

Characteristics

- Nominal pressure PN 25
- Regulating capability $\frac{k_{vs}}{k_{vr}} > 25$
- Double seated
- Reverse acting (normally closed)
- For cooling water and lubrications

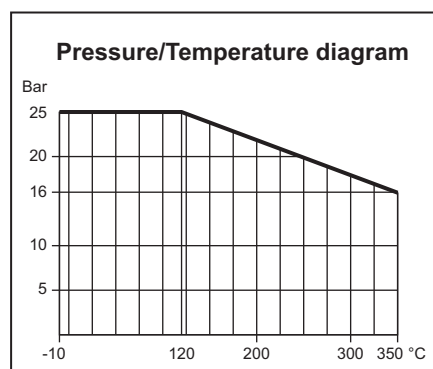
Applications

Valves type H2FR are mainly intended for control of cooling systems.

The valves are used in conjunction with temperature- or pressure differential regulators.

As the reverse acting valves are held in closed position by means of a built-in spring, the max. differential pressure, Δp_L , against which a valve can close depends on the spring and when opening the valve, the actuator has to overcome the spring force.

Please find below the max. allowable values of Δp_L as well as the max. allowable inlet pressures for opening the valves, p_{1max} for various actuator forces.



Dimensioning

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

Design

The valve components - spindle, seats 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. The connection thread for the actuator is G1B ISO 228. The valves are double-seated and designed for tight closure. The leakage rate is less than 0.5% 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. For marine applications the valves can be supplied with relevant test certificates from recognized classification societies.

Function

Without an actuator being connected, the valve is held in closed position by means of a spring. With pressure on the spindle the valve opens.

In connection with our thermostats, the valves act as "cooling" valves, i.e. they open at rising temperatures.

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



Technical data

Materials:

- Valve body	Cast steel GP240GH (GS-C25)
- Trim	Stainless steel
- Bolts, nuts	24 CrMo 4/A4
Nominal pressure	PN 25
Seating	Double seated
Flow characteristic	Almost quadratic
Regulating capability	$\frac{k_{vs}}{k_{vr}} > 25$
Function	Opening with pressure on spindle
Leakage rate	$\leq 0.5\%$ of k_{vs}
Temperature range	See pressure/temperature diagram
Mounting	See page 2
Flanges	EN 1092-1 PN 25
Counter flanges	DIN 2635 / DS625
Colour	Green

Note: All Clorius valves are approved in accordance to the Pressure Equipment Directive (PED). Valve type 150 H2FR is only approved for nominal pressure PN 16, but for applications not effected by the PED, valve type 150 H2FR can be delivered for nominal pressure PN 25.

Specifications							
Type	Flange connection DN in mm	Opening mm	k_{vs} -value m ³ /h	Lifting height mm	Max. Δp_L bar	Actuat. force N	Weight kg
100 H2FR	100	100	125	20	12.1	800	39
125 H2FR	125	125	215	20	9	800	73
150 H2FR	150	150	310	20	7.5	800	76

Subject to changes without notice.

Definition of k_{VS} -value

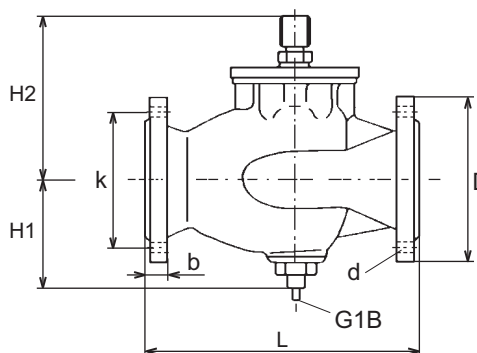
The k_{VS} -value is identical to the IEC flow coefficient k_v and defined as the water flow rate in m³/h through the fully open valve by a constant differential pressure, Δp_v , of 1 bar.

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 electric actuator/ thermostat 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

Dimension sketch

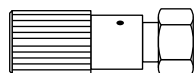


Strainer

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

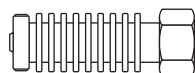
Accessories

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 electric actuator / thermostat. To be applied at valve temperatures between 170°C and 250°C.

Cooling Unit KS-5



Cooling units with built-in bellows 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



Subject to changes without notice.

Dimensions							
Type	L mm	H1 mm	H2 mm	D (dia.) mm	b mm	k (dia.) mm	d mm dia. (number)
100 H2FR	350	145	240	220	24	190	23x8
125 H2FR	400	180	290	250	26	220	27x8
150 H2FR	400	180	290	285	28	250	27x8