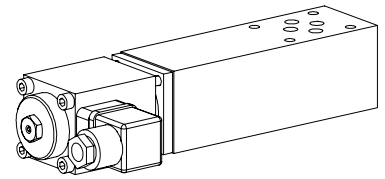


**Proportional 3-way flow control valve  
 Flange- and sandwich construction**

- Direct operated, pressure compensated
- $Q_{max} = 22 \text{ l/min}$ ,  $p_{max} = 250 \text{ bar}$
- $Q_{Nmax} = 20 \text{ l/min}$

**NG6**  
 ISO 4401-03


**DESCRIPTION**

Direct operated, pressure compensated proportional flow control valve flange- and sandwich construction. Mounting interface to ISO 4401. Fitted with slip-in cartridge EMR603 (see data sheet 2.6-683). 3 nominal volume flow ranges are available. The volume flow is adjusted by a proportional solenoid (VDE standard 0580). A progressive increase in volume flow and reduced hysteresis are characteristic of this valve. A bypass non-return valve plate for the flange valve, for free flow from B to A can be ordered separately. The flange body is painted, the sandwich plates and the outside parts are phosphatised. The solenoid is zinc coated.

**FUNCTION**

The 3-way flow control valve is designed to keep the oil flow to any actuator constant irrespectiv of the load. The force controlled proportional solenoid running in the fluid acts directly on the control spool wich opens the triangular shaped throttling notches in the cartridge body. The throttle opening, and therefore the flow volume changes proportionally to the current absorption of the proportional solenoid. When the solenoid is without courent, the control spool is held in the closed position by a spring. To control the valve proportional amplifiers are available from Wandfluh (see register 1.13).

**APPLICATION**

Proportional 3-way flow control valves are used where the supply volume flow needs to be kept constant even when the load fluctuates.

**CONTENTS**

GENERAL SPECIFICATIONS .....	1
HYDRAULIC SPECIFICATIONS .....	1
ELECTRICAL SPECIFICATIONS .....	1
CHARACTERISTICS .....	2
TYPE CHARTS/ DIMENSIONS .....	2
PARTS LIST .....	2
ACCESSORIES .....	2

**TYPE CODE**

	A EMR <input type="checkbox"/> 6 / 3 - <input type="checkbox"/> - <input type="checkbox"/> # <input type="checkbox"/>								
International mounting interface ISO	<input type="checkbox"/>								
Proportional flow control valve	<input type="checkbox"/>								
Flansch construction	<input type="checkbox"/> N								
Sandwich constructions in P	<input type="checkbox"/> no remark								
Nominal size 6	<input type="checkbox"/>								
3-way function	<input type="checkbox"/>								
Nominal volume	<table border="0" style="width: 100%;"> <tr> <td><math>Q_N = 6,3 \text{ l/min}</math></td> <td><input type="checkbox"/> 6,3</td> </tr> <tr> <td><math>Q_N = 12,5 \text{ l/min}</math></td> <td><input type="checkbox"/> 12,5</td> </tr> <tr> <td>Additional only at sandwich construc.</td> <td><math>Q_N = 16 \text{ l/min}</math></td> </tr> <tr> <td>Additional only at flange construc.</td> <td><math>Q_N = 20 \text{ l/min}</math></td> </tr> </table>	$Q_N = 6,3 \text{ l/min}$	<input type="checkbox"/> 6,3	$Q_N = 12,5 \text{ l/min}$	<input type="checkbox"/> 12,5	Additional only at sandwich construc.	$Q_N = 16 \text{ l/min}$	Additional only at flange construc.	$Q_N = 20 \text{ l/min}$
$Q_N = 6,3 \text{ l/min}$	<input type="checkbox"/> 6,3								
$Q_N = 12,5 \text{ l/min}$	<input type="checkbox"/> 12,5								
Additional only at sandwich construc.	$Q_N = 16 \text{ l/min}$								
Additional only at flange construc.	$Q_N = 20 \text{ l/min}$								
Nominal voltage, current type	<table border="0" style="width: 100%;"> <tr> <td><math>U_N = 12 \text{ VDC}</math></td> <td><input type="checkbox"/> G12</td> </tr> <tr> <td><math>U_N = 24 \text{ VDC}</math></td> <td><input type="checkbox"/> G24</td> </tr> </table>	$U_N = 12 \text{ VDC}$	<input type="checkbox"/> G12	$U_N = 24 \text{ VDC}$	<input type="checkbox"/> G24				
$U_N = 12 \text{ VDC}$	<input type="checkbox"/> G12								
$U_N = 24 \text{ VDC}$	<input type="checkbox"/> G24								
Design-Index (Subject to change)									

**GENERAL SPECIFICATIONS**

Description	3-way proportional flow control valve
Size	NG6 acc. to ISO 4401-03
Construction	Flange- and sandwich construction
Operations	Proportional solenoid
Mounting	4 holes for socket cap screws M5 or studs screws M5
Connection	Threaded connection plates Multi-flange subplate Longitudial stacking system
Ambient temperature	-20...50°C
Mounting position	any
Fastening torque	$M_D = 5,5 \text{ Nm}$ (Quality 8.8)
Weight	Depending on the type of valve $m = 2,0...2,7 \text{ kg}$

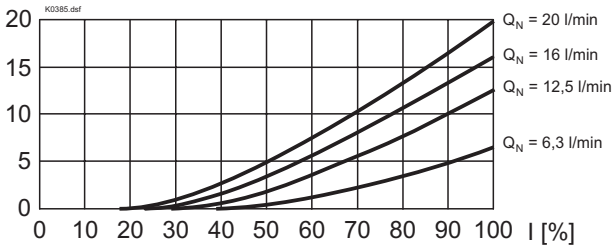
**HYDRAULIC SPECIFICATIONS**

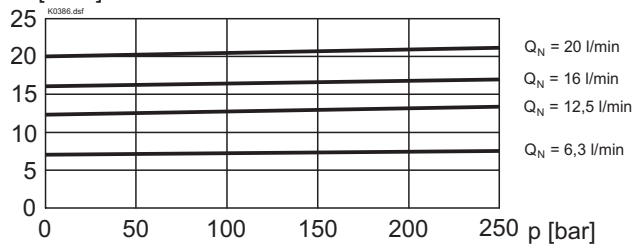
Fluid	Mineral oil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 18/16/13 (Required filtration grade $\beta_{6...10} \geq 75$ ) see data sheet 1.0-50/2
Viscosity range	12 mm <sup>2</sup> /s...320 mm <sup>2</sup> /s
Fluid temperature	-20...+70°C
Peak pressure	$p_{max} = 250 \text{ bar}$
Nominal volume flow rates	$Q_N = 6,3 \text{ l/min}$ $Q_N = 12,5 \text{ l/min}$ $Q_N = 16 \text{ l/min}$ only at sandwich construc. $Q_N = 20 \text{ l/min}$ only at flange construc. $Q_{max} = 22 \text{ l/min}$
Max. volume flow	$Q_{max} = 22 \text{ l/min}$
Min. volume flow	$Q_{min} = 0,02 \text{ l/min}$
Leakage volume flow	see characteristics
Resolution	1 mA
Repeatability	≤ 1 % *
Hysteresis	≤ 3 % *
	* at optimal dither signal

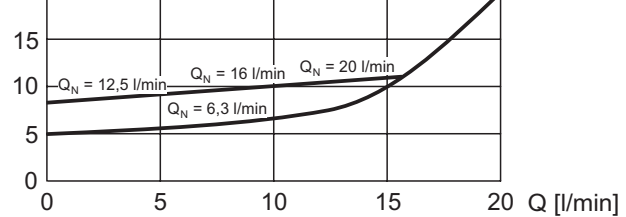
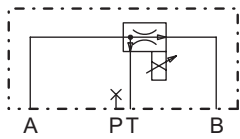
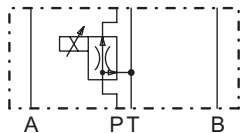
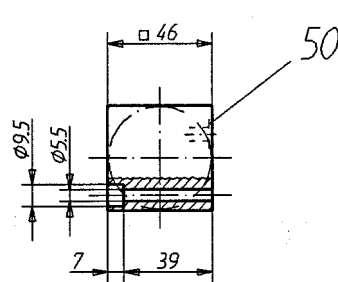
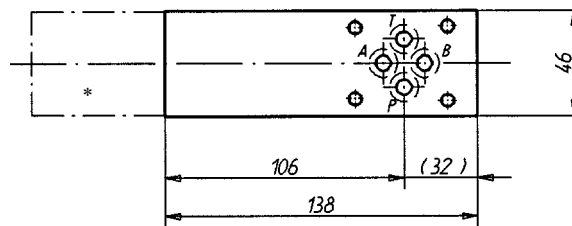
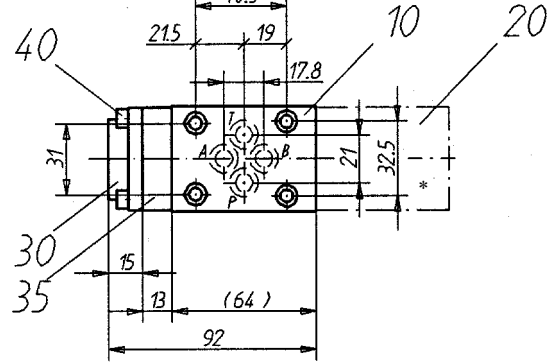
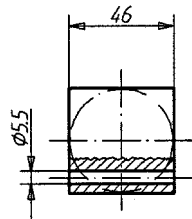
**ELECTRICAL SPECIFICATIONS**

Construction	Proportional solenoid, wet pin push type, pressure tight	
Standard-Nominal voltage	$U = 12 \text{ VDC}$	$U = 24 \text{ VDC}$
Limit current	$I_G = 1780 \text{ mA}$	$I_G = 810 \text{ mA}$
Relative duty factor	100% ED (see data sheet 1.1-430)	
Protection class	IP 65 to EN 60 529	
Connection/Power supply	Over device plug connection to ISO 4400/DIN 43650 (2P+E)	
Other electrical specifications	see data sheet 1.1-130 (PI45V)	

**CHARACTERISTICS** Oil viscosity  $\nu = 30\text{mm}^2/\text{s}$ 
**Q = f (l)** Volume flow adjustment characteristics

**Q [l/min]**

**Q = f (p)** Volume flow pressure characteristics

**Q [l/min]**

 **$\Delta p = f (Q)$**  Pressure drop volume flow characteristic over pressure compensator

 **$\Delta p$  [bar]**

**TYPES/DIMENSIONS**
**AEMRN6/3**

**AEMR6/3**

**Flange construction AEMRN6/3**

**Sandwich construction AEMR6/3**


\* The exterior dimensions of the cartridge can be obtained from data sheet 2.6-683

**PARTS LIST**

Position	Article	Description
10	134.6201	Flange body
	134.6621	Sandwich plate P
20	650.0 . . .	Prop. flow control cartridge EMR603 to data sheet 2.6-683
30	58.2200	Lid
40	246.2125	Cylinder screw M5x25 DIN 912
50	160.2093	O-Ring ID 9,25x1,78

**ACCESSORIES**

 Threaded connection plates and Multi-flange subplates Register 2.9  
 Proportional amplifier register 1.13

Technical explanation see data sheet 1.0-100E