

## Flanged DC Holding Magnet

Types G MH X 030 X00 D05  
and G MH X 040 X00 D16  
(supplement)

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### Function

- high holding force
- increasing force vs. stroke (air gap) characteristic
- gimbal mounted armature (see [GMH GZZ datasheet](#))

### Construction

- body and pole faces electroless nickel plated to:
  - 12 ± 15 µm (G MH X 030 X00 D05)
  - 10 ± 2 µm (G MH X 040 X00 D16)
- electrical connection via flexible flying leads - cable exit sealed by ferrule and mastic (perinator)
- coil insulation: thermal Class F
- fastening via threaded holes on the rear side

### Standards

- designed and tested to DIN VDE 0580
- manufactured to ISO 9001

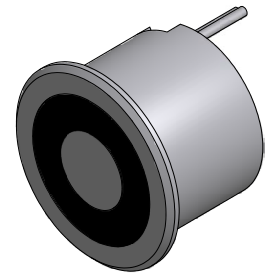


Fig. 1: Flanged holding magnet  
Type G MH X 030 X00 D05

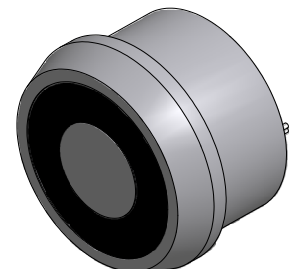


Fig. 2: Flanged holding magnet  
Type G MH X 040 X00 D16

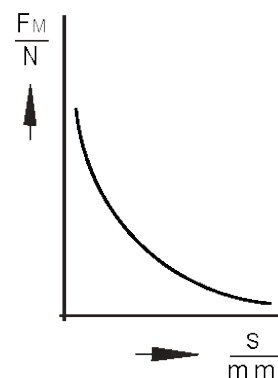


Fig. 3: Force vs. stroke characteristic

## Technical data

G MH X		030 X00 D05	040 X00 D16
Operating mode		S1 100%	S1 100%
Rated power $P_{20}$	(W)	4.1	5.5
Solenoid weight $m_M$	(kg)	0.10	0.22
Holding force ( $F_M$ )*	(N)	160	420
Armature weight	(kg)	0.029	0.05
Armature thickness	(mm)	5	5
Armature diameter $\varnothing$	(mm)	30	40

**Table 1:** Technical data

### Notes on the tables

The force values indicated in the tables refer to 90 % of the rated voltage, ( $U_N = \text{---} 24 \text{ V}$ , deviations of the magnetic force may occur for other voltages) and in the normal operating temperature.

Due to natural dispersion the magnetic force values may deviate by approx.  $\pm 10 \%$  from the table values.

The normal operating temperature is based on:

- Rated voltage  $\text{---} 24 \text{ V}$
- Operating mode S1 100%
- Ambient reference temperature  $35^\circ \text{ C}$
- Mounting on heat-insulating base

### Rated voltage

Rated voltage is  $\text{---} 24 \text{ V}$ . Adaptation of the coil winding to rated voltages less than  $\text{---} 120 \text{ V}$  is possible on request.

Standard values for voltage and operating mode:  $24 \text{ V}$ , S1 (100%).

The devices correspond to protection class III. Electrical equipment of protection class III may be only connected to low voltage systems (PELV, SELV)(IEC 60364-4-41). The design limit of the equipment is a rated voltage not higher than  $120 \text{ V}$  (EN 61140:2002) with DC. On request we are pleased to check to what extent the delivery of higher rated voltages is possible as special solutions by agreement.

In the interest of a low surface temperature, the temperature rise of the devices is  $\Delta_{v,32} = 60 \text{ K}$ .

The magnetic force values are measured using blank armature made of 9 S Mn 28 with plane ground surface and a surface roughness of  $15 \mu\text{m}$  max. On request an increase of the magnetic force is possible by a special adjustment of the winding. If the armature thickness is small, the magnetic force is reduced. The use of materials with other permeability or bad surface quality may cause higher deviations of the rated force.

After switching off the supply voltage, a retention force of about 5% of the magnetic force may remain. Degaussing units are also available to mitigate this. This retention force decreases by using an armature with surface coating.

## Dimensional drawings - GMHX 030 X00 D05

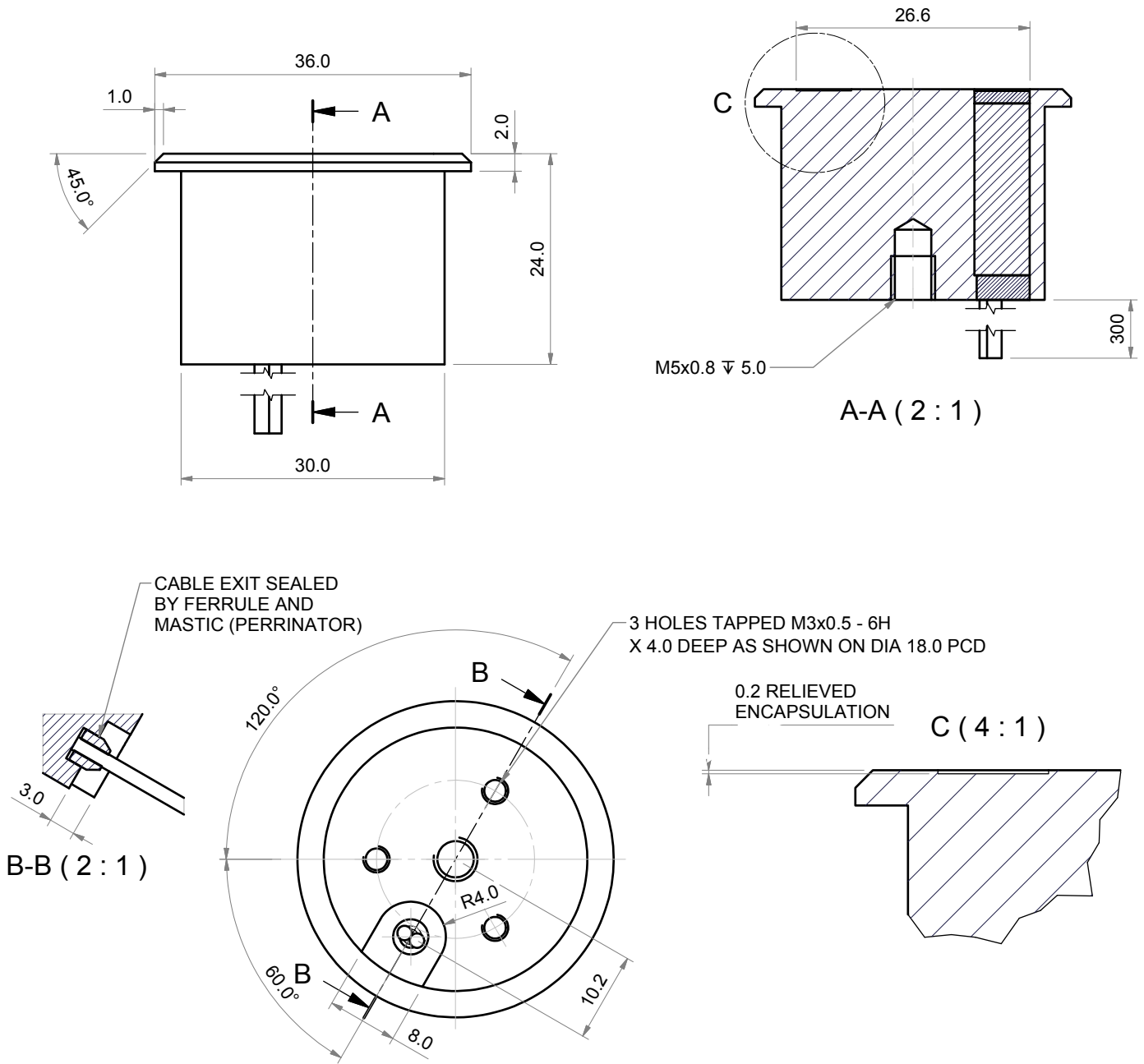


Fig. 4: Type G MH X 030 X00 D05

## Dimensional drawings - GMHX 040 X00 D16

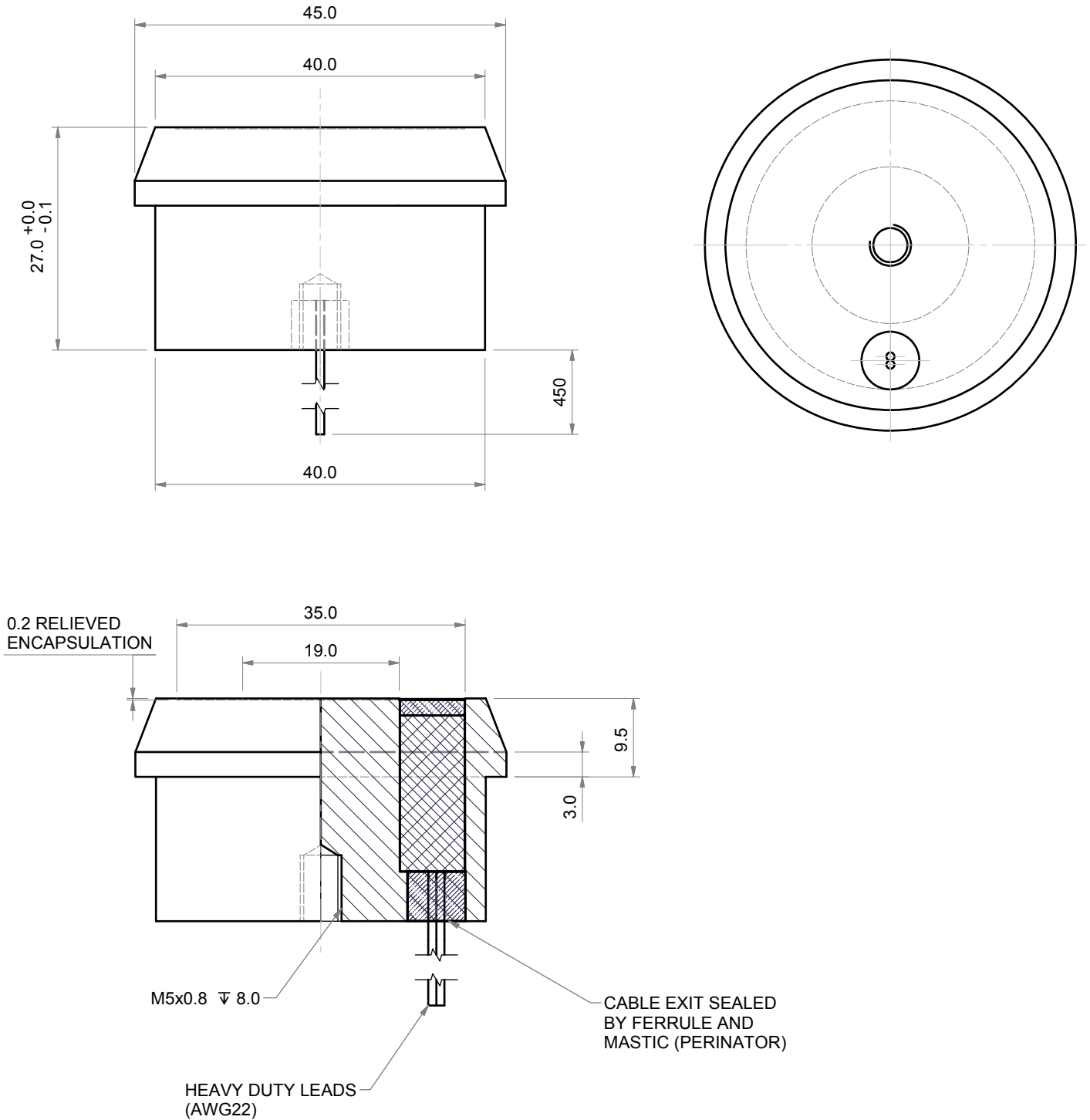
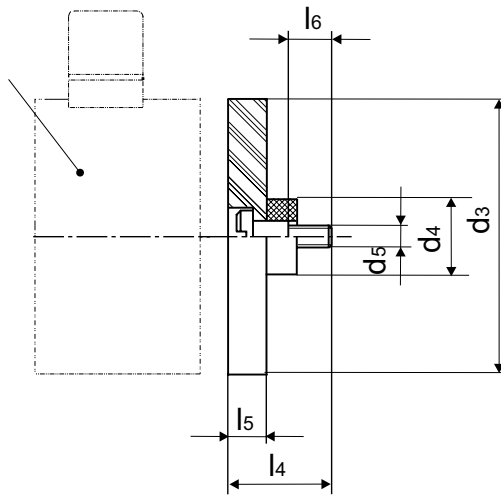


Fig. 5: Type G MH X 040 X00 D16

## Armature for solenoids



G ZZ E			
Size	030	040	050
Dim.	dimensions in mm		
$d_3$	30	40	50
$d_4$	10.5	10.5	10.5
$d_5$	M4	M4	M4
$l_4$	14	14	15
$l_5$	5	5	6
$l_6$	6	6	6

Table 2: Dimensions for G ZZ E armatures

Fig. 6: Type G ZZ E 030 X 00 A01  
to G ZZ E 050 X 00 A01  
(size 030: ... D01)

## Type codes

Type	Size (diameter) (mm)	Execution and protection	Design number	Voltage, admissible duty cycle for rated voltage 24V
G MH X	030	X00	D05	24V DC (max. 120V) Protection class III
	040	X00	D16	

## Order example

Holding magnet:

Type G MH X 040 X00 D16  
Voltage == 24 V DC  
Operating mode S1 (100 %)

Armature:

Type G ZZ E 040 X00 A01

Information and remarks concerning European directives can be taken from the corresponding information sheet which is available on our [website](#).

Please make sure that the described devices are suitable for your application. Our offers for these devices are based on the assumption of maximal 8 in an FMEA severity table, i. e. in case of malfunction of the device model as offered, there is, amongst others, no jeopardy of life or limb. Supplementary information concerning its proper usage and installation can be found in our [Technical Explanations \(GXX\)](#) document, as well as DIN VDE0580 and other relevant specifications. Further information regarding device selection can be found in our [Solenoid Selection Guide](#).

This datasheet 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 explicitly confirmed.

Please do not hesitate to ask us for application-oriented solutions. In order to find a reliable solution we require details about your specific application and installation conditions. The details should be specified as precisely as possible in accordance with the relevant [Technical Explanations \(GXX\)](#) document.

## Need more information or advice?

Email one of our technical experts at [sales@magnetschultz.co.uk](mailto:sales@magnetschultz.co.uk) or call +44(0)1483 794700 now