

February 2023

# Spence™ Dura-Flo 20 Series Inverted Bucket Steam Traps



*Figure 1. Dura-Flo 20 Series Inverted Bucket Steam Trap*

## Features

- Hardened Stainless Steel Valve and Seat – Long life and maximum corrosion resistance.
  - Stainless Steel Bucket – Long lasting, rugged and naturally resistant to water hammer.
  - Inexpensive – Low maintenance and initial cost.
  - All working parts lift out of top of trap.
  - Cast Iron Body – Durable heavy wall construction provides years of reliable service.
  - Suitable for Wide Variety of Loads/Applications – Vertical model in six body sizes.
- Resists Dirt and Scale – Valve and seats positioned at top of traps.

## Introduction

A steam trap is an automatic valve which discharges condensate, undesirable air and non-condensibles from a system while trapping, or holding in, steam.

Dura-Flo 20 Series inverted bucket traps are capable of discharging condensate, air and other non-condensable gases. These traps have a heavy cast iron body, hardened stainless steel valve and seat, all stainless steel linkage and bucket and a graphite fiber cover gasket.

# Dura-Flo 20 Series

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## Specifications

The Specifications section gives some general specifications for the Dura-Flo 20 Series inverted bucket steam traps. The nameplates give detailed information for a specific steam trap as built in the factory.

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| <p><b>Available Configurations</b></p> <p><b>Type 21:</b> Medium low capacity vertical<br/><b>Type 22:</b> Medium capacity vertical<br/><b>Type 23:</b> Medium high capacity vertical<br/><b>Type 24:</b> High capacity vertical<br/><b>Type 25:</b> Super high capacity vertical<br/><b>Type 26:</b> Ultra high capacity vertical</p> <p><b>Available Sizes</b></p> <p>NPS 1/2, 3/4, 1, 1-1/4, 1-1/2, 2 and 2-1/2 /<br/>DN 15, 20, 25, 32, 40, 50 and 65</p> <p><b>End Connection Styles</b></p> <p>NPT and BSP. Possible screwed on flanges.</p> <p><b>Maximum Operating Pressure<sup>(1)</sup></b></p> <p>See Tables 1 and 2</p> <p><b>Maximum Operating Temperature<sup>(1)</sup></b></p> <p>Saturated at pressure</p> <p><b>Maximum Allowable Pressure<sup>(1)</sup></b></p> <p>250 psig / 17.2 bar</p> <p><b>Maximum Allowable Temperature<sup>(1)</sup></b></p> <p>450°F / 232°C</p> <p><b>Capacity Information</b></p> <p>See Tables 1 and 2</p> | <p><b>Materials of Construction</b></p> <p><b>Body and Cover:</b> Cast iron<br/><b>Bucket and Linkage:</b> Stainless steel<br/><b>Valve and Seat:</b> Hardened Chrome Steel<br/><b>Standpipe:</b> Steel pipe<br/><b>Cover Gasket:</b> Graphite</p> <p><b>Option</b></p> <p>Repair Kits</p> <p><b>Applications</b></p> <p>Steam Lines<br/>Process Equipment<br/>Steam Cookers<br/>Steam Heated Vats<br/>Pressing Machinery<br/>Unit Heaters<br/>Oil Preheaters<br/>Converters<br/>Coils<br/>Rotating Drum</p> <p><b>Approximate Weights</b></p> <p>7 to 90 lbs / 3.2 to 40.8 kg</p> |
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1. The pressure/temperature limits in this Bulletin and any applicable standard or code limitation should not be exceeded.

## Principle of Operation

Steam entering the trap collects in the top of the bucket, floating the bucket and forcing the valve into its seat.

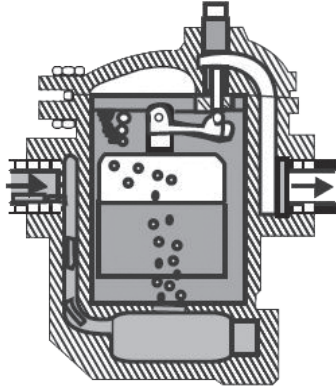
As the condensate begins to flow into the trap, the steam and air are forced from the bucket. This causes the bucket to begin losing buoyancy, tending to pull the valve from its seat.

When enough condensate has entered the trap, displacing the steam and air, the bucket drops, pulling the valve from the seat and allowing condensate and air to discharge.

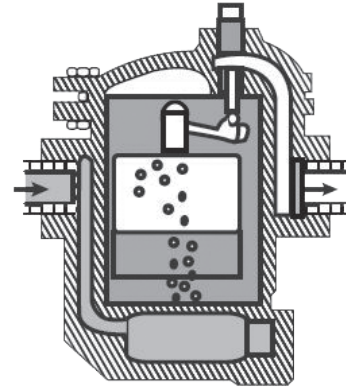
As the flow of condensate stops, steam enters the trap and re-floats the bucket, forcing the valve into its seat. The cycle repeats as more condensate reaches the trap.

## Installation

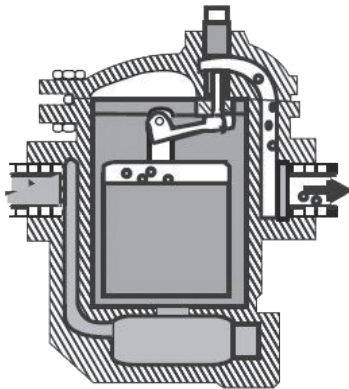
- Install the traps in an accessible position and location for easy servicing. Allow vertical clearance for maintenance.
- Install the trap with the body upright so that bucket is rising and falling vertically.
- Install the inlet and outlet connections in a horizontal plane for horizontal traps and a vertical plane with inlet on the bottom for vertical traps.
- Avoid long lengths of horizontal piping ahead of trap.
- Pitch all horizontal inlet lines towards the steam trap to help eliminate potential water hammer problems.
- Install the trap below the drain point, so that a water seal can be maintained around the open end of the bucket.



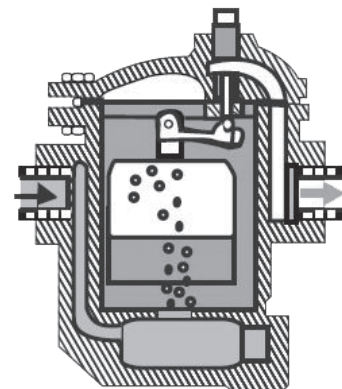
**Figure 2.** Dura-Flo Series Inverted Bucket Steam Trap Closed



**Figure 3.** Dura-Flo Series Inverted Bucket Steam Trap Begins to Open



**Figure 4.** Dura-Flo Series Inverted Bucket Steam Trap Discharges



**Figure 5.** Dura-Flo Series Inverted Bucket Steam Trap Closes

- Install the trap below and close to equipment being drained.
- The maximum differential pressure ( $\Delta P$ ) stamped on product nameplate must be greater than the maximum pressure differential across the trap.
- It is recommended to protect the trap with a strainer.
- Install union fittings and shut off valves on both sides of trap for ease of servicing and trap testing.
- Install a test and pressure relief valve to ensure relief of internal pressure prior to servicing and as a visual indication of trap operation.
- If there will be a pressurized return line or the trap drains to an overhead return line, install a check valve on return piping.

## Ordering Information

When ordering, complete the ordering guide on this page. Refer to the Specifications section. Review the description to the right of each specification and the information in each referenced table or figure. Specify your choice whenever a selection is offered.

# Dura-Flo 20 Series

**Table 1. Maximum Capacity - lbs/hr 10°F Below Saturation**

| TYPE | ORIFICE, In. | MAX. ΔP psig | DIFFERENTIAL PRESSURE, psig |      |       |       |       |       |       |       |       |       |
|------|--------------|--------------|-----------------------------|------|-------|-------|-------|-------|-------|-------|-------|-------|
|      |              |              | 0.5                         | 1    | 5     | 10    | 15    | 20    | 25    | 30    | 40    | 60    |
| 21   | 1/4          | 15           | 300                         | 450  | 830   | 950   | 1060  | ----  | ----  | ----  | ----  | ----  |
|      | 3/16         | 30           | 190                         | 300  | 540   | 670   | 770   | 880   | 950   | 1000  | ----  | ----  |
|      | 5/32         | 70           | 100                         | 165  | 180   | 430   | 495   | 585   | 655   | 710   | 770   | 900   |
|      | 1/8          | 125          | 70                          | 130  | 220   | 340   | 390   | 460   | 515   | 560   | 610   | 710   |
|      | 7/64         | 200          | ----                        | 65   | 150   | 230   | 275   | 335   | 375   | 405   | 455   | 545   |
|      | 3/32         | 250          | ----                        | ---- | 100   | 150   | 190   | 240   | 270   | 290   | 340   | 420   |
| 22   | 5/16         | 15           | 570                         | 850  | 1600  | 1900  | 2100  | ----  | ----  | ----  | ----  | ----  |
|      | 1/4          | 30           | 350                         | 500  | 950   | 1380  | 1630  | 1800  | 1900  | 2050  | ----  | ----  |
|      | 3/16         | 70           | 250                         | 420  | 785   | 950   | 1120  | 1260  | 1395  | 1500  | 1700  | 2000  |
|      | 5/32         | 125          | 180                         | 300  | 560   | 680   | 800   | 900   | 995   | 1070  | 1220  | 1440  |
|      | 1/8          | 200          | 100                         | 180  | 325   | 465   | 505   | 575   | 650   | 710   | 805   | 980   |
|      | 7/64         | 250          | 75                          | 130  | 240   | 340   | 370   | 420   | 480   | 520   | 590   | 720   |
| 23   | 1/2          | 15           | 1410                        | 1880 | 2900  | 3500  | 3900  | ----  | ----  | ----  | ----  | ----  |
|      | 3/8          | 30           | 990                         | 1400 | 2300  | 2700  | 3300  | 3500  | 3800  | 4000  | ----  | ----  |
|      | 5/16         | 60           | 600                         | 940  | 1730  | 2045  | 2510  | 2825  | 2995  | 3135  | 3800  | 4400  |
|      | 9/32         | 80           | 510                         | 735  | 1350  | 1595  | 1960  | 2205  | 2340  | 2450  | 2880  | 3490  |
|      | 1/4          | 125          | 385                         | 600  | 1100  | 1300  | 1600  | 1800  | 1910  | 2000  | 2350  | 2850  |
|      | 7/32         | 180          | 300                         | 490  | 860   | 1165  | 1350  | 1595  | 1865  | 2085  | 2205  | 2510  |
|      | 3/16         | 250          | 255                         | 400  | 700   | 950   | 1100  | 1300  | 1520  | 1700  | 1800  | 2050  |
| 24   | 5/8          | 15           | 2160                        | 2900 | 4800  | 5800  | 6500  | ----  | ----  | ----  | ----  | ----  |
|      | 1/2          | 30           | 1450                        | 2250 | 3700  | 4750  | 5200  | 6000  | 6500  | 6800  | ----  | ----  |
|      | 3/8          | 60           | 1050                        | 1750 | 2950  | 3550  | 4000  | 4700  | 5000  | 5400  | 5800  | 6800  |
|      | 11/32        | 80           | 800                         | 1560 | 2500  | 2900  | 3200  | 3500  | 4000  | 4400  | 4850  | 5750  |
|      | 5/16         | 125          | 660                         | 1200 | 1950  | 2450  | 2750  | 3100  | 3250  | 3500  | 4000  | 4800  |
|      | 9/32         | 180          | 550                         | 950  | 1500  | 1900  | 2200  | 2350  | 2700  | 2900  | 3250  | 3800  |
|      | 1/4          | 250          | 350                         | 580  | 1000  | 1250  | 1450  | 1800  | 2000  | 2200  | 2600  | 3150  |
| 25   | 3/4          | 15           | 3100                        | 4160 | 7600  | 9000  | 10000 | ----  | ----  | ----  | ----  | ----  |
|      | 9/16         | 30           | 1800                        | 2900 | 5200  | 6400  | 7700  | 8500  | 9200  | 9800  | ----  | ----  |
|      | 7/16         | 60           | 1400                        | 2200 | 3800  | 5000  | 6000  | 6600  | 7100  | 7600  | 8300  | 9500  |
|      | 3/8          | 100          | 1100                        | 1700 | 3000  | 3600  | 4500  | 5200  | 5800  | 6100  | 7000  | 8500  |
|      | 11/32        | 130          | 900                         | 1500 | 2600  | 3200  | 3900  | 4500  | 5000  | 5400  | 6200  | 7500  |
|      | 5/16         | 180          | 750                         | 1200 | 2100  | 2600  | 3200  | 3700  | 4100  | 4500  | 5400  | 6600  |
|      | 9/32         | 225          | 600                         | 970  | 1700  | 2100  | 2600  | 2950  | 3300  | 3600  | 4500  | 5400  |
|      | 1/4          | 250          | 400                         | 700  | 1200  | 1500  | 1900  | 2100  | 2400  | 2600  | 3200  | 3800  |
| 26   | 11/16        | 15           | 6240                        | 8400 | 14500 | 17300 | 19200 | ----  | ----  | ----  | ----  | ----  |
|      | 7/8          | 25           | 4100                        | 5490 | 10000 | 12930 | 15620 | 18500 | 20000 | ----  | ----  | ----  |
|      | 3/4          | 40           | 2900                        | 4500 | 8200  | 10600 | 12800 | 15000 | 16700 | 18000 | 20000 | ----  |
|      | 5/8          | 60           | 2100                        | 3500 | 6900  | 8700  | 10600 | 12100 | 13300 | 14250 | 16300 | 19800 |
|      | 9/16         | 80           | 1900                        | 3095 | 6000  | 7600  | 9300  | 10600 | 11700 | 12500 | 14300 | 17300 |
|      | 1/2          | 125          | 1600                        | 2600 | 5000  | 6400  | 7800  | 8900  | 9800  | 10500 | 12000 | 14500 |
|      | 7/16         | 180          | 1400                        | 2210 | 4180  | 5530  | 6640  | 7500  | 8490  | 9230  | 10450 | 12420 |
|      | 3/8          | 250          | 1000                        | 1800 | 3400  | 4500  | 5400  | 6100  | 6900  | 7500  | 8500  | 10100 |

# Dura-Flo 20 Series

**Table 1. Maximum Capacity - lbs/hr 10°F Below Saturation (continued)**

| TYPE | ORIFICE, In. | MAX. ΔP psig | DIFFERENTIAL PRESSURE, psig |       |       |       |       |       |       |       |       |       |
|------|--------------|--------------|-----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|      |              |              | 70                          | 80    | 100   | 125   | 130   | 150   | 180   | 200   | 225   | 250   |
| 21   | 1/4          | 15           | ----                        | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 3/16         | 30           | ----                        | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 5/32         | 70           | 950                         | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 1/8          | 125          | 760                         | 800   | 860   | 950   | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 7/64         | 200          | 580                         | 610   | 665   | 735   | 780   | 810   | 850   | 860   | ----  | ----  |
|      | 3/32         | 250          | 450                         | 470   | 520   | 575   | 585   | 620   | 670   | 700   | 730   | 760   |
| 22   | 5/16         | 15           | ----                        | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 1/4          | 30           | ----                        | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 3/16         | 70           | 2200                        | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 5/32         | 125          | 1550                        | 1650  | 1800  | 2000  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 1/8          | 200          | 1050                        | 1105  | 1225  | 1375  | 1410  | 1500  | 1560  | 1600  | ----  | ----  |
|      | 7/64         | 250          | 770                         | 810   | 900   | 1010  | 1020  | 1100  | 1170  | 1230  | 1280  | 1300  |
| 23   | 1/2          | 15           | ----                        | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 3/8          | 30           | ----                        | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 5/16         | 60           | ----                        | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 9/32         | 80           | 3800                        | 4000  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 1/4          | 125          | 3100                        | 3300  | 3600  | 3900  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 7/32         | 180          | 2695                        | 2820  | 3065  | 3185  | 3300  | 3500  | 3700  | ----  | ----  | ----  |
|      | 3/16         | 250          | 2200                        | 2300  | 2500  | 2600  | 2700  | 2800  | 3020  | 3200  | 3400  | 3500  |
| 24   | 5/8          | 15           | ----                        | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 1/2          | 30           | ----                        | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 3/8          | 60           | ----                        | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 11/32        | 80           | 6000                        | 6400  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 5/16         | 125          | 5250                        | 5600  | 6200  | 6700  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 9/32         | 180          | 4250                        | 4500  | 4800  | 5500  | 5600  | 5700  | 6000  | ----  | ----  | ----  |
|      | 1/4          | 250          | 3350                        | 3500  | 3800  | 4300  | 4450  | 4700  | 5000  | 5300  | 5500  | 5700  |
| 25   | 3/4          | 15           | ----                        | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 9/16         | 30           | ----                        | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 7/16         | 60           | ----                        | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 3/8          | 100          | 9200                        | 9700  | 10400 | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 11/32        | 130          | 8050                        | 8500  | 9600  | 10900 | 11000 | ----  | ----  | ----  | ----  | ----  |
|      | 5/16         | 180          | 7000                        | 7257  | 8118  | 8979  | 9041  | 9500  | 10000 | ----  | ----  | ----  |
|      | 9/32         | 225          | 5700                        | 5900  | 6600  | 7300  | 7350  | 7850  | 8400  | 9200  | 9800  | ----  |
|      | 1/4          | 250          | 4000                        | 4150  | 4600  | 5100  | 5150  | 5500  | 5950  | 6350  | 6650  | 7000  |
| 26   | 1-1/16       | 15           | ----                        | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 7/8          | 25           | ----                        | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 3/4          | 40           | ----                        | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 5/8          | 60           | ----                        | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 9/16         | 80           | 18300                       | 19000 | ----  | ----  | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 1/2          | 125          | 15400                       | 16300 | 18000 | 20000 | ----  | ----  | ----  | ----  | ----  | ----  |
|      | 7/16         | 180          | 13300                       | 14150 | 15750 | 17400 | 17900 | 18500 | 20000 | ----  | ----  | ----  |
|      | 3/8          | 250          | 10800                       | 11500 | 12800 | 14200 | 14300 | 15600 | 16900 | 17500 | 18500 | 19000 |

# Dura-Flo 20 Series

**Table 2. Maximum Capacity - kg/hr 5°C Below Saturation**

| TYPE | ORIFICE, mm | MAX. ΔP bar | DIFFERENTIAL PRESSURE, bar |      |      |      |      |      |      |      |      |      |
|------|-------------|-------------|----------------------------|------|------|------|------|------|------|------|------|------|
|      |             |             | 0.03                       | 0.07 | 0.34 | 0.69 | 1.03 | 1.38 | 1.72 | 2.07 | 2.76 | 4.14 |
| 21   | 6.35        | 1.03        | 136                        | 204  | 376  | 431  | 481  | ---- | ---- | ---- | ---- | ---- |
|      | 4.76        | 2.07        | 86                         | 136  | 245  | 304  | 349  | 399  | 431  | 454  |      |      |
|      | 3.97        | 4.83        | 45                         | 75   | 82   | 195  | 225  | 265  | 297  | 322  | 349  | 408  |
|      | 3.18        | 8.62        | 32                         | 59   | 100  | 154  | 177  | 209  | 234  | 254  | 277  | 322  |
|      | 2.78        | 13.79       | 0                          | 29   | 68   | 104  | 125  | 152  | 170  | 184  | 206  | 247  |
|      | 2.38        | 17.24       | 0                          | 0    | 45   | 68   | 86   | 109  | 122  | 132  | 154  | 191  |
| 22   | 7.94        | 1.03        | 259                        | 386  | 726  | 862  | 953  | ---- | ---- | ---- | ---- | ---- |
|      | 6.35        | 2.07        | 159                        | 227  | 431  | 626  | 739  | 816  | 862  | 930  | ---- | ---- |
|      | 4.76        | 4.83        | 113                        | 191  | 356  | 431  | 508  | 572  | 633  | 680  | 771  | 907  |
|      | 3.97        | 8.62        | 82                         | 136  | 254  | 308  | 363  | 408  | 451  | 485  | 553  | 653  |
|      | 3.18        | 13.79       | 45                         | 82   | 147  | 211  | 229  | 261  | 295  | 322  | 365  | 445  |
|      | 2.78        | 17.24       | 34                         | 59   | 109  | 154  | 168  | 191  | 218  | 236  | 268  | 327  |
| 23   | 12.70       | 1.03        | 640                        | 853  | 1315 | 1588 | 1769 | ---- | ---- | ---- | ---- | ---- |
|      | 9.53        | 2.07        | 449                        | 635  | 1043 | 1225 | 1497 | 1588 | 1724 | 1814 | ---- | ---- |
|      | 7.94        | 4.14        | 272                        | 426  | 785  | 928  | 1139 | 1281 | 1359 | 1422 | 1724 | 1996 |
|      | 7.14        | 5.52        | 231                        | 333  | 612  | 723  | 889  | 1000 | 1061 | 1111 | 1306 | 1583 |
|      | 6.35        | 8.62        | 175                        | 272  | 499  | 590  | 726  | 816  | 866  | 907  | 1066 | 1293 |
|      | 5.56        | 12.41       | 136                        | 222  | 390  | 528  | 612  | 723  | 846  | 946  | 1000 | 1139 |
|      | 4.76        | 17.24       | 116                        | 181  | 318  | 431  | 499  | 590  | 689  | 771  | 816  | 930  |
| 24   | 15.88       | 1.03        | 980                        | 1315 | 2177 | 2631 | 2948 | ---- | ---- | ---- | ---- | ---- |
|      | 12.70       | 2.07        | 658                        | 1021 | 1678 | 2155 | 2359 | 2722 | 2948 | 3084 | ---- | ---- |
|      | 9.53        | 4.14        | 476                        | 794  | 1338 | 1610 | 1814 | 2132 | 2268 | 2449 | 2631 | 3084 |
|      | 8.73        | 5.52        | 363                        | 708  | 1134 | 1315 | 1452 | 1588 | 1814 | 1996 | 2200 | 2608 |
|      | 7.94        | 8.62        | 299                        | 544  | 885  | 1111 | 1247 | 1406 | 1474 | 1588 | 1814 | 2177 |
|      | 7.14        | 12.41       | 249                        | 431  | 680  | 862  | 998  | 1066 | 1225 | 1315 | 1474 | 1724 |
|      | 6.35        | 17.24       | 159                        | 263  | 454  | 567  | 658  | 816  | 907  | 998  | 1179 | 1429 |
| 25   | 19.05       | 1.03        | 1406                       | 1887 | 3447 | 4082 | 4536 | ---- | ---- | ---- | ---- | ---- |
|      | 14.29       | 2.07        | 816                        | 1315 | 2359 | 2903 | 3493 | 3856 | 4173 | 4445 | ---- | ---- |
|      | 11.11       | 4.14        | 635                        | 998  | 1724 | 2268 | 2722 | 2994 | 3221 | 3447 | 3765 | 4309 |
|      | 9.53        | 6.90        | 499                        | 771  | 1361 | 1633 | 2041 | 2359 | 2631 | 2767 | 3175 | 3856 |
|      | 8.73        | 8.96        | 408                        | 680  | 1179 | 1452 | 1769 | 2041 | 2268 | 2449 | 2812 | 3402 |
|      | 7.94        | 12.41       | 340                        | 544  | 953  | 1179 | 1452 | 1678 | 1860 | 2041 | 2449 | 2994 |
|      | 7.14        | 15.51       | 272                        | 440  | 771  | 953  | 1179 | 1338 | 1497 | 1633 | 2041 | 2449 |
|      | 6.35        | 17.24       | 181                        | 318  | 544  | 680  | 862  | 953  | 1089 | 1179 | 1452 | 1724 |
| 26   | 26.99       | 1.03        | 2830                       | 3810 | 6577 | 7847 | 8709 | ---- | ---- | ---- | ---- | ---- |
|      | 22.23       | 1.72        | 1860                       | 2490 | 4536 | 5865 | 7085 | 8392 | 9072 | ---- | ---- | ---- |
|      | 19.05       | 2.76        | 1315                       | 2041 | 3720 | 4808 | 5806 | 6804 | 7575 | 8165 | 9072 | ---- |
|      | 15.88       | 4.14        | 953                        | 1588 | 3130 | 3946 | 4808 | 5489 | 6033 | 6464 | 7394 | 8981 |
|      | 14.29       | 5.52        | 862                        | 1404 | 2722 | 3447 | 4218 | 4808 | 5307 | 5670 | 6486 | 7847 |
|      | 12.70       | 8.62        | 726                        | 1179 | 2268 | 2903 | 3538 | 4037 | 4445 | 4763 | 5443 | 6577 |
|      | 11.11       | 12.41       | 635                        | 1002 | 1896 | 2508 | 3012 | 3402 | 3851 | 4187 | 4740 | 5634 |
|      | 9.53        | 17.24       | 454                        | 816  | 1542 | 2041 | 2449 | 2767 | 3130 | 3402 | 3856 | 4581 |

**Table 2. Maximum Capacity - kg/hr 5°C Below Saturation (continued)**

| TYPE | ORIFICE,<br>mm | MAX.<br>ΔP bar | DIFFERENTIAL PRESSURE, bar |      |      |      |      |      |      |      |      |      |      |
|------|----------------|----------------|----------------------------|------|------|------|------|------|------|------|------|------|------|
|      |                |                | 4.83                       | 5.52 | 6.90 | 8.62 | 8.96 | 10.3 | 12.4 | 13.8 | 15.5 | 17.2 |      |
| 21   | 6.35           | 1.03           | ----                       | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 4.76           | 2.07           | ----                       | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 3.97           | 4.83           | 431                        | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 3.18           | 8.62           | 345                        | 363  | 390  | 431  | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 2.78           | 13.79          | 263                        | 277  | 302  | 333  | 354  | 367  | 386  | 390  | ---- | ---- | ---- |
|      | 2.38           | 17.24          | 204                        | 213  | 236  | 261  | 265  | 281  | 304  | 318  | 331  | 345  | ---- |
| 22   | 7.94           | 1.03           | ----                       | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 6.35           | 2.07           | ----                       | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 4.76           | 4.83           | 998                        | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 3.97           | 8.62           | 703                        | 748  | 816  | 907  | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 3.18           | 13.79          | 476                        | 501  | 556  | 624  | 640  | 680  | 708  | 726  | ---- | ---- | ---- |
|      | 2.78           | 17.24          | 349                        | 367  | 408  | 458  | 463  | 499  | 531  | 558  | 581  | 590  | ---- |
| 23   | 12.70          | 1.03           | ----                       | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 9.53           | 2.07           | ----                       | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 7.94           | 4.14           | ----                       | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 7.14           | 5.52           | 1724                       | 1814 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 6.35           | 8.62           | 1406                       | 1497 | 1633 | 1769 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 5.56           | 12.41          | 1222                       | 1279 | 1390 | 1445 | 1497 | 1588 | 1678 | ---- | ---- | ---- | ---- |
|      | 4.76           | 17.24          | 998                        | 1043 | 1134 | 1179 | 1225 | 1270 | 1370 | 1452 | 1542 | 1588 | ---- |
| 24   | 15.88          | 1.03           | ----                       | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 12.70          | 2.07           | ----                       | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 9.53           | 4.14           | ----                       | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 8.73           | 5.52           | 2722                       | 2903 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 7.94           | 8.62           | 2381                       | 2540 | 2812 | 3039 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 7.14           | 12.41          | 1928                       | 2041 | 2177 | 2495 | 2540 | 2586 | 2722 | ---- | ---- | ---- | ---- |
|      | 6.35           | 17.24          | 1520                       | 1588 | 1724 | 1950 | 2019 | 2132 | 2268 | 2404 | 2495 | 2586 | ---- |
| 25   | 19.05          | 1.03           | ----                       | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 14.29          | 2.07           | ----                       | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 11.11          | 4.14           | ----                       | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 9.53           | 6.90           | 4173                       | 4400 | 4717 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 8.73           | 8.96           | 3651                       | 3856 | 4355 | 4944 | 4990 | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 7.94           | 12.41          | 3175                       | 3292 | 3682 | 4073 | 4101 | 4309 | 4536 | ---- | ---- | ---- | ---- |
|      | 7.14           | 15.51          | 2586                       | 2676 | 2994 | 3311 | 3334 | 3561 | 3810 | 4173 | 4445 | ---- | ---- |
|      | 6.35           | 17.24          | 1814                       | 1882 | 2087 | 2313 | 2336 | 2495 | 2699 | 2880 | 3016 | 3175 | ---- |
| 26   | 26.99          | 1.03           | ----                       | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 22.23          | 1.72           | ----                       | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 19.05          | 2.76           | ----                       | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 15.88          | 4.14           | ----                       | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 14.29          | 5.52           | 8301                       | 8618 | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 12.70          | 8.62           | 6985                       | 7394 | 8165 | 9072 | ---- | ---- | ---- | ---- | ---- | ---- | ---- |
|      | 11.11          | 12.41          | 6033                       | 6418 | 7144 | 7893 | 8119 | 8392 | 9072 | ---- | ---- | ---- | ---- |
|      | 9.53           | 17.24          | 4899                       | 5216 | 5806 | 6441 | 6486 | 7076 | 7666 | 7938 | 8392 | 8618 | ---- |

# Dura-Flo 20 Series

## Ordering Guide

### Available Configurations (Select One)

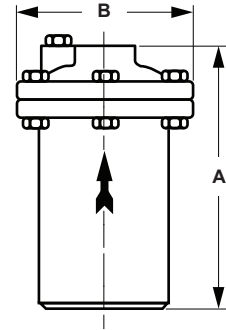
- Type 21
- Type 22
- Type 23
- Type 24
- Type 25
- Type 26

### Body Sizes (Select One)

- NPS 1/2 / DN 15
- NPS 3/4 / DN 20
- NPS 1 / DN 25
- NPS 1-1/4 / DN 32
- NPS 1-1/2 / DN 40
- NPS 2 / DN 50
- NPS 2-1/2 / DN 65

### Option

- Repair Kits



20 SERIES,  
VERTICAL

**Figure 6.** Dura-Flo 20 Series Inverted Bucket Steam Trap Dimension

**Table 3.** Dura-Flo Series Dimension

| TYPE | SIZE        |           | A        |     | B      |     | C    |      | Weight |      |
|------|-------------|-----------|----------|-----|--------|-----|------|------|--------|------|
|      | NPS         | DN        | in.      | mm  | in.    | mm  | in.  | mm   | lbs.   | kg   |
| 21   | 1/2         | 15        | 6-3/8    | 162 | 4-1/4  | 108 | ---- | ---- | 6.5    | 2.9  |
| 22   | 1/2 and 3/4 | 15 and 20 | 8        | 203 | 5-5/8  | 143 | ---- | ---- | 16     | 7.3  |
| 23   | 3/4 and 1   | 20 and 25 | 10-1/2   | 267 | 6-7/8  | 175 | ---- | ---- | 28     | 12.7 |
| 24   | 1 and 1-1/4 | 25 and 32 | 12-1/2   | 318 | 7-1/2  | 190 | ---- | ---- | 35     | 15.9 |
| 25   | 1 and 1-1/2 | 25 and 40 | 14-3/8   | 365 | 9-1/16 | 230 | ---- | ---- | 60     | 27.2 |
| 26   | 1/2 and 2   | 15 and 50 | 16-11/16 | 424 | 10-1/4 | 260 | ---- | ---- | 90     | 40.8 |

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