

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
- Jorlon diaphragm: Provides excellent chemical resistance and is FDA and 3A approved.

*CRN Registration Number Available For Specific Models – Contact Factory



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 - 3A VALVES (FB6C)*

Sizes: 1/2", 3/4", 1", 1-1/2" 2", 3" (DN15 - DN80)

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

Spring Housing Materials:

- 1/2" - 3" - Material: A351 CF8M 316SS Investment casting

Diaphragm Materials for 3A Valves

- EPDM (to 120°F, 49°C), 3A spec. (1/2" - 1" only)
- Jorlon (to 250°F, 121°C), 3A & FDA

O-Ring Materials for 3A Approved Valves

- EPDM (to 120°F, 49°C)
- Teflon-Encapsulated Viton (to 250°F, 121°C)

Shutoff: ANSI Class III hard seat

Set Point Spring Ranges:

| Valve Size | Set Point Ranges, PSI (bar) |
|--------------------------|--|
| 1/2" - 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, EPDM diaphragm only

Cv (Kv) Ratings:

| Valve Size | Available Cv (Kv) | Cv for Relief Valve Sizing |
|------------|----------------------|----------------------------|
| 1/2"DN15 | 0.6 (0,5) | 2.4 (2,0) |
| 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) |

Body Pressure Temperature Rating for 3A Approved Valves

| Valve Size | PSIG @ 100F | PSIG @ 120F | PSIG @ 100F | PSIG @ 120F | PSIG @ 100F | PSIG @ 250F | ΔP |
|----------------|--------------------------|--------------------------|----------------------------|----------------------------|--|--|-----|
| | EPDM Dia/ EPDM O-ring | EPDM Dia/ EPDM O-ring | Jorlon Dia/ EPDM O-ring | Jorlon Dia/ EPDM O-ring | Jorlon Dia/ TFE-Vit Encap O-ring | Jorlon Dia/ TFE-Vit Encap O-ring | |
| 1/2", 3/4", 1" | 200 | 175 | 200 | 175 | 200 | 175 | 150 |
| 1-1/2" | N/A | N/A | 125 | 100 | 125 | 100 | 100 |
| 2", 3" | N/A | N/A | 100 | 75 | 100 | 75 | 75 |

Call factory for optional trim (not specified); Maximum pressure drop is 40PSI for 0.6Cv

*For info on FB6C High Temp valves (FB6CHT), see page 3

SPECIFICATIONS - HIGH TEMP VALVES (FB6CHT)*

Sizes: 1/2", 3/4", 1", 1-1/2" 2", 3" (DN15 - DN80)

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
- Optional Soft seats
 - Jorlon (FDA & USP Class VI) for steam ad hot fluid service to 338°F (170°C), Cv 3.0 and larger only
 - PEEK (FDA & USP Class VI) for steam and hot fluid service to 350°F (177°C), Cv 0.5 and larger
 - PTFE to +252°F (122°C) continuous or 275°F (135°C) intermittent [not to exceed 15 min. in a one hour period] FDA, USP Class VI, Cv 0.5 and larger

Spring Housing Materials:

- 1/2" - 3" - Material: A351 CF8M 316SS Investment casting

Diaphragm Materials for High Temp Valves

- EPDM/Nylon (to 275°F, 135°C), FDA (1/2" - 1" only)
- Jorlon (to 350°F, 176°C)

O-Ring Materials for High Temp Valves

- EPDM (to 275°F, 135°C)
- Teflon-Encapsulated Viton (to 350°F, 176°C)

Shutoff: ANSI Class III hard seat

ANSI Class VI Soft Seat

Set Point Spring Ranges:

| Valve Size | Set Point Ranges, PSI (bar) |
|-----------------------|--|
| 1/2" - 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, EPDM diaphragm only

Cv (Kv) Ratings:

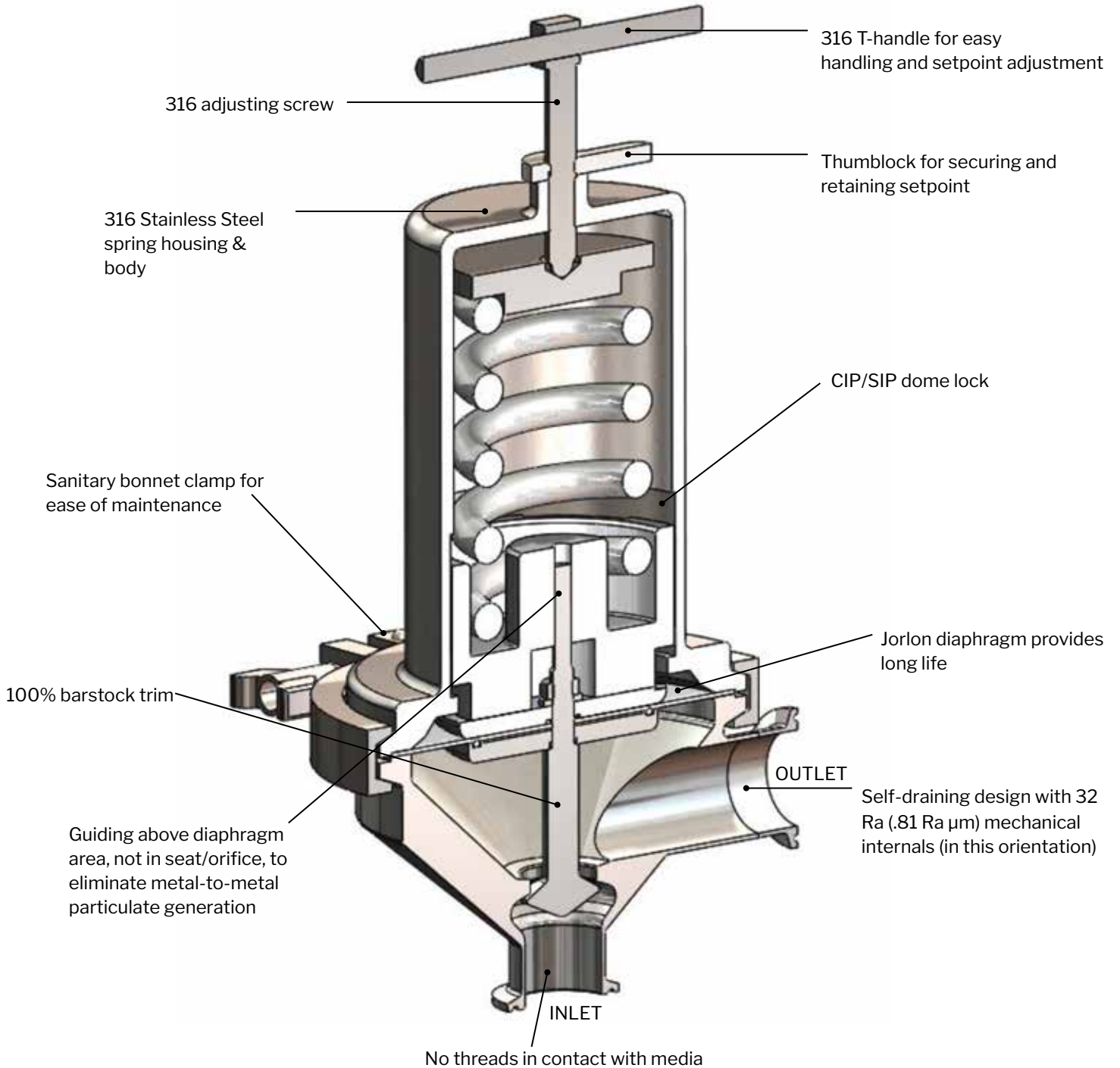
| Valve Size | Available Cv (Kv) | Cv for Relief Valve Sizing |
|------------|----------------------|----------------------------|
| 1/2"DN15 | 0.6 (0,5) | 2.4 (2,0) |
| 3/4"DN20 | 2.9 (2,5) | 3.8 (3,3) |
| 1"DN25 | 4.7 (4,1); 8.0 (7,0) | 10.7 (9,2) |
| 1-1/2"DN40 | 14.8 (12,8) | 26.3 (22,6) |
| 2"DN50 | 26.3 (22,8) | 56.5 (48,6) |
| 3"DN80 | 29.4 (25,4) | 67.1 (57,7) |

Body Pressure Temperature Rating for High Temperature Valves

| Valve Size | PSIG @ 100F | PSIG @ 275F | PSIG @ 100F | PSIG @ 350F | ΔP |
|----------------|-----------------------|-----------------------|----------------------------------|----------------------------------|-----|
| | EPDM Dia/ EPDM O-ring | EPDM Dia/ EPDM O-ring | Jorlon Dia/ TFE-Vit Encap O-ring | Jorlon Dia/ TFE-Vit Encap O-ring | |
| 1/2", 3/4", 1" | 200 | 100 | 200 | 150 | 100 |
| 1-1/2" | N/A | N/A | 125 | 80 | 80 |
| 2", 3" | N/A | N/A | 100 | 50 | 50 |

*For info on FB6C 3A valves (FB6C), see page 2

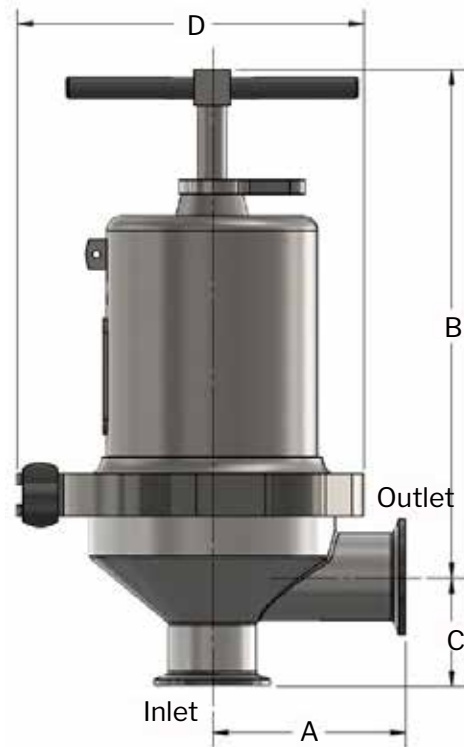
FEATURES & BENEFITS



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 | |
| 1/2", 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 | |
| DN15, 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.



ORDERING SCHEMATIC FB6C (3A)

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

| Model | FB6C |
|----------------------------------|------|
| Sanitary Pressure Regulator (3A) | |

| Size | 050 | 1/2" (DN15) |
|------|---------------|-------------|
| 075 | 3/4" (DN 20) | |
| 100 | 1" (DN25) | |
| 150 | 1-1/2" (DN40) | |
| 200 | 2" (DN50) | |
| 300 | 3" (DN80) | |

| Body Material | 6L | 316L SST |
|---------------|----|----------|
|---------------|----|----------|

| 1 & 2 | Body | Finish | Cv |
|-------|---|--------|-------------|
| A | 32 Ra (.81 Ra µm) Interior / Cast Exterior (Standard) | B | 0.6 (0,5) |
| | | A | 2.9 (2,5) |
| | | D | 4.7 (4,1) |
| | | K | 8.0 (7,0) |
| | | M | 14.8(12,8) |
| | | N | 26.3 (22,8) |
| | | P | 29.4 (25,4) |
| ZZ | Non- Standard | | |

| 3 & 4 | Trim | Finish | Cv & Seat |
|-------|--------------|-------------------------|--------------------------|
| A | 3 | 32 Ra (Std) (.81 Ra µm) | Cv 0.6 (0,5) Hard Seat |
| | A | | Cv 2.9 (2,5) Hard Seat |
| | B | | Cv 4.7 (4,1) Hard Seat |
| | L | | Cv 8.0 (7,0) Hard Seat |
| | P | | Cv 14.8 (12,8) Hard Seat |
| | S | | Cv 26.3 (22,8) Hard Seat |
| | V | | Cv 29.4 (25,4) Hard Seat |
| ZZ | Non-Standard | | |

| 5 & 6 | O-Ring / Diaphragm |
|-------|---|
| EE | EPDM / EPDM Diaph. (1/2", 3/4" & 1" only) |
| TY | Teflon Encaps. Viton / Jorlon Diaph. (3/4" - 3" only) |
| EJ | EPDM / Jorlon Diaph. |
| VJ | Viton / Jorlon Diaph (1/2" only) |
| ZZ | Non-Standard |

| 7 & 8 | Range |
|-------|------------------------|
| | Adjusting Screw Finish |
| A | Standard |
| | Range (PSI) |
| | A 3-8 (0,2-0,6) |
| | C 5-25 (0,3-1,7) |
| | E 10-25 (0,7-1,7) |
| | P 15-25 (1,0-1,7) |
| | H 15-50 (1,0-3,4) |
| | J 15-60 (1,0-4,1) |
| | 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 (1/2", 3/4" & 1" only) |
| 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.



FB6C SERIES SANITARY PRESSURE REGULATORS

ORDERING SCHEMATIC FB6CHT (HIGH TEMP)

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

| Model | |
|--------|--|
| FB6CHT | Sanitary High Temp Pressure Reg (Not 3A) |

| Size | |
|------|---------------|
| 050 | 1/2" (DN15) |
| 075 | 3/4" (DN 20) |
| 100 | 1" (DN25) |
| 150 | 1-1/2" (DN40) |
| 200 | 2" (DN50) |
| 300 | 3" (DN80) |

| Body Material | |
|---------------|----------|
| 6L | 316L SST |

| 1 & 2 Body | | | |
|------------|---|----|-------------|
| Finish | | Cv | |
| A | 32 Ra (.81 Ra µm) Interior / Cast Exterior (Standard) | B | 0.6 (0,5) |
| | | A | 2.9 (2,5) |
| | | D | 4.7 (4,1) |
| | | K | 8.0 (7,0) |
| | | M | 14.8(12,8) |
| | | N | 26.3 (22,8) |
| | | P | 29.4 (25,4) |
| ZZ | Non- Standard | | |

| 3 & 4 Trim | | | |
|------------|-------------------------|-----------|----------------------------|
| Finish | | Cv & Seat | |
| A | 32 Ra (Std) (.81 Ra µm) | 3 | Cv 0.6 (0,5) Hard Seat |
| | | 4 | Cv 0.6 (0,5) PEEK Seat |
| | | A | Cv 2.9 (2,5) Hard Seat |
| | | 9 | Cv 2.9 (2,5) PEEK Seat |
| | | B | Cv 4.7 (4,1) Hard Seat |
| | | C | Cv 4.7 (4,1) Teflon Seat |
| | | D | Cv 4.7 (4,1) Jorlon Seat |
| | | 5 | Cv 4.7 (4,1) PEEK Seat |
| | | L | Cv 8.0 (7,0) Hard Seat |
| | | M | Cv 8.0 (7,0) Teflon Seat |
| | | N | Cv 8.0 (7,0) Jorlon Seat |
| | | 8 | Cv 8.0 (7,0) PEEK Seat |
| | | P | Cv 14.8 (12,8) Hard Seat |
| | | Q | Cv 14.8 (12,8) Teflon Seat |
| | | R | Cv 14.8 (12,8) Jorlon Seat |
| | | 6 | Cv 14.8 (12,8) PEEK Seat |

| 3 & 4 Trim, Continued. | | | |
|------------------------|--------------|-----------|----------------------------|
| Finish | | Cv & Seat | |
| A | 32 Ra | S | Cv 26.3 (22,8) Hard Seat |
| | | T | Cv 26.3 (22,8) Teflon Seat |
| | | U | Cv 26.3 (22,8) Jorlon Seat |
| | | 4 | Cv 26.3 (22,8) PEEK Seat |
| | | V | Cv 29.4 (25,4) Hard Seat |
| | | W | Cv 29.4 (25,4) Teflon Seat |
| | | X | Cv 29.4 (25,4) Jorlon Seat |
| | | Y | Cv 29.4 (25,4) PEEK Seat |
| | | ZZ | Non-Standard |
| ZZ | Non-Standard | | |

| 5 & 6 O-Ring / Diaphragm | |
|--------------------------|---|
| EE | EPDM / EPDM Diaph. (1/2", 3/4" & 1" only) |
| TY | Teflon Encaps. Viton / Jorlon Diaph. (3/4" - 3" only) |
| EJ | EPDM / Jorlon Diaph. |
| VJ | Viton / Jorlon Diaph (1/2" only) |
| 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 (1,0-1,7) |
| | | H | 15-50 (1,0-3,4) |
| | | J | 15-60 (1,0-4,1) |
| | | 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 (1/2", 3/4" & 1" only) |
| JL | JORLON |
| ZZ | NON - STANDARD |

| 11 & 12 Actuator | |
|------------------|----------|
| AA | Standard |

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