

# FB6C Series

## Sanitary Pressure Regulators

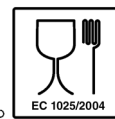
The FB6C Sanitary Pressure Regulator is designed to regulate pressure in systems requiring the maintenance of sanitary conditions.

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.



AVAILABLE FINISHES

Body:

- Standard: 32 Ra (.81 Ra μm) mechanical finish on inside wetted surfaces; as cast finish on exterior.

Spring Housing:

- Standard: investment cast finished 316SST

Adjusting Screw and Handle:

- Standard: 32Ra (.81 Ra μm) (Note: adjusting screw is a threaded part)

SPECIFICATIONS

Sizes: 3/4", 1", 1-1/2" 2", 3" (DN20 - DN85)

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"	125	100	100
2", 3"	100	75	75

Note: Max temp for 3A/EPDM is 120°F

Set Point Spring Ranges:

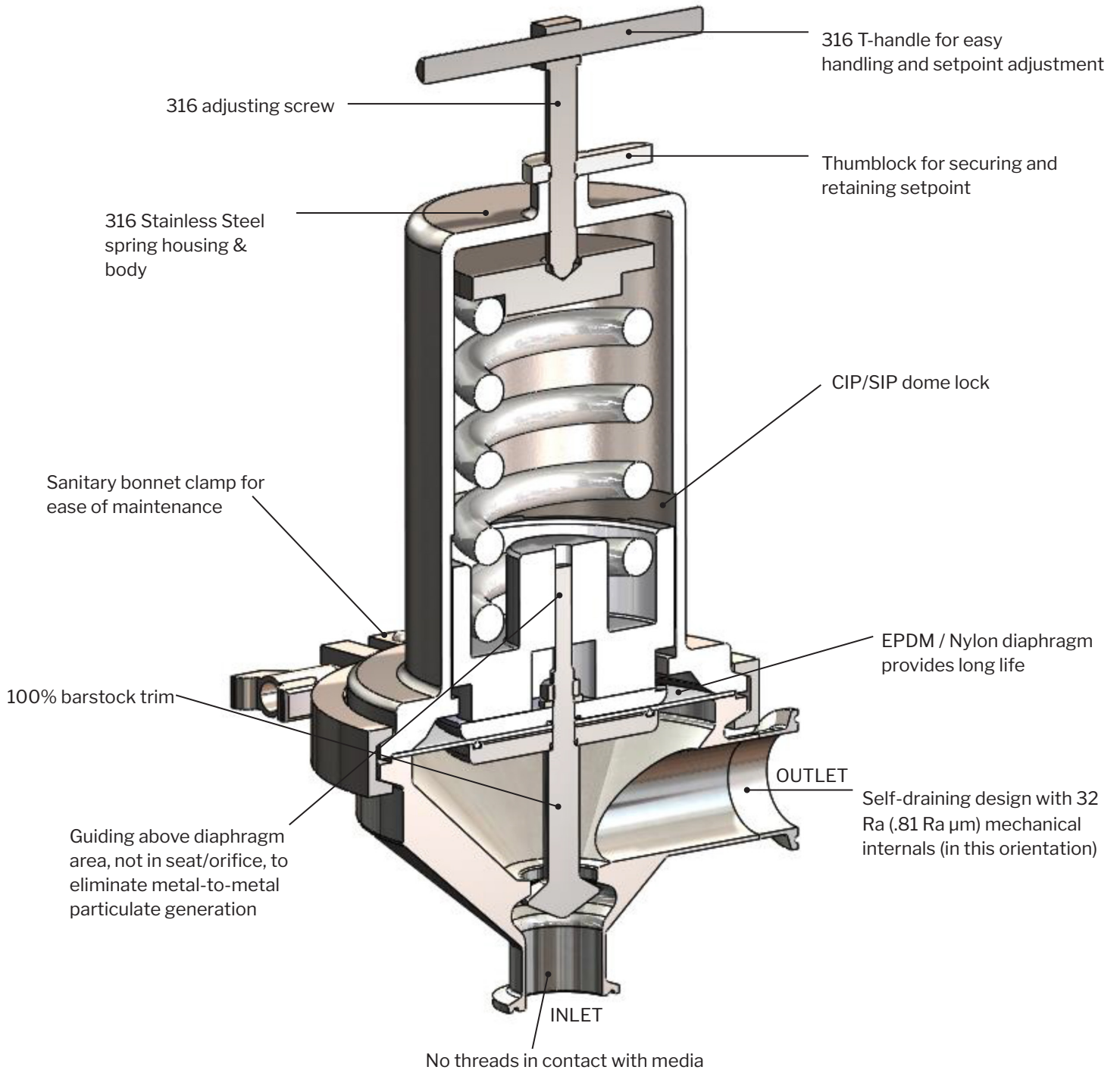
Valve Size	Set Point Ranges, PSI (bar)
3/4" & 1" DN20 & DN25	3-8* (0,2-0,5), 5-25 (0,37-1,7), 15-50 (1,0-3,4), 40-90 (2,7-6,2), or 75-135 (5,2-9,3)
1-1/2", DN40	10-25 (0,7-1,7), 15-50 (1,0-3,4) or 35-100 (2,4-6,9)
2", DN50	10-25 (0,7-1,7) or 15-60 (1,0-4,1)
3", DN80	15-25 (1,0-1,7) or 15-60 (1,0-4,1)

\* 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)

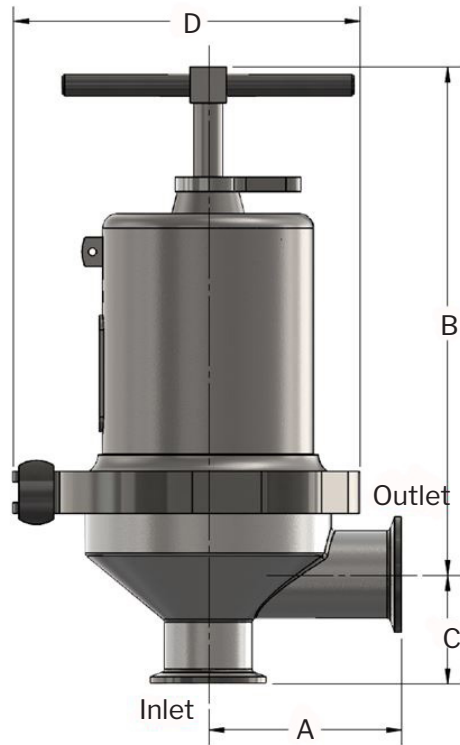
FEATURES & BENEFITS



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

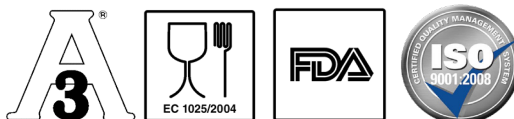
F & B Valve	Dimensions (mm)				Weight Kgs
	A	B	C	D	
DN20 Back Pressure Regulator	83,5	211,5	38	151	4
DN25 Back Pressure Regulator, Ø0.540 Orifice	84	222	47,5	151	5
DN25 Back Pressure Regulator, Ø0.758 Orifice	84	222	47,5	151	5
DN40 Back Pressure Regulator	106,6	279	65,2	223	11
DN50 Back Pressure Regulator	146	451	68	278	28
DN80 Back Pressure Regulator	152,4	452,3	82	278	31



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	Sanitary Pressure Regulator
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Size	3/4" (DN 20)
075	1" (DN25)
100	1-1/2" (DN40)
150	2" (DN50)
200	3" (DN80)
300	

Body Material	316L SST
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1 & 2	Body	Finish	Cv
A	32 Ra (.81 Ra μm) Interior / Cast Exterior (Standard)	A	2.94 (2,5)
		D	4.70 (4,1)
		K	8.07 (7,0)
		M	14.79 (12,8)
		N	26.31 (22,8)
		P	29.37 (25,4)
ZZ	Non- Standard		

3 & 4	Trim	Finish	Cv & Seat
A	32 Ra (.81 Ra μm) (Standard)	A	Cv 2.94 (2,5) Hard Seat
		B	Cv 4.70 (4,1) Hard Seat
		L	Cv 8.07 (7,0) Hard Seat
		P	Cv 14.79 (12,8) Hard Seat
		S	Cv 26.31 (22,8) Hard Seat
		V	Cv 29.37 (25,4) 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 (0,2-0,6)
		C	5-25 (0,3-1,7)
		E	10-25 (0,7-1,7)
		P	15-25 (0,3-1,7)
		H	15-50 (0,3-3,4)
		J	15-60 (0,3-4,1)
		M	35-100 (2,4-6,9)
		R	40-90 (2,8-6,2)
		T	75-135 (5,2-9,3)
ZZ	Non-Standard		

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

11 & 12	Actuator
AA	Standard

DOCUMENTATION

A Certificate of Compliance is available at no charge when requested at time of order. The "Unicert" is a chargeable document. If needed, a "Unicert" must be requested at time of order.



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