

Mark 96C Series

CRN Registration Number Available

Sanitary Pressure Regulators (1/2"–1")

The Mark 96C is a clamped body pressure reducing valve designed to regulate downstream pressure of process and utility applications in sanitary and aseptic systems.

The Mark 96C operates by sensing pressure under the diaphragm after the medium has entered the valve from the bottom inlet port. As the downstream pressure approaches the set point, the force caused by the pressure acting on the diaphragm overcomes the force of the range spring, and the plug begins to move up toward closed. This reduces the downstream pressure and maintains the set point as the flow exits the valve from the side port. If the pressure underneath the diaphragm begins to fall, the spring forces the plug to move down towards open, to allow the set point to be maintained.

FEATURES

- CRN Registration Number Available
- Soft seat capability for ANSI Class VI shutoff
- No guiding surfaces in the fluid – prevents particulate generation
- 100% 316L barstock body and metal trim
- Self-draining design
- No threads in contact with service media – prevents accumulation of contaminants
- Easy to disassemble for cleaning
- Clean-in-Place, Steam-in-Place – dome lock pin to allow CIP/SIP
- Jorlon diaphragm: A USP Class VI, FDA approved PTFE based material which provides excellent chemical resistance, extremely long life in steam service. Far superior to other elastomer or metal diaphragm metals.

DOCUMENTATION

The following documentation is available, free of charge, from our factory upon request at time of ordering:

- Traceable Material Certificates (free of charge for body and ferrules)
- FDA or USP Class VI certificates on most soft seal materials
- Final Test Reports
- Certificate of Surface Finish
- Certificate of Compliance/Certificate of Origin



AVAILABLE FINISHES

Body

- *Standard:* 20 Ra mechanical finish and electropolish on inside wetted surfaces; machine finish and electropolish on exterior
- *Optional:* 20 Ra mechanical finish on external surfaces; 8 Ra finish on internal or external finishes

Stem

- *Standard:* 20 Ra mechanical finish and electropolish
- *Optional:* 8 Ra finish

Spring Housing

- *Standard:* electropolished
- *Optional:* 20 Ra mechanical finish on external surfaces; 8 Ra finish on external surfaces on all sizes

Adjusting Screw

- *Standard:* electropolished
- *Optional:* 20 Ra mechanical finish; or 8 Ra finish on non-thread portion

APPLICATIONS

A wide variety of applications exist for the MK96C in the pharmaceutical, biotech, health-care, food & beverage and other industries. The Mark 96C is suitable for liquid, gas and steam service

SPECIFICATIONS

Sizes: 1/2" (DN15), 3/4" (DN20), 1" (DN25),

End Connections

- Quick disconnect fittings (to match Tri-Clamp® fitting)
- DIN/ISO sanitary connections

Body Connections: Mark 96C – Clamped – 3 segment standard; 2 piece bolted optional

Body & Trim Materials: 316L Stainless Steel (ASTM A479)

Spring Housing Materials: CF8M Cast SST

Seat Materials

- Standard hard seat – integral 316L SST seat
- Optional soft seat (for Cv 1.5, 1" size and above)
 - Jorlon (FDA & USP Class VI) for steam and hot fluid service to 338°F (170°C)
 - PEEK (FDA & USP Class VI) for steam and hot fluid service to 350° (177°C)
 - Teflon (FDA & USP Class VI) to 150° (65°C)

Note: consult factory for 1/2" & 3/4" soft seat materials

Diaphragm Materials

- Jorlon (recommended) – to 400°F (204°C) FDA, USP Class
- EPDM/Nylon – to 275°F (135°C)

O-Ring Materials

- EPDM (to 275°F, 135°C) – FDA, *USP Class VI
- Buna-N (to 225°F, 107°C) – FDA, *USP Class VI
- Viton (to 400°F, 204°C) – FDA, *USP Class VI
- Silicone (to 400°F, 204°C) – FDA, *USP Class VI
- Teflon-Encapsulated Viton (to 400°F, 204°C) – FDA, *USP Class VI

**USP Class VI materials available upon request*

Shutoff: ANSI Class III hard seat or Class VI soft seat

Body Pressure Temperature Rating: (dependent upon construction)

Valve Size	PSIG @ 100°F	PSIG @ 225°F
1/2", 3/4", 1"	250 (17,2 bar)	200 (13,8 bar)*
1-1/2" , 2", & 3"	200 (13,8 bar)	200 (13,8 bar)
Valve Size	PSIG @ 100°F	PSIG @ 275°F
1/2", 3/4", 1"	250 (17,2 bar)	140 (9,6 bar)**

* Optional 2 segment clamp

** Standard 3 segment clamp

Setpoint Spring Ranges

Valve Size	Setpoint Ranges, PSI (BAR)
1/2", 3/4", 1"	2-8* (0,1-0,5*), 5-25 (0,4-1,7), 15-50 (1,0-3,4), 40-90 (2,7-6,2) or 75-135 (5,2-9,3)

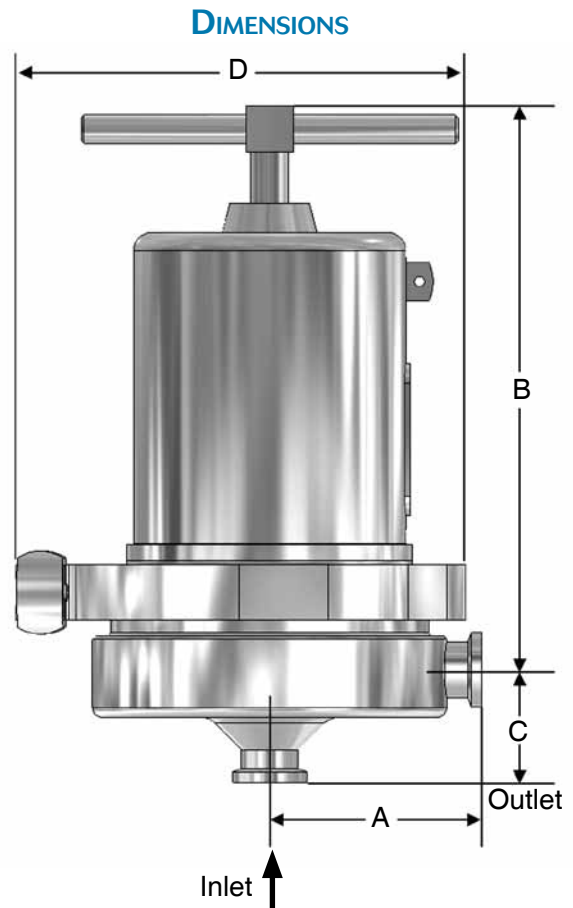
*Maximum Pressure Drop 40 psi for 2-8 spring range

Cv (Kv) Ratings:

Valve Size	Available Cvs (Kvs)	Cv for Relief Valve Sizing
1/2"	0.3 [†] , 0.5 [†] , 1.2* (0,3 [†] , 0,4 [†] , 1,0*)	3.8
3/4"	0.5 [†] , 1.5 (0,4 [†] , 1,3)	3.8
1"	0.5 [†] , 1.5, 2.5 or 5.5 (0,4 [†] ; 1,3; 2,2; 3,9 or 4,7)	10.7

* For Cv's ≤1.2, Teflon encapsulated o-rings not available

† Maximum inlet pressure 40 psi over set point for Cv's 0.3 and 0.5
Consult factory for additional size/Cv combinations

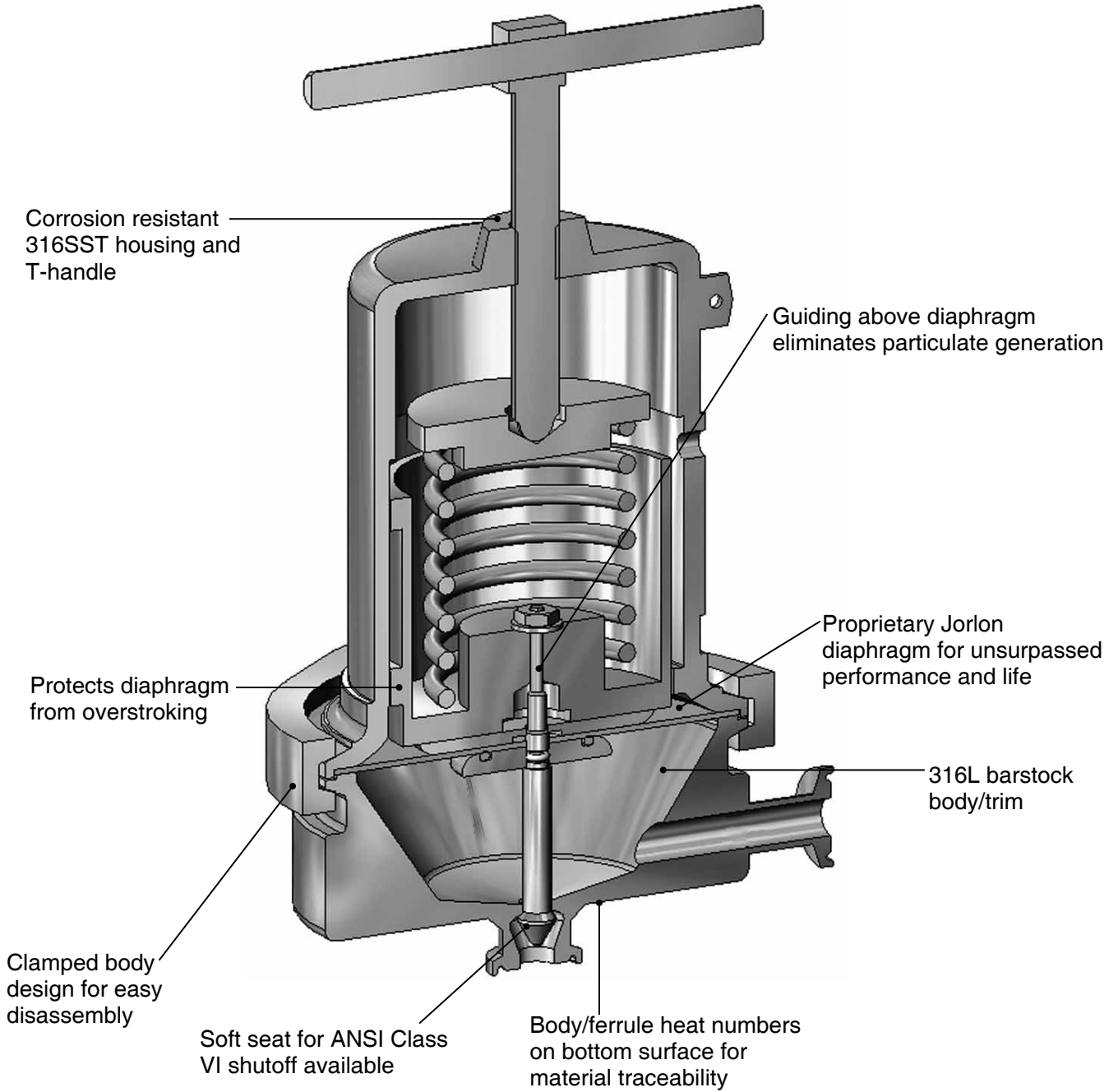


Valve Size	Dimensions (inches)				Weight Lbs
	A	B	C	D	
1/2"	3.29	8.30	1.08	5.2	18
3/4"	3.29	8.30	1.50	5.20	18
1"	3.50	8.44	1.64	5.20	20

Valve Size	Dimensions (mm)				Weight Kgs
	A	B	C	D	
DN15	84	211	27,4	132	8,1
DN20	84	211	38,1	132	8,1
DN25	89	214	41,7	132	9,1

Based on US tri-clamp ends. Consult factory for DIN and ISO tri-clamp end dimensions

FEATURES & BENEFITS



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Stainless Steel sanitary pressure regulator shall be made from ASTM A479 barstock material, which includes body and all wetted metal parts. Regulator shall be activated by FDA approved, USP Class VI certified Jorlon diaphragm. Guiding of valve stem/plug shall be outside of the wetted, process areas of valve internal, above diaphragm. Regulator shall be free of threads within wetted, process areas of valve internal and shall be self-draining when installed with inlet vertical and below valve assembly.

ORDERING SCHEMATIC

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1	Model
96C	Standard

2	Size
050	1/2" (DN15)
075	3/4" (DN20)
100	1" (DN25)

3	Body Material
6L	316L

4	Body Finish
A	20Ra (SFV5) Interior/63RMS Exterior (Std)
B	20Ra (SFV5) Interior/20Ra Exterior
C	8Ra Interior/63RMS Exterior
D	20Ra (SFV5) Interior/8Ra Exterior
E	8Ra Interior/8Ra Exterior
F	8Ra Interior/20Ra Exterior

5	Body Cv (Kv)	
	Cv	Kv
B	All 1/2"	All 1/2"
A	0.5 (1/2" & 1")	0,43 (1/2" & 1")
C	1.5 (3/4" & 1")	1,3 (3/4" & 1")
F	2.5 (1")	2,15 (1")
L	5.5 (1")	4,7 (1")

6	Trim Finish
A	20Ra (Standard)
B	8Ra

7	Trim – Cv (Kv) & Seat			
3	0.3 (0,24) Hard Seat	B	2.5 (2,15) Hard Seat	
4	0.3 (0,24) PEEK Seat	C	2.5 (2,2) Teflon Seat	
5	0.5 (0,43) Hard Seat	D	2.5 (2,15) Jorlon Seat	
6	0.5 (0,43) PEEK Seat	L	5.5 (4,7) Hard Seat	
Y	1.2 (1,03) Hard Seat	M	5.5 (4,7) Teflon Seat	
1	1.2 (1,03) PEEK Seat	N	5.5 (4,7) Jorlon Seat	
A	1.5 (1,3) Hard Seat			

8	O-Ring/Diaphragm
EE	EPDM/EPDM Diaphragm 1.5-5.5Cv
TY	Teflon Encaps. Viton/Jorlon Diaphragm 1.5-5.5Cv
E5	EPDM/EPDM Diaphragm 0.3-1.2Cv
B5	Buna-N/Jorlon 0.3-1.2Cv
V5	Viton/Jorlon Diaphragm 0.3-1.2Cv
S5	Silicon/Jorlon Diaphragm 0.3-1.2Cv

9	Adjusting Screw Finish (Except Threads)
A	Electro-polished (Standard)
B	20Ra (SFV5)
C	8Ra

10	Range PSI (Bar) see chart on page 2
A	2 - 8 (0,1 - 0,6)
C	5 - 25 (0,3 - 1,7)
H	15-50 (1,0-3,4)
R	40-90 (2,8-6,2)
T	75-135 (5,2-9,3)

11	Diaphragm
EP	EPDM 1.5-5.5 Cv
JL	Jorlon 1.5-5.5 Cv
E5	EPDM 0.3-1.2 Cv
J5	Jorlon 0.3-1.2 Cv

12	Actuator Finish
AA	Standard
BA	20Ra (SFV5) exterior
CA	8Ra exterior

13	PED Compliance
00	Not Required
0G	SEP Compliant
ZZ	Non-Standard

Note: Steriflow does not recommend using metal seated trim on any service where the flow will be deadheaded downstream of the pressure reducing regulator. Use an appropriate Teflon, Jorlon or Peek soft seat for the trim instead.



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