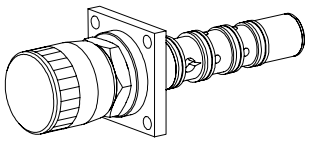
3-way flow control valve
Slip-in cartridge
- Q_{max} = 22 l/min
- $Q_{N\ max}$ = 20 l/min
- p_{max} = 250 bar

NG6

Wandfluh standard



DESCRIPTION

3-way flow control valve in slip-in cartridge for cavity acc. to Wandfluh standard. The valve is available in two different setting versions: turning knob and lockable type EWA. In its standard form, this regulating valve will be supplied with one nominal volume flow range. The cartridge body is made of steel and phosphatized. The aluminium turning knob is colorless anodized.

FUNCTION

The 3-way flow control valve is designed to keep the oil flow to any actuator constant irrespective of the load. Surplus volume flow will be diverted to the tank line thus saving energy and preventing an overheating of the hydraulic system. By turning the knob of the variable restrictor the volume flow can be adjusted. If the pressure in the system changes the pressure compensator will change the diameter of the oil passage in order to keep the pressure difference on the measuring orifice constant.

APPLICATION

Flow control valves are suitable for precise feed control system where the supply volume flow needs to be kept constant even when the load fluctuates. Installation of the screw-in cartridge in control blocks as well as in the Wandfluh sandwich plates and flange valves of the NG6 size as a functional element. (please refer to the separate data sheets in register 2.5).

CONTENTS

TYPE CODE

MR603 - 20 - ☐ # ☐

- MR603: 3-way flow control valve, Turning knob adjustment
- 20: Nominal volume Q_N = 20 l/min
- ☐: Additional marking for lock adjustment — EWA
- ☐: Design-Index (Subject to change)

GENERAL SPECIFICATIONS

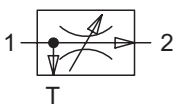
Description	3-way flow control valve
Construction	Slip-in cartridge for cavity acc. to Wandfluh standard
Mounting	Slip-in cartridge, 4 cyl. screws M5
Ambient temperature	-20...50° C
Mounting position	any
Fastening torque	M_D = 5,5 Nm (qual. 8.8)
Weight:	m = 0,5 kg (knob) m = 0,7 kg (lock)

HYDRAULIC SPECIFICATIONS

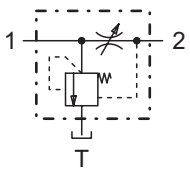
Fluid	Mineral oil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 18/16/13 (Required filtration grade ß6...10≥75) refer to data sheet 1.0-50/2
Viscosity range	12 mm²/s...320 mm²/s
Fluid temperature	-20…+70° C
Peak pressure	p_{max} = 250 bar
Nominal volume flow rate	Q_N = 20 l/min
Min. volume flow	Q_{min} = 0,02 l/min
Max. volume flow	Q_{max} = 22 l/min
Control accuracy	≤ 1%

SYMBOLS

simplified



detailed



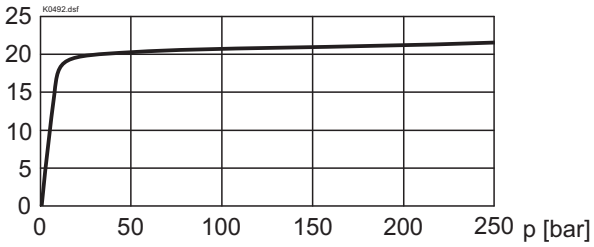
CONTROL

Mechanical types of operation in 2 different versions:

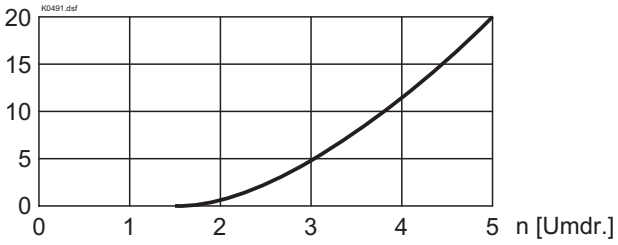
no remark	= Knob adjustment interlockable
EWA	= Lock adjustment

CHARACTERISTICS oil viscosity υ = 30 mm²/s

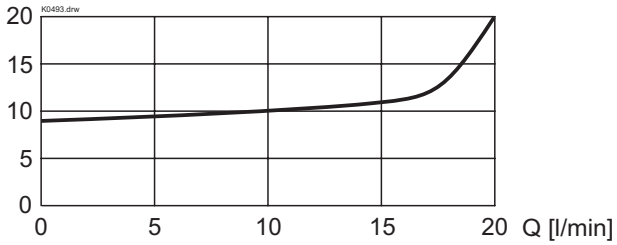
Q = f (p) Volume flow pressure characteristic



Q = f (n) Volume flow adjustment characteristics

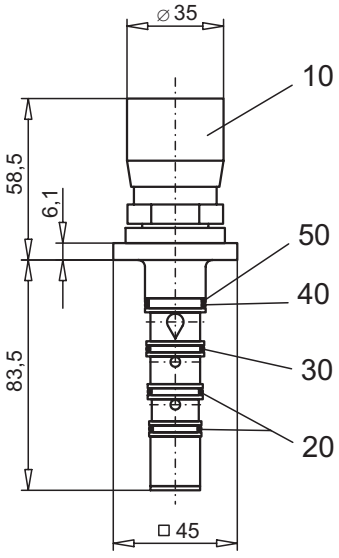


Δp = f (Q) Pressure drop volume flow characteristic over pressure compensator 1 → 2

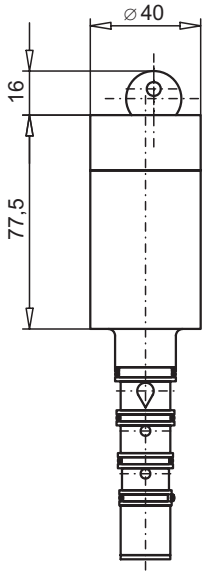


DIMENSIONS

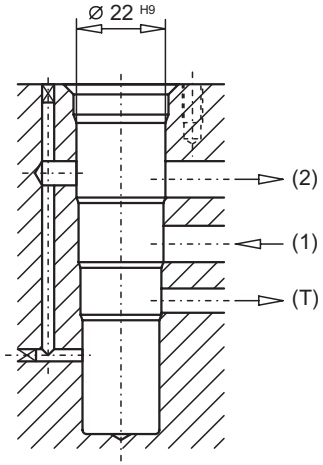
Knob adjustment



Lock adjustment



Cavity drawing acc. to Wandfluh standard



For detailed cavity drawing, see data sheet 2.13-1031

PARTS LIST

Position	Article	Description
10	114.1201	Turning knob
20	160.2156	O-ring ID 15,60x1,78
30	160.2170	O-ring ID 17,17x1,78
40	160.2188	O-ring ID 18,77x1,78
50	49.3226	Back-up ring RD 19,1x22x1,4

ACCESSOIRES

Cartridge built-in flange- or sandwich plates
Flange / sandwich valves — Register 2.5

Technical explanation see data sheet 1.0-100E