

Permanent Holding Magnet

9

Product group

G MP ... B01 G ZZ

- According to DIN VDE 0580
- Closed circuit principle:
 - De-energized: max. holding force through integrated permanent solenoid
 - Energized: holding force is compensated
- High holding force
- Increasing force vs. stroke characteristic
- Exciter coil corresponds to insulation class B
- Electrical connection and protection class with duly executed installation
 - free flexible lead ends
 - Protection class according to DIN VDE 0470 / EN 60529 – IP 00
- Fastening with central thread on the front side
- Protection class IP 65 on request
- Application examples:
Machine construction, fixture construction, materials-handling technology, door holding devices, interlocking of all sorts



Fig. 1: Type G MP X 050 X00 B01

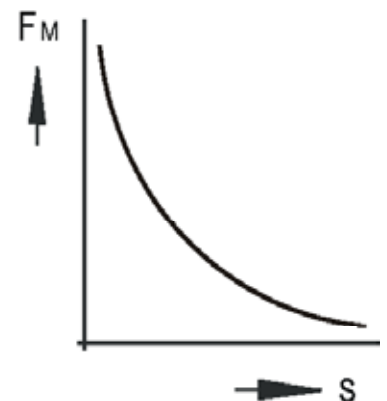


Fig. 2: Force vs stroke characteristic



Technical data

G MP X ... X00 B01	025	030	035	050
Operating mode ED	S2	S2	S2	S2
Rated power P_{20} (W)	16	10	16	31
Magnetic forces using the specimen* and stroke 0 mm				
Holding force F_M (N)	140	240	320	800
¹⁾ Residual holding force F_{MR} bei U_N (N)	18	30	35	100
²⁾ Residual holding force F_{MR} bei $I_{ab} = \text{konst.}$ (N)	6	8	8	10
Magnetic forces using armature type GZZE (fig. 5) and stroke 0 mm ³⁾				
Holding force F_M (N)	110	190	260	640
¹⁾ Residual holding force F_{MR} bei U_N (N)	15	24	28	80
²⁾ Residual holding force F_{MR} bei $I_{ab} = \text{konst.}$ (N)	5	7	7	8
$I_{ab} = \text{konst.}$ (A)	0,55	0,35	0,5	1,1
Reference temperature ϑ_{13} (°C)	35	35	35	35
Solenoid weight mM (kg)	0,053	0,106	0,200	0,577
Test specimen diameter (mm)	25	30	35	50
* Test specimen thickness (mm)	3	4	5	6

* The test specimen is made of 9 S Mn. The pole surface is plane and polished and has a roughness of 15 μm max. With smaller specimen thickness or bad surface quality the magnetic force decreases. The use of materials having a different permeability may lead to considerable deviations regarding the holding force.

- 1) The external return forces have to be sufficiently higher than the residual force.
- 2) In order to eliminate the influence of the coil resistance (dependent on the temperature rise) on the residual force we recommend you to drive the solenoid with constant current (see also fig. 3).
- 3) When using the armature GZZE the magnetic forces are reduced due to the layer thickness of the electroplating.

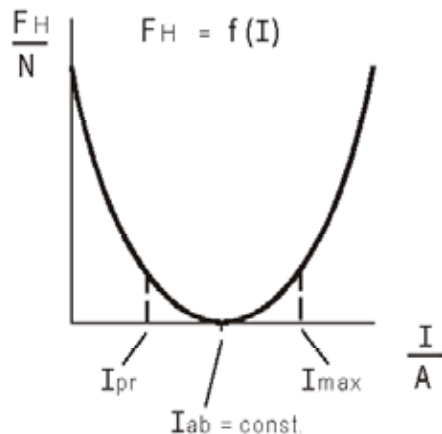


Fig. 3: characteristic

Rated voltage $\approx 24\text{ V}$, an adaptation of the exciter coil to a rated voltage of max. $\approx 60\text{ V}$ is possible.

Due to natural dispersion the force values may deviate by $\pm 10\%$ from the values indicated in the tables.

This part list is a document for technically trained qualified personnel.

This publication is for informational purposes only and must not be considered as mandatory product description, unless this is confirmed expressively.

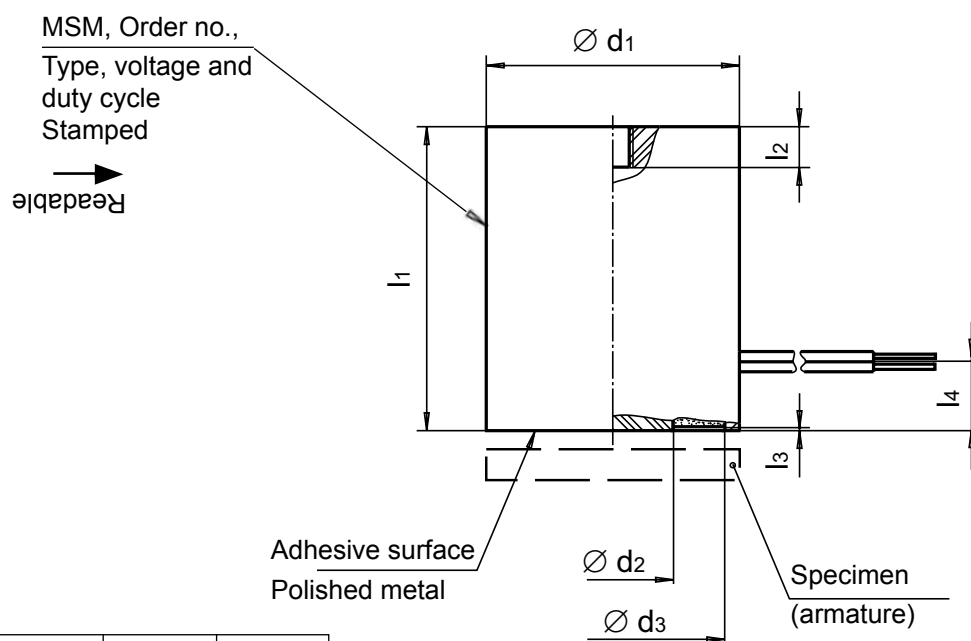
Information and remarks concerning European directives can be taken from the correspondent information sheet which is available under Produktinfo.Magnet-Schultz.com.

Please make sure that the described devices are suitable for your application. Please find further information about the duly assembly among others in the -Technical Explanation, the valid DIN VDE 0580 as well as in the relevant prescriptions.

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.

Dimension tables



Size	025	030	035	050
Dim.	Dimensions in mm			
l ₁	18	24	32	44
l ₂	3,8	5,2	5	6
l ₃	0,2	0,2	0,2	0,5
l ₄	6,3	10,3	15	19,8
∅ d ₁	25	30	35	50
∅ d ₂	12	14,4	16,8	23,7
∅ d ₃	22,1	26,4	30,9	44
∅ d ₄	M4	M4	M5	M5

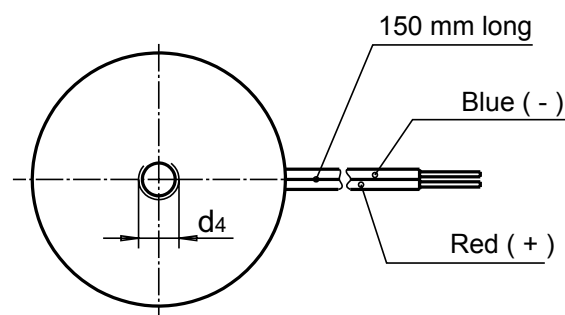
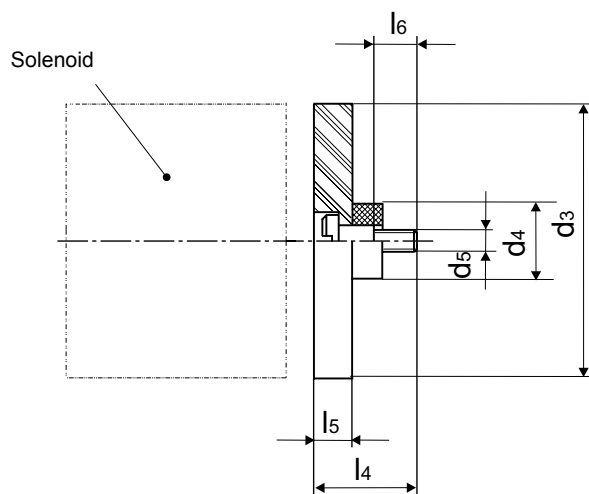


Fig. 4: Type G MP X 025 X00 B01
To G MP X 050 X00 B01



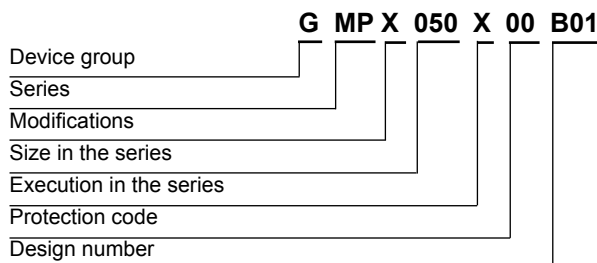
Armatures for solenoids



G Z Z E				
Size	025	030	035	050
Dim.	Dimensions in mm			
d_3	25	30	35	50
d_4	8	10,5	10,5	10,5
d_5	M3	M4	M4	M4
l_4	9,5	14	14	15
l_5	3	5	5	6
l_6	4,5	6	6	6

Fig. 5: G Z Z E 025 X 00 A01
up to G Z Z E 050 X 00 A01
(size 025-030: ... D01)
(size 035 on request)

Type code



Order example

Type G MP X 050 X00 B01
Voltage = 24 V DC
Operating mode S2 (short-time duty)

Special designs

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.