

**REXROTH****Pilot Operated Pressure Relief Valves  
Type DB 3U****RE  
25 825****HYDRONORMA**

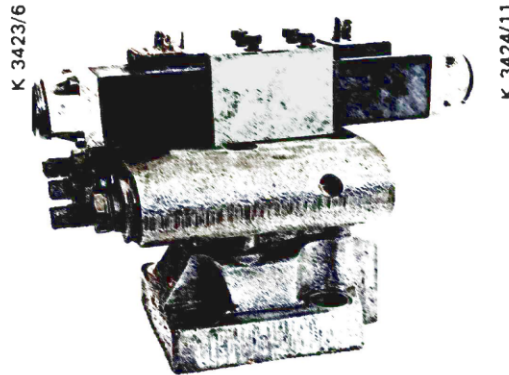
Size 10, 20, 30

up to 315 bar

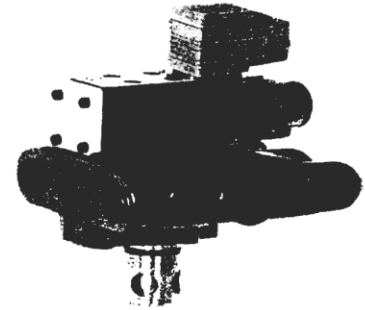
up to 600 l/min

Issue: 9.79

- for subplate mounting
- for manifold mounting
- 2 or 3 pressure ratings
- solenoid operated control by means of built-on directional valve
- adjustment element: set screw with internal hexagon and protective cap



DB 3U..E..



DBC 3U..N..

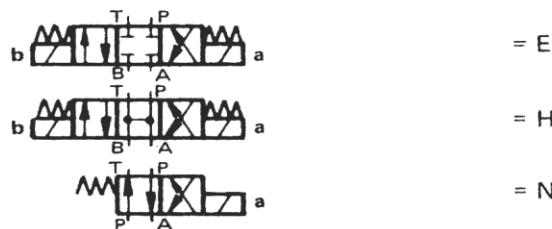
**Model Code**

DB	3U		2 -20/	U					*
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pilot operated valve = no desig.

Pilot valve with  
main assembly = C  
(state size 10 or 30)Pilot operated valve  
without main spool  
assembly = C  
(do not state size)

Size 10	= 10
Size 20	= 20
Size 30	= 30

Set screw with internal hexagon  
and protective cap = 2Series 20 = 20  
(20 to 29 = installation and connection dimensions  
remain the same)

Adjustment pressure up to 100 bar	= 100
Adjustment pressure up to 315 bar	= 315

Further details to be  
stated in textno desig. = Mineral oils  
DIN 51 525

V = phosphate ester

Z4=  plug-in connector  
DIN 42 650Z5=  large plug-in  
connectorZ5L=  large plug-in  
connector  
with lightno desig. = without hand emergency  
N = with hand emergencyW 220-50 = 220V AC,  
50 Hz

G 24 = 24 V DC

W 220 R = DC solenoid with  
built-in rectifier

(plug type Z5 only)

no desig.	=	internal pilot supply internal pilot drain
X	=	can be remote controlled, internal pilot supply internal pilot drain
Y	=	internal pilot supply external pilot drain
XY	=	can be remote controlled internal pilot supply external pilot drain

... type DB 3U are pilot operated  
... with 2 or 3 pressure ratings.

... to limit pressure in a system.

... pressure relief valves type DB 3U comprise a triple  
pilot valve with pressure setting element, main valve with  
main spool assembly and a built-on directional valve.

The pressure relief valves are adjusted at the adjustment  
elements (19) or the triple pilot valve, whereby the  
highest system pressure required must always be set at  
the centre pilot valve.

**Pressure relief valve type DB 3U..E  
(3 pressure ratings)**

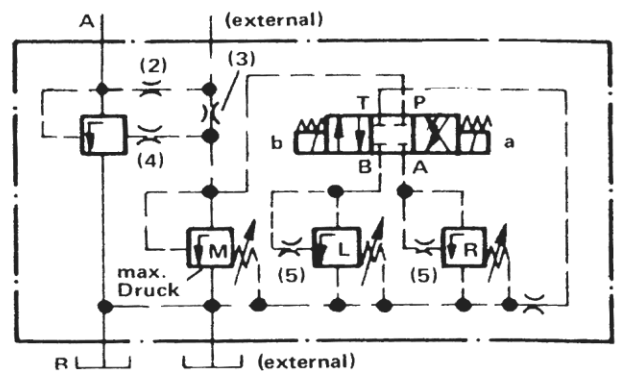
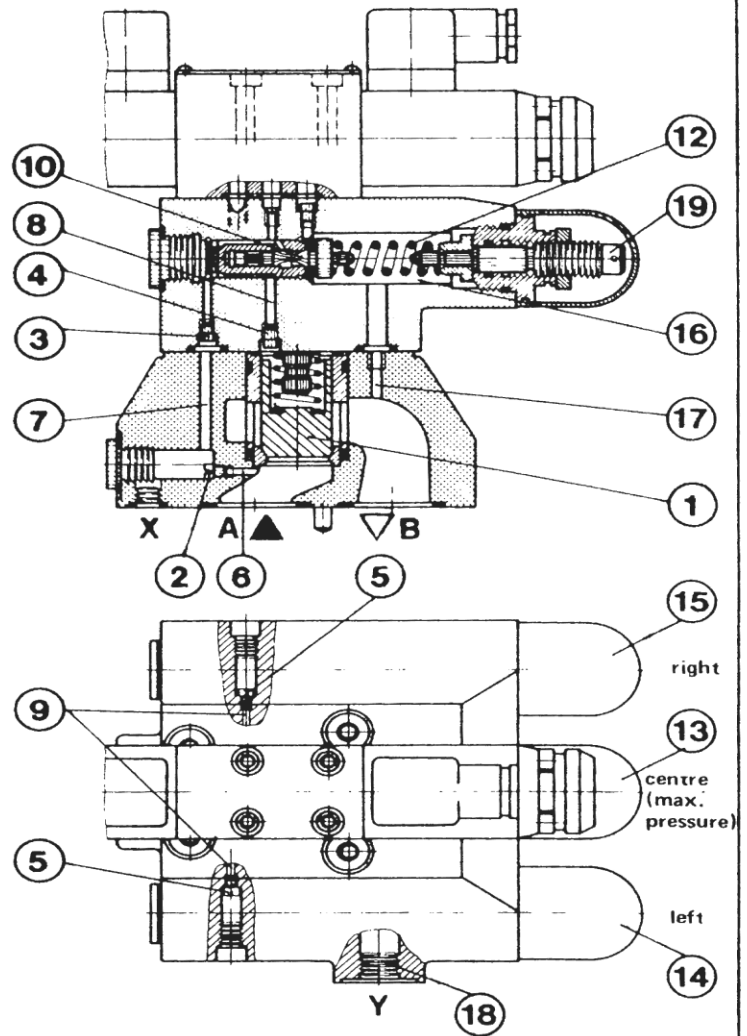
Pressure in line A affects the main spool (1). At the  
same time there is pressure on the spring loaded side  
of the main spool (1) via control lines (6), (7) and (8)  
fitted with jets (2), (3) and (4) and on the poppet  
(10) of the centre pilot valve (13). The centre pilot  
valve (13) is not dependent on the position of the  
directional valve and is continuously affected by system  
pressure.

When the directional valve is in neutral position, the  
two outside pilot valves (14) and (15) remain without  
pressure. When the valve is operated, there is free flow  
either to the pilot valve on the left (14) or on the right  
(15). If system pressure exceeds the value set at the  
spring (12) of the pressurised pilot valve (14) or (15),  
the poppet (10) of the pressurised pilot valve (14) or  
(15) opens. The signal for this comes internally from  
line A via control lines (6), (7) and (9). If the directional  
valve is in neutral position, the oil on the spring-loaded  
side of the main spool (1) now flows direct into the  
spring chamber (16) of the centre pilot valve (13) via  
jet (4), control line (8) and poppet (10). If the directional  
valve is switched, the oil flows via jets (4) and (5),  
control lines (8) and (9), and poppet (10) of the  
pressurised pilot valve (14) or (15) into the spring  
chamber (16) or the left-hand (14) or the right-hand  
(15) pilot valve.

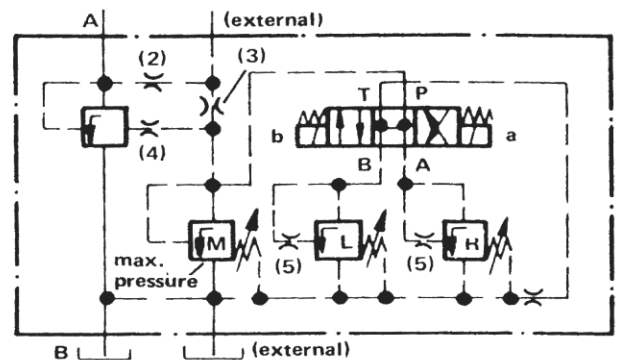
This causes a pressure drop at the main spool (1). The  
main spool (1) opens and the connection from line A  
to line B is open. Oil now flows from line A to line B  
while the set operating pressure is maintained. Pilot  
drain from the spring chambers is internal via control  
line (17) or external via control line (18) to tank.

**Pressure relief valve type DB 3U..H**

In principle, this valve functions in the same way as  
type DB 3U..E. However, the pilot valve is controlled  
by means of a directional valve with H control spool,  
which allows only 2 pressure ratings at the pilot valve.  
Oil can circulate without pressure in neutral position.  
Only the two outside pilot valves function to relieve  
pressure.



DB 3U..E..XY.. -- detailed --



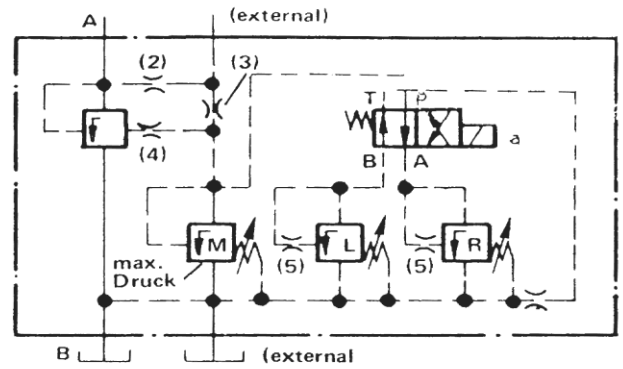
DB 3U..H..XY.. -- detailed --

Relief Valve Type DB 3U..N

(pressure ratings)

On this model, the pilot valve is controlled by means of a 4/2 way directional valve (N control spool).

Pressure relief is by means of the two external pilot valves only, as with type DB 3U..H.



DB 3U..N..XY.. — detailed —

Symbols, simplified

Y = internal			
X = internal	DB 3U..E 2.20/...	DB 3U..H 2.20/...	DB 3U..N 2.20/...
Y = internal			
X = external	DB 3U..E 2.20/...X	DB 3U..H 2.20/...X	DB 3U..N 2.20/...X
Y = external			
X = internal	DB 3U..E 2.20/...Y	DB 3U..H 2.20/...Y	DB 3U..N 2.20/...Y
Y = external			
X = external	DB 3U..E 2.20/...XY	DB 3U..H 2.20/...XY	DB 3U..N 2.20/...XY