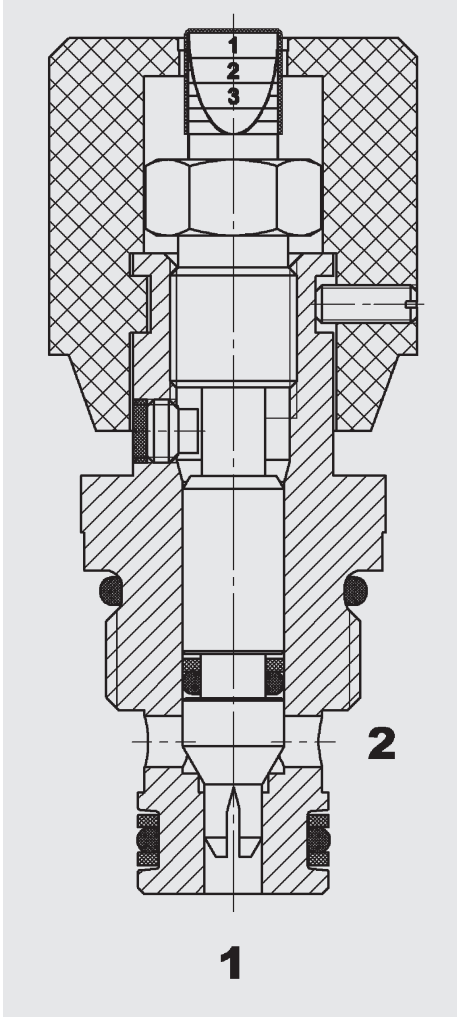


FUNCTION



The needle valve is a direct-acting valve which controls the flow rate by adjusting the cross section. The flow rate is dependent on the pressure differential and the viscosity. Starting with the control spindle in the fully closed position, the flow rate increases according to the relevant curve as the number of turns of the control knob is increased. The flow is controlled in both directions. The scale and coloured rings on the top of the control knob enable accurate repeat setting.

Note: Spindle slightly open on delivery.

Needle Valve Direct-Acting Metric Cartridge – 350 bar DV5E

FEATURES

- For regulating the speed of loads
- For fine adjustment and shut-off of the flow
- For system-related damping in hydraulic circuits
- Spindle secured to prevent complete loosening
- An Allen set-screw locks the setting of the knob
- Optional zinc-plated version available

SPECIFICATIONS*

Operating pressure:	max. 350 bar
Nominal flow:	max. 30 l/min
Media operating temperature range:	min. -20 °C to max. +80 °C
Ambient temperature range:	min. -20 °C to max. +80 °C
Operating fluid:	Hydraulic oil to DIN 51524 Part 1, 2 and 3
Viscosity range:	min. 2.8 mm ² /s to max. 800 mm ² /s
Filtration:	Class 21/19/16 according to ISO 4406 or cleaner
MTTF _d :	150 - 1200 years, according to DIN EN ISO 13849-1
Installation:	No orientation restrictions, preferably horizontal
Materials:	Valve body: steel Piston: steel Seals: FKM (standard) NBR (optional, media temperature range -30 °C to +80 °C)
	Back-up rings: PTFE
Cavity:	06020 metric
Weight:	0.11 kg

* see "Conditions and instructions for valves" in brochure 53.000

MODEL CODE

DV5E - 01 X

Basic model

Needle valve, metric

Type

- 01 = standard (phosphated, seals FKM)
- 02 = zinc-plated, seals NBR
- 04 = zinc-plated, seals FKM
- 11 = fine throttle spindle (phosphated, seals FKM)

Series

(determined by manufacturer)

Standard models

Model code	Part No.
DV5E-01X	710300
DV5E-02X	3139707
DV5E-04X	3094196
DV5E-11X	710302

Other models on request

Standard in-line bodies

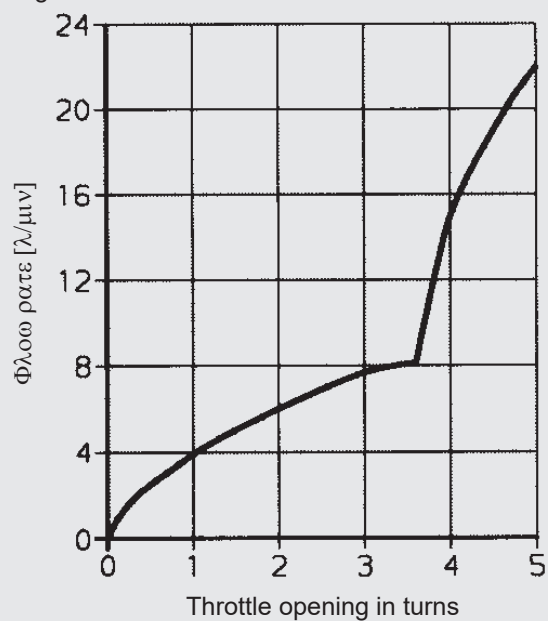
Code	Part No.	Material	Ports	Pressure
R06020-01X-01	275266	Steel, zinc-plated	G3/8"	350 bar
R06020-10X-01	276842	Steel, zinc-plated	G3/8"	350 bar

Seal kits

Code	Part No.
SEAL KIT 06020-NBR	3119017
SEAL KIT 06020-FKM	3262477

TYPICAL PERFORMANCE

Opening characteristics



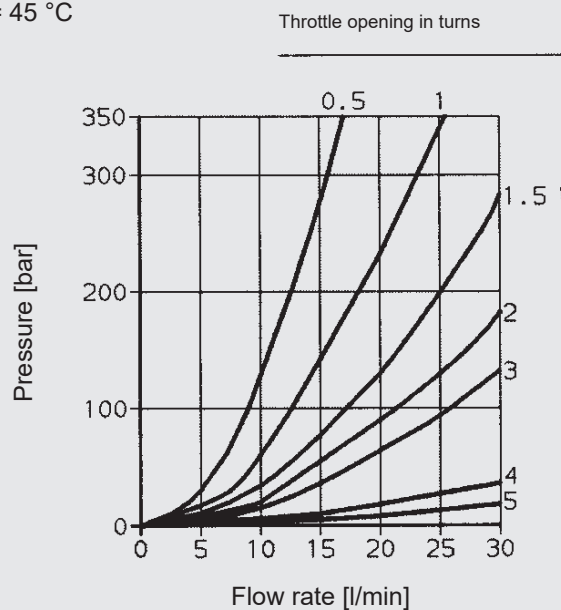
$\Delta p = 10 \text{ bar} = \text{constant}$

Pressure drop, dependent on flow rate

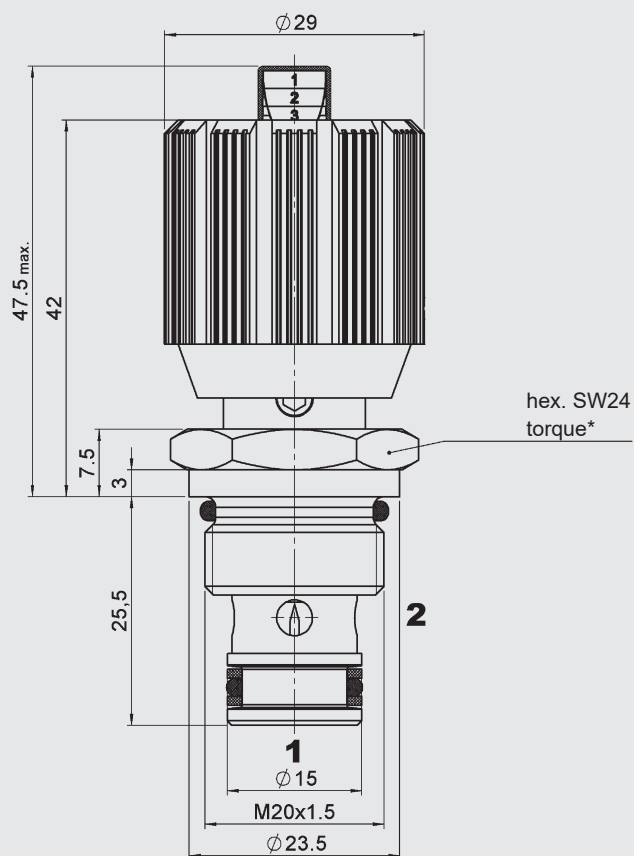
DV5E-01X

measured at $v = 36 \text{ mm}^2/\text{s}$

$T_{\text{oil}} = 45^\circ\text{C}$



DIMENSIONS



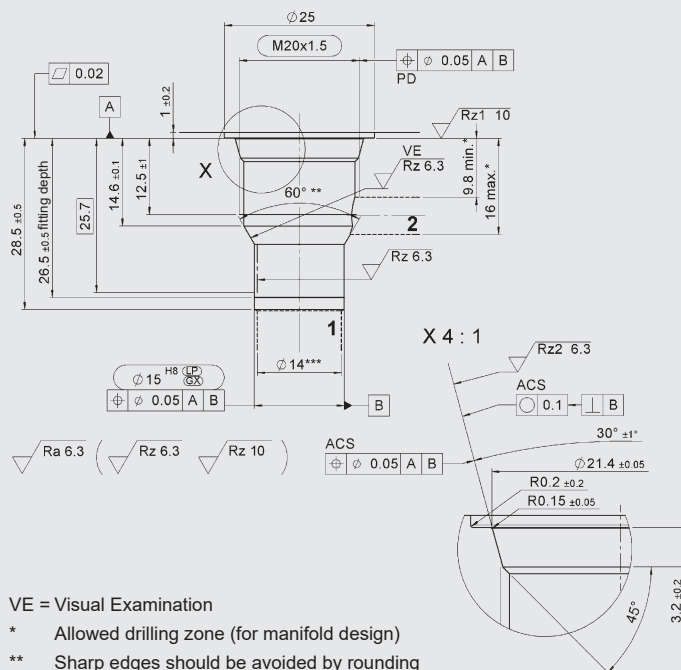
*Torque:

Steel manifold
(ultimate tensile strength < 360 N/mm²): 40 Nm
Aluminium manifold
(ultimate tensile strength < 330 N/mm²): 35 Nm
(tool acc. to DIN EN ISO 6789, tool type II class A or B)
For further information see brochure No. 53.000
"Conditions and instructions for valves"

Millimeter
Subject to technical modifications

CAVITY

06020



VE = Visual Examination

- * Allowed drilling zone (for manifold design)
- ** Sharp edges should be avoided by rounding to a radius of 0.1 mm to 0.2 mm
- *** largest pre-drilling diameter (nominal tool diameter)

Form tools

Tool	Part No.
Countersink	170033
Reamer	1000768
Tap	1002648
Plug gauge	168840

Millimeter
Subject to technical modifications