



Figure similar

### MLFB-Ordering data

**1FK7042-2AC71-1RG0-Z**  
V42

Client order no. :

Order no. :

Offer no. :

Remarks :

Item no. :

Consignment no. :

Project :

| Engineering data            |                                | Mechanical data          |                                                                                                                                                   |
|-----------------------------|--------------------------------|--------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|
| Rated speed (100 K)         | 2000 rpm                       | Motor type               | Permanent-magnet synchronous motor                                                                                                                |
| Number of poles             | 8                              | Motor type               | Compact                                                                                                                                           |
| Rated torque (100 K)        | 2.8 Nm                         | Shaft height             | 48                                                                                                                                                |
| Rated current               | 1.6 A                          | Cooling                  | Natural cooling                                                                                                                                   |
| Static torque (60 K)        | 2.50 Nm                        | Radial runout tolerance  | 0.040 mm                                                                                                                                          |
| Static torque (100 K)       | 3.0 Nm                         | Concentricity tolerance  | 0.08 mm                                                                                                                                           |
| Stall current (60 K)        | 1.30 A                         | Axial runout tolerance   | 0.08 mm                                                                                                                                           |
| Stall current (100 K)       | 1.61 A                         | Vibration severity grade | Grade A                                                                                                                                           |
| Moment of inertia           | 3.390 kgcm <sup>2</sup>        | Connector size           | 1                                                                                                                                                 |
| Physical constants          |                                | Degree of protection     | IP64                                                                                                                                              |
| Torque constant             | 1.86 Nm/A                      | Design acc. to Code I    | IM B5 (IM V1, IM V3)                                                                                                                              |
| Voltage constant at 20° C   | 122.0 V/1000*min <sup>-1</sup> | Temperature monitoring   | Pt1000 temperature sensor                                                                                                                         |
| Winding resistance at 20° C | 8.60 Ω                         | Electrical connectors    | Connectors for signals and power rotatable                                                                                                        |
| Rotating field inductance   | 64.0 mH                        | Color of the housing     | Standard (Anthracite RAL 7016)                                                                                                                    |
| Electrical time constant    | 7.40 ms                        | Holding brake            | without holding brake                                                                                                                             |
| Mechanical time constant    | 2.15 ms                        | Shaft extension          | Plain shaft                                                                                                                                       |
| Thermal time constant       | 30 min                         | Encoder system           | Encoder AM20DQI: absolute encoder 20 bits (resolution 1048576, encoder-internal 512 S/R) + 12 bits multi-turn (traversing range 4096 revolutions) |
| Shaft torsional stiffness   | 15500 Nm/rad                   |                          |                                                                                                                                                   |
| Net weight of the motor     | 8.4 kg                         |                          |                                                                                                                                                   |
| Recommended Motor Module    |                                |                          |                                                                                                                                                   |
| Rated inverter current      | 3 A                            |                          |                                                                                                                                                   |
| Maximum inverter current    | 9 A                            |                          |                                                                                                                                                   |
| Maximum torque              | 10.50 Nm                       |                          |                                                                                                                                                   |



Figure similar

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| Gearbox data                       |                       |                                   |             |
|------------------------------------|-----------------------|-----------------------------------|-------------|
| Gearbox type                       | Planetary gearbox NP+ | Moment of inertia of gearbox      | 0.490 kgcm² |
| Designation                        | NP 025                | Radial output shaft loading, max. | 2800 N      |
| Gearbox shaft end                  | With feather key      | Axial output shaft load, max.     | 0 N         |
| Gear ratio + steps                 | 10 (1-step)           | Efficiency of gearbox             | 0.97        |
| Temporary input speed              | 7000 rpm              | Torsional backlash                | 8 '         |
| Motor speed S1                     | 3900 rpm              | Gearbox weight                    | 3.80 kg     |
| Output torque S1                   | 45 Nm                 |                                   |             |
| Output moment maximum (short-time) | 90 Nm                 |                                   |             |

| Limiting data                     |          |
|-----------------------------------|----------|
| Max. permissible speed (mech.)    | 9000 rpm |
| Max. permissible speed (inverter) | 4750 rpm |
| Maximum torque                    | 10.5 Nm  |
| Maximum current                   | 5.6 A    |

| Special design |                                   |
|----------------|-----------------------------------|
| V42            | Mounting of NP+ planetary gearbox |