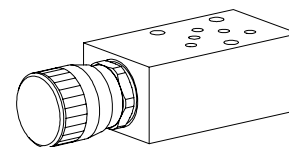


**Throttle valve
Sandwich construction**

- Q_{max} = 20 l/min
- Q_{Nmax} = 15 l/min
- p_{max} = 315 bar

NG4-Mini[®]

DESCRIPTION

Throttle valve sandwich design NG4-Mini with mounting interface acc. to Wandfluh standard. The throttle valve is available in two different variants, namely the standard and the precision throttle (FD). The rotary control is made from aluminium, all other parts, 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. 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 throttle valves can be used anywhere where volume flows have to be infinitely controlled in both directions without taking pressure fluctuations into account. These sandwich valves are ideal for machine tools and also all types of handling operation. Mini-4 throttle valves are used wherever light, extremely compact hydraulic control units are needed.

CONTENTS

GENERAL SPECIFICATIONS	1
HYDRAULIC SPECIFICATION	1
TYPE LIST / FUNCTION	1
CHARACTERISTICS	2
DIMENSIONS	2
PARTS LIST	2

TYPE CODE

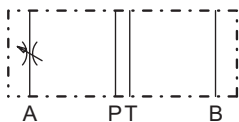
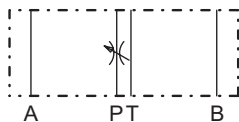
Mounting interface	B	DR	<input type="checkbox"/>	4	-	<input type="checkbox"/>	#	<input type="checkbox"/>
Throttle valve								
Restriction in:								
A	<input type="checkbox"/>	B	<input type="checkbox"/>					
A and B	<input type="checkbox"/>	T	<input type="checkbox"/>					
P	<input type="checkbox"/>							
P and T	<input type="checkbox"/>							
Nominal size 4-Mini								
Additional marking for precision throttle	<input type="checkbox"/> FD							
Design-Index (Subject to change)								

GENERAL SPECIFICATIONS

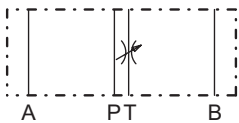
Description	Throttle valve
Nominal size	NG4-Mini acc. to Wandfluh standard
Construction	Sandwich
Mounting	3 mounting holes for socket head cap screws M5 or studs M5
Connections	Threaded connection plates, Multi-flange sub-plates, Longitudinal stacking system
Ambient temperature	-20...+50° C
Mounting position	any
Fastening torque	$M_b = 5,5$ Nm (Quality: 8.8)
Weight	Depending on the type 0,8...0,9 kg

HYDRAULIC SPECIFICATIONS

Fluid	Mineral oil, 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 ² /s...320 mm ² /s
Fluid temperature	-20...+70°C
Peak pressure	$p_{max} = 315$ bar
Nominal volume flow rate	$Q_N = 15$ l/min Q_N at 10 bar valve pressure loss
Max. Volume flow	$Q_{max} = 20$ l/min
Leakage volume flow	Almost leak free with closed restrictor

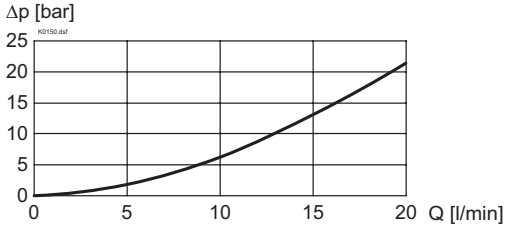
TYPE LIST / FUNCTION
BDRA4

BDRP4

BDRAB4

BDRB4

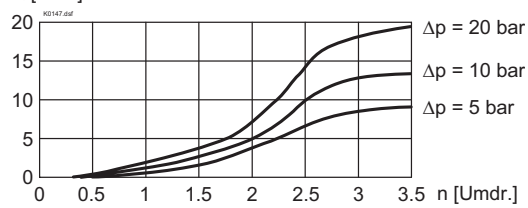
BDRT4

BDRPT4


CHARACTERISTICS Oil viscosity $\nu = 30 \text{ mm}^2/\text{s}$

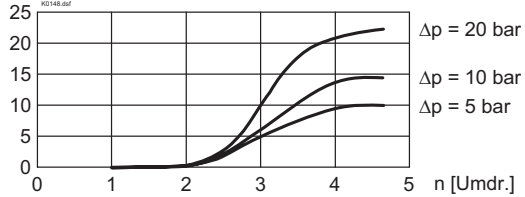
$\Delta p = f(Q)$ Pressure loss/flow characteristics



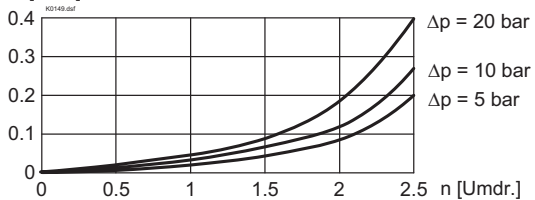
$Q = f(n)$ Volume flow adjustment characteristics (Standard)



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

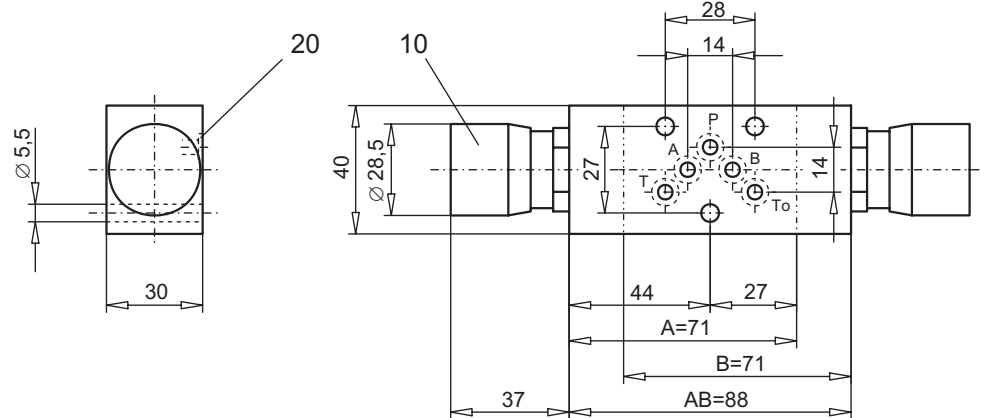


$Q = f(n)$ Volume flow adjustment characteristics (Precision throttle)

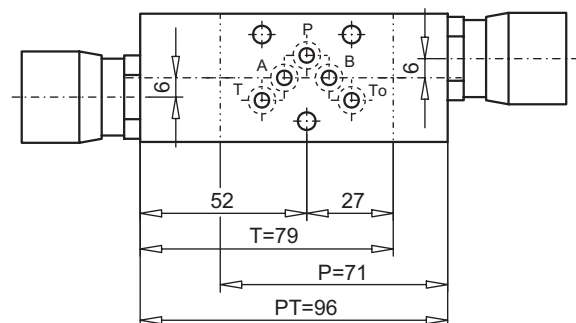


DIMENSIONS

BDRA4, BDRB4 et BDRAB4



BDRP4, BDRT4 et BDRPT4



PARTS LIST

Position	Article	Description
10	114.1204	Turning knob
20	160.2052	O-ring ID 5,28x1,78

Technical explanation see data sheet 1.0-100E