

3.21

# Pressure sequence valve direct operated

## Type DZ6DP...L5X

Size 6  
up to 315 bar  
up to 60 L/min



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### Features

- Direct operated
- Porting pattern to DIN 24 340, form A and ISO 4401
- 5 pressure ratings
- 2 adjustment elements:
  - Rotary knob
  - Adjustable bolt with protective cap
- Pressure gauge connection
- Check valve, optional

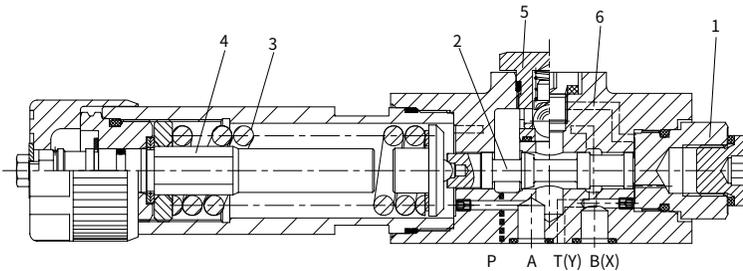
## Function and configuration

The valve type DZ6DP is a direct operated pressure sequence valve. It is used for the switching over for pressure dependent connection of a secondary system. The sequence pressure is setting via the adjusting element(4).

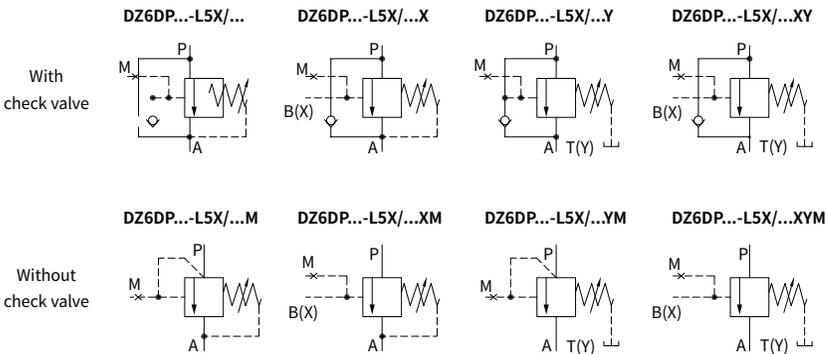
The spring (3) holds the control spool (2) in the neutral position, the valve is blocked. The pressure in channel P is acting at the end surface of the control spool (2) opposite the spring (3) via the control line (6). If the pressure in channel P reaches the setting value of the spring(3), the control spool (2) is moved to the left and the connection P to A is opened. In this case, fluid flows from channel P to A without pressure drop in channel P.

The control signal is adopted internally via the control line (6) from channel P or externally via port B (X). Depending on the use of the valve the leakage oil drain is externally via port T (Y) or internally via A.

### Type DZ6DP1-L5X/...



## Symbols



## Ordering code

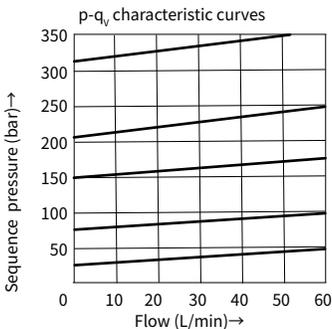
DZ6DP		- L5X								★	
Direct operated pressure sequence valve nominal size 6										Further details in clear text	
Rotary knob =1										No code = NBR seals	
Adjustable bolt with protective cap =2										V = FKM seals	
Lockable rotary knob with scale =3										Pressure tapping thread	
Rotary knob with scale =7										No code = Incha thread	
Series L50 to L59 (L50 to L59 series: unchanged installation and connection dimensions) = L5X										2 = Metric thread	
Max. secondary pressure 25 bar =2.5										No code = With check valve	
Max. secondary pressure 75 bar =7.5										M = Without check valve	
Max. secondary pressure 150 bar =15										No code = Pilot oil supply internal, oil drain internal	
Max. secondary pressure 210 bar =21										X = Pilot oil supply external, oil drain internal	
Max. secondary pressure 315 bar =31.5 (Note 1)										Y = Pilot oil supply internal, oil drain external	
										XY = Pilot oil supply external, oil drain external	

**Notes 1:** 315bar only for adjustment form "2" and without check valve .

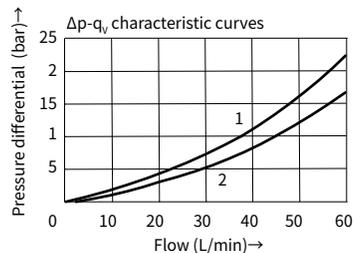
## Technical data

Fluid		Mineral oil suitable for NBR and FKM seal Phosphate ester for FKM seal	
Fluid temperature range		°C -30 to +80 (NBR seal) -20 to +80 (FKM seal)	
Viscosity range		mm <sup>2</sup> /s 10 to 800	
Degree of contamination		Maximum permissible degree of fluid contamination: Class 9. NAS 1638 or 20/18/15, ISO4406	
Max. operating pressure	Port P,A,B(X)	bar	315
	Port T(Y)	bar	160
Max. adjustable sequence pressure		bar	25; 75; 150; 210; 315
Max. flow-rate		L/min	60
Weight		kg	Approx. 1.6

## Characteristic curves ( Measured at $\theta_{oil}=40^{\circ}C \pm 5^{\circ}C$ , using HLP46)



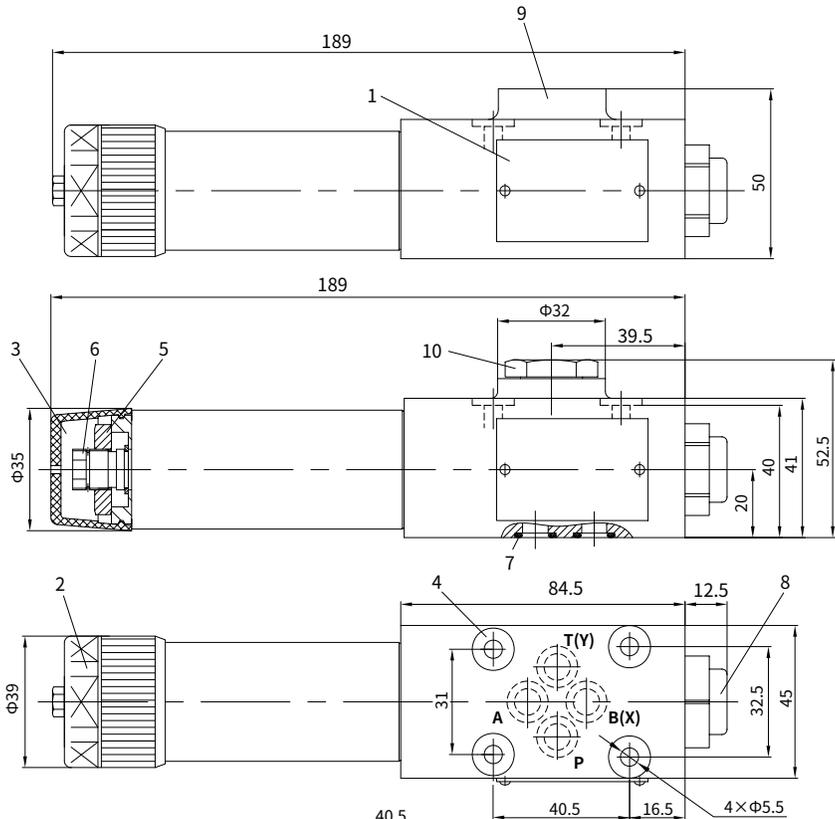
1.  $\Delta p$ -q<sub>v</sub> characteristic curves A to P via check valve
2.  $\Delta p$ -q<sub>v</sub> characteristic curves P to A



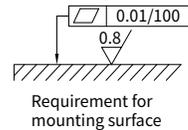
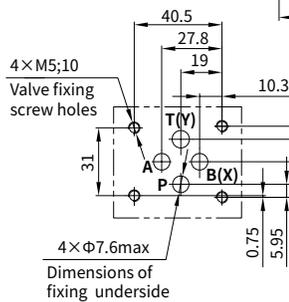
The characteristic curves are valid for output pressure = zero in the complete flow range.

## Unit dimensions

(Dimensions in mm)



- 1 Name plate
- 2 Adjustment element "1"
- 3 Adjustment element "2"
- 4 Valve mounting holes
- 5 Lockable screw S=24
- 6 Internal hexagon bolt S=10
- 7 O-rings 9.25  $\times$  1.78  
(Ports A, B, P, T)
- 8 Pressure gauge connection  
G1/4 or M14  $\times$  1.5, 12 deep  
Hexagon wrench S=6
- 9 Without check valve
- 10 With check valve



**It must be ordered separately,  
if connection plate is need**

Type: G341/01(G1/4), G341/02 (M14  $\times$  1.5)  
G342/01(G3/8), G342/02 (M18  $\times$  1.5)  
G502/01(G1/2), G502/02 (M22  $\times$  1.5)

**Valve mounting screws:**

GB/T 70.1- M5  $\times$  50-10.9 internal hexagon screw  
Tightening torque  $M_A = 8.9$ Nm

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# Pressure sequence valve direct operated

## Type DZ10DP...L4X

Size(NG)10  
Up to 210 bar  
Up to 80 L/min



### Contents

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### Features

- Direct-acting structure
- Mounting face meeting requirements for DIN24340 A and ISO4401
- 4 pressure ranges
- 2 adjustment forms Knob
  - Knob
  - Adjusting screw with protective cover
- Connector with pressure gauge
- Selectable one-way valve

## Function and configuration

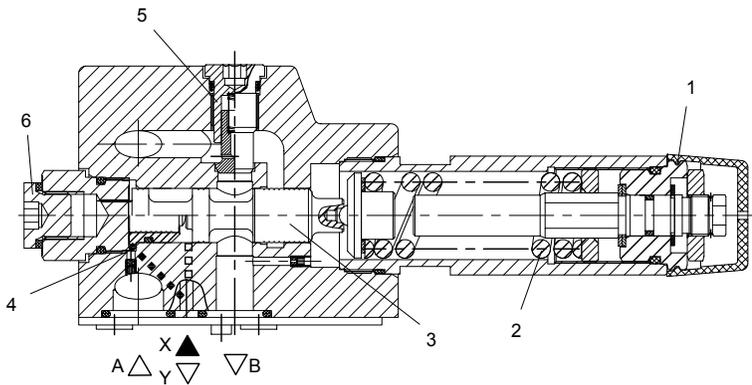
DZ10DP sequence valve is direct-acting valve for sequence switching related with secondary loop and pressure. Set sequence pressure through adjusting elements (1).

Compression spring (2) holds valve element (3) in initial position and the valve is closed. Pressure of Port A enters the valve element end through control route (4), of which the produced force acting on the valve element (3) on the opposite side of spring (2).

When the pressure reaches the set value of spring (2), valve element (3) is pushed to connect port A and B; systems connected with oil port B is connected in sequence while the pressure of port A will not drop; control signal is acquired from port A via control route (4) or acquired from the outside via port X.

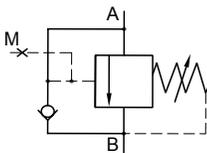
According to the valve purpose, leaked oil can return from the outside of port Y or the inside of port B.

Type: DR10DP1-L4X/...Y

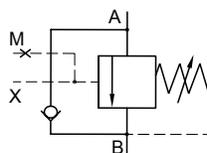


## Symbols

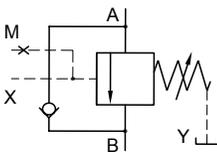
Structure "-"



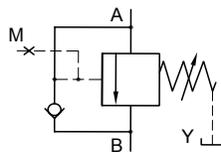
Structure "X"



Structure "XY"



Structure "Y"



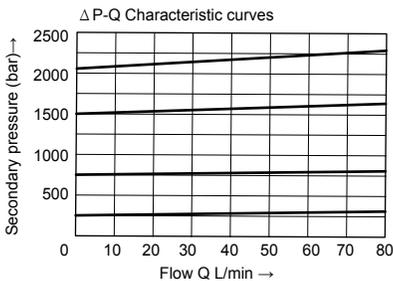
## Ordering code

Direct-acting relief valve diameter 10	DZ10DP	-L4X	/	/	/	*	Further details in clear text
Knob	=1						No code = NBR seals V = FKM seals
Hex bolt with protective cover	=2						Pressure measurement port thread
Graduated knob with lock	=3						No mark = Inch thread G1/4 2 = Metric thread M14×1.5
Graduated knob without lock	=7						No mark = With one-way valve M = Without one-way valve
Series L40 to L49 (L40 to L49: unchanged installation and connection dimensions)	=L4X						No mark = Control oil supplied from inside and drained to the inside
Max. secondary pressure 25 bar	=2.5						X= Control oil supplied from outside and drained to the inside
Max. secondary pressure 75 bar	=7.5						Y= Control oil supplied from inside and drained to the outside
Max. secondary pressure 150 bar	=15						XY=Control oil supplied from outside and drained to the outside
Max. secondary pressure 210 bar	=21						

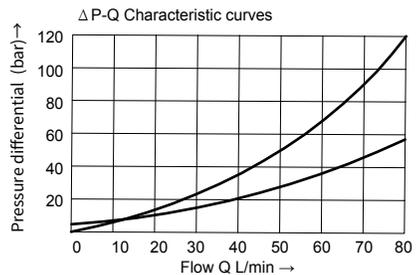
## Technical data

Fluid	Mineral oil suitable for NBR and FKM seal Phosphate ester for FKM seal		
Fluid temperature range	°C	-30 to +80 (NBR seal) -20 to +80 (FKM seal)	
Viscosity range	mm <sup>2</sup> /S	10 to 800	
Degree of contamination	Maximum permissible degree of fluid contamination: Class 9. NAS 1638 or 20/18/15, ISO4406		
Max operation pressure	oil port P, A, B(X)	bar	210
	Oil port T(Y)	bar	160
Max sequence pressure set (adjustable) with port B	bar	25; 75; 150; 210	
Max flow	L/min	80	
Weight	kg	About 3	

## Characteristic curves ( Measured at $\vartheta_{oil} = 40^{\circ}C \pm 5^{\circ}C$ , using HLP46)



**Note:**  
This work curve is effective to the relief function in case of outlet pressure = 0 within the overall range.

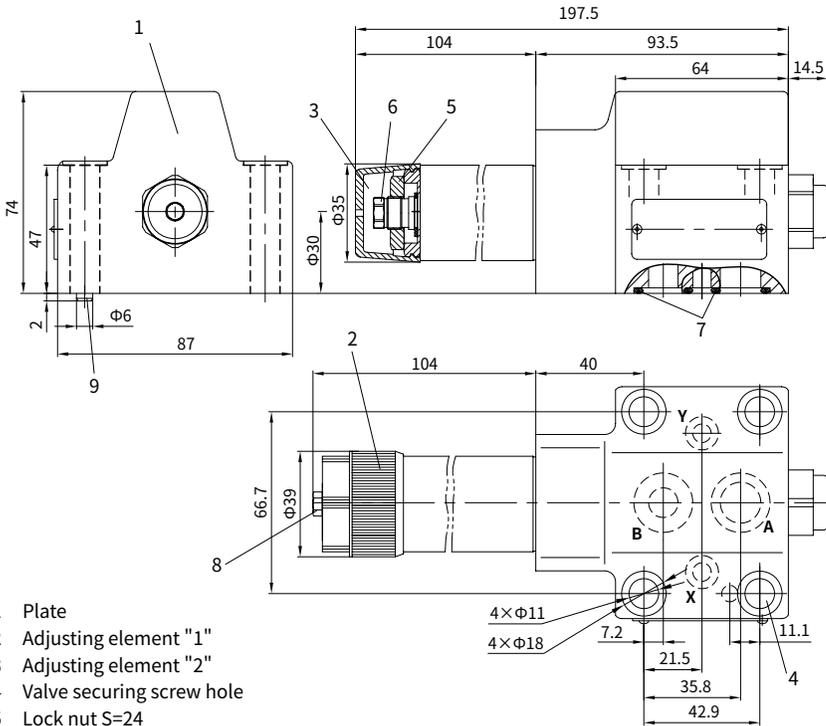


$\Delta P$ -Q- characteristic curve, flowing via one-way valve B to A.

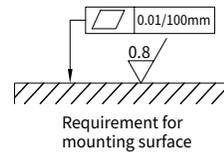
$\Delta P$ -Q characteristic curve, A to B

## Unit dimensions

(Dimensions in mm)



- 1 Plate
- 2 Adjusting element "1"
- 3 Adjusting element "2"
- 4 Valve securing screw hole
- 5 Lock nut S=24
- 6 Inner hex adjusting screw S=10
- 7 O-ring 17.12  $\times$  2.62(A, B)  
O-ring 8.75  $\times$  1.8 (X, Y)
- 8 Pressure gauge interface  
G1/4 or M14  $\times$  1.5; in depth 12  
Hex wrench S=6
9. Positioning pin



**It must be ordered separately,  
if connection plate is need**  
Type: G460/01(G3/8); G46101(G1/2)

**Valve securing screw:**  
M10  $\times$  60 as per GB/T70.1- class 10.9  
Socket head cap screw  
Tightening torque  $M_A=75\text{Nm}$