

SpaceLogic VG221F

65-150C

Flanged Two-way Pressure Balanced Globe Valve PN16

The VG221F 65-150C valve is primarily intended to be used in heating, cooling and air conditioning applications.

The VG221F 65-150C valve can be used with the following types of fluids:

- hot water, or deaerated cooling water.
- deaerated water with glycol-type antifreeze agent (max.50%)



Specifications

Design	Two-way pressure balanced globe valve	
Valve closed position	Stem up closed	
Pressure class	PN 16	
Flow characteristics	EQ%	
Rangeability Kvs/Kv _{min}	>50	
Stroke		
DN 65	25 mm	
DN 80...150	45 mm	
Leakage	<0.03% of Kvs	
ΔP _m	200 kPa, water	
Max. temperature of medium	150 °C	
Min. temperature of medium**	-10 °C	
Connection	Flange according ISO 7005-2	
Materials		
Body	Grey cast iron (EN JL1040)	
Stem	Stainless steel (AISI 303)	
Plug	Bronze (CB491K UNI EN 1982)	
Seat	Grey cast iron (EN JL1040)	
Packing box	EPDM	

Note: It is the responsibility of the installer or product specifier to verify media compatibility of the valves construction materials with the supplier of water treatment/heat transfer solution. It is expected that adequate filtration and water treatment is undertaken in any piped network this control valve is installed within.

** At fluid temperatures below 0°C a stem or yoke heater should be installed to protect the stem and gland seals.

Ordering Table

Size	Kvs		Part number	Type Designation	Stroke (mm)
	in.	DN			
2½"	65	63	VG221F-65C	VG221F-65C 63M SU00	25
3"	80	100	VG221F-80C	VG221F-80C 100M SU00	45
4"	100	130	VG221F-100C	VG221F-100C 130M SU00	
5"	125	200	VG221F-125C	VG221F-125C 200M SU00	
6"	150	300	VG221F-150C	VG221F-150C 300M SU00	

Key to technical specifications

- The rangeability is the ratio of Kvs and Kv_{min}
- Kvs is the maximum flow capacity (m³/h) of a fully open valve at a pressure drop of 100 kPa across the seat.
- Kv_{min} is the minimum controllable flow (m³/h) at a pressure drop of 100 kPa
- ΔP_m is the maximum allowable pressure drop across a fully open valve.
- ΔP_c is the maximum close off pressure the actuator will deliver

Recommendations

It is recommended to fit a strainer upstream if the valve to increase reliability and to follow waste treatment guidelines as detailed in VDI 2035. Valves should be installed in the return pipe to reduce exposure to media temperature extremes.

Spares and Accessories

Stem Packing Gland (All Sizes): 1 001 0810 0

SpaceLogic Yoke Heater (-8°C Media): FYH050

Function and Flow Characteristic

The design of the VG221F plug is pressure balanced to ensure high close off pressure with lower actuator force.

The valve closes with the stem up.

The flow characteristic of the VG221F is equal percentage (EQ%, also called logarithmic). This provides an equal percentage change in flow which is desirable in temperature control systems with large load variations.

Pressure Drop Performance vs Actuator

Size DN	Kvs (m³/h)	M700	MG900 SR	M800	M1500/ MV15B
		ΔP _c (kPa)			
65	63	1300	1600	1600	1600
80	100	1000	..	1450	
100	130	700		1000	
125	200	470		750	
150	300	300		550	1450

ΔP_c = Maximum allowed pressure drop across a closed valve (that the nominal force of the actuator will open or close against).

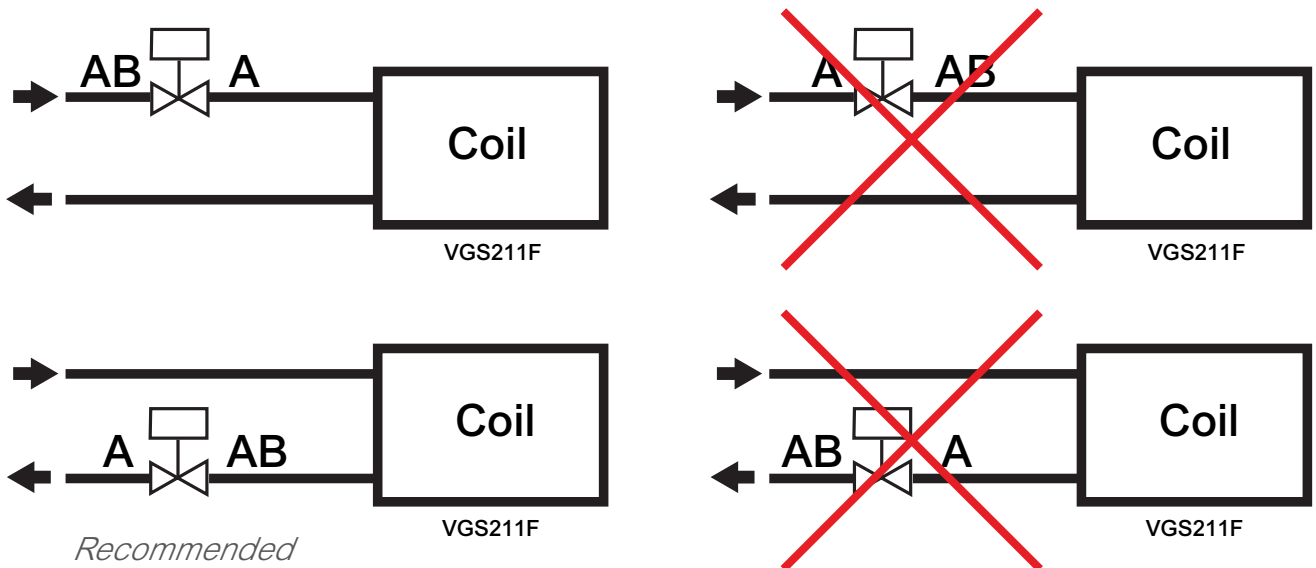
Installation

Important: Install according to the flow and port markings below.

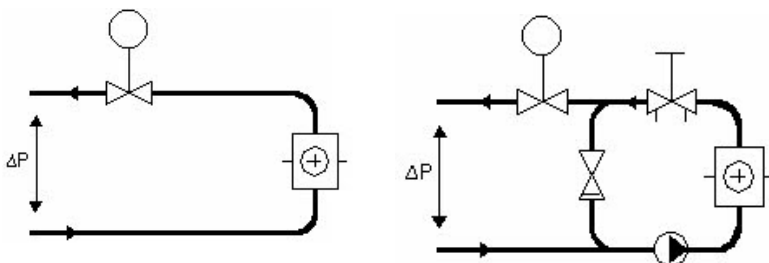
The valve should be mounted with flow direction in accordance with the flow direction arrow on the valve body. The casting on this valve is shared with the VG311F body and as such the port markings differ. Port AB is the inlet and port A is the outlet.

It is recommended to install the valve in the return pipe, in order to avoid exposing the actuator to high fluid temperatures.

The valve must not be mounted so that the actuator is positioned underneath the valve.



Schematics and Pressure Drop



A. Typical installation without local circulating pump.

To provide a good function, the pressure drop across the valve should be no less than half of the available pressure (ΔP). This corresponds to a valve authority of 50%.

B. Typical installation with local circulating pump.

The Kvs value of the valve is to be selected so that the entire available pressure drop (ΔP) falls across the control valve.

Pressure Drop Chart - Water

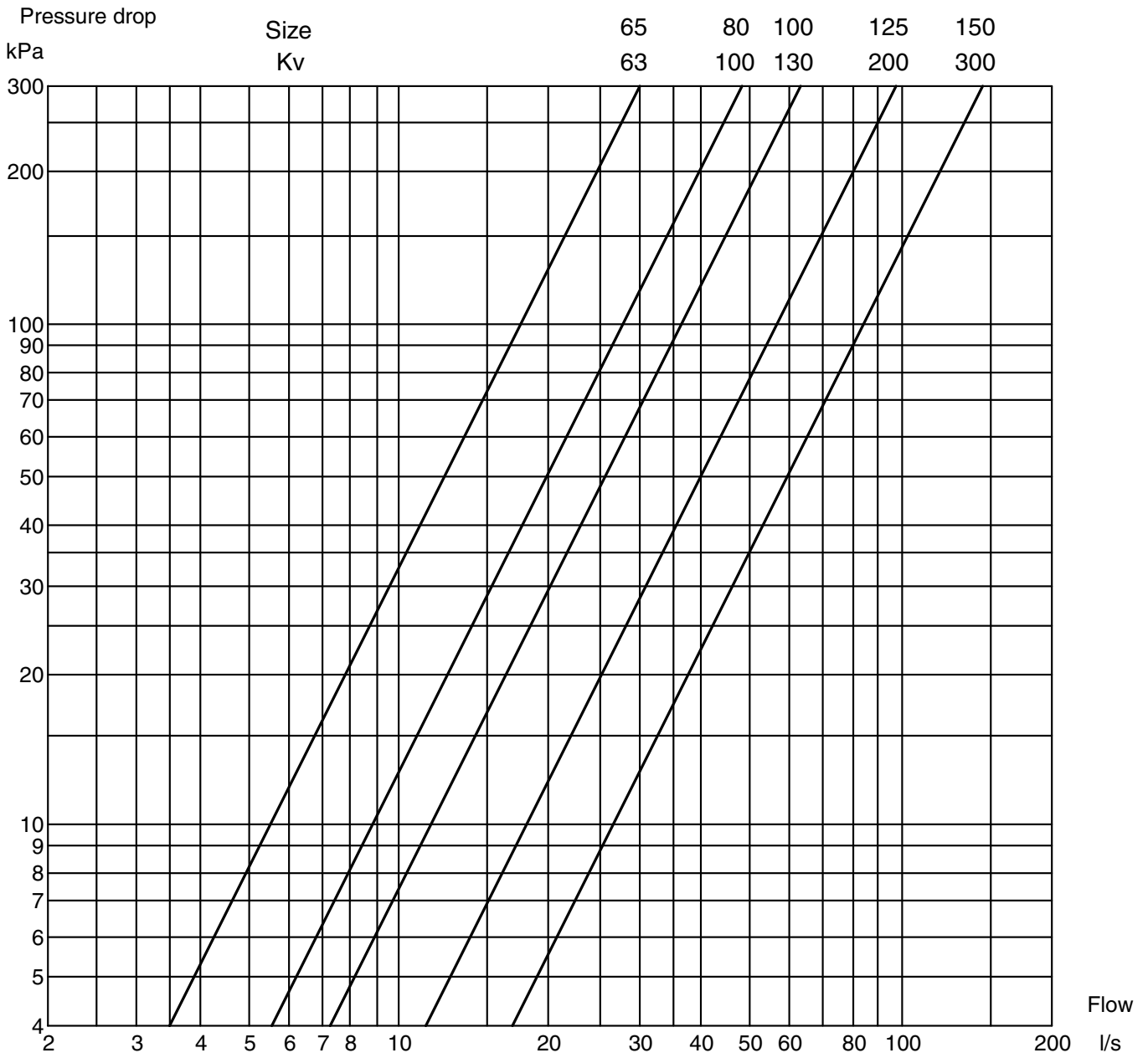


Fig 3

