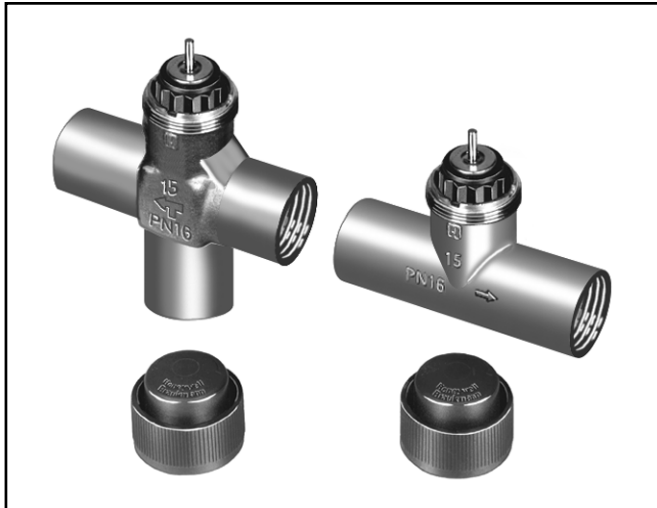


V5852A/V5853A/V5862A/V5863A Small Linear Valves

PRODUCT DATA



GENERAL

The V5852A/V5853A/V5862A/V5863A Valves control hot and/or chilled water for VAV terminal units, fan coil units, small reheaters and coolers in electric/electronic temperature control systems. The valves are used with the M6410 Small Individual Room Controller (IRC) 3-position floating Electronic Linear Valve Actuator, M7410 selectable 0 to 10 Vdc or 2 to 10 Vdc Electronic Actuator, or MP958 Pneumatic Valve Actuator.

FEATURES

- V5852A is a two-way female sweat valve.
- V5853A is a three-way female sweat mixing valve.
- V5862A is a two-way female NPT valve.
- V5863A is a three-way female NPT mixing valve.
- Long stroke allows wider range of control.
- Soft valve seat provides low leakage rate.
- Valve inserts are changeable without draining valve when used with the insert replacement tool.
- Brass body and stainless steel stem.
- Threaded plastic cover/manual handle allows manual operation.
- Easily installed in areas where space is limited.
- No tool required for mounting M6410, M7410 or MP958 Actuators.

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SPECIFICATIONS

IMPORTANT

The specifications given in this publication do not include normal manufacturing tolerances. Therefore, an individual unit may not exactly match the listed specifications. Also, this product is tested and calibrated under closely controlled conditions and some minor differences in performance can be expected when those conditions are changed.

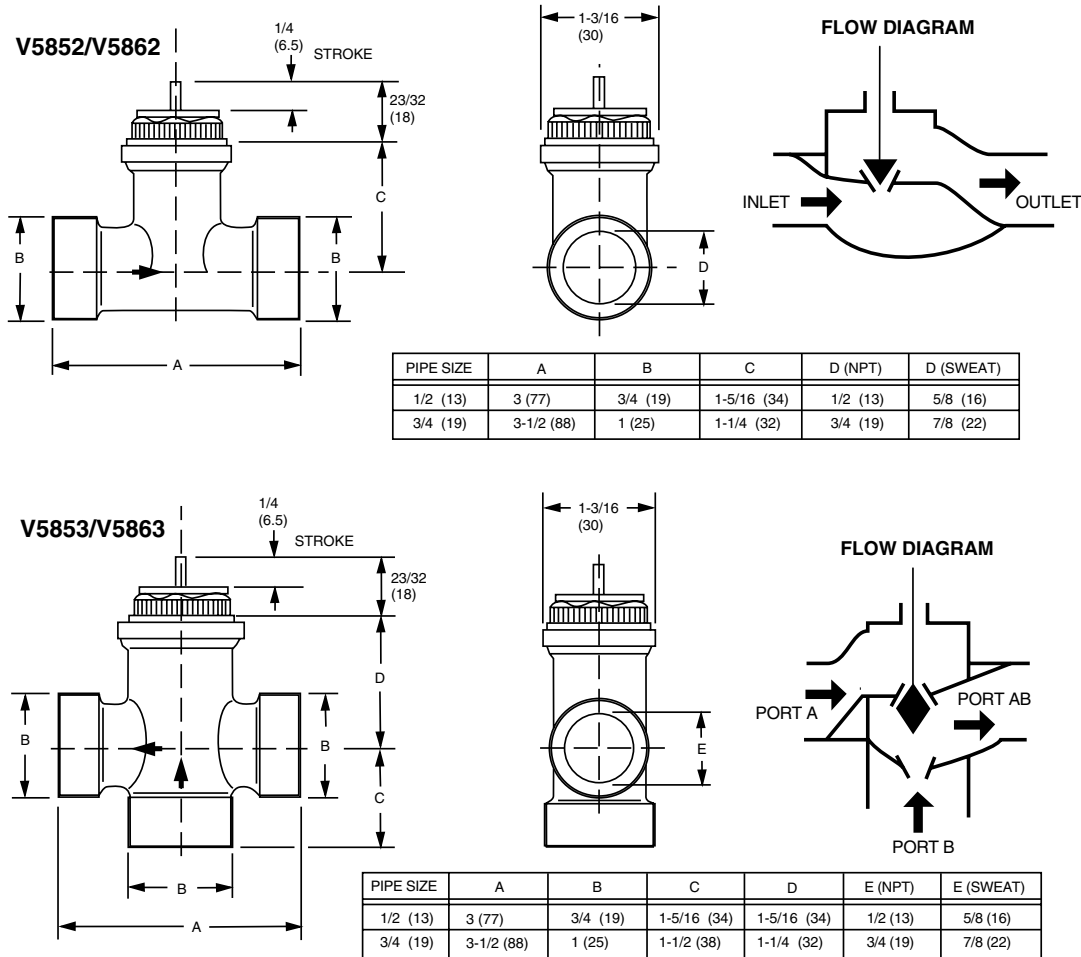
Models:

V5852A*, V5853A*, V5862A and V5863A Small Linear Valves for control of hot and/or chilled water for VAV terminal units, fan coil units, small reheaters and recoolers in electric/electronic temperature control systems. V5852A and V5853A are sweat valves; V5862A and V5863A are NPT valves. See Fig. 1.

V5852A and V5862A: Two-way valves.

V5853A and V5863A: Three-way mixing valves.

* Complete valve body soldering (V5852, V5853) before installing cartridge inserts.



NOTE: SOLDER ENDS CONFORM TO ANSI B16-18.

M7559

Fig. 1. Dimensions of V5852A, V5853A, V5862A and V5863A in in. (mm).

ORDERING INFORMATION

When purchasing replacement and modernization products from your TRADELINE® wholesaler or distributor, refer to the TRADELINE Catalog or price sheets for complete ordering number, or specify—

1. Model number.
2. Application.
3. Replacement parts required.

If you have additional questions, need further information, or would like to comment on our products or services, please write or phone:

1. Your local Honeywell Home and Building Control Sales Office (check white pages of your phone directory).
2. Home and Building Control Customer Logistics
Honeywell Inc., 1885 Douglas Drive North
Minneapolis, Minnesota 55422-4386

In Canada—Honeywell Limited/Limitée, 35 Dynamic Drive, Scarborough, Ontario M1V 4Z9. International Sales and Service offices in all principal cities of the world. Manufacturing in Australia, Canada, Finland, France, Germany, Japan, Mexico, Netherlands, Spain, Taiwan, United Kingdom, U.S.A.

Suitable Medium: Water with maximum 50% glycol.

Controlled Water Temperature: 36°F to 230°F (2°C to 110°C).

Stroke: 1/4 in. (6.5 mm).

Flow Characteristic:

V5853 and V5863: Equal Percentage: A → AB.
 Linear: B → AB.
 V5852 and V5862: Equal percentage: A → B.

Rangeability:

Two-way Valve: 50:1.
 Three-way Valve: 50:1 for controlled port (A → AB).

Leakage Rate: <0.02% of C_v.

Valve C_v Rating: See Table 1.

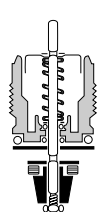
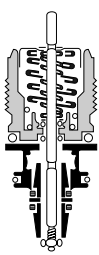
Table 1. Valve C_v Ratings.

NOTE: The C_v for the bypass port (B) on all three-way valves is reduced by one C_v level; eg, A Port C_v = 0.47; B Port C_v = 0.29. This feature eliminates the need for a balancing valve when the load is matched with the proper C_v.

Pipe Size in in. (mm)	C _v
1/2 (13)	.19
1/2 (13)	.29
1/2 (13)	.47
1/2 (13)	.74
1/2 (13)	1.2
1/2 (13)	1.9
3/4 (19)	2.9
3/4 (19)	4.9

Table 2. Valve insert replacement parts.

NOTE: All inserts are used with either pneumatic or electronic actuators unless otherwise noted.

Part Number	Diameter (in.)	C _v	For	Interchangeable With	
0901513	1/2	0.19	V5852A/V5862A	0901510, 511, 512	
0901512	1/2	0.29	V5852A/V5862A	0901510, 511, 513	
0901511	1/2	0.47	V5852A/V5862A	0901510, 512, 513	
0901510	1/2	0.74	V5852A/V5862A	0901511, 512, 513	
0901509	1/2	1.20	V5852A/V5862A	0901508	
0901508	1/2	1.90	V5852A/V5862A	0901509	
0901560	3/4	2.90	V5852A/V5862A	0901561	
0901561	3/4	4.90	V5852A/V5862A	0901560	
0901618	1/2	0.29	V5853A/V5863A	0901619, 620	
0901619	1/2	0.47	V5853A/V5863A	0901618, 620	
0901620	1/2	0.74	V5853A/V5863A	0901618, 619	
0901621	1/2	1.20	V5853A/V5863A	None	
0901622	1/2	1.90	V5853A/V5863A	None	
0901623 ^a	3/4	2.90	V5853A/V5863A	0901624	
0901624 ^a	3/4	4.90	V5853A/V5863A	0901623	
0901506 ^b	3/4	2.90	V5853A/V5863A	0901507	
0901507 ^b	3/4	4.90	V5853A/V5863A	0901506	

^a These inserts for use only with 3/4 in., three-way pneumatic valve actuators.

^b These inserts for use only with 3/4 in., three-way electric/electronic valve actuators.

Close-Off Rating: See actuator specifications for close-off ratings.

Body Material:

Red Brass: 1/2 in., three-way.
 3/4 in., two- and three-way.
 Yellow Brass: 1/2 in., two-way.

Stem and Plug Assembly:

Stem: Stainless steel.
 Plug: Brass.

Dimensions: Valves: See Fig. 1.

Actuator Required:

M6410 Small Individual Room Controller (3 position floating).
 M7410 0 to 10 Vdc or 2 to 10 Vdc Electronic Actuator, or
 MP958 Pneumatic Valve Actuator.

Accessories and Replacement Parts:

WV108 Insert Replacement Tool, for replacing cartridge insert without draining system.
 WV108B Brush Tool for valve seat cleaning (used with WV108 tool).
 Valve inserts are provided as spare parts. See Table 2.

To determine the capacity index (C_v) needed for your application, use the following formula:

$$C_v = \frac{\text{gallons per minute}}{\sqrt{\text{pressure drop across the valve when the valve is fully open}}}$$

INSTALLATION

When Installing this Product...

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

CAUTION

1. Disconnect power supply before beginning installation to prevent electrical shock and equipment damage.
2. Release system pressure to the valve body before changing cartridge.
3. Install insert in V5852/V5853 sweat valves only *after* soldering.

IMPORTANT

- When installing the valves, make sure the flow direction is correct by checking the arrow on the valve body. Do not mount the valve with the stem pointing downward. Leave the protective cover in place until ready to attach the actuator.
- Before installing the valve and actuator, use the protective cover/manual handle to make sure that the valve stem operates freely. Impaired stem operation may indicate that the stem was bent by rough handling. This condition may require replacing the valve.

Location

Select a location where the valve and actuator are accessible.

IMPORTANT

Mount all valve types in the return flow. When the delta p-values exceed 8.70 psi (60 kPa), noise can develop.

Mounting

The valve body should be completely installed in the pipe line before the actuator is installed.

1. Verify pipe size and flow direction for the valve being used.
2. Position the valve so that the actuator can be easily installed.
3. Install the valve using the applicable tools and supplies (wrenches, solder, flux, torch or soldering iron). Follow standard practices.
4. Refer to the actuator instructions for installation of the actuator.

IMPORTANT

The insert is packed separately from the V5852, V5853 sweat valve. The valve must be installed and soldered before the insert is installed in the valve. Torque the insert between 27 and 44 in.-lb.

CHECKOUT

Check valve body and connections for leaks.

Before installing actuator, make sure that the valve stem operates freely by using the protective cover/manual handle. Impaired stem operation may indicate that the body was twisted by faulty piping or that the stem was bent by rough handling. Either of these conditions may require replacement of the valve or cartridge insert.

If leaking or other problems occur, remove pressure from the valve, remove the cartridge insert, and make sure the cartridge insert O-ring is properly seated and not damaged. Instructions for removing and replacing the cartridge insert are packed with the WV108 Insert Replacement Tool.

After installing the actuator, check the operation according to the instructions provided with the actuator. Operating the system through one complete cycle is recommended to verify that the valve and actuator function properly.

NOTE: Actuator must commission itself at initial startup. See M6410/M7410/MP958 specifications for details.

OPERATION

The actuator pushes the center stem of the valve down, compressing the valve spring and closing the valve. When the actuator reverses, the valve spring expands, opening the valve and pushing the center stem up.

The valves are supplied with a threaded plastic protective cover/manual handle to protect the stem and to allow for manual operation. Turning the protective cover/manual handle clockwise pushes the center stem of the valve down, compressing the valve spring and closing the valve. Turning the protective cover/manual handle counterclockwise allows the spring to expand, opening the valve and pushing the center stem up.

Use the protective cover/manual handle to fill the system during initial installation. You can also use the protective cover/handle for heating/cooling without a controller or actuator during the construction phase of the building.

NOTE: Do not discard the protective cover. It may be needed for future manual operation.

Two-way valves

In the two-way valves, the direction of flow is always from inlet port to outlet port as indicated by the arrows on the valve body (see Fig. 2).

Three-way valves

Three-way valves are designed to be used as mixing valves. This means that port AB is the total flow outlet; port A is the controlled flow inlet; and port B is the bypass inlet (see Fig. 3).

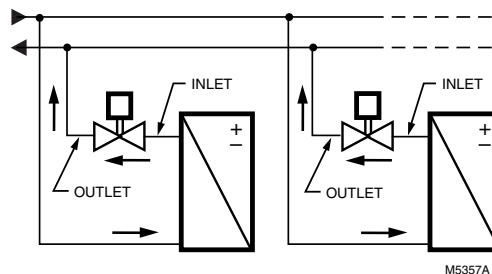


Fig. 2. Two-way valve operation block diagram

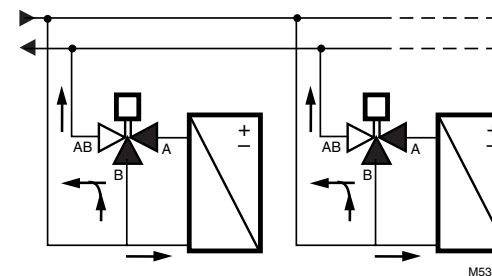


Fig. 3. Three-way valve operation block diagram.

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