

## Proportional Control Solenoids for Pneumatics and Hydraulics

# 4

Product group

### G RF 025 ... B01

- According to DIN VDE 0580
- Armature space pressure tight up to 350 bar
- Also suitable for dry operation
- Magnetic force vs stroke graph horizontal within proportional control range to slightly decreasing
- To a large extent proportional behaviour between force and current
- Minimum hysteresis due to special precision armature bearings
- Quick response times
- Push type
- Insulation materials of the excitation winding correspond to thermal class F
- Electrical connection and protection class when properly installed:
  - Plug connection by spade connectors according to DIN 46247  
Protection class according to DIN VDE 0470/  
DIN EN 60529 – IP 00
  - Plug connection via plug connector type Z KB G according to DIN EN 175301-803  
Cable gland (4 x 90°)  
Protection class according to DIN VDE 0470/  
DIN EN 60529 – IP 65
- Fastening with 4 screws
- Sealing between solenoid and valve by o-ring
- Modifications and special designs as well as accessories as e.g. transducer on request
- Application examples:  
In particular proportional actuator in pneumatic and hydraulic control chains and control loops

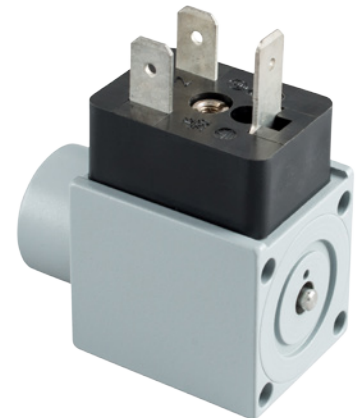


Fig. 1: Type G RF Y 025 F20 B01

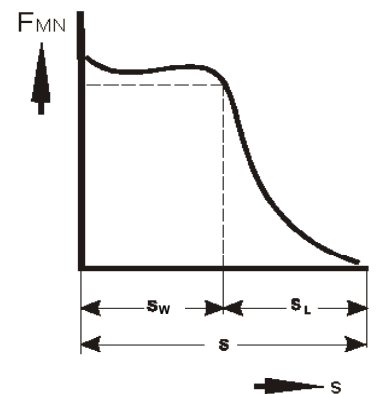


Fig. 2: Magnetic force vs stroke graph

## Technical data

G RF Y 025 F20 B01			
Rated voltage	(V)	24	12
Operating mode		S1 (100 %)	
Reference Temperature $\vartheta_{11}$	(°C)	50	
Stroke s	(mm)	1 + 1,5 <sup>1)</sup>	
Rated magnetic force $F_{MN}$	(N)	18,5	
Rated force hysteresis $H_{FN}$	(%)	~ 4,5	
Rated current hysteresis $H_{IN}$	(N)	< 1	
Rated linearity deviation $L_N$	(%)	3	
Armature weight $m_A$	(kg)	0,010	
Solenoid weight $m_M$	(kg)	0,140	
Rated resistance $R_{20}$	(Ω)	25,7	6,4
Limit current $I_G$	(A)	0,44	0,88
Linearity current $I_L$	(A)	0,1	0,2
Response power $P_A = I_{A^2} \cdot R_{20}$	(W)	0,0026	

1) The stroke given is indicative only. On account of tolerances we recommend a stable working range of 0,2 to 0,8 mm.

Die hysteresis rated force has been measured dynamically (measuring speed 10 mm / min.).

Rated voltage = 12 V. For power supply via an electronic gain control amplifier, the rated voltage has to be adjusted correspondingly.

Standard values for voltage and operating mode: 12 V, S1 (100%).


The indicated technical data refer to an A.C. power supply with bridge rectifier. The coil winding can be adjusted to other current and resistance values on request.

Owing to natural dispersion magnetic-force values may deviate by  $\pm 5\%$  from the listed values.

Maximum power is based on mounting on a valve housing with the minimum dimensions 25 x 25 x 50 mm.

Interior of the solenoid and armature bearing are resistant to all neutral fluids that are commonly used in hydraulics. Please contact us if you use other operating media.

**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. 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 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.

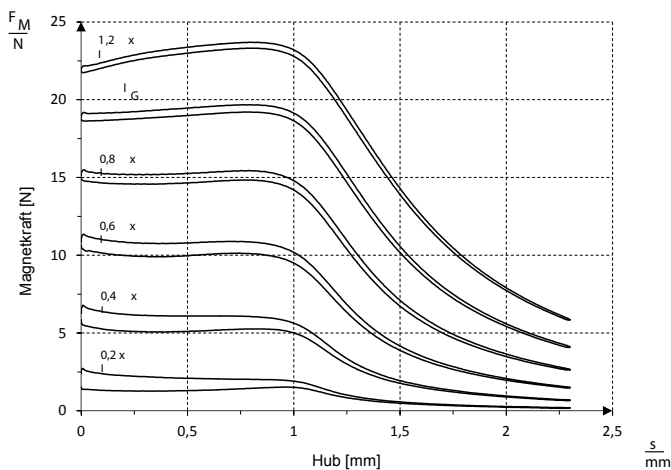


Fig. 3: Magnetic force vs stroke graph

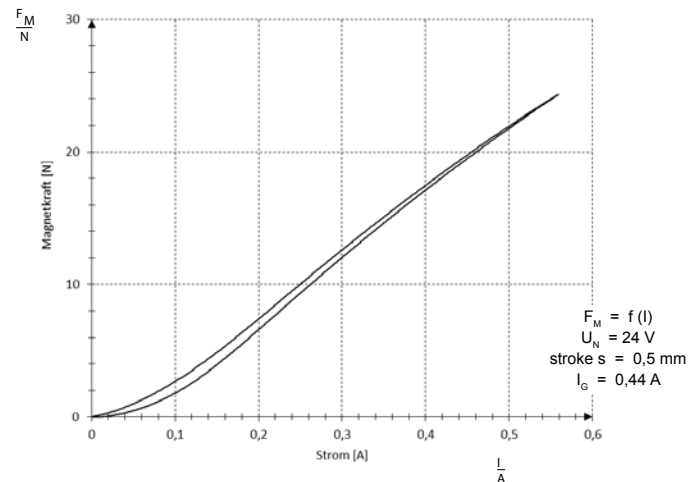


Fig. 4: Magnetic force vs current graph at constant stroke

Dimensions sheet

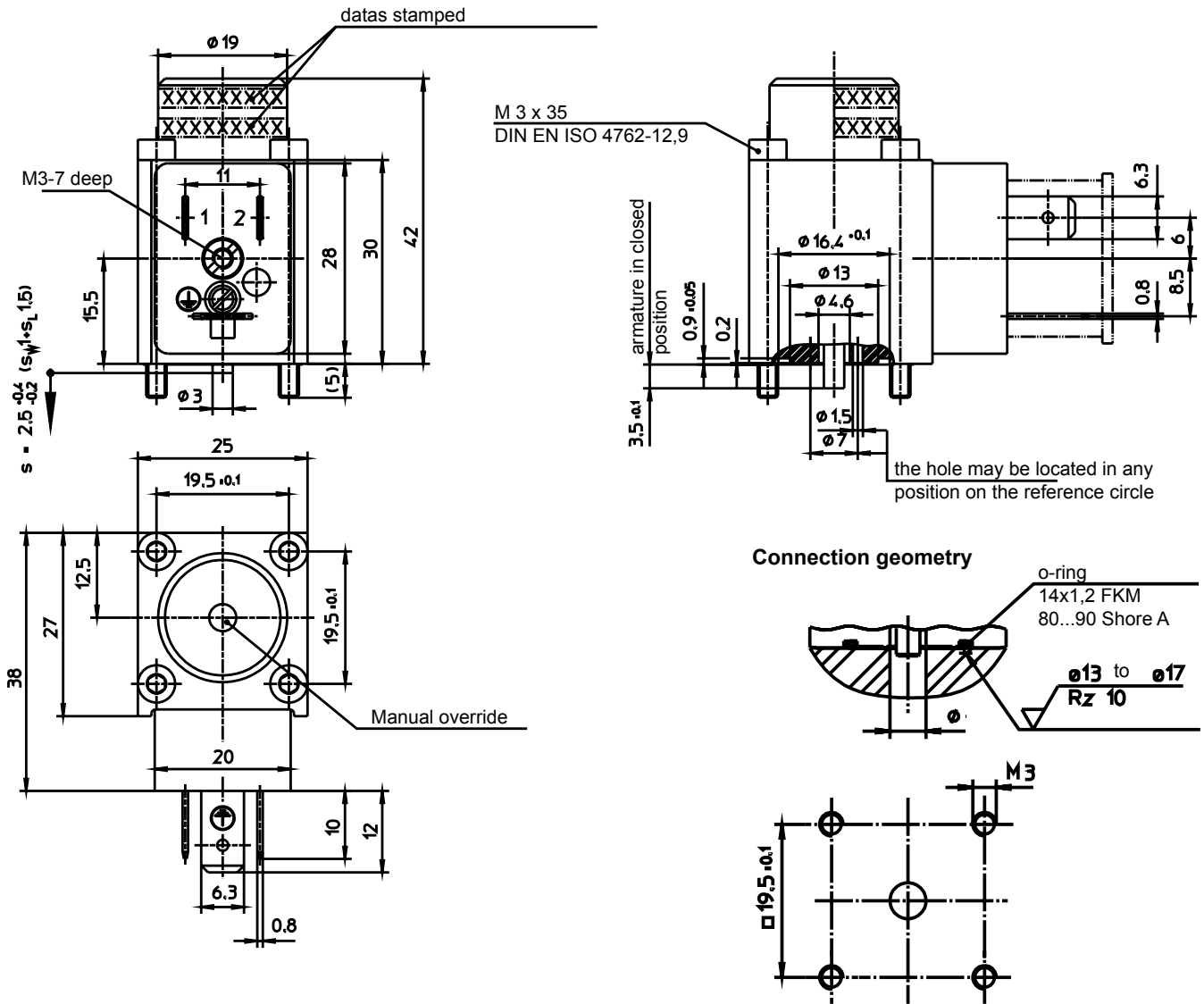
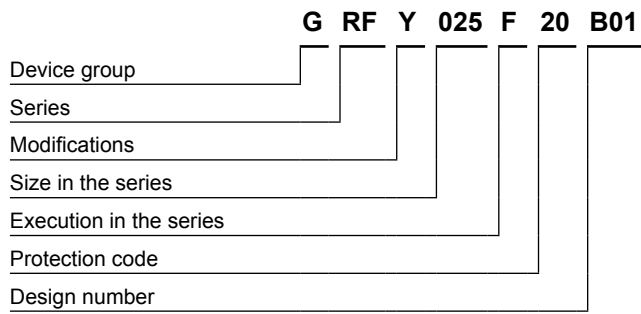


Fig. 5: Type G RF Y 025 F20 B01


## Type code



## Example

Type                    G RF Y 025 F20 B01  
 Voltage                 $\equiv$  12 V DC  
 Operating mode        S1 (100 %)

## Specials designs

Please do not hesitate to ask for our assistance with the solution of your application-oriented task. 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.