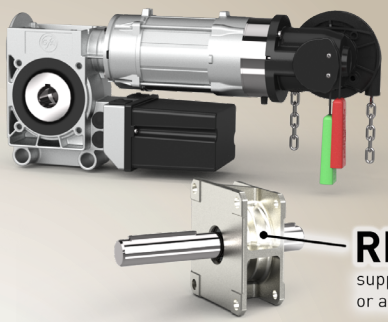
ELEKTROMATEN® SE 15.48

The SE "Ranger" is a special drive for roller shutters which are either counter-balanced 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 and electrical motor.

SG63



Approvals and certificates

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

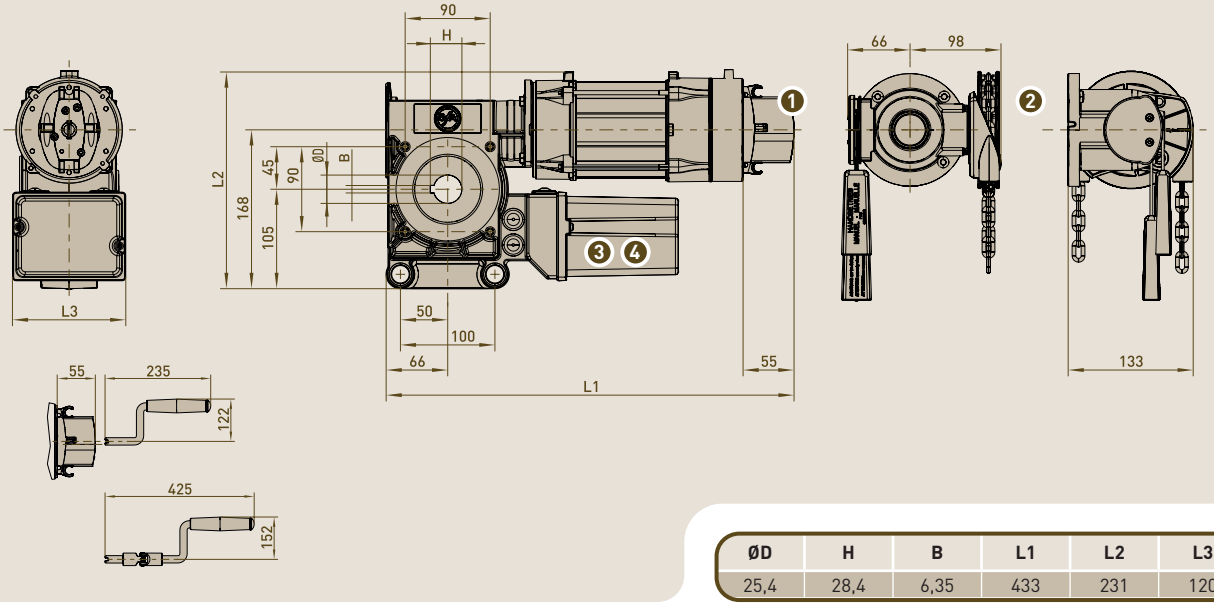
Holding torque
Examination of the static holding torque
TÜV Süd
Industrieservice GmbH

ELEKTROMATEN Series		SE 15.48 SG63
Output torque	Nm	150
Output speed	rpm	48
Output shaft / hollow shaft (Ø)	mm	25,4
Max. holding torque M	Nm	160
Max. door weigth	N	-
Permitted OPEN / CLOSE output speed in frequency-inverter operating mode	rpm	48 / 48
Motor power	kW	0,4
Supply voltage	V	3~400
Operating frequency	Hz	50
Operating current	A	2,0
Max. cycles per hour		11 (5,6)
Limit switch range (Max. revolutions of hollow shafts)		40
Permissible temperature range	°C	-10...+40 (+60)
Protection class	IP	65
Weight	kg	21
Part no.		10005561

Further notes on the following page

Emergency manual operation:
1 Hand crank NHK

Endschalter:
2 Mechanical limit switch NES



ØD	H	B	L1	L2	L3
25,4	28,4	6,35	433	231	120

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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 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).

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] = door weight [N] x 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 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.

2.7 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.

2.8 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.

2.9 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.

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