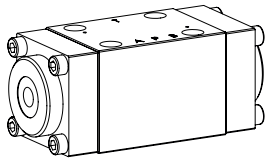
Spool valve

Flange construction

- hydraulically operated
- 4/2-way impulse execution detented
- 4/3-way with spring centred mid position
- 4/2-way with spring reset
- Q_{max} =30 l/min
- p_{max} = 350 bar

NG6
ISO 4401-03



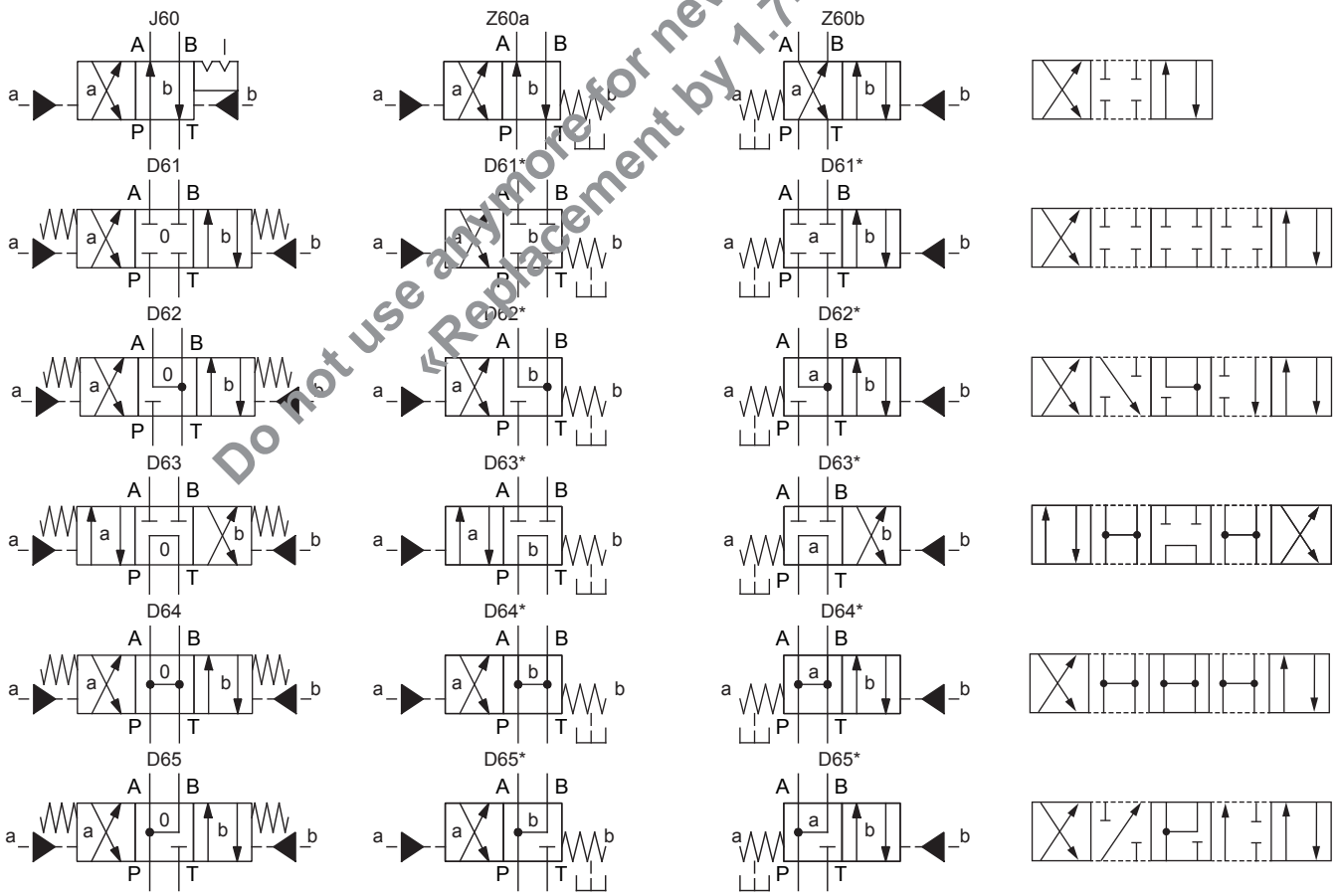
DESCRIPTION

Direct operated spool valve hydraulically operated via pilot port with 4 connections in a 5 chamber system. Spool detented or with spring. Without actuation, the spool is held in the center position by the spring (4/3), or switched back to the offset position (4/2). With the detent, the spool is held in the last switching position selected. Precise spool fit, low leakage, long service life time. Spool made from hardened steel, body from high quality hydraulic cast steel.

APPLICATION

Spool valves are mainly used for controlling direction of movement and stopping of hydraulic cylinders and motors. The direction of movement is determined by the position of the spool and its symbol.

SYMBOL



* These 4/2-way valves with spring reset are being delivered as 4/3-way valves.

Note! When the pilot ports are not actuated (without pressure), or not needed, the leakage oil must be discharged.

TYPE CODE

A P 4 [ ] - [ ] # [ ]

- International standard interface ISO
- Hydraulically operated
- Number of control ports
- Designation of symbols acc. to table
- Sealing material: NBR [ ]; FKM (Viton) [D1]
- Design index (subject to change)

1.7-30

GENERAL SPECIFICATIONS

Designation	4/2-, 4/3-spool valve
Construction	Direct operated
Mounting	Flange construction
Nominal size	NG6 according to ISO 4401-03
Actuation	Hydraulically operated
Ambient temperature	-25…+70 °C (NBR) -20…+70 °C (FKM)
Weight	1,4 kg
MTTFd	150 years

HYDRAULIC SPECIFICATIONS

Working pressure	p_{max} = 350 bar
Tank pressure	$p_{T\,max}$ = 150 bar Resp. 10 bar lower than the control pressure
Maximum volume flow	Q_{max} = 30 l/min, see characteristics
Leakage volume flow	See characteristics
Fluid	Mineral oil, other fluid on request
Viscosity range	12 mm²/s…320 mm²/s
Temperature range fluid	-20…+70 °C
Contamination efficiency	Class 20 / 18 / 14
Filtration	Required filtration grade ß 10…16 ≥ 75, see data sheet 1.0-50

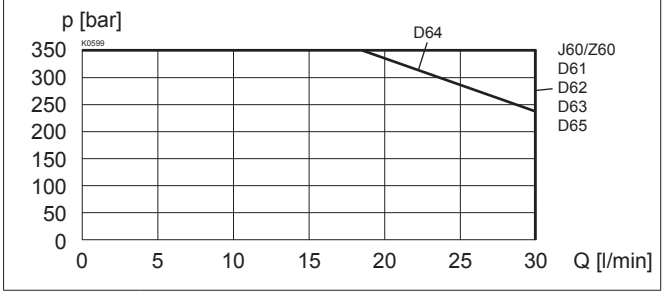
ACTUATION

Actuation	Hydraulically operated
Pilot pressure	p_{min} = 10 bar p_{max} = 160 bar
Control volume	V = 0,28 cm³

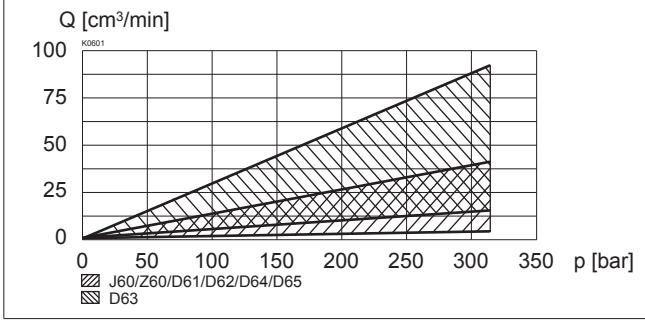
PERFORMANCE SPECIFICATIONS

Oil viscosity υ = 30 mm²/s

p = f (Q) **Performance limits**



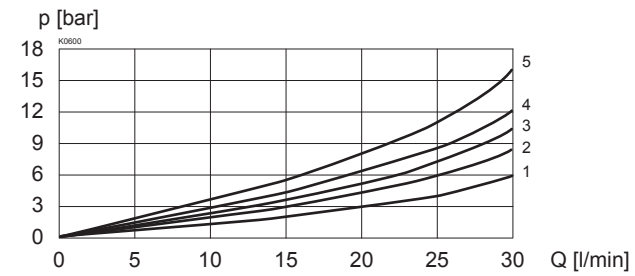
Q_L = f (Q) **Leakage volume flow characteristics** per control edge



PERFORMANCE SPECIFICATIONS

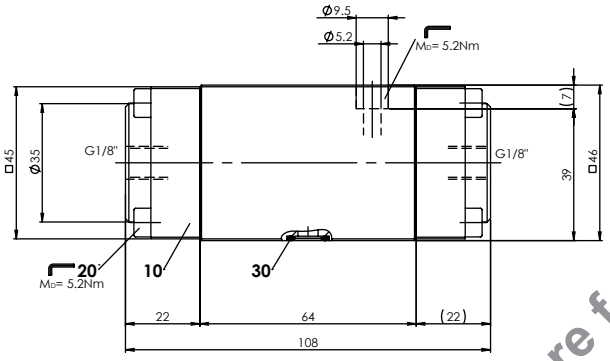
Oil viscosity υ = 30 mm²/s

$\Delta p = f(Q)$ **Pressure drop-volume flow characteristics**

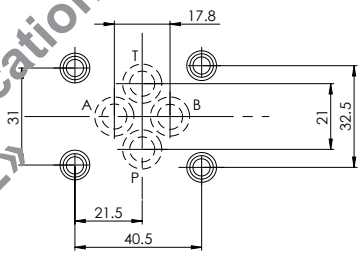


	Volume flow direction				
Symbol	P - A	P - B	P - T	A - T	B - T
Z60 / J60	3	3	-	4	4
D61	3	3	-	4	4
D62	3	3	-	3	3
D63	2	2	5	2	2
D64	1	1	1	3	3
D65	1	1	-	4	4

DIMENSIONS



HYDRAULIC CONNECTION



PARTS LIST

Position	Article	Description
10	058.4600	Cover
20	246.2121	socket head screws M5 x 20 DIN 912
30	160.2093	O-ring ID 9,35 x 1,78 (NBR)

ACCESSORIES

Fixing screws	Data sheet 1.0-60
Threaded subplates	Data sheet 2.9-30
Multi-station subplates	Data sheet 2.9-60
Horizontal mounting blocks	Data sheet 2.9-100
Technical explanations	Data sheet 1.0-100
Hydraulic fluids	Data sheet 1.0-50
Filtration	Data sheet 1.0-50

SEALING MATERIAL

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

STANDARDS

Mounting interface	ISO 4401-03
Contamination efficiency	ISO 4406

INSTALLATION NOTES

Mounting type	Flange mounting 4 fixing holes for socket head screws M5 x 45
Mounting position	Any, preferably horizontal
Tightening torque	Fixing screws M_D = 5,2 Nm (screw quality 8.8, zinc coated)

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

SURFACE TREATMENT

- The valve body is coated with a two component paint
- The covers and the screws are zinc coated

Wandfluh AG Postfach CH-3714 Frutigen
Tel. +41 33 672 72 72 Fax +41 33 672 72 12 sales@wandfluh.com