## ELEKTROMATEN ${ }^{\ominus}$

## SI 6.160 FI

"Safedrive ${ }^{\circledR}$ " ELEKTROMATEN SI-FI are special drives for industrial doors which require an anti-fallback device. The patented safety brake is built into the gear. The drive unit is directly fitted to the door shaft. In combination with GfA door controls TS 970, TS 971 or TS 981, the built-on frequency inverter offers the advantage of individually adjustable output speed with soft start as well as soft stop.


| ELEKTROMATEN <br> Series |  |  | $\begin{aligned} & \text { SI } 6.160 \mathrm{FI} \\ & \text { SG50F } \end{aligned}$ |
| :---: | :---: | :---: | :---: |
| Output torque |  | Nm | 60 |
| Output speed | OPEN <br> CLOSE > $2,5 \mathrm{~m}$ <br> CLOSE $\leqslant 2,5 \mathrm{~m}$ | rpm | $\begin{gathered} 25-160 \\ 25-110 \\ 25-90 \end{gathered}$ |
| Output shaft / hollow shaft ( $\varnothing$ ) |  | mm | 25,0 / 25,4/30,0 |
| Locking torque |  | Nm | 310 |
| Motor power |  | kW | 0,85 |
| Supply voltage |  | V | 1N~230 |
| Operating frequency |  | Hz | $50 / 60$ |
| Max. cycles per hour |  |  | $27(26,5) / \emptyset 30: 38(37,5)$ |
| Limit switch range <br> (Max. revolutions of hollow shafts) |  |  | 20/ø30: 14 |
| Max. hand force NHK / KNH |  | N | 196/158 |
| Permissible temperature range |  | ${ }^{\circ} \mathrm{C}$ | -10..+40 (+60) |
| Protection class |  | IP | 65 |
| Weight |  | kg | 25 (KNH: 27) |
| Part no. ELEKTROMATEN |  |  | $\begin{aligned} & 10004024(\emptyset 25,0) \\ & 10004025(\emptyset 25,4) \\ & 10004062(\emptyset 30,0) \end{aligned}$ |

Further notes on the following page
Emergency manual operation:

> Hand crank NHK
> Hand chain operator KNH

Limit switch: ■igital limit switch DES


## 1 European directive

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

## 2 Selection chart / Cycles per hour

The specified cycles per hour (see technical data) apply to even distribution and the limit switch range first mentioned. 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. When using the temperature range $+40^{\circ} \mathrm{C}$ to $+60^{\circ} \mathrm{C}$, the specified value must be halved. For other limit switch ranges, the values must be converted accordingly.
The selection chart includes $20 \%$ friction for roller shutters with single-wall profiles (profile thickness 20 mm ) and $10 \%$ friction for sectional doors.
Reduce the weight by a further $20 \%$ for vertical lifted doors and insulated shutters with double walled, thick and/or deep sections. Do not calculate using the tube diameter. The highest torque will occur normally after 1-2 turns of the barrel from close.

## 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.

## 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 3).

## 5 Locking torque / Holding torque

The permissible loads on walls, fastenings, mountings and transmission elements must not be exceeded, even for maximum holding torques or locking torques.

## 6 Output speed

The maximum admissible speed is dependent on the door construction and type of the door. All materials must be designed to be used for doors with higher speeds.
The admissible closing speed shall be adjusted so that the operating forces must comply with EN 12453

## 7 Cable / Cable drums

When calculating the cable size the max. permitted door weight is required with a safety of $6 x$ for the cables requirement of EN 12604.
Cable drum selection - ensure that two turns of the cable remain on the drum at all times. The diameter of the cable drum must be at least $20 x$ the diameter of the cable.

