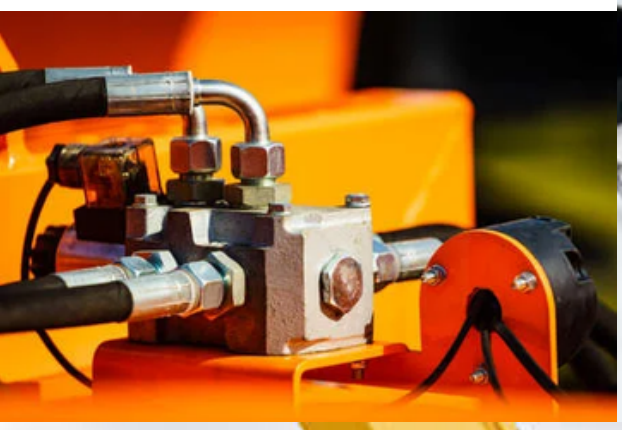


# HYDRAULIC VALVES

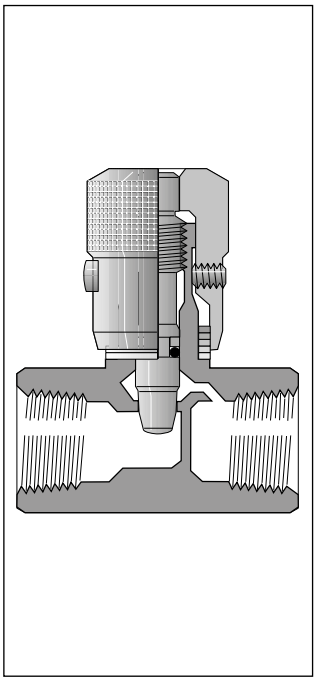

**TRIDENT PRECISION INTERNATIONAL**

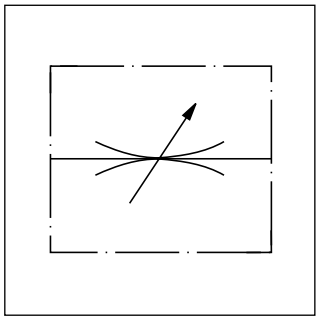
151, SECTOR-06,IMT MANESAR, GURGAON,HARYANA

122050

0124-4101151 WWW.TRIDENTPRECISION.IN sales@tridentprecision.in

Manatrol stop and throttle 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 200 up to 600. The flow is dependent on pressure and viscosity.





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

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

## Specifications

| | |
|---|---|
| Operating temperature | -40 °C to +121 °C |

## Ordering code

| Thread type | Needle valve | Thread size | Body | Needle | Clamping screw | Seal |
|---|---|---|---|---|---|---|
| ☐ | **N** | ☐ | ☐ | ☐ | ☐ | ☐ |

| Code | Thread |
|---|---|
| omit | NPTF |
| **9** | **BSPP** |

| Code | Size |
|---|---|
| **200** | **1/8** |
| **400** | **1/4** |
| **600** | **3/8** |
| **800** | **1/2** |
| **1200** | **3/4** |
| 1600 | 1 |

| Code | Body |
|---|---|
| **S** | **Steel** |
| B | Brass |

| Code | Seal |
|---|---|
| **omit** | **NBR** |
| V | FPM |

| Code | Clamping screw |
|---|---|
| **omit** | **Hexagon socket** |
| F | With knurled knob |
| T | Tamper-proof |

| Code | Needle |
|---|---|
| **omit** | **Standard 2-stage needle** |
| 4 [1] | Micro-fine hollow needle with slot |

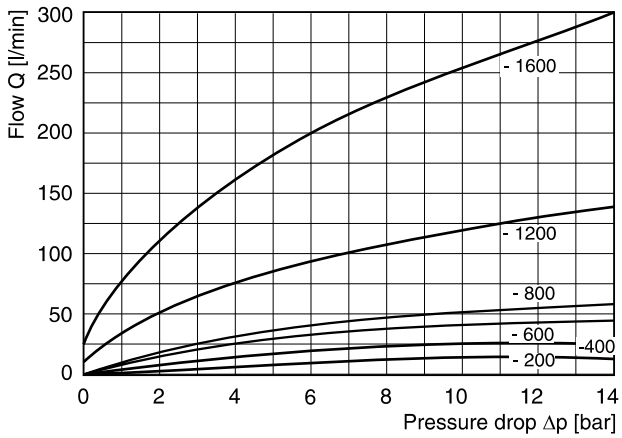
**Bold letters =**
Short-term availability

[1] Only for sizes 200 to 600

**Technical data** (only for standard 2 stage needle)

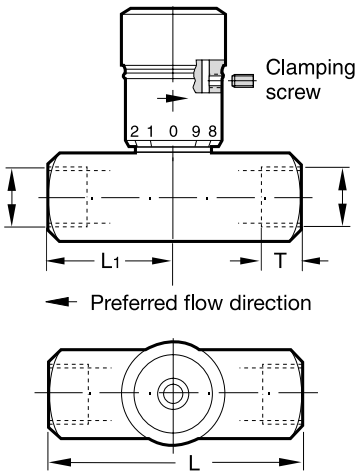
| Size | Pressure [bar] | | Flow [l/min] | Max. cross section | Kv factor valve | Weight [kg] |
|---|---|---|---|---|---|---|
| | Steel | Brass | | | | |
| 200 | 350 | 140 | 11 | 0.066 | 3.3 | 0.15 |
| 400 | 350 | 140 | 25 | 0.13 | 6.3 | 0.22 |
| 600 | 350 | 140 | 40 | 0.22 | 11.2 | 0.6 |
| 800 | 350 | 140 | 50 | 0.28 | 13.9 | 0.63 |
| 1200 | 350 | 140 | 120 | 0.70 | 35.4 | 1.04 |
| 1600 | 210 | 35 | 250 | 1.48 | 75 | 2.13 |

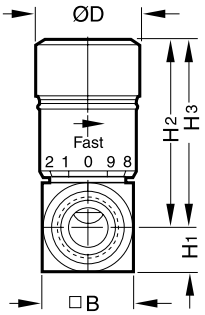
## p/Q curves



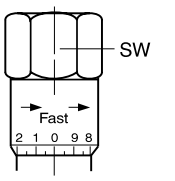

All characteristic curves measured with HLP46 at 50 °C.

## Dimensions

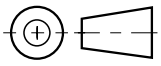



$H_2$ = closed
$H_3$ = open




Hexagon adjusting knob, standard for size 1600



| Size | R* Threads | H3 | H2 | H1 | B | L1 | L | ØD | SW |
|---|---|---|---|---|---|---|---|---|---|
| 200 | ⅛ | 39 | 35 | 8 | 16 | 16 | 38 | 19 | – |
| 400 | ¼ | 46 | 40 | 10.5 | 21 | 25 | 51 | 21 | – |
| 600 | ⅜ | 55 | 49 | 13 | 26 | 32 | 64 | 25 | – |
| 800 | ½ | 69 | 61 | 16 | 32 | 33 | 67 | 30 | – |
| 1200 | ¾ | 86 | 71 | 19 | 38 | 41 | 83 | 35 | – |
| 1600 | 1 | 124 | 107 | 22.5 | 45 | 54 | 108 | – | 47.8 |

* G or NPTF