



### Product features

- Direct operated proportional directional valve without electrical position feedback and integrated electronics
- Control the direction and magnitude of a flow
- Actuation by means of proportional solenoids with central thread and removable coil
- For subplate mounting:
  - Connection position to ISO 4401
  - Subplates to catalogue sheets RE 45052 (NS6) or RE 45054 (NS10) separate order, see page 12 to 15
- Spring centred control spool
- Control electronics
- integrated electronics (OBE) with voltage input or current input

### Model Code

QDP -						24						X
<b>Control electronics</b>		No code	External control									
		E	Integrated control									
<b>Size</b>		6	NG6									
		10	NG10									
<b>Spool type</b>		...	Select out of table									
<b>Flow (<math>\Delta P=10\text{bar}</math>)</b>		07	07 l/min (NG6)									
		15	15 l/min (NG6)									
		26	26 l/min (NG6)									
		30	30 l/min (NG10)									
		60	60 l/min (NG10)									
<b>Coil voltage</b>		24	24 VDC									
		12	12 VDC									
<b>Manual override</b>		M	With manual override									
		0	Without									
<b>Electrical connection socket</b>		D	DIN EN 175301-803 (QDP) or DIN EN 175201-804 (QDP-E)									
		F	DEUTSCH									
<b>Command value</b>		P	PWM (QDP)									
		A	10 V (QDP-E)									
		I	4...20 mA (QDP-E)									
<b>Seals</b>		F	FPM									
		N	NBR									
<b>Special option</b>		No code	Without									
		SO	With special option									
<b>Series</b>		X	Version number									

**Technical data [ NG6 & NG10]**

General Data			
Normal size		6	10
Installation position		Any, preferably horizontal	
Storage temperature range	°C	-20 to + 80	
Ambient temperature range	QDP	°C -20 to + 70	
	QDP-E	°C -20 to + 50	
Weight	QDP	kg 2,0	6,6
	QDP-E	kg 2,2	6,8

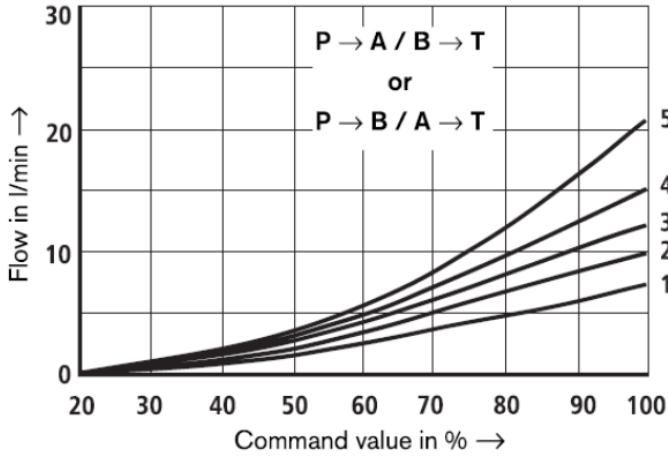
Hydraulic Data			
Max operating pressure	Port A, B, P	bar	315
	Port T	bar	210
Nominal flow qV nom at $\Delta p = 10$ bar		l/min 7, 15, 26	30, 60
Max. permissible flow		l/min 42	75
Maximum flow		l/min 15 ( $\Delta p = 50$ bar)	
Pressure fluid temperature range		°C -20 to + 80 (preferably +40 to +50)	
Viscosity range		mm <sup>2</sup> /s 20 to 380 (preferably 30 to 46)	
Degree of contamination		ISO4406: 1999 20/18/15	
Hysteresis		% $\leq 5$	
Repeatability		% $\leq 1$	
Response sensitivity		% $\leq 0,5$	

Electric data			
Nominal size	NS	6	10
Voltage type		Direct voltage	
Command value signal With type QDP-E	Voltage input "A1"	V	$\pm 10$
	Current input "F1"	mA	4 to 20
Max. current per solenoid		A	2,5
Solenoid coil resistance	Cold value at 20 °C	$\Omega$	2
	Max. warm value	$\Omega$	3
Duty		%	100
Max. coil temperature		°C	150
Valve protection to EN 60529		IP65 with mounted and fixed plug-in connector	

Control electronics			
QDP-6	Digital		
QDP-10	Digital		
QPD-E6	Digital		
QDP-E10	Digital		
Supply voltage	Nominal voltage	VDC	24
	Lower limiting value	V	19,4
	Upper limiting value	V	35
Amplifier power consumption	Maximum current	A	1,8
	Max. impulse current	A	3

**Feature Curve [ NG6 ]**

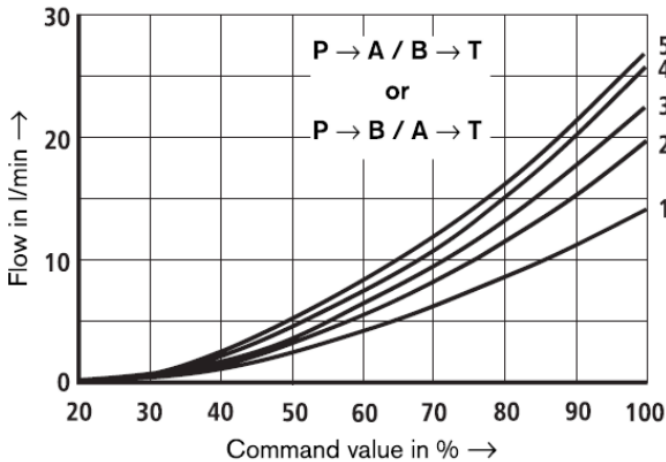
7 l/min nominal flow at 10 bar valve pressure differential



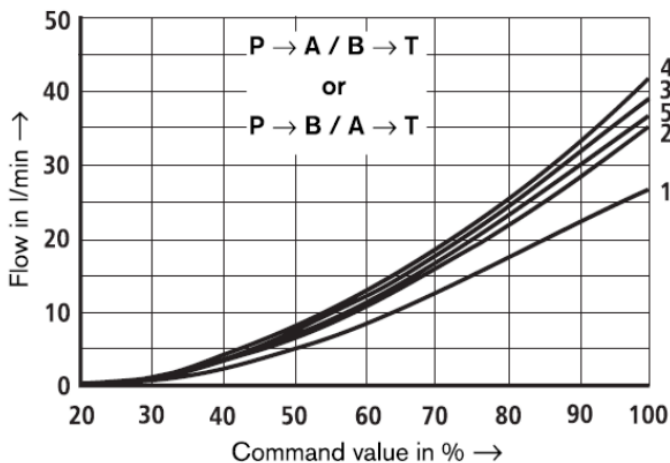
- 1  $\Delta p = 10$  bar constant
- 2  $\Delta p = 20$  bar constant
- 3  $\Delta p = 30$  bar constant
- 4  $\Delta p = 50$  bar constant
- 5  $\Delta p = 100$  bar constant

$\Delta p$  = Valve pressure differential (inlet pressure  $p_P$  minus load pressure  $p_L$  and minus return pressure  $p_T$ )

15 l/min nominal flow at 10 bar valve pressure differential



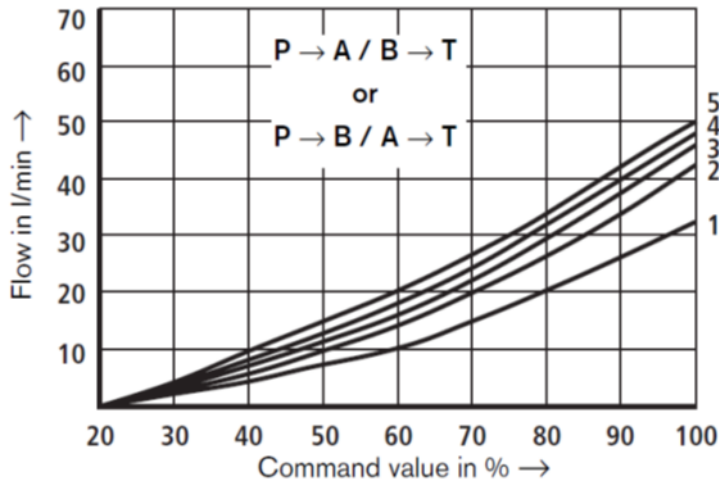
30 l/min nominal flow at 10 bar valve pressure differential



Note: measured with HLP46,  $\vartheta_{oil} = 40 \text{ }^\circ\text{C} \pm 5 \text{ }^\circ\text{C}$

**Feature Curve [ NG10 ]**

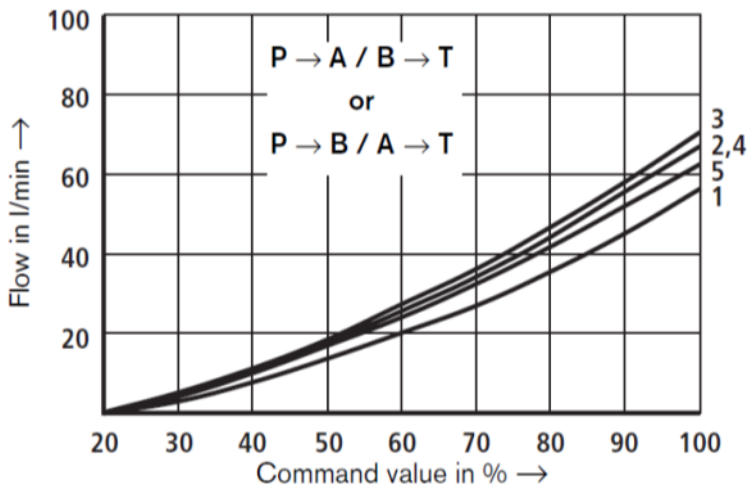
30 l/min nominal flow at 10 bar valve pressure differential



- 1  $\Delta p = 10$  bar constant
- 2  $\Delta p = 20$  bar constant
- 3  $\Delta p = 30$  bar constant
- 4  $\Delta p = 50$  bar constant
- 5  $\Delta p = 100$  bar constant

$\Delta p$  = Valve pressure differential (inlet pressure  $p_P$  minus load pressure  $p_L$  and minus return pressure  $p_T$ )

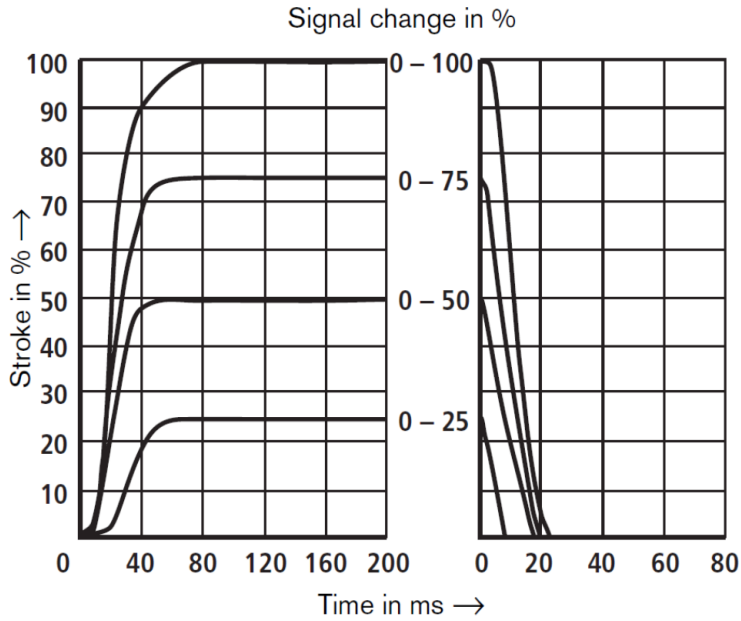
60 l/min nominal flow at 10 bar valve pressure differential



Note: measured with HLP46,  $\vartheta_{oil} = 40 \text{ }^\circ\text{C} \pm 5 \text{ }^\circ\text{C}$

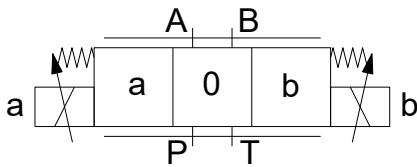
Transient functions with stepped form of electrical input signals

**Characteristic curves [NG6]**

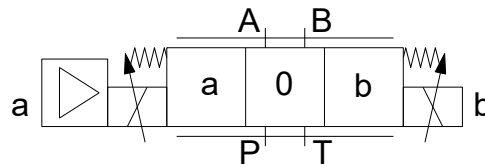


**Graphic Symbol**

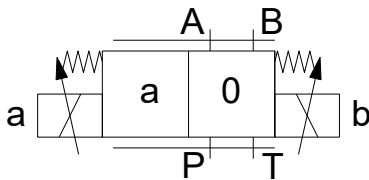
QDP



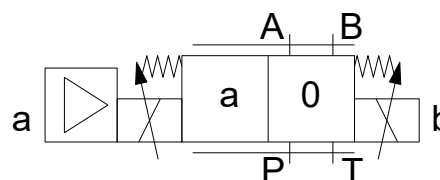
QDP-E



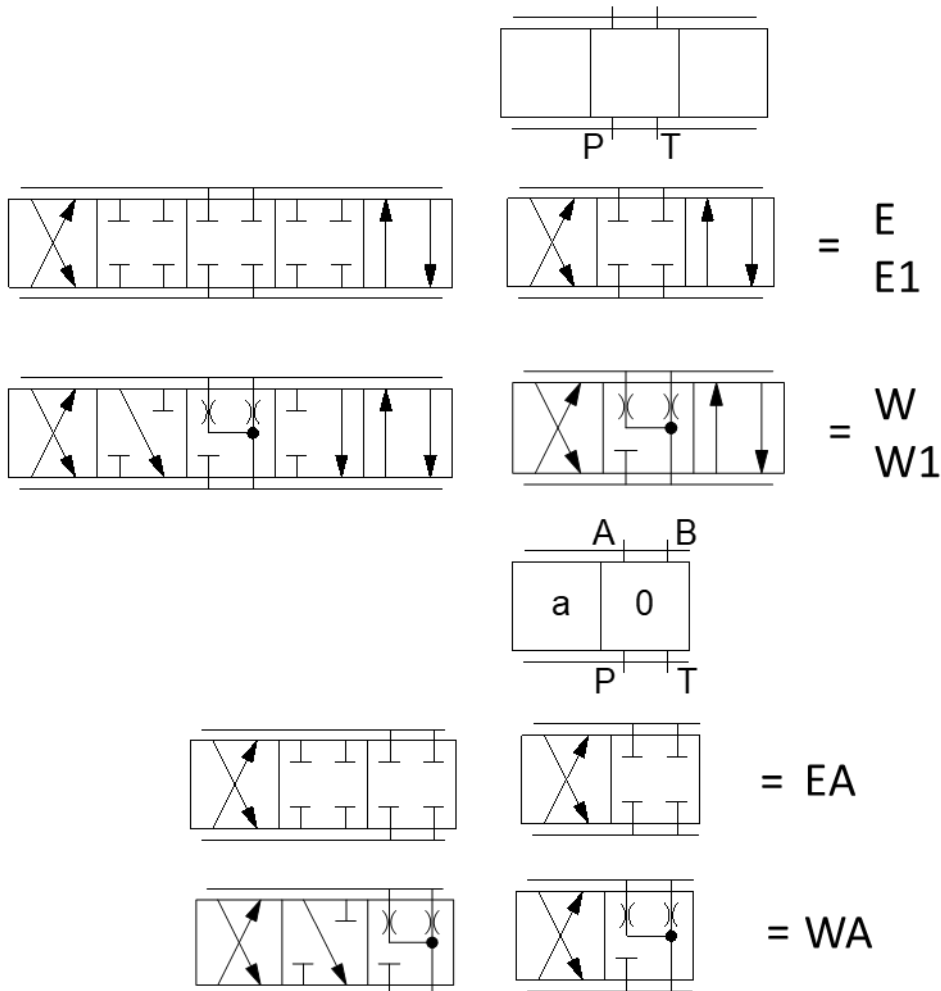
QDP-



QDP-



**Spool type**



With spool symbols E1- and W1-:

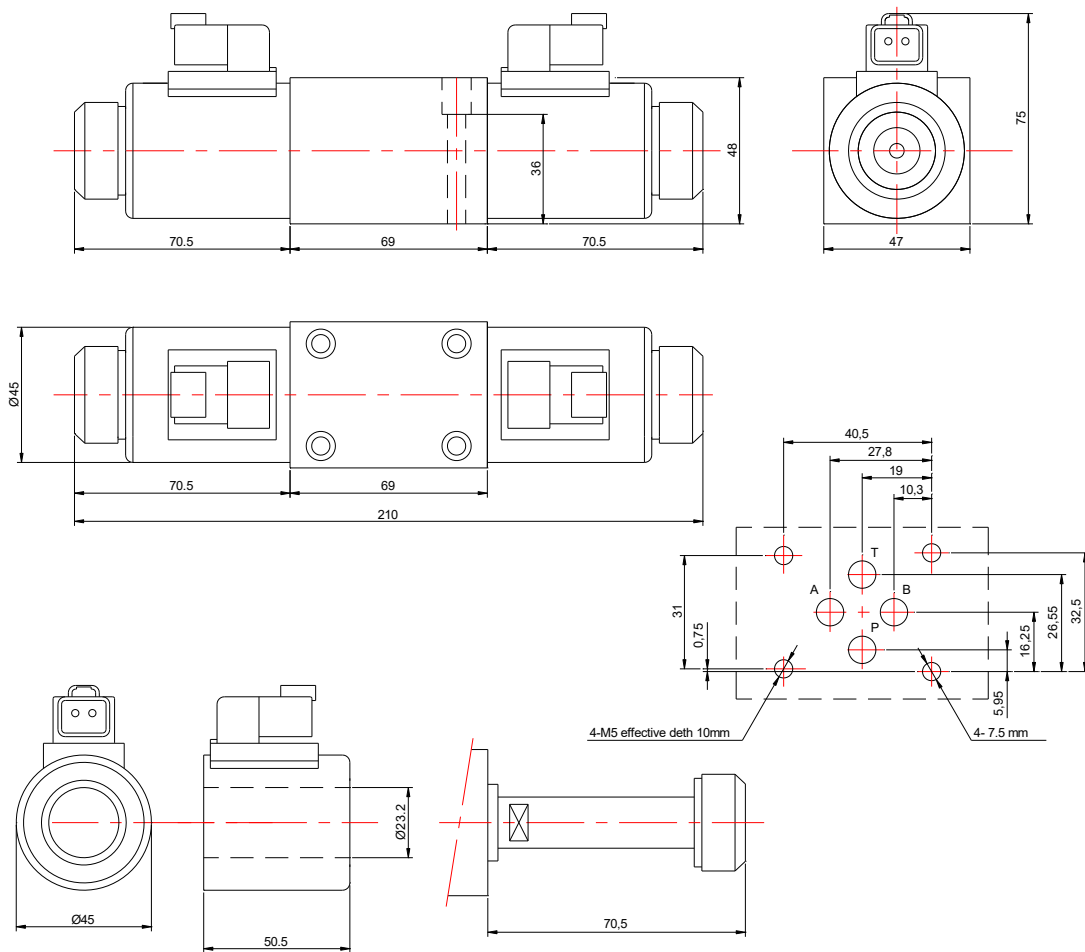
$P \rightarrow A: qV \text{ max } B \rightarrow T: qV/2$

$P \rightarrow B: qV/2 \ A \rightarrow T: qV \text{ max}$

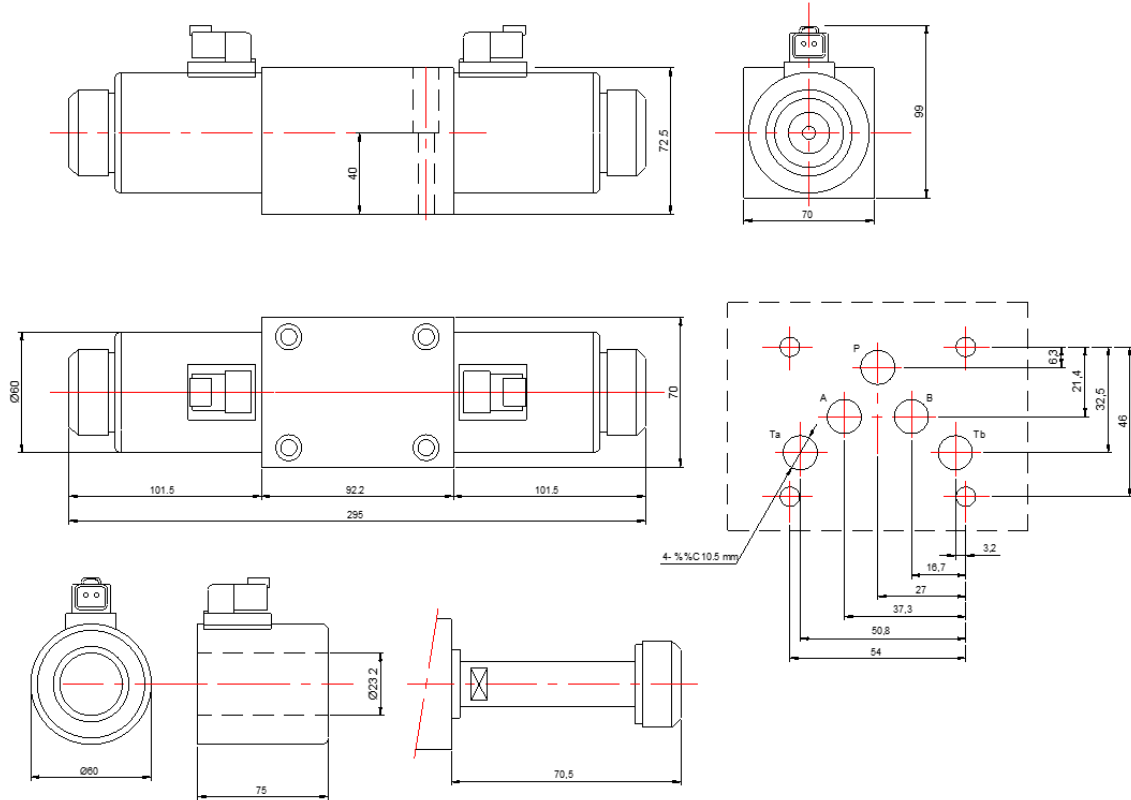
Note: With spools W and WA, in the neutral position, there is a connection from A to T and B to T with approx. 3% of the relevant nominal cross section.

**Installation Dimension**

**QDP-6**



### QDP-10



### Ordering codes (most frequently used)

Article code	Description	Voltage
QDP100001	QDP-6-001-30-24--F-P-F-X	24VDC
QDP100002	QDP-6-001-07-24--F-P-F-X	24VDC
QDPS100001	Sealing set QD size 6	
QDPS100002	Sealing set QD size 10	