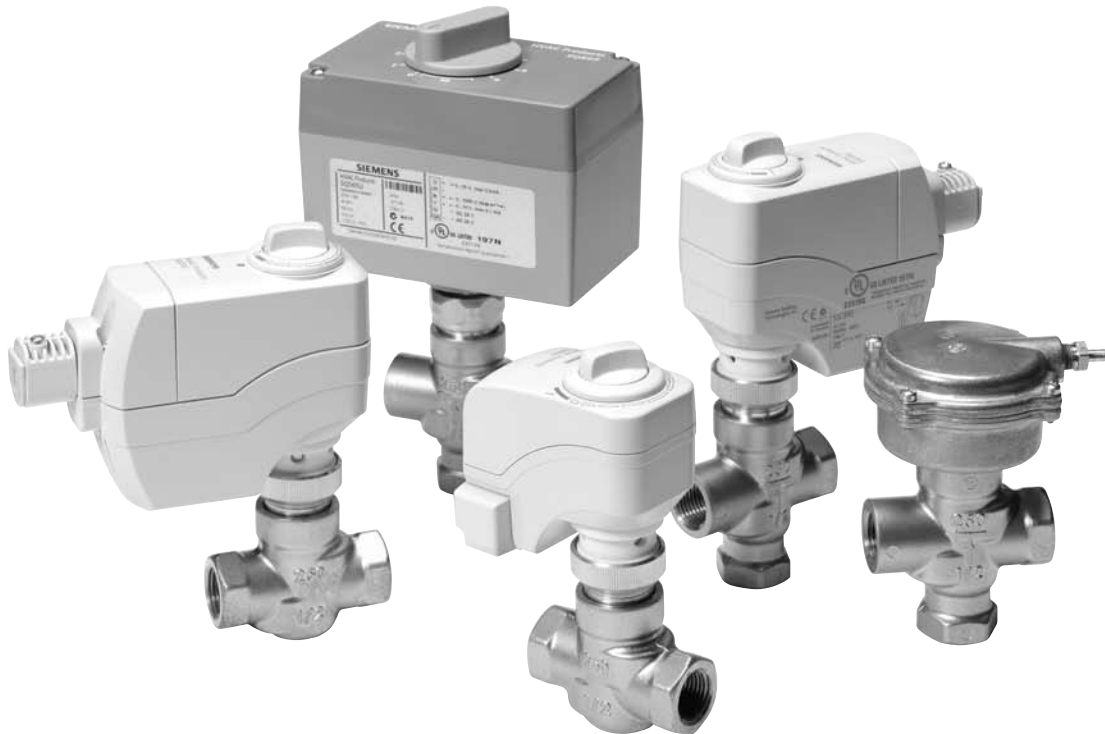


Powermite Globe Valves



D-83

Valves

Ranging from 1/2 to 1 inch (Cv range of 0.4 to 10), Powermite Globe Valves provide more choices for applications, featuring direct-coupled technology for connection of valve body and actuator without tools—other features include a compact housing design, actuators capable of handling a variety of media, and a wide variety of options and end connections. For ease of product selection and ordering, the Powermite valves and actuators follow the same sizing and selection process as the Flowrite.

The Powermite Globe Valve line features:

MZ Series

- Close-off up to 70 psi
- Electronic actuator only
 - 0 to 10 V non-spring return
 - Floating control
- Low leakage rate (ANSI Class IV)

MT Series for Terminal Unit Control

- Close-off up to 160 psi
- Pneumatic and Electronic valves
 - 3 to 8 psi spring range
 - 8 to 13 psi spring range
 - 10 to 15 psi spring range
 - Floating spring return or non-spring return electronic actuators
 - 0 to 10 V spring return or non-spring return electronic actuators
 - Low leakage rate (ANSI Class IV)

D-84

Valves

Save trees with paperless invoicing

Once your order has been shipped, an invoice will be sent to you via e-mail, so you can conserve paper while avoiding the hassles of paperwork.



Two-way Valves

1/2 to 1-inch NO or NC



Powermite MZ Series
Two-way Globe Valve.

Description

The Powermite MZ Series Two-way Globe Valves are designed to work with the SSB MZ Series Actuator with a 7/32-inch (5.5 mm) stroke.

Features

- Direct-coupled universal bonnet/No tools required for installation
- ANSI Leakage Class IV (0.01% of Cv)
- ANSI Class 250 body
- Variety of actuators available
 - 0 to 10 V NSR
 - Floating control NSR
- Choice of end connections
- 100:1 Rangeability for $C_v \geq 1$
- Orderable separately or as a complete assembly

Applications

The Powermite MZ Series Two-way Globe Valves are used for control of hot or chilled water for convectors, fan coil units, unit conditioners, radiation, reheat coils, and similar terminal units requiring an actuator that delivers a minimum of 45 lb. (200 N) of force.


Recommendation:

Use only with the MZ Series SSB Valve Actuators.

Two-way MZ Series Valve Body Specifications

Valve Size 1/2 to 1" (15 to 25 mm)
Body Style Globe
Seat Style Metal to metal
Action NO/NC
Valve Body Rating ANSI Class 250
Stem Travel (stroke) 7/32" (5.5 mm)
Materials
 Body Forged Brass C37700 or UNS CA 844 Bronze
 Trim Brass
 Stem Stainless Steel ASTM A 582 Type 303
 Packing EPDM O-rings
Controlled Medium Water, glycol solutions up to 50%
Medium Temperature Range 35 to 250°F (2 to 120°C)

Max. Recommended Differential Pressure for Modulating Service 25 psi (173 kPa)
Rangeability
 Cv < 1 >50:1
 Cv > 1 >100:1
Close-off Ratings According to ANSI/FCI 70-2
Leakage Rate Class IV (0.01% of Cv)
Flow Characteristics Modified Equal Percentage
Mounting Location NEMA 1 (interior only)

 Refer back to the Selection Charts at the beginning of this section to make sure the configuration is valid.

Two-way MZ Series Valve Body Product Ordering


NO/NC, Brass Trim



Connection	Flow Rate		Valve Size		Normally Open Part No.	Normally Closed Part No.
	Cv	(Kvs)	in.	(mm)		
Female x Female	0.4	(0.34)	1/2	(15)	599-01115	599-01100
	0.63	(0.54)	1/2	(15)	599-01117	599-01102
	1	(0.85)	1/2	(15)	599-01119	599-01104
	1.6	(1.37)	1/2	(15)	599-01121	599-01106
	2.5	(2.14)	1/2	(15)	599-01123	599-01108
	4	(3.42)	1/2	(15)	599-01126	599-01110
	6.3	(5.38)	3/4	(20)	599-01129	599-01112
	10	(8.55)	1	(25)	599-01131	599-01114
Female x Union Male	0.4	(0.34)	1/2	(15)	599-01116	599-01101
	0.63	(0.54)	1/2	(15)	599-01118	599-01103
	1	(0.85)	1/2	(15)	599-01120	599-01105
	1.6	(1.37)	1/2	(15)	599-01122	599-01107
	2.5	(2.14)	1/2	(15)	599-01124	599-01109
	4	(3.42)	1/2	(15)	599-01127	599-01111
	6.3	(5.38)	3/4	(20)	599-01130	599-01113
Angle Female x Union Male	2.5	(2.14)	1/2	(15)	599-01125	—
	4	(3.42)	1/2	(15)	599-01128	—

There are no repair parts for this product. Replace the entire valve body if inoperative.

MZ Series Valve Actuator Product Ordering

Description		Part No.	Actuator Prefix Code
 Electro-Mechanical	24 V, floating NSR	SSB81U	254
	24 V, 0-10 V NSR	SSB61U	255



Accessories & Service Kits

D-219



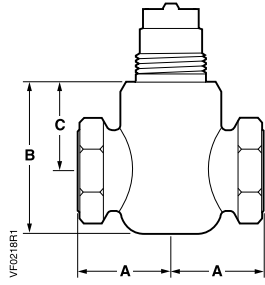
Part No. in black box Ships same day when requested through Rapid Response™ shipping. See inside back cover for details.

SIEMENS

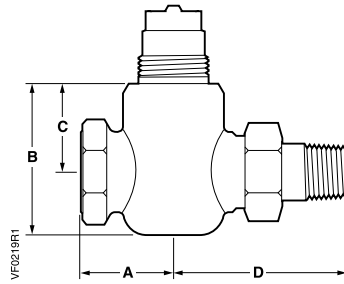
D-86

Valves

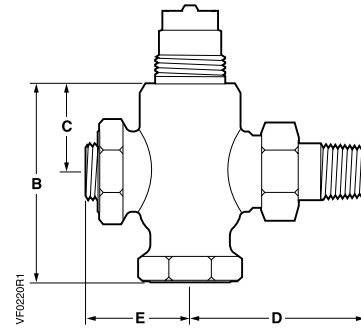
Dimensions and Weights



Female NPT by Female NPT
(FxF)



Female NPT by Union Male
(FxUM)



Angle Female by Union Male
(AFxUM)

Valve Size in.	Dimensions						Weight		
	A	B		C	D	E	FxF	FxUM	AFxUM
		FxF & FxUM	AFxUM (NO Only)						
1/2" (15 mm)	1-3/8" (35 mm)	2-1/4" (57 mm)	2-15/16" (74 mm)	1-5/16" (33 mm)	2-5/8" (67 mm)	1-1/2" (38 mm)	1.3 lb. (0.6 kg)	1.5 lb. (0.7 kg)	1.8 lb. (0.8 kg)
3/4" (20 mm)	1-5/8" (41 mm)	2-3/8" (59 mm)	—	1-5/16" (33 mm)	3-1/8" (79 mm)	—	1.8 lb. (0.8 kg)	2.2 lb. (1 kg)	—
1" (25 mm)	1-15/16" (49 mm)	2-3/4" (69 mm)	—	1-9/16" (39 mm)	—	—	2.6 lb. (1.2 kg)	—	—

D-87

Valves

Get the latest product news!

Join our e-mail list to receive our quarterly newsletter and other offers that will help your business grow and keep your customers happy. We respect your privacy. Your email address will not be shared with others, it's simply our way of keeping you informed!

Send us an email at hvacinquiries.us.sbt@siemens.com to add your name to the list.



Three-way Mixing Valves

1/2 to 1-inch

MZ Series



Powermite MZ Series
Three-way Globe Valve.

Description

The Powermite MZ Series Three-way Globe Valves are designed to work the SSB MZ Series Actuator with a 7/32-inch (5.5 mm) stroke.

Features

- Direct-coupled universal bonnet/ No tools required for installation
- ANSI Leakage Class IV (0.01% of Cv)
- ANSI Class 250 body
- Variety of actuators available
 - 0 to 10 V NSR
 - Floating control NSR
- Choice of end connections
- 100:1 Rangeability for $C_v \geq 1$
- Orderable separately or as a complete assembly

Applications

The Powermite MZ Series Three-way Globe Valves are used for mixing of hot or chilled water for convectors, fan coil units, unit conditioners, radiation, reheat coils, and similar terminal units requiring an actuator that delivers a minimum of 45 lb. (200 N) force.

Recommendation:

Use only with the MZ Series SSB Valve Actuators.

D-89

Valves

Three-way Valve Specifications

Valve Size 1/2 to 1" (15 to 25 mm)
Body Style Globe
Seat Style Metal to metal
Action Three-way mixing
Valve Body Rating ANSI Class 250
Stem Travel (stroke) 7/32" (5.5 mm)
Materials
 Body Forged Brass C37700 or UNS CA 844 Bronze
 Trim Brass
 Stem Stainless Steel ASTM A582 Type 303
 Packing EPDM O-rings
Controlled Medium Water, glycol solutions up to 50%
Medium Temperature Range 35 to 250°F (2 to 120°C)

Max. Recommended Differential Pressure for Modulating Service 25 psi (173 kPa)
Rangeability
 Cv < 1 >50:1
 Cv > 1 >100:1
Close-off Ratings According to ANSI/FCI 70-2
Leakage Rate Class IV (0.01% of Cv)
Flow Characteristics Linear
Mounting Location NEMA 1 (interior only)

 Refer back to the Selection Charts at the beginning of this section to make sure the configuration is valid.

Three-way MZ Series Valve Body Product Ordering


Water Mixing, Brass Trim



Flow Rate		Valve Size		Part No.
Cv	(Kvs)	in.	(mm)	
0.4	(0.34)	1/2	(15)	599-01132
0.63	(0.54)	1/2	(15)	599-01133
1	(0.85)	1/2	(15)	599-01134
1.6	(1.37)	1/2	(15)	599-01135
2.5	(2.14)	1/2	(15)	599-01136
4	(3.42)	1/2	(15)	599-01137
6.3	(5.38)	3/4	(20)	599-01138
10	(8.55)	1	(25)	599-01139

There are no repair parts for this product. Replace the entire valve body if inoperative.

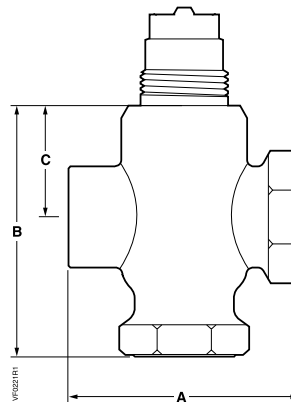
MZ Series Valve Actuator Product Ordering

Description		Part No.	Actuator Prefix Code	
	Electro-Mechanical	24 V, floating NSR	SSB81U	254
		24 V, 0-10 V NSR	SSB61U	255



Dimensions and Weights

Valve Size	Dimensions			Weight
	A	B	C	
1/2" (15 mm)	2-3/4" (70 mm)	2-15/16" (74 mm)	1-5/16" (33 mm)	1.5 lb. (0.7 kg)
3/4" (20 mm)	3-1/4" (83 mm)	2-3/8" (59 mm)	1-5/16" (33 mm)	2.3 lb. (1.05 kg)
1" (25 mm)	3-7/8" (98 mm)	3-15/16" (99 mm)	1-9/16" (39 mm)	3.3 lb. (1.5 kg)



D-90
Valves

SSB Valve Actuator

24 Vac, 0-10V Control

MZ Series



Powermite MZ Series
SSB61U Electronic Valve Actuator.

Description

The Powermite SSB61U Electronic Valve Actuator requires a 24 Vac supply and receives a 0 to 10 Vdc control signal to proportionally control a valve. This actuator is designed to work with Powermite MZ Series Valves with a 7/32-inch (5.5 mm) stroke and a threaded valve bonnet that fits the actuator.

Features

- UL-listed for plenum installations
- Direct-coupled for installation without tools
- Close-off up to 70 psi on 1/2-inch valve
- Non-spring return
- Manual override
- Visual position indication
- Orderable as actuator only or complete valve/actuator assembly

Applications

The Powermite SSB61U Electronic Valve Actuator is for use in heating and cooling HVAC applications with Powermite Valves that need 45 lb. (200 N) of nominal force.

Recommendation:

Use only with the MZ Series valve bodies.

D-91

Valves

SSB61U Specifications

- Operating Voltage**24 Vac \pm 20% or 24 Vdc \pm 25%
Frequency50/60 Hz
Power Consumption2.0 VA
Function
 Running Time75 sec.
 Nominal Stroke7/32" (5.5 mm)
 Nominal Force45 lb. (200 N)
Agency ApprovalsUL873
 CSA C22.2 No. 24-93
Ambient Temperature
 Operation34 to 122°F (1 to 50°C)
 Transport and Storage-13 to +158°F (-25 to +70°C)
Mounting LocationNEMA 1 (interior only)

SSB61U Product Ordering

Description	Part No.	Actuator Prefix Code
0 to 10 V	SSB61U	255

**There are no repair parts for this product.
Replace the entire actuator if inoperative.**

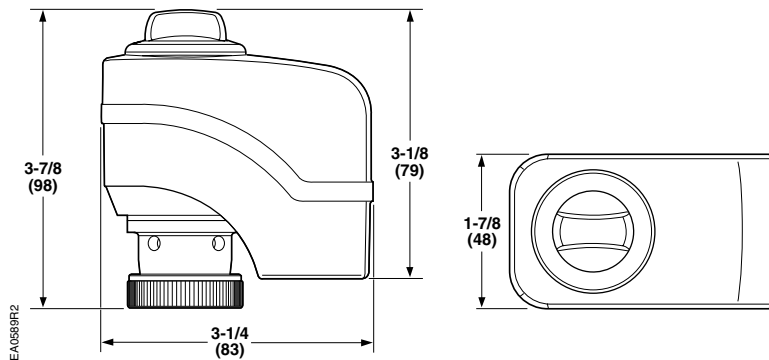
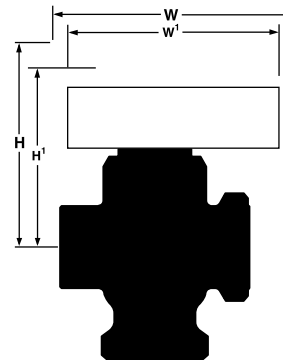


D-92

Valves

Dimensions

Valve Size in.	Center Line to Top of Actuator	Service Height	Actual Width	Service Width
	H ¹	H	W ¹	W
1/2" (15 mm)	5-1/8" (130mm)	13-1/8" (330mm)	3-1/4" (83mm)	11-1/4" (282mm)
3/4" (20 mm)	5-1/8" (130mm)	13-1/8" (330mm)	3-1/4" (83mm)	11-1/4" (282mm)
1" (25 mm)	5-3/8" (136mm)	13-3/8" (335mm)	3-1/4" (83mm)	11-1/4" (282mm)



Dimensions shown in inches (mm).

Accessories & Service Kits

D-219



Part No. in black box Ships same day when requested through Rapid Response[™] shipping. See inside back cover for details.

SIEMENS

SSB Valve Actuator

24 Vac, Floating Control

MZ Series



Powermite SSB81U MZ Series
Electronic Valve Actuator.

Description

The Powermite SSB81U Electronic Valve Actuator requires a 24 Vac supply floating control signal to provide three-position control. This actuator is designed to work with Powermite MZ Series Valves with a 7/32-inch (5.5 mm) stroke and a threaded valve bonnet that fits the actuator.

Features

- UL-listed for plenum installations
- Direct-coupled installation without tools
- Close-off up to 70 psi on 1/2-inch valve
- Non-spring return
- Manual override
- Visual position indication
- Orderable as actuator only or complete valve/actuator assembly

Applications

The Powermite SSB81U Electronic Valve Actuator is for use in heating and cooling HVAC applications with Powermite valves that need 45 lb. (200 N) of nominal force.

D-93

Valves

SSB81U Specifications

Operating Voltage 24 Vac \pm 20%

Frequency 50/60 Hz

Power Consumption 0.8 VA

Function

Running Time 150 sec.

Nominal Stroke 7/32" (5.5 mm)

Nominal Force 45 lb. (200 N)

Agency Approvals UL873

CSA C22.2 No. 24-93

Ambient Temperature

Operation 34 to 122°F (1 to 50°C)

Transport and Storage -13 to +158°F (-25 to +70°C)

Mounting Location NEMA 1 (interior only)

SSB81U Product Ordering

Description	Part No.	Actuator Prefix Code
Floating	SSB81U	254

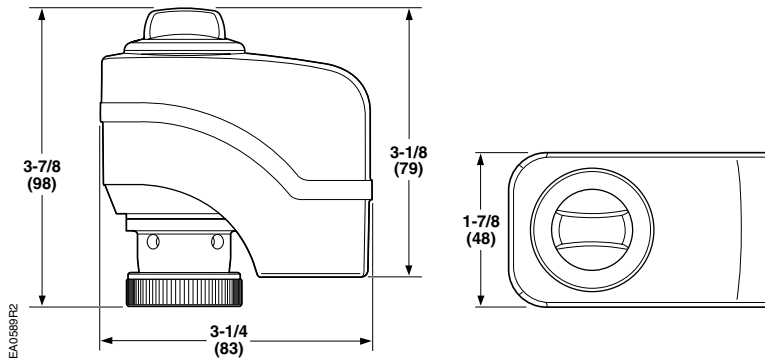
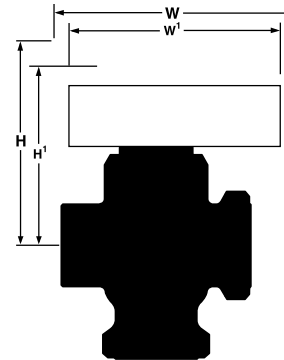
There are no repair parts for this product. Replace the entire actuator if inoperative.



D-94

Dimensions

Valve Size in.	Center Line to Top of Actuator	Service Height	Actual Width	Service Width
	H ¹	H	W ¹	W
1/2" (15 mm)	5-1/8" (130mm)	13-1/8" (330mm)	3-1/4" (83mm)	11-1/4" (282mm)
3/4" (20 mm)	5-1/8" (130mm)	13-1/8" (330mm)	3-1/4" (83mm)	11-1/4" (282mm)
1" (25 mm)	5-3/8" (136mm)	13-3/8" (335mm)	3-1/4" (83mm)	11-1/4" (282mm)



Dimensions shown in inches (mm).

Valves

Accessories & Service Kits

D-219



Part No. in black box Ships same day when requested through Rapid Response™ shipping. See inside back cover for details.

SIEMENS

Two-way Valves

1/2 to 1-inch NO or NC

MT Series



Powermite MT Series
Two-way Globe Valve.

Description

The Powermite MT Series Two-way Globe Valves are designed to work with either a pneumatic or electronic actuator with a 7/32-inch (5.5 mm) stroke.

Features

- Direct-coupled universal bonnet/No tools required for installation
- Choice of brass or stainless steel trim
- ANSI Leakage Class IV (0.01% of Cv)
- ANSI Class 250 body
- Available in 3 to 8 psi, 8 to 13 psi or 10 to 15 psi spring ranges with pneumatic actuation
- Rated for 15 psi steam with stainless steel trim
- Interchangeable pneumatic or electronic actuators
- Orderable as valve only or complete valve/actuator assembly

Applications

The Powermite MT Series Globe Valves are used for hot or chilled water or low pressure steam (<15 psi with stainless steel trim only) control on convectors, fan coil units, unit conditioners, radiation, reheat coils, and similar terminal units.

Recommendation:

Only use the MT Series Valve Actuators. When using this valve with a pneumatic actuator, note that MT valve bodies have the spring in the body, rather than the actuator. To order the correct valve body, select the proper spring range.

Alternate spring ranges for pneumatic sequencing are available as valve and actuator factory assemblies only.

D-95

Valves

Two-way Valve Specifications

Valve Size	1/2 to 1" (15 to 40 mm)
Body Style	Globe
Seat Style	Metal to metal
Action	NO/NC
Valve Body Rating	ANSI Class 250
Stem Travel (Stroke)	7/32" (5.5 mm)
Materials	
Body	Forged Brass C37700 or UNS CA 844 Bronze
Trim	Stainless Steel or Brass
Stem	Stainless Steel ASTM A582 Type 303
Packing	EPDM O-rings
Spring Range	
Standard	
Normally Closed	10 to 15 psi (69 to 103 kPa)
Normally Open	3 to 8 psi (21 to 55 kPa)
Optional	
Normally Closed	3 to 8 psi (21 to 55 kPa)
	8 to 13 psi (55 to 90 kPa)
Normally Open	8 to 13 psi (55 to 90 kPa)
	10 to 15 psi (69 to 103 kPa)

Medium Temperature Range	35 to 250°F (2 to 120°C)
Max. Recommended Differential Pressure for Liquid Modulating Service	
Brass Trim	25 psi (173 kPa)
Stainless Steel Trim	50 psi (345 kPa)
Rangeability	
Cv<1	>50:1
Cv>1	>100:1
Close-off Ratings	According to ANSI/FCI 70-2
Leakage Rate	Class IV (0.01% of Cv)
Flow Characteristics	Modified Equal Percentage
Mounting Location	NEMA 1 (interior only)

Refer back to the Selection Charts at the beginning of this section to make sure the configuration is valid.

Two-way MT Series Valve Body Product Ordering

NO/NC, Modified Equal Percentage, Brass Trim



Connection	Flow Rate Cv (Kvs)	Valve Size in. (mm)	Stroke (in.)	Normally Open Part No.	Normally Closed Part No.
Standard Temperature Packing — 20 to 250°F (-7 to 120°C)					
Female x Female	0.4 (0.34)	1/2 (15)	7/32	599-02030	599-02000
	0.63 (0.54)	1/2 (15)	7/32	599-02032	599-02002
	1 (0.85)	1/2 (15)	7/32	599-02034	599-02004
	1.6 (1.37)	1/2 (15)	7/32	599-02036	599-02006
	2.5 (2.14)	1/2 (15)	7/32	599-02038	599-02008
	4 (3.42)	1/2 (15)	7/32	599-02041	599-02010
	6.3 (5.38)	3/4 (20)	7/32	599-02044	599-02012
	10 (8.55)	1 (25)	7/32	599-02046	599-02014
Female x Union Male	0.4 (0.34)	1/2 (15)	7/32	599-02031	599-02001
	0.63 (0.54)	1/2 (15)	7/32	599-02033	599-02003
	1 (0.85)	1/2 (15)	7/32	599-02035	599-02005
	1.6 (1.37)	1/2 (15)	7/32	599-02037	599-02007
	2.5 (2.14)	1/2 (15)	7/32	599-02039	599-02009
	4 (3.42)	1/2 (15)	7/32	599-02042	599-02011
	6.3 (5.38)	3/4 (20)	7/32	599-02045	599-02013
Angle Female x Union Male	2.5 (2.15)	1/2 (15)	7/32	599-02040	—
	4 (3.44)	1/2 (15)	7/32	599-02043	—

There are no repair parts for this product. Replace the entire valve body if inoperative.

D-97

Valves

Two-way MT Series Valve Body Product Ordering




NO/NC, Modified Equal Percentage, Stainless Steel Trim



Connection	Flow Rate Cv (Kvs)	Valve Size in. (mm)	Stroke (in.)	Normally Open Part No.	Normally Closed Part No.
Standard Temperature Packing — 20 to 250°F (-7 to 120°C)					
Female x Female	0.4 (0.34)	1/2 (15)	7/32	599-02047	599-02015
	0.63 (0.54)	1/2 (15)	7/32	599-02049	599-02017
	1 (0.85)	1/2 (15)	7/32	599-02051	599-02019
	1.6 (1.37)	1/2 (15)	7/32	599-02053	599-02021
	2.5 (2.14)	1/2 (15)	7/32	599-02055	599-02023
	4 (3.42)	1/2 (15)	7/32	599-02058	599-02025
	6.3 (5.38)	3/4 (20)	7/32	599-02061	599-02027
	10 (8.55)	1 (25)	7/32	599-02063	599-02029
Female x Union Male	0.4 (0.34)	1/2 (15)	7/32	599-02048	599-02016
	0.63 (0.54)	1/2 (15)	7/32	599-02050	599-02018
	1 (0.85)	1/2 (15)	7/32	599-02052	599-02020
	1.6 (1.37)	1/2 (15)	7/32	599-02054	599-02022
	2.5 (2.14)	1/2 (15)	7/32	599-02056	599-02024
	4 (3.42)	1/2 (15)	7/32	599-02059	599-02026
	6.3 (5.38)	3/4 (20)	7/32	599-02062	599-02028
Angle Female x Union Male	2.5 (2.15)	1/2 (15)	7/32	599-02057	—
	4 (3.44)	1/2 (15)	7/32	599-02060	—

There are no repair parts for this product. Replace the entire valve body if inoperative.

MT Series Valve Actuator Product Ordering

Description		Part No.	Actuator Prefix Code	
 2"	Pneumatic*	3-8 psi (21-55 kPa)	599-01088	257
		8-13 psi (55-90 kPa)	599-01088	258
		10-15 psi (69-103 kPa)	599-01088	256
	Electro-Mechanical	24 V, Floating, NSR	SSC81U	259
		24 V, Floating, SR	SSC81.5U	260
		24 V, 0-10 V, NSR	SSC61U	261
		24 V, 0-10 V, SR	SSC61.5U	262
	Electro-Mechanical	24 V, Floating, SR	SQS85.53U	266
		24 V, 0-10 V, NSR	SQS65U	264
		24 V, 0-10 V, SR	SQS65.5U	265

*Powermite MT Series valve bodies have the spring in the body, rather than in the pneumatic actuator. There are different valve part numbers for the different spring ranges.



D-98

Refer back to the Selection Chart at the beginning of this section to make sure the configuration is valid.

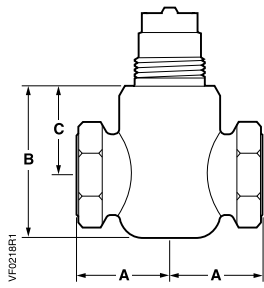
Valves



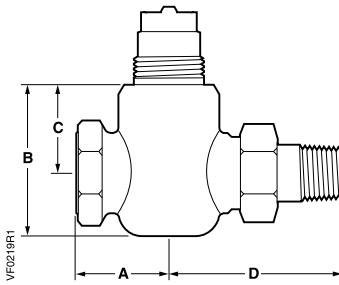
Part No. in black box Ships same day when requested through Rapid Response™ shipping. See inside back cover for details.

SIEMENS

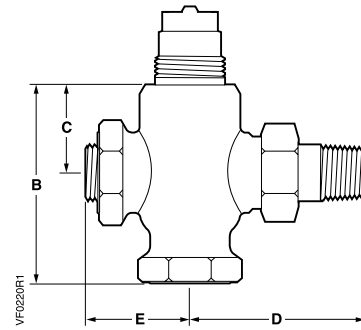
Dimensions and Weights



Female NPT by Female NPT
(FxF)



Female NPT by Union Male
(FxUM)



Angle Female by Union Male
(AFxUM)

Valve Size In.	Dimensions							Weight			
	A	B		AFxUM	C		D	E	FxF	FxUM	AFxUM
		NO	NC		NO	NC					
1/2" (15 mm)	1-3/8" (35 mm)	2-1/4" (57 mm)		2-15/16" (74 mm)	1-5/16" (33 mm)		2-5/8" (67 mm)	1-1/2" (38 mm)	1.3 lb. (0.6 kg)	1.5 lb. (0.7 kg)	1.8 lb. (0.8 kg)
3/4" (20 mm)	1-5/8" (41 mm)	2-3/8" (59 mm)		—	1-5/16" (33 mm)		3-1/8" (79 mm)	—	1.8 lb. (0.8 kg)	2.2 lb. (1 kg)	—
1" (25 mm)	1-15/16" (49 mm)	2-3/4" (69 mm)		—	1-9/16" (39 mm)		—	—	2.6 lb. (1.2 kg)	—	—
1-1/4" (32 mm)	2-1/2" (63.5 mm)	4-1/4" (108 mm)	3-7/8" (98.4 mm)	—	2-3/16" (55.6 mm)	1-11/16" (42.9 mm)	—	—	4 lb. (1.8 kg)	—	—
1-1/2" (40 mm)	2-9/16" (65 mm)	4-1/4" (108 mm)	3-7/8" (98.4 mm)	—	2-1/4" (57.2 mm)	1-5/8" (41.3 mm)	—	—	5 lb. (2.3 kg)	—	—

D-99

Valves

D-100

Valves

Need additional assistance?

Contact Siemens Inside Sales or your Account Executive any time.
Call Inside Sales at 1-888-593-7876 from 7 am to 5:30 pm (CST)
Monday through Friday. Or, send an email to
bgcustomersupport.us.sbt@siemens.com

We appreciate your business and look forward to helping you!



Three-way Mixing Valves

1/2 to 1-inch

MT Series



Powermite MT Series
Three-way Globe Valve.

Description

The Powermite MT Series Three-way Globe Valves are designed to work with either a pneumatic or electronic actuator with a 7/32-inch (5.5 mm) stroke.

Features

- Direct-coupled universal bonnet/No tools required for installation
- Choice of brass or stainless steel trim
- ANSI Leakage Class IV (0.01% of Cv)
- ANSI Class 250 body
- Available in 3 to 8 psi, 8 to 13 psi or 10 to 15 psi spring ranges with pneumatic actuation
- Rated for 15 psi steam with stainless steel trim
- Interchangeable pneumatic or electronic actuators
- Orderable as valve only or complete valve/actuator assembly

Applications

The Powermite MT Series Three-way Globe Valves are used for mixing of hot or chilled water for convectors, fan coil units, unit conditioners, radiation, reheat coils, and similar terminal units requiring water mixing.

Recommendation:

Only use the MT Series Valve Actuators. When using this valve with a pneumatic actuator, note that MT valve bodies have the spring in the body, rather than the actuator. To order the correct valve body, select the proper spring range.

Alternate spring ranges for pneumatic sequencing are available as valve and actuator factory assemblies only.

D-101

Valves

Three-way Mixing Valve Specifications

Valve Size	1/2 to 1" (15 to 40 mm)
Body Style	Globe
Seat Style	Metal to metal
Action	Three-way mixing
Valve Body Rating	ANSI Class 250
Stem Travel (Stroke)	7/32" (5.5 mm)
Materials	
Body	Forged Brass C37700 or UNS CA 844 Bronze
Trim	Stainless steel or brass
Stem	Stainless steel ASTM A582 Type 303
Packing	
EPDM O-rings	
Spring Ranges	
Standard	8 to 13 psi
Optional	3 to 8 psi (21 to 55 kPa) 10 to 15 psi (69 to 103 kPa)
Controlled Medium	Water, glycol solutions up to 50%
Medium Temperature Range	35 to 250°F (2 to 120°C)

Max. Recommended Differential Pressure for Modulating Service	
Brass Trim	25 psi (173 kPa)
Stainless Steel Trim	50 psi (345 kPa)
Rangeability	
Cv < 1	> 50:1
Cv > 1	> 100:1
Close-off Ratings	According to ANSI/FCI 70-2
Leakage Rate	Class IV (0.01% of Cv)
Flow Characteristics	Linear
Mounting Location	NEMA 1 (interior only)

Refer back to the Selection Charts at the beginning of this section to make sure the configuration is valid.

Three-way Mixing Valve Body Product Ordering

Linear, Brass Trim



Flow Rate		Valve Size		Stroke (in.)	Part No.
Cv	(Kvs)	in.	(mm)		
0.4	(0.34)	1/2	(15)	7/32	599-02064
0.63	(0.54)	1/2	(15)	7/32	599-02065
1	(0.85)	1/2	(15)	7/32	599-02066
1.6	(1.37)	1/2	(15)	7/32	599-02067
2.5	(2.14)	1/2	(15)	7/32	599-02068
4	(3.42)	1/2	(15)	7/32	599-02069
6.3	(5.38)	3/4	(20)	7/32	599-02070
10	(8.55)	1	(25)	7/32	599-02071

There are no repair parts for this product. Replace the entire valve body if inoperative.

Three-way Mixing Valve Body Product Ordering

Linear, Stainless Steel Trim






Flow Rate		Valve Size		Stroke (in.)	Part No.
Cv	(Kvs)	in.	(mm)		
0.4	(0.34)	1/2	(15)	7/32	599-02072
0.63	(0.54)	1/2	(15)	7/32	599-02073
1	(0.85)	1/2	(15)	7/32	599-02074
1.6	(1.37)	1/2	(15)	7/32	599-02075
2.5	(2.14)	1/2	(15)	7/32	599-02076
4	(3.42)	1/2	(15)	7/32	599-02077
6.3	(5.38)	3/4	(20)	7/32	599-02078
10	(8.55)	1	(25)	7/32	599-02079

There are no repair parts for this product. Replace the entire valve body if inoperative.

D-102

Valves

MT Series Valve Actuator Product Ordering

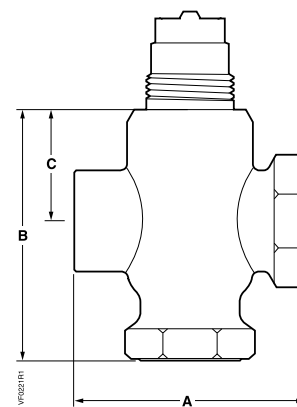
Description		Part No.	Actuator Prefix Code	
 2"	Pneumatic*	3-8 psi (21-55 kPa)	599-01088	257
		8-13 psi (55-90 kPa)	599-01088	258
		10-15 psi (69-103 kPa)	599-01088	256
	Electro-Mechanical	24 V, Floating, NSR	SSC81U	259
		24 V, Floating, SR	SSC81.5U	260
		24 V, 0-10 V, NSR	SSC61U	261
		24 V, 0-10 V, SR	SSC61.5U	262
	Electro-Mechanical	24 V, Floating, SR	SQS85.53U	266
		24 V, 0-10 V, NSR	SQS65U	264
		24 V, 0-10 V, SR	SQS65.5U	265

*Powermite MT Series valve bodies have the spring in the body, rather than in the pneumatic actuator. There are different valve part numbers for the different spring ranges.



Dimensions and Weights

Valve Size in.	Dimensions			Weight
	A	B	C	
1/2" (15 mm)	2-3/4" (70 mm)	2-15/16" (74 mm)	1-5/16" (33 mm)	1.5 lb. (0.7 kg)
3/4" (20 mm)	3-1/4" (83 mm)	2-3/8" (59 mm)	1-5/16" (33 mm)	2.3 lb. (1.05 kg)
1" (25 mm)	3-7/8" (98 mm)	3-15/16" (99 mm)	1-9/16" (39 mm)	3.3 lb. (1.5 kg)
1-1/4" (32 mm)	4-15/16" (125 mm)	4-1/4" (109 mm)	1-11/16" (42.9 mm)	4.0 lb. (1.8 kg)
1-1/2" (40 mm)	5-1/8" (130 mm)	4-1/2" (114 mm)	1-5/8" (41.3 mm)	5.0 lb. (2.3 kg)



D-104

Valves

Need an additional Catalog?

Request an additional paper Master HVAC Catalog through your Siemens Account Executive or by calling Inside Sales at 1-888-593-7876.

Two-inch Pneumatic Valve Actuator



Powermite MT Series
Two-inch Pneumatic Valve Actuator.

Description

The Powermite Two-inch Pneumatic Valve Actuator is designed for use with the 1/2 to 1-inch Powermite MT Series Terminal Unit Valves with a 7/32-inch (5.5 mm) stroke.

Features

- Low profile
- Freely rotates to aid tubing installation
- Easy installation and removal
- All metal housing
- Orderable as actuator only or complete valve/actuator assembly

Applications

The Powermite Two-inch Pneumatic Valve Actuator is designed to be used on 1/2 to 1-inch Powermite Terminal Unit Valves in liquid and steam service applications.

The pneumatic actuator relies on the spring inside the bonnet assembly of the MT Series valve bodies to return to the “normal” position.

Recommendation:

Use only for MT Series valve bodies, 1/2 to 1-inch only.

2" Pneumatic Actuator Specifications

Effective Diaphragm Area	3.4 in. ² (22 cm ²)
Diaphragm Material	Silicone
Nominal Spring Range	Valve dependent
Span	5 psi (34 kPa)
Nominal Stroke	7/32" (5.5 mm)
Max. Diaphragm Pressure	35 psi (241 kPa)
Air Connection	1/8" NPT fitting for 1/4" (6 mm) OD polyethylene tubing
Ambient Temperature	
Transportation	-40 to +180°F (-40 to +82°C)
Mounting Location	NEMA 1 (interior only)
Shipping Weight	0.43 lb. (0.2 kg)

2" Pneumatic Actuator Product Ordering

Description	Part No.	Actuator Prefix Code
3-8 psi (21-55 kPa) SR	599-01088	257
8-13 psi (55-90 kPa) SR	599-01088	258
10-15 psi (69-103 kPa) SR	599-01088	256

Ordering Note

Spring is inside bonnet assembly of valve body. Use the Valve Selection Charts at the front of this section on pages D-12, D-20 and D-22 to determine spring range.

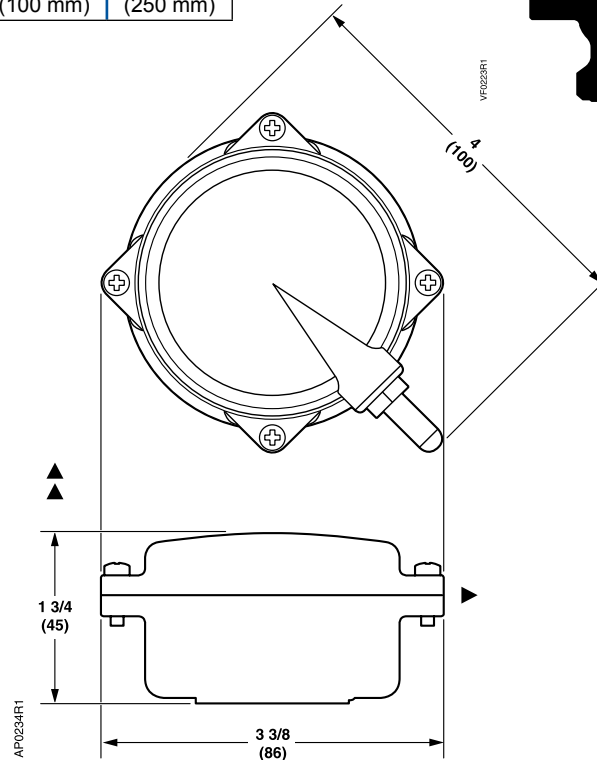
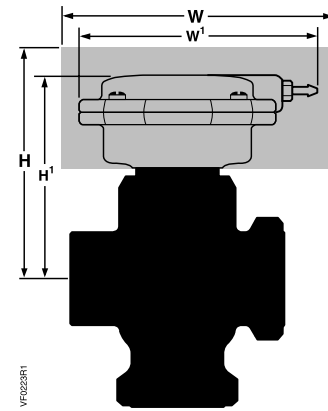


Dimensions

D-106

Valves

Valve Size in.	Center Line to Top of Actuator	Service Height	Actual Width	Service Width
	H ¹	H	W ¹	W
1/2" (15 mm)	3-1/16" (78 mm)	11" (280 mm)	4" (100 mm)	10" (250 mm)
3/4" (20 mm)	3-1/16" (78 mm)	11" (280 mm)	4" (100 mm)	10" (250 mm)
1" (25 mm)	3-5/16" (84 mm)	11-1/4" (285 mm)	4" (100 mm)	10" (250 mm)



Dimensions shown in inches (mm).

Accessories & Service Kits

D-219



Part No. in black box Ships same day when requested through Rapid Response™ shipping. See inside back cover for details.

SIEMENS

SSC Electronic Valve Actuator

24 Vac, Floating Control

MT Series



SSC81U Electronic Valve Actuator.

Description

The Powermite SSC81U and SSC81.5U Electronic Valve Actuators require a 24 Vac supply and provide a floating control signal. These actuators control Powermite MT Series Valves with a 7/32-inch (5.5 mm) stroke

Features

- UL listed for plenum installations
- Direct coupled, one step installation without special tools
- Manual override
- Visual position indication
- Spring return or non-spring return

Applications

The Powermite SSC81... Electronic Actuators and MT Series Valves are used in heating and cooling applications in liquid and steam applications requiring a minimum of 67 lbs. (300 N) nominal forces. The SSC81... accepts plenum cable or 3/8-inch flex conduit connection.

D-107

Valves

SSC Electronic Valve Actuator

24 Vac, Proportional Control

MT Series



SSC61U Electronic Valve Actuator.

Description

The Powermite SSC61U and SSC61.5U Electronic Valve Actuators require a 24 Vac supply and provide a 0 to 10 Vdc control signal to proportionally control Powermite MT series valves with a 7/32-inch (5.5 mm) stroke and a threaded valve bonnet that fits the actuators.

Features

- UL listed for plenum installations
- Direct coupled, one step installation without special tools
- Manual override
- Visual position indication
- Spring return or non-spring return

Applications

The Powermite SSC61... electronic actuators and MT Series Valves are used in heating and cooling applications to control hot or chilled water or steam for convectors, fan coil units, unit conditioners, radiation, reheat coils and similar terminal units requiring a minimum of 67 lbs. (300 N) nominal forces. The SSC61... accepts plenum cable or 3/8-inch flex conduit connection.

D-109

Valves

SSC61 Actuator Specifications

Operating Voltage 24 Vac ± 20%
Frequency 50/60 Hz ± 2 Hz
Power Supply Earth Ground, isolating Class 2, 24 Vac Transformer
Power Consumption 2 VA
Control Signal (Y)
 Voltage 0 to 10 Vdc (default) or 0 to 20 mA with external 500 ohm, 0.2W resistor
 Current 0.1 mA
Running Time
 at 50/60 Hz 30 s ± 10%
 Fail-safe (SSC61.5U only) ~25 sec.
Nominal Stroke 7/32" (5.5 mm)
Nominal Force 67 lbs. (300 N), +20%, -0%
Stroke/Signal Relationship Linear
Fail-safe (SSC61.5U only) Non-mechanical, electronic return fails to stem up (0 position)

Agency Certification UL873 Listed, Certified to Canadian Standard C22.2 No. 24-93

Ambient Temperature
 Operation 41 to 122°F (5 to 50°C) with 15 psi steam media
 Transport and Storage -13 to +158°F (-25 to +70°C)

Ambient Humidity 0 to 90% RH, non-condensing

Wiring Connection Plenum cable or 3/8-inch flex conduit

Shipping Weights
 SSC61U 1.1 lb. (0.5 kg)
 SSC61.5U 1.3 lb. (0.6 kg)

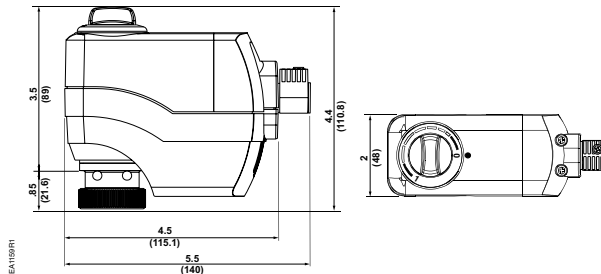
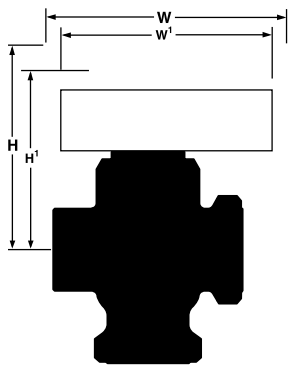
SSC61 Actuator Ordering

Description	Part No.	Actuator Prefix Code
Non-spring Return	SSC61U	261
Spring Return	SSC61.5U	262



Dimensions

Valve Line Size	Center Line to Top of Actuator		Service Height		Actual Width of Actuator W'	Service Width W
	H ¹		H			
	NO	NC	NO	NC		
1/2" (15 mm)	5-1/2" (140 mm)		13-1/2" (343 mm)		5-1/2" (140 mm)	13-1/2" (343 mm)
3/4" (20 mm)	5-1/2" (140 mm)		13-1/2" (343 mm)		5-1/2" (140 mm)	13-1/2" (343 mm)
1" (25 mm)	5-3/4" (146 mm)		13-3/4" (349 mm)		5-1/2" (140 mm)	13-1/2" (343 mm)
1-1/4" (32 mm)	7-1/4" (184 mm)	6-3/4" (171 mm)	15-3/8" (390 mm)	14-7/8" (377 mm)	5-1/2" (140 mm)	13-1/2" (343 mm)
1-1/2" (38 mm)	7-5/16" (186 mm)	—	15-3/8" (390 mm)	—	5-1/2" (140 mm)	13-1/2" (343 mm)



Dimensions shown in inches (mm).



SQS Electronic Valve Actuator

24 Vac, Proportional Control NSR/SR

MT Series



Powermite MT Series
SQS65U/SQS65.5U Electronic Valve Actuator.

Description

The Powermite SQS65 and SQS65.5 Electronic Valve Actuators require a 24 Vac supply and receive a 0 to 10 Vdc or a 0 to 1000 Ohm control signal to proportionally control a valve. This actuator is designed to work with Powermite MT Series Valves with a 7/32-inch (5.5 mm) stroke.

Features

- Maintenance-free with reversible motor
- Voltage or resistance signal input
- Position output signal 0 to 10 Vdc
- Non-spring return or spring return
- Small, compact design
- Manual adjustment knob with indication of stroke allows for repositioning in power-off condition (SQS65U actuator only)
- Mechanical spring allows the valve to return to normal position in power off condition (SQS65.5 actuator only)
- Orderable as actuator only or complete valve/actuator assembly
- Suitable for low pressure (15 psi) steam applications

Applications

The Powermite SQS65 and SQS65.5 Electronic Valve Actuator is for use in small to medium HVAC installations with Powermite, MT Series valves and Siemens Building Technologies standard valves with a 7/32-inch (5.5 mm) stroke.

Recommendation:

Use only with the MT Series valve bodies.

D-111

Valves

SQS65/65.5 Actuator Specifications

Operating Voltage
60 Hz..... 24 Vac, ±20%

Frequency 60 Hz

Power SupplyEarth ground isolating, Class 2,
24 Vac transformer
Do not power more than 10 actuators with one transformer.

Power Consumption
SQS65U 4.5 VA
SQS65.5U 7 VA

Control Signal (Y)
Voltage 0 to 10 Vdc
Current 0.1 mA

Input Impedance100 K Ohms

Control Signal (R)
Resistance 0 to 1000 Ohms

Position Output (U)
Voltage 0 to 10 Vdc
Current 0.5 mA max. running time

Running Time
at 60 Hz 30 sec.
Spring return (SQS65.5U only) 8 sec.

Nominal Stroke 7/32" (5.5 mm)

Nominal Force 90 lb. (400 N)

Agency Approvals UL873
CSA C22.2 No. 24-93

SQS65/65.5 Actuator Product Ordering

Description	Part No.	Actuator Prefix Code
Non-spring Return	SQS65U	264
Spring Return	SQS65.5U	265

**There are no repair parts for this product.
Replace the entire actuator if inoperative.**



Ambient Temperature
Operation 5 to 122°F (-15 to +50°C)
Transport and Storage -13 to +149°F (-25 to +65°C)

Ambient Humidity 0 to 90% RH, non-condensing

Mounting Location NEMA 1 (interior only)

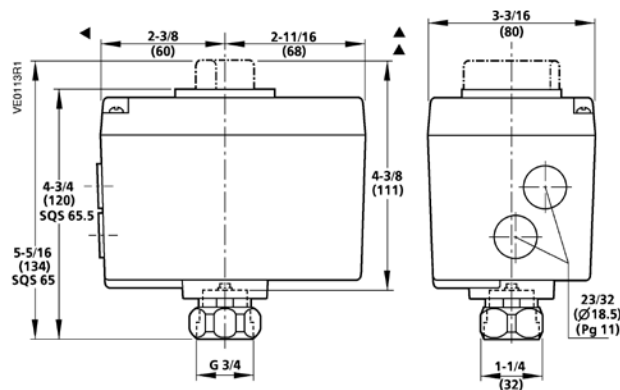
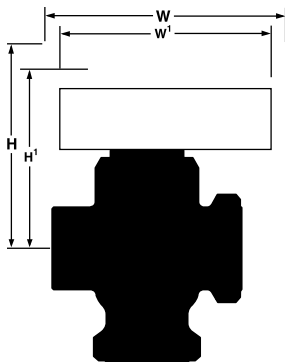
Shipping Weights
SQS65U 1.1 lb. (0.5 kg)
SQS65.5U 1.3 lb. (0.6 kg)

D-112

Valves

Dimensions

Valve Line Size	Center Line to Top of Actuator		Service Height		Actual Width of Actuator W'	Service Width W
	H'		H			
	NO	NC	NO	NC		
SQS65						
1/2" (15 mm)	6-5/8" (167 mm)		14-1/2" (370 mm)		5-1/16" (128 mm)	9" (225 mm)
3/4" (20 mm)	6-5/8" (167 mm)		14-1/2" (370 mm)		5-1/16" (128 mm)	9" (225 mm)
1" (25 mm)	6-7/8" (173 mm)		15" (380 mm)		5-1/16" (128 mm)	9" (225 mm)
1-1/4" (32 mm)	8-1/4" (210 mm)	7-3/4" (195 mm)	16" (406 mm)	9" (225 mm)	5-1/16" (128 mm)	13" (225 mm)
1-1/2" (40 mm)	8-5/16" (211 mm)	7-11/16" (195 mm)	16" (406 mm)	9" (225 mm)	5-1/16" (128 mm)	13" (225 mm)
SQS65.5						
1/2" (15 mm)	6-1/16" (153 mm)		14" (355 mm)		5-1/16" (128 mm)	9" (225 mm)
3/4" (20 mm)	6-1/16" (153 mm)		14" (355 mm)		5-1/16" (128 mm)	9" (225 mm)
1" (25 mm)	6-5/16" (159 mm)		14-1/2" (370 mm)		5-1/16" (128 mm)	9" (225 mm)
1-1/4" (32 mm)	7-11/16" (195 mm)	7-3/16" (183 mm)	5-1/2" (394 mm)	9" (225 mm)	5-1/16" (128 mm)	13" (225 mm)
1-1/2" (40 mm)	7-3/4" (197 mm)	7-1/8" (181 mm)	5-1/2" (394 mm)	9" (225 mm)	5-1/16" (128 mm)	13" (225 mm)



Dimensions shown in inches (mm).

Accessories & Service Kits

D-219



Part No. in black box Ships same day when requested through Rapid Response™ shipping. See inside back cover for details.

SIEMENS

SQS Electronic Valve Actuator

24 Vac, Floating Control SR

MT Series



Powermite MT Series SQS85.53U
Electronic Valve Actuator

Description

The Powermite SQS85.53 electronic valve actuator requires a 24 Vac supply and receives a floating control signal to provide floating control. This actuator works with Powermite MT Series terminal unit valves with a 7/32-inch (5.5 mm) stroke.

Features

- Maintenance-free with reversible motor
- UL listed for plenum installations
- Floating control signal input
- Mechanical spring returns the valve to its normal (spring return) position in power off condition.
- Orderable as actuator only or complete valve/actuator assembly
- Suitable for liquid and low pressure (15 psi) steam applications

Applications

For use in small to medium HVAC installations with Powermite Terminal Unit Valves and Siemens Building Technologies standard valves with a 7/32-inch (5.5 mm) stroke requiring a minimum of 67 pounds force (300 N). These valves can be used in liquid and low pressure steam service applications.

Recommendation:

Use only with the MT Series valve bodies. This actuator is not recommended for 2-position or pulse applications.

D-113

Valves

SQS85.53U Actuator Specifications

Operating Voltage
 60 Hz.....24 Vac, + 20%, -15%

Frequency60 Hz

Power SupplyEarth ground isolating, Class 2,
 24 Vac transformer
Do not power more than 10 actuators with one transformer.

Power Consumption 5 VA

Control SignalFloating

Y1.....Power extends actuator shaft (0 to 1)

Y2.....Power retracts actuator shaft (1 to 0)

G24 Vac operating voltage, system potential

21..... 24 Vac operating voltage, system neutral

Running Time at 60 Hz30 sec.

Nominal Stroke7/32" (5.5 mm)

Nominal Force90 lbs. (400 N)

Fail SafeMechanical spring

Fail Safe Return Time 8 sec.

Agency ApprovalsUL873
 CSA C22.2 No. 2A-93

Ambient Temperature
 Operation..... 5 to 122°F (-15 to +50°C)
 Transport and Storage-13 to +149°F (-25 to +65°C)

Ambient Humidity0 to 90% RH, non-condensing

Mounting Location NEMA 1 (interior only)

Shipping Weight1.3 lb. (0.6 kg)

SQS85.53U Actuator Product Ordering

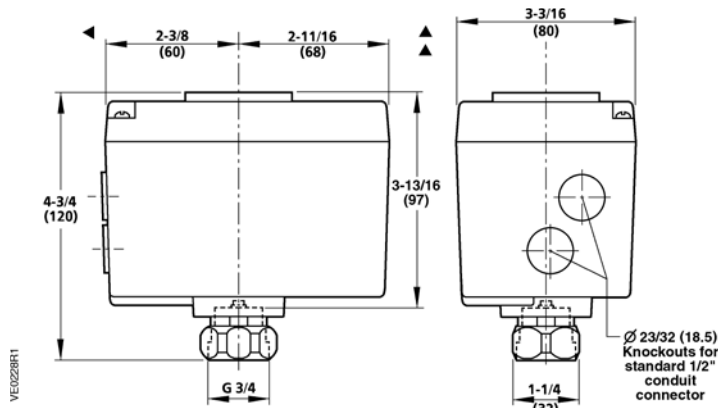
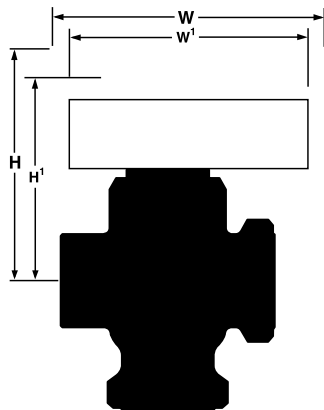
Description	Part No.	Actuator Prefix Code
Floating SR	SQS85.53U	266

**There are no repair parts for this product.
 Replace the entire actuator if inoperative.**

D-114

Dimensions

Valve Line Size	Center Line to Top of Actuator		Service Height		Actual Width of Actuator	Service Width
	H'		H		W'	W
	NO	NC	NO	NC		
1/2" (15 mm)	6-1/16" (153 mm)		14" (355 mm)		5-1/16" (128 mm)	9" (225 mm)
3/4" (20 mm)	6-1/16" (153 mm)		14" (355 mm)		5-1/16" (128 mm)	9" (225 mm)
1" (25 mm)	6-5/16" (159 mm)		14-1/2" (370 mm)		5-1/16" (128 mm)	9" (225 mm)
1-1/4" (32 mm)	7-11/16" (195 mm)	7-3/16" (183 mm)	15-1/2" (394 mm)	9" (225 mm)	5-1/16" (128 mm)	9" (225 mm)
1-1/2" (38 mm)	7-3/4" (197 mm)	7-1/8" (181 mm)	15-1/2" (394 mm)	9" (225 mm)	5-1/16" (128 mm)	9" (225 mm)



Dimensions shown in inches (mm).

Valves