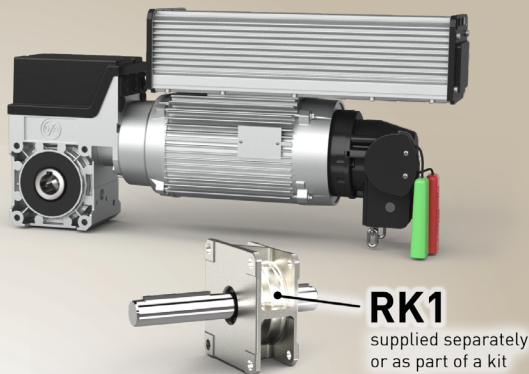


The SE FI "Ranger" is a special drive for roller shutters which are either counterbalanced or fitted with a separate safety brake. The roller shutter is driven by either a gear or chain transmission system. The drive is supplied with a flange mounting adaptor. The drive consists of a worm drive gearbox with hollow shaft, emergency manual operation, integrated limit switch, electrical motor and built-on frequency inverter. 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/stop.

SG50 SG50E



RK1
supplied separately
or as part of a kit

Approvals and certificates

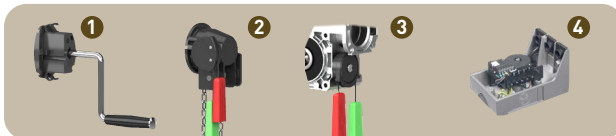
ELEKTROMATEN
Type test according to:
DIN EN 12453
DIN EN 40335-1
DIN EN 40335-2-103
TUV NORD CERT GmbH



Holding torque
Examination of the
static holding torque
TUV Süd
Industrieservice GmbH

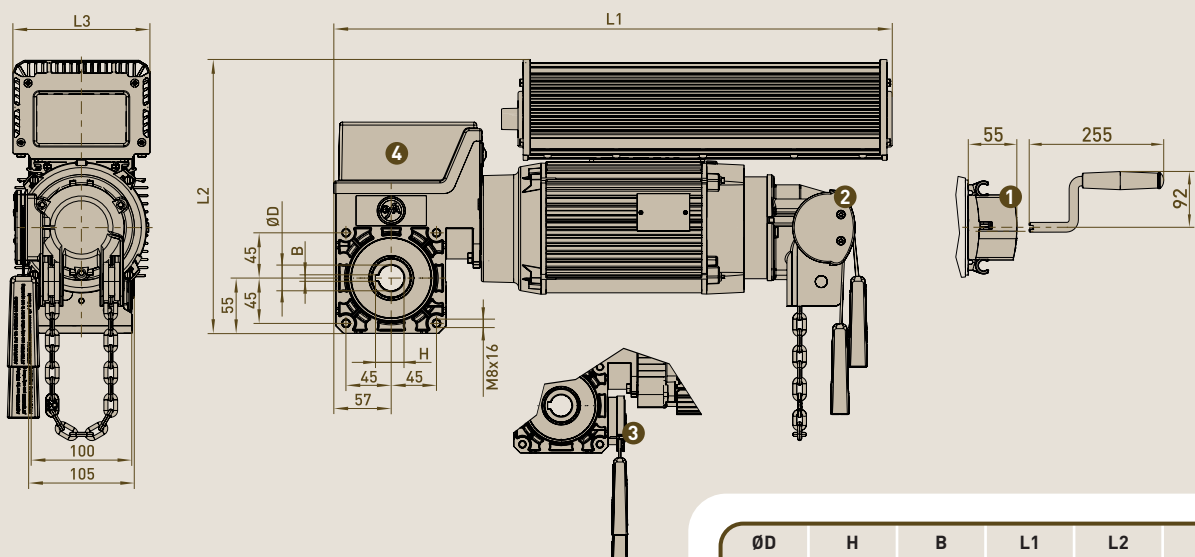
ELEKTROMATEN		SE 9.80 FI	
Series		SG50	SG50E
Output torque	Nm	90	
Output speed	OPEN	min ⁻¹	10-80
	CLOSE > 2,5m		10-30
	CLOSE ≤ 2,5m		10-30
Hollow-shaft-Ø	mm	25,4	
Max. holding torque	Nm	450	
Max. door weight	N	4000	
Motor power	kW	0,85	
Supply voltage	V	1N-230	
Operating Frequency	Hz	50 / 60	
Max. cycles per hour		18 (17)	
Limit switch range (Max. revolutions of hollow shafts)		20 (40)	
Permissible temperature range	°C	+5...+40 (+60)	
Protection class	IP	65	
Weight	kg	24 (with SK)	
Part no. ELEKTROMATEN		10005132 10005123 (ER)	

Further notes on the following page



Emergency manual operation:
 ① Handcrank NHK
 ② Rapid hand chain operator SK
 ③ Gear release ER

Limit switch:
 ④ Digital limit DES



ØD	H	B	L1	L2	L3
25,4	28,4	6,35	555	271	136

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. 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 °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 / Counterbalancing

NHK hand crank / SK rapid hand chain

Manual operation with NHK/SK operator, the door and self-locking gear construction remain inter-connected. There is no danger of a door crashing down, e.g. if a spring breaks.

Gear release ER

Manual operation of ER decoupling mechanism, the door and the self-locking gear construction are disconnected during manual operation. When the decoupling mechanism the gear no longer sustains the door and a separate safety brake is required.

The counter-balancing should be inspected at least once a year.

2.5 Holding torque

Counterbalanced door leaves are prevented from falling down if the drive is capable of holding the weight of the leaf when the spring breaks. The holding capability is the admissible load bearing of the gear construction which can occur when the spring breaks.

Static stability M_{stat} is calculated as follows:

$M_{stat} [N] = \text{door weight [N]} \times \text{radius of the cable drum [m]}$

The greatest winding diameter should be taken into account in the case of conical cable drums are in use.

Since it is possible for two counterbalancing springs to fail simultaneously, the German technical committee, Structural equipment (FABE) recommends that the drive be dimensioned such that it can support.

- 100% of the door weight with 1 or 2 counterbalancing springs
- 66% of the door weight with 3 counterbalancing springs
- 50% of the door weight with 4 counterbalancing springs

2.6 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.

2.7 Cable / cable drums

When calculating the cable size the max. permitted door weight is required a calculated ultimate stress of 6x 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 20x the diameter of the cable.