Worcester Controls
FCD WCABR1034-00
(Part PB SLD)


Steam Let Down Valve
For High-Cycle Steam Let Down
and Purging Applications

Flow Control Division

# Dramatically increase the productivity of your high-cycle steam processes with a valve that outperforms the others 

In processes involving rapid high-cycle steam treatment, purging and dumping, the first equipment casualties have historically been the valves. Thus, many commercial and industrial batch process systems, designed to operate non-stop 24 hours a day, have been frequently idled to repair leaking and steam-damaged valves.

The Worcester ${ }^{\circledR}$ Controls Automatic Steam Let Down Valve provides reliable on-off operation in such diverse operations as sterilizing, emergency purging, dumping, vegetable and fruit peeling, skinning and cooking. These valves can operate over one million cycles with opening and closing speeds tuned to your particular process.

One example of such a high-cycle process is automatic potato peeling. As shown in the diagram below, saturated steam at 250 psi is blasted into a steam peeling vessel loaded with raw potatoes. The vessel is rotated for a short period. Then the steam (with condensate, grit and juice) is exhausted through a second valve to a recovery unit. Automated plug and butterfly valves, traditionally used in these processes, have very short operational lives with high maintenance costs. The Worcester Controls Steam Let Down Valve outperforms traditional valves. Then, a simple replacement of seats and seals from a distributor-stocked repair kit prepares the valve for another round of non-stop operation.

Worcester Steam Let Down Valves mate with ANSI Class 300 flanges and are specially designed to take the rigors of highcycle operation and high pressure drop, steam and fluids with entrained solids, caustics and abrasives. Rapid, controllable actuation is provided by Worcester Series 39 pneumatic actuators. Contact your local Worcester Area Sales Manager to increase your process productivity.

## Applications

- Vegetable* and fruit peeling and deskinning
- Can sterilization
- Steam ejectors
- Emergency steam purging
- Distilleries
- Shellfish processing
*Not suitable for beet processing.



## Dimensions

| Valve Size | Series 39 Actuator Size D.A. or S.R. | Face-to-Face |  | B |
| :---: | :---: | :---: | :---: | :---: |
|  |  | A | $\mathrm{A}_{2}$ |  |
| $3{ }^{\prime \prime}$ | 25 | $\begin{gathered} \hline 4.50 \\ (114.3) \end{gathered}$ | $\begin{gathered} 2.25 \\ (57.2) \\ \hline \end{gathered}$ | $\begin{gathered} 14.03 \\ (356.4) \end{gathered}$ |
|  | 30 | $\begin{gathered} 4.50 \\ (114.3) \end{gathered}$ | $\begin{gathered} 2.25 \\ (57.2) \\ \hline \end{gathered}$ | $\begin{gathered} 15.07 \\ (382.8) \\ \hline \end{gathered}$ |
|  | 35 | $\begin{gathered} \hline 4.50 \\ (114.3) \end{gathered}$ | $\begin{gathered} 2.25 \\ (57.2) \end{gathered}$ | $\begin{gathered} 17.91 \\ (454.9) \end{gathered}$ |
|  | 40 | $\begin{gathered} 4.50 \\ (114.3) \end{gathered}$ | $\begin{gathered} 2.25 \\ (57.2) \end{gathered}$ | $\begin{gathered} 19.79 \\ (502.7) \end{gathered}$ |
| 4" | 25 | $\begin{gathered} \hline 5.81 \\ (147.6) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 2.90 \\ (73.7) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 14.63 \\ (371.6) \\ \hline \end{gathered}$ |
|  | 30 | $\begin{gathered} 5.81 \\ (147.6) \\ \hline \end{gathered}$ | $\begin{gathered} 2.90 \\ (73.7) \\ \hline \end{gathered}$ | $\begin{gathered} 15.67 \\ (398.0) \\ \hline \end{gathered}$ |
|  | 35 | $\begin{gathered} 5.81 \\ (147.6) \end{gathered}$ | $\begin{gathered} 2.90 \\ (73.7) \end{gathered}$ | $\begin{gathered} 18.51 \\ (470.1) \end{gathered}$ |
|  | 40 | $\begin{gathered} 5.81 \\ (147.6) \end{gathered}$ | $\begin{gathered} 2.90 \\ (73.7) \\ \hline \end{gathered}$ | $\begin{gathered} 20.41 \\ (518.4) \\ \hline \end{gathered}$ |
| $6{ }^{\prime \prime}$ | 30 | $\begin{gathered} 7.38 \\ (187.5) \\ \hline \end{gathered}$ | $\begin{gathered} 3.69 \\ (93.7) \\ \hline \end{gathered}$ | $\begin{gathered} 18.17 \\ (461.5) \end{gathered}$ |
|  | 35 | $\begin{gathered} 7.38 \\ (187.5) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 3.69 \\ (93.7) \\ \hline \end{gathered}$ | $\begin{gathered} \hline 20.96 \\ (532.4) \\ \hline \end{gathered}$ |
|  | 40 | $\begin{gathered} 7.38 \\ (187.5) \end{gathered}$ | $\begin{gathered} 3.69 \\ (93.7) \end{gathered}$ | $\begin{gathered} 23.04 \\ (585.2) \end{gathered}$ |
|  | 45 | $\begin{gathered} \hline 7.38 \\ (187.5) \end{gathered}$ | $\begin{gathered} 3.69 \\ (93.7) \end{gathered}$ | $\begin{gathered} \hline 27.23 \\ (691.6) \\ \hline \end{gathered}$ |



| Specifications <br> Working Steam <br> Pressure Limit | 300 WSP @ 424 F - Consult Flowserve for media other than steam and pressures and <br> temperatures outside this limit. |
| :--- | :--- |
| Sizes | 3", 4", 6" for use between ANSI Class 300 flanges |
| Body Material | Ductile Iron (Carbon Steel or Stainless Stee available on special order) |
| Stem | $17-4$ ph one-piece bottom entry with raised-lip design (to enhance Polyfill thrust bear- <br> ing effectiveness) and Belleville washers. |
| Stem Seals | Polyfill |
| Seats | Polyfill, High-Per Fill®. Polyfill seat downstream, High-Per Fill seat upstream. |
| Body Seals | TFE or Graphite |
| Ball | Coated Stainless Steel |
| Operation | For use with electric or pneumatic actuators (on/off control.) |
| Flange Studs | ASTM A193 Grade B7 |
| Flange Nuts | Not furnished |
| Options | Stainless Steel mounting kit |
|  | High-speed Solenoid for one-second operation |

# Polyfill Seat Pressure/Temperature Rating 



Working Steam Pressure Limit: 300 WSP at $424^{\circ} \mathrm{F}$ - Consult Flowserve for media other than steam and pressures and temperatures outside this limit.

For pressure/torque curves: Refer to Actuator Sizing Manual and use the Polyfill torque chart.

## How to Order

| 3" | 4 | 22 | 66 | P | T | 301 | C0102 |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Size | Style | Body | Ball \& Stem | Seats | Body Seal | Type | Special Design |
| $\begin{aligned} & 3^{\prime \prime} \\ & 4^{\prime \prime} \\ & 6 \mathbf{n}^{\prime} \end{aligned}$ | 4 | 2 - Ductile Iron | 6-316 Stainless Steel | P - Polyfill \& High-Per Fill | T-TFE <br> Z - Graphite | 301 - For use between ANSI Class 300 flanges | C0102 |

Ordering Example: A 3" Steam Let Down Valve with Ductile Iron body, Stainless Steel ball and stem, Polyfill and High-Per Fill seats and TFE body seal for use between 300\# ANSI flanges.

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