

| Description                             | Symbol | Unit | MKD112B-048    |                 |                      |
|-----------------------------------------|--------|------|----------------|-----------------|----------------------|
| Cooling mode –<br>Motor overtemperature |        |      | Natural<br>60K | Natural<br>100K | Surface<br>60K /100K |

#### Electric parameters

|                                       |                     |                         |       |      |      |
|---------------------------------------|---------------------|-------------------------|-------|------|------|
| Characteristic motor speed            | $n_K$               | $\text{min}^{-1}$       | 3500  |      |      |
| Continuous torque at standstill       | $M_{dN}$            | Nm                      | 28,0  | 33,0 | 42,0 |
| Continuous current at standstill      | $I_{dN}$            | A                       | 35,6  | 43,5 | 53,4 |
| Peak current                          | $I_{max}$           | A                       | 160,2 |      |      |
| Torque constant at 20°C <sup>1)</sup> | $K_m$               | Nm/A                    | 0,88  |      |      |
| Voltage constant at 20°C              | $K_{E(\text{eff})}$ | V/1000min <sup>-1</sup> | 80    |      |      |
| Winding resistance at 20°C            | $R_{12}$            | $\Omega$                | 0,22  |      |      |
| Winding inductance                    | $L_{12}$            | mH                      | 3,1   |      |      |
| Number of pole pairs                  | $p$                 |                         | 4     |      |      |

#### Rated data <sup>2)</sup>

|                 |       |                   |      |      |      |
|-----------------|-------|-------------------|------|------|------|
| Rated speed     | $n_N$ | $\text{min}^{-1}$ | 2800 | 2800 | 2800 |
| Rated torque    | $M_N$ | Nm                | 7,7  | 18,1 | 30,6 |
| Rated current   | $I_N$ | A                 | 6,9  | 16,9 | 27,5 |
| Rated power     | $P_N$ | kW                | 2,7  | 6,7  | 11   |
| Rated voltage   | $U_N$ | V                 | 227  | 236  | 251  |
| Rated frequency | $f_N$ | Hz                | 187  | 187  | 187  |

#### Mechanical parameters

|                                                     |           |                |                                 |    |    |
|-----------------------------------------------------|-----------|----------------|---------------------------------|----|----|
| Rotor inertia                                       |           |                |                                 |    |    |
| Theoretical maximum torque                          | $J_M$     | $\text{kgm}^2$ | $192,0 \times 10^{-4}$          |    |    |
| Minimum strand cross-section <sup>4)</sup>          | $M_{max}$ | Nm             | 102                             |    |    |
| Thermal time constant                               | $S$       | $\text{mm}^2$  | 4                               | 6  | 6  |
| Maximum speed                                       | $T_{sh}$  | min            | 40                              | 40 | 20 |
| Motor mass <sup>3)</sup> <sup>5)</sup>              | $m$       | $\text{kg}$    | 4500                            |    |    |
| Perm. storage and transport temp.                   | $T_L$     | °C             | -20 to +80                      |    |    |
| Permissible ambient temperature <sup>6)</sup>       | $T_{um}$  | °C             | 0 to 40                         |    |    |
| Max. setup height <sup>6)</sup>                     | $h$       | m              | 1000 above NN                   |    |    |
| Protection category <sup>7)</sup>                   |           |                | IP65                            |    |    |
| Insulation class (according to DIN VDE 0530 Part 1) |           |                | F                               |    |    |
| Housing coat                                        |           |                | Prime coat black in a/wRAL 9005 |    |    |

<sup>1)</sup>  $K_m$  is to be used for calculations with crest values ( $I_{dN}$ ,  $I_{max}$ ). For calculations with root-mean-square values (rated data), the torque constant  $K_m$  must be multiplied by a factor of  $\sqrt{2}$ .

<sup>2)</sup> Values determined according to EN 60034-1. Current and voltage specified as root-mean-square values.

<sup>3)</sup> Use the declared value in bracket for motors holding brake.

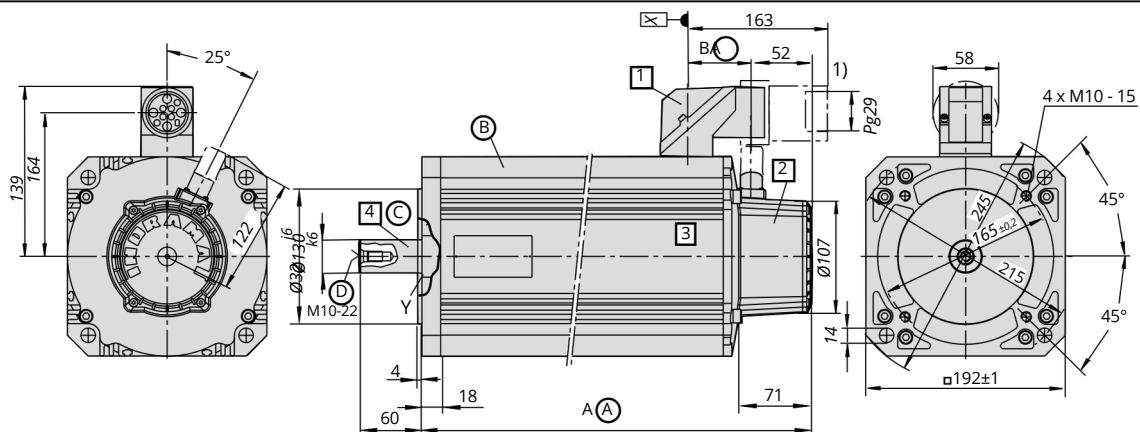
<sup>4)</sup> Applicable to REXROTH INDRAMAT cables. Rated according to VDE0298-4 (1992) and installation type B2 according to EN 60204-1 (1993) at an ambient temperature of 40 °C.

<sup>5)</sup> Without blower unit.

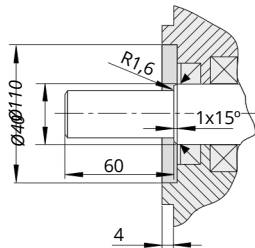
<sup>6)</sup> If the limits specified are exceeded, the performance data must be reduced if necessary. For reduction factors, refer to the chapter entitled "Environmental Conditions".

<sup>7)</sup> Provided the power and encoder cables are mounted properly

e-Servo



Detail Y:



#### Ⓐ Dimensions

| Motor                                            | Dim. A | Dim. B |
|--------------------------------------------------|--------|--------|
| MKD112A                                          | 309    | 67     |
| MKD112B                                          | 375    | 67     |
| MKD112C                                          | 458    | 96     |
| MKD112D                                          | 526    | 96     |
| Dim. A: motor length<br>Dim. B: power connection |        |        |

Ⓑ Motor as per DIN EN 60034-7 1996-06, B5 for all mounting orientations

Ⓒ • Flange as per DIN 42948, ed. 11.65  
• Position accuracy per concentricity, excentricity and coaxiality to shaft as per DIN 42955 tolerance class N, ed. 12.81

Ⓓ • Shaft end per DIN 748 part 3, ed. 07.75, IEC 72, ed. 1971, cylindrical  
• center drill hole  $\text{DS M10}$  per DIN 332 part 2, ed. 05.83  
• max. screw tightening torque 25,0 Nm  
• vibration severity level N per DIN VDE 0530 part 14, ed. 02.93

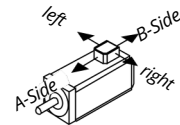
1) connector not included in delivery

#### Options:

##### 1 Output direction

The output direction of the power connector is selected at the time of ordering. Possible directions are:

- to side A
- to side B
- to the right
- to the left



Side B is the output direction illustrated. The dimensions for side A as output direction can be obtained by turning the connector around the X- axis.

##### 2 Motor encoder

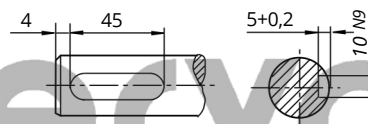
- Resolverfeedback (RSF)
  - Resolverfeedback (RSF) with integral multiturn absolute encoder
- The dimensions are identical.

##### 3 Holding brake:

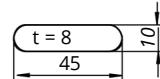
- without
  - with
- The dimensions are identical.

##### 4 Output shaft

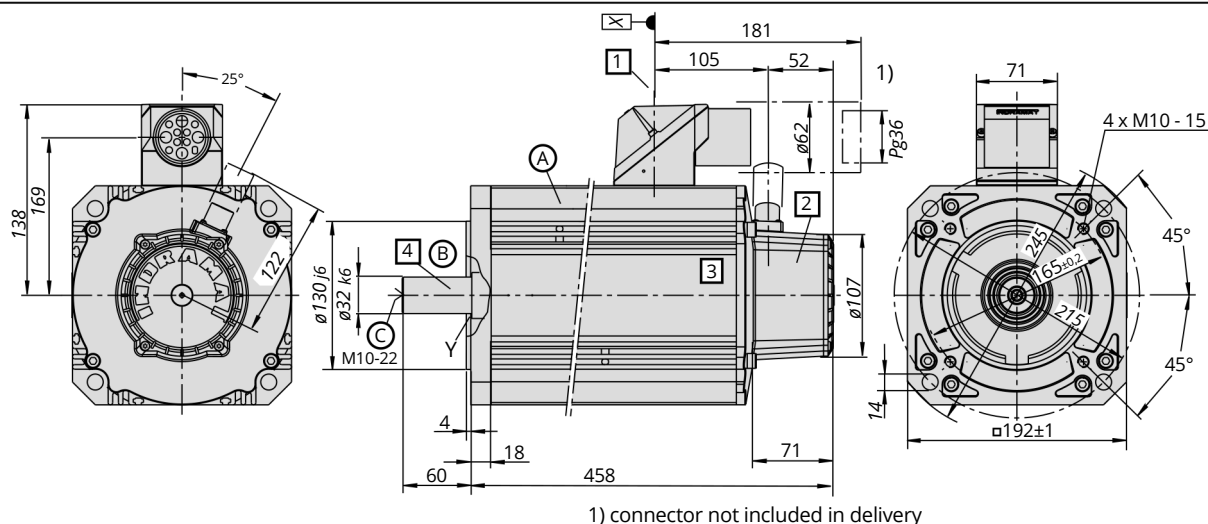
- plain shaft (preferred type)
- with keyway per DIN 6885 sheet 1, ed. 08.68 (Note! balanced with entire key!)



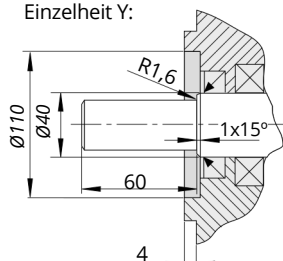
Matching keyway: DIN 6885-A 10 x 8 x 45, not part of delivery.



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Einzelheit Y:

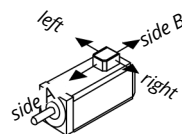


### Options:

#### 1) Output direction

The output direction of the power connector is selected at the time of ordering. Possible directions are:

- to side A
- to side B
- to the right
- to the left



Side B is the output direction illustrated. The dimensions for side A as output direction can be obtained by turning the connector around the X-axis.

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- Ⓑ • Flange as per DIN 42948, ed. 11.65  
• Position accuracy per concentricity, excentricity and coaxiality to shaft as per DIN 42955 tolerance class N, ed. 12.81
- Ⓒ • Shaft end per DIN 748 part 3, ed. 07.75, IEC 72, ed. 1971, cylindrical  
• center drill hole DS M10 per DIN 332 part 2, ed. 05.83  
max. screw tightening torque 25,0 Nm  
• vibration severity level N per DIN VDE 0530 part 14, ed. 02.93

#### 2) Motor encoder

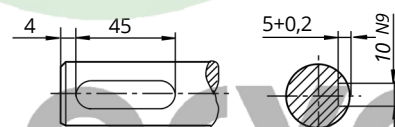
- Resolverfeedback (RSF)
  - Resolverfeedback (RSF) with integral multiturn absolute encoder
- The dimensions are identical.

#### 3) Holding brake:

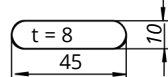
- without
  - with
- The dimensions are identical.

#### 4) Output shaft

- plain shaft (preferred type)
  - with keyway per DIN 6885 sheet 1, ed. 08.68
- (Note! balanced with entire key!)



Matching keyway: DIN 6885-A 10 x 8 x 45, not part of delivery.



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