



PRESSURE SEQUENCE VALVE TYPE UZK

**WK
450 414**

Size 10, 20, 30

31,5 MPa

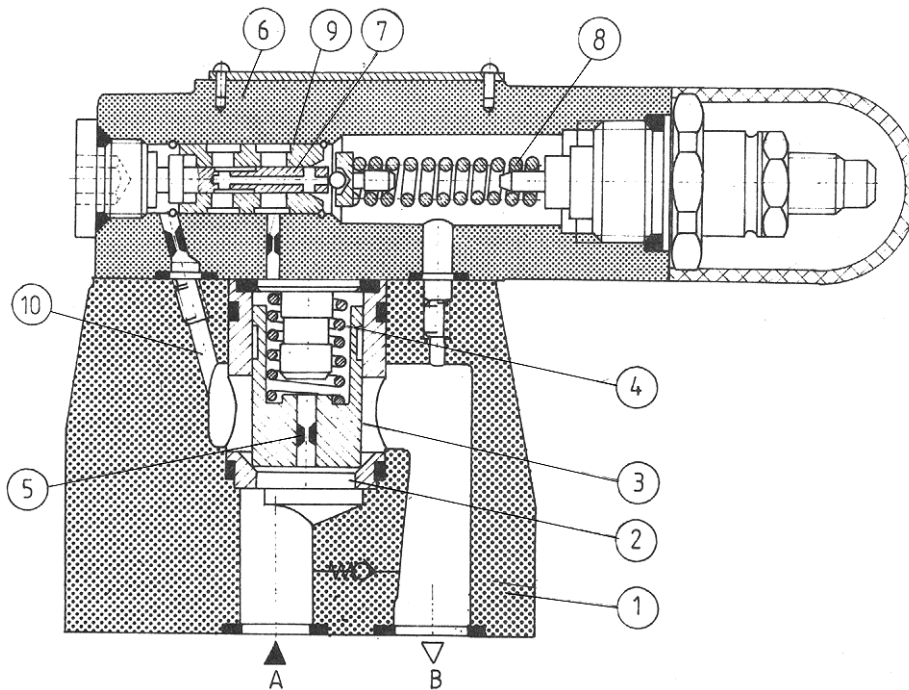
up to 450 dm³/min

04.2000r.

Pressure sequence valves type UZK are used for switching a system or part of a system off when a set pressure is reached.

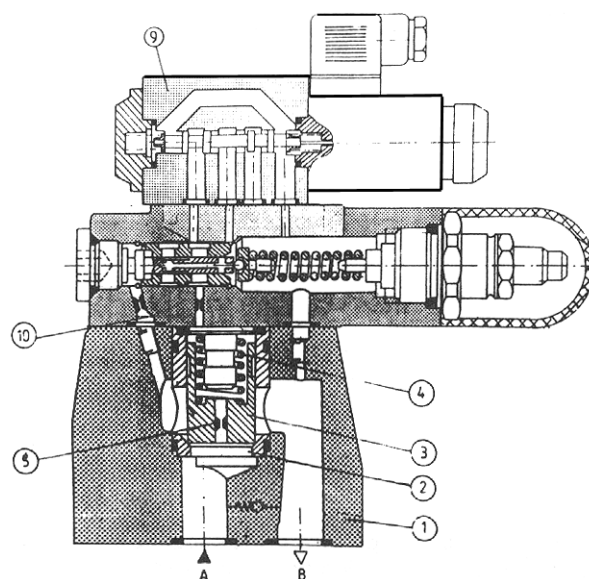


DESCRIPTION OF OPERATION



Pilot operated pressure sequence valve comprises the pilot valve 6 and the main valve 1. Pressure at port A acts on the main spool 3 and simultaneously on the pilot spool 7 via a control line. At the same time the pressure affects the main spool surface opposite to the spring 4 by means of a bore in the main spool fitted with the jet 5. The spring 8, tensioned according to pilot pressure, holds the pilot spool in centre position.

When set pressure is exceeded, the pilot spool moves to the right. It allows fluid to drain from the spring chamber of the main spool into line B via the control line fitted with a jet, if the valve is applicable as a relief valve or sequence valve. The jet combination causes a pressure difference between the lower and upper sides of the main spool. The main spool is shifted upwards. The connection from A to B is thus open, while system pressure remains unchanged.



Pressure sequence valve is also available with directional valve unloading. The valve described previously has been enlarged by mounting a directional control valve 9. In the starting position, the directional valve blocks the drain line in front of the pilot poppet. In switched position, the directional valve 9 connects the spring chamber of the main spool with a tank. The spring side of the main spool is thus unloaded and the spool moves opening the connection from A to B.

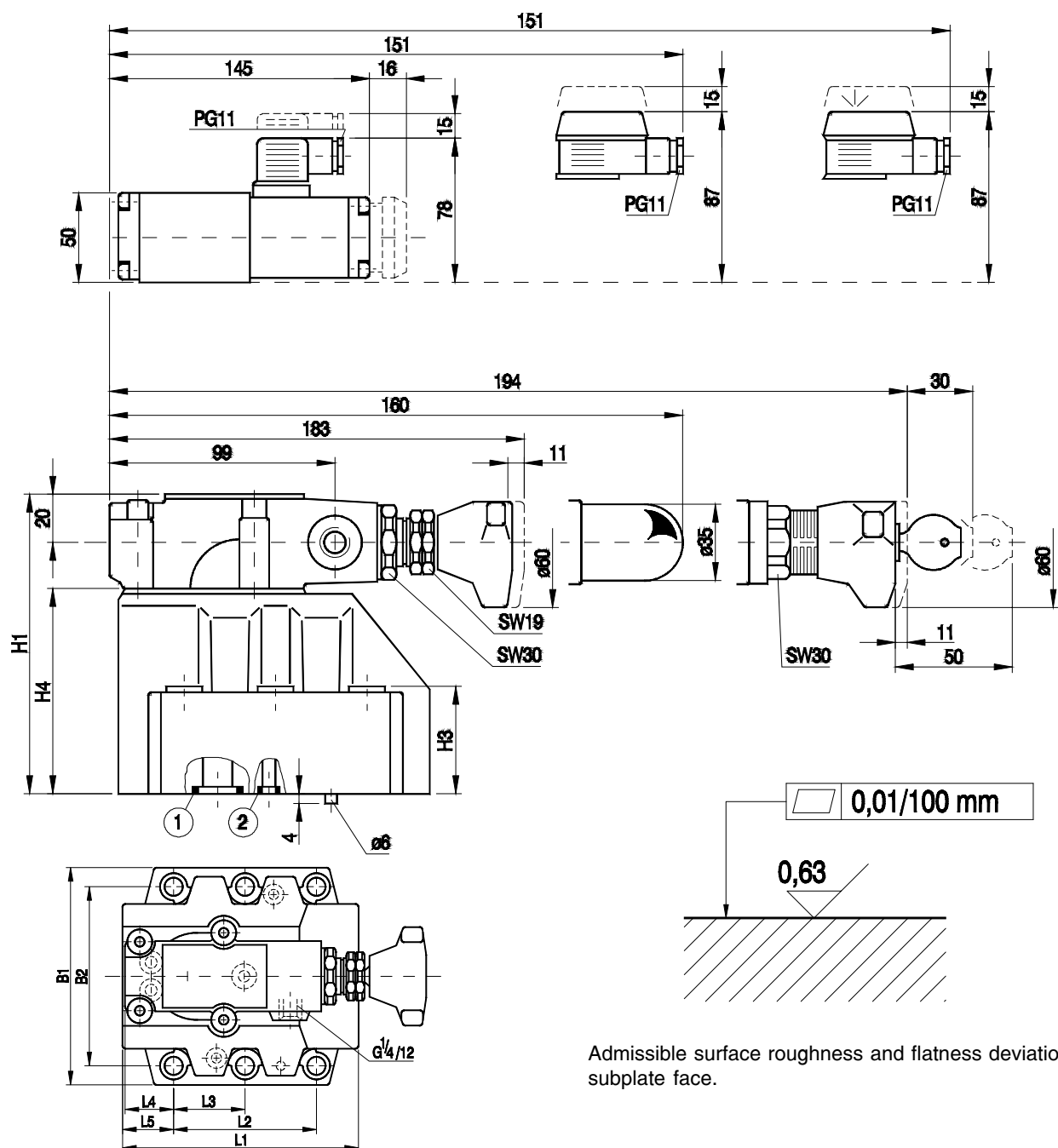
The valve is available in two versions : in de-energized position normally open and normally closed.

TECHNICAL DATA

Hydraulic fluid	Mineral oil or phosphate ester		
Nominal fluid viscosity	37 mm ² /s at the temperature of 328 K		
Viscosity range	2.8 to 380 mm ² /s		
Optimum working temperature(fluid in a tank)	313 - 328 K		
Fluid temperature range	253 - 343 K		
Required fluid filtration	up to 16 µm		
Recommended fluid filtration	up to 10 µm		
Maximum operating pressure	31.5 MPa		
Input pressure at port A	up to 31.5 MPa		
Output pressure at port B	21 MPa		
Maximum backpressure	21 MPa		
Max allowable flow rate	Size 10	Size 20	Size 30
	150 dm ³ /min	300 dm ³ /min	450 dm ³ /min
Weight	5.5 kg		

For technical data on directional control valve WE 5 see WK 450 187

OVERALL AND CONNECTIONS DIMENSIONS

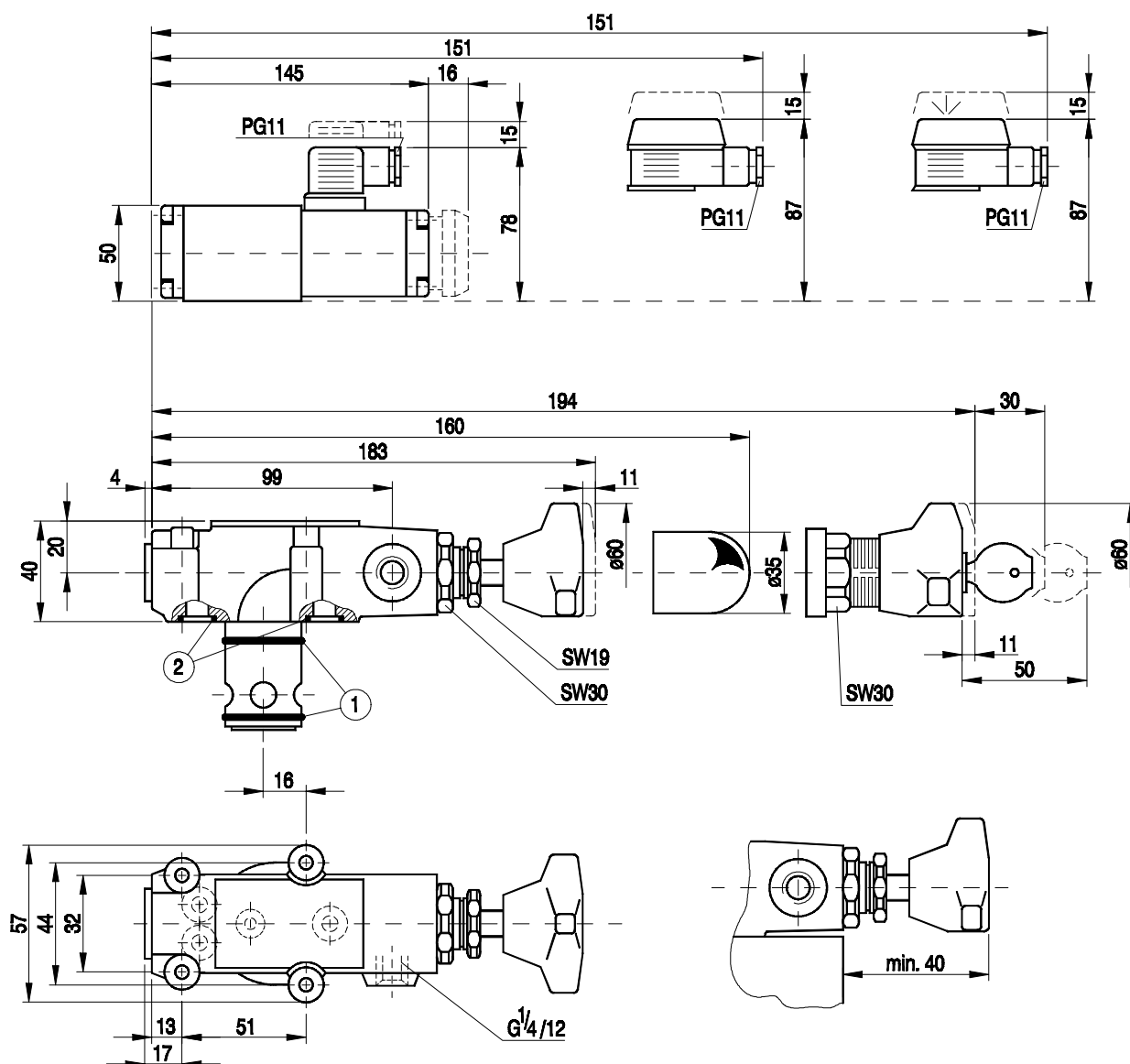


Admissible surface roughness and flatness deviation for a subplate face.

- 1 - O-ring for size 10 - 17.1 × 2.6 - 2 pcs
- 1 - O-ring for size 20 - 28.2 × 3.5 - 2 pcs
- 1 - O-ring for size 30 - 34.5 × 3.5 - 2 pcs
- 2 - O-ring for size 10 - 9.2 × 1.8 - 2 pcs
- 2 - O-ring for size 20 - 9.2 × 1.8 - 2 pcs
- 2 - O-ring for size 30 - 9.2 × 1.8 - 2 pcs

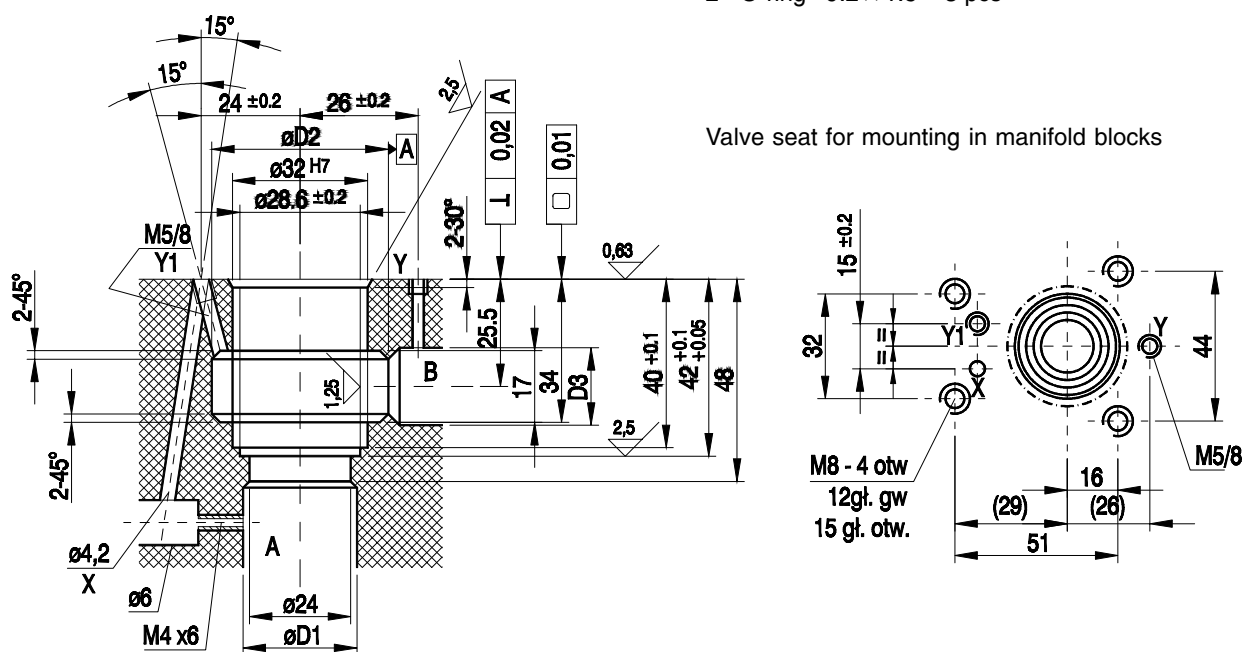
Nominal size	B1	B2	H1	H3	H4	L1	L2	L3	L4	L5	Weight [kg]
10	85	66.7	112	28	72	96	42.9	-	34.6	35.6	up to 5.0
20	102	79.4	122	38	82	112	60.3	-	36.9	33.5	up to 6.9
30	120	96.8	130	46	90	140	84.2	42.1	31.3	28	up to 9.6

Pressure sequence valve for manifold block mounting



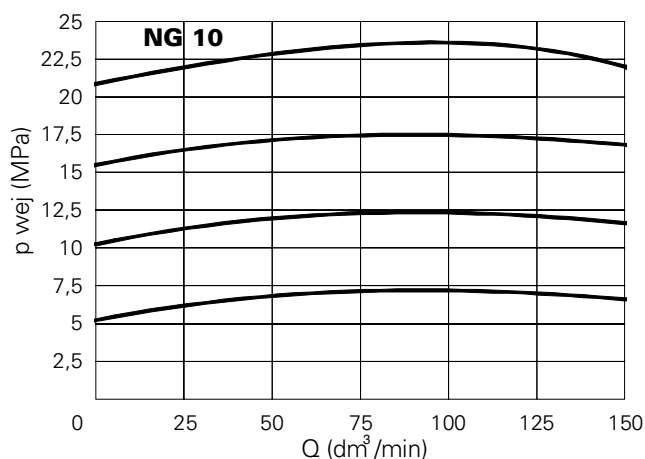
- 1 - O-ring 27.3 × 2.4 - 2 pcs
- 2 - O-ring 9.2 × 1.8 - 3 pcs

Valve seat for mounting in manifold blocks

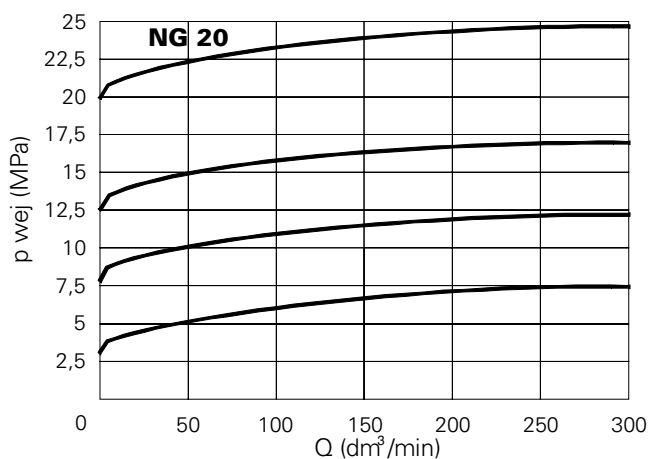


	D1	D2	D3	Bolts mounting the valve	Torque [Nm]
Size 10	10	40	10	4 x M8 x 40 - 10.9 PN-87/M-82302 (DIN - 912)	37
Size 20	20	45	20		37
Size 30	30	45	30		37

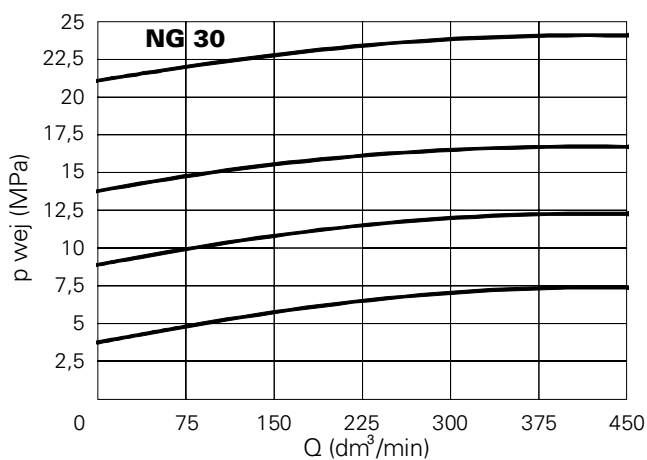
PERFORMANCE CURVES, measured at $v = 41 \text{ mm}^2/\text{s}$ and $T = 323 \text{ K}$



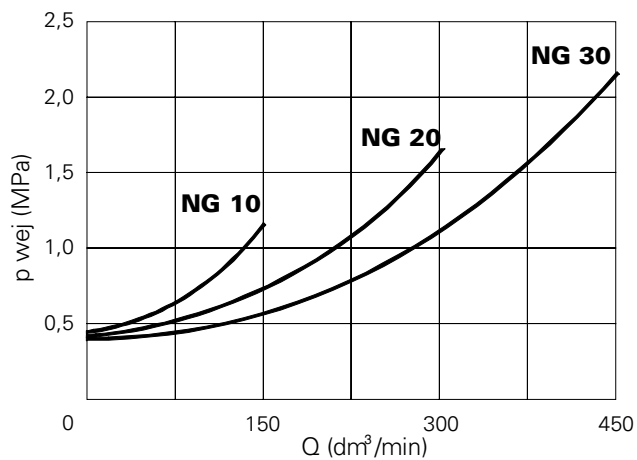
Input pressure in relation to flow for size 10



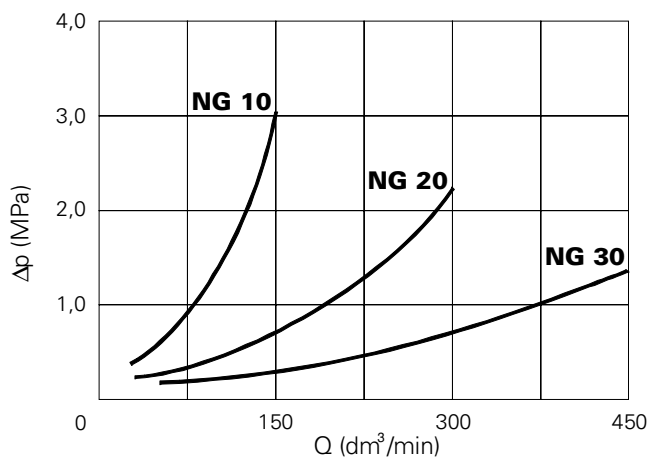
Input pressure in relation to flow for size 20



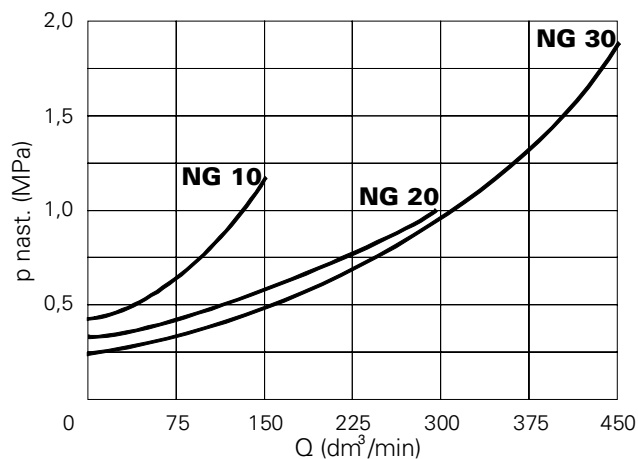
Input pressure in relation to flow for size 30



Input pressure in relation to lowest pressure setting (in relation to flow for open and closed valve)

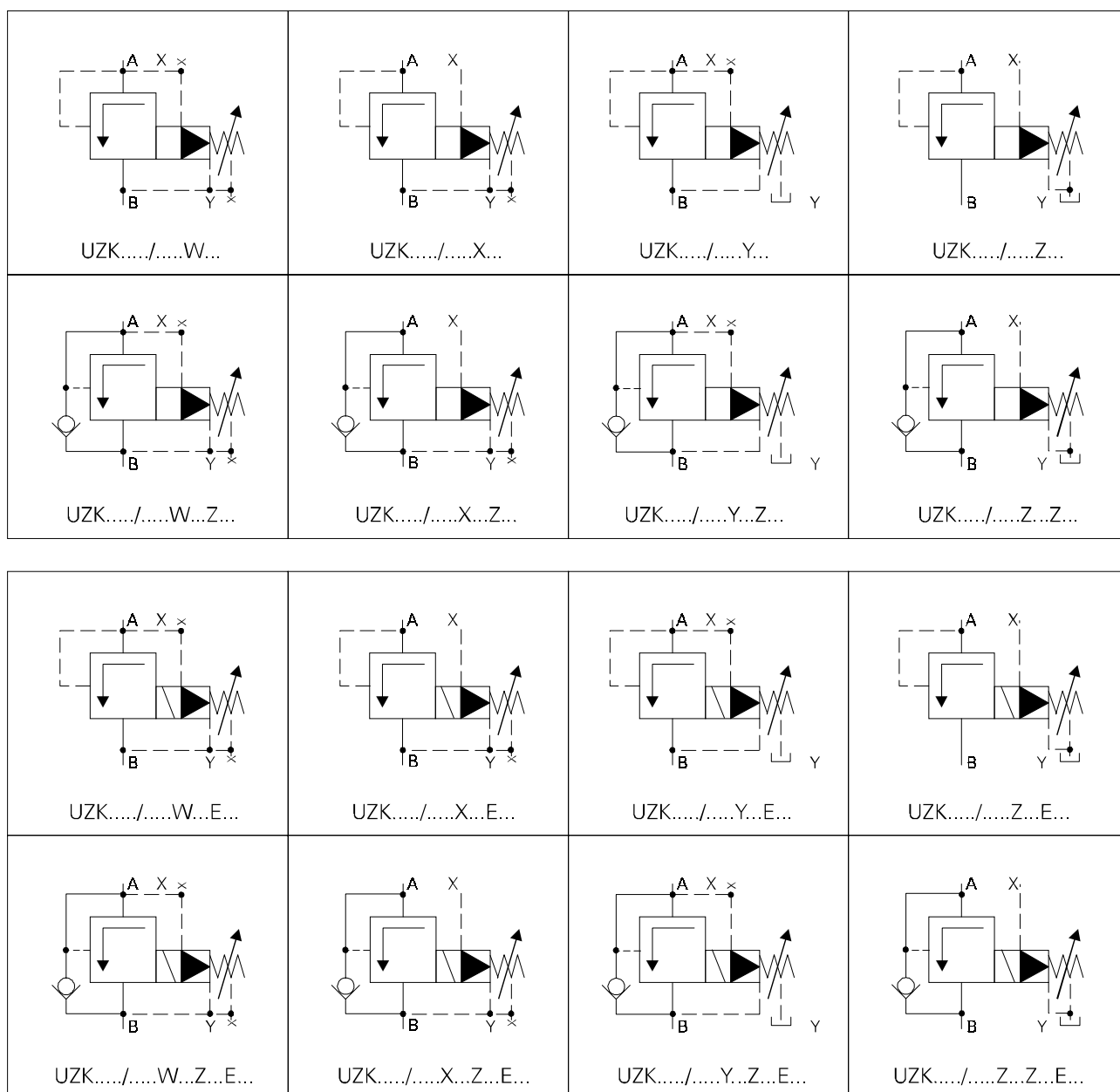


Pressure drop in relation to flow



Lowest pressure setting in relation to flow

SCHEMES



HOW TO ORDER

Orders coded in the way showed below should be forwarded to the manufacturer.

UZK			-	/							*
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Further requirements in clear text (to be adreed with the manufacturer)

Sealing

Fluids on mineral oil base = with no code
Fluids on phosphate-ester base = V

Electrical connection

Plug-in connector = Z4
Large plug-in connector = Z5
Large plug-in connector with light = Z5L

Emergency operation

Without emergency operation = no code
With emergency operation = N

Voltage for solenoids

AC 220 V, 50 Hz = W220-60
AC 110 V, 50 Hz = W110-50
DC 24 V = G 24
DC 110 V = G 110

Directional control valve (for UZK...E only)

In de-energized position normally closed = AE
In de-energized position normally open = BE

Check valve

With check valve = Z
Without check valve = no code

Adjustment

Handknob = 1
Set screw with internal hexagon = 2
Lockable handknob = 3

Pilot supply and drain

Pilot suply internal, drain internal = W
Pilot supply external, drain internal = X
Pilot supply internal, drain external = Y
Pilot supply external, drain external = Z

Pressure setting

10 MPa = 100
21 MPa = 210

Series number

13 = 13
(10 - 19) - installation and connection dimensions remain unchanged

Nominal size

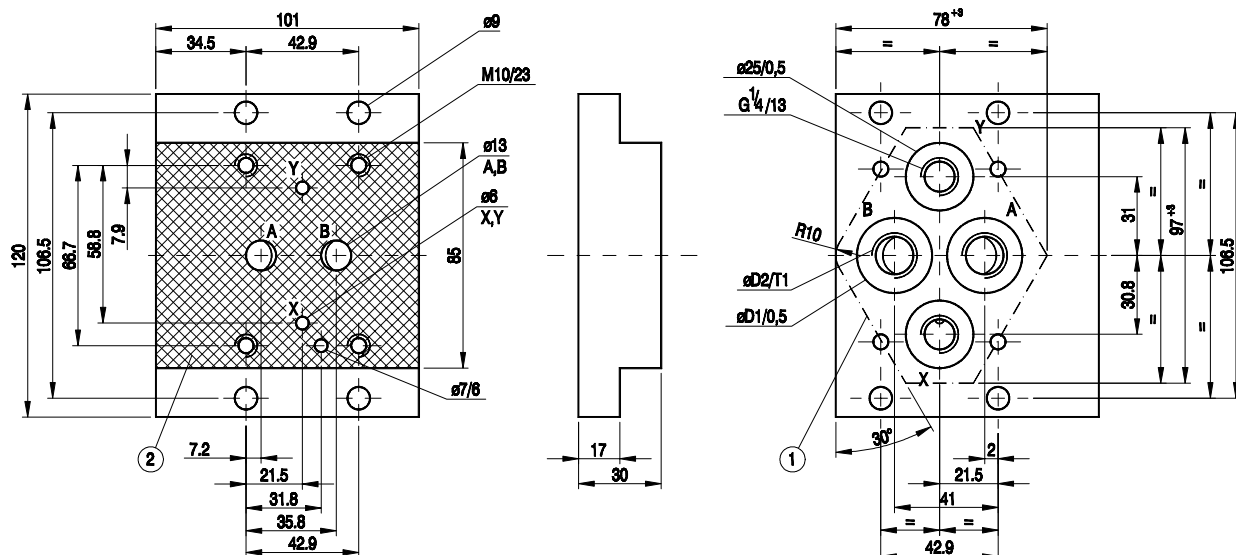
Size 10 = 10
Size 20 = 20
Size 30 = 30

Mounting and operating

Pilot operating, subplate mounting = P
Pilot operating, manifold mounting = S
Pilot only = B

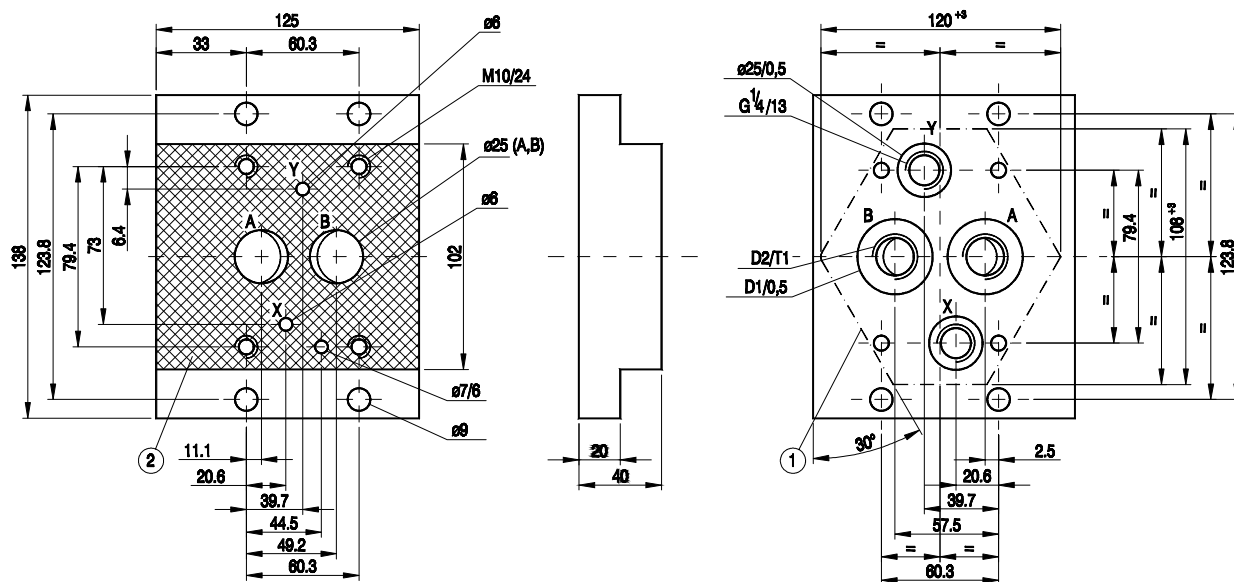
Coding example :
UZKP 10 - 13 / 210 W1

Subplates for sequence valves



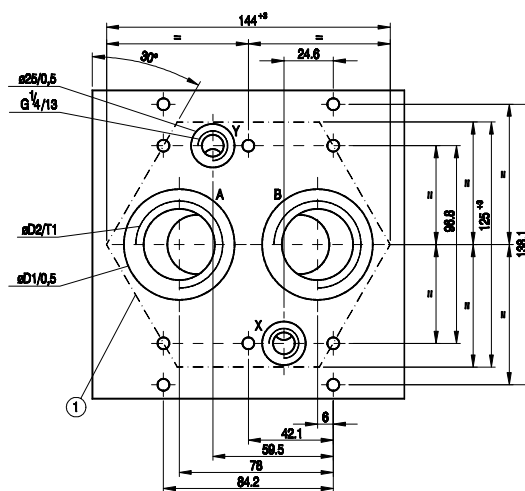
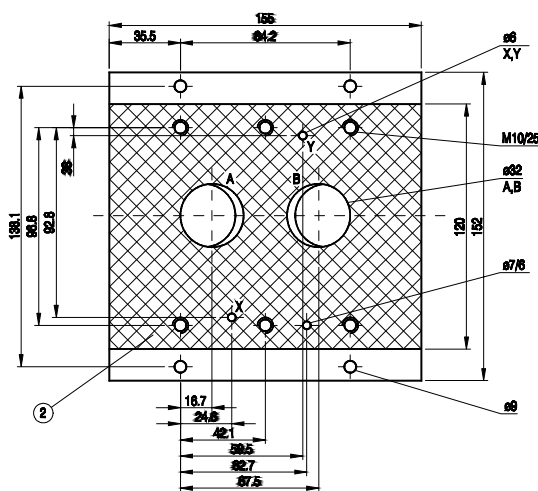
- 1 - Recess in subplate face
2 - Mounting surface

Valve	Subplate	D1	D2	T1	Bolts mounting the valve to subplate	Torque [Nm]	Weight [kg]
Size 10	G 460/01	28	G 3/8	13	4 x M10 x 50 - 10.9 PN - 87/M-82302 (DIN 912)	73	1.7
	G 461/01	34	G 1/2	15			



- 1 - Recess in subplate face
2 - Mounting face

Valve	Subplate	D1	D2	T1	Bolts mounting the valve to subplate	Torque [Nm]	Weight [kg]
Size 20	G 412/01	42	G 3/4	17	4 x M10 x 60 - 10.9 PN - 87/M-82302 (DIN 912)	73	3.3
	G 413/01	47	G 1	20			



- 1 - Recess in subplate face
2 - Mounting face

Valve	Subplate	D1	D2	T1	Bolts mounting the valve to subplate	Torque [Nm]	Weight [kg]
Size 30	G 414/01	56	G 1 1/4	21	6 x M10 x 70 - 10.9 PN - 87/M-82302 (DIN 912)	73	5
	G 415/01	61	G 1 1/2	23			

Note : Subplates and fixing bolts have to be ordered separately

NOTES :



Q-HYDRAULIKA, Rakovník
Rabasova 2281, 269 01 Rakovník, tel./fax: 313 514 718
e-mail: info@q-hydraulika.cz, www.q-hydraulika.cz