SCHIEDRUM

2-WAY FLOW CONTROL VALVE
analogue control – subplate mounting NG 6
mounting surface to ISO 6263
**Special equipment**

Type

20 K . M18

2–way flow control valves are flow valves (throttle valves) with integrated pressure balance. The valves control an adjustable volume flow independently of pressure modification in the inlet or outlet line automatically to obtain a constant value. They can be mounted on the inlet or outlet side of the consumer. Due to the screen – like design of the adjusting throttle, the value is largely independent of the fluid viscosity.

FEATURE
- setting angle 300°
- 7 rated setting volume flow ranges
- assembly on connection plates with pipe joints or control block
- with by-pass return valve
- standard sealing material Buna N / NBR, other materials possible
- for volume flow control in both flow directions, volume flow rectifier
  boards type 71 can be delivered.

CHARACTERISTICS of the special equipment M 18
Valves in modified execution M 18 are valves without a rotary knob.
The valve can be adjusted with a hexagonal key. A frequent adjustment should be avoided.
When desired an accurate adjustment can be made by the factory.
To the valve belongs a cap, which can be attached and verplombt after adjusting.

mounting surface to ISO 6263
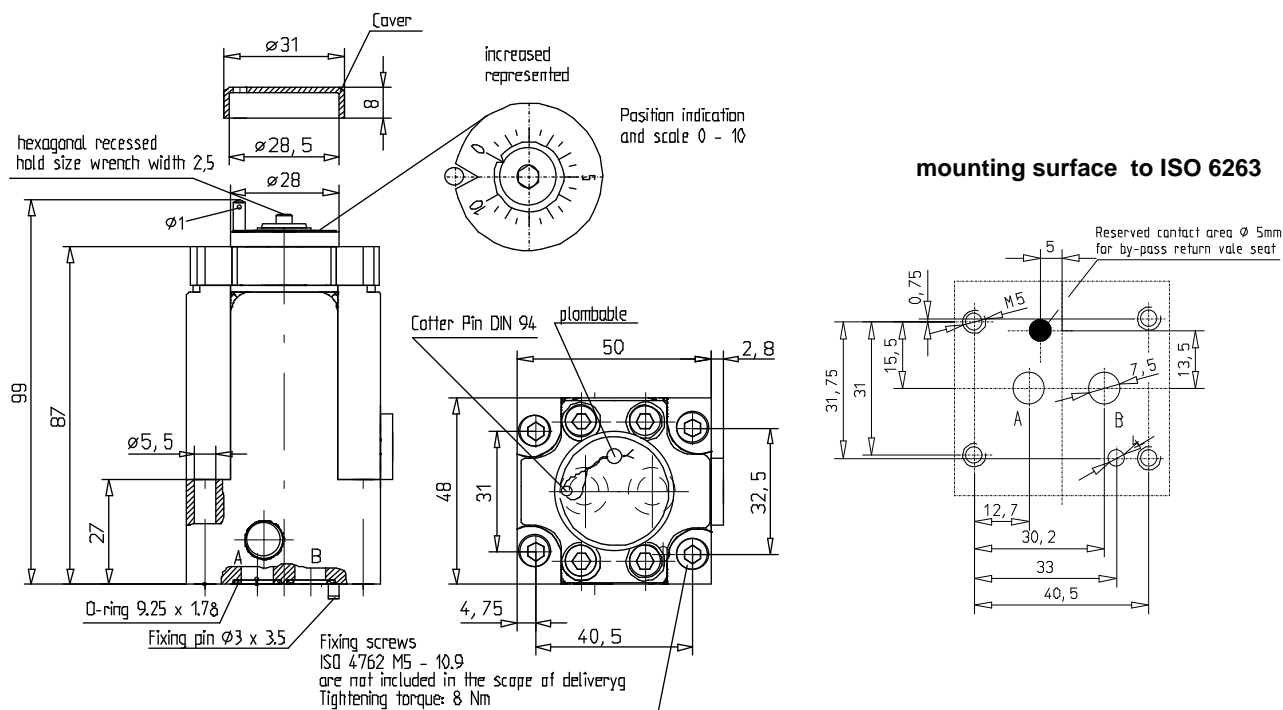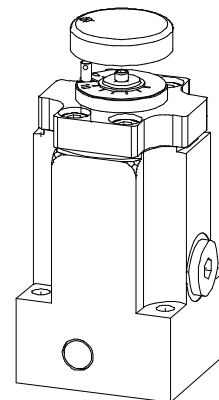
ORDER INFORMATION
The scope of delivery of the flow-control valve includes the 0 – rings for sealing the connecting holes and hexagonal pin spanner.

Bezeichnung ──── | **2-Wege-Stromregelventil** | **20** | **K** | **25** | **M18** |

Type series
Series code letter
Rated adjustment volume flow in L/min 0,4; 1,0; 2,5; 6,3; 10; 16; 25
Supplementary data for special models

ACCESSORY

Valve fastening screw set: Order-No.: 44-020-00928
4 pcs. hexagon socket head cap screws   M 5 x 35 -10.9 ISO 4762

Connecting plates – Order-No.:   see dimension sheet   9-74-030-2002

Flow rectifier plates: see dimension sheet   71 CCZ (9-74-071-1016)

Valve fastening screw set: for combination with rectifier plates
Typ 71 CCZ: Order-No.: 44-020-00921
4 pcs. hexagon socket head cap screws   M 5 x 75 -10.9 ISO 4762

CHARATERISTICS

1.General

Symbol

$$A \rightarrowtail \vartriangleright\!\!\!\vartriangleleft B$$
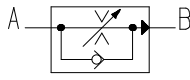
Design	Adjustment throttle: flat rotary valve with triangular notch, screen–like design
	Differential pressure valve: switched in series with the adjustment throttle
	Return valve: spring-loaded ball valve
Weight	1,2 kg
Mounting position	any, preferably vertical
Direction of volume flow	A to B controlled, B to A unthrottled return flow
Ambient temperature	-25℃ to +80℃

2.Hydraulic characteristics

|	
Nominal pressure / Max. pressure	315 bar for all connections
Hydraulic fluid	Hydraulic oil according to DIN 51 524 (1,2)
Hydraulic fluid temperature rage	-20℃ to +70℃
Viscosity range	5 – 350 mm²/sec
Rated volume flow range	0,4; 1,0; 2,5; 6,3; 10; 16; 25 l/min
Min. adjustable and controllable	approx. 15 cm³/min
Volume flow check valve	40 l/min
Contamination level/filtering	General permit table class 18/15 according to ISO 4406 or 9 according NAS 1638 (recommended filter: min. retaining rate $\beta_{10-15} \geq 75$)

3.Type of actuation

Hand-operated control over hexagonal pin spanners

CHARACTERISTICS

Q-S characteristic line; Q=f (scale setting)

Fig. 1 shows a typical dependency of the volume flow as a function of the valve setting angle or the control knob scaling (the scare is linear).
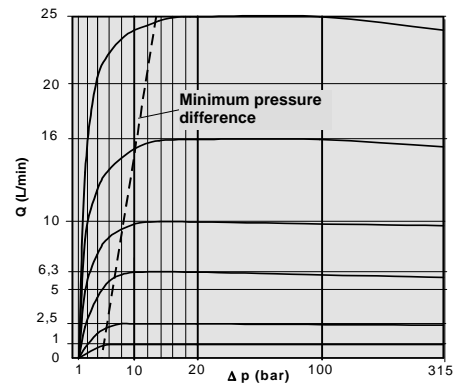

Abb.1
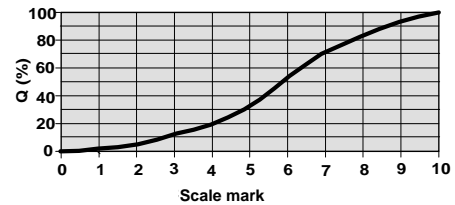
Q-Δp characteristic line; Q=f (Δp)

Fig. 2 shows the control behaviour of the valve for the volume flow direction A to B for the various rated flow volume ranges as well as the minimum pressure difference required for the function.

For applications in excess of the given specification, please contact Schiedrum. All specified parameters are partially based on long user´s experience and partly on measurements made in laboratories. The data are typical of the valve and can deviate in series. All measurements were carried out on a test stand with an oil viscosity of 36mm²/sec and a filter mesh of < 10 μm. All data given here should be used as description of the product only and they are not to understand as warranty in the sense of law.

Abb. 2

Δp-Q characteristic line; Δp=f (Q)

Fig. 3 shows the pressure loss of the valve for the volume flow direction B to A through the by-pass return with the setting screen closed.

Abb. 3
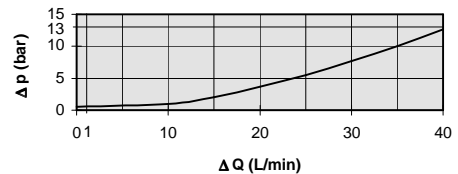
Q-t- characteristic line; Q = f (t, p = constant)

Fig. 4 shows the volume flow change depending on the oil temperature at a constant pressure difference of 100 bar for 3 different setting values. Measured using hydraulic oil HLP 46 (ISO-VG 46)=46mm²/sec. at 40℃. For longer volume flo ws, the temperature influence becomes smaller. For smaller flow, low viscosity oils result in smaller volume flow deviations.

Abb. 4

Subject to chances for further development.