

Permanent Holding Magnet

9

Product group

G MP ... B01

- To DIN VDE 0580
- Holding current principle:
 - de-energised: maximum holding force through integrated permanent magnet
 - energised: holding force is compensated
- High holding force
- Small height by use of high-energy permanent magnets
- Increasing magnetic force vs stroke characteristic
- Coil to insulation rating B
- Electrical connection and protection rating if mounted properly:
 - Flexible flying leads
Protection to DIN VDE 0470/EN 60529 - IP 00
- Mounting via centre thread in solenoid face
- Special designs on request
- Application examples:
Machine tools, feeder mechanisms, lifting-locking door holding, all sorts of shotbolts

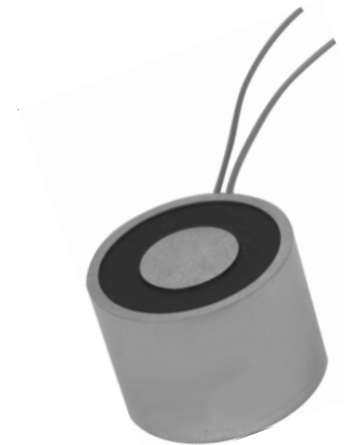


Fig. 1: Type G MP X 025 X00 B01

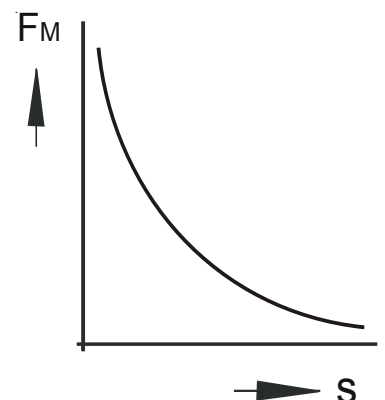


Fig. 2: Magnetic force vs stroke characteristic



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
¹⁾ Holding Force F_M at 0 mm stroke*	(N)	140	240	320	800
²⁾ Residual Force F_{MR} at U_N and 0 mm stroke*	(N)	18	30	35	100
³⁾ $I_{ab} = \text{constant}$	(A)	0,55	0,35	0,5	1,1
³⁾ Residual force F_{MR} at $I_{ab} = \text{const.}$ and 0 mm stroke*	(N)	6	8	8	10
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

* If the thickness of the test specimen is smaller, the magnetic force decreases. If materials with a different permeability or with a lower surface quality are used, the deviations from the rated magnetic force may be bigger.

- ¹⁾ Magnetic force values were measured from a test specimen made of 9 S Mn 28 with ground surface and a surface roughness of 15 μ max.
- ²⁾ The external return forces have to be sufficiently higher than the residual force.
- ³⁾ In order to eliminate the influence of the coil resistance (dependent on the temperature rise) on the residual force, we suggest to drive the solenoid with constant current (see also fig. 3).

Rated voltage $U_N \equiv 24$ VDC, on request the coil winding can be adjusted to a rated voltage of $\equiv 60$ VDC.

Owing to natural dispersion, the magnetic-force values may deviate by $\pm 10\%$ from the listed values.

Please make sure that the described devices are suitable for your application. Please find further details and definitions in our [Technical Explanation „Polarised Solenoid Systems“ V1300.1342](#) or in [DIN VDE 0580](#).

Note on the technical harmonisation guidelines within the EU



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.

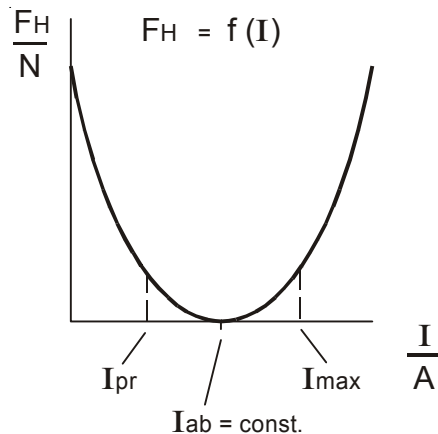


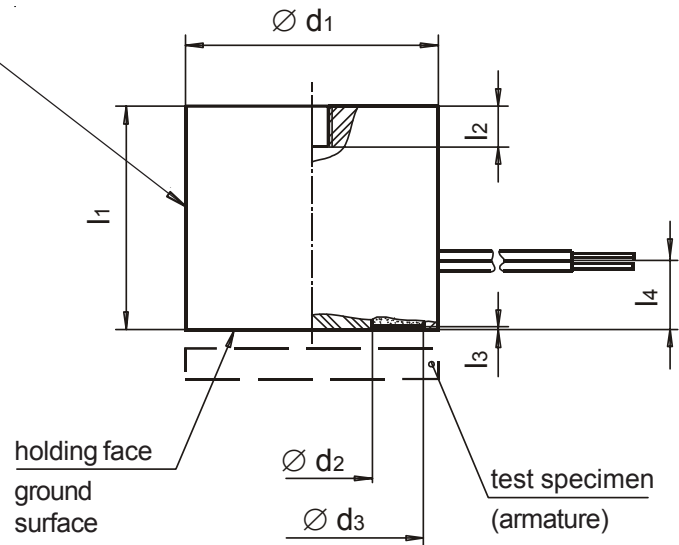
Fig. 3: Force characteristic

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

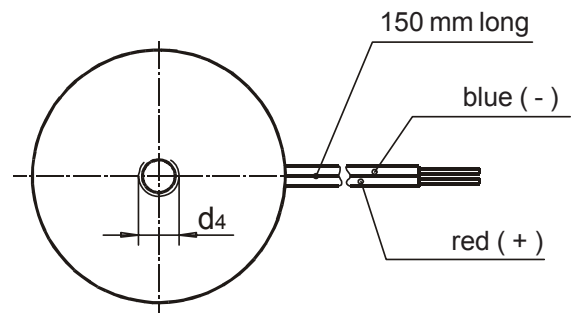
Electromagnetic solenoids are not affected by this guideline because neither do they cause electromagnetic disturbances, nor can they be disturbed through electromagnetic disturbances. Therefore, the adherence to the EMC guideline has to be guaranteed by the user through appropriate circuitry wiring.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

Dimension sheets

MSM, order No.,
 type, voltage and
 operating mode
 stamped



Size	025	030	035	050
sizes	sizes 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
$\varnothing d_1$	25	30	35	50
$\varnothing d_2$	12	14,4	16,8	23,7
$\varnothing d_3$	22,1	26,4	30,9	44
$\varnothing d_4$	M4	M4	M5	M5



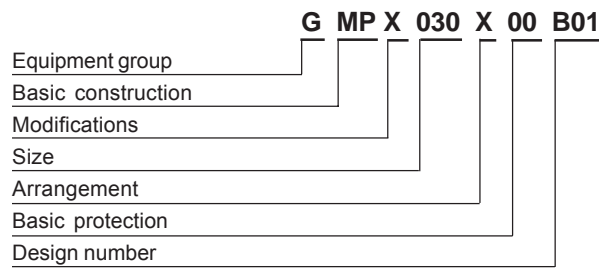
armature available on request

The solenoids shown are not ready-to-use devices 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 devices in safety relevant applications need always the written agreement of MSM.

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



Type code



Order Example

Type	G MP X 030 X00 B01
Voltage	24 V DC
Operating mode	S2 (short operation service)

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.