ELEKTROMATEN® SI
Safedrive®

With integrated safety brake for doors which require an anti-fallback device

<table>
<thead>
<tr>
<th>Model</th>
<th>Output torque</th>
<th>Output speed</th>
</tr>
</thead>
<tbody>
<tr>
<td>SI 8.20 – SI 14.20</td>
<td>80 – 140 Nm</td>
<td>15 – 20 rpm</td>
</tr>
<tr>
<td>SIK 17.10 – SIK 25.10</td>
<td>170 – 250 Nm</td>
<td>10 rpm</td>
</tr>
<tr>
<td>SI 10.15 – SI 180.6</td>
<td>100 – 1800 Nm</td>
<td>6 – 15 rpm</td>
</tr>
<tr>
<td>SI 17.24 – SI 100.24</td>
<td>170 – 1000 Nm</td>
<td>24 – 90 rpm</td>
</tr>
<tr>
<td>SI 260.5 – SI 500.5 GH</td>
<td>2600 – 5000 Nm</td>
<td>5 – 9 rpm</td>
</tr>
<tr>
<td>SI 500.10 FI</td>
<td>5000 Nm</td>
<td>6 – 10 rpm</td>
</tr>
</tbody>
</table>

Subject to alterations. (20 Ke)
ELEKTROMATEN® SIK
Safedrive® Compact

For driving: Roller shutters and rolling grilles which require an anti-fallback device, suitable for installation in tight spaces

“Safedrive® Compact” ELEKTROMATEN SIK 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 fitted directly to the door shaft. Safedrive® ELEKTROMATEN SIK comprises of:
- Worm gear with safety brake and hollow shaft, emergency manual operator, integrated limit switches and electrical motor.
- The centrally-aligned hollow shaft of the ELEKTROMATEN SIK makes it suitable particularly for installation in tight spaces.

Patented built-in safety brake
- Safety against failure of worm or wheel
- Independent of speed / direction
- Maintenance free, self-monitoring
- Excellent damping characteristics in operation
- Compact dimensions

Approvals and certificates

ELEKTROMATEN
Type test according to:
DIN EN 12453
DIN EN 60335-1
DIN EN 60335-2-103
TÜV NORD CERT GmbH

Built-in safety brake
Certificate of conformity according to:
DIN EN 12604 / 12605
ift Rosenheim GmbH

Emergency manual operation
- Hand crank NHK
- Rapid hand chain operator SK

Limit switches
Mechanical limit NES
- 2 operating, 2 emergency- and 2 auxiliary limit switches

Digital limit DES
- Absolute encoder, after a power failure, re-adjustment is not required

Mounting
- Floating foot (standard fitting)
- Torque bracket
- Moving-torque bracket

Door controls
- Simple connection by means of non-interchangeable plug connections allowing simple exchange with other GfA control panels
- Control voltage: 24 V
- Frequency: 50 Hz / 60 Hz
- Mains supply: 1N~230 V, 3~230 V, 3N~400 V, 3~400 V

Details of all GfA door controls can be found in Section 8.
1. Technical data

<table>
<thead>
<tr>
<th>ELEKTROMATEN</th>
<th>SIK 17.10</th>
<th>SIK 17.10 WS</th>
<th>SIK 25.10</th>
<th>SIK 25.10 WS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Series</td>
<td>SG63F-SIK</td>
<td>SG63F-SIK</td>
<td>SG63F-SIK</td>
<td>SG63F-SIK</td>
</tr>
<tr>
<td>Output torque</td>
<td>Nm</td>
<td>170</td>
<td>170</td>
<td>250</td>
</tr>
<tr>
<td>Output speed</td>
<td>rpm</td>
<td>10</td>
<td>10</td>
<td>10</td>
</tr>
<tr>
<td>Output shaft / hollow shaft (Ø)</td>
<td>mm</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Locking torque 1</td>
<td>Nm</td>
<td>420</td>
<td>420</td>
<td>510</td>
</tr>
<tr>
<td>Safety brake (approval number)</td>
<td></td>
<td>14-003612-PR02</td>
<td>14-003612-PR02</td>
<td>14-003612-PR02</td>
</tr>
<tr>
<td>Max. holding torque 2</td>
<td>Nm</td>
<td>150</td>
<td>170</td>
<td>250</td>
</tr>
<tr>
<td>Max. output speed OPEN / CLOSE for frequency inverter operation 3</td>
<td>rpm</td>
<td>18 / 10</td>
<td>--</td>
<td>18 / 10</td>
</tr>
<tr>
<td>Motor power</td>
<td>kW</td>
<td>0,30</td>
<td>0,40</td>
<td>0,40</td>
</tr>
<tr>
<td>Operating frequency</td>
<td>Hz</td>
<td>50</td>
<td>50</td>
<td>50</td>
</tr>
<tr>
<td>Operating current 4</td>
<td>A</td>
<td>2,6 / 1,5</td>
<td>4,5</td>
<td>2,6 / 1,5</td>
</tr>
<tr>
<td>Max. movements per hour 5,6</td>
<td></td>
<td>20</td>
<td>12</td>
<td>20</td>
</tr>
<tr>
<td>Limit switch range 7</td>
<td></td>
<td>20</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td>Max. hand force NHK / SK 8</td>
<td>N</td>
<td>51 / 134</td>
<td>75 / 198</td>
<td>75 / 198</td>
</tr>
<tr>
<td>Weight</td>
<td>kg</td>
<td>16</td>
<td>18</td>
<td>16</td>
</tr>
<tr>
<td>Part no. installation drawing [dxf, dwg]</td>
<td></td>
<td>50000589</td>
<td>50000589</td>
<td>50000589</td>
</tr>
<tr>
<td>Part no. ELEKTROMATEN</td>
<td></td>
<td>10003998</td>
<td>10004146</td>
<td>10003999</td>
</tr>
</tbody>
</table>

 Generally applies: Degree of protection IP54, permissible temperature range -10 °C...+40 °C (+60 °C), operating sound pressure level SPL ‹70 dB(A)

1 See 3.5: 2 Maximum torque that may act on the output shaft of the drive unit when the door is stationary · 3 We recommend the selection of a special ELEKTROMATEN (enquire) for use with frequency inverter, OPEN drive speed at 87 Hz, see 3.7 · 4 The max. current in door drives can reach up to 4x the rated operating current for limited periods, see 3.6 and 3.7 · 5 When using a temperature range of +40 °C...+60 °C use half of maximum movements per hour, see also 3.2 · 6 The specified value must be halved when considering cycles per hour according to EN 60335-2-103 · 7 Maximum revolutions of hollow shaft · 8 See 3.4

2. Selection chart

<table>
<thead>
<tr>
<th>Roller shutters</th>
<th>Tube EN 10220 (mm)</th>
<th>SIK 17.10 / SIK 17.10 WS</th>
<th>F [N]</th>
<th>v_a [cm/s]</th>
<th>SIK 25.10 WS / SIK 25.10 WS</th>
<th>F [N]</th>
<th>v_a [cm/s]</th>
</tr>
</thead>
<tbody>
<tr>
<td>101,6 x 3,6</td>
<td>2237</td>
<td>6,4</td>
<td>3289</td>
<td>6,4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>108,8 x 3,6</td>
<td>2125</td>
<td>6,7</td>
<td>3125</td>
<td>6,7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>133,0 x 4,0</td>
<td>1778</td>
<td>8,0</td>
<td>2614</td>
<td>8,0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>159,0 x 4,5</td>
<td>1520</td>
<td>9,3</td>
<td>2235</td>
<td>9,4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>177,8 x 5,0</td>
<td>1375</td>
<td>10,4</td>
<td>2022</td>
<td>10,4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>193,7 x 5,4</td>
<td>--</td>
<td>--</td>
<td>1872</td>
<td>11,2</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

F = Lift [N]  
v_a = Initial speed [cm/s]  
Includes 20 % friction for single-wall profiles [profile thickness 20 mm]  
Read note in 3.2

Subject to alterations. (20_He)
3. Notes

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

3.2 Selection chart / Movements per hour
The specified movements per hour (see Technical data) apply to an even distribution and the limit switch range first mentioned and must not be exceeded. For other limit switch ranges or heavily used doors, the drag forces must be reduced (enquire).

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.

3.3 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.

3.4 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 3.3).

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.

3.6 Motor overload protection
Motor overload protection must be able to withstand 4x the operating motor current because the starting current of the drive unit can reach these levels for short periods.

3.7 Use with external frequency inverter
For external frequency inverters applies:
A higher than recommended drive speed puts extra load onto the gear. This extra load must be taken into account when sizing a drive by reducing the available output torque.
Increasing the drive speed by 10 % reduces the admissible drive torque by 5 %. In the case of higher drive speeds reduce the drive torque accordingly (enquire if necessary).
The admissible drive speeds may not be exceeded [see Technical data]. The operating forces must comply with EN 12453, and the corresponding EMC directives must likewise be observed.

If selecting a frequency inverter, note that the starting current of the drive unit can reach 4x the operating motor current.

4. Dimensions

SIK 17.10 – SIK 25.10 WS

Permitted installation: Horizontal [as shown] or vertical [motor at the bottom]
5. Emergency manual operation • for horizontal or vertical installation

- Manual forces, see item 1 of technical data
- Read note in 3.4

6. Attachments / Accessories

6.1 Bracket Part no. 40006488

- Max. load 5 kN

6.2 Torque bracket Part no. 30002930

- Right- or left-hand use
- ELEKTROMATEN vertical (as shown) or horizontal
- For mounting with floating foot additional requirements: Bracket 6.1 and bearing

6.3 Moving-torque bracket Part no. 20002773.00005

- Right- or left-hand use
- ELEKTROMATEN horizontal only
ELEKTROMATEN® SI

Safedrive®

For driving:
Roller shutters and rolling grilles
which require an anti-fallback device

“Safedrive®” ELEKTROMATEN SI 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 fitted directly to the door shaft. Safedrive® ELEKTROMATEN comprises of:
Worm gear with safety brake and hollow shaft, emergency manual operator, integrated limit switches and electrical motor.

Patented built-in safety brake
- Safety against failure of worm or wheel
- Independent of speed / direction
- Maintenance free, self-monitoring
- Excellent damping characteristics in operation

Approvals and certificates

ELEKTROMATEN
Type test according to:
DIN EN 12453
DIN EN 60335-1
DIN EN 60335-2-103
TÜV NORD CERT GmbH

Built-in safety brake
Certificate of conformity according to:
DIN EN 12604 / 12605
ift Rosenheim GmbH

Emergency manual operation
- Hand crank NHK
- Hand chain operator KNH

Limit switches
Mechanical limit NES
- 2 operating, 2 emergency- and 2 auxiliary limit switches

Digital limit DES
- Absolute encoder, after a power failure, re-adjustment is not required

Mounting
- Floating foot (standard fitting)
- Torque bracket
- Moving-torque bracket

Special versions
- Increase of movements per hour
- Higher protection class
- Other voltages and frequencies
- Explosion-proof according to ATEX (page 6.011)
- ELEKTROMATEN SI with built-on frequency inverter (page 1.101)

Door controls
- Simple connection by means of non-interchangeable plug connections allowing simple exchange with other GfA control panels
- Control voltage: 24 V
- Frequency: 50 Hz / 60 Hz
- Mains supply:
  1N~230 V, 3~230 V, 3N~400 V, 3~400 V

Details of all GfA door controls can be found in Section 8.
### 1. Technical data

#### ELEKTROMATEN

<table>
<thead>
<tr>
<th>Series</th>
<th>SI 10.15</th>
<th>SI 17.15</th>
<th>SI 63.25.15</th>
<th>SI 25.10</th>
<th>SI 25.15WS</th>
<th>SI 40.10</th>
<th>SI 40.15</th>
<th>SI 45.15WS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S063F</td>
<td>S063F</td>
<td>S063F</td>
<td>S065F</td>
<td>S065F</td>
<td>S085F</td>
<td>S085F</td>
<td>S085F</td>
</tr>
<tr>
<td>Output torque (Nm)</td>
<td>100</td>
<td>170</td>
<td>250</td>
<td>250</td>
<td>400</td>
<td>400</td>
<td>450</td>
<td></td>
</tr>
<tr>
<td>Output speed (rpm)</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>10</td>
<td>15</td>
<td>15</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Output shaft / hollow shaft (Ø) (mm)</td>
<td>30</td>
<td>30</td>
<td>40</td>
<td>30</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td></td>
</tr>
<tr>
<td>Locking torque (Nm)</td>
<td>420</td>
<td>420</td>
<td>510</td>
<td>635</td>
<td>635</td>
<td>760</td>
<td>1100</td>
<td></td>
</tr>
<tr>
<td>Safety brake (approval number)</td>
<td>14-003612-PRO2</td>
<td>14-003612-PRO2</td>
<td>14-003612-PRO2</td>
<td>14-003612-PRO3</td>
<td>14-003612-PRO3</td>
<td>14-003612-PRO3</td>
<td>14-003612-PRO3</td>
<td></td>
</tr>
<tr>
<td>Max. holding torque (Nm)</td>
<td>170</td>
<td>170</td>
<td>250</td>
<td>250</td>
<td>250</td>
<td>400</td>
<td>450</td>
<td></td>
</tr>
<tr>
<td>Max. output speed OPEN / CLOSE for frequency inverter operation (rpm)</td>
<td>26 / 15</td>
<td>26 / 15</td>
<td>26 / 15</td>
<td>18 / 15</td>
<td>--</td>
<td>18 / 15</td>
<td>26 / 15</td>
<td>--</td>
</tr>
<tr>
<td>Motor power (kW)</td>
<td>0,30</td>
<td>0,40</td>
<td>0,55</td>
<td>0,55</td>
<td>0,75</td>
<td>0,75</td>
<td>0,85</td>
<td>0,75</td>
</tr>
<tr>
<td>Supply voltage (V)</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
<td>V</td>
</tr>
<tr>
<td>Operating frequency (Hz)</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Limit switch range</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Part no. installation drawing (dfx, dwg)</td>
<td>14-003612-PR01</td>
<td>14-003612-PR01</td>
<td>14-003612-PR01</td>
<td>14-003612-PR01</td>
<td>14-003612-PR01</td>
<td>14-003612-PR01</td>
<td>14-003612-PR01</td>
<td>14-003612-PR01</td>
</tr>
</tbody>
</table>

#### ELEKTROMATEN

<table>
<thead>
<tr>
<th>Series</th>
<th>SI 55.10</th>
<th>SI 55.15</th>
<th>SI 65.10</th>
<th>SI 65.15</th>
<th>SI 75.10</th>
<th>SI 75.15</th>
<th>SI 100.10</th>
<th>SI 140.7</th>
<th>SI 180.6</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>S085F</td>
<td>S085F</td>
<td>S085F</td>
<td>S085F</td>
<td>S085F</td>
<td>S085F</td>
<td>S085F</td>
<td>S085F</td>
<td></td>
</tr>
<tr>
<td>Output torque (Nm)</td>
<td>550</td>
<td>550</td>
<td>650</td>
<td>650</td>
<td>750</td>
<td>750</td>
<td>1000</td>
<td>1400</td>
<td>1800</td>
</tr>
<tr>
<td>Output speed (rpm)</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>10</td>
<td>7</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Output shaft / hollow shaft (Ø) (mm)</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>40</td>
<td>55</td>
<td>55</td>
<td>55</td>
<td>60</td>
<td></td>
</tr>
<tr>
<td>Locking torque (Nm)</td>
<td>1100</td>
<td>1100</td>
<td>1100</td>
<td>1100</td>
<td>1100</td>
<td>2800</td>
<td>2800</td>
<td>2800</td>
<td>3125</td>
</tr>
<tr>
<td>Safety brake (approval number)</td>
<td>14-003612-PRO3</td>
<td>14-003612-PRO3</td>
<td>14-003612-PRO3</td>
<td>14-003612-PRO3</td>
<td>14-003612-PRO3</td>
<td>14-003612-PRO3</td>
<td>14-003612-PRO3</td>
<td>14-003612-PRO3</td>
<td>14-003612-PRO3</td>
</tr>
<tr>
<td>Max. holding torque (Nm)</td>
<td>550</td>
<td>550</td>
<td>650</td>
<td>650</td>
<td>750</td>
<td>750</td>
<td>1000</td>
<td>1400</td>
<td>1800</td>
</tr>
<tr>
<td>Max. output speed OPEN / CLOSE for frequency inverter operation (rpm)</td>
<td>18 / 18</td>
<td>26 / 26</td>
<td>15 / 15</td>
<td>15 / 15</td>
<td>18 / 18</td>
<td>18 / 18</td>
<td>12 / 12</td>
<td>10 / 10</td>
<td></td>
</tr>
<tr>
<td>Motor power (kW)</td>
<td>0,75</td>
<td>1,10</td>
<td>0,75</td>
<td>1,10</td>
<td>1,10</td>
<td>1,10</td>
<td>1,30</td>
<td>1,10</td>
<td>1,30</td>
</tr>
<tr>
<td>Supply voltage (V)</td>
<td>3-230/400</td>
<td>3-230/400</td>
<td>3-230/400</td>
<td>3-230/400</td>
<td>3-230/400</td>
<td>3-230/400</td>
<td>3-230/400</td>
<td>3-230/400</td>
<td>3-230/400</td>
</tr>
<tr>
<td>Operating frequency (Hz)</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Operating current (A)</td>
<td>7,2 / 4,2</td>
<td>7,2 / 4,2</td>
<td>7,2 / 4,2</td>
<td>7,2 / 4,2</td>
<td>7,0 / 4,1</td>
<td>8,1 / 4,7</td>
<td>11,2 / 6,5</td>
<td>7,0 / 4,1</td>
<td>11,2 / 6,5</td>
</tr>
<tr>
<td>Max. movements per hour</td>
<td>16</td>
<td>16</td>
<td>10</td>
<td>12</td>
<td>14</td>
<td>14</td>
<td>12</td>
<td>10</td>
<td>4</td>
</tr>
<tr>
<td>Limit switch range</td>
<td>20 (40)</td>
<td>20 (60)</td>
<td>20 (60)</td>
<td>20 (60)</td>
<td>20 (60)</td>
<td>20 (60)</td>
<td>20 (60)</td>
<td>20 (60)</td>
<td>20 (60)</td>
</tr>
<tr>
<td>Max. hand force NHK / SK and / or KNH</td>
<td>N</td>
<td>320 / 158</td>
<td>233 / 188</td>
<td>233 / 188</td>
<td>290 / 234</td>
<td>290 / 234</td>
<td>349 / 282</td>
<td>263 / 212</td>
<td>348 / 281</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>9,054</td>
<td>9,054</td>
<td>9,054</td>
<td>9,054</td>
<td>9,054</td>
<td>9,054</td>
<td>9,054</td>
<td>9,054</td>
<td>9,054</td>
</tr>
<tr>
<td>Spare parts: Catalogue page</td>
<td>50001039</td>
<td>50001039</td>
<td>50001173</td>
<td>50000580</td>
<td>50000571</td>
<td>50000580</td>
<td>50000580</td>
<td>50001571</td>
<td></td>
</tr>
<tr>
<td>Part no. installation drawing (dfx, dwg)</td>
<td>Ø 30</td>
<td>10003490</td>
<td>Ø 30</td>
<td>10003490</td>
<td>10003490</td>
<td>10003490</td>
<td>10003490</td>
<td>10003490</td>
<td>10003490</td>
</tr>
</tbody>
</table>

*Generally applies: Degree of protection IP65 (combined with WS 900; IP54), permissible temperature range -10 °C...+60°C (+40°C), operating sound pressure level SPL = 70 dB(A)*

1 Customised designs of the SI 25.15 (e.g. for other voltages) are realised, in part, with the S063F gearbox series (please contact us, in case of queries).
2 SI 25.15.
3 Maximum torque that may act on the output shaft of the drive unit when the door is stationary.
4 We recommend the selection of a special GIA ELEKTROMATEN-F1 for use with frequency inverter, OPEN drive speed at 87 Hz, see 3.7.
5 The current in door drives can reach up to 4x the rated operating current for limited periods, see 3.6 and 3.7.
6 When using a temperature range of +40°C...+60°C use half of maximum movements per hour, see also 3.2.7 The specified value must be halved when considering cycles per hour according to EN 60335-2-103.

Subject to alterations. [GIA_FI]
### 2. Selection chart

<table>
<thead>
<tr>
<th>Roller shutters</th>
<th>Tube EN 10220 [mm]</th>
<th>SI 10.15</th>
<th>SI 17.15</th>
<th>SI 63 25.15</th>
<th>SI 25.10</th>
<th>SI 25.15 WS</th>
<th>SI 40.10</th>
<th>SI 40.15</th>
<th>SI 45.7 WS</th>
</tr>
</thead>
<tbody>
<tr>
<td>101,6 x 3,6</td>
<td></td>
<td>1316</td>
<td>9,6</td>
<td>2237</td>
<td>9,6</td>
<td>3289</td>
<td>6,4</td>
<td>3289</td>
<td>9,6</td>
</tr>
<tr>
<td>108,0 x 3,6</td>
<td></td>
<td>1250</td>
<td>10,1</td>
<td>2125</td>
<td>10,1</td>
<td>3125</td>
<td>6,7</td>
<td>3125</td>
<td>10,1</td>
</tr>
<tr>
<td>133,0 x 4,0</td>
<td></td>
<td>1066</td>
<td>12,0</td>
<td>1778</td>
<td>12,0</td>
<td>2614</td>
<td>8,0</td>
<td>2614</td>
<td>12,0</td>
</tr>
<tr>
<td>159,0 x 4,5</td>
<td></td>
<td>894</td>
<td>14,1</td>
<td>1520</td>
<td>14,1</td>
<td>2325</td>
<td>9,4</td>
<td>2325</td>
<td>14,1</td>
</tr>
<tr>
<td>177,8 x 5,0</td>
<td></td>
<td>--</td>
<td>--</td>
<td>1375</td>
<td>15,5</td>
<td>2022</td>
<td>15,5</td>
<td>2022</td>
<td>15,5</td>
</tr>
<tr>
<td>193,7 x 5,4</td>
<td></td>
<td>--</td>
<td>--</td>
<td>1872</td>
<td>16,8</td>
<td>1872</td>
<td>11,2</td>
<td>1872</td>
<td>16,8</td>
</tr>
<tr>
<td>219,1 x 5,9</td>
<td></td>
<td>--</td>
<td>--</td>
<td>2677</td>
<td>12,5</td>
<td>2677</td>
<td>18,8</td>
<td>3011</td>
<td>8,8</td>
</tr>
</tbody>
</table>

Subject to alterations. (20% friction for single-wall profiles (profile thickness 20 mm))

### 3. Notes

#### 3.1 European directive

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

#### 3.2 Selection chart / Movements per hour

The specified movements per hour (see Technical data) apply to an even distribution and the limit switch range first mentioned and must not be exceeded. For other limit switch ranges or heavily used doors, the drag forces must be reduced (enquire).

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.

#### 3.3 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.

#### 3.4 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 3.3).

#### 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.

#### 3.6 Motor overload protection

Motor overload protection must be able to withstand 4x the operating motor current because the starting current of the drive unit can reach these levels for short periods.

#### 3.7 Use with external frequency inverter

We recommend ELEKTROMATEN FI with an integrated frequency inverter (page 1.101).

For external frequency inverters applies:
A higher than recommended drive speed puts extra load onto the gear. This extra load must be taken into account when sizing a drive by reducing the available output torque. Increasing the drive speed by 10% reduces the admissible drive torque by 5%. In the case of higher drive speeds reduce the drive torque accordingly (enquire if necessary).

The admissible drive speeds may not be exceeded (see Technical data). The operating forces must comply with EN 12453, and the corresponding EMC directives must likewise be observed.

If selecting a frequency inverter, note that the starting current of the drive unit can reach 4x the operating motor current.

---

3.1 European directive

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

3.2 Selection chart / Movements per hour

The specified movements per hour (see Technical data) apply to an even distribution and the limit switch range first mentioned and must not be exceeded. For other limit switch ranges or heavily used doors, the drag forces must be reduced (enquire).

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.

3.3 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.

3.4 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 3.3).

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.

3.6 Motor overload protection

Motor overload protection must be able to withstand 4x the operating motor current because the starting current of the drive unit can reach these levels for short periods.

3.7 Use with external frequency inverter

We recommend ELEKTROMATEN FI with an integrated frequency inverter (page 1.101).

For external frequency inverters applies:
A higher than recommended drive speed puts extra load onto the gear. This extra load must be taken into account when sizing a drive by reducing the available output torque. Increasing the drive speed by 10% reduces the admissible drive torque by 5%. In the case of higher drive speeds reduce the drive torque accordingly (enquire if necessary).

The admissible drive speeds may not be exceeded (see Technical data). The operating forces must comply with EN 12453, and the corresponding EMC directives must likewise be observed.

If selecting a frequency inverter, note that the starting current of the drive unit can reach 4x the operating motor current.

---
4. Dimensions

4.1 SI 10.15 – SI 63 25.15

- Worm gear with safety brake
- Motor
- Limit switch
- Optional: WS 900 control panel, removable, with 0.8 m cable
- Hand crank NHK
- Floating foot

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

Subject to alterations. (20_If)

Customised designs of the SI 25.15 are realised, in part, with the SG85F gearbox series (see 4.2, please contact us, in case of queries)

4.2 SI 25.10 – SI 65.15

- Worm gear with safety brake
- Motor
- Limit switch
- Optional: WS 900 control panel, removable, with 0.8 m cable
- Hand crank NHK
- Floating foot
- Intermediate gear
- Capacitor
- Brake

Permitted installation: Horizontal (as shown) or vertical (motor at the bottom; SI 65.10/65.15 only with torque bracket [page 1.056 Section 6.3])
Permitted installation: Horizontal (as shown), vertical (motor at the bottom) only with torque bracket (page 1.056 Section 6.3)

5. Emergency manual operation • for horizontal or vertical installation

Manual forces, see item 1 of technical data  Read note in 3.4

For Series Part.-no. Ø L H
1 SG63F (only for SI 10.15) 30002591 10 255 92
2 SG63F / SG85F 30002749 12 235 122
6.1 Bracket

<table>
<thead>
<tr>
<th>Series</th>
<th>Part no.</th>
<th>Max. load</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG63F / SG85F</td>
<td>40006488</td>
<td>5 kN</td>
</tr>
<tr>
<td>SG115F ≤ SI 140.7</td>
<td>40012396</td>
<td>12 kN</td>
</tr>
</tbody>
</table>

6.2 Bracket (SI 180.6)

<table>
<thead>
<tr>
<th>Series</th>
<th>Part no.</th>
<th>Max. load</th>
</tr>
</thead>
<tbody>
<tr>
<td>SG115F [SI 180.6]</td>
<td>40016189</td>
<td>29 kN</td>
</tr>
</tbody>
</table>

6.3 Torque bracket

- Right- or left-hand use
- ELEKTROMATEN vertical (as shown) or horizontal
- For mounting with floating foot additional requirements: Bracket 6.1 or 6.2 and bearing

6.4 Moving-torque bracket

- Right- or left-hand use
- ELEKTROMATEN horizontal (as shown) or vertical

1) Special version of ELEKTROMATEN with side thread is required
2) No use with SI 180.6