

# Catálogo de Produtos



Proportional pressure reducing valve Types DRE and DREM

BEIJING HUADE	Propor	RE 24750/06.2004		
GROUP CO.,LTD.	Size 10.25.32	up to 31.5 MPa	up to 300 L/min	Replaces:
Features: - Optional max.pressu - Optional check valve - Valve used for reduc - For subplate mountir - Valve and electronics	re protecting between A and B ing a working press ng s from one scurce	sure		

#### Function, section

The valve types DRE and DREM are pilot operated pressure reducing valves. They are used for the reduction of a working pressure.

The valves basically consist of the pilot valve (1) with proportional solenoid (2), main valve (3) with main spool assembly (4), as well as an optional check valve (5).

#### Type DRE...

The setting of the pressure in port A is dependent on the voltage present at the proportional solenoids (2).

At rest, with no pressure in port B the spring holds the main spool (4) in its start position. The connection from B to A is closed. A start-up jump is, therefore avoided.

The pressure in port A acts via connection on the area of the main spool.

The pilot oil is taken from port A(NS 10) or port B(NS 20,30) and passes through the connection to the constant flow controller, which holds the pilot oil flow constant independent of pressure drops between ports A and B. From the constant

flow controller the pilot oil flow passes into the spring chamber, through two connections, via valve seat into the Y port and from there into the drain line.

The pressure required in port A is defined at the relevant amplifier.

#### Type DREM...

In order to ensure that excessive hydraulic pressures (hydraulic safety) do not occur due to unpermissibly high control currents at the proportional solenoid that automatically cause higher pressure in port A, a spring loaded maximum pressure relief valve, for maximum pressure safety, can be optionally installed if required.

Note: When the pressure fluid flow from port A to port B via the check valve (5), the parallel flow of oil via Y to tank affects the deceleration process of the actuator attached to port A if this is being decelerated by a throttle valve in port B (e.g. proportional directional valve). Under such circumstances, the third flow direction A to Y is not suitable for limiting the maximum pressure in port A.





# **Ordering details**

DRE		- 30	В	ł	Y				*		
Without maximum pressure limitation=No code With maximum pressure limitation = M Pilot operated pressure reducing valve = No code Pilot valve, size 10 (do not state valve size) = CN Pilot valve with main valve cartridge for installation in manifolds, size 10 (state valve size) = CN Pilot valve, size 20,30 (do not state valve size) = CH Pilot valve with main valve cartridge for installation					¥=		No co M =	M = V = ode =	Further de With check	tails in clear text for mine for phosphat k valve between A Without chec	eral oils e ester a and B k valve
in manifolds, size 20,30 (state valve size) = CH										pressure to	the tank
10 NS 25 32	=10 =20 =30				Pressure	e ratir	ng: 5 1 2 3	50= 100= 200= 315=		31	5MPa 10MPa 20MPa .5MPa
(30 to 39: unchanged installation and connection dim	= iensioi	30 1S)	-	R=				Te	chnology of	Beijing Huade Hy	draulic

### **Technical data**

Hydraulic											
Max setting pressure (MPa)	ports A and B	31.5									
	port Y		go to tank ,	no pressure	1						
Max.setting pressure,for port A	(MPa)	The same as pressure rating									
Min.setting pressure,for port A	(MPa)		Be related to "	Q". (see curv	/es)						
Max.pressure limiter (steplessly settable)											
			pressu	re rating							
Setting pressure range set as delivered	(MPa)	5	10	20	31.5						
		1 to 6+2	1 to 12+2	1 to 22⁺	<sup>2</sup> 1 to 34 <sup>+2</sup>						
Max.pressure limiter (assembly settable)	(MPa)	6 to 8	12 to 14	22 to 24	4 34 to 36						
Max flow (1/min)	size	10	10 2		30						
	flow	80	20	00	300						
Pilot oil		See characteristic curves									
Linearity	(%)	± 3.5									
Repeatability	(%)	< ± 2									
Hysteresis		With quiver $\pm$ 2.5%Pmax,without quiver $\pm$ 4.5%Pmax									
Typical scatter		±	2.5Pmax See	characterist	ic curves						
Operating time	(ms)	100 to 300									
Fluids		Mineral oil(for NBR seal),Phosphate ester (for FPM seal)									
Viscosity range	2.8 to 380										
Fluid temperature range	-20 to +70										
Degree of the contamination	(μ <b>m</b> )	≤ 20(recommend 10)									

#### Electrical

Supply voltage		DC
Min.control current	(A)	0.1
Max.control current	(A)	0.8
Coil resistance	(Ω)	cold valve at 20°C is 19.5,Max.warm valve is 28.8
Duty		continuous
Max. condition temperature	(°C)	+50
Insulation to DIN 40 050		IP65
Associated amplifier		Plug-in connecter
Electrical applifier		VT-2000 <sup>s</sup> <sub>k</sub> 40(together provide)

## Characteristic curves (measured at V = 41 mm<sup>2</sup>/s and t= 50 $^{\circ}$ C )









L1





60.3

- 1 As supplied, this port (G 1/4") is plugged. 5 Port X for external control After removing the plug, this port may be used 6 Pressure gauge connecter for DRE20 and DRE30 as an external pilot oil drain, separate and at 7 Locating pin zero pressure to tank.

  - 8 Name plate

10 Blind hole

- 2 Space required to remove plug-in connector 9 Pilot oil drain external at zero pressure to tank
- 3 Maximum pressure limitation, type DREM
- 4 when using these valves, please take note of the guidelines

NS	O-ring (A B)	O-ring (X Y)	B1	B2	B3	B4	D1	D2	D3
10	17.12 × 2.62	9.25 × 1.78	85	66.7	7.9	58.8	15	21.8	4.2
25	28.17 × 3.53	9.25 × 1.78	102	79.4	6.4	73	25	34.8	6
32	34.52 × 3.53	9.25 × 1.78	120	96.8	3.8	92.8	31	41	6

Subplates G 460/01; G461/01 G 412/01; G413/01 G 414/01; G415/01 valve fixing screws 6 M10 x 70 DIN 912-10.9, MA = 75 Nm See page 88

size	H1	H2	H3	H4	L1	L2	L3	L4	L5	L6	L7	L8	L9	L10	T1	Weight
10	152	136.5	28	188	181	96	42.9	35.5	35.8	31.8	21.5	-	21.5	7.2	2	4.5kg
25	162	146.5	38	198	177	112	60.3	33.5	49.2	44.5	39.7	-	20.6	11.1	2.9	6.3kg
32	170	154.5	46	206	176.5	140	84.2	28	67.5	62.7	59.5	42.1	24.6	16.7	2.9	8.6kg



#28.6\*# #D1-

#### (Dimensions in mm)

- 1 Pilot oil drain external at zero pressure to tank
- 2 Space required to remove plug-in connector
- 3 O-ring 9.25X1.78
- 4 Main spool core assembly
- 5 Maximum pressure limitation, type DREM
- 6 When using these valves, please take note of the guidelines
- 7 O-ring 9.25X1.78
- 8 O-ring 27.3X2.4
- 9 O-ring 27.3X2.4
- 10 Retainer ring 32/28.4x0.8(FPM)
- 11 O-ring with retainer ring must be input the hole before assemble the main spool core
- 12 Name plate
- 13 Pilot oil
- 15 Orifice hole
- 16 Assort depth

NS	D1	20	50	Code no. for main s	pool core assembly	Fixing screws		Weight	
		DZ	00	NBR	FPM		Torque(MIII)	vveignt	
10	10	40	10	360 727	360 728	<i>4</i> -M8 ∨ 10-10 9			
25	20	45	20	360 720	306 730	$-4-100 \times 10-10.3$	20	1.5kg	
32	30	45	30	300 729	500 750	GB/170.1-2000			

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