

2-way control valves type H2FR

Cast steel, PN 25, DN 100 – 150 mm, Reverse acting

2.4.10-B

GB-1

Characteristics

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

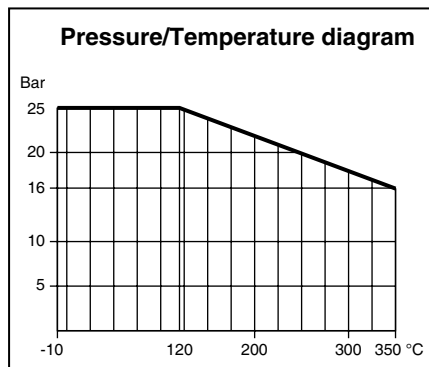
Applications

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 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 GS-C25
- Trim	Stainless steel
- Bolts, nuts	24 CrMo 4/A4
Nominal pressure	PN 25
Seating	Double seated
Flow characteristic	Linear
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

Specifications

Type	Flange connection DN	Opening mm	k_{vs} -value m ³ /h	Lifting height mm	Max. Δp_v bar	Actuat. force N	Weight kg
100 H2FR	100 mm	100	125	15	12,1	800	39
125 H2FR	125 mm	125	215	18	9	800	73
150 H2FR	150 mm	150	310	18	7,5	800	76

Subject to changes without notice.

2-way control valves type H2FR

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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 m^3/h through the fully open valve by a constant differential pressure, Δp_V , of 1 bar.

Mounting

The valves can be installed with vertical as well as horizontal spindles. For valve temperatures of max. 150°C, the thermostat/actuator can be fitted below or above the valve. For valve temperatures above 150°C, a cooling unit of type KS has to be applied with connection downwards - according to the following instructions:

Valve Temperature	Cooling Unit	Suitable for
150°C - 250°C	KS-4	All actuators
250°C - 300°C	KS-5	Thermostats
250°C - 300°C	KS-6	Valve Motors

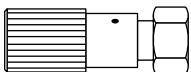
KS-5 or KS-6 must be applied to hot oil systems.

Strainer

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

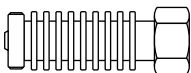
Accessories

Manual Adjusting Device



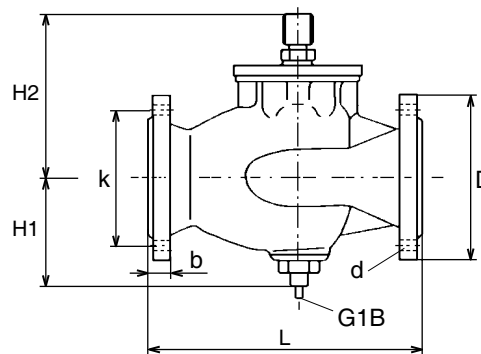
The device has a built-in stuffing box. For sealing and manual operation of valves when an actuator has not been fitted, e.g. during periods of construction.

Cooling Unit KS-4



Cooling unit protecting the stuffing box of the motor / thermostat. To be applied at valve temperatures between 150°C and 250°C.

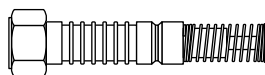
Dimension sketch



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

Cooling Unit KS-5



Cooling Unit KS-6



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 and in hot oil systems.

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