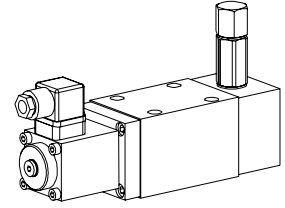


Spool valve with integral pressure reversal

- 4/2-way
- Impulse start type
- $Q_{max} = 60 \text{ l/min}$
- $p_{max} = 315 \text{ bar}$

NG10
 ISO 4401-05

DESCRIPTION

Spool valve with impulse start by solenoid and integral pressure reversal. Subplate mounted, interface NG10 according to ISO 4401-05. Direct operated spool valve in 5 chamber design. Main spool with coaxial pilot spool. End cover with relief valve to set the shifting pressure and integrated manual override. Precise spool fit for low leak and long service life. The spools are made from hardened steel and the valve body from high grade hydraulic cast iron. The valve body is painted and the cover and the solenoid are zinc coated.

FUNCTION

With the solenoid the cylinder movement gets started. If the load pressure rises to the shifting pressure which is set with the relief valve a pressure pulse shifts the valve automatically into the opposite shifting position and the cylinder moves back into starting position. There it stays until the solenoid is shifted again. As an option a damped spool may be supplied for a smooth change over.

APPLICATION

Valves with integral pressure reversal are intended to operate oscillating movements of a cylinder. Fields of application are press controls, assembly robots, feeding systems for wood heating or other systems with pressure dependent resetting.

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TYPE CODE

	A	Q	M	4	Z	10	0				#	
International mounting interface ISO												
Integral pressure reversal												
Solenoid operated												
Number of control ports												
2 spool positions												
Nominal size 10												
Spool type												
Solenoid on:	a-side	a										
	b-side	b										
Option for damped shifting	W											
Standard-nominal voltage U_N :	12 VDC	G12										
	24 VDC	G24										
	110 VAC	R110										
	115 VAC	R115										
	230 VAC	R230										
Design-Index (Subject to change)												

GENERAL SPECIFICATIONS

Designation	4/2-way spool valve
Nominal size	NG10 according to ISO 4401-05
Construction	Direct operated spool valve
Operations	Integral pressure reversal Solenoid operated
Mounting	Flange construction 4 holes for socket cap screws M6x65
Connection	Threaded connection plates Multi-flange subplate Longitudinal stacking system
Ambient temperature	-20...+50°C
Mounting position	any, preferably horizontal
Fastening torque	$M_D = 9,5 \text{ Nm}$ (screw quality 8.8)
Weight	$m = 4,7 \text{ kg}$

HYDRAULIC SPECIFICATIONS

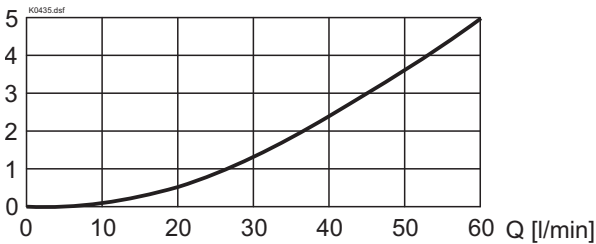
Fluid	Mineral oil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 20/18/14 (Required filtration grade $\beta_{10...16} \geq 75$) see data sheet 1.0-50/2
Viscosity range	12 mm ² /s...320 mm ² /s
Fluid temperature	-20...+70°C
Working pressure on port A and B	$p_{max} = 315 \text{ bar}$ $p = 25...315 \text{ bar}$
System pressure	max 90 % of the system pressure
Reversal pressure	$p_{max} = 160 \text{ bar}$
Tank pressure in port T	$Q_{max} = 60 \text{ l/min}$, see characteristics
Max. volume flow	$Q_{min} = 4 \text{ l/min}$
Min. volume flow	

ELECTRICAL OPERATION

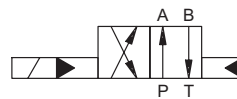
Construction Solenoid, wet pin push type, pressure tight
 Standard-nominal voltage $U_N = 12$ VDC
 $U_N = 24$ VDC
 $U_N = 110$ VAC*
 $U_N = 115$ VAC*
 $U_N = 230$ VAC*
 AC = 50 bis 60 Hz
 * Rectifier integrated in the plug.
 Other nominal voltages and nominal performances on request.

Voltage tolerance $\pm 10\%$ of nominal voltage
 Protection class IP 65 to EN 60 529
 Relative duty factor 100% ED (see data sheet 1.1-430)
 Switching cycles 15'000/h
 Operating life 10^7 (number of switching cycles, theoretically)
 Connection/Power supply Over device pulg connection to ISO 4400/DIN 43650, (2P+E), other connections on request

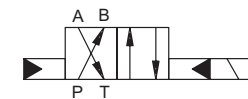
CHARACTERISTICS Oil viscosity $\nu = 30\text{mm}^2/\text{s}$
 $\Delta p = f(Q)$ Pressure drop volume flow characteristics

 Δp [bar]

SYMBOLS

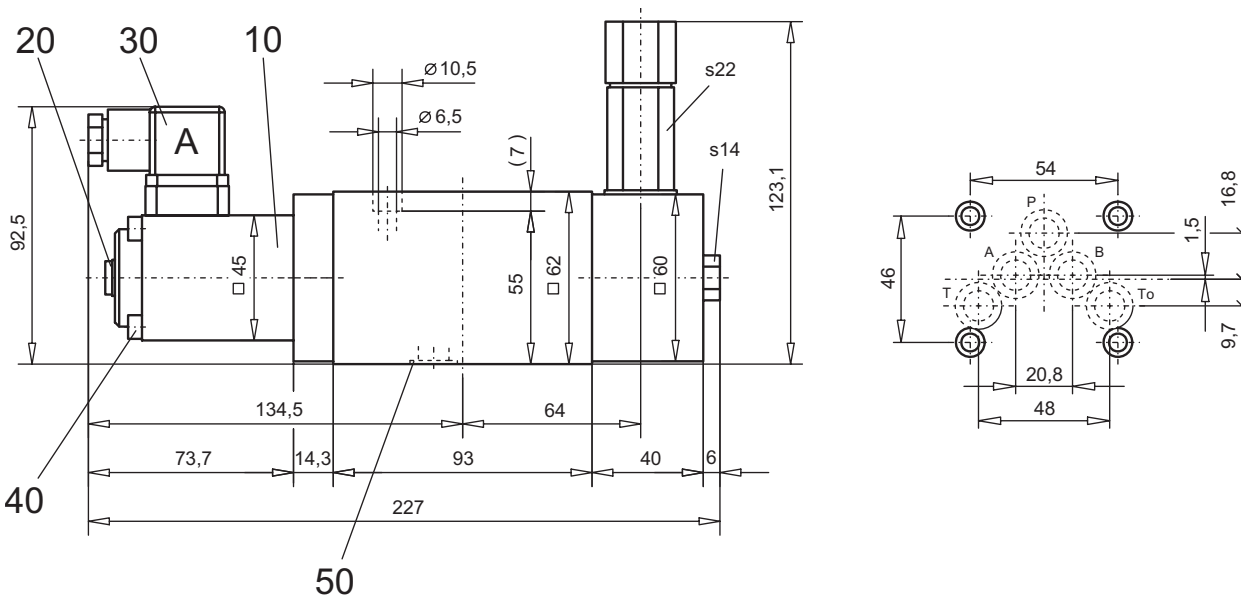
operation A-side



operation B-side


DIMENSIONS

4/2-way valve


PARTS LIST

Position	Article	Description
10	260.6...	Medium-solenoid SIN45V-...-M44
20	239.2033	Plug HB0 (incl. seal)
30	219.2001	Plug A (grey)
40	246.2165	Cylinder screw M5x65 DIN 912
50	160.2140	O-ring ID 14,00x1,78

ACCESSORIES

 Threaded connection plates, Multi-flange plates and longitudinal stacking system register 2.9

Technical explanation see data sheet 1.0-100E