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Figure similar

MLFB-Ordering data 1FK7042-5AK71-1EB3

Client order no. :  
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Project :

| Engineering data            |                               | Mechanical data          |                                                                                                 |
|-----------------------------|-------------------------------|--------------------------|-------------------------------------------------------------------------------------------------|
| Rated speed (100 K)         | 6000 rpm                      | Motor type               | Permanent-magnet synchronous motor                                                              |
| Number of poles             | 8                             | Motor type               | Compact                                                                                         |
| Rated torque (100 K)        | 1.5 Nm                        | Shaft height             | 48                                                                                              |
| Rated current               | 2.5 A                         | Cooling                  | Natural cooling                                                                                 |
| Static torque (60 K)        | 2.50 Nm                       | Radial runout tolerance  | 0.040 mm                                                                                        |
| Static torque (100 K)       | 3.00 Nm                       | Concentricity tolerance  | 0.08 mm                                                                                         |
| Stall current (60 K)        | 3.60 A                        | Axial runout tolerance   | 0.08 mm                                                                                         |
| Stall current (100 K)       | 4.40 A                        | Vibration severity grade | Grade A                                                                                         |
| Moment of inertia           | 3.450 kgcm²                   | Connector size           | 1                                                                                               |
| Efficiency                  | 89.0 %                        | Degree of protection     | IP64                                                                                            |
| Physical constants          |                               | Design acc. to Code I    | IM B5 (IM V1, IM V3)                                                                            |
| Torque constant             | 0.69 Nm/A                     | Temperature monitoring   | KTY84 temperature sensor in the stator winding                                                  |
| Voltage constant at 20° C   | 44.0 V/1000*min <sup>-1</sup> | Electrical connectors    | Connectors for signals and power rotatable                                                      |
| Winding resistance at 20° C | 1.20 Ω                        | Color of the housing     | Standard (Anthracite RAL 7016)                                                                  |
| Rotating field inductance   | 6.7 mH                        | Holding brake            | with holding brake                                                                              |
| Electrical time constant    | 5.60 ms                       | Shaft end                | Feather key                                                                                     |
| Mechanical time constant    | 2.27 ms                       | Encoder system           | Encoder AM2048S/R: absolute encoder 2048 S/R, 4096 revolutions multi-turn, with EnDat interface |
| Thermal time constant       | 30 min                        |                          |                                                                                                 |
| Shaft torsional stiffness   | 16000 Nm/rad                  |                          |                                                                                                 |
| Net weight of the motor     | 5.4 kg                        |                          |                                                                                                 |

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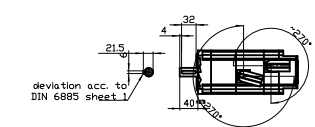
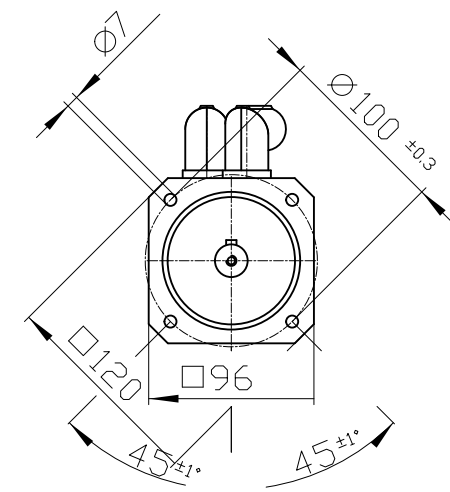
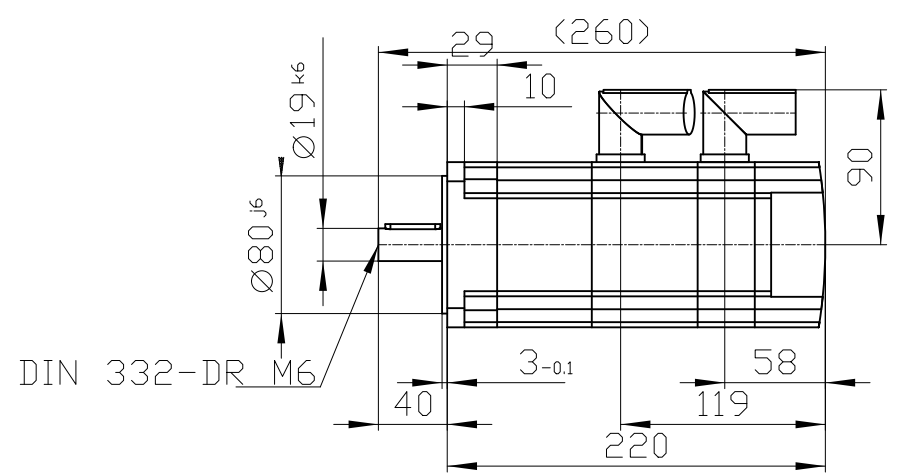
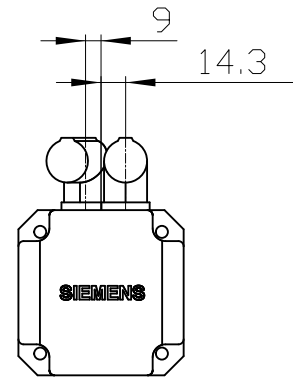
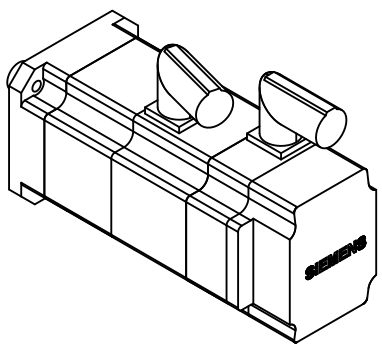
| Optimum operating point           |                        | Recommended Motor Module |         |
|-----------------------------------|------------------------|--------------------------|---------|
| Optimum speed                     | 5000 rpm               | Rated inverter current   | 5 A     |
| Optimum power                     | 1.0 kW                 | Maximum inverter current | 10 A    |
| Limiting data                     |                        | Maximum torque           | 6.80 Nm |
| Max. permissible speed (mech.)    | 9000 rpm               |                          |         |
| Max. permissible speed (inverter) | 9990 rpm               |                          |         |
| Maximum torque                    | 10.5 Nm                |                          |         |
| Maximum current                   | 15.3 A                 |                          |         |
| Holding brake                     |                        |                          |         |
| Holding brake version             | Permanent-magnet brake |                          |         |
| Holding torque                    | 4.0 Nm                 |                          |         |
| Power supply voltage              | DC 24 V ± 10 %         |                          |         |
| Coil current                      | 0.5 A                  |                          |         |
| Opening time                      | 70 ms                  |                          |         |
| Closing time                      | 30 ms                  |                          |         |
| Highest braking work              | 150 J                  |                          |         |

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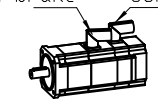
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Connector size 1 = M23;  
6-pole for power and brake

Connector size M23, 17-pole



|                                                                                       |         |                    |
|---------------------------------------------------------------------------------------|---------|--------------------|
|  |         | —                  |
|                                                                                       |         | —                  |
| Unit                                                                                  | mm [in] | 1FK7042-5AK71-1EB3 |
| Date                                                                                  | 3/6/23  |                    |
| SIEMENS AG                                                                            |         | —                  |
| -                                                                                     |         |                    |
|                                                                                       |         | DT                 |