## Technical specifications

### General technical specifications

<table>
<thead>
<tr>
<th>Type of motor</th>
<th>SIMOTICS FD IEC low-voltage motors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frame sizes</td>
<td>315, 355, 400, 450</td>
</tr>
<tr>
<td>Rated power</td>
<td>200 ... 1800 kW</td>
</tr>
<tr>
<td>Rated speed</td>
<td>750 ... 3600 rpm</td>
</tr>
<tr>
<td>Rated torque</td>
<td>610 ... 14600 Nm</td>
</tr>
</tbody>
</table>

### Version

- Air-cooled, enclosed version
- Air-cooled, open version
- Water-cooled version
- Water-cooled, open-circuit ventilated
- Water-cooled motors
- Self-ventilated 1LM1/1MM1 (IC411) motors
- Force-ventilated 1LG1/1MG1 (IC416) motors
- Heat exchanger motors 1LH1/1MH1 (IC71W)
- Air-to-water heat exchanger 1LN1/1MN1 motors (IC86W)
- Self-ventilated, open-circuit ventilated 1LL1 motors (IC01)
- Force-ventilated, open-circuit ventilated 1LP1 motors (IC06)

### Efficiency marking

Only for line motors efficiency class in accordance with IEC 60034-30-1: IE2, IE3 (4, 6 and 8-pole)

### Insulation of the stator winding

Temperature class 180 (H)

DURIGNIT IR 2000 insulating system

### Degree of protection

As standard

IP55/IP54: Air-cooled, enclosed version, water-cooled version
IP23: Air-cooled, open version

### Cooling

- Self-ventilated 1LM1/1MM1 (IC411) motors
- Force-ventilated 1LG1/1MG1 (IC416) motors
- Water-cooled motors 1LH1/1MH1 (IC71W)
- Air-to-water heat exchanger 1LN1/1MN1 motors (IC86W)
- Self-ventilated, open-circuit ventilated 1LL1 motors (IC01)
- Force-ventilated, open-circuit ventilated 1LP1 motors (IC06)

### Permissible coolant temperature and installation altitude

- As standard
- Coolant temperature -20 ... +40 °C, installation altitude up to 1000 m above sea level
- Water-cooled motors: Cooling water inlet temperature +5 ... +25 °C, installation altitude up to 1000 m above sea level

### Standard voltages

- VSD: 50 Hz systems: 400 V, 500 V, 690 V
- 60 Hz systems: 460 V and 575 V
- DOL: 50 Hz systems: 400 V and 690 V
- 60 Hz systems: 460 V

The voltage to be used can be found in the "Selection and ordering data" for the required motor.

### Type of construction

- Without flange: IM B3, IM V5, IM V6
- With flange: IM B35, IM V1, IM V15, IM B5 with support foot

### Paint finish

Suitability of paint finish for climate group according to IEC 60721, Part 2-1

As standard: color RAL 7030 stone gray

### Vibration quantity level

Level A (normal)

Optionally: level B (with special vibration requirements)

### Shaft extension

Balance type: half-key balancing as standard

### Sound pressure level

The sound pressure level is listed in the "Selection and ordering data" for the required motor.

### Weights

The weight is listed in the "Selection and ordering data" for the required motor.

### Modular mounting concept

Prepared for mounting of rotary pulse encoder or brake.

### Options

See "Article No. supplements and special versions"