

Applications

Direct Acting

- Bottle Washers
- Steam Tables
- Plating Tanks
- Heating Ducts
- Sterilizers
- Fuel Oil Heaters
- Cooking Vats
- Water Heaters
- Heat Exchangers
- Parts Washers

Reverse Acting

- Induction Furnaces
- Industrial Compressors
- Engine Jacket Cooling
- Cooling Ducts
- Liquid Chillers
- Fuel Oil Heaters

Three Way Acting

- Fire Tube Boilers
- Internal Combustion Engine
- Coolers
- Filters

Series 2000 Temperature Regulator

*Pressures To 250 PSIG
Temperatures to 406°F*

Positionable Temperature Indicator

(indicating regulators only) may be turned in direction of easiest reading. Highly accurate with stainless steel case and bayonet lock ring.

Overtemperature Protection

prevents damage to regulator from inadvertent overheating.

Thermal System

is heavy duty bronze bellows with bronze spiral armored copper capillary, copper bulb and epoxy coated bellows housing. Other line and bulb materials available.

Extra Long Adjustment Spring

permits adjustment over a wide range of temperatures.

Packing Assembly

with spring loaded self adjusting chevron type teflon packing eliminates the human factor of improper adjustment.

Epoxy Coated Compact Single Piece Channel Frame

permits installation in tight locations.

Full Scale Adjustment

makes repeat settings easy and accurate.

Double Guided Stainless Steel Monolithic Disc Assembly

maintains proper alignment of all moving parts.

Stainless Steel Seat Rings

are threaded and bonded to eliminate any possibility of leakage through seat ring threads.

Stainless Steel Disc

is self aligning to assure accurate seating, long wear and tight closure.

Adjusting Key

is conveniently located and always there when settings have to be changed.

Galvanized Iron Union Ends

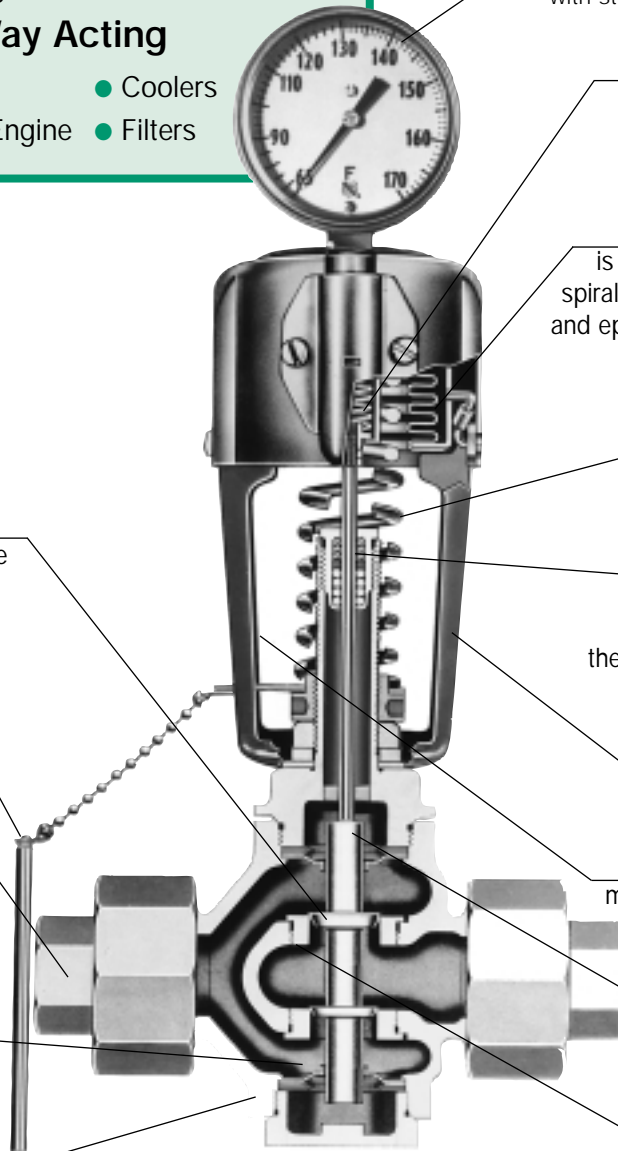
for sturdiness and ease of installation.

Full Ported and Full Flow Bronze Valve Body

provides maximum capacity for each valve size.

Heavy Section Valve Body

is tough, solid, durable and will withstand severe piping strains for pressures to 250 psig at 406°F.



DIRECT OPERATED VALVES



SERIES 2000 TEMPERATURE REGULATOR

SIZES 1/2" – 2"
CONTROLS -25 to 400°F

- Self-actuated
- Two and Three Way Valve Bodies
- Single or Double Seat
- Overtemperature Protection
- Spring Loaded Teflon Chevron Type Packing Assembly
- Double Guided Stainless Steel Monolithic Disc Assembly
- Stainless Steel Seat Rings and Disc
- Adjusting Key Attached
- Galvanized Iron Union Ends
- Full Ported and Full Flow Bronze Body
- Copper Bulb with 8' Armored Capillary

SERIES 2000 TEMPERATURE REGULATOR

APPLICATION DATA

DIRECT ACTING

- Bottle Washing Machinery
- Steam Tables
- Plating Tanks
- Heating Ducts
- Fuel Oil Heaters
- Cooking Vats
- Water Heaters
- Heat Exchangers
- Parts Washer

THREE-WAY MIXING

- Fire Tube Boiler
- Internal Combustion Engine

REVERSE ACTING

- Induction Furnaces
- Industrial Compressors
- Cold Storage Boxes
- Cooling Ducts
- Engine Jacket Cooling
- Liquid Chillers

GAS SERVICE

- Oil Treaters
- Line Heaters
- Separators
- Glycol Dehydrators
- Storage Tanks

VALVE RATINGS

| Valve Ends ASME/ANSI | Pressure PSIG (bar) | Temperature °F (°C) |
|-------------------------|------------------------|------------------------|
| Class 250 NPT | 250 (17.2) | 400 (204) |

Canadian Registration # OC 0591.9C

MODELS

- Type 2010 — Single Seat, Direct Acting
- Type 2020 — Single Seat, Reverse Acting
- Type 2030 — Double Seat, Direct Acting
- Type 2040 — Double Seat, Reverse Acting
- Type 2050 — Three-way Mixing and Diverting
- Type 2060 — Gas Service-15 psig maximum. If pressure exceeds 15 psi, a pressure reducing regulator should be used ahead of the temperature regulator.

OPTIONS

- Dial Temperature Gage (Indicating)
- Stainless Steel Bulb
- Stainless Steel Armored Capillary
- Capillary lengths greater than 8'
- Extra Large Bulb
- Union Bushings & Wells

SERIES 2000 TEMPERATURE REGULATOR

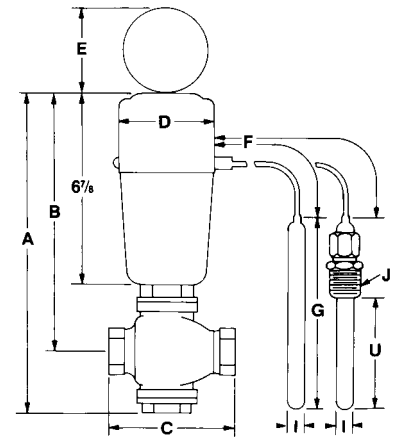
SPECIFICATION

The valve shall be self-operated, requiring no external energy source. It shall have single or double stainless steel seats with double guided monolithic disc assembly for proper alignment. The valve shall be direct acting (heating) or reverse acting (cooling) and have two way or three way operation. The packing assembly shall be spring loaded, self adjusting with chevron type teflon packing. The thermal system line and bulb assembly shall be partially filled with a liquid/gas combination and in a range selected for fast response. The valve rating shall be 250 PSIG at 400°F. Body materials shall be bronze.

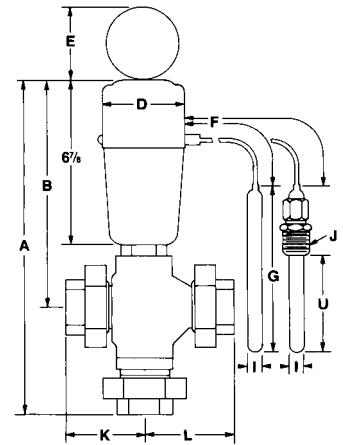
MODEL 2060 FOR GAS SERVICE ONLY: The valve shall be self-operated, requiring no external energy source and designed to control process temperature by regulating gas flow. It shall be normally open and close with increased temperature. "Bubble tight" dead end shutoff shall be provided by Buna-N vulcanized to disc backing. The packing assembly shall be spring loaded, self adjusting with chevron type teflon packing. The thermal system line and bulb assembly shall be partially filled with a liquid/gas combination and in a range selected for fast response. The valve rating shall be 15 PSIG. Body materials shall be nodular iron.

MATERIALS OF CONSTRUCTION

| ITEM | TYPE 2010-2050 | TYPE 2060 |
|-----------|------------------------|---------------------------------|
| Body | Bronze ASTM B62 C83600 | Ductile Iron ASTM A536 65-45-12 |
| Trim | Stainless Steel | Buna-N |
| Packing | Teflon | Buna-N |
| Unions | Iron | Iron |
| Yoke | Steel | Steel |
| Cap | Aluminum | Aluminum |
| Bellows | Bronze | Bronze |
| Spring | Steel | Steel |
| Capillary | Copper | Copper |
| Bulb | Copper | Copper |
| Armor | Bronze | — |
| Stem | 304 Stainless Steel | 304 Stainless Steel |
| Disc | 304 Stainless Steel | Buna-N |
| Seat | 303 Stainless Steel | — |



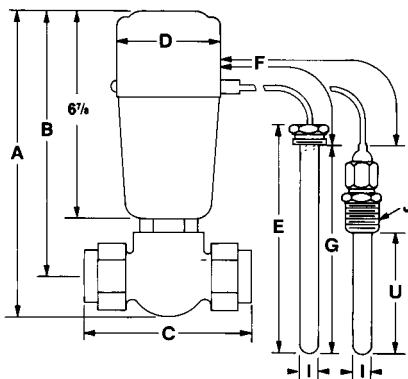
TYPE 2010-2040 DIRECT & REVERSE ACTING



TYPE 2050 THREE WAY

TYPE 2010-2040 DIRECT & REVERSE ACTING DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

| Size | Type No. | Dimensions | | | | | | Shipping Weight (Approx.) |
|----------------------------------|----------|------------|---------|---------|-------|---------|-------|---------------------------|
| | | A | B | C | D | E | F† | |
| 1/2" (A, B, C, D, E) 1/2, 3/4 | 2010 | 9 3/4 | 8 1/2 | 5 1/2 | 3 1/2 | 2 13/16 | 8 Ft. | 10 (4.5) |
| | 2020 | (248) | (216) | (140) | (89) | (71) | | |
| 1/2" 3/4" | 2030 | 12 7/16 | 9 3/4 | 7 3/16 | 3 1/2 | 2 13/16 | 8 Ft. | 13 (5.9) |
| | 2040 | (316) | (248) | (182) | (89) | (71) | | |
| 1" | 2010 | 12 7/16 | 9 3/4 | 7 3/16 | 3 1/2 | 2 13/16 | 8 Ft. | 13 (5.9) |
| | 2020 | (316) | (248) | (182) | (89) | (71) | | |
| 1 1/4" 1 1/2" 2" | 2030 | 12 7/8 | 9 31/32 | 8 15/16 | 3 1/2 | 2 13/16 | 8 Ft. | 20 (9.1) |
| | 2040 | (327) | (253) | (227) | (89) | (71) | | 25 (11) |
| | | | | | | | | 30 (14) |



TYPE 2060 GAS SERVICE

TYPE 2060 GAS SERVICE DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

| Size | Dimensions | | | | | Shipping Weight (Approx.) |
|------|------------|-------|-------|-------|--------|---------------------------|
| | A | B | C | D | F† | |
| 1/2" | 9 3/4 | 8 1/2 | 5 5/8 | 3 1/2 | 10 Ft. | 8 |
| 3/4" | (248) | (216) | (143) | (89) | (3 m.) | (3.6) |
| 1" | | | | | | |

† See following pages for standard lengths, ranges, bulb sizes and maximum line lengths.

TYPE 2050 THREE WAY DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

| Size | Dimensions | | | | | | Shipping Weight (Approx.) |
|------------------|------------|---------|-------|-------|--------|---------|---------------------------|
| | A | B | D | F† | K | L | |
| 1/2" | 13 7/8 | 9 3/4 | 3 1/2 | 8 Ft. | 3 5/16 | 3 5/8 | 12 (5.5) |
| 3/4" | (352) | (248) | (89) | | (84) | (92) | 12 (5.5) |
| 1" | | | | | | | 13 (5.9) |
| 1 1/4" 1 1/2" | 14 21/32 | 9 31/32 | 3 1/2 | 8 Ft. | 4 1/8 | 4 11/16 | 27 (12) |
| | (372) | (253) | (89) | | (105) | (119) | |
| 2" | 14 7/8 | 9 31/32 | 3 1/2 | 8 Ft. | 4 3/16 | 4 7/8 | 33 (15) |
| | (378) | (253) | (89) | | (106) | (124) | |

SERIES 2000 TEMP. REGULATOR



SERIES 2000 TEMPERATURE REGULATOR SELECTION

DIRECT & REVERSE ACTING & THREE WAY FLOW AND PRESSURE RATINGS psig (bar)

| Size | Single Seat | | | | Double Seat | | | | Three Way | | |
|---------|-------------|-------------|---------------------------------|------------------------|------------------------------|---------|---------------------------------|------------------------|----------------------------|---------------------------------|--|
| | Type Number | | Flow Coefficient C _v | Max. Upstream Pressure | Type Number | | Flow Coefficient C _v | Max. Upstream Pressure | Type Number | Flow Coefficient C _v | Max. Difference Between Inlet Pressures* |
| | Direct | Reverse | | | Direct | Reverse | | | | | |
| 1/2"C | 2010 | 2020 | .40 | 250 (17.2) | NOT AVAILABLE IN DOUBLE SEAT | | | | NOT AVAILABLE IN THREE WAY | | |
| 1/2"D | | | 1.00 | | | | | | | | |
| 1/2"E | | | 1.80 | | | | | | | | |
| 1/2"A | | | 3.29 | | | | | | | | |
| 1/2"B | | | 4.29 | 200 (13.8) | | | | | | | |
| 1/2"T | | | 5.22 | 140 (9.7) | 2030 | 2040 | 250 (17.2) | 2050 | 5.22 | 140 (9.7) | |
| 3/4"T | | | 6.85 | 90 (6.2) | | | | | 6.85 | 90 (6.2) | |
| 1"T | | | 9.15 | 65 (4.5) | | | | | 9.15 | 65 (4.5) | |
| 1 1/4"T | | | 14.3 | 40 (2.8) | | | | | 14.3 | 40 (2.8) | |
| 1 1/2"T | | | 15.1 | 30 (2.1) | | | | | 15.1 | 30 (2.1) | |
| 2"T | 17.2 | 20 (1.4) | 17.2 | 20 (1.4) | | | | | | | |

SIZING INFO
PAGE 95

How to Select Range & Bulb Size

- Select a temperature range with the control point in the upper half of the temperature range.
- Determine line length required (8' is standard).
- Use line length and temperature range to find correct bulb size in chart at right.

EXAMPLE:

Control point: 130°F.
Temperature range: 65/140°F.
Line length: 15'

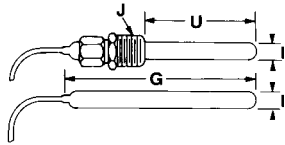
SOLUTION:

Bulb size: extra large – G = 15 5/8"

RANGES, BULB SIZES & MAXIMUM LINE LENGTHS

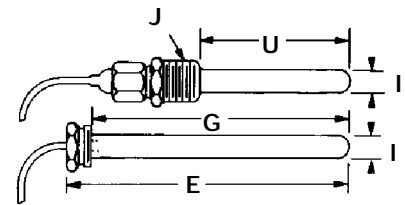
| Short Ranges (Gold Spring) | | Long Ranges (Silver Spring) | | Bulb Size | †Max. Line Length | Maximum Over-Temperature | |
|-------------------------------|------------|--------------------------------|------------|------------------|-------------------|--------------------------|-----|
| °F | °C | °F | °C | | | °F | °C |
| -15 to 50 | -26 to 10 | -15 to 75 | -26 to 24 | X Large | 40 Ft. | 450 | 232 |
| 45 to 115 | 7.2 to 46 | 45 to 145 | 7.2 to 63 | X Large | 40 Ft. | 450 | 232 |
| 65 to 140 | 18 to 60 | 65 to 170 | 18 to 77 | Large X Large | 15 Ft. 40 Ft. | 450 | 232 |
| 120 to 200 | 49 to 93 | 120 to 230 | 49 to 110 | Small | 40 Ft. | 300 | 149 |
| 240 to 310 | 116 to 154 | 240 to 340 | 116 to 171 | Small | 40 Ft. | 350 | 177 |
| 280 to 375 | 138 to 190 | 280 to 415 | 138 to 212 | Small | 40 Ft. | 450 | 232 |

†Standard line lengths are 25' and 40'.



BULB DIMENSIONS* inches (mm)

| Bulb Sizes | G | | | U | I | | | J (NPT) |
|-------------|-----------------|-----------------|-----------------|-----------------|-------------|-------------|---------------|------------|
| | Copper | Stain. Stl. | Coated | | Plain | Union | Well | |
| Small | 13 3/8 (340) | 13 1/4 (337) | 11 3/8 (289) | 10 1/2 (267) | 5/8 (16) | 5/8 (16) | 3/4 (19) | 3/4 or 1 |
| Large | 15 5/8 (397) | 15 1/8 (384) | 13 1/4 (337) | 12 1/2 (317) | 1 (25) | 1 (25) | 1 1/8 (29) | 1 |
| Extra Large | 19 (483) | 18 5/8 (473) | 19 (483) | 16 (406) | 1 (25) | 1 (25) | 1 1/8 (29) | 1 |



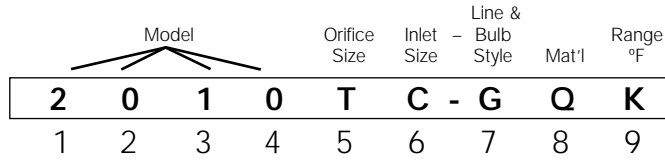
GAS SERVICE BULB & WELL DIMENSIONS inches (mm)

| E | G | I | | U | J (NPT) |
|----------------|----------------|---------------|---------------|------------------|------------|
| | | Bulb | Well | | |
| 8 1/4 (210) | 7 3/8 (187) | 25/32 (20) | 15/16 (24) | 7 11/16 (195) | 1 |

SERIES 2000 TEMPERATURE REGULATOR

SERIES 2000 TEMP. REGULATOR

CODE SELECTION CHART



Model -
 Position 1, 2, 3 & 4
 2010 = Single Seat, Direct Acting
 2020 = Single Seat, Reverse Acting
 2030 = Double Seat, Direct Acting
 2040 = Double Seat, Reverse Acting
 2050 = Three Way

Orifice -
 Position 5
 A
 B
 C
 D
 E
 T = Standard

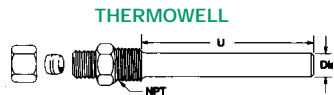
Inlet Size -
 Position 6
 C = 1/2
 D = 3/4
 E = 1
 F = 1 1/4
 G = 1 1/2
 H = 2

Line & Bulb Style -
 Position 7
 G = Indicating
 N = Non-indicating

Material† -
 Position 8
 Q = Copper Bz Armor 8'
 R = Copper Bz Armor 15'
 N = Copper Bz Armor 25'
 P = Copper Bz Armor 40'
 T = SS Unarmored 8'
 V = SS Unarmored 15'
 W = SS Unarmored 25'
 X = SS Unarmored 40'
 Z = Other

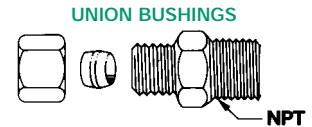
Range °F -
 Position 9
 A = 15/50
 B = 15/75
 C = 45/115
 D = 45/145
 E = 65/140
 F = 65/170
 J = 120/200
 K = 120/230
 L = 240/310
 M = 240/340
 N = 280/375
 P = 280/415
 Z = Other

† For SS Armored Thermal Assembly Material, add (-TV) at the end of the code (ex.: 2010TC-NTH-TV)
 † Small bulb standard for J-1 range and higher.
 Extra large bulb standard for D range and lower.
 Large bulb standard for E and F range



WELLS

| Cat. No. | Bulb Size | Material | Inches (mm) | | |
|----------|-----------|-------------|-------------|-----------|-----------------|
| | | | Bulb Dia. | NPT | U |
| 99A | S | Brass | 5/8 (16) | 3/4 (19) | 10 1/2 (267) |
| 99B | S | Brass | | 1 (25) | |
| 99G | S | 316 St. St. | | 3/4 (19) | |
| 99H | S | 316 St. St. | | 1 (25) | |
| 99J | L | Brass | 1 (25) | 1 (25) | 12 1/2 (318) |
| 99K | X | Brass | | | 16 (406) |
| 99Q | L | 316 St. St. | | | 12 1/2 (318) |
| 99R | X | 316 St. St. | | | 16 (406) |



UNION BUSHINGS

| Cat. No. | Bulb Size | Material | Inches (mm) | |
|----------|-----------|----------|-------------|-----|
| | | | Bulb Dia. | NPT |
| 98A | S | Brass | 5/8 (16) | 3/4 |
| 98B | S | Brass | | 1 |
| 98C | S | St. St. | | 3/4 |
| 98D | S | St. St. | 1 (25) | 1 |
| 98E | L & X | Brass | | 1 |
| 98F | L & X | St. St. | | 1 |

Thermowells and union bushings are utilized as separate items and should be specified on separate lines.



RATED STEAM CAPACITY TABLE

SERIES 2000 TEMPERATURE REGULATOR

| VALVE SIZE | | SINGLE SEATED VALVES | | | | | | | | | | DOUBLE SEATED VALVES | | | | | | |
|--------------------------------------|---------------------------------------|----------------------|------|------|------|------|------|------|------|-------|-------|----------------------|------|------|------|-------|-------|------|
| Inlet Pressure PSIG | Outlet Pressure PSIG | 1/2C | 1/2D | 1/2E | 1/2A | 1/2B | 1/2 | 3/4 | 1 | 1 1/4 | 1 1/2 | 2 | 1/2 | 3/4 | 1 | 1 1/4 | 1 1/2 | 2 |
| DRY SATURATED STEAM—LBS. OF STEAM/HR | | | | | | | | | | | | | | | | | | |
| 5 | UP to 9" HG. VAC. 6" HG. VAC. 2 | 12 | 30 | 53 | 97 | 130 | 155 | 200 | 270 | 420 | 450 | 510 | 235 | 305 | 380 | 610 | 735 | 975 |
| | | 11 | 29 | 52 | 95 | 125 | 150 | 195 | 265 | 415 | 440 | 500 | 230 | 300 | 375 | 600 | 720 | 960 |
| | | 8 | 21 | 38 | 70 | 90 | 110 | 145 | 195 | 305 | 320 | 365 | 170 | 220 | 275 | 440 | 525 | 700 |
| 10 | UP to 3" HG. VAC. 3 7 | 15 | 35 | 65 | 120 | 160 | 195 | 255 | 340 | 530 | 565 | 635 | 295 | 385 | 480 | 765 | 920 | 1220 |
| | | 13 | 33 | 60 | 110 | 145 | 175 | 230 | 305 | 480 | 510 | 575 | 265 | 345 | 430 | 690 | 830 | 1100 |
| | | 10 | 24 | 44 | 80 | 105 | 125 | 165 | 220 | 345 | 370 | 415 | 190 | 250 | 310 | 500 | 600 | 800 |
| 20 | UP to 4 10 15 | 21 | 52 | 95 | 170 | 225 | 270 | 355 | 475 | 745 | 790 | 895 | 415 | 540 | 670 | 1070 | 1290 | 1720 |
| | | 19 | 47 | 85 | 155 | 200 | 245 | 325 | 430 | 675 | 715 | 810 | 375 | 490 | 610 | 970 | 1170 | 1550 |
| | | 15 | 37 | 66 | 120 | 155 | 190 | 250 | 335 | 525 | 555 | 630 | 290 | 380 | 470 | 755 | 910 | 1200 |
| 30 | UP to 10 15 25 | 27 | 67 | 120 | 220 | 290 | 350 | 460 | 615 | 960 | 1020 | 530 | 695 | 865 | 1380 | 1660 | 2210 | |
| | | 25 | 63 | 115 | 210 | 270 | 330 | 435 | 580 | 905 | 960 | 500 | 660 | 815 | 1300 | 1570 | 2090 | |
| | | 17 | 42 | 75 | 140 | 180 | 220 | 290 | 385 | 605 | 640 | 335 | 440 | 545 | 870 | 1050 | 1390 | |
| 40 | UP to 15 20 30 | 33 | 82 | 150 | 270 | 350 | 430 | 560 | 750 | 1170 | 650 | 885 | 1060 | 1690 | 2030 | 2710 | | |
| | | 32 | 79 | 140 | 260 | 340 | 415 | 540 | 725 | 1130 | 625 | 820 | 1020 | 1630 | 1960 | 2610 | | |
| | | 25 | 63 | 115 | 210 | 270 | 330 | 435 | 580 | 905 | 505 | 660 | 820 | 1300 | 1570 | 2090 | | |
| 50 | UP to 20 30 40 | 39 | 97 | 175 | 320 | 415 | 505 | 665 | 890 | 770 | 1010 | 1250 | 2000 | 2400 | 3200 | | | |
| | | 36 | 90 | 160 | 295 | 385 | 470 | 615 | 820 | 710 | 935 | 1150 | 1850 | 2220 | 2960 | | | |
| | | 28 | 70 | 125 | 230 | 300 | 365 | 480 | 640 | 555 | 730 | 905 | 1440 | 1740 | 2310 | | | |
| 60 | UP to 25 30 50 | 45 | 112 | 200 | 370 | 480 | 585 | 770 | 1020 | 890 | 1160 | 1440 | 2310 | 2780 | 3700 | | | |
| | | 44 | 110 | 198 | 360 | 470 | 575 | 755 | 1000 | 870 | 1140 | 1410 | 2260 | 2720 | 3620 | | | |
| | | 30 | 75 | 135 | 250 | 325 | 400 | 525 | 700 | 605 | 795 | 985 | 1570 | 1890 | 2520 | | | |
| 70 | UP to 30 40 60 | 51 | 127 | 230 | 420 | 545 | 665 | 870 | 1010 | 1320 | 1640 | 2610 | 3150 | 4190 | | | | |
| | | 49 | 122 | 220 | 400 | 520 | 635 | 830 | 965 | 1260 | 1570 | 2500 | 3010 | 4010 | | | | |
| | | 33 | 82 | 150 | 270 | 350 | 430 | 560 | 650 | 855 | 1060 | 1690 | 2030 | 2700 | | | | |
| 80 | UP to 35 50 70 | 57 | 140 | 255 | 465 | 610 | 740 | 975 | 1120 | 1470 | 1830 | 2920 | 3520 | 4690 | | | | |
| | | 53 | 130 | 240 | 435 | 565 | 690 | 905 | 1050 | 1370 | 1705 | 2720 | 3280 | 4360 | | | | |
| | | 35 | 85 | 155 | 285 | 375 | 455 | 600 | 690 | 910 | 1120 | 1800 | 2160 | 2880 | | | | |
| 90 | UP to 41 60 90 | 65 | 155 | 285 | 515 | 675 | 820 | 1070 | 1240 | 1630 | 2020 | 3230 | 3890 | 5180 | | | | |
| | | 57 | 140 | 255 | 465 | 610 | 740 | 975 | 1120 | 1470 | 1830 | 2790 | 3520 | 4680 | | | | |
| | | 35 | 90 | 165 | 305 | 395 | 480 | 630 | 730 | 960 | 1190 | 1900 | 2290 | 3040 | | | | |
| 100 | UP to 46 60 90 | 70 | 170 | 310 | 565 | 740 | 900 | 1360 | 1790 | 2220 | 3540 | 4260 | 5680 | | | | | |
| | | 65 | 165 | 295 | 540 | 705 | 855 | 1300 | 1700 | 2110 | 3380 | 4060 | 5410 | | | | | |
| | | 40 | 95 | 175 | 320 | 415 | 505 | 770 | 1010 | 1250 | 2000 | 2400 | 3200 | | | | | |
| 110 | UP to 52 70 90 | 75 | 185 | 335 | 615 | 800 | 975 | 1480 | 1940 | 2410 | 3850 | 4640 | 6170 | | | | | |
| | | 70 | 175 | 315 | 575 | 750 | 910 | 1380 | 1810 | 2250 | 3590 | 4330 | 5760 | | | | | |
| | | 55 | 135 | 245 | 450 | 590 | 715 | 1090 | 1430 | 1770 | 2830 | 3400 | 4530 | | | | | |
| 120 | UP to 57 80 100 | 80 | 200 | 365 | 665 | 865 | 1050 | 1600 | 2100 | 2600 | 4160 | 5010 | 6670 | | | | | |
| | | 75 | 185 | 330 | 605 | 790 | 965 | 1460 | 1920 | 2380 | 3800 | 4580 | 6090 | | | | | |
| | | 55 | 145 | 260 | 475 | 615 | 750 | 1140 | 1490 | 1850 | 2960 | 3560 | 4740 | | | | | |
| 130 | UP to 62 80 110 | 85 | 215 | 390 | 715 | 930 | 1130 | 1720 | 2250 | 2800 | 4470 | 5380 | 7160 | | | | | |
| | | 80 | 205 | 370 | 680 | 885 | 1080 | 1630 | 2140 | 2660 | 4250 | 5120 | 6810 | | | | | |
| | | 60 | 150 | 270 | 495 | 645 | 780 | 1190 | 1560 | 1930 | 3080 | 3710 | 4940 | | | | | |
| 140 | UP to 68 90 120 | 95 | 230 | 420 | 765 | 995 | 1215 | 1840 | 2410 | 2990 | 4780 | 5750 | 7660 | | | | | |
| | | 85 | 215 | 390 | 715 | 930 | 1130 | 1720 | 2250 | 2800 | 4470 | 5380 | 7160 | | | | | |
| | | 60 | 155 | 280 | 510 | 670 | 815 | 1230 | 1620 | 2010 | 3210 | 3860 | 5140 | | | | | |
| 150 | UP to 72 90 120 | 100 | 245 | 445 | 815 | 1060 | 1960 | 2570 | 3180 | 5090 | 6120 | 8150 | | | | | | |
| | | 95 | 240 | 430 | 780 | 1020 | 1880 | 2470 | 3060 | 4900 | 5890 | 7840 | | | | | | |
| | | 75 | 190 | 345 | 625 | 820 | 1510 | 1980 | 2460 | 3930 | 4730 | 6290 | | | | | | |
| 160 | UP to 78 100 140 | 105 | 260 | 470 | 860 | 1120 | 2080 | 2720 | 3380 | 5400 | 6500 | 8650 | | | | | | |
| | | 100 | 250 | 450 | 820 | 1070 | 1970 | 2590 | 3210 | 5120 | 6170 | 8210 | | | | | | |
| | | 65 | 165 | 300 | 550 | 715 | 1320 | 1730 | 2150 | 3440 | 4140 | 5500 | | | | | | |
| 170 | UP to 83 100 140 | 110 | 275 | 500 | 810 | 1190 | 2190 | 2880 | 3570 | 5700 | 6870 | 9140 | | | | | | |
| | | 105 | 270 | 485 | 885 | 1150 | 2130 | 2790 | 3470 | 5540 | 6660 | 8870 | | | | | | |
| | | 80 | 205 | 370 | 670 | 875 | 1620 | 2120 | 2630 | 4210 | 5070 | 6740 | | | | | | |
| 180 | UP to 89 120 160 | 115 | 290 | 525 | 960 | 1250 | 2310 | 3030 | 3760 | 6010 | 7240 | 9640 | | | | | | |
| | | 110 | 270 | 485 | 890 | 1150 | 2140 | 2800 | 3480 | 5550 | 6690 | 8900 | | | | | | |
| | | 70 | 175 | 320 | 585 | 760 | 1400 | 1840 | 2290 | 3650 | 4400 | 5850 | | | | | | |
| 190 | UP to 95 120 160 | 125 | 305 | 555 | 1010 | 1310 | 2430 | 3190 | 3960 | 6320 | 7610 | 10100 | | | | | | |
| | | 115 | 290 | 525 | 960 | 1250 | 2310 | 3030 | 3760 | 6000 | 7220 | 9610 | | | | | | |
| | | 85 | 215 | 390 | 715 | 930 | 1720 | 2260 | 2800 | 4470 | 5380 | 7160 | | | | | | |
| 200 | UP to 100 120 180 | 130 | 320 | 580 | 1060 | 1380 | 2550 | 3350 | 4150 | 6630 | 7980 | 10600 | | | | | | |
| | | 125 | 310 | 560 | 1020 | 1330 | 2470 | 3240 | 4010 | 6410 | 7720 | 10300 | | | | | | |
| | | 75 | 185 | 335 | 615 | 805 | 1480 | 1940 | 2410 | 3850 | 4640 | 6180 | | | | | | |
| 210 | UP to 105 120 180 | 135 | 335 | 605 | 1110 | 2670 | 3500 | 4350 | 6940 | 8360 | 11100 | | | | | | | |
| | | 130 | 330 | 595 | 1080 | 2620 | 3430 | 4260 | 6800 | 8190 | 10900 | | | | | | | |
| | | 90 | 230 | 415 | 755 | 1820 | 2380 | 2960 | 4720 | 5680 | 7560 | | | | | | | |
| 220 | UP to 110 140 200 | 140 | 350 | 635 | 1160 | 2790 | 3660 | 4540 | 7250 | 8730 | 11600 | | | | | | | |
| | | 135 | 345 | 600 | 1100 | 2640 | 3470 | 4300 | 6870 | 8270 | 11000 | | | | | | | |
| | | 80 | 195 | 355 | 645 | 1560 | 2040 | 2530 | 4050 | 4870 | 6480 | | | | | | | |
| 230 | UP to 115 140 200 | 145 | 365 | 660 | 1210 | 2910 | 3810 | 4730 | 7560 | 9100 | 12100 | | | | | | | |
| | | 140 | 355 | 635 | 1160 | 2800 | 3680 | 4560 | 7290 | 8780 | 11700 | | | | | | | |
| | | 95 | 240 | 435 | 790 | 1910 | 2500 | 3100 | 4960 | 5970 | 7940 | | | | | | | |
| 240 | UP to 120 160 200 | 155 | 380 | 690 | 1250 | 3030 | 3970 | 4930 | 7870 | 9470 | 12600 | | | | | | | |
| | | 140 | 355 | 640 | 1160 | 2810 | 3690 | 4570 | 7300 | 8790 | 11700 | | | | | | | |
| | | 110 | 280 | 500 | 915 | 2200 | 2890 | 3580 | 5720 | 6890 | 9170 | | | | | | | |
| 250 | UP to 126 160 220 | 160 | 395 | 715 | 1300 | 3150 | 4130 | 5120 | 8180 | 9840 | 13100 | | | | | | | |
| | | 150 | 375 | 675 | 1240 | 2980 | 3910 | 4850 | 7750 | 9330 | 12400 | | | | | | | |
| | | 100 | 250 | 455 | 830 | 1990 | 2620 | 3240 | 5180 | 6240 | 8300 | | | | | | | |

SIZING SERIES 2000 TEMPERATURE REGULATORS

EXAMPLE FOR HEATING SERVICE

The maximum anticipated flow requirements for a regulator on heating service is 500 lbs. of steam per hour. The unit steam pressure is 50 psig and the downstream pressure is essentially zero because the steam downstream is discharged into an open drain.

ANSWER: Locate 50 psi on the inlet pressure scale on the left side of the Series 2000 Capacity Chart. Choose the outlet pressure line "up to 20" psig because the downstream pressure is essentially zero. Follow the "up to 20" outlet pressure line until you come to the value closest to 500 lbs. of steam per hour (in this case, 505). Read upward to the valve size and we see that the 1/2" single seated valve is the correct size. To size for three-way valves, use single seated capacities 1/2" through 2" size.

NOTE: FORMULAS FOR EXACT CALCULATIONS.

If the outlet pressure is equal to or less than 53% of the absolute inlet pressure:

$$Q (\text{lbs steam/hr}) = 1.5 \times C_v \times \text{inlet pressure (psia)}$$

If the outlet pressure is greater than 53% of the absolute inlet pressure:

$$Q (\text{lbs steam/hr}) = 3 \times C_v \times \sqrt{\text{pressure drop (psi)} \times \text{outlet pressure (psia)}}$$

STEAM FLOW REQUIREMENTS

Use the top chart on this page to determine the pounds of steam per hour required to raise the temperature in tank of known capacity to the required temperature. Determine the rise in temperature (control temp. - room temp.) on the left hand column, read the corresponding pounds of steam per hour under the corresponding gallons of water to be heated. Use the lbs. steam/hr. figure in the chart on the opposite page to determine valve size.

Formula for converting the length, width and depth of solutions (all measured in feet) to gallons of solution: Gallons=7.48 x length x width x depth.

EXAMPLE FOR COOLING SERVICE

Find the correct regulator valve size that will feed a compressor intercooler that requires 100 gallons of water per minute under maximum operating conditions. The supply (inlet) pressure (P1) is 60 psi and the downstream pressure (P2) under maximum flow conditions is 20 psi. The 20 psi pressure is required to force the full flow of water through the compressor's cooling system. Inlet pressure must not exceed maximum upstream pressure, per the Series 2000 Temperature Regulator Product Pages.

ANSWER: The pressure drop permitted across the regulator is P1 minus P2 (40 psi). In the Water Capacity Table (right), locate 40 psi in the differential pressure column and read across to the required gallons per minute. Read to the highest value (in this case, 130 GPM). The chart indicates that a 1 1/4" double seated valve is required. To size 3-way valve, use single seated capacities 1/2" through 2" size.

PERFORMANCE VARIABLE

30°F span from fully open to fully closed
Oversized valve can provide narrower spans—Consult Factory

CAPACITY CHART SEE PAGE 94

STEAM FLOW REQUIREMENTS

| Temp. Rise °F | GALLONS OF WATER HEATED PER HOUR | | | | | | | | | | |
|---------------|----------------------------------|----|-----|-----|-----|-----|-----|-----|-----|------|------|
| | 25 | 50 | 75 | 100 | 150 | 200 | 300 | 400 | 500 | 750 | 1000 |
| | LBS. OF STEAM PER HOUR | | | | | | | | | | |
| 10 | 2 | 4 | 6 | 8 | 12 | 17 | 25 | 33 | 42 | 63 | 83 |
| 20 | 4 | 8 | 12 | 17 | 25 | 33 | 50 | 67 | 83 | 120 | 167 |
| 30 | 6 | 12 | 19 | 25 | 37 | 50 | 70 | 100 | 120 | 190 | 250 |
| 40 | 9 | 17 | 25 | 33 | 50 | 66 | 100 | 130 | 170 | 250 | 330 |
| 50 | 11 | 21 | 31 | 42 | 63 | 84 | 125 | 170 | 210 | 310 | 420 |
| 60 | 13 | 25 | 37 | 50 | 75 | 100 | 150 | 200 | 250 | 370 | 500 |
| 80 | 17 | 33 | 50 | 67 | 100 | 130 | 200 | 270 | 330 | 500 | 670 |
| 100 | 21 | 42 | 63 | 83 | 120 | 170 | 250 | 330 | 420 | 630 | 830 |
| 120 | 25 | 50 | 75 | 100 | 150 | 200 | 300 | 400 | 500 | 750 | 1000 |
| 140 | 29 | 58 | 88 | 117 | 175 | 230 | 350 | 470 | 580 | 880 | 1170 |
| 160 | 33 | 66 | 100 | 133 | 200 | 270 | 400 | 530 | 660 | 1000 | 1330 |

RATED WATER CAPACITY TABLE

| PSIG | SINGLE SEATED VALVES | | | | | | DOUBLE SEATED VALVES | | | | | |
|--------------|------------------------------------|-----|----|-------|-------|----|----------------------|-----|-----|-------|-------|-----|
| | 1/2 | 3/4 | 1 | 1 1/4 | 1 1/2 | 2 | 1/2 | 3/4 | 1 | 1 1/4 | 1 1/2 | 2 |
| Diff. Press. | WATER FLOW—U.S. GALLONS PER MINUTE | | | | | | | | | | | |
| 5 | 12 | 15 | 20 | 32 | 34 | 38 | 18 | 23 | 29 | 46 | 55 | 74 |
| 10 | 17 | 22 | 29 | 45 | 48 | 54 | 25 | 33 | 41 | 65 | 78 | 104 |
| 15 | 20 | 27 | 35 | 55 | 59 | 67 | 31 | 40 | 50 | 80 | 96 | 128 |
| 20 | 23 | 31 | 41 | 64 | 68 | 77 | 35 | 47 | 58 | 92 | 111 | 148 |
| 25 | 26 | 34 | 46 | 72 | 76 | 86 | 40 | 52 | 65 | 103 | 124 | 165 |
| 30 | 29 | 38 | 50 | 78 | 83 | | 43 | 57 | 71 | 113 | 136 | 181 |
| 40 | 33 | 43 | 58 | 90 | | | 50 | 66 | 82 | 130 | 157 | 209 |
| 50 | 37 | 48 | 65 | | | | 56 | 74 | 91 | 146 | 175 | 233 |
| 60 | 40 | 53 | 71 | | | | 61 | 81 | 100 | 160 | 192 | 256 |
| 70 | 44 | 57 | | | | | 66 | 87 | 108 | 172 | 207 | 276 |
| 80 | 47 | 61 | | | | | 71 | 93 | 115 | 184 | 222 | 295 |
| 90 | 50 | 65 | | | | | 75 | 99 | 122 | 195 | 235 | 313 |
| 100 | 52 | | | | | | 79 | 104 | 129 | 206 | 248 | 330 |
| 110 | 55 | | | | | | 83 | 109 | 135 | 216 | 260 | 346 |
| 120 | 57 | | | | | | 87 | 114 | 141 | 226 | 272 | 361 |
| 130 | 60 | | | | | | 90 | 119 | 147 | 235 | 283 | 376 |
| 140 | 62 | | | | | | 94 | 123 | 153 | 244 | 293 | 390 |
| 150 | | | | | | | 97 | 127 | 158 | 252 | 304 | 404 |
| 160 | | | | | | | 100 | 132 | 163 | 261 | 314 | 417 |
| 170 | | | | | | | 103 | 136 | 168 | 269 | 323 | 430 |
| 180 | | | | | | | 106 | 140 | 173 | 276 | 333 | 443 |
| 190 | | | | | | | 109 | 143 | 178 | 284 | 342 | 455 |
| 200 | | | | | | | 112 | 147 | 182 | 291 | 351 | 467 |
| 210 | | | | | | | 115 | 151 | 187 | 299 | 359 | 478 |
| 220 | | | | | | | 118 | 154 | 191 | 306 | 368 | 489 |
| 230 | | | | | | | 120 | 158 | 196 | 312 | 376 | 500 |
| 240 | | | | | | | 123 | 161 | 200 | 319 | 384 | 511 |
| 250 | | | | | | | 125 | 164 | 204 | 326 | 392 | 522 |



**TYPE D50 DIRECT ACTING
PRESSURE REDUCING VALVE**

TYPE D50 PRESSURE REDUCING VALVE

PRESSURES to 300 PSIG at 420°F

- Direct Acting
- Steam, Water or Gas
- Spherical Seating Surface on Floating Stainless Steel Disc for Tight Shutoff
- Four Spring Ranges
- Integral Stainless Steel Strainer
- ANSI/FCI 70-2 Class IV Shutoff

OPTIONS

- Teflon® Disc for Dead-end Service for Liquid and Gas

Installation Tip: Add Uniflex Pipe Coupling for ease of maintenance
SEE PAGE 374

APPLICATION DATA

- Steam Irons
- Autoclaves
- Laundry Mangles
- Single Radiators
- Steam Tables
- Vulcanizers

VALVE RATINGS

| Body Material | Pressure PSIG (bar) | Temperature °F (°C) |
|---------------------------|------------------------|------------------------|
| WITH ST. STL. DISC | | |
| Cast Iron | 200 (13.8) | @ 400 (204.4) |
| Bronze | 300 (21.0) | @ 430 (215.6) |
| Stainless Steel | 300 (21.0) | @ 420 (215.6) |
| WITH TEFLON® DISC | | |
| All | 300 (21.0) | @ 300 (148.9) |
| | 200 (13.8) | @ 400 (204.4) |

SPRING RANGES

| | | | |
|-------|------------|--------|------------|
| 3-15 | All Sizes | 75-140 | 1/2-1 1/4" |
| 10-50 | 1/2-1 1/4" | 30-100 | 1 1/2-2" |
| 25-80 | 1/2-1 1/4" | 10-40 | 1 1/2-2" |

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SIZING INFO
PAGE 135

RATED FLOW COEFFICIENTS (Cv)

| VALVE SIZE | | | | | |
|------------|-----|-----|-------|-------|------|
| 1/2 | 3/4 | 1 | 1 1/4 | 1 1/2 | 2 |
| 2.2 | 3.3 | 4.9 | 5.0 | 10.1 | 10.8 |

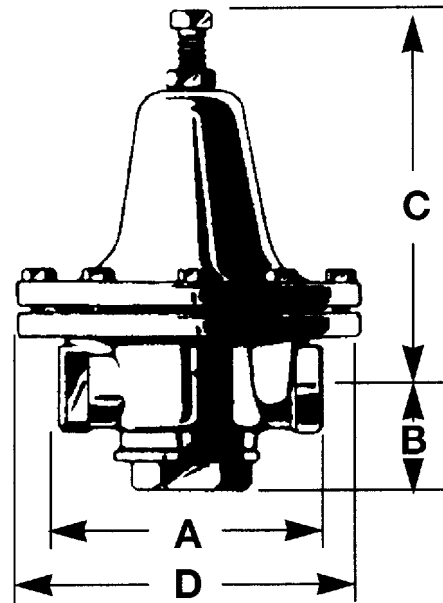
TYPE D50 PRESSURE REDUCING VALVE

SPECIFICATION

The valve shall be self operated, requiring no external energy source. The valve shall operate quickly and provide dead end shut-off. The body materials and rating shall be cast iron for 200 psig and 400°F, Bronze or Stainless Steel for 300 psi and 420°F. Valve trim material is to be stainless steel. Valve to have a standard aspirator to allow for adjustment of operation.

MATERIALS OF CONSTRUCTION

| | |
|-----------------|-------------------------------|
| Body, Cast Iron | ASTM 126 Cl. B |
| Body, Bronze | ASTM B61-80 UNS C92200 |
| Body, St. Stl. | ASTM 743 CF-8M |
| Stem | 304 St. Stl ASTM 276 Cond. A |
| Disc | 316 St. Stl. ASTM 276 Cond. A |
| Seat | 304 St. Stl ASTM 276 Cond. A |
| Gasket | Teflon |
| Diaphragm | 304 St. Stl ASTM 276 Cond. A |
| Spring | 302 St. Stl. |

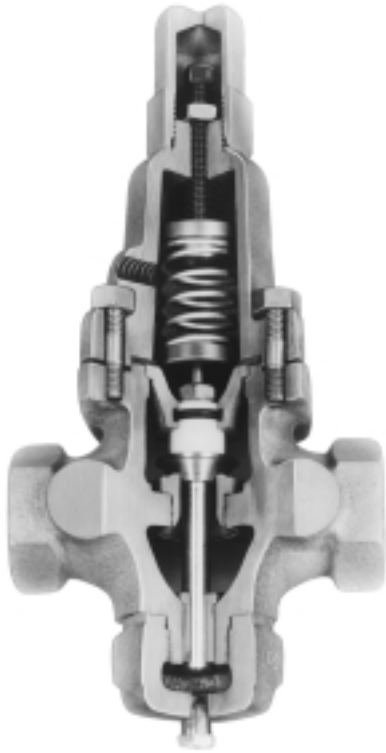


**TYPE D50 DIRECT ACTING
PRESSURE REDUCING VALVE**

D50 PRESSURE REDUCING VALVE

DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

| Body Mat'l. | Size | Dimensions, Inches | | | | Weight (lbs.) |
|-------------|----------------------|--------------------|---------------|-----------------|-----------------|---------------|
| | | A | B | C | D | |
| C.I. & Brz | 1/2, 3/4 (13, 19) | 4 5/8 (143) | 1 3/4 (44) | 6 7/8 (175) | 6 (152) | 12 (5.5) |
| C.I. | 1, 1 1/4 (25, 32) | 5 5/8 (143) | 2 (51) | 7 1/4 (184) | 7 1/2 (191) | 19 (8.6) |
| C.I. | 1 1/2, 2 (38, 51) | 6 5/8 (168) | 2 3/4 (70) | 11 1/2 (292) | 9 (229) | 30 (13.6) |
| St. Stl. | 1/2 (13) | 5 (127) | 1 5/8 (41) | 5 1/2 (140) | 4 7/8 (124) | 8 (3.6) |
| St. Stl. | 3/4, 1 (19, 25) | 5 5/8 (143) | 2 1/4 (57) | 6 1/2 (165) | 7 7/16 (191) | 22 (10) |



TYPE N6 DIFFERENTIAL PRESSURE VALVE

SIZES 3/4" – 2"
PRESSURES to 250 PSIG at 350°F

- Maintains Constant Differential Pressure
- Stainless Steel Valve Trim
- High Temperature Sealing Ring
- Polished Stainless Steel Piston
- ANSI/FCI 70-2 Class IV Shutoff

RATED FLOW COEFFICIENTS (Cv)

| VALVE SIZE | | | | | |
|------------|-----|-------|-------|------|-------|
| 3/4 | 1 | 1 1/4 | 1 1/2 | 2 | 2 1/2 |
| 5.3 | 9.2 | 14.3 | 20.8 | 37.5 | 60 |

TYPE N6 DIFFERENTIAL PRESSURE VALVE

APPLICATION DATA

- Maintain Pump Discharge Pressure
- Pump Bypass Valve
- Boiler Feedwater Valve

VALVE RATINGS

| Valve Ends ASME/ANSI | Pressure PSIG (bar) | Temperature °F (°C) |
|-------------------------|------------------------|------------------------|
| B16.4 Class 250 NPT | 250 (17.2) | @ 350 (176.7) |
| B16.1 Class 250 Flanged | 250 (17.2) | @ 350 (176.7) |

SPRING RANGES (Differential Pressure, psi)

| | |
|--------|---------|
| 5-50 | 100-200 |
| 40-125 | |

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Installation Tip: Add Uniflex Pipe Coupling for ease of maintenance
SEE PAGE 374

SIZING INFO
PAGE 108

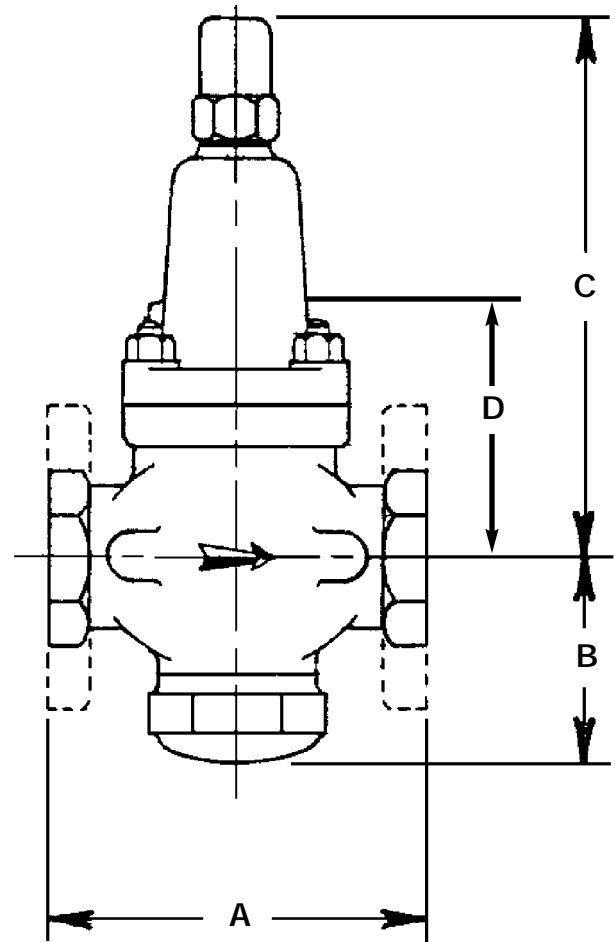
TYPE N6 DIFFERENTIAL PRESSURE VALVE

SPECIFICATIONS

Valve to maintain pump discharge pressure at a constant differential. Valve to be suitable for 250 psig and 350°F. Body to be of cast iron. Trim to be stainless steel. Spring to be enclosed to prevent contamination. Adjusting screw shall be protected by cap and to be easily accessible. Piston and disc to be balanced construction.

MATERIALS OF CONSTRUCTION

Body, Cast Iron ASTM 126 C. B
 Body, Carbon Steel ASTM 216 Gr. WCB
 Stem 303 St. Stl. ASTM 582 Cond. A
 Disc 420 St. Stl. ASTM 276 Cond. A
 Seat Ring 420 St. Stl. ASTM 276 Cond. A
 Piston 303 St. Stl. ASTM 582 Cond. A
 Sealing Ring Viton
 Gasket Graphite
 Spring St. Stl. 17-4



N6 DIFFERENTIAL PRESSURE VALVE

TYPE N6 DIFFERENTIAL PRESSURE VALVE

DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

| SIZE | A | | B | C | D | APPROX. WT. | |
|---------------|----------------|-------------|----------------|-----------------|----------------|-------------|------------|
| | ANSI NPT | ANSI 250 | | | | ANSI NPT | ANSI 250 |
| 3/4 (19) | 4 3/4 (121) | — | 2 3/4 (70) | 7 1/2 (190) | 3 (76) | 10 (4.5) | — |
| 1 (25) | 5 3/8 (137) | — | 3 (76) | 8 1/2 (216) | 3 5/8 (92) | 12 (5.5) | — |
| 1 1/4 (32) | 6 1/2 (165) | — | 3 5/8 (92) | 9 3/8 (238) | 3 7/8 (98) | 19 (8.6) | — |
| 1 1/2 (38) | 7 1/4 (184) | — | 3 3/4 (95) | 10 7/8 (276) | 4 1/4 (108) | 26 (12) | — |
| 2 (51) | 7 1/2 (191) | — | 4 3/8 (111) | 11 7/8 (302) | 4 7/8 (124) | 39 (18) | — |
| 2 1/2 (64) | — | 10 (254) | 4 1/2 (114) | 14 3/8 (365) | 5 3/8 (136) | — | 74 (34) |



TYPE D & D2 DIFFERENTIAL PRESSURE VALVE

SIZES 1/4" – 1/2"
PRESSURES to 600 PSIG at 750°F

- Self-contained
- Direct Operated
- Normally Open
- Packless Construction
- Accurate Regulation Unaffected by Service Conditions
- Easy In-line Maintenance
- Five Spring Ranges for Improved Control
- Utilizes Many Standard D/D2 Pilot Components

APPLICATION DATA

- Pressure Regulating for Steam Distribution
- Regulating for Fluid, Gas and Vapor Process Control
- Processes with Small, Relatively Steady Flow Rates

VALVE RATINGS

| Construction | Pressure PSIG (bar) | Temperature °F (°C) |
|--------------|------------------------|------------------------|
| Cast Iron | 250 (17.2) @ | 400 (204) |
| Cast Steel | 600 (41.4) @ | 750 (400) |

SPRING PRESSURE RANGES (PSIG)

| TYPE D | TYPE D2 |
|--------|---------|
| 3-20 | 100-300 |
| 5-50 | |
| 10-100 | |
| 20-150 | |

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MODELS

- **TYPE D VALVE** — ±1 PSI control of delivery pressure between 3 and 150 PSI
- **TYPE D2 VALVE** — ±2 PSI control of delivery pressure between 100 and 300 PSI

OPTIONS

- Enclosed Spring Chamber
- Adjusting Handwheel
- Composition Disc
- Locking Device
- Wall Bracket

TYPICAL CONFIGURATIONS

PRESSURE REDUCINGTYPE D VALVE
PRESSURE REDUCINGTYPE D2 VALVE

Installation Tip: Add Uniflex Pipe Coupling for ease of maintenance
SEE PAGE 374

TYPE D & D2 DIFFERENTIAL PRESSURE VALVE

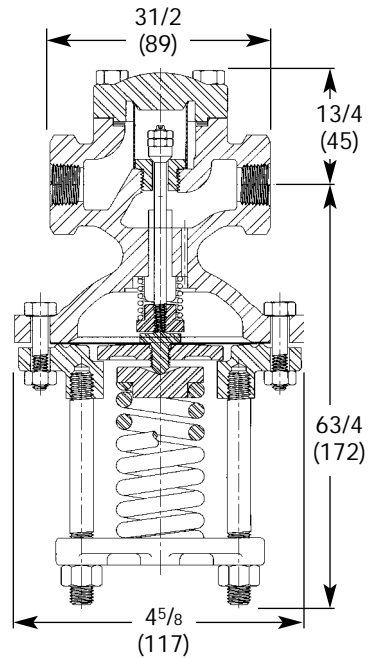
SPECIFICATION

The Valve shall be of normally open design with packless construction. A strainer Screen shall be built into the valve inlet. The valve shall be single- seated, spring loaded and diaphragm actuated.

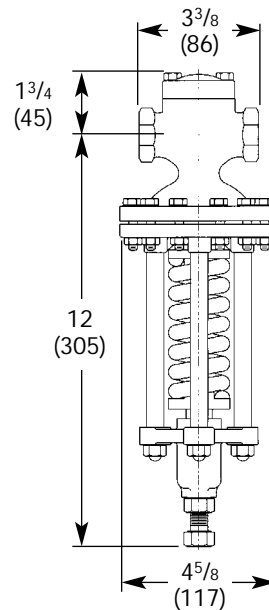
MATERIALS OF CONSTRUCTION

| | |
|------------------------|---------------------------------|
| Body, Cast Iron | ASTM A126 CI B |
| Body, Cast Steel | ASTM A216 GR. WCB |
| Stem | 303 St. Stl. ASTM A582 COND A |
| Disc | 440 St. St. ASTM A276-75 COND A |
| Seat | 420 St. Stl ASTM A276 COND A |
| Gasket | Non-Asbestos |
| Diaphragm | 301 St. Stl. MIL-5-5059C |
| Spring | Inconel |

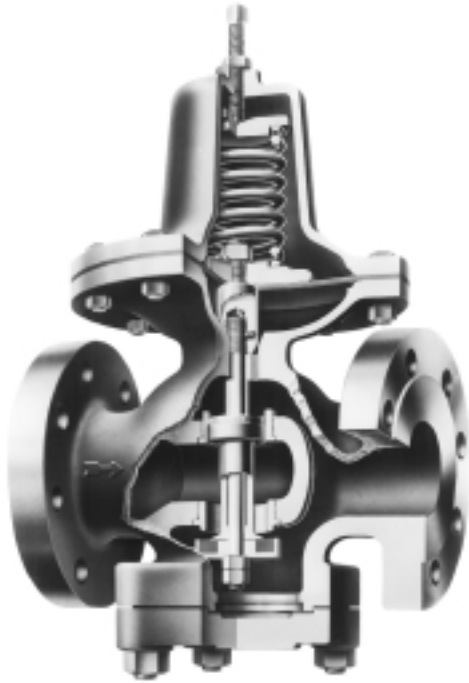
D & D2 PRESSURE REDUCING VALVE



**D VALVE
7.3 LBS.
(3.3 KG)**



**D2 VALVE
10.6 LBS.
(4.8 KG)**



TYPE D34 WATER PRESSURE REDUCING VALVE

SIZES 1" – 6"
PRESSURES to 200 PSIG at 200°F

- Self-contained
- Closes Tight on Dead-end Shutoff
- Fast Acting for Rapid Changes in Flow
- Sediment Settles away from Control Ports when Installed Horizontally
- ANSI/FCI 70-2 Class VI Shutoff

**TYPE D34
WATER PRESSURE REDUCING VALVE**

APPLICATION DATA

- Dead-end water service where flow is intermittent and changes rapidly
- Flushometers
- Snap cocks

VALVE RATINGS

| Valve Ends ASME/ANSI | Pressure PSIG (bar) | Temperature °F (°C) |
|-------------------------|------------------------|------------------------|
|-------------------------|------------------------|------------------------|

CAST IRON

| | | |
|-------------------------|------------|------------|
| B16.4 Class 250 NPT | 200 (13.8) | @ 200 (93) |
| B16.1 Class 125 Flanged | 165 (11.4) | @ 200 (93) |
| B16.1 Class 250 Flanged | 200 (13.8) | @ 200 (93) |

SPRING RANGES (psi)

| | |
|-------|-------|
| 10-40 | 30-80 |
|-------|-------|

Canadian Registration # OC 0591.9C

Installation Tip: Add Uniflex Pipe Coupling for ease of maintenance
SEE PAGE 374

SIZING INFO
PAGE 108

RATED FLOW COEFFICIENTS (Cv)

| | VALVE SIZE | | | | | | | | | |
|----|------------|-----|------|------|------|----|----|----|-----|--|
| | 1 | 1¼ | 1½ | 2 | 2½ | 3 | 4 | 5 | 6 | |
| Cv | 3.3 | 7.5 | 10.4 | 14.4 | 21.6 | 32 | 52 | 84 | 118 | |

TYPE D34 WATER PRESSURE REDUCING VALVE

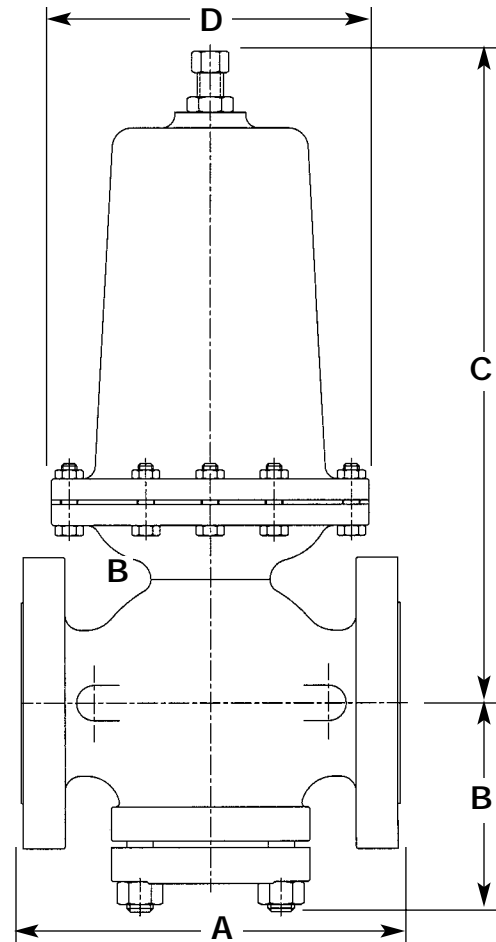
SPECIFICATION

The Valve shall be adjustable, direct operated, packless, diaphragm actuated, balanced and single seated. The valve shall close tight on dead end shutoff and shall maintain a discharge pressure which will not vary more than 1 psig for each 10 psig inlet pressure variation. Delivery pressure variations from zero flow to rated flow shall not exceed 15% of the maximum spring pressure rating. The valve shall be suitable for 200°F service temperature.

Valve body shall be cast iron. Sizes 2-1/2" and larger shall have flanged ends. Trim shall be stainless steel. Valve shall be equipped with a reversible composition disc and diaphragms and discs shall be nitrile. All working parts shall be easily accessible without removal of valve from the line.

MATERIALS OF CONSTRUCTION

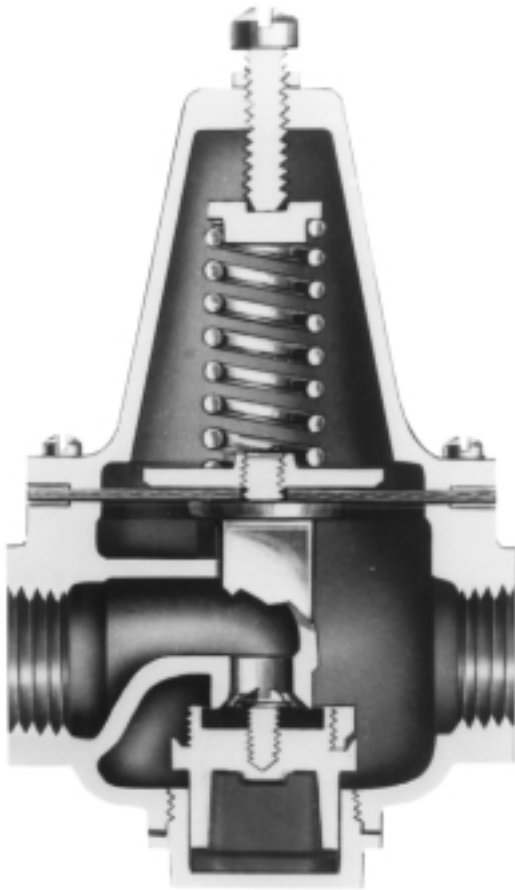
| | |
|-----------------|-------------------------------|
| Body | Cast Iron ASTM 126 Cl. B |
| Stem | 303 St. Stl. ASTM 582 Cond. A |
| Disc | 304 St. Stl. ASTM 276 Cond. A |
| Seat | 304 St. Stl. ASTM 276 Cond. A |
| Gasket | Non-asbestos |
| Diaphragm | Hycar |
| Spring | Steel |



**TYPE D34
WATER PRESSURE REDUCING VALVE**

DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

| SIZE | FACE TO FACE | | | OTHER DIMENSIONS | | | APPROX. WT. | | |
|---------------------------------------|--|---|---|--|---|---|-------------|--------------|--------------|
| | A | | | B | C | D | APPROX. WT. | | |
| | ANSI NPT | ANSI 125 | ANSI 250 | | | | ANSI NPT | ANSI 125 | ANSI 250 |
| 1 (25) | 5 ³ / ₈ (136) | — | — | 3 ³ / ₈ (86) | 12 ¹ / ₈ (308) | 5 ¹ / ₂ (140) | 22 (10) | — | — |
| 1 ¹ / ₄ (32) | 6 ¹ / ₂ (165) | — | — | 3 ⁵ / ₈ (92) | 12 ¹ / ₂ (316) | 5 ¹ / ₂ (140) | 24 (11) | — | — |
| 1 ¹ / ₂ (38) | 7 ¹ / ₄ (184) | — | — | 4 ¹ / ₄ (108) | 13 ³ / ₈ (340) | 6 (152) | 34 (15) | — | — |
| 2 (51) | 7 ¹ / ₂ (191) | 8 ¹ / ₂ (216) | 9 (228) | 4 ⁵ / ₈ (117) | 14 ³ / ₄ (375) | 6 ³ / ₄ (171) | 44 (20) | 51 (23) | 57 (26) |
| 2 ¹ / ₂ (64) | — | 9 ³ / ₈ (238) | 10 (254) | 5 ¹ / ₂ (140) | 18 ³ / ₄ (476) | 8 (203) | — | 78 (35) | 89 (40) |
| 3 (76) | — | 10 (254) | 10 ³ / ₄ (273) | 6 (152) | 21 ³ / ₄ (552) | 9 (229) | — | 108 (49) | 128 (58) |
| 4 (102) | — | 11 ⁷ / ₈ (302) | 12 ¹ / ₂ (318) | 6 ⁵ / ₈ (168) | 26 ⁵ / ₈ (676) | 11 ¹ / ₄ (283) | — | 198 (90) | 225 (102) |
| 5 (127) | — | 13 ⁵ / ₈ (346) | 14 ¹ / ₂ (268) | 7 ⁵ / ₈ (194) | 33 ¹ / ₈ (841) | 14 ¹ / ₄ (362) | — | 352 (160) | 394 (252) |
| 6 (152) | — | 15 ¹ / ₈ (384) | 16 (406) | 9 ¹ / ₈ (232) | 35 ⁷ / ₈ (911) | 16 (406) | — | 500 (227) | 550 (250) |



**TYPE D36
WATER PRESSURE REDUCING VALVE**

TYPE D36 WATER PRESSURE REDUCING VALVE

SIZES 1/2" – 2"
PRESSURES to 300 PSIG at 160°F

- High Capacity
- Sensitive Spring and Large Diaphragm Area for Accurate Pressure Control
- Renewable Stainless Steel Single Seat
- Watertight Cage Assembly
- Soft Seat for Tight Shutoff
- Quiet Operation due to Opening in Direction of Flow
- ANSI/FCI 70-2 Class VI Shutoff

OPTIONS

- Strainer and nipple

APPLICATION DATA

- Liquid pressure reduction in industrial, commercial and domestic applications

VALVE RATINGS

| Valve Ends ASME/ANSI | Pressure PSIG (bar) | Temperature °F (°C) |
|--|------------------------|------------------------|
| CAST BRONZE B16.15 Class 250 NPT | 300 (21.0) | @ 160 (71) |

SPRING RANGES (psi)

| | |
|-------|--------|
| 10-35 | 75-100 |
| 25-75 | |

Canadian Registration # OC 0591.9C

Installation Tip: Add Uniflex Pipe Coupling for ease of maintenance
SEE PAGE 374

SIZING INFO
PAGE 108

RATED FLOW COEFFICIENTS (Cv)

| VALVE SIZE | | | | | |
|------------|-----|---|-------|-------|----|
| 1/2 | 3/4 | 1 | 1 1/4 | 1 1/2 | 2 |
| 2.5 | 3.6 | 5 | 9 | 14 | 17 |

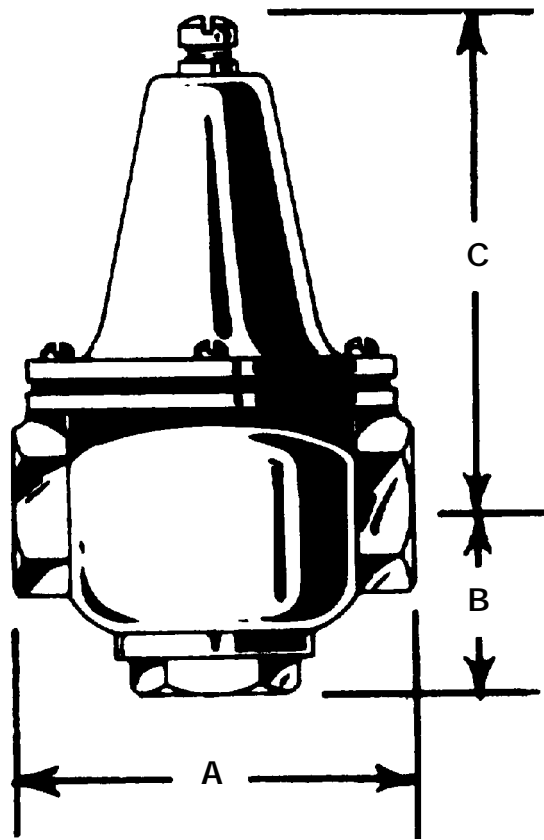
TYPE D36 WATER PRESSURE REDUCING VALVE

SPECIFICATION

Valve shall be self operated requiring no external energy source. Valve shall have a bronze body and stainless steel renewable seat. Diaphragm shall be suitable for water service. Valve rated to 300 psi at 160°F. Disc to be removable without disassembly of the valve. Valve to meet A.S.S.E. Standard 1003, Southern Standard Plumbing Code and I. A. P. M. O. Military Standard MIL-V-1846A Type I. City of Los Angeles and W.P.O.A. Uniform Plumbing Code.

MATERIALS OF CONSTRUCTION

BodyBronze ASTM B61-80 UNS C92200
 StemBronze ASTM B61-80 UNS C92200
 DiscBuna N
 Seat304 St. Stl ASTM 276 Cond. A
 GasketNylatron-GS
 DiaphragmBuna N
 Spring302 St. Stl.



D36 WATER PRESSURE
REDUCING VALVE

TYPE D36
WATER PRESSURE REDUCING VALVE

DIMENSIONS inches (mm) AND WEIGHTS pounds (kg)

| Size | Dimensions, Inches | | | Weight (lbs.) |
|---------------|--------------------|---------------|-----------------|------------------|
| | A | B | C | |
| 1/2 (13) | 4 1/4 (108) | 2 (51) | 6 1/4 (159) | 5.25 (2.4) |
| 3/4 (19) | 4 1/4 (108) | 2 (51) | 6 1/4 (159) | 5.25 (2.4) |
| 1 (25) | 4 3/4 (121) | 2 1/8 (54) | 6 1/2 (165) | 8 (3.5) |
| 1 1/4 (32) | 5 (127) | 2 3/4 (70) | 6 3/4 (171) | 10 (4.4) |
| 1 1/2 (38) | 6 3/4 (171) | 2 3/4 (70) | 9 7/8 (251) | 20 (9.1) |
| 2 (51) | 8 (203) | 3 1/4 (83) | 10 3/4 (273) | 33 (15) |

NOTES: