

Characteristics

- Nominal pressure PN 40
- Regulating capability $\frac{k_{vs}}{k_{vr}} > 25$
- Single-seated, tight closing
- Quadratic characteristic

Applications

Control valves type H1F are designed for regulating hot water, steam and hot oil systems.

The valves are used in conjunction with our temperature or pressure differential regulators for controlling industrial processes, district or central heating plants or marine installations.

Dimensioning

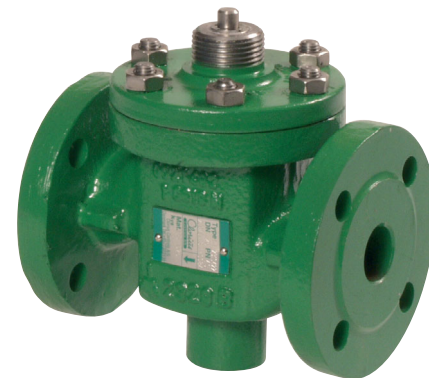
For sizing of control valves and selection of actuators, please see "Quick Choice" leaflet no. 9.0.00.

Design

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

The valve body is made of cast steel GP240GH (GS-C25) with flanges drilled according to EN 1092-1 or ANSI B16.5 Class 150. The thread for the actuator connection is G1B ISO 228.

The valves are single-seated and designed for tight closure. The leakage rate is less than 0.05% of the full flow (according to VDI/VDE 2174).



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 or electronic actuators, the valves will close at rising temperatures. For cooling circuits a reverse acting valve can be used.

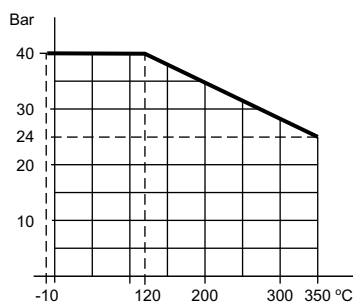
The quadratic characteristic will not cease until the flow has dropped below 4% of the full flow.

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.

Pressure/Temperature Diagram



Technical Data

Materials:

Valve body	Cast steel GP240GH (GS-C25)
- trim	Stainless steel
- bolts, nuts	24 CrMo 4/A4
Nominal pressure	PN 40
Seating	Single seated
Flow characteristic	Quadratic
Regulating capability	$\frac{k_{vs}}{k_{vr}} > 25$
Seat leakage	$\leq 0.05\%$ of k_{vs}
Temperature range	See diagram
Mounting	See page 2
Flanges drilled according to	EN 1092-1 PN 40 or ANSI B16.5 Class 150
Counter flanges	DIN 2635
Colour	Green

Subject to changes without notice.

Specifications					
Type	Flange connection DN in mm	Opening mm	k_{vs} -value m ³ /h	Lifting height mm	Weight kg
15 / 4 H1F	15	4	0.20	6	3.3
15 / 6 H1F	15	6	0.45	6	3.3
15 / 9 H1F	15	9	0.95	6	3.4
15 / 12 H1F	15	12	1.7	6	3.4
15 H1F	15	15	2.75	6	3.4
20 / 4 H1F	20	4	0.2	6.5	4.7
20 / 6 H1F	20	6	0.45	6.5	4.7
20 / 9 H1F	20	9	0.95	6.5	4.7
20 H1F	20	20	5	6.5	4.9
25 H1F	25	25	7.5	7	6.1
32 H1F	32	32	12.5	8	9.0
40 H1F	40	40	20	9	10.8
50 H1F	50	50	30	10	15.5

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^3/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:

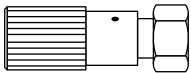
Valve Temperature	Cooling Unit	Suitable for
170°C - 250°C	KS-4	All actuators
250°C - 350°C	KS-5	Thermostats
250°C - 350°C	KS-6	Valve Motors

Strainer

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

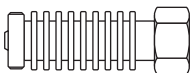
Accessories

Manual Adjusting Device



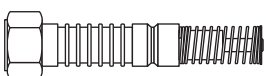
The device has a built-in stuffing box. For sealing and manual operation of valves when an actuator has not been fitted, e.g. during periods of construction.

Cooling Unit KS-4



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

Cooling Unit KS-5

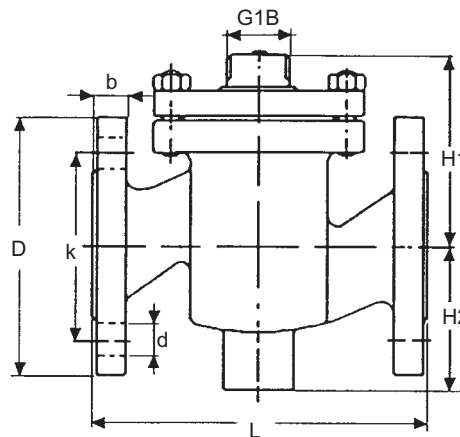


Cooling units with built-in bellow glands, replacing stuffing box of thermostat (KS-5) or valve motor (KS-6). Must be applied at valve temperatures above 250°C.

Cooling Unit KS-6



Dimension sketch



Dimensions

Type	L mm	H1 mm	H2 mm	b mm	EN 1092-1			ANSI B16.5 Class 150		
					D (dia.) mm	k (dia.) mm	d mm dia. (number)	D (dia.) mm	k (dia.) mm	d mm dia. (number)
15 / 4 H1F	130	80	60	16	95	65	14x(4)	89	61	16x(4)
15 / 6 H1F	130	80	60	16	95	65	14x(4)	89	61	16x(4)
15 / 9 H1F	130	80	60	16	95	65	14x(4)	89	61	16x(4)
15 / 12 H1F	130	80	60	16	95	65	14x(4)	89	61	16x(4)
15 H1F	130	80	60	16	95	65	14x(4)	89	61	16x(4)
20 / 4 H1F	150	85	65	18	105	75	14x(4)	98	70	16x(4)
20 / 6 H1F	150	85	65	18	105	75	14x(4)	98	70	16x(4)
20 / 9 H1F	150	85	65	18	105	75	14x(4)	98	70	16x(4)
20 H1F	150	85	65	18	105	75	14x(4)	98	70	16x(4)
25 H1F	160	95	70	18	115	85	14x(4)	108	79	16x(4)
32 H1F	180	105	75	18	140	100	18x(4)	118	89	16x(4)
40 H1F	200	110	85	18	150	110	18x(4)	127	98	16x(4)
50 H1F	230	125	95	20	165	125	18x(4)	153	121	19x(4)