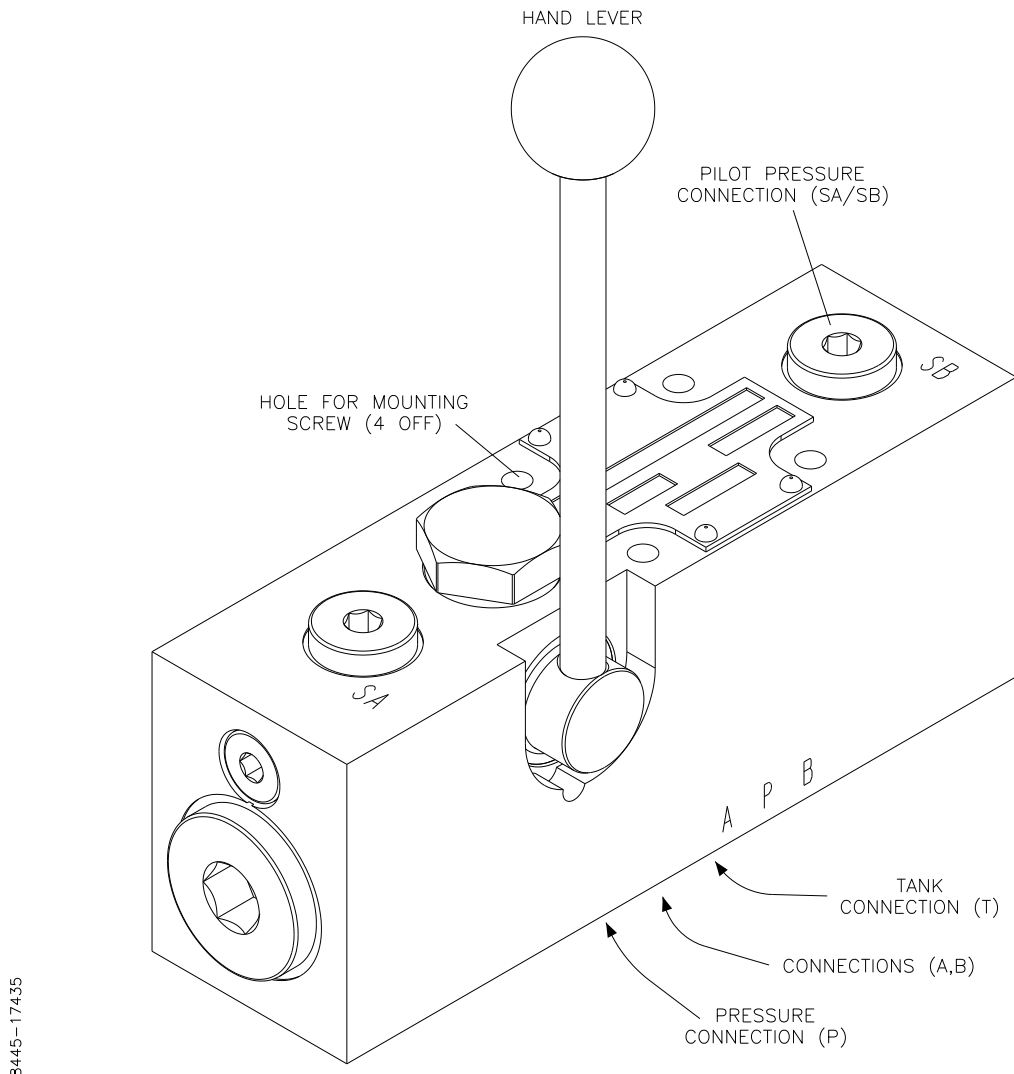


## DIRECTIONAL CONTROL VALVES 1STB44\*1\*\*\*D GENERAL DESCRIPTION



8445-17435

*Figure 1 1STB44\*1\*\*\*D General Arrangement*

The Directional Control Valves 1STB44\*1 (NG6) are 4-ways seawater resistant valves for distribution and stopping of flow in hydraulic systems. The valves have the following characteristics:

- Delivered for gasket mounting to a sub plate according to ISO standard 4401.
- Manually operated by hand lever or remote controlled (on/off) by hydraulic pilot pressure.
- Delivered with a flow capacity of 25 l/min (NG6 – ISO 03).
- Six standard spools are available.
- Option to get spool with reduced flow capacity, which provides a smooth start/stop of an actuator when manual operated.
- A number of possibilities for spool positioning, spring or detents.

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



**MODULAR CODE**

| Options                                 | Remarks   | Design Code | Fill in    |
|---|---|-------------|------------|
| <b>Mounting</b>                         |   |             | <b>1ST</b> |
| SUB Plate                               | ISO 4401  | <b>B</b>    | <b>B</b>   |
| <b>Type</b>                             |   |             |            |
| 4-ways                                  | No options  | <b>4</b>    | <b>4</b>   |
| <b>Pressure</b>                         |   |             |            |
| 350 bar                                 | No options  | <b>4</b>    | <b>4</b>   |
| <b>Operation</b>                        |   |             |            |
| Manual                                  |   | <b>1</b>    |            |
| Remote                                  |   | <b>2</b>    |            |
| Manual/Remote                           |   | <b>5</b>    |            |
| <b>Size</b>                             |   |             |            |
| NG6 (ISO-03)                            | 25 l/min  | <b>1</b>    | <b>1</b>   |
| <b>Spool Type</b>                       |   |             |            |
|   |   | <b>01</b>   |            |
|   |   | <b>02</b>   |            |
|   |   | <b>03</b>   |            |
|   |   | <b>06</b>   |            |
|   |   | <b>07</b>   |            |
|   |   | <b>2C</b>   |            |
|   | Proportional controlled manual<br>(reduced flow capacity) | <b>7E</b>   |            |
| <b>Spring / Detents Positions</b>       |   |             |            |
|   |   |             |            |
| No spring                               |   | <b>0</b>    |            |
| Spring centred                          |   | <b>1</b>    |            |
| Spring offset to A                      |   | <b>2</b>    |            |
| Spring offset to B                      |   | <b>3</b>    |            |
| Detents in all positions                |   | <b>4</b>    |            |
| Detents in position B and 0, A blocked  |   | <b>7</b>    |            |
| Spring offset to B, A blocked           |   | <b>8</b>    |            |
| Spring centred, A blocked               |   | <b>9</b>    |            |
| Spring centred, B blocked               |   | <b>A</b>    |            |
| Detents in positions A and 0, B blocked |   | <b>B</b>    |            |
| Spring offset to A, B blocked           |   | <b>C</b>    |            |
| <b>Modification</b>                     |   |             |            |
|   | No options  | <b>D</b>    | <b>D</b>   |

In example a 1STB44\*1\*\*\*D valve; manually controlled, spool type 02 and spring centred will have modular code: **1STB4411021D**.



**DIMENSIONS**

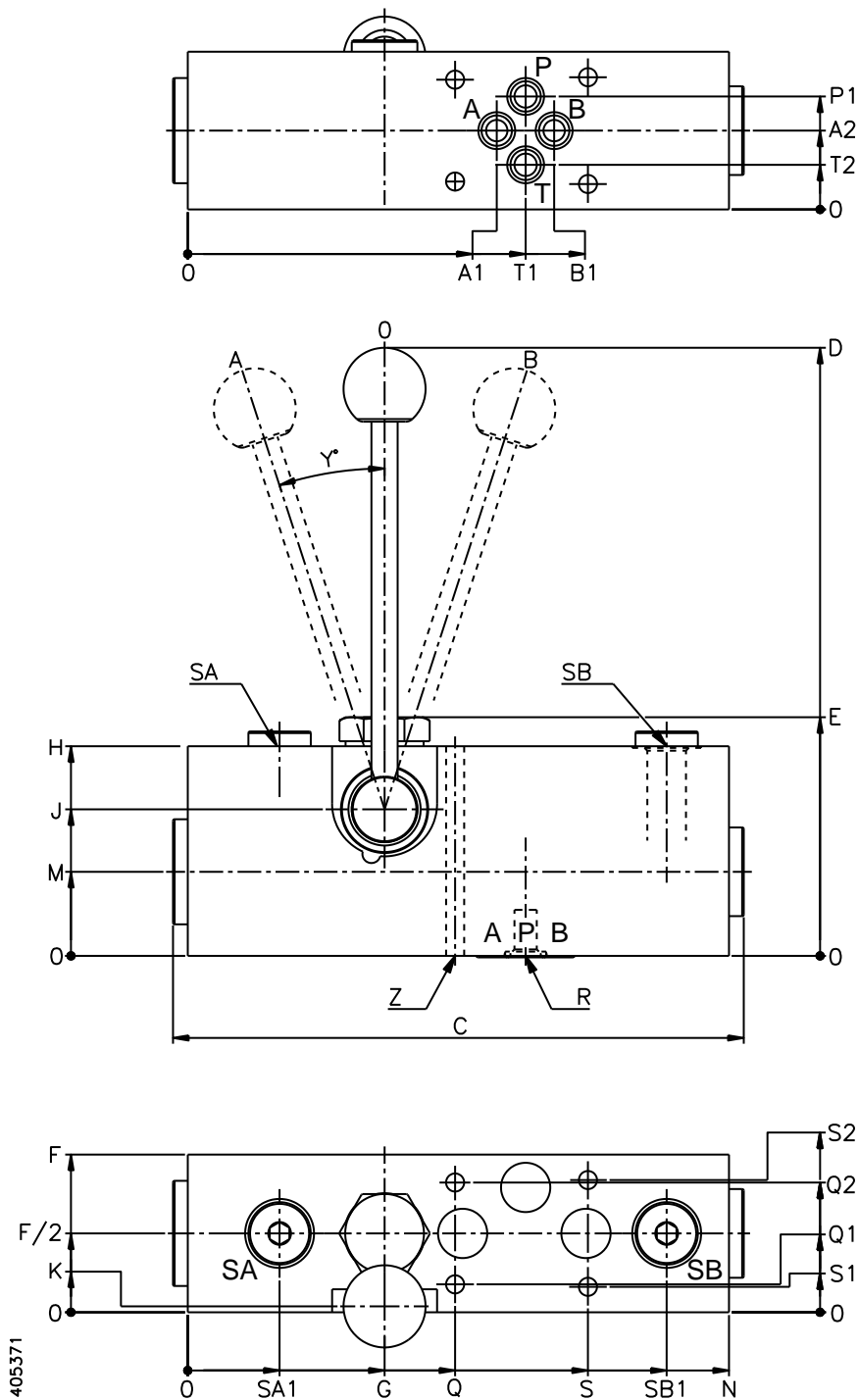
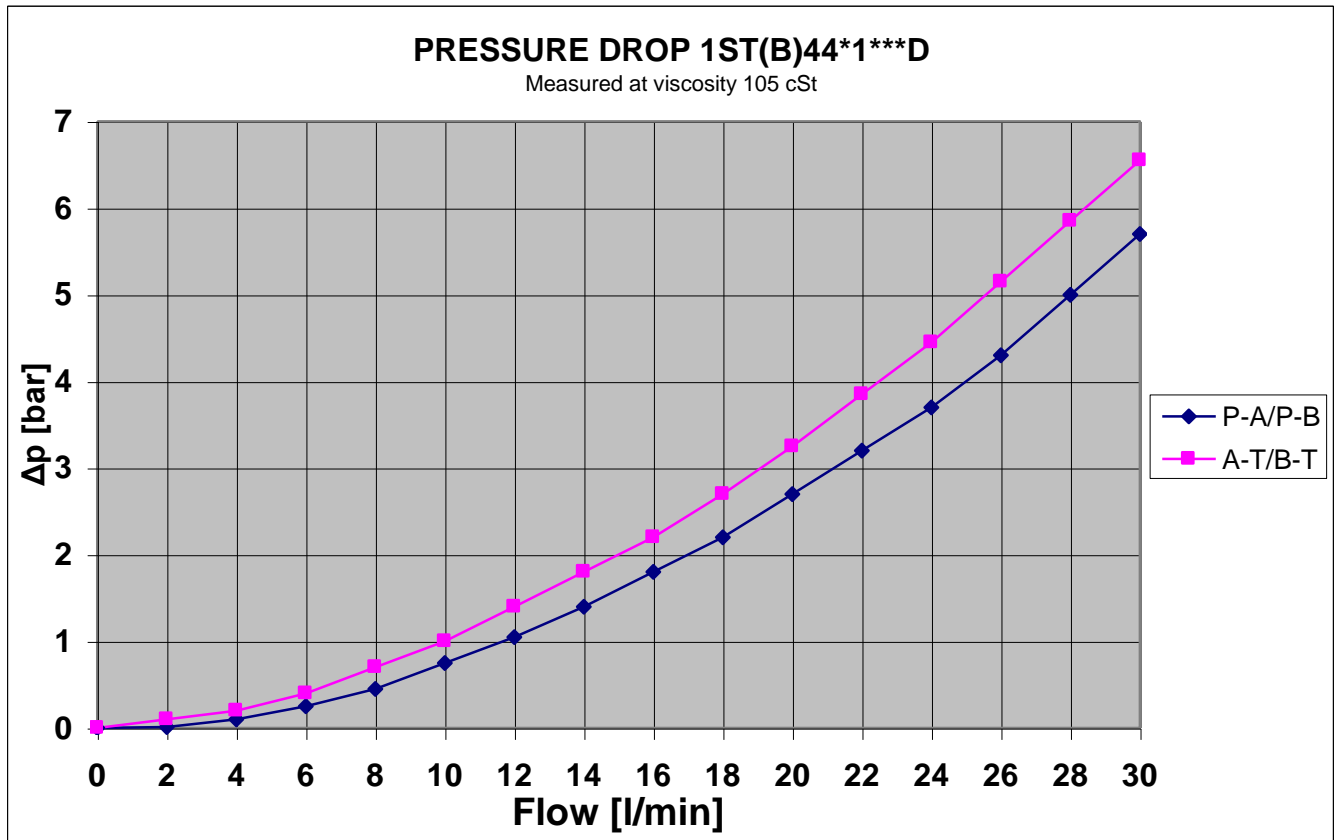


Figure 2 1STB44\*1\*\*\*D Dimensions

| Size [mm] | C        | D        | E         | F         | G         | H         | J        | K         | M         | N         | Y         | A1       | SA [BSPP]  | SB [BSPP]  |
|-----------|----------|----------|-----------|-----------|-----------|-----------|----------|-----------|-----------|-----------|-----------|----------|------------|------------|
| 6         | 174      | 185      | 72.6      | 48        | 60        | 63.8      | 44.6     | 1.8       | 25.6      | 165       | 18°       | 94.2     | 1/4"       | 1/4"       |
|           | <b>A</b> | <b>B</b> | <b>P1</b> | <b>Q1</b> | <b>Q1</b> | <b>Q2</b> | <b>S</b> | <b>S1</b> | <b>S2</b> | <b>T1</b> | <b>T2</b> | <b>Z</b> | <b>SA1</b> | <b>SB1</b> |
|           | 24       | 112      | 34.4      | 81.5      | 8.5       | 39.5      | 122      | 7.75      | 40.25     | 103       | 13.6      | 5,5      | 28         | 146        |



### PRESSURE DROP



## TECHNICAL DATA

| Description  | Symbol        | Data   |
|--|---------------|--|
| Maximum flow   | $Q_{max}$     | 25 l/min   |
| Weight   |               | 3.3 kg   |
| Nominal size   | $D_n$         | 6 mm   |
| Max. operating pressure in port P, A, B                        | $P_{max}$     | 350 bar  |
| Max. pressure in port T  | $T_{max}$     | 100 bar  |
| Max. pressure in port SA/SB                                    | $SA/SB_{max}$ | 100 bar  |
| Directional valve pilot pressure (for changing spool position) | P             | 6 bar  |
| Test Pressure  |               | 420 bar  |
| Hydraulic fluid  |               | Mineral oils for hydraulic system                          |
| Viscosity range:   | $\nu$         | 10 to 350 mm <sup>2</sup> /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   |

### Interfaces:

| Description | Type                  | Tightening Torque |
|-------------|-----------------------|-------------------|
| Screws      | 4 off M5 x 70 DIN 931 | 7.0 Nm            |
| O-rings     | 4 off 9.25 x 1.78 mm  |                   |



## INSTALLATION

The Direction Control Valves 1STB44\*1\*\*\*D are installed with 4 off screws to a SUB plate (ISO 4401). Please refer to 'Interfaces', for details about screws and o-rings.

## OPERATION

### Manual

Manual control is performed by 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 the hand lever.

### Remote

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

### Manual/Remote

Operation as for the remotely controlled valves, but in addition the valves are equipped with a hand lever for override of the pilot pressure. The hand lever is mechanically connected to the spool.

## 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'.