

Data sheet for SIMOTICS S-1FT7

Article No. : 1FT7105-5SC71-1BG0



Figure similar

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

Item no. :  
Consignment no. :  
Project :

| Engineering data        |                          |
|-------------------------|--------------------------|
| Rated speed             | 2,000 rpm                |
| Number of poles         | 10                       |
| Rated torque (100 K)    | 56.0 Nm                  |
| Rated current           | 29.00 A                  |
| Static torque (60 K)    | 51.0 Nm                  |
| Static torque (100 K)   | 65.0 Nm                  |
| Stall current (60 K)    | 24.00 A                  |
| Stall current (100 K)   | 31.00 A                  |
| Rotor moment of inertia | 178.00 kgcm <sup>2</sup> |
| Efficiency              | 93.0 %                   |

| Physical constants          |                                |
|-----------------------------|--------------------------------|
| Torque constant             | 2.11 Nm/A                      |
| Voltage constant at 20° C   | 134.5 V/1000*min <sup>-1</sup> |
| Winding resistance at 20° C | 0.10 Ω                         |
| Rotary field inductance     | 2.7 mH                         |
| Electrical time constant    | 26.00 ms                       |
| Mechanical time constant    | 1.20 ms                        |
| Thermal time constant       | 50 min                         |
| Shaft torsional stiffness   | 107,000 Nm/rad                 |
| Net weight of the motor     | 50.0 kg                        |

| Mechanical data          |                                                                                        |
|--------------------------|----------------------------------------------------------------------------------------|
| Motor type               | Permanent-magnet synchronous motor                                                     |
| Motor type               | Compact                                                                                |
| Shaft height             | 100                                                                                    |
| Cooling                  | Forced ventilation                                                                     |
| Radial runout tolerance  | 0.050 mm                                                                               |
| Concentricity tolerance  | 0.100 mm                                                                               |
| Axial runout tolerance   | 0.100 mm                                                                               |
| Vibration severity grade | Grade A                                                                                |
| Degree of protection     | IP64                                                                                   |
| Design acc. to Code I    | IM B5 (compatible with 1FT6)                                                           |
| Temperature monitoring   | Pt1000 temperature sensor                                                              |
| Color of the housing     | Standard (pearl dark gray similar to RAL 9023)                                         |
| Shaft end type           | Plain shaft                                                                            |
| Sensor design            | Encoder AS24DQI: Absolut encoder<br>Singleturn 24 bit - with signal<br>connection RJ45 |
| Electrical connection    | Connector turnable                                                                     |
| Connector size           | 1.5                                                                                    |

| Optimum operating point |           |
|-------------------------|-----------|
| Optimum speed           | 2,000 rpm |
| Optimum power           | 11.7 kW   |

| Limiting data                     |           |
|-----------------------------------|-----------|
| Max. permissible speed (mech.)    | 6,000 rpm |
| Max. permissible speed (inverter) | 4,250 rpm |
| Maximum torque                    | 200.0 Nm  |
| Maximum current                   | 107.00 A  |

| Recommended Motor Module |          |
|--------------------------|----------|
| Rated inverter current   | 45.00 A  |
| Maximum inverter current | 85.00 A  |
| Maximum torque           | 168.0 Nm |