2-WAY FLOW CONTROL VALVE

motor-controlled with DC motor for remote control
Subplate mounting NG 8 - 210 bar up to 16 l/min

Type

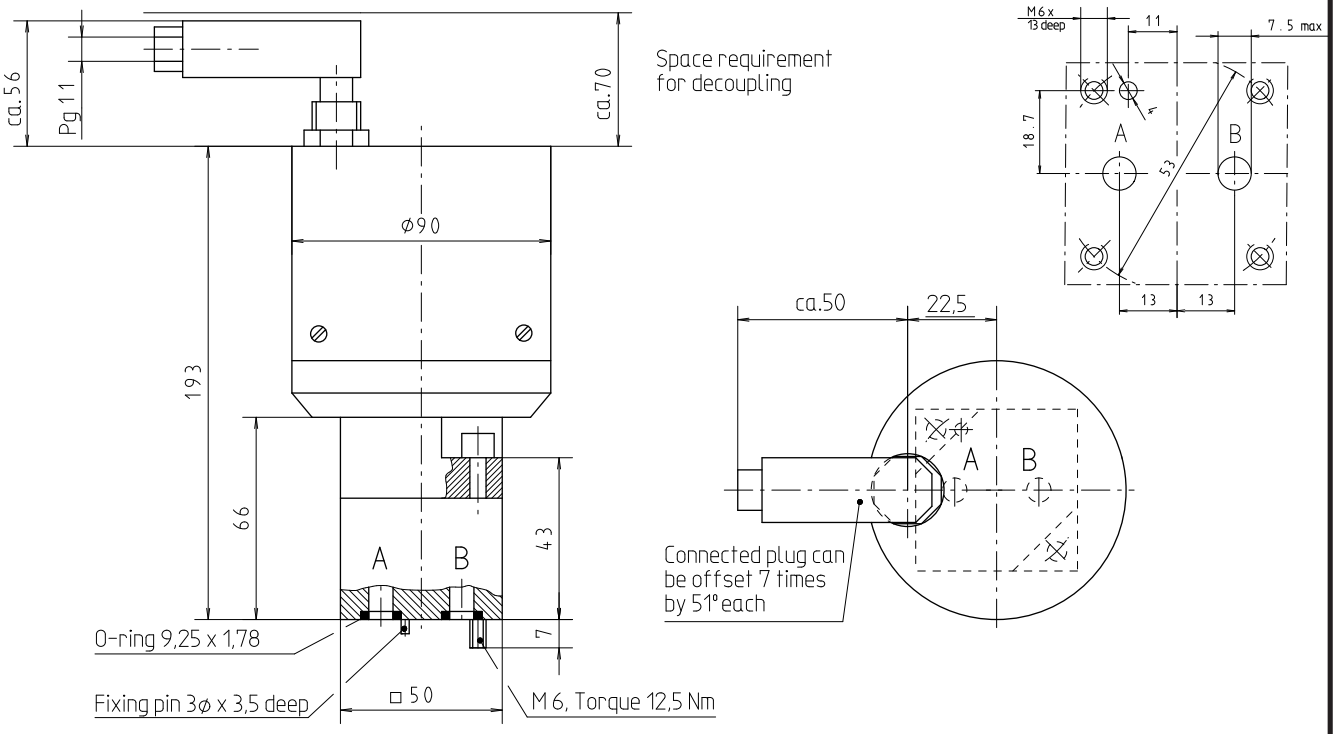
265 D - DC

2-way flow control valves are flow valves (throttle valves) with integrated pressure regulator. The valves automatically control an adjustable volume flow independently of pressure variations in the supply or discharge line to make it constant.

FEATURES

- Connecting voltage 12V - DC / 24 V - DC
- Stroke limits by means of limit switches
- Adjustable control cams
- Optional potentiometer of electrical position display
- Fail-safe behavior: valve keeps the last position in case of a power failure
- No electrical temperature drift
- Floating time approx. 16 sec at 12 V; approx. 8 sec. at 24 V
- Volume flow signal function: linear
- 3 setting volume flow ranges
- Mounting surface according to Schiedrum internal standard
- Assembly on subplates with pipe connections or control block
- With by-pass check valve
- Standard sealing material Buna N / NBR
- For volume flow control in both flow directions, volume flow rectifier plates type 71 are available

mounting surface



ORDER INFORMATION

The scope of delivery of the flow control valve includes the O-rings for sealing the connecting holes and connecting plugs plus two fixing screws M 6 x 50 DIN 912 - 10.9.

Name	2-way-flow control valve	265	D	DC ⏚ ⏚	

Type

Series (ID)

Valve activation with DC

Rated adjustment volume flow: L/min (see operating data)

Actuator variant: with potentiometer = **1**
without potentiometer = **2**

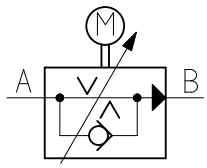
Supplementary data for special models
e. g. special sealings from Viton (FKM) = M 15

ACCESSORY

Subplates	see dimension sheet 9-74-020-0047
Flow rectifier plates	see dimension sheet 71-5 (9-74-071-1004)
Control device (with or without position indicator)	see dimensions sheet StS - 02 (9-74-002-0003 and 9-74-002-0004)

OPERATING DATA

1. General

Symbol	
Construction	Adjustment restrictor: rotary valve with radial slit, orifice-type Differential pressure valve: switched in series with the adjustment restrictor Check valve: spring loaded ball valves
Weight	Valve: 3 kg;
Mounting position	Any, preferably vertical
Volume flow direction	A to B controlled; B to A unrestricted return flow
Environmental temperature	-25°C to +50°C
Floating time	Qmin to Qmax approx. 8 sec. at 24 V; 16 sec. at 12 V

2. Hydraulic operating data

Nominal pressure / max. pressure	210 bar, p min.: see Fig.2
Pressure medium	Hydraulic oil according to DIN 51 524 (1,2)
Pressure fluid temperature range	-20°C to +60°C
Viscosity range	5 - 350 mm^2/s
Rated variable volume flow	1; 1,6; 2,5; 4; 6,3; 10; 16 l/min
Min. variable and controllable volume flow	approx. 10 - 15 cm^3/min
Contamination degree / filtering	Class 18/15 according to ISO 4406 or 9 according to NAS 1638 (recommended filter: minimum retention rate $\beta_{10\text{-}15} \geq 75$)
Max. permissible volume flow via the check valve	30 l/min max.

3. Operating principle

Electric-motor controllable

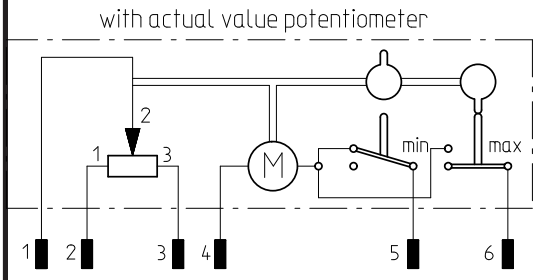
3.1 Motor

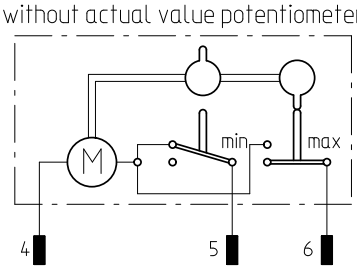
Type	DC motor
Rated voltage	24 V - DC / operating voltage range approx. 6 - 24 V DC
Current consumption	approx. 0,1 A / starting current 0,25 A
Power consumption	approx. 2 W
Duty cycle	100%

3.2 Potentiometer for position indication

Type	Rotation potentiometer with wire-wrapped resistance element
Permissible load	2 W at 40°C; 0 W at 105°C
Independent linearity	+/- 1,0%
Resistance value	1 K Ohm +/- 10%
Max. operating voltage	44 V at 40°C

Circuit diagrams





legend

Pin	potentiometer	
1	U outlet	
2	0 V	
3	U supply +	
	valve adjustable	
	Q min	Q max
4	6...24VDC	0 V
5	0 V	without circuit
6	without circuit	6...24VDC

3.3 Limit switches

Contact system	single-pole change-over switch
Switching system	Surge circuit
Switching capacity	4 A; 250 V

3.4 Protective system (according to DIN 40 050)

IP 54

3.5 Connection type

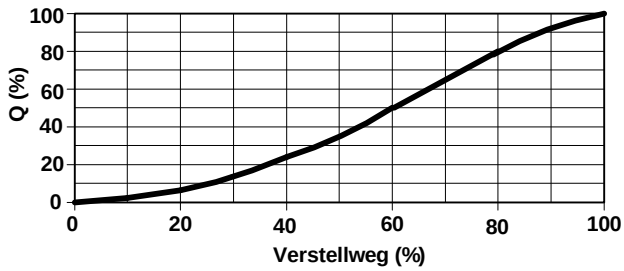
Plug connection according to DIN 43 651

Cable diameter	7...9 mm
Wire gauge	0,5 mm^2

CHARCTERISTICS

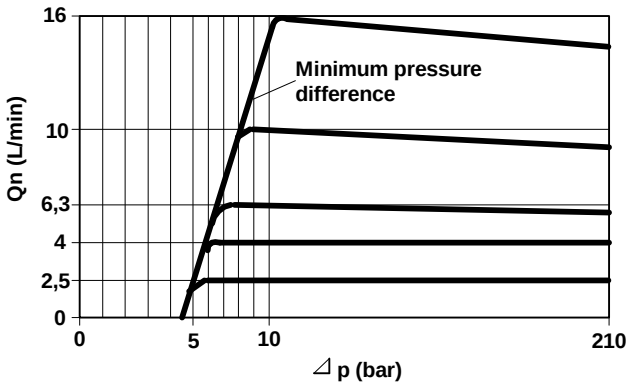
Q-s-characteristic; Q = f (setting part s; %)
Fig. 1 shows the dependency of the volume flow as a function of the regulation distance.

Fig. 1



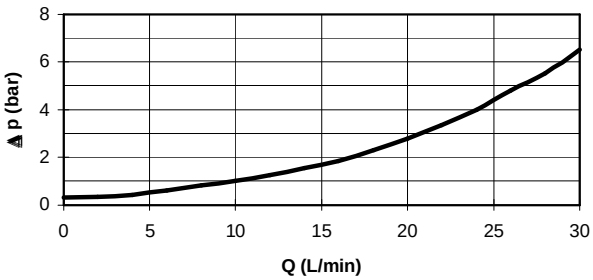
Q-Δp-characteristic; Q = f (Δp)
Fig. 2 shows the control characteristic of the valve for the volume flow direction **A** to **B** for the various rated variable flow, as well as the minimum pressure difference required for this function.

Fig. 2



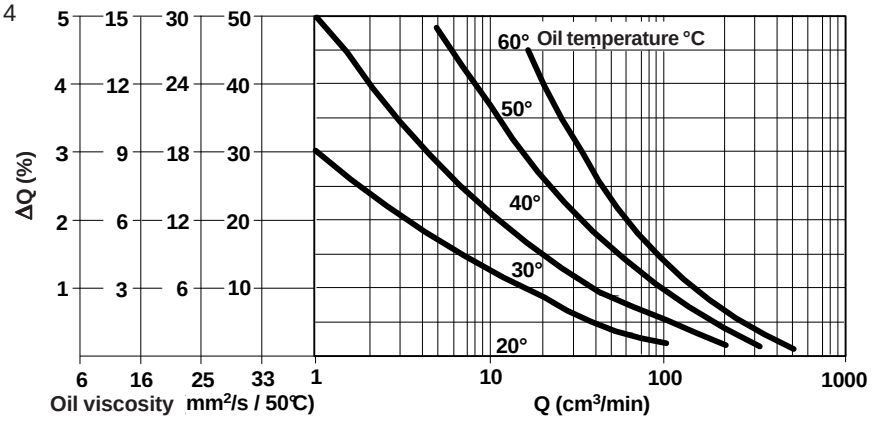
Δp-Q-characteristic; Δp = f (Q)
Fig. 3 shows the pressure loss of the valve for the volume flow direction **B** to **A** through the by-pass check valve with the adjustment restrictor closed.

Fig. 3



Temperature influence
Figure 4 shows the variation in flow rate ΔQ in relation to the oil temperature for 4 different oil viscosity's. In this case, ΔQ is the increase in flow rate as a percentage of the preset flow rate with an oil temperature of 20° C. The sensitivity to temperature cannot be perceived for moderate and heavy flow rates. Thin oils give the lowest variations in flow rate for low flow rates and great variations in temperature.

Fig. 4



For applications in excess of the given specifications, please contact Schiedrum.

All other parameters specified are based on long years of experience and laboratory - type measurements. The data are typical and may slightly deviate depending on the valve series. All measurements were carried out on a test stand with an oil viscosity of 36 mm²/s and with a filter mesh of < 10 µm. All data given should be used as description for the product only and they are not to understand as warranty (zugesicherte Eigenschaften) in the sense of law.