

**HIMMEL<sup>®</sup> -**  
**FLAT MOTORS**

**HIMMEL<sup>®</sup>**  
technologies  
YOUR DRIVE FOR SUCCESS.



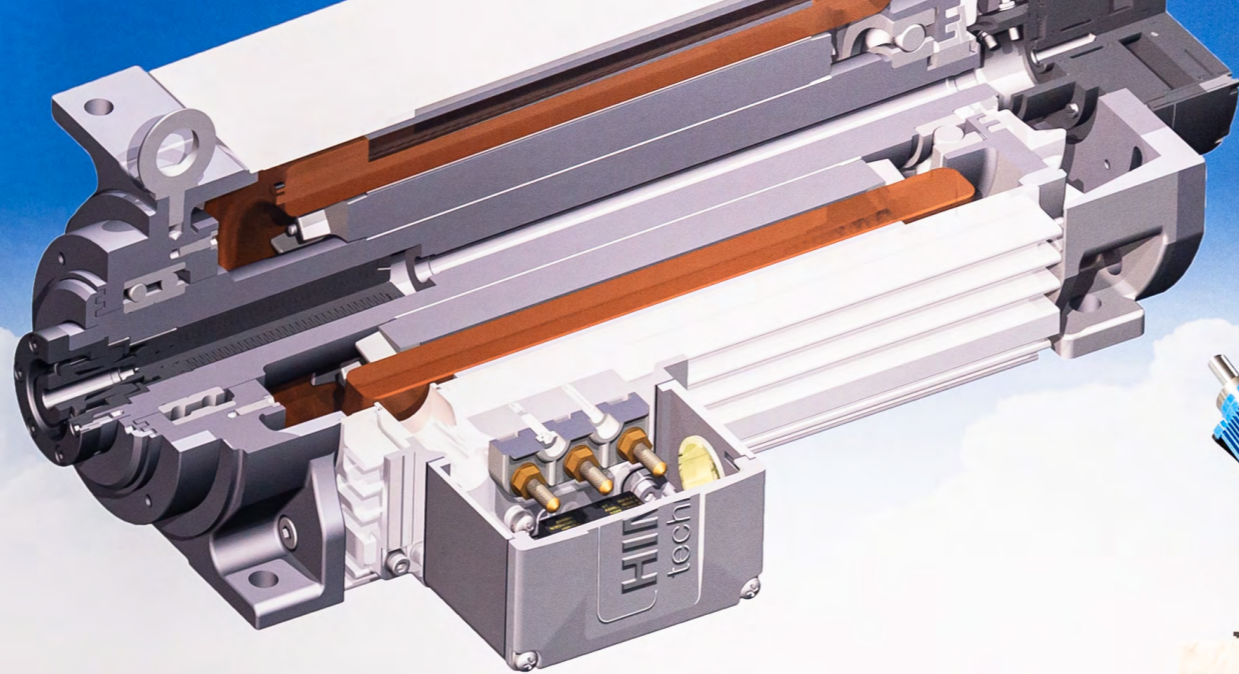
## WHO WE ARE

HIMMEL® technologies - eight companies from the fields of mechanical and drive engineering, automation technology, plant engineering, water treatment and environmental technology are united under this umbrella.

The headquarters of the group of companies is located in Gescher - in the western Münsterland. In total, HIMMEL® technologies employs about 350 people on a production area of more than 35,000 m<sup>2</sup>.

The group of companies represents a wide range of competencies on which more and more customers worldwide rely. Whether for the development of individual components or turnkey plants - the companies of HIMMEL® technologies offer solutions tailored to your individual requirements.

All companies work closely together in the realization of complex projects. The special thing: You always deal with the same contact person - from planning and production to assembly and commissioning to turnkey handover. This shortens decision-making paths and thus helps to realize your project on schedule.



# HIMMEL® Flachmotoren



HIMMEL Antriebstechnik GmbH & Co. KG

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DRIVE FOR BUSINESS

## HIMMEL Antriebstechnik GmbH & Co. KG

HIMMEL Antriebstechnik is the specialist for the fields of motor manufacturing, gearbox construction and automation. Drive technology represents one of the core businesses of our company and is an important link within the group of companies. Our flat motors with power ratings of up to 123

kW and gearboxes with torques of up to 28,000 Nm document our special capabilities.

Another area of our DIN EN ISO 9001 certified company is automation. Our expertise in electrical and control engineering enables us to develop

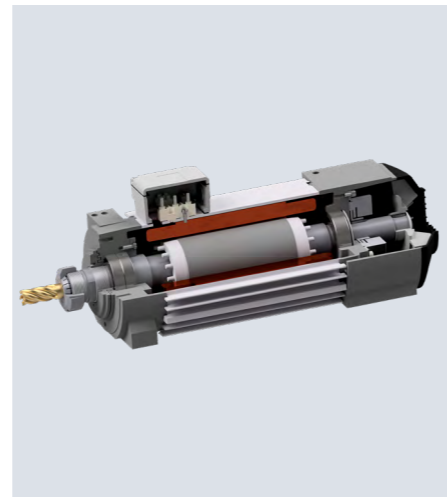
and manufacture the most economical solution for your control and regulation systems. With our engineering department we plan, supervise and realize small and large projects with regard to the individual requirements of our national and international customers.

# CONTENT



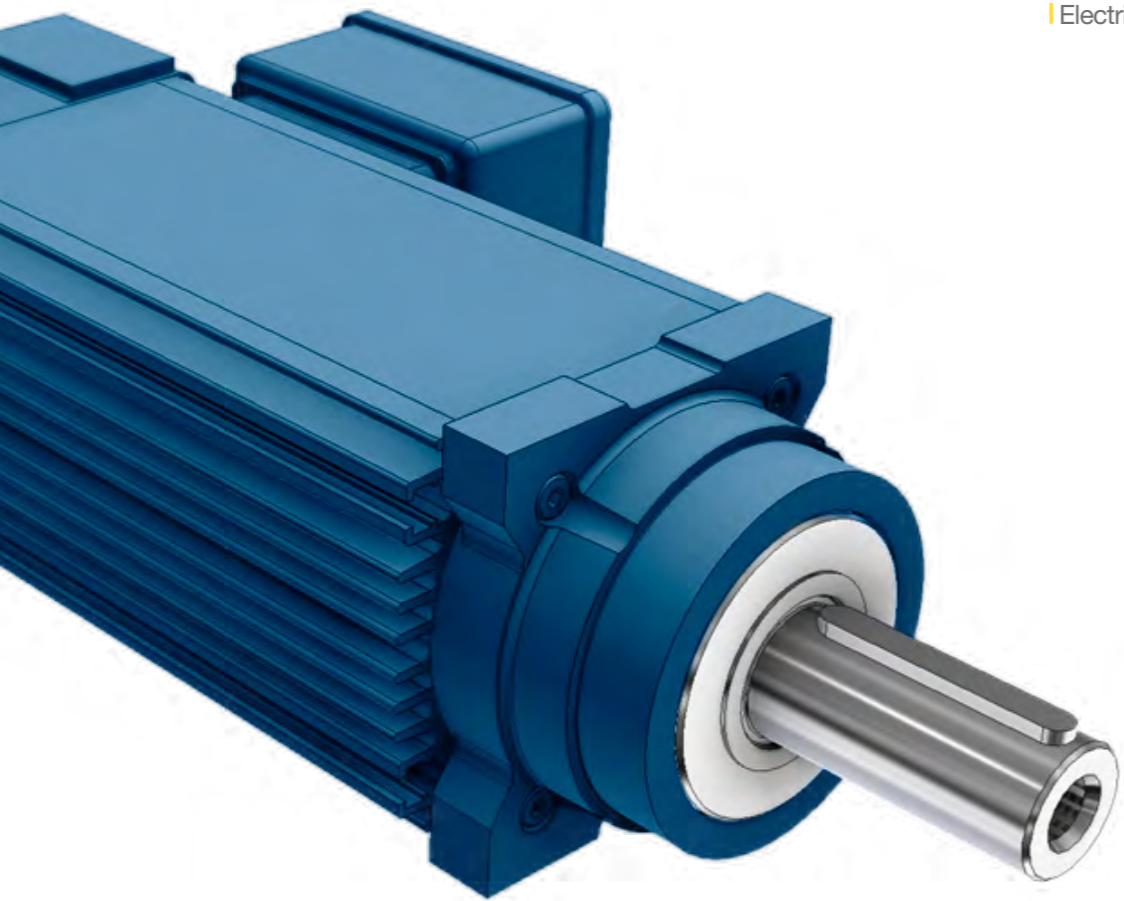
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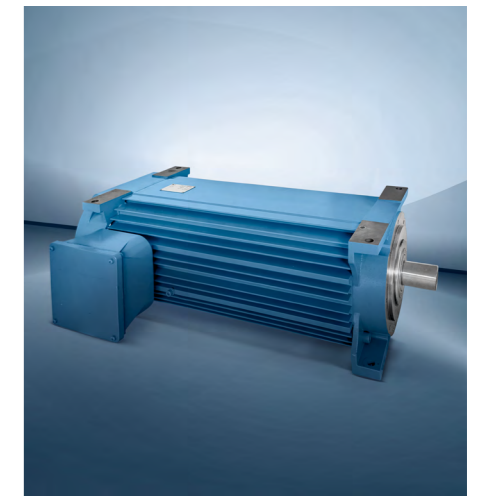
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## WHAT DISTINGUISHES US

Due to their compact and space-saving design, HIMMEL®-flat motors are ideal for milling, cutting, scoring, boring, sawing, chipping or grinding - both in complex machine systems where high demands are made, especially on the running accuracy and power of the drive unit, and in simple machine systems where an inexpensive and reliable drive solution is required.

Our flat motors are designed to run trouble-free even under the harshest conditions. The HIMMEL® flat motor series consists of six sizes, so the right motor size is always available for the most diverse operating conditions. In addition to decades of experience, our motors are characterized by continuous further development. State-of-the-art technology and the specific requirements of our customers are the measure of all things.



## SPECIAL-CUSTOM-MADE PRODUCTS

HIMMEL®-flat motors are available in various designs that can be adapted according to the application purpose and environment. For example, the **shaft design** can be designed to meet different requirements, such as a specific length or diameter.

The designs with flange disks can also be adapted as required. Here, the **flange disks** can be manufactured in different dimensions and materials. Similarly, the **tool holders, foot dimensions** and **terminal box designs** can be customized.

The **winding design** of the HIMMEL® flat motor can be matched to **special voltages and frequencies** to allow the motor to be used worldwide, or a specific operating point at 100Hz, for example. An important factor in the design of HIMMEL®-flat motors is also the **motor protection**, which should be adapted to the respective application and environment.

Overall, our HIMMEL®-flat motors offer a high degree of flexibility and adaptability to different requirements and areas of application.



## Safety and application instructions

### Safety note

The installation and maintenance of the flat motors may only be carried out by qualified personnel. The motors may only be installed, maintained and operated in compliance with the safety regulations and local regulations. The instructions for maintenance and commissioning must be observed. Please request these instructions from your responsible contact person, stating the motor Type and production number, if they are not available. HIMMEL®-flat motors are intended for installation on or in another machine or system. Commissioning is prohibited until the conformity of the end product has been determined in accordance with currently applicable regulations and directives.

### Electrical design

All HIMMEL®-flat motors are designed in accordance with the currently applicable standard for rotating electrical machines. Only modern high-quality insulating materials of insulation class F are used for the electrical insulation. As a rule, the rated power of the motor will correspond to the thermal utilization of insulation material class B, in order to avoid excessive bearing temperatures which would reduce the service life of the bearings.

### Power

The specified electrical motor ratings apply to ambient temperatures from -20°C to +40°C and an installation altitude of up to 1000m above sea level. If HIMMEL®-flat motors are used in ambient conditions deviating from this, there will be a reduction in power.

### Mechanical design

The motors are completely enclosed with surface cooling. The protection class can be implemented between IP54 and IP65. All HIMMEL®-flat motors are designed in such a way that the shaft passage is sealed on the output and ventilation side by gap or labyrinth ring seals. Extensive dust chamber tests have proven that these designs reliably prevent the ingress of dust and chips during operation.

The electrical connection is made inside a closed terminal box as standard. The terminal box can usually be mounted in the defined positions (see page 25). To avoid unnecessarily impairing the self-ventilation of the motors, it is advisable to position the terminal box on the flat side or towards the front of the shaft end. The terminal box position must be specified when ordering. Otherwise, terminal box position 1B is assumed as standard (see page 25).

### Bearing

Only high-quality rolling bearings agreed with the bearing manufacturer are used for the motor shaft bearings. The bearings are generally sealed and greased for life, making them virtually maintenance-free and easy to operate. The ball bearing on the drive side is designed as a locating bearing, the one on the ventilation side as a non-locating bearing.

For higher speeds or special accuracy requirements, precision bearings specially selected for the application are used for increased running smoothness and shaft rigidity.

Further information can be found in the dimension drawings.



## General information for the model range

### Tool holder

The production of special shafts / tool holders specially designed for HIMMEL®-flat motors offers a wide range of designs. The following tool holders are available as standard:

- Cylindrical shaft with or without feather key for holding tools with center bore; an external thread for nut or internal thread for screw and washer serves as axial securing of tools:
- Shaft with saw blade flange disks for holding disk-Type tools
- Internal taper with external thread for holding collets
- HSK clamping systems in manual but also automatic design

Other tool holders are available on request. When ordering, the thread direction must be specified, taking into account the direction of rotation!

### Balancing

A careful dynamic balancing process of the motor shafts ensures smooth, low-vibration running even at higher speeds. For special requirements or high speeds above 6000 1/min, the flat motors are finely balanced in the test bay during final testing. As standard, the motors are designed with full wedge balancing. There is no special marking for this.

We ask you to note this for safety reasons. The tools used must also be balanced accordingly to avoid premature bearing failure or unsatisfactory machining results. In the delivery condition, the effective value of the vibration velocity is <1.6 mm/s.

### Important note

If the HIMMEL® flat motor is equipped with a brake, the nut must be secured against loosening or the flanged disk cover must be secured against rotation by a positive drive (feather key, dowel pin). The brake may only be applied from a rotational speed below 3,600 rpm. Earlier application leads to significantly higher wear of the brake disk material and to premature failure. In the case of flat motors with a non-screwed labyrinth, only operation with a clamped tool is permissible. In this case, this can be seen from the corresponding dimension diagram.

### Calculation formulas for the flat motors

$$\text{Torque: } M = 9550 \cdot P/n$$

$$\text{Nominal power: } P = \frac{1}{9550} \cdot M \cdot n$$

$$\text{Power consumption: } P_1 = \sqrt{3} \cdot U \cdot I \cdot \cos \varphi$$

$$\text{Power output: } P_2 = \sqrt{3} \cdot U \cdot I \cdot \cos \varphi \cdot \eta$$

$$\text{Apparent power: } S = \sqrt{3} \cdot U \cdot I$$

$$\text{Nominal current: } I = \frac{S}{\sqrt{3}} \cdot U$$

**M** = Torque [Nm]

**P** = Power [kW]

**n** = Rotational speed [1/min]

**η** = Efficiency

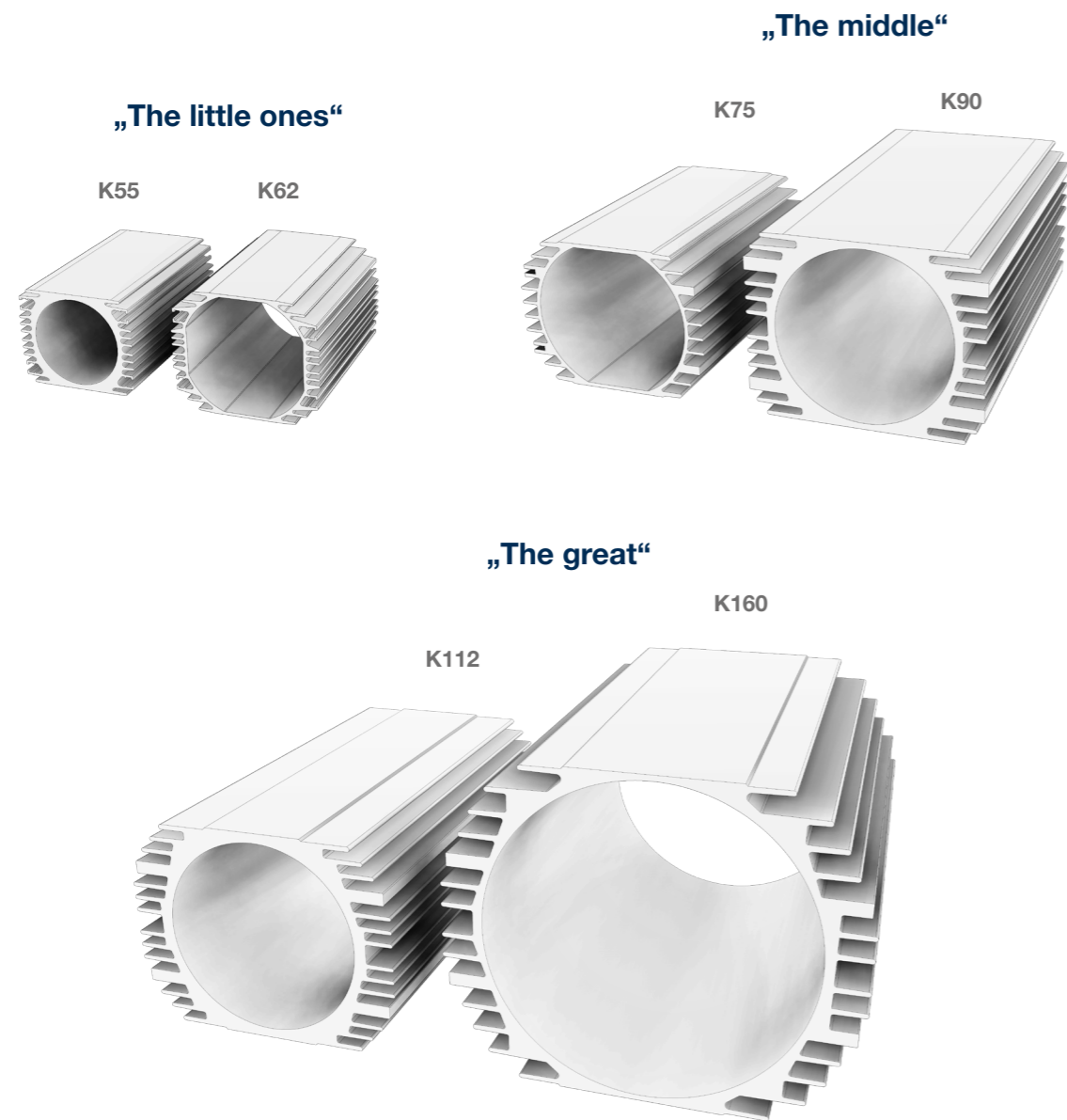
**cos φ** = Power factor

**U** = Voltage [V]

**I** = Power [A]

**S** = Apparent power [kVA]

## Size definition



The center height from the base to the center of the shaft is an important parameter in determining the size of HIMMEL®-flat motors. The dimensioning of tools and clamping devices is also based on the center height. The designations such as for the K55 means that the center height of the HIMMEL®-flat motor is 55mm.

Overall, the center height is a decisive feature when selecting a suitable HIMMEL®-flat motor.

## Storage

### Tables

The values listed (see pages 15-17) have been determined under certain general conditions and with certain calculation methods and represent results from complex tests and calculations. In specific applications, deviations from these values must be expected in individual cases. The above data refer to standard HIMMEL®-flat motors without brake attachment.

### Standard bearing

All flat motors are designed with high-quality rolling bearings, which as standard consist of a single bearing on the drive side and a single bearing on the driven side. The bearing on the output side is designed as a locating bearing and the bearing on the ventilation side as a non-locating bearing. The non-locating bearing is spring-loaded so that the shaft bearing arrangement is largely clearance-free. This means that tight machining tolerances can be achieved even in the standard version.

### Double bearing

Double bearings in various designs are used on the output side, especially when higher demands are made on the cutting accuracy and rigidity of the flat motor. These have proved particularly effective in milling and machining. The double bearing arrangement ensures significantly higher load ratings and greater output rigidity, enabling faster feed rates and the use of heavier tools.

### Precision bearing

High-precision bearing pairs with special lubricants are used to meet the highest demands for precision and rotational speed. These bearings are unsurpassed in terms of running speed, smoothness, accuracy and load. Preload and rigidity can be optimally matched by measures specially tailored to the application. State-of-the-art machining centers ensure the dimensional accuracy and narrowed tolerances of add-on parts such as shafts and end shields. This ensures highly precise radial and axial runout tolerances and very high cutting and machining accuracy.

### Hybrid bearings

In certain applications, the use of hybrid bearings is sensible and recommended. In hybrid bearings, the rolling elements consist of a ceramic material. Due to the chemical and physical properties of the ceramic rolling elements, the bearings achieve maximum operating performance in terms of speed capacity and operating life of the lubricant. Due to the electrically insulating properties of the hybrid bearings, bearing failure caused by bearing currents is excluded. HIMMEL®-flat motors can be designed with single bearings as hybrid bearings as well as with high precision bearing pairs as hybrid bearings. In order to effectively prevent shaft currents, one hybrid bearing is usually sufficient on the ventilation side. The use of hybrid bearings is typically indicated on the motor and in the characteristics of the data sheet.

Any kind of shock or impact acting on the motor can damage the bearing and lead to premature failure.

### Lubrication / grease service life

All rolling bearings used are normally sealed bearings filled with lubricant by the bearing manufacturer. Regreasing or relubrication is not necessary. The bearings are greased for life and are maintenance-free. Precise motor seals virtually eliminate the possibility of contamination entering the bearings.

In special cases, special greasing with special greases adapted to the application is possible. The use of hybrid bearings significantly increases the grease operating life under the same ambient and operating conditions.

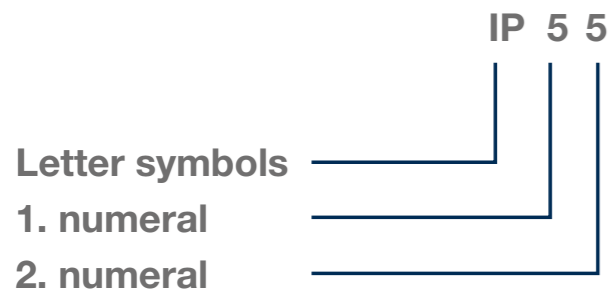
# TECHNICAL NOTES

## Degrees of motor protection according to EN 60034-5

| Protection | 1. Numeral:<br>* Protection against contact and solid foreign bodies | 2. Numeral:<br>Protection against water                       |
|------------|--|---|
| IP54       | Protection against dust deposits                                     | Protection against splashed water                             |
| IP55       |  | Protection against water projected by a nozzle over any angle |
| IP56       |  | Protection against powerful water jets                        |
| IP64       | Complete protection against dust deposits                            | Protection against splashed water on all sides                |
| IP65       |  | Protection against water projected over any angle             |
| IP66       |  | Protection against powerful water jets                        |

\* Contact of the test finger according to EN 60034-5 with the fan or other rotating or life parts is prevented.

### Example for designation of type of protection:



# TECHNICAL NOTES

## Circular and axial runs



| Table 1                                  |             |              |           |
|--|-------------|--------------|-----------|
| Concentricity tolerance analog DIN 42955 |             |              |           |
| d1<br>Shaft diameter [mm]                | N<br>normal | R<br>reduces | F<br>fine |
| to 10                                    | 0,03        | 0,015        | –         |
| via 10 to 18                             | 0,035       | 0,018        | 0,009     |
| via 18 to 30                             | 0,04        | 0,021        | 0,011     |
| via 30 to 50                             | 0,05        | 0,025        | 0,013     |
| via 50 to 80                             | 0,06        | 0,03         | 0,015     |

In the absence of special specifications, the concentricity and axial runout tolerances are executed according to class "N" (normal). Tolerance class "R" (reduced) and "F" (fine) are possible by agreement. The dimensions L or L/2 refer to the standard

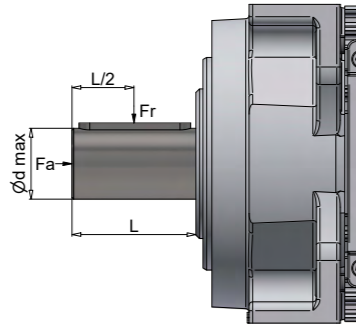
| Table 2   |             |              |           |
|---|-------------|--------------|-----------|
| Axial runout tolerance analog DIN SPEC 42955                  |             |              |           |
| d2<br>Test diameter on the flange disk or labyrinth ring [mm] | N<br>normal | R<br>reduces | F<br>fine |
| to 22   | 0,05        | 0,025        | 0,0125    |
| via 22 to 40  | 0,06        | 0,03         | 0,015     |
| via 40 to 100   | 0,08        | 0,04         | 0,02      |
| via 100 to 230  | 0,1         | 0,05         | 0,025     |

motors shown in this catalog. For speeds above 6,000 rpm, at least tolerance class "R" must be observed. Tolerances deviating from these specifications can be specified in the dimension drawing.

# TECHNICAL NOTES

## Permissible radial and axial forces at the shaft ends of the flat motors

Permissible load on the shaft end with bearing life expectancy of approx. 20,000 operating hours

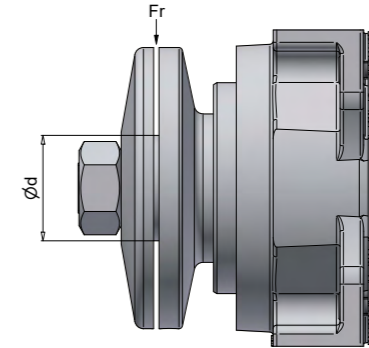


| Permissible axial and radial forces at the shaft end |                                |        |                 |      |                                     |                |                |                 |                                     |
|--|--------------------------------|--------|-----------------|------|-------------------------------------|----------------|----------------|-----------------|-------------------------------------|
| Model series   | Permissible load n=3,000 1/min |        | Dimension sheet | Page | max. perm. rotational speed [1/min] |                |                |                 | max. shaft diameter [mm]            |
|  | Fr [N]                         | Fa [N] |                 |      |                                     | Single bearing | Double bearing | Spindle bearing |                                     |
| KF55   | 800                            | 300    | 1NJ000937       | 15   | 7.200                               | X              |                |                 | 35                                  |
| KF55   | 1.200                          | 600    | 1NJ000945       | 15   | 7.200                               |                | X              |                 | 35                                  |
| KF55   | 1.000                          | 500    | 1NJ000945       | 15   | 18.000                              |                |                | X               | 35                                  |
| KH55   | 800                            | 300    | 1NJ000885       | 16   | 7.200                               | X              |                |                 | 35                                  |
| KH55   | 1.200                          | 600    | 1NJ000887       | 16   | 7.200                               |                | X              |                 | 30                                  |
| KH55   | 1.000                          | 500    | 1NJ000825       | 16   | 18.000                              |                |                | X               | 30                                  |
| KC55   | 1.000                          | 500    | 1NJ000828       | 17   | 18.000                              |                |                | X               | Adapter for collet DIN ISO – C 25   |
| KH55 Hydro-Format-System                             | 700                            | 300    | 1NJ001813       | 19   | 18.000                              |                |                | X               | Tool holder 25                      |
| KF62   | 1.600                          | 600    | 1NJ1-097        | 29   | 7.200                               |                | X              |                 | 35                                  |
| KH62   | 1.600                          | 600    | 1NJ1-098        | 30   | 7.200                               |                | X              |                 | 35                                  |
| KD62   | 900                            | 400    | 1NJ1-346        | 31   | 18.000                              |                |                | X               | 48                                  |
| KC62   | 1.050                          | 500    | 1NJ1-375        | 31   | 18.000                              |                |                | X               | Adapter for collet ISO 10897 – C 25 |
| KF75   | 1.750                          | 600    | 1NJ1-005        | 43   | 7.200                               |                | X              |                 | 40                                  |
| KN75   | 1.700                          | 600    | 1NJ1-351        | 45   | 7.200                               |                | X              |                 | 40                                  |
| KD75   | 2.300                          | 950    | 1NJ008591       | 46   | 10.000                              |                |                | X               | Hydro-Format-System, 40             |
| KC75   | 2.150                          | 1.000  | 1NJ011529       | 48   | 10.000                              |                |                | X               | Adapter for collet ISO 10897 – C 25 |
| KP75   | 1.900                          | 700    | 1NJ004635       | 48   | 7.200                               |                | X              |                 | 40                                  |
| KP75   | 1.900                          | 700    | 1NJ004635       | 48   | 7.500                               |                |                | X               | 40                                  |
| KH75   | 1.500                          | 600    | 1NJ000935       | 49   | 7.200                               | X              |                |                 | 50                                  |
| KH75   | 1.900                          | 700    | 1NJ000935       | 49   | 7.200                               |                | X              |                 | 40                                  |
| KH75   | 2.000                          | 800    | 1NJ000935       | 49   | 10.000                              |                |                | X               | 50                                  |
| KF90   | 2.000                          | 800    | 1NJ004606       | 58   | 7.200                               |                | X              |                 | 40                                  |
| KF90   | 2.000                          | 800    | 1NJ004606       | 58   | 10.000                              |                |                | X               | 50                                  |
| KH90   | 2.000                          | 800    | 1NJ004366       | 60   | 7.200                               |                | X              |                 | 65                                  |
| KH90   | 2.000                          | 800    | 1NJ004366       | 60   | 10.000                              |                |                | X               | 65                                  |
| KD90   | 2.600                          | 800    | 1NJ007552       | 61   | 10.000                              |                |                | X               | Hydro-Format-System, 50             |
| KC90   | 2.000                          | 800    | 1NJ004158       | 68   | 10.000                              |                |                | X               | Adapter for collet DIN ISO – C 40   |
| K112   | 3.200                          | 1.000  | 2NJ000104       | 70   | 3.600                               |                | X              |                 | 80                                  |
| K112   | 3.200                          | 1.000  | 2NJ000118       | 70   | 7.200                               |                |                | X               | 80                                  |
| KF112  | 4.350                          | 1.200  | 2NJ000114       | 71   | 3.600                               |                | X              |                 | 80                                  |
| KF112  | 4.350                          | 1.200  | 2NJ000119       | 71   | 7.200                               |                |                | X               | 80                                  |
| K112   | 3.200                          | 1.000  | 2NJ000401       | 72   | 7.200                               |                | X              |                 | 80                                  |
| KF160  | 6.000                          | 1.500  | 1NJ005244       | 81   | 3.400                               |                | X              |                 | 80                                  |
| KF160  | 5.500                          | 1.000  | 1NJ005255       | 81   | 7.200                               |                |                | X               | 80                                  |

# TECHNICAL NOTES

## Permissible radial forces on shaft extensions of flat motors with flange disk

Permissible load on the shaft end with bearing life expectancy of approx. 20,000 operating hours



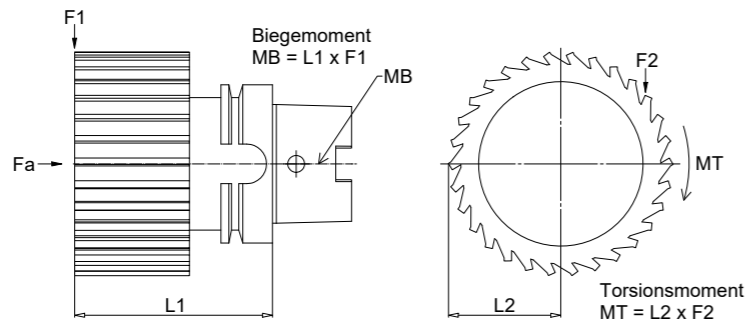
| Radial forces Fr on the flange washer |                                |        |                 |      |                                     |                |                |                 |                                     |
|---------------------------------------|--------------------------------|--------|-----------------|------|-------------------------------------|----------------|----------------|-----------------|-------------------------------------|
| Model series                          | Permissible load n=3.000 1/min |        | Dimension sheet | Page | max. perm. rotational speed [1/min] | Storage        |                |                 | max. shaft diameter [mm]            |
|                                       | Fr [N]                         | Fa [N] |                 |      |                                     | Single bearing | Double bearing | Spindle bearing |                                     |
| KF55                                  | 800                            | 300    | 1NJ000937       | 15   | 7.200                               | X              |                |                 | 35                                  |
| KF55                                  | 1.200                          | 600    | 1NJ000945       | 15   | 7.200                               |                | X              |                 | 35                                  |
| KF55                                  | 1.000                          | 500    | 1NJ000945       | 15   | 18.000                              |                |                | X               | 35                                  |
| KH55                                  | 800                            | 300    | 1NJ000885       | 16   | 7.200                               | X              |                |                 | 35                                  |
| KH55                                  | 1.200                          | 600    | 1NJ000887       | 16   | 7.200                               |                | X              |                 | 30                                  |
| KH55                                  | 1.000                          | 500    | 1NJ000825       | 16   | 18.000                              |                |                | X               | 30                                  |
| KC55                                  | 1.000                          | 500    | 1NJ000828       | 17   | 18.000                              |                |                | X               | Adapter for collet DIN ISO – C 25   |
| KH55 Hydro-Format-System              | 700                            | 300    | 1NJ001813       | 19   | 18.000                              |                |                | X               | Tool holder 25                      |
| KF62                                  | 1.600                          | 600    | 1NJ1-097        | 29   | 7.200                               |                | X              |                 | 35                                  |
| KH62                                  | 1.600                          | 600    | 1NJ1-098        | 30   | 7.200                               |                | X              |                 | 35                                  |
| KD62                                  | 900                            | 400    | 1NJ1-346        | 31   | 18.000                              |                |                | X               | 48                                  |
| KC62                                  | 1.050                          | 500    | 1NJ1-375        | 31   | 18.000                              |                |                | X               | Adapter for collet ISO 10897 – C 25 |
| KF75                                  | 1.750                          | 600    | 1NJ1-005        | 43   | 7.200                               |                | X              |                 | 40                                  |
| KN75                                  | 1.700                          | 600    | 1NJ1-351        | 45   | 7.200                               |                | X              |                 | 40                                  |
| KD75                                  | 2.300                          | 950    | 1NJ008591       | 46   | 10.000                              |                |                | X               | Hydro-Format-System, 40             |
| KC75                                  | 2.150                          | 1.000  | 1NJ011529       | 48   | 10.000                              |                |                | X               | Adapter for collet ISO 10897 – C 25 |
| KP75                                  | 1.900                          | 700    | 1NJ004635       | 48   | 7.200                               |                | X              |                 | 40                                  |
| KP75                                  | 1.900                          | 700    | 1NJ004635       | 48   | 7.500                               |                |                | X               | 40                                  |
| KH75                                  | 1.500                          | 600    | 1NJ000935       | 49   | 7.200                               | X              |                |                 | 50                                  |
| KH75                                  | 1.900                          | 700    | 1NJ000935       | 49   | 7.200                               |                | X              |                 | 40                                  |
| KH75                                  | 2.000                          | 800    | 1NJ000935       | 49   | 10.000                              |                |                | X               | 50                                  |
| KF90                                  | 2.000                          | 800    | 1NJ004606       | 58   | 7.200                               |                | X              |                 | 40                                  |
| KF90                                  | 2.000                          | 800    | 1NJ004606       | 58   | 10.000                              |                |                | X               | 50                                  |
| KH90                                  | 2.000                          | 800    | 1NJ004366       | 60   | 7.200                               |                | X              |                 | 65                                  |
| KH90                                  | 2.000                          | 800    | 1NJ004366       | 60   | 10.000                              |                |                | X               | 65                                  |
| KD90                                  | 2.600                          | 800    | 1NJ007552       | 61   | 10.000                              |                |                | X               | Hydro-Format-System, 50             |
| KC90                                  | 2.000                          | 800    | 1NJ004158       | 68   | 10.000                              |                |                | X               | Adapter for collet DIN ISO – C 40   |
| K112                                  | 3.200                          | 1.000  | 2NJ000104       | 70   | 3.600                               |                | X              |                 | 80                                  |
| K112                                  | 3.200                          | 1.000  | 2NJ000118       | 70   | 7.200                               |                |                | X               | 80                                  |
| KF112                                 | 4.350                          | 1.200  | 2NJ000114       | 71   | 3.600                               |                | X              |                 | 80                                  |
| KF112                                 | 4.350                          | 1.200  | 2NJ000119       | 71   | 7.200                               |                |                | X               | 80                                  |
| K112                                  | 3.200                          | 1.000  | 2NJ000401       | 72   | 7.200                               |                | X              |                 | 80                                  |
| KF160                                 | 6.000                          | 1.500  | 1NJ005244       | 81   | 3.400                               |                | X              |                 | 80                                  |
| KF160                                 | 5.500                          | 1.000  | 1NJ005255       | 81   | 7.200                               |                |                | X               | 80                                  |

\* S.W.S. = Quick-change clamping system

# TECHNICAL NOTES

## Permissible radial and axial forces on shaft extensions of the flat motors with HSK

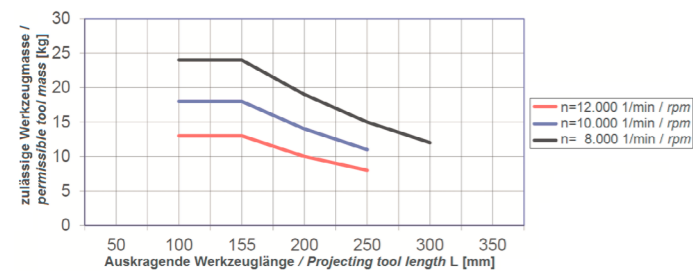
Permissible load on the shaft end with bearing life expectancy of approx. 20,000 operating hours



| Permissible axial and radial forces at the shaft end |                                 |   |                         |        |                 |      |                                     |                         |                 |                           |
|--|---------------------------------|---|-------------------------|--------|-----------------|------|-------------------------------------|-------------------------|-----------------|---------------------------|
| Model series   | Perm. load n=3.000 1/min        |   |                         |        | Dimension sheet | Page | max. perm. rotational speed [1/min] | Storage                 |                 | Clamping system size [mm] |
|  | max. linear bending moment [Nm] | max. transmissible torsional moment MT [Nm] | Max. pull-in force [kN] | Fa [N] |                 |      |                                     | Type of clamping system | Spindle bearing |                           |
| K55 HSK-C 40   | 20                              | 30  | 18                      | 500    | 1NJ001097       | 18   | 18.000                              | manual                  | X               | HSK-C 40                  |
| K62 HSK-C 50   | 40                              | 50  | 27                      | 150    | 1NJ004648       | 32   | 18.000                              | manual                  | X               | HSK-C 50                  |
| K62 HSK-F 63   | see figure 1                    |   |                         | 150    | 1NJ004380       | 33   | 12.000                              | automatic               | X               | HSK-F-63                  |
| K75 HSK-C 63   | 60                              | 90  | 35                      | 500    | 1NJ000953       | 49   | 10.000                              | manual                  | X               | HSK-C 63                  |
| KP75.01 HSK-F 63                                     | see figure 1                    |   |                         | 500    | 1NJ001188       | 51   | 12.000                              | automatic               | X               | HSK-F-63                  |
| K90 HSK-C 63   | 90                              | 135   | 35                      | 800    | 1NJ003906       | 62   | 10.000                              | manual                  | X               | HSK-C 63                  |
| K90 HSK-F 63   | see figure 1                    |   |                         | 800    | 1NJ004687       | 64   | 12.000                              | automatic               | X               | HSK-F-63                  |
| K112 HSK-C 63  | 135                             | 150   | 35                      | 1.000  | 2NJ000411       | 73   | 6.000                               | manual                  | X               | HSK-C 63                  |
| K112 HSK-C 80  | 150                             | 180   | 50                      | 1.000  | 2NJ000561       | -    | 6.000                               | manual                  | X               | HSK-C 80                  |
| K112 HSK-E 80  | see figure 2                    |   |                         | 1.000  | 2NJ000466       | -    | 6.000                               | automatic               | X               | HSK-E-80                  |

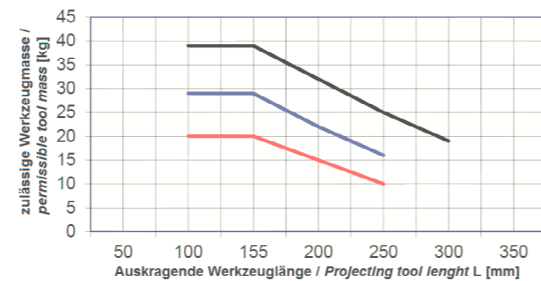
Permissible loads for higher speeds on request.

HSK63F automatic clamping unit with HSK pull-in force Fz = 20kN: Permissible mold masses for HSK63-F molds.



Graphic 1

HSK63E automatic clamping unit with HSK pull-in force Fz = 30kN: Permissible mold masses for HSK63-E molds.

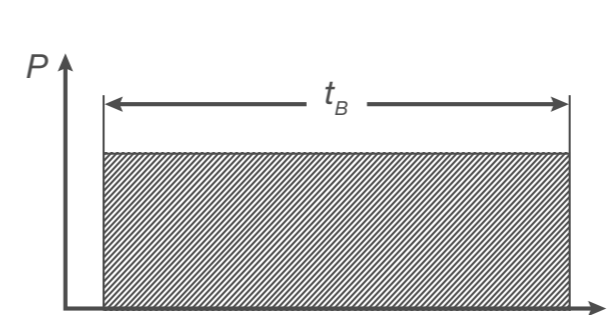


Graphic 2

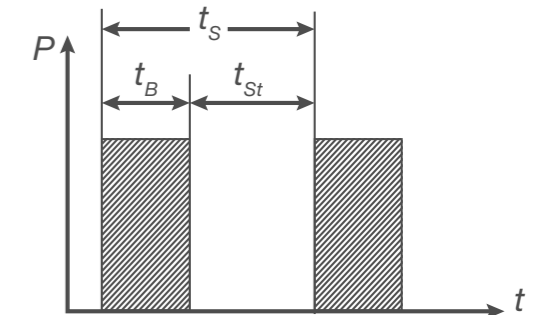
# TECHNICAL NOTES

## Operating modes of the motors

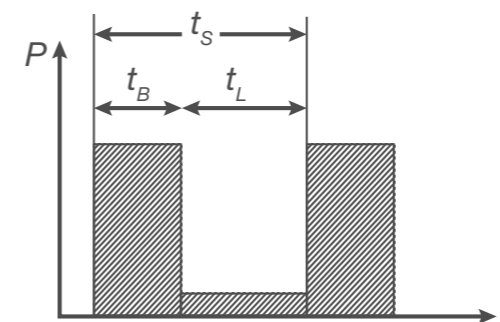
| Operating modes according to DIN EN 60034-1 |   |   |  |             |
|---|---|---|--|-------------|
| Abbreviation                                | Nominal operating mode  | Further explanation   | Additional information                   | For example |
| S1  | Continuous operation  | Operation with a constant load.   |  | S1          |
| S2  | Short-term operation  | Operation with a constant load and currentless pauses until complete cooling.   | Duty cycle [ED] in Minutes               | S2-60 min   |
| S3  | Intermittent duty   | Sequence of similar short loads. Each operating time comprises a constant load and a standstill time in the de-energized state. | Duty cycle [ED] in % of operating time   | S3-25 %     |
| S4  | Intermittent operation with influence of the start-up process | Sequence of identical start-ups, operating times and downtimes with currentless pauses.   | Duty cycle [ED] in % of operating time   | S4-25 %     |
| S6  | Continuous operation with Intermittent load                   | Operating time with constant load and idle time without downtime in de-energized state.   | Load duration in % of the operating time | S6-40 %     |



Marking: S1



Marking: S3



Marking: S6

Formula symbols used:

- P Power
- t Time
- t<sub>B</sub> Load time
- t<sub>L</sub> Idle
- t<sub>S</sub> Playing time
- t<sub>St</sub> Downtime

# TECHNICAL NOTES

## Weights

| Weight tables [kg]      |      |                   |                  |           |                                |          |
|-------------------------|------|-------------------|------------------|-----------|--------------------------------|----------|
| Motor types marking K55 |      |                   |                  |           |                                |          |
| Overall length          | KC55 | K55 / KF55 / KH55 | K55 incl. Flange | K55 HSK-C | KH55 incl. Hydro-Format-System | Brake P5 |
| S                       | 11   | 11                | 12               | 11        | 12                             | 1        |
| M                       | 12   | 12                | 13               | 12        | 13                             | 1        |
| L                       | 14   | 14                | 15               | 14        | 15                             | 1        |
| XL                      | 15   | 15                | 16               | 15        | 16                             | 1        |

| Motor types marking K62 |             |                   |                           |      |           |           |
|-------------------------|-------------|-------------------|---------------------------|------|-----------|-----------|
| Overall length          | KL62 / KS62 | K62 / KA62 / KM62 | KF62 / KH62 / KD62 / KC62 | KP62 | Brake G4K | Brake M7K |
| S                       | 10          | 12                | 15                        | 16   | 0,7       | 1,5       |
| M                       | 12          | 14                | 18                        | 16   | 0,7       | 1,5       |
| L                       | 15          | 17                | 21                        | 22   | 0,7       | 1,5       |
| XL                      | 22          | 25                | 29                        | 30   | 0,7       | 1,5       |

| Motor types marking K75 |      |     |      |             |                    |            |            |
|-------------------------|------|-----|------|-------------|--------------------|------------|------------|
| Overall length          | KL75 | K75 | KG75 | KF75 / KN75 | KD75 / KC75 / KP75 | Brake M12K | Brake M16K |
| S                       | 26   | 32  | 36   | 28          | 33                 | 2          | 3          |
| SB                      | 28   | 34  | 38   | 30          | 35                 | 2          | 3          |
| SP                      | 28   | 34  | 38   | 30          | 35                 | 2          | 3          |
| M                       | 36   | 42  | 46   | 38          | 43                 | 2          | 3          |
| MB                      | 42   | 48  | 52   | 44          | 51                 | 2          | 3          |
| L                       | 48   | 54  | 58   | 50          | 55                 | 2          | 3          |
| LB                      | 55   | 61  | 65   | 57          | 62                 | 2          | 3          |
| LP                      | 60   | 66  | 70   | 60          | 67                 | 2          | 3          |
| XL                      | 78   | 84  | 88   | 80          | 85                 | 2          | 3          |

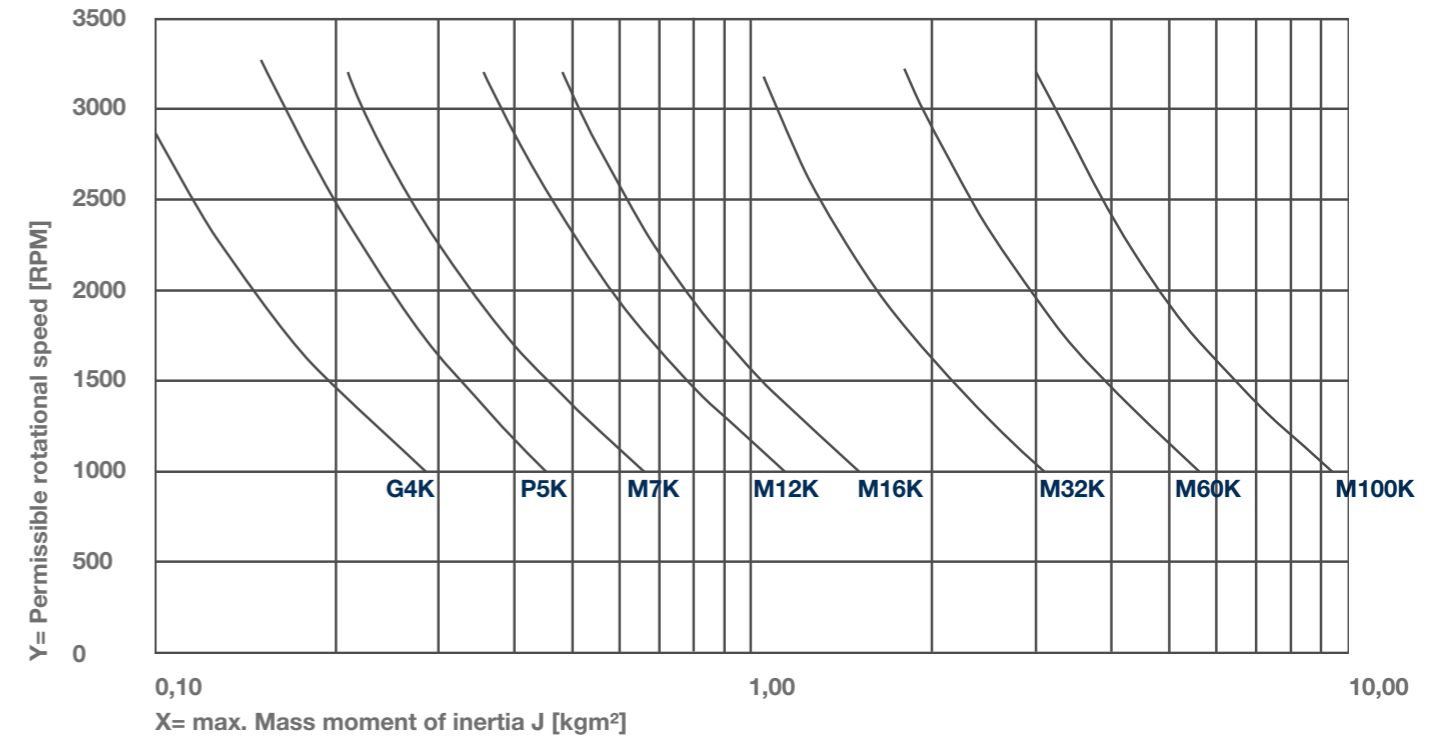
| Motor types marking K90 |     |      |      |            |
|-------------------------|-----|------|------|------------|
| Overall length          | K90 | KH90 | KD90 | Brake M32K |
| S                       | 78  | 75   | 75   | 4          |
| M                       | 87  | 84   | 84   | 4          |
| MB                      | 95  | 92   | 92   | 4          |
| L                       | 103 | 100  | 100  | 4          |
| XL                      | 118 | 115  | 115  | 4          |

| Motor types marking K112 |      |       |            |             |
|--------------------------|------|-------|------------|-------------|
| Overall length           | K112 | KF112 | Brake M60K | Brake M100K |
| S                        | 100  | 90    | 7          | 14          |
| SB                       | 124  | 114   | 7          | 14          |
| M                        | 140  | 130   | 7          | 14          |
| L                        | 158  | 148   | 7          | 14          |
| XL                       | 197  | 187   | 7          | 14          |

| Motor types marking K160 |      |       |             |
|--------------------------|------|-------|-------------|
| Overall length           | K160 | KF160 | Brake M150K |
| S                        | 302  | 270   | 22          |
| M                        | 337  | 305   | 22          |
| L                        | 372  | 340   | 22          |
| XL                       | 407  | 375   | 22          |

# TECHNICAL NOTES

## Overview of electromechanical brakes



### Device description

The catalog values are guide values which may deviate in individual cases. The brakes are designed for dry running. The braking torque depends on the respective running-in condition of the brake. If the friction surfaces come into contact with oil, grease or similar substances, the braking torque can drop sharply.

### Notes

The brakes listed are designed for dry running. The actual braking torque is highly dependent on the respective running-in condition of the brake. If the friction surfaces come into contact with oil, grease or other substances that reduce the coefficient of friction, the braking torque can drop sharply.

| Brake Type | Nominal torque [Nm] | Application for model series |
|------------|---------------------|------------------------------|
| P5K        | 5                   | K55                          |
| G4K        | 3                   | K62                          |
| M7K        | 7                   | K62                          |
| M12K       | 12                  | K75                          |
| M16K       | 20                  | K75                          |
| M32K       | 32                  | K90                          |
| M60K       | 60                  | K112                         |
| M100K      | 100                 | K112                         |

### Attention:

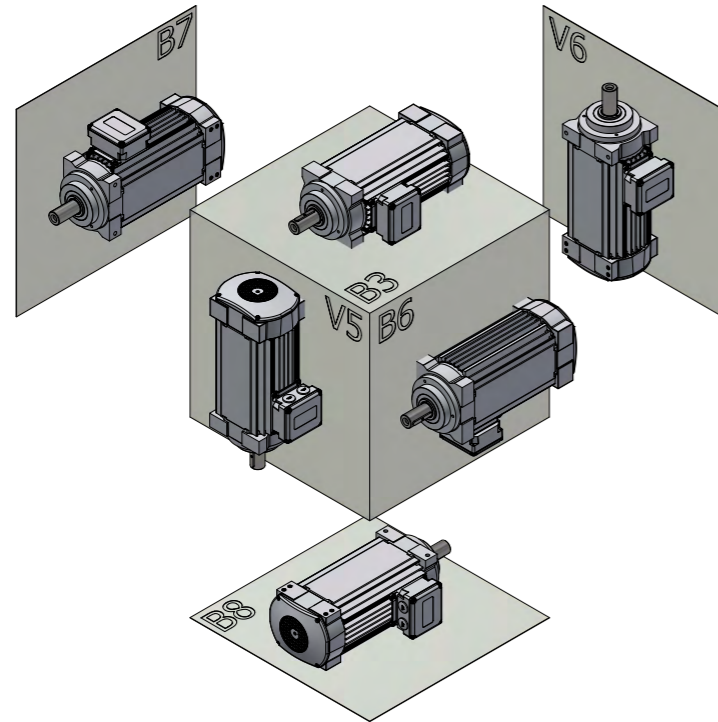
The brakes are only to be used as run-out brakes!

Standard brake voltage is 230V (50-60Hz) or 400V (50-60Hz). Special voltages on request.

## TECHNICAL NOTES

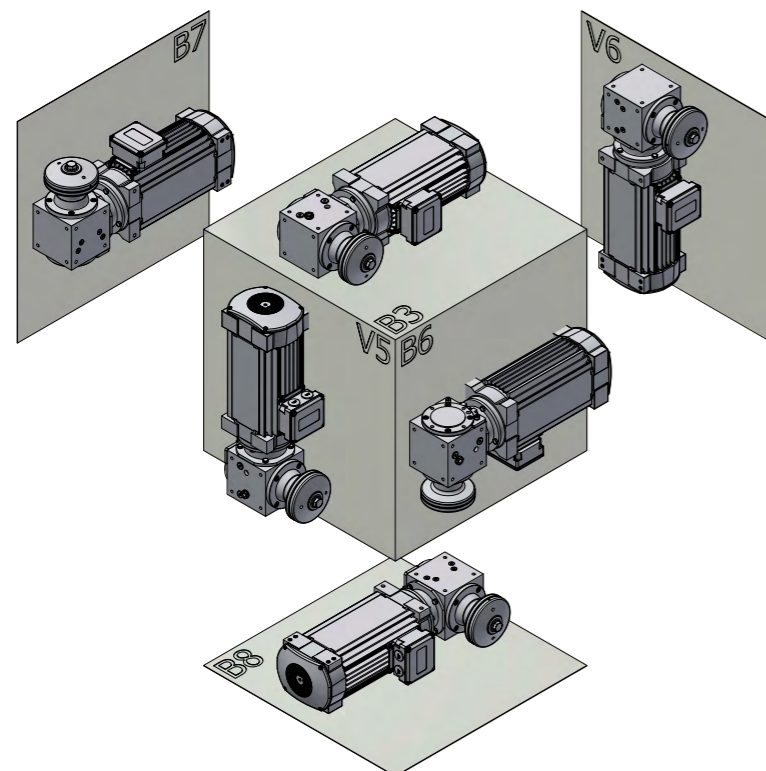
### Mounting positions for electrical machines according to IEC or DIN

Position of the terminal box as an example only.  
Definition of the terminal box position see right



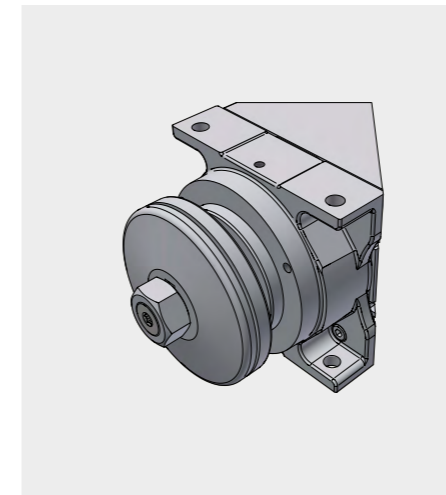
### Mounting position with angle gear

Position of the gear unit as an example only. Position of the gear units see respective flat motor overview

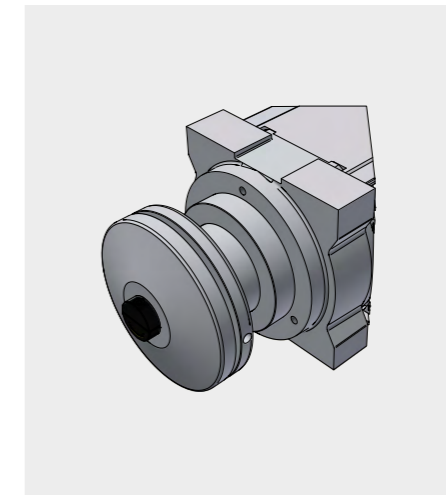


## TECHNICAL NOTES

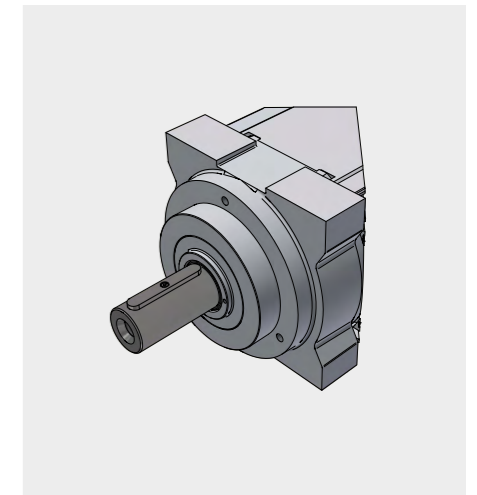
### Output variants



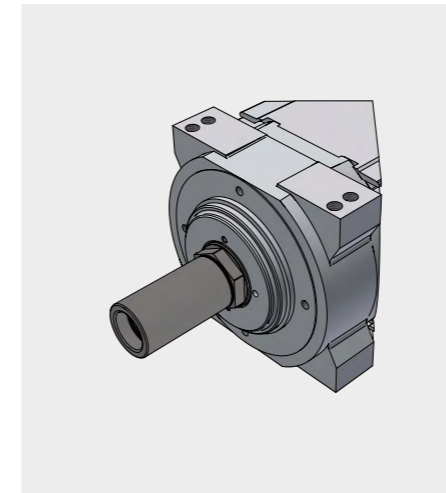
FLANGE DISK



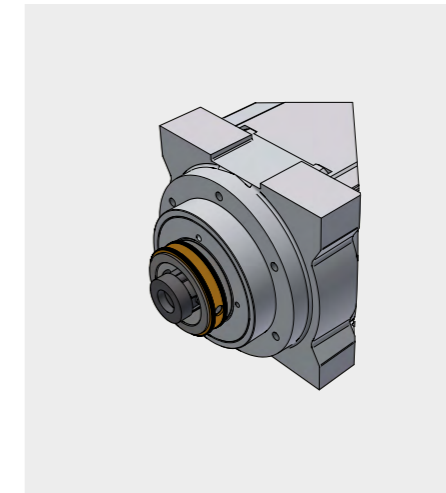
FLANGED DISK WITH QUICK CHANGE CLAMPING SYSTEM



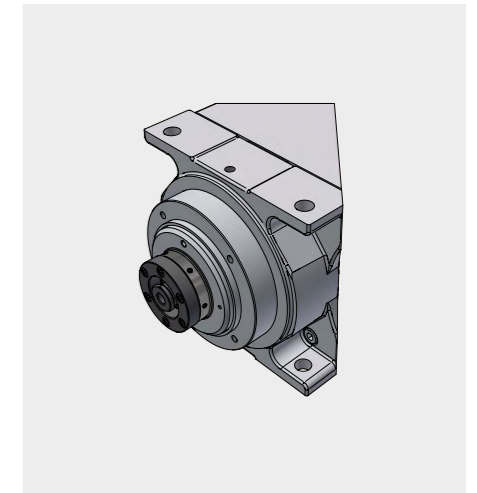
SHAFT WITH KEY



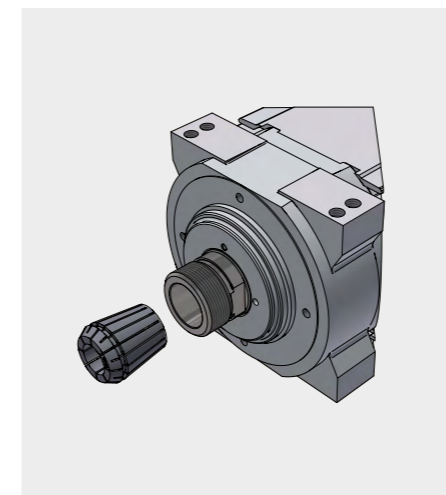
HYDRO-FORMAT-SYSTEM



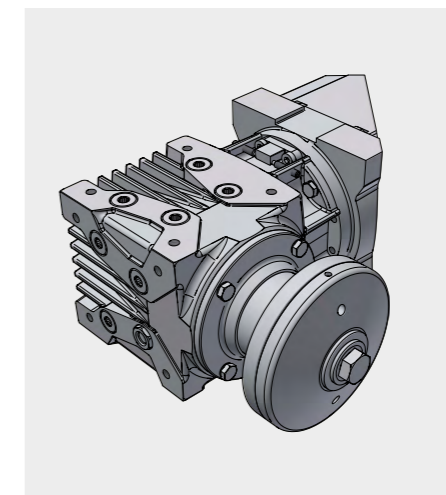
HSK MANUAL CLAMPING SYSTEM



HSK AUTOMATIC CLAMPING SYSTEM



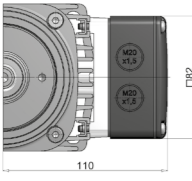
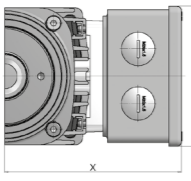
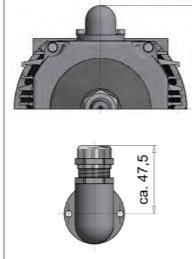
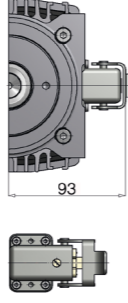
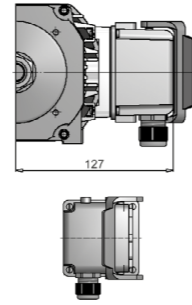
COLLET

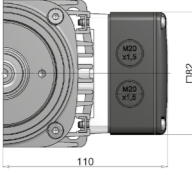
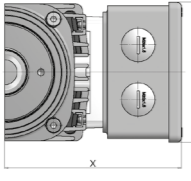
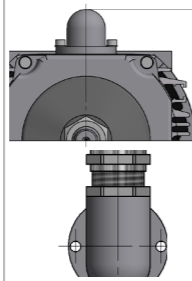
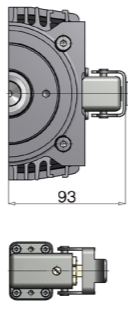
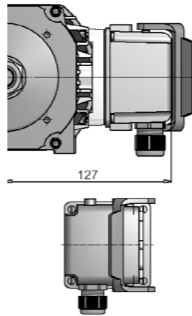
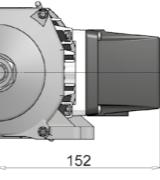
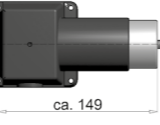


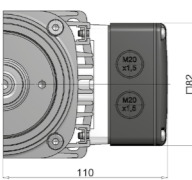
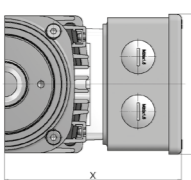
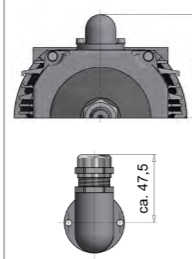
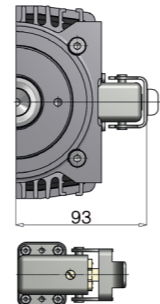
ANGULAR GEAR

# TECHNICAL NOTES

## Electrical connection variants

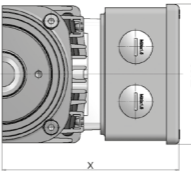
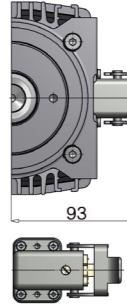
| K55   | 1   | 2   | 3   | 4   | 5 | 6              |
|---|---|---|---|---|---|----------------|
|   | Plastic   | Aluminium   | Elbow fitting   | Plug design   |   | Plastic        |
|   | 2x M20x1,5  | 2x M20x1,5  | 1x M20x1,5  | -   |   | With capacitor |
|  |  |  |  |  | - | -              |

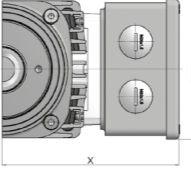
| K62   | 1   | 2   | 3   | 4   | 5   | 6   |
|---|---|---|---|---|---|---|
|   | Plastic   | Aluminium   | Elbow fitting   | Plug design   |   | Plastic   |
|   | 2x M20x1,5  | 2x M20x1,5  | 1x M20x1,5  | -   |   | With capacitor  |
|  |  |  |  |  |  |  |

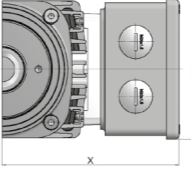
| K75   | 1   | 2   | 3             | 4           | 5 | 6   |
|---|---|---|---------------|-------------|---|---|
|   | Plastic   | Aluminium   | Elbow fitting | Plug design |   | Plastic   |
|   | 2x M25x1,5  | 2x M25x1,5 or 2x M32x1,5  | 1x M20x1,5    | -           |   | -   |
|  |  |  | -             | -           | - |  |

# TECHNICAL NOTES

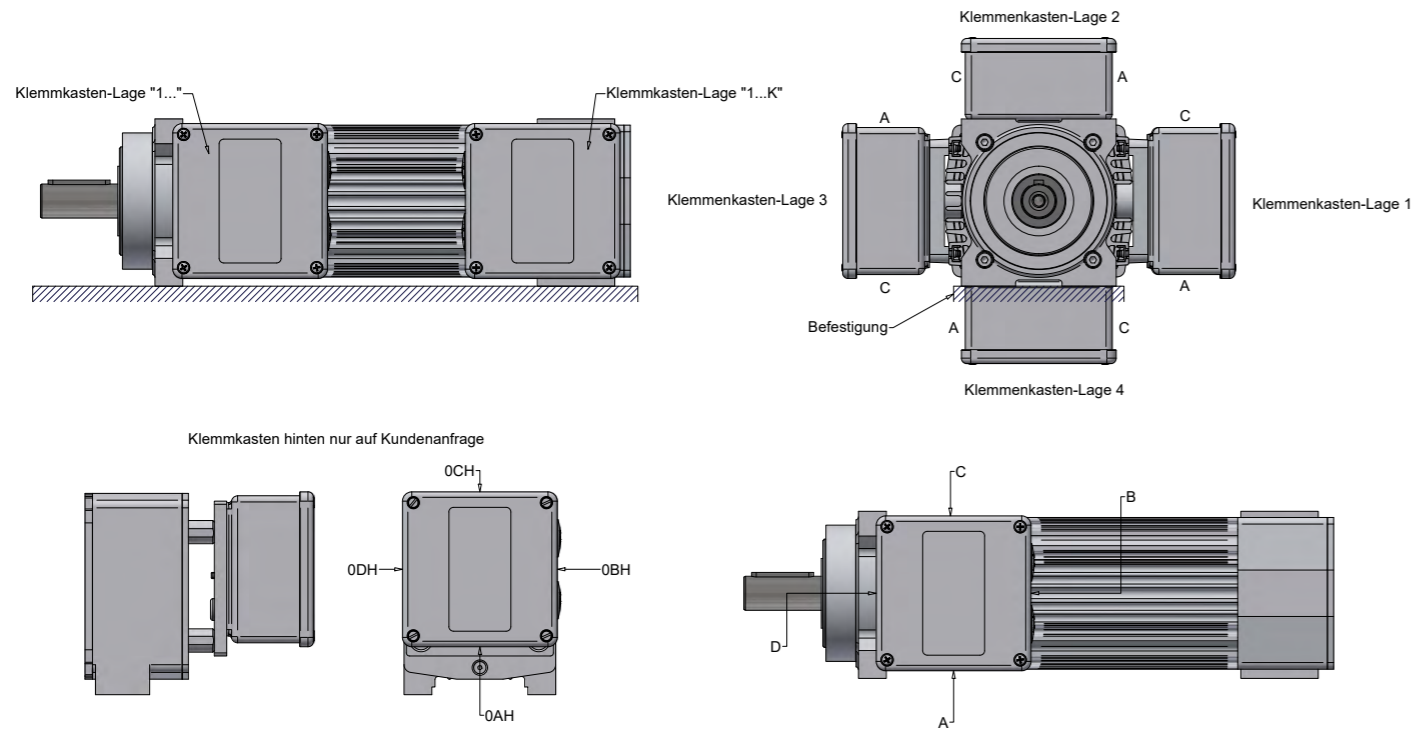
## Electrical connection variants

| K90 | 1   | 2                        | 3   | 4           | 5 | 6       |
|-----|---|--------------------------|---|-------------|---|---------|
|     | Plastic   | Aluminium                | Elbow fitting   | Plug design |   | Plastic |
|     | -   | 2x M40x1,5 or 2x M32x1,5 | -   | -           |   | -       |
| -   |  | -                        |  | -           | - | -       |

| K112 | 1   | 2                        | 3             | 4           | 5 | 6       |
|------|---|--------------------------|---------------|-------------|---|---------|
|      | Plastic   | Aluminium                | Elbow fitting | Plug design |   | Plastic |
|      | -   | 2x M40x1,5 or 2x M32x1,5 | -             | -           |   | -       |
| -    |  | -                        | -             | -           | - | -       |

| K160 | 1   | 2          | 3             | 4           | 5 | 6       |
|------|---|------------|---------------|-------------|---|---------|
|      | Plastic   | Aluminium  | Elbow fitting | Plug design |   | Plastic |
|      | -   | 2x M40x1,5 | -             | -           |   | -       |
| -    |  | -          | -             | -           | - | -       |

## Definition of the terminal box and cable gland position



### Explanation

The numbers 1 to 4 indicate the position of the terminal box when viewed from the output side (viewing direction "P"). The letters A to D indicate the position of the cable entry with the position of the terminal box determined by the numbers 1 to 4. For HIMMEL®-flat motors of size K55 and K62 a terminal box at the rear is possible. The marking is then made by "0...H". The suffix "K" indicates the position of the terminal box towards the ventilation side. Unless otherwise specified, the standard terminal box position is "1B".

### Example

Terminal box position "3CK" defines the position as follows:

- The number 3 defines the terminal box on the left side of the motor when looking in direction P.
- The letter C defines the position of the cable entry downwards.
- The letter K defines the position of the terminal box on the fan side.

## Speed tables for higher speeds

| Model series | Selection table for higher speeds up to 18,000 rpm<br>Rated power P <sub>2</sub> [kW] |                       |                       |                        |                        |
|--------------|---|-----------------------|-----------------------|------------------------|------------------------|
|              | 50 Hz<br>3.000 1/min  | 100 Hz<br>6.000 1/min | 150 Hz<br>9.000 1/min | 200 Hz<br>12.000 1/min | 300 Hz<br>18.000 1/min |
|              | S1*   | S1                    | S1                    | S1                     | S1                     |
|              | P <sub>2</sub> [kW]   | P <sub>2</sub> [kW]   | P <sub>2</sub> [kW]   | P <sub>2</sub> [kW]    | P <sub>2</sub> [kW]    |
| K55 S/ 2     | 0,6   | 1,3                   | 1,8                   | 2,3                    | 3,0                    |
| K55 M/ 2     | 0,9   | 1,8                   | 2,5                   | 3,0                    | 4,0                    |
| K55 L/ 2     | 1,1   | 2,4                   | 3,5                   | 4,0                    | 5,0                    |
| K55 XL/ 2    | 1,2   | 2,7                   | 4,0                   | 4,5                    | -                      |
| K62 S/ 2     | 1,1   | 1,8                   | 2,0                   | 2,1                    | 3,5                    |
| K62 M/ 2     | 1,5   | 2,4                   | 2,6                   | 2,7                    | 4,5                    |
| K62 L/ 2     | 2,0   | 3,0                   | 3,3                   | 3,5                    | 6,0                    |
| K62 XL/ 2    | 3,0   | 4,6                   | 5,1                   | 5,4                    | 8,5                    |
| K75 S/ 2     | 3,0   | 5,0                   | 5,3                   | 5,6                    |                        |
| K75 SB/ 2    | 3,7   | 5,9                   | 6,3                   | 6,7                    |                        |
| K75 SP/ 2    | 4,0   | 6,1                   | 6,6                   | 7,0                    |                        |
| K75 M/ 2     | 4,5   | 8,0                   | 8,5                   | 9,0                    |                        |
| K75 MB/ 2    | 6,0   | 11,0                  | 11,5                  | 12,2                   |                        |
| K75 L/ 2     | 7,5   | 13,0                  | 13,7                  | 14,5                   |                        |
| K75 LB/ 2    | 8,8   | 15,5                  | -                     |                        |                        |
| K75 LP/ 2    | 10,0  | 17,5                  | -                     |                        |                        |
| K75 XL/ 2    | 14,0  | 24,0                  | -                     |                        |                        |
| K90 S/ 2     | 7,0   | 14,0                  | 19,0                  |                        |                        |
| K90 M/ 2     | 10,0  | 20,0                  | 27,0                  |                        |                        |
| K90 MB/ 2    | 12,0  | 24,0                  | 31,0                  |                        |                        |
| K90 L/ 2     | 15,0  | 30,0                  |                       |                        |                        |
| K90 XL/ 2    | 18,0  | 36,0                  |                       |                        |                        |
| K112 S/ 2    | 12,5  | 20,0                  |                       |                        |                        |
| K112 SB/ 2   | 18,5  | 30,0                  |                       |                        |                        |
| K112 M/ 2    | 22,0  | 37,0                  |                       |                        |                        |
| K112 L/ 2    | 30,0  | 50,0                  |                       |                        |                        |
| K112 XL/ 2   | 37,0  | 60,0                  |                       |                        |                        |
| K160 S/ 2    | 45,0  | 74,0                  |                       |                        |                        |
| K160 M/ 2    | 55,0  | 90,0                  |                       |                        |                        |
| K160 L/ 2    | 65,0  | 107,0                 |                       |                        |                        |
| K160 XL/ 2   | 75,0  | 123,0                 |                       |                        |                        |

\* Power specification for motors which are not subject to mandatory marking, e.g. motors in potentially explosive atmospheres,

or brake motors, frequency-controlled or pole-changing motors. Others on request.

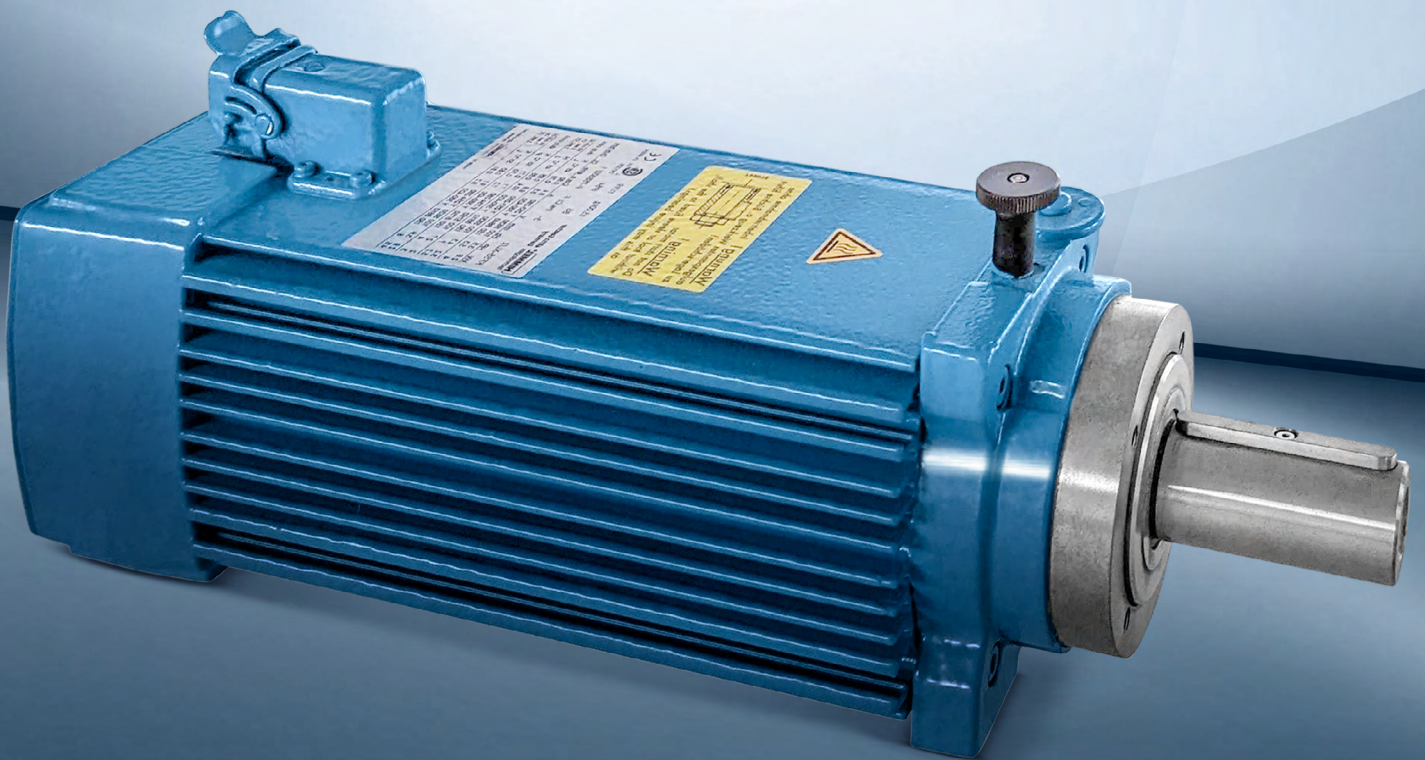
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Antriebstechnik

by Neudecker & Jolitz



# MODEL SERIES K55

# MODEL SERIES K55

## Performance overview

Table data refer to: Synchronous rotational speed 3.000 1/min, motor voltage: 3-phase 400V / 50Hz

| Synchronous Rotational speed 1/min | Model series | Nominal power $P_2$ [kW] |           |            |           |            |           |
|------------------------------------|--------------|--------------------------|-----------|------------|-----------|------------|-----------|
|                                    |              | S1*                      |           | S6-60%     |           | S6-40%     |           |
|                                    |              | $P_2$ [kW]               | $I_n$ [A] | $P_2$ [kW] | $I_n$ [A] | $P_2$ [kW] | $I_n$ [A] |
| 3.000                              | K55 S/ 2     | 0,6                      | 1,6       | 0,7        | 1,8       | 0,8        | 2,0       |
|                                    | K55 M/ 2     | 0,9                      | 2,2       | 1,0        | 2,4       | 1,1        | 2,6       |
|                                    | K55 L/ 2     | 1,1                      | 2,5       | 1,3        | 3,0       | 1,4        | 3,3       |
|                                    | K55 XL/ 2    | 1,2                      | 2,7       | 1,5        | 3,4       | 1,7        | 4,1       |

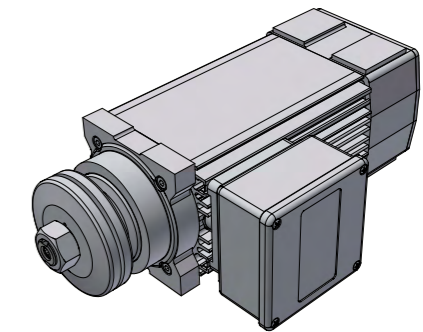
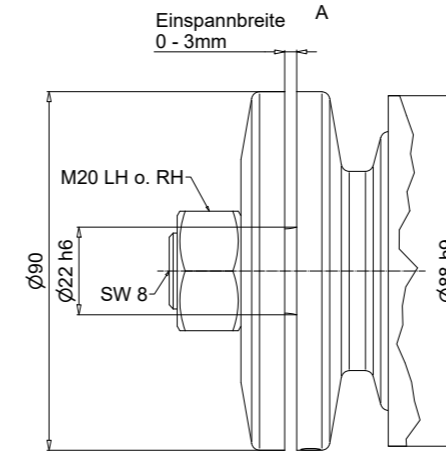
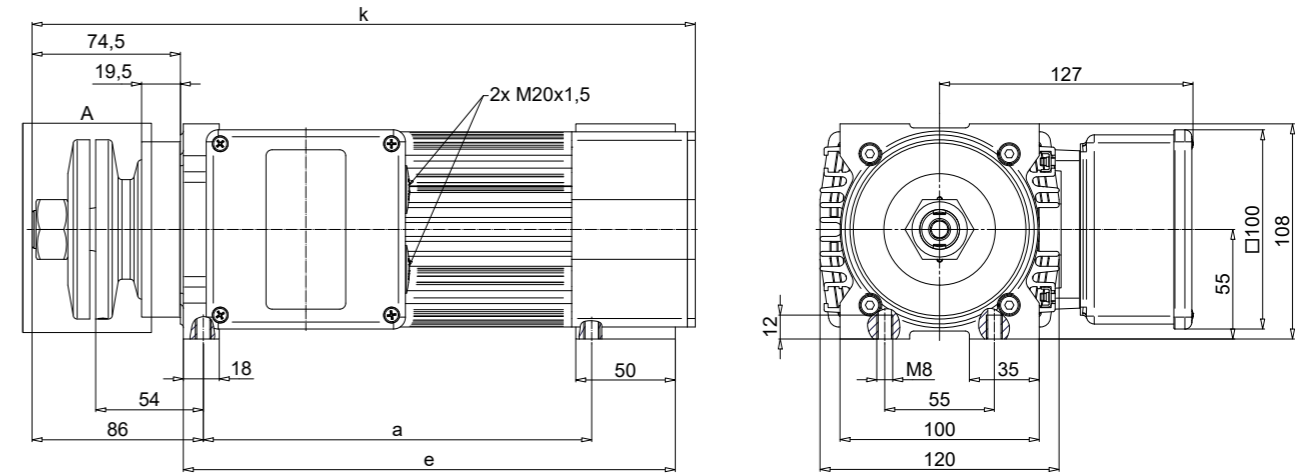
\* Power rating for engines that are not subject to mandatory labeling. Others on request.

## Performances for higher speeds

| Model series | Selection table for higher speeds up to 18.000 1/min |                       |                        |                        |
|--------------|--|-----------------------|------------------------|------------------------|
|              | Nominal power $P_2$ [kW]                             |                       |                        |                        |
|              | 100 Hz<br>6.000 1/min                                | 150 Hz<br>9.000 1/min | 200 Hz<br>12.000 1/min | 300 Hz<br>18.000 1/min |
|              | S1   | S1                    | S1                     | S1                     |
|              | $P_2$ [kW]   | $P_2$ [kW]            | $P_2$ [kW]             | $P_2$ [kW]             |
| K55 S/ 2     | 1,3  | 1,8                   | 2,3                    | 3,0                    |
| K55 M/ 2     | 1,8  | 2,5                   | 3,0                    | 4,0                    |
| K55 L/ 2     | 2,4  | 3,5                   | 4,0                    | 5,0                    |
| K55 XL/ 2    | 2,7  | 4,0                   | 4,5                    | -                      |

# MODEL SERIES K55

## Flat motor K55.01 with flange disk, Single bearing on output side

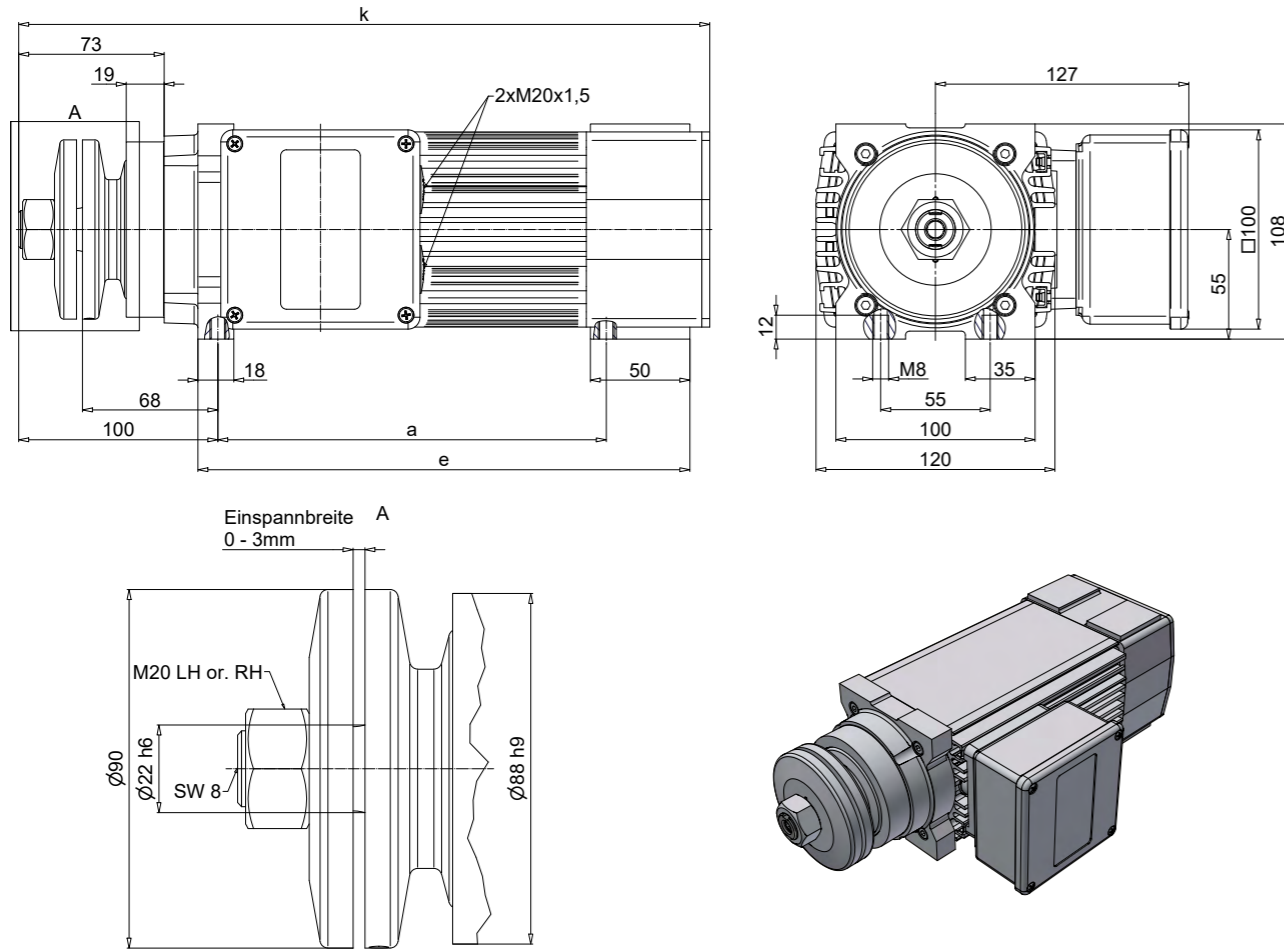


| Dimensions [mm] | without brake |     | with brake |     |
|-----------------|---------------|-----|------------|-----|
| Type            | a             | e   | k          | k   |
| K55 - S         | 195           | 247 | 333        | 375 |
| K55 - M         | 195           | 247 | 333        | 375 |
| K55 - L         | 225           | 277 | 363        | 405 |
| K55 - XL        | 245           | 297 | 383        | 425 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ000939       |
| with brake    | 1NJ001117       |

# MODEL SERIES K55

Flat motor K55.01 with flange disk,  
Double bearing on output side

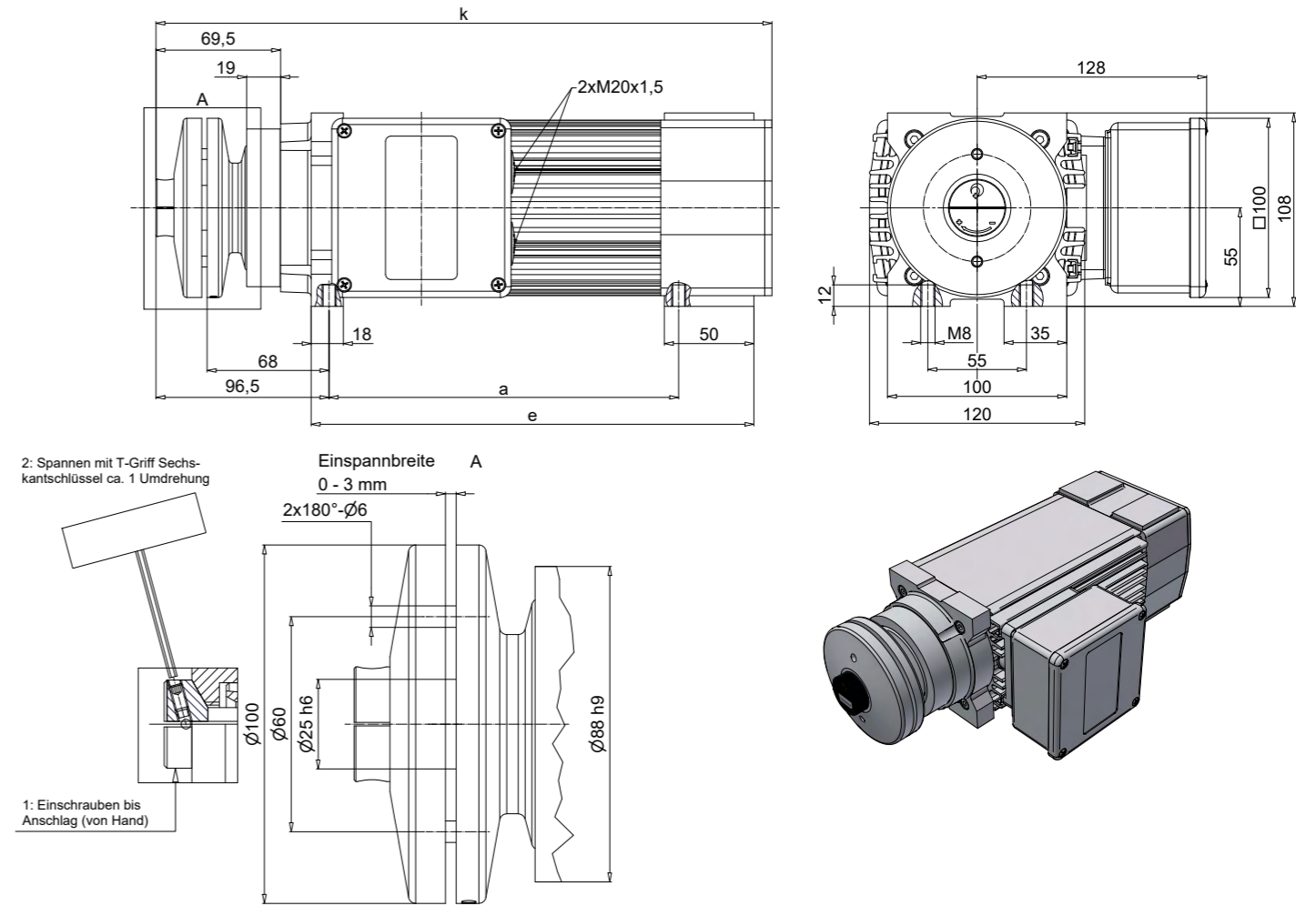


| Dimensions [mm] |     |     | without brake | with brake |
|-----------------|-----|-----|---------------|------------|
| Type            | a   | e   | k             | k          |
| K55 - S         | 195 | 247 | 347           | 389        |
| K55 - M         | 195 | 247 | 347           | 389        |
| K55 - L         | 225 | 277 | 377           | 419        |
| K55 - XL        | 245 | 297 | 397           | 439        |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ000941       |
| with brake    | 1NJ001129       |

# MODEL SERIES K55

K55 flat motor with quick-change clamping system



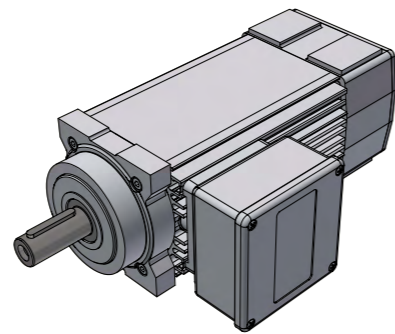
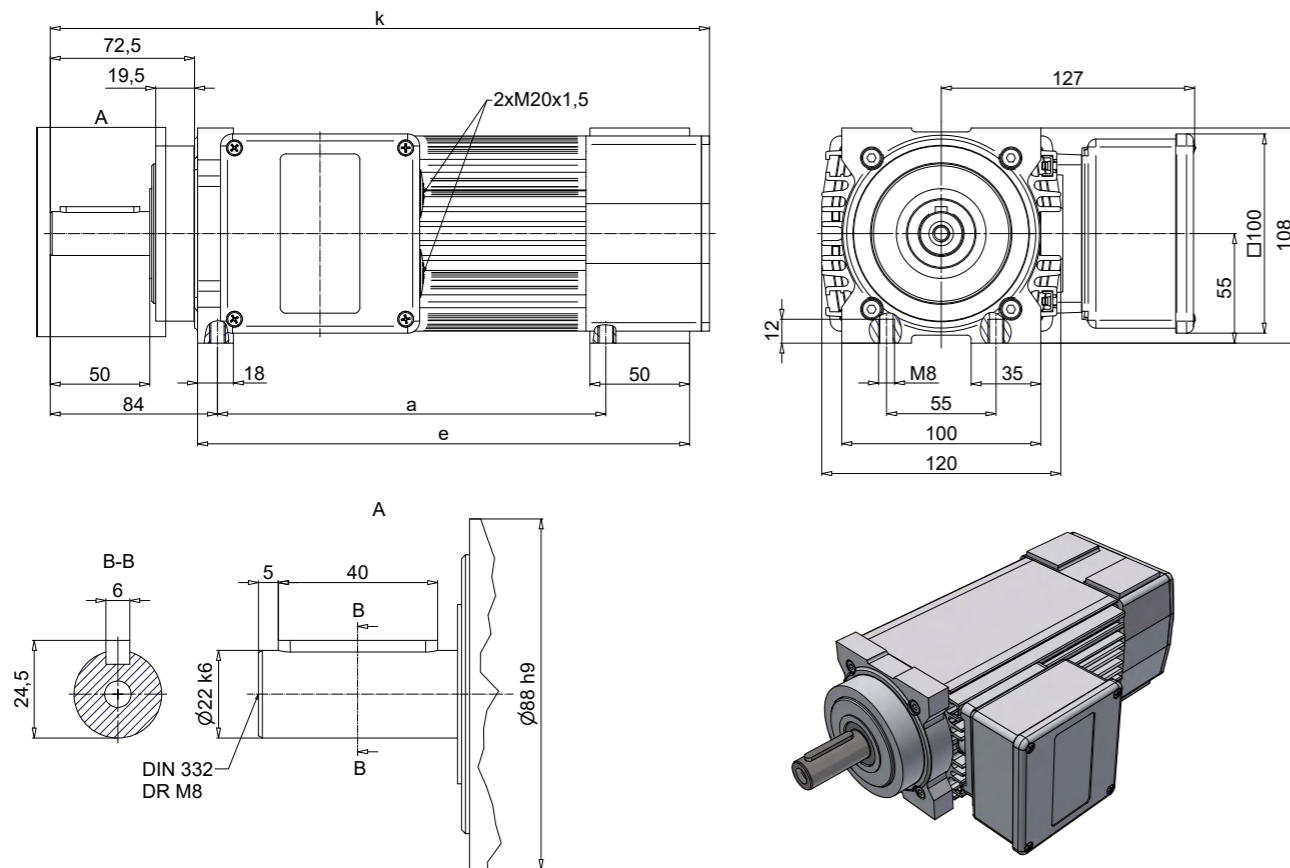
Right-left rotation possible

| Dimensions [mm] |     |     | without brake | with brake |
|-----------------|-----|-----|---------------|------------|
| Type            | a   | e   | k             | k          |
| K55 - S         | 195 | 247 | 345           | 387        |
| K55 - M         | 195 | 247 | 345           | 387        |
| K55 - L         | 225 | 277 | 375           | 417        |
| K55 - XL        | 245 | 297 | 395           | 437        |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ004524       |
| with brake    | 1NJ004480       |

## MODEL SERIES K55

### Flat motor KF55.01 Shaft, Single bearing

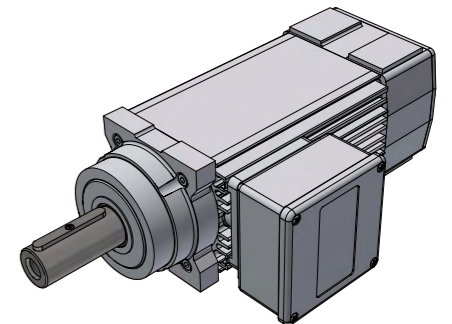
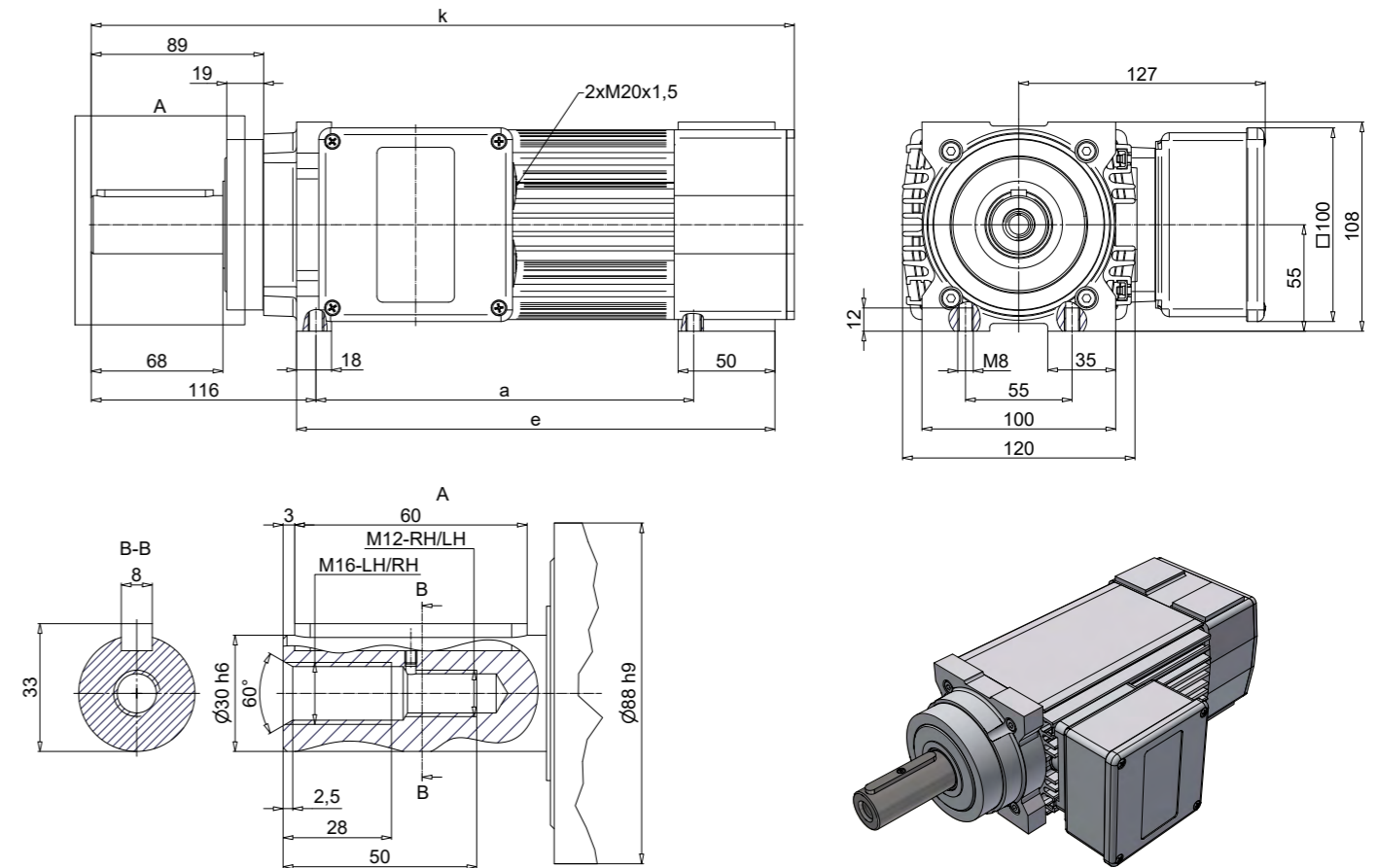


| Dimensions [mm] |     |     | without brake | with brake |
|-----------------|-----|-----|---------------|------------|
| Type            | a   | e   | k             | k          |
| KF55 - S        | 195 | 247 | 331           | 373        |
| KF55 - M        | 195 | 247 | 331           | 373        |
| KF55 - L        | 225 | 277 | 361           | 403        |
| KF55 - XL       | 245 | 297 | 381           | 423        |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ000937       |
| with brake    | 1NJ001116       |

## MODEL SERIES K55

### Flat motor KF55.01 Shaft, Double/spindle bearing

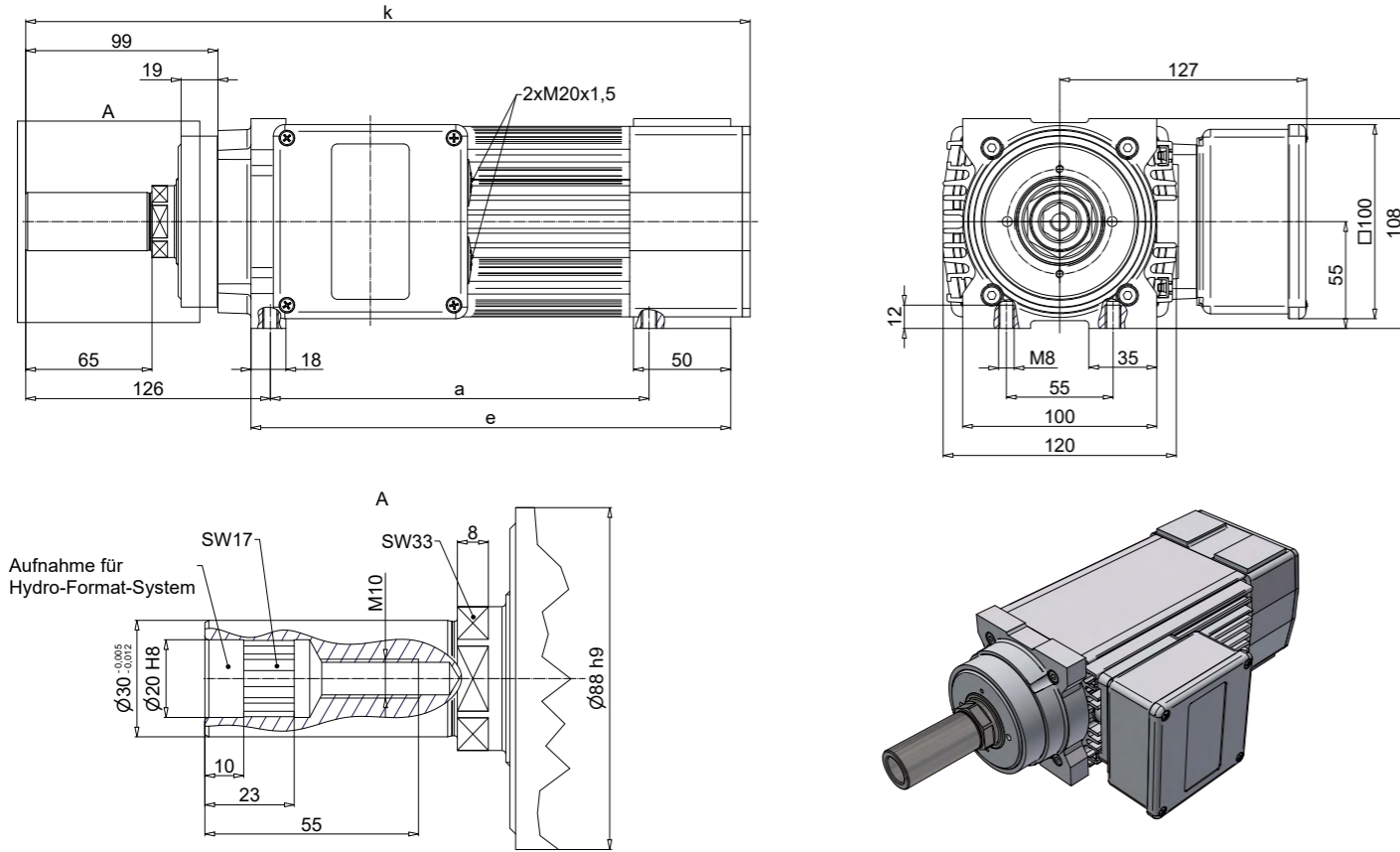


| Dimensions [mm] |     |     | without brake | with brake |
|-----------------|-----|-----|---------------|------------|
| Type            | a   | e   | k             | k          |
| KF55 - S        | 195 | 247 | 363           | 405        |
| KF55 - M        | 195 | 247 | 363           | 405        |
| KF55 - L        | 225 | 277 | 393           | 435        |
| KF55 - XL       | 245 | 297 | 413           | 455        |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ000945       |
| with brake    | 1NJ004476       |

# MODEL SERIES K55

## K55 flat motor with adapter for Hydro-Format-System

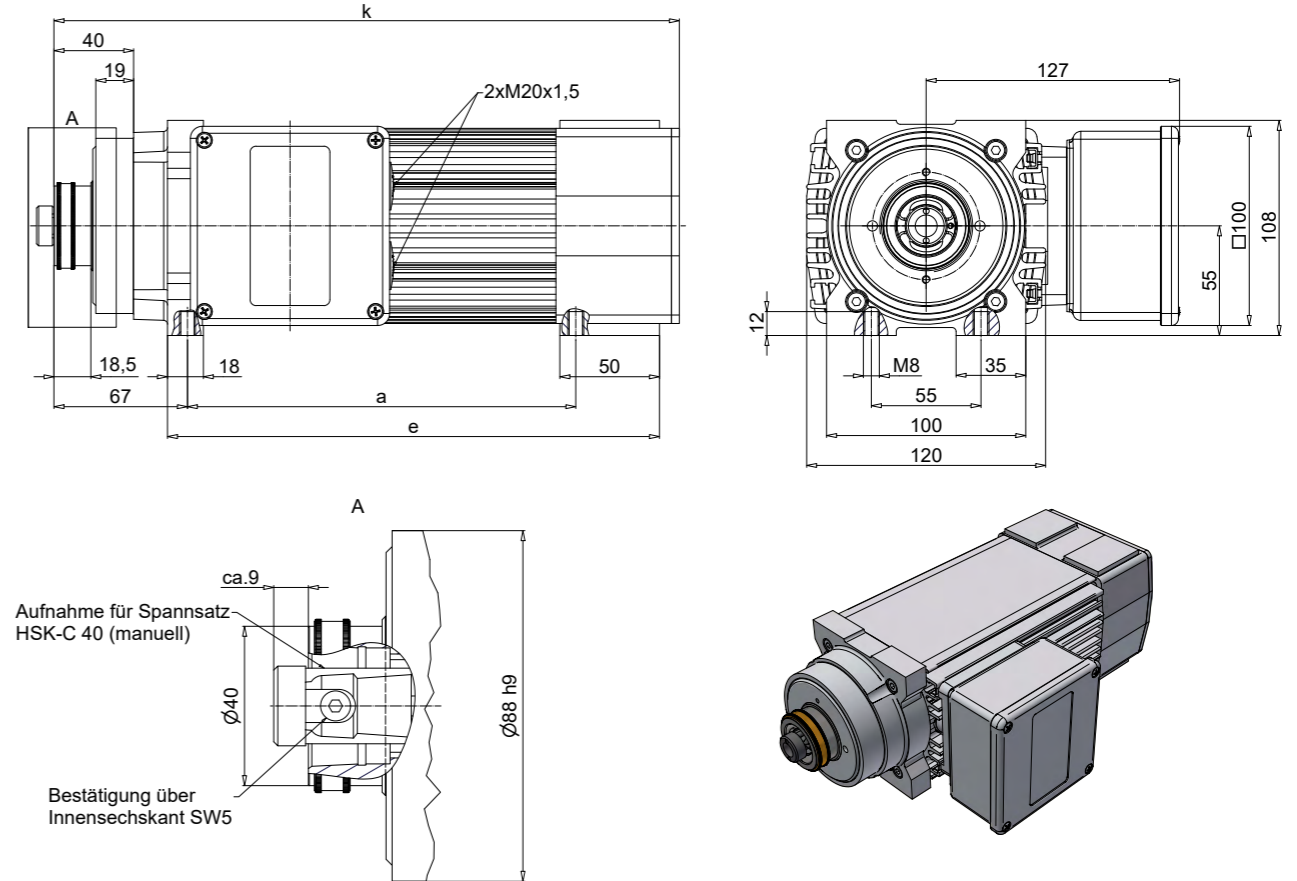


| Dimensions [mm] |     |     | without brake | with brake |
|-----------------|-----|-----|---------------|------------|
| Type            | a   | e   | k             | k          |
| K55 - S         | 195 | 247 | 373           | 415        |
| K55 - M         | 195 | 247 | 373           | 415        |
| K55 - L         | 225 | 277 | 403           | 445        |
| K55 - XL        | 245 | 297 | 423           | 465        |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ003910       |
| with brake    | 1NJ004481       |

# MODEL SERIES K55

## K55 flat motor with HSK-C 40 adapter

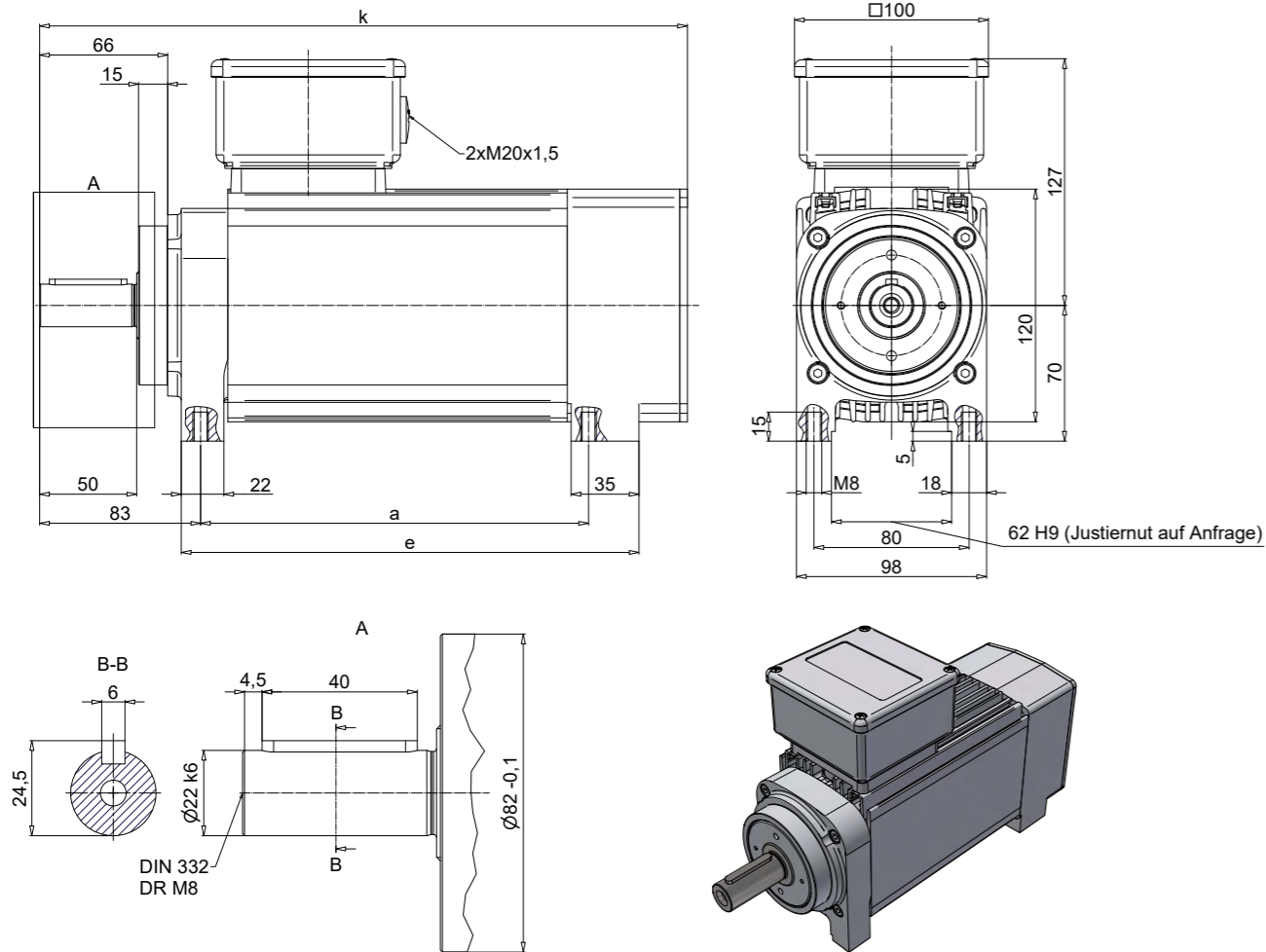


| Dimensions [mm] |     |     | without brake | with brake |
|-----------------|-----|-----|---------------|------------|
| Type            | a   | e   | k             | k          |
| KH55 - S        | 195 | 247 | 314           | 356        |
| KH55 - M        | 195 | 247 | 314           | 356        |
| KH55 - L        | 225 | 277 | 344           | 386        |
| KH55 - XL       | 245 | 297 | 364           | 406        |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ000845       |
| with brake    | 1NJ004478       |

## MODEL SERIES K55

Flat motor KH55.01 Standard shaft, edgewise,  
Single bearing on output side

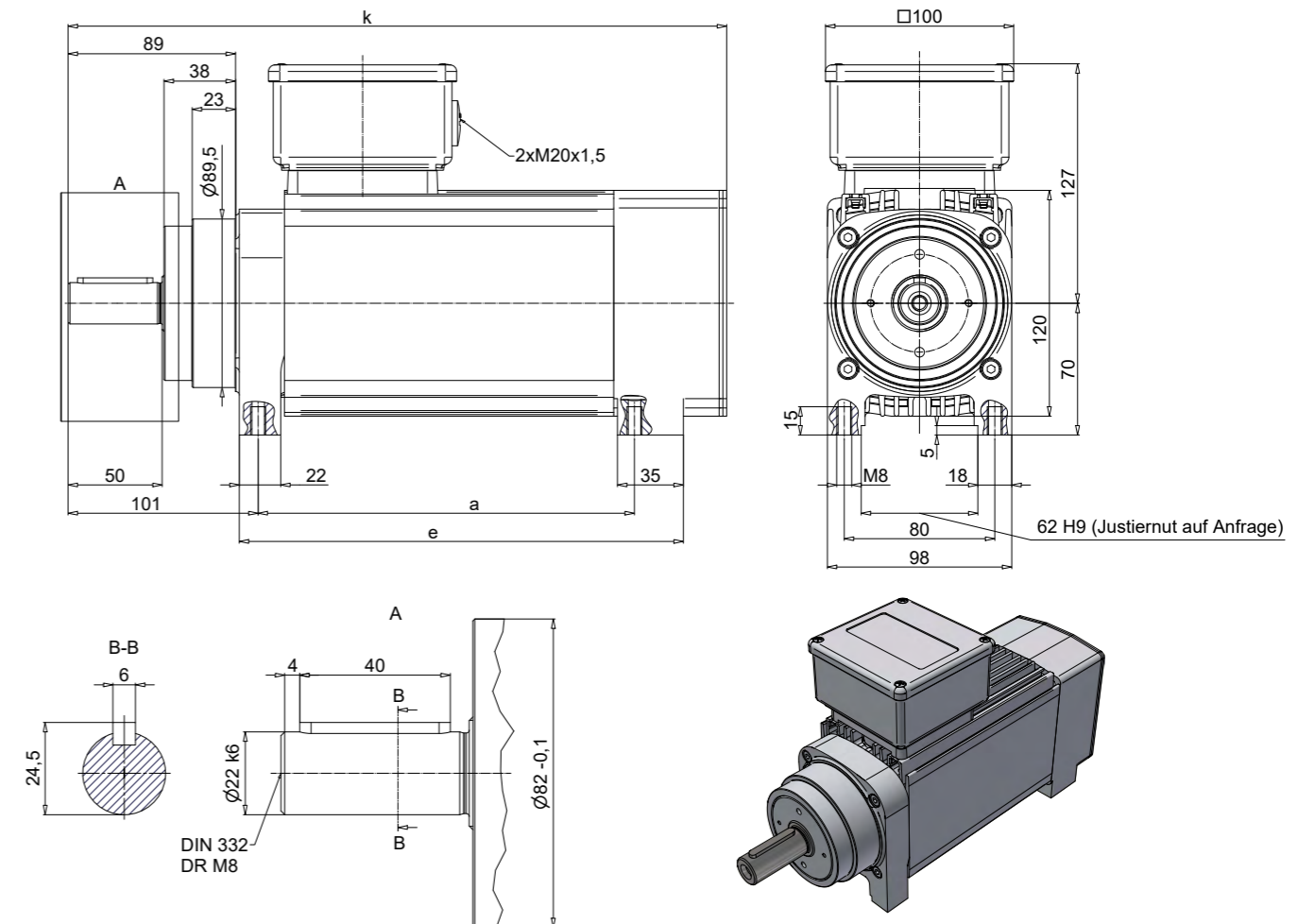


| Dimensions [mm] |     |     | without brake | with brake |
|-----------------|-----|-----|---------------|------------|
| Type            | a   | e   | k             | k          |
| KH55-S          | 200 | 236 | 334           | 374        |
| KH55-M          | 200 | 236 | 334           | 374        |
| KH55-L          | 230 | 266 | 364           | 404        |
| K55-XL          | 250 | 286 | 384           | 424        |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ000885       |
| with brake    | 1NJ000914       |

## MODEL SERIES K55

Flat motor KH55.01 Standard shaft, edgewise,  
double bearing on output side

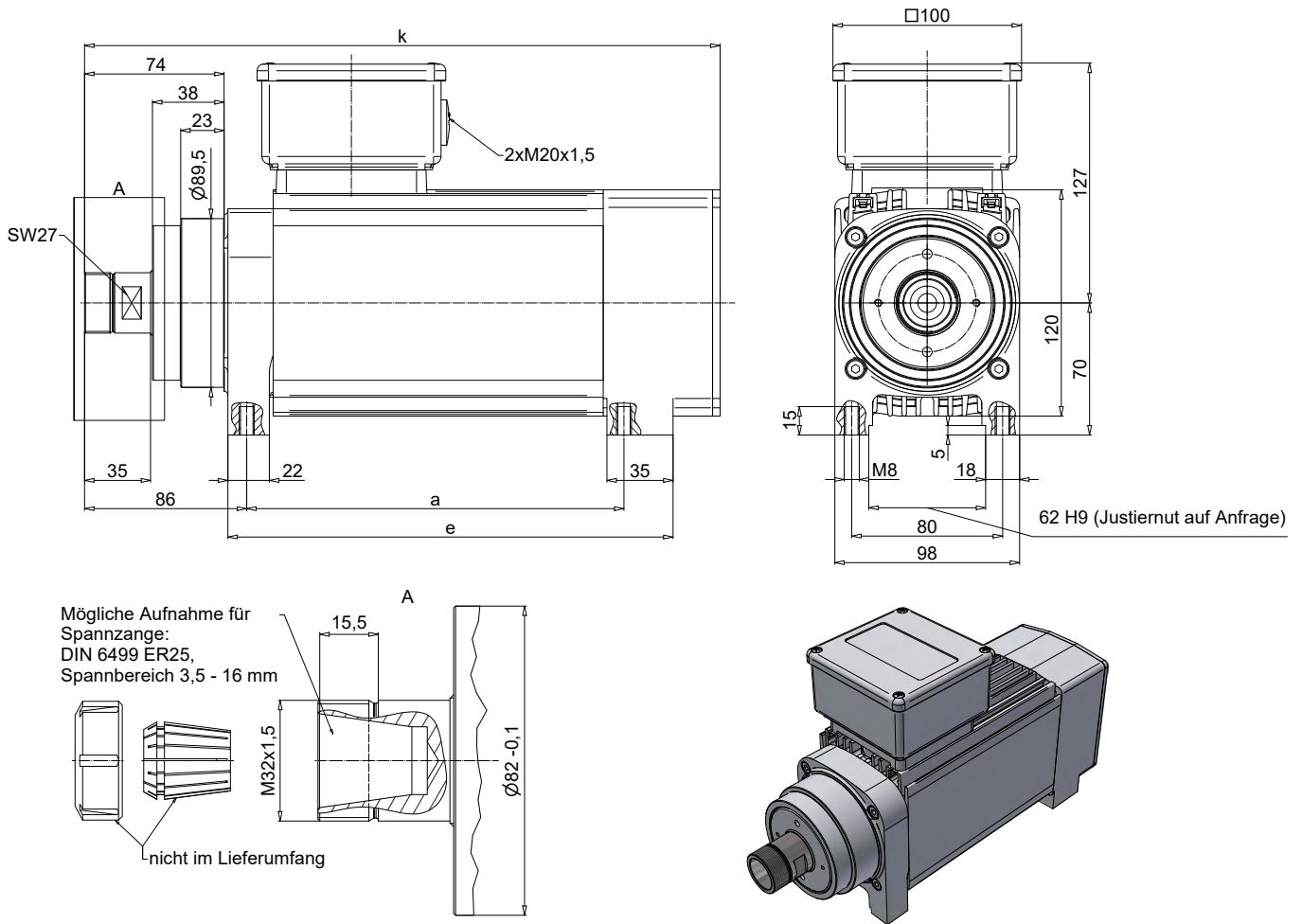


| Dimensions [mm] |     |     | without brake | with brake |
|-----------------|-----|-----|---------------|------------|
| Type            | a   | e   | k             | k          |
| KH55 - S        | 200 | 236 | 352           | 388        |
| KH55 - M        | 200 | 236 | 352           | 388        |
| KH55 - L        | 230 | 266 | 382           | 418        |
| KH55 - XL       | 250 | 286 | 402           | 438        |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ000825       |
| with brake    | 1NJ001132       |

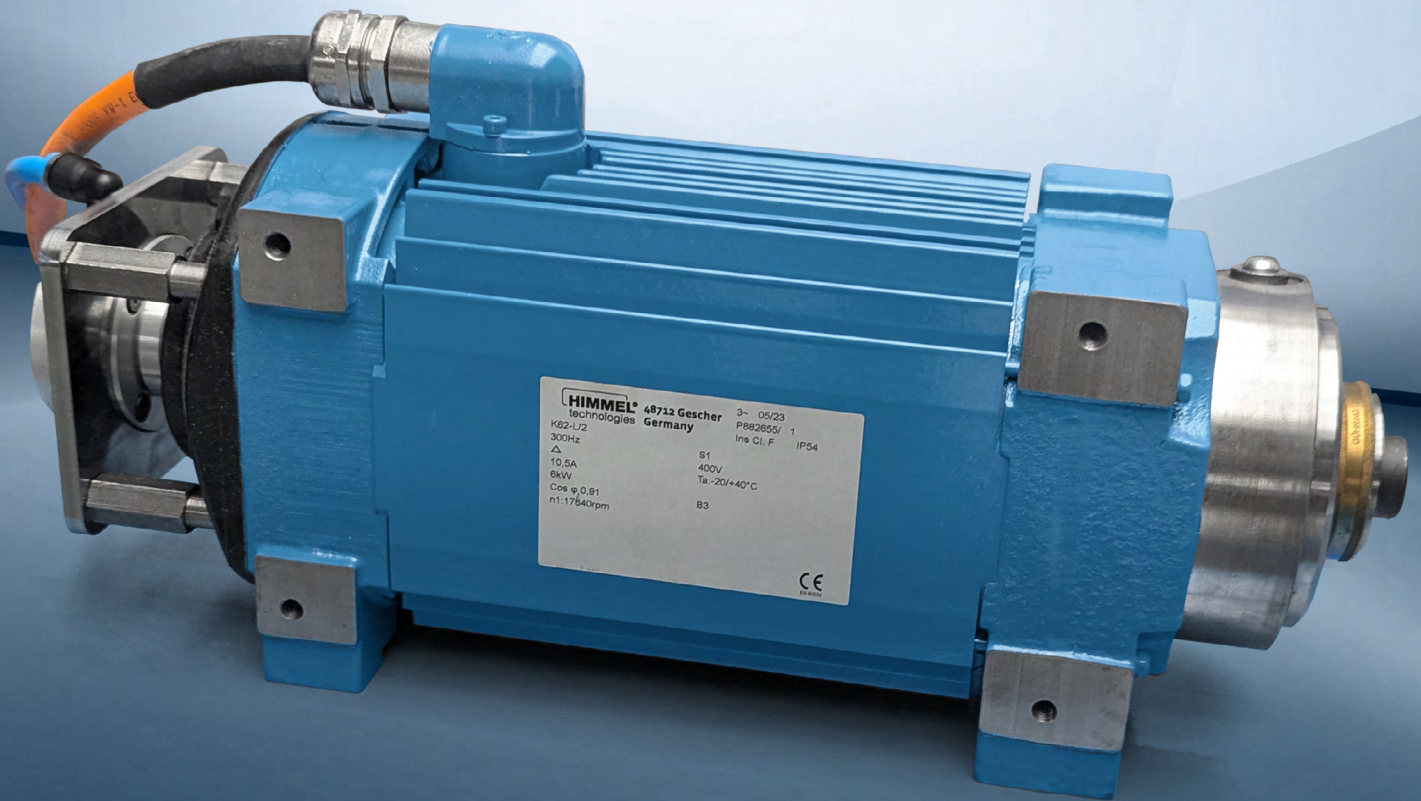
# MODEL SERIES K55

## Flat motor KC55.01 with adapter for collet, edgewise



| Dimensions [mm] |     |     | without brake | with brake |
|-----------------|-----|-----|---------------|------------|
| Type            | a   | e   | k             | k          |
| KC55 - S        | 200 | 236 | 337           | 377        |
| KC55 - M        | 200 | 236 | 337           | 377        |
| KC55 - L        | 230 | 266 | 367           | 407        |
| KC55 - XL       | 250 | 286 | 387           | 427        |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ000828       |
| with brake    | 1NJ004477       |



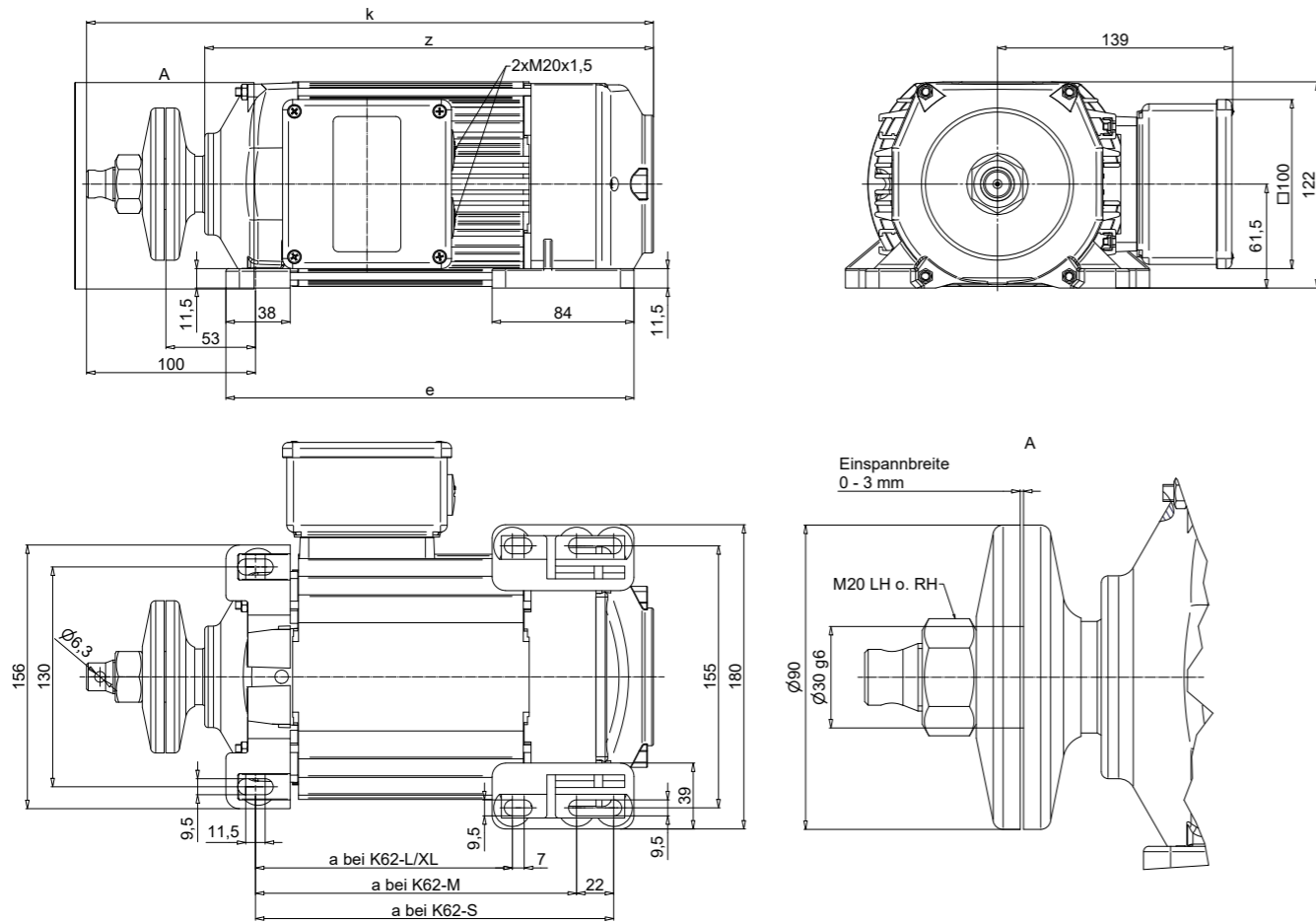
**HIMMEL**<sup>®</sup> 48712 Gescher 3- 05/23  
technologies Germany P88265/ 1  
K62-L2 line Cl. F IP54  
300Hz S1  
 $\Delta$  400V  
10.5A  $T_a$ : -20/+40°C  
6kW  
Cos  $\phi$  0.91 B3  
n1:1784rpm  
CE

**MODEL SERIES K62**



# MODEL SERIES K62

## Flat motor KS62 with flange disk

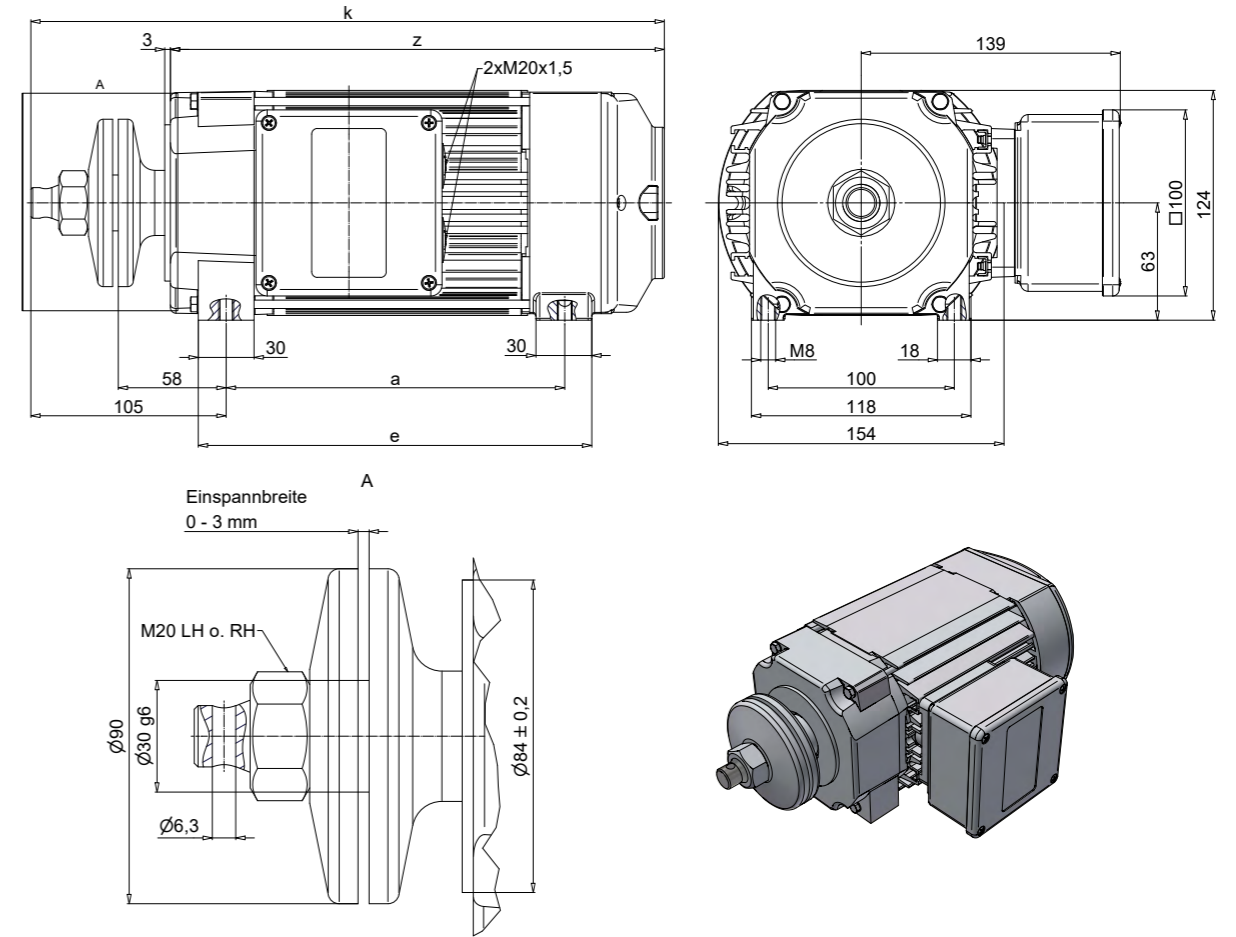


| Dimensions [mm] |     |     | without brake |     | with brake G4K |     | with brake M7K |     |
|-----------------|-----|-----|---------------|-----|----------------|-----|----------------|-----|
| Type            | a   | e   | k             | z   | k              | z   | k              | z   |
| KS62 - S        | 190 | 220 | 314           | 244 | 323            | 253 | 359            | 289 |
| KS62 - M        | 190 | 242 | 336           | 266 | 345            | 275 | 381            | 311 |
| KS62 - L        | 190 | 280 | 374           | 304 | 383            | 313 | 419            | 349 |
| KS62 - XL       | 270 | 360 | 454           | 384 | 463            | 393 | 499            | 429 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ100000000096 |
| with brake    |                 |

# MODEL SERIES K62

## K62 flat motor with flange disk

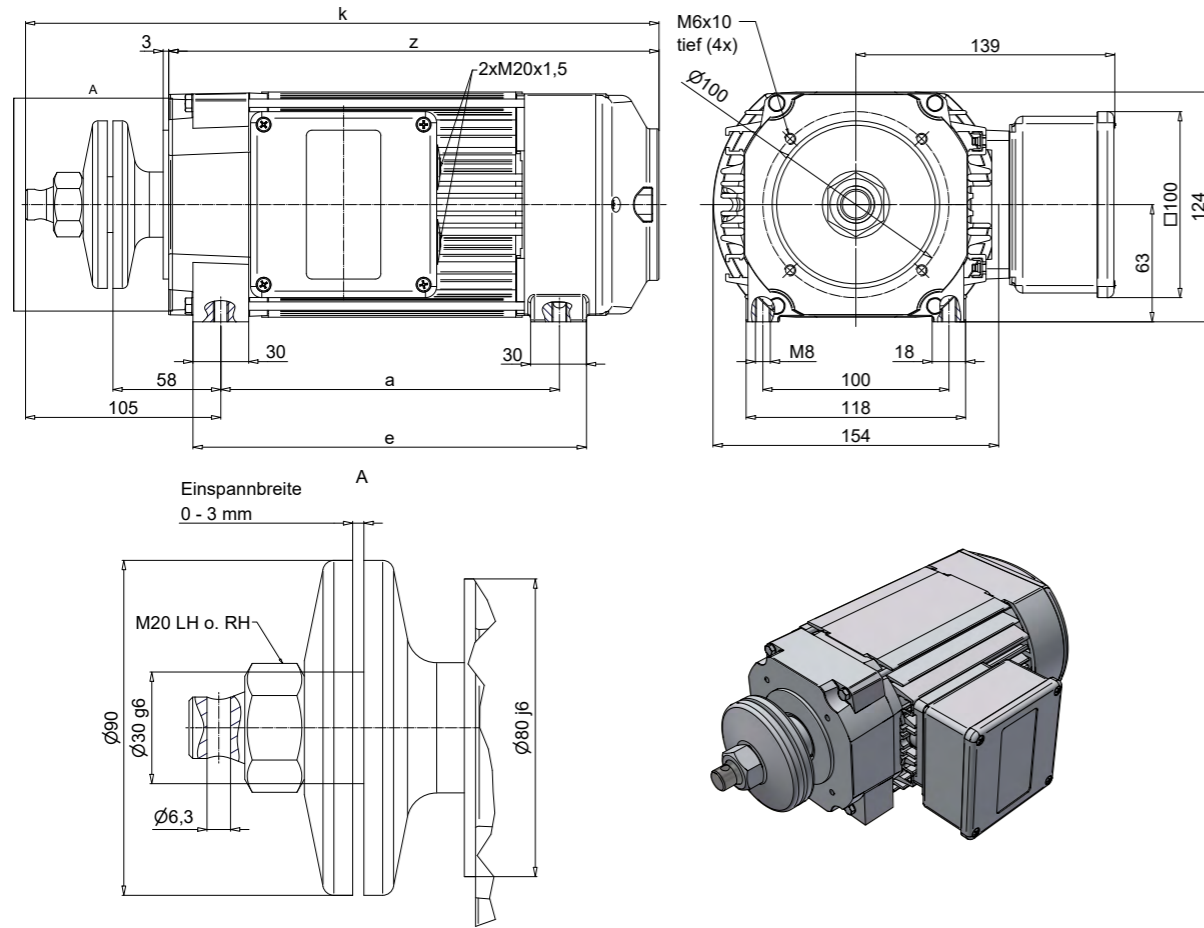


| Dimensions [mm] |     |     | without brake |     | with brake G4K |     | with brake M7K |     |
|-----------------|-----|-----|---------------|-----|----------------|-----|----------------|-----|
| Type            | a   | e   | k             | z   | k              | z   | k              | z   |
| K62 - S         | 160 | 190 | 319           | 247 | 328            | 256 | 361            | 289 |
| K62 - M         | 182 | 212 | 341           | 269 | 350            | 278 | 383            | 311 |
| K62 - L         | 220 | 250 | 379           | 307 | 388            | 316 | 421            | 349 |
| K62 - XL        | 300 | 330 | 459           | 387 | 468            | 396 | 501            | 429 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ100000000093 |
| with brake    |                 |

# MODEL SERIES K62

## Flat motor KA62 with flange disk

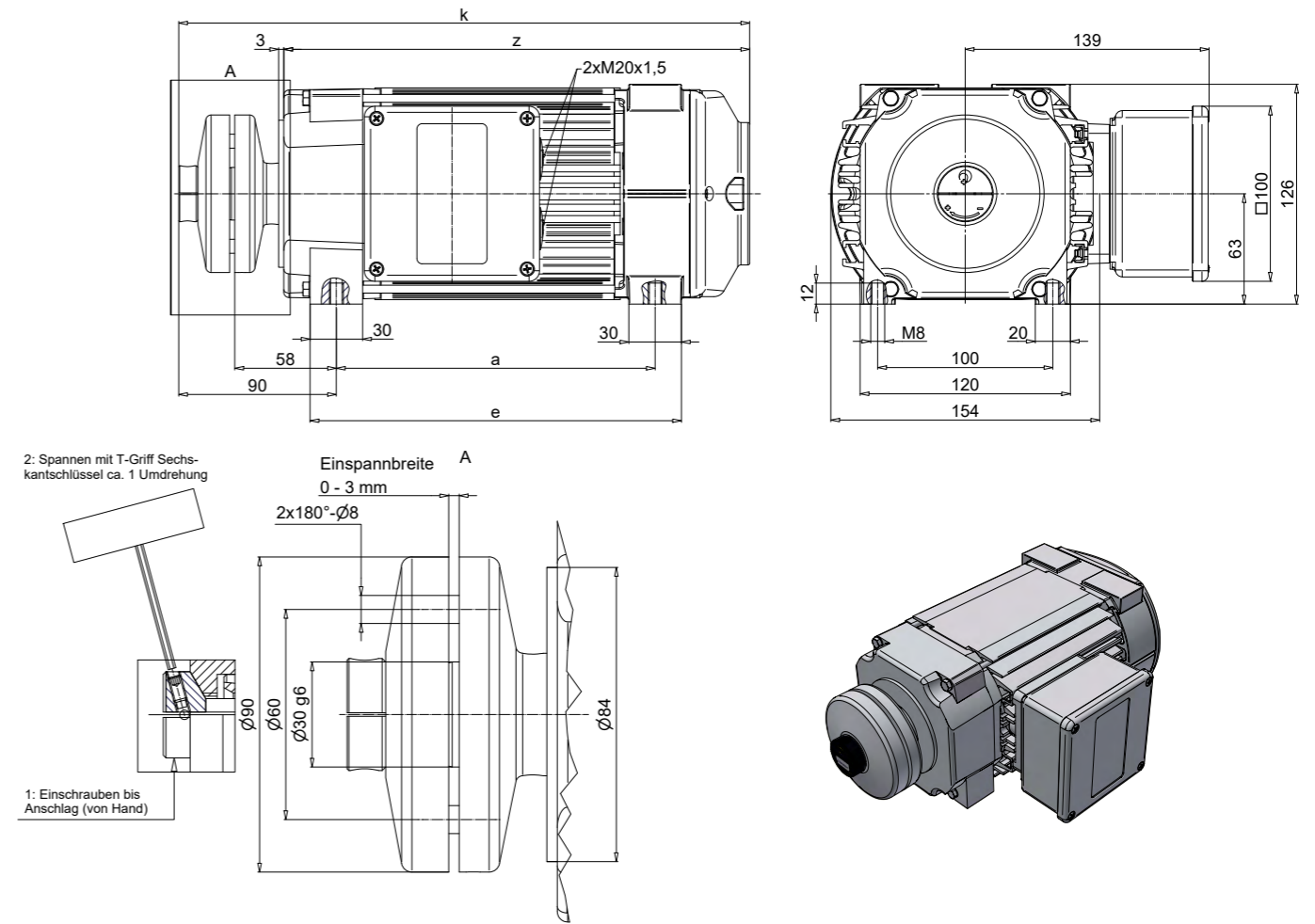


| Dimensions [mm] |     |     | without brake |     | with brake G4K |     | with brake M7K |     |
|-----------------|-----|-----|---------------|-----|----------------|-----|----------------|-----|
| Type            | a   | e   | k             | z   | k              | z   | k              | z   |
| KA62 - S        | 160 | 190 | 319           | 242 | 328            | 251 | 361            | 284 |
| KA62 - M        | 182 | 212 | 341           | 264 | 350            | 273 | 383            | 306 |
| KA62 - L        | 220 | 250 | 379           | 302 | 388            | 311 | 421            | 344 |
| KA62 - XL       | 300 | 330 | 459           | 382 | 468            | 391 | 501            | 424 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ100000000094 |
| with brake    |                 |

# MODEL SERIES K62

## K62 flat motor with quick-change clamping system



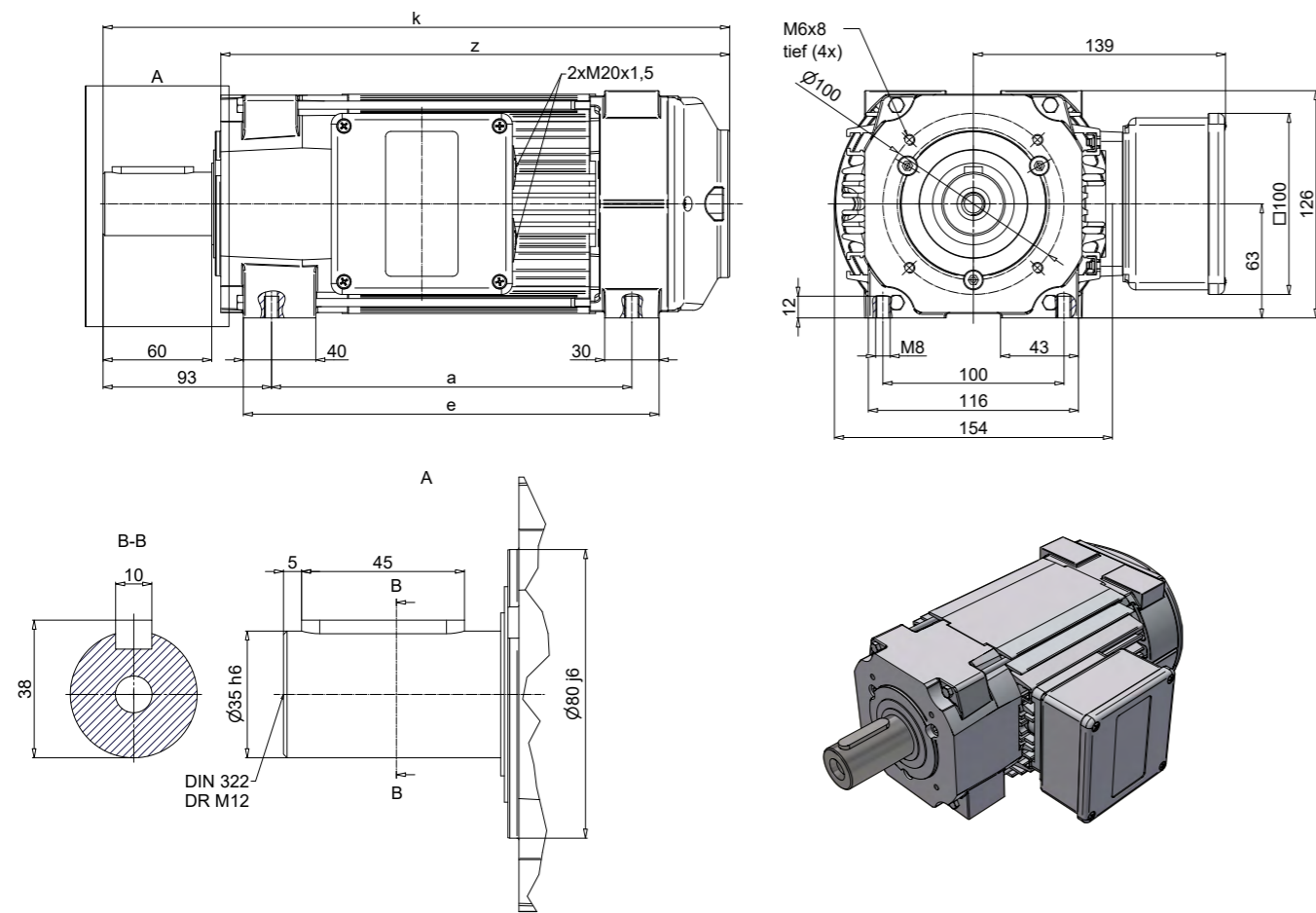
Right-left rotation possible

| Dimensions [mm] |     |     | without brake |     | with brake M7K |     |
|-----------------|-----|-----|---------------|-----|----------------|-----|
| Type            | a   | e   | k             | z   | k              | z   |
| K62 - S         | 160 | 190 | 304           | 247 | 345            | 290 |
| K62 - M         | 182 | 212 | 326           | 269 | 367            | 312 |
| K62 - L         | 220 | 250 | 364           | 307 | 405            | 350 |
| K62 - XL        | 300 | 330 | 444           | 387 | 485            | 430 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ000036       |
| with brake    | 1NJ100000000902 |

# MODEL SERIES K62

## Flat motor KF62 standard shaft, Double bearing

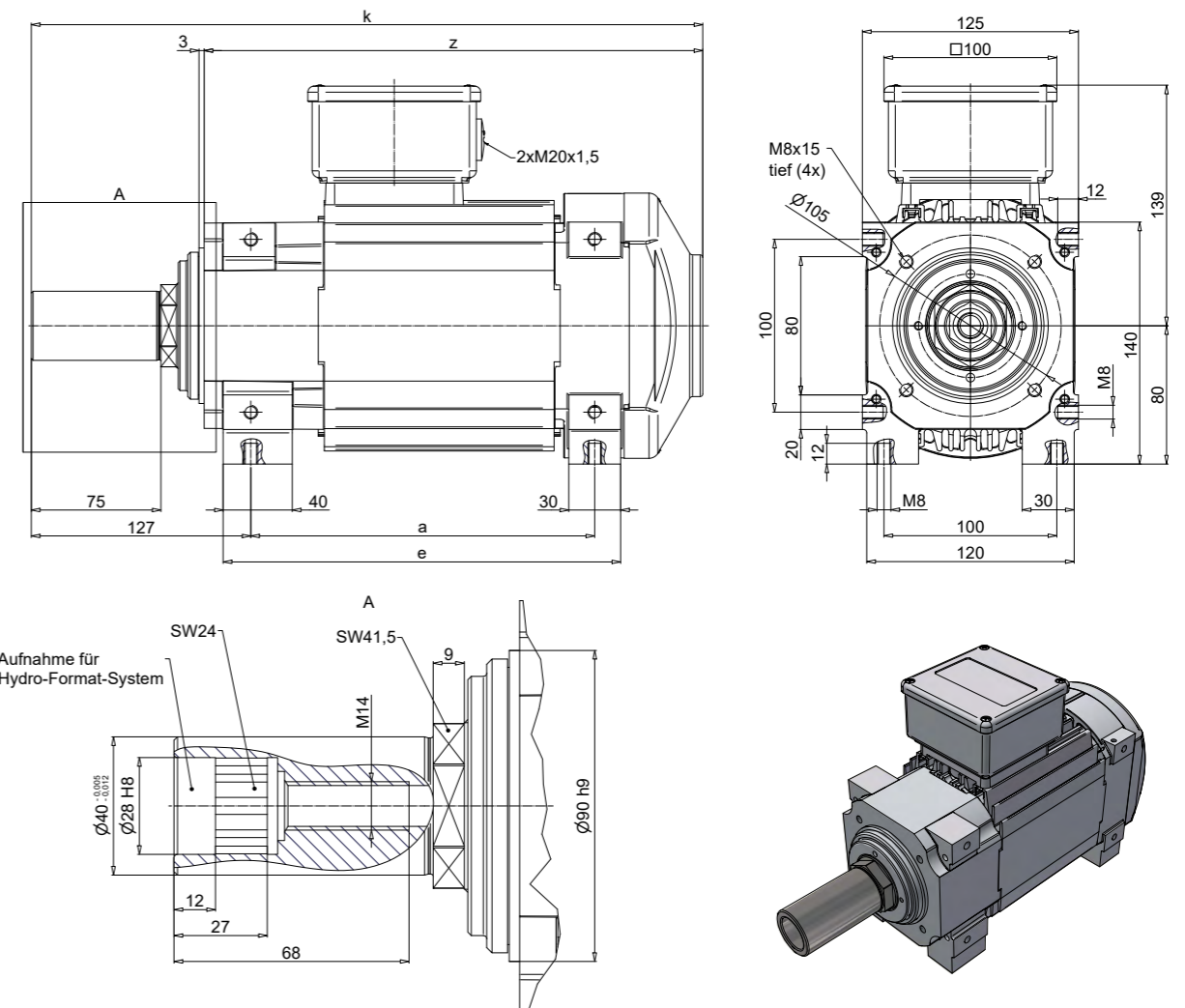


| Dimensions [mm] |     |     | without brake |     | with brake G4K |     | with brake M7K |     |
|-----------------|-----|-----|---------------|-----|----------------|-----|----------------|-----|
| Type            | a   | e   | k             | z   | k              | z   | k              | z   |
| KF62 - S        | 177 | 207 | 324           | 259 | 333            | 268 | 367            | 302 |
| KF62 - M        | 199 | 229 | 346           | 281 | 355            | 290 | 389            | 324 |
| KF62 - L        | 237 | 267 | 384           | 319 | 393            | 328 | 427            | 362 |
| KF62 - XL       | 317 | 347 | 464           | 399 | 473            | 408 | 507            | 442 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ100000000097 |
| with brake    |                 |

# MODEL SERIES K62

## K62 flat motor with Hydro-Format-System

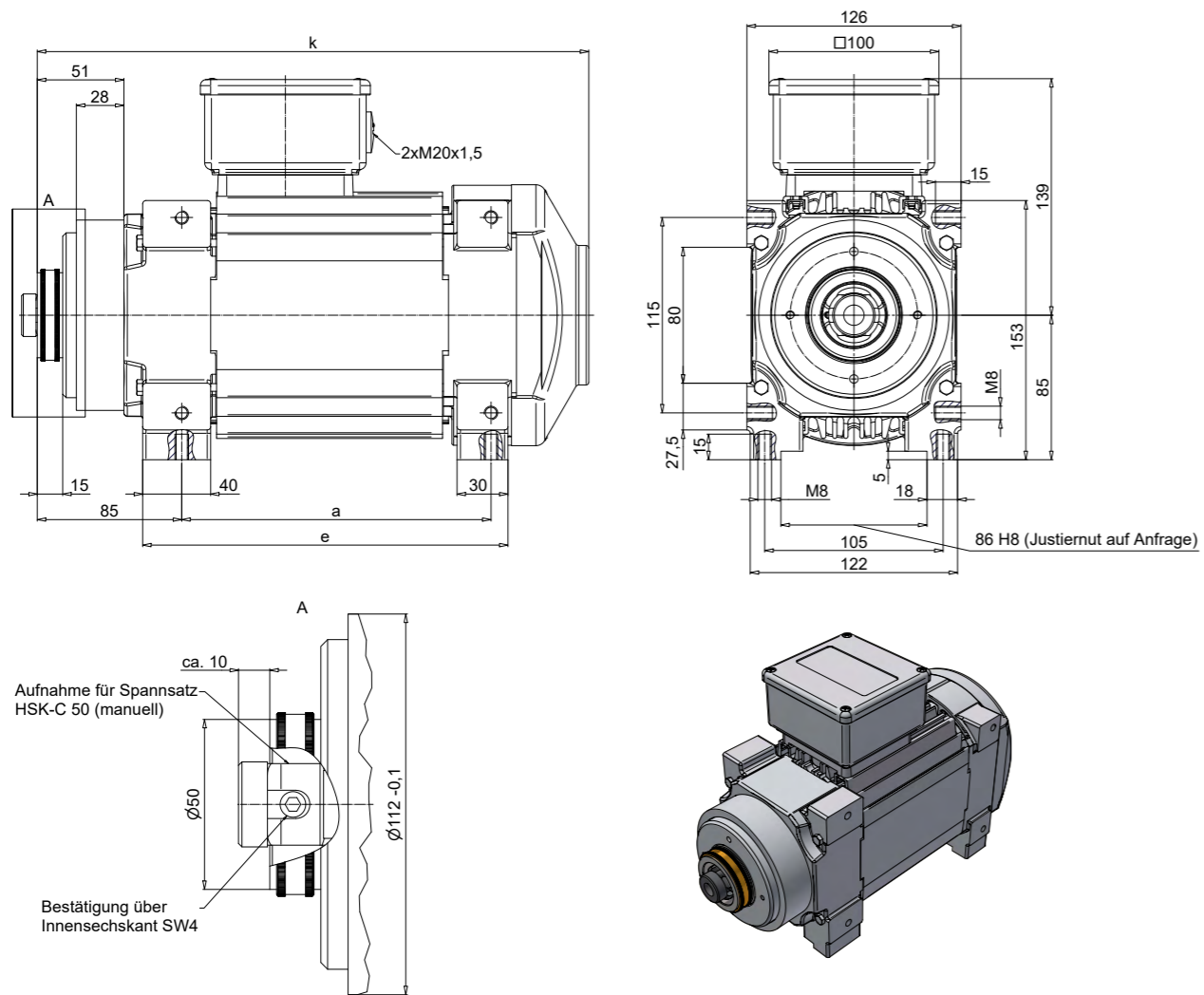


| Dimensions [mm] |     |     | without brake |     |
|-----------------|-----|-----|---------------|-----|
| Type            | a   | e   | k             | z   |
| KF62 - S        | 177 | 208 | 367           | 267 |
| KF62 - M        | 199 | 230 | 389           | 289 |
| KF62 - L        | 237 | 268 | 427           | 327 |
| KF62 - XL       | 317 | 348 | 507           | 407 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ001322       |

# MODEL SERIES K62

## K62 flat motor with HSK-C 50 adapter

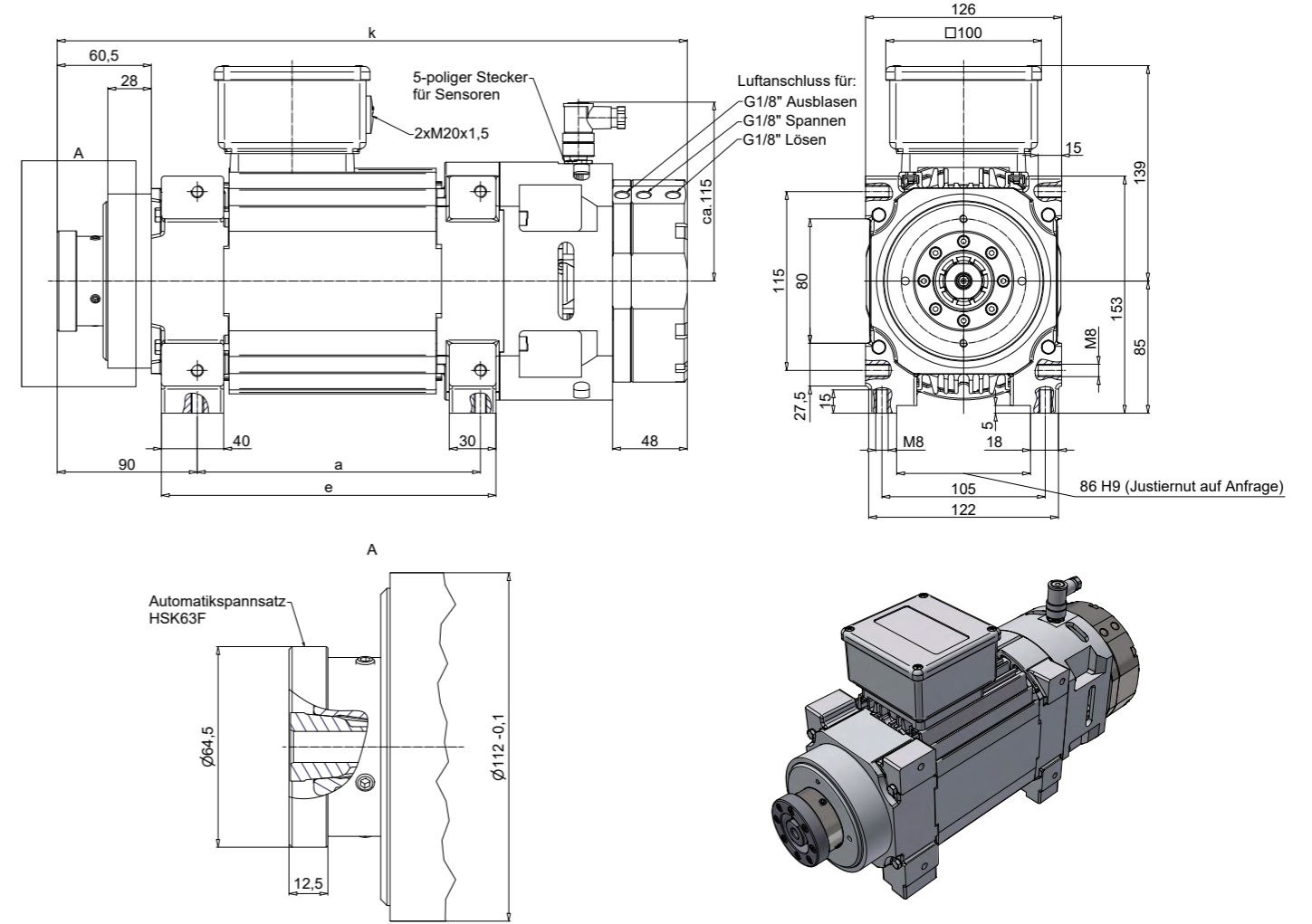


| Dimensions [mm] |     |     | without brake | with brake M7K |
|-----------------|-----|-----|---------------|----------------|
| Type            | a   | e   | k             | k              |
| K62 - S         | 160 | 193 | 303           | 335            |
| K62 - M         | 182 | 215 | 325           | 357            |
| K62 - L         | 220 | 253 | 363           | 395            |
| K62 - XL        | 300 | 333 | 443           | 475            |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ004648       |
| with brake    | 1NJ004484       |

# MODEL SERIES K62

## K62 flat motor with HSK-F 63 adapter

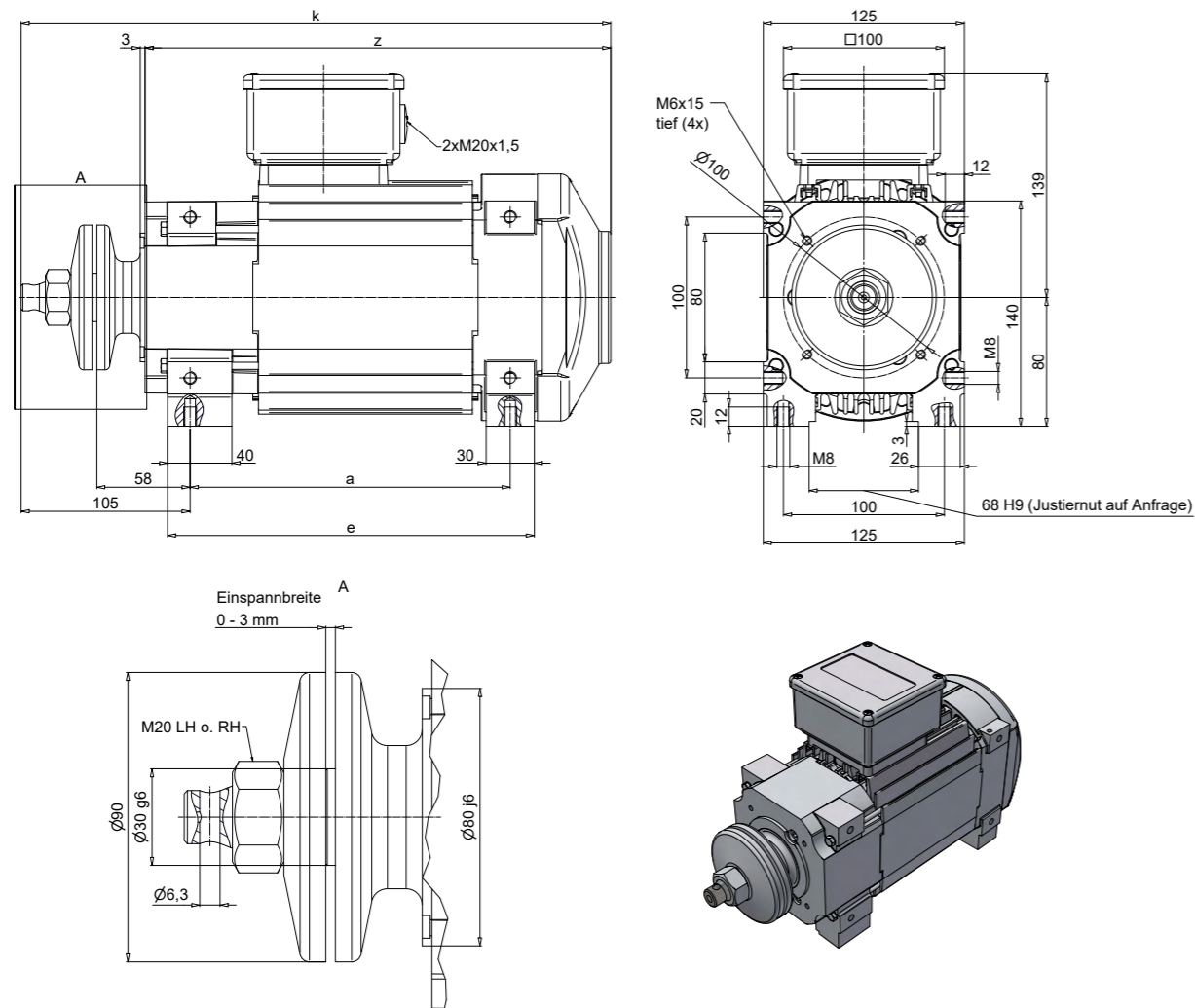


| Dimensions [mm] |     |       |     |
|-----------------|-----|-------|-----|
| Type            | a   | e     | k   |
| K62 - S         | 160 | 194,5 | 383 |
| K62 - M         | 182 | 216,5 | 405 |
| K62 - L         | 220 | 254,5 | 443 |
| K62 - XL        | 300 | 334,5 | 523 |

| Dimension sheet |
|-----------------|
| 1NJ004380       |

# MODEL SERIES K62

## KM62 flat motor with flange disk, Double bearing

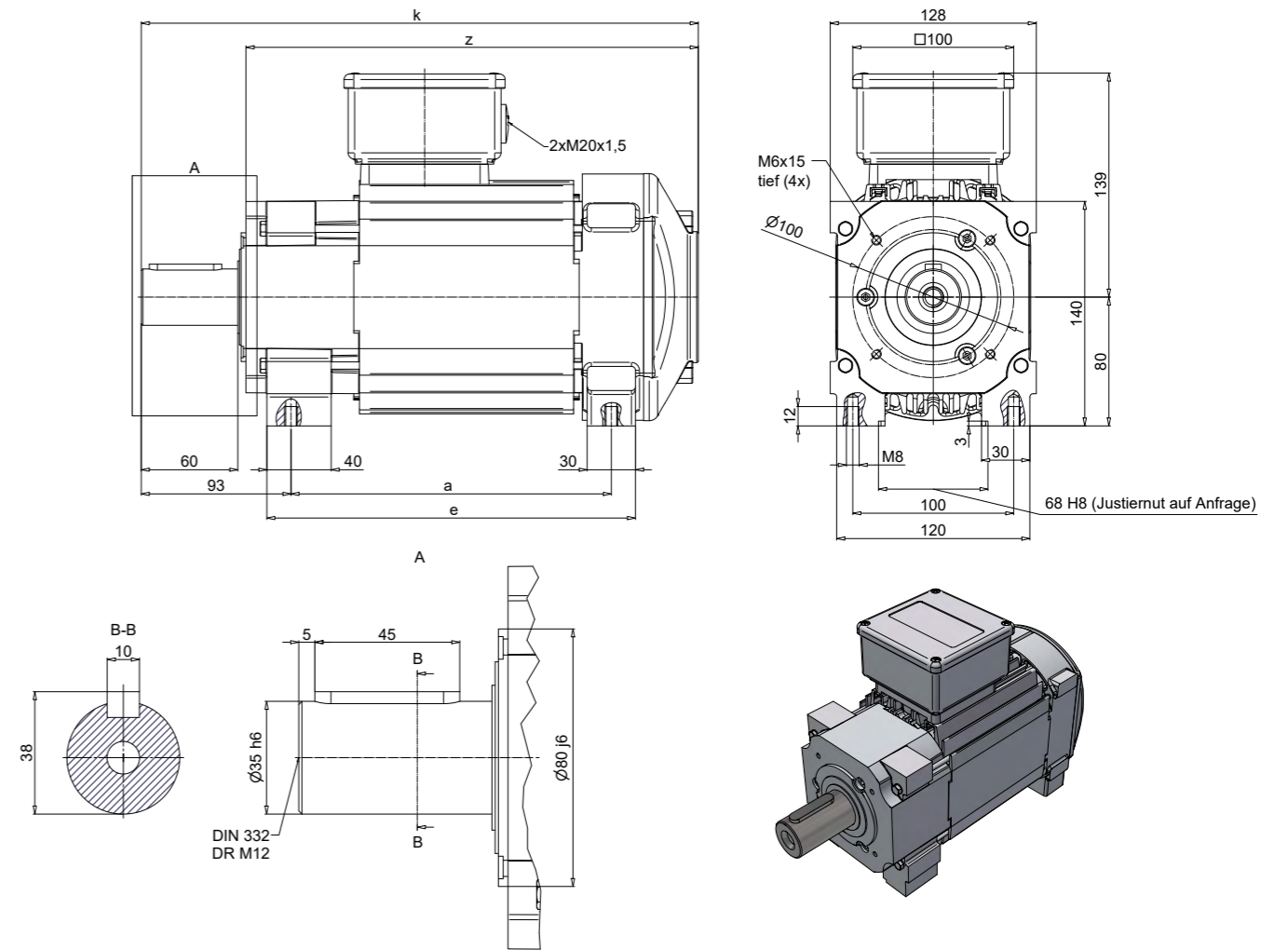


| Dimensions [mm] |     | without brake |     | with brake M7K |     |     |
|-----------------|-----|---------------|-----|----------------|-----|-----|
| Type            | a   | e             | k   | z              | k   | z   |
| KM62 - S        | 177 | 206           | 344 | 268            | 378 | 302 |
| KM62 - M        | 199 | 228           | 366 | 290            | 400 | 324 |
| KM62 - L        | 237 | 266           | 404 | 328            | 438 | 362 |
| KM62 - XL       | 317 | 346           | 484 | 408            | 518 | 442 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ100000000590 |
| with brake    | 1NJ100000000293 |

# MODEL SERIES K62

## Flat motor KH62 standard shaft, edgewise, Double bearing

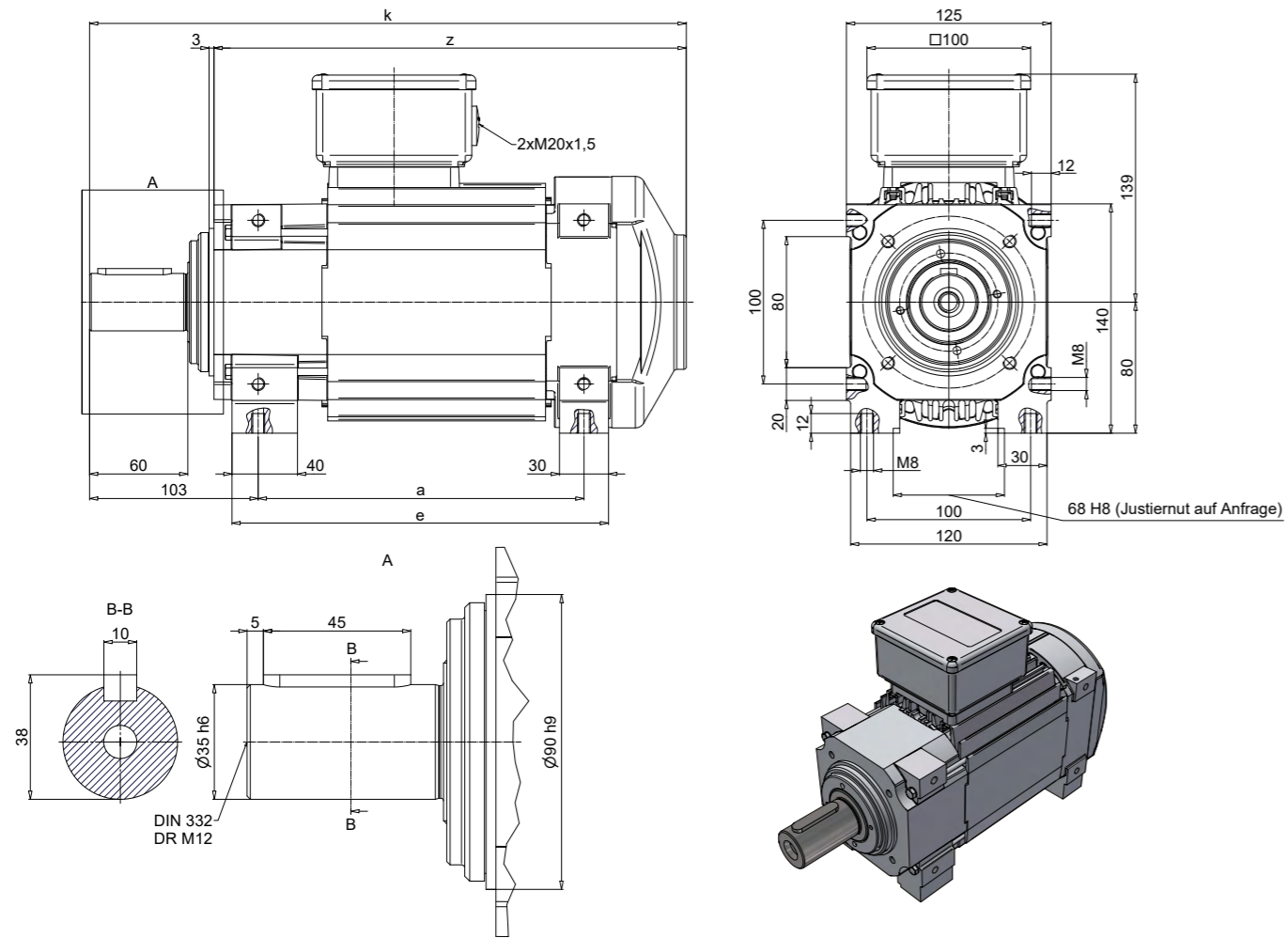


| Dimensions [mm] |     | without brake |     | with brake G4K |     | with brake M7K |     |     |
|-----------------|-----|---------------|-----|----------------|-----|----------------|-----|-----|
| Type            | a   | e             | k   | z              | k   | z              | k   | z   |
| KH62 - S        | 177 | 207           | 324 | 259            | 333 | 268            | 366 | 301 |
| KH62 - M        | 199 | 229           | 346 | 281            | 355 | 290            | 388 | 323 |
| KH62 - L        | 237 | 267           | 384 | 319            | 393 | 328            | 426 | 361 |
| KH62 - XL       | 317 | 347           | 464 | 399            | 473 | 408            | 506 | 441 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ100000000098 |
| with brake    |                 |

# MODEL SERIES K62

## Flat motor KD62 Standard shaft, edgewise

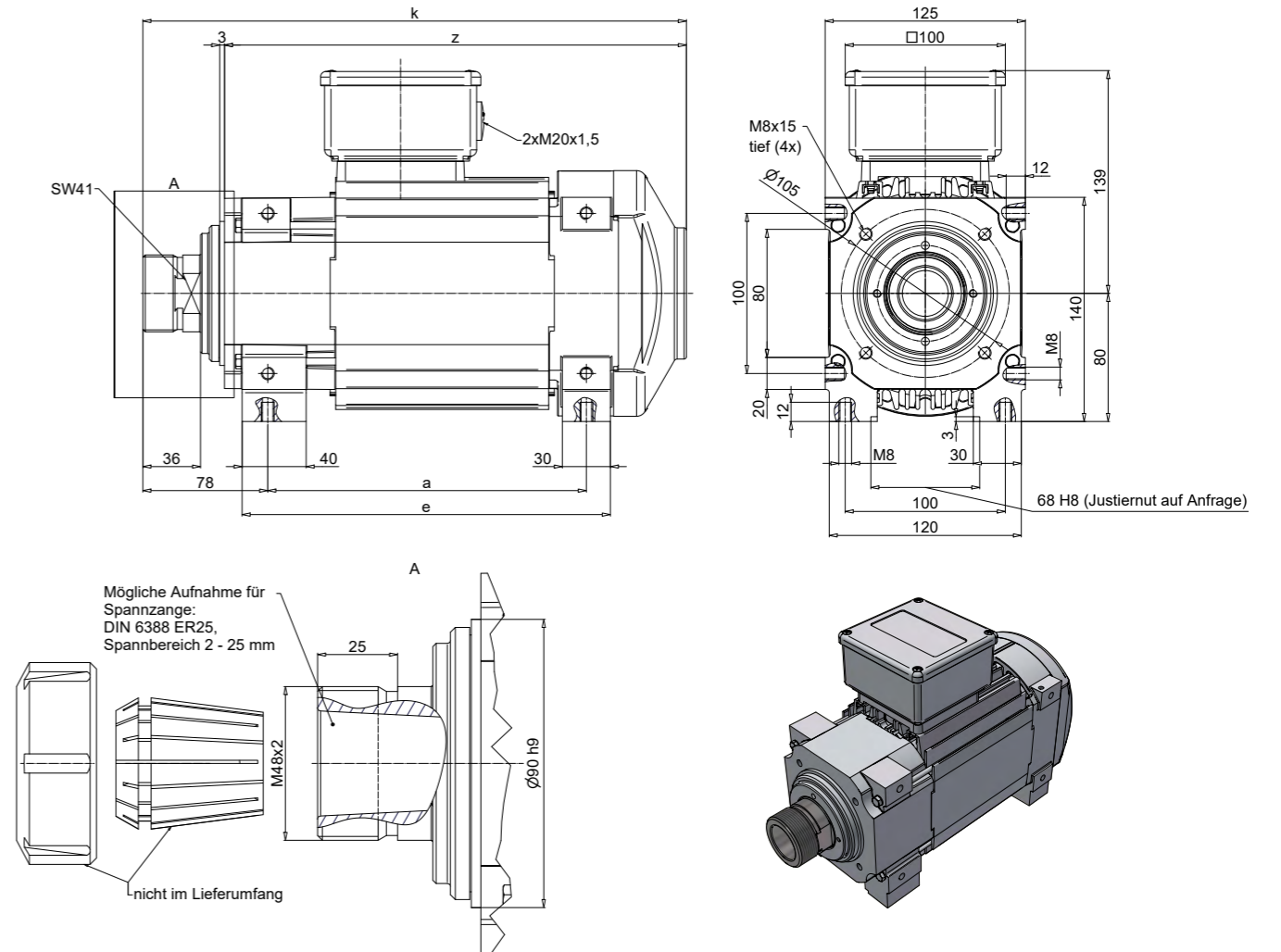


| Dimensions [mm] |     | without brake |     | with brake M7K |     |     |
|-----------------|-----|---------------|-----|----------------|-----|-----|
| Type            | a   | e             | k   | z              | k   | z   |
| KD62 - S        | 177 | 208           | 343 | 267            | 376 | 300 |
| KD62 - M        | 199 | 230           | 365 | 289            | 398 | 322 |
| KD62 - L        | 237 | 268           | 403 | 327            | 436 | 360 |
| KD62 - XL       | 317 | 348           | 483 | 407            | 516 | 440 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ100000000346 |
| with brake    | 1NJ100000000570 |

# MODEL SERIES K62

## Flat motor KC62.01 with adapter for collet, edgewise

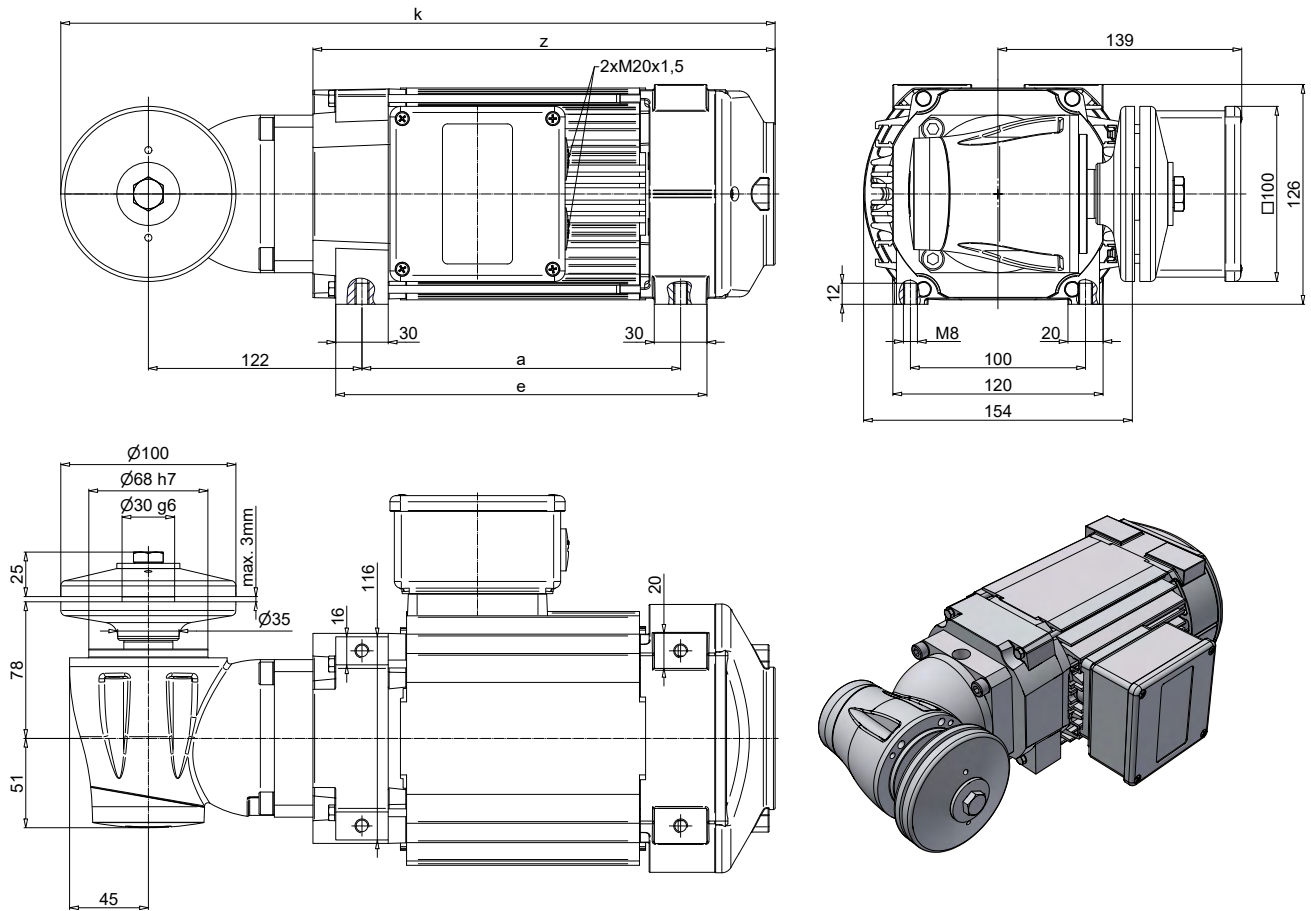


| Dimensions [mm] |     | without brake |     | with brake M7K |     |     |
|-----------------|-----|---------------|-----|----------------|-----|-----|
| Type            | a   | e             | k   | z              | k   | z   |
| KC62 - S        | 177 | 208           | 318 | 267            | 350 | 299 |
| KC62 - M        | 199 | 230           | 340 | 289            | 372 | 321 |
| KC62 - L        | 237 | 268           | 378 | 327            | 410 | 359 |
| KC62 - XL       | 317 | 348           | 458 | 407            | 490 | 439 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ100000000375 |
| with brake    | 1NJ004155       |

# MODEL SERIES K62

## K62 flat motor with angular gear, 1:1 ratio



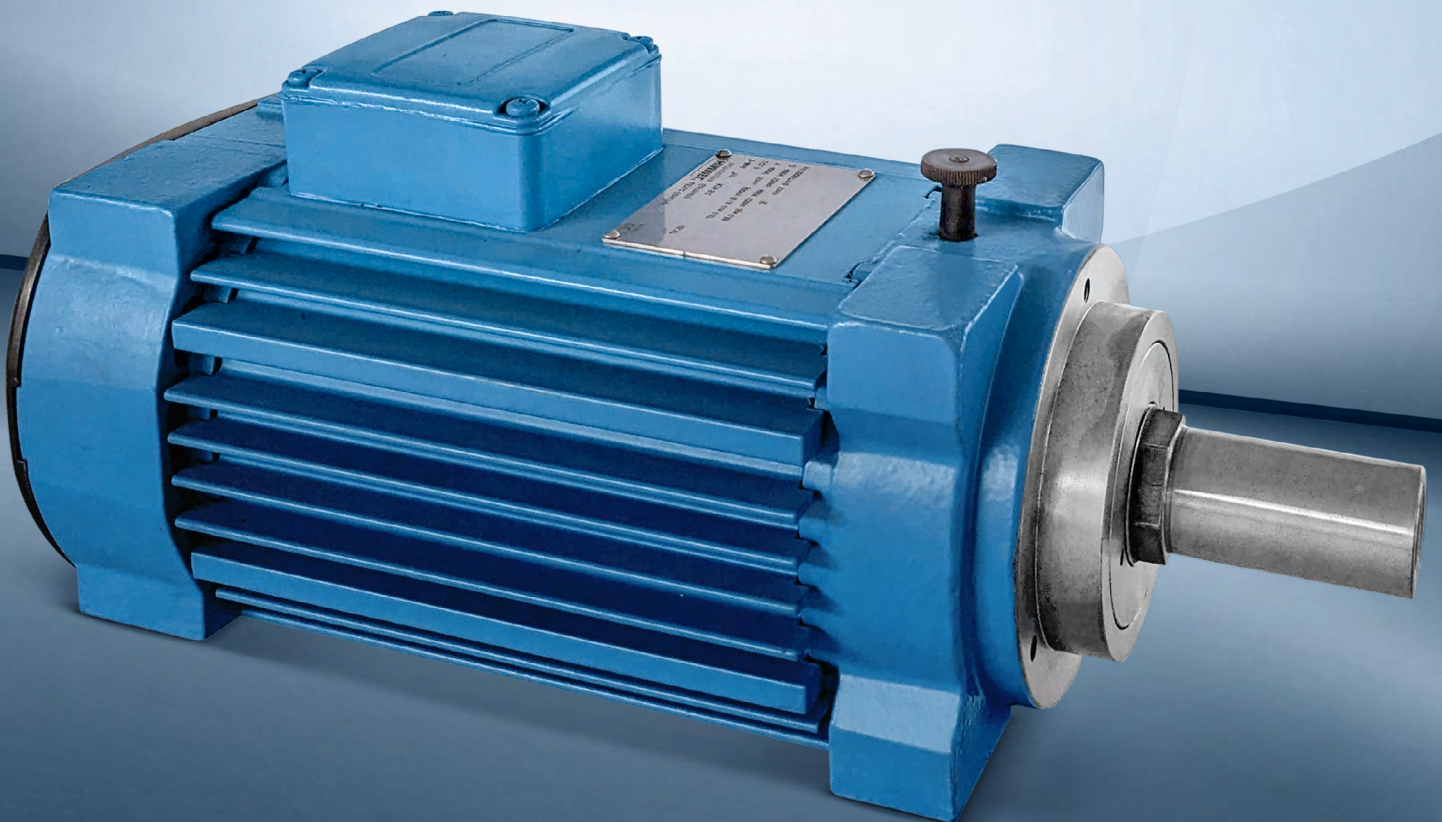
| Dimensions [mm] |     | without brake |     | with brake G4K |     | with brake M7K |     |     |
|-----------------|-----|---------------|-----|----------------|-----|----------------|-----|-----|
| Type            | a   | e             | k   | z              | k   | z              | k   | z   |
| K62 - S         | 160 | 190           | 336 | 242            | 345 | 251            | 378 | 285 |
| K62 - M         | 182 | 212           | 358 | 264            | 367 | 273            | 400 | 307 |
| K62 - L         | 220 | 250           | 396 | 302            | 405 | 311            | 438 | 345 |
| K62 - XL        | 300 | 330           | 476 | 382            | 485 | 391            | 518 | 425 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ001324       |
| with brake    | 1NJ003940       |

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**MODEL SERIES K75**

# MODEL SERIES K75

## Performance overview

Table data refer to: Synchronous rotational speed 3.000 1/min, Motor voltage: 3-Phase 400V / 50Hz

| Synchronous rotational speed 1/min | Model series | Nominal power P <sub>2</sub> [kW] |                    |                     |                    |                     |                    |
|------------------------------------|--------------|-----------------------------------|--------------------|---------------------|--------------------|---------------------|--------------------|
|                                    |              | S1*                               |                    | S6-60 %             |                    | S6-40 %             |                    |
|                                    |              | P <sub>2</sub> [kW]               | I <sub>n</sub> [A] | P <sub>2</sub> [kW] | I <sub>n</sub> [A] | P <sub>2</sub> [kW] | I <sub>n</sub> [A] |
| 3.000                              | K75 S/2      | 3,0                               | 6,3                | 3,7                 | 7,9                | 4,0                 | 8,4                |
|                                    | K75 SB/2     | 3,7                               | 7,6                | 4,4                 | 9,1                | 5,0                 | 10,5               |
|                                    | K75 SP/2     | 4,0                               | 8,1                | 4,7                 | 9,6                | 5,3                 | 11,1               |
|                                    | K75 M/2      | 4,5                               | 9,2                | 5,5                 | 11,0               | 6,25                | 13,0               |
|                                    | K75 MB/2     | 6,0                               | 12,5               | 7,5                 | 15,2               | 8,1                 | 16,3               |
|                                    | K75 L/2      | 7,5                               | 15,2               | 9,2                 | 18,0               | 10,0                | 20,0               |
|                                    | K75 LB/2     | 8,8                               | 17,1               | 11,0                | 21,0               | 12,0                | 22,8               |
|                                    | K75 LP/2     | 10,0                              | 20,0               | 12,0                | 22,8               | 13,5                | 25,0               |
|                                    | K75 XL/2     | 14,0                              | 27,5               | 16,0                | 32,1               | 18,5                | 35,5               |
| 1.500                              | K75 S/4      | 1,6                               | 3,7                | 1,9                 | 4,4                | 2,2                 | 5,2                |
|                                    | K75 SB/4     | 1,9                               | 4,4                | 2,3                 | 5,3                | 2,7                 | 6,3                |
|                                    | K75 SP/4     | 2,0                               | 4,6                | 2,4                 | 5,5                | 2,8                 | 6,5                |
|                                    | K75 M/4      | 2,6                               | 5,8                | 3,1                 | 7,0                | 3,7                 | 8,5                |
|                                    | K75 MB/4     | 3,5                               | 7,7                | 4,2                 | 9,3                | 5,0                 | 11,2               |
|                                    | K75 L/4      | 4,0                               | 9,7                | 4,7                 | 11,2               | 5,5                 | 13,2               |
|                                    | K75 LB/4     | 4,8                               | 11,5               | 5,6                 | 13,2               | 6,6                 | 15,7               |
|                                    | K75 LP/4     | 5,5                               | 13,0               | 6,4                 | 15,2               | 7,5                 | 17,7               |
|                                    | K75 XL/4     | 7,6                               | 18,0               | 9,0                 | 21,2               | 10,5                | 24,6               |

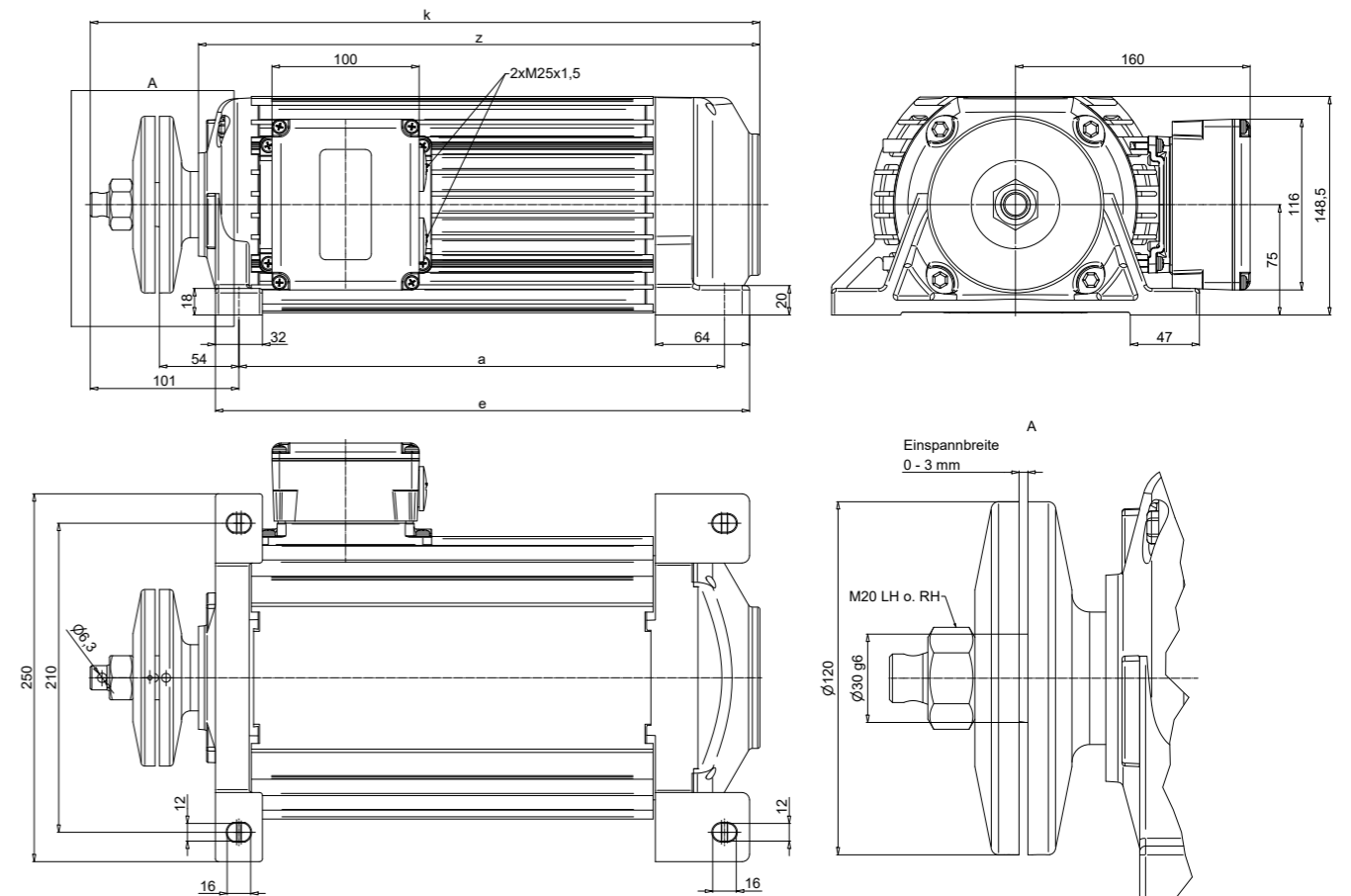
\* Power rating for engines that are not subject to mandatory labeling. Others on request.

## Performances for higher speeds

| Model series | Selection table for higher speeds up to 12.000 1/min<br>Nominal power P <sub>2</sub> [kW] |                       |                        |
|--------------|---|-----------------------|------------------------|
|              | 100 Hz<br>6.000 1/min   | 150 Hz<br>9.000 1/min | 200 Hz<br>12.000 1/min |
|              | S1  | S1                    | S1                     |
|              | P <sub>2</sub> [kW]   | P <sub>2</sub> [kW]   | P <sub>2</sub> [kW]    |
| K75 S/ 2     | 5,0   | 5,3                   | 5,6                    |
| K75 SB/ 2    | 5,9   | 6,3                   | 6,7                    |
| K75 SP/ 2    | 6,1   | 6,6                   | 7,0                    |
| K75 M/ 2     | 8,0   | 8,5                   | 9,0                    |
| K75 MB/ 2    | 11,0  | 11,5                  | 12,2                   |
| K75 L/ 2     | 13,0  | 13,7                  | 14,5                   |
| K75 LB/ 2    | 15,5  | -                     | -                      |
| K75 LP/ 2    | 17,5  | -                     | -                      |
| K75 XL/ 2    | 24,0  | -                     | -                      |

# MODEL SERIES K75

## Flat motor KL75 with flange disk

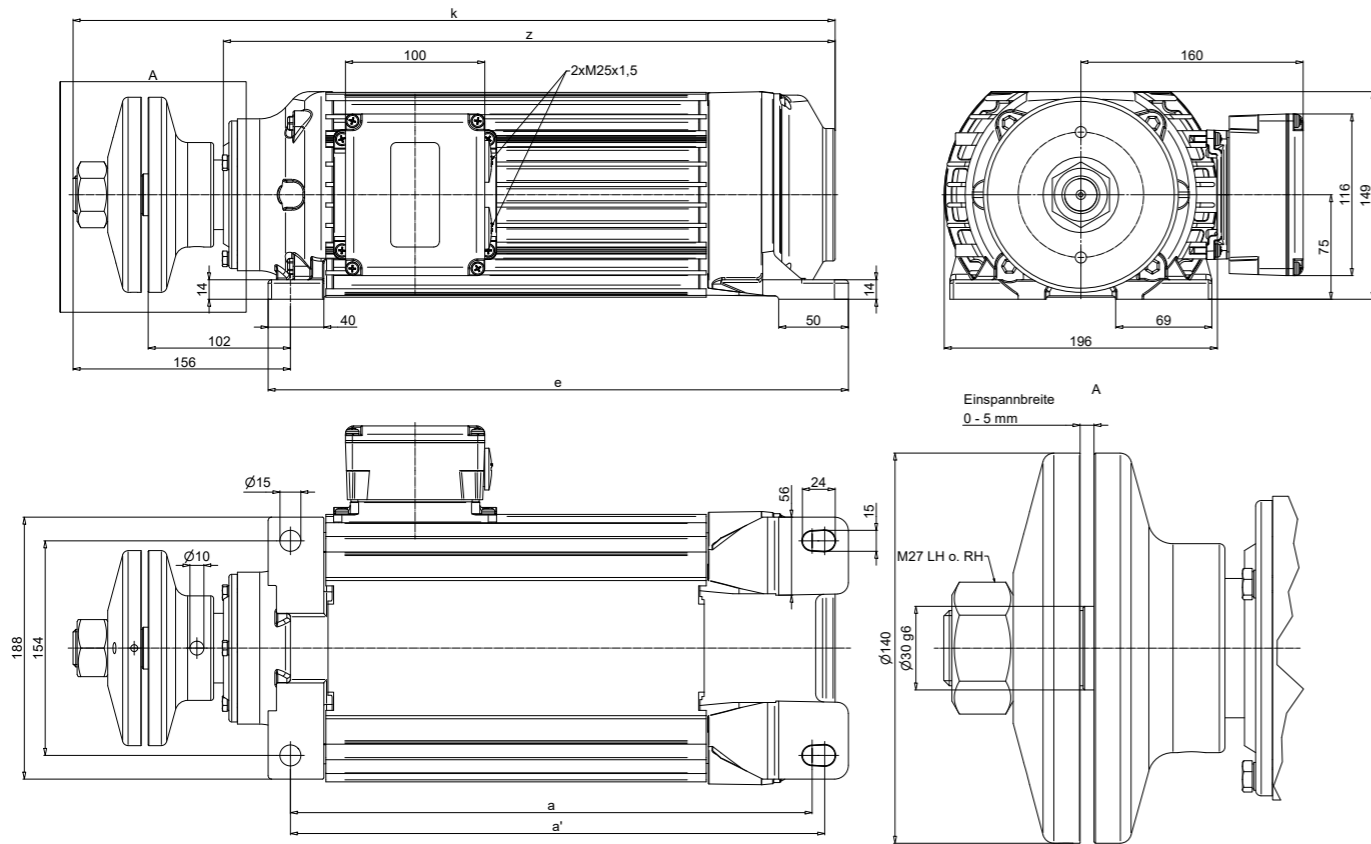


| Dimensions [mm] | without brake |     | with brake M12K |     |
|-----------------|---------------|-----|-----------------|-----|
|                 | a             | e   | k               | z   |
| Type            |               |     |                 |     |
| KL75 - S        | 250           | 282 | 375             | 303 |
| KL75 - SB       | 270           | 302 | 395             | 323 |
| KL75 - SP       | 270           | 302 | 395             | 323 |
| KL75 - M        | 330           | 362 | 455             | 383 |
| KL75 - MB       | 372           | 404 | 497             | 425 |
| KL75 - L        | 415           | 447 | 540             | 468 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ10000000143  |
| with brake    |                 |

# MODEL SERIES K75

## K75 flat motor with flange disk, Single bearing

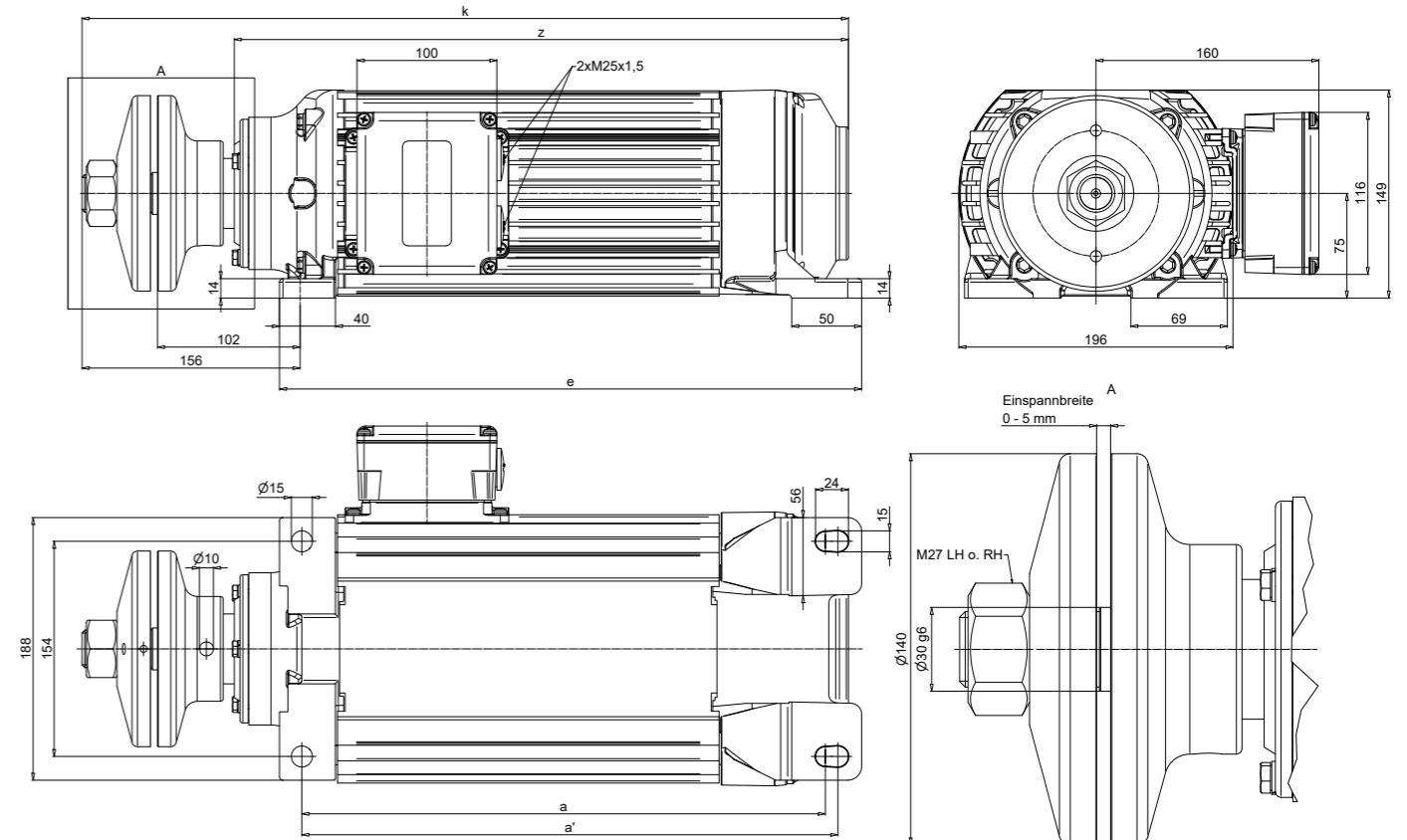


| Dimensions [mm] for type K75-S to K75-L with single bearing arrangement |     |     |     |     |     |
|---|-----|-----|-----|-----|-----|
| Type  | a   | a'  | e   | k   | z   |
| K75 - S   | 295 | 303 | 336 | 467 | 359 |
| K75 - SB  | 315 | 323 | 356 | 487 | 379 |
| K75 - SP  | 315 | 323 | 356 | 487 | 379 |
| K75 - M   | 375 | 383 | 416 | 547 | 439 |
| K75 - MB  | 417 | 425 | 458 | 589 | 481 |
| K75 - L   | 460 | 468 | 501 | 632 | 524 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ10000000154  |
| with brake    |                 |

# MODEL SERIES K75

## K75 flat motor with flange disk, Double bearing

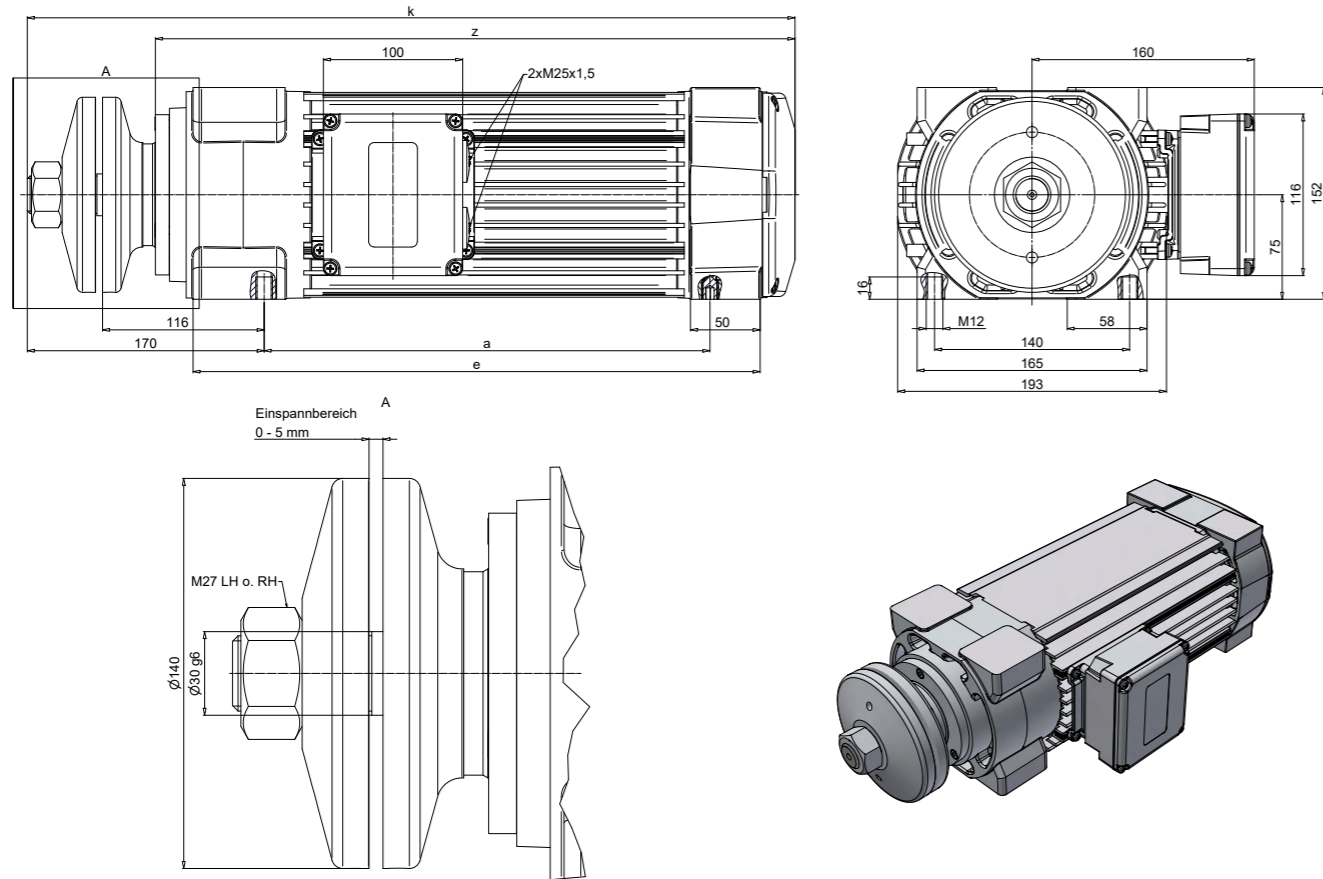


| Dimensions [mm] |     |     |     |     |     |
|-----------------|-----|-----|-----|-----|-----|
| Type            | a   | a'  | e   | k   | z   |
| K75 - S         | 295 | 303 | 336 | 468 | 359 |
| K75 - SB        | 315 | 323 | 356 | 488 | 379 |
| K75 - SP        | 315 | 323 | 356 | 488 | 379 |
| K75 - M         | 375 | 383 | 416 | 548 | 439 |
| K75 - MB        | 417 | 425 | 458 | 590 | 481 |
| K75 - L         | 460 | 468 | 501 | 633 | 524 |
| K75 - LB        | 510 | 518 | 551 | 683 | 574 |
| K75 - LP        | 553 | 561 | 594 | 726 | 617 |
| K75 - XL        | 690 | 698 | 731 | 863 | 754 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ10000000186  |
| with brake    |                 |

# MODEL SERIES K75

## KG75 flat motor with flange disk, Double bearing

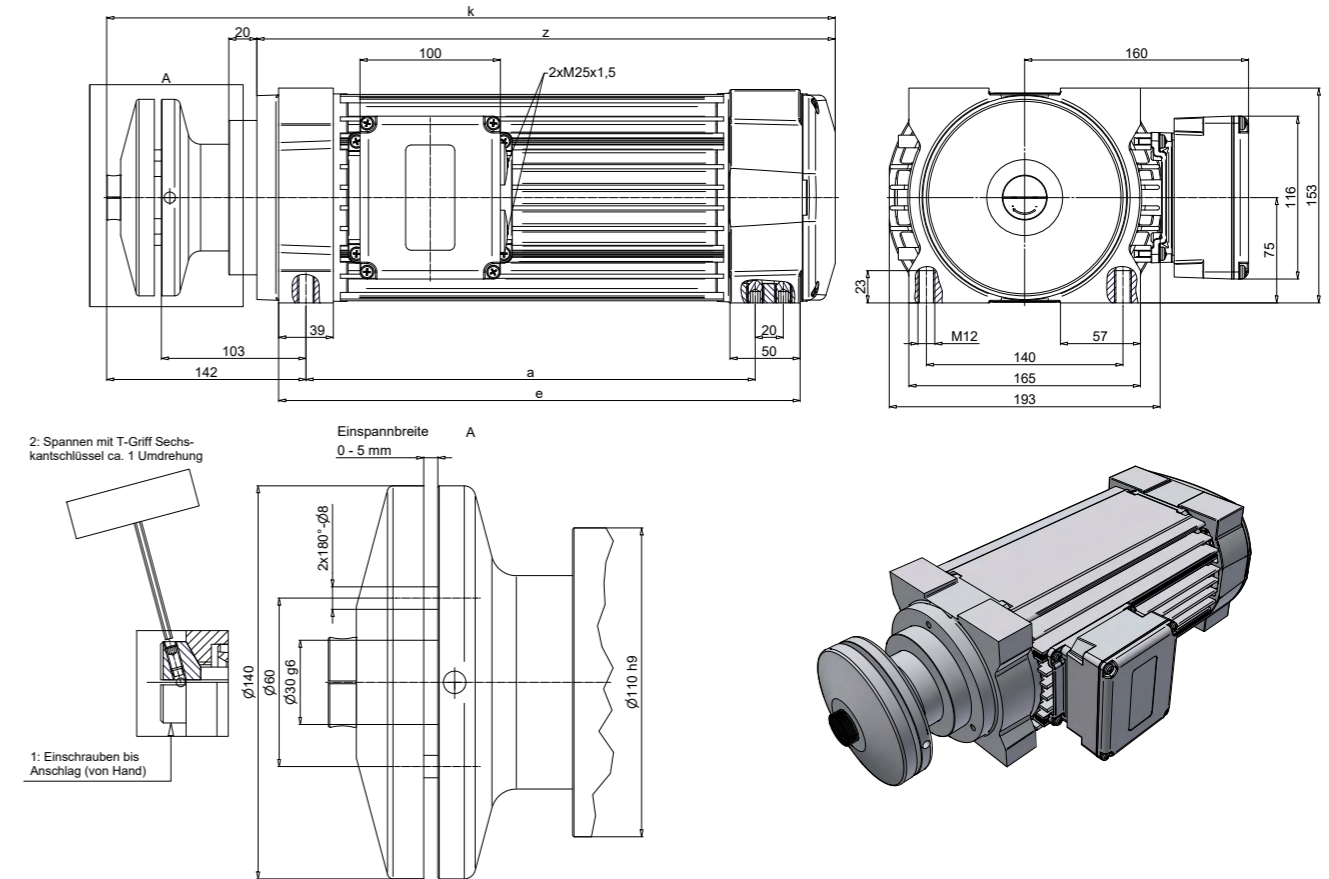


| Dimensions [mm] |     | without brake |     |     | with brake M12K or M16K |     |     |
|-----------------|-----|---------------|-----|-----|-------------------------|-----|-----|
| Type            | a   | e             | k   | z   | e                       | k   | z   |
| KG75 - S        | 240 | 327           | 471 | 379 | 381                     | 550 | 458 |
| KG75 - SB       | 260 | 347           | 491 | 399 | 401                     | 570 | 478 |
| KG75 - SP       | 260 | 347           | 491 | 399 | 401                     | 570 | 478 |
| KG75 - M        | 320 | 407           | 551 | 459 | 461                     | 630 | 538 |
| KG75 - MB       | 362 | 449           | 593 | 501 | 503                     | 672 | 580 |
| KG75 - L        | 405 | 492           | 636 | 544 | 546                     | 715 | 623 |
| KG75 - LB       | 455 | 542           | 686 | 594 | 596                     | 765 | 673 |
| KG75 - LP       | 498 | 585           | 729 | 637 | 639                     | 808 | 716 |
| KG75 - XL       | 635 | 722           | 866 | 774 | 776                     | 945 | 853 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ012641       |
| with brake    | 1NJ10000000146  |

# MODEL SERIES K75

## K75 flat motor with quick-change clamping system



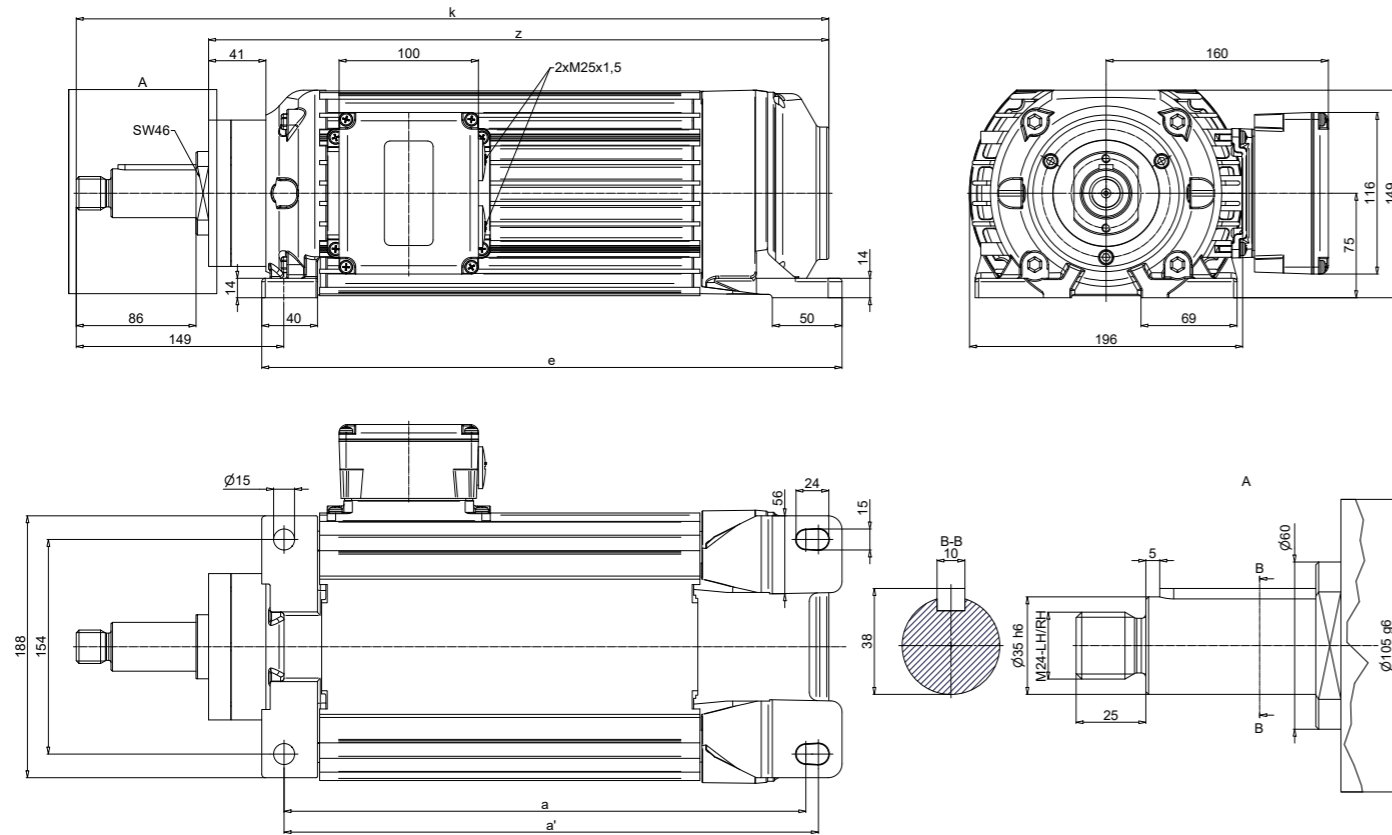
Right-left rotation possible

| Dimensions [mm] without brake |     |     |     |     | with brake M12K or M16K |     |     |     |
|-------------------------------|-----|-----|-----|-----|-------------------------|-----|-----|-----|
| Type                          | a   | e   | k   | z   | a                       | e   | k   | z   |
| K75 - S                       | 240 | 292 | 439 | 332 | 236                     | 346 | 518 | 411 |
| K75 - SB                      | 260 | 312 | 459 | 352 | 256                     | 366 | 538 | 431 |
| K75 - SP                      | 260 | 312 | 459 | 352 | 256                     | 366 | 538 | 431 |
| K75 - M                       | 320 | 372 | 519 | 412 | 316                     | 426 | 598 | 491 |
| K75 - MB                      | 362 | 414 | 561 | 454 | 358                     | 468 | 640 | 533 |
| K75 - L                       | 405 | 457 | 604 | 497 | 401                     | 511 | 683 | 576 |
| K75 - LB                      | 455 | 507 | 654 | 547 | 451                     | 561 | 733 | 626 |
| K75 - LP                      | 498 | 550 | 697 | 590 | 494                     | 604 | 776 | 669 |
| K75 - XL                      | 635 | 687 | 834 | 727 | 631                     | 741 | 913 | 806 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ002962       |
| with brake    | 1NJ004488       |

## MODEL SERIES K75

Flat motor KF75 standard shaft with thread,  
Double bearing

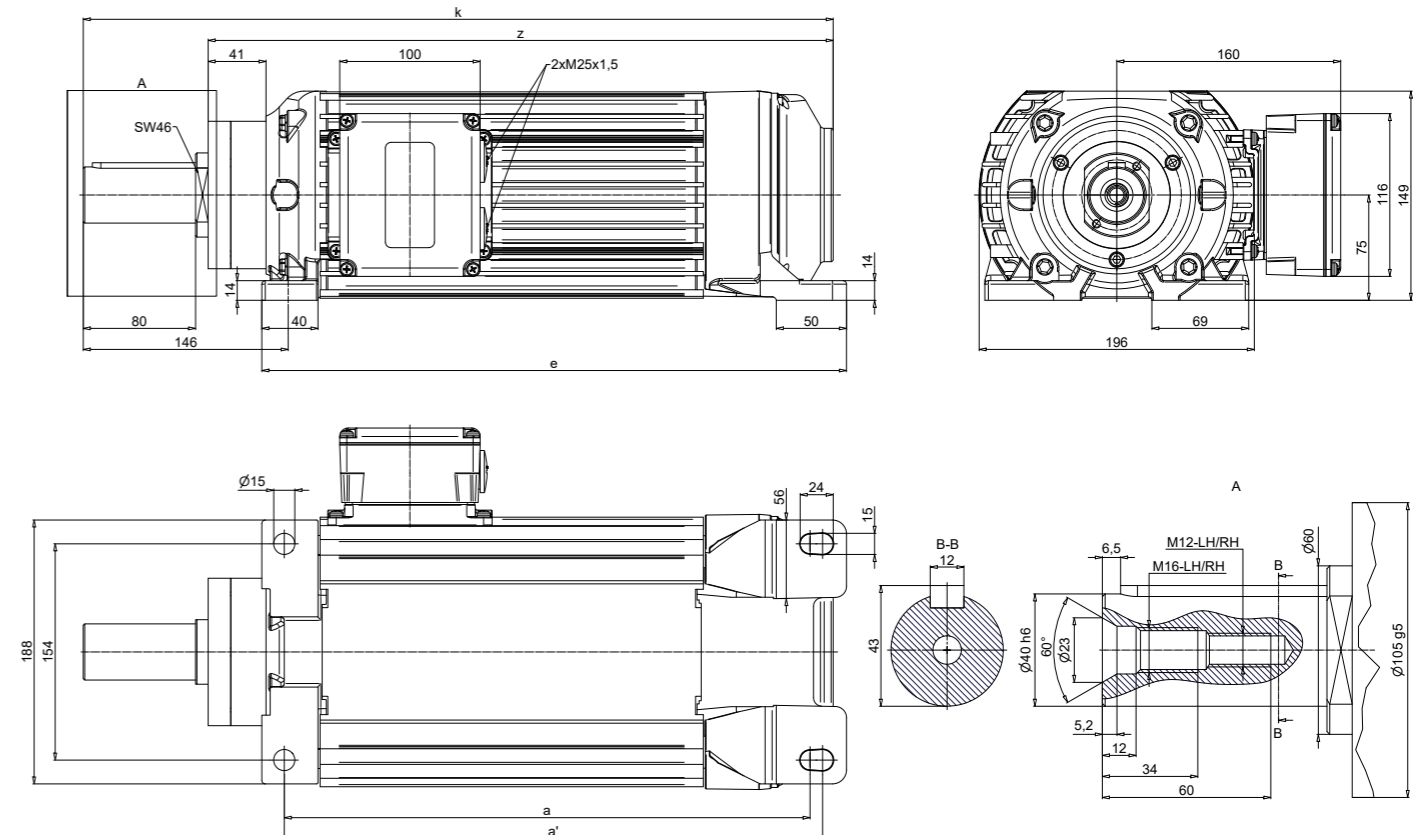


| Dimensions [mm] |     |     |     |     |     |
|-----------------|-----|-----|-----|-----|-----|
| Type            | a   | a'  | e   | k   | z   |
| KF75 - S        | 295 | 303 | 336 | 460 | 365 |
| KF75 - SB       | 315 | 323 | 356 | 480 | 385 |
| KF75 - SP       | 315 | 323 | 356 | 480 | 385 |
| KF75 - M        | 375 | 383 | 416 | 540 | 445 |
| KF75 - MB       | 417 | 425 | 458 | 582 | 487 |
| KF75 - L        | 460 | 468 | 501 | 625 | 530 |
| KF75 - LB       | 510 | 518 | 551 | 675 | 580 |
| KF75 - LP       | 553 | 561 | 594 | 718 | 623 |
| KF75 - XL       | 690 | 698 | 731 | 855 | 760 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ10000000005  |
| with brake    |                 |

## MODEL SERIES K75

Flat motor KN75 standard shaft,  
Double bearing

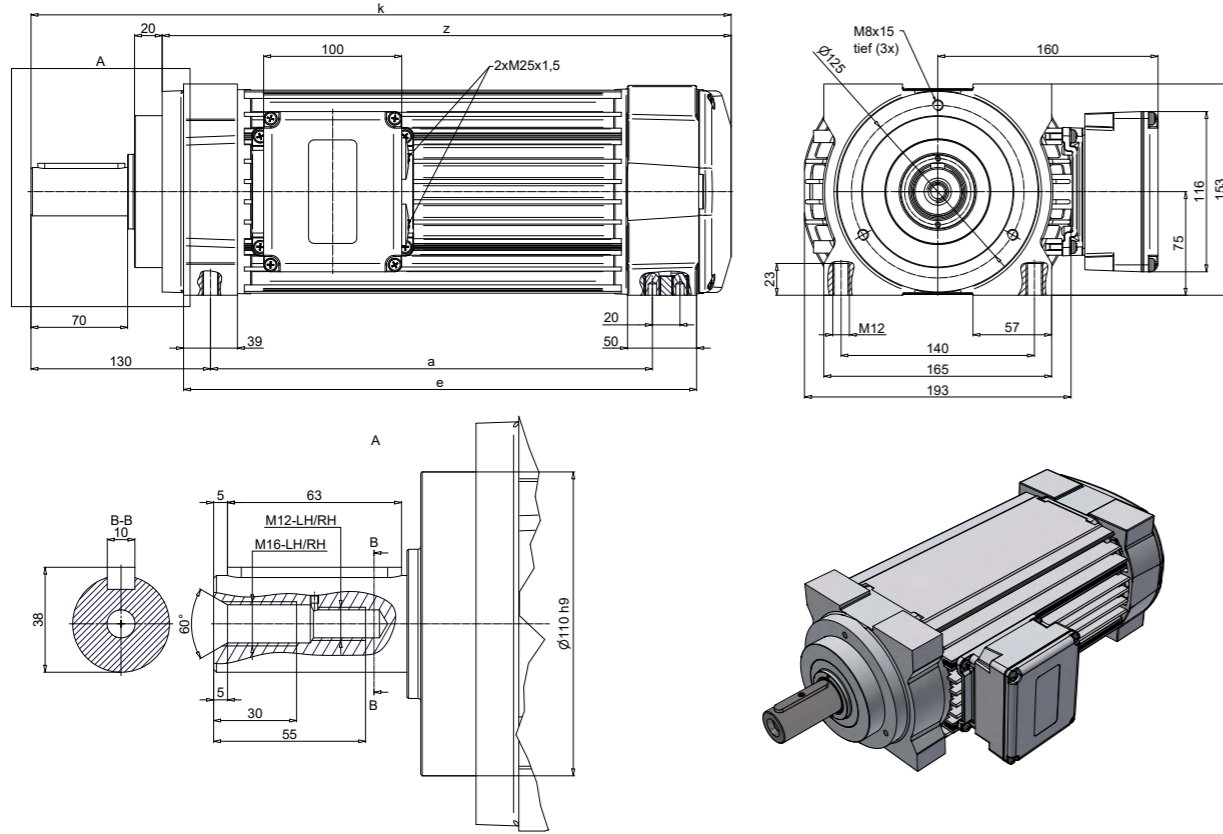


| Dimensions [mm] |     |     |     |     |     |
|-----------------|-----|-----|-----|-----|-----|
| Type            | a   | a'  | e   | k   | z   |
| KN75 - S        | 295 | 303 | 336 | 454 | 365 |
| KN75 - SB       | 315 | 323 | 356 | 474 | 385 |
| KN75 - SP       | 315 | 323 | 356 | 474 | 385 |
| KN75 - M        | 375 | 383 | 416 | 534 | 445 |
| KN75 - MB       | 417 | 425 | 458 | 576 | 487 |
| KN75 - L        | 460 | 468 | 501 | 619 | 530 |
| KN75 - LB       | 510 | 518 | 551 | 669 | 580 |
| KN75 - LP       | 553 | 561 | 594 | 712 | 623 |
| KN75 - XL       | 690 | 698 | 731 | 849 | 760 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ100000000351 |
| with brake    |                 |

# MODEL SERIES K75

## Flat motor KP75 standard shaft

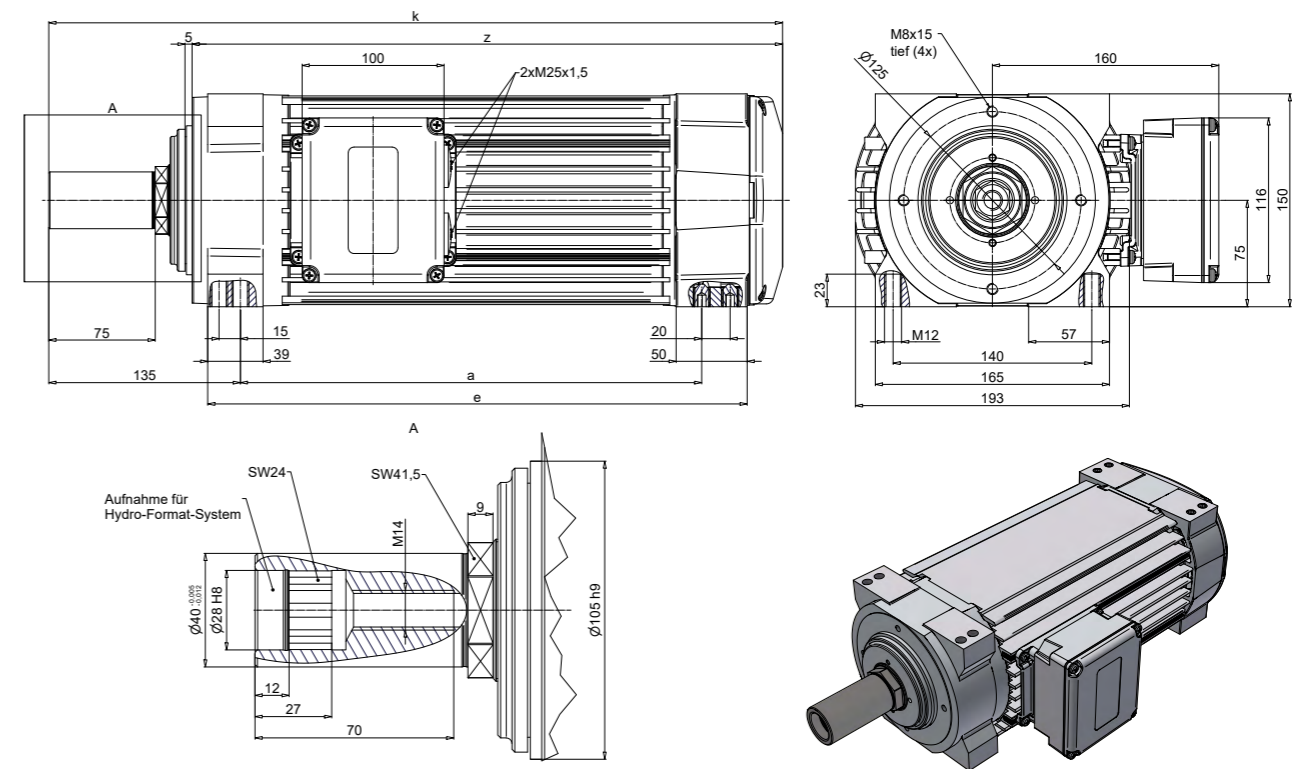


| Dimensions [mm] | without brake |     |     |     | with brake M12K or M16K |     |     |     |
|-----------------|---------------|-----|-----|-----|-------------------------|-----|-----|-----|
|                 | a             | e   | k   | z   | a                       | e   | k   | z   |
| Type            |               |     |     |     |                         |     |     |     |
| KP75 - S        | 240           | 292 | 427 | 332 | 236                     | 346 | 506 | 411 |
| KP75 - SB       | 260           | 312 | 447 | 352 | 256                     | 366 | 526 | 431 |
| KP75 - SP       | 260           | 312 | 447 | 352 | 256                     | 366 | 526 | 431 |
| KP75 - M        | 320           | 372 | 507 | 412 | 316                     | 426 | 586 | 491 |
| KP75 - MB       | 362           | 414 | 549 | 454 | 358                     | 468 | 628 | 533 |
| KP75 - L        | 405           | 457 | 592 | 497 | 401                     | 511 | 671 | 576 |
| KP75 - LB       | 455           | 507 | 642 | 547 | 451                     | 561 | 721 | 626 |
| KP75 - LP       | 498           | 550 | 685 | 590 | 494                     | 604 | 764 | 669 |
| KP75 - XL       | 635           | 687 | 822 | 727 | 631                     | 741 | 901 | 806 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ004635       |
| with brake    | 1NJ004636       |

# MODEL SERIES K75

## KD75 flat motor with adapter for Hydro-Format-System

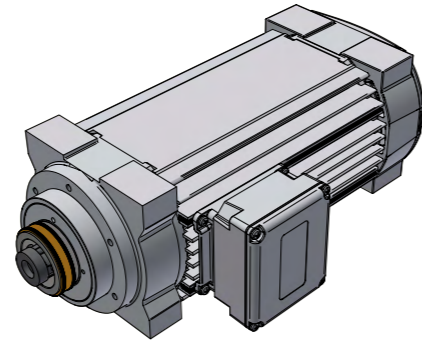
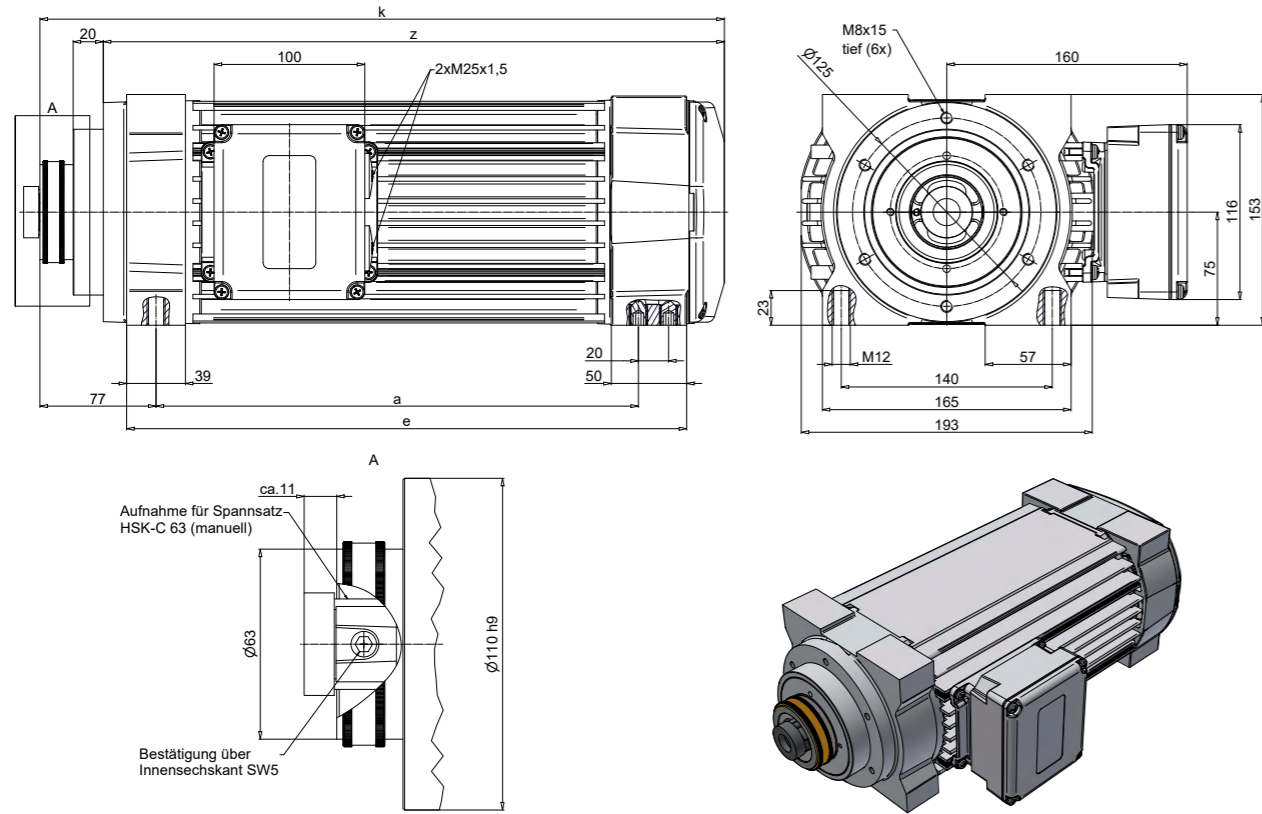


| Dimensions [mm] | without brake |     |     |     | with brake M12K or M16K |     |     |     |
|-----------------|---------------|-----|-----|-----|-------------------------|-----|-----|-----|
|                 | a             | e   | k   | z   | a                       | e   | k   | z   |
| Type            |               |     |     |     |                         |     |     |     |
| KD75 - S        | 245           | 300 | 437 | 336 | 245                     | 354 | 520 | 419 |
| KD75 - SB       | 265           | 320 | 457 | 356 | 265                     | 374 | 540 | 439 |
| KD75 - SP       | 265           | 320 | 457 | 356 | 265                     | 374 | 540 | 439 |
| KD75 - M        | 325           | 380 | 517 | 416 | 325                     | 434 | 600 | 499 |
| KD75 - MB       | 367           | 422 | 559 | 458 | 367                     | 476 | 642 | 541 |
| KD75 - L        | 410           | 515 | 602 | 501 | 410                     | 519 | 685 | 584 |
| KD75 - LB       | 460           | 515 | 652 | 551 | 460                     | 569 | 735 | 634 |
| KD75 - LP       | 503           | 558 | 695 | 594 | 503                     | 612 | 778 | 677 |
| KD75 - XL       | 640           | 695 | 832 | 731 | 640                     | 749 | 915 | 814 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ008591       |
| with brake    | 1NJ011770       |

# MODEL SERIES K75

## K75 flat motor with HSK-C 63 adapter



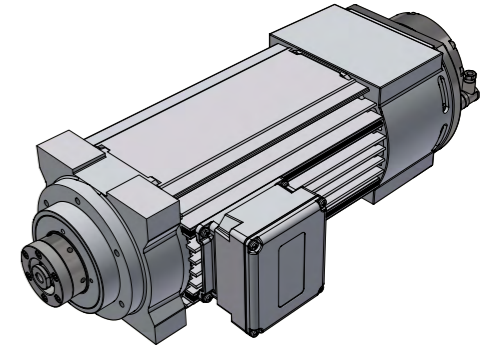
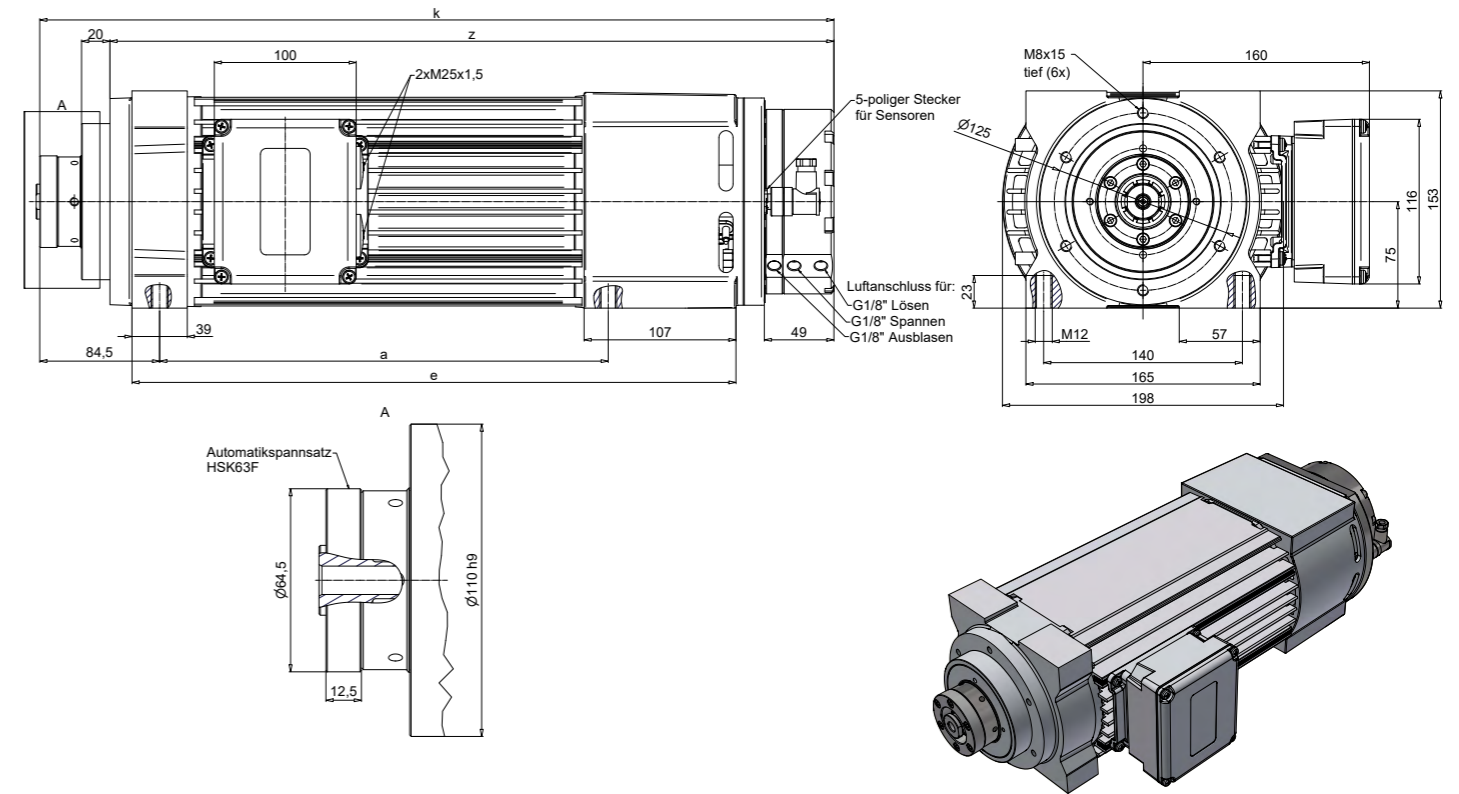
| Dimensions [mm] |     |     |     |     |
|-----------------|-----|-----|-----|-----|
| Type            | a   | e   | k   | z   |
| K75 - S         | 240 | 292 | 374 | 332 |
| K75 - SB        | 260 | 312 | 394 | 352 |
| K75 - SP        | 260 | 312 | 394 | 352 |
| K75 - M         | 320 | 372 | 454 | 412 |
| K75 - MB        | 362 | 414 | 496 | 454 |
| K75 - L         | 405 | 457 | 539 | 497 |
| K75 - LB        | 455 | 507 | 589 | 547 |
| K75 - LP        | 498 | 550 | 632 | 590 |
| K75 - XL        | 635 | 687 | 769 | 727 |

Dimension sheet

1NJ000953

# MODEL SERIES K75

## K75 flat motor with HSK-F 63 adapter



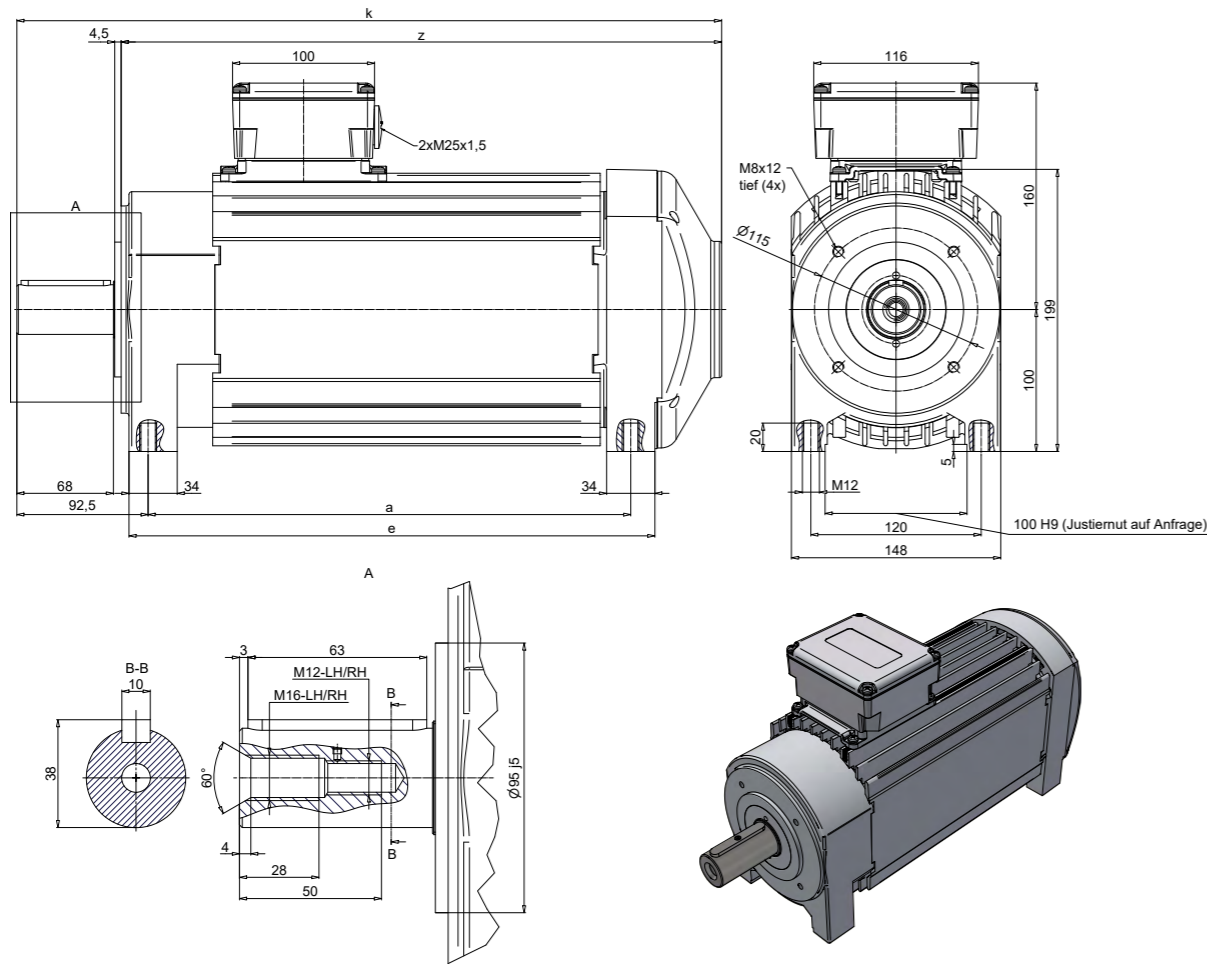
| Dimensions [mm] |     |     |     |     |
|-----------------|-----|-----|-----|-----|
| Type            | a   | e   | k   | z   |
| K75 - S         | 236 | 346 | 480 | 430 |
| K75 - SB        | 256 | 366 | 500 | 450 |
| K75 - SP        | 256 | 366 | 500 | 450 |
| K75 - M         | 316 | 426 | 560 | 510 |
| K75 - MB        | 358 | 468 | 602 | 552 |
| K75 - L         | 401 | 511 | 645 | 595 |
| K75 - LB        | 451 | 561 | 695 | 645 |
| K75 - LP        | 494 | 604 | 738 | 688 |
| K75 - XL        | 631 | 741 | 875 | 825 |

Dimension sheet

1NJ015985

# MODEL SERIES K75

## KH75 flat motor, edgewise

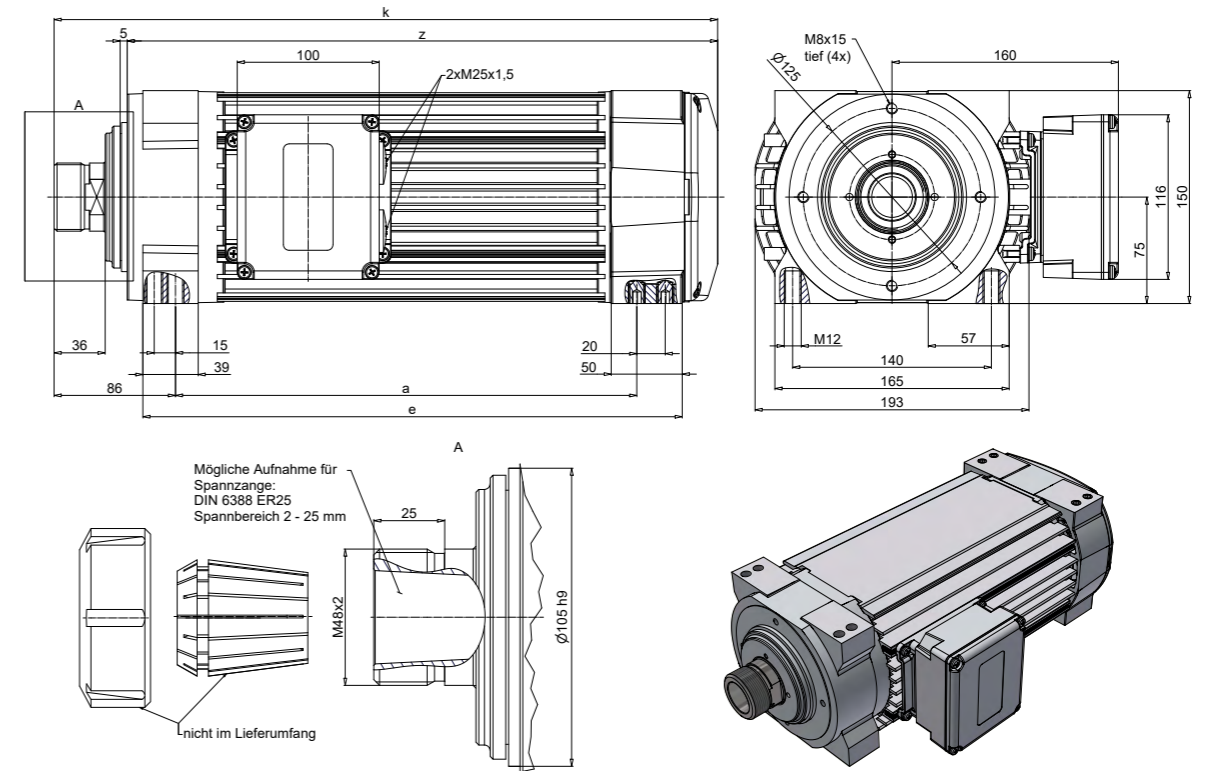


| Dimensions [mm] |     |     |     |     |
|-----------------|-----|-----|-----|-----|
| Type            | a   | e   | k   | z   |
| KH75 - S        | 260 | 291 | 417 | 343 |
| KH75 - SB       | 280 | 311 | 437 | 363 |
| KH75 - SP       | 280 | 311 | 437 | 363 |
| KH75 - M        | 340 | 371 | 497 | 423 |
| KH75 - MB       | 382 | 413 | 539 | 465 |
| KH75 - L        | 420 | 451 | 577 | 503 |
| KH75 - LB       | 475 | 506 | 632 | 558 |
| KH75 - LP       | 518 | 549 | 675 | 601 |
| KH75 - XL       | 655 | 686 | 812 | 738 |

|                        |
|------------------------|
| <b>Dimension sheet</b> |
| 1NJ000935              |

# MODEL SERIES K75

## KC75 flat motor with adapter for collet

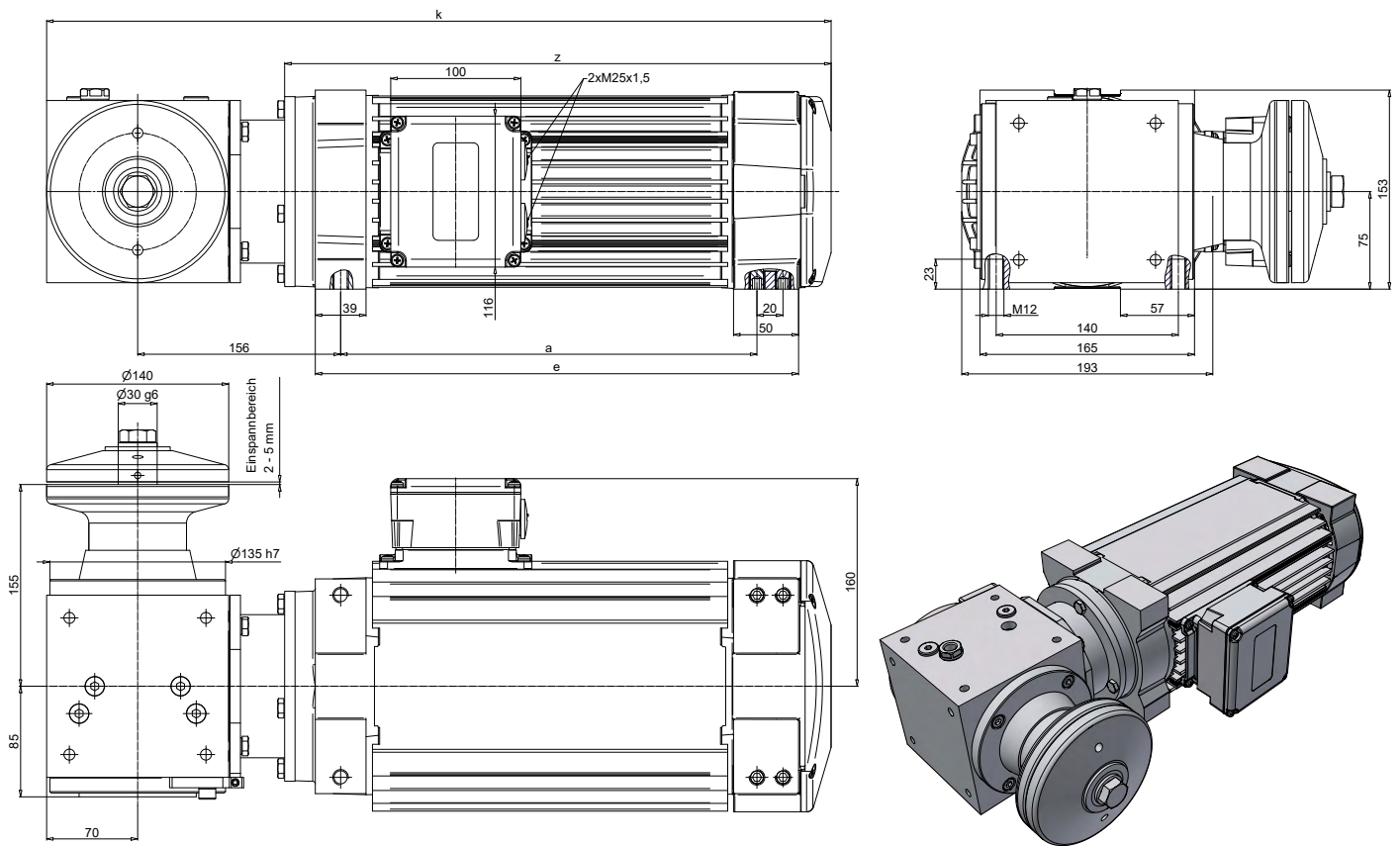


| Dimensions [mm] |     |     |     |     |
|-----------------|-----|-----|-----|-----|
| Type            | a   | e   | k   | z   |
| KC75 - S        | 260 | 300 | 388 | 336 |
| KC75 - SB       | 280 | 320 | 408 | 356 |
| KC75 - SP       | 280 | 320 | 408 | 356 |
| KC75 - M        | 340 | 380 | 468 | 416 |
| KC75 - MB       | 382 | 422 | 510 | 458 |
| KC75 - L        | 425 | 465 | 553 | 501 |
| KC75 - LB       | 475 | 515 | 603 | 551 |
| KC75 - LP       | 518 | 558 | 646 | 594 |
| KC75 - XL       | 655 | 695 | 783 | 731 |

|                  |                        |
|------------------|------------------------|
| <b>Execution</b> | <b>Dimension sheet</b> |
| without brake    | 1NJ011529              |

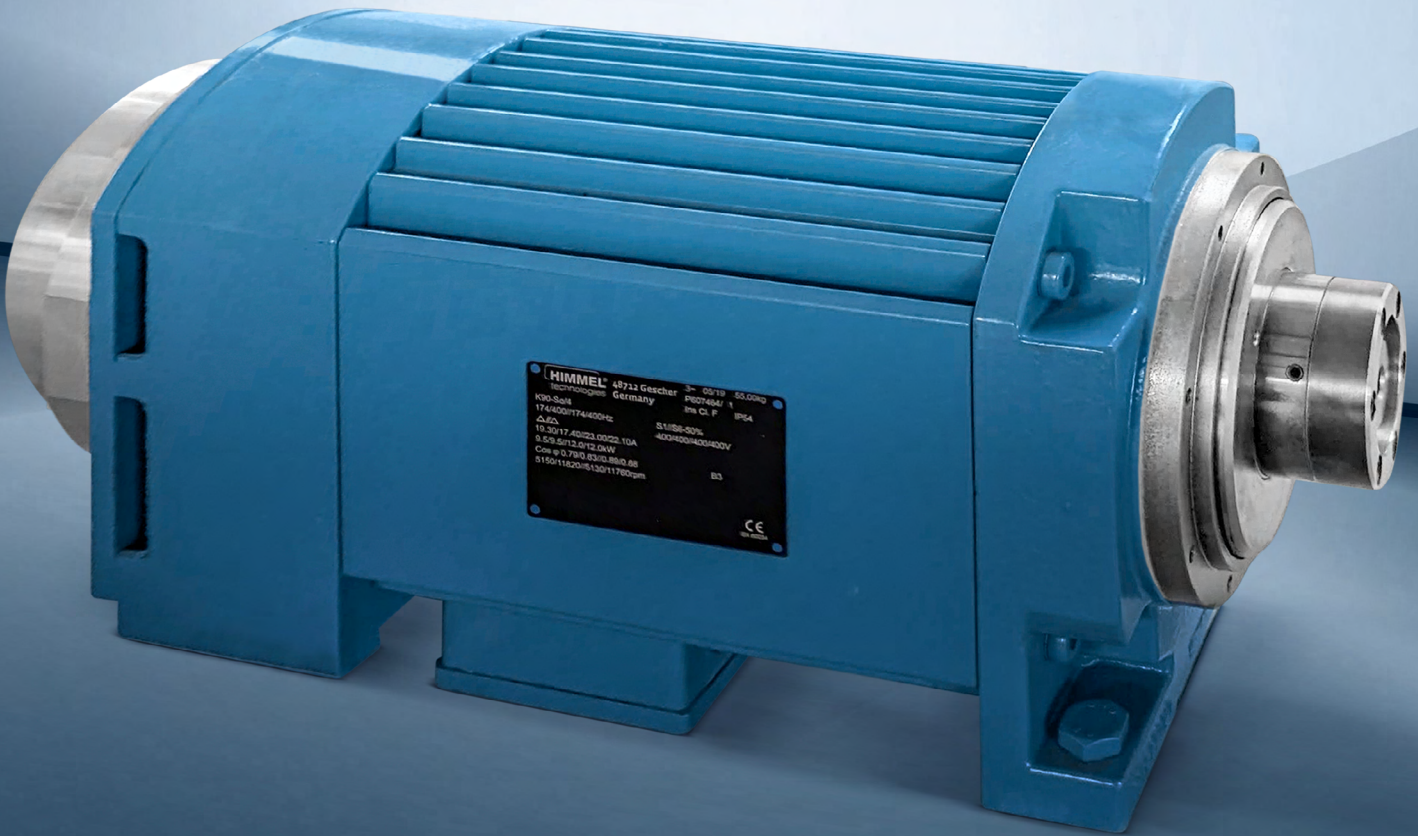
# MODEL SERIES K75

## K75 flat motor with angular gear, ratio 1:1 or 1:2



| Dimensions [mm] | without brake |     |     |     | with brake M12K or M16K |     |     |     |
|-----------------|---------------|-----|-----|-----|-------------------------|-----|-----|-----|
|                 | a             | e   | k   | z   | a                       | e   | k   | z   |
| K75 - S         | 240           | 292 | 453 | 340 | 236                     | 346 | 532 | 419 |
| K75 - SB        | 260           | 312 | 473 | 360 | 256                     | 366 | 552 | 439 |
| K75 - SP        | 260           | 312 | 473 | 360 | 256                     | 366 | 552 | 439 |
| K75 - M         | 320           | 372 | 533 | 420 | 316                     | 426 | 612 | 499 |
| K75 - MB        | 362           | 414 | 575 | 462 | 358                     | 468 | 654 | 541 |
| K75 - L         | 405           | 457 | 618 | 505 | 401                     | 511 | 697 | 584 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ004179       |
| with brake    | 1NJ004178       |



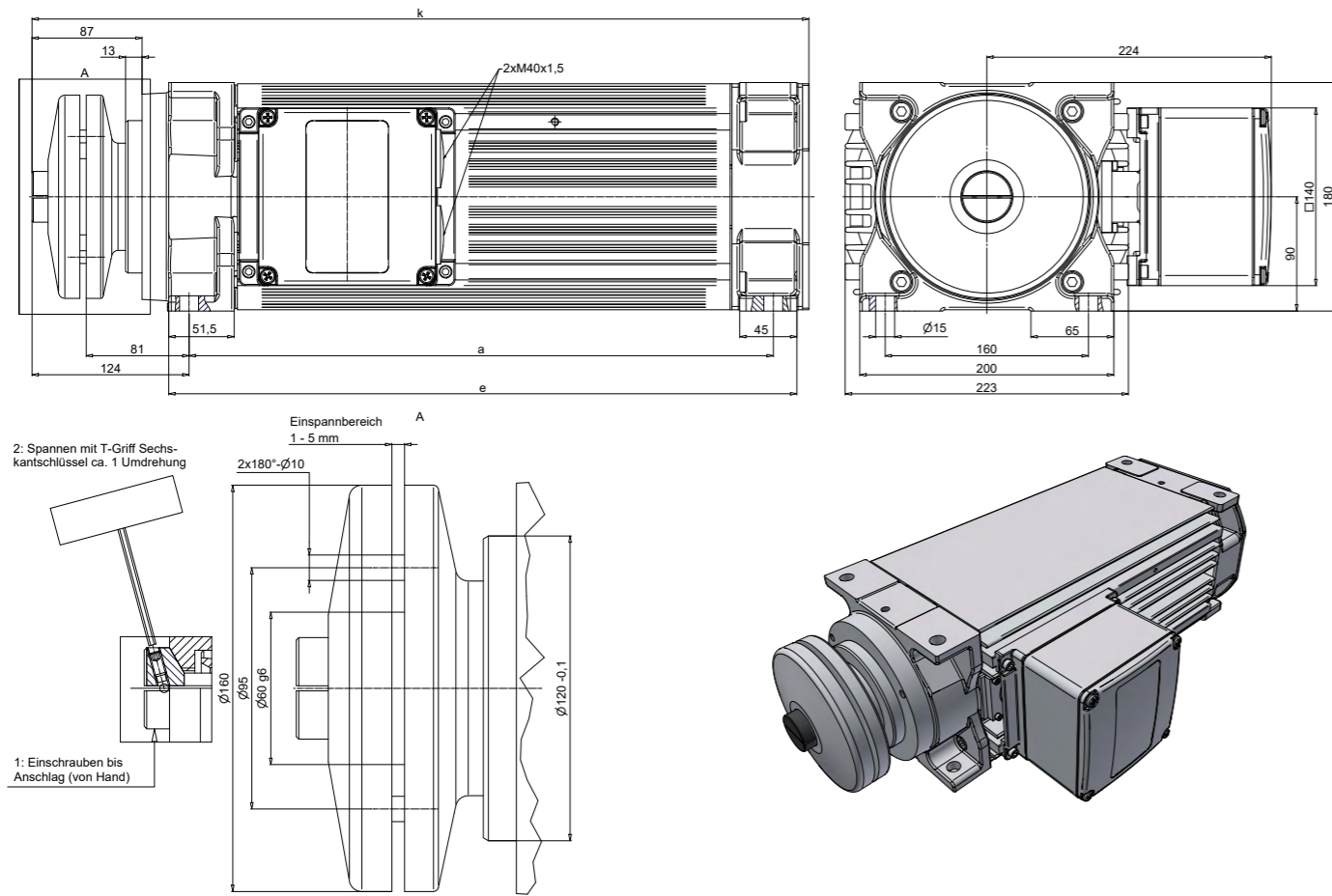
**HIMMEL**<sup>®</sup> 48722 Gescher 3~ 0919 55.0000  
technologies Germany P0076847 1  
KRS-SM8 30 Cl. P IP54  
1748000174400Hz  
Δ/εα  
11.2017.45023.0002.10A 5/150-0005  
0.50.5033.015.0kW 400V00M00M00V  
Cos φ 0.780 I200 880.68  
91501182005130/11760rpm B3  
CE

**MODEL SERIES K90**



# MODEL SERIES K90

## K90 flat motor with quick-change clamping system



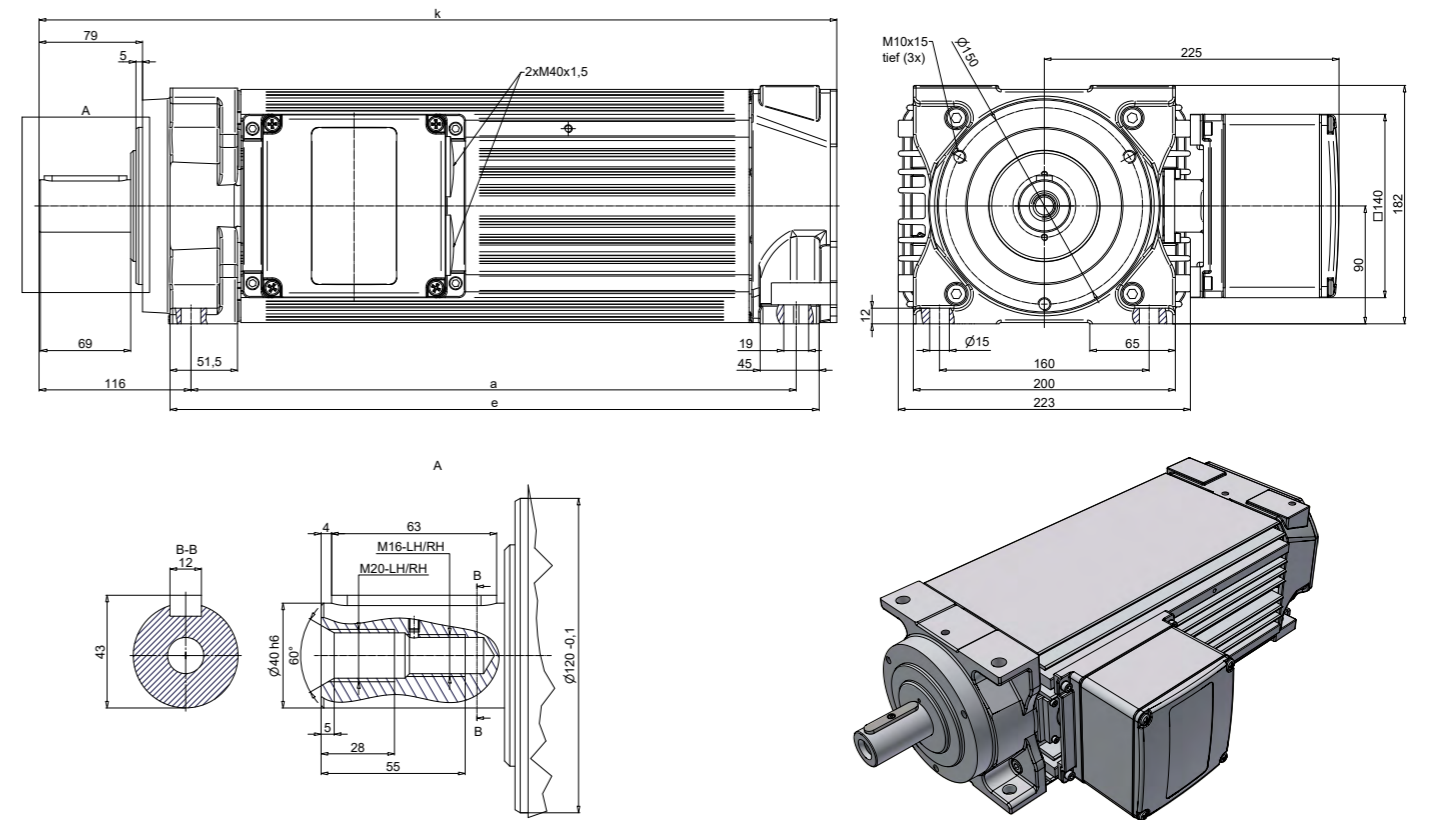
Right-left rotation possible

| Dimensions [mm] |     |     | without brake | with brake |
|-----------------|-----|-----|---------------|------------|
| Type            | a   | e   | k             | k          |
| K90 - S         | 380 | 418 | 531           | 584        |
| K90 - M         | 460 | 498 | 611           | 664        |
| K90 - MB        | 510 | 548 | 661           | 714        |
| K90 - L         | 570 | 608 | 721           | 774        |
| K90 - XL        | 660 | 698 | 811           | 864        |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ004583       |
| with brake    | 1NJ006283       |

# MODEL SERIES K90

## Flat motor KF90 standard

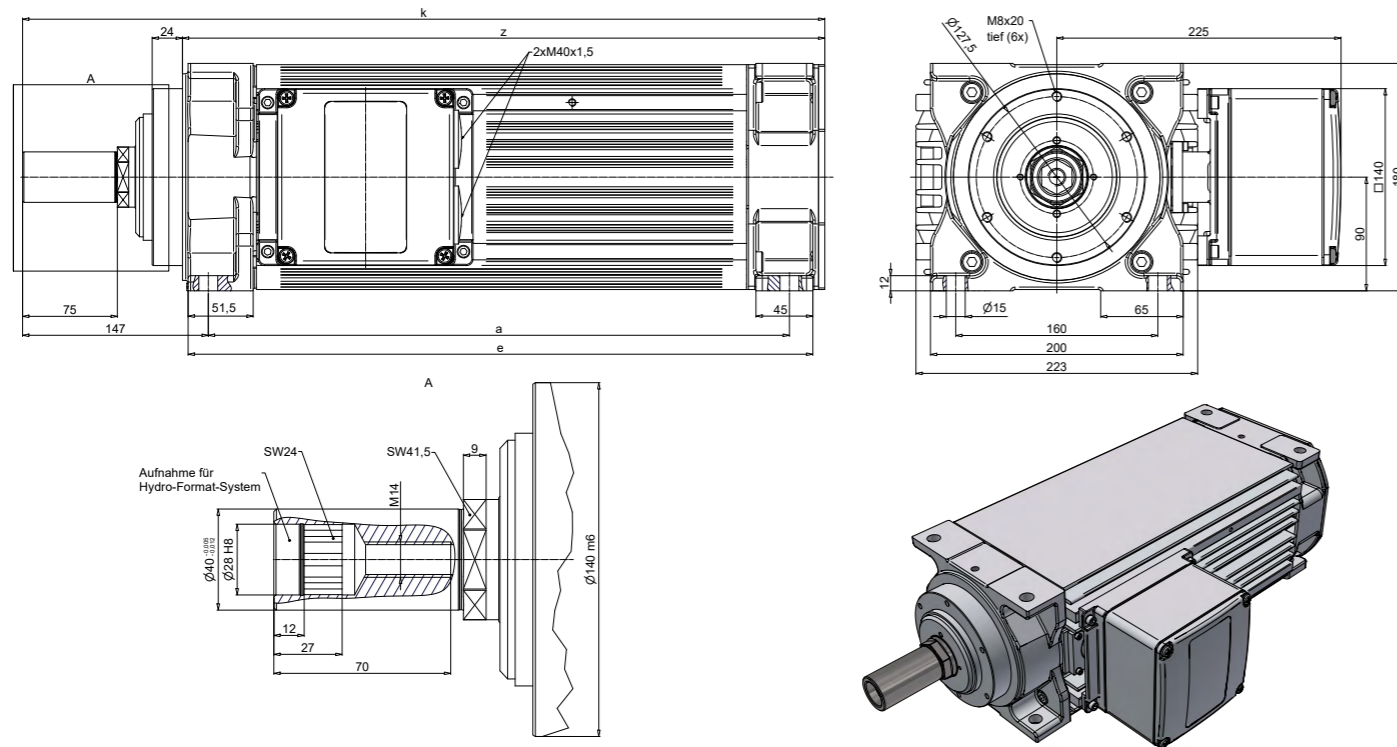


| Dimensions [mm] |     |     | without brake | with brake |
|-----------------|-----|-----|---------------|------------|
| Type            | a   | e   | k             | k          |
| KF90 - S        | 380 | 418 | 529           | 576        |
| KF90 - M        | 460 | 498 | 609           | 656        |
| KF90 - MB       | 510 | 548 | 659           | 706        |
| KF90 - L        | 570 | 608 | 719           | 766        |
| KF90 - XL       | 660 | 698 | 809           | 856        |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ013694       |
| with brake    | 1NJ006280       |

# MODEL SERIES K90

## KD90 flat motor with adapter for Hydro-Format-System

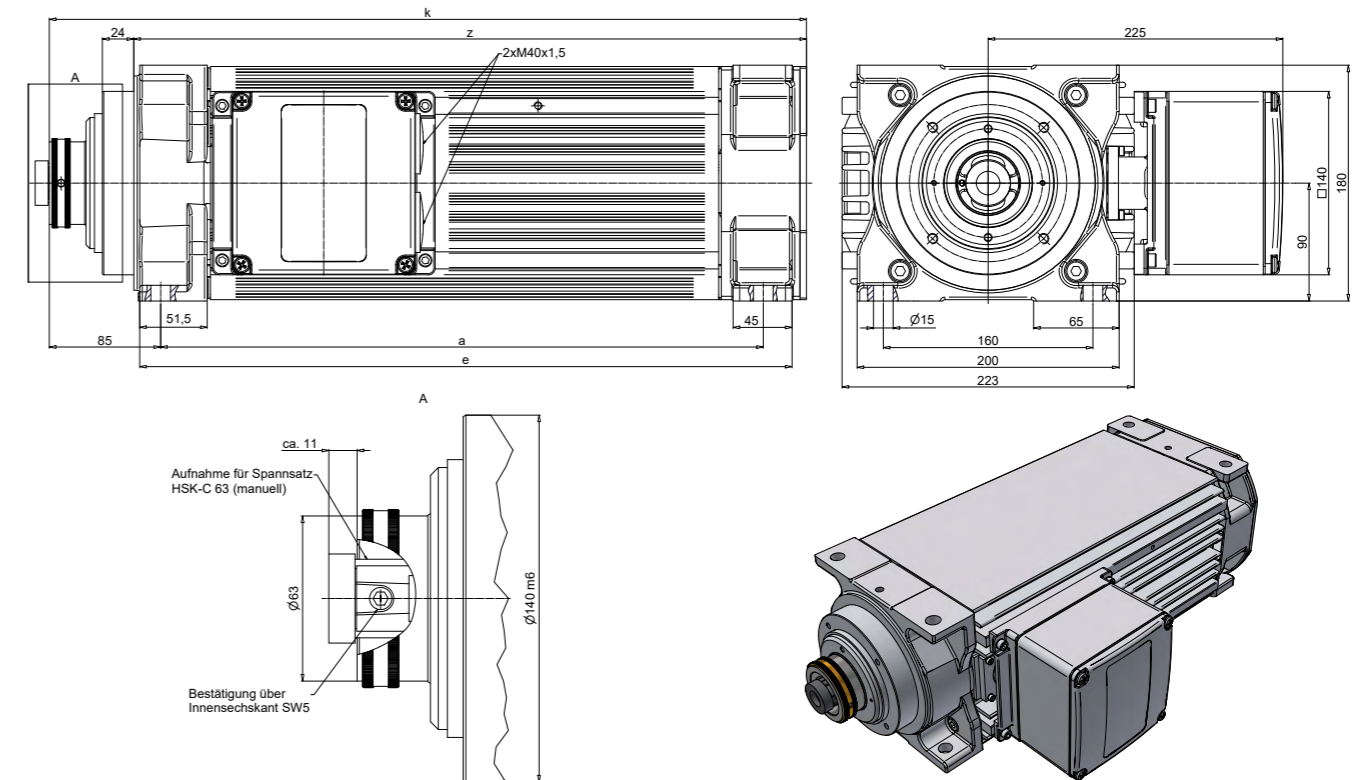


| Dimensions [mm] | without brake |     | with brake |     |
|-----------------|---------------|-----|------------|-----|
|                 | a             | e   | k          | z   |
| Type            |               |     |            |     |
| KD90 - S        | 380           | 415 | 555        | 428 |
| KD90 - M        | 460           | 495 | 635        | 508 |
| KD90 - MB       | 510           | 545 | 685        | 558 |
| KD90 - L        | 570           | 605 | 745        | 618 |
| KD90 - XL       | 660           | 695 | 835        | 708 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ011696       |
| with brake    | 1NJ006281       |

# MODEL SERIES K90

## K90 flat motor with HSK-C 63 adapter

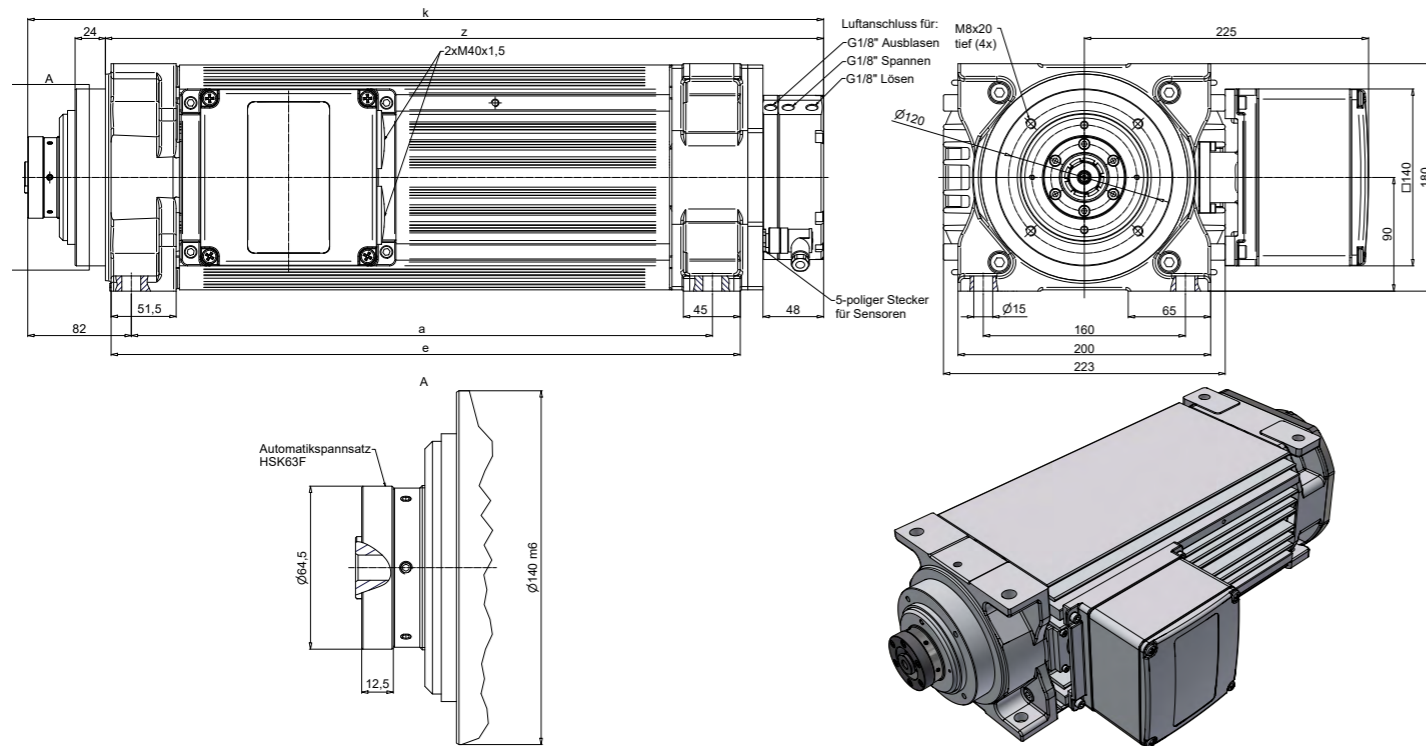


| Dimensions [mm] | without brake |     | with brake |     |
|-----------------|---------------|-----|------------|-----|
|                 | a             | e   | k          | z   |
| Type            |               |     |            |     |
| K90 - S         | 380           | 420 | 498        | 434 |
| K90 - M         | 460           | 500 | 578        | 514 |
| K90 - MB        | 510           | 550 | 628        | 564 |
| K90 - L         | 570           | 610 | 688        | 624 |
| K90 - XL        | 660           | 700 | 778        | 714 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ003906       |
| with brake    | 1NJ006282       |

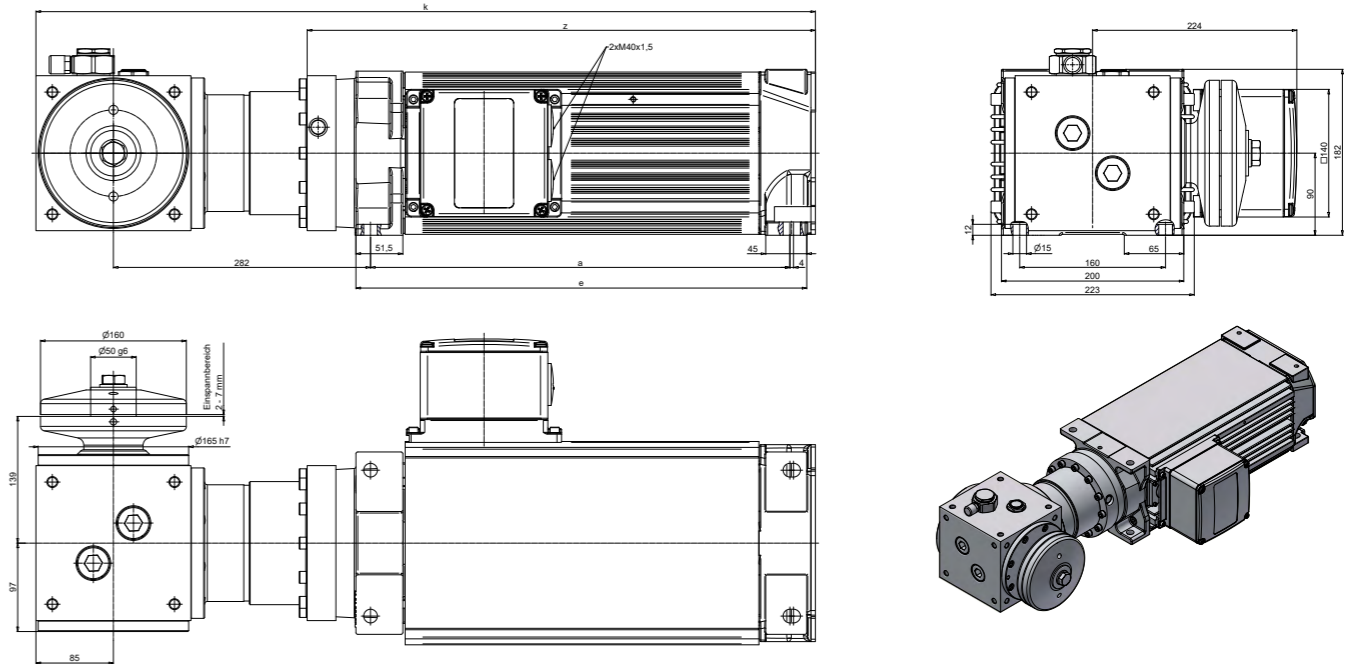
# MODEL SERIES K90

## K90 flat motor with HSK-F 63 adapter



# MODEL SERIES K90

## K90 flat motor with angular gear, ratio 1:1



| Dimensions [mm] |     |     |     |     |
|-----------------|-----|-----|-----|-----|
| Type            | a   | e   | z   | k   |
| K90 - S         | 380 | 418 | 441 | 551 |
| K90 - M         | 460 | 498 | 521 | 631 |
| K90 - MB        | 510 | 548 | 571 | 681 |
| K90 - L         | 570 | 608 | 631 | 741 |
| K90 - XL        | 660 | 698 | 721 | 831 |

| Dimension sheet |
|-----------------|
| 1NJ004687       |

| Dimensions [mm] | without brake |     | with brake |       |
|-----------------|---------------|-----|------------|-------|
|                 | a             | e   | k          | z     |
| Type            |               |     |            |       |
| K90 - S         | 380           | 420 | 775        | 477,5 |
| K90 - M         | 460           | 500 | 855        | 557,5 |
| K90 - MB        | 510           | 550 | 905        | 607,5 |
| K90 - L         | 570           | 610 | 965        | 667,5 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 1NJ015994       |
| with brake    | 1NJ013560       |

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**MODEL SERIES K112**

# MODEL SERIES K112

## Performance overview

Table data refer to: Synchronous rotational speed 3.000 1/min, motor voltage: 3-phase 400V / 50Hz

| Synchronous rotational speed 1/min | Model series | Nominal power $P_2$ [kW] |           |            |           |            |           |
|------------------------------------|--------------|--------------------------|-----------|------------|-----------|------------|-----------|
|                                    |              | S1*                      |           | S6-60 %    |           | S6-40 %    |           |
|                                    |              | $P_2$ [kW]               | $I_n$ [A] | $P_2$ [kW] | $I_n$ [A] | $P_2$ [kW] | $I_n$ [A] |
| 3.000                              | K112 S/2     | 12,5                     | 23,1      | 15,0       | 27,5      | 16,5       | 29,8      |
|                                    | K112 SB/2    | 18,5                     | 33,8      | 22,0       | 39,6      | 25,0       | 44,3      |
|                                    | K112 M/2     | 22,0                     | 39,9      | 26,0       | 46,6      | 30,0       | 52,9      |
|                                    | K112 L/2     | 30,0                     | 54,0      | 36,0       | 64,0      | 40,0       | 69,7      |
|                                    | K112 XL/2    | 37,0                     | 66,3      | 45,0       | 79,9      | 50,0       | 87,0      |
| 1.500                              | K112 S/4     | 7,5                      | 16,2      | 9,0        | 18,4      | 10,0       | 20,8      |
|                                    | K112 SB/4    | 11,0                     | 23,2      | 13,0       | 26,7      | 15,0       | 30,5      |
|                                    | K112 M/4     | 13,0                     | 26,9      | 15,5       | 31,6      | 17,5       | 35,3      |
|                                    | K112 L/4     | 18,5                     | 38,1      | 22,0       | 44,4      | 25,0       | 49,8      |
|                                    | K112 XL/4    | 22,0                     | 44,9      | 26,5       | 52,7      | 30,0       | 59,5      |
| 1.000                              | K112 S/6     | 5,5                      | 12,5      | 6,5        | 14,4      | 7,5        | 16,7      |
|                                    | K112 SB/6    | 7,5                      | 16,8      | 9,0        | 16,6      | 10,0       | 21,8      |
|                                    | K112 M/6     | 9,0                      | 20,1      | 11,0       | 24,0      | 12,0       | 26,0      |
|                                    | K112 L/6     | 12,5                     | 27,7      | 15,0       | 32,3      | 17,0       | 36,6      |
|                                    | K112 XL/6    | 16,0                     | 35,5      | 19,0       | 40,8      | 21,5       | 46,1      |

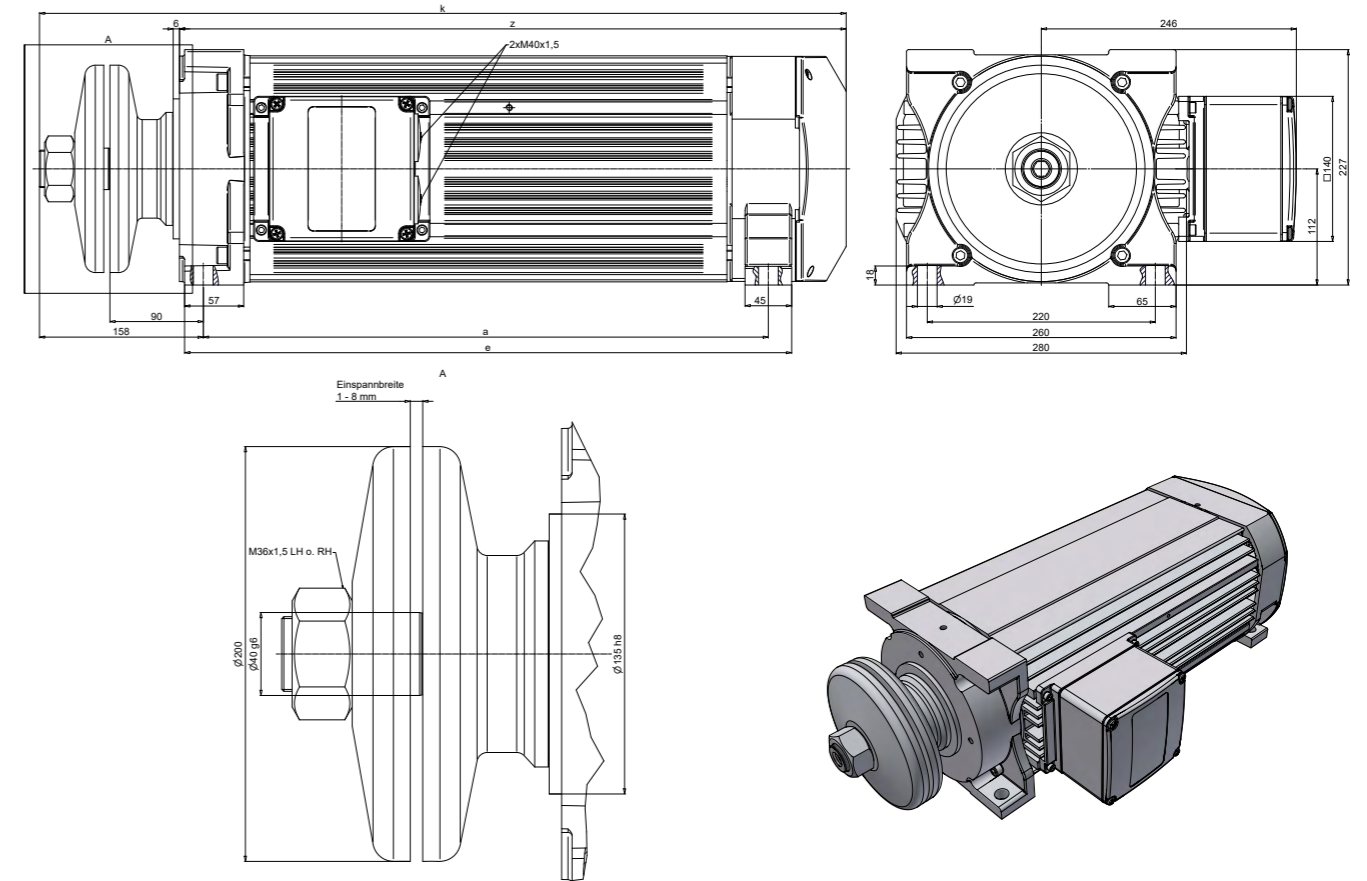
\* Power rating for engines that are not subject to mandatory labeling. Others on request.

## Performances for higher speeds

| Model series | Selection table for higher speeds up to 6.000 1/min |  |
|--------------|---|--|
|              | Nominal power $P_2$ [kW]                            |  |
|              | 100 Hz<br>6.000 1/min                               |  |
|              | S1  |  |
|              | $P_2$ [kW]  |  |
| K112 S/ 2    | 20,0  |  |
| K112 SB/ 2   | 30,0  |  |
| K112 M/ 2    | 37,0  |  |
| K112 L/ 2    | 50,0  |  |
| K112 XL/ 2   | 60,0  |  |

# MODEL SERIES K112

## Flat motor K112.01 with flange disk



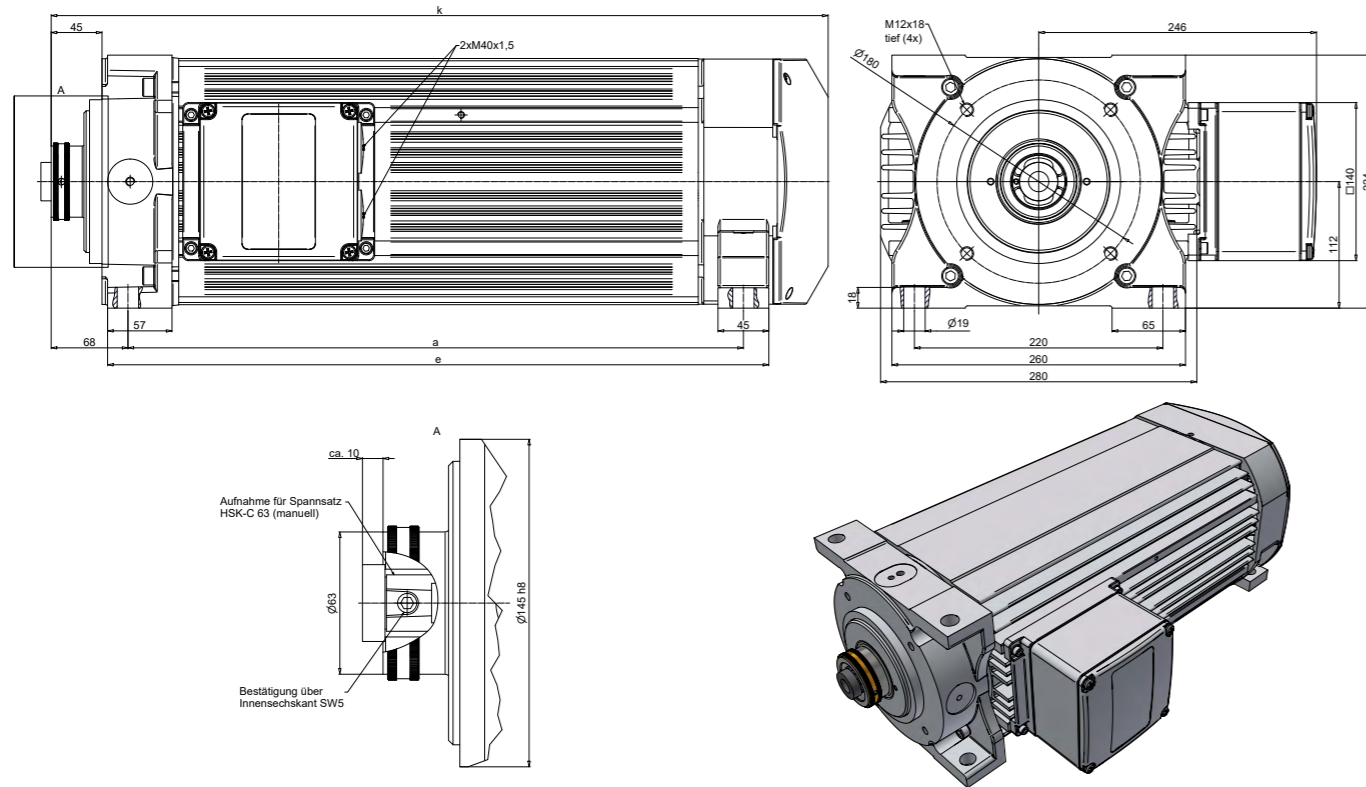
| Dimensions [mm] | without brake |     |     |     | with brake M60K or M100K |     |
|-----------------|---------------|-----|-----|-----|--------------------------|-----|
|                 | a             | e   | k   | z   | k                        | z   |
| Type            |               |     |     |     |                          |     |
| K112 - S        | 415           | 456 | 648 | 513 | 690                      | 555 |
| K112 - SB       | 495           | 536 | 728 | 593 | 770                      | 635 |
| K112 - M        | 545           | 586 | 778 | 643 | 820                      | 685 |
| K112 - L        | 655           | 696 | 888 | 753 | 930                      | 795 |
| K112 - XL       | 755           | 796 | 988 | 853 | 1030                     | 895 |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 2NJ000104       |
| with brake    | 2NJ000105       |



# MODEL SERIES K112

## K112 flat motor with HSK-C 63 adapter

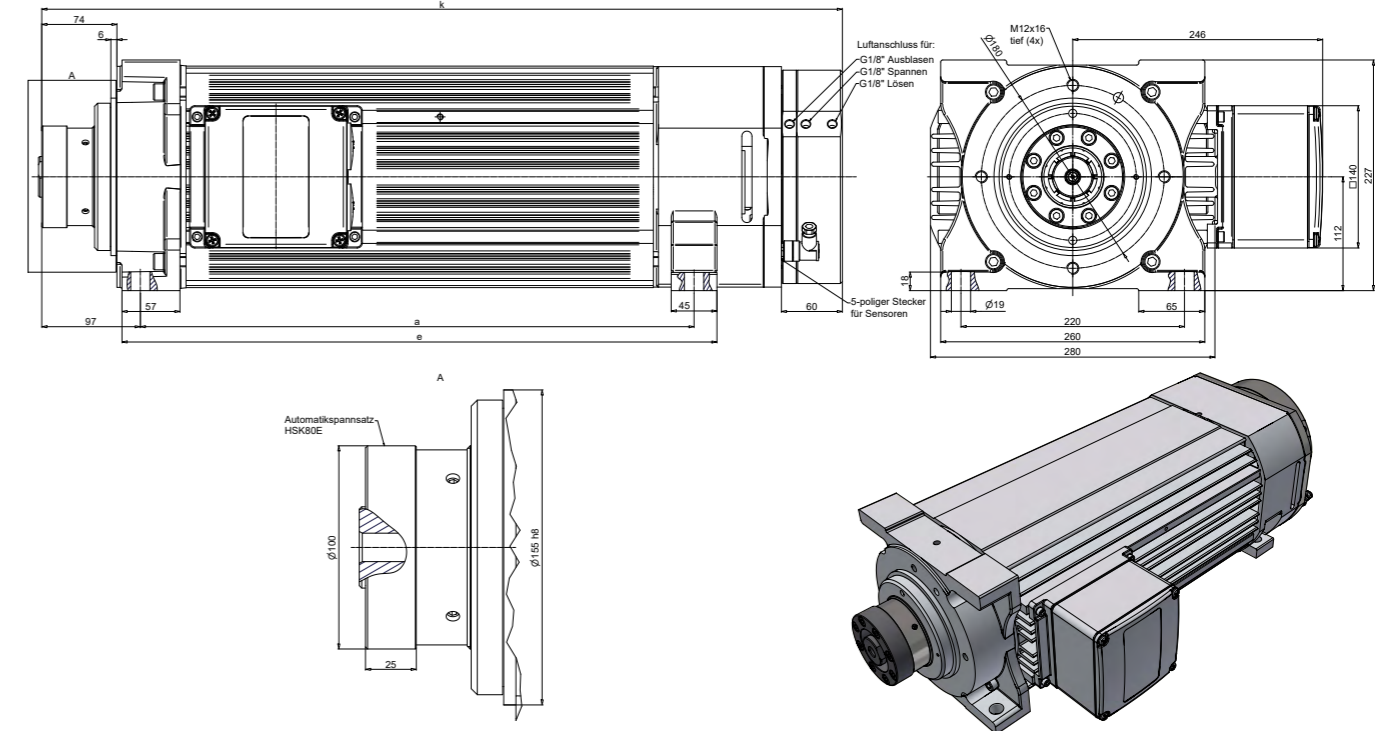


| Dimensions [mm] |     |     | without brake | with brake M60K or M100K |
|-----------------|-----|-----|---------------|--------------------------|
| Type            | a   | e   | k             | k                        |
| K112 - S        | 415 | 456 | 558           | 600                      |
| K112 - SB       | 495 | 536 | 638           | 680                      |
| K112 - M        | 545 | 586 | 688           | 730                      |
| K112 - L        | 655 | 696 | 798           | 840                      |
| K112 - XL       | 755 | 796 | 898           | 940                      |

| Execution     | Dimension sheet |
|---------------|-----------------|
| without brake | 2NJ000411       |
| with brake    | 2NJ000423       |

# MODEL SERIES K112

## K112 flat motor with automatic clamping system



| Dimensions [mm] |     |     |     |
|-----------------|-----|-----|-----|
| Type            | a   | e   | k   |
| K112 - S        | 415 | 456 | 599 |
| K112 - SB       | 495 | 536 | 679 |
| K112 - M        | 545 | 586 | 729 |
| K112 - L        | 655 | 696 | 839 |
| K112 - XL       | 755 | 796 | 939 |

| Dimension sheet |
|-----------------|
| 2NJ000466       |



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**MODEL SERIES K160**

# MODEL SERIES K160

## Performance overview

Table data refer to: Synchronous rotational speed  
3,000 1/min, motor voltage: 3-phase 400V / 50Hz

| Synchronous rotational speed 1/min | Model series | Nominal power P <sub>2</sub> [kW] |                    |                     |                    |                     |                    |
|------------------------------------|--------------|-----------------------------------|--------------------|---------------------|--------------------|---------------------|--------------------|
|                                    |              | S1*                               |                    | S6-60 %             |                    | S6-40 %             |                    |
|                                    |              | P <sub>2</sub> [kW]               | I <sub>n</sub> [A] | P <sub>2</sub> [kW] | I <sub>n</sub> [A] | P <sub>2</sub> [kW] | I <sub>n</sub> [A] |
| 3.000                              | K160 S/2     | 45,0                              | 78,0               | 60,0                | 101,0              | 70,0                | 117,0              |
|                                    | K160 M/2     | 55,0                              | 93,9               | 70,0                | 117,0              | 85,0                | 140,0              |
|                                    | K160 L/2     | 65,0                              | 113,0              | 85,0                | 143,0              | 100,0               | 165,0              |
|                                    | K160 XL/2    | 75,0                              | 132,0              | 95,0                | 131,0              | 115,0               | 191,0              |

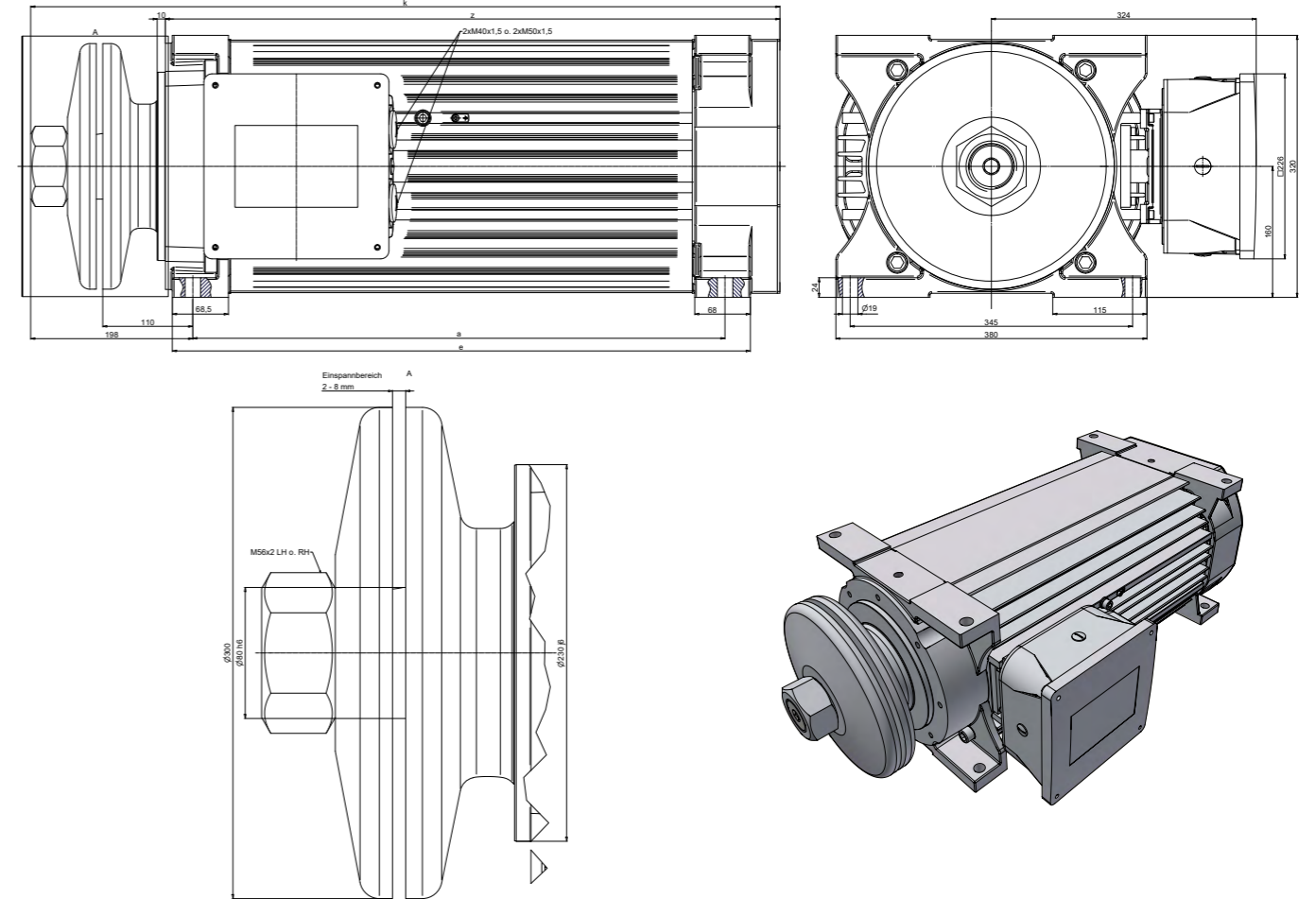
\* Power rating for engines that are not subject to mandatory labeling. Others on request.

## Performances for higher speeds

| Model series | Selection table for higher speeds up to 6.000 1/min<br>Nominal power P <sub>2</sub> [kW] |    |
|--------------|--|----|
|              | 100 Hz<br>6.000 1/min  | S1 |
|              | P <sub>2</sub> [kW]  |    |
| K160 S/ 2    | 74,0   |    |
| K160 M/ 2    | 90,0   |    |
| K160 L/ 2    | 107,0  |    |
| K160 XL/ 2   | 123,0  |    |

# MODEL SERIES K160

## K160 flat motor with flange disk

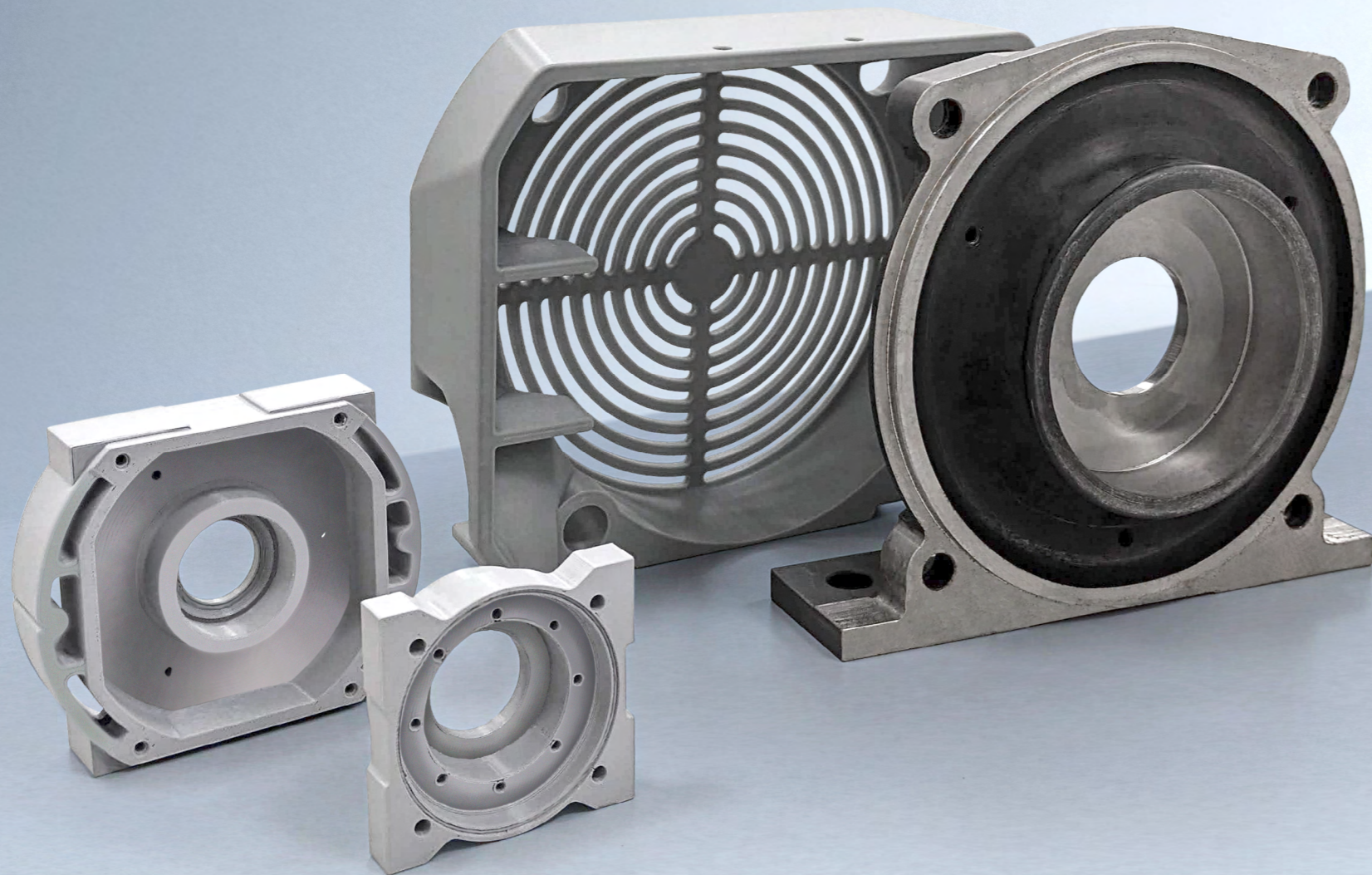


| Dimensions [mm] | without brake |     |      |     | for terminal box position 2... / 2...K |
|-----------------|---------------|-----|------|-----|--|
|                 | a             | e   | k    | z   | a; e; z; k                             |
| Type            |               |     |      |     |  |
| K160 - S        | 585           | 641 | 850  | 686 | +40mm                                  |
| K160 - M        | 650           | 706 | 915  | 751 |  |
| K160 - L        | 760           | 816 | 1025 | 861 | -                                      |
| K160 - XL       | 825           | 881 | 1090 | 926 |  |

Double bearing  
Dimension sheet  
1NJ005277







## RAPID PROTOTYPEING

State-of-the-art 3D printing processes are used in the continuous further development of our HIMMEL®-flat motors. This significantly speeds up the development of proto-types of individual components and turns our development team's ideas into reality for you as quickly as possible.

The layer-by-layer additive manufacturing process can produce a physical component or assembly directly from the CAD design data, so that possible optimizations or adjustments can already be implemented in the development phase. This significantly eliminates the need for time-consuming and costly manufacturing processes.

Rapid ProtoTypeing has already been used successfully in a large number of applications, so that, for example, new ventilation concepts have been developed with regard to optimal cooling air routing.

The effectiveness of the design measures for optimizing our HIMMEL®-flat motors is verified by means of a wide variety of test procedures. The tests required for this are carried out in-house.

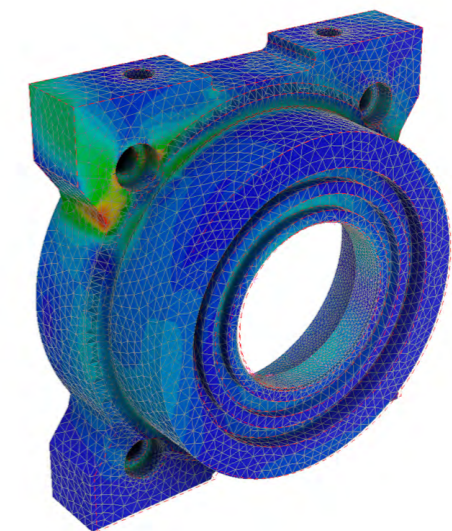


## **| SIMULATION**

Especially with the highest demands on our motors, an optimal winding design and the structural-mechanical evaluation of the components are of decisive importance. All electrical data are calculated by our experts. New winding designs are checked and adjusted by numerical simulation using the latest standards. This ensures that the optimum is always achieved under the given conditions.

Mechanical design is also supported by modern software solutions that help us with a wide range of issues. For example, the calculation of bearing service life can be carried out taking into account a wide range of factors.

In addition, we use numerical methods such as the finite element method (FEM). This enables us to detect weak points at an early stage in the development process and to carry out contour optimizations if necessary.





## I TEST BENCH

The factory's own test facility comprises three test benches for HIMMEL®-flat motors alone. In addition to a dynamometer, there are two run-in test benches available. Our dynamometer can accommodate a wide range of HIMMEL®-flat motors with various generators and measuring equipment.

HIMMEL®-flat motors. High-modern measuring technology records up to eight sensor channels in real time. Thus, various test sequences can be precisely realized and recorded. In post-processing, the recorded data is analyzed and graphically processed.

Two fully automated run-in test stands ensure a run-in process suitable for series production according to special specifications. Thus, grease distribution run-in and run-in phases according to time or temperature can be realized in parallel. All HIMMEL®-flat motors are fully operational when delivered. A time-consuming and expensive run-in phase in the customer's plant is thus no longer necessary.

# YOUR DRIVE FOR SUCCESS

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