

# Series 4200

**Safety Valves for ASME Code Section I Boiler Applications**



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## Introduction

Farris Engineering, division of Curtiss-Wright Flow Control Corporation, a leader in the pressure relief valve industry for many years, now offers the 4200 Series. This ASME Code Section I certified safety valve is designed to meet your requirements for a dependable, cost effective, high capacity boiler safety valve.

This product is manufactured in our Brecksville, Ohio, ISO 9001 approved facility and meets all of the stringent requirements of ASME Code Section I. In addition, the 4200 Series safety valve is available at many of our FAST Centers (Farris Authorized Service Team) who are certified by the National Board of Boiler and Pressure Vessel Inspectors to assemble, set and test this new product.

## Warranty

All products manufactured by Farris Engineering are warranted free of defects in material and workmanship when used within the range recommended for a period of one year after installation or eighteen months from delivery. When authorized, any defective product may be returned to the Factory, and if found defective, will be repaired or replaced free of charge, solely at the discretion of Farris Engineering, ex-works our Factory. No charge for labor or other expense incurred will be allowed, as the liability of Farris Engineering is measured by the refund price of the defective product only.



## Numbering System

| <b>42</b>     | <b>F</b>                                                                                                   | <b>A</b>     | <b>1</b>                           | <b>2</b>                             | <b>-</b> | <b>1</b>                      | <b>7</b>     | <b>0</b>               |
|---------------|------------------------------------------------------------------------------------------------------------|--------------|------------------------------------|--------------------------------------|----------|-------------------------------|--------------|------------------------|
| Series Number | Orifice Area, Sq. In.                                                                                      | Seat Const.  | Temp. & Materials                  | Inlet Class <sup>1</sup>             |          | Inlet Facing                  | Cap Const.   | Test Gag               |
| 42            | F 0.316<br>G 0.518<br>H 0.809<br>J 1.325<br>K 1.897<br>L 2.938<br>M 3.822<br>N 4.471<br>P 6.573<br>Q 11.39 | A Metal Seat | 1 To 800 °F<br>3 801 °F to 1000 °F | 0 150 <sup>1</sup><br>2 300<br>3 600 |          | 1 Raised Face<br>9 Ring Joint | 7 Open Lever | 0 No Gag<br>1 Test Gag |

<sup>1</sup> Valves with 150# inlet flanges available on application. Consult the factory.

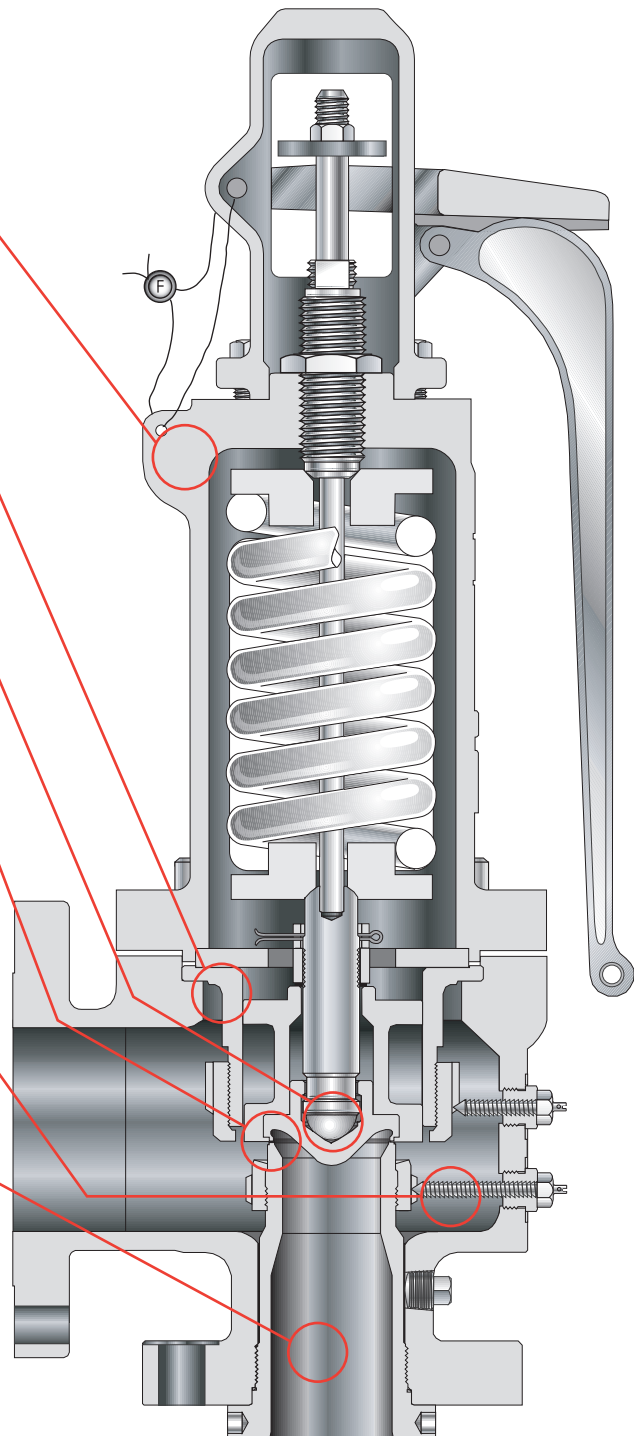
## Ordering Information

In order to assist you in the proper processing of your order, please specify the following information so that we may process your order as quickly and accurately as possible.

1. Quantity
2. Inlet and outlet sizes\*
3. Farris type number\*
4. Inlet and outlet flange class\*
5. Set pressure\*
6. Operating temperature\*
7. Relieving temperature\*
8. Allowable overpressure\*
9. Fluid and state\*
10. Required capacity\*
11. Materials of construction if other than standard
12. Accessories, such as test gag
13. Code requirements
14. Any special testing or documentation requirements

\*As a customer service, we verify your sizing and selection. To do this, we must have this information.

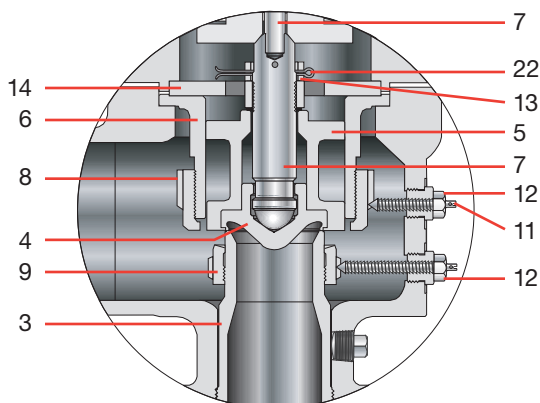
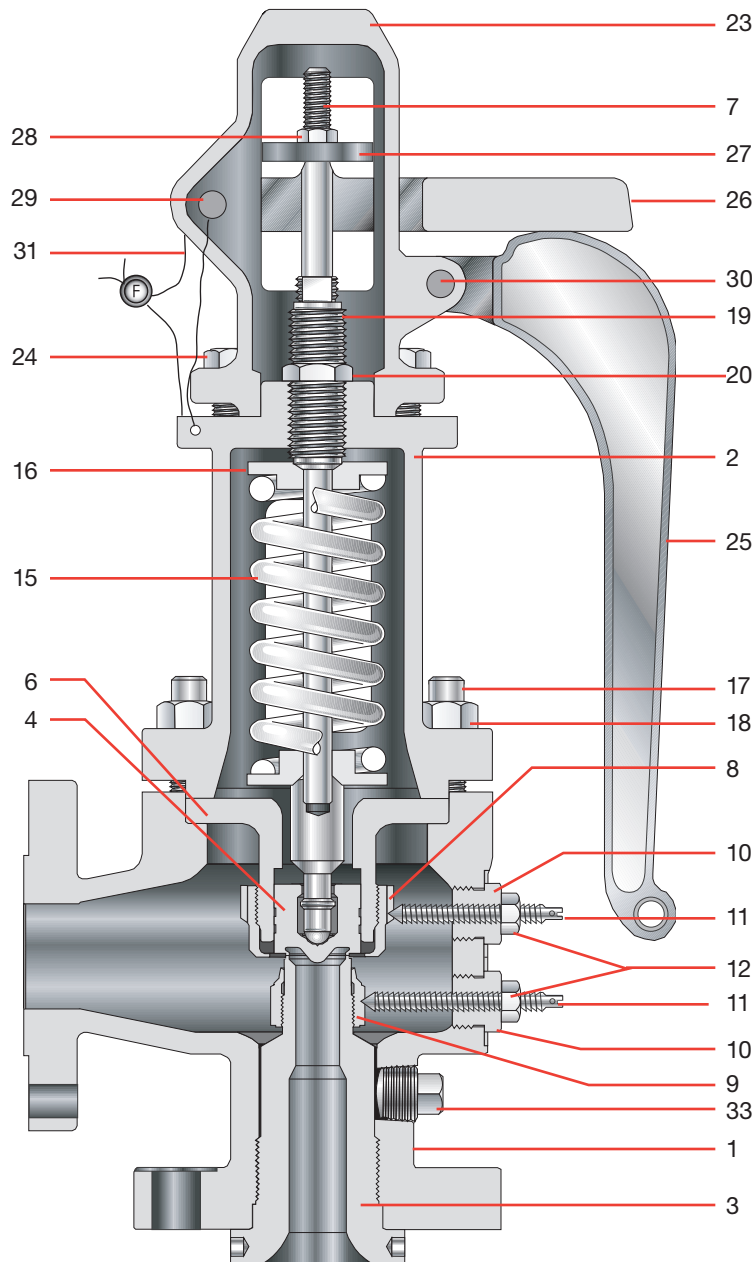
- **Feature:** Open bonnet design  
**Benefit:** Ensures proper spring cooling for stability and alignment
- **Feature:** One piece guide  
**Benefit:** Ensures precise alignment of valve components
- **Feature:** Low stem bearing point  
**Benefit:** Ensures accurate transmission of spring forces to the disc for greater seat tightness
- **Feature:** Temperature equalizing disc  
**Benefit:** Quickly conforms to any nozzle distortions experienced during a relief cycle and also assists in maintaining positive sealing
- **Feature:** Heavy stainless steel lock screw studs  
**Benefit:** For positive retention of adjusting ring positions
- **Feature:** Full nozzle design  
**Benefit:** For longer life and ease of maintenance. Nozzle easier to remove and service than designs using semi-nozzle construction.



## FAST Centers

Look for the FAST tag on every 4200 series safety valve. This tag is your assurance that every valve has been assembled and tested to the highest quality standards. Farris FAST Centers also provide ready access to replacement parts and valves as well as Factory trained personnel who can assist you with all of your pressure relief valve requirements.





**“L” to “Q” Orifice Detail**

## BILL OF MATERIALS

| Item | Part Name                                           | Material                                         |
|------|-----------------------------------------------------|--------------------------------------------------|
| 1    | Body (up to 800 °F)                                 | SA-216 GR. WCB<br>Carbon Steel                   |
|      | Body (801 °F to 1000 °F)                            | SA-217 GR.WC6 Alloy St.<br>(1 1/4 CR – 1/2 Moly) |
| 2    | Bonnet (Open)                                       | SA-216 GR. WCB<br>Carbon Steel                   |
| 3    | Nozzle                                              | 316 St. St.                                      |
| 4    | Disc                                                | Precipitation Hardened St. St.                   |
| 5    | Disc Holder (L to Q Orifice Only)<br>(up to 800 °F) | Stainless Steel                                  |
|      | (801 °F to 1000 °F)                                 | Monel                                            |
| 6    | Guide (Up to 800 °F)                                | Stainless Steel                                  |
|      | (801 °F to 1000 °F)                                 | Monel                                            |
| 7    | Stem                                                | Stainless Steel                                  |
| 8    | Adjusting Ring-Upper                                | Stainless Steel                                  |
| 9    | Adjusting Ring-Lower                                | Stainless Steel                                  |
| 10   | Lock Screw (Adj. Ring) (2)                          | Stainless Steel                                  |
| 11   | Lock Screw Stud (Adj. Ring) (2)                     | Stainless Steel                                  |
| 12   | Jam Nut, Lock Screw (2)                             | Stainless Steel                                  |
| 13   | Stem Collar                                         | Stainless Steel                                  |
| 14   | Lift Stop (L-Q only)                                | Stainless Steel                                  |
| 15   | Spring (Up to 1000 °F)                              | Chrome Alloy                                     |
| 16   | Spring Buttons                                      | Steel, Pltd.                                     |
| 17   | Body Stud                                           | ASME A193 Gr. B7 Alloy St.                       |
| 18   | Hex Nut, Body                                       | ASME A194 Gr. 2H Alloy St.                       |
| 19   | Spring Adjusting Screw                              | Stainless Steel                                  |
| 20   | Jam Nut, Spring Adj. Screw                          | Stainless Steel                                  |
| 21   | Spring Pin (Not Shown)                              | Steel                                            |
| 22   | Cotter Pin                                          | Steel, Pltd.                                     |
| 23   | Cap                                                 | Iron                                             |
| 24   | Cap Screw                                           | Steel                                            |
| 25   | Test Lever                                          | Iron                                             |
| 26   | Test Lever Fork                                     | Iron                                             |
| 27   | Stem Test Nut                                       | Stainless Steel                                  |
| 28   | Jam Nut, Stem                                       | Stainless Steel                                  |
| 29   | Round Head Rivet (Fork)                             | Steel                                            |
| 30   | Round Head Rivet (Lever)                            | Steel                                            |
| 31   | Wire Seal                                           | St. St. Wire / Lead Seal                         |
| 32   | Nameplate (Not Shown)                               | Stainless Steel                                  |
| 33   | Pipe Plug, Body                                     | Steel                                            |
| 34   | Cotter Pin (2) Fork & Lever<br>(Not Shown)          | Steel, Pltd.                                     |

Built in conformance to ASME Code  
Section I & Section VIII. Capacity certified  
by National Board (steam service).



# Selection Table

## US Customary System Units



| Orifice |                 | Valve Size<br>Inlet x Outlet | ANSI<br>Flange Class |              | Type<br>Number | Maximum Set Pressure, PSIG |       |       |       |       |       |       |        | Material                      |                    |
|---------|-----------------|------------------------------|----------------------|--------------|----------------|----------------------------|-------|-------|-------|-------|-------|-------|--------|-------------------------------|--------------------|
| Letter  | Area<br>sq. in. |                              | Inlet<br>RF          | Outlet<br>RF |                | 300°F                      | 400°F | 500°F | 600°F | 700°F | 800°F | 900°F | 1000°F | Body &<br>Bonnet <sup>2</sup> | Spring             |
| F       | 0.316           | 1 1/4 x 1 1/2                | 300#                 | 150#         | 42FA12-170     | 655                        | 635   | 605   | 570   | 530   | 410   | —     | —      | Carbon Steel                  | Chrome Alloy Steel |
|         |                 | 1 1/4 x 1 1/2                | 600#                 | 150#         | 42FA13-170     | 1000                       | 1000  | 1000  | 1000  | 1000  | 825   | —     | —      | Carbon Steel                  |                    |
|         |                 | 1 1/4 x 1 1/2                | 300#                 | 150#         | 42FA32-170     | —                          | —     | —     | —     | —     | 510   | 450   | 215    | Chrome Moly Steel             |                    |
|         |                 | 1 1/4 x 1 1/2                | 600#                 | 150#         | 42FA33-170     | —                          | —     | —     | —     | —     | 1000  | 900   | 430    | Chrome Moly Steel             |                    |
| G       | 0.518           | 1 1/4 x 1 1/2                | 300#                 | 150#         | 42GA12-170     | 655                        | 635   | 605   | 570   | 530   | 410   | —     | —      | Carbon Steel                  | Chrome Alloy Steel |
|         |                 | 1 1/4 x 1 1/2                | 600#                 | 150#         | 42GA13-170     | 1000                       | 1000  | 1000  | 1000  | 1000  | 825   | —     | —      | Carbon Steel                  |                    |
|         |                 | 1 1/4 x 1 1/2                | 300#                 | 150#         | 42GA32-170     | —                          | —     | —     | —     | —     | 510   | 450   | 215    | Chrome Moly Steel             |                    |
|         |                 | 1 1/4 x 1 1/2                | 600#                 | 150#         | 42GA33-170     | —                          | —     | —     | —     | —     | 1000  | 900   | 430    | Chrome Moly Steel             |                    |
| H       | 0.809           | 1 1/2 x 2 1/2                | 300#                 | 150#         | 42HA12-170     | 655                        | 635   | 605   | 570   | 530   | 410   | —     | —      | Carbon Steel                  | Chrome Alloy Steel |
|         |                 | 1 1/2 x 2 1/2                | 600#                 | 150#         | 42HA13-170     | 1000                       | 1000  | 1000  | 1000  | 1000  | 825   | —     | —      | Carbon Steel                  |                    |
|         |                 | 1 1/2 x 2 1/2                | 300#                 | 150#         | 42HA32-170     | —                          | —     | —     | —     | —     | 510   | 450   | 215    | Chrome Moly Steel             |                    |
|         |                 | 1 1/2 x 2 1/2                | 600#                 | 150#         | 42HA33-170     | —                          | —     | —     | —     | —     | 1000  | 900   | 430    | Chrome Moly Steel             |                    |
| J       | 1.325           | 1 1/2 x 2 1/2                | 300#                 | 150#         | 42JA12-170     | 655                        | 635   | 605   | 570   | 530   | 410   | —     | —      | Carbon Steel                  | Chrome Alloy Steel |
|         |                 | 1 1/2 x 2 1/2                | 600#                 | 150#         | 42JA13-170     | 1000                       | 1000  | 1000  | 1000  | 1000  | 825   | —     | —      | Carbon Steel                  |                    |
|         |                 | 1 1/2 x 2 1/2                | 300#                 | 150#         | 42JA32-170     | —                          | —     | —     | —     | —     | 510   | 450   | 215    | Chrome Moly Steel             |                    |
|         |                 | 1 1/2 x 2 1/2                | 600#                 | 150#         | 42JA33-170     | —                          | —     | —     | —     | —     | 1000  | 900   | 430    | Chrome Moly Steel             |                    |
| K       | 1.897           | 2 x 3                        | 300#                 | 150#         | 42KA12-170     | 655                        | 635   | 605   | 570   | 530   | 410   | —     | —      | Carbon Steel                  | Chrome Alloy Steel |
|         |                 | 2 x 3                        | 600#                 | 150#         | 42KA13-170     | 1000                       | 1000  | 1000  | 1000  | 1000  | 825   | —     | —      | Carbon Steel                  |                    |
|         |                 | 2 x 3                        | 300#                 | 150#         | 42KA32-170     | —                          | —     | —     | —     | —     | 510   | 450   | 215    | Chrome Moly Steel             |                    |
|         |                 | 2 x 3                        | 600#                 | 150#         | 42KA33-170     | —                          | —     | —     | —     | —     | 1000  | 900   | 430    | Chrome Moly Steel             |                    |
| L       | 2.938           | 2 1/2 x 4                    | 300#                 | 150#         | 42LA12-170     | 655                        | 635   | 605   | 570   | 530   | 410   | —     | —      | Carbon Steel                  | Chrome Alloy Steel |
|         |                 | 2 1/2 x 4                    | 600#                 | 150#         | 42LA13-170     | 1000                       | 1000  | 1000  | 1000  | 1000  | 825   | —     | —      | Carbon Steel                  |                    |
|         |                 | 2 1/2 x 4                    | 300#                 | 150#         | 42LA32-170     | —                          | —     | —     | —     | —     | 510   | 450   | 215    | Chrome Moly Steel             |                    |
|         |                 | 2 1/2 x 4                    | 600#                 | 150#         | 42LA33-170     | —                          | —     | —     | —     | —     | 1000  | 900   | 430    | Chrome Moly Steel             |                    |
| M       | 3.822           | 3 x 4                        | 300#                 | 150#         | 42MA12-170     | 655                        | 635   | 605   | 570   | 530   | 410   | —     | —      | Carbon Steel                  | Chrome Alloy Steel |
|         |                 | 3 x 4                        | 600#                 | 150#         | 42MA13-170     | 1000                       | 1000  | 1000  | 1000  | 1000  | 825   | —     | —      | Carbon Steel                  |                    |
|         |                 | 3 x 4                        | 300#                 | 150#         | 42MA32-170     | —                          | —     | —     | —     | —     | 510   | 450   | 215    | Chrome Moly Steel             |                    |
|         |                 | 3 x 4                        | 600#                 | 150#         | 42MA33-170     | —                          | —     | —     | —     | —     | 1000  | 900   | 430    | Chrome Moly Steel             |                    |
| N       | 4.471           | 4 x 6                        | 300#                 | 150#         | 42NA12-170     | 655                        | 635   | 605   | 570   | 530   | 410   | —     | —      | Carbon Steel                  | Chrome Alloy Steel |
|         |                 | 4 x 6                        | 600#                 | 150#         | 42NA13-170     | 1000                       | 1000  | 1000  | 1000  | 1000  | 825   | —     | —      | Carbon Steel                  |                    |
|         |                 | 4 x 6                        | 300#                 | 150#         | 42NA32-170     | —                          | —     | —     | —     | —     | 510   | 450   | 215    | Chrome Moly Steel             |                    |
|         |                 | 4 x 6                        | 600#                 | 150#         | 42NA33-170     | —                          | —     | —     | —     | —     | 1000  | 900   | 430    | Chrome Moly Steel             |                    |
| P       | 6.573           | 4 x 6                        | 300#                 | 150#         | 42PA12-170     | 655                        | 635   | 605   | 570   | 530   | 410   | —     | —      | Carbon Steel                  | Chrome Alloy Steel |
|         |                 | 4 x 6                        | 600#                 | 150#         | 42PA13-170     | 1000                       | 1000  | 1000  | 1000  | 1000  | 825   | —     | —      | Carbon Steel                  |                    |
|         |                 | 4 x 6                        | 300#                 | 150#         | 42PA32-170     | —                          | —     | —     | —     | —     | 510   | 450   | 215    | Chrome Moly Steel             |                    |
|         |                 | 4 x 6                        | 600#                 | 150#         | 42PA33-170     | —                          | —     | —     | —     | —     | 1000  | 900   | 430    | Chrome Moly Steel             |                    |
| Q       | 11.39           | 6 x 8                        | 300#                 | 150#         | 42QA12-170     | 655                        | 635   | 605   | 570   | 530   | 410   | —     | —      | Carbon Steel                  | Chrome Alloy Steel |
|         |                 | 6 x 8                        | 600#                 | 150#         | 42QA13-170     | 1000                       | 1000  | 1000  | 1000  | 1000  | 825   | —     | —      | Carbon Steel                  |                    |
|         |                 | 6 x 8                        | 300#                 | 150#         | 42QA32-170     | —                          | —     | —     | —     | —     | 510   | 450   | 215    | Chrome Moly Steel             |                    |
|         |                 | 6 x 8                        | 600#                 | 150#         | 42QA33-170     | —                          | —     | —     | —     | —     | 1000  | 900   | 430    | Chrome Moly Steel             |                    |

### General Notes:

1. Class 150# inlet flanges available on application. Consult the factory.
2. The open bonnet 4200 series uses a carbon steel bonnet for all temperature ranges.



# Selection Table

## Metric System Units

| Orifice |                 | Valve Size<br>Inlet x Outlet | ANSI<br>Flange Class |              | Type<br>Number | Maximum Set Pressure, barg |       |       |       |       |       |       |       | Material                      |                    |
|---------|-----------------|------------------------------|----------------------|--------------|----------------|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------------------------------|--------------------|
| Letter  | Area<br>sq. mm. |                              | Inlet<br>RF          | Outlet<br>RF |                | 149°C                      | 204°C | 260°C | 316°C | 371°C | 427°C | 482°C | 538°C | Body &<br>Bonnet <sup>2</sup> | Spring             |
| F       | 204             | 1 1/4 x 1 1/2                | 300#                 | 150#         | 42FA12-170     | 45.1                       | 43.8  | 41.7  | 39.3  | 36.5  | 28.3  | —     | —     | Carbon Steel                  | Chrome Alloy Steel |
|         |                 | 1 1/4 x 1 1/2                | 600#                 | 150#         | 42FA13-170     | 68.9                       | 68.9  | 68.9  | 68.9  | 68.9  | 56.9  | —     | —     | Carbon Steel                  |                    |
|         |                 | 1 1/4 x 1 1/2                | 300#                 | 150#         | 42FA32-170     | —                          | —     | —     | —     | —     | 35.2  | 31.0  | 14.8  | Chrome Moly Steel             |                    |
|         |                 | 1 1/4 x 1 1/2                | 600#                 | 150#         | 42FA33-170     | —                          | —     | —     | —     | —     | 68.9  | 62.0  | 29.6  | Chrome Moly Steel             |                    |
| G       | 334             | 1 1/4 x 1 1/2                | 300#                 | 150#         | 42GA12-170     | 45.1                       | 43.8  | 41.7  | 39.3  | 36.5  | 28.3  | —     | —     | Carbon Steel                  | Chrome Alloy Steel |
|         |                 | 1 1/4 x 1 1/2                | 600#                 | 150#         | 42GA13-170     | 68.9                       | 68.9  | 68.9  | 68.9  | 68.9  | 56.9  | —     | —     | Carbon Steel                  |                    |
|         |                 | 1 1/4 x 1 1/2                | 300#                 | 150#         | 42GA32-170     | —                          | —     | —     | —     | —     | 35.2  | 31.0  | 14.8  | Chrome Moly Steel             |                    |
|         |                 | 1 1/4 x 1 1/2                | 600#                 | 150#         | 42GA33-170     | —                          | —     | —     | —     | —     | 68.9  | 62.0  | 29.6  | Chrome Moly Steel             |                    |
| H       | 522             | 1 1/2 x 2 1/2                | 300#                 | 150#         | 42HA12-170     | 45.1                       | 43.8  | 41.7  | 39.3  | 36.5  | 28.3  | —     | —     | Carbon Steel                  | Chrome Alloy Steel |
|         |                 | 1 1/2 x 2 1/2                | 600#                 | 150#         | 42HA13-170     | 68.9                       | 68.9  | 68.9  | 68.9  | 68.9  | 56.9  | —     | —     | Carbon Steel                  |                    |
|         |                 | 1 1/2 x 2 1/2                | 300#                 | 150#         | 42HA32-170     | —                          | —     | —     | —     | —     | 35.2  | 31.0  | 14.8  | Chrome Moly Steel             |                    |
|         |                 | 1 1/2 x 2 1/2                | 600#                 | 150#         | 42HA33-170     | —                          | —     | —     | —     | —     | 68.9  | 62.0  | 29.6  | Chrome Moly Steel             |                    |
| J       | 855             | 1 1/2 x 2 1/2                | 300#                 | 150#         | 42JA12-170     | 45.1                       | 43.8  | 41.7  | 39.3  | 36.5  | 28.3  | —     | —     | Carbon Steel                  | Chrome Alloy Steel |
|         |                 | 1 1/2 x 2 1/2                | 600#                 | 150#         | 42JA13-170     | 68.9                       | 68.9  | 68.9  | 68.9  | 68.9  | 56.9  | —     | —     | Carbon Steel                  |                    |
|         |                 | 1 1/2 x 2 1/2                | 300#                 | 150#         | 42JA32-170     | —                          | —     | —     | —     | —     | 35.2  | 31.0  | 14.8  | Chrome Moly Steel             |                    |
|         |                 | 1 1/2 x 2 1/2                | 600#                 | 150#         | 42JA33-170     | —                          | —     | —     | —     | —     | 68.9  | 62.0  | 29.6  | Chrome Moly Steel             |                    |
| K       | 1224            | 2 x 3                        | 300#                 | 150#         | 42KA12-170     | 45.1                       | 43.8  | 41.7  | 39.3  | 36.5  | 28.3  | —     | —     | Carbon Steel                  | Chrome Alloy Steel |
|         |                 | 2 x 3                        | 600#                 | 150#         | 42KA13-170     | 68.9                       | 68.9  | 68.9  | 68.9  | 68.9  | 56.9  | —     | —     | Carbon Steel                  |                    |
|         |                 | 2 x 3                        | 300#                 | 150#         | 42KA32-170     | —                          | —     | —     | —     | —     | 35.2  | 31.0  | 14.8  | Chrome Moly Steel             |                    |
|         |                 | 2 x 3                        | 600#                 | 150#         | 42KA33-170     | —                          | —     | —     | —     | —     | 68.9  | 62.0  | 29.6  | Chrome Moly Steel             |                    |
| L       | 1895            | 2 1/2 x 4                    | 300#                 | 150#         | 42LA12-170     | 45.1                       | 43.8  | 41.7  | 39.3  | 36.5  | 28.3  | —     | —     | Carbon Steel                  | Chrome Alloy Steel |
|         |                 | 2 1/2 x 4                    | 600#                 | 150#         | 42LA13-170     | 68.9                       | 68.9  | 68.9  | 68.9  | 68.9  | 56.9  | —     | —     | Carbon Steel                  |                    |
|         |                 | 2 1/2 x 4                    | 300#                 | 150#         | 42LA32-170     | —                          | —     | —     | —     | —     | 35.2  | 31.0  | 14.8  | Chrome Moly Steel             |                    |
|         |                 | 2 1/2 x 4                    | 600#                 | 150#         | 42LA33-170     | —                          | —     | —     | —     | —     | 68.9  | 62.0  | 29.6  | Chrome Moly Steel             |                    |
| M       | 2466            | 3 x 4                        | 300#                 | 150#         | 42MA12-170     | 45.1                       | 43.8  | 41.7  | 39.3  | 36.5  | 28.3  | —     | —     | Carbon Steel                  | Chrome Alloy Steel |
|         |                 | 3 x 4                        | 600#                 | 150#         | 42MA13-170     | 68.9                       | 68.9  | 68.9  | 68.9  | 68.9  | 56.9  | —     | —     | Carbon Steel                  |                    |
|         |                 | 3 x 4                        | 300#                 | 150#         | 42MA32-170     | —                          | —     | —     | —     | —     | 35.2  | 31.0  | 14.8  | Chrome Moly Steel             |                    |
|         |                 | 3 x 4                        | 600#                 | 150#         | 42MA33-170     | —                          | —     | —     | —     | —     | 68.9  | 62.0  | 29.6  | Chrome Moly Steel             |                    |
| N       | 2885            | 4 x 6                        | 300#                 | 150#         | 42NA12-170     | 45.1                       | 43.8  | 41.7  | 39.3  | 36.5  | 28.3  | —     | —     | Carbon Steel                  | Chrome Alloy Steel |
|         |                 | 4 x 6                        | 600#                 | 150#         | 42NA13-170     | 68.9                       | 68.9  | 68.9  | 68.9  | 68.9  | 56.9  | —     | —     | Carbon Steel                  |                    |
|         |                 | 4 x 6                        | 300#                 | 150#         | 42NA32-170     | —                          | —     | —     | —     | —     | 35.2  | 31.0  | 14.8  | Chrome Moly Steel             |                    |
|         |                 | 4 x 6                        | 600#                 | 150#         | 42NA33-170     | —                          | —     | —     | —     | —     | 68.9  | 62.0  | 29.6  | Chrome Moly Steel             |                    |
| P       | 4241            | 4 x 6                        | 300#                 | 150#         | 42PA12-170     | 45.1                       | 43.8  | 41.7  | 39.3  | 36.5  | 28.3  | —     | —     | Carbon Steel                  | Chrome Alloy Steel |
|         |                 | 4 x 6                        | 600#                 | 150#         | 42PA13-170     | 68.9                       | 68.9  | 68.9  | 68.9  | 68.9  | 56.9  | —     | —     | Carbon Steel                  |                    |
|         |                 | 4 x 6                        | 300#                 | 150#         | 42PA32-170     | —                          | —     | —     | —     | —     | 35.2  | 31.0  | 14.8  | Chrome Moly Steel             |                    |
|         |                 | 4 x 6                        | 600#                 | 150#         | 42PA33-170     | —                          | —     | —     | —     | —     | 68.9  | 62.0  | 29.6  | Chrome Moly Steel             |                    |
| Q       | 7348            | 6 x 8                        | 300#                 | 150#         | 42QA12-170     | 45.1                       | 43.8  | 41.7  | 39.3  | 36.5  | 28.3  | —     | —     | Carbon Steel                  | Chrome Alloy Steel |
|         |                 | 6 x 8                        | 600#                 | 150#         | 42QA13-170     | 68.9                       | 68.9  | 68.9  | 68.9  | 68.9  | 56.9  | —     | —     | Carbon Steel                  |                    |
|         |                 | 6 x 8                        | 300#                 | 150#         | 42QA32-170     | —                          | —     | —     | —     | —     | 35.2  | 31.0  | 14.8  | Chrome Moly Steel             |                    |
|         |                 | 6 x 8                        | 600#                 | 150#         | 42QA33-170     | —                          | —     | —     | —     | —     | 68.9  | 62.0  | 29.6  | Chrome Moly Steel             |                    |

### General Notes:

1. Class 150# inlet flanges available on application. Consult the factory.
2. The open bonnet 4200 series uses a carbon steel bonnet for all temperature ranges.

# Steam Capacities: 3% Overpressure

## US Customary System Units



### ASME Pressure Vessel Code Section I, (V) Stamp: Capacities in Pounds per Hour at Saturation Temperature

| Set Pressure (psig) | Orifice Letter Designations & Areas, Square Inches |       |       |       |       |        |        |        |        |        |
|---------------------|----------------------------------------------------|-------|-------|-------|-------|--------|--------|--------|--------|--------|
|                     | F                                                  | G     | H     | J     | K     | L      | M      | N      | P      | Q      |
|                     | 0.316                                              | 0.518 | 0.809 | 1.325 | 1.897 | 2.938  | 3.822  | 4.471  | 6.573  | 11.39  |
| 15                  | 450                                                | 737   | 1151  | 1886  | 2700  | 4182   | 5440   | 6364   | 9357   | 16214  |
| 20                  | 521                                                | 853   | 1333  | 2183  | 3126  | 4842   | 6299   | 7368   | 10833  | 18772  |
| 40                  | 805                                                | 1318  | 2059  | 3373  | 4830  | 7480   | 9731   | 11384  | 16736  | 29002  |
| 60                  | 1088                                               | 1784  | 2786  | 4563  | 6534  | 10119  | 13164  | 15400  | 22640  | 39232  |
| 80                  | 1378                                               | 2258  | 3527  | 5777  | 8271  | 12811  | 16666  | 19496  | 28662  | 49666  |
| 100                 | 1670                                               | 2737  | 4276  | 7003  | 10026 | 15529  | 20201  | 23632  | 34742  | 60203  |
| 120                 | 1962                                               | 3217  | 5024  | 8229  | 11781 | 18247  | 23737  | 27768  | 40823  | 70740  |
| 140                 | 2254                                               | 3696  | 5772  | 9455  | 13536 | 20965  | 27273  | 31904  | 46904  | 81277  |
| 160                 | 2547                                               | 4175  | 6521  | 10680 | 15291 | 23683  | 30809  | 36040  | 52984  | 91814  |
| 180                 | 2839                                               | 4654  | 7269  | 11906 | 17046 | 26401  | 34344  | 40176  | 59065  | 102351 |
| 200                 | 3131                                               | 5133  | 8018  | 13132 | 18801 | 29119  | 37880  | 44312  | 65146  | 112888 |
| 220                 | 3424                                               | 5613  | 8766  | 14358 | 20556 | 31837  | 41416  | 48449  | 71227  | 123425 |
| 240                 | 3716                                               | 6092  | 9514  | 15583 | 22311 | 34555  | 44952  | 52585  | 77307  | 133962 |
| 260                 | 4008                                               | 6571  | 10263 | 16809 | 24066 | 37272  | 48487  | 56721  | 83388  | 144499 |
| 280                 | 4301                                               | 7050  | 11011 | 18035 | 25821 | 39990  | 52023  | 60857  | 89469  | 155036 |
| 300                 | 4593                                               | 7530  | 11760 | 19261 | 27576 | 42708  | 55559  | 64993  | 95549  | 165573 |
| 320                 | 4885                                               | 8009  | 12508 | 20486 | 29331 | 45426  | 59095  | 69129  | 101630 | 176110 |
| 340                 | 5178                                               | 8488  | 13257 | 21712 | 31086 | 48144  | 62630  | 73265  | 107711 | 186647 |
| 360                 | 5470                                               | 8967  | 14005 | 22938 | 32840 | 50862  | 66166  | 77402  | 113791 | 197184 |
| 380                 | 5762                                               | 9446  | 14753 | 24164 | 34596 | 53580  | 69702  | 81538  | 119872 | 207721 |
| 400                 | 6055                                               | 9926  | 15502 | 25389 | 36350 | 56298  | 73238  | 85674  | 125953 | 218257 |
| 420                 | 6347                                               | 10405 | 16250 | 26615 | 38105 | 59016  | 76773  | 89810  | 132034 | 228794 |
| 440                 | 6639                                               | 10884 | 16999 | 27841 | 39860 | 61734  | 80309  | 93946  | 138114 | 239331 |
| 460                 | 6932                                               | 11363 | 17747 | 29067 | 41615 | 64452  | 83845  | 98082  | 144195 | 249868 |
| 480                 | 7224                                               | 11842 | 18495 | 30293 | 43370 | 67170  | 87381  | 102218 | 150276 | 260405 |
| 500                 | 7516                                               | 12322 | 19244 | 31518 | 45125 | 69888  | 90916  | 106355 | 156356 | 270942 |
| 520                 | 7809                                               | 12801 | 19992 | 32744 | 46880 | 72606  | 94452  | 110491 | 162437 | 281479 |
| 540                 | 8101                                               | 13280 | 20741 | 33970 | 48635 | 75324  | 97988  | 114627 | 168518 | 292016 |
| 560                 | 8393                                               | 13759 | 21489 | 35196 | 50390 | 78042  | 101524 | 118763 | 174599 | 302553 |
| 580                 | 8686                                               | 14238 | 22237 | 36421 | 52145 | 80760  | 105059 | 122899 | 180679 | 313090 |
| 600                 | 8978                                               | 14718 | 22986 | 37647 | 53900 | 83478  | 108595 | 127035 | 186760 | 323627 |
| 620                 | 9270                                               | 15197 | 23734 | 38873 | 55654 | 86196  | 112131 | 131171 | 192841 | 334164 |
| 640                 | 9563                                               | 15676 | 24483 | 40099 | 57409 | 88914  | 115667 | 135308 | 198921 | 344701 |
| 660                 | 9855                                               | 16155 | 25231 | 41324 | 59164 | 91632  | 119202 | 139444 | 205002 | 355238 |
| 680                 | 10147                                              | 16634 | 25979 | 42550 | 60919 | 94350  | 122738 | 143580 | 211083 | 365775 |
| 700                 | 10440                                              | 17114 | 26728 | 43776 | 62674 | 97068  | 126274 | 147716 | 217164 | 376312 |
| 720                 | 10732                                              | 17593 | 27476 | 45002 | 64429 | 99785  | 129810 | 151852 | 223244 | 386849 |
| 740                 | 11024                                              | 18072 | 28225 | 46227 | 66184 | 102503 | 133345 | 155988 | 229325 | 397385 |
| 760                 | 11317                                              | 18551 | 28973 | 47453 | 67939 | 105221 | 136881 | 160124 | 235406 | 407922 |
| 780                 | 11609                                              | 19030 | 29722 | 48679 | 69694 | 107939 | 140417 | 164261 | 241486 | 418459 |
| 800                 | 11901                                              | 19510 | 30470 | 49905 | 71449 | 110657 | 143953 | 168397 | 247567 | 428996 |
| 820                 | 12194                                              | 19989 | 31218 | 51131 | 73204 | 113375 | 147488 | 172533 | 253648 | 439533 |
| 840                 | 12486                                              | 20468 | 31967 | 52356 | 74959 | 116093 | 151024 | 176669 | 259729 | 450070 |
| 860                 | 12778                                              | 20947 | 32715 | 53582 | 76714 | 118811 | 154560 | 180805 | 265809 | 460607 |
| 880                 | 13071                                              | 21426 | 33464 | 54808 | 78468 | 121529 | 158096 | 184941 | 271890 | 471144 |
| 900                 | 13363                                              | 21906 | 34212 | 56034 | 80223 | 124247 | 161631 | 189077 | 277971 | 481681 |
| 920                 | 13655                                              | 22385 | 34960 | 57259 | 81978 | 126965 | 165167 | 193214 | 284051 | 492218 |
| 940                 | 13948                                              | 22865 | 35709 | 58486 | 83734 | 129684 | 168703 | 197350 | 290133 | 502755 |
| 960                 | 14240                                              | 23343 | 36457 | 59711 | 85488 | 132401 | 172239 | 201486 | 296213 | 513292 |
| 980                 | 14532                                              | 23822 | 37206 | 60937 | 87243 | 135119 | 175774 | 205622 | 302294 | 523829 |
| 1000                | 14825                                              | 24302 | 37954 | 62162 | 88998 | 137837 | 179310 | 209758 | 308374 | 534366 |



# Steam Capacities: 3% Overpressure

## Metric System Units

ASME Pressure Vessel Code Section I, (V) Stamp: Capacities in Kilograms per Hour at Saturation Temperature

| Set Pressure (barg) | Orifice Letter Designations & Areas, sq. mm |       |       |       |       |       |       |       |        |        |
|---------------------|---------------------------------------------|-------|-------|-------|-------|-------|-------|-------|--------|--------|
|                     | F                                           | G     | H     | J     | K     | L     | M     | N     | P      | Q      |
|                     | 204                                         | 334   | 522   | 855   | 1224  | 1895  | 2466  | 2885  | 4241   | 7348   |
| 1                   | 200                                         | 329   | 514   | 842   | 1206  | 1868  | 2430  | 2843  | 4179   | 7242   |
| 2                   | 294                                         | 482   | 753   | 1234  | 1767  | 2737  | 3560  | 4165  | 6122   | 10609  |
| 3                   | 387                                         | 635   | 992   | 1626  | 2327  | 3605  | 4690  | 5486  | 8066   | 13977  |
| 4                   | 481                                         | 788   | 1232  | 2018  | 2889  | 4474  | 5820  | 6808  | 10009  | 17344  |
| 5                   | 576                                         | 943   | 1474  | 2414  | 3456  | 5353  | 6964  | 8146  | 11976  | 20753  |
| 6                   | 672                                         | 1101  | 1720  | 2817  | 4034  | 6247  | 8128  | 9507  | 13978  | 24221  |
| 7                   | 768                                         | 1259  | 1966  | 3221  | 4612  | 7142  | 9292  | 10869 | 15979  | 27690  |
| 8                   | 864                                         | 1417  | 2213  | 3624  | 5189  | 8037  | 10455 | 12230 | 17981  | 31158  |
| 9                   | 960                                         | 1574  | 2459  | 4028  | 5767  | 8932  | 11619 | 13592 | 19982  | 34627  |
| 10                  | 1057                                        | 1732  | 2706  | 4431  | 6345  | 9826  | 12783 | 14954 | 21984  | 38095  |
| 11                  | 1153                                        | 1890  | 2952  | 4835  | 6922  | 10721 | 13947 | 16315 | 23985  | 41564  |
| 12                  | 1249                                        | 2048  | 3198  | 5238  | 7500  | 11616 | 15111 | 17677 | 25987  | 45032  |
| 13                  | 1345                                        | 2205  | 3445  | 5642  | 8078  | 12510 | 16275 | 19038 | 27989  | 48501  |
| 14                  | 1442                                        | 2363  | 3691  | 6046  | 8655  | 13405 | 17439 | 20400 | 29991  | 51969  |
| 15                  | 1538                                        | 2521  | 3937  | 6449  | 9233  | 14300 | 18602 | 21761 | 31992  | 55438  |
| 16                  | 1634                                        | 2679  | 4184  | 6853  | 9810  | 15194 | 19766 | 23123 | 33994  | 58906  |
| 17                  | 1730                                        | 2836  | 4430  | 7256  | 10388 | 16089 | 20930 | 24484 | 35995  | 62375  |
| 18                  | 1827                                        | 2994  | 4677  | 7659  | 10966 | 16984 | 22094 | 25846 | 37997  | 65843  |
| 19                  | 1923                                        | 3152  | 4923  | 8063  | 11544 | 17878 | 23258 | 27207 | 39998  | 69311  |
| 20                  | 2019                                        | 3310  | 5169  | 8466  | 12121 | 18773 | 24422 | 28569 | 42000  | 72780  |
| 21                  | 2115                                        | 3467  | 5416  | 8870  | 12699 | 19668 | 25586 | 29930 | 44002  | 76248  |
| 22                  | 2211                                        | 3625  | 5662  | 9273  | 13276 | 20563 | 26749 | 31292 | 46003  | 79717  |
| 23                  | 2307                                        | 3783  | 5908  | 9677  | 13854 | 21457 | 27913 | 32653 | 48005  | 83185  |
| 24                  | 2404                                        | 3941  | 6154  | 10080 | 14432 | 22352 | 29077 | 34015 | 50007  | 86654  |
| 25                  | 2500                                        | 4098  | 6401  | 10484 | 15010 | 23247 | 30241 | 35376 | 52008  | 90122  |
| 26                  | 2596                                        | 4256  | 6647  | 10887 | 15588 | 24141 | 31405 | 36738 | 54010  | 93591  |
| 27                  | 2693                                        | 4414  | 6894  | 11291 | 16165 | 25036 | 32569 | 38099 | 56011  | 97059  |
| 28                  | 2789                                        | 4572  | 7140  | 11694 | 16743 | 25930 | 33733 | 39461 | 58013  | 100528 |
| 29                  | 2885                                        | 4729  | 7386  | 12098 | 17320 | 26825 | 34896 | 40822 | 60014  | 103996 |
| 30                  | 2981                                        | 4887  | 7633  | 12501 | 17898 | 27720 | 36060 | 42184 | 62016  | 107364 |
| 31                  | 3078                                        | 5045  | 7879  | 12904 | 18476 | 28614 | 37224 | 43545 | 64018  | 110933 |
| 32                  | 3174                                        | 5203  | 8125  | 13308 | 19053 | 29509 | 38388 | 44907 | 66019  | 114402 |
| 33                  | 3270                                        | 5360  | 8372  | 13711 | 19631 | 30404 | 39552 | 46268 | 68021  | 117870 |
| 34                  | 3366                                        | 5518  | 8618  | 14115 | 20209 | 31298 | 40716 | 47630 | 70023  | 121338 |
| 35                  | 3462                                        | 5676  | 8865  | 14519 | 20786 | 32193 | 41880 | 48991 | 72024  | 124807 |
| 36                  | 3558                                        | 5834  | 9111  | 14922 | 21364 | 33088 | 43043 | 50353 | 74026  | 128275 |
| 37                  | 3655                                        | 5991  | 9357  | 15326 | 21942 | 33983 | 44207 | 51714 | 76027  | 131744 |
| 38                  | 3751                                        | 6149  | 9604  | 15729 | 22519 | 34877 | 45371 | 53076 | 78029  | 135212 |
| 39                  | 3847                                        | 6307  | 9850  | 16133 | 23097 | 35772 | 46535 | 54437 | 80030  | 138681 |
| 40                  | 3944                                        | 6465  | 10096 | 16536 | 23675 | 36667 | 47699 | 55799 | 82032  | 142150 |
| 41                  | 4040                                        | 6622  | 10343 | 16940 | 24253 | 37561 | 48863 | 57160 | 84034  | 145618 |
| 42                  | 4136                                        | 6780  | 10589 | 17343 | 24830 | 38456 | 50027 | 58522 | 86035  | 149087 |
| 43                  | 4232                                        | 6938  | 10835 | 17747 | 25408 | 39351 | 51191 | 59883 | 88037  | 152555 |
| 44                  | 4328                                        | 7096  | 11082 | 18150 | 25985 | 40245 | 52355 | 61245 | 90039  | 156023 |
| 45                  | 4425                                        | 7253  | 11328 | 18554 | 26563 | 41140 | 53518 | 62606 | 92040  | 159492 |
| 46                  | 4521                                        | 7411  | 11575 | 18957 | 27141 | 42035 | 54682 | 63968 | 94042  | 162960 |
| 47                  | 4617                                        | 7569  | 11821 | 19361 | 27719 | 42929 | 55846 | 65329 | 96043  | 166429 |
| 48                  | 4713                                        | 7727  | 12067 | 19764 | 28296 | 43824 | 57010 | 66691 | 98045  | 169897 |
| 49                  | 4810                                        | 7884  | 12313 | 20168 | 28874 | 44719 | 58174 | 68052 | 100046 | 173365 |
| 50                  | 4906                                        | 8042  | 12560 | 20571 | 29451 | 45614 | 59338 | 69414 | 102048 | 176834 |
| 51                  | 5002                                        | 8200  | 12806 | 20974 | 30029 | 46508 | 60502 | 70775 | 104050 | 180303 |
| 52                  | 5098                                        | 8358  | 13052 | 21378 | 30607 | 47403 | 61666 | 72137 | 106052 | 183771 |
| 53                  | 5195                                        | 8515  | 13299 | 21781 | 31185 | 48298 | 62829 | 73498 | 108053 | 187240 |
| 54                  | 5291                                        | 8673  | 13545 | 22185 | 31762 | 49192 | 63993 | 74860 | 110055 | 190708 |
| 55                  | 5387                                        | 8831  | 13792 | 22588 | 32340 | 50087 | 65157 | 76222 | 112056 | 194177 |
| 56                  | 5483                                        | 8989  | 14038 | 22992 | 32917 | 50981 | 66321 | 77583 | 114058 | 197645 |
| 57                  | 5579                                        | 9146  | 14284 | 23395 | 33495 | 51876 | 67485 | 78945 | 116059 | 201114 |
| 58                  | 5675                                        | 9304  | 14531 | 23799 | 34073 | 52771 | 68649 | 80306 | 118061 | 204582 |
| 59                  | 5772                                        | 9462  | 14777 | 24202 | 34651 | 53665 | 69813 | 81668 | 120063 | 208050 |
| 60                  | 5868                                        | 9619  | 15023 | 24606 | 35228 | 54560 | 70977 | 83029 | 122064 | 211519 |
| 61                  | 5964                                        | 9777  | 15270 | 25009 | 35806 | 55455 | 72141 | 84390 | 124066 | 214987 |
| 62                  | 6061                                        | 9935  | 15516 | 25413 | 36384 | 56349 | 73304 | 85752 | 126068 | 218456 |
| 63                  | 6157                                        | 10093 | 15763 | 25816 | 36961 | 57244 | 74468 | 87113 | 128069 | 221924 |
| 64                  | 6253                                        | 10250 | 16009 | 26220 | 37539 | 58139 | 75632 | 88475 | 130071 | 225393 |
| 65                  | 6349                                        | 10408 | 16255 | 26623 | 38116 | 59034 | 76796 | 89836 | 132072 | 228861 |
| 66                  | 6446                                        | 10566 | 16502 | 27027 | 38694 | 59928 | 77960 | 91198 | 134074 | 232330 |
| 67                  | 6542                                        | 10724 | 16748 | 27430 | 39272 | 60823 | 79124 | 92559 | 136075 | 235798 |
| 68                  | 6638                                        | 10881 | 16994 | 27834 | 39850 | 61718 | 80288 | 18318 | 138077 | 239267 |
| 69                  | 6734                                        | 11039 | 17240 | 28237 | 40427 | 62517 | 81398 | 95220 | 139987 | 242576 |

# Steam Capacities: 10% Overpressure

## US Customary System Units



### ASME Pressure Vessel Code Section VIII, (UV) Stamp: Capacities in Pounds per Hour at Saturation Temperature

| Set Pressure (psig) | Orifice Letter Designations & Areas, Square Inches |       |       |       |       |        |        |        |        |        |
|---------------------|----------------------------------------------------|-------|-------|-------|-------|--------|--------|--------|--------|--------|
|                     | F                                                  | G     | H     | J     | K     | L      | M      | N      | P      | Q      |
|                     | 0.316                                              | 0.518 | 0.809 | 1.325 | 1.897 | 2.938  | 3.822  | 4.471  | 6.573  | 11.39  |
| 15                  | 464                                                | 760   | 1188  | 1945  | 2785  | 4314   | 5612   | 6565   | 9652   | 16726  |
| 20                  | 534                                                | 876   | 1369  | 2243  | 3211  | 4974   | 6470   | 7569   | 11128  | 19283  |
| 40                  | 833                                                | 1365  | 2132  | 3492  | 5000  | 7744   | 10075  | 11786  | 17327  | 30025  |
| 60                  | 1145                                               | 1877  | 2931  | 4801  | 6874  | 10647  | 13851  | 16203  | 23821  | 41278  |
| 80                  | 1457                                               | 2389  | 3731  | 6110  | 8749  | 13550  | 17627  | 20620  | 30315  | 52531  |
| 100                 | 1769                                               | 2900  | 4530  | 7420  | 10623 | 16452  | 21403  | 25037  | 36808  | 63784  |
| 120                 | 2081                                               | 3412  | 5329  | 8729  | 12497 | 19355  | 25179  | 29454  | 43302  | 75037  |
| 140                 | 2394                                               | 3924  | 6128  | 10038 | 14371 | 22258  | 28955  | 33872  | 49796  | 86290  |
| 160                 | 2706                                               | 4436  | 6928  | 11347 | 16245 | 25160  | 32731  | 38289  | 56290  | 97543  |
| 180                 | 3018                                               | 4947  | 7727  | 12656 | 18120 | 28063  | 36507  | 42706  | 62784  | 108796 |
| 200                 | 3330                                               | 5459  | 8526  | 13965 | 19994 | 30966  | 40283  | 47123  | 69278  | 120049 |
| 220                 | 3642                                               | 5971  | 9326  | 15274 | 21868 | 33868  | 44059  | 51541  | 75772  | 131302 |
| 240                 | 3955                                               | 6483  | 10125 | 16583 | 23742 | 36771  | 47835  | 55958  | 82266  | 142555 |
| 260                 | 4267                                               | 6994  | 10924 | 17892 | 25616 | 39674  | 51611  | 60375  | 88760  | 153808 |
| 280                 | 4579                                               | 7506  | 11723 | 19201 | 27490 | 42576  | 55387  | 64792  | 95254  | 165061 |
| 300                 | 4891                                               | 8018  | 12523 | 20510 | 29365 | 45479  | 59163  | 69210  | 101748 | 176314 |
| 320                 | 5203                                               | 8530  | 13322 | 21819 | 31239 | 48382  | 62939  | 73627  | 108242 | 187567 |
| 340                 | 5516                                               | 9042  | 14121 | 23128 | 33113 | 51284  | 66715  | 78044  | 114736 | 198820 |
| 360                 | 5828                                               | 9553  | 14920 | 24437 | 34987 | 54187  | 70491  | 82461  | 121230 | 210073 |
| 380                 | 6140                                               | 10065 | 15720 | 25746 | 36861 | 57090  | 74267  | 86879  | 127724 | 221326 |
| 400                 | 6452                                               | 10577 | 16519 | 27056 | 38736 | 59992  | 78043  | 91296  | 134218 | 232580 |
| 420                 | 6764                                               | 11089 | 17318 | 28365 | 40610 | 62895  | 81820  | 95713  | 140712 | 243833 |
| 440                 | 7077                                               | 11600 | 18118 | 29674 | 42484 | 65798  | 85596  | 100130 | 147206 | 255086 |
| 460                 | 7389                                               | 12112 | 18917 | 30983 | 44358 | 68701  | 89372  | 104548 | 153700 | 266339 |
| 480                 | 7701                                               | 12624 | 19716 | 32292 | 46232 | 71603  | 93148  | 108965 | 160194 | 277592 |
| 500                 | 8013                                               | 13136 | 20515 | 33601 | 48107 | 74506  | 96924  | 113382 | 166688 | 288845 |
| 520                 | 8325                                               | 13648 | 21315 | 34910 | 49981 | 77409  | 100700 | 117799 | 173182 | 300098 |
| 540                 | 8638                                               | 14159 | 22114 | 36219 | 51855 | 80311  | 104476 | 122217 | 179676 | 311351 |
| 560                 | 8950                                               | 14671 | 22913 | 37528 | 53729 | 83214  | 108252 | 126634 | 186170 | 322604 |
| 580                 | 9262                                               | 15183 | 23712 | 38837 | 55603 | 86117  | 112028 | 131051 | 192664 | 333857 |
| 600                 | 9574                                               | 15695 | 24512 | 40146 | 57478 | 89019  | 115804 | 135468 | 199158 | 345110 |
| 620                 | 9886                                               | 16206 | 25311 | 41455 | 59352 | 91922  | 119580 | 139885 | 205652 | 356363 |
| 640                 | 10199                                              | 16718 | 26110 | 42764 | 61226 | 94825  | 123356 | 144303 | 212146 | 367616 |
| 660                 | 10511                                              | 17230 | 26910 | 44073 | 63100 | 97727  | 127132 | 148720 | 218640 | 378869 |
| 680                 | 10823                                              | 17742 | 27709 | 45383 | 64974 | 100630 | 130908 | 153137 | 225134 | 390122 |
| 700                 | 11135                                              | 18253 | 28508 | 46692 | 66848 | 103533 | 134684 | 157554 | 231627 | 401375 |
| 720                 | 10426                                              | 18765 | 29307 | 48001 | 68723 | 106435 | 138460 | 161972 | 238121 | 412628 |
| 740                 | 11760                                              | 19277 | 30107 | 49310 | 70597 | 109338 | 142236 | 166389 | 244615 | 423881 |
| 760                 | 12072                                              | 19789 | 30906 | 50619 | 72471 | 112241 | 146012 | 170806 | 251109 | 435134 |
| 780                 | 12384                                              | 20301 | 31705 | 51928 | 74345 | 115143 | 149788 | 175223 | 257603 | 446387 |
| 800                 | 12696                                              | 20812 | 32504 | 53237 | 76219 | 118046 | 153564 | 179641 | 264097 | 457640 |
| 820                 | 13008                                              | 21324 | 33304 | 54546 | 78094 | 120949 | 157340 | 184058 | 270591 | 468893 |
| 840                 | 13321                                              | 21836 | 34103 | 55855 | 79968 | 123851 | 161116 | 188475 | 277085 | 480147 |
| 860                 | 13633                                              | 22348 | 34902 | 57164 | 81842 | 126754 | 164892 | 192892 | 283579 | 491400 |
| 880                 | 13945                                              | 22859 | 35702 | 58473 | 83716 | 129657 | 168669 | 197310 | 290073 | 502653 |
| 900                 | 14257                                              | 23371 | 36501 | 59782 | 85590 | 132559 | 172445 | 201727 | 296567 | 513906 |
| 920                 | 14569                                              | 23883 | 37300 | 61091 | 87465 | 135462 | 176221 | 206144 | 303061 | 525159 |
| 940                 | 14882                                              | 24395 | 38099 | 62400 | 89339 | 138365 | 179997 | 210561 | 309555 | 536412 |
| 960                 | 15194                                              | 24906 | 38899 | 63709 | 91213 | 141267 | 183773 | 214979 | 316049 | 547665 |
| 980                 | 15506                                              | 25418 | 39698 | 65019 | 93087 | 144170 | 187549 | 219396 | 322543 | 558918 |
| 1000                | 15818                                              | 25930 | 40497 | 66328 | 94961 | 147073 | 191325 | 223813 | 329037 | 570171 |



# Steam Capacities: 10% Overpressure

## Metric System Units

ASME Pressure Vessel Code Section VIII, (UV) Stamp: Capacities in Kilograms per Hour at Saturation Temperature

| Set Pressure (barg) | Orifice Letter Designations & Areas, sq mm |       |       |       |       |       |       |        |        |        |
|---------------------|--------------------------------------------|-------|-------|-------|-------|-------|-------|--------|--------|--------|
|                     | F                                          | G     | H     | J     | K     | L     | M     | N      | P      | Q      |
|                     | 204                                        | 334   | 522   | 855   | 1224  | 1895  | 2466  | 2885   | 4241   | 7348   |
| 1                   | 207                                        | 340   | 531   | 869   | 1245  | 1928  | 2508  | 2934   | 4313   | 7474   |
| 2                   | 301                                        | 493   | 770   | 1261  | 1805  | 2796  | 3638  | 4256   | 6257   | 10841  |
| 3                   | 403                                        | 660   | 1031  | 1689  | 2419  | 3746  | 4873  | 5701   | 8381   | 14523  |
| 4                   | 505                                        | 829   | 1295  | 2120  | 3035  | 4702  | 6116  | 7155   | 10519  | 18227  |
| 5                   | 608                                        | 997   | 1558  | 2551  | 3652  | 5657  | 7359  | 8609   | 12656  | 21932  |
| 6                   | 711                                        | 1166  | 1821  | 2982  | 4269  | 6613  | 8602  | 10063  | 14794  | 25636  |
| 7                   | 814                                        | 1334  | 2084  | 3413  | 4886  | 7568  | 9845  | 11517  | 16932  | 29340  |
| 8                   | 917                                        | 1503  | 2347  | 3844  | 5503  | 8524  | 11088 | 12971  | 19069  | 33044  |
| 9                   | 1019                                       | 1671  | 2610  | 4275  | 6120  | 9479  | 12331 | 14425  | 21207  | 36748  |
| 10                  | 1122                                       | 1839  | 2873  | 4706  | 6737  | 10434 | 13574 | 15879  | 23345  | 40453  |
| 11                  | 1225                                       | 2008  | 3136  | 5137  | 7354  | 11390 | 14817 | 17333  | 25482  | 44157  |
| 12                  | 1328                                       | 2176  | 3399  | 5567  | 7971  | 12345 | 16060 | 18787  | 27620  | 47861  |
| 13                  | 1430                                       | 2345  | 3662  | 5998  | 8588  | 13301 | 17303 | 20241  | 29757  | 51565  |
| 14                  | 1533                                       | 2513  | 3925  | 6429  | 9205  | 14256 | 18546 | 21695  | 31895  | 55269  |
| 15                  | 1636                                       | 2682  | 4189  | 6860  | 9822  | 15212 | 19789 | 23149  | 34033  | 58973  |
| 16                  | 1739                                       | 2850  | 4452  | 7291  | 10439 | 16167 | 21032 | 24603  | 36170  | 62678  |
| 17                  | 1842                                       | 3019  | 4715  | 7722  | 11056 | 17122 | 22275 | 26057  | 38308  | 66382  |
| 18                  | 1944                                       | 3187  | 4978  | 8153  | 11672 | 18078 | 23518 | 27511  | 40445  | 70086  |
| 19                  | 2047                                       | 3356  | 5241  | 8584  | 12289 | 19034 | 24761 | 28965  | 42583  | 73790  |
| 20                  | 2150                                       | 3524  | 5504  | 9015  | 12906 | 19989 | 26004 | 30419  | 44721  | 77494  |
| 21                  | 2253                                       | 3693  | 5767  | 9446  | 13523 | 20945 | 27247 | 31873  | 46858  | 81198  |
| 22                  | 2355                                       | 3861  | 6030  | 9877  | 14141 | 21900 | 28490 | 33327  | 48996  | 84903  |
| 23                  | 2458                                       | 4029  | 6293  | 10308 | 14757 | 22856 | 29733 | 34782  | 51134  | 88607  |
| 24                  | 2561                                       | 4198  | 6556  | 10739 | 15374 | 23811 | 30975 | 36235  | 53271  | 92311  |
| 25                  | 2664                                       | 4366  | 6819  | 11169 | 15991 | 24767 | 32218 | 37690  | 55409  | 96015  |
| 26                  | 2767                                       | 4535  | 7083  | 11600 | 16608 | 25722 | 33462 | 39143  | 57546  | 99719  |
| 27                  | 2869                                       | 4703  | 7346  | 12031 | 17225 | 26678 | 34704 | 40598  | 59684  | 103424 |
| 28                  | 2972                                       | 4872  | 7609  | 12462 | 17842 | 27633 | 35947 | 42051  | 61822  | 107128 |
| 29                  | 3075                                       | 5040  | 7872  | 12893 | 18459 | 28589 | 37190 | 43506  | 63959  | 110832 |
| 30                  | 3177                                       | 5209  | 8135  | 13324 | 19076 | 29544 | 38434 | 44959  | 66097  | 114732 |
| 31                  | 3280                                       | 5377  | 8398  | 13755 | 19693 | 30500 | 39676 | 46414  | 68235  | 118240 |
| 32                  | 3383                                       | 5546  | 8661  | 14185 | 20309 | 31455 | 40919 | 47868  | 70372  | 121945 |
| 33                  | 3486                                       | 5714  | 8924  | 14616 | 20926 | 32411 | 42162 | 49322  | 72510  | 125649 |
| 34                  | 3588                                       | 5883  | 9187  | 15047 | 21544 | 33366 | 43405 | 50776  | 74648  | 129353 |
| 35                  | 3691                                       | 6051  | 9450  | 15478 | 22161 | 34321 | 44648 | 52230  | 76785  | 133057 |
| 36                  | 3794                                       | 6219  | 9713  | 15909 | 22778 | 35277 | 45891 | 53684  | 78923  | 136761 |
| 37                  | 3897                                       | 6388  | 9976  | 16340 | 23394 | 36232 | 47134 | 55138  | 81061  | 140466 |
| 38                  | 3999                                       | 6556  | 10240 | 16771 | 24011 | 37188 | 48377 | 56592  | 83198  | 144170 |
| 39                  | 4102                                       | 6725  | 10503 | 17202 | 24628 | 38143 | 49620 | 58046  | 85336  | 147874 |
| 40                  | 4205                                       | 6893  | 10766 | 17633 | 25245 | 39099 | 50863 | 59500  | 87474  | 151578 |
| 41                  | 4308                                       | 7062  | 11029 | 18064 | 25862 | 40054 | 52106 | 60954  | 89611  | 155282 |
| 42                  | 4411                                       | 7230  | 11292 | 18495 | 26479 | 41010 | 53349 | 62408  | 91749  | 158987 |
| 43                  | 4513                                       | 7399  | 11555 | 18926 | 27096 | 41965 | 54592 | 63862  | 93887  | 162691 |
| 44                  | 4616                                       | 7567  | 11819 | 19356 | 27713 | 42921 | 55835 | 65316  | 96024  | 166395 |
| 45                  | 4719                                       | 7736  | 12082 | 19787 | 28330 | 43876 | 57078 | 66770  | 98162  | 170099 |
| 46                  | 4822                                       | 7904  | 12345 | 20218 | 28946 | 44832 | 58321 | 68224  | 100299 | 173804 |
| 47                  | 4924                                       | 8073  | 12608 | 20649 | 29564 | 45787 | 59564 | 69678  | 102437 | 177508 |
| 48                  | 5027                                       | 8241  | 12871 | 21080 | 30181 | 46743 | 60807 | 71132  | 104575 | 181212 |
| 49                  | 5130                                       | 8409  | 13134 | 21511 | 30798 | 47698 | 62050 | 72586  | 106712 | 184916 |
| 50                  | 5233                                       | 8578  | 13397 | 21942 | 31415 | 48654 | 63293 | 74040  | 108850 | 188620 |
| 51                  | 5336                                       | 8746  | 13660 | 22373 | 32031 | 49609 | 64536 | 75494  | 110987 | 192325 |
| 52                  | 5438                                       | 8915  | 13923 | 22804 | 32648 | 50565 | 65779 | 76948  | 113125 | 196029 |
| 53                  | 5541                                       | 9083  | 14186 | 23235 | 33265 | 51520 | 67022 | 78402  | 115263 | 199733 |
| 54                  | 5644                                       | 9252  | 14449 | 23666 | 33882 | 52476 | 68265 | 79856  | 117400 | 203437 |
| 55                  | 5747                                       | 9420  | 14713 | 24097 | 34499 | 53431 | 69508 | 81311  | 119538 | 207141 |
| 56                  | 5849                                       | 9589  | 14976 | 24528 | 35116 | 54387 | 70751 | 82765  | 121675 | 210846 |
| 57                  | 5952                                       | 9757  | 15239 | 24958 | 35733 | 55342 | 71994 | 84219  | 123813 | 214550 |
| 58                  | 6055                                       | 9926  | 15502 | 25389 | 36350 | 56297 | 73236 | 85673  | 125951 | 218254 |
| 59                  | 6158                                       | 10094 | 15765 | 25820 | 36967 | 57253 | 74479 | 87127  | 128088 | 221958 |
| 60                  | 6261                                       | 10263 | 16028 | 26251 | 37584 | 58208 | 75723 | 88581  | 130226 | 225662 |
| 61                  | 6363                                       | 10431 | 16291 | 26682 | 38201 | 59164 | 76965 | 90035  | 132364 | 229366 |
| 62                  | 6466                                       | 10599 | 16554 | 27113 | 38818 | 60119 | 78208 | 91489  | 134501 | 233071 |
| 63                  | 6569                                       | 10768 | 16817 | 27544 | 39435 | 61075 | 79451 | 92943  | 136639 | 236775 |
| 64                  | 6672                                       | 10936 | 17080 | 27975 | 40052 | 62030 | 80695 | 94397  | 138777 | 240479 |
| 65                  | 6775                                       | 11105 | 17343 | 28406 | 40668 | 62986 | 81937 | 95851  | 140914 | 244183 |
| 66                  | 6877                                       | 11273 | 17606 | 28837 | 41285 | 63941 | 83180 | 97305  | 143052 | 247887 |
| 67                  | 6980                                       | 11442 | 17870 | 29268 | 41902 | 64897 | 84423 | 98759  | 145190 | 251592 |
| 68                  | 7083                                       | 11610 | 18133 | 29699 | 42519 | 65852 | 85666 | 100213 | 147327 | 255296 |
| 69                  | 7200                                       | 11803 | 18433 | 30191 | 43224 | 66944 | 87086 | 101874 | 149769 | 259526 |

# Sizing Information



The 4200 Series valves are built in conformance to Section I of the ASME Boiler and Pressure Vessel Code. They are primarily intended for use on steam boilers where ASME Code Section I stamped valves are required. Sizing

is per equation listed below. The orifice areas listed in this catalog are actual areas and should not be confused with API effective orifice areas shown in most process valve catalogs.

## For Steam Service

$$A = \frac{W_s}{51.5P K_d K_{sh}}$$

### Where:

A = Required Orifice Area in square inches.

P = Relieving Pressure in pounds per square inch absolute = set pressure + overpressure + 14.7 psi.

**ASME Code Section I:** Overpressure is 3% of set pressure or 2 psi, whichever is greater.

P = 1.03 x Set Pressure + 14.7 psi or P = Set Pressure + 2 psi + 14.7 psi.

**ASME Code Section VIII:** Overpressure is 10% of set pressure or 3 psi, whichever is greater.

P = 1.10 x Set Pressure + 14.7 psi or P = Set Pressure + 3 psi + 14.7 psi.

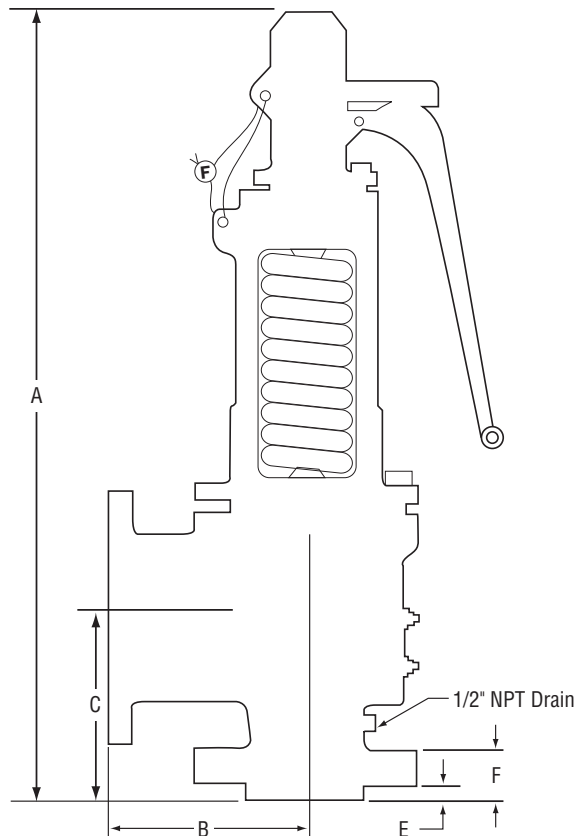
W<sub>s</sub> = Required Steam Capacity in pounds per hour.

K<sub>d</sub> = Coefficient of Discharge, 0.872 for all services.

K<sub>sh</sub> = Steam Superheat Correction Factor. See table below.

| K <sub>sh</sub> Superheat Correction Factor |                              |                                         |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---------------------------------------------|------------------------------|-----------------------------------------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Set Press<br>p.s.i.g.                       | Saturated Steam<br>Temp. °F. | Total Temperature in Degrees Fahrenheit |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|                                             |                              | 280                                     | 300  | 320  | 340  | 360  | 380  | 400  | 420  | 440  | 460  | 480  | 500  | 520  | 540  | 560  | 580  | 600  | 620  | 640  | 660  | 680  | 700  | 720  | 740  | 760  | 780  | 800  | 820  | 840  | 860  | 880  | 900  | 920  | 940  | 960  | 980  | 1000 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 15                                          | 250                          | 1.00                                    | 1.00 | 1.00 | .99  | .99  | .98  | .98  | .97  | .96  | .95  | .94  | .93  | .92  | .91  | .90  | .89  | .88  | .87  | .86  | .86  | .85  | .84  | .83  | .83  | .82  | .81  | .81  | .80  | .79  | .79  | .78  | .78  | .77  | .76  | .76  | .75  | .75  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 20                                          | 259                          | 1.00                                    | 1.00 | 1.00 | .99  | .99  | .98  | .98  | .97  | .96  | .95  | .94  | .93  | .92  | .91  | .90  | .89  | .88  | .87  | .86  | .86  | .85  | .84  | .83  | .83  | .82  | .81  | .81  | .80  | .79  | .79  | .78  | .78  | .77  | .76  | .76  | .75  | .75  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 40                                          | 287                          | -                                       | 1.00 | 1.00 | 1.00 | .99  | .99  | .98  | .97  | .96  | .95  | .94  | .93  | .92  | .91  | .90  | .89  | .88  | .87  | .87  | .86  | .85  | .84  | .84  | .83  | .82  | .82  | .81  | .80  | .79  | .79  | .78  | .78  | .77  | .76  | .76  | .75  | .75  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 60                                          | 308                          | -                                       | -    | 1.00 | 1.00 | .99  | .99  | .98  | .97  | .96  | .95  | .94  | .93  | .92  | .91  | .90  | .89  | .88  | .87  | .87  | .86  | .85  | .84  | .84  | .83  | .82  | .82  | .81  | .80  | .80  | .79  | .78  | .78  | .77  | .76  | .76  | .75  | .75  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 80                                          | 324                          | -                                       | -    | -    | 1.00 | 1.00 | .99  | .99  | .98  | .97  | .96  | .94  | .93  | .92  | .91  | .90  | .89  | .89  | .88  | .87  | .86  | .85  | .84  | .84  | .83  | .82  | .82  | .81  | .80  | .80  | .79  | .78  | .78  | .77  | .76  | .76  | .75  | .75  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 100                                         | 338                          | -                                       | -    | -    | -    | 1.00 | 1.00 | .99  | .98  | .97  | .96  | .95  | .94  | .93  | .92  | .91  | .90  | .89  | .88  | .87  | .86  | .85  | .85  | .84  | .83  | .82  | .82  | .81  | .80  | .80  | .79  | .78  | .78  | .77  | .76  | .76  | .75  | .75  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 120                                         | 350                          | -                                       | -    | -    | -    | -    | 1.00 | 1.00 | .99  | .98  | .97  | .96  | .95  | .94  | .93  | .92  | .91  | .90  | .89  | .88  | .87  | .86  | .85  | .85  | .84  | .83  | .82  | .82  | .81  | .80  | .80  | .79  | .78  | .78  | .77  | .76  | .76  | .75  | .75 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 140                                         | 361                          | -                                       | -    | -    | -    | -    | -    | 1.00 | 1.00 | .99  | .98  | .96  | .95  | .94  | .93  | .92  | .91  | .90  | .89  | .88  | .87  | .86  | .85  | .85  | .84  | .83  | .82  | .82  | .81  | .80  | .80  | .79  | .78  | .78  | .77  | .76  | .76  | .75  | .75 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 160                                         | 371                          | -                                       | -    | -    | -    | -    | -    | -    | 1.00 | 1.00 | .99  | .98  | .97  | .95  | .94  | .93  | .92  | .91  | .90  | .89  | .88  | .87  | .86  | .86  | .85  | .84  | .83  | .82  | .82  | .81  | .80  | .80  | .79  | .79  | .78  | .77  | .76  | .76  | .75 | .75 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 180                                         | 380                          | -                                       | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .98  | .97  | .96  | .95  | .93  | .92  | .91  | .90  | .89  | .88  | .87  | .86  | .86  | .85  | .84  | .83  | .82  | .82  | .81  | .80  | .80  | .79  | .79  | .78  | .77  | .76  | .76  | .75 | .75 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 200                                         | 388                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .99  | .97  | .96  | .95  | .93  | .92  | .91  | .90  | .89  | .88  | .87  | .86  | .86  | .85  | .84  | .83  | .83  | .82  | .81  | .81  | .80  | .79  | .79  | .78  | .77  | .76  | .76 | .75 | .75 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 220                                         | 395                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | 1.00 | .99  | .98  | .96  | .95  | .94  | .93  | .92  | .91  | .90  | .89  | .88  | .87  | .86  | .85  | .84  | .84  | .83  | .82  | .81  | .81  | .80  | .79  | .79  | .78  | .77  | .76 | .76 | .75 | .75 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 240                                         | 403                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .98  | .97  | .95  | .94  | .93  | .92  | .91  | .90  | .89  | .88  | .87  | .86  | .85  | .84  | .84  | .83  | .82  | .81  | .81  | .80  | .79  | .79  | .78  | .77  | .76 | .76 | .75 | .75 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 260                                         | 409                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .98  | .97  | .96  | .94  | .93  | .92  | .91  | .90  | .89  | .88  | .87  | .86  | .85  | .85  | .84  | .83  | .82  | .81  | .81  | .80  | .79  | .79  | .78  | .77 | .76 | .76 | .75 | .75 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 280                                         | 416                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | 1.00 | .99  | .97  | .96  | .95  | .93  | .92  | .91  | .90  | .89  | .88  | .87  | .86  | .85  | .85  | .84  | .83  | .82  | .82  | .81  | .80  | .80  | .79  | .78 | .77 | .76 | .76 | .75 | .75 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 300                                         | 422                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .98  | .96  | .95  | .93  | .92  | .91  | .90  | .89  | .88  | .87  | .86  | .86  | .85  | .84  | .83  | .82  | .82  | .81  | .80  | .80  | .79 | .78 | .77 | .76 | .76 | .75 | .75 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 350                                         | 436                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .97  | .96  | .94  | .93  | .92  | .91  | .90  | .89  | .88  | .87  | .86  | .85  | .84  | .83  | .83  | .82  | .81  | .81  | .80  | .79 | .78 | .77 | .76 | .76 | .75 | .75 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 400                                         | 448                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .98  | .96  | .95  | .93  | .92  | .91  | .90  | .89  | .88  | .87  | .86  | .85  | .84  | .84  | .83  | .82  | .81  | .81  | .80 | .79 | .78 | .77 | .76 | .76 | .75 | .75 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 450                                         | 460                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .97  | .96  | .94  | .93  | .92  | .91  | .90  | .89  | .88  | .87  | .86  | .86  | .85  | .84  | .83  | .82  | .82  | .81 | .80 | .79 | .78 | .77 | .76 | .76 | .75 | .75 |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 500                                         | 470                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .98  | .96  | .94  | .93  | .92  | .91  | .90  | .89  | .88  | .87  | .86  | .85  | .84  | .83  | .82  | .82  | .81 | .80 | .79 | .78 | .77 | .76 | .76 | .75 | .75 |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 550                                         | 480                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .97  | .95  | .94  | .92  | .91  | .90  | .89  | .88  | .87  | .86  | .85  | .84  | .83  | .82  | .82  | .81 | .80 | .79 | .78 | .77 | .76 | .76 | .75 | .75 |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 600                                         | 489                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .98  | .96  | .94  | .93  | .92  | .90  | .89  | .88  | .87  | .86  | .85  | .84  | .84  | .83  | .82 | .81 | .80 | .79 | .78 | .77 | .76 | .76 | .75 | .75 |     |     |     |     |     |     |     |     |     |     |     |     |
| 650                                         | 497                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .97  | .95  | .94  | .92  | .91  | .90  | .89  | .88  | .87  | .86  | .86  | .85  | .84  | .83 | .82 | .81 | .81 | .80 | .79 | .78 | .77 | .76 | .76 | .75 | .75 |     |     |     |     |     |     |     |     |     |     |
| 700                                         | 506                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .97  | .96  | .94  | .93  | .91  | .90  | .89  | .88  | .87  | .86  | .85  | .84  | .83 | .82 | .81 | .81 | .80 | .79 | .78 | .77 | .76 | .76 | .75 | .75 |     |     |     |     |     |     |     |     |     |     |
| 750                                         | 513                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | 1.00 | .98  | .96  | .95  | .93  | .92  | .90  | .89  | .88  | .87  | .86  | .85  | .84 | .83 | .83 | .82 | .81 | .80 | .79 | .78 | .77 | .76 | .76 | .75 | .75 |     |     |     |     |     |     |     |     |     |
| 800                                         | 520                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .97  | .95  | .94  | .92  | .91  | .90  | .88  | .87  | .86  | .85  | .84 | .84 | .83 | .82 | .81 | .80 | .80 | .79 | .78 | .77 | .76 | .76 | .75 | .75 |     |     |     |     |     |     |     |     |
| 850                                         | 527                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .98  | .96  | .94  | .93  | .92  | .90  | .89  | .88  | .87  | .86 | .85 | .84 | .83 | .82 | .81 | .81 | .80 | .79 | .78 | .77 | .76 | .76 | .75 | .75 |     |     |     |     |     |     |     |
| 900                                         | 533                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | 1.00 | .99  | .97  | .95  | .93  | .92  | .90  | .89  | .88  | .87 | .86 | .85 | .84 | .83 | .82 | .81 | .81 | .80 | .79 | .78 | .77 | .76 | .76 | .75 | .75 |     |     |     |     |     |     |
| 950                                         | 540                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .97  | .95  | .94  | .92  | .91  | .89  | .88  | .87 | .86 | .85 | .84 | .83 | .82 | .82 | .81 | .80 | .79 | .78 | .77 | .76 | .76 | .75 | .75 |     |     |     |     |     |     |
| 1000                                        | 546                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .98  | .96  | .94  | .93  | .91  | .90  | .89 | .87 | .86 | .85 | .84 | .83 | .83 | .82 | .81 | .80 | .79 | .78 | .77 | .76 | .75 | .75 |     |     |     |     |     |     |
| 1050                                        | 552                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .97  | .95  | .93  | .92  | .90  | .89 | .88 | .87 | .86 | .85 | .84 | .83 | .82 | .81 | .80 | .79 | .78 | .77 | .76 | .75 | .75 |     |     |     |     |     |     |
| 1100                                        | 558                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .98  | .96  | .94  | .92  | .91 | .89 | .88 | .87 | .86 | .85 | .84 | .83 | .82 | .81 | .81 | .80 | .79 | .78 | .77 | .76 | .75 | .75 |     |     |     |     |
| 1150                                        | 563                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .98  | .96  | .94  | .92 | .91 | .89 | .88 | .87 | .86 | .85 | .84 | .83 | .82 | .81 | .81 | .80 | .79 | .78 | .77 | .76 | .75 | .75 |     |     |     |
| 1200                                        | 569                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .98  | .97  | .95 | .93 | .92 | .90 | .89 | .87 | .86 | .85 | .84 | .83 | .82 | .81 | .81 | .80 | .79 | .78 | .77 | .76 | .75 | .75 |     |     |
| 1250                                        | 574                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .97  | .95 | .93 | .92 | .90 | .89 | .88 | .87 | .86 | .85 | .84 | .83 | .82 | .81 | .80 | .79 | .78 | .77 | .76 | .75 | .75 |     |     |
| 1300                                        | 579                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99  | .98 | .96 | .94 | .92 | .91 | .89 | .88 | .87 | .86 | .85 | .84 | .83 | .82 | .81 | .80 | .79 | .78 | .77 | .76 | .75 | .75 |     |
| 1350                                        | 584                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | 1.00 | .99 | .98 | .96 | .94 | .93 | .91 | .90 | .88 | .87 | .86 | .85 | .84 | .83 | .82 | .81 | .80 | .79 | .78 | .77 | .76 | .75 | .75 |
| 1400                                        | 588                          | -                                       | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    | -    |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

| Valve Size<br>Inlet x Outlet | Type Number | ANSI<br>Flange Class |              | U.S. Standard Dimensions (Inches) |        |         |       |         | Approx.<br>Weight<br>Lbs. | Metric Dimensions (millimeters) |     |     |    |    | Approx.<br>Weight<br>kg |
|------------------------------|-------------|----------------------|--------------|-----------------------------------|--------|---------|-------|---------|---------------------------|---------------------------------|-----|-----|----|----|-------------------------|
|                              |             | Inlet<br>RF          | Outlet<br>RF | A                                 | B      | C       | E     | F       |                           | A                               | B   | C   | E  | F  |                         |
| 1 1/4 x 1 1/2                | 42FA12-170  | 300#                 | 150#         | 17 7/8                            | 4 3/16 | 4 13/32 | 11/16 | 1 9/16  | 40                        | 455                             | 107 | 112 | 18 | 40 | 18                      |
|                              | 42FA13-170  | 600#                 | 150#         | 17 7/8                            | 4 3/16 | 4 13/32 | 11/16 | 1 9/16  | 40                        | 455                             | 107 | 112 | 18 | 40 | 18                      |
| 1 1/4 x 1 1/2                | 42GA12-170  | 300#                 | 150#         | 17 7/8                            | 4 3/16 | 4 13/32 | 11/16 | 1 9/16  | 40                        | 455                             | 107 | 112 | 18 | 40 | 18                      |
|                              | 42GA13-170  | 600#                 | 150#         | 17 7/8                            | 4 3/16 | 4 13/32 | 11/16 | 1 9/16  | 40                        | 455                             | 107 | 112 | 18 | 40 | 18                      |
| 1 1/2 x 2 1/2                | 42HA12-170  | 300#                 | 150#         | 21 1/2                            | 4 7/8  | 4 3/4   | 11/16 | 1 5/8   | 69                        | 547                             | 124 | 121 | 18 | 42 | 31                      |
|                              | 42HA13-170  | 600#                 | 150#         | 21 1/2                            | 4 7/8  | 4 3/4   | 11/16 | 1 5/8   | 69                        | 547                             | 124 | 121 | 18 | 42 | 31                      |
| 1 1/2 x 2 1/2                | 42JA12-170  | 300#                 | 150#         | 21 1/2                            | 4 7/8  | 4 3/4   | 11/16 | 1 5/8   | 71                        | 547                             | 124 | 121 | 18 | 42 | 32                      |
|                              | 42JA13-170  | 600#                 | 150#         | 21 1/2                            | 4 7/8  | 4 3/4   | 11/16 | 1 5/8   | 71                        | 547                             | 124 | 121 | 18 | 42 | 32                      |
| 2 x 3                        | 42KA12-170  | 300#                 | 150#         | 21 3/4                            | 5 9/16 | 5 1/4   | 11/16 | 1 3/4   | 83                        | 553                             | 142 | 134 | 18 | 45 | 38                      |
|                              | 42KA13-170  | 600#                 | 150#         | 21 3/4                            | 5 9/16 | 5 1/4   | 11/16 | 1 3/4   | 83                        | 553                             | 142 | 134 | 18 | 45 | 38                      |
| 2 1/2 x 4                    | 42LA12-170  | 300#                 | 150#         | 28 1/4                            | 6 5/16 | 6 1/8   | 11/16 | 1 15/16 | 138                       | 718                             | 161 | 156 | 18 | 50 | 63                      |
|                              | 42LA13-170  | 600#                 | 150#         | 28 1/4                            | 6 5/16 | 6 1/8   | 11/16 | 1 15/16 | 138                       | 718                             | 161 | 156 | 18 | 50 | 63                      |
| 3 x 4                        | 42MA12-170  | 300#                 | 150#         | 29 1/4                            | 6 7/16 | 6 1/2   | 11/16 | 2       | 164                       | 743                             | 164 | 166 | 18 | 51 | 74                      |
|                              | 42MA13-170  | 600#                 | 150#         | 29 1/4                            | 6 7/16 | 6 1/2   | 11/16 | 2       | 164                       | 743                             | 164 | 166 | 18 | 51 | 74                      |
| 4 x 6                        | 42NA12-170  | 300#                 | 150#         | 33 1/4                            | 7 7/16 | 7 11/16 | 11/16 | 2 1/4   | 250                       | 845                             | 189 | 196 | 18 | 58 | 113                     |
|                              | 42NA13-170  | 600#                 | 150#         | 33 1/4                            | 7 7/16 | 7 11/16 | 11/16 | 2 1/4   | 250                       | 845                             | 189 | 196 | 18 | 58 | 113                     |
| 4 x 6                        | 42PA12-170  | 300#                 | 150#         | 33 1/4                            | 8 3/16 | 7 11/16 | 11/16 | 2 1/4   | 260                       | 845                             | 208 | 196 | 18 | 58 | 118                     |
|                              | 42PA13-170  | 600#                 | 150#         | 33 1/4                            | 8 3/16 | 7 11/16 | 11/16 | 2 1/4   | 260                       | 845                             | 208 | 196 | 18 | 58 | 118                     |
| 6 x 8                        | 42QA12-170  | 300#                 | 150#         | 41 1/8                            | 9 3/8  | 10 5/16 | 11/16 | 2 5/8   | 438                       | 1045                            | 239 | 262 | 18 | 67 | 199                     |
|                              | 42QA13-170  | 600#                 | 150#         | 41 1/8                            | 9 3/8  | 10 5/16 | 11/16 | 2 5/8   | 438                       | 1045                            | 239 | 262 | 18 | 67 | 199                     |



# Conversion Factors



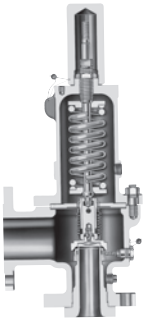
| To Convert From                                      | To                            | Multiply By |
|------------------------------------------------------|-------------------------------|-------------|
| <b>Area</b>                                          |                               |             |
| Square Inches                                        | Square Centimeters            | 6.452       |
|                                                      | Square Millimeters            | 645.2       |
|                                                      | Square Feet                   | 0.006944    |
| <b>Density</b>                                       |                               |             |
| Pounds/FT <sup>3</sup>                               | Pounds/US Gallon              | 0.1337      |
|                                                      | Pounds/Cubic Inch             | 0.0005787   |
|                                                      | Grams/Cubic Centimeter        | 0.01602     |
|                                                      | Kilograms/Cubic Meter         | 16.018      |
| <b>Flow Rate (Mass)</b>                              |                               |             |
| Pounds Per Hour                                      | Kilograms Per Hour            | 0.4536      |
|                                                      | Tons Per Hour (Short)         | 0.0005      |
| <b>Flow Rate (Volume)</b>                            |                               |             |
| Gallons Per Minute                                   | Cubic Feet Per Second         | 0.02228     |
|                                                      | Liters Per Minute             | 3.785       |
|                                                      | Liters Per Second             | 0.06308     |
|                                                      | Meters Cubed Per Hour         | 0.2271      |
| <b>Length</b>                                        |                               |             |
| Feet                                                 | Centimeters                   | 30.48       |
|                                                      | Inches                        | 12          |
|                                                      | Millimeters                   | 304.8       |
|                                                      | Meters                        | 0.3048      |
|                                                      | Miles                         | 0.000189    |
|                                                      | Yards                         | 0.3333      |
| Meters                                               | Centimeters                   | 100.0       |
|                                                      | Feet                          | 3.281       |
|                                                      | Inches                        | 39.37       |
|                                                      | Millimeters                   | 1000.0      |
|                                                      | Yards                         | 1.094       |
| <b>Mass (Weight)</b>                                 |                               |             |
| Pounds                                               | FT <sup>3</sup> of Water      | 0.01603     |
|                                                      | Gallons of Water              | 0.11995     |
|                                                      | Grams                         | 453.6       |
|                                                      | Kilograms                     | 0.4536      |
|                                                      | Ounces                        | 16          |
|                                                      | Tons (Short)                  | 0.0005      |
|                                                      | Tons (Long)                   | 0.000464    |
|                                                      | Tons (Metric)                 | 0.0004536   |
| <b>Miscellaneous</b>                                 |                               |             |
| Specific Gravity-Gas, Water (Ft <sup>3</sup> @ 60°F) | Molecular Weight-Gas          | 28.970      |
|                                                      | Pounds/Ft <sup>3</sup> @ 60°F | 62.37       |
|                                                      | Imperial Gallons              | 0.8327      |
|                                                      | Liters                        | 3.785       |

| To Convert From                   | To                        | Multiply By       |
|-----------------------------------|---------------------------|-------------------|
| Pressure                          |                           |                   |
| Atmospheres                       | Bars                      | 1.013             |
|                                   | Feet of Water             | 33.96             |
|                                   | Inches of Mercury         | 29.92             |
|                                   | Inches of Water           | 407.50            |
|                                   | Kilograms per sq. cm      | 1.033             |
|                                   | Millimeters of Mercury    | 760.00            |
|                                   | Pounds per square inch    | 14.70             |
| Pounds Per Sq. In.                | Bars                      | 0.06895           |
|                                   | Feet of Water             | 2.31              |
|                                   | Inches of Mercury         | 2.036             |
|                                   | Inches of Water           | 27.73             |
|                                   | Millimeters of Mercury    | 51.71             |
|                                   | Kilograms per sq. cm      | 0.07031           |
|                                   | Kilopascals               | 6.895             |
| Temperature Conversion Equations  |                           |                   |
| Celsius (C) =                     | 5/9 x (Fahrenheit - 32)   |                   |
| Fahrenheit (F) =                  | (9/5 x Celsius) + 32      |                   |
| Kelvin (K) =                      | Celsius + 273.15          |                   |
| Rankin (R) =                      | Fahrenheit + 459.67       |                   |
| Viscosity (Absolute or Dynamic)   |                           |                   |
| Centipoise                        | lbf-sec/sq. ft.           | 0.0000208854      |
| Centipoise                        | kg-sec/sq. meter          | 0.000102          |
| Lbf-sec/sq. ft.                   | Pascal-sec                | 47.8803           |
| Pascal sec.                       | Centipoise                | 1000              |
| Poise (gm/cm-sec)                 | Centipoise                | 100               |
| Viscosity (Kinematic)             |                           |                   |
| Centistokes                       | Stokes                    | 0.01              |
| Centistokes                       | sq. meters/sec            | 0.000001          |
| Square Feet/Sec.                  | Centistokes               | 92903.04          |
| Square Feet/Sec.                  | Square meters/sec         | 0.092903          |
| Viscosity (Absolute to Kinematic) |                           |                   |
| Centipoise                        | Centistokes               | 1/density (g/cm³) |
| Volume                            |                           |                   |
| Gallons (US)                      | Barrels                   | 0.02381           |
|                                   | Cubic Inches              | 231.0             |
|                                   | Cubic Feet                | 0.1337            |
|                                   | Cubic Centimeters (or ml) | 3785              |
|                                   | Imperial Gallons          | 0.8327            |
|                                   | Liters                    | 3.785             |



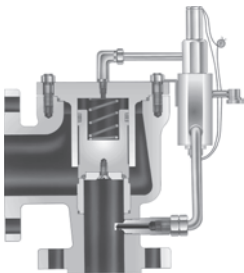
# Farris Engineering Products

## Process Pressure Relief Valves



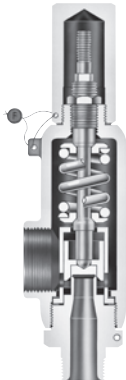
### SERIES 2600/2600L

- ASME NB Certified: Air, Steam & Water
- Sizes: 1" x 2" to 20" x 24"
- Pressure Range: 15 psig to 6000 psig
- Temperature Range: -450°F to +1500°F
- Materials: Carbon Steel, Stainless, Monel & Hastelloy C
- Options: Balanced Bellows, O-Ring Seat, Open Bonnet



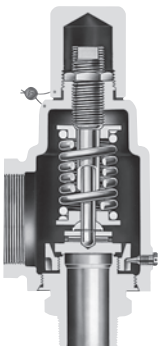
### SERIES 3800 Pilot Operated

- ASME NB Certified: Air, Steam & Water
- Sizes: 1" x 2" to 12" x 16"
- Pressure Range: 15 psig to 6170 psig
- Temperature Range: -450°F to +500°F
- Materials: Steel Body & Bonnet, Stainless Steel Trim
- Options: Modulating Pilot Control, Complete 316 Stainless Steel Construction



### SERIES 2700

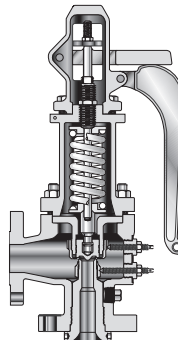
- ASME NB Certified: Air, Steam & Water
- Sizes: 1/2" x 1" to 1-1/2" x 2-1/2"
- Pressure Range: 15 psig to 6500 psig
- Temperature Range: -450°F to +750°F
- Materials: Stainless Steel Body & Trim, Carbon Steel Bonnet
- Options: Stainless Steel, Monel & Hastelloy Materials, O-Ring Seats, Flanged, Socket Weld, Welding Nipple, & Sanitary Connections



### SERIES 2850/2856

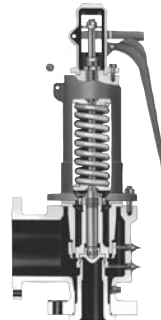
- ASME NB Certified: Air & Steam
- Sizes: 3/4" x 1" to 1-1/2" x 2" (2850)  
3/4" x 1-1/4" to 2" x 3" (2856)
- Pressure Range: 15 psig to 300 psig
- Temperature Range:  
-20° F to +750°F (2850)  
-450° F to +400°F (2856)
- Materials: Stainless Steel Body & Trim  
Steel Bonnet (2850)  
Brass Body & Trim, Bronze Bonnet (2856)

## Steam Safety Valves



### SERIES 4200

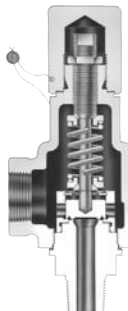
- ASME NB Section I & VIII Certified: Steam & Air
- Sizes 1 1/4" x 1 1/2" to 6" x 8"
- Pressure Range: 15 psig to 1000 psig
- Temperature Range: -20°F to +1000°F
- Materials: Carbon / Alloy St. & Stainless Steel.



### SERIES 6400/6600

- ASME NB Section I & VIII Certified: Steam & Air
- Sizes: 1" x 2" to 4" x 6"
- Pressure Range: 15 psig to 1500 psig
- Temperature Range: -20°F to +1000°F
- Materials: Carbon and Stainless Steel
- Options: Exposed Spring & Closed Bonnet

## Special Purpose Pressure Relief Valves



### SERIES 1890/1896M

- ASME NB Certified: Air, Steam & Water
- Sizes: 1/2" x 1" & 3/4" x 1" (1890)  
1/2" x 3/4" & 3/4" x 3/4" (1896M)
- Pressure Range:  
15 psig to 800 psig (1890)  
15 psig to 300 psig (1896M)
- Temperature Range:  
-20°F to +750°F (1890)  
-450°F to +400°F (1896M)
- Materials:  
Stainless Steel Body & Trim (1890)  
Brass Body & Trim, Bronze Bonnet (1896M)

## Test Stands



### MODELS T1500 & T6000

- Air & Water Testing
- Maximum Pressures of 1500 psig and 6000 psig
- Test Valves to 8" Inlet Size
- Stainless Steel Test Drum & Test Table
- Digital Test Gauge



## Farris Engineering Products & Services



### The following is a list of Farris approvals currently on record:

- ASME "V", "UV" and "NV"
- National Board "NB"
- ISO 9001-2000
- US Coast Guard
- PED 97/23/EC (European Pressure Equipment Directive)
- ATEX 94/9/EC (European Potentially Explosive Atmospheres)
- Canadian TSSA Registration
- CSQL (China Safety Quality License)
- GOST-R and GGNT (Russian Certification and Permits)
- First Point Assessment Limited

### Process Pressure Relief Valves

|                   |                                            |
|-------------------|--------------------------------------------|
| Series 2600       | ASME NB Certified for Air, Steam and Water |
| Series 2700       | ASME NB Certified for Air, Steam and Water |
| Series 3800       | ASME NB Certified for Air, Steam and Water |
| Series 1890/1896M | ASME NB Certified for Air, Steam and Water |
| Series 2850/2856  | ASME NB Certified for Air and Steam        |
| Series 69         | Liquid Service                             |
| Series 88/89      | ASME NB Certified for Air and Steam        |
| Series 140        | Air Service                                |
| Series 570        | ASME NB Certified for Air and Steam        |

### Steam Safety Valves

|                  |                                                |
|------------------|------------------------------------------------|
| Series 4200      | ASME NB Certified for Steam – Section I & VIII |
| Series 6400/6600 | ASME NB Certified for Steam – Section I & VIII |
| Series 560       | ASME NB Certified for Steam – Section I & VIII |

### Universal Test Stand

PRV Test Stands with Air and Water Test Capability

### SizeMaster™ Mark IV

Pressure Relief Valve Engineering Software for Sizing and Selection

### FAST Centers (Farris Authorized Service Team)

*"Understanding what the Customer wants...making it happen!"*

- Worldwide Network of Service Centers with Factory Trained Technicians
- Local Inventory with 24 hour a day / 7 day a week support
- Access to Worldwide Farris Inventory through the Web
- ASME/National Board approved Assembly & Test Facilities
- Application, Sizing & Selection Support

## Farris Engineering

division of Curtiss-Wright Flow Control Corporation

**CURTISS  
WRIGHT**  
Flow Control Corporation



Potravinářský průmysl  
Farmaceutický průmysl  
Biotechnologie  
Petrochemie  
Chemický průmysl  
Energetika  
Úprava vody  
Papírenství a zpracování celulózy  
Plynárenský průmysl  
Keramický průmysl  
Zpracovatelský průmysl



Firma s tradicí od r. 1990 se při svém vzniku zaměřila na dodávky základních komponent, přístrojové a měřicí techniky a dodávky technologií pro farmaceutický a potravinářský průmysl. Cílem bylo zajistit kompletní dodavatelsko - inženýrské služby, včetně servisu. V roce 1998, který byl pro firmu velmi významným mezníkem, proběhla transformace společnosti do nynější formy. V dalších letech činnosti společnosti dochází k rozšíření portfolia a je navazována spolupráce s partnery v oblasti armatur, komponent, ventilů, procesní měřicí techniky a čerpadel.

Oblastí působnosti je potravinářský, farmaceutický průmysl, biotechnologie, chemický průmysl, petrochemie, úprava vody, papírenství a celulóza, energetika, keramický průmysl a zpracovatelský průmysl.

Firma REGOM INSTRUMENTS je díky širokému dodavatelskému portfoliu a bohatým zkušenostem schopna zajistit dodávky armatur, komponent, čerpadel, přístrojů a zařízení.

Cílem společnosti REGOM INSTRUMENTS je poskytování kvalitních služeb a spolehlivých dodávek pro co nejširší okruh zákazníků.



**REGOM INSTRUMENTS s.r.o.**

**Brabcova 1159 / 2**

**147 00 Praha 4**

**CZECH REPUBLIC**

**Tel: +420 241 402 206**

**Fax: +420 241 400 290**

**Mail: [regom@regom.cz](mailto:regom@regom.cz)**

**Skype: regom-office**

**[www.regom.cz](http://www.regom.cz)**