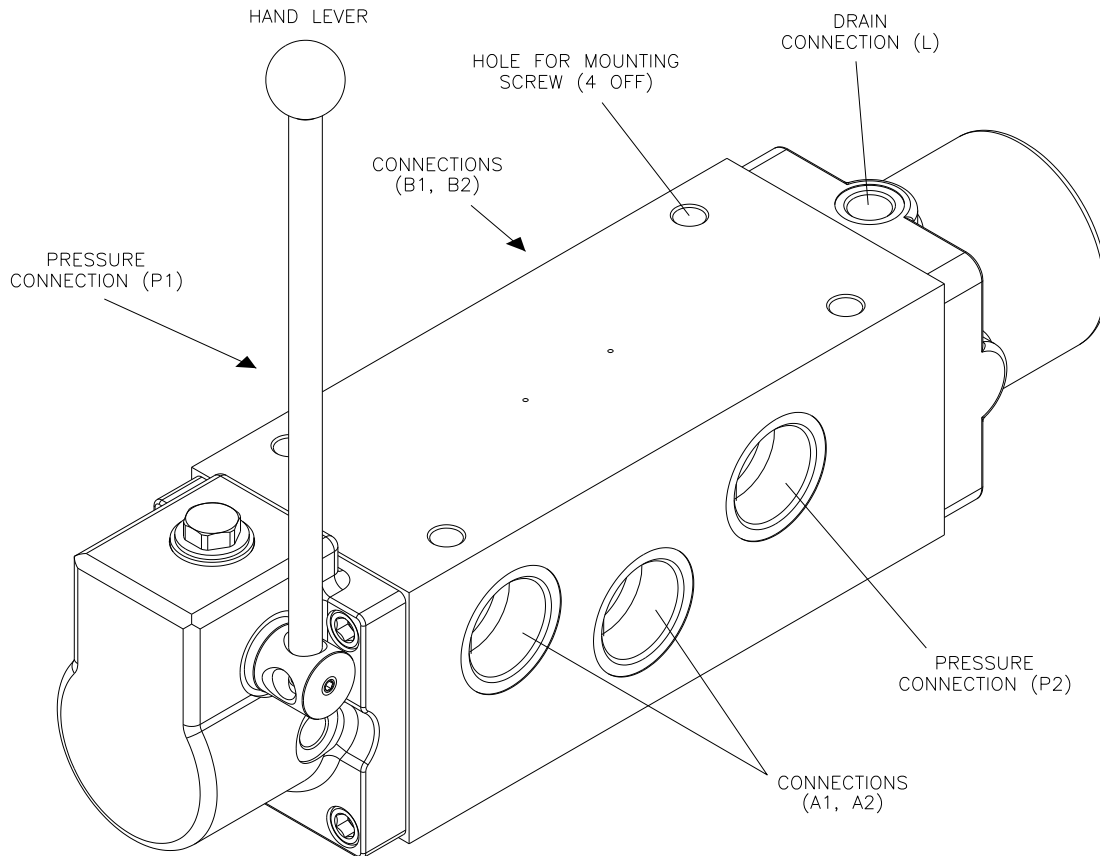


DIRECTIONAL CONTROL VALVES 5ST – 6-WAY

GENERAL DESCRIPTION



8445-17691

Figure 1 5ST – 6-Way General Arrangement

The Directional Control Valves 5ST 6-ways are seawater resistant manual or remote control directional valves for distribution and stopping of flow in hydraulic systems. The valves have the following characteristics:

- Delivered with threaded connections.
- Manually operated by hand lever or remote controlled (on/off) by hydraulic pilot pressure.
- Delivered with flow capacity up to 450 l/min.
- Most of the hand lever operated directional control valves can be equipped with the Brake Release Valve BA3/BA4. For description of the Brake Release Valves, please refer to separate manual.

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



MODULAR CODE

Options	Remarks	Design Code	Fill in			
Mounting			5ST			
Threads	No options					
Type						
6-ways	No options	6	6			
Pressure						
350 bar	No options	4	4			
Operation						
Manual		1				
Remote		2				
Size						
10 mm	50 l/min	2				
20 mm	200 l/min	4				
30 mm	450 l/min	6				
Spool Type						
	No options	6V	6V			
Spring / Detents Positions						
	<table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td>A</td> <td>0</td> <td>B</td> </tr> </table>	A	0	B		
A	0	B				
Detents in position B and 0, A blocked		7				
Spring offset to B, A blocked		8				

In example a remotely controlled 5ST, with 200 l/min flow, and spring offset to B, A blocked will have modular code: **5ST64246V8**.



DIMENSIONS

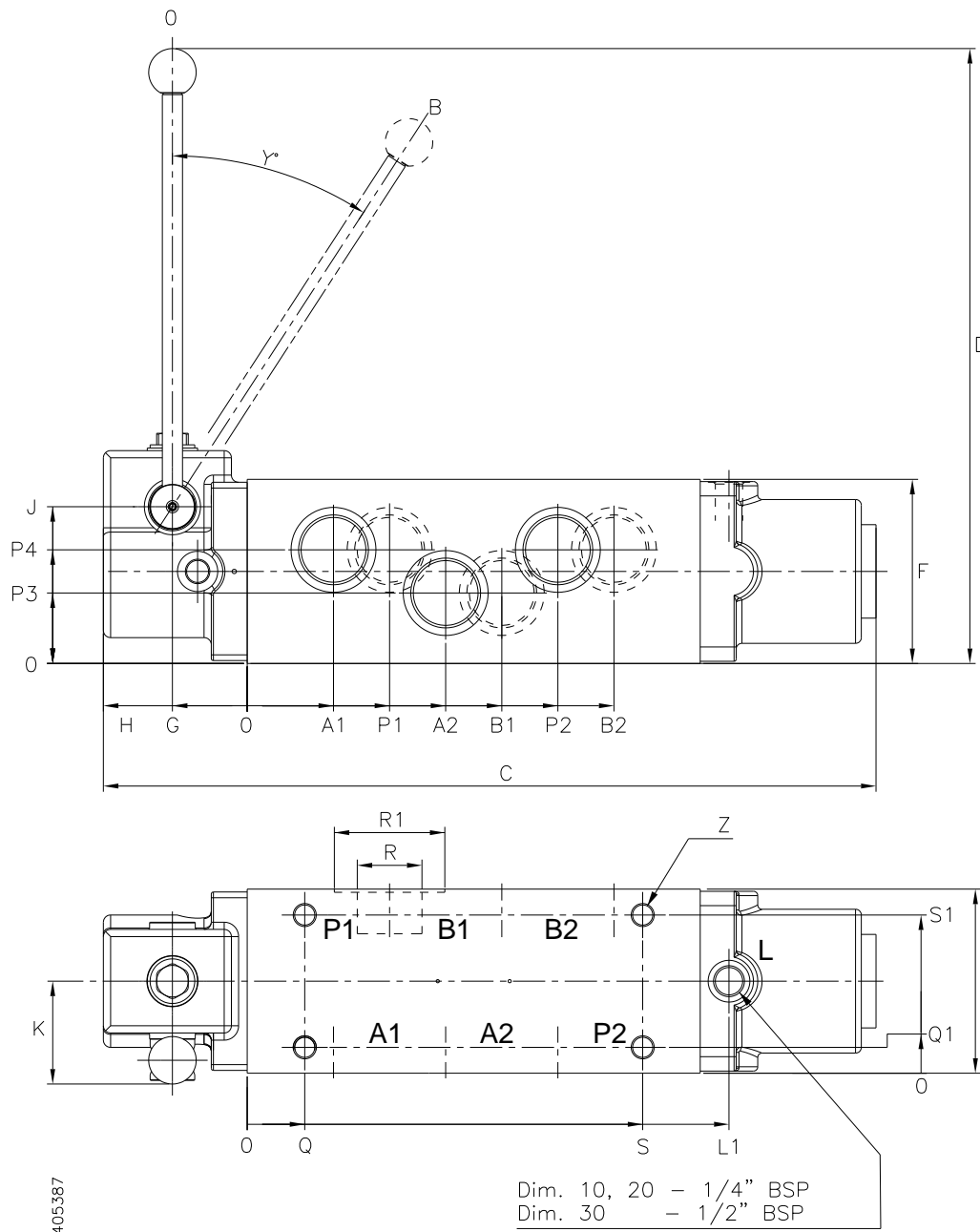
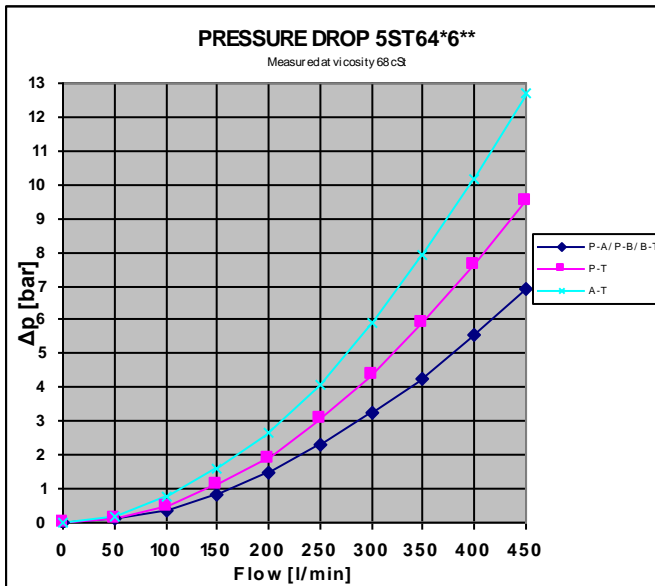
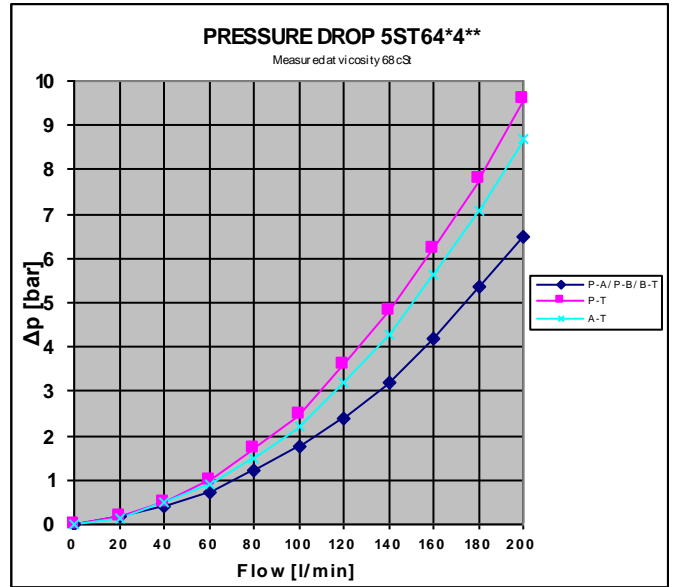
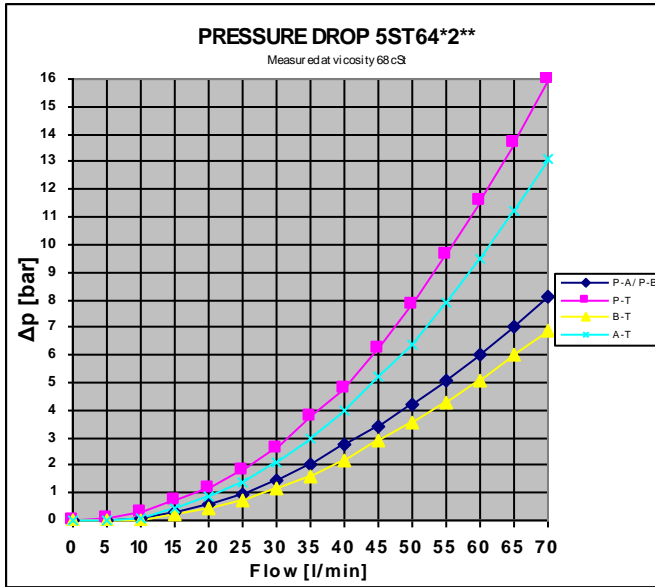


Figure 2 5ST Dimensions

Size [mm]	C	D	F	G	H	J	K	Y	A1	A2	B1
10	225	230	75	26	54	63.5	44	29	19	51	67
20	326	336	95	33	70	79.5	55.5	35	31	79	103
30	529	415	128	52	102	109	66.5	34	60	138	177
	B2	L1	P1	P2	P3	P4	Q	Q1	S	S1	R1
10	99	131	35	83	26.5	48.5	16	9.5	103	65.5	29
20	151	196	55	127	25	83.5	25	11.5	157	83.5	43
30	255	335	99	216	50	110	40	18	275	110	60



PRESSURE DROP





TECHNICAL DATA

Description	Symbol	Data
Max. operating pressure in port P, A, B	P_{max}	350 bar (see note)
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: When pressure on connection T exceeds 30 bar, drain connection (L) must be used.

Flow and Weights:

Size	Max. Flow	Weight
10 mm	50 l/min	5.7 kg
20 mm	200 l/min	14.9 kg
30 mm	450 l/min	45.5 kg



Interfaces:

Size	Description		Data
	<i>Threaded Connections</i>	<i>Screws</i>	<i>Tightening Torque [Nm]</i>
10 mm	½” BSPP	4 off M 10 – DIN931	34.4
20 mm	1” BSPP	4 off M 12 – DIN931	54.0
30 mm	1 ½” BSPP	4 off M 16 – DIN931	78.5



INSTALLATION

The Directional Control Valves 5 ST are installed to the pipeline with threaded connections and mounted to a bracket or similar with 4 off screws. Please refer to 'Interfaces', for details about connections and screws.

OPERATION

Manual

Proportional manual control is performed by means of the hand lever. If the valve is delivered with centring spring the spool will return to the neutral position after operating the hand lever. If the valve has detents the spool will remain in the position set by hand lever.

Remote

In the remotely controlled valves, an external pilot pressure moves the spool to requested position – on/off.

MAINTENANCE

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

CAUTION: Do not paint the hand lever shaft seal.

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'.