

## D C Heavy Duty Holding Magnet with Sealed Poles (energise to hold)

# 9

Product group

Armature Type GZZ  
Rectifier for A.C. supply  
Holding Force 760N

## Type GMH X050X20D09

- According to VDE 0580 and ISO 9001 (conform with article 10 of directions 73/23/EEC - according to CENELEC memorandum no. 3 of March 1987)
- Robust sealed pole face construction for high integrity weatherproof applications
- Monobloc body, chemical nickel plated, with flange mounting
- Encapsulated coil
- Protection classification - DIN VDE 0470 / EN60529  
Flying leads - IP 00  
- IP 68 (pole face only)
- Coil with insulation class B, for voltages up to 250 volts
- Optional armature, nickel plated, with self-aligning mounting, type GZZ, provides optimum holding force and low remanence
- Permanent magnet with electro-magnetic release available see type GMP
- Boxed version available
- Available with component rectifier for AC supplies
- Increased protection heavy duty holding magnet for arduous service on:
  - Diesel engines
  - Electricity generating plant
  - Switchgear
  - Offshore oil and gas production equipment
  - Fire and smoke protection systems
  - Water treatment and flood control equipment
  - Ships and shoreside equipment



Fig. 1  
GMH X050 X20 D09

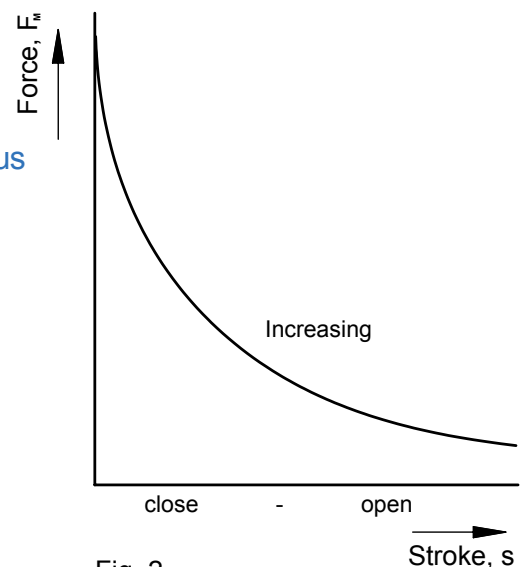


Fig. 2  
Force characteristic



QUALITY SINCE 1912

Performance and dimensional data for type GMHX 050 X20 D09

GMHX 050 X20 D09		
Duty rating ED	%	100 (S1)
Power Consumption P <sub>20</sub>	(W)	9.8
Magnet weight m <sub>M</sub>	(kg)	0.52
Armature weight m <sub>A</sub>	(kg)	0.1
Armature thickness	(mm)	6
Armature diameter	(mm)	50
Air gap <sup>1)</sup> s	(mm)	Holding Force F <sub>M</sub> (N)
	0	760
	0.1	460
	0.16	370
	0.25	180
	0.4	70
	0.6	40
	1.0	16.6
	1.6	7.4
	2.5	3.6
Holding force with armature GZZ (s = 0mm) <sup>2)</sup>		640

**NOTES**

1. That force produced when using plain steel armature of material (ST37) (9S Mn 28) with thickness as in table and a surface finish of 15µm
2. That force produced when using plated (chemical nickel) armature type GZZE 050 X00 A01
3. The forces will be reduced if other material specification, thickness and surfaces are used, or if the armature fails to make contact over the full diameter of the magnet face.
4. The magnetic remanence can be reduced by increasing the air gap. This can be achieved by machining away an area of the armature surface. But there will be corresponding reduction in holding force.

**PERFORMANCE TABLE**

terms are explained in Technical Bulletin G XX & VDE 0580/35

**TABLE BASIS**

24V/100% (S1) duty                      Heat Insulated base  
Ambient temperature 35°C              Free air mounted  
Lifting vertically. Tolerance +/- 10% (inherent and manufacture)

**DUTY RATING**

% of energised time per operation cycle:  $\frac{t(\text{on})}{t(\text{on}) + t(\text{off})} \times 100$   
Max energized time/cycle  
100% (S1) continuous: 40% (S3) - 120 secs, 25% (S3) - 75secs, 15% (S3) - 15secs,  
(Force figures available for respective duty ratings)

**SUPPLY VOLTAGE**

Standard DC: 24V, 97V, 205V (for A.C. 50/60Hz rectified, 110V, 230V) (max. 250V)  
Separate external rectifier can be provided for A.C supply

**MAGNETIC FORCE (F<sub>M</sub>)**

is listed in HOT condition at 90% of rated voltage (increase approx 20% at rated voltage). Adjust for armature weight

**POWER CONSUMPTION (P<sub>20</sub>)**

is listed with 25°C coil temperature (decrease/HOT). The temperature rise is limited to 60°C to provide a low surface contact temperature. the magnetic forces can therefore be increased with special coil winding for continuous or short duty

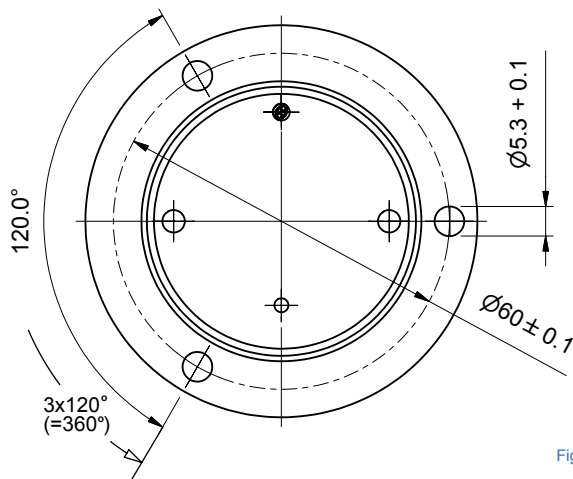


Fig. 3 GMH X050 X20 D09

