

Balanced 2-way Control Valves type H1FB

Cast steel, PN 40, DN 25 – 80 mm

2.4.03-I

GB-1

Characteristics

- Pressure balanced
- Single seated, tight closing
- Quadratic valve characteristic
- Regulating capability better than 25:1

Applications

The pressure balanced control valves type H1FB are designed for regulating hot water, steam, hot oil etc. and can be used if a single-seated valve is required, but where the system pressure and valve size, out of regard for the pressure force of the actuator, necessitate a pressure balanced valve.

The valves are installed combined with one of our temperature regulators in control systems in domestic premises, district heating systems, industrial processes or marine installations.

Dimensioning

For sizing of control valves and selection of actuators, please see "Quick Choice" leaflet no. 9.0.00.

Design

The valve components - spindle, seat, cone and bellows - are made of stainless steel.

The bellows for balancing the pressure is fitted on the valve spindle and it reduces

the power necessary for closing the valve, as the upstream pressure of the medium through the hollow valve spindle acts outside and the pressure after the valve acts inside the bellows system.

The valve body is made of cast steel GP240GH (GS-C25) with connection flanges drilled according to EN 1092-1. The connection thread for the actuator is G1B ISO 228.

The valves are single seated and tight closing. The leakage is less than 0.05% of full flow (see VDI/VDE 2174).

Function

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

In connection with our thermostats, the valves will close at rising temperatures. For cooling circuits a reverse acting valve can be used.

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

Quality assurance

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

For marine applications the valves can be supplied with relevant test certificates from recognized classification societies.

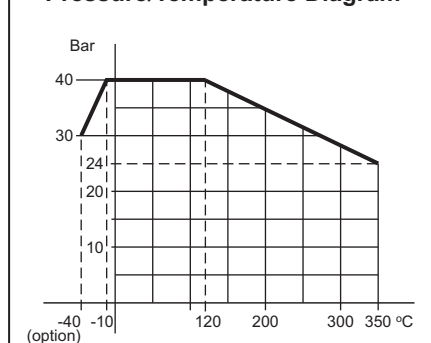


Technical Data

Materials:

- Valve body	Cast steel GP240GH (GS-C25)
- Components	Stainless steel
- Bolts, nuts	24 CrMo 4/A4
Nominal pressure	PN 40
Seating	Single seated
Valve characteristic	Quadratic
Regulating capability	$\frac{k_{vs}}{k_{vr}} > 25$
Leakage	$\leq 0.05\%$ of k_{vs}
Temperature range	See pressure/ temperature diagram
Mounting	See page 2
Flanges	EN 1092-1 PN 40
Colour	Green

Pressure/Temperature Diagram



Specifications

Type	Flange connection DN in mm	Opening mm	k_{vs} -value m ³ /h	Lifting height mm	Weight kg
25 H1FB	25	25	7.5	7	6
32 H1FB	32	32	12.5	8	9
40 H1FB	40	40	20	9	13
50 H1FB	50	50	30	10	16
65 H1FB	65	65	50	13	23
80 H1FB	80	80	80	16	38

Subject to changes without notice.

Balanced 2-way Control Valves type H1FB

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GB-2

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 m³/h through the fully open valve by a constant differential pressure, Δp_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 has to be applied. It must then be installed with actuator/thermostats downwards, and according to the following instructions:

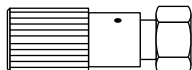
Valve Temperature	Cooling Unit	Suitable for
170°C - 250°C	KS-4	All actuators
250°C - 350°C	KS-5	Thermostats
250°C - 350°C	KS-6	El. actuators

Strainer

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

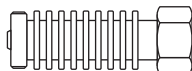
Accessories

Manual Adjusting Device



The device has a built-in stuffing box. For tightening and manual operation of valves when an actuator has not been fitted, e.g. during periods of construction.

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.

Cooling Unit KS-5



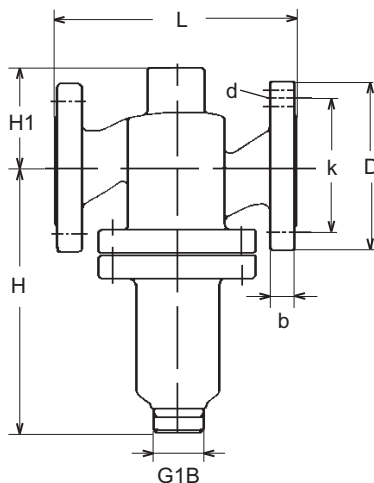
Cooling units with built-in bellow glands, replacing stuffing box of thermostat (KS-5) or electric valve actuator (KS-6). Must be applied at valve temperatures above 250°C.

Cooling Unit KS-6

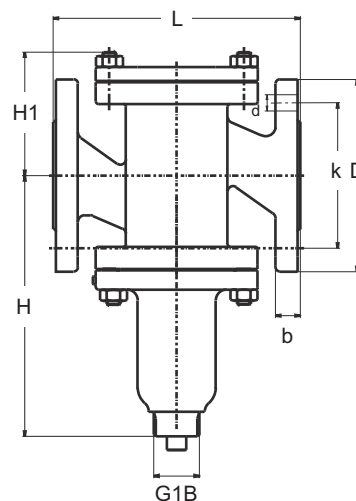


Dimension sketch

Valve size DN 25-65 mm



Valve size DN 80 mm



Dimensions

Type	L mm	H mm	H1 mm	b mm	D (dia.) mm	k (dia.) mm	d mm dia. (number)
25 H1FB	160	180	70	18	115	85	14x(4)
32 H1FB	180	195	75	18	140	100	18x(4)
40 H1FB	200	205	85	18	150	110	18x(4)
50 H1FB	230	225	95	20	165	125	18x(4)
65 H1FB	290	260	110	22	185	145	18x(8)
80 H1FB	310	275	115	24	200	160	18x(8)

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