

Option KS
Connecting cable lateral

Standard design KU
Lower connecting cable

Option KM
Connecting cable lateral

Diese Zeichnung ist Eigentum der
 Fa. Grasl GmbH A-3454 Reidling, EuropastraÙ 1
 Die Weiterverwendung oder Vervielfältigung ohne unser schriftliches Einverständnis ist verboten!

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, sheathing 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 diagram	Load diagram	N
Max. stroke at no-load in 60s	800	985	mm
Permissible ambient temperature for RWA VdS 2580	-5 to +110 (x)	-5 to +110 (x)	°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	

x) stress period at 110°C max 2h

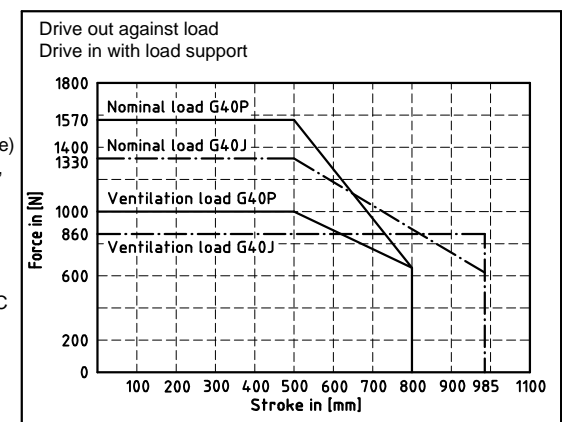
Description of function:

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).

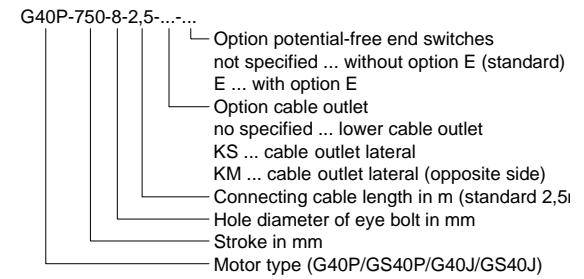
When connecting the rated voltage for "DRIVE IN" at connecting cable (see wiring diagram) the drive will drive in and disconnect in limit position by end switch. If drive is equipped with Option E, the respective potential-free contact will open (see wiring diagram).

The drive is also provided with an overload cut-out that will disconnect the drive in the event 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.

Load diagramm:

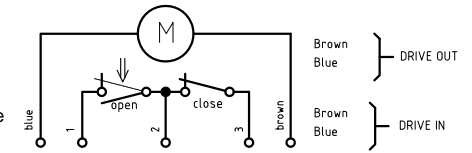


Type and ordering designation:



Circuit diagramm:

(drawing shows driven in position "CLOSED")



GRASL Pneumatic-Mechanik GmbH A-3454 Reidling EuropastraÙe 1		FreimaÙtoleranz nach DIN 7168:	MaÙstab: 1:1		Werkstoff:
			ID - Nr.:		
		Datum	Name		Bezeichnung: Data sheet Electro-linear-actuator Type: G40P / GS40P / G40J / GS40J
		Bear. 30.11.2009	Simefzberger		
		Gepr. 07.08.2013	KW		
		Norm			Zeichnung Nr.: 07.009.DAT.08.04-E
		Type:	Baureihe G		
04	G40J, diverse Änd.	24.06.2013	SA		Blatt
03	Version Französisch	26.07.2012	SA		
02	Text	10.06.2010	SA		BL.
01	Text	04.05.2010	SA		
Zus.	Änderung	Datum	Name	(Urspr.)	(Ers.f.) 07.009.DAT.08.03
					(Ers.d.)

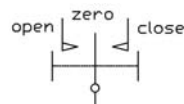
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Technical Information for Series S, G, SG Spindle Actuators

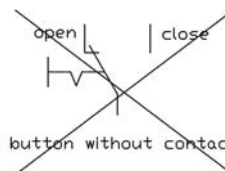
- Actuators are suitable for being connected to K+G / Grasl Control Centres. If control centres of external production are used, check them for control compatibility.
- Connect actuators using a pull relief type connection box available at the site. When determining the length of cable, the position of the connection box as well as the swivelling range of the actuators have to be taken into account.
- When mounting the actuators below a clearance height of **2.5m**, **adequate precautions** must be taken to avoid any hazards to the personnel (**risk of getting crushed or squashed**). For this purpose, be sure the appropriate directives, rules and standards are complied with, such as **BGR 232** for power operated windows, doors and gates, **DIN EN 12453** safe use of power operated gates and **EN 60335-2-103:2003**.
- Select the cross section of the **cable** between the connection box and the control centre in such a way that the **voltage drop** between control centre and actuator – even under **full load** conditions – will not be more than **1V** (see control centre documentation). If control centres of external production are used for control, have the cable cross sections selected or checked by a qualified electrical installation company.
- Actuator operation is admissible only with a rated voltage of **24V \pm** and a tolerance of **+30/-20%**. A **peak voltage of 42V** and a **residual ripple of 48%** must not be exceeded.
- Before installation in the smoke and heat ventilation unit the actuators must be in fully retracted condition (internal limit switches operated); if necessary initiate retraction (e.g. by using accumulators).
- For initial operation (trial run, installation or maintenance work), e.g. using accumulators, it is **absolutely necessary** to install a **fuse link equal to the actuator current rating** in the actuator supply line. Be sure **actuators are disconnected from the actuator output of a control centre/control system** because otherwise this may result in damage to the power output of the control centre/control system. During a trial run, watch the mechanical behaviour of the complete smoke and heat ventilation unit. Be sure the actuators can **swivel freely** through the entire lifting range (internal limit switches operated at both end positions) and no fixed parts of the building may be touched (for actuator connection please see data sheets).
- For controlling the actuators, use only mechanically interlocked ventilation buttons with contactless mid-position. Do not use **change-over switches** (see illustration).

RIGHT!



Ventilation button with contactless mid-position and automatic return from both switching positions

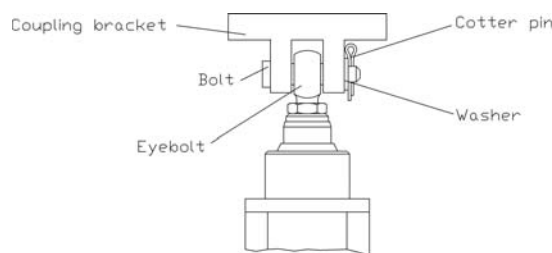
WRONG!



Ventilation button without contactless mid-position

- Any immediate **change of the sense of travel**, while the actuator is operating, is **not admissible**, and may result in **defects** (a pause of approx. 1s is required).

- After a full extension or retraction action, a **travel of about 1s in opposite direction** is required before resuming the previous direction of travel (S series).
- Be sure the **control voltage** for the travel commands OPEN or CLOSE is effective for **max. 6min.**
- Before fastening the actuators to the coupling bracket, mounting brackets or other mounting elements, be sure to have taken the applicable **installation dimension** from the **data sheets** of the actuator types concerned.
- Fasten the actuators to the the coupling bracket (or any other mounting element). Make sure the bolt of the coupling bracket is secured by means of a **washer** and a **cotter pin** (see illustration).



- **Setting the closing force** of the smoke and heat ventilation unit when pressing against the sealing (smoke and heat ventilation unit must be closed tightly all around). **Important: Be sure the maximum actuator pull is not exceeded** (see data sheets), **because otherwise actuator would not be able to fully retract (internal limit switches would not be operated in this case).**

a) Actuators with variable mounting (lateral guide grooves or clamp rings):

Pull the actuators, e.g. using a spring balance; thereafter tighten the bearing pins/plugs. During setting, the bearing pins/plugs must be loose enough to enable the actuators to slide along their axes.

b) Actuators with fixed mounting:

Adjust the eyebolt or other pushrod mounts.

- In the case of actuators with variable mounting (lateral guide grooves) be sure the bearing pins/plugs are in line with each other (see fig. 1) and also parallel to the axis of the hinges. Furthermore, when mounting the bracket, be sure the swivelling axis of the actuators is parallel to the axis of the hinges (see fig. 2).

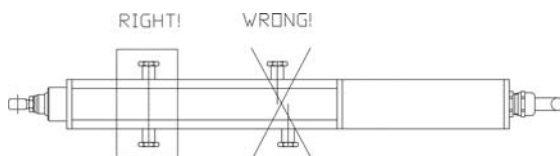


Fig. 1

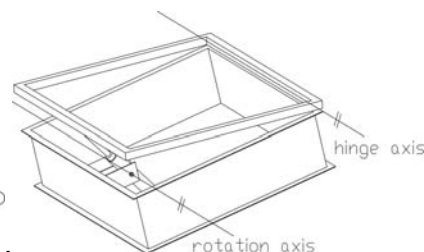


Fig. 2

Compliance with all instructions is imperative, faulty assembly may result in serious injuries! Failure of observing the above notice, as well as opening or trying to open the enclosure of the actuator will invalidate our warranty!