

LOHER CHEMSTAR

Flexibility - Adaptation - Optimum

General description

In our LOHER CHEMSTAR product segment (frame sizes 071 - 355), 50 % of all of the motors we produce have a flameproof enclosure Ex d, certified acc. to ATEX.

Ex d motors for this area have type of protection II 2G Ex de IIC T4 Standard. They are optimally suited for use in hazardous Zone 1.

Also Ex d motors are always designed and constructed to address particular applications, i.e. they can be precisely adapted to the specific project with the highest degree of flexibility - exactly as the customer specifies or the project demands.

This means that individual drives are created that are tailored to the particular plant, application or project specification.

All gray cast iron motors have optimized parameters, i.e. the winding and rotor are optimally adapted to the environmental conditions (electrically and mechanically). Only then can the optimum values for efficiency and power factor be achieved (without derating) for extremely low starting currents. The result is reflected in the energy saving with the lowest load on the line supply and highest efficiency.

These motors are available either surface cooled (t.e.f.c.), water cooled and as braking motor. In addition to the usual types of construction (where the shaft and flange is also in conformance with NEMA), non-standard numbers of poles, pole-changing versions, high-speed designs as well as special cooling types are available.

Our strengths also include special voltages / special frequencies / special insulation / converter operation.

Noteworthy:

Heavy-duty starting design (e.g. separators, centrifuges)

Ships' motors according to ABS, BV, CCS, DNV, GL, LRoS, RINA, RS Classification Societies



Technical data overview

| | Surface cooled (t.e.f.c.) | Water cooled | Braking motors |
|--------------------------------------|---|--|--|
| Motors: | 1PS5 (LOHER CHEMSTAR) Loher name: DN.. | 1PS5 (LOHER CHEMSTAR) Loher name: DNWW | 1PS5 (LOHER CHEMSTAR) Loher name: DB.. |
| Shaft heights: | Frame sizes 071 - 355 mm | Frame sizes 160 - 315 mm | Frame sizes 080 - 200 mm |
| Power range: (50 Hz types) | Up to 460 kW (thermally utilized to temperature class B at $T_U = 40\text{ °C}$) | Up to 500 kW (thermally utilized according to temperature class B $T_U =$ 40 °C) | Up to 30 kW for braking torques from 10 to 270 Nm |
| Number of poles: | 2 - 8 pole; also higher pole numbers for special versions Pole changing: 2 speeds, e.g. 4/2, 6/2, 8/4, 8/63 speeds, e.g. 8/6/4 | 2 - 8 pole possible on request | 4 - 8 pole possible on request |
| Voltage range: | Low voltage up to 1000 V | | |
| Rated voltages: | All of the usual low voltages and voltage ranges acc. to IEC 60038 However, also: Non-standard voltages and / or frequencies according to customer specifications | | |
| Operating mode: | S1 and various | | |
| Degree of protection: | IP55, IP56, to IP66 | IP55, IP56, IP66 (higher degrees of protection on request) | up to IP66 |
| Cooling type: | IC 411, IC 416, however, also special cooling types such as e.g. non-ventilated IC | IC 71 W | IC 411, IC 416 |
| Type of construction: | IM B3, IM B6, IM B7, IM V6 IM B5, IM V3, IM V1, IM V5, IM B35, IM V15, IM B14, IM B34, IM V18, | IM B3, IM V5, IM V6, IM B5, IM V1, IM V3 Special types of construction possible on request | IM B3, IM V5, IM V6, IM B5, IM V1, IM V3, IM B35, IM V15, IM V36 Special types of construction possible on |

| | Surface cooled (t.e.f.c.) | Water cooled | Braking motors |
|-----------------------------|---|---|---|
| | IM V19 | | request |
| Enclosure: | Gray cast iron | | |
| Bearings: | Ball bearings (standard) and special bearings for high axial (thrust) and radial forces | | |
| Regulations: | IEC, EN, DIN, VDE | | |
| Types of protection: | "d" as well as dust explosion protection according to EN 50281-1-1 / EN 50281-1-2 | "d" | "d" as well as dust explosion protection according to EN 50281-1-1 / EN 50281-1-2 |
| Noise level: | All motors are noise-optimized (noise limit values according to EN 60034-9), low-noise version possible for 2-pole motors (GG3) | All motors are noise-optimized (noise limit values according to EN 60034-9) | |

**Features
Options:**

- Regreasing system from FS 160 - SPM nipple from FS 132 - stainless steel screws / bolts - larger connection system
- Additional terminal box in either Ex e or Ex d
- PTC thermistor or PT100 (TMS)
- Can also be supplied for 60 Hz (adapted winding - increased power rating)
- All motors with insulating material class H
- All motors are available with an electrical design according to "NEMA Standards Publication No MG1"
- Flange and shaft end can be designed and implemented in accordance with NEMA

Special versions e.g. for:

- Forced ventilation (for converter operation), mounted speed encoder, non-standard shaft end, backstop, special paint finishes
- Low temperatures down to -55 °C (type DN..)
- Higher power ratings and braking torques also possible on request (type DB..)
- Special mechanical design on request

Customer benefits

- Full flexibility: Special demands are implemented
=> adapted to special requirements
- Only quality components are used
=> for an extremely high degree of operational reliability and long lifetime
- Parameter-optimized motors (adapted winding versions and rotors)
=> for extremely high efficiencies with the best power factors
- Water cooling
=> smaller outer dimensions, increased power ratings, low moment of inertia
- Braking motors
=> suitable for switching operation at high switching frequencies, constant brake activation and deactivation times and a long lifetime

Typical applications

- Pumps
- Compressors
- Fans
- Extruders
- Can be universally used as drive for these applications
- Tunnel drilling machine
- Hoisting gear
- Travel gear
- Cranes
- Branch Oil & Gas