

# 2-way Control Valves type L1SB

## Gun Metal, PN 16, DN 15 – 32 mm

2.2.04-H

GB-1

### Characteristics

- Nominal pressure PN 16
- Regulating capability  $\frac{k_{vs}}{k_{vr}} > 25$
- Single seated, balanced
- Quadratic characteristic

### Applications

Control valves type L1SB are designed for regulation of hot water, steam and lubricating oils.

The valves are installed combined with our self-acting thermostats, pressure differential regulators or electric valve actuators for regulation in central heating plants, industrial plants, industrial processes or marine installations.

### Design

The valve components - spindle, seats and cone - are made of stainless steel. The valve body is made of gun metal RG 5.

The thread for the actuator connection is G1B ISO 228. The valve is single seated, balanced. The leakage rate is less than 0.05% of the full flow (according to VDI/VDE 2174).

### Quality assurance

All valves are manufactured under an ISO 9001 certification, and are pressure and leakage tested before shipment.

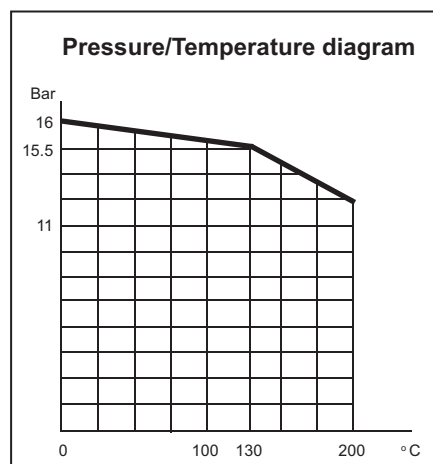
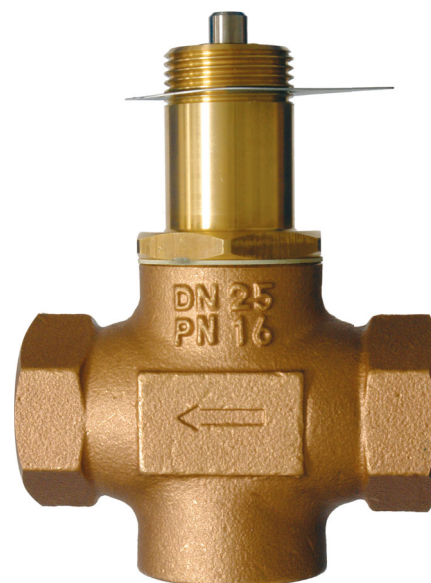
### Function

Without the actuator being connected, the valve is held in open position by means of a spring. With pressure on the spindle the valve will close.

In connection with our thermostats the valves will close at rising temperatures.

In connection with our electric valve actuators the valves will either close or open depending on the application.

The quadratic characteristic will not cease, until the flow has dropped below 4% of the full flow.



### Technical data

Materials:

- valve body Gun metal RG 5
- components Stainless steel

Nominal pressure PN 16

Seating Single seated

Valve characteristic Quadratic

Leakage  $\leq 0.05\%$  of  $k_{vs}$

Temperature range See pressure/temperature diagram

Mounting See page 2

Internal connection threads

ISO 7/1

| Specifications |                    |       |            |                                   |                   |           |
|----------------|--------------------|-------|------------|-----------------------------------|-------------------|-----------|
| Type           | Connection threads | DN mm | Opening mm | $k_{vs}$ -value m <sup>3</sup> /h | Lifting height mm | Weight kg |
| 15 L1SB        | Rp ½               | 15    | 15         | 2.75                              | 6                 | 1.0       |
| 20 L1SB        | Rp ¾               | 20    | 20         | 5                                 | 6.5               | 1.3       |
| 25 L1SB        | Rp 1               | 25    | 25         | 7.5                               | 7                 | 1.6       |
| 32 L1SB        | Rp 1¼              | 32    | 32         | 12.5                              | 8                 | 2.9       |

Subject to change without notice.

# 2-way Control Valves type L1SB

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### Definition of $k_{VS}$ -value

The  $k_{VS}$ -value is identical to the IEC flow coefficient  $k_v$  and defined as the water flow rate in m<sup>3</sup>/h through the fully open valve by a constant differential pressure,  $\Delta p_v$ , of 1 bar.

### Mounting

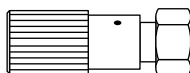
Up to 170°C the valve can be installed vertically as well as horizontally. For media temperature above 170°C, a cooling unit of type KS-4 has to be applied. It must then be installed with electric actuator/thermostat downwards.

### Strainer

It is recommended to use a strainer in front of the control valve if the liquid contains suspended particles.

### Accessories

#### Manual Adjusting Device



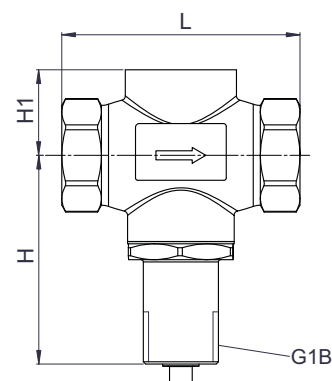
The device has a built-in stuffing box. For sealing and manual operation of valves when an actuator has not been fitted, e.g. during periods of construction (max. 170°C).

#### Cooling Unit KS-4



Cooling unit protecting the stuffing box of the electric actuator/thermostat. To be applied at valve temperatures between 170°C and 250°C.

### Dimension sketch



| Type    | L<br>mm | H<br>mm | H1<br>mm |
|---------|---------|---------|----------|
| 15 L1SB | 85      | 86      | 30       |
| 20 L1SB | 95      | 94      | 35       |
| 25 L1SB | 105     | 92      | 40       |
| 32 L1SB | 138     | 94      | 54       |

### Dimensioning

| Type  | Water / Steam                        | Thermostats |    | Valve actuators<br>VB/VBA | Pressure differential controllers |        |
|-------|--------------------------------------|-------------|----|---------------------------|-----------------------------------|--------|
|       |                                      | V2          | V4 |                           | TD66-4                            | TD66-8 |
| DN 15 | Water: $\Delta p_L$ & max. $p_1$ bar | 16          | 16 | 16                        | 16                                | 16     |
|       | Steam: $\Delta p_L$ & max. $p_1$ bar |             |    |                           |                                   |        |
| DN 20 | Water: $\Delta p_L$ & max. $p_1$ bar |             |    |                           |                                   |        |
|       | Steam: $\Delta p_L$ & max. $p_1$ bar |             |    |                           |                                   |        |
| DN 25 | Water: $\Delta p_L$ & max. $p_1$ bar |             |    |                           |                                   |        |
|       | Steam: $\Delta p_L$ & max. $p_1$ bar |             |    |                           |                                   |        |
| DN 32 | Water: $\Delta p_L$ & max. $p_1$ bar |             |    |                           |                                   |        |
|       | Steam: $\Delta p_L$ & max. $p_1$ bar |             |    |                           |                                   |        |

$p_1$  = absolute pressure

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