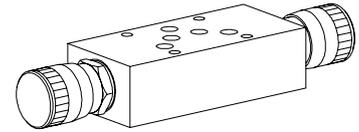


**Restrictor valve with reverse free flow check**
**Sandwich construction**

- $Q_{max} = 100 \text{ l/min}$
- $Q_N = 60 \text{ l/min}$
- $p_{max} = 350 \text{ bar}$

**NG10**  
ISO 4401-05


**DESCRIPTION**

Restrictor valve sandwich type NG10 with interface to ISO 4401-05. The non-return throttle valve is available in two different variants, namely the standard and the precision throttle (FD). The turning knob is made from aluminium, all other parts made of steel, have been phosphated.

**FUNCTION**

Using the precision thread adjusting spindle, the restriction of the volume flow can be continuously adjusted. With the spindle fully screwed home, the volume flow is zero, and a metallic edge makes a leak-tight closure. In the opposite direction, the spring-loaded tapered piston opens and volume flow with a load pressure drop is enabled. The throttle effect is produced by an annular gap which can be varied in size, or by means of a triangular edge. Because of the nature of the design, there is only a small amount of leakage.

**APPLICATION**

Sandwich type, one-way restrictors are used where volume flows have to be controlled in one flow direction according to the load. 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 kinds of handling operations.

**TYPE CODE**

	A URD <input type="checkbox"/> 10 <input type="checkbox"/> # <input type="checkbox"/>								
International standard interface ISO									
Throttle check valve									
Type list / function									
Meter-out	<table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">in A</td> <td style="width: 10%; border: 1px solid black; text-align: center;">A</td> <td style="width: 30%;">in B</td> <td style="width: 10%; border: 1px solid black; text-align: center;">B</td> </tr> <tr> <td>in A and B</td> <td style="border: 1px solid black; text-align: center;"> </td> <td></td> <td></td> </tr> </table>	in A	A	in B	B	in A and B			
in A	A	in B	B						
in A and B									
Meter-in	<table style="width: 100%; border: none;"> <tr> <td style="width: 30%;">in A</td> <td style="width: 10%; border: 1px solid black; text-align: center;">VA</td> <td style="width: 30%;">in B</td> <td style="width: 10%; border: 1px solid black; text-align: center;">VB</td> </tr> <tr> <td>in A and B</td> <td style="border: 1px solid black; text-align: center;">V</td> <td></td> <td></td> </tr> </table>	in A	VA	in B	VB	in A and B	V		
in A	VA	in B	VB						
in A and B	V								
Nominal size 10									
Standard									
Precision throttle	- FD								
Design-Index (Subject to change)									

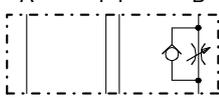
**GENERAL SPECIFICATIONS**

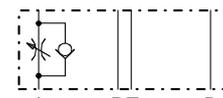
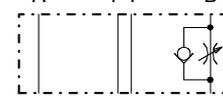
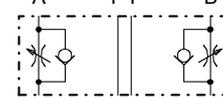
Denomination	Restrictor valve with reverse free flow check
Nominal size	NG10 acc. to ISO 4401-05
Construction	Sandwich
Mounting	4 mounting holes for socket head cap screws M6 or stud screws M6
Connections	Threaded connection plates, Multi-flange subplates, Longitudinal stacking system
Ambient temperature	-20...+50° C
Mounting position	any
Fastening torque	$M_D = 9,5 \text{ Nm}$ (Qual. 8.8) for fastening screws
Weight	Depending on the type 1,8...2,3 kg

**HYDRAULIC SPECIFICATIONS**

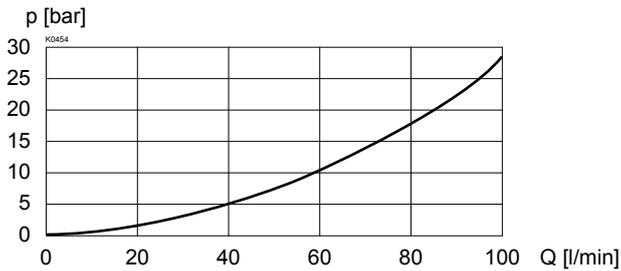
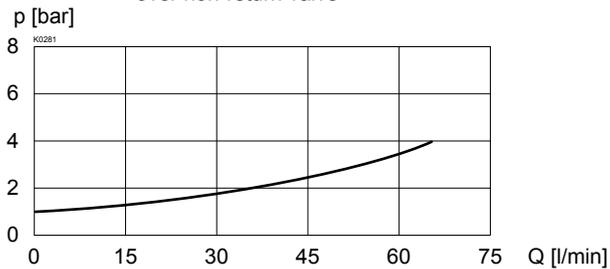
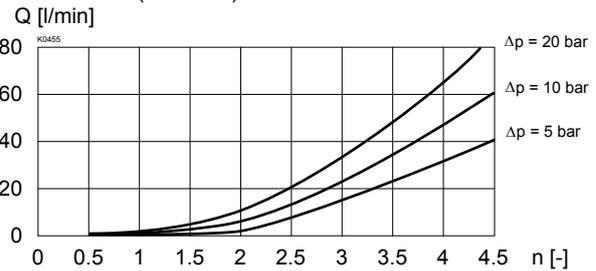
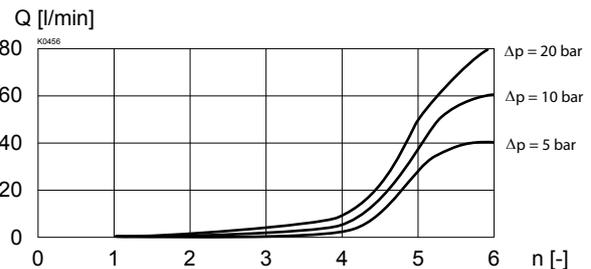
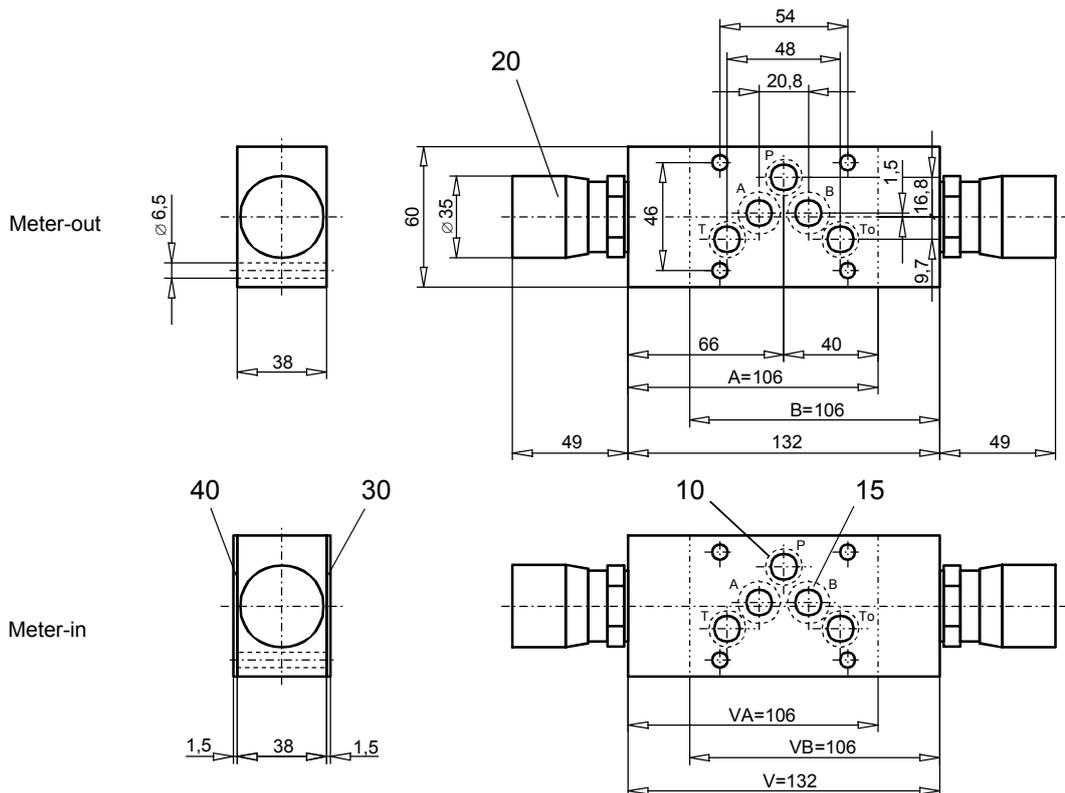
Fluid	Mineraoil, other fluid on request
Contamination efficiency	ISO 4406:1999, class 20/18/14...21/19/15 (Required filtration grade $\beta_{10...25} \geq 75$ ) refer to data sheet 1.0-50/2
Viscosity range	12 mm <sup>2</sup> /s...320 mm <sup>2</sup> /s
Fluid temperature	-20...+70° C
Peak pressure	$p_{max} = 350 \text{ bar}$
Pressure required to open the check valve	$p_o = 0,8 \text{ bar}$
Nominal volume flow rates	$Q_N = 60 \text{ l/min}$ $Q_N$ at 10 bar valve pressure loss
Max. volume flow	$Q_{max} = 100 \text{ l/min}$
Leakage volume flow	Almost leak free with closed restrictor

**TYPE LIST / FUNCTION**
**Meter-out:**

**AURDA10**

**AURDB10**

**AURD10**
**Meter-in:**

**AURDVA10**

**AURDVB10**

**AURDV10**

Valves for restricting the meter-in flow are achieved by turning the meter-out valves restrictors (lateral axis):  
 AURDA10 get AURDVB10  
 AURDB10 get AURDVA10  
 AURD10 get AURDV10  
 Valves for restricting the meter-in flow are supplied with a sealing plate and an in-intermediate plate.

**CHARACTERISTICS** Oil viscosity  $\nu = 30 \text{ mm}^2/\text{s}$ 
 $\Delta p = f(Q)$  Pressure loss/flow characteristics

 $\Delta p = f(Q)$  Pressure loss/flow characteristics over non-return valve

 $Q = f(n)$  Volume flow adjustment characteristics (Standard)

 $Q = f(n)$  Volume flow adjustment characteristics (Precision throttle)

**DIMENSIONS**

**PARTS LISTS**

Position	Article	Description
10	160.2120	O-ring ID 12,42x1,78
15	160.2132	O-ring ID 13,10x2,62 in line with check valve
20	114.1201	Turning knob
30	173.4650	Sealing plate ADB10
40	173.4700	Intermediate plate AZB10

Technical explanation see data sheet 1.0-100