

# Sanitary Control Valves 3A Design

## U.S. Type SCV-85 (Includes SC510)



### DESCRIPTION

The U.S. SCV-85 Research Control® Valves are compact control valves designed to meet the manufacturing standards established by the 3A Symbol Council.

### APPLICATIONS

Valves of the SCV-85 type are well suited to automated control systems found in biotechnology, pharmaceutical and food processes.

- Pressure
- Temperature
- Product injection
- Flow control in fermentation reactors
- Control of gas blankets in closed vessels
- Catalyst, defoamer and additive initiation

### MATERIALS

<b>Body and Bonnet</b>	316/316L stainless steel barstock	
<b>Innervalue</b>	316/316L stainless steel barstock trims Characteristics: equal percentage, linear or special	
<b>Clamps</b>	304 or 316 stainless steel	
<b>Gaskets</b>	Standard Optional	Viton® (FKM) Silicone, EPDM or Kalrez®
<b>O-Rings</b>	Standard Optional	Viton (FKM) Silicone, EPDM or Kalrez
<b>Actuator Housing</b>	Standard Optional	Epoxy-coated aluminum 316/316L stainless steel

### ACTUATOR CHOICES

<b>Standard</b>	Air-to-open, fail close (ATO) Air-to-close, fail open (ATC)
<b>Optional</b>	316 stainless steel actuator
<b>Optional</b>	ATO or ATC with integral top mounted positioner
<b>Optional</b>	ATO or ATC with side mounted positioner
<b>Signal Ranges</b>	3-15#, 3-27#, 6-30# (3-9#, 9-15# with positioner)
<b>Electronic Actuator</b>	Electric actuators up to 200 pounds of thrust



*Shown with optional stainless steel actuator*

### STANDARD FEATURES

- Sizes: 1/2 in. (12.7 mm), 3/4 in. (19 mm), 1 in. (25.4 mm) and 1-1/2 in. (38.1 mm)
- Pressure vs temperature rating:  
300 psi @ 75° F (21 bar @ 24° C),  
150 psi @ 300° F (10 bar @ 149° C)
- Manufactured to 3A Symbol standards
- Self-draining design
- Quick disassembly with clamps
- Tri-Clamp® connections®
- Designed for STEAM-IN-PLACE and CLEAN-IN-PLACE
- Internal finish: 16 Ra

### OPTIONS

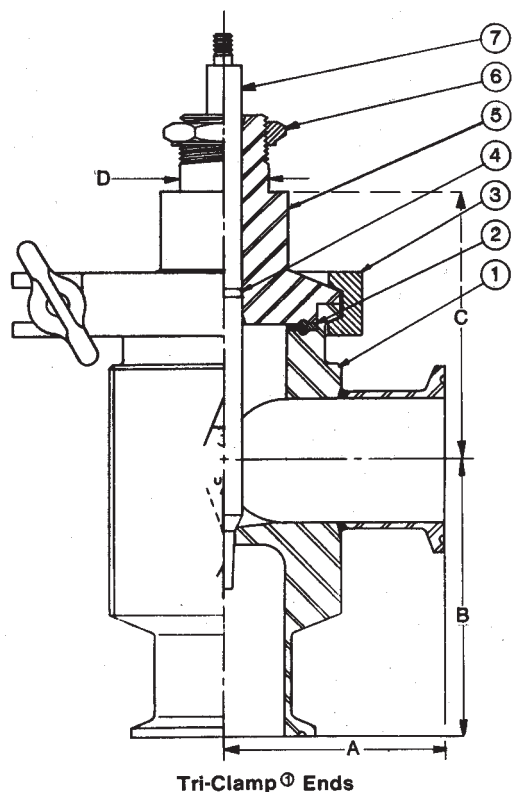
- |   |  |
|---|--|
| <input type="checkbox"/> Manual Handwheel | <input type="checkbox"/> Certifications    |
| <input type="checkbox"/> Filters          | <input type="checkbox"/> Electric Actuator |
| <input type="checkbox"/> Positioners      | <input type="checkbox"/> Limit Switches    |
| <input type="checkbox"/> I/P Transducers  | <input type="checkbox"/> Regulators        |

Custom bracketing available with each option.

### OTHER VALVES

Badger Meter manufactures many models of both standard and specialty control valves, conventional as well as sanitary designs. If your needs for small control valves can be served with a custom designed valve, please contact your area representative for assistance.

## DIMENSIONS



### Item Description

Item	Description
1	Body
2	Body – bonnet gasket
3	Body – bonnet clamp
4	O-ring
5	Bonnet
6	Yoke locknut
7	Innervalue

### Dimensions

Size	A	B	C	D	Stroke
1/2 in. (13 mm)	1.56 in. (40 mm)	1.56 in. (40 mm)	2.75 in. (70 mm)	0.875 in. (22 mm)	0.562 in. (14 mm)
3/4 in. (19 mm)		1.69 in. (43 mm)	2.62 in. (67 mm)		
1 in. (25 mm)	2.75 in. (70 mm)	2.62 in. (67 mm)	3.12 in. (79 mm)		
1-1/2 in. (38 mm)		2.87 in. (73 mm)	2.87 in. (73 mm)		

### Valve Numbers

Size	Valve No.
1/2 in. (13 mm)	903
3/4 in. (19 mm)	907
1 in. (25 mm)	911
1-1/2 in. (38 mm)	895
2 in. (50 mm)	981

## INNERVALVE CHART

Valve Size	Trim Designation	CV	KV	Nom. Rangeability		Orifice Port Diameter	Port Area (in. <sup>2</sup> )
		Coefficient		Linear	(= %)		
1-1/2 in.	20	20.00	17.24	40:1	60:1	1.00 in. (25.4 mm)	0.7854
	15	15.00	12.93	40:1	60:1	1.00 in. (25.4 mm)	0.7854
1 in. and 1-1/2 in.	10	10.00	8.62	40:1	60:1	0.75 in. (19.1 mm)	0.4420
	8	8.00	6.90	40:1	60:1	0.75 in. (19.1 mm)	0.4420
	6	6.00	5.17	40:1	60:1	0.75 in. (19.1 mm)	0.4420
3/4 in., 1 in., and 1-1/2 in.	5	5.00	4.31	40:1	60:1	0.50 in. (12.7 mm)	0.1964
	4	4.00	3.45	40:1	60:1	0.50 in. (12.7 mm)	0.1964
1/2 in., 3/4 in., 1 in., and 1-1/2 in.	A	3.00	2.59	40:1	60:1	0.50 in. (12.7 mm)	0.1964
	B	2.00	1.72	40:1	60:1	0.375 in. (9.5 mm)	0.1105
	C	1.25	1.08	40:1	60:1	0.375 in. (9.5 mm)	0.1105
	D	0.80	0.69	40:1	60:1	0.375 in. (9.5 mm)	0.1105
	E	0.50	0.43	40:1	60:1	0.375 in. (9.5 mm)	0.1105
	F	0.32	0.28	30:1	40:1	0.156 in. (4.0 mm)	0.0192
	G	0.20	0.17	30:1	40:1	0.156 in. (4.0 mm)	0.0192
	H	0.13	0.11	30:1	40:1	0.156 in. (4.0 mm)	0.0192
	I	0.08	0.07	30:1	40:1	0.156 in. (4.0 mm)	0.0192
	J	0.05	0.04	30:1	40:1	0.156 in. (4.0 mm)	0.0192

## Control. Manage. Optimize.

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