

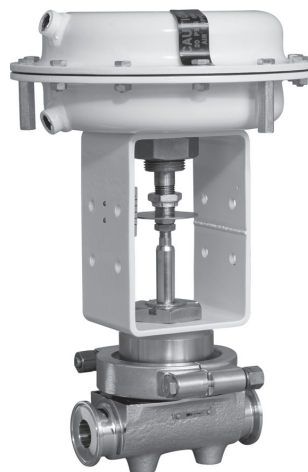


ISO Registered Company

SCV-S-TB  
12-20

# MODEL SCV-S

## SANITARY GLOBE-STYLE CONTROL VALVES



**MODEL SCV-S**  
Straight-Globe Pattern  
with C27 Actuator

### OVERVIEW

The Model SCV-S is a **throttling**, pneumatically actuated control valve. This design provides a geometrically characterized plug for superior **throttling** dynamics, plus the unit's ease of cleanability and maintenance meet the requirements of sanitary control valves.

### FEATURES

- Design Concept:** A control valve for **throttling** applications.
- Two Body Configurations:** Traditional straight-thru globe pattern, or angle body pattern, both self-draining. Forged 316L SST or barstock 316L SST body material; barstock 316L SST bonnet material.
- Multiple Ports:** Both full and reduced port designs to optimize dynamic response.
- Characteristic:** Linear.
- Dual Stem Seal:** Two spring-energized stem seals ensure sealing against ingress of contaminants and egress of contained fluid. Available in two materials.
- Polished Interior:** Interior of wetted surfaces mechanically polished and electro-polished to 10 micro-inch  $R_a$  finish.
- Exterior Finish:** SST portions of body electro-polished. All other metallic exposed surfaces are of SST or coated with epoxy.
- Readily Accessible:** Unit can be easily and quickly disassembled in-line for inspection. Quick disconnect body-to-bonnet joint.
- Cleaning Capability:** Unit designed for clean-in-place (CIP) and steam-in-place (SIP) systems.



### LINE SIZES AVAILABLE

3/4" (DN20), 1" (DN25), 1-1/2" (DN40)



### END CONNECTIONS

SANITARY TRI-CLAMP, BUTT WELD



### COMMON APPLICATIONS

PHARMACEUTICAL, BIOTECHNICAL, HEALTH CARE, PROCESSED FOOD, COSMETICS, BATCHING TANKS, COOKERS, DRYERS



### DESIGN PRESSURE

OPERATING PRESSURE RANGE:  
FULL VACUUM TO +150 psig (+10.3 Barg)

Алматы (7273)495-231  
Ангарск (3955)60-70-56  
Архангельск (8182)63-90-72  
Астрахань (8512)99-46-04  
Барнаул (3852)73-04-60  
Белгород (4722)40-23-64  
Благовещенск (4162)22-76-07  
Брянск (4832)59-03-52  
Владивосток (423)249-28-31  
Владикавказ (8672)28-90-48  
Владимир (4922)49-43-18  
Волгоград (844)278-03-48  
Вологда (8172)26-41-59  
Воронеж (473)204-51-73  
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06  
Ижевск (3412)26-03-58  
Иркутск (395)279-98-46  
Казань (843)206-01-48  
Калининград (4012)72-03-81  
Калуга (4842)92-23-67  
Кемерово (3842)65-04-62  
Киров (8332)68-02-04  
Коломна (4966)23-41-49  
Кострома (4942)77-07-48  
Краснодар (861)203-40-90  
Красноярск (391)204-63-61  
Курск (4712)77-13-04  
Курган (3522)50-90-47  
Липецк (4742)63-20-81

Магнитогорск (3519)55-03-13  
Москва (495)268-04-70  
Мурманск (8152)59-64-93  
Набережные Челны (8552)20-53-41  
Нижегород (831)429-08-12  
Новокузнецк (3843)20-46-81  
Ноябрьск (3496)41-32-12  
Новосибирск (383)227-86-73  
Омск (3812)21-46-40  
Орел (4862)44-53-42  
Оренбург (3532)37-68-04  
Пенза (8412)22-31-16  
Петрозаводск (8142)55-98-37  
Псков (8112)59-10-37  
Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15  
Рязань (4912)46-61-64  
Самара (846)206-03-16  
Санкт-Петербург (812)309-46-40  
Саратов (845)249-38-78  
Севастополь (8692)22-31-93  
Саранск (8342)22-96-24  
Симферополь (3652)67-13-56  
Смоленск (4812)29-41-54  
Сочи (862)225-72-31  
Ставрополь (8652)20-65-13  
Сургут (3462)77-98-35  
Сыктывкар (8212)25-95-17  
Тамбов (4752)50-40-97  
Тверь (4822)63-31-35

Топьятты (8482)63-91-07  
Томск (3822)98-41-53  
Тула (4872)33-79-87  
Тюмень (3452)66-21-18  
Ульяновск (8422)24-23-59  
Улан-Удэ (3012)59-97-51  
Уфа (347)229-48-12  
Хабаровск (4212)92-98-04  
Чебоксары (8352)28-53-07  
Челябинск (351)202-03-61  
Череповец (8322)49-02-64  
Чита (3022)38-34-83  
Якутск (4112)23-90-97  
Ярославль (4852)69-52-93

Россия +7(495)268-04-70

Казахстан +7(7172)727-132

Киргизия +996(312)96-26-47

## STANDARD/GENERAL SPECIFICATIONS

**Body Sizes:** Full Port – 3/4" (DN20),  
1" (DN25), 1-1/2" (DN40).  
Opt-12 Reduced Port – 1" (DN25)  
and 1-1/2" (DN40).

**Body Form:** Straight-Globe and Angle-Globe.

**End Connections:** Standard: Sanitary "Tri-Clamp®". Designed to seal against weld type clamp liners per ISO 2852.  
Optional: Butt weld (Opt-24).

**Inherent Characteristic:** Linear.

**Operating Pressure Range:** Function of actuator bench set range:  
Full vacuum to +150 psig  
(Full vacuum to +10.3 Barg)

**Operating Temperature Range:** Up to +366°F (186°C); function of Trim Designation No. applied. Minimum – 0°F (-17°C).

**Maximum Operating Pressure Drop:** Function of actuator bench range:  
Up to 150 psid (10.3 Bard).  
See Table 2

**Flow Capacity:** Per ISA 75.11.01 standard. See Tables 3 and 4.

**Rangeability:** 30:1 (FTO only).

**Flow Direction:** FTO – Flow-to-Open. (Not recommended for FTC direction.)

Body Size		Port Size	Straight		Angle	
in	(DN)		Cv	kv	Cv	kv
3/4"	(20)	Full	2.8	2.4	3.8	3.3
1"	(25)	Full	6.0	5.1	7.5	6.5
		Opt-12 Red.	3.5	3.0	5.0	4.3
1-1/2"	(40)	Full	11.8	10.1	13.5	11.6
		Opt-12 Red.	6.5	5.6	8.0	6.9

**Seat Leakage:** Per ANSI/FCI 70-2.  
Metal seated – Class IV.  
Composition seated – Class VI.

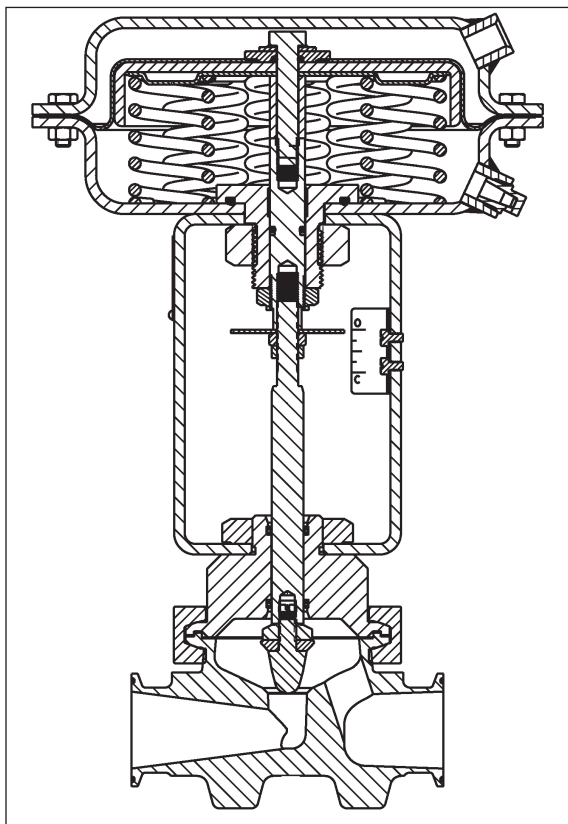
**Actuator:** Spring-Diaphragm type; multi-spring. Field reversible.  
Direct: ATC-FO; Reverse: ATO-FC.

Direct: Increase in air "LOAD" extends actuator stem.  
Reverse: Increase in air "LOAD" retracts actuator stem.  
ATC-FO: Air-to-Close, Fail Open;  
ATO-FC: Air-to-Open, Fail Closed;  
Standard Actuator compliant with IEC 60534-6-1 for mounting standardized positioners.

**Painting:** Standard – All non corrosion resistant portions are powder coated per Spec. S-1743 and /or with corrosion resistant epoxy paint per Cashco Spec #S-1606.  
Alternate: See Opt-95.

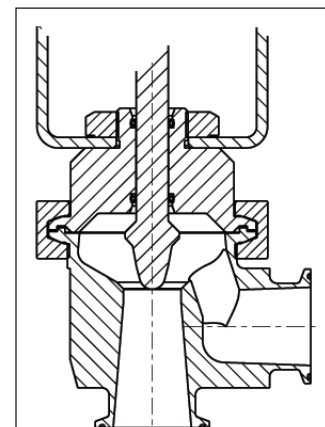
**Maximum CIP Conditions:** CIP – Clean-in-Place.  
Recommended: Maximum cleaning fluid pressure – 50 psig (3.4 Barg).

® Registered Tradename, Alfa-Laval Group, Tri-Clover Division.



ATC-FO Actuator

**FIGURE 1 – Straight body w / Composition Plug**



**FIGURE 2 – Angle Body w / Metal Plug**

## BODY TECHNICAL SPECIFICATIONS

### Port Size, Stroke:

Nominal Body Size		Port Size				Nominal Stroke	
		Full		Opt-12 Reduced			
in	(DN)	in	(mm)	in	(mm)	in	(mm)
3/4"	(20)	.500	(12.7)	---	---	.75	(19.0)
1"	(25)	.688	(17.5)	.500	(12.7)		
1-1/2"	(40)	1.000	(25.4)	.688	(17.5)		

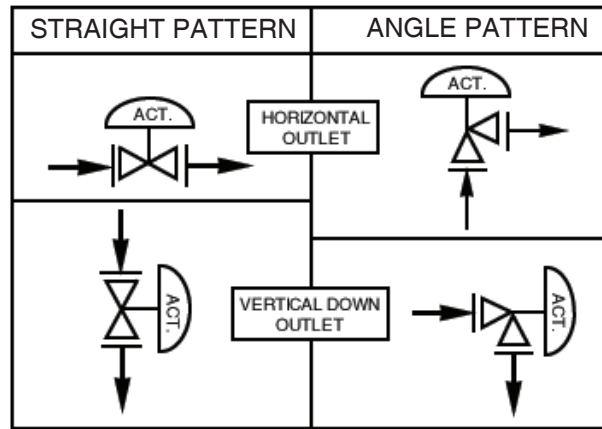
**NOTE:** Trim is interchangeable based on port size as each has the same stroke; i.e. 1" (25.4mm)- reduced port trim will directly transfer to 3/4" (19.1 mm)- full port, either angle or straight pattern.

### Installation Orientation:

Internal surfaces sloped and oriented to give "self-draining" with valve plug "open" when installed per Figure 3.

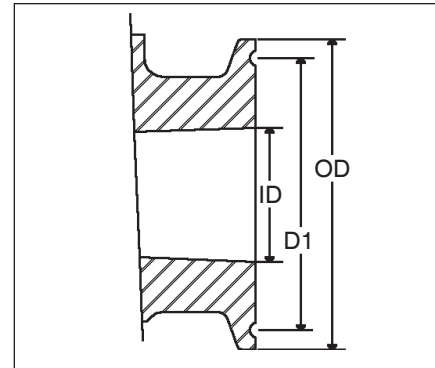
### End Connection Details:

Standard: For mating to piping with quick couple, mechanical joints; Alfa-Laval "Tri-Clamp". See Figure 4.



**FIGURE 3:**  
Installation Orientation

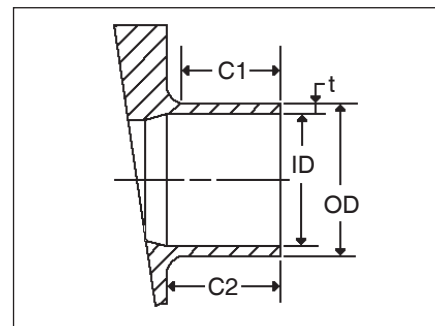
Nominal Body Size		Dimensions for Fig. 4					
		ID		OD		D1	
inch	(DN)	inch	(mm)	inch	(mm)	inch	(mm)
3/4"	(20)	0.625	(15.9)	0.98	(24.9)	0.80	(2.3)
1"	(25)	0.856	(21.7)	1.984	(50.4)	1.738	(44.1)
1-1/2"	(40)	1.356	(34.4)	1.984	(50.4)	1.738	(44.1)



**FIGURE 4:** Std. "Tri-Clamp" End Connection

Nominal Body Size		Dimensions for Fig. 5				
		ID	OD	t	C1	C2
Inch (DN)	inch (mm)	inch (mm)	inch (mm)	inch (mm)	inch (mm)	
3/4" (20)	0.620 (15.7)	0.750 (19.1)	.065 (1.65)	MIN. 1.69 (17.5)	0.75 (19.0)	
1" (25)	0.870 (22.1)	1.000 (25.4)				
1-1/2" (40)	1.370 (34.8)	1.500 (38.1)				

NOTE: Tube ends are for 16 Ga. tube.



**FIGURE 5:** Opt-24 Butt Weld End Connection

## BODY SUB-ASSEMBLY MATERIAL SPECIFICATIONS

**Body:** Forged, ASTM F182, Gr. F316L (316L SST). Barstock - 316L SST; ASTM A479, S31603

**Bonnet:** Barstock - 316L SST; ASTM A479, S31603, annealed.

**Plug/Stem Assembly:** Barstock - 316L SST; ASTM A479, S31603, annealed. See Table 5.

**Wetted Surface Finish:** Mechanically polished with 240 grit compound; manually polished where required. Electro-polished. Final surface is 10 micro-inch  $R_a$ . Final cleaning per Cashco Specification #S-1576.

**wGasket:** Expanded PTFE.

**Stem Seal:** Dual – Upper and lower. TDN S89LF utilizes o-ring seals with vented mid-zone. All other TDN's utilize spring-energized seals with non-vented mid-zone.

Materials – Selected with Trim Designation Number. Function of service fluid and maximum temperature. See Table 5.

**Bonnet Clamp:** Alfa-Laval Group, Tri-Clover Div., “Tri-Clamp”; 304 SST electro-polished. Two-piece clamp with SST bolt/nut fasteners.

**NOTE:** TDN = Trim Designation Number.

## ACTUATOR TECHNICAL SPECIFICATIONS

**Size, Stroke, & Volume:**

**Ambient Temperature Range:** -50° to +180°F (-45° to +82°C).

Actuator Model	Diaph. Area		Nominal Stroke		Action	Volumes			
	in <sup>2</sup>	(cm <sup>2</sup> )	in	(mm)		Clearance		Displacement	
						in <sup>3</sup>	(cm <sup>3</sup> )	in <sup>3</sup>	(cm <sup>3</sup> )
C27	32	(209)	0.75	(19)	ATC	25.8	(422)	25.4	(416)
					ATO	24.4	(399)	24.1	(394)

**Bench Set Range:**

Actuator Model	Bench Range		Air Pressure			
			Normal		Design Max	
	psig	(Barg)	psig	(Barg)	psig	(Barg)
C27	5-15	(.34-1)	20	(1.4)	100	(6.9)
	15-60	(1-4.1)	75	(5.2)		

## ACTUATOR SUB-ASSEMBLY MATERIAL SPECIFICATIONS

Part	Material
Diaphragm	Buna-N w/Polyester Insert
Lower & Upper Case, Yoke	Steel
Attachment Hub	17-4 PH SST
Stem	316/316L SST
Diaph. Washer O-ring, Hub O-ring, Stem O-ring	Buna-N

Part	Material
Diaphragm Washer	316/316L SST
Diaphragm Plate, Stem Spacer, Spring Plate, Hub Nut, Stem Bolt, Stem Lock Washer	Steel
Bolts & Nuts	Steel Plated
Spring	Epoxy Coated Steel

## OPTION SPECIFICATIONS

### Option-3:

**MANUAL HANDWHEEL.** Overrides the actuator spring force to allow manual stroking of the valve. Single acting design, side-mounted handwheel. For ATO-FC action, handwheel operator “opens” the valve against spring force; may be utilized as a travel stop to prevent full closure. For ATC-FO action, handwheel operator “closes” the valve against spring force; may be utilized as a travel stop to prevent full opening.

### Option-12:

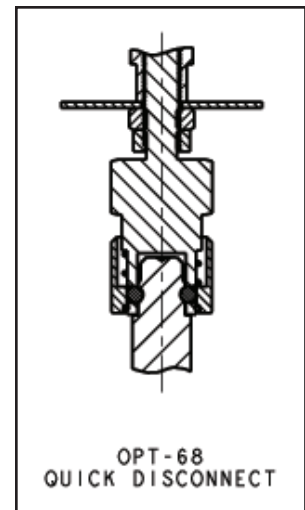
**REDUCED PORT.** Standard full port body is replaced with an alternate body with its integral reduced port. See Pg. 3, “Port Size & Stroke” for actual port size. **NOTE:** To convert from one port size to the other port size for a given body size requires that the body be replaced as well as the plug/stem/diaphragm sub-assembly.

### Option-24:

**BUTT WELD END CONNECTIONS – 16 Ga.** Alternate to “Tri-Clamp” mechanical quick connect end connections. For connecting to 16 Ga. OD tubing. For butt weld jointing using automatic orbital welding process. Dimensions for the standard Opt-24 butt weld are indicated in Figure 5 on page 3; for butt welds of different dimensions consult factory.

### Option-68:

**QUICK DISCONNECT STEM CONNECTOR.** Standard threaded engagement stem connector is replaced with spring-loaded quick disconnect for fast uncoupling between actuator and body assemblies.



### Option-95:

**EPOXY PAINT:** Special epoxy painting of all non-corrosion resistant external surfaces per Cashco Spec #S-1547. Utilized in harsh atmospheric conditions.

## MOUNTED ACCESSORY SPECIFICATIONS

<b>Positioners:</b>	<p><b>General:</b> PMV Positioners. Aluminum housing with corrosion resistant powder coated epoxy. Pneumatic output load as required by actuator bench range. Field reversible action. Mounting dimensions per IEC 60534-6-1 Standard.</p> <p><b>P/P Pneumatic: Model P5</b> features SST cam with a simple cam locking device, tapped exhaust port for venting media, external zero adjustment. Input signal 3-15 psig, Includes gauge ports, no gauges. Analog only.</p> <p><b>I/P Electro-Pneumatic: Model D20</b> Digital or Hart compatible. Features single button self-calibration. input signal 4-20mA. Optional gauge block with gauges for Models D20 D and D20 A. <b>Model D20 D</b> is general purpose. <b>Model D20 A</b> is Intrinsically safe, Ex ia ATEX. <b>Model D20 E</b> is ATEX EEX d IIB+H<sub>2</sub>, T6 FM Approved. Gauge block is built in, no gauges. Not available with limit switch option.</p> <p><b>Model D3</b> Digital, Hart, Profibus, or Fieldbus compatible. Input signal 4-20mA. Features large graphic display. Optional gauge block for Models D3 X and D3 I, no gauges. <b>Model D3 X</b> is general purpose. <b>Model D3 I</b> is Intrinsically safe, ATEX EEX ia IIC T4. <b>Model D3 E</b> is ATEX EEX d IIB+H<sub>2</sub>, T6 CSA CLS 1 DIV 1 FM CLS 1 DIV 1 Gauge block is built in, no gauges. Not available with limit switch option.</p> <p><b>Model PS2</b> Digital, Hart, Fieldbus and Profibus compatible. Input signal 4-20mA. Features a Makrolon housing, (Aluminum for Explosion Proof.) Mounting dimensions per IEC 60534-6-1 Standard. <b>Model PS2-1</b> is general purpose. <b>Model PS2-2</b> is Intrinsically safe, ATEX Ex ia IIC T6/T4, FM CLS 1 DIV 1, CSA CLS 1 DIV 1, SIL 2 <b>Model PS2-3</b> EX d IIC T6/T4, SIL 2 <b>All I/P positioners not available with 764's.</b></p>
	<p><b>Air Tubing:</b> Instrument air tubing SST with SST fittings.</p> <p><b>Airset:</b> Model 5200P instrument air supply regulator. Use with positioners. Bracket mounted to actuator casing. Supplied with gauge. See technical bulletin 5200P-TB.</p> <p><b>Solenoid Valve:</b> <u>Standard Brass:</u> Available in standard weather-proof model. Brass body, 1/4" female NPT connections. Nipple mounted to actuator casing. 120 VAC, 60 Hz power supply, CSA Approved Class 3221-01, NEMA 2,3,3S,4,4X. 8" HF utilizes a direct mount NAMUR mount style.</p> <p><u>X-Proof or SST construction:</u> Consult Factory.</p> <p>Standard installation vents actuator and drives valve to fail-safe position upon loss of electrical power.</p> <p>Consult factory for 230/1/50, or 120 VDC power supplies, or intrinsically safe (IS) service.</p>
	<p><b>Transducers:</b> FM, CSA approved NEMA 4X CI 1, Div 1 and CI 1, Div 2</p>
	<p><b>Other Accessories:</b> 764 P/PD pressure controller. Lockup valve. Position transmitter.</p>
	<p><b>Limit Switches:</b> Model D20 and D3 positioners, switches are available, unit is enclosed in the positioner housing.</p> <p>Limit switch options not available on Explosion proof rated positioners.</p>

## TECHNICAL SPECIFICATIONS

<b>TABLE 1</b>						
<b>MAXIMUM PRESSURE VS. TEMPERATURE RATINGS</b>						
Body Size		End Connection	Pressure		Temperature	
in	(DN)		psig	(Barg)	°F	(°C)
3/4"	(20)	Std. "Tri-Clamp®" or Opt. -24 Butt Weld	150	(10.3)	366	(186)
1"	(25)					
1-1/2"	(40)					

<b>TABLE 2</b>										
<b>MAXIMUM PRESSURE DROP - PSID (BARD)</b>										
<b>CLASS IV SEAT LEAKAGE FOR METAL SEATED; CLASS VI SEAT LEAKAGE FOR COMPOSITION SEATED</b>										
LINE SIZE	PORT SIZE	ORIFICE SIZE		ACTUATOR			DIRECT ATO-FC & REVERSE ATC-FO			
		INCH	(mm)	MODEL NO.	BENCH RANGE		METAL SEAT		COMP SEAT	
					PSIG	(BARG)	PSID	(BARD)	PSID	(BARD)
3/4" (DN20)	FULL	0.500	(12.7)	C27	5-15	(0.34-1.03)	150	(10.3)	150	(10.3)
1" (DN25)	FULL	0.688	(17.5)	C27	5-15	(0.34-1.03)	150	(10.3)	150	(10.3)
	REDUCED	0.500	(12.7)	C27	5-15	(0.34-1.03)	150	(10.3)	150	(10.3)
1-1/2" (DN32)	FULL	1.000	(25.4)	C27	5-15	(0.34-1.03)	CF	CF	114	(7.8)
				C53	15-60	(1.03-4.14)	150	(10.3)	150	(10.3)
	REDUCED	0.688	(17.5)	C27	5-15	(0.34-1.03)	150	(10.3)	150	(10.3)

1) CF = Consult Factory where differential pressures are below 50 psid preventing seat leakage evaluation per Cashco S-1597 at 50 psid.  
 2) Excessive differential pressures have been derated to the maximum allowable working pressure of 150 psig.  
 3) ATC-FO values for 5-15 psig bench range based on maximum 20 psig (1.4 barg) supply pressure with use of a positioner. ATC-FO values for 15-60 psig bench range based on maximum 75 psig (5.2 barg) supply pressure with use of a positioner.  
 4) Steam service with 316L trim is 30 psid (2.1 Bard).

**TABLE 3  
Cv CAPACITY  
STRAIGHT-GLOBE  
F<sub>L</sub> = 0.9**

Body Size		Port Description	Cv @ % Travel										
in	(DN)		Min.	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
3/4"	(20)	Full	0.1	0.7	1.2	1.6	2.0	2.2	2.4	2.5	2.6	2.7	<b>2.8</b>
1"	(25)	Full	0.2	1.0	1.6	2.1	2.8	3.4	3.7	4.3	5.1	5.7	<b>6.0</b>
		Opt-12 Reduced	0.1	0.7	1.2	1.6	2.0	2.3	2.7	3.0	3.3	3.4	<b>3.5</b>
1-1/2"	(40)	Full	0.4	2.0	3.1	4.3	5.3	6.7	8.2	9.0	10.3	11.1	<b>11.8</b>
		Opt-12 Reduced	0.2	1.0	1.7	2.3	2.8	3.3	3.9	4.5	5.5	5.6	<b>6.2</b>

**TABLE 4  
Cv CAPACITY  
ANGLE-GLOBE  
F<sub>L</sub> = 0.9**

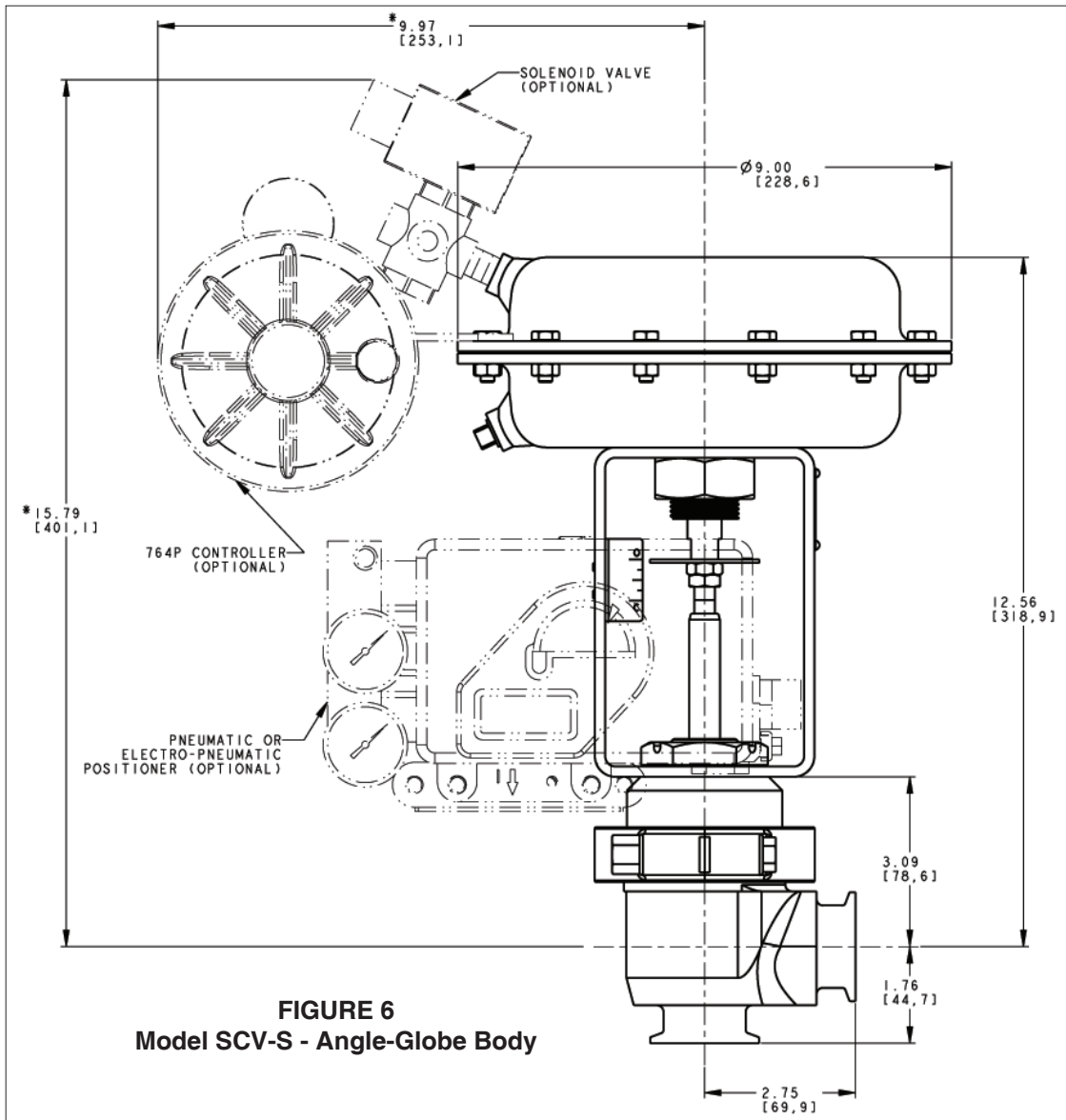
Body Size		Port Description	Cv @ % Travel										
in	(DN)		Min.	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%
3/4"	(20)	Full	0.1	0.4	0.8	1.1	1.5	1.9	2.3	2.7	3.1	3.4	<b>3.8</b>
1"	(25)	Full	0.2	0.8	1.6	2.3	2.9	3.8	4.4	5.3	6.1	6.8	<b>7.5</b>
		Opt-12 Reduced	0.1	0.6	0.9	1.4	1.9	2.5	2.9	3.5	3.9	4.5	<b>5.0</b>
1-1/2"	(40)	Full	0.4	1.4	2.6	4.1	5.5	6.8	8.0	9.5	10.7	12.2	<b>13.5</b>
		Opt-12 Reduced	0.2	0.8	1.5	2.5	3.3	4.0	4.7	5.6	6.5	7.1	<b>8.0</b>

**TABLE 5  
TRIM MATERIALS vs. DESIGNATION NUMBERS**

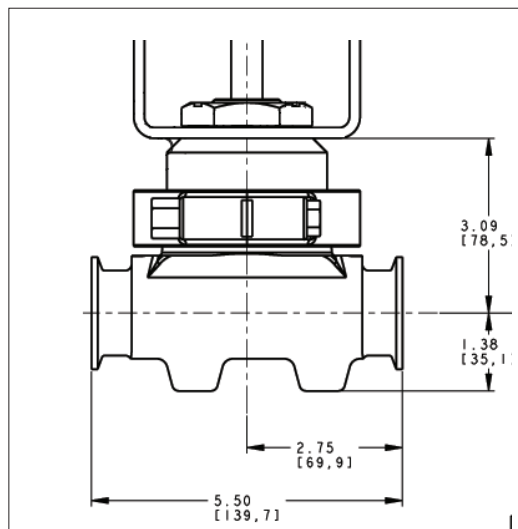
Part Description	Metal Seat		GF-TFE Seat	V-TFE Seat
	S1L	S1LF	S36L	S89LF
Plug	316L SST	316L SST	316L SST	316L SST
Stem	--	--	316L SST	316L SST
Nut	--	--	SST	SST
Pin	--	--	TFE	TFE
Seat Disc	--	--	GF-TFE	V-TFE
Stem Seal	316 SST + Carbon Filled TFE	316 SST + V-TFE (Food Grade)	316 SST + Carbon Filled TFE	FKM (Food Grade)
Temperature Range	0° to +336°F -17° to +186°C	0° to +250°F -17° to +121°C	0° to +366°F -17° to +186°C	0° to +250°F -17° to +186°C
Service	Steam	Gas or Liquid	Steam	Gas or Liquid

GF-TFE = Glass Filled TFE  
V-TFE = Virgin TFE  
FKM = Fluorocarbon Elastomer

## DIMENSIONS & WEIGHTS



Weight  
(either body)  
approx  
30 lbs. (13.6 kg)



**FIGURE 7**  
Model SCV-S - Straight-Globe Body

# MODEL SCV-S PRODUCT CODER 12/02/20

An "X" in POS 12 followed by a 5-digit control number overrides remaining selections.



POSITION 3 - BODY / PORT SIZE			
Body Size		Port Size	
		Full Port	OPT-12 Reduced
in	(DN)	CODE	CODE
3/4"	(20)	5	
1"	(25)	6	C
1-1/2"	(40)	8	D

POSITION 5 - END CONNECTION & PATTERN		
END CONNECTION	Straight Globe	Angle Globe
	CODE	CODE
Tri-Clamp	A	G
Opt-24 Butt Weld	B	H

POSITION 6 & 7 - TRIM DESIGNATION NO.	CODE
S1L	SL
S1LF	SF
S36L (GF-TFE Seat)	6L
S89LF (V-TFE Seat)	9F

POSITION 11 - ACTUATOR ACTION/MODEL NO.						
Body Size	Bench Set		Stem Connector	REVERSE: ATO-FC		DIRECT: ATC-FO
	in	psig (Barg)		MODEL	CODE	MODEL
ALL	5-15	(,34-1.0)	Standard	C27	A	B
					T	V
1-1/2"	15-60	(1-4.1)	Standard	C27	C	D
					W	Y

NOTE: See Table 2 in Tech Bulletin to confirm pressure drop limits.  
Q.D. = Quick Disconnect.

POSITION 12 - 764P * (Bracket Mtd) -Airset (Bracket Mtd) - SOLENOID VALVE			
764P / Action	Solenoid Valve *** Exhaust on Deenergization		
	None	120VAC 60 Hz	24 VDC
None	0	6	C
Reverse **	2	8	E
Reverse W/ Airset **	3	9	F
Direct **	4	A	G
Direct W/ Airset **	5	B	H
Special Construction Contact Cashco for Code	X		

\* Refer to 764-TB for Product Code of Controller.  
\*\* Select Code 1 on Position 13 if positioner is needed.  
\*\*\* Solenoid rated as 4/4X only.

POSITION 13 - DIRECT ACTING POSITIONER with AIRSET (Bracket Mounted) (3-15 psig) 4-20 mA Specify Split Range in Special Instructions on the P.O.					
Positioner Model	Ratings	Analog/Digital	Hart	Fieldbus	Profibus
		CODE			
P5 P/P *	Gen. Purpose	1			
D20 D I/P	Gen. Purpose	C	D		
D20 A I/P * ‡	Intrinsically Safe	2	5		
D20 E I/P *** ‡	Explosion Proof	E	F		
D3 X I/P	Gen. Purpose	L	M	N	P
D3 I I/P	Intrinsically Safe	3	6	8	A
D3 E I/P **** ‡	Explosion Proof	G	H	J	K
PS2-1 I/P	Gen. Purpose	Q	R	S	T
PS2-2 I/P	Intrinsically Safe	&	7	9	B
PS2-3 I/P ***	Explosion Proof	<	U	V	W
None **		0			

\* Stock Item  
\*\* Actuator Assembly includes dimensions for (Namur) Mounting per IEC 60534-6-1.  
\*\*\* D20E & PS2-3 are not available with limit/proximity switch option. Select codes "8", "9" or "0" in Pos. 15.  
\*\*\*\* D3E Positioner is not available with options. Please select code "0" in Pos. 15.  
‡ PMV Positioners are not FM Approved at this time. If you need FM Approval, please specify the Siemens PS2.

POSITION 14 - GAUGE BLOCK	
Option for Positioner	Code
None *	0
Gauge Block **	1

\* For P5 gauge ports built in. No gauges.  
\* For D20 E, D3 E & PS2-3 gauge block is standard. No gauges.  
\*\* For D20 D, D20E & D20 A and PS2-1 & PS2-2 - gauge block with gauges.  
\*\* For D3 X & D3 I gauge block only - no gauges.

POSITION 15 - POSITIONER OPTIONS							
Options	POSITIONERS			I/P TRANSDUCERS *			
	1 Inductive Limit Switches	1 Micro-switches Limit Switches	Position Transmitter	3-15 PSIG No Airset **	3-15 PSIG W/ Airset **	0-60 PSIG No Airset ***	0-60 PSIG W/ Airset ***
CODE							
P5				4	5		
D3 & D20 <sup>2</sup>	7	T	9				
PS2			8				
No Positioner				C	F	R	S
None	0						

\* For 0-60 Psig Transducer please contact the factory.  
\*\* If 5-15 psig Bench Range is selected in Pos. 11, codes R & S are invalid options.  
\*\*\* If 15-60 psig Bench Range is selected in Pos. 11, codes 4, 5, C & F are invalid options.  
1 D20E & PS2-3 are not available with limit/proximity switch option. Select codes "9" or "8".  
2 D3E Positioner is not available with options. Please select code "0".

**\* For information on ATEX see pages 13 & 14 on the IOM.**

Ламаты (7273)495-231  
Ангарск (3955)60-70-56  
Архангельск (8182)63-90-72  
Астрахань (8512)98-46-04  
Барнаул (3852)73-04-60  
Белгород (4722)40-23-64  
Благовещенск (4162)22-76-07  
Брянск (4832)59-03-52  
Владивосток (423)249-28-31  
Владикавказ (8672)28-90-48  
Владимир (4922)49-43-18  
Волгоград (844)278-03-48  
Вологда (8172)26-41-59  
Воронеж (473)204-51-73  
Екатеринбург (343)384-55-89

Иваново (4932)77-34-06  
Ижевск (3412)26-03-58  
Иркутск (395)279-98-46  
Казань (843)206-01-48  
Калининград (4012)72-03-81  
Калуга (4842)92-23-67  
Кемерово (3842)65-04-62  
Киров (8332)68-02-04  
Коломна (4966)23-41-49  
Кострома (4942)77-07-48  
Краснодар (861)203-40-90  
Красноярск (391)204-63-61  
Курск (4712)77-13-04  
Курган (3522)50-90-47  
Липецк (4742)52-20-81

Магнитогорск (3519)55-03-13  
Москва (495)268-04-70  
Мурманск (8152)59-64-93  
Набережные Челны (8552)20-53-41  
Нижний Новгород (831)429-08-12  
Новокузнецк (3843)20-46-81  
Ноябрьск (3496)41-32-12  
Новосибирск (383)227-86-73  
Омск (3812)21-46-40  
Орел (4862)44-53-42  
Оренбург (3532)37-68-04  
Пенза (8412)22-31-16  
Петрозаводск (8142)55-98-37  
Псков (8112)59-10-37  
Пермь (342)205-81-47

Ростов-на-Дону (863)308-18-15  
Рязань (4912)46-61-64  
Самара (846)206-03-16  
Санкт-Петербург (812)309-46-40  
Саратов (845)249-38-78  
Севастополь (8692)22-31-93  
Саранск (8342)22-96-24  
Симферополь (3652)67-13-56  
Смоленск (4812)29-41-54  
Сочи (862)225-72-31  
Ставрополь (8652)20-65-13  
Сургут (3462)77-98-35  
Сыктывкар (8212)25-95-17  
Тамбов (4752)50-40-97  
Тверь (4822)63-31-35

Тольятти (8482)63-91-07  
Томск (3822)98-41-53  
Тула (4872)33-79-87  
Тюмень (3452)66-21-18  
Ульяновск (8422)24-23-59  
Уфа (347)229-48-12  
Хабаровск (4212)92-98-04  
Чебоксары (8352)28-53-07  
Челябинск (351)202-03-61  
Череповец (8202)49-02-64  
Чита (3022)38-34-83  
Якутск (4112)23-90-97  
Ярославль (4852)69-52-93

Россия +7(495)268-04-70

Казахстан +7(7172)727-132

Киргизия +996(312)96-26-47

<https://cashco.nt-rt.ru/> || [coc@nt-rt.ru](https://coc@nt-rt.ru)