

## 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
- To a great extent proportional relation between force and current
- 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

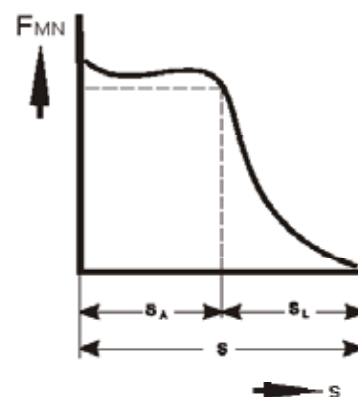


Fig. 2: Magnetic force vs stroke graph

## Technical data

G RF Y 025 F20 B01		
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)	19
Rated force hysteresis $H_{FN}$	(%)	~ 4,5
Rated current hysteresis $H_{IN}$	(%)	< 4
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)	26
Rated current $I_N$	(A)	0,44
Maximum current $I_G$	(A)	0,44
Linearity current $I_L$	(A)	0,1
Response current $I_A$	(A)	0,01
Rated power $P_{0N} = I_N^2 \cdot R_{20}$	(W)	5,0
Maximum power $P_G = I_G^2 \cdot R_W$	(W)	7,7
Linearity power $P_L = I_L^2 \cdot R_{20}$	(W)	0,26
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  $\approx$  24 V. For power supply via an electronic gain control amplifier, the rated voltage has to be adjusted correspondingly.

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*.

### 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.

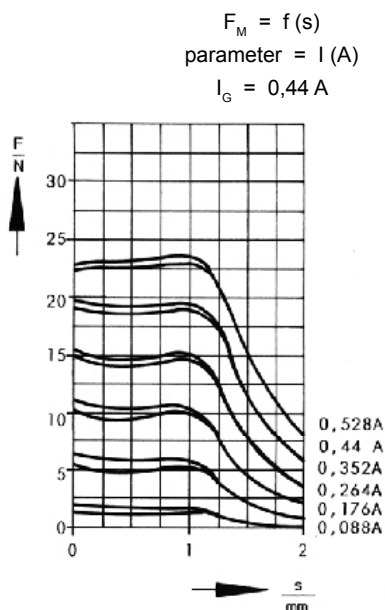


Fig. 3: Magnetic force vs stroke graph

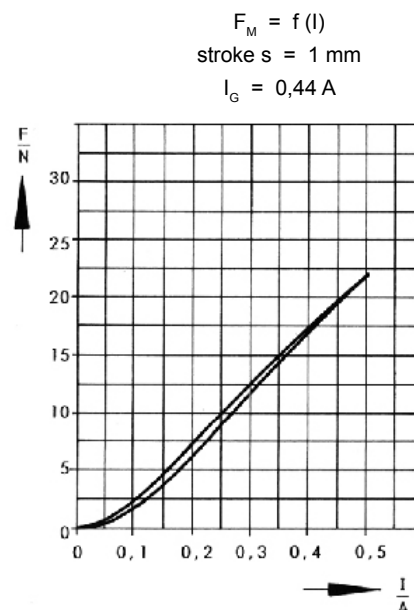
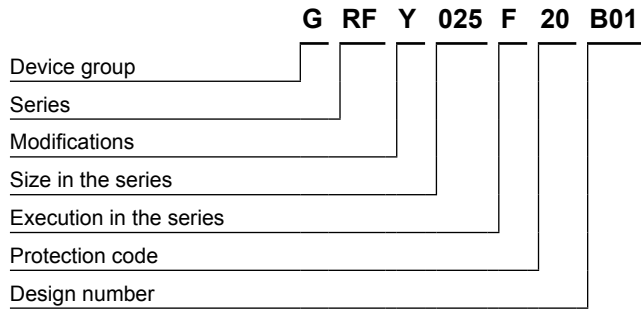


Fig. 4: Magnetic force vs current graph at constant stroke




## Type code



## Example

Type                    G RF Y 025 F20 B01  
 Voltage                 $\equiv$  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.