

V2000 SERIES Radiator Valve

REPLACES V100 SERIES MODELS

INSTALLATION INSTRUCTIONS

APPLICATION

V2000 SERIES Radiator Valves replace manual valves on radiators and convectors, to provide automatic temperature control of each unit, space, or zone. They contain a one-piece cartridge, replaceable with a 19 mm hex wrench or the VA8200A001 Cartridge Replacement Tool. Install V2000 SERIES Radiator Valves with T100 Thermostatic Controllers or MV100 Electric Thermal Actuators. V2000 Series Radiator Valves control two-pipe steam or hot water systems.

SPECIFICATIONS

Maximum Temperature: 266°F (130°C).

Maximum Pressure:

Water: 145 psi (10 bar).
Steam: 14 psi (1 bar).

Maximum Differential:

With T100 Controller: 15 psi (1 bar).
With MV100 Actuator: 36 psi (2.5 bar).
For Low Noise: 3 psi (0.2 bar).

INSTALLATION

Install V2000 SERIES Radiator Valves on the inlet side of a radiator or convector, with the arrow on the valve indicating the direction of flow. Use a wrench to insert the threaded tailpiece. Use thread sealant on all connections.



CAUTION

Valve Damage Hazard.

Use of petroleum based boiler additives, mineral oil, or ethylene glycol acetate will cause deterioration of the seat disk and seals. Use only compounds with diethylene glycol, ethylene glycol, or propylene glycol as additives.



CAUTION

Valve Damage Hazard.

Reverse flow causes the valve to malfunction or damages the valve seat. Install only with the arrow on the valve indicating the direction of the flow.



CAUTION

Sweat Valve Damage Hazard.

Connecting sweat valve with cartridge in place damages the valve cartridge beyond repair.

Remove sweat tailpiece or valve cartridge before connecting sweat valve.

1. Flush out the system to prevent scale or debris from fouling the valve seat.
2. For sweat valves, remove tailpiece; or, for V200LDSL models, remove valve cartridge before connecting valve to piping.
3. Install the valve so the flow follows the direction of the arrow indicated on the valve body.
4. Install the valve so the T100 operator is to the side of the valve, see Fig. 1.

NOTE: When horizontal mounting is not possible, mount vertically above the valve and install as shown in the Typical Installations section.



VALVE BODIES

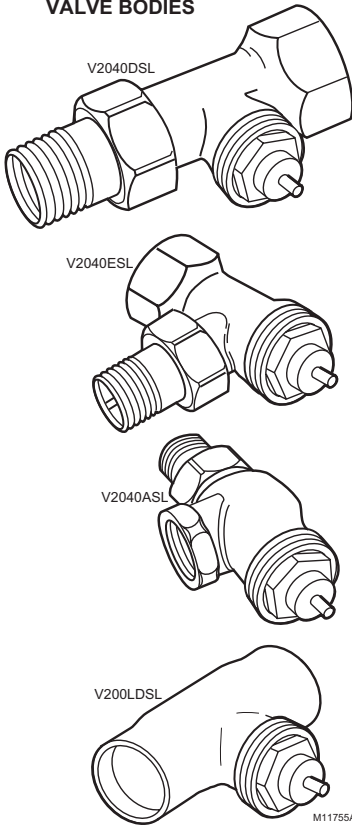


Fig. 1. V2000 SERIES valve bodies.

Typical installations

Mount the control head horizontally in a position with unobstructed air circulation around the unit. This prevents air heated by the supply pipe from affecting the internal sensor. Mountings where this is not possible require a control head with a remote sensor.

Straight-Through Valve (see Fig. 2)

1. Radiator with T100A control horizontally mounted on V2040DSL Valve.
2. Convector with T100F control vertically mounted on V200LDSL Valve. When mounting controls inside an enclosure, you must use a control with a remote sensor. Install the sensor a minimum of 3 in. beneath the heating coils in the cold air return. Adjust the setpoint dial through a small access door.
3. Convector with T100C control vertically mounted on V2040DSL Valve. When mounting controls inside an enclosure, you must use a control with a remote sensor. When mounting the setpoint dial on the hot convector cover, the sensor must be separate from the dial. Mount the sensor a minimum of 3 in. beneath the heating coils in the cold air return.

Angled-Body Valve (see Fig. 3)

1. Radiator with T100A control horizontally mounted on V2040ASL Valve.
2. Radiator with T100F control vertically mounted on V2040ESL Valve. Radiators originally installed in tight spaces (for example, close to corners or in an alcove) prevent using a horizontally mounted control. The vertically mounted control requires a T100F remote sensor model, with the sensor mounted on a nearby wall in an area with unobstructed air circulation.
3. Convector cabinet with T100B control vertically mounted on V2040ESL Valve. When mounting controls inside an enclosure with no easy access, you must use a control with a remote sensor and setpoint control. Mount the remote sensor/setpoint on a nearby wall in an area with unobstructed air circulation and adequate access.

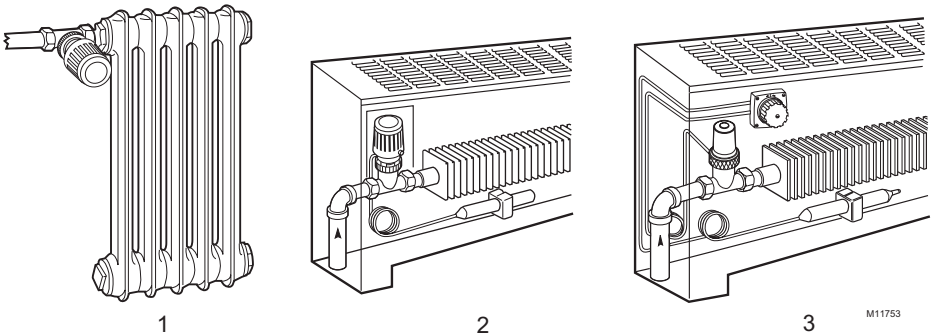


Fig. 2. Typical installations of straight-through V2000 SERIES Valves.

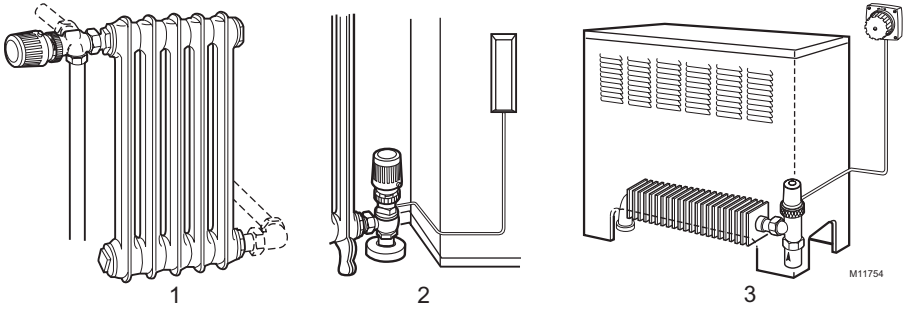


Fig. 3. Typical installations of angled-body V2000 SERIES Valves.

Pre-setting (Balancing Flow Through Valve Body)

Close valve with straight blade screwdriver by turning black pre-setting ring clockwise (Fig. 4).

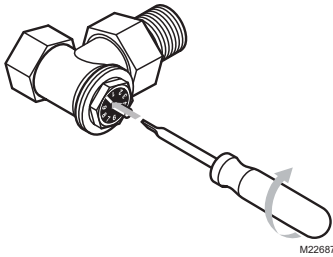


Fig. 4. Closing valve.

When closed, the position of the screwdriver slot equals pre-setting zero. Mark the position of the slot with a felt tip pen. (Fig. 5).

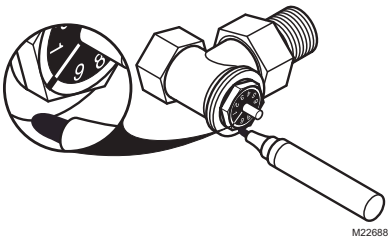


Fig. 5. Mark zero position of screwdriver slot.

Take required value from Table 1. Turn pre-setting ring counterclockwise with a straight blade screwdriver to this position.

NOTE: Chosen value has to be congruent with marking.

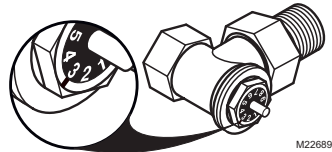


Fig. 6. Set pre-setting ring to correct value.

One complete revolution of the black pre-setting ring equals a pre-setting of 10.

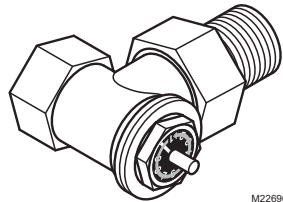


Fig. 7. One complete revolution equals a pre-setting of 10.

Table 1. CV Values.

Pre-setting	1	2	3	4	5	6	7	Open
3/8 in.	0.29	0.58	0.87	1.16	1.45	1.68	1.80	2.00
1/2 in.								2.15
3/4 in, 1 in.								2.26

$$\text{Pressure Drop (psi)} = (\text{flow [gpm]}/\text{cv})^2.$$

TROUBLESHOOTING

See Controller Installation Instructions for troubleshooting procedures.

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