

# Fisher<sup>®</sup> Sootblower Solutions

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## Application Discussion

Fouling of the boiler tubes becomes a concern when firing fuels such as coal, oil, biomass or other waste products. Deposits from the combustion process can collect on the heat exchanging tubes, reducing thermal efficiency and causing operational difficulties. To keep the unit operating an online cleaning method must be used. This is usually accomplished by using what are called sootblowers. There are several types of sootblowing media with steam being the most common.

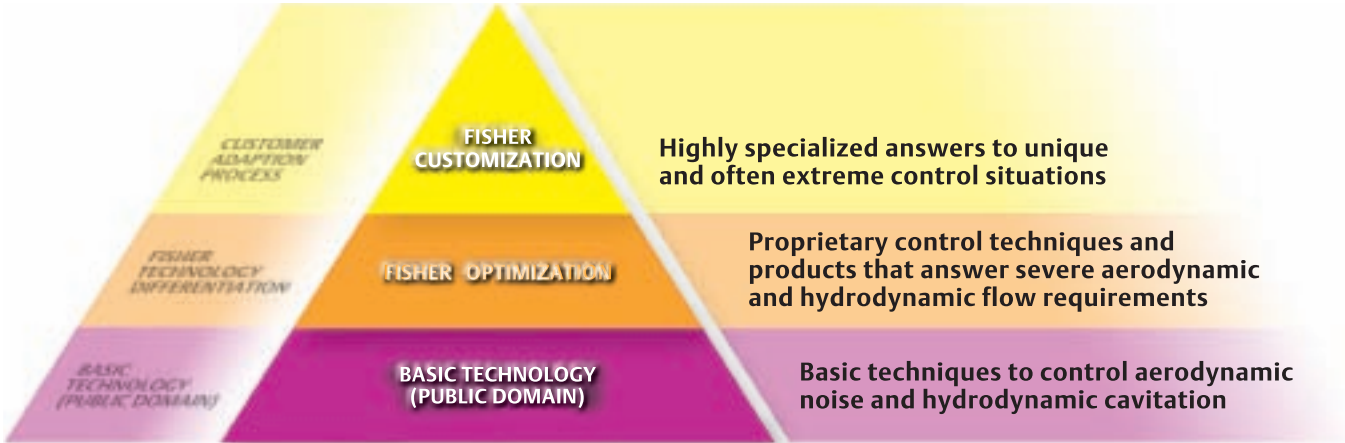
Steam sootblowing systems present a control challenge due to the combination of high pressure (2400 - 3600 psig) and temperature (650°F - 950°F). Others challenges include:

- Noise and vibration due to high pressure differential and small pipe size
- Thermal cycling caused by on/off operation
- Tight shutoff to protect trim and to minimize steam loss

Emerson offers specific Fisher-engineered solutions for various sootblower designs. Fisher sootblower trim offers protection from noise, vibration, erosion, thermal cycling and leakage while providing high rangeability. Noise generation is limited via frequency shifting using drilled-hole trim. A heavy-duty, plug to stem connection protects against thermal cycling and fatigue. Since this valve is closed after startup, tight shutoff (ANSI Class V or greater) is critical as any leakage can reduce unit capacity, increase heat rate and cause damage the valve trim.

To ensure proper operation after installation, a Fisher FIELDVUE® Digital Valve Controller can be used to monitor valve performance. The FIELDVUE DVC provides diagnostic reviews that can be conducted without interrupting the process in order to identify potential performance issues. This helps ensure proper operation and tight shutoff over the normal service life of the valve.

# Severe Service Control Hierarchy



## Sootblower — Control Valve Solutions

### FISHER CUSTOMIZATION

Most sootblower applications experience vibration due to high pressure drop, high flow rates and small piping. Fisher sootblower trim consisting of Whisper Trim® III and specially constructed valve internals eliminates damage due to these effects. At one U.S. plant this solution has yet to experience leakage or failure after 25,000 cycles. See [D351072X012](http://D351072X012) at [www.Fishersevereservice.com](http://www.Fishersevereservice.com) for additional details.

### FISHER OPTIMIZATION

#### Whisper Trim®



- Utilizes multiple orifices of special shape, size and spacing to achieve noise reductions to 30 dBA
- Process flow-up technique keeps energy sources away from critical trim parts
- Trim parts furnished in hardened materials to extend service life

### BASIC TECHNOLOGY



- On-off or throttling standard control valve
- Tight shutoff construction
- Reinforced parts to resist vibration damage
- Hardened trim materials to extend service life

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**The Next Step**

Contact your local Emerson Process Management sales office or sales representative location for more information or to make a purchase.

For severe service solutions, see us at [www.FisherSevereService.com](http://www.FisherSevereService.com)



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