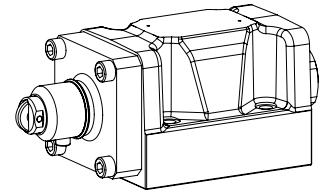


## Spool valve

### Flange construction

- ◆ roller operated
- ◆ 4/2-way with spring reset
- ◆  $Q_{max} = 160$  l/min
- ◆  $p_{max} = 350$  bar

**NG10**  
**ISO 4401-05**



### DESCRIPTION

Direct operated valve, roller operated with 4 connections in 5 chamber design. Without actuation, the spool is switched back to the offset position.

### APPLICATION

Spool valves are mainly used for controlling direction of movement and stopping of hydraulic cylinders and motors. Manually or mechanically operated valves are particularly suitable for use in installations where no electric current is available or for applications in explosion hazard areas.

### TYPE CODE

Spool valve, direct operated		WD	T	F	A10	-		-		#	
Roller with spring reset											
Flange construction											
International standard interface ISO, NG10											
Designation of symbols acc. to table	Operation a-side										
	Operation b-side										
Sealing material	NBR										
	FKM (Viton)										
	NBR 872										
Design index (subject to change)											

1.5-56

### GENERAL SPECIFICATIONS

Designation	4/2-spool valve
Construction	Direct operated
Mounting	Flange construction
Nominal size	NG10 according to ISO 4401-05
Actuation	Roller actuated
Ambient temperature	-25...+70 °C
Weight	2,85 kg
MTTFd	150 years

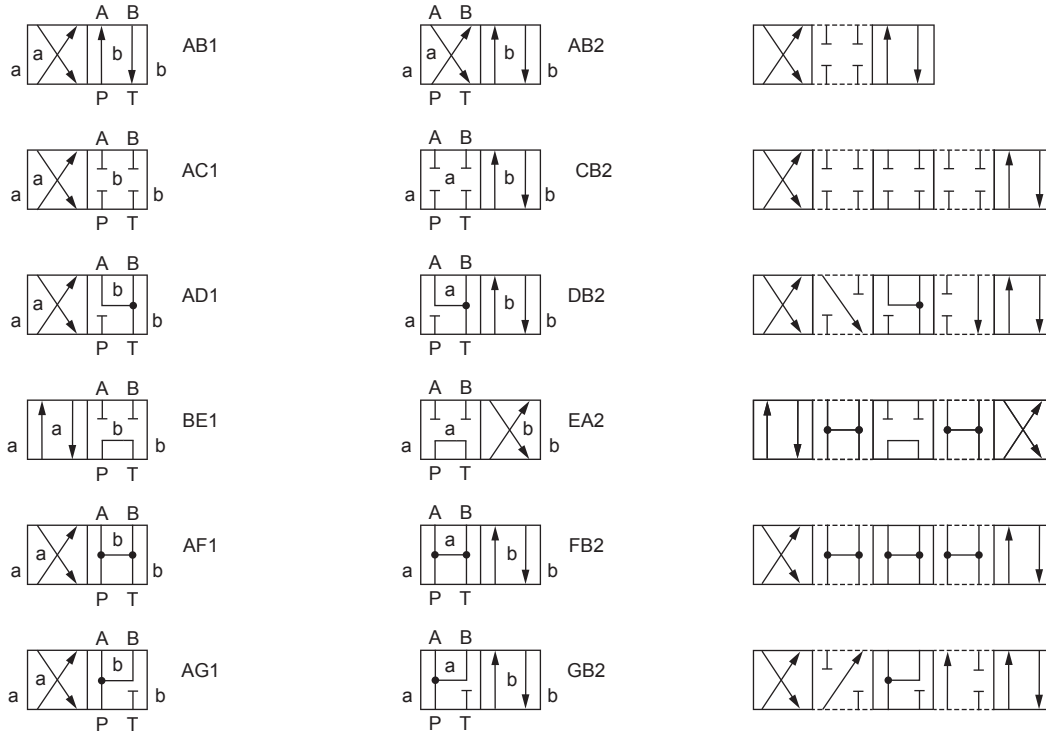
### ACTUATION

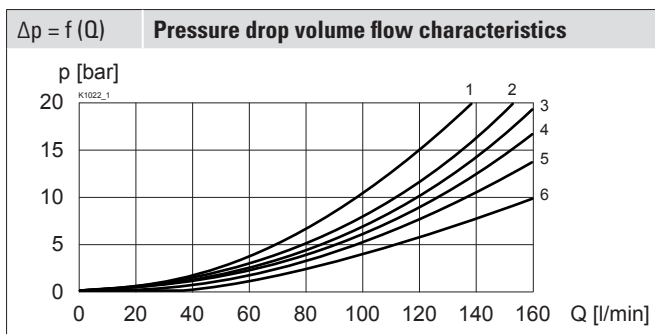
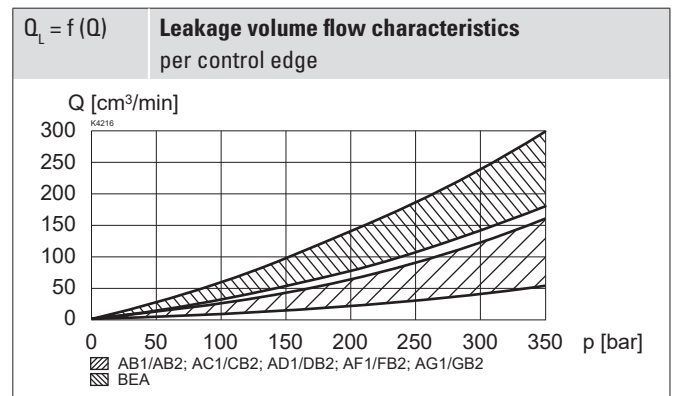
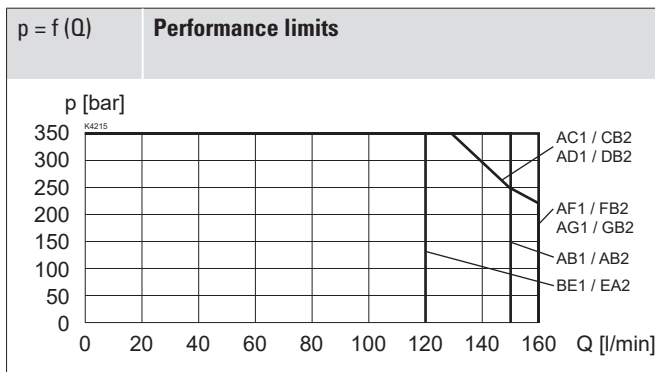
Actuation	Roller
Actuation stroke	$s = 4$ mm
Actuation force	$F_b = 110 - 135$ N at $p_{Tmax}$

### HYDRAULIC SPECIFICATIONS

Working pressure	$p_{max} = 350$ bar
Tank pressure	$p_{Tmax} = 100$ bar
Maximum volume flow	$Q_{max} = 160$ l/min, see characteristics
Leakage oil	See characteristics
Fluid	Mineral oil, other fluid on request
Viscosity range	12 mm <sup>2</sup> /s...320 mm <sup>2</sup> /s
Temperature range fluid	-25...+70 °C (NBR) -20...+70 °C (FKM)
Contamination efficiency	Class 20 / 18 / 14
Filtration	Required filtration grade $\beta_{10...16} \geq 75$ , see data sheet 1.0-50

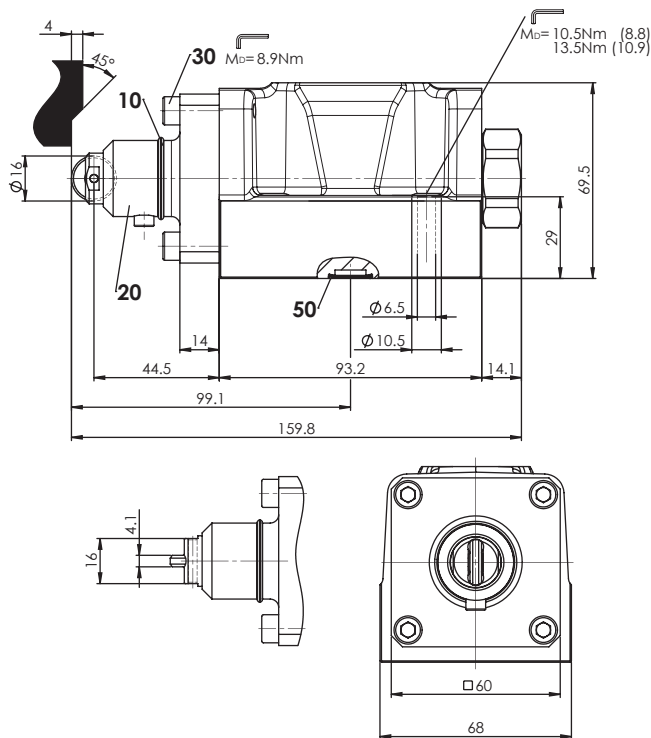
**SYMBOL**
**Overview valves**

**Overview spool types**

**PERFORMANCE SPECIFICATIONS**

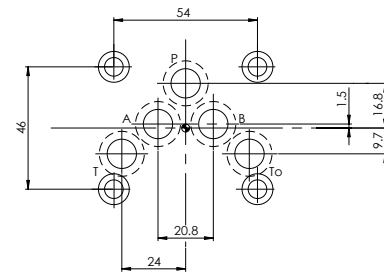
 Oil viscosity  $\nu = 30 \text{ mm}^2/\text{s}$ 


Symbol	Volume flow direction				
	P - A	P - B	P - T	A - T	B - T
AB1 / AB2	5	5	-	3	2
AC1 / CB2	5	5	-	3	2
AD1 / DB2	5	5	-	5	4
BE1 / EA2	3	3	1	3	2
AF1 / FB2	6	6	6	5	4
AG1 / GB2	6	6	-	3	2

## DIMENSIONS



## HYDRAULIC CONNECTION



## PARTS LIST

Position	Article	Description
10	160.8252	O-ring ID 25,12 x 1,78 (FKM)
20	253.6001	Mechanical control head ATI NG10
30	246.3122	Socket head screw M6 x 22 DIN 912
50	160.2120	O-ring ID 12,42 x 1,78 (NBR)
	160.6124	O-ring ID 12,42 x 1,78 (FKM)

## INSTALLATION NOTES

Mounting type	Flange mounting 4 fixing holes for socket head screws M6 x 40
Mounting position	Any, preferably horizontal
Tightening torque	Fixing screw $M_D = 10,5 \text{ Nm} \pm 10 \%$ (screw quality 8.8, zinc coated) max. tank pressure 80 bar $M_D = 13,5 \text{ Nm} \pm 10 \%$ (screw quality 10.9, zinc coated)

### Note!



The length of the fixing screw depends on the base material of the connection element.

## ACCESSORIES

Fixing screws	Data sheet 1.0-60
Threaded subplates	Data sheet 2.9-40
Multi-station subplates	Data sheet 2.9-70
Horizontal mounting blocks	Data sheet 2.9-110
Technical explanations	Data sheet 1.0-100
Filtration	Data sheet 1.0-50

## SEALING MATERIAL

NBR or FKM (Viton) as standard, choice in the type code

## STANDARDS

Mounting interface	ISO 4401-05
Contamination efficiency	ISO 4406

## SURFACE TREATMENT

- ◆ The valve body is painted with a two component paint
- ◆ The roller housing and the cover are zinc-nickel coated