

Characteristics

- Nominal pressure PN 25
- Regulating capability $\frac{k_{vs}}{k_{vr}} > 25$
- Same k_{vs} -value as mixing and diverting valve
- Quadratic / linear characteristic

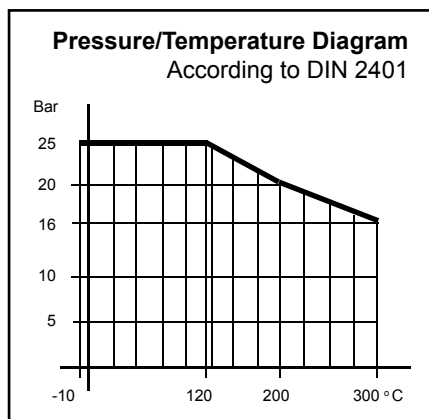
Applications

Control valves type G3F are designed for hot water and hot oil systems and can be installed in pipe systems as mixing or diverting valves.

The valves are used in conjunction with our temperature 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, seats and cone - are made of stainless steel.

The valve body is made of nodular cast iron EN-GJS-400-15 with flanges drilled according to EN 1092-2.

The thread for the actuator connection is G1B ISO 228.

The valves have two balanced single seats and are designed for tight closure. The leakage rate is less than 0,5% of the full flow (according to VDI/VDE 2174).

Quality assurance

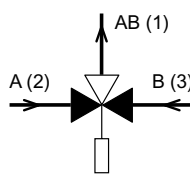
All valves are manufactured under an ISO 9001 certification and are pressure and leakage tested before shipment.

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

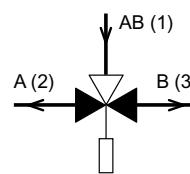
Port Numbering

Valves type G3F are marked with the internationally recognized port designations: A, B, AB.

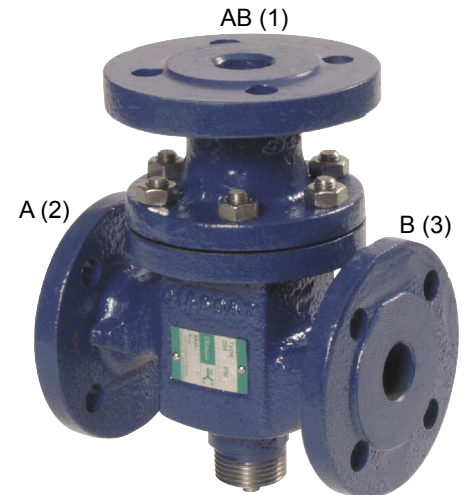
Mixing valve



Diverting valve



Port AB common port always open
Port A closes by activating the spindle
Port B opens by activating the spindle



Function

Without an actuator being installed, connection A-AB is fully open and connection B-AB completely closed, by means of a spring.

By increasing pressure on the spindle, the opening of the ports changes proportionally to the travel of the spindle, and when the spindle is pressed to the bottom, connection B-AB is fully open and connection A-AB completely closed.

The valve characteristics are as follows:

Port A-AB and AB-A: quadratic

Port B-AB and AB-B: almost linear

These characteristics ensure constant total flow under almost all pressure conditions and optimum circulation in the individual circuits.

Technical Data

Materials:

- Valve body	Nodular cast iron EN-GJS-400-15
- Components	Stainless steel
- Nuts, bolts	24 CrMo 5/A4
Nominal pressure	PN 25
Seating	2 balanced single seats
Valve characteristic	Quadratic / linear
Regulating capability	$\frac{k_{vs}}{k_{vr}} > 25$
Leakage	$\leq 0,5\%$ of k_{vs}
Temperature range	See pressure/temperature diagram
Mounting	See page 2
Flanges - drilled according to	EN 1092-2 PN 25
Counter flanges	DIN 2634
Colour	Blue

Specification					
Type	Flange Connection	Opening DN in mm	k_{vs} -value * m ³ /h	Lifting height mm	Weight kg
25 G3F	25 mm	25	7,5	7	7
32 G3F	32 mm	32	12,5	8	10
40 G3F	40 mm	40	20	9	14
50 G3F	50 mm	50	30	10	18

* Same k_{vs} -values for mixing and diverting valves

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 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

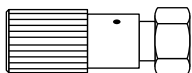
KS-5 or KS-6 must be applied to hot oil systems.

Strainer

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

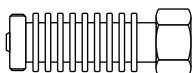
Accessories

Manual adjusting device



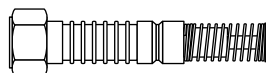
The device has a built-in stuffing box. For sealing and manual operation of valves when an actuator has not been fitted, e.g. during periods of construction.

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.

Cooling unit KS-5



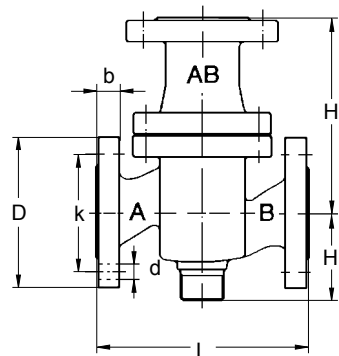
Cooling units with built-in bellow glands, replacing stuffing box of thermostat (KS-5) or valve motor (KS-6). Must be applied at valve temperatures above 250°C and in hot oil systems.

Cooling unit KS-6



Subject to changes without notice.

Dimension Sketch



Dimensions

Type	L mm	H mm	H1 mm	D (dia.) mm	b mm	k (dia.) mm	d mm dia. (number)
25 G3F	160	130	70	115	16	85	14x(4)
32 G3F	180	150	75	140	18	100	18x(4)
40 G3F	200	160	85	150	18	110	18x(4)
50 G3F	230	190	95	165	20	125	18x(4)