

DIRECT ACTING PRESSURE REDUCING VALVES 3RV(B)

GENERAL DESCRIPTION

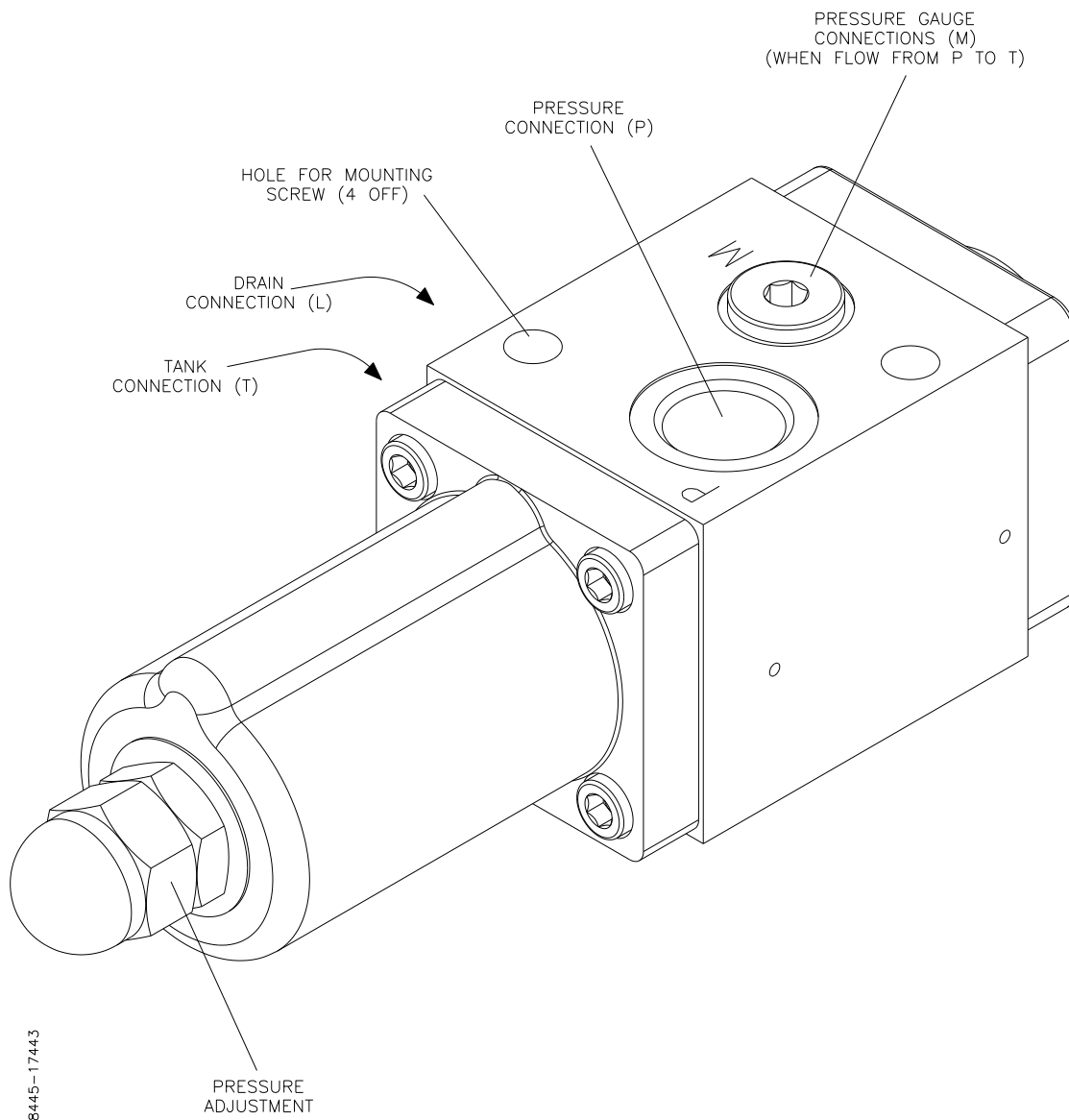


Figure 1 3RV General Arrangement

The Direct Acting Pressure Reducing 3RV(B) are seawater resistant valves for reducing of the pressure in hydraulic systems. The valves have the following characteristics:

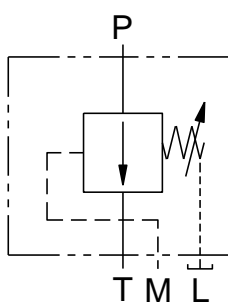
- Delivered with threaded connections, or for gasket mounting to a sub plate or valve unit.
- Two adjustable pressure ranges are available.
- Delivered with flow capacity up to 300 l/min.
- The valves can be delivered with flange for panel mounting.

For more details about types and options, please refer to section 'Modular Code'.

MODULAR CODE

Options	Remarks	Design Code	Fill in
<i>Mounting</i>			3RV
Threads			
SUB Plate		B	
<i>Reduced Pressure ranges</i>			
5– 175 bar		3	
50 – 350 bar		4	
<i>Size</i>			
10 mm	35 l/min	2	
15 mm	75 l/min	3	
20 mm	125 l/min	4	
30 mm	300 l/min	6	
<i>Adjustment</i>			
Knob		R	
<i>Alternative Mounting</i>			
Panel mounted		P	
<i>Drain</i>			
External drain connection		L	L

In example a 3RV valve with sub plate, 0-175 bar, 300 l/min flow and knob will have modular code: **3RVB36RL**



*3RVB**L*

DIMENSIONS

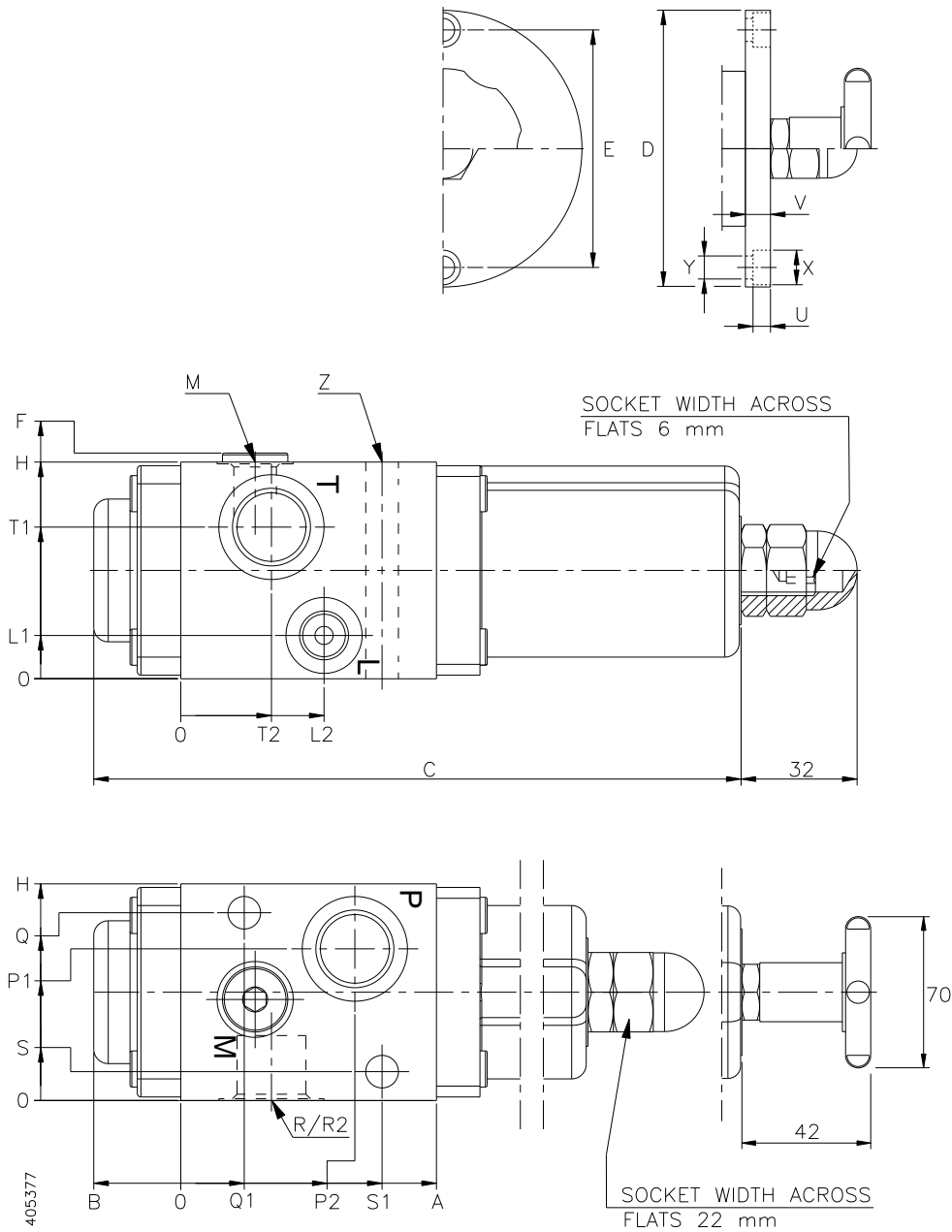


Figure 2 3RV Dimensions

Size [mm]	A	B	C	F	H	L1	L2	P1	P2	Q
10	70.5	24	179	62.5	60	12	39.5	42	48	52
15	87.5	24	219	82.5	80	13	48.5	55	57.5	70
20	87.5	24	219	82.5	80	13	48.5	55	57.5	70
30	128	24	259	112.5	110	21	76	65	87	95
	Q1	S	S1	T1	T2	R	Z	U	V	X
10	17.5	8	55.5	42	25	½"	9	5.5	12	14
15	23.5	10	68.5	55	30.5	¾"	11	10	14	17
20	23.5	10	68.5	55	30.5	1"	11	10	14	17
30	26	15	106	65	43	1 ½"	17	16	14	25

Pressure Reducing Valve 3RV(B)

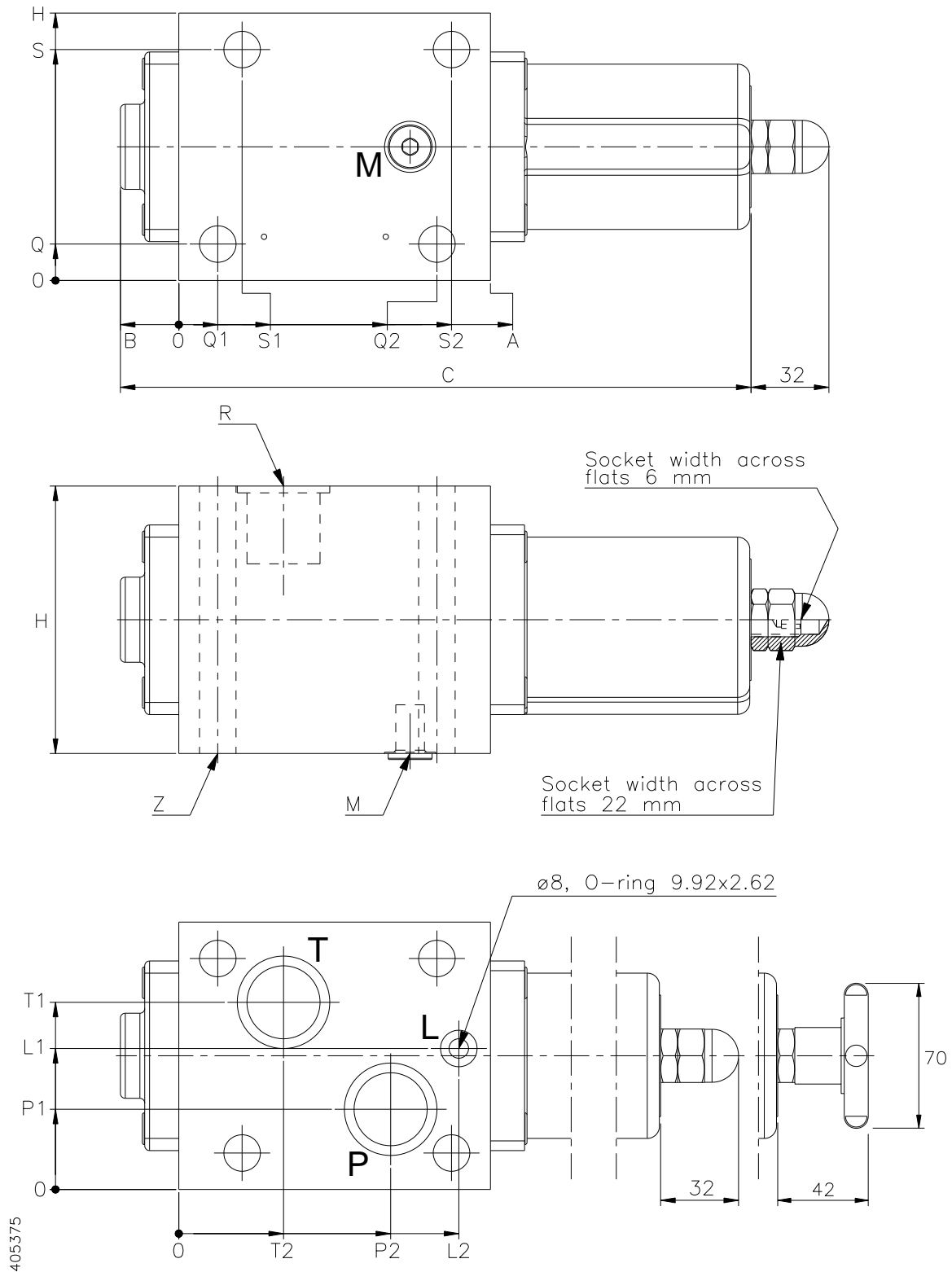


Figure 3 3RVB Dimensions

Size [mm]	A	B	C	H	L1	L2	P1	P2	Q	Q1	Q2	S	S1	S2	T1	T2	Z
10	70.5	24	179	60	33	61	18	48	8	-	55.5	52	17.5	-	42	25	9
20	87.5	24	219	80	43	76	25	57.5	10	15.5	68.5	70	23.5	72.5	55	30.5	9
30	128	24	259	110	58	115	33	87	15	16	106	95	26	112	77	43	11

TECHNICAL DATA

Description	Symbol	Data
Max. operating pressure in port P	P_{\max}	350 bar
Max. pressure in port T (See note)	T_{\max}	10 bar
Max. pressure in port L (See note)	L_{\max}	10 bar
Test Pressure	P	420 bar
Hydraulic fluid		Mineral oils for hydraulic system
Viscosity range:	ν	10 to 350 mm ² /s (cST)
Viscosity index:	VI	> 120
Filtration, recommended filter with $\beta_{20} \geq 100$		Class 9 according to NAS 1638, 18/15 according to ISO 4406
Fluid temperature range:	T	-20°C to + 70°C
Ambient temperature range	T	-20°C to + 50°C
Standard Body Material		EN-GJS-400-15 (GGG 40)
Standard O-rings		Nitrile shore 70

Note: Pressure at connection T is direct additive to valve setting.

When pressure on tank connection T exceeds 10 bar, drain connection L must be used.

Flow and Weights:

Size	Nominal Flow	Weight
10 mm	35 l/min	2.5 kg
15 mm	75 l/min	5.4 kg
20 mm	125 l/min	5.4 kg
30 mm	300 l/min	11.4 kg



Interfaces:

Size	Description		Data
3RV:			
	<i>Threaded Connections</i>	<i>Screws</i>	<i>Tightening Torque [Nm]</i>
10 mm	½” BSPP	2 off M 8 – DIN931	19.6
15 mm	¾” BSPP	2 off M 10 – DIN931	34.4
20 mm	1” BSPP	2 off M 10 – DIN931	34.4
30 mm	1 ½” BSPP	2 off M 16 – DIN931	78.5
3RVB:			
	<i>Screws</i>		<i>Tightening Torque [Nm]</i>
10 mm	4 off M 8 x 70 – DIN 931		19.6
15 mm	4 off M 8 x 90 – DIN 931		19.6
20 mm	4 off M 8 x 90 – DIN 931		19.6
30 mm	4 off M 16 x 130 – DIN 931		58.8
	<i>O-rings</i>		<i>Size [mm]</i>
10 mm	2 off		11.91 x 2.62
	1 off		9.92 x 2.62
15 mm	2 off		22,20 x 3.0
	1 off		9.92 x 2.62
20 mm	2 off		22,20 x 3.0
	1 off		9.92 x 2.62
30 mm	2 off		31.34 x 3.53
	1 off		9.92 x 2.62



INSTALLATION

The Direct Acting Pressure Reducing Valves 3RV are installed to the pipeline with threaded connections and mounted to a bracket or similar with 2 off screws. The 3RVB valves are installed with 4 off screws to a SUB plate or valve unit. Please refer to section 'Interfaces' for details about connections and screws.

OPERATION

Pressure adjustment

Install a pressure gauge to connection M on the valve, and turn the hexagon screw or hand wheel until requested pressure is achieved. A cap nut protect the hexagon screw/spindle.

Clockwise rotation increase pressure.

Counter clockwise rotation decrease pressure setting.

MAINTENANCE

Check the valve for proper function. Visually check the valve and if required, paint unpainted (damaged) areas.

STORAGE

If storage longer than 6 months is expected, the valve must be kept in a dry room, free from dust and protected against sudden large temperature variations. For storage longer than 12 months, the valve must be filled with inhibition oil. Before use check all visible seals and flush with clean oil.

MARKING

Inlets and outlets are marked, refer to figure in section 'General Description'.