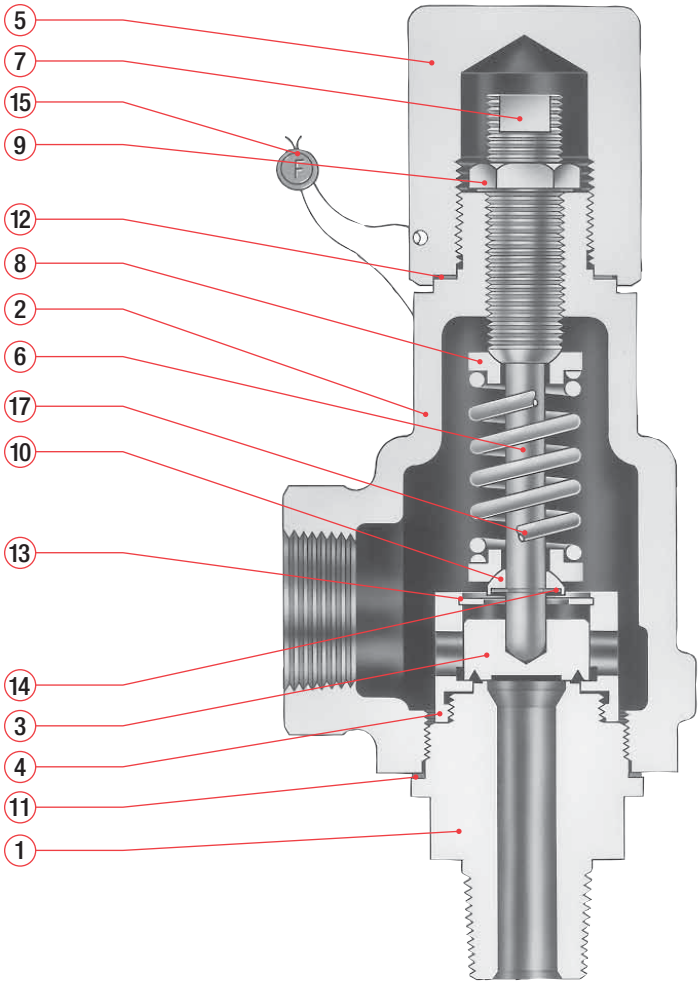
# Series 1896M

## Pressure Relief Valves
## ASME Section VIII for Air, Steam, Vapor & Liquid Service

### Applications include:

Set pressures to 300 psig.
Brass body and trim.
Bronze bonnet and cap.
Flat seats for easy maintenance.




### Bill of Materials

| Item No. | Part Name | Material |
|---|---|---|
| 1 | Body | ASTM B16 H.H. Brass |
| 2 | Bonnet | SB-62 Bronze |
| 3 | Disc | ASTM B16 H.H. Brass |
| 4 | Guide | Brass |
| 5 | Cap, Plain Screwed | Brass |
| 6 | Stem | St. St. |
| 7 | Spring Adj. Screw | Brass |
| 8 | Spring Button | St. St. |
| 9 | Jam Nut | Brass |
| 10 | Stem Shoulder | St. St. |
| 11 | Body Gasket | 316 St. St. |
| 12 | Cap Gasket | 316 St. St. |
| 13 | Lift Stop Ring | St. St. |
| 14 | Retaining Ring-Stem Shoulder | St. St. |
| 15 | Wire Seal | Stainless Steel Wire/ Lead Seal |
| 16 | Nameplate (not shown) | St. St. |
| 17 | Spring | 316 St. St. |

### Selection Table (Connections: MNPT x FNPT)

| Type Number[1] | Service | Valve Size Inlet x Outlet | Maximum Set Pressure[2] | | Maximum Back Pressure | | Materials | |
|---|---|---|---|---|---|---|---|---|
| | | | psig -400°F to +400°F | barg -240°C to +204°C | psig @ 100°F | barg @ 37.8°C | Body / Bonnet | Spring |
| 1896M2-M20 | Air, Steam & Vapor | 1/2 x 3/4 | 300 | 20.7 | 50 | 3.45 | Brass / Bronze | 316 St. St. |
| 1896M3-M20 | | 3/4 x 3/4 | | | | | | |
| 1896ML2-M20 | Liquid | 1/2 x 3/4 | | | | | | |
| 1896ML3-M20 | | 3/4 x 3/4 | | | | | | |

General Notes:
1. Type numbers shown designate valves with plain screwed caps. Test lever required for air, steam or hot water service (above 140°F / 60°C). For packed lever change the three digit type number suffix from "-M20" to "-M40". Example: 1896M2-M20 becomes 1896M2-M40.
2. Maximum set pressure for steam service is 240 psig (saturation temperature of 400°F).

# Series 1896M Capacity Tables

ASME Pressure Vessel Code (UV)

## Air – 10% Overpressure

Capacities in Standard Cubic Feet Per Minute at 60° F[1]

| Set Pressure (psig) | Air Capacity |
|---|---|
| 15 | 51 |
| 20 | 59 |
| 30 | 74 |
| 40 | 92 |
| 50 | 109 |
| 60 | 126 |
| 70 | 144 |
| 80 | 161 |
| 90 | 178 |
| 100 | 195 |
| 120 | 230 |
| 140 | 264 |
| 160 | 299 |
| 180 | 334 |
| 200 | 368 |
| 220 | 403 |
| 240 | 437 |
| 260 | 472 |
| 280 | 506 |
| 300 | 541 |

## Steam – 10% Overpressure

Capacities in Lbs. Per Hour at Saturation Temperature[1]

| Set Pressure (psig) | Steam Capacity |
|---|---|
| 15 | 144 |
| 20 | 166 |
| 30 | 210 |
| 40 | 258 |
| 50 | 307 |
| 60 | 356 |
| 70 | 404 |
| 80 | 453 |
| 90 | 501 |
| 100 | 550 |
| 120 | 647 |
| 140 | 744 |
| 160 | 841 |
| 180 | 938 |
| 200 | 1035 |
| 220 | 1132 |
| 240 | 1229 |

## Water – 10% Overpressure

Capacities in U.S. Gallons Per Minute at 70° F[1,2]

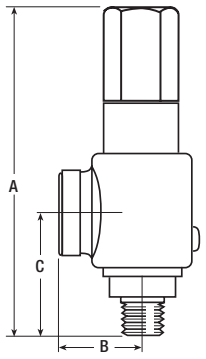
| Set Pressure (psig) | Water Capacity |
|---|---|
| 15 | 9.3 |
| 20 | 10.6 |
| 30 | 12.7 |
| 40 | 14.6 |
| 50 | 16.3 |
| 60 | 17.9 |
| 70 | 19.4 |
| 80 | 20.7 |
| 90 | 22.0 |
| 100 | 23.1 |
| 120 | 25.4 |
| 140 | 27.4 |
| 160 | 29.3 |
| 180 | 31.1 |
| 200 | 32.7 |
| 220 | 34.3 |
| 240 | 35.9 |
| 260 | 37.3 |
| 280 | 38.8 |
| 300 | 40.1 |

## Actual Orifice Areas

| Inlet Size | Air, Gas & Steam[4] | | Liquid[5] | |
|---|---|---|---|---|
| | sq in | sq mm | sq in | sq mm |
| 1/2" or 3/4" | 0.110 | 71 | 0.110 | 71 |

## Dimensions and Weights

| Type Number | | A (max) All Cap Constructions | B | C | Approx. Weight Lbs/Kgs |
|---|---|---|---|---|---|
| 1896M | in | 7-1/2 | 1-9/16 | 2-7/16 | 3 |
| | mm | 190 | 40 | 62 | 1.4 |




General Notes:

1. Capacities at 30 psig and below are based on 3 psi overpressure.
2. To determine water capacity at 25% overpressure, multiply the capacity at 10% by 1.066.
3. Maximum set pressure for steam service is 240 psig (saturation temperature of 400°F).
4. For sizing purposes, the coefficient of discharge $K_d$ is 0.779 for air, gas, steam and vapor.
5. For liquid service, use the ASME liquid equation with a coefficient of discharge $K_d$ equal to 0.529.


CURTISS WRIGHT Flow Control Company
Farris Engineering

10195 Brecksville Road, Brecksville, OH 44141 USA • Telephone: 440-838-7690 • Fax: 440-838-7699 • http://farris.cwfc.com

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11/11-7.5M-R6