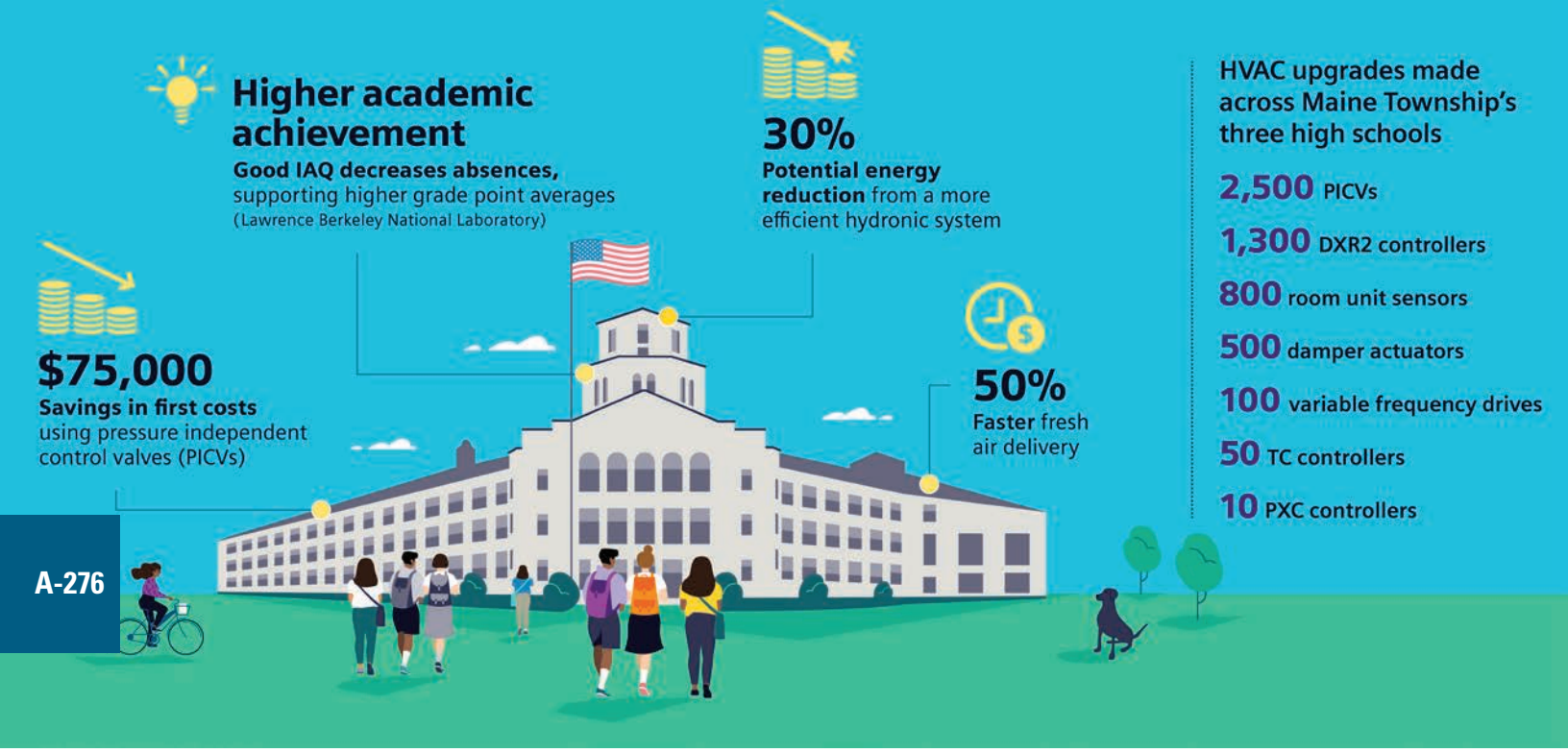
Angle/Flared/Sequence/Changeover Service Valves



In this section, you will find flared, angled, sequence and changeover valves with pneumatic actuators for use in service applications.



Achieve the perfect balance between IAQ and energy efficiency

Maine Township School District 207 faced a challenge to modernize HVAC systems and controls in three large high schools that were built decades apart — without interrupting teacher and student schedules.

To coordinate this massive overhaul, the district turned to Siemens experts and successfully improved indoor air quality while reducing energy costs.

Visit usa.siemens.com/mainetownship to learn more.

"We're bringing in a lot of outside air into these schools. Our hope is that we've reduced energy across the district and increased the indoor air quality tremendously."

— Bob St. Mary
Senior Engineer at Elara Energy Services, Inc.

SIEMENS

Two-Way Valves

1/2" Flared Type
Normally Open or Normally Closed



656 Powermite
Two-Way Normally Open Valve



656 Powermite
Two-Way Normally Closed Valve

Description

Designed to control the flow of both water and steam, the Powermite 656 Series Powermite Two-way Valves are available with normally open or normally closed action.

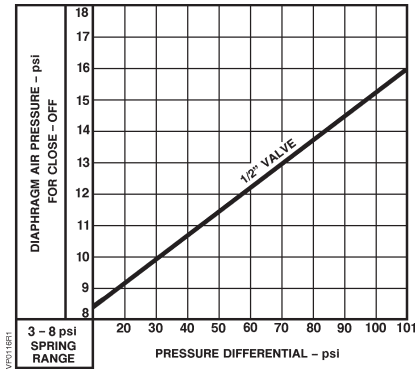
Features

- Modified equal percentage throttling characteristics
- Replaceable disc for tight shutoff
- Dual sealing feature for the valve stem
- Disassembly of the valve top, inspection, and upper packing replacement without system shutdown or valve body removal
- Actuator can be rotated to facilitate piping control air from different directions

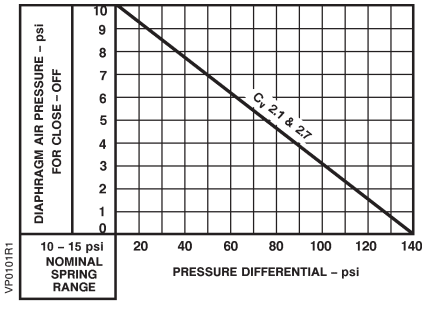
Applications

The Powermite 656 Series Valves are recommended for use with hot or chilled water and steam for control of convectors, fan coil units, radiation, reheat coils, and similar terminal unit applications. The dual sealing packed design is excellent for applications for higher-pressure systems encountered in high rise buildings. The compact size is excellent for use when space is limited.

Nominal Close-off Ratings



Normally Open



Normally Closed

Siemens offers a 5-year warranty on valves and actuators.

Specifications

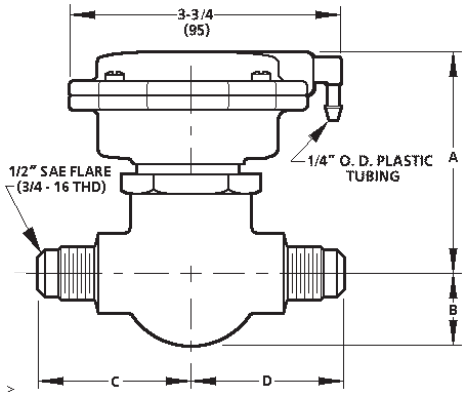
Valve Size ..... 1/2" (15 mm)
Valve Body Style ..... Flared End
Valve Action ..... NO (Direct Action)/NC(Direct Action)
Stem Travel ..... 1/4" (6 mm)
Valve Body Rating ..... ANSI Class 250
Actuator Standard Spring Ranges with 10 PSI (69 kPa) △ P
Differential Pressure ..... 10 to 15 PSI (69 to 103 kPa) NC
3 to 8 PSI (21 to 55 kPa) NO
Nominal Spring Span ..... 5 PSI (35 kPa)
Effective Diaphragm Area ..... 3.4 in.² (22 cm²)

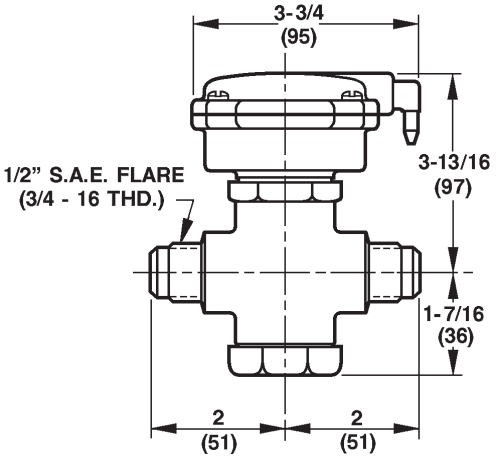
Max. Diaphragm Pressure ..... 30 PSI (207 kPa)
Air Connection ..... 1/8" NPT
Controlled Medium ..... Water, Steam, Glycol Solution
Maximum Medium Temperature ..... 250° F (121° C)
Maximum Inlet Pressures
Water ..... Refer to Reference Section
Steam ..... 15 PSI (103 kPa)
Maximum Differential Pressure for Modulating Service
Water ..... 20 PSI (138 kPa)
Steam ..... 15 PSI (103 kPa)

Product Ordering

Valve Size	Cv	Close-offs	Spring Range	Part No.
Normally Open				
1/2" (15 mm)	0.9	95 PSI (655 kPa)	3 to 8 PSI (21 to 55 kPa)	**656-0004**
1/2" (15 mm)	2.1	95 PSI (655 kPa)	3 to 8 PSI (21 to 55 kPa)	**656-0002**
Normally Closed				
1/2" (15 mm)	2.1	140 PSI (965 kPa)	10 to 15 PSI (69 to 103 kPa)	**656-0012**

Dimensions and Weights





Dimensions shown in inches (mm)

Valve Size	Valve Action	Dimensions				Weight
		A	B	C	D	
1/2"	Normally Open	3-3/16" (81 mm)	1" (25 mm)	2" (51 mm)	2" (51 mm)	2.2 lb.(1.0 kg)
1/2"	Normally Closed	3-13/16" (97 mm)	1-7/16" (36 mm)	2" (51 mm)	2" (51 mm)	2.2 lb.(1.0 kg)

Three-Way Water Mixing Valves

1/2" Flared Type
Mixing



656 Powermite
Three-Way Water Mixing Valve

Description

Designed for water mixing applications, the 656 Powermite Three-way Mixing Valve is a high-grade bronze body forged with connections for 1/2-inch OD SAE flare fittings.

Features

- Enclosed actuator protects spring, diaphragm
- Compact size
- Actuator can be rotated to facilitate air connection
- Modified equal percentage NO port characteristic
- Dual valve stem packing allows upper packing ring replacement without system shutdown

Applications

The 656 Powermite Three-way Water Mix Valve are recommended for mixing of hot or chilled water for convectors, fan coil units, radiation, reheat coils and similar terminal units which require water mixing. The dual sealing packed design is excellent for applications for higher-pressure systems encountered in high rise buildings. The compact size is excellent for use when space is limited.

Siemens offers a 5-year warranty on valves and actuators.

Specifications

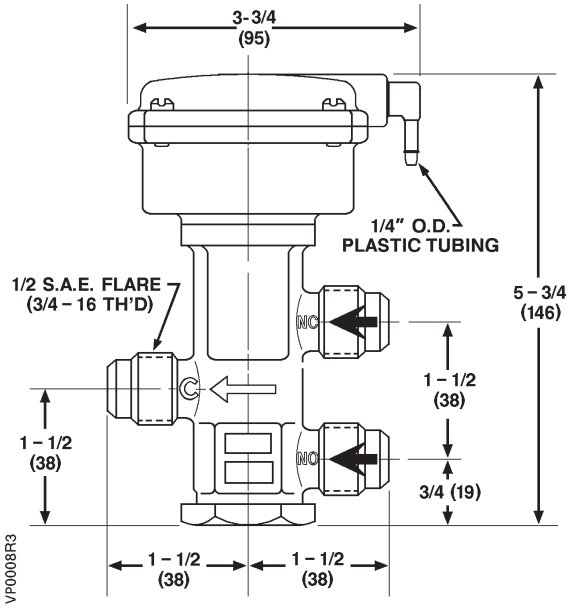
Valve Size ..... 1/2" (15 mm)
Valve Body Style ..... Flared End
Valve Action ..... Upper Seat NC/Lower Seat NO
Stem Travel ..... 3/8" (10 mm)
Valve Body Material ..... Bronze
Valve Body Rating ..... ANSI Class 250
Standard Spring Ranges with 10 PSI (69 kPa)
Differential Pressure ..... 3 to 8 PSI (21 to 55 kPa)
10 to 15 PSI (69 to 103 kPa)
Nominal Spring Span ..... 5 PSI (35 kPa)

Effective Diaphragm Area ..... 3.4 in.² (22 cm²)
Max. Diaphragm Pressure ..... 30 PSI (207 kPa)
Air Connection ..... 1/8" NPT
Controlled Medium ..... Water, Glycol Solution
Max. Medium Temperature ..... 250°F (121°C)
Max. Differential Pressure for Modulating Service
Between Inlets ..... 25 PSI (172 kPa)
Between Inlet & Outlet ..... 25 PSI (172 kPa)
Shipping Weight ..... 2.0 lb. (0.9 kg)

Product Ordering

Valve Size	Cv	Spring Range	Part No.
1/2" (15 mm)	2.5	10 to 15 lb. (69 to 103 kPa)	**656-0009**
1/2" (15 mm)	2.5	3 to 8 lb. (21 to 55 kPa)	**656-0010**
1/2" (15 mm)	1.5	3 to 8 lb. (21 to 55 kPa)	**656-0011**

Dimensions and Weights



Dimensions shown in inches (mm)

Two-Way Angle Union Valves

1/2 to 3/4" Angle Internal NPT x Union External NPT
Normally Open



656 Powermite Two-Way Normally Open Valve with Angle Union Outlet

Description

Designed to control the flow of both water and steam, the Powermite 656 Series Two-way Angle Union Valves are available with normally open action.

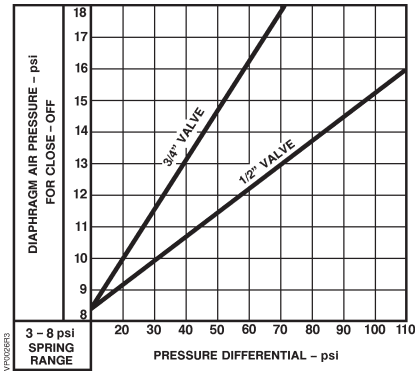
Features

- Enclosed actuator housing to protect components
- Small size allows easier installation in tight spaces
- Replaceable soft disc provides tight shut-off
- Dual sealing feature for the valve stem
- Actuator can be rotated to facilitate piping control from different directions
- Stainless steel valve stem to reduce friction and corrosion

Applications

The Powermite 656 Series Angle Union Valves are recommended for control of hot or chilled water or steam for controlling convectors, fan coil units, radiation, reheat coils, and similar terminal unit applications. Designed with dual sealing packed construction, this valve can be used in systems having relatively high pressures. Typical uses are sites where efficient economical control is desired. The compact size is excellent where space is limited.

Nominal Close-off Ratings



Siemens offers a 5-year warranty on valves and actuators.

Specifications

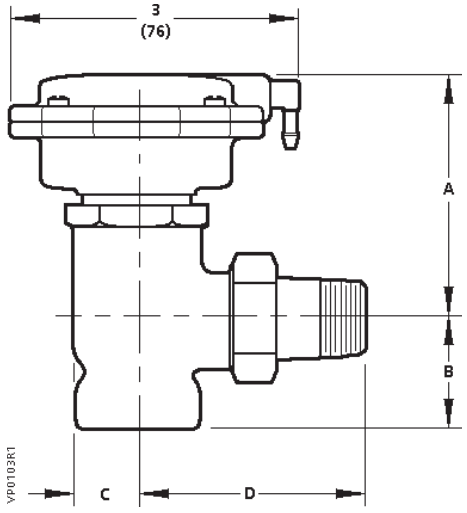
Valve Size ..... 1/2" (15 mm), 3/4" (20 mm)
Valve Body Style ..... Angle Union
Valve Action ..... Normally Open (NO)
Valve Stroke ..... 1/4" (6 mm)
Valve Body Rating ..... ANSI Class 125
Diaphragm
Effective Area ..... 3.4 in.^{2} (22 cm^2)
Material ..... Silicone Rubber
Ambient Temperature Range ..... 30° to 160°F (-1° to 71°C)
Maximum Air Pressure ..... 30 PSI (207 kPa)

Maximum Medium Temperature ..... 250°F (121°C)
Controlled Medium ..... Steam, Water, Ethylene Glycol Solution
Maximum Medium Inlet Pressure
Water ..... Refer to Valve Body Rating Table in Reference Section.
Saturated Steam ..... 15 PSI (103 kPa)
Maximum Recommended Differential Pressure for Modulating Service
Water ..... 20 PSI (138 kPa)
Seam ..... 15 PSI (102 kPa)

Product Ordering

Valve Size	Cv	Close-offs	Spring Range	Part No.
1/2" (15 mm)	2.1	95 PSI (655 kPa)	3 to 8 PSI (21 to 55 kPa)	**656-0017**
1/2" (15 mm)	2.1	60 PSI (414 kPa)	5 to 10 PSI (34 to 69 kPa)	**656-0019**
3/4" (20 mm)	4.6	50 PSI (345 kPa)	3 to 8 PSI (21 to 55 kPa)	**656-0018**
3/4" (20 mm)	4.6	35 PSI (241 kPa)	5 to 10 PSI (34 to 69 kPa)	**656-0021**

Dimensions and Weights



Dimensions shown in inches (mm)

Valve Size	Dimensions				Weight
	A	B	C	D	
1/2" (15 mm)	2-15/16" (75 mm)	1-1/4" (32 mm)	13/16" (21 mm)	2-5/8" (67 mm)	2.2 lb. (1.0 kg)
3/4" (20 mm)	3-1/16" (78 mm)	1-5/16" (33 mm)	1-1/8" (29 mm)	2-7/8" (73 mm)	2.7 lb. (1.2 kg)

Two-Way Angle Union Valves

1 to 1-1/4" Angle Internal NPT x Union External NPT
Normally Open



658 Powertop Two-Way
Normally Open Valve with Angle Union Outlet

Description

Designed to control the flow of steam, water, and ethylene glycol solutions, the Powertop 658 Series Two-way Angle Union Valves are available with normally open action.

Features

- Replaceable soft disc provides tight shut-off
- Actuator can be rotated to facilitate piping control from different directions
- Stainless steel valve stem to reduce friction and corrosion
- Large diaphragm area for control accuracy and tight close-off
- Equal percentage plugs and long stroke for controllability
- Removable actuator for ease of servicing

Applications

The Powertop 658 Series Angle Union valves are recommended for control of steam, water and ethylene glycol solutions for controlling unit ventilators, reheat coils, fan coil units, induction units, and duct coils.

Siemens offers a 5-year warranty on valves and actuators.

Specifications

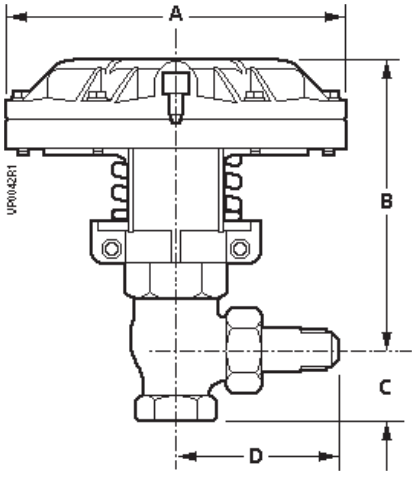
Valve Size ..... 1" (25 mm), 1 1/4" (32 mm)
Valve Body Style ..... Angle Union
Valve Action ..... Normally Open (NO)
Valve Stroke ..... 1/2" (15 mm)
Valve Body Rating ..... ANSI Class 125
Diaphragm
Effective Area ..... 11.2 in.^{2} (71 cm^2)
Material ..... EP Rubber
Ambient Temperature Range ..... 35° to 140°F (2° to 60°C)
Maximum Air Pressure ..... 30 PSI (207 kPa)

Controlled Medium ..... Steam, Water, Ethylene Glycol Solution
Flow Characterization ..... Equal Percentage
Maximum Medium Temperature ..... 250°F (121°C)
Maximum Medium Inlet Pressure
Water ..... Refer to Valve Body Rating Table in Reference Section.
Saturated Steam ..... 15 PSI (103 kPa)
Maximum Recommended Differential Pressure for Modulating Service
Water ..... 25 PSI (170 kPa)
Steam ..... 15 PSI (103 kPa)

Product Ordering

Valve Size	Cv	Close-offs	Spring Range	Part No.
Normally Open				
1" (25 mm)	10	100 PSI (689 kPa)	2 to 6 PSI (14 to 41 kPa)	**658-0012**
1-1/4" (32 mm)	16	58 PSI (400 kPa)	2 to 6 PSI (14 to 41 kPa)	**658-0014**

Dimensions and Weights



Dimensions shown in inches (mm)

Valve Size	Dimensions				Weight
	A	B	C	D	
1" (25 mm)	5-1/2" (140 mm)	4-15/16" (125 mm)	1-3/4" (44 mm)	3-1/8" (79 mm)	5.0 lb. (2.3 kg)
1-1/4" (32 mm)	5-1/2" (140 mm)	5-1/2" (140 mm)	2" (51 mm)	4-3/8" (111 mm)	6.0 lb. (2.7 kg)

Sequence and Changeover Valves

1/2" Flared Type



658 Powertop Sequence Valve

Description

Designed to select and modulate the flow of either hot or chilled water, without mixing, for radiant panel and similar applications, the 658 Powertop Sequence and Changeover Valves are designed with 2 inlets and one outlet for the sequence valve and with one inlet and 2 outlets in the changeover valve.

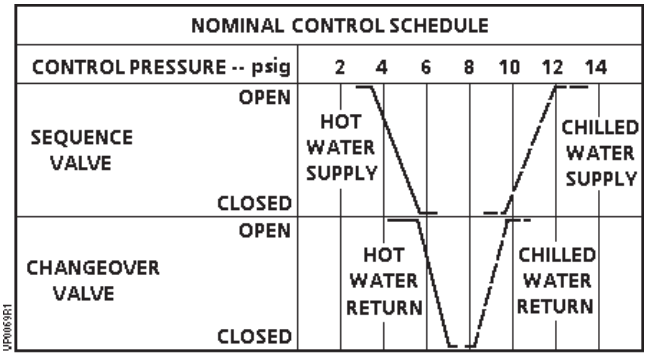
Features

- Stainless-steel stem for smooth operation and rugged durability
- Large diaphragm area for control accuracy and tight close-off
- Removable actuator for ease of servicing
- Replaceable disc assemblies
- Matched sequencing of control and changeover

Applications

The 658 Powertop Sequence and Changeover Valves are used for the selection and modulating of hot or chilled water through radiant panels connected to separate hot water and chilled water (4-pipe) systems.

Control Schedule



Siemens offers a 5-year warranty on valves and actuators.

Specifications

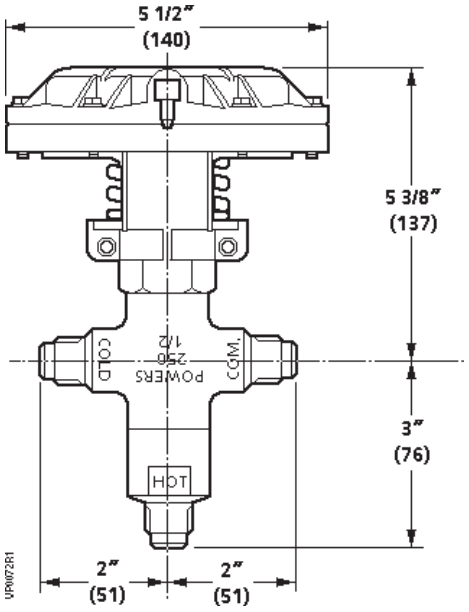
Valve Size ..... 1/2" (15 mm)
Valve Body Style ..... Flared End
Flow Characteristics
Sequence ..... Equal Percentage
Changeover ..... Quick-opening
Valve Type
Sequence ..... 2 Inlets/1 Outlet
Changeover ..... 1 Inlet/2 Outlets
Valve Action ..... NO/Hot to Common
NC/Cold to Common
Stem Travel ..... 13/32" (10 mm)
Valve Body Rating ..... ANSI Class 250

Materials
Valve Body ..... Bronze
Disc ..... Buna-N
Stem ..... Stainless Steel
Packing ..... EP Rubber
Diaphragm Area ..... 11 in.^{2} (71 cm^2)
Max. Diaphragm Pressure ..... 30 PSI (207 kPa)
Controlled Medium ..... Water, Glycol Solution
Max. Medium Temperature ..... 250°F (121°C)
Maximum Inlet Pressure ..... Refer to Reference Section
Max. Differential Pressure Between Hot and Cold Ports
Sequence ..... 50 PSI (350 kPa)
Changeover ..... 10 PSI (69 kPa)
Max. Differential Pressure for Modulating Service
Sequence Valve ..... 25 PSI (170 kPa)
Ambient Operating Temperature ..... 35° to 140°F (2° to 60°C)

Product Ordering

Valve Size	Valve Type	Cv	Close-offs	Part No.
1/2" (15 mm)	Sequence	1.5	50 PSI (344 kPa)	**658-0050**
1/2" (15 mm)	Sequence	2.5	50 PSI (344 kPa)	**658-0051**
1/2" (15 mm)	Changeover	2.5	10 PSI (68 kPa)	**658-0052**

Dimensions and Weights



Dimensions shown in inches (mm)