MAGNET-SCHULTZ
SOLENOIDS AND SOLUTIONS

QUALITY SINCE 1912

On/Off - Solenoids for Hydraulics

4

Product group

G HP Y 037, 045, 062

- 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
- Coil to insulation rating 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 43 650
    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 062 N54 A01

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Technical data

G HP Y ... N54 A01			037	045	062
Operating mode			S1 (100 %)	S1 (100 %)	S1 (100 %)
Reference temperature $\vartheta 11$		(°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

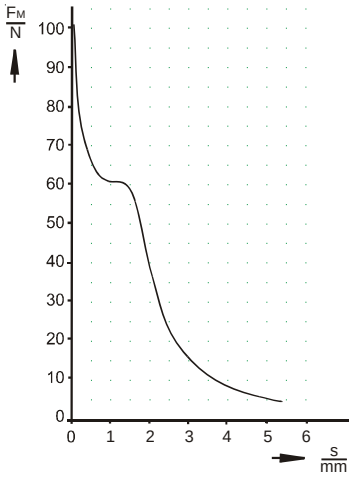

Fig. 2: Magnetic force v stroke graph size 037

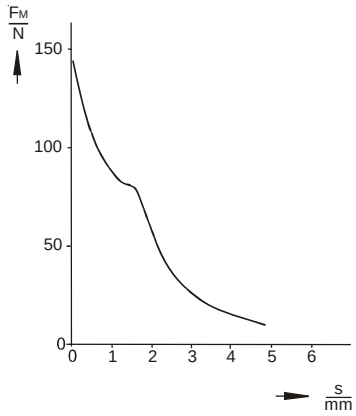

Fig. 3: Magnetic force v stroke graph size 045

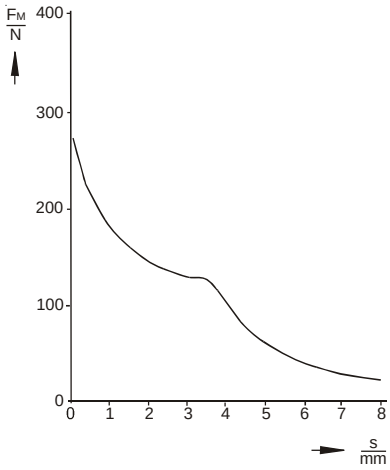

Fig. 4: Magnetic force v stroke graph size 062

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 ± 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.

Please make sure that the described devices are suitable for your application. Please find further details and definitions in our Technical Explanation or, respectively, in VDE 0580.

Note on the technical harmonisation guidelines within the EU CE

Electromagnetic solenoids of this product range are subject to the low-voltage guideline 73 / 23 EWG.

To guarantee the targets of this regulation, products are manufactured and inspected to the valid edition of DIN VDE 0580. This also equals a declaration of conformity by the manufacturer.

Note on the EMC (electromagnetic compatibility) guideline 89/336 EWG

Electromagnetic solenoids are not affected by this guideline because neither do they cause electromagnetic disturbances, nor can they be disturbed through electromagnetic disturbances. Therefore, the adherence to the EMC guideline has to be guaranteed by the user through appropriate circuitry wiring. Examples for protection circuits can be taken from the corresponding technical documents.

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Coil

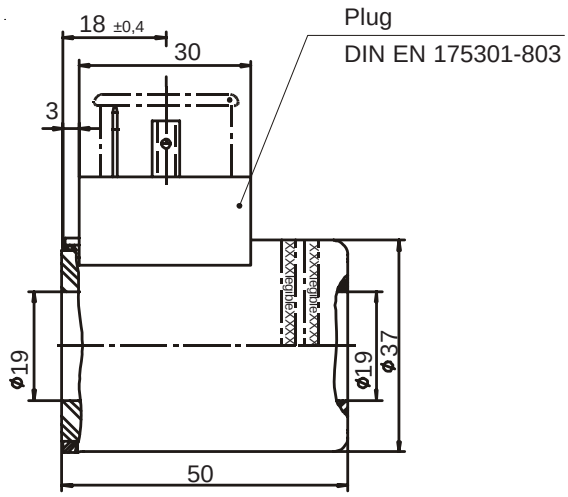

Fig. 5: Size 037 (Type No. FHMG037923689)

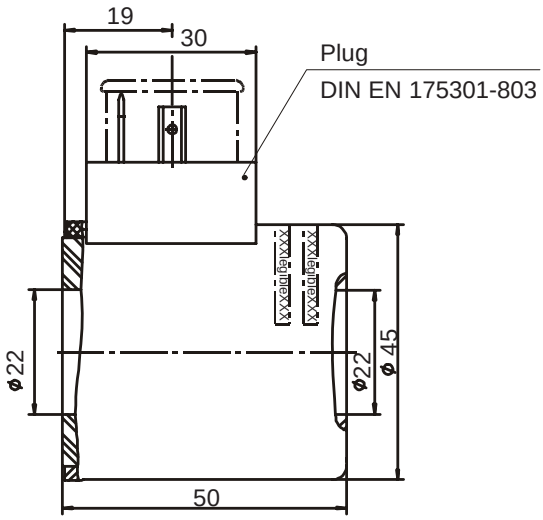

Fig. 6: Size 045 (Type No. FHMG045923385)

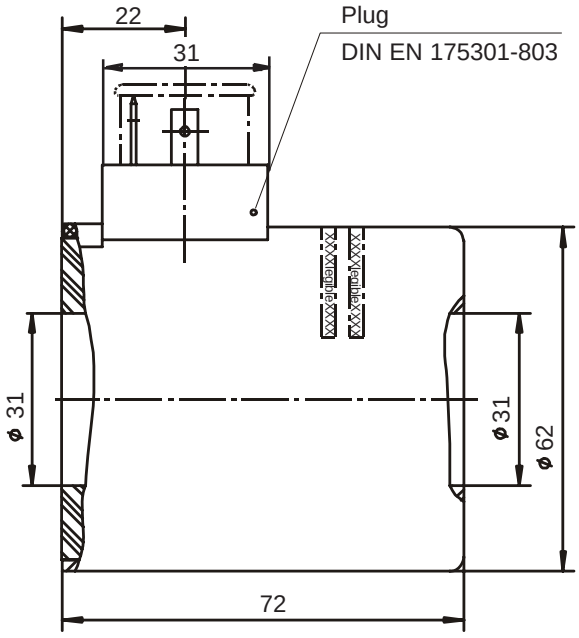

Fig. 7: Size 062 (Type No. FHMG062923688)

The solenoid shown is not a ready-to-use device in the sense of DIN VDE 0580. The general requirements and protective measures to be taken by the user, are included in DIN VDE 0580. The use of the shown device in safety relevant applications needs always the written agreement of MSM.

Tube

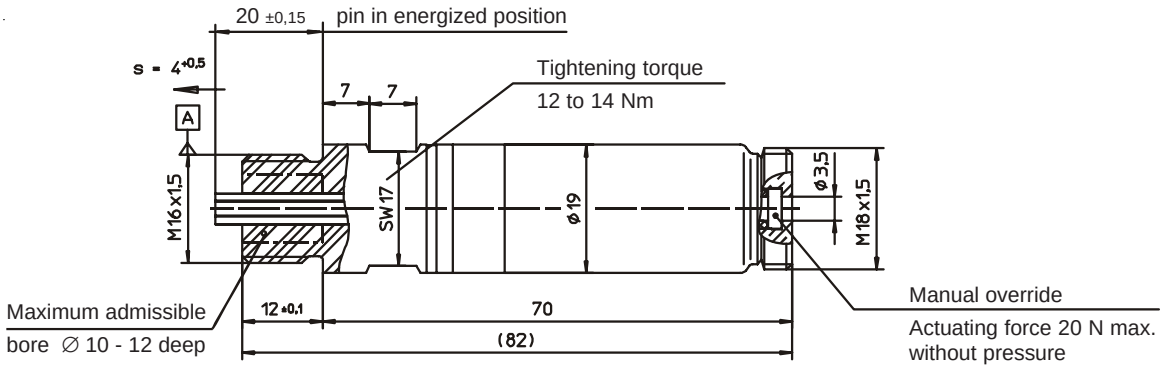

Fig. 8: Size 037 (Type No. FHTS037923692)

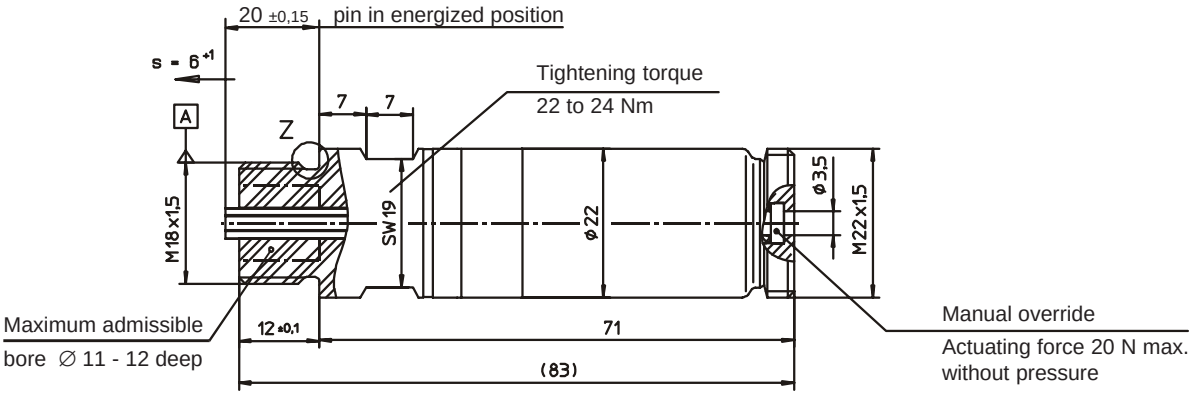

Fig. 9: Size 045 (Type No. FHTS045923690)

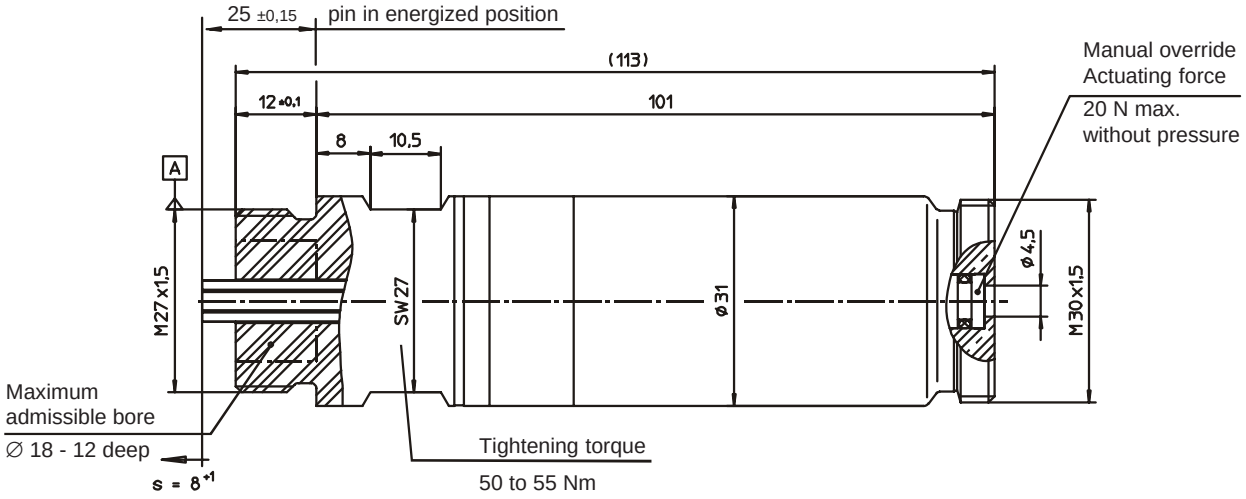

Fig. 10: Size 062 (Type No. FHTS062923685)

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Fixing Nut

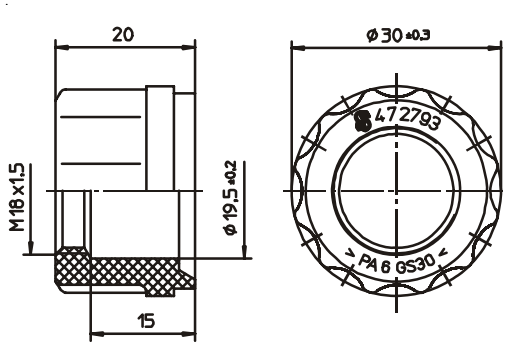


Fig. 11: Size 037 (Type No. 472793)
suitable socket wrench SW26 (bihex DIN 3124)
O-Ring to be used: 19 x 2,5 70 Shore A
tightening torque 5 $^{+1}$ Nm

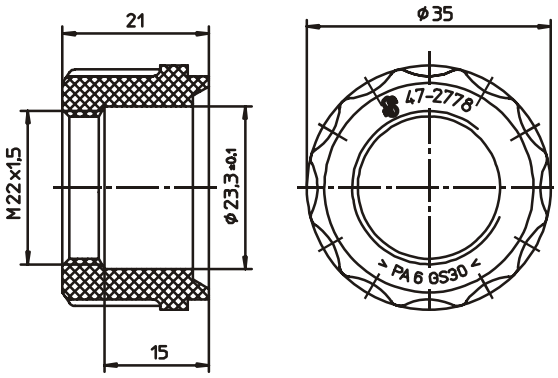


Fig. 12: Size 045 (Type No. 472778)
suitable socket wrench SW30 (bihex DIN 3124)
O-Ring to be used: 22 x 2,5 70 Shore A
tightening torque 6 $^{+1}$ Nm

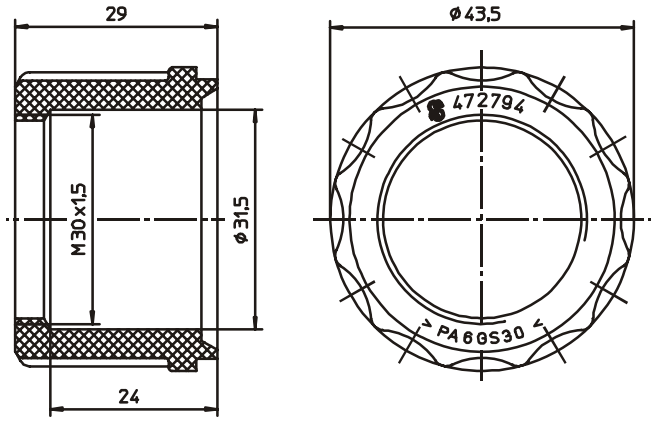
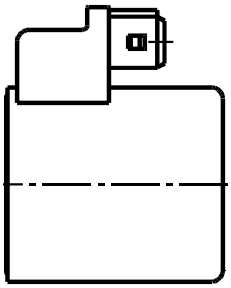
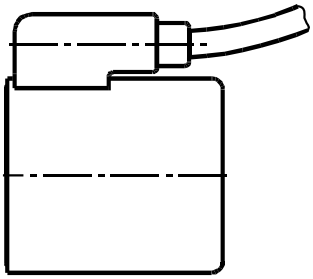


Fig. 13: Size 062 (Type No. 472794)
suitable socket wrench SW38 (bihex DIN 3124)
O-Ring to be used: 31 x 2,5 70 Shore A
tightening torque 6 $^{+1}$ Nm

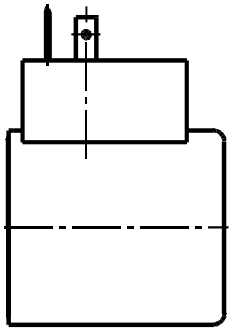
Further variations for the electrical connection on request



2-pole
AMP-Junior-Timer

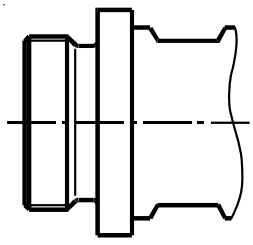


connecting
cable

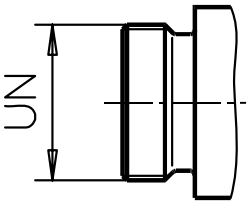


plug connector
DIN 43650 with
bridge rectifier

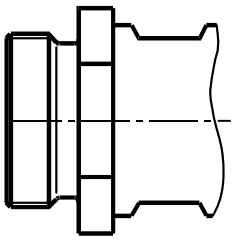
Connection variations for tube centre thread



bigger thread
with collar



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



bigger thread with
hexagonal collar

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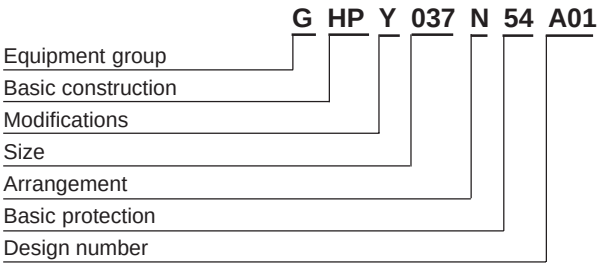
Type code



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.