

# FB6C Series

## Sanitary Pressure Regulators

The FB6C Sanitary Pressure Regulator is designed to regulate pressure in systems requiring the maintenance of sanitary conditions.

The FB6C operates by sensing pressure under the diaphragm on the downstream side of the seat. 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. 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

- No guiding surfaces in the fluid - prevents particulate generation
- 316L investment cast body; wetted parts made from 316L
- Self-draining
- Great Accuracy (large diaphragm yields less droop)  
Ask your rep for a FB6C performance calculator demonstration
- Clean-in-Place, Steam-in-Place - dome lock pin to allow CIP/SIP
- EPDM diaphragm: Provides excellent chemical resistance and is FDA and 3A approved.



### DOCUMENTATION

The following documentation is kept in an electronic data base, and is available on request as chargeable option:

- Certificate of Compliance for:
  - Material, including MTR's
  - Surface Finish
  - FDA
  - 3A



AVAILABLE FINISHES

Body:

- Standard: 32 Ra mechanical finish on inside wetted surfaces; as cast finish on exterior.

Spring Housing:

- Standard: investment cast finished 316SST

Adjusting Screw and Handle:

- Standard: 32Ra (Note: adjusting screw is a threaded part)

SPECIFICATIONS

Sizes: 3/4", 1", 1-1/2" 2", 3"

End Connections:

- Sanitary Clamp

Body Connections: Sanitary Clamp – Standard for all sizes

Body Materials: ASTM A351, CF3M 316L

Trim Materials:

- ASTM A479, 316L (other materials upon request)

Seat Materials:

- Standard hard seat – integral 316L SST seat
- Soft seats are available, consult the factory for more information.

Spring Housing Materials:

- 3/4" - 3"  
- Material: A351 CF8M 316SS Investment casting

Diaphragm Materials:

- EPDM/Nylon (to 275°F, 135°C), FDA
- EPDM (to 120°F, 49°C), 3A spec.
- Jorlon (to 400°F, 204°C) – 3A & FDA

O-Ring Materials:

- EPDM (to 275°F, 135°C) – FDA
- Teflon-Encapsulated Viton (to 400°F, 204°C) – FDA

SPECIFICATIONS (CON'T)

Shutoff: ANSI Class III hard seat

Body Pressure Temperature Rating: EPDM/Jorlon (dependent upon construction)

Valve Size	PSIG @ 100°F	PSIG @ 250°F	ΔP
3/4", 1"	200	175	150
1-1/2", 2", 3"	125	100	100
2", 3"	100	75	75

Note: Max temp for 3A/EPDM is 120°F

Set Point Spring Ranges:

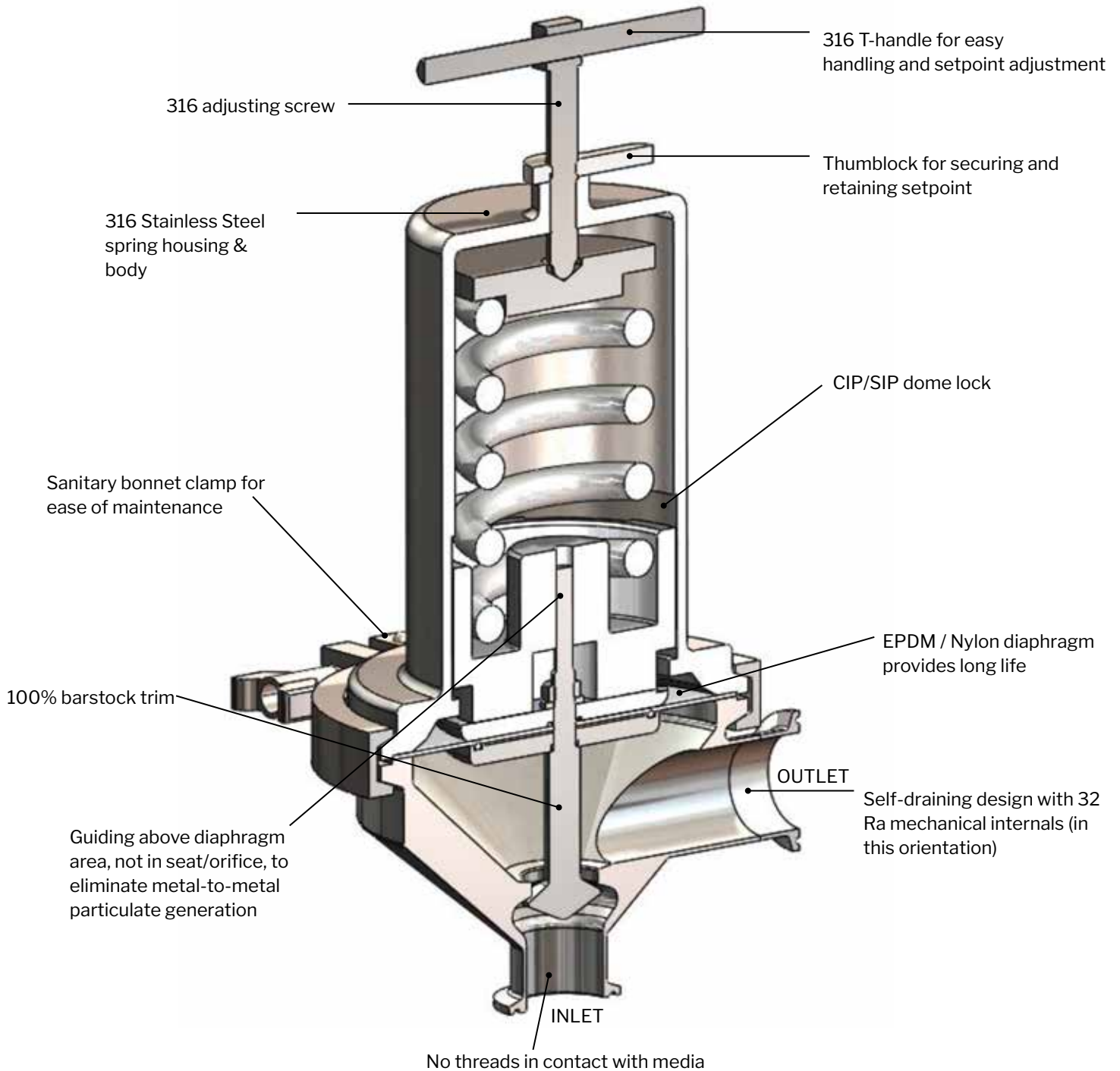
Valve Size	Set Point Ranges, PSI (bar)
3/4" & 1" DN20 & DN25	3-8* (0,2-0,5), 5-25 (0,37-1,7), 15-50 (1,0-3,4), 40-90 (2,7-6,2), or 75-135 (5,2-9,3)
1-1/2", DN40	10-25 (0,7-1,7), 15-50 (1,0-3,4) or 35-100 (2,4-6,9)
2", DN50	10-25 (0,7-1,7) or 15-60 (1,0-4,1)
3", DN80	15-25 (1,0-1,7) or 15-60 (1,0-4,1)

\* Maximum pressure drop 40 psi

Cv (Kv) Ratings:

Valve Size	Available Cv (Kv)	Cv for Relief Valve Sizing
3/4" DN20	2.9 (2,5)	3.8 (3,3)
1" DN25	4.7 (4,1); 8.0 (7,0)	10.7 (9,2)
1-1/2" DN40	14.8 (12,8)	26.3 (22,6)
2" DN50	26.3 (22,8)	56.5 (48,6)
3" DN80	29.4 (25,4)	67.1 (57,7)

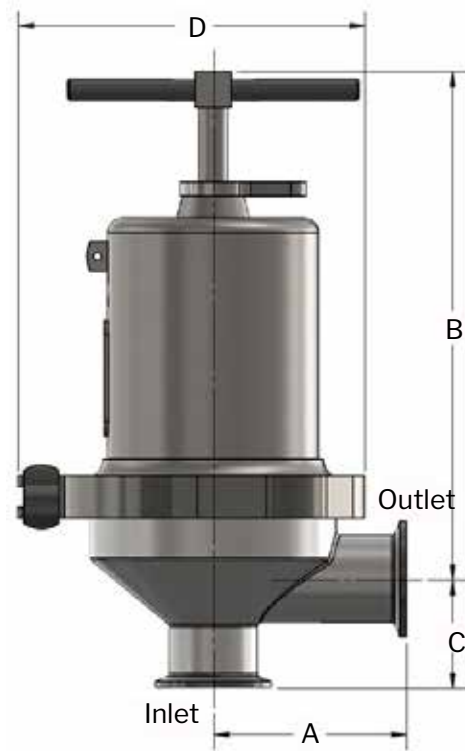
FEATURES & BENEFITS



APPLICATIONS

The FB6C is suitable for a variety of process and clean utility applications in the food, beverage, dairy and health and beauty industries including: CIP, SIP, centrifuges, autoclaves, culinary equipment, sterilizers, process tanks, nitrogen blanketing, etc.

DIMENSIONS



F & B Valve	Dimensions (inches)				Weight Lbs
	A	B	C	D	
3/4" Regulator	3.29	8.33	1.50	5.95	9.60
1" Regulator, Ø0.540 Orifice	3.31	8.74	1.87	5.95	11
1" Regulator, Ø0.758 Orifice	3.31	8.74	1.87	5.95	11
1-1/2" Regulator	4.20	10.98	2.57	8.78	23.5
2" Regulator	5.75	17.76	2.68	10.95	62
3" Regulator	6.00	17.81	3.23	10.95	68

SAMPLE SPECIFICATION



Stainless steel sanitary pressure regulator shall be made from 316L material, which includes body and all wetted metal parts. Regulator shall be activated by 3A and FDA approved, EPDM or Jorlon diaphragm. Guiding of valve stem/plug shall be outside of the wetted, process areas of valve internal, above the diaphragm only. Regulator shall be free of threads or crevices within wetted, process areas of valve internal and shall be self draining when installed with inlet vertical and below valve assembly.



FB6C SERIES SANITARY PRESSURE REGULATORS

ORDERING SCHEMATIC

Model	Size	Body Material	1 & 2	3 & 4	5 & 6	7 & 8	9 & 10	11 & 12

Model
FB6C Sanitary Pressure Regulator

Size
075 3/4"
100 1"
150 1-1/2"
200 2"
300 3"

Body Material
6L 316L SST

1 & 2	Body Finish	Cv
A	32 Ra Interior / Cast Exterior (Standard)	A 2.94
		D 4.70
		K 8.07
		M 14.79
		N 26.31
		P 29.37
ZZ	Non- Standard	

3 & 4	Trim
	Finish Cv & Seat
A	32 Ra (Standard) A Cv 2.94 Hard Seat
	B Cv 4.70 Hard Seat
	L Cv 8.07 Hard Seat
	P Cv 14.79 Hard Seat
	S Cv 26.31 Hard Seat
	V Cv 29.37 Hard Seat
ZZ	Non-Standard

5 & 6	O-Ring / Diaphragm
EE	EPDM / EPDM Diaphragm
TY	Teflon Encaps. Viton / Jorlon Diaph.
ZZ	Non-Standard

7 & 8	Range
	Adjusting Screw Finish Range (PSI)
A	Standard A 3-8
	C 5-25
	E 10-25
	P 15-25
	H 15-50
	J 15-60
	M 35-100
	R 40-90
	T 75-135
ZZ	Non-Standard

9 & 10	Diaphragm
EP	EPDM
JL	JORLON
ZZ	NON - STANDARD

11 & 12	Actuator
AA	Standard



Richards Industrials reserves the right to make revisions to its products, specifications, literature, and related information without notice.