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RE	26	564/02.03	

Replaces: 11.02

Industrial

Hydraulics

# Pressure reducing valve direct operated, Type DR 6 DP

Electric Drives

and Controls

Nominal size 6 Series 5X Maximum operating pressure 315 bar Maximum flow 60 L/min

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# H5561

Mobile

Hydraulics

Type DR 6 DP2-5X/...YM...

### **Features**

ge	_	Subplate mounting:
1		Porting pattern to DIN 24 340 Form A,
1		ISO 4401 and CETOP–RP 121 H,
1		subplates to catalogue sheet RE 45 052
2		(separate order)
2	_	5 pressure stages
3	_	4 adjustment elements:
2		<ul> <li>Rotary knob,</li> </ul>
ر ۱		<ul> <li>Set screw with hexagon and protective cap,</li> </ul>
4		<ul> <li>Lockable rotary knob with scale,</li> </ul>
		Rotary knob with scale

Check valve, optional

# **Ordering detils**

	DR 6 DP	- <mark>-</mark> 5X/	Y		*	
Direct operated pressure reducing valve NS 6						Further details in clear text
Adjustment element Rotary knob Set screw with hexagon and protective cap Lockable rotary knob with scale <sup>1)</sup> Rotary knob with scale	= 1 = 2 = 3 = 7			Т	No code V =	e = NBR seals FKM seals (other seals on request) Attention! tibility of the seals and pressure
Series 50 to 59 (50 to 59: unchanged installation and connection Max. secondary pressure 25 bar	on dimensions)	= 5X = 25		No co M =	flui de =	ds must be taken into account! With check valve Without check valve
Max. secondary pressure 75 bar Max. secondary pressure 150 bar		= 75 = 150	Y =			Internal pilot oil supply External pilot oil drain
Max. secondary pressure 210 bar Max. secondary pressure 315 bar <sup>2)</sup>		= 210 = 315	I) H-	key with cluded w	n Material vithin the	l No. <b>R900008158</b> is scope of supply
Preferred types, see page 2, are readily available!			<sup>2)</sup> Or ch	nly with ieck valv	adjustme e	nt element "2" and without

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by Bosch Rexroth AG, Industrial Hydraulics, D-97813 Lohr am Main



Service

Automation



### Preferred types (readily available)

Туре	Material No.	Туре	Material No.
DR 6 DP2-5X/25Y	R000465254	DR 6 DP2-5X/150Y	R000413242
DR 6 DP2-5X/25YM	R000472470	DR 6 DP2-5X/150YM	R000472020
DR 6 DP2-5X/75Y	R000413241	DR 6 DP2-5X/210Y	R000413243
DR 6 DP2-5X/75YM	R000450964	DR 6 DP2-5X/210YM	R000455316

Further preferred types and standard units can be found in the EPS (Standard Price List).

### Function, section, symbol

The valve type DR 6 DP is a 3-way direct operated pressure reducing valve with a pressure relief function in the secondary circuit.

It is used to reduce the system pressure. The secondary pressure is set by the pressure adjustment element (4).

At rest, the valve is normally open and the pressure fluid can flow unhindered from port P to port A. The pressure in port A is at the same time, via the control line (6), present at the spool area opposite to the compression spring (3). When the pressure in port A exceeds the pressure level set at compression spring (3), the control spool (2) moves into the control position and holds the set pressure in port A constant.

The control and pilot oil are taken from port A via control line (6).

If the pressure in port A increases due to external forces on the actuator, then the control spool (2) moves still further towards the compression spring (3).

This causes a flow path to be opened at port A via control land (8) on the control spool (2) to the tank. Sufficient pressure fluid then flows to tank to prevent any further rise in pressure.

The spring chamber (7) is always drained to tank externally via port T (Y).

For free return flow, from port A to port P, an optional check valve (5) can be fitted.

A pressure gauge port (1), permits the secondary pressue at the valve to be monitored.



Version "YM"

Internal pilot oil supply external pilot oil drain without check valve







### Technical data (for applications outside these parameters, please consult us!)

General			
Installation			Optional
Ambient temperature range		°C	-30 to +80 with NBR seals
			-20 to +80 with FKM seals
Weight		kg	1.2
Hydraulic			
Max. operating pressure	Port P	bar	315
Max. secondary pressure	Port A	bar	25, 75, 150, 210, 315
Max. back pressure	Port T (Y)	bar	160
Max. flow		L/min	60
Pressure fluid			Mineral oil (HL, HLP) to DIN 51 524 <sup>1)</sup> ; Fast bio-degradable pressure fluids to VDMA 24 568 (also see RE 90 221); HETG (rape seed oil) <sup>1)</sup> ; HEPG (polyglycols) <sup>2)</sup> ; HEES (synthetic ester) <sup>2)</sup> ; Other pressure fluids on request
Cleanliness class to ISO code			Maximum permissible degree of contamination of the pressure fluid is to ISO 4406 (C) class 20/18/15 <sup>3)</sup>
Pressure fluid temperature range		°C	-30 to +80 with NBR seals
			-20 to $+80$ with FKM seals
Viscosity range		mm <sup>2</sup> /s	10 to 800
<sup>1)</sup> Suitable for NBR and FKM seals			$^{3)}$ The cleanliness class stated for the components must be

<sup>1)</sup> Suitable for NBR and FKM seals

<sup>2)</sup> Only suitable for FKM seals

The cleanliness class stated for the components must be adhered too in hydraulic systems. Effective filtration prevents faults from occurring and at the same time increases the component service life.

For the selection of filters see catalogue sheets RE 50 070, RE 50 076 and RE 50 081.

# **Characteristic curves** (measured with HLP46, $\vartheta_{oil} = 40 \text{ °C} \pm 5 \text{ °C}$ )



### Note:

The curve characteristics remain, with a lower set pressure, the same in relation to the pressure rating.

The characteristic curves for the pressure relief function are valid for the outlet pressure = zero over the entire flow range!



- **1** P to A (min. pressure differential)
- **2** A to T (Y) (min. pressure differential)
- **3**  $\Delta p$  only over the check value
- **4**  $\Delta p$  over the check value and fully open control cross-section

### Unit dimensions (Dimensions in mm)



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