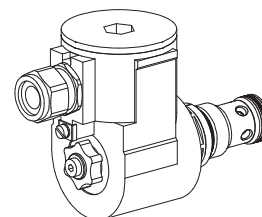


Solenoid poppet valve cartridge
2/2-way versions

- Pilot operated
- $Q_{max} = 120 \text{ l/min}$
- $p_{max} = 350 \text{ bar}$

M33x2
 ISO 7789

DESCRIPTION

Pilot operated 2/2-way solenoid poppet valve in screw-in cartridge design with thread M33 x2 for cavity acc. to ISO 7789.

EEx: in accordance with european standards EN 50014, EN 50018

d: flameproof enclosure

Group II C: (gas group II A, II B)

for all applications except mining

Zone 1: (and 2) explosive mixtures present intermittently

EC-type examination certificate:
 PTB 98 ATEX 1009

FUNCTION

For the function „normally closed“ with deenergised pull-type solenoid, and „normally open“ with energised push-type solenoid, the differential area poppet piston is held in closed position by a spring and seals leak free from port 2 to 1. If pull-type solenoid is energised respectively push-type solenoid deenergised, the poppet piston will open flow passage from 2 to 1 after having reached the opening pressure. In the „normally closed“ valve with deenergised solenoid respectively the „normally open“ valve with energised solenoid flow passage from 1 to 2 is open when the opening pressure has been reached.

APPLICATION

Wandfluh solenoid operated poppet valves are applied where an absolutely leak free closing of the valve is essential like in load holding-, clamping- or gripping functions. These valves are suitable for hazardous areas in off-shore and shipbuilding applications as well as in the chemical-, oil- and gas industry. The screw-in cartridges are mainly used in mobile or stationary integrated blocks and in size NG10 flange and sandwich bodies. Cavity tools are available for machining cartridge cavities (hire or purchase). Please refer to the data sheets in register 2.13.

CONTENT

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TYPE CODE

		S V Y PM33 - <input type="checkbox"/> - <input type="checkbox"/> / T4 # <input type="checkbox"/>	
Poppet valve			
Pilot operated			
Explosion proof solenoid EEx d			
Screw-in cartridge M33x2			
Designation see symbols			
Standard-nominal voltage U_N :	24 VDC	<input type="checkbox"/> G24	
	115 VAC	<input type="checkbox"/> R115	
	230 VAC	<input type="checkbox"/> R230	
Execution T1...T4			
Design-Index (Subject to change)			

GENERAL SPECIFICATIONS

Description	Pilot operated 2/2-way solenoid poppet valve
Construction	Screw-in cartridge for cavity acc. to ISO 7789
Operation	Solenoid
Mounting	Screw-in thread M33x2
Admissible ambient temperature *	-20...+40 °C
Mounting position	any, preferably horizontal
Fastening torque	$M_D = 80 \text{ Nm}$ for cartridge $M_{D,max} = 5 \text{ Nm}$ for coil retaining nut
Weight	$m = 2,45 \text{ kg}$
Volume flow	see symbols

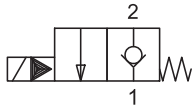
HYDRAULIC SPECIFICATIONS

Fluid	Mineral oil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 18/16/13 (Required filtration grade $\beta_{6...10} \geq 75$) (see data sheet 1.0-50/2)
Viscosity range	12 mm ² /s...320 mm ² /s
Admissible fluid temperature *	-20...+40 °C
Working pressure	$p_{max} = 350 \text{ bar}$
Nominal volume flow	$Q_N = 100 \text{ l/min}$
Max. volume flow	$Q_{max} = 120 \text{ l/min}$
Pressure drop	$\Delta p_{max} = < 10 \text{ bar}$ with 100 l/min
Opening pressure:	
Version CD / DC	2 → 1 = 2 bar / 1 → 2 = 1 bar
Version AB / BA	2 → 1 = 6 bar / 1 → 2 = 4 bar

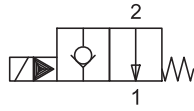
* Deviating pressure medium - or ambient temperatures are possible for special arrangements after checking and authorisation by a responsible inspector. Measures for the prevention of the exceeding of the admissible solenoid surface - and internal temperatures can be: a good ventilation, low ambient temperatures (for higher pressure medium temperatures), limitation of the maximum possible power supply voltage, a short switching-on duration, installation on large heat dissipating blocks, etc. The responsibility in all cases lies with the operator, resp. with his inspector.

SYMBOLS

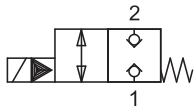
SVYPM33 - DC...



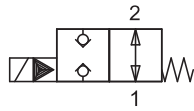
SVYPM33 - CD...



SVYPM33 - BA...



SVYPM33 - AB...

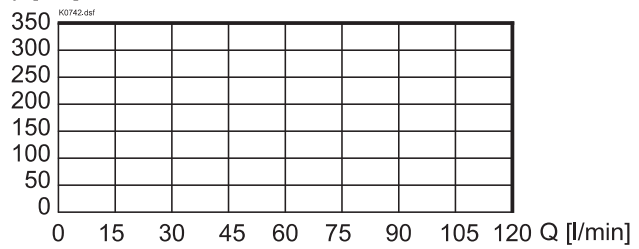
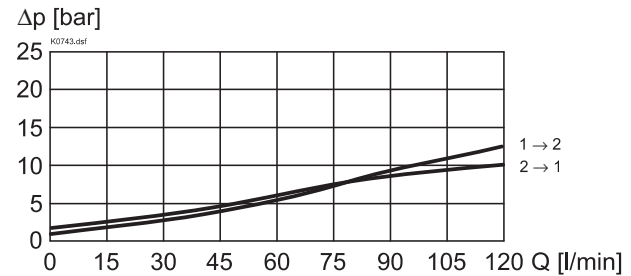
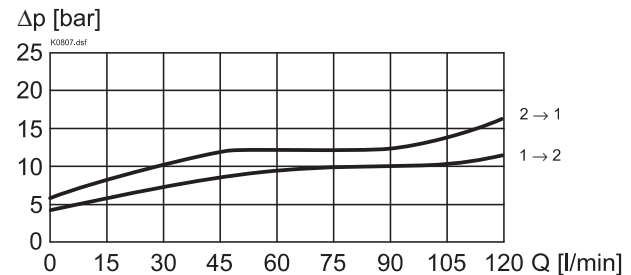

ELECTRICAL CONTROL

Construction	Switching solenoid, wet pin pull- or push type, pressure tight.
Standard-nominal voltage	$U_N = 24$ VDC $U_N = 115$ VAC, $U_N = 230$ VAC DC wired with VDR AC = 50 to 60 Hz \pm 2%; with integrated half wave rectifier and recovery diode
Voltage tolerance	$\pm 10\%$ of nominal voltage
Protection class	IP 65 acc. to EN 60 529 (if correctly mounted)
Relative duty cycle	100 % DF
Switching cycles	5'000/h
Operating life	10^7 (number of switching cycles, theoretically)
Connection/Power supply	Through cable entry for cable diameter $\varnothing 11 \dots 14$ mm
Temperature class	T1...T4 acc. to EN 50 014
Nominal power	22 W (DC), 35 VA (AC)

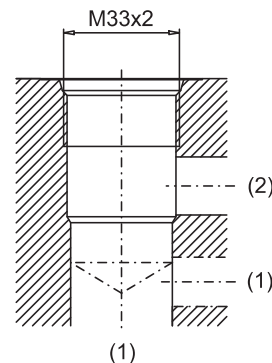
START-UP

Information concerning the installation and commissioning is contained in the operating instructions supplied together with the solenoid coil.

CHARACTERISTICS Oil viscosity $\nu = 30$ mm²/s

 $p = f(Q)$ Performance limits at 10% under voltage and max. ambient temperature

 $\Delta p = f(Q)$ Pressure volume flow characteristics [DC / CD]

 $\Delta p = f(Q)$ Pressure volume flow characteristics [BA / AB]

CAVITY

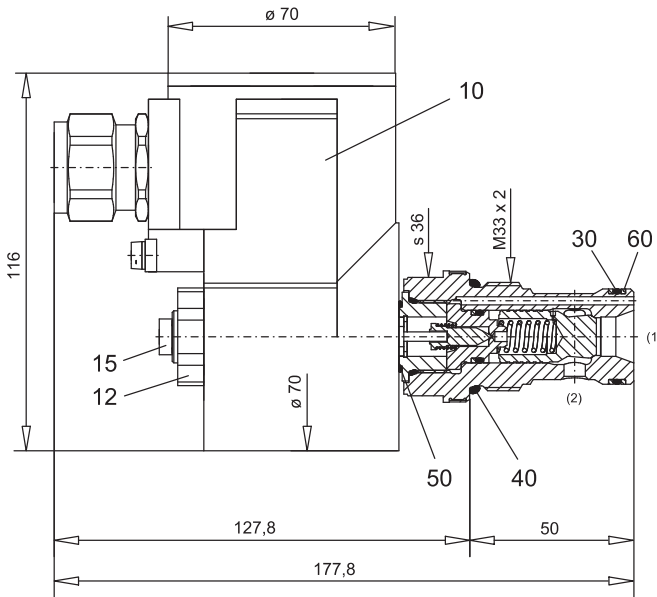
Cavity drawing to ISO 7789-33-01-0-98



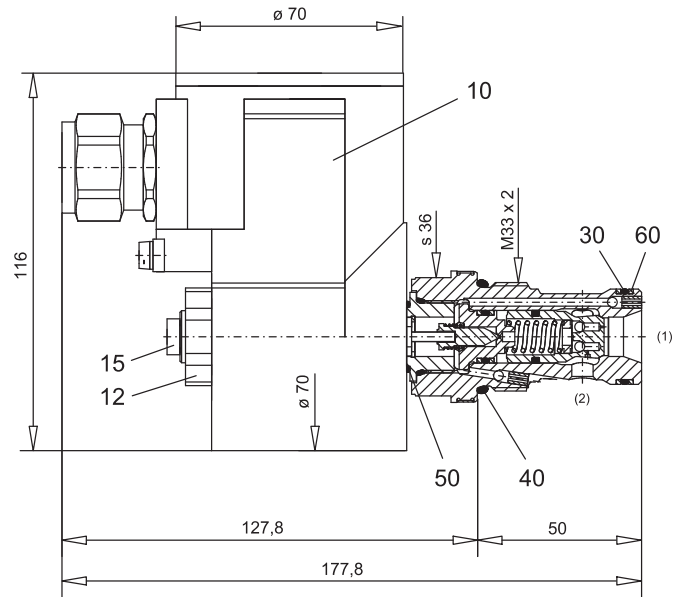
For detailed cavity drawing and cavity tools see data sheet 2.13-1005

DIMENSIONS/SECTIONAL DRAWING

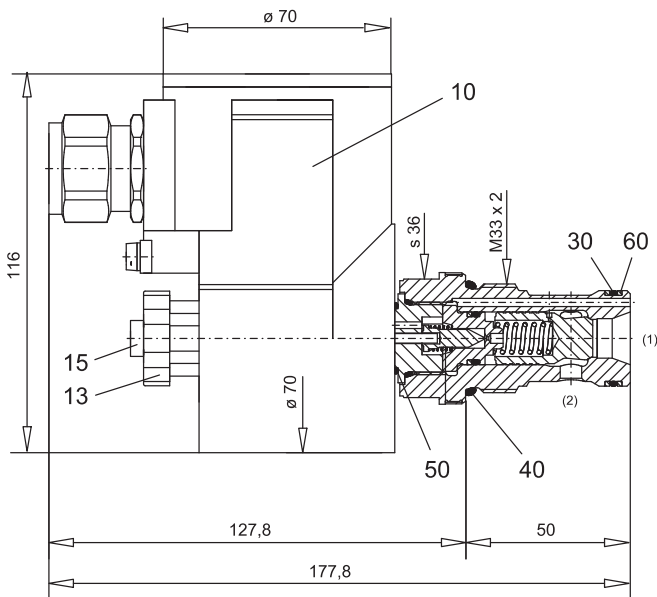
2/2-way version, „normally closed“ [DC]



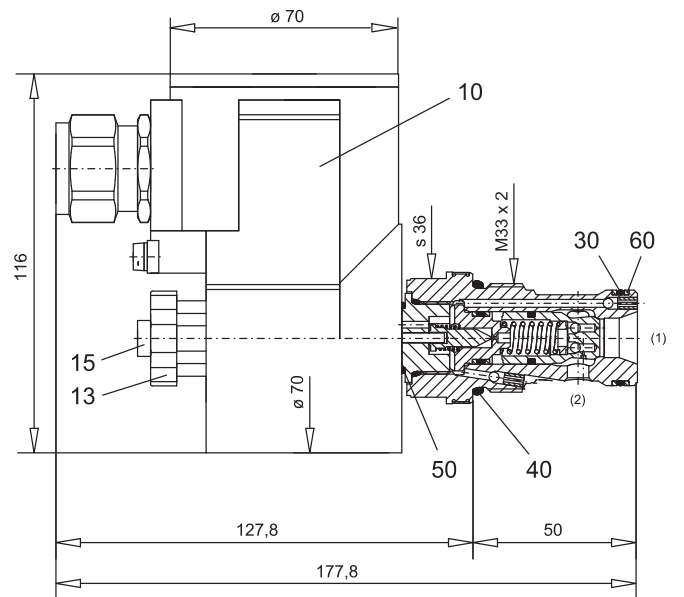
2/2-way version, „normally closed“ [BA]



2/2-way version „normally open“ [CD]



2/2-way version „normally open“ [AB]


PARTS LIST

Position	Article	Description
10	207.5...	Coil type EExd
12	154.2600	Knurled nut M16x1x9
13	154.2601	Knurled nut M16x1x18
15	239.2033	Plug HB0 (incl. seal)
30	160.2252	O-ring ID 25,12x1,78
40	160.2298	O-ring ID 29,82x2,62
50	160.6156	O-ring viton ID 15,60x1,78
60	049.3296	Back-up ring RD 26,1x29x1,4

ACCESSORIES

Cartridge built-in flange- or sandwich body:
 Flange valve register 1.11
 Sandwich valve register 1.11

Technical explanation see data sheet

1.0-100E