-32 | | 181 | 181 | | 22 | 141 | 95 | 105 | |
| 100-12<br>100-32 | 109 | 170 | 170 | 109 | | 150 | | | |
| 112-22 | 102 | 183 | 183 | 183 | | 162 | | | |
| 132-12<br>132-22<br>132-32 | 115 | 202 | 202 | 202 | 32 | 182 | | | |

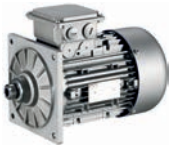


## Dimensions, 8400 motec inverter

**Rated frequency 120 Hz**




| Product key | | | | | |
|---|---|---|---|---|---|
| Motor | Inverter | | | | |
| | | $g_{1,\ 120Hz}$ | $m_{1,\ 120Hz}$ | $n_{2,\ 120Hz}$ | $x_{120Hz}$ |
| | | [mm] | [mm] | [mm] | [mm] |
| MF□□□□□063-32 | E84DVB□5514S□□□2□ | 154 | 241 | 161 | 18.8 |
| MF□□□□□063-42 | E84DVB□7514S□□□2□ | | | | |
| MF□□□□□071-32 | E84DVB□1124S□□□2□ | 163 | | | 21.0 |
| MF□□□□□071-42 | E84DVB□1524S□□□2□ | | | | |
| MF□□□□□080-32 | E84DVB□2224S□□□2□ | 201 | 260 | 176 | 24.5 |
| MF□□□□□080-42 | E84DVB□3024S□□□2□ | | | | |
| MF□□□□□090-32 | E84DVB□4024S□□□2□ | 261 | 325 | 195 | 16.0 |
| MF□□□□□100-12 | E84DVB□5524S□□□2□ | 272 | | | 17.1 |
| MF□□□□□100-32 | E84DVB□7524S□□□2□ | | | | |





## Spring-applied brake

Three-phase AC motors can be fitted with a spring-applied brake. This is activated after the supply voltage is switched off (closed-circuit principle). For optimum adjustment of the brake motor to the application, a range of braking torques and control modes is available for every motor frame size. For applications with very high operating frequencies the brake is also available in a LongLife version, with reinforced mechanical brake components.

**Features**

**Versions**
- **Standard**
  - 1 x $10^6$ repeating switching cycles
  - 1 x $10^6$ reversing switching cycles
- **LongLife**
  - 10 x $10^6$ repeating switching cycles
  - 15 x $10^6$ reversing switching cycles

**Control**
- DC supply
- AC supply via rectifier in the terminal box

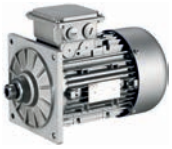
**Enclosure**
- Without manual release IP55
- With manual release IP54

**Friction lining**
- Non-asbestos, low wearing

**Options**
- Manual release
- UL/CSA approval
- Noise-reduced

**Motor – brake assignment**

| Design | Standard | | LongLife | |
|---|---|---|---|---|
| **Motor frame size** | **Size** | **Rated torque** | **Size** | **Rated torque** |
| | Brake | | Brake | |
| | | $M_k$ | | $M_k$ |
| | | [Nm] | | [Nm] |
| 063-32 | 06 | 2.50 | 06 | 4.00 |
| 063-42 | 06 | 4.00 | | |
| 071-32 | 06 | 2.50 | 06 | 4.00 |
| | 06 | 4.00 | 08 | 3.50 |
| | 08 | 3.50 | | |
| 071-42 | 06 | 2.50 | 06 | 4.00 |
| | 06 | 4.00 | 08 | 3.50 |
| | 08 | 3.50 | 08 | 8.00 |
| | 08 | 8.00 | | |
| 080-32 | 08 | 3.50 | 08 | 8.00 |
| | 08 | 8.00 | 10 | 7.00 |
| | 10 | 7.00 | | |
| 080-42 | 08 | 3.50 | 08 | 8.00 |
| | 08 | 8.00 | 10 | 7.00 |
| | 10 | 7.00 | 10 | 16.0 |
| | 10 | 16.0 | | |

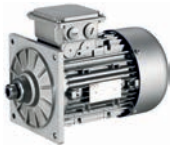


## Spring-applied brake

**Motor – brake assignment**

| Design | Standard | LongLife |
|---|---|---|

| Motor frame size | Size | Rated torque | Size | Rated torque |
|---|---|---|---|---|
| | Brake | | Brake | |
| | | $M_k$ | | $M_k$ |
| | | [Nm] | | [Nm] |
| 090-32 | 08<br>08<br>10<br>10<br>10 | 3.50<br>8.00<br>7.00<br>16.0<br>23.0 | 08<br>10<br>10 | 8.00<br>7.00<br>16.0 |
| 100-12 | 10<br>10<br>12<br>12 | 7.00<br>16.0<br>14.0<br>32.0 | 10<br>12<br>12 | 16.0<br>14.0<br>32.0 |
| 100-32 | 10<br>10<br>12<br>12<br>12 | 7.00<br>16.0<br>14.0<br>32.0<br>46.0 | | |
| 112-22 | 12<br>12<br>14<br>14 | 14.0<br>32.0<br>35.0<br>60.0 | | |
| 132-12 | 14<br>14<br>16<br>16 | 35.0<br>60.0<br>60.0<br>80.0 | | |
| 132-22<br>132-32 | 14<br>14<br>16<br>16<br>16 | 35.0<br>60.0<br>60.0<br>80.0<br>100 | | |



## Spring-applied brake

**Direct connection without rectifier**

If the brake is activated directly without a rectifier, a freewheeling diode or a spark suppressor is required to protect against induction peaks.

- Supply voltages
  DC 24 V
  DC 180 V
  DC 205 V

**Connection via mains voltage with brake rectifier**

If the brake is not directly supplied with DC voltage, a rectifier is required. This is included in the scope of supply and is located in the terminal box of the motor. The rectifier converts the AC voltage of the connection into DC voltage. The following rectifiers are available:

**Half-wave rectifier, 6-pole**

- Ratio of supply voltage to brake coil voltage = 2.22
- Approved by UL/CSA
- Supply voltages
  AC 230 V
  AC 400 V
  AC 460 V



**Bridge rectifier, 6-pole**

- Ratio of supply voltage to brake coil voltage = 1.11
- Supply voltage
  AC 230 V



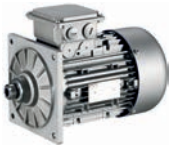
**Bridge/half-wave rectifier, 6-pole**

- Ratio of supply voltage to brake coil voltage
  up to overexcitation time = 1.11
  beyond overexcitation time = 2.22



**Supply voltages:**

- AC 230 V
- AC 400 V



## Spring-applied brake

**Connection via mains voltage with brake rectifier**

**Bridge/half-wave rectifier, 6-pole**
- Ratio of supply voltage to brake coil voltage
  up to overexcitation time = 1.11
  beyond overexcitation time = 2.22



**Supply voltages:**
- AC 230 V
- AC 400 V

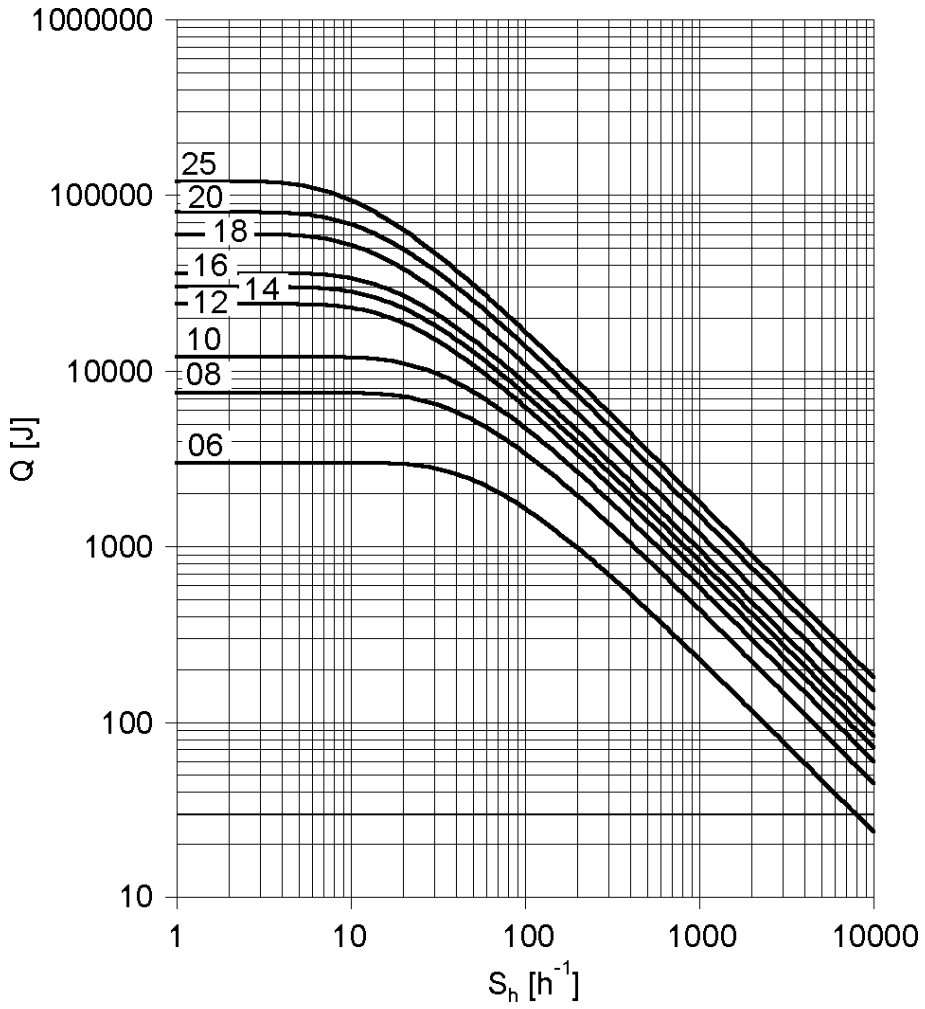
During the switching operation the bridge/half-wave rectifier functions as a bridge rectifier for the overexcitation time $t_{ü}$ and then as a half-wave rectifier. This combination optimises the performance of the brake – depending on the assignment of brake coil voltage and supply voltage:

- **Short-time overexcitation of the brake coil**
  Activating the brake coil for the overexcitation time $t_{ü}$ with twice the rated voltage allows the disengagement time to be reduced. The brake opens more quickly and wear on the friction lining is reduced.
  These features make this activation version particularly suitable for lifting applications. It is therefore only available in combination with a brake with increased braking torque.
- **Holding current reduction (cold brake)**
  By reducing the holding current, the bridge/half-wave rectifier is able to reduce the power input to the open brake. As the brake heats up less, this type of activation is known as "cold brake".

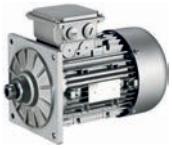


## Spring-applied brake

**Permissible friction energy**




Q =Switching energy per switching cycle
$S_h$ =Operating frequency
Brake size = 06 to 25



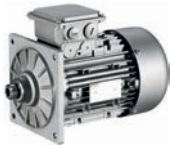
## Spring-applied brake

**Rated data with reduced braking torque**

► Please enquire for braking torques and maximum switching work values not listed here.

| Size | | | 06 | 08 | 10 | 12 | 14 | 16 | 18 | 20 | 25 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Power input** | | | | | | | | | | | |
| | $P_{in}$ | [kW] | 0.020 | 0.025 | 0.030 | 0.040 | 0.050 | 0.055 | 0.085 | 0.10 | 0.11 |
| **Braking torque** | | | | | | | | | | | |
| 100 | $M_B$ | [Nm] | 2.50 | 3.50 | 7.00 | 14.0 | 35.0 | 60.0 | 80.0 | 145 | 265 |
| 1000 | $M_B$ | [Nm] | 2.30 | 3.10 | 6.10 | 12.0 | 30.0 | 50.0 | 65.0 | 115 | 203 |
| 1200 | $M_B$ | [Nm] | 2.30 | 3.10 | 6.00 | 12.0 | 29.0 | 48.0 | 63.0 | 112 | 199 |
| 1500 | $M_B$ | [Nm] | 2.20 | 3.00 | 5.80 | 11.0 | 28.0 | 47.0 | 61.0 | 109 [1)] | 193 [1)] |
| 1800 | $M_B$ | [Nm] | 2.10 | 2.90 | 5.70 | 11.0 | 28.0 | 46.0 | 60.0 [1)] | | |
| 3000 | $M_B$ | [Nm] | 2.00 | 2.80 | 5.30 | 10.0 | 26.0 [1)] | 43.0 [1)] | | | |
| 3600 | $M_B$ | [Nm] | 2.00 | 2.70 | 5.20 | 10.0 [1)] | | | | | |
| **Maximum switching energy** | | | | | | | | | | | |
| 100 | $Q_E$ | [KJ] | 3.00 | 7.50 | 12.0 | 24.0 | 30.0 | 36.0 | 60.0 | 80.0 | 120 |
| 1000 | $Q_E$ | [KJ] | 3.00 | 7.50 | 12.0 | 24.0 | 30.0 | 36.0 | 60.0 | 80.0 | 120 |
| 1200 | $Q_E$ | [KJ] | 3.00 | 7.50 | 12.0 | 24.0 | 30.0 | 36.0 | 60.0 | 80.0 | 120 |
| 1500 | $Q_E$ | [KJ] | 3.00 | 7.50 | 12.0 | 24.0 | 30.0 | 36.0 | 60.0 | 24.0 [1)] | 36.0 [1)] |
| 1800 | $Q_E$ | [KJ] | 3.00 | 7.50 | 12.0 | 24.0 | 30.0 | 36.0 | 36.0 [1)] | | |
| 3000 | $Q_E$ | [KJ] | 3.00 | 7.50 | 12.0 | 24.0 | 18.0 [1)] | 11.0 [1)] | | | |
| 3600 | $Q_E$ | [KJ] | 3.00 | 7.50 | 12.0 | 7.00 [1)] | | | | | |
| **Transition operating frequency** | | | | | | | | | | | |
| | $S_{hü}$ | [1/h] | 79.0 | 50.0 | 40.0 | 30.0 | 28.0 | 27.0 | 20.0 | 19.0 | 15.0 |
| **Moment of inertia** | | | | | | | | | | | |
| | J | [kgcm²] | 0.015 | 0.061 | 0.20 | 0.45 | 0.63 | 1.50 | 2.90 | 7.30 | 20.0 |
| **Mass** | | | | | | | | | | | |
| | m | [kg] | 0.90 | 1.50 | 2.60 | 4.20 | 5.80 | 8.70 | 12.6 | 19.5 | 31.0 |

[1)] In the region of the load limit the value for friction energy $Q_{BW}$ can be reduced to 40 %.



## Spring-applied brake

**Rated data with reduced braking torque**

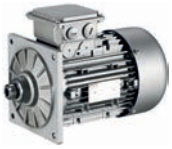
► Activation via half-wave or bridge rectifier

| **Size** | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | 06 | 08 | 10 | 12 | 14 | 16 | 18 | 20 | 25 |
| **Friction energy** | | | | | | | | | | | |
| | $Q_{BW}$ | [MJ] | 113 | 210 | 264 | 706 | 761 | 966 | 1542 | 2322 | 3522 |
| **Delay time** | | | | | | | | | | | |
| Engaging | $t_{11}$ | [ms] | 11.0 | 14.0 | 20.0 | 21.0 | 37.0 | 53.0 | 32.0 | 47.0 | 264 |
| **Rise time** | | | | | | | | | | | |
| Braking torque | $t_{12}$ | [ms] | 13.0 | 10.0 | 17.0 | 19.0 | 22.0 | 30.0 | 20.0 | 100 | 120 |
| **Engagement time** | | | | | | | | | | | |
| | $t_1$ | [ms] | 24.0 | | 37.0 | 40.0 | 59.0 | 83.0 | 52.0 | 147 | 384 |
| **Disengagement time** | | | | | | | | | | | |
| | $t_2$ | [ms] | 35.0 | 37.0 | 57.0 | 65.0 | 148 | 169 | 230 | 207 | 269 |

► Activation via bridge/half-wave rectifier

| **Design** | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | Holding current reduction (cold brake) | | | | | | | | |
| **Size** | | | | | | | | | | |
| | | | 06 | 08 | 10 | 12 | 14 | 16 | 18 | 20 | 25 |
| **Friction energy** | | | | | | | | | | | |
| | $Q_{BW}$ | [MJ] | 113 | 210 | 264 | 706 | 761 | 966 | 1542 | 2322 | 3522 |
| **Overexcitation time** | | | | | | | | | | | |
| | $t_{ü}$ | [ms] | 300 | | | | 1300 | | | | |
| **Min. rest time** | | | | | | | | | | | |
| | t | [ms] | 900 | | | | 3900 | | | | |
| **Delay time** | | | | | | | | | | | |
| Engaging | $t_{11}$ | [ms] | 12.0 | 22.0 | 35.0 | 49.0 | 61.0 | 114 | 83.0 | 126 | 304 |
| **Rise time** | | | | | | | | | | | |
| Braking torque | $t_{12}$ | [ms] | 14.0 | 16.0 | 30.0 | 45.0 | 37.0 | 65.0 | 52.0 | 269 | 138 |
| **Engagement time** | | | | | | | | | | | |
| | $t_1$ | [ms] | 26.0 | 38.0 | 66.0 | 93.0 | 97.0 | 180 | 134 | 395 | 443 |
| **Disengagement time** | | | | | | | | | | | |
| | $t_2$ | [ms] | 35.0 | 37.0 | 57.0 | 65.0 | 148 | 169 | 230 | 207 | 269 |

► The brake response and application times are guide values. The engagement time is 10 times longer with AC-side switching. With the maximum air gap the disengagement time $t_2$ – depending on the brake and control – is up to 4 times longer than the disengagement time with the rated air gap.



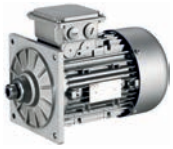
## Spring-applied brake

**Rated data with standard braking torque**

► Please enquire for braking torques and maximum switching work values not listed here.

| Size | | | 06 | 08 | 10 | 12 | 14 | 16 | 18 | 20 | 25 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Power input** | | | | | | | | | | | |
| | $P_{in}$ | [kW] | 0.020 | 0.025 | 0.030 | 0.040 | 0.050 | 0.055 | 0.085 | 0.10 | 0.11 |
| **Braking torque** | | | | | | | | | | | |
| 100 | $M_B$ | [Nm] | 4.00 | 8.00 | 16.0 | 32.0 | 60.0 | 80.0 | 150 | 260 | 400 |
| 1000 | $M_B$ | [Nm] | 3.70 | 7.20 | 14.0 | 27.0 | 51.0 | 66.0 | 121 | 206 | 307 |
| 1200 | $M_B$ | [Nm] | 3.60 | 7.00 | 14.0 | 27.0 | 50.0 | 65.0 | 118 | 201 | 300 |
| 1500 | $M_B$ | [Nm] | 3.50 | 6.80 | 13.0 | 26.0 | 48.0 | 63.0 | 115 | 195 [1)] | 291 [1)] |
| 1800 | $M_B$ | [Nm] | 3.40 | 6.70 | 13.0 | 26.0 | 47.0 | 61.0 | 112 [1)] | | |
| 3000 | $M_B$ | [Nm] | 3.20 | 6.30 | 12.0 | 24.0 | 44.0 [1)] | 57.0 [1)] | | | |
| 3600 | $M_B$ | [Nm] | 3.20 | 6.10 | 12.0 | 23.0 [1)] | | | | | |
| **Maximum switching energy** | | | | | | | | | | | |
| 100 | $Q_E$ | [KJ] | 3.00 | 7.50 | 12.0 | 24.0 | 30.0 | 36.0 | 60.0 | 80.0 | 120 |
| 1000 | $Q_E$ | [KJ] | 3.00 | 7.50 | 12.0 | 24.0 | 30.0 | 36.0 | 60.0 | 80.0 | 120 |
| 1200 | $Q_E$ | [KJ] | 3.00 | 7.50 | 12.0 | 24.0 | 30.0 | 36.0 | 60.0 | 80.0 | 120 |
| 1500 | $Q_E$ | [KJ] | 3.00 | 7.50 | 12.0 | 24.0 | 30.0 | 36.0 | 60.0 | 24.0 [1)] | 36.0 [1)] |
| 1800 | $Q_E$ | [KJ] | 3.00 | 7.50 | 12.0 | 24.0 | 30.0 | 36.0 | 36.0 [1)] | | |
| 3000 | $Q_E$ | [KJ] | 3.00 | 7.50 | 12.0 | 24.0 | 18.0 [1)] | 11.0 [1)] | | | |
| 3600 | $Q_E$ | [KJ] | 3.00 | 7.50 | 12.0 | 7.00 [1)] | | | | | |
| **Transition operating frequency** | | | | | | | | | | | |
| | $S_{hü}$ | [1/h] | 79.0 | 50.0 | 40.0 | 30.0 | 28.0 | 27.0 | 20.0 | 19.0 | 15.0 |
| **Moment of inertia** | | | | | | | | | | | |
| | J | [kgcm²] | 0.015 | 0.061 | 0.20 | 0.45 | 0.63 | 1.50 | 2.90 | 7.30 | 20.0 |
| **Mass** | | | | | | | | | | | |
| | m | [kg] | 0.90 | 1.50 | 2.60 | 4.20 | 5.80 | 8.70 | 12.6 | 19.5 | 31.0 |

[1)] In the region of the load limit the value for friction energy $Q_{BW}$ can be reduced to 40 %.



## Spring-applied brake

**Rated data with standard braking torque**

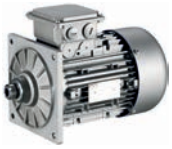
► Activation via half-wave or bridge rectifier

| Size | | | 06 | 08 | 10 | 12 | 14 | 16 | 18 | 20 | 25 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Friction energy** | | | | | | | | | | | |
| | $Q_{BW}$ | [MJ] | 85.0 | 158 | 264 | 530 | 571 | 966 | 1542 | 2322 | 3522 |
| **Delay time** | | | | | | | | | | | |
| Engaging | $t_{11}$ | [ms] | 15.0 | | 28.0 | | 17.0 | 27.0 | 33.0 | 65.0 | 110 |
| **Rise time** | | | | | | | | | | | |
| Braking torque | $t_{12}$ | [ms] | 13.0 | 16.0 | 19.0 | 25.0 | | 30.0 | 45.0 | 100 | 120 |
| **Engagement time** | | | | | | | | | | | |
| | $t_1$ | [ms] | 28.0 | 31.0 | 47.0 | 53.0 | 42.0 | 57.0 | 78.0 | 165 | 230 |
| **Disengagement time** | | | | | | | | | | | |
| | $t_2$ | [ms] | 45.0 | 57.0 | 76.0 | 115 | 210 | 220 | 270 | 340 | 390 |

► Activation via bridge/half-wave rectifier

| Design | | | Holding current reduction (cold brake) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **Size** | | | 06 | 08 | 10 | 12 | 14 | 16 | 18 | 20 | 25 |
| **Friction energy** | | | | | | | | | | | |
| | $Q_{BW}$ | [MJ] | 85.0 | 158 | 264 | 530 | 571 | 966 | 1542 | 2322 | 3522 |
| **Overexcitation time** | | | | | | | | | | | |
| | $t_ü$ | [ms] | 300 | | | | 1300 | | | | |
| **Min. rest time** | | | | | | | | | | | |
| | t | [ms] | 900 | | | | 3900 | | | | |
| **Delay time** | | | | | | | | | | | |
| Engaging | $t_{11}$ | [ms] | 16.0 | 25.0 | 31.0 | 48.0 | 33.0 | 58.0 | 80.0 | 102 | 154 |
| **Rise time** | | | | | | | | | | | |
| Braking torque | $t_{12}$ | [ms] | 14.0 | 27.0 | 21.0 | 43.0 | 49.0 | 64.0 | 109 | 157 | 168 |
| **Engagement time** | | | | | | | | | | | |
| | $t_1$ | [ms] | 30.0 | 52.0 | | 90.0 | 82.0 | 122 | 189 | 259 | 322 |
| **Disengagement time** | | | | | | | | | | | |
| | $t_2$ | [ms] | 45.0 | 57.0 | 76.0 | 115 | 210 | 220 | 270 | 340 | 390 |

► The brake response and application times are guide values. The engagement time is 10 times longer with AC-side switching. With the maximum air gap the disengagement time $t_2$ – depending on the brake and control – is up to 4 times longer than the disengagement time with the rated air gap.



## Spring-applied brake

**Rated data with increased braking torque**

► Please enquire for braking torques and maximum switching work values not listed here.

| Size | | | 10 | 12 | 14 | 16 | 16 | 18 | 20 | 20 | 25 | 25 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Power input** | | | | | | | | | | | | |
| | $P_{in}$ | [kW] | 0.030 | 0.040 | 0.050 | 0.055 | 0.055 | 0.085 | 0.10 | 0.10 | 0.11 | 0.11 |
| **Braking torque** | | | | | | | | | | | | |
| 100 | $M_B$ | [Nm] | 23.0 | 46.0 | 75.0 | 100 | 125 | 200 | 315 | 400 | 490 | 600 |
| 1000 | $M_B$ | [Nm] | 20.0 | 39.0 | 64.0 | 83.0 | 103 | 162 | 249 | 317 | 376 | 461 |
| 1200 | $M_B$ | [Nm] | 20.0 | 39.0 | 62.0 | 81.0 | 101 | 158 | 244 | 309 | 367 | 449 |
| 1500 | $M_B$ | [Nm] | 19.0 | 38.0 | 60.0 | 78.0 | 98.0 | 153 | 237 [1] | 300 [1] | 356 [1] | 436 [1] |
| 1800 | $M_B$ | [Nm] | 19.0 | 37.0 | 59.0 | 77.0 | 96.0 | 150 [1] | | | | |
| 3000 | $M_B$ | [Nm] | 17.0 | 34.0 | 55.0 [1] | 71.0 [1] | 89.0 [1] | | | | | |
| 3600 | $M_B$ | [Nm] | 17.0 | 33.0 [1] | | | | | | | | |
| **Maximum switching energy** | | | | | | | | | | | | |
| 100 | $Q_E$ | [KJ] | 12.0 | 24.0 | 30.0 | 36.0 | 36.0 | 60.0 | 80.0 | 80.0 | 120 | 120 |
| 1000 | $Q_E$ | [KJ] | 12.0 | 24.0 | 30.0 | 36.0 | 36.0 | 60.0 | 80.0 | 80.0 | 120 | 120 |
| 1200 | $Q_E$ | [KJ] | 12.0 | 24.0 | 30.0 | 36.0 | 36.0 | 60.0 | 80.0 | 80.0 | 120 | 120 |
| 1500 | $Q_E$ | [KJ] | 12.0 | 24.0 | 30.0 | 36.0 | 36.0 | 60.0 | 24.0 [1] | 24.0 [1] | 36.0 [1] | 36.0 [1] |
| 1800 | $Q_E$ | [KJ] | 12.0 | 24.0 | 30.0 | 36.0 | 36.0 | 36.0 [1] | | | | |
| 3000 | $Q_E$ | [KJ] | 12.0 | 24.0 | 18.0 [1] | 11.0 [1] | 11.0 [1] | | | | | |
| 3600 | $Q_E$ | [KJ] | 12.0 | 7.00 [1] | | | | | | | | |
| **Transition operating frequency** | | | | | | | | | | | | |
| | $S_{hü}$ | [1/h] | 40.0 | 30.0 | 28.0 | 27.0 | 27.0 | 20.0 | 19.0 | 19.0 | 15.0 | 15.0 |
| **Moment of inertia** | | | | | | | | | | | | |
| | J | [kgcm²] | 0.20 | 0.45 | 0.63 | 1.50 | 1.50 | 2.90 | 7.30 | 7.30 | 20.0 | 20.0 |
| **Mass** | | | | | | | | | | | | |
| | m | [kg] | 2.60 | 4.20 | 5.80 | 8.70 | 8.70 | 12.6 | 19.5 | 19.5 | 31.0 | 31.0 |

[1] In the region of the load limit the value for friction energy $Q_{BW}$ can be reduced to 40 %.

► Activation via half-wave or bridge rectifier

| Size | | | 10 | 12 | 14 | 16 | | 18 | 20 | | 25 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Friction energy** | | | | | | | | | | | | |
| | $Q_{BW}$ | [MJ] | 198 | 353 | 253 | 563 | 241 | 578 | 1596 | 580 | 2465 | 1409 |
| **Delay time** | | | | | | | | | | | | |
| Engaging | $t_{11}$ | [ms] | 10.0 | 16.0 | 11.0 | 22.0 | 17.0 | 24.0 | 46.0 | 17.0 | 77.0 | 38.0 |
| **Rise time** | | | | | | | | | | | | |
| Braking torque | $t_{12}$ | [ms] | 19.0 | 25.0 | | 30.0 | | 45.0 | 100 | | 120 | |
| **Engagement time** | | | | | | | | | | | | |
| | $t_1$ | [ms] | 29.0 | 41.0 | 36.0 | 52.0 | 47.0 | 69.0 | 146 | 117 | 197 | 158 |
| **Disengagement time** | | | | | | | | | | | | |
| | $t_2$ | [ms] | 109 | 193 | 308 | 297 | 435 | 356 | 378 | 470 | 451 | 532 |



## Spring-applied brake

**Rated data with increased braking torque**

► Activation via bridge/half-wave rectifier

| Design | | | Holding current reduction (cold brake) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Size** | | | 10 | 12 | 14 | 16 | | 18 | 20 | | 25 | |
| **Friction energy** | | | | | | | | | | | | |
| | $Q_{BW}$ | [MJ] | 198 | 353 | 253 | 563 | 241 | 578 | 1596 | 580 | 2465 | 1409 |
| **Overexcitation time** | | | | | | | | | | | | |
| | $t_ü$ | [ms] | 300 | | | 1300 | | | | | | |
| **Min. rest time** | | | | | | | | | | | | |
| | t | [ms] | 900 | | | 3900 | | | | | | |
| **Delay time** | | | | | | | | | | | | |
| Engaging | $t_{11}$ | [ms] | 24.0 | 27.0 | 17.0 | 41.0 | 21.0 | 60.0 | 69.0 | 17.0 | 123 | 85.0 |
| **Rise time** | | | | | | | | | | | | |
| Braking torque | $t_{12}$ | [ms] | 44.0 | 43.0 | 37.0 | 55.0 | 37.0 | 113 | 148 | 100 | 190 | 270 |
| **Engagement time** | | | | | | | | | | | | |
| | $t_1$ | [ms] | 68.0 | 70.0 | 54.0 | 97.0 | 57.0 | 173 | 217 | 334 | 313 | 355 |
| **Disengagement time** | | | | | | | | | | | | |
| | $t_2$ | [ms] | 109 | 193 | 308 | 297 | 435 | 356 | 378 | 470 | 451 | 532 |

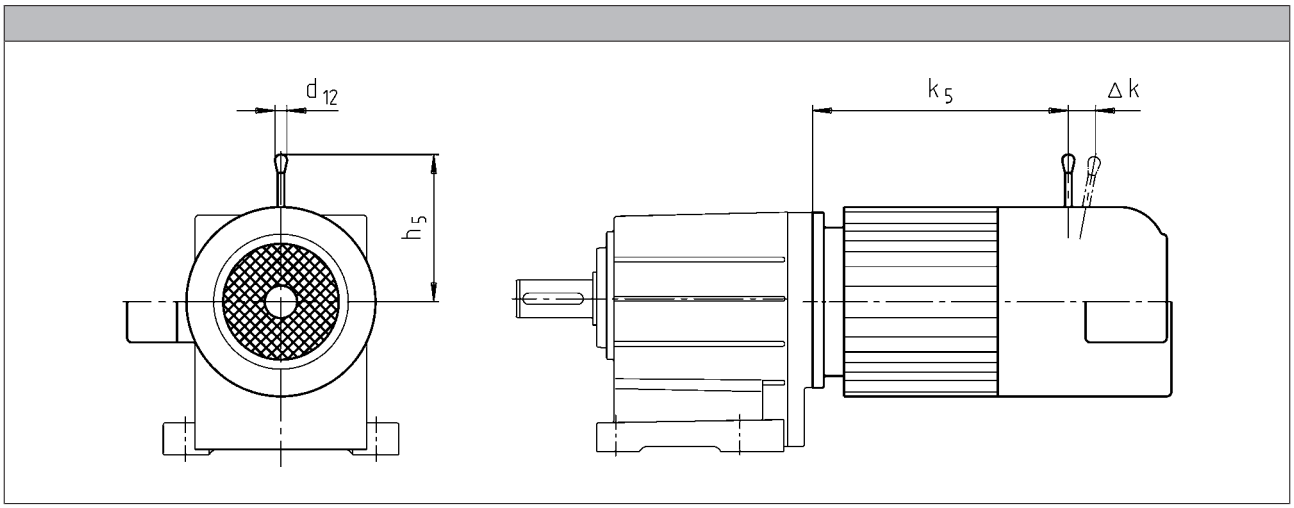
| Design | | | Over-excitation | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Size** | | | 10 | 12 | 14 | 16 | | 18 | 20 | | 25 | |
| **Friction energy** | | | | | | | | | | | | |
| | $Q_{BW}$ | [MJ] | 264 | 706 | 761 | 966 | | 1542 | 2322 | | 3522 | |
| **Overexcitation time** | | | | | | | | | | | | |
| | $t_ü$ | [ms] | 300 | | | 1300 | | | | | | |
| **Min. rest time** | | | | | | | | | | | | |
| | t | [ms] | 900 | | | 3900 | | | | | | |
| **Delay time** | | | | | | | | | | | | |
| Engaging | $t_{11}$ | [ms] | 29.0 | 54.0 | 31.0 | 70.0 | 46.0 | 86.0 | 103 | 55.0 | 171 | 135 |
| **Rise time** | | | | | | | | | | | | |
| Braking torque | $t_{12}$ | [ms] | 53.0 | 87.0 | 68.0 | 93.0 | 83.0 | 160 | 222 | 319 | 266 | 430 |
| **Engagement time** | | | | | | | | | | | | |
| | $t_1$ | [ms] | 82.0 | 141 | 99.0 | 163 | 129 | 246 | 325 | 374 | 437 | 565 |
| **Disengagement time** | | | | | | | | | | | | |
| | $t_2$ | [ms] | 53.0 | 81.0 | 117 | 141 | 168 | 151 | 160 | 167 | 184 | 204 |

► The brake response and application times are guide values. The engagement time is 10 times longer with AC-side switching. With the maximum air gap the disengagement time $t_2$ – depending on the brake and control – is up to 4 times longer than the disengagement time with the rated air gap.



## Spring-applied brake

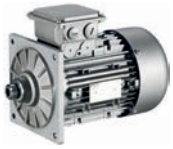
### Manual release lever




| Motor frame size | Size | | | | |
|---|---|---|---|---|---|
| | Brake | | | | |
| | | $k_5$ | Δ k | $h_5$ | $d_{12}$ |
| | | [mm] | [mm] | [mm] | [mm] |
| 063-32<br>063-42 | 06 | 173 | 29 | 107 | 13.0 |
| 071-32<br>071-42 | 06<br>08 | 186<br>187 | 29<br>27 | 107<br>116 | 13.0<br>13.0 |
| 080-32<br>080-42 | 06<br>08 | 207<br>218 | 29<br>27 | 107<br>116 | 13.0<br>13.0 |
| 090-32 | 08<br>10 | 245<br>256 | 27<br>28 | 116<br>132 | 13.0<br>13.0 |
| 100-12<br>100-32 | 10<br>12 | 294<br>296 | 28<br>37 | 132<br>161 | 13.0<br>13.0 |
| 112-22 | 12<br>14 | 292<br>296 | 37<br>41 | 161<br>195 | 13.0<br>24.0 |
| 132-12<br>132-22<br>132-32 | 14<br>16 | 373<br>373 | 41<br>55 | 195<br>240 | 24.0<br>24.0 |

The following combinations with manual release lever and motor connection in the same position are not possible:

- HAN connector with connection in position 1
- Inverter motec
- Terminal box of motor sizes 071, 080, 090 for brake and retracting (M□□MA BR/BS/BA/BI)



## Resolver

Stator-fed resolver with two stator windings offset by 90° and one rotor winding with transformer winding.

► The three-phase AC motors with resolver cannot be used for speed-dependent safety functions in connection with the SM 301 safety module.

| | | | | |
|---|---|---|---|---|
| **Product key** | | | | |
| | | | | RS1 |
| **Accuracy** | | | | |
| | | | ['] | -10 ... 10 |
| **Absolute positioning** | | | | |
| | | | | 1 revolution |
| **Max. input voltage** | | | | |
| DC | $U_{in,max}$ | | [V] | 10.0 |
| **Max. input frequency** | | | | |
| | $f_{in,max}$ | | [kHz] | 4.00 |
| **Ratio** | | | | |
| Stator / rotor | | ± 5 % | | 0.30 |
| **Rotor impedance** | | | | |
| | $Z_{ro}$ | | [Ω] | 51 + j90 |
| **Stator impedance** | | | | |
| | $Z_{so}$ | | [Ω] | 102 + j150 |
| **Impedance** | | | | |
| | $Z_{rs}$ | | [Ω] | 44 + j76 |
| **Min. insulation resistance** | | | | |
| At DC 500 V | R | | [MΩ] | 10.0 |
| **Number of pole pairs** | | | | |
| | | | | 1 |



## Incremental encoder and SinCos absolute value encoder

► The three-phase AC motors with incremental encoders or SinCos absolute value encoders cannot be used for speed-dependent safety functions in connection with the SM 301 safety module.

| **Encoder type** | | | HTL incremental | | | | TTL incremental | | | SinCos absolute value |
|---|---|---|---|---|---|---|---|---|---|---|
| **Product key** | | | IG128-24V-H | IG512-24V-H | IG1024-24V-H | IG2048-24V-H | IG512-5V-T | IG1024-5V-T | IG2048-5V-T | AM1024-8V-H |
| **Encoder type** | | | | | | | | | | Multi-turn |
| **Pulses** | | | 128 | 512 | 1024 | 2048 | 512 | 1024 | 2048 | 1024 |
| **Output signals** | | | HTL | | | | TTL | | | 1 Vss |
| **Interfaces** | | | A, B track | A, B, N track and inverted | | | | | | Hiperface |
| **Absolute revolutions** | | | 0 | | | | | | | 4096 |
| **Accuracy** | | ['] | -22.5 ... 22.5 | -2 ... 2 | | | | | | -0.8 ... 0.8 |
| **Min. input voltage** | | | | | | | | | | |
| DC | $U_{in,min}$ | [V] | 8.00 | | | | 4.75 | | | 7.00 |
| **Max. input voltage** | | | | | | | | | | |
| DC | $U_{in,max}$ | [V] | 26.0 | 30.0 | | | 5.25 | | | 12.0 |
| **Max. current consumption** | | | | | | | | | | |
| | $I_{max}$ | [A] | 0.040 | 0.15 | | | | | | 0.080 |
| **Limit frequency** | | | | | | | | | | |
| | $f_{max}$ | [kHz] | 30.0 | 160 | | | 300 | | | 200 |
| **Inverter assignment** | | | E84AVSC<br>E84AVHC | E84AVHC | | | E84AVTC<br>E94A<br>ECS<br>EVS93 | | | |

Inverters
- Inverter Drives 8400 StateLine (E84AVSC)
- Inverter Drives 8400 HighLine (E84AVHC)
- Inverter Drives 8400 TopLine (E84AVTC)

Servo-Inverters
- Servo Drives 9400 (E94A)
- 9300 servo inverters (EVS93)
- Servo Drives ECS

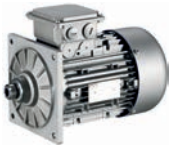


## Blowers

► The use of a blower enables operation below 20 Hz without torque derating.

**Rated data for 50 Hz**

| Size | Number of phases | Connection method | | | | | |
|---|---|---|---|---|---|---|---|
| Motor | | | | | | | |
| | | | $U_{min}$ | $U_{max}$ | $P_{max}$ | $I_{max}$ | m |
| | | | [V] | [V] | [kW] | [A] | [kg] |
| 063 | 1 | | 230 | 277 | 0.027 | 0.11 | 2.00 |
| | 3 | Δ | 200 | 303 | 0.028 | 0.12 | |
| | | Y | 346 | 525 | | 0.070 | |
| 071 | 1 | | 230 | 277 | 0.027 | 0.10 | 2.10 |
| | 3 | Δ | 200 | 303 | 0.031 | 0.11 | |
| | | Y | 346 | 525 | | 0.060 | |
| 080 | 1 | | 230 | 277 | 0.029 | 0.11 | 2.30 |
| | 3 | Δ | 200 | 303 | 0.031 | | |
| | | Y | 346 | 525 | | 0.060 | |
| 090 | 1 | | 220 | 277 | 0.065 | 0.29 | 2.70 |
| | 3 | Δ | 200 | 303 | 0.091 | 0.38 | |
| | | Y | 346 | 525 | | 0.22 | |
| 100 | 1 | | 220 | 277 | 0.066 | 0.28 | 3.00 |
| | 3 | Δ | 200 | 303 | 0.091 | 0.37 | |
| | | Y | 346 | 525 | | 0.22 | |
| 112 | 1 | | 220 | 277 | 0.071 | 0.28 | 3.10 |
| | 3 | Δ | 200 | 303 | 0.097 | 0.35 | |
| | | Y | 346 | 525 | | 0.20 | |
| 132 | 1 | | 230 | 277 | 0.098 | 0.40 | 4.20 |
| | 3 | Δ | 200 | 303 | 0.12 | 0.58 | |
| | | Y | 346 | 525 | | 0.33 | |
| 160 | 1 | | 230 | 277 | 0.25 | 0.97 | 6.20 |
| | 3 | Δ | 200 | 303 | | 0.87 | |
| | | Y | 346 | 525 | | 0.50 | |
| 180 | 1 | | 230 | 277 | | 0.97 | 8.00 |
| | 3 | Δ | 200 | 303 | | 0.87 | |
| | | Y | 346 | 525 | | 0.50 | |



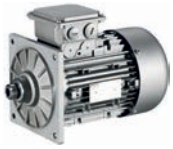
## Blowers

**Rated data for 50 Hz**

| Size | Number of phases | Connection method | | | | | |
|---|---|---|---|---|---|---|---|
| Motor | | | | | | | |
| | | | $U_{min}$ | $U_{max}$ | $P_{max}$ | $I_{max}$ | m |
| | | | [V] | [V] | [kW] | [A] | [kg] |
| 200 | 1 | | 230 | 277 | 0.25 | 0.97 | 8.00 |
| | 3 | Δ | 200 | 303 | | 0.87 | |
| | | Y | 346 | 525 | | 0.50 | |
| 225 | | Δ | 200 | 400 | 0.28 | 1.10 | 15.0 |
| | | Y | 346 | 525 | 0.17 | 0.35 | |

**Rated data for 60 Hz**

| Size | Number of phases | Connection method | | | | | |
|---|---|---|---|---|---|---|---|
| Motor | | | | | | | |
| | | | $U_{min}$ | $U_{max}$ | $P_{max}$ | $I_{max}$ | m |
| | | | [V] | [V] | [kW] | [A] | [kg] |
| 063 | 1 | | 230 | 277 | 0.032 | 0.12 | 2.00 |
| | 3 | Δ | 220 | 332 | 0.028 | 0.10 | |
| | | Y | 380 | 575 | | 0.060 | |
| 071 | 1 | | 230 | 277 | 0.033 | 0.12 | 2.10 |
| | 3 | Δ | 220 | 332 | 0.029 | 0.10 | |
| | | Y | 380 | 575 | | 0.060 | |
| 080 | 1 | | 230 | 277 | 0.037 | 0.14 | 2.30 |
| | 3 | Δ | 220 | 332 | 0.034 | 0.10 | |
| | | Y | 380 | 575 | | 0.060 | |
| 090 | 1 | | 220 | 277 | 0.065 | 0.25 | 2.70 |
| | 3 | Δ | | 332 | 0.077 | 0.33 | |
| | | Y | 380 | 575 | | 0.19 | |
| 100 | 1 | | 220 | 277 | 0.075 | 0.30 | 3.00 |
| | 3 | Δ | | 332 | 0.087 | 0.31 | |
| | | Y | 380 | 575 | | 0.18 | |
| 112 | 1 | | 220 | 277 | 0.094 | 0.37 | 3.10 |
| | 3 | Δ | | 332 | 0.10 | 0.31 | |
| | | Y | 380 | 575 | | 0.18 | |
| 132 | 1 | | 230 | 277 | 0.15 | 0.57 | 4.20 |
| | 3 | Δ | 220 | 332 | | 0.44 | |
| | | Y | 380 | 575 | | 0.25 | |
| 160 | | Δ | 220 | 332 | 0.36 | 0.93 | 6.20 |
| | | Y | 380 | 575 | | 0.56 | |
| 180 | | Δ | 220 | 332 | | 0.93 | 8.00 |
| | | Y | 380 | 575 | | 0.56 | |
| 200 | | Δ | 220 | 332 | | 0.93 | |
| | | Y | 380 | 575 | | 0.56 | |
| 225 | | Δ | 220 | 400 | 0.28 | 0.76 | 15.0 |
| | | Y | 380 | 575 | 0.26 | 0.43 | |



## Temperature monitoring

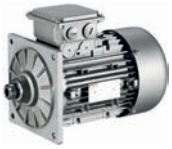
► The thermal sensors are integrated in the windings. The use of an additional motor protection switch is recommended.

**TKO thermal contacts**

| Function | Operating temperature | Min. reset temperature | Max. reset temperature | Max. input current | Max. input voltage |
|---|---|---|---|---|---|
| | | | | | AC |
| | T | $T_{min}$ | $T_{max}$ | $I_{in,max}$ | $U_{in,max}$ |
| | -5 ... 5 | | | | |
| | [°C] | [°C] | [°C] | [A] | [V] |
| NC contact | 150 | 90.0 | 135 | 2.50 | 250 |

**PTC thermistor**

| Function | Operating temperature | Rated resistance | | | Standard |
|---|---|---|---|---|---|
| | | 155 °C | -20 °C | 140 °C | |
| | T | $R_N$ | $R_N$ | $R_N$ | |
| | -5 ... 5 | | | | |
| | [°C] | [Ω] | [Ω] | [Ω] | |
| Sudden change in resistance | 150 | 550 | 30.0 | 250 | DIN 44080<br>DIN VDE 0660 Part 303 |

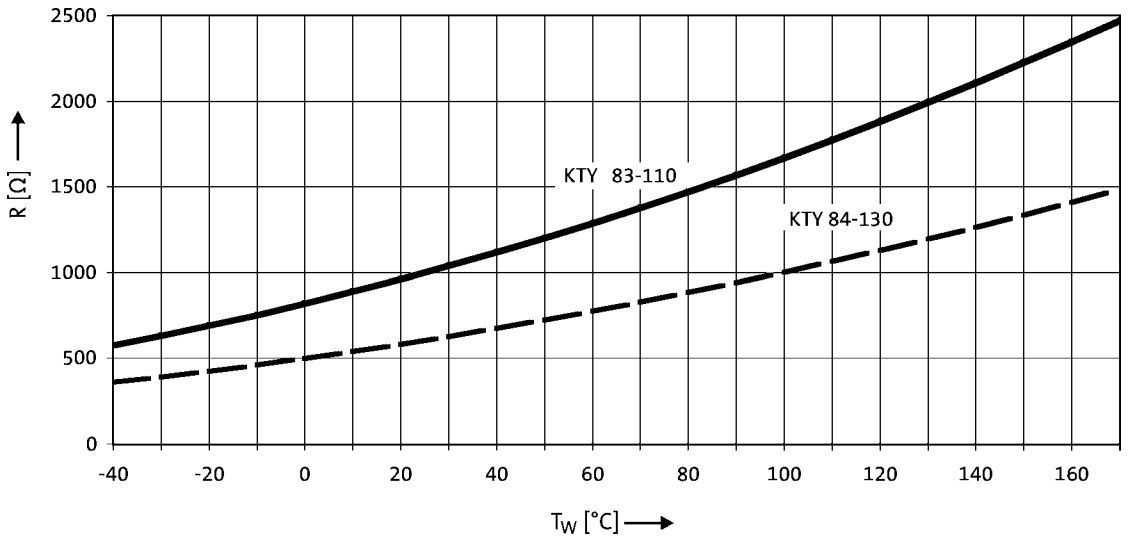


## Temperature monitoring

**KTY temperature sensor**

| | Function | Rated resistance | | | Max. input current | |
|---|---|---|---|---|---|---|
| | | 25 °C | 150 °C | 170 °C | 25 °C | 170 °C |
| | | $R_N$ | $R_N$ | $R_N$ | $I_{in,max}$ | $I_{in,max}$ |
| | | [Ω] | [Ω] | [Ω] | [A] | [A] |
| KTY83-110 | Continuous resistance change | 1000 | 2225 | 2471 | 0.010 | 0.002 |
| KTY84-130 | Continuous resistance change | 603 | 1334 | 1482 | 0.010 | 0.002 |

**Variation of resistance**




► If the detector is supplied with a measured current of 1 mA, the above relationship between the temperature and the resistance applies.



## Terminal box

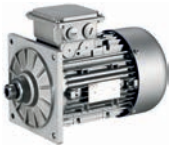
The MF three-phase AC motors are designed specifically for inverter operation. With a base frequency of 120Hz, the rated voltage has been specified at approximately 200 V in delta connection (up to 2.2 kW) and approximately 350V in star configurations.

In the standard version, the motors are connected in the terminal box. As an option, the motors are also available with the connectors described on the following pages as long as the permissible ratings are not exceeded.

**Motor terminal box - built-on accessories assignment: 4-pole / 6-pole motors**

| Motor type | M□□MAXX | M□□MARS<br>M□□MAIG<br>M□□MAAG | M□□MAZE |
|---|---|---|---|
| **Motor frame size** | | | |
| | Terminal box | | |
| 063-32<br>063-42 | KK1 | KK2 | |
| 071-32<br>071-42 | KK1 | KK2 | KK2 |
| 080-32<br>080-42 | KK1 | KK2 | KK2 |
| 090-32 | KK1 | KK2 | KK2 |
| 100-12<br>100-32 | KK1 | KK2 | KK2 |
| 112-22 | KK1 | KK2 | KK2 |
| 132-12<br>132-22<br>132-32 | KK1 | KK3 | KK3 |

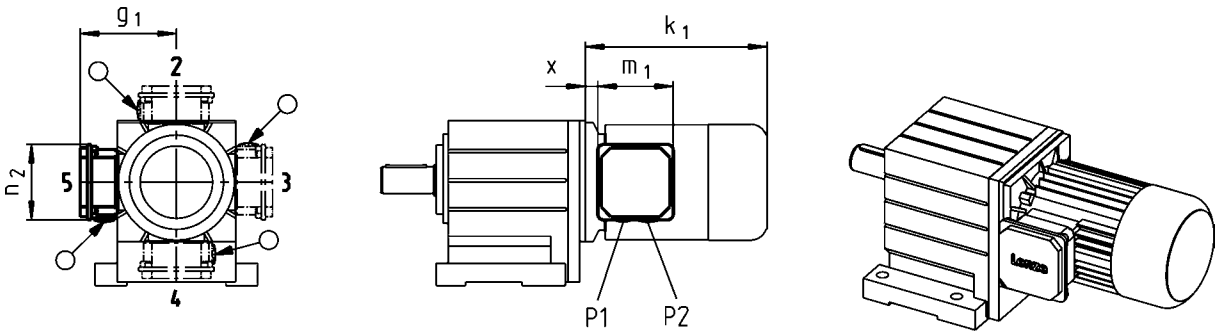
| Motor type | M□□MABR | M□□MABS<br>M□□MABI<br>M□□MABA | M□□MABZ |
|---|---|---|---|
| **Motor frame size** | | | |
| | Terminal box | | |
| 063-32<br>063-42 | KK2 | KK3 | |
| 071-32<br>071-42 | KK2 | KK3 | KK2 |
| 080-32<br>080-42 | KK2 | KK3 | KK2 |
| 090-32 | KK2 | KK3 | KK2 |
| 100-12<br>100-32 | KK2 | KK3 | KK2 |
| 112-22 | KK2 | KK3 | KK2 |
| 132-12<br>132-22<br>132-32 | KK3 | KK3 | KK3 |



## Terminal box

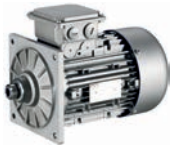
### Dimensions of KK1

- ► For motors with motor terminal box KK1, the connector position can be selected in accordance with the terminal box position.
- ► If preferred positions are not specified in the order, the cable entry will be positioned as circled on the diagram below.




| Size | | | | | | |
|---|---|---|---|---|---|---|
| Motor | | | | | | |
| | x | $g_1$ | $m_1$ | $n_2$ | $P_1$ | $P_2$ |
| | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] |
| 063 | 21<br>12 [1)] | 100<br>117 [1)] | 75.0<br>93.0 [1)] | 75.0<br>93.0 [1)] | M16x1.5<br>M20x1.5 [1)] | M20x1.5<br>M20x1.5 |
| 071 | 24<br>15 [1)] | 109<br>126 [1)] | | | | |
| 080 | 14 | 150 | 115 | 115 | M20x1.5 | M25x1.5 |
| 090 | 19 | 157 | | | | |
| 100 | 20 | 166 | | | | |
| 112 | 22 | 176 | | | | |
| 132 | 33 | 195 | 122 | 122 | M32x1.5 | M32x1.5 |

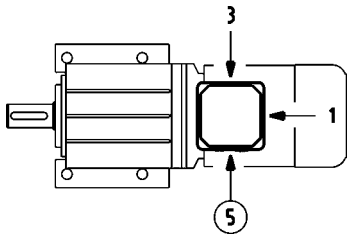
[1)] UL/CSA approval: cURus



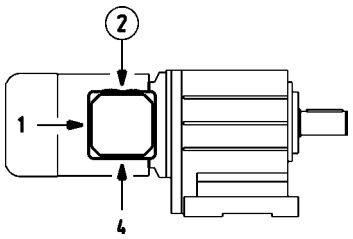
## Terminal box

**Cable entry position when using KK1**

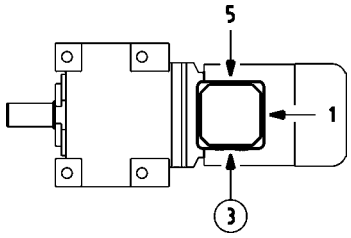
**Terminal box in position 2**



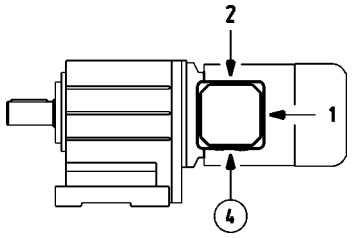

**Terminal box in position 3**

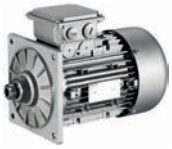



**Terminal box in position 4**



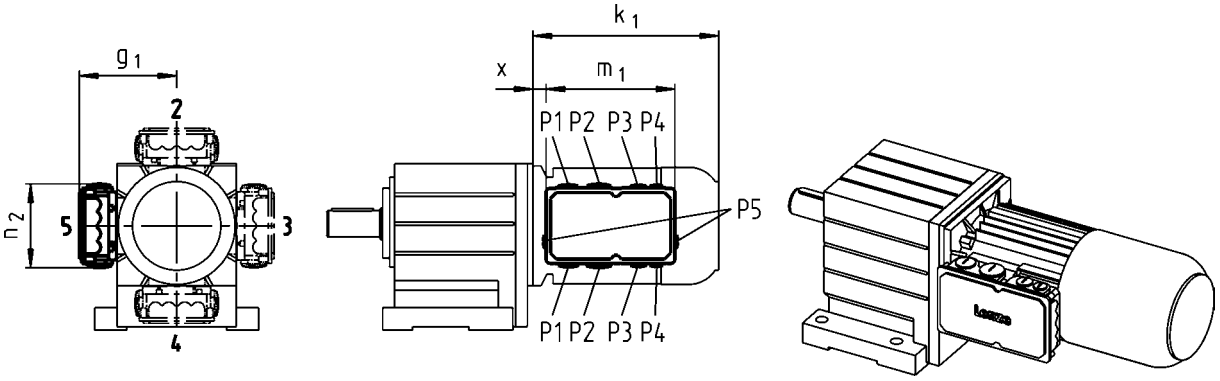

**Terminal box in position 5**





## Terminal box

### Dimensions of KK2

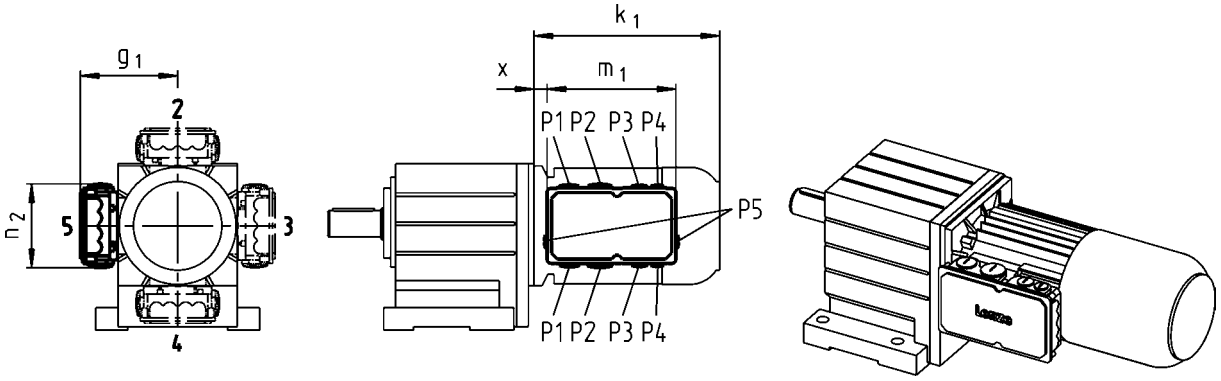



| Size | | | | | | |
|---|---|---|---|---|---|---|
| Motor | | | | | | |
| | x | $g_1$ | $m_1$ | $n_2$ | $P_1$ | $P_2$ |
| | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] |
| 063 | 13 | 107 | 136 | 103 | M16x1.5 | M20x1.5 |
| 071 | 15 | 118 | | | | |
| 080 | 17 | 132 | 152 | 121 | M20x1.5 | M25x1.5 |
| 090 | 22 | 137 | | | | |
| 100 | 23 | 147 | | | | |
| 112 | 25 | 158 | | | | |



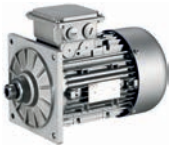
## Terminal box

### Dimensions of KK3




| Size | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Motor | | | | | | | | | |
| | x | $g_1$ | $m_1$ | $n_2$ | $P_1$ | $P_2$ | $P_3$ | $P_4$ | $P_5$ |
| | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] |
| 063 | 2 | 124 | 195 | 125 | M25x1.5 | M32x1.5 | M20x1.5 | M20x1.5 | |
| 071 | 5 | 133 | | | | | | | |
| 080 | 15 | 142 | | | | | | | |
| 090 | 20 | 147 | | | | | | | |
| 100 | 21 | 158 | | | | | | | |
| 112 | 23 | 168 | | | | | | | |
| 132 | 38 | 187 | | | | | | | |
| 160 | 35 | 210 | 226 | 127 | M50x1.5 | M16x1.5 | | M16x1.5 | |
| 180 | 73 | 230 | | | | | | | |
| 225 | 95 | 346 | 354 | 205 | | M63x1.5 [1)] | M50x1.5 [1)] | | M16x1.5 |

[1)] Cable entry only possible at one position.
Terminal box position 2: cable entry at position 5.
Terminal box position 3: cable entry at position 2.
Terminal box position 4: cable entry at position 3.
Terminal box position 5: cable entry at position 4.

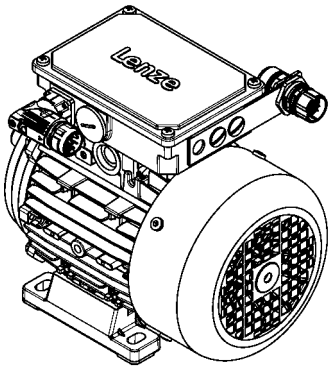


## Plug connectors

ICN, HAN and M12 connectors (only for IG128-24V-H incremental encoder) are available for the three-phase AC motors.

## ICN connector

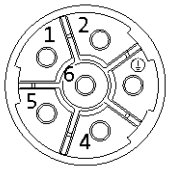
A connector is used for power, brake and temperature monitoring. The connections to the feedback system and the blower each employ a separate connector.




**Connection for power, brake and temperature monitoring**

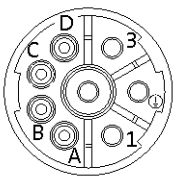
The connectors can be rotated through 270° and are fitted with a bayonet catch for SpeedTec connectors. As this connector is also compatible with conventional union nuts, existing mating connectors can continue to be used without difficulty. The motor connection is determined in the terminal box and must be checked before commissioning.

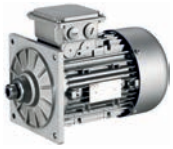
► ICN 6-pole

| Pin assignment | | | |
|---|---|---|---|
| Contact | Designation | Meaning | |
| 1 | BD1 / BA1 | Brake +/AC |  |
| 2 | BD2 / BA2 | Brake /AC | |
| PE | PE | PE conductor | |
| 4 | U | Phase U power | |
| 5 | V | Phase V power | |
| 6 | W | Phase W power | |



► ICN 8-pole

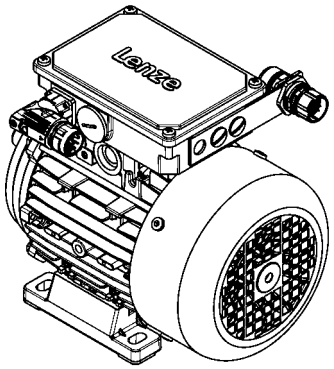
| Pin assignment | | | |
|---|---|---|---|
| Contact | Designation | Meaning | |
| 1 | U | Phase U power |  |
| PE | PE | PE conductor | |
| 3 | V | Phase V power | |
| 4 | W | Phase W power | |
| A | TB1 / TP1 / R1 | Thermal sensor: TKO/PTC/ +KTY | |
| B | TB2 / TP2 / R2 | Thermal sensor: TKO/PTC/-KTY | |
| C | BD1 / BA1 | Brake +/AC | |
| D | BD2 / BA2 | Brake /AC | |



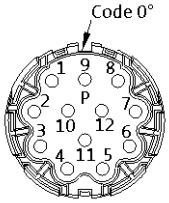
## ICN connector

**Feedback connection**

All encoder systems (apart from IG128-24V-H) are also available with an ICN connector fixed to the motor terminal box for exceptionally fast commissioning. The connectors are fitted with a bayonet fixing, which is also compatible with conventional union nuts. Existing mating connectors can therefore continue to be used without difficulty.

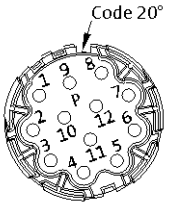


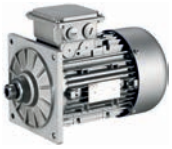

► Resolver

| Pin assignment | | | |
|---|---|---|---|
| Contact | Designation | Meaning | |
| 1 | +Ref | Transformer windings |  |
| 2 | -Ref | | |
| 3 | +VCC ETS | Supply: Electronic nameplate | |
| 4 | +COS | Cosine stator windings | |
| 5 | -COS | | |
| 6 | +SIN | Sine stator windings | |
| 7 | -SIN | | |
| 8 | | Not assigned | |
| 9 | | | |
| 10 | | | |
| 11 | +KTY | KTY temperature sensor | |
| 12 | -KTY | | |



► Hiperface incremental encoder and SinCos absolute value encoder

| Pin assignment | | | |
|---|---|---|---|
| Contact | Designation | Meaning | |
| 1 | B | Track B/+SIN |  |
| 2 | $A^-$ | Track A inverse/-COS | |
| 3 | A | Track A/+COS | |
| 4 | $+U_B$ | Supply + | |
| 5 | GND | Mass | |
| 6 | $Z^-$ | Zero track inverse/-RS485 | |
| 7 | Z | Zero track/+RS485 | |
| 8 | | Not assigned | |
| 9 | $B^-$ | Track B inverse/-SIN | |
| 10 | | Not assigned | |
| 11 | +KTY | KTY temperature sensor | |
| 12 | -KTY | | |



## ICN connector

**Motor terminal box with ICN connectors - built-on accessories assignment: 4-pole / 6-pole motors**

| Motor type | M□□MAXX | M□□MARS<br>M□□MAIG<br>M□□MAAG | M□□MAZE |
|---|---|---|---|
| **Motor frame size** | | | |
| | Terminal box | | |
| 063-32<br>063-42 | KK1 | KK2 | |
| 071-32<br>071-42 | KK1 | KK2 | KK2 |
| 080-32<br>080-42 | KK1 | KK2 | KK2 |
| 090-32 | KK1 | KK2 | KK2 |
| 100-12<br>100-32 | KK1 | KK2 | KK2 |

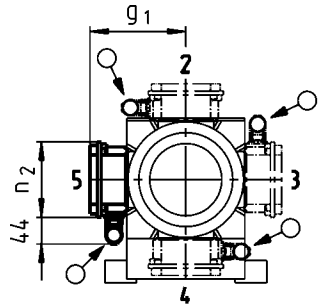
| Motor type | M□□MABR | M□□MABS<br>M□□MABI<br>M□□MABA | M□□MABZ |
|---|---|---|---|
| **Motor frame size** | | | |
| | Terminal box | | |
| 063-32<br>063-42 | KK2 | KK3 | |
| 071-32<br>071-42 | KK2 | KK3 | KK2 |
| 080-32<br>080-42 | KK2 | KK3 | KK2 |
| 090-32 | KK2 | KK3 | KK2 |
| 100-12<br>100-32 | KK2 | KK3 | KK2 |

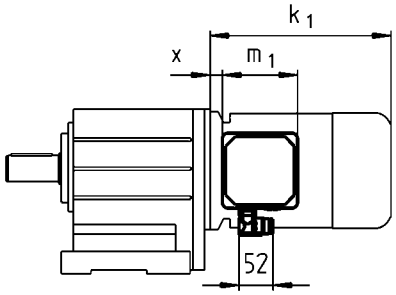


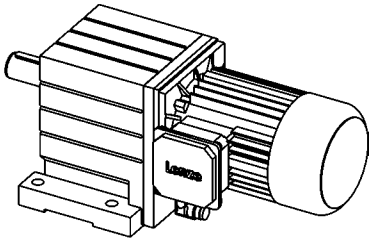
## ICN connector

**Dimensions of KK1**

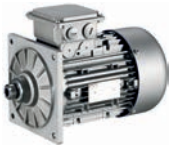
- ► For motors with connectors, the connector position can be selected in accordance with the terminal box position.
- ► If preferred positions are not specified in the order, the connector will be positioned as circled on the diagram below.



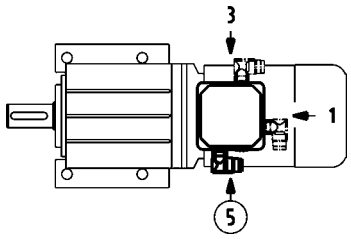
| Size | | | | |
|---|---|---|---|---|
| Motor | | | | |
| | x | $g_1$ | $m_1$ | $n_2$ |
| | [mm] | [mm] | [mm] | [mm] |
| 063 | 12 | 117 | 93.0 | 93.0 |
| 071 | 15 | 126 | | |
| 080 | 14 | 150 | 115 | 115 |
| 090 | 19 | 157 | | |
| 100 | 20 | 166 | | |
| 112 | 22 | 176 | | |
| 132 | 33 | 195 | 122 | 122 |



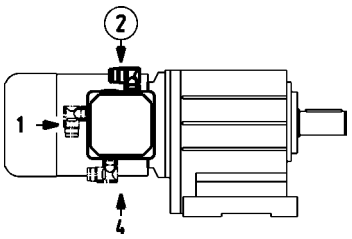
## ICN connector

**Connector position when using KK1**

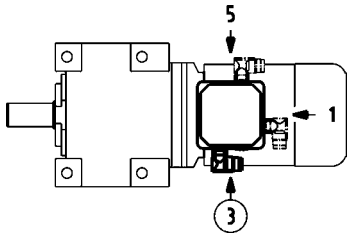
**Terminal box in position 2**



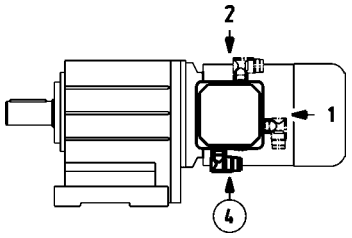

**Terminal box in position 3**




**Terminal box in position 4**




**Terminal box in position 5**

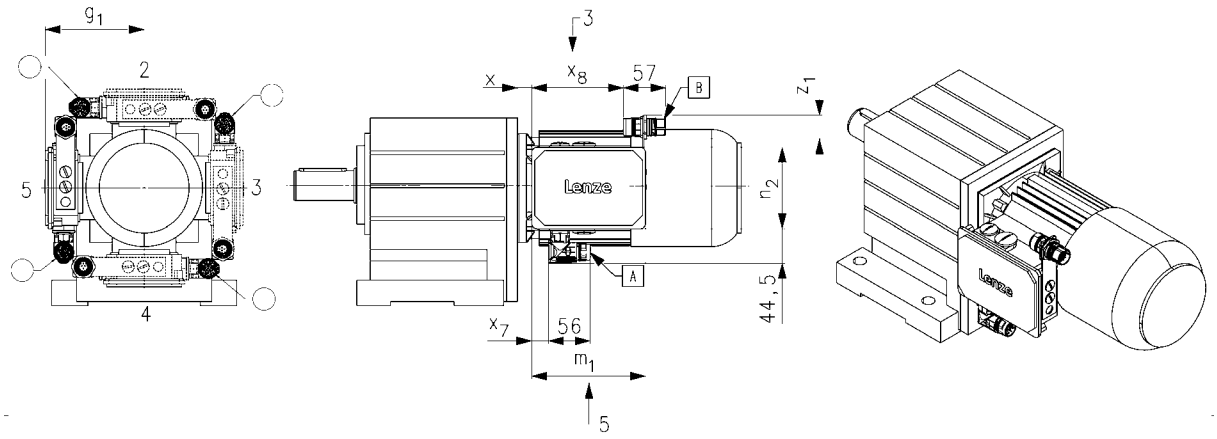




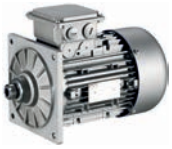
## ICN connector

### Dimensions of KK2/KK3

- For motors with connectors, the connector position can be selected in accordance with the terminal box position.
- If preferred positions are not specified in the order, the connector will be positioned as circled on the diagram below.



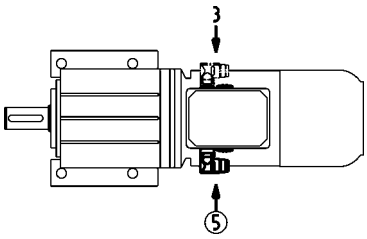

| Size | | | | | | | |
|---|---|---|---|---|---|---|---|
| Motor | | | | | | | |
| | x | $g_1$ | $m_1$ | $n_2$ | $x_7$ | $x_8$ | $z_{1, max}$ |
| | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] |
| 063 | 13 | 107 | 136 | 103 | 16 | 109 | 43 |
| 071 | 15 | 118 | | | | | |
| 080 | 17 | 132 | 152 | 121 | 23 | 125 | 41 |
| 090 | 22 | 137 | | | | | |
| 100 | 23 | 147 | | | | | |
| 112 | 25 | 158 | | | | | |
| 132 | 38 | 187 | 195 | 125 | 27 | 166 | 71 |



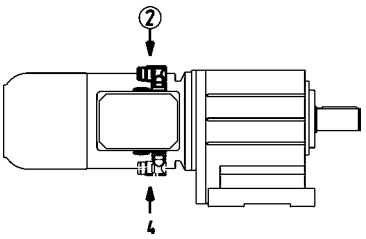
## ICN connector

**Connector position when using KK2/KK3**

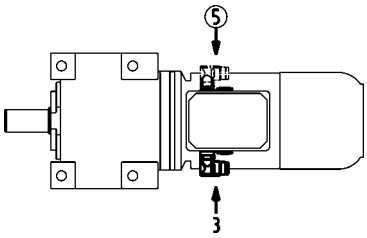
**Terminal box in position 2**



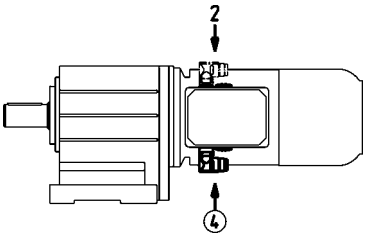

**Terminal box in position 3**

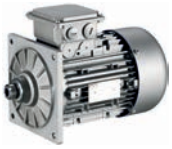



**Terminal box in position 4**




**Terminal box in position 5**

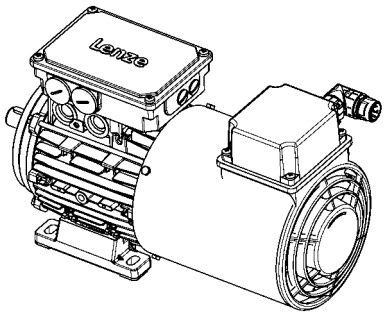




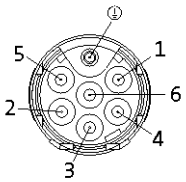
## ICN connector

**Blower connection**

The blower is also optionally available with an ICN connector fixed to the terminal box of the blower for exceptionally fast commissioning. The connectors are fitted with a bayonet fixing, which is also compatible with conventional union nuts. Existing counter plugs can therefore continue to be used without difficulty.

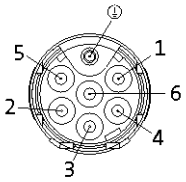


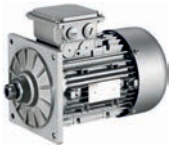

► Blower 1-ph

| Pin assignment | | | |
|---|---|---|---|
| Contact | Designation | Meaning | |
| PE | PE | PE conductor |  |
| 1 | U1 | Fan | |
| 2 | U2 | | |
| 3 | | Not assigned | |
| 4 | | | |
| 5 | | | |
| 6 | | | |



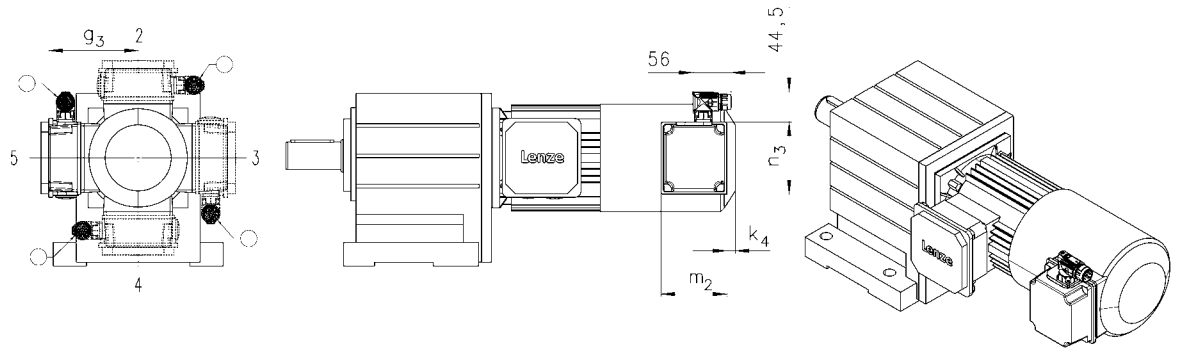
► Blower 3-ph

| Pin assignment | | | |
|---|---|---|---|
| Contact | Designation | Meaning | |
| PE | PE | PE conductor |  |
| 1 | U | Phase U power | |
| 2 | | Not assigned | |
| 3 | V | Phase V power | |
| 4 | | Not assigned | |
| 5 | | | |
| 6 | W | Phase W power | |



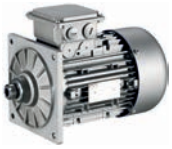
## ICN connector

### Dimensions of blower




| Size | | | | |
|---|---|---|---|---|
| Motor | | | | |
| | $k_4$ | $g_3$ | $m_2$ | $n_3$ |
| | [mm] | [mm] | [mm] | [mm] |
| 063 | 12 | 115 | 95 | 105 |
| 071 | | 122 | | |
| 080 | 13 | 132 | 96 | 106 |
| 090 | 22 | 141 | 95 | 105 |
| 100 | | 150 | | |
| 112 | | 162 | | |
| 132 | 32 | 182 | | |
| 160 | 31 | 209 | 96 | 106 |
| 180 | | | | |
| 225 | | | | |

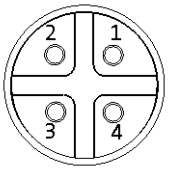
► In addition, the cover of the blower terminal box (including connectors) can be rotated progressively through 90° if necessary.

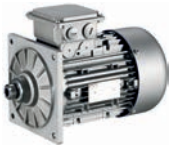


## M12 connector

**IG128-24V-H incremental encoder connection**

As a standard this incremental encoder is equipped with a connection cable of about 0.5 m length and with a common industry standard M12 connector at its end.

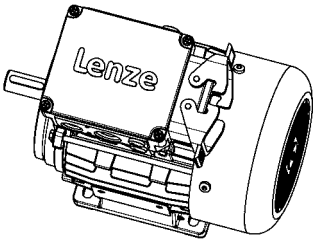
| **Pin assignment** | | | |
|---|---|---|---|
| Contact | Designation | Meaning | |
| 1 | $+U_B$ | Supply + |  |
| 2 | B | Track B | |
| 3 | GND | Mass | |
| 4 | A | Track A | |

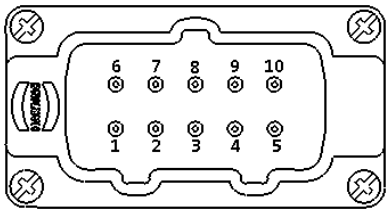


## HAN connector

**10E**

In the case of the rectangular HAN-10E connectors, all six ends of the three winding phases are taken out to the power contacts. The motor circuit is therefore determined in the mating connector.



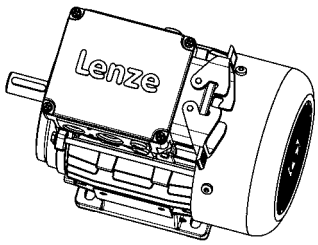

| Pin assignment | | |
|---|---|---|
| Contact | Meaning | |
| 1 | Terminal board: U1 |  |
| 2 | Terminal board: V1 | |
| 3 | Terminal board: W1 | |
| 4 | Brake +/AC | |
| 5 | Brake -/AC | |
| 6 | Terminal board: W2 | |
| 7 | Terminal board: U2 | |
| 8 | Terminal board: V2 | |
| 9 | Thermal sensor: +KTY/PTC/TKO | |
| 10 | Thermal sensor: KTY/PTC/TKO | |



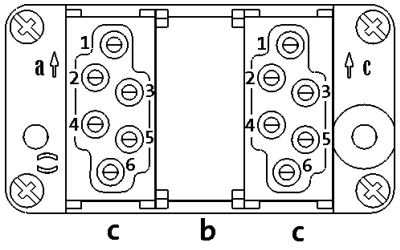
## HAN connector

### Modular

The connector is available with two different power modules (16 A or 40 A), depending on the rated motor current. The motor connection is determined in the terminal box and must be checked before commissioning.

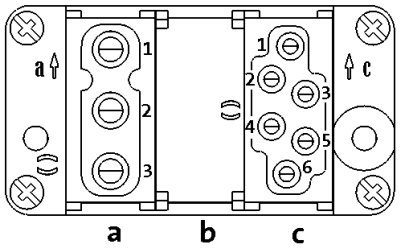


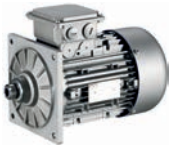

► HAN modular 16 A

| Pin assignment | | | |
|---|---|---|---|
| Module | Contact | Meaning | |
| B | | Dummy module |  |
| C | 1 | Thermal sensor: +KTY/PTC/TKO | |
| | 2 | Brake +/AC | |
| | 3 | Brake -/AC | |
| | 4 | Rectifier: Switching contact | |
| | 5 | | |
| | 6 | Thermal sensor: KTY/PTC/TKO | |



► HAN modular 40 A

| Pin assignment | | | |
|---|---|---|---|
| Module | Contact | Meaning | |
| A | 1 | Terminal board: U1 |  |
| | 2 | Terminal board: V1 | |
| | 3 | Terminal board: W1 | |
| B | | Dummy module | |
| C | 1 | Thermal sensor: +KTY/PTC/TKO | |
| | 2 | Brake +/AC | |
| | 3 | Brake -/AC | |
| | 4 | Rectifier: Switching contact | |
| | 5 | | |
| | 6 | Thermal sensor: KTY/PTC/TKO | |



## HAN connector

| Motor type | M□□MAXX<br>M□□MABR | M□□MAZE<br>M□□MABZ |
|---|---|---|
| **Motor frame size** | | |
| | Terminal box with HAN connector | |
| 063-32<br>063-42 | HAN-10E<br>HAN modular | |
| 071-32<br>071-42 | HAN-10E<br>HAN modular | HAN-10E<br>HAN modular |
| 080-32<br>080-42 | HAN-10E<br>HAN modular | HAN-10E<br>HAN modular |
| 090-32 | HAN-10E<br>HAN modular | HAN-10E<br>HAN modular |
| 100-12<br>100-32 | HAN-10E<br>HAN modular | HAN-10E<br>HAN modular |
| 112-22 | | |
| 132-12<br>132-22<br>132-32 | HAN modular | HAN modular |

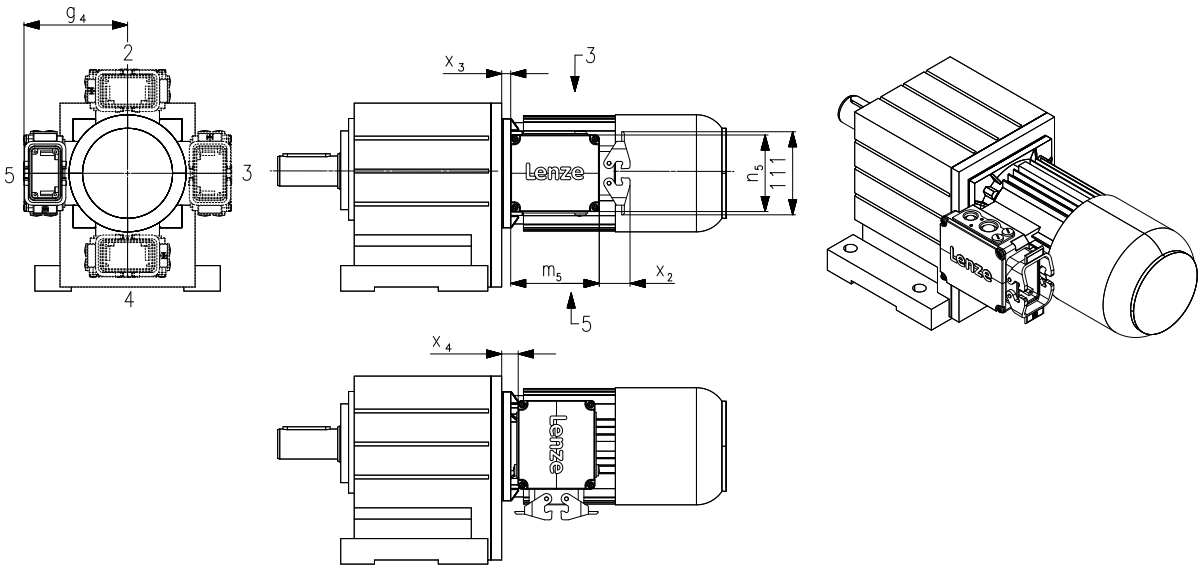
**Motor terminal box with HAN connectors - built-on accessories assignment: 4-pole / 6-pole motors**



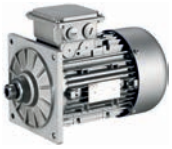
## HAN connector

### Dimensions

- For motors with connectors, the connector position can be selected in accordance with the terminal box position.
- Unless the connector position is specified, it will be supplied in position 1.



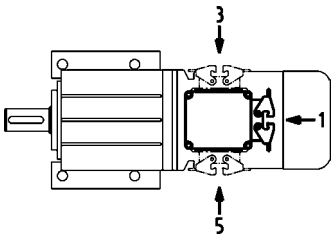

| Size | | | |
|---|---|---|---|
| Motor | | | |
| | $g_4$ | $x_3$ | $x_4$ |
| | [mm] | [mm] | [mm] |
| 063 | 120 | 5.00 | 6.00 |
| 071 | 129 | 7.00 | 8.00 |
| 080 | 138 | 11.0 | 19.0 |
| 090 | 143 | 15.0 | 23.0 |
| 100 | 154 | 16.0 | 24.0 |
| 112 | 164 | 13.5 | 21.5 |
| 132 | 233 | 34.5 | 4.50 |
| 160 | 248 | 39.0 | 9.00 |



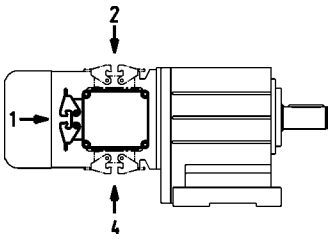
## HAN connector

**Position of connector**

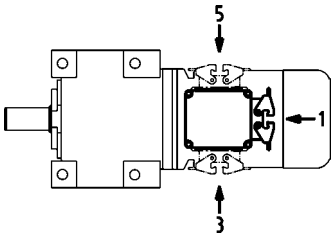
**Connector in position 2**



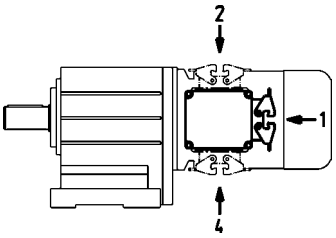

**Connector in position 3**




**Connector in position 4**



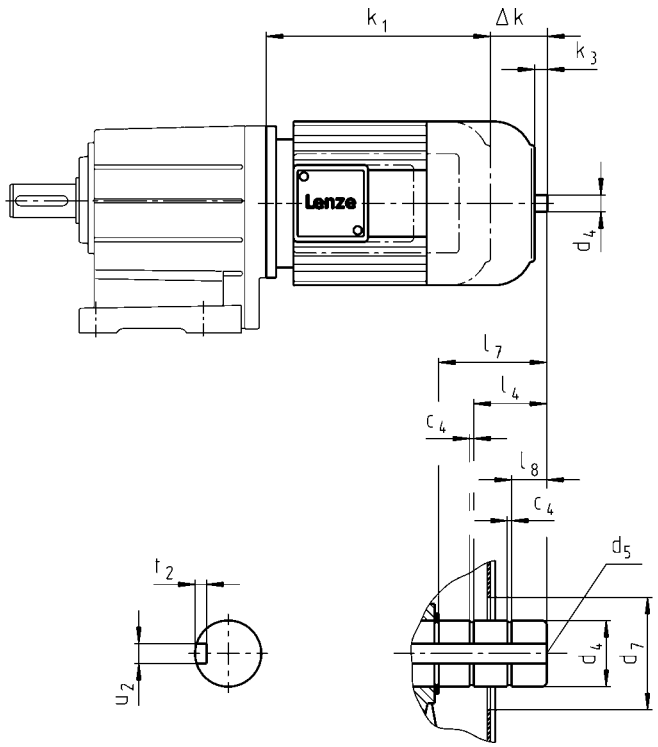

**Connector in position 5**





## 2nd shaft end

**Dimensions, self-ventilated (4/6-pole)**




| Motor type | |
|---|---|
| Built-on accessories | M□□MAZE<br>M□□MABZ |

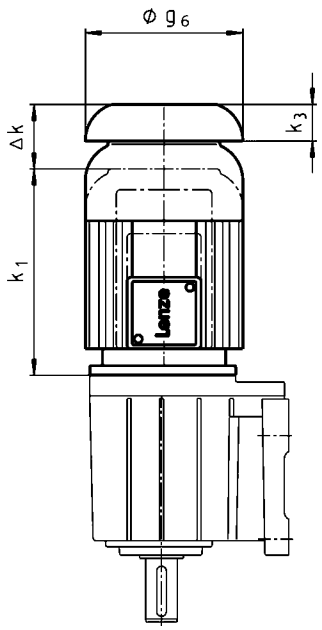
| Motor frame size | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Δ k | $k_3$ | $c_4$ | $d_4$ | $d_4$ | $d_5$ | $d_7$ | $l_4$ | $l_7$ | $l_8$ | $u_2$ | $t_2$ |
| | | | | h6 | j6 | | | | | | | |
| | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] |
| 071-32<br>071-42 | 47 | 11.0 | 1.10 | 14.0 | | M5 | 34.0 | | 19.0 | 3.00 | 5.00 | 3.00 |
| 080-32<br>080-42 | 68 | 9.00 | 1.10 | 14.0 | | M5 | 34.0 | | 19.0 | 4.50 | 5.00 | 3.00 |
| 090-32 | 57 | 9.00 | 1.10 | 14.0 | | M5 | 34.0 | | 19.0 | 5.00 | 5.00 | 3.00 |
| 100-12<br>100-32 | 71 | 18.5 | 1.30 | | 20.0 | M6 | 34.0 | 17.0 | 32.5 | 10.5 | 6.00 | 3.50 |
| 112-22 | 84 | 16.0 | 1.30 | | 20.0 | M6 | 34.0 | 17.0 | 28.5 | 7.00 | 6.00 | 3.50 |
| 132-12<br>132-22<br>132-32 | 101 | 24.5 | 1.60 | | 30.0 | M10 | 46.0 | 24.5 | 42.0 | 8.50 | 8.00 | 4.00 |

[1] During operation, appropriate measures must be taken to make fan cover opening safe.



## Protection cover

### Dimensions, self-ventilated (4/6-pole)



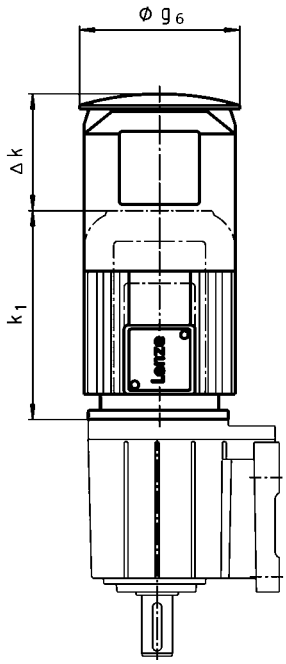

| | Motor type | | | | | |
|---|---|---|---|---|---|---|
| | M□□MAXX | M□□MABR | M□□MABS<br>M□□MABI<br>M□□MABA | M□□MARS<br>M□□MAIG<br>M□□MAAG | | |

| Motor frame size | | | | | | |
|---|---|---|---|---|---|---|
| | Δ k | Δ k | Δ k | Δ k | $k_3$ | $g_6$ |
| | [mm] | [mm] | [mm] | [mm] | [mm] | [mm] |
| 063-32<br>063-42 | 26 | 66 | 129 | 82 | 11.0 | 123 |
| 071-32<br>071-42 | 26 | 78 | 122 | 78 | 12.0 | 138 |
| 080-32<br>080-42 | 26 | 99 | 137 | 127 | 16.0 | 156 |
| 090-32 | 26 | 94 | 131 | 113 | 15.0 | 176 |
| 100-12<br>100-32 | 31 | 107 | 132 | 112 | 17.0 | 194 |
| 112-22 | 31 | 121 | 151 | 111 | 18.0 | 218 |
| 132-12<br>132-22<br>132-32 | 31 | 141 | 156 | 134 | 20.0 | 257 |



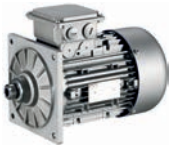
## Protection cover

**Dimensions, forced ventilated (4/6-pole)**




| | Motor type | | | |
|---|---|---|---|---|
| | M□□MAXX | M□□MABR<br>M□□MABS<br>M□□MABI | M□□MARS<br>M□□MAIG<br>M□□MAAG | |

| Motor frame size | | | | |
|---|---|---|---|---|
| | Δ k | Δ k | Δ k | $g_6$ |
| | [mm] | [mm] | [mm] | [mm] |
| 063-32<br>063-42 | 169 | 209 | 169 | 133 |
| 071-32<br>071-42 | 165 | 202 | 165 | 150 |
| 080-32<br>080-42 | 168 | 224 | 168 | 170 |
| 090-32 | 157 | 210 | 157 | 188 |
| 100-12<br>100-32 | 137 | 198 | 137 | 210 |
| 112-22 | 135 | 216 | 216 | 249 |
| 132-12<br>132-22<br>132-32 | 140 | 226 | 226 | 300 |



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Lenze SE
Hans-Lenze-Straße 1
D-31855 Aerzen
Phone: +49 (0)5154 82-0
Telefax: +49 (0)5154 82 28 00

www.Lenze.com