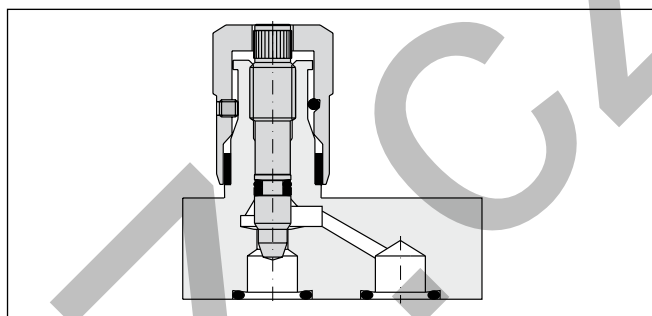
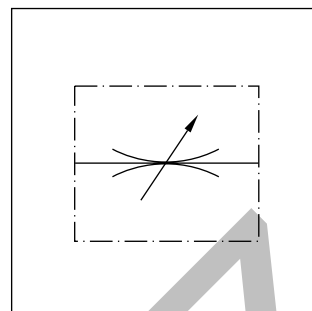
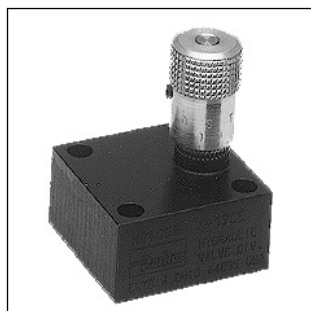


Manatrol shut-off and metering valves with 2 stage needle cone. Fine adjustment for the first stage can be achieved with 3 rotations of the adjustment knob. The second stage with normal throttle characteristics is achieved with 3 further rotations.

A cylindrical needle with a rectangular slot is provided to reduce the viscosity effect for sizes 400 and 600. The flow is dependent on pressure and viscosity.



Characteristic values

(only for standard 2 stage needle)

Size	Press. [bar]		Flow [l/min] Δp 10 bar	Max. cross- section [cm ²]	Kv factor valve open	Weight [kg]
	steel	brass				
400	210	140	25	0.13	6.3	0.4
600	210	140	40	0.22	11.2	0.6
800	210	140	50	0.28	13.9	1.0
1200	210	140	120	0.70	35.4	2.0
1600	210	35	250	1.48	75	4.0

$$\text{Flow rate } Q \text{ [l/min]} = K_v \cdot \sqrt{\frac{\Delta p}{\gamma}}$$

K_v from the table
 Δp [bar]
 γ [kg/dm³]
 (= specific weight of the medium
 (= 0.85 – 0.9)
 (γ for mineral oil)

Ordering code

Code	Size
400	400
600	600
800	800
1200	1200
1600	1600

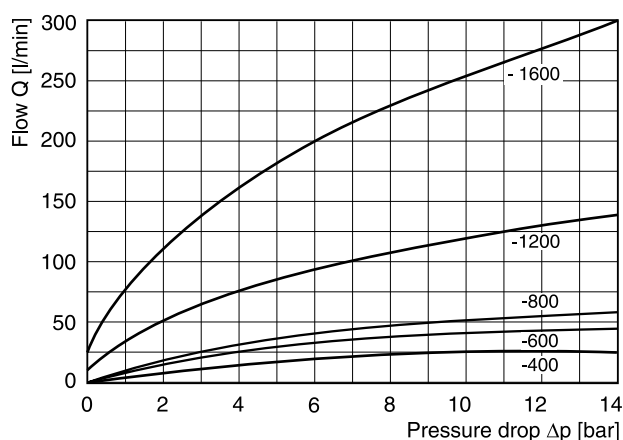
Code	Needle
omit	Standard 2 stage needle
4 ¹⁾	Micro-fine hollow needle with slot

Code	Seal
omit	NBR
V	FPM

Code	Clamping screw
omit	Hexagon socket
F	With knurled knob

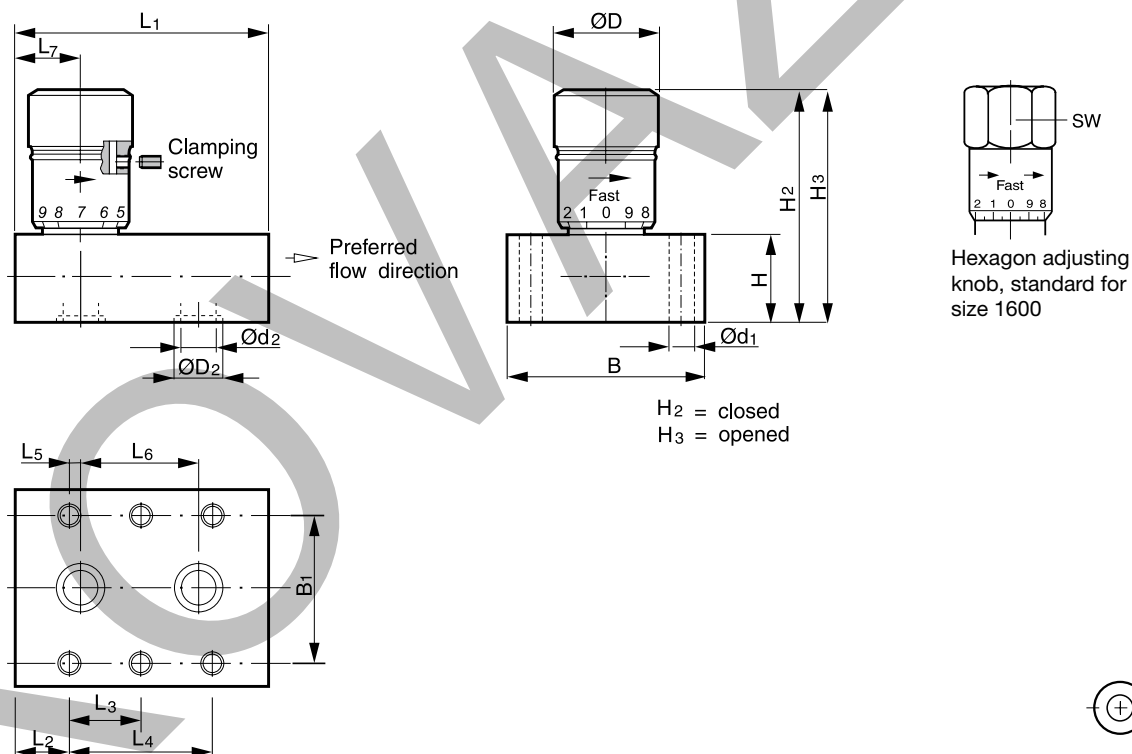
**Bold letters =
Short-term availability**

¹⁾ Only for sizes 400 to 600.

$\Delta p/Q$ curves

All characteristic curves measured with HLP46 at 50 °C.

Dimensions



Size	L1	L2	L3	L4	L5	L6	L7	B	B1	H	H2	H3	Ød1	Ød2	ØD2	ØD	SW
NS400	47.8	6.4	–	34.7	4.8	25.4	11.2	44.5	33.3	22.4	49.5	54.6	6.8	7.1	13.3	20.6	–
NS600	50.8	8.6	–	33.6	4.1	25.4	12.7	50.8	38.1	25.4	61.0	67.3	7.0	8.6	16.0	25.4	–
NS800	75.4	18.5	–	38.1	4.1	30.2	22.6	57.2	44.4	25.4	70.0	77.2	7.0	11.9	19.1	30.0	–
NS1200	93.7	8.6	38.1	76.2	11.2	54.4	19.8	69.9	54.1	28.4	79.3	94.5	9.5	16.8	24	34.8	–
NS1600	111.3	7.9	47.8	95.3	19.0	57.2	26.9	76.2	60.4	44.5	123.2	140.0	9.5	22.4	32	–	47.5

NS UK.indd 16.04.21