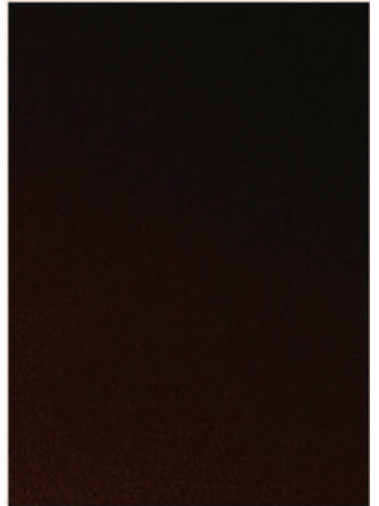
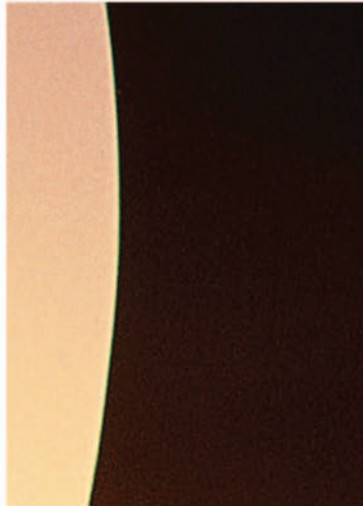
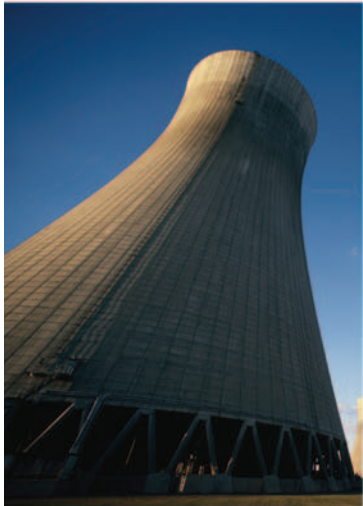


# Fisher® Boiler Feedwater Regulator Solutions



Severe Service



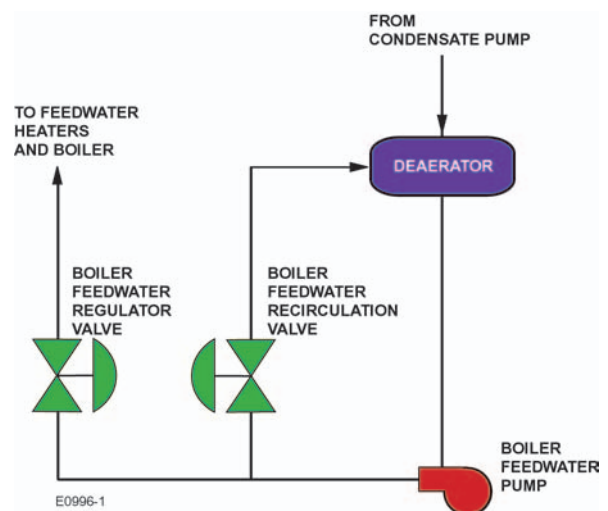
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Process Management

## Application Discussion

Used with constant speed, motor-operated feedpumps, the feedwater regulator valve controls flow to the boiler during normal plant operation when the boiler is under pressure. In this mode the pressure drops are small, and cavitation is not a concern. The main consideration is stable, reliable throttling operation.

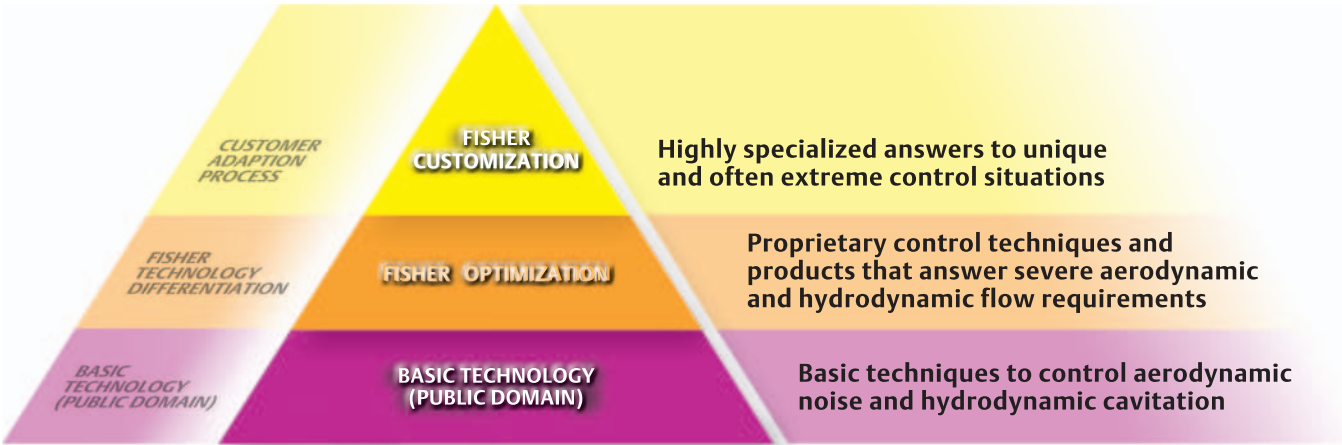
In smaller plants, the feedwater startup and regulator applications often are combined into one control valve. The combined startup / regulator valve eliminates cumbersome cross-over points and eases operation. During startup the valve must reduce pressure as high as 6000 psig and prevent cavitation. Upon reaching normal operating conditions, it then must provide stable control to maintain load and turndown. Turndowns of at least 75:1 are common. Also, this valve must handle such other conditions as:

- Filling of the boiler prior to firing
- Potential cavitation damage due to high differential pressures at startup
- Maintaining drum level or plant load during all operating conditions
- Adequate seat load to prevent leakage while the feedpump is in recirculation mode
- Control issues that can cause excessive drum level or plant load swings, potentially tripping the plant during startup



Emerson has specific Fisher-engineered solutions for variations in plant design. These solutions offer protection from cavitation, erosion, plugging, and leakage while providing high rangeability. Also, to ensure proper operation after installation, the Fisher FIELDVUE® Digital Valve Controller can be used to monitor valve performance. The FIELDVUE DVC provides diagnostic reviews without interrupting the process in order to identify potential performance issues. This helps to ensure proper operation and tight shutoff over the normal service life of the valve.

# Severe Service Control Hierarchy



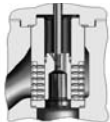
## Boiler Feedwater Regulator – Control Valve Solutions

### FISHER CUSTOMIZATION

An existing feedwater regulator valve experienced excessive noise and vibration due to inadequate trim design. A new valve was installed with Cavitol® III trim specially characterized to match the motor drive pump curve. Also utilized was a high performance actuation system that allows monitoring the new valve in real time. See [D351190X012](http://D351190X012) at [www.Fishersevereservice.com](http://www.Fishersevereservice.com) for additional details.

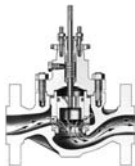
### FISHER OPTIMIZATION

Cavitrol® Trim



- Employs special-shaped orifices and drilled-hole technology in keeping the flowing media above its vapor pressure
- Used in combination with Fisher high-pressure and high-capacity valve bodies to prevent cavitation, achieve tight shutoff and reduce vibration levels

### BASIC TECHNOLOGY



- Standard trim control valve
- Hardened trim materials to extend service life

**Emerson. Your partner in instrument and valve reliability.**

The way you manage your key production assets directly affects your plant's performance and profitability. Emerson's Asset Optimization capabilities deliver world-class services and innovative technologies to increase the availability and performance of mechanical equipment, electrical systems, process equipment, instruments and valves for improved bottom-line results. Asset Optimization helps you improve process availability and attain peak performance, which means wherever you are in your plant's life cycle—startup, maximizing operations or life extension—by relying on Emerson's Asset Optimization capabilities, you'll be on the path to realizing the true potential of your plant's instruments and valves.

**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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