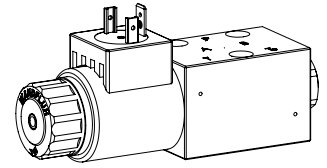


**Solenoid operated spool valve**
**Flange construction**

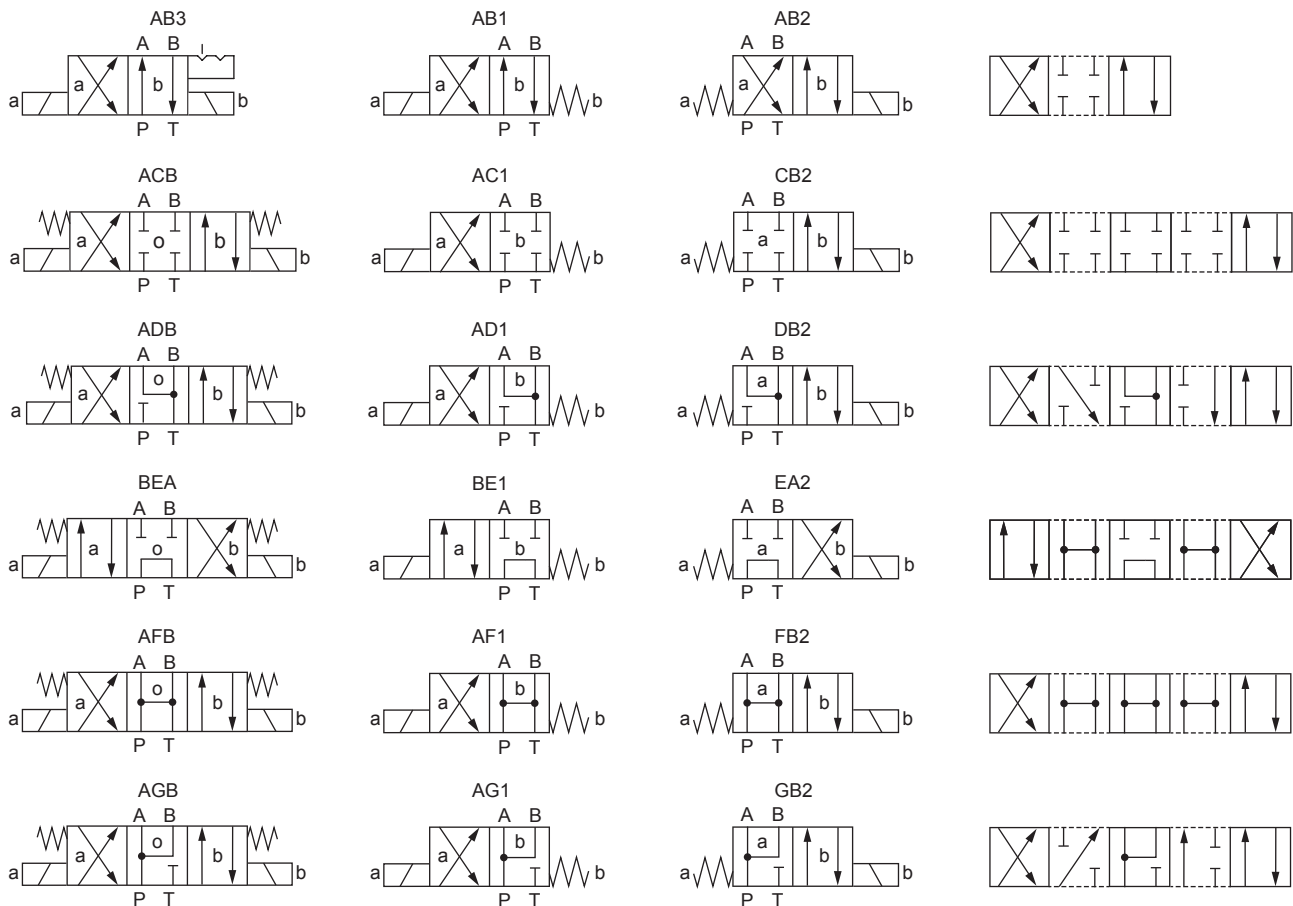
- ◆ 4/2-way impulse execution, detented
- ◆ 4/3-way with spring centered mid position
- ◆ 4/2-way with spring reset
- ◆  $Q_{max} = 30 \text{ l/min}$
- ◆  $p_{max} = 350 \text{ bar}$

**NG4-Mini**  
**Wandfluh standard**

**DESCRIPTION**

Direct operated solenoid spool valve with 4 connections in 5 chamber design. Spool detented or with spring reset. With the solenoids deenergised, the spool is held in the center position by the spring (4/3), or switched back to the offset position (4/2). With the impulse spool (4/2), the spool is held in the switching position by the detent. Precise spool fit, low leakage, long service life time. Spool made from hardened steel, valve body from high quality hydraulic cast steel. Wide range of standard and special voltages.

**APPLICATION**

Spool valves are mainly used for controlling direction of movement and stopping of hydraulic cylinders and motors. Switching performance and leakage of the valves must be taken into account when designing the system. Solenoid spool valves are suitable for machine tools and handling systems of any kind. Miniature valves are used where both, reduced dimensions and weight are important.

**SYMBOL**




### ACTUATION

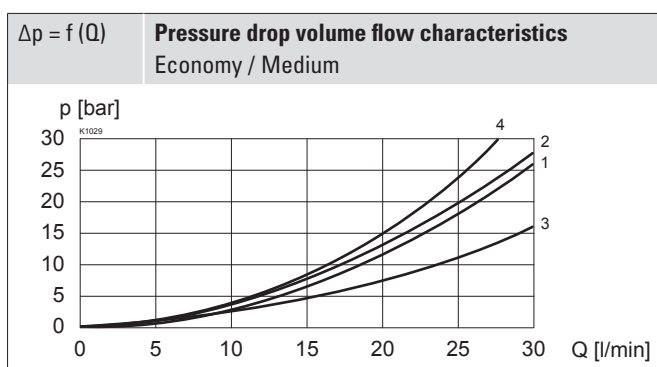
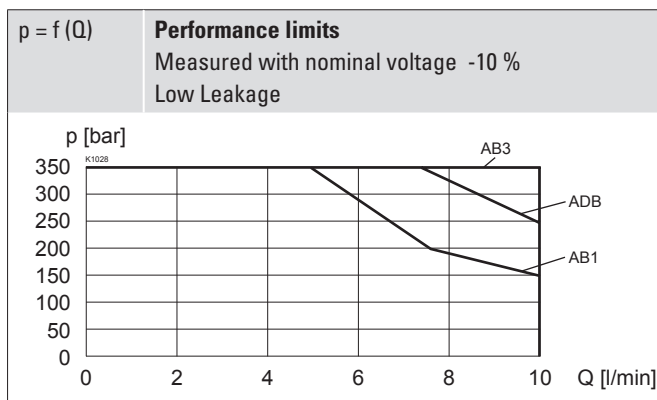
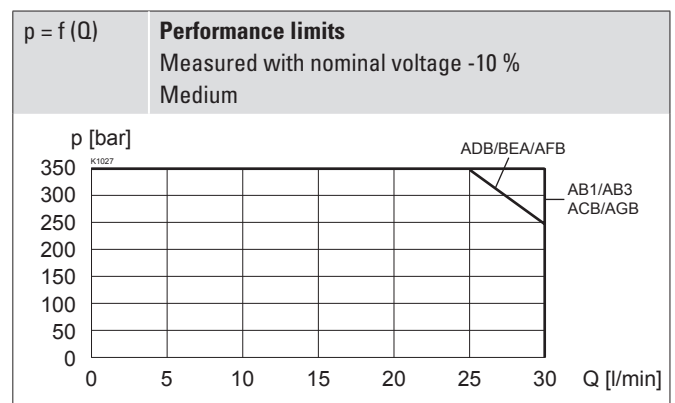
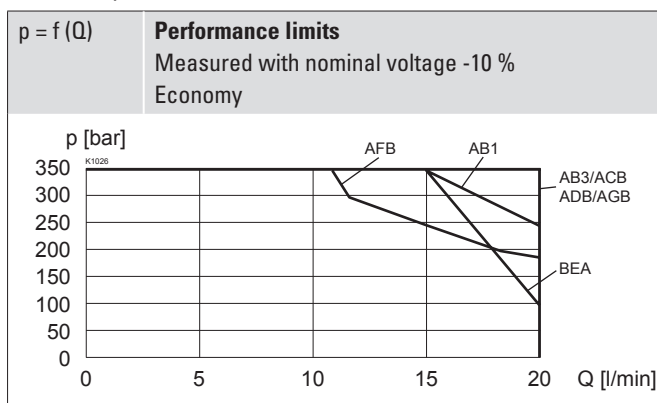
Actuation	Switching solenoid, wet pin push type, pressure tight
Execution	Economy: V.E37 / 19 x 40 (Data sheet 1.1-168) Medium: V.E37 / 19 x 50 (Data sheet 1.1-168) N.S35 / 19 x 50 (Data sheet 1.1-175)
Connection	Connector socket EN 175301 – 803 Connector socket AMP Junior-Timer Connector Deutsch DT04 – 2P

### HYDRAULIC SPECIFICATIONS

Working pressure	$p_{max} = 350 \text{ bar}$ ( $P_T < 20 \text{ bar}$ ) $p_{max} = 315 \text{ bar}$ ( $P_T > 20 \text{ bar}$ )
Tank pressure	$p_{Tmax} = 100 \text{ bar}$
Maximum volume flow	$Q_{max} = 30 \text{ l/min}$ , 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

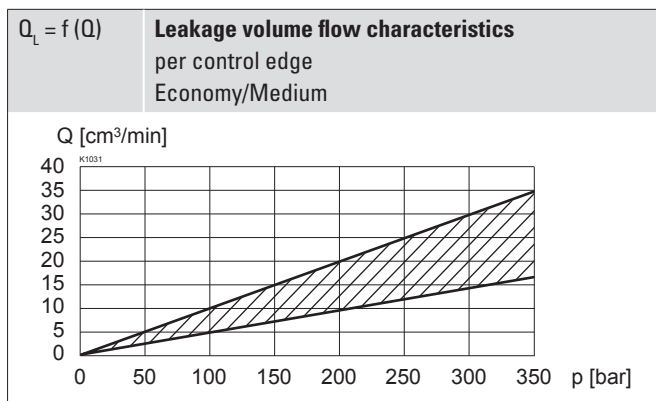
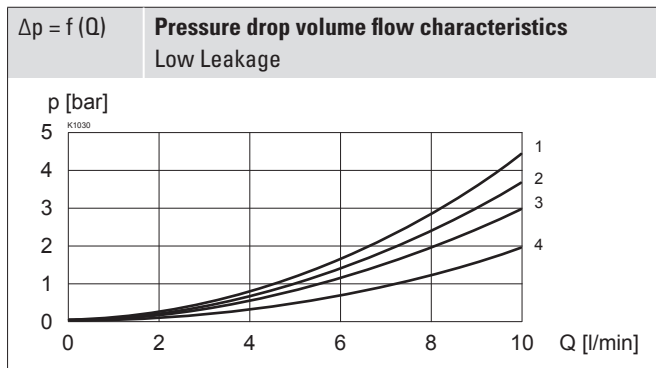
### PERFORMANCE SPECIFICATIONS

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

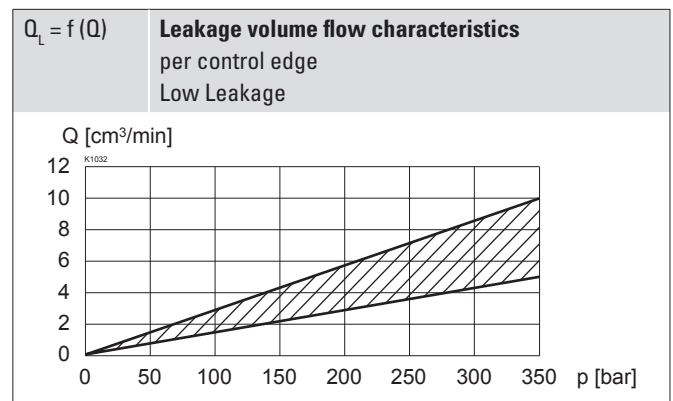


Symbol	Volume flow direction				
	P - A	P - B	P - T	A - T	B - T
AB1 / AB2 / AB3	2	2	-	1	1
ACB / AC1 / CB2	2	2	-	1	1
ADB / AD1 / DB2	2	2	-	1	1
BEA / BE1 / EA2	1	1	4	1	1
AFB / AF1 / FB2	1	1	3	1	1
AGB / AG1 / GB2	1	1	-	1	1

## 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 / AB3	1	1	-	1	2
ADB / AD1 / DB2	1	1	-	4	3



## STANDARDS

Mounting interface	Wandfluh standard
Solenoids	DIN VDE 0580
Connection execution D	EN 175301 – 803
Protection class	EN 60 529
Contamination efficiency	ISO 4406

## SEALING MATERIAL

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

## SURFACE TREATMENT

### Standard:

- The valve body is painted with a two component paint
- The armature tube, the slip-on coil and the plug screw are zinc-nickel coated

### Optionally (K8):

- All external parts are zinc-nickel coated
- ISO 9227 (800 h) salt spray test

## INSTALLATION NOTES

Mounting type	Flange mounting 3 fixing holes for socket head screws M5 x 40
Mounting position	Any, preferably horizontal
Tightening torque	Fixing screws $M_D = 5,2 \text{ Nm}$ (screw quality 8.8, zinc coated) $M_D = 5 \text{ Nm}$ knurled nut

### Note!

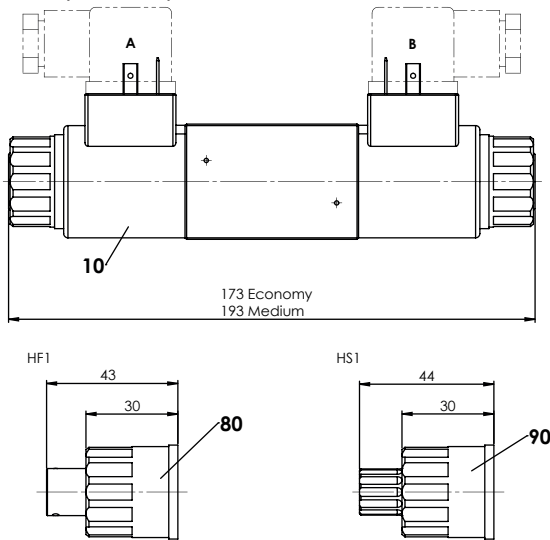


The length of the fixing screw depends on the base material of the connection element.

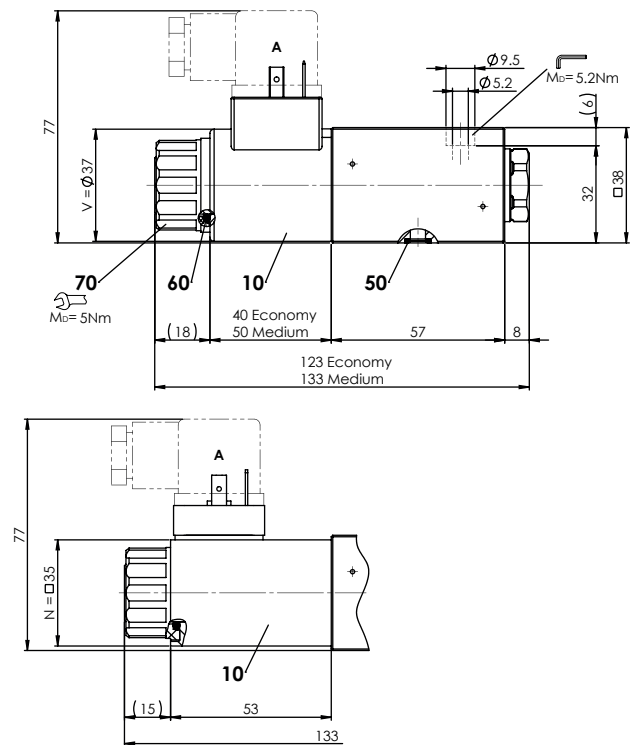
## DIMENSIONS

4/3-way valve (spring centred)

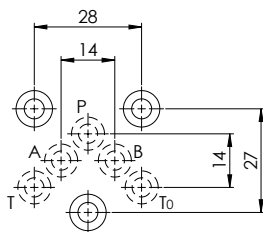
4/2-way valve (impulse)



4/2-way valve (spring reset)



## HYDRAULIC CONNECTION



## MANUAL OVERRIDE

- ◆ Integrated (-) Actuation pin integrated in the armature tube. Actuation by pressing the pin
- ◆ Push-button (HF1) Integrated in the knurled nut. Actuation by pressing the push-button
- ◆ Spindle (HS1) Integrated in the knurled nut. Actuation by turning the spindle (continuously variable valve actuation)

**Attention!** The actuation of the manual override is possible up to a tank pressure of:

- 40 bar Integrated (-)
- 40 bar Push-button (HF1)
- 100 bar Spindle (HS1)



## PARTS LIST

Position	Article	Description
10	206.2...	V.E37 / 19 x 40
		V.E37 / 19 x 50
	260.5...	N.S35 / 19 x 50
50	160.2052	O-ring ID 5,28 x 1,78 (NBR)
	160.6052	O-ring ID 5,28 x 1,78 (FKM)
60	160.2187	O-ring ID 18,72 x 2,62 (NBR)
	160.6187	O-ring ID 18,72 x 2,62 (FKM)
70	154.2700	Knurled nut
80	253.7001	Push-button
90	253.7000	Spindle

## ACCESSORIES

Mating connector grey (A)	Article no. 219.2001
Mating connector black (B)	Article no. 219.2002
Mounting screws	Data sheet 1.0-60
Threaded subplates	Data sheet 2.9-10
Multi-station subplates	Data sheet 2.9-50
Horizontal mounting blocks	Data sheet 2.9-90
Technical explanations	Data sheet 1.0-100
Filtration	Data sheet 1.1-50
Relative duty factor	Data sheet 1.1-430