

Direct-Acting, Steam & Liquid Service Only
 For All Heating Applications
 Single-Seated, Balanced Regulator

**Series 175 & 175T
 TEMPERATURE
 REGULATORS**

Applications

Temperature Regulator Series 175 is used to increase the temperature of a medium (*liquid or gas*) by remotely sensing that medium's temperature and throttling steam flow to it, maintaining the desired elevated temperature. This regulator is balanced through its stroke, ensuring better control. Typical uses are:

- Plating or Finishing Tanks
- Hot Water Generators & Storage Tanks
- Heat Exchangers
- Fuel Oil Storage Tanks & Heaters
- Steam Tables
- Open Tank or Kettle Control
- Heating Ducts
- Circulating Dryers or Ovens
- Sterilizing Equipment

Features

- Balanced Main Valve for Better Temperature Control
- Control Down to $\pm 2^{\circ}\text{F}$
- 10' Armor-Protected Capillary, Standard
- Heavy-Duty Exterior Construction
- Bulb & Capillary Option to Include 316 Stainless Steel & Kynar
- Dial Thermometer, Optional –For visual Temperature readings



Series 175
 Flanged, Non-Indicating



Series 175T
 Screwed with Dial Indicator

Union Ends Available

Capacities - maximum steam capacity in pounds per hour (*lbs/hr*) based on critical pressure drop

| Press. psig | 1/2"A | 1/2"B | 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | 2 1/2" | 3" | 4" |
|-------------|-------|-------|-------|-------|-------|--------|--------|-------|--------|--------|--------|
| 1 | 24 | 43 | 81 | 160 | 275 | 400 | 570 | 840 | 1,200 | 1,740 | 2,800 |
| 3 | 27 | 48 | 91 | 180 | 310 | 450 | 640 | 950 | 1,360 | 1,960 | 3,150 |
| 5 | 30 | 54 | 102 | 200 | 345 | 500 | 710 | 1,050 | 1,520 | 2,180 | 3,500 |
| 10 | 37 | 67 | 127 | 250 | 430 | 630 | 900 | 1,320 | 1,900 | 2,720 | 4,370 |
| 15 | 45 | 81 | 153 | 300 | 515 | 760 | 1,070 | 1,580 | 2,280 | 3,270 | 5,250 |
| 20 | 52 | 84 | 178 | 350 | 600 | 890 | 1,250 | 1,850 | 2,660 | 3,810 | 6,120 |
| 25 | 60 | 108 | 204 | 400 | 692 | 1,010 | 1,430 | 2,120 | 3,040 | 4,360 | 7,000 |
| 30 | 67 | 121 | 229 | 450 | 775 | 1,140 | 1,600 | 2,380 | 3,420 | 4,900 | 7,870 |
| 40 | 82 | 150 | 280 | 550 | 950 | 1,400 | 1,970 | 2,900 | 4,180 | 5,990 | 9,620 |
| 50 | 97 | 177 | 331 | 650 | 1,120 | 1,650 | 2,330 | 3,440 | 4,940 | 7,080 | 11,370 |
| 60 | 112 | 204 | 382 | 750 | 1,290 | 1,900 | 2,700 | 3,970 | 5,700 | 8,170 | 13,120 |
| 70 | 127 | 230 | 433 | 850 | 1,470 | 2,160 | 3,050 | 4,500 | 6,460 | 9,260 | 14,870 |
| 80 | 142 | 258 | 484 | 950 | 1,640 | 2,410 | 3,400 | 5,000 | 7,220 | 10,350 | 16,620 |
| 90 | 157 | 285 | 535 | 1,050 | 1,810 | 2,670 | 3,770 | 5,560 | 7,980 | 11,440 | 18,370 |
| 100 | 172 | 312 | 586 | 1,150 | 1,980 | 2,930 | 4,130 | 6,090 | 8,740 | 12,530 | 20,120 |
| 125 | 210 | 378 | 714 | 1,400 | 2,420 | 3,560 | 5,030 | 7,410 | 10,640 | 15,260 | 24,500 |
| 150 | 245 | 445 | 841 | 1,650 | 2,850 | 4,200 | 5,930 | 8,740 | 12,540 | 18,000 | 28,800 |
| 175 | 285 | 513 | 969 | 1,900 | 3,280 | 4,850 | 6,830 | | | | |
| 200 | 322 | 580 | 1,096 | 2,150 | 3,710 | 5,470 | 7,730 | | | | |
| 250 | 395 | 711 | 1,350 | 2,650 | | | | | | | |

SELF CONTAINED
 REGULATORS

Watson McDaniel reserves the right to change the designs and/or materials of its products without notice



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Manufacturers of:

**PRESSURE & TEMPERATURE REGULATORS - RELIEF VALVES - STEAM TRAPS - CLEAN STEAM PRODUCTS
 LIQUID DRAINERS - PRESSURE PUMPS - EJECTORS - SPECIALTY PRODUCTS**



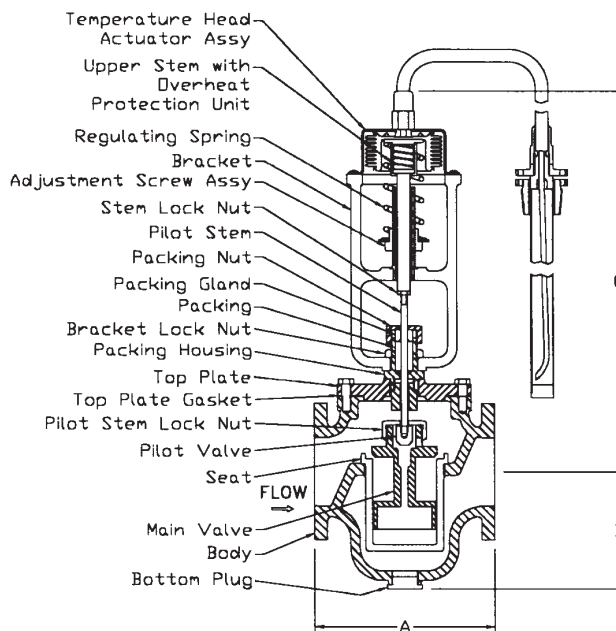
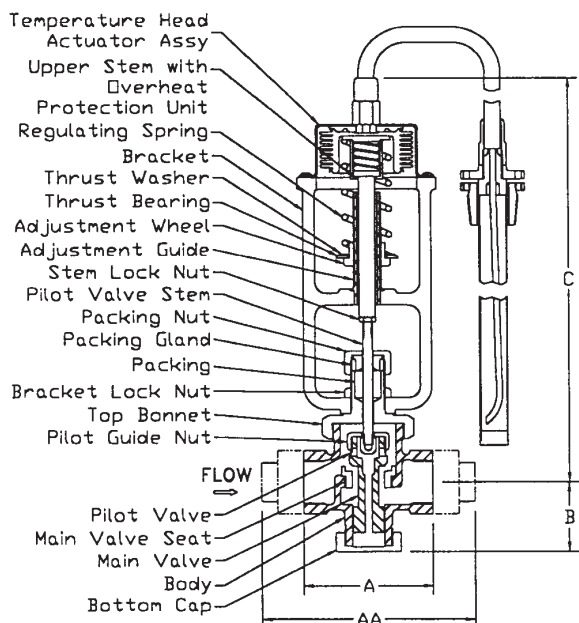
TR-350

(1/01)

Series 175 & 175T Specifications

1/2" – 2" with Screwed Ends
1/2" - 1 1/2" with Union Ends

2" – 4" with Flanged Ends



1/2" – 2" with Screwed & Union Ends

| Size | Max Oper Press | AA Union | A NPT | B | C** | Ship Wt. (lbs) | Cv |
|--------|----------------|----------|----------|--------|---------|----------------|------|
| 1/2"A* | 250 psig | NA | 3 1/4" | 1 1/2" | 14 1/4" | 12 | 0.9 |
| 1/2"B* | 200 psig | NA | 3 1/4" | 1 1/2" | 14 1/4" | 12 | 1.5 |
| 1/2" | 250 psig | 6 1/2" | 4 1/8" | 2 3/8" | 13 1/2" | 14 | 3.3 |
| 3/4" | 250 psig | 6 1/2" | 4 1/8" | 2 3/8" | 13 1/2" | 14 | 6.5 |
| 1" | 200 psig | 7" | 4 1/8" | 2 3/8" | 13 1/2" | 14 | 11.1 |
| 1 1/4" | 200 psig | 7 1/2" | 4 13/16" | 3 1/4" | 14" | 17 | 16.5 |
| 1 1/2" | 200 psig | 8" | 5 3/16" | 3 1/2" | 14 1/2" | 18 | 23.1 |
| 2" | 150 psig | NA | 9 1/2" | 5 3/4" | 15 1/4" | 50 | 34.2 |

2" – 4" with Flanged Ends

| Size | Max Oper Press | A | | B | C** | Ship Wt. (lbs) | Cv |
|--------|----------------|---------|---------|--------|---------|----------------|-------|
| | | 125-lb | 250-lb | | | | |
| 2" | 150 psig | 10 3/8" | 10 7/8" | 5 3/4" | 15 1/4" | 80 | 34.2 |
| 2 1/2" | 150 psig | 10 5/8" | 11 1/4" | 7" | 24" | 96 | 49.0 |
| 3" | 150 psig | 10 7/8" | 11 5/8" | 8" | 25" | 110 | 70.2 |
| 4" | 150 psig | 12 1/2" | 13 1/8" | 8 3/4" | 26" | 160 | 113.0 |

** Add 6" to C dimension for Indicating dial thermometer option

* 1/2" A - 1/4" Diameter Internal Port
* 1/2" B - 3/8" Diameter Internal Port

Materials List

Body, 1/2" to 1 1/2"Bronze (*screwed & Union*)
 Body, 2"Cast Iron (*screwed & Flanged*)
 Body, 2" to 4"Cast Iron (*flanged*)
 Spring.....Cadmium-plated Steel
 Main Valve & SeatStainless Steel
 Capillary (**standard – 10-ft**)Copper
 Armor for Capillary.....Stainless Steel

Design Pressure/Temperatures Ratings

Bronze (*screwed & Union*).....250 psig at 406°F
 Cast Iron (*screwed & Union*)250 psig at 406°F
 Cast Iron (*125-lb flanged*)125 psig at 353°F
 Cast Iron (*250-lb flanged*)250 psig at 406°F

BODY RATING ONLY
(see above size tables for operating pressure limits)

| Series 175 | | | | | | | | | | Water Pressure Differential P.S.I. |
|-----------------------------|------|-----|--------|--------|-----|--------|-----|------|--|------------------------------------|
| Gallons of Water Per Minute | | | | | | | | | | |
| 1/2" | 3/4" | 1" | 1 1/4" | 1 1/2" | 2" | 2 1/2" | 3" | 4" | | |
| 3 | 5 | 10 | 14 | 20 | 29 | 42 | 60 | 96 | | 1 |
| 4 | 9 | 16 | 23 | 34 | 49 | 71 | 102 | 163 | | 3 |
| 6 | 12 | 21 | 32 | 46 | 66 | 96 | 138 | 220 | | 5 |
| 9 | 17 | 30 | 44 | 64 | 92 | 134 | 192 | 307 | | 10 |
| 11 | 21 | 37 | 54 | 78 | 113 | 163 | 234 | 374 | | 15 |
| 12 | 24 | 42 | 63 | 90 | 130 | 189 | 270 | 432 | | 20 |
| 14 | 27 | 47 | 70 | 100 | 145 | 210 | 300 | 480 | | 25 |
| 15 | 30 | 52 | 77 | 111 | 160 | 231 | 330 | 528 | | 30 |
| 17 | 34 | 59 | 88 | 127 | 182 | 264 | 378 | 604 | | 40 |
| 19 | 39 | 67 | 99 | 143 | 206 | 298 | 426 | 681 | | 50 |
| 21 | 43 | 74 | 109 | 157 | 229 | 327 | 468 | 748 | | 60 |
| 23 | 46 | 79 | 117 | 169 | 243 | 352 | 504 | 806 | | 70 |
| 25 | 49 | 84 | 124 | 180 | 258 | 373 | 534 | 854 | | 80 |
| 26 | 52 | 90 | 133 | 192 | 275 | 399 | 570 | 912 | | 90 |
| 28 | 55 | 95 | 140 | 202 | 290 | 420 | 600 | 960 | | 100 |
| 31 | 61 | 106 | 156 | 226 | 324 | 470 | 672 | 1070 | | 125 |
| 34 | 67 | 116 | 170 | 246 | 353 | 512 | 732 | 1170 | | 150 |
| 37 | 72 | 125 | 184 | 266 | | | | | | 175 |
| 40 | 78 | 135 | 200 | 288 | | | | | | 200 |