

On/Off - Solenoids for Hydraulics

4

Product group

G HP Y 037, 045, 063

- Designed to VDE 0580
- Armature space pressure tight
Rated pressure 350 bar static
- Increasing magnetic force vs stroke characteristic
- Quick response times
- Push type
- Mounting via centre thread
- Simple exchange of the coil without opening the hydraulic circuit
- Insulation materials of excitation winding correspond to thermal class F.
(H available on request)
- Electrical connection and protection if mounted properly:
 - Connection with sockets to DIN 46 247
Protection to DIN VDE 0470/EN 60 529 – IP00
 - Connection with plug connector to DIN EN 175 301-803
Screwed cable glands (4 x 90° positions)
Protection to DIN VDE 0470/EN 60 529 – IP 65
- Manual override
- Modifications and special designs on request.
- Application examples:
Direct or pilot operation of hydraulic and special purpose valves.

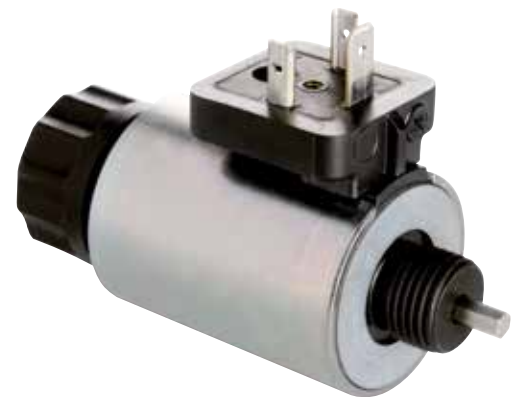


Fig. 1: Type G HP Y 037 N54 A01



Technical data

G HP Y ... N54 A01		037	045	063	
Operating mode		S1 (100 %)	S1 (100 %)	S1 (100 %)	
Reference temperature ϑ_{11}	(°C)	50	50	50	
Rated Voltage U_N	(V)	24	24	24	
Overall stroke s	(mm)	Magnetic force F_M (N)			
		0	100	140 270	
		0,5	65	105 215	
		1	60	86 180	
		1,5	57	79 160	
		2	40	55 145	
		3	15	22 128	
		3,5	11	15 125	
		4	8	11 100	
		5	5	5 58	
		6		37	
		7		25	
		8		19	
9		14			
Working stroke s_w	(mm)	1,5	1,5	3,5	
Work rating W_N at working stroke s_w		8,5	11,9	43,8	
Rated power P_{20}	(W)	25,4	29,1	47,2	
Frequency of operation	(1/h)	3.600	3.600	3.600	
Armature weight m_A	(kg)	0,04	0,05	0,16	
Solenoid weight m_M	(kg)	0,41	0,57	1,57	
The heat-rise test is based on mounting on a hydraulic valve with base plate with the following minimum dimensions	hydraulic valve	(mm)	46 x 46 x 66	46 x 46 x 66	67 x 67 x 82
	base plate	(mm)	66 x 46 x 30	66 x 46 x 30	102 x 115 x 30

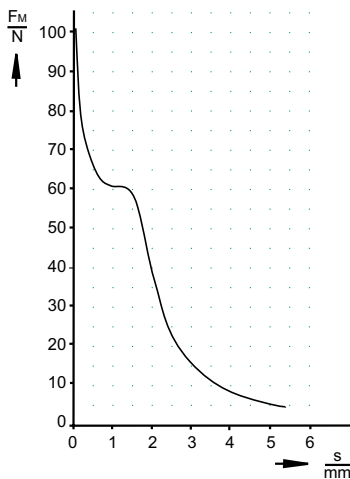


Fig. 2: Magnetic force v stroke graph size 037

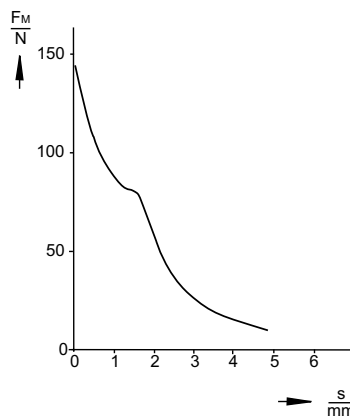


Fig. 3: Magnetic force v stroke graph size 045

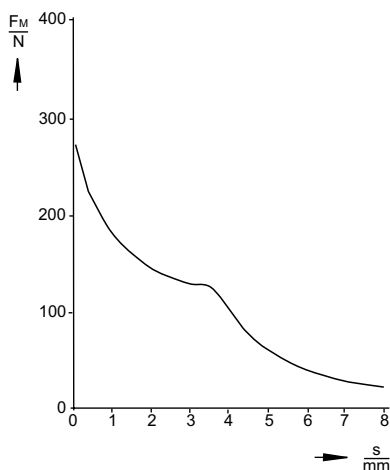


Fig. 4: Magnetic force v stroke graph size 063

Hot condition is based on:

- a) mounting on a hydraulic slide-valve, filled with oil, dimensions as indicated in table
- b) Rated voltage ≈ 24 V
- c) Relative duty rating S1 (100 % ED)
- d) Reference temperature 50° C

For different and modified applications, a reduction of the coil winding may be necessary. With other valve dimensions and different reference temperatures, the magnetic force may be adapted by modification of the coil winding.

The indicated technical data refer to an A.C. power supply with bridge rectifier. The coil winding can be adjusted to other current and resistance values on request.

Owing to natural dispersion magnetic-force values may deviate by $\pm 5\%$ from the listed values.

On request, armature space can be deaerated and pushrod can be adjusted.

Solenoid interior and armature bearing are resistant to all neutral fluids that are commonly used in hydraulics. Please contact us if you intend to use other operating media.

This part list is a document for technically qualified personnel. The present publication is for informational purposes only and shall not be construed as mandatory illustration of the products unless otherwise confirmed expressively.

Please make sure that the described devices are suitable for your application. Supplementary information concerning its duly assembly can be found also in -Technical Explanations, in the effective DIN VDE0580 as well as in the relevant specifications.

Information and remarks concerning European directives can be taken from the correspondent information sheet which is available under *Produktinfo.Magnet-Schultz.com*.

Note on the RoHS guideline 2002/95/ EC

According to our current state of knowledge the devices pictured in this document do not contain any substances in concentration values or applications for which putting into circulation with products manufactured from them is prohibited in accordance to RoHS.



Coil

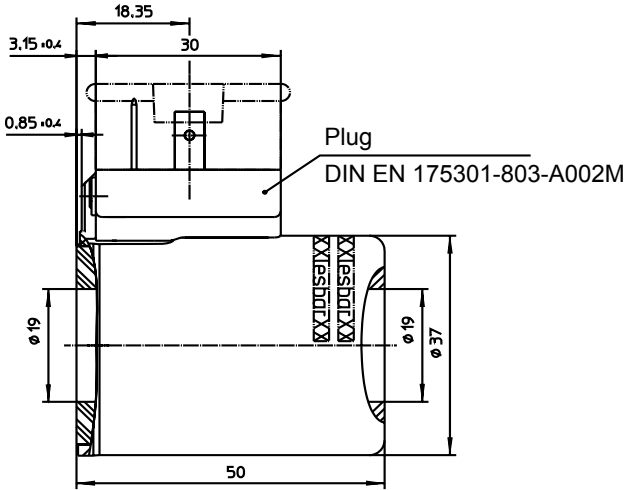


Fig. 5: Size 037 (Type No. FHMG037925428)

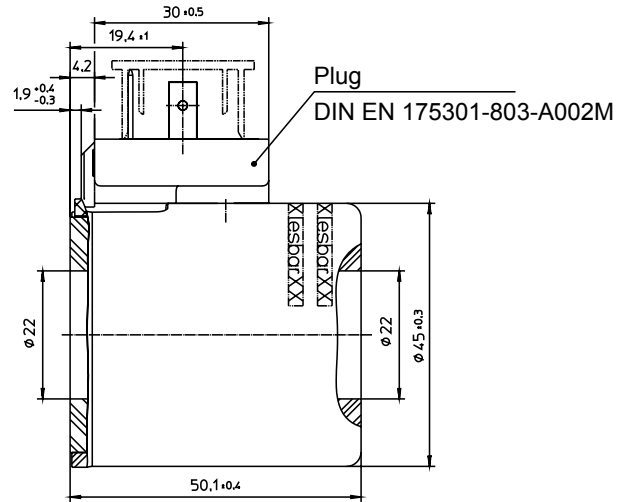


Fig. 6: Size 045 (Type No. FHMG045926433)

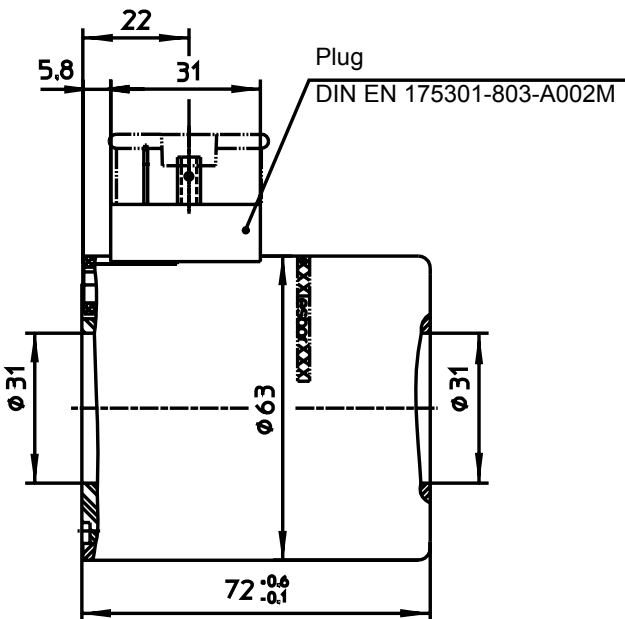


Fig. 7: Size 063 (Type No. FHMG062924585)

Tube

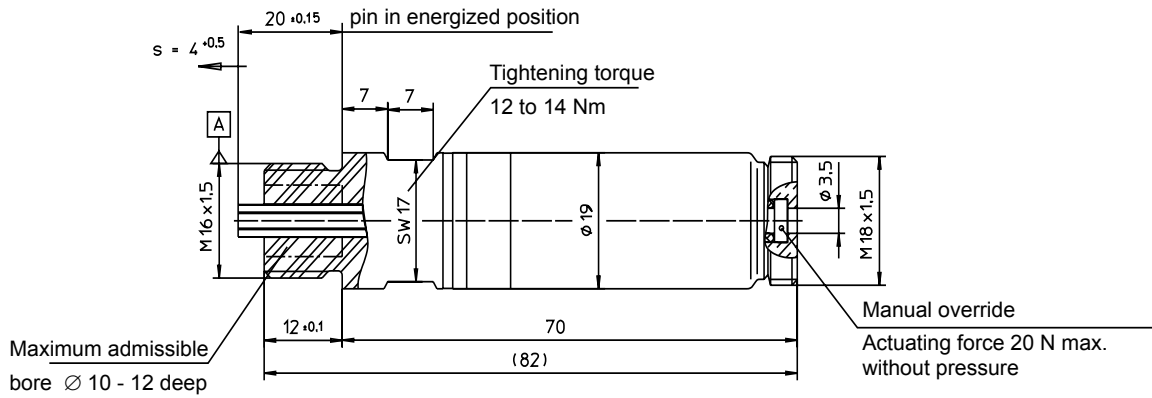


Fig. 8: Size 037 (Type No. FHTS037923692)

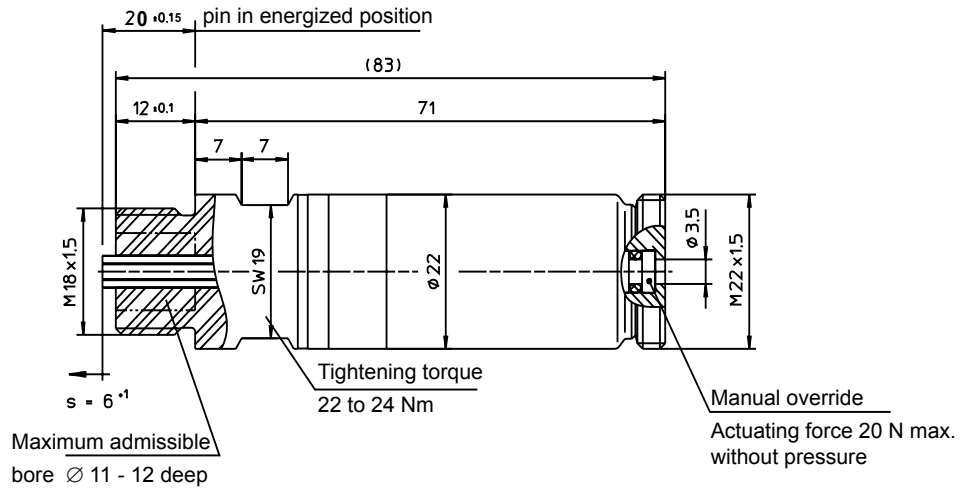


Fig. 9: Size 045 (Type No. FHTS045923690)

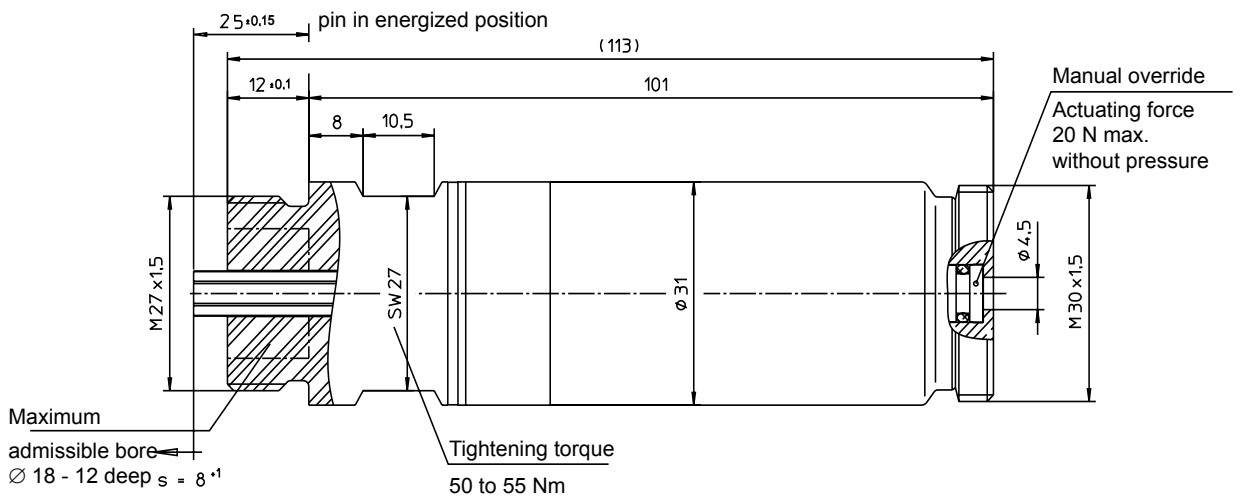


Fig. 10: Size 063 (Type No. FHTS062923685)



Connection geometry

Suitable o-ring 13,3x2,2

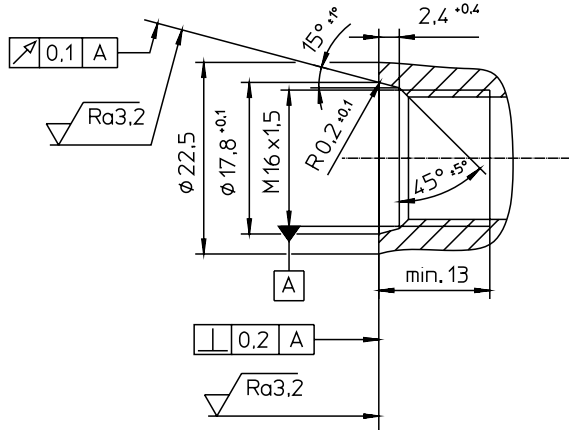


Fig. 11: G RC Y 037 N54 A01

Suitable o-ring 15,3x2,2

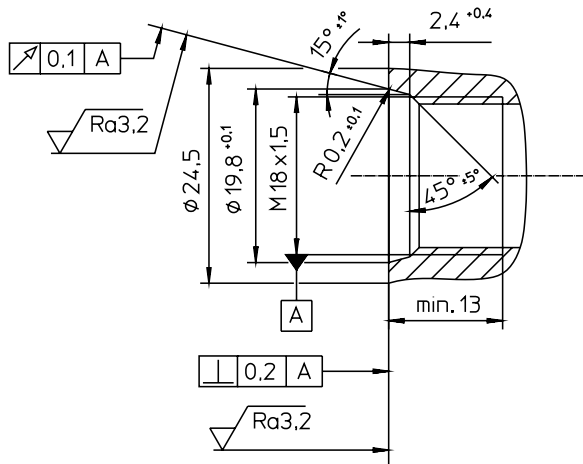


Fig. 12: G RC Y 045 N54 A01

Suitable o-ring 24,3x2,2

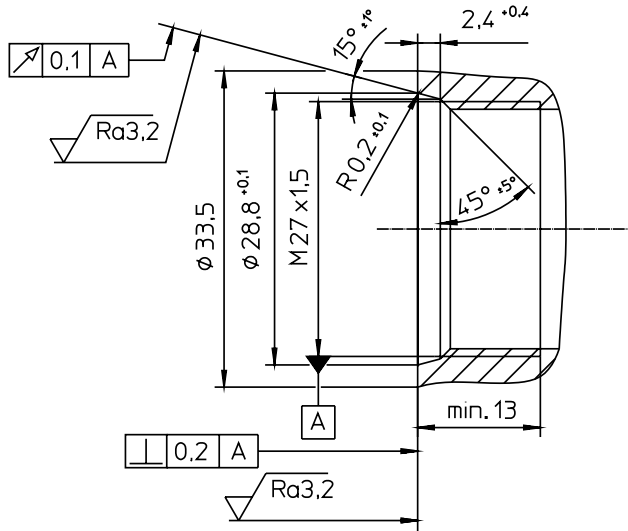


Fig. 13: G RC Y 063 N54 A01

Fixing Nut

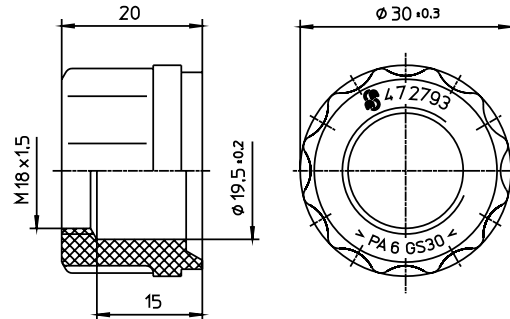


Fig. 14: Size 037 (Type No. 472793)
suitable socket wrench SW26 (bihex DIN 3124)
O-Ring to be used: 19 x 2,5 70 Shore A
tightening torque 5⁺¹ Nm

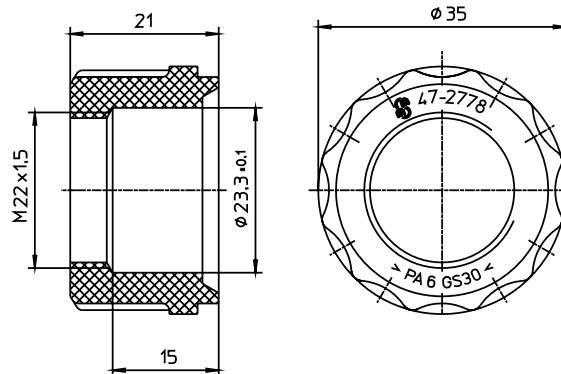


Fig. 15: Size 045 (Type No. 472778)
suitable socket wrench SW30 (bihex DIN 3124)
O-Ring to be used: 22 x 2,5 70 Shore A
tightening torque 6⁺¹ Nm

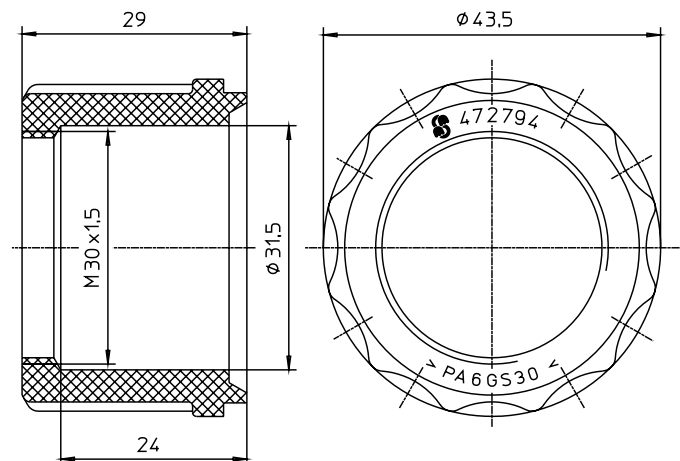
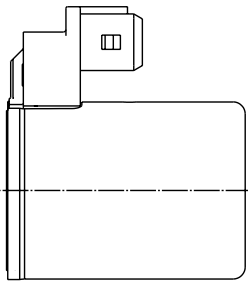
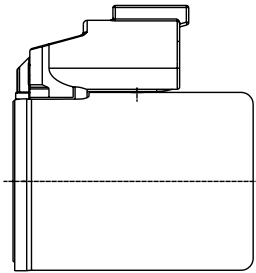


Fig. 16: Size 063 (Type No. 472794)
suitable socket wrench SW38 (bihex DIN 3124)
O-Ring to be used: 31 x 2,5 70 Shore A
tightening torque 6⁺¹ Nm

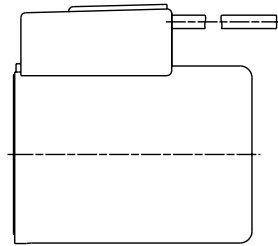
Further variations for the electrical connection on request



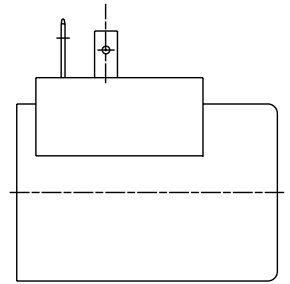
2-pole
AMP-Junior-Timer



2-pole
Deutsch DT04-2P

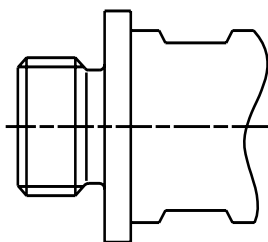


connecting
cable

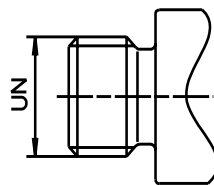


plug connector
DIN 43650 with
bridge rectifier

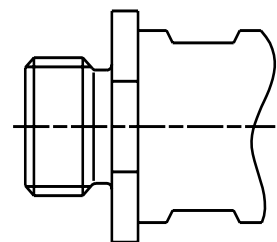
Connection variations for tube centre thread



bigger thread
with collar



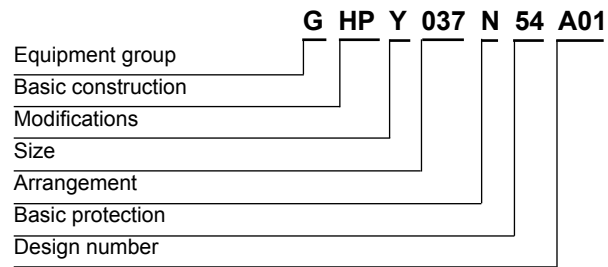
UN-thread
(also UNF, UNEF, etc.)



bigger thread with
hexagonal collar




Type code



Order Example

Type	G HP Y 037 N54 A01
Voltage	== 24 V DC
Operating mode	S1 (100 %)

Specials

Please do not hesitate to ask us for application-oriented problem solutions. In order to find rapidly a reliable solution we need complete details about your application conditions. The details should be specified as precisely as possible in accordance with the relevant  - technical explanations.

If necessary, please request the support of our corresponding technical office.