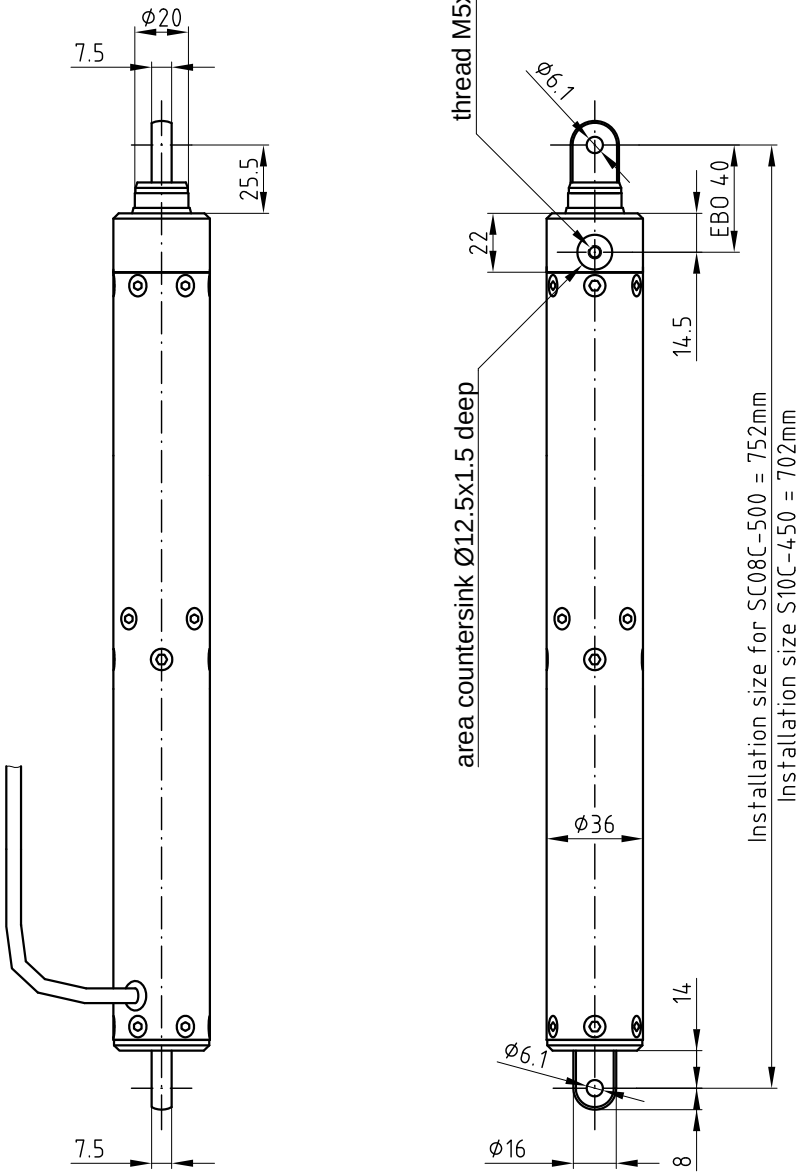
Dateiname: Qf0510B



Description of function:

By applying the rated voltage for "EXTEND" on the connection cable (see circuit diagramm), the actuator extend and disconnect at the end position through the internal overload disconnection. By applying the rated voltage for "RETRACT on the connection cable (see circuit diagramm), the actuator retract and disconnect at the end position through the internal overload disconnection. The internal overload disconnection is also used to disconnect the actuator at overload to avoid damages. This means if the current demand pass the max. disconnecting current (see technical data), the overload disconnection operate and lock the actuator to prevent a new starting. By removing the rated voltage from the connection cable, the locking resets and the actuator is ready for further operation.

Technical description:

- Maintenance-free
- Anodised aluminium housing and aluminium-pushrod
- Internal interference suppression to EN55011
- Disconnection in both end positions through overload disconnection
- Electronic overload emergency disconnection
- Electric shunt connection possible (Caution: but no synchronous operation)
- Light grey silicone connection line 2x0,75qmm, sheath 6mm diameter, standardlenght 2.5m, special length on request
- Bore diameter of pushrod and housing bottom 6.1
- Ratet release temperature of combined fire detection element 93°C
- VdS approval no.: G503005

Technical data Elektro-linear-drive S08C and S10C:

Designation	S08C	S10C	Unit
Rated voltage	24		VDC
Tolerance for rated voltage	-20/+30		%
No load current	0.2		A
Rated current (full load)	0.8	1.0	A
Maximum breaking current at overload	1.5		A
Maximum current and maximum time at blocking as far as disconnection through the overload disconnection	3.0A - 80ms		
Max. compressive force (max. compressive load in extended position)	900		N
Number of blockings / time interval (controlrate for blocking)	15 times / 2 min		
Ventilation- and nominal load	500 1)	600 1)	N
Max. stroke at nominal load in 60sec	500	450	mm
Permissible ambient temperature at RWA VdS 2580	-5 to +110		°C
Protection class (DIN EN 60 529)	IP42		
Operating mode for ventilation- and nominal load according to DIN VDE 0530 part 1 (at 25°C ambient temperature)	S3 30%		
Stability (locking force)	3500		N

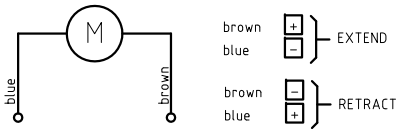
1) loading cases: - extend against load and load supporting retract
- retract against load and load supporting extend

Type- and order designation:

S08C - 500 - 6 - 2.5

- S08C: motor type
- 500: stroke [mm]
- 6: bore diameter in push rod and housing bottom [mm]
- 2.5: lenght of connection cable [m]

Circuit diagram:



GRASL Pneumatic-Mechanik GmbH A-3454 Reidling Europastraße 1				Freimaßtoleranz nach DIN 7168:		
					Datum	Name
				Bear.	23.03.2010	Simetzberger
				Gepr.	06.05.2015	GH
				Norm		
02	Version Französisch	30.04.2015	SA	Type: Baureihe S		
01	Version Polnisch	04.12.2012	SA			
Zus.	Änderung	Datum	Name	(Urspr.)		

Maßstab: 1:1	Werkstoff:
ID - Nr.:	
Bezeichnung: **Data sheet** Electro - linear - actuator Type S08C-500 and S10C-450	
Zeichnung Nr.: 07.044.DAT.01.02-E	Blatt BL.
(Ers.f.:) 07.044.DAT.01.01	(Ers.d.:)

erstellt am
28.5.2002 ER

formell geprüft am
29.5.2002 KW

fachlich geprüft am
29.5.2002 KW

Technical Instructions

Spindle drives type S, G, SG

Please read through these technical instructions carefully and fully. Work on these devices must only be carried out by qualified personnel.

Meaning of the symbols

Safety instructions must be observed!
The disregarding of these instructions can lead to personal injury and / or material damage.

Advice, the non-compliance with these instructions or the technical data shall lead to the loss of rights under guarantee.

Correct,
This is how it should be done.

Incorrect,
This is how it should not be done.

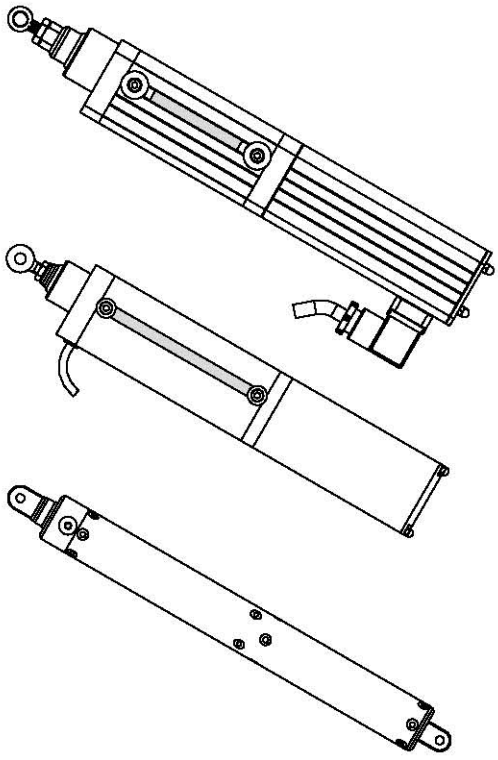
Correct and proper use

The drives serve the purpose of opening and closing windows, blinds and vents in the roof area (no free access for system-external persons). On the application of voltage, a movement command is activated.

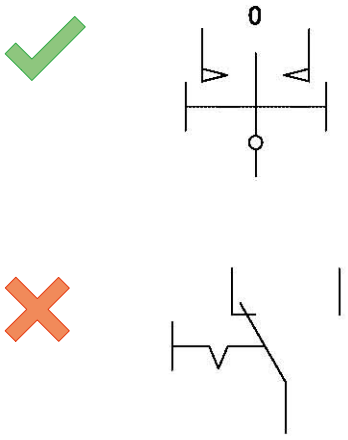
If the drives are installed below an installation height of 2,5m, appropriate devices must be fitted so that people are not endangered (crushing and trapping hazards). Apply the Directives, Rules and Standards intended for this purpose, such as, for example, BGR 232 Power-operated Windows, Doors and Gates (Trade Association Regulations), DIN EN 12453 Safety in Use of Power Operated Doors - Requirements and EN 60335-2-103:2003.

Technical details/control

The drives are suitable for connection to K+G/Grasl - control centres. With control via other control centres or other power supplies, the compatibility must be checked. As the drive housings are not earthed, it must be ensured via the controller that no voltages are routed to the drives over the protective low voltage (keyword, galvanic isolation on the transformer, etc.).



picture 1: spindle drives



picture 2: ventilation buttons

With a fault on the internal drive overload cut-off device in the event of a short circuit or overcurrent, the upstream controller as a second safety circuit must disconnect the defective drive via a fuse or similar.

The dimensioning must be carried out and / or be checked by a qualified electrical company. In doing so, in addition to the nominal values the maximum start-up current of the drives must be taken into account.

The cross section of the cable between the junction box and the control centre must be so dimensioned that even at full load the voltage drop between the control centre and the drive does not exceed 1V (see the control centre documentation).

The drives must only be operated with a nominal voltage of 24VDC and with a tolerance of +30/-20% and a residual ripple <5%. Only with these limits can the trouble-free functioning of the motor electronics be guaranteed.

For the control of the drives, only use mutually mechanically interlocked ventilation buttons with contactless centre positions, "no changeover switch", with independent return from the the two switching positions (see picture 2). The direct switching of the direction of movement while the drive is running is not permitted and can lead to defects (approx. 2s pause required).

After full extension or retraction, the opposite direction must be travelled for approx. 1s before the previous direction can be travelled again (type series S).

Installation

Handle the drive only wearing safety gloves and suitable work clothes.

So design the installation area of the drive that there is no risk of crushing injuries (for example, provide protective covers).

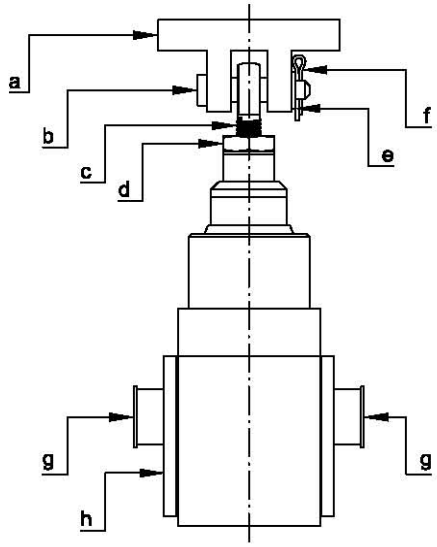
Before the installation, the following must be observed:

Check the completeness of the scope of supply. Inspect the drive for transport damage.

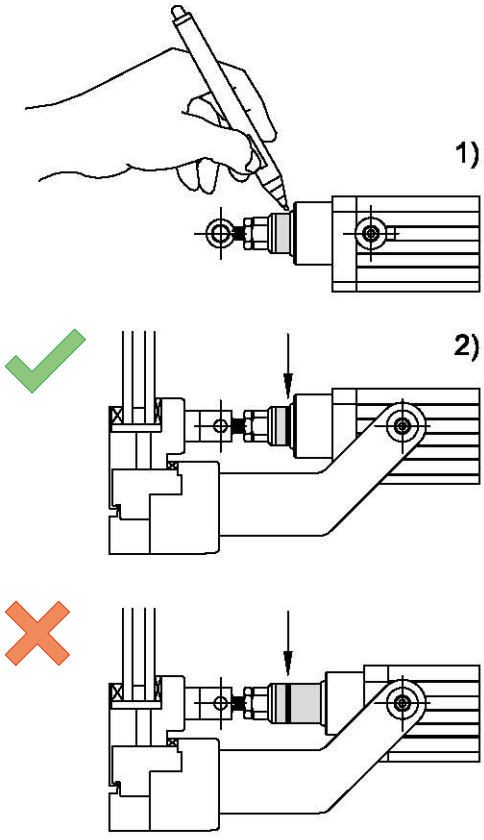
Connect the drive via a customer-provided junction box with strain relief. When selecting the cable length, take into account the positioning of the box and the pivoting range of the drive.

Ensure that the drives can freely pivot in the whole of the stroke range and cannot come into contact with parts of the building (see the data sheets for the cable outlets of the drives).

a … coupling bracket
b … coupling bracket bolts
c … eyebolt
d … lock nut
e … washer
f … split pin
g … bearing pins
h … mounting bracket



picture 3: fixing elements



picture 4: end position

Before fixing the drives to the coupling bracket, mounting brackets or other fixing elements, the possible installation dimensions of the relevant drive designs must be taken from the data sheets.

Mount the drives on the appropriate fixing elements. It must be ensured that the mountings are secured by means of appropriate safety devices (see picture 3).

In order to prevent the screwing out of the eyebolt, the lock nut must be tightened (see picture 3).

Pay attention to the aligned installation of coupling brackets, mounting brackets or other fixing elements. Lateral forces must be avoided (see picture 3).

It must be ensured that the drives can always reach their end positions as otherwise the internal end cut-off is not guaranteed. Use the eyebolt (adjustment range) and bearing pins for adjustment. Continuous operation over the load cut-off is not permitted. Check the setting in the retracted condition by means of marking on the pushrod end (see picture 4).

Setting the closing force with which the NSHEV is driven into the seal (NSHEV must be tightly closed all around):

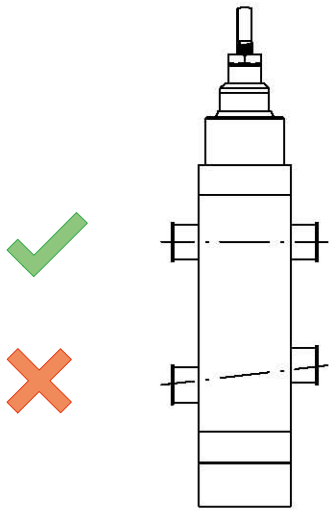
In the process, the maximum pushing / pulling force of the drive must not be exceeded (see the data sheets) as otherwise it cannot travel fully in (internal limit switches are then not activated).

- Drives with variable mountings (lateral guide slots or clamping rings): by pulling the drives, for example, with a spring balance, and then tightening the bearing pins / plugs. During the setting, the bearing pins / plugs must be loosened so far so that the movement of the drive along the drive axis is possible.
- Drives with fixed mountings: by adjusting the eyebolt or other pushrod mountings.

With drives with variable mountings (lateral guide slots) it must be ensured that the bearing plugs / pins lie on the same axis (see picture 5) and that this is parallel to the hinge axis. In addition, when fitting the mounting bracket, it must be ensured that the pivot axis of the drives is parallel to the hinge axis (see picture 6).

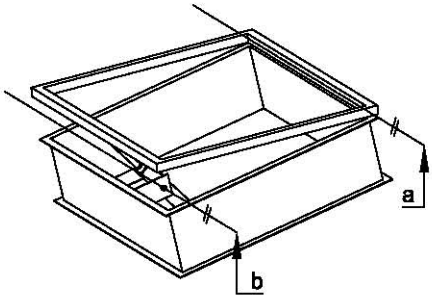
It must also be ensured that the sliding blocks are inserted parallel to the slot. In order to prevent twisting during fitting, the fixing screws should first be carefully hand-tightened so that the sliding blocks are correctly clamped against the profile (see picture 7). Then secure them with sufficient tightening torque (max. tightening torque M5 = 10Nm).

Due to their low cut resistance, handle the connecting cables of the drives with great care. Be careful with sharp-edged materials. Use rubber grommets, cable glands, etc.

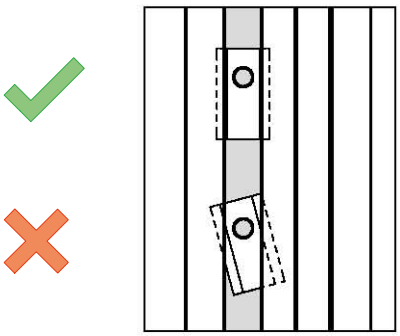


picture 5: bearing pin position

a …hinge axis
b …pivot axis



picture 6: installation



picture 7: sliding block

Commissioning

When commissioning (test run, installation or maintenance work), for example, with accumulators it is absolutely necessary to fit a fuse of the same value as the nominal current of the drive in the supply line of the drive. In doing so, the drives must not be connected to the drive output of a control centre / controller at the same time. Otherwise and it can lead to faults on the power output of the control centre / controller. During test runs, the complete NSHEV mechanical systems must be observed.

Maintenance/dismantling/fault finding

The maintenance must be carried out once per year by a specialist trained for the purpose.

The drive must not be opened. The unauthorized opening of the drive shall lead to the exclusion of liability and loss of warranty. After opening the housing, the drive is no longer safe to operate and must not be used anymore.

Through external controls (for example, automatic command devices outside the field of vision) non-foreseeable control commands can occur which can result in movements of the opening construction.

The following points must be checked:

- During the course of the annual maintenance, an inspection of the mechanical fixings must be carried out. Where necessary, these must be re-tightened using customary tools.
- Inspection of the pushrod for damage and cleanliness (clean where necessary).
- Inspection of the pushrod wiper for wear.
- Inspection for freeness from dust (clean where necessary).
- Inspection of the structural conditions for changes with regard to the requirements listed in the point, Installation.

Normal operation

The drive has no internal protection against crushing injuries.

The static self-locking effect can be lost due to external influences.

Disposal

The drive consists of electronic parts, wires, steel, non-ferrous metal and plastic.

The drive must be disposed of in accordance with national regulations.