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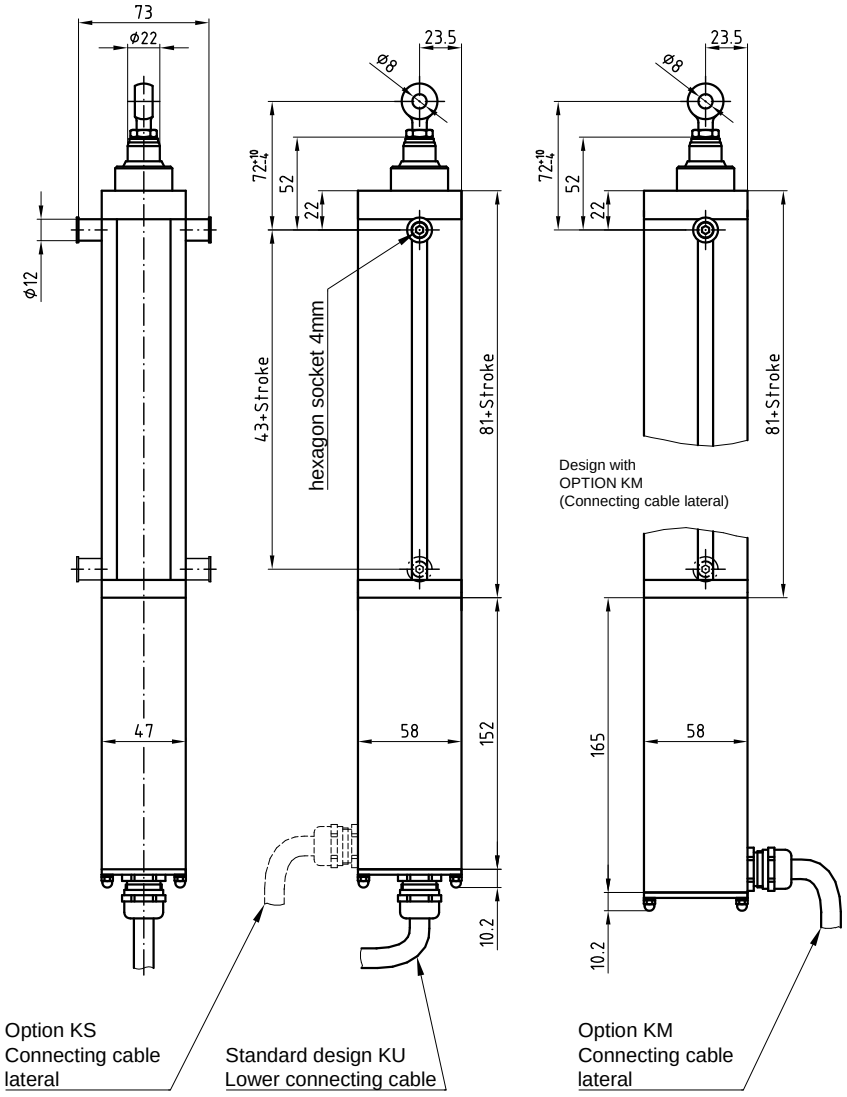


Technical description:

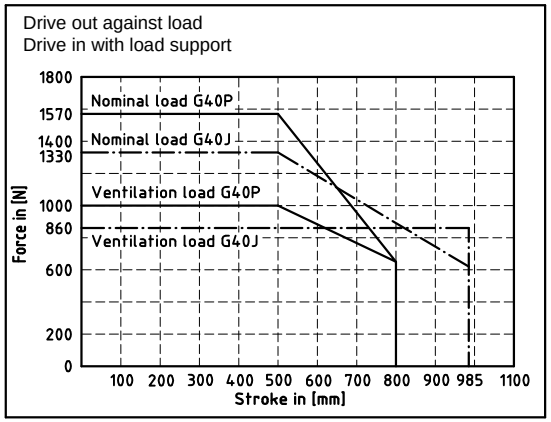
- Maintenance-free
- Anodised aluminium housing, pushrod made of aluminium Ø22 (G40P/G40J) or steel Ø22 (GS40P/GS40J)
- Radio interference suppression according to EN55011
- Cut-out in both limit positions by internal end switch
- Electronic emergency overload cut-out
- Electrical parallel connection is possible (NOTE: synchronising circuit is not possible)
- Light grey silicone connecting cable 2x2.5qmm + 3x1.5qmm, sheating Ø ca. 11mm, for standard length 2,5m, other length available upon request
- Eye bolt Ø6, Ø8 (standard) or Ø10mm
- Standard strokes 350, 550 and 750mm; special lengths available upon request
- OPTION E: potential-free end switches (opener) for both limit positions, current carrying capacity 1A/24VDC (e.g. for position indicator)
- Nominal triggering temperature of fire detection element that can be interfaced 93°C

Technical data Elektro-Linear-Drive G40P:

Designation	G40P	G40J	unit
Rated Current	24	24	VDC
Tolerance for rated voltage	-20/+30	-20/+30	%
No-load current	0.8	0.8	A
Nominal Load from 0 - 500mm stroke	1570	1330	N
Current at nominal load from 0 - 500mm stroke	4.0	4.0	A
Maximum overload cut-off current	4.8	4.8	A
Maximum current and maximum time of deadlock until system switches off by overload cut-out	14A for 80ms	14A for 80ms	
Maximum pressure force during deadlock	13000	13000	N
Number of deadlocks / time interval (trigger rate for deadlock)	15 times / 2 min	15 times / 2 min	
Ventilation- and nominal load course over the entire stroke	Load diagramm	Load diagramm	N
Max. stroke at no-load in 60s	800	985	mm
Permissible ambient temperature for RWA VdS 2580	-5 to +110 ×)	-5 to +110 ×)	°C
System of protection according to DIN EN 60 529	IP54	IP54	
Class of rating for peak load according to DIN VDE 0530 Part 1 (at 25°C ambient temperature)	S3 30%	S3 30%	
Stability (locking force)	3500	3500	N
Environmental class according to VdS 2580	I	I	

×) stress period at 110°C max 2h

Load diagramm:

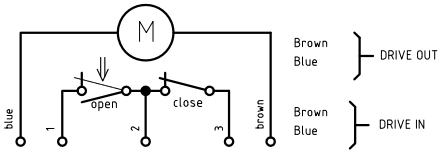


Type and ordering designation:

G40P-750-8-2,5-...-...

- Option potential-free end switches
  not specified ... without option E (standard)
  E ... with option E
- Option cable outlet
  no specified ... lower cable outlet
  KS ... cable outlet lateral
  KM ... cable outlet lateral (opposite side)
- Connecting cable length in m (standard 2,5
- Hole diameter of eye bolt in mm
- Stroke in mm
- Motor type (G40P/GS40P/G40J/GS40J)

Circuit diagramm:
(drawing shows driven in position "CLOSED")



Description of function:

When connecting the rated voltage for "DRIVE OUT" at connecting cable (see wiring diagram) the drive will drive out and disconnect in limit position by end switch. If drive is equipped with Option E, the respective potential-free contact will open (see wiring diagram).

When connecting the rated voltage for "DRIVE IN" at connecting cable (see wiring diagram) the drive will drive in and disconnect in limit position by end switch. If drive is equipped with Option E, the respective potential-free contact will open (see wiring diagram).

The drive is also provided with an overload cut-out that will disconnect the drive in the event event of overload to safeguard against any damage. This means that the overload cut-out will respond if charging rate exceeds maximum cut-off current (see technical data), and will lock to safeguard against restart. Once the drive is idle, lock is reset and drive is once again ready for operation.

GRASL
Pneumatic-Mechanik GmbH
A-3454 Reidling
Europastraße 1

Freimaßtoleranz nach DIN 7168:

Maßstab: 1:1 | Werkstoff:

ID - Nr.:

					Datum	Name
				Bear.	30.11.2009	Simetzberger
				Gepr.	07.08.2013	KW
				Norm		
04	G40J, diverse Änd.	24.06.2013	SA			
03	Version Französisch	26.07.2012	SA			
02	Text	10.06.2010	SA			
01	Text	04.05.2010	SA			
Zus.	Änderung	Datum	Name	(Urspr.)		

Bezeichnung:
Data sheet
Electro-linear-actuator
Type: G40P / GS40P / G40J / GS40J

Type: Baureihe G

Zeichnung Nr.: 07.009.DAT.08.04-E

Blatt: BL.

(Ers.f.:) 07.009.DAT.08.03 (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.

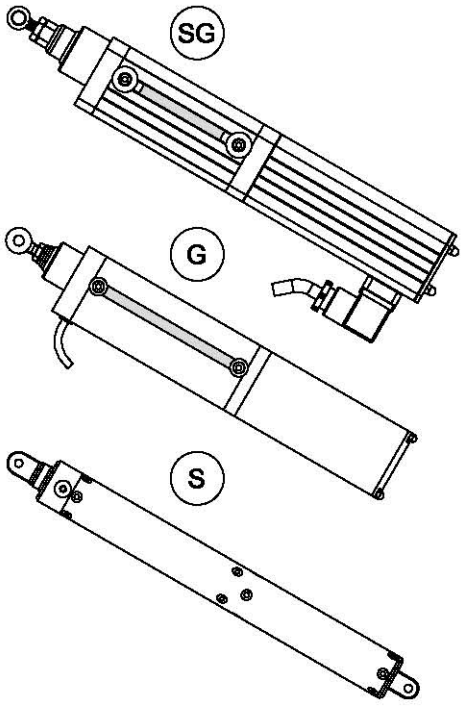
Correct,
This is how it should be done.

Incorrect,
This is how it should not be done.

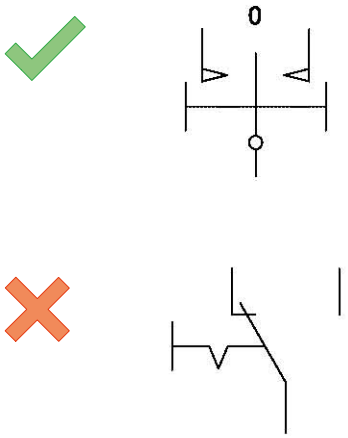
Correct and proper use

The drives serve the purpose of opening and closing NSHEV´s, such as windows, blinds and vents in the roof area (no free access for system-external persons). The producer of the NSHEV is responsible for the implementation of EN 12101. For all other applications the compatibility and thus the security can not be guaranteed. On the application of voltage, a movement command is activated.

If the drives are installed below an installation height of 2,5m to the floor, or to the next access level, 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, EN 14351, DIN EN 60335-2-103:2003 and ASR A1.6. Do not allow children to play with the device or its control and / or control devices, including window controls.



picture 1: spindle drives



picture 2: ventilation buttons

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.).

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 according to drive data sheet 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.

The drives must only be used in normal atmospheric conditions. In the case of atypical ambient atmosphere (for example, SO2-, saline atmosphere), please consult.

The drives are not allowed to be loaded beyond their technical datas. The technical data must be adhered to.

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).

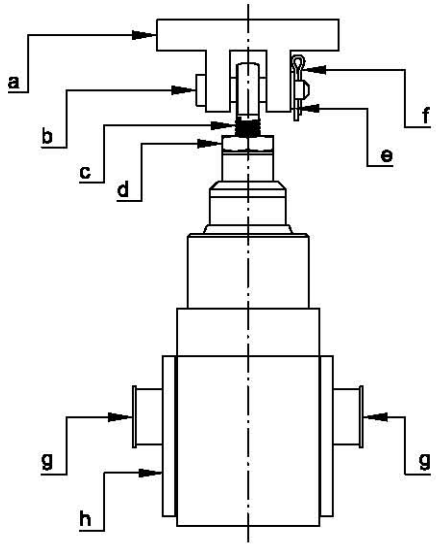
After full extension or retraction, the opposite direction must be travelled for approx. 1s before the previous direction can be travelled again (type series S).

Sound pressure level: L_PA <= 70dB(A) (test distance 1m)

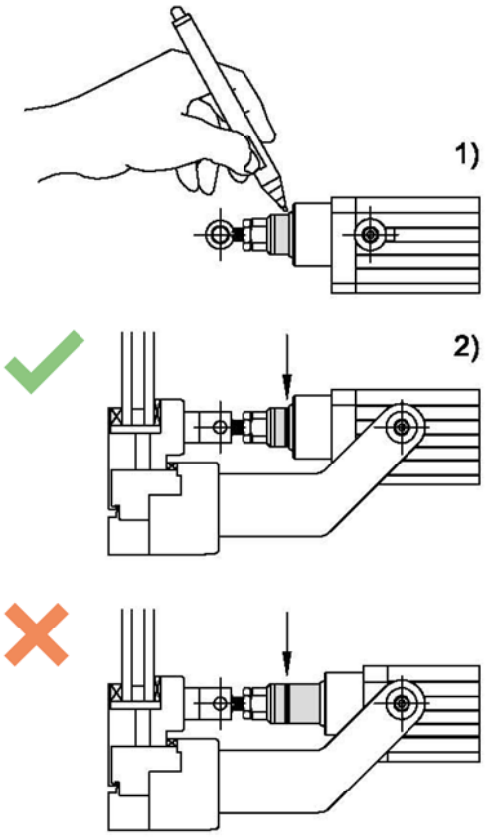
Installation

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

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

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).

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).

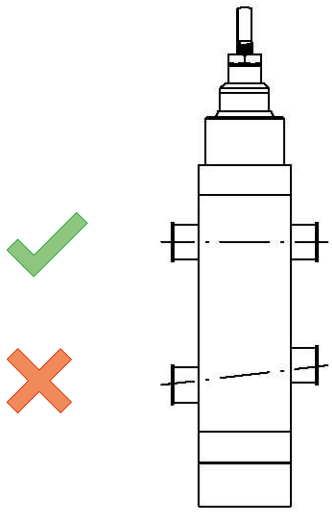
It must be ensured that the drives can always reach their end positions as otherwise the internal end cut-off is not guaranteed. Use the eyebolt (adjustment range) and bearing pins for adjustment. Continuous operation over the load cut-off is not permitted. Check the setting in the retracted condition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

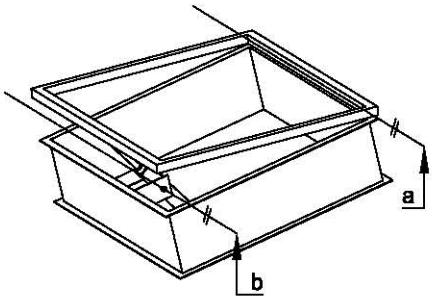
- Drives with variable mountings (lateral guide slots or clamping rings): by pulling the drives, for example, with a spring balance, and then tightening the bearing pins / plugs. During the setting, the bearing pins / plugs must be loosened so far so that the movement of the drive along the drive axis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

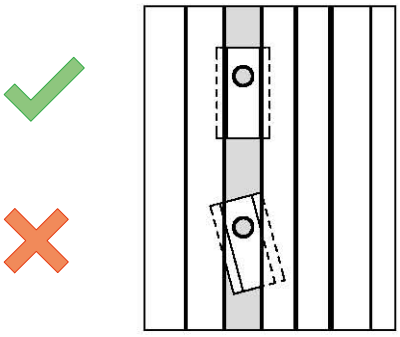


picture 5: bearing pin position

a …hinge axis
b …pivot axis



picture 6: installation



picture 7: sliding block

ture 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.

Maintenance/dismantling/fault finding

Disconnect the drives to avoid unwanted movements due to external control and drive commands.

Make sure that the working area is clear of obstacles and that there are no persons in the danger zone.

When re-connect, observe possible movements by pending travel commands.

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.
- The equipment should be checked for imbalance, signs of wear or damage to cables, springs and fasteners.
- Perform a manual functional test.

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.

Normal operation

The drive has no internal protection against crushing injuries.

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

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.

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.