

## DC single-acting high performance solenoids

# 1

Product group

## G MC X

### Function

- Push and pull type
- Increasing force vs. stroke characteristic

### Construction

- Central fastening
- Maintenance free bearings with high service life
- Insulation materials of the exciter coil correspond to thermal class F
- Electrical connection via connector plug Z KB according to DIN EN 175301-803
- Protection class according to DIN VDE / EN 60529, when they are properly installed
  - Electrical connection and coil
    - Receptacles according to DIN 46247 IP00
    - Plug connection via connector plug: IP65
- Tube: IP20

### Application examples

- Tooling machines, office machines, packing machines, textile machines
- Measuring and control technology

### Options

- Further electrical connections on request
- Please contact us for application related solutions

### Standards

- Design and testing according to VDE 0580
- Production according to ISO 9001



Fig. 1: Type G MC X 045 X20 A01

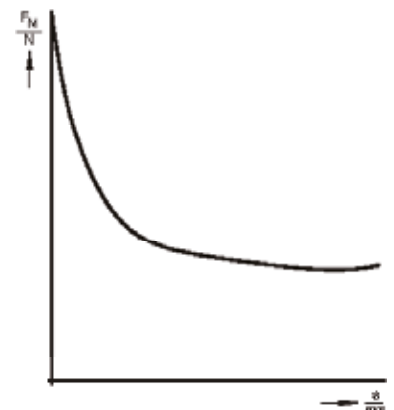


Fig. 2: force vs. stroke characteristic

## Technical data

G MC X	037					045					063				
Operating mode	S1	S3	S3	S3	S3	S1	S3	S3	S3	S3	S1	S3	S3	S3	S3
rel. duty cycle	100 %	40 %	25 %	15 %	5 %	100 %	40 %	25 %	15 %	5 %	100 %	40 %	25 %	15 %	5 %
Stroke s (mm)	Magnetic force $F_M$ (N)					Magnetic force $F_M$ (N)					Magnetic force $F_M$ (N)				
0	26	38	40	54	66	40	59	73	87	120	127	176	on request		
1	13	22,5	26,5	34,5	46	16	28	36	45	70	70	111			
2	11,5	20	24,5	32	43	13	22,5	30	38,5	60,5	52	85			
3						12	20,5	28	36	58	45	74			
4	10,5	19	23,5	33	45,5	11,5	20	27	35	58	41	69			
5															
6	10	19	22	32	48,5	11,5	18,5	25	33	58	39	63			
8	11	18	22	31,5	48	11	17,5	23	30	55	37	60			
10						11,5	18	23	29	51	36	57			
12											37	56			
Rated work $A_N$ (Ncm)	8,8	14,4	17,6	25,2	38,4	11,5	18	23	92	51	44	67			
Rated power $P_{20}$ (W)	19,1	44	61,5	105	213	18,6	41	57	92	240	36	77			
Actuation time $t_1$ (ms)	82	78	67	62	48	127	95	85	80	70	160	130			
Fall time $t_2$ (ms)	48	48	47	44	30	55	55	55	55	40	75	60			
Inductance * (mH)															
• Armature in stroke start position $S_{max}$	223	on request				298	on request				212	on request			
• Armature in stroke end position $S_0$	231	on request				298	on request				209	on request			
Armature weight (kg)	0,05					0,05					0,18				
Solenoid weight $m_M$ (kg)	0,39					0,59					1,5				

\* measured by LCR measurement bridge 3255B from Wayne Kerr

### Note for application of series G MC X via rectifier

A connection to the AC-network is possible when using a rectifier installed in connector Z KB G (part list Z BK X / Z KB G / Z KC X / Z KC G).

Please consider that the AC-networks are widely free of voltage peaks. If within spitting distance of the devices higher inductances and capacities are switched, it must be ensured that those voltage peaks can be made ineffective by suitable switch means (choke resp. band-pass filters).

Switching at the AC side should be striven at.

### Notes on the tables

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

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

The normal operating temperature is based on:

- Mounting on badly conductive base
- Rated voltage  $\text{---} 24 \text{ V}$
- Operating mode S1 (100%)
- Reference temperature  $35^\circ \text{ C}$

### Rated voltage


Rated voltage is  $\text{---} 24 \text{ V}$ . An adaptation of the exciter coil to a rated voltage less than  $\text{---} 60 \text{ V}$  is possible on request.

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.

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

### Note on the RoHS Directive

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.

**Please make sure that the described devices are suitable for your application. Supplementary information concerning its proper installation can be taken also from the  –Technical Explanation, the effective DIN VDE0580 as well as the relevant specifications.**

This part list 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 confirmed expressively.

## Dimension table

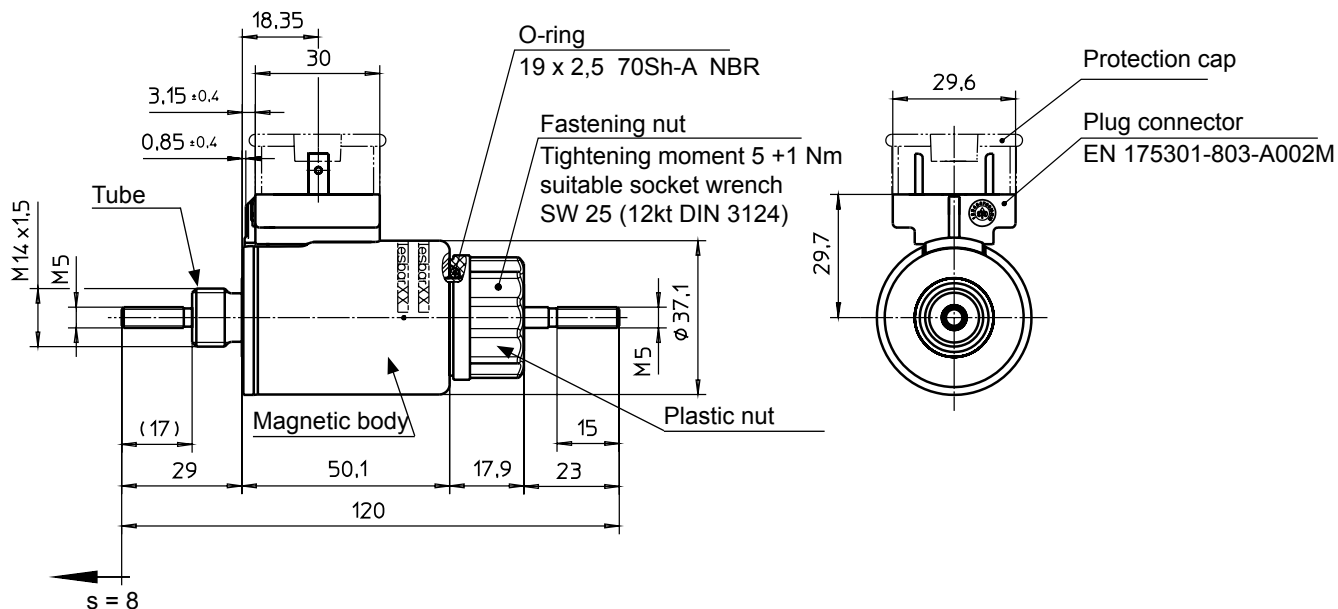


Fig. 2: Type GMCX 037 X20 A02

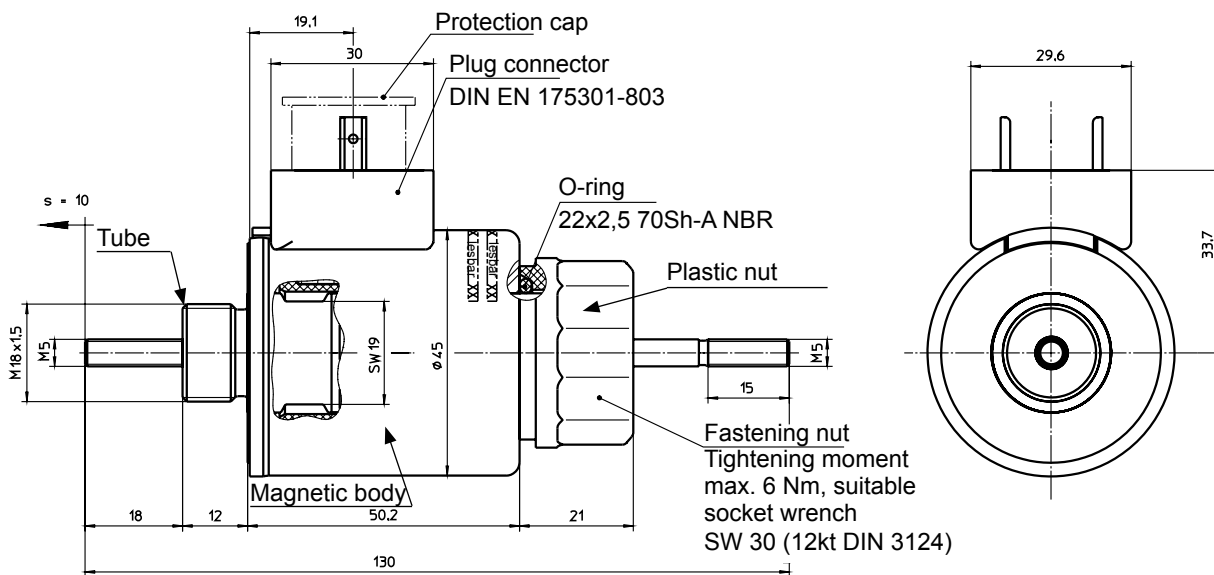


Fig. 3: Type GMCX 045 X20 A01

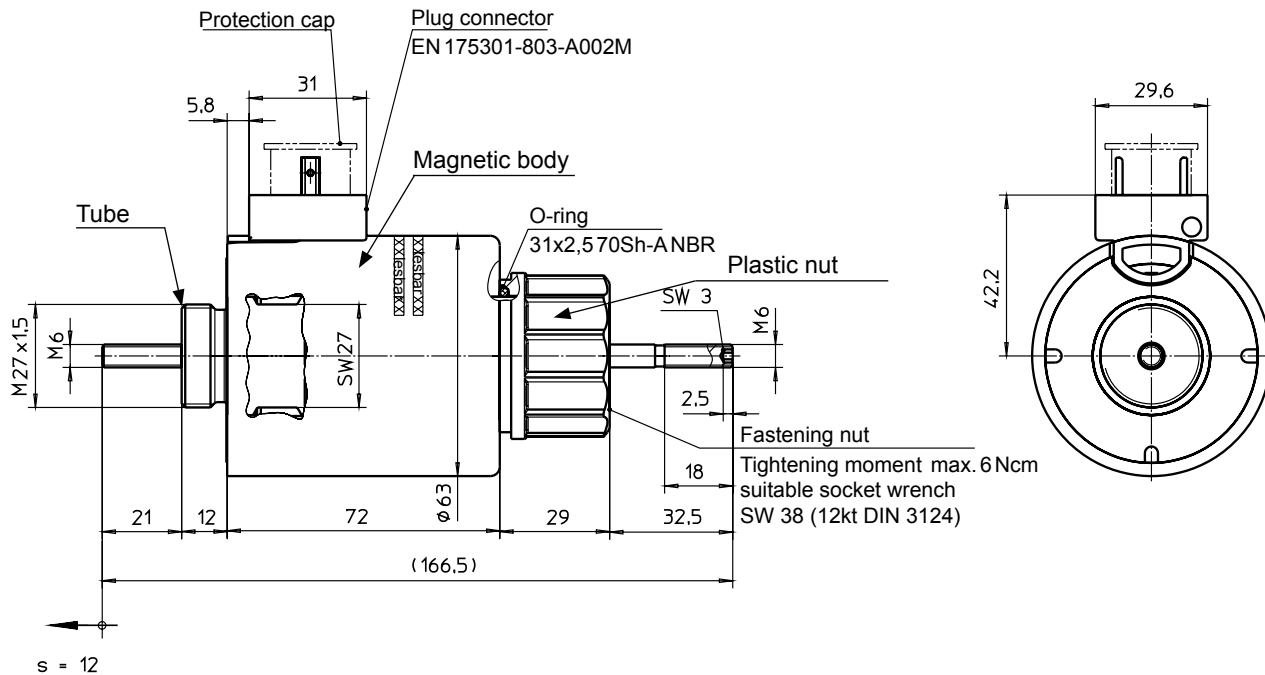


Fig. 4: Type GMCX 063 X20 A01

## Type code

Designation	Size (Ø)
G MC X 037 X20 A02	37 mm
G MC X 045 X20 A01	45 mm
G MC X 063 X20 A01	63 mm

## Order example

Type	G MC X 045 X20 A01
Voltage	== 24 V DC
Operating mode	S1 (100 %)

## Specials 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.