

The Model 5100 "Freezeless" dump valve is perfectly suited for fluid control in oil and gas separators and other process vessels. The valves body design allows the plug and seat to be constantly submerged in the process media, thus giving the valve its "Freezeless" characteristic.

### Features:

- Compact Valve Size
- Stainless Steel Trim
- Screwed Process Connections
- NACE MR-01-75 Compliance Option

### Valve Specifications

|                            |   |
|----------------------------|---|
| Process Connections:       | 1" MNPT x 1/2" FNPT<br>1" MNPT x 1" FNPT<br>2" MNPT x 1" FNPT |
| Body Style:                | "Freezeless" Angle  |
| Operating Pressure (Max.): | 2220 psig (153 bar)   |
| Operating Temperature:     | -20° to 180°F (-29° to 82°C)                                  |

### Actuator Specifications

|                          |                      |
|--------------------------|----------------------|
| Air Supply Connection:   | 1/4" FNPT            |
| Action:                  | Reverse (Fail Close) |
| Effective Area:          | 35 Sq. In.           |
| Maximum Supply Pressure: | 50 psig (3.5 bar)    |

### Materials of Construction

|                   |                               |
|-------------------|-------------------------------|
| Body:             | 1018 Carbon Steel             |
| Plug & Seat:      | 302 SST                       |
| Valve Stem:       | 303 SST<br>316 SST (optional) |
| Seals:            | Buna-N<br>Viton (optional)    |
| Actuator Housing: | Steel                         |

### Trim Characteristic

Quick Opening (On/Off)

### Port Diameter / Flow Coefficient (C<sub>v</sub>)

|       |                    |
|-------|--------------------|
| 0.38" | 4.8 C <sub>v</sub> |
|-------|--------------------|

### Estimated Weight

|                      |                   |
|----------------------|-------------------|
| 1" MNPT x 1/2" FNPT: | 13.5 lbs (6.6 Kg) |
| 1" MNPT x 1" FNPT:   | 14.5 lbs (6.6 Kg) |
| 2" MNPT x 1" FNPT:   | 14.5 lbs (6.6 Kg) |



### Liquid Sizing Equation

$$Q = (C_v) \sqrt{\frac{(\Delta P)}{(SG)}}$$

where:

|                |                        |
|----------------|------------------------|
| Q              | = Flow Rate (gpm)      |
| C <sub>v</sub> | = flow coefficient     |
| SG             | = specific gravity     |
| Δ P            | = pressure drop, (psi) |

### Useful Conversions for Liquid Flow:

| To Convert             | Multiply By | To Obtain    |
|------------------------|-------------|--------------|
| Barrels                | 42          | U.S. Gallons |
| Barrels/Hr.            | 0.7         | U.S. gpm     |
| Barrels/Day            | 0.02917     | U.S. gpm     |
| Ft. <sup>3</sup> /Sec. | 448.83      | U.S. gpm     |
| M <sup>3</sup> /Hr.    | 4.403       | U.S. gpm     |
| Lb./Hr.                | 0.0020      | U.S. gpm     |
| Kg./Hr.                | 0.0044      | U.S. gpm     |

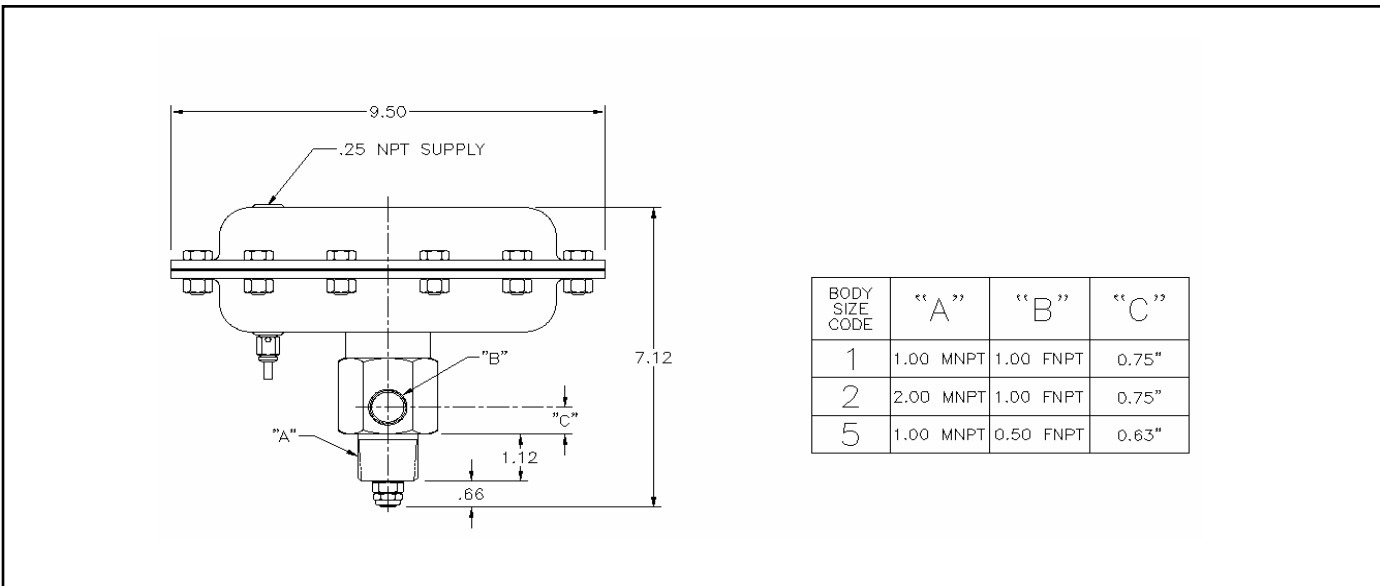


## Model Number Information

Sample Model Number: 5100 - 5 S S 9 - R A B - 35

|                         |             |
|-------------------------|-------------|
| <b>BODY SIZE</b>        | <b>CODE</b> |
| 1" MNPT x 1/2" FNPT     | 5           |
| 1" MNPT x 1" FNPT       | 1           |
| 2" MNPT x 1" FNPT       | 2           |
| <b>BODY CONNECTION</b>  | <b>CODE</b> |
| Screwed                 | S           |
| <b>WETTED MATERIALS</b> | <b>CODE</b> |
| Standard                | S           |
| NACE                    | N           |
| <b>VALVE RATING</b>     | <b>CODE</b> |
| 2220 psig (153 Bar)     | 9           |
| <b>ACTUATOR STYLE</b>   | <b>CODE</b> |
| Reverse (Fail Close)    | R           |
| <b>BODY STYLE</b>       | <b>CODE</b> |
| Angle                   | A           |
| <b>SEALS</b>            | <b>CODE</b> |
| Buna-N                  | B           |
| Viton                   | V           |
| <b>ACTUATOR SIZE</b>    | <b>CODE</b> |
| 35 Sq.In. (9.5" Dia.)   | 35          |

### DIMENSIONS:



While this information is presented in good faith and believed to be accurate, Mallard Control Company does not guarantee results based upon such information. Mallard Control Company reserves the right to change the design or specifications of these products without notice.

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