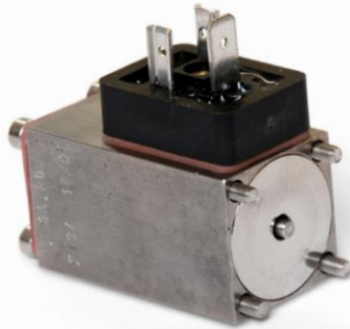


Proportional Solenoids, Typ GP



The following electromagnets are examples for proportional solenoids realized in series. Magnetbau Schramme developments are customer-specific. If you are searching for the right electromagnet or solenoid for your series project, simply contact us for the perfect solution.

Our team will help you - guaranteed.

Please note that we do not have „ex stock“ standard products, and can therefore only process inquiries for series.

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Wir sind
zertifiziert nach
IATF 16949
ISO 9001

member of **Schramme** group

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DE89 6207 0081 0113 7868 00



Version

Proportional solenoids are DC linear solenoids with analog path/current and force/current characteristic.

They are used as proportional actuators in hydraulic control chains and open control loops for actuation of pressure and flow control valves, as well as for proportional directional control valves.

The units are pressure-tight and equipped with a manual emergency override, which corresponds with the safety regulations. They are manufactured and tested according to VDE 0580

Function

Depending on the applicational case, the proportional solenoid provides a reproducible output defined by a certain path or force, which is proportional to the input of the exciting current.

The armature runs in a pressure-tight housing tube and transfers the magnetic force to the outside via a plunger.

Characteristic

The proportional solenoid is designed for actuation of directional control valves. Its characteristic curve can be viewed in the diagram.

Installation Instructions

The solenoid can be installed in any position.

The power transfer should take place only in axial direction; lateral loads on the plunger are to be avoided. When employing these units, the „[Technical Introduction](#)” is to be observed.

Nominal Data (recommended):

Nominal supply voltage:	U_N 24 VDC
Relative duty cycle:	100%
Insulation class:	"H" according to VDE 0580
Limiting temperature:	180 °C
Degree of protection:	IP 65 according to DIN 40050

Technical Data, Proportional Solenoids

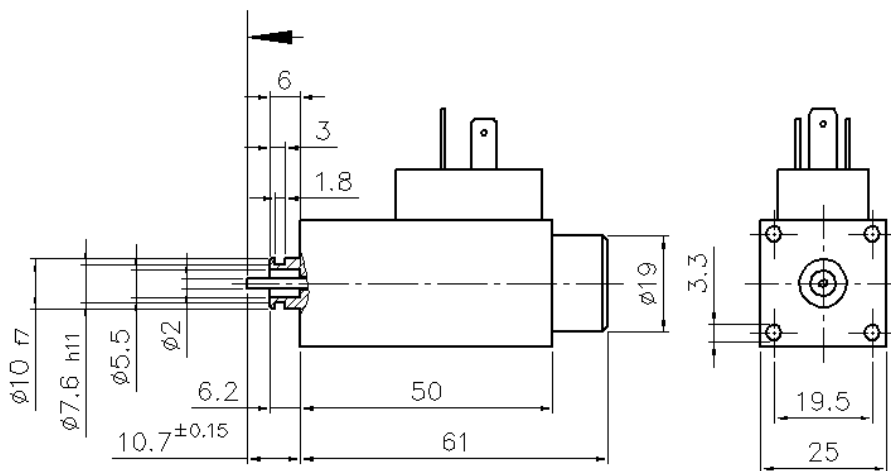
Examples of various sizes of proportional solenoids or proportional valves from Magnetbau Schramme.

Proportional Solenoid GP8 025

Technical Data

Nominal current	0.61 A	Total stroke	3 mm
Limit current	0.61 A	Standard stroke	1.5 mm
Nominal resistance	27 ohm	Nominal magnetic force	23 N
Nominal output	10 W	Hysteresis, rated force	~2.5 %
Limit rating	13.8 W	Hysteresis, rated current	~2 %
Duty cycle	100 %	Armature weight	0.013 kg
Reference temperature	50 °C	Total weight	0.18 kg
Pressure tightness	250 bar	Degree of protection	IP 65

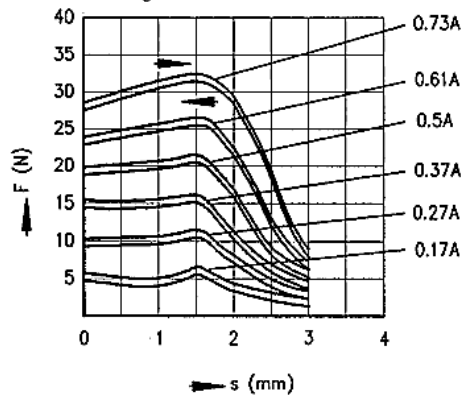
Installation Drawing



Characteristic Curve

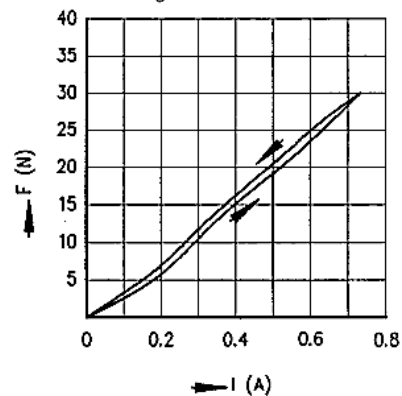
Hub-Kraft-Kennlinie

Stroke-force-diagram



Strom-Kraft-Kennlinie

Current-force-diagram · Hub/force = 0.75 mm

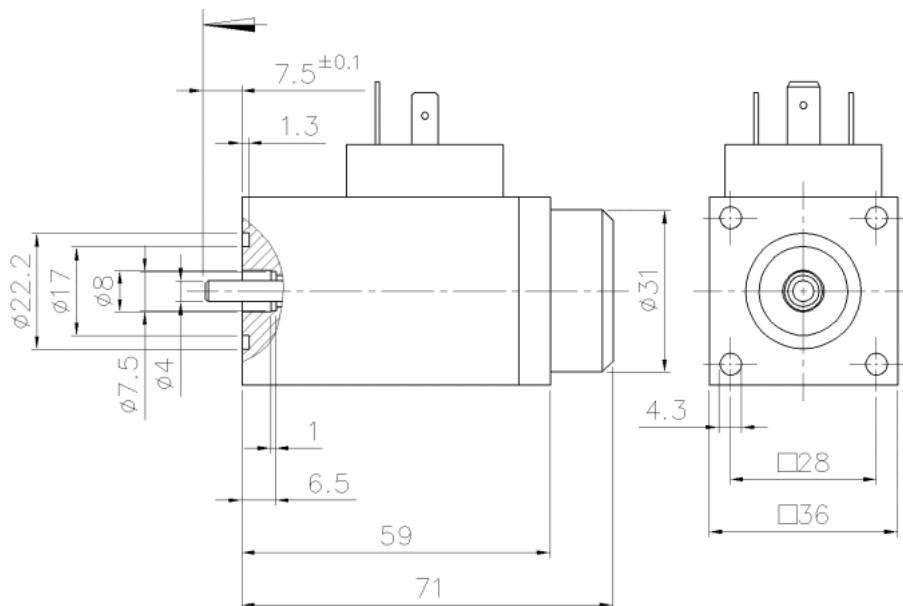


Proportional Solenoid GP8 036

Technical Data

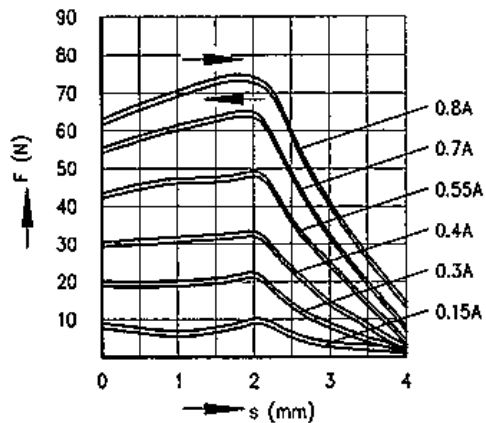
Nominal current	0.7 A	Total stroke	4 mm
Limit current	0.7 A	Standard stroke	2 mm
Nominal resistance	25 ohm	Nominal magnetic force	53 N
Nominal output	12.3 W	Hysteresis, rated force	~2.5 %
Limit rating	17.7 W	Hysteresis, rated current	~2.5 %
Duty cycle	100 %	Armature weight	0.045 kg
Reference temperature	50 °C	Total weight	0.40 kg
Pressure tightness	350 bar	Degree of protection	IP 65

Installation Drawing

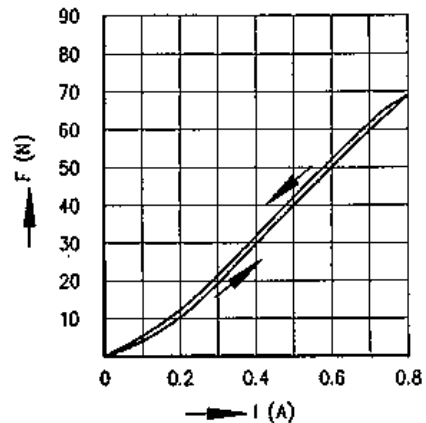


Characteristic Curve

Hub-Kraft-Kennlinie



Strom-Kraft-Kennlinie Hub = 1 mm

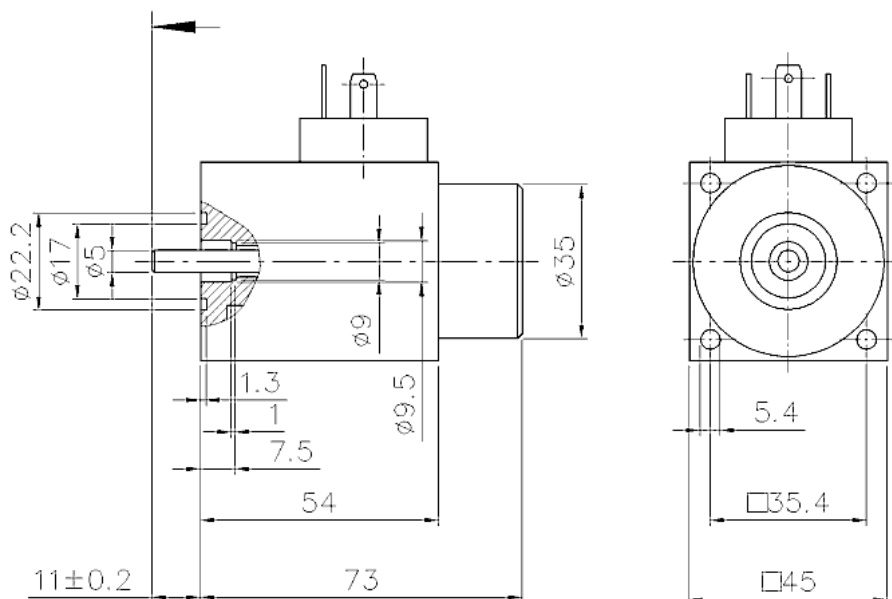


Proportionalmagnet GP8 045

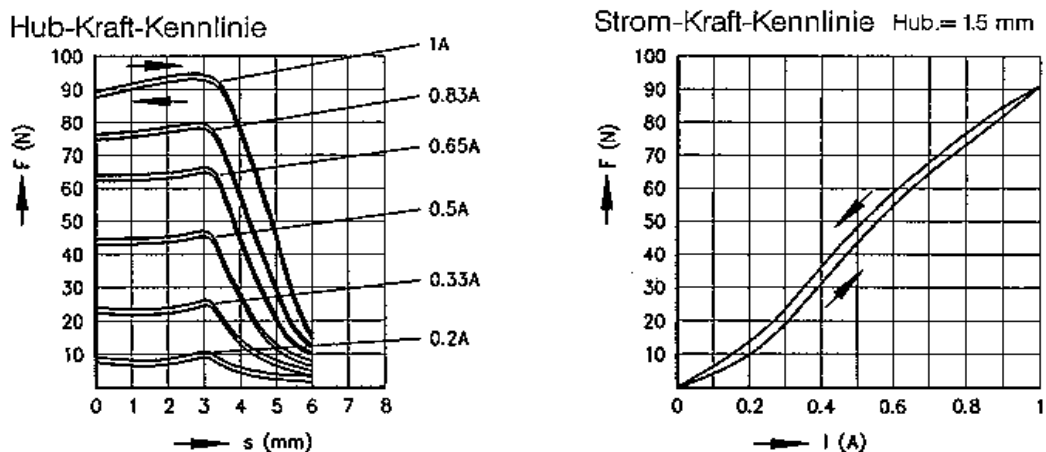
Technical Data

Nominal current	0.83 A	Total stroke	6 mm
Limit current	0.83 A	Standard stroke	3 mm
Nominal resistance	22 ohm	Nominal magnetic force	75 N
Nominal output	15.2 W	Hysteresis, rated force	~2.5 %
Limit rating	21.8 W	Hysteresis, rated current	~3 %
Duty cycle	100 %	Armature weight	0.06 kg
Reference temperature	50 °C	Total weight	0.75 kg
Pressure tightness	350 bar	Degree of protection	IP 65

Installation Drawing



Characteristic Curve

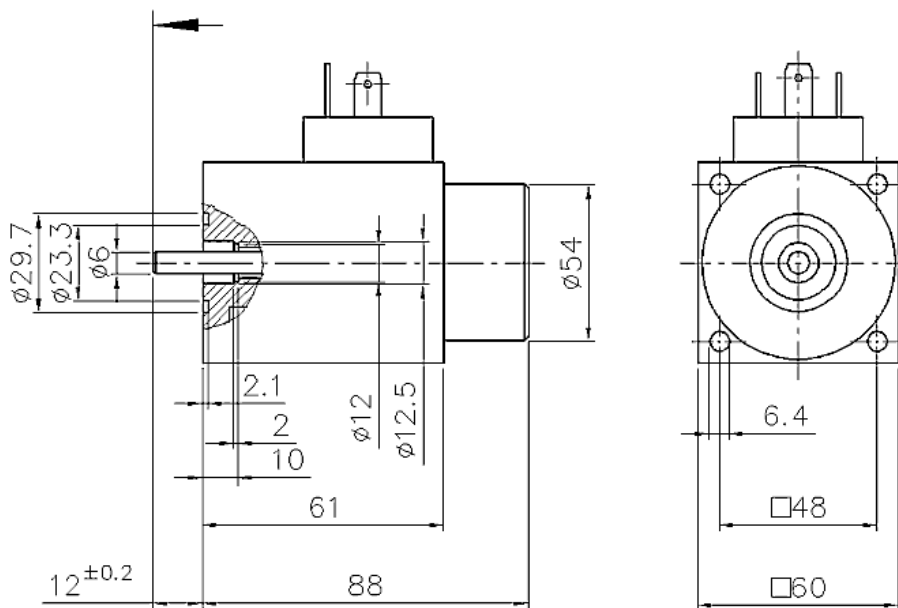


Proportionalmagnet GP8 060

Technical Data

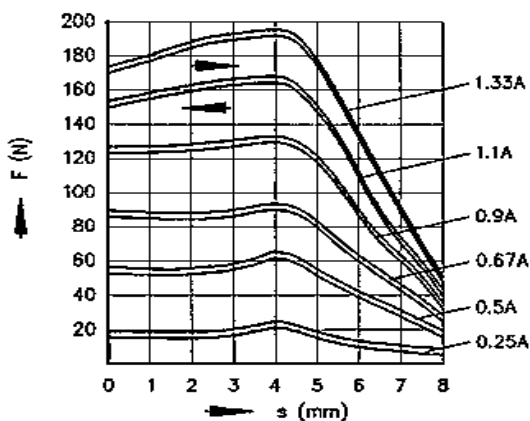
Nominal current	1.1 A	Total stroke	8 mm
Limit current	1.1 A	Standard stroke	4 mm
Nominal resistance	17 ohm	Nominal magnetic force	149 N
Nominal output	20 W	Hysteresis, rated force	~3 %
Limit rating	31 W *	Hysteresis, rated current	~4 %
Duty cycle	100 %	Armature weight	0.14 kg
Reference temperature	50 °C	Total weight	1.75 kg
Pressure tightness	350 bar	Degree of protection	IP 65

Installation Drawing



Characteristic Curve

Hub-Kraft-Kennlinie



Strom-Kraft-Kennlinie Hub = 2 mm

