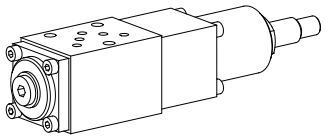
Pressure reducing valve
Flange- and sandwich construction
- Q_{max} = 20 l/min
- p_{max} = 315 bar
- $p_{N\ red\ max}$ = 200 bar

NG4-Mini®



DESCRIPTION

Flange or sandwich type directly operated 3-way pressure reducing valve NG4-Mini in accordance with Wandfluh standard. The valve reduces the inlet pressure to a preset output pressure. The integrated pressure relief function prevents the reduced pressure from being exceeded as a result of external forces. Two types of setting and four pressure stages are available. A pressure gauge connection is provided in the reduced connection. A bypass non-return valve plate for the flange valve – for free flow from A to P – can be ordered separately. The flange valve body is painted, the other parts are phosphatised.

FUNCTION

The spool is held in the home position by the spring. The connection to the consumer is fully open. The reduced pressure can be adjusted at the adjustment spindle, irrespective of the inlet pressure. If the reduced pressure increases, it displaces the valve towards the spring. The volume flow at the valve inlet is then throttled, controlling the reduced pressure. If forces acting on the consumer allow the reduced pressure to be increased above the set value, the spool is displaced until the valve inlet closes and the tank port opens. The pressure increase is then limited to a low value, controlled by the spring.

APPLICATION

Pressure reducing valves are used for keeping the pressure constant in a consumer, irrespective of pressure fluctuations on the supply side. If several consumers are used, the reduced pressure can be set individually with the aid if one pressure control valve for each consumer. Generally speaking, pressure control valves are used for reducing a hydraulic pressure to a lower level. The integrated pressure relief function obviates the need for any additional pressure relief valve in the reduced pipe. Directly operated pressure reducing valves also keep the reduced pressure stable, even under very difficult operating conditions. Mini-4 valves are used where both, reduced dimensions and weight are important.

CONTENTS

TYPE CODE

B DRV d ☐ 4 ☐ / ☐ # ☐

Mounting interface

Pressure reducing valve

Direct operated

Flange	N
Sandwich pressure red in P	no remark
Sandwich pressure red in A	A
Sandwich pressure red in B	B

Interface NG4-Mini

Setting versions:	Key	no remark
	Knob	D
	Cover	H

Standard nominal pressure range:	$p_{N\ red}$ = 40 bar	40
	$p_{N\ red}$ = 80 bar	80
	$p_{N\ red}$ = 160 bar	160
	$p_{N\ red}$ = 200 bar	200

Design-Index (Subject to change)

GENERAL SPECIFICATIONS

Description	Direct operated pressure control valve
Nominal size	NG4-Mini acc. to Wandfluh standard
Construction	Flange- or sandwich
Mounting	3 mounting holes for zyl. screws M5 or double ended screws M5
Connection	Threaded connection plates Multi-flange subplates Longitudinal stacking system
Ambient temperature	-20…+50 °C
Mounting position	any
Fastening torque	M_D = 5,5 Nm (quality 8.8)
Weight	m = 1,0 kg

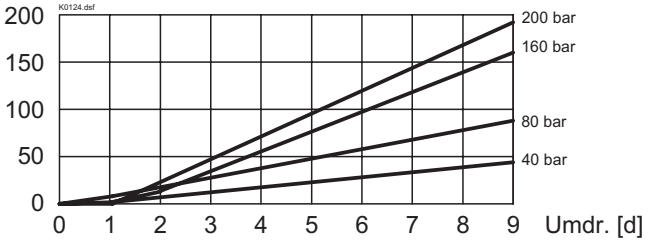
HYDRAULIC SPECIFICATIONS

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} = 315 bar
Tank load in connection T	$p_{T\ max}$ = 50 bar
Nominal pressure ranges	$p_{N\ red}$ = 40 bar, $p_{N\ red}$ = 160 bar $p_{N\ red}$ = 80 bar, $p_{N\ red}$ = 200 bar
Opening pressure to non-return valve	$p_{ö}$ = 2,2 bar
Volume flow	Q = 0…20 l/min

CHARACTERISTICS oil viscosity υ = 30 mm²/s

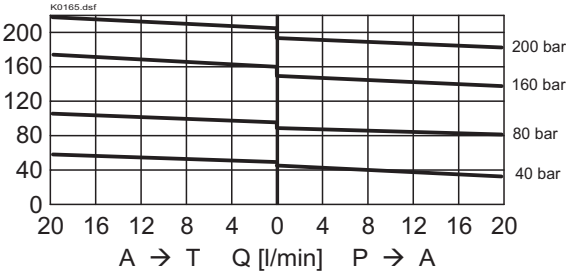
$p_{red} = f(\alpha)$ Pressure adjustment characteristics

p_{red} [bar] Q = 0 l/min (static)



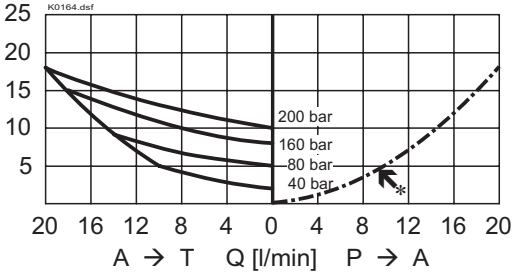
$p_{red} = f(Q)$ Pressure volume flow characteristics

p_{red} [bar]



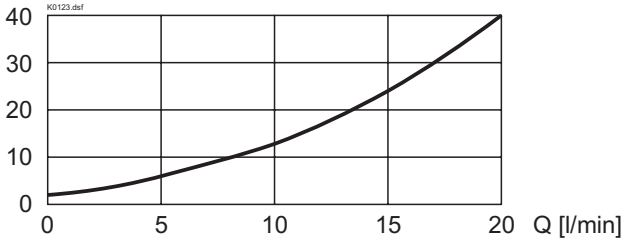
$p_{min} = f(Q)$ Minimal pressure loss/flow characteristics

p_{red} [bar] * Consumption resistance dependent on system



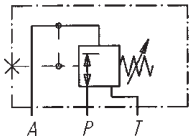
$\Delta p = f(Q)$ Pressure loss/flow characteristics over RV

Δp [bar]

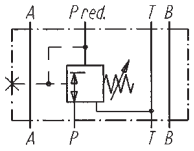


TYPES / DIMENSIONS

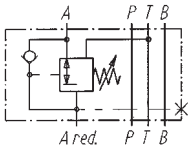
Flange
red. pressure in A
BDRVdN4



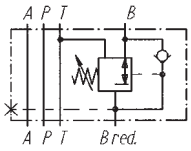
Sandwich
red. pressure in P
BDRVd4



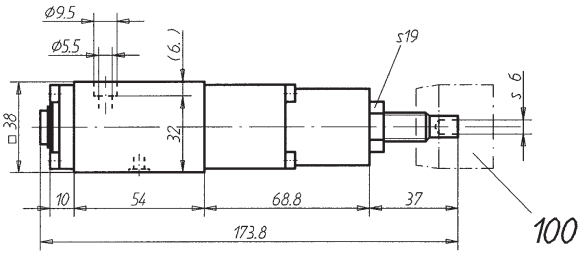
red. pressure in A
BDRVdA4



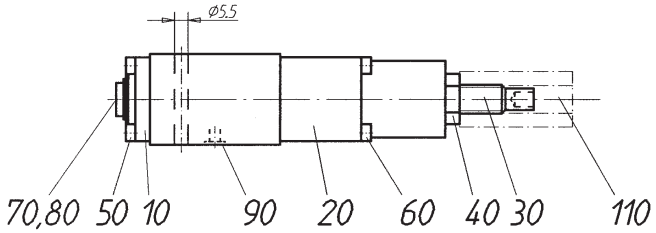
red. presssure in B
BDRVdB4

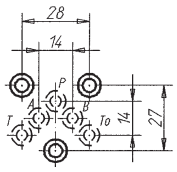


Flange



Sandwich





Spindle not secured against unscrewing

For model red. pressure in B the adjusting parts are on A end

PARTS LIST

Position	Article	Description
10	57.4701	Lid
20	85.4800	Housing
30	80.3118	Plug
40	153.1601	Hexagonal nut 0,5D M12x1
50	246.1112	Zyl. screw M4x12-DIN912
60	246.1140	Zyl. screw M4x40-DIN912
70	238.1202	Plug G1/8" DIN908
80	49.2102	Seal ring ID 10,7x17x1,5
90	160.2052	O-Ring ID 5,28x1,78
100	114.1202	Knob
110	154.7100	Cap nut

ACCESSORIES

Threaded connection plates and Multi-flange subplates Register 2.9
Bypass non-return valve BDRVP4

Technical explanation see data sheet 1.0-100