Honeywell

VGF
Flanged Globe Valves

INSTALLATION INSTRUCTIONS

APPLICATION

VGF Flanged Globe Valves are used for on-off or modulating control of steam, hot water, or chilled water-glycol solutions up to 50% concentration in heating, ventilating and air conditioning (HVAC) systems. They can be operated by ML6984/7984, ML6420/6425, ML7420/7425, M6421/7421 Electric Linear Actuators, MP953 Pneumatic Actuators, Modutrol® Motors with Q5001 valve linkage, or MN/MS series Direct Coupled Actuators with Q5020 valve linkage.

Three-way bodies are available in mixing or diverting style with equal percentage and linear flow characteristic. Pressure-balanced models feature very high, low leakage close-off ratings. Flanges conform to ANSI standard B16.1, Classes 125 and 250, with face-to-face dimensions per ANSI/ISA 75.03

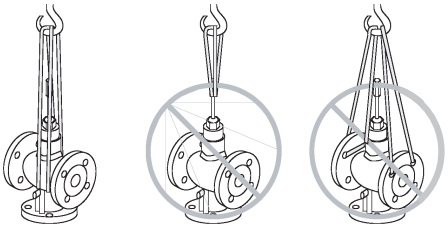


Fig. 1. Proper hoisting of VGF Valves.

Safety

The valves are to be installed by skilled personnel and in strict accordance with the installation instructions and local regulations. (See Fig. 1 for proper hoisting method.) Honeywell assumes no responsibility for damages or injuries resulting from non-compliance with installation instructions or standard good practice when mounting, operating, or maintaining the valves, even if not explicitly mentioned in the installation instructions. (See Fig. 2 for basic pipe orientation.) Observe all safety practices when working with steam systems.

Proper Use

These valves are only for use in cold, warm, hot water systems and for steam applications. They are designed for a medium temperature range of from 35 to 355°F, at a maximum pressure of 125 or 250 psig, depending on their ANSI body class. They are to be operated with the appropriate Honeywell actuators only. Please refer to the VGF family product data sheet, form 63-2618 for detail. Water should be properly filtered, treated and conditioned according to local conditions. The installation of a strainer is strongly recommended.

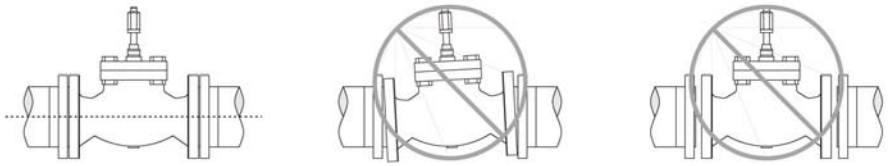


Fig. 2. Basic pipe orientation.

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INSTALLATION

When Installing this Product...

1. Read these instructions carefully. Failure to follow them could damage the product or cause a hazardous condition.
2. Check ratings given in instructions and on the product to ensure the product is suitable for your application.
3. Installer must be a trained, experienced service technician.
4. After installation is complete, check out product operation as provided in these instructions.

⚠ WARNING

Severe Burn Hazard.
Contact with hot liquid can lead to severe injury or cause death.
Release system pressure and isolate or drain the valve pipe section so the medium (steam, water or glycol solution) does not leak out of the valve body during installation (see Fig. 3).

⚠ CAUTION

Electrical Shock or Equipment Damage Hazard.
Can shock individuals or short equipment circuitry.
Disconnect power supply to the actuator to prevent electrical shock and equipment damage, or remove and cap the air line to the actuator.

IMPORTANT

- *Before installing the valve, raise and lower the valve stem to make sure that the valve stem operates freely. Impaired stem operation can indicate that the stem was bent by rough handling. This condition can require replacing the valve.*
- *Protect the stem from damage due to bending or scratching.*



Fig. 3. Piping must prevent leakage.

Location

Select a location where the valve and actuator are accessible. Allow sufficient space for servicing the valve and actuator. See Fig. 6 for valve body dimensions.

Mounting the Valve

See Fig. 5 for typical installation.

1. Hoist valve by its body only. Do not lift by stem, bonnet, flanges, or flange holes. (See Fig. 1.)
2. Install the valve so the flow follows the direction of the arrow indicated on the valve body.
3. Install the valve so the actuator is above the valve body. The valve can be installed in any position between vertical and horizontal. Do not install the valve with the stem below horizontal or upside down.
4. When controlling steam, use appropriate high temperature kit 43196000 and rotate valve body so that actuator is not positioned directly above the piping.
5. Use companion flanges with the same number of bolt holes and dimensions as the valve to be installed. The optional service flange may be installed in the lower port. See Table 1 for part numbers. Use standard cast-iron flanges for the two end ports.
6. Use a gasket material recommended for the medium to be handled.
7. Use mounting bolts long enough so the nuts can use the full length of the nut threads. (See Fig. 4.) Use bolts 1/8 in. smaller than the diameter of the bolt hole to allow clearance for installing. (See Fig. 5.)

Table 1. Service Flange Part Numbers.

Valve Size in in. (mm)	ANSI 125	ANSI 250
2 1/2 (65)	208628	208633
3 (80)	208629	208634
4 (100)	208630	208635
5 (125)	208631	208636
6 (150)	208632	208637



Fig. 4. Basic proper bolt length.

Mounting Actuator

For information on mounting, refer to the Product Data literature for the actuator. Actuator installation clearances are provided. It is important to have the correct actuator available for the installation. See Table 2 for basic clearance information.

Table 2. Installation Clearances (from Valve Bonnet, B).

Actuator	Minimum Vertical Clearance in in. (mm)
ML6420, ML7420	12-11/16 (322)
ML6421A, ML7421A	14-1/4 (360)
ML6421B, ML7421B	16-7/8 (430)
ML6425A,B; ML7425A,B	14-5/16 (364)
MN/MS Series + Q5020	12 (305)
ML6984, ML7984	
Modutrol IV + Q5001	14-1/2 (369)
MP953C (8 inch dia)	11-7/8 (302)
MP953C (13 inch dia)	17-11/16 (449)
MP953E (8 inch dia)	16-1/2 (420)
MP953E (13 inch dia)	25-13/16 (655)

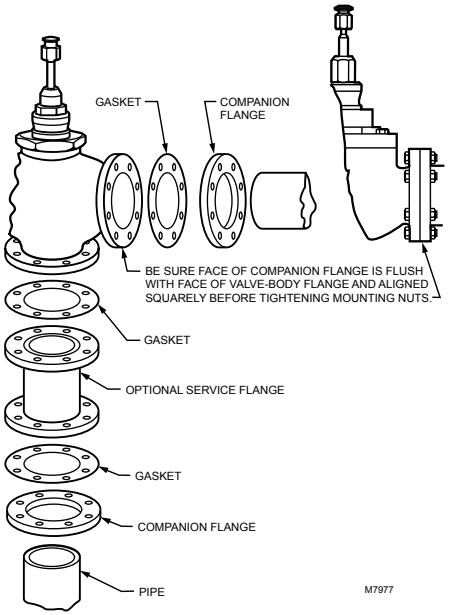


Fig. 5. Flanged valve body installation.

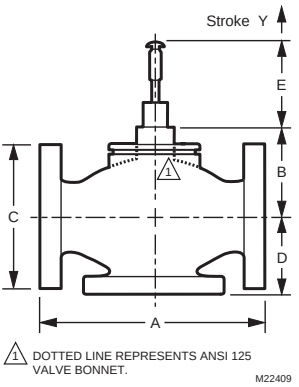


Fig. 6. Dimensions for valve installation.

Table 3. Valve Sizes and Dimensions.

Size		Dimensions, in. (mm) See Fig. 6	
in.	DN	A	D[a]
ANSI Class 125			
2-1/2	65	10-7/8 (276)	3-3/4 (95)
3	80	11-3/4 (298)	4-3/8 (111)
4	100	13-7/8 (352)	5-1/8 (130)
5	125	15-3/4 (400)	5-3/4 (146)
6	150	17-3/4 (451)	6-5/8 (168)
ANSI Class 250			
2-1/2	65	11-1/2 (292)	3-3/4 (95)
3	80	12-1/2 (318)	4-3/8 (111)
4	100	14-1/2 (368)	5-1/8 (130)
5	125	16-5/8 (422)	5-3/4 (146)
6	150	18-5/8 (473)	6-5/8 (168)

[a] Three-way valves only.

NOTE: See VGF family Product Data sheet (form 63-2618) for complete specifications.

CHECKOUT

For instructions for operating the valve actuator, see the Product Data sheet for the specific actuator. Operate the control system and check the valve operation to determine that the valve stem positions the valve smoothly through full stroke without binding.

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