

Data sheet for SIMOTICS S-1FK7



MLFB-Ordering data 1FK7080-2AF71-1BG0

Client order no. :  
Order no. :  
Offer no. :  
Remarks :

Item no. :  
Consignment no. :  
Project :

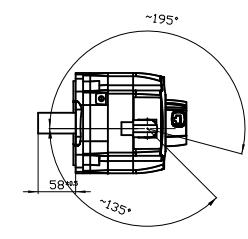
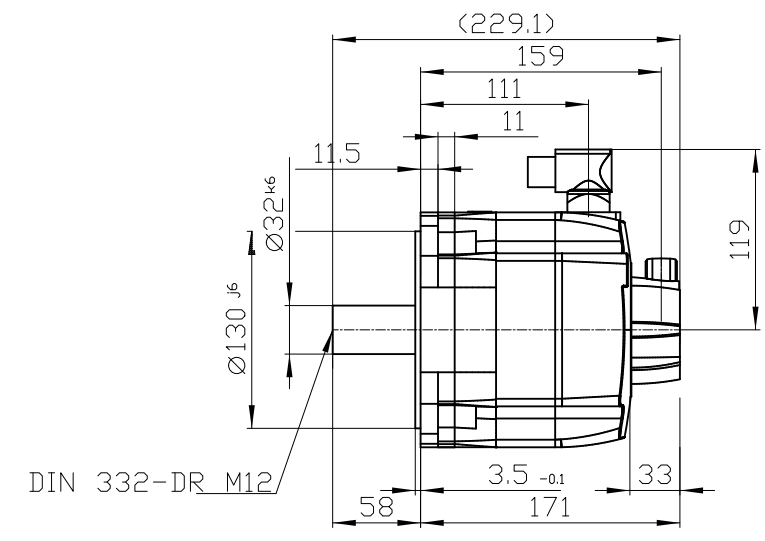
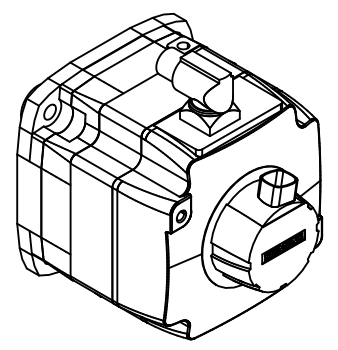
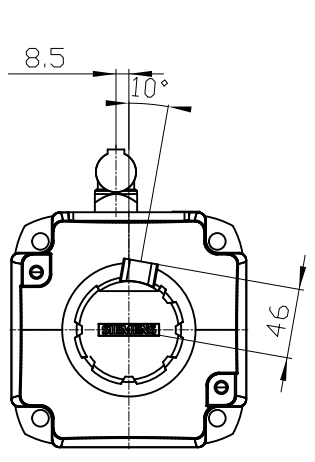
| Engineering data            |                                | Mechanical data          |                                                       |
|-----------------------------|--------------------------------|--------------------------|-------------------------------------------------------|
| Rated speed (100 K)         | 3000 rpm                       | Motor type               | Permanent-magnet synchronous motor                    |
| Number of poles             | 8                              | Motor type               | Compact                                               |
| Rated torque (100 K)        | 6.8 Nm                         | Shaft height             | 80                                                    |
| Rated current               | 4.4 A                          | Cooling                  | Natural cooling                                       |
| Static torque (60 K)        | 6.60 Nm                        | Radial runout tolerance  | 0.050 mm                                              |
| Static torque (100 K)       | 8.00 Nm                        | Concentricity tolerance  | 0.10 mm                                               |
| Stall current (60 K)        | 4.00 A                         | Axial runout tolerance   | 0.10 mm                                               |
| Stall current (100 K)       | 4.90 A                         | Vibration severity grade | Grade A                                               |
| Moment of inertia           | 14.200 kgcm²                   | Connector size           | 1                                                     |
| Efficiency                  | 92.0 %                         | Degree of protection     | IP64                                                  |
| Physical constants          |                                | Design acc. to Code I    | IM B5 (IM V1, IM V3)                                  |
| Torque constant             | 1.61 Nm/A                      | Temperature monitoring   | Pt1000 temperature sensor                             |
| Voltage constant at 20° C   | 105.0 V/1000*min <sup>-1</sup> | Electrical connectors    | Connectors for signals and power rotatable            |
| Winding resistance at 20° C | 0.98 Ω                         | Color of the housing     | Standard (Anthracite RAL 7016)                        |
| Rotating field inductance   | 17.2 mH                        | Holding brake            | without holding brake                                 |
| Electrical time constant    | 17.50 ms                       | Shaft end                | Plain shaft                                           |
| Mechanical time constant    | 1.52 ms                        | Encoder system           | Encoder AS24DQI: absolute encoder single-turn 24 bits |
| Thermal time constant       | 40 min                         |                          |                                                       |
| Shaft torsional stiffness   | 120000 Nm/rad                  |                          |                                                       |
| Net weight of the motor     | 10.3 kg                        |                          |                                                       |



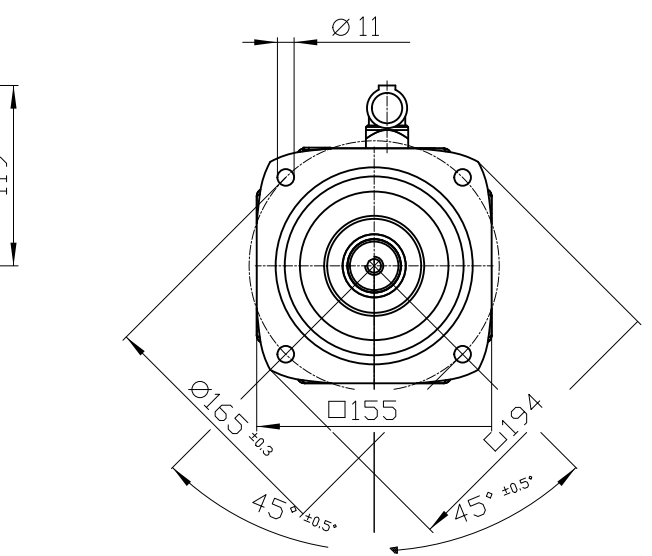
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| Optimum operating point           |          | Recommended Motor Module |          |
|-----------------------------------|----------|--------------------------|----------|
| Optimum speed                     | 3000 rpm | Rated inverter current   | 5 A      |
| Optimum power                     | 2.1 kW   | Maximum inverter current | 15 A     |
| Limiting data                     |          | Maximum torque           | 22.10 Nm |
| Max. permissible speed (mech.)    | 6000 rpm |                          |          |
| Max. permissible speed (inverter) | 5500 rpm |                          |          |
| Maximum torque                    | 25.0 Nm  |                          |          |
| Maximum current                   | 18.0 A   |                          |          |

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



|            |         |                     |  |
|------------|---------|---------------------|--|
|            |         |                     |  |
| Unit       | mm [in] | 1FK7080-2AF 71-1BG0 |  |
| Date       | 6/19/23 |                     |  |
| SIEMENS AG |         |                     |  |
|            |         | DT                  |  |