

ELEKTROMATEN® KE

Chain-drive

comply to ATEX

Series SG50

KE 9.24 Ex

Series SG85

KE 40.24 Ex

Series SG115

KE 80.12 Ex

ELEKTROMATEN KE are special drives for industrial doors to be used in potentially explosive atmospheres. The door shaft is driven by a chain-transmission. Prevention of doors falling back requires a safety brake of the appropriate size.

ELEKTROMATEN KE comply to ATEX comprises of:

Worm gear, interchangeable output-shaft, emergency manual operator, integrated limit switches and electrical motor.

Output side

The interchangeable output-shaft allows easy modification from left- to right-hand use.

Approvals and certificates

ELEKTROMATEN

Type test according to:

DIN EN 12453

DIN EN 60335-1

DIN EN 60335-2-103

TÜV NORD CERT GmbH

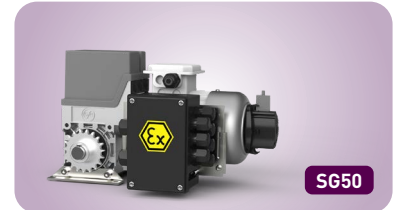


ATEX - registration number

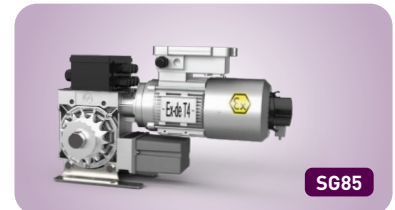
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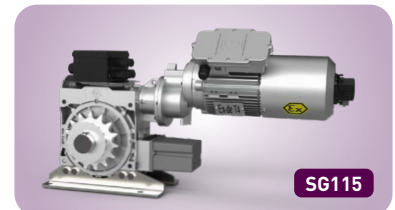
TÜV NORD CERT GmbH



SG50



SG85



SG115



1

Emergency manual operation

- Hand crank NHK

1



2

Limit switch

Mechanical limit NES

- 2 operating, 2 emergency- and 2 auxiliary limit switches

2



3

Terminal box

- Terminal box

3



4

Mounting

- Foot angle (standard fitting)
- Bracket (as an accessory or fitted directly on the ELEKTROMATEN)

Separate Safety Brake FG

- Prevention of doors falling back
- Suitable Safety Brakes for all types of ELEKTROMATEN KE can be found in Section 7.

4


Electrical accessories

For ELEKTROMATEN in potentially explosive atmospheres:

- Door control
- Evaluators
- Push buttons etc.

Details of all GfA door controls to be used in in potentially explosive atmospheres can be found from page 6.051.

1. Technical data

| ELEKTROMATEN | | | | KE 9.24 Ex | KE 35.24 Ex | KE 80.12 Ex |
|--|--------------------------------------|-----|---|---|---|---|
| Series | | | | SG50 | SG85 | SG115 |
| Type of protection | Motor Ex-e Increased Safety | T3 |  | Assemblies fitted: Gas: II 2G Ex db eb h IIC T3 Gb Dust: II 2D Ex tb h IIC 130°C Db | -- | -- |
| | Motor Ex-de Flameproof Enclosures | T4 | | Assemblies fitted: Gas: II 2G Ex db eb h IIC T4 Gb Dust: II 2D Ex tb h IIC 130°C Db | Assemblies fitted: Gas: II 2G Ex db eb h IIC T4 Gb Dust: II 2D Ex tb h IIC 130°C Db | Assemblies fitted: Gas: II 2G Ex db eb h IIC T4 Gb Dust: II 2D Ex tb h IIC 130°C Db |
| Output torque | | Nm | | 90 | 350 | 800 |
| Output speed | | rpm | | 24 | 24 | 12 |
| Output shaft / hollow shaft (Ø) | | mm | | 25 | 40 | 55 |
| Max. holding torque ¹⁾ | | Nm | | 90 | 350 | 800 |
| Motor power | | kW | | 0,37 | 0,75 | 1,10 |
| Supply voltage | | V | | 3-230 / 400 | 3-230 / 400 | 3-230 / 400 |
| Operating frequency | | Hz | | 50 | 50 | 50 |
| Operating current ²⁾ | Ex-e T3 Ex-de T4 | A | | 2,10 / 1,20 1,65 / 0,95 | -- 3,64 / 2,00 | -- 4,67 / 2,70 |
| Max. cycles per hour ³⁾ | | | | 15 (14,5) | 12 (9,4) | 12 (10,2) |
| Limit switch range ⁴⁾ | | | | 20 ⁵⁾ | 20 (40, 60) | 20 (60) |
| Max. hand force NHK ⁶⁾ | | N | | 62 | 242 | 159 |
| Permissible temperature range | | °C | | -10...+40 | -20...+40 | -20...+40 |
| Weight | Ex-e T3 Ex-de T4 | kg | | 20 30 | -- 32 | -- 53 |
| Part no. installation drawing (dxg, dwg) | Ex-e T3 Ex-de T4 | | | 50000710 50002193 | -- 50002192 | -- 50002190 |
| Part no. ELEKTROMATEN | Ex-e T3 Ex-de T4 | | | 10002617 10005489 | -- 10005479 | -- 10005490 |

Generally applies: Degree of protection IP65 (KE 9.24 Ex-de T4: IP55), operating sound pressure level SPL <70 dB(A)

¹⁾ Maximum torque that may act on the output shaft of the drive unit when the door is stationary · ²⁾ See 2.6 · ³⁾ One cycle consists of a complete opening and closing movement of the door. The value according to EN 60335-2-103 is given in brackets. If the limit switch range is not fully used, the number of possible cycles can be increased in relation to the reduced number of revolutions of the output shaft, see also 2.2 · ⁴⁾ Maximum revolutions of the output shaft / hollow shaft; optional limit switch ranges are listed in brackets (→ change in cycles per hour) · ⁵⁾ Other limit switch ranges on request · ⁶⁾ See 2.4

2. Notes

2.1 European directive

In accordance with the product standard EN 13241 Doors- and EN 12453 Safety in use of power operated doors-Requirements.

2.2 Cycles per hour

The specified cycles per hour (see technical data) apply to even distribution and the limit switch range first mentioned. When using the temperature range +40 °C to +60 °C, the specified value must be halved. For other limit switch ranges, the values must be converted accordingly.

2.3 Gear self-braking / Brake

Drives without an electric brake have a self-sustaining worm gear and stop automatically.

On drives with an electric brake, stopping is achieved by the external brake. Brake inspection must always be carried out by qualified service engineers.

2.4 Manual operation

In accordance with EN 12453 and 12604 hand force up to 390 N is permissible. For large, heavy doors, manual operation is only used for closing the door. In the case of drive units with an electric brake; emergency manual operation is carried out against the closed brake (Read note in 2.3).

2.5 Safety brake / Locking torque / Holding torque

For rising loads a safety brake of the appropriate size must be fitted. The admissible drive speeds for the safety brake may not be exceeded. The locking torque moment must not exceed the admissible loads on mechanical components such as e.g. fixings, shafts, keys etc.

2.6 Motor overload protection

Drives for use in explosion protected zones have to be protected against overload, short circuits and phase failures (in three-phase systems). The motor protection switch has to be integrated in an external motor door control. The motor protection switch has to be adjusted in match to the operating current of the motor.

2.7 Chain drive

It is not allowed to exceed the admissible loads on chains, shafts, keys and bearings. Observe the direction of the power input.

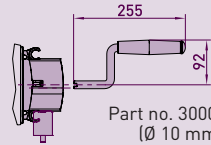
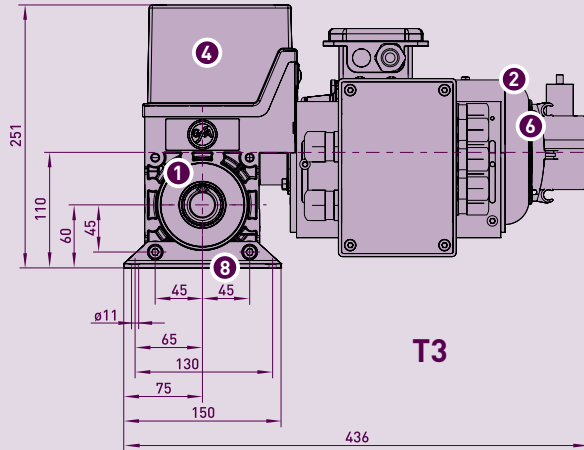
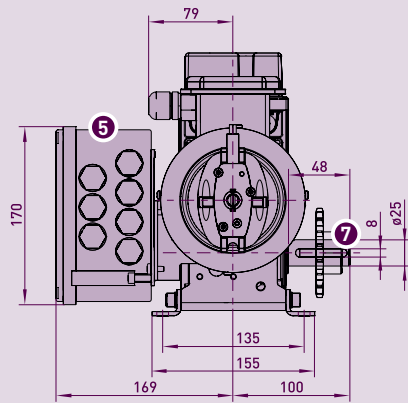
We recommend the use of drive sprockets with at least 15 teeth. The drive sprocket must not protrude beyond the end of the output-shaft.

The chain drive transmission is to be fitted with tensioning devices designed to prevent the chain riding up or disengaging.

3. Dimensions

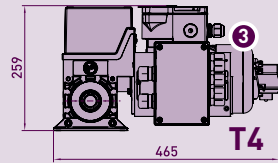
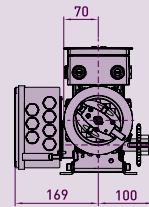
3.1 KE 9.24 Ex-e / Ex-de

SG50



Part no. 30002591
(Ø 10 mm)

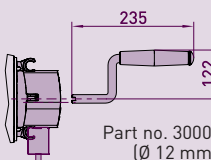
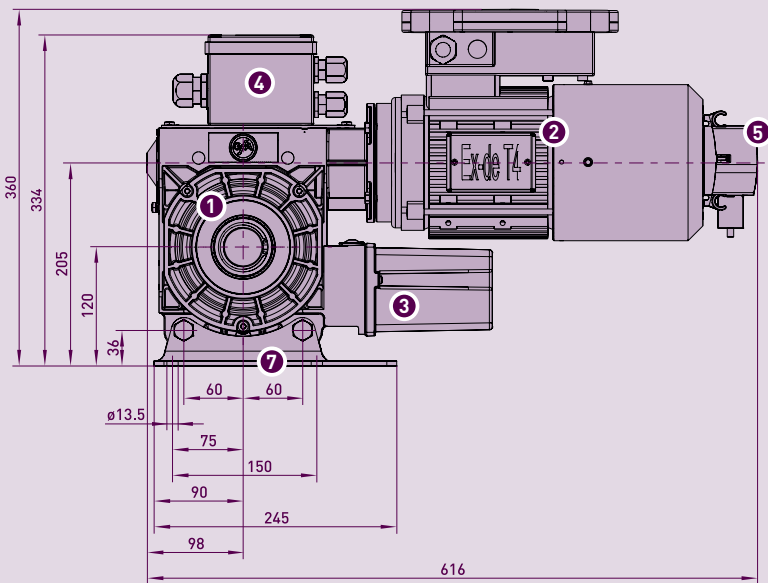
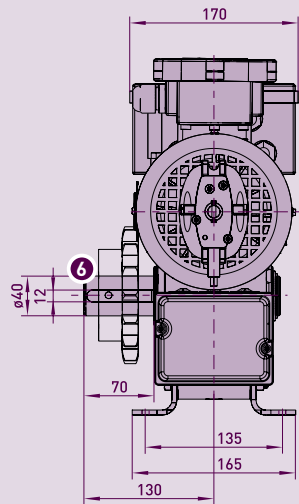
- 1 Worm gear
- 2 Motor Ex-e
- 3 Motor Ex-de
- 4 Limit switch
- 5 Terminal box
- 6 Hand crank NHK
- 7 Output-shaft (interchangeable)
- 8 Foot angle



■ Permitted installation: Horizontal (as shown) or vertical (motor at the bottom)

3.2 KE 35.24 Ex-de T4

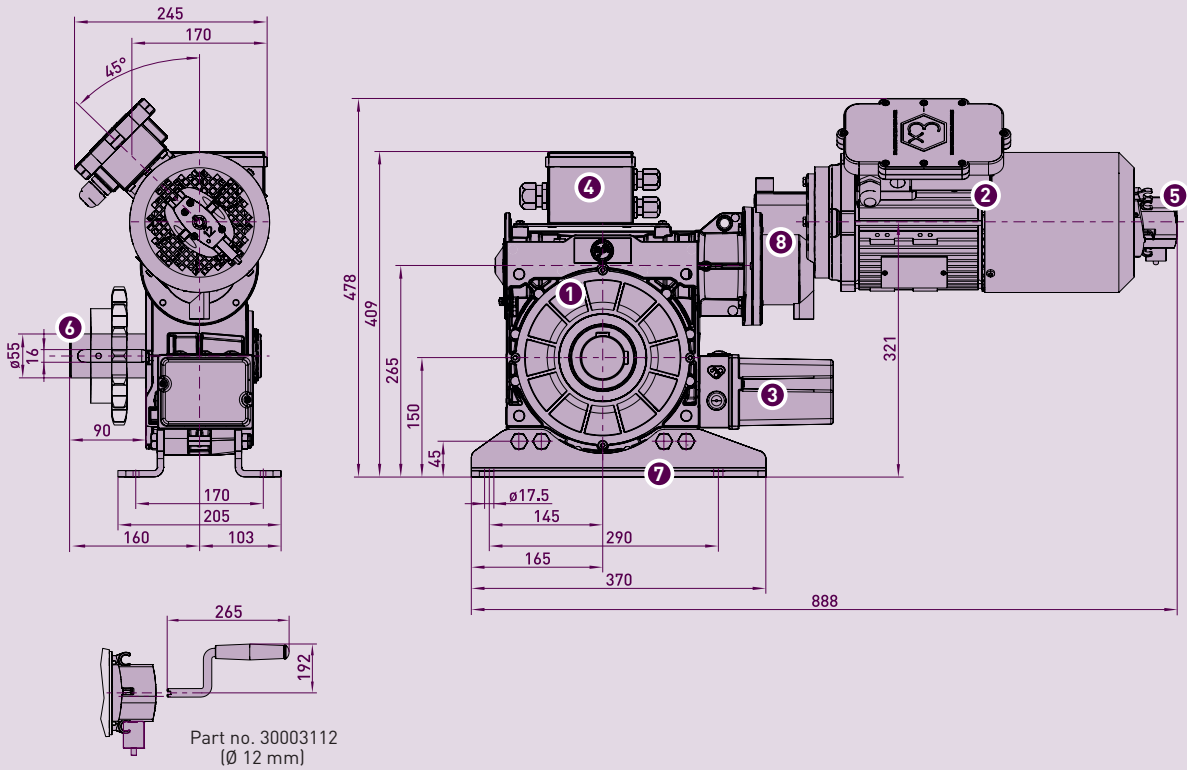
SG85



Part no. 30002749
(Ø 12 mm)

- 1 Worm gear
- 2 Motor Ex-de with integrated brake
- 3 Limit switch
- 4 Terminal box
- 5 Hand crank NHK
- 6 Output-shaft (interchangeable)
- 7 Foot angle

■ Permitted installation: Horizontal (as shown) or vertical (motor at the bottom)



- 1 Worm gear
- 2 Motor Ex-de with integrated brake
- 3 Limit switch
- 4 Terminal box
- 5 Hand crank NHK
- 6 Output-shaft (interchangeable)
- 7 Foot angle
- 8 Intermediate gear

■ Permitted installation: Horizontal (as shown) or vertical (motor at the bottom)

4. Attachments / Accessories for ELEKTROMATEN KE

See section 2 - ELEKTROMATEN KE