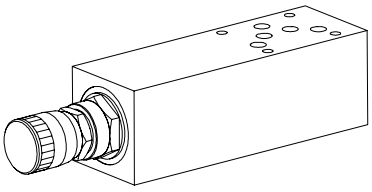
2-way flow control valve
Flange-and sandwich construction

- Q_{max} = **50 l/min**
- $Q_{N\ max}$ = **50 l/min**
- p_{max} = **250 bar**

NG10

ISO 4401-05



DESCRIPTION

2-way flow control valve in flange and sandwich construction. Fitted with 2-way flow control slip-in cartridges. The valve is available in two different setting versions: turning knob and lockable type EWA. In its standard form, this control valve can be supplied with three nominal volume flow ranges. A bypass non-return valve plate for the flange valve - for free flow from B to A - can be ordered separately. In its sandwich version in A, B and AB the bypass non-return valve is installed in the plate. The flange valve body is painted, the sandwich plates are phosphatized. The aluminium turning knob is colorless ano-dized.

FUNCTION

The 2-way flow control valve is designed to keep to oil flow to any actuator constant irrespective of the load. 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 drop over the restrictor constant.

APPLICATION

Sandwich type flow control valves are used where the supply volume flow has to be kept constant even when the load fluctuates. Depending on the application, a distinction is made between restricting the forward flow or the return flow. These sandwich valves are particularly suitable for machine tools and also all types of handling operations.

CONTENT

TYPE CODE

A MR [ ] 10 / 2 - [ ] - [ ] # [ ]

International mounting interface ISO				
Flow control valvel				
Flange				
Flow control from	A to B	N		
Sandwich				
Flow control:	P	no remark	T	T
Meter-out flow control:	A	A	B	B
	A and B	AB		
Meter-in flow control:	A	VA	B	VB
	A and B	VAB		
Nominal size 10				
2-way function				
Nominal volume	Q_N = 20 l/min			20
	Q_N = 31,5 l/min			31,5
	Q_N = 50 l/min			50
Additional marking for lock adjustment				EWA
Design-Index (Subject to change)				

GENERAL SPECIFICATIONS

Description	2-way flow control valve
Nominal size	NG10 according to ISO 4401-05
Construction	Flange- or sandwich
Mounting	4 mounting holes for socket head screws M6 or double ended screws M6
Connections	Threaded connection plates, Multi-flange sub-plates, Longitudinal stacking system
Ambient temperature	-20 ... +50°C
Mounting position	any
Fastening torque	M_D= 9,5 Nm (quality 8.8)
Weight	depending on the type 2,8…7,3 kg

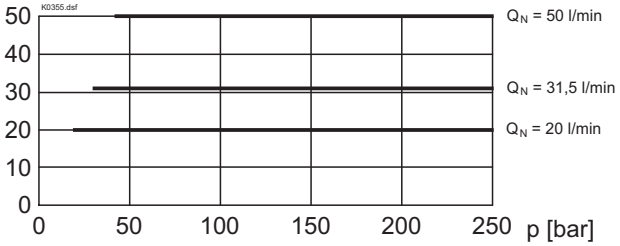
HYDRAULIC SPECIFICATIONS

Fluid	Mineral oil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 18/16/13 (Required filtration grade ß 6...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
Pressure required to open the check valve	$p_{ö}$ = 0,8 bar
Nominal volume flow rates	Q_N = 20 l/min Q_N = 31,5 l/min, Q_N= 50 l/min
Min. volume flow	Q_{min} = 0,05 l/min
Max. volume flow	Q_{max} = 50 l/min
Control accuracy	≤ 1%

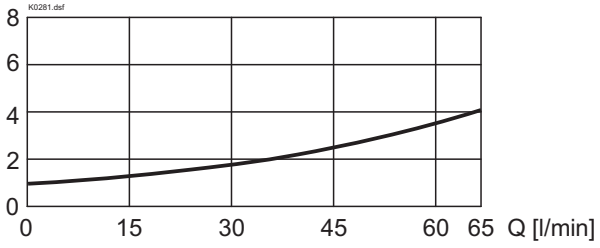
For further hydraulic specifications refer to data sheet 2.5-587.

CHARACTERISTICS Oil viscosity υ = 30mm²/s

Q = f (p) Pressure drop/flow characteristics

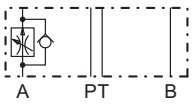


Δp = f (Q) Pressure loss/flow characteristics over non-return valve

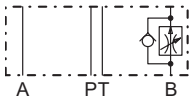


SYMBOLS/DIMENSIONS

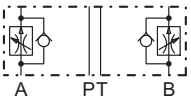
Meter-out flow control



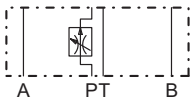
AMRA10/2



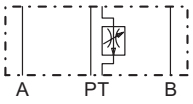
AMRB10/2



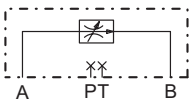
AMRAB10/2



AMR10/2

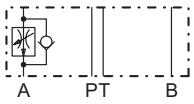


AMRT10/2

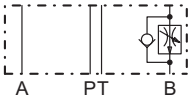


AMRN10/2

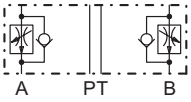
Meter-in flow control



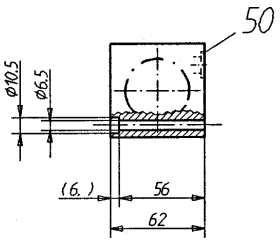
AMRVA10/2

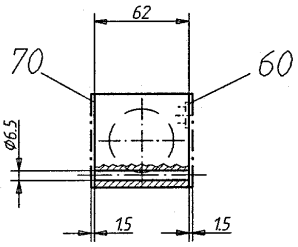


AMRVB10/2



AMRVAB10/2



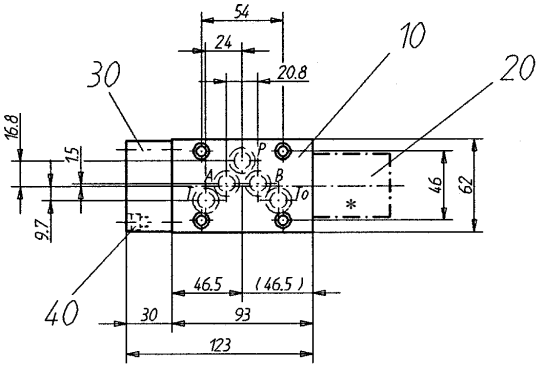


By turning around valves with meter-out function, meter-in function can be adchieved.

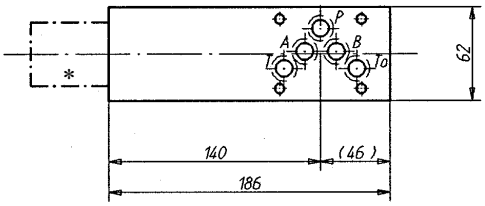
A	turns into	VB
B	turns into	VA
AB	turns into	VAB

Valves for meter-in functions are supplied with a sealing plate and a intermediate plate.

Flange types AMRN10/2

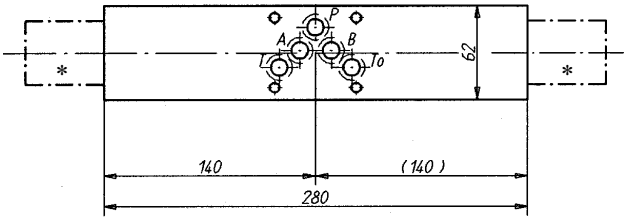


Sandwich types AMR, T, A, VA10/2



On sandwich types AMRB, VB10/2 cartridge is located on B-side

Sandwich types AMRAB, VAB10/2



* The total lengths depends on the cartridge type, see data shee 2.5-587.

ERSATZTEILLISTE

Position	Article	Description
10	136.6200	Flange body
	136.6601	Sandwich plate P
	136.6605	Sandwich plate T
	136.6604	Sandwich plate A, VB
	136.6600	Sandwich plate B, VA
	136.6602	Sandwich plate AB, VAB
20	633.8 . . .	Flow control cartridge MR1002 Data sheet 2.5-587
50	160.2140	O-ring ID 14,00x1,78 flange and sandwich construction P, T
50	160.2120	O-ring ID 12,42x1,78 Sandwich construction A, B, AB, VA, VB, VAB
	160.2132	O-ring ID 13,10x2,62 incl. RV
60	173.4700	Intermediate plate AZB10
70	173.4650	Sealing plate ADB10

Technical explanation see data sheet 1.0-100E

ACCESSORIES

Threaded connection plates and Muli-flange subplates register 2.9

Bypass non-return valve AMRP102.