

## Need a custom control valve?

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- Custom body
- Custom trim
- Custom material
- Custom actuation



## Need a custom control valve?



If your application requires a custom control valve body, custom valve trim, custom valve material, or custom actuation, we have a Fisher® solution. For instance, we can characterize Fisher valve trim to control rangeability, maximum capacity, minimum capacity, flow characteristic, pressure staging, noise, or cavitation. View examples of custom Fisher products on the following pages.

### We want your custom business

Our business is control valves. That's what we do. When you need custom control valves, we offer support from start to finish. Trust Emerson Process Management to build a custom Fisher control valve that suits your difficult application. We are the only custom valve provider in the world who can offer the combination of experience, valve engineering and research understanding, and worldwide manufacturing capabilities.

### Custom valve process

We are ready to design and build a custom Fisher control valve for your specific need. To start the process, local Emerson engineers will discuss your application challenge with you and provide design options. They make certain that your requirements are accurately and completely defined.

Design, purchasing, and manufacturing activities will begin when an order is received. Every step in the process aims at answering custom valve needs efficiently and effectively. The track record of custom Fisher control valves is proven many times over. Tens of thousands have been produced in recent decades.

### Valve engineering and research

Emerson is the indisputable knowledge leader in control valves—Fisher brand products have remained industry leaders for more than 125 years. We have dedicated talent and technology for cavitation, materials, hydrodynamics, thermodynamics, acoustics, flow simulation and analysis, cycle life, temperature extremes, and vibration.

### Locally manufactured custom products

Our manufacturing facilities span the globe with plants located in the following locations. Each facility has direct access to support functions such as engineering, project management, and order administration. Worldwide service is of real value to every purchaser of a custom Fisher valve. Emerson has qualified, factory trained personnel in locations such as the United Kingdom, United Arab Emirates, United States, and Singapore to help with startup as well as service and repair.

- Brazil—Sorocaba
- China—Wuqing
- France—Cernay
- Hungary—Szekesfehervar
- India—Chennai
- Japan—Sakura
- Malaysia—Nilai
- Singapore—Singapore
- Spain—Barcelona
- United Arab Emirates—Dubai
- United States—  
Marshalltown, Iowa  
Sherman, Texas

### Start the custom valve process

For additional details on custom control valves or to discuss an application challenge, contact an Emerson Process Management sales office. Visit [www.Fisher.com](http://www.Fisher.com) to find one near you.



**We take on your toughest challenges and bring reliable solutions anytime, anywhere.**

# Need a unique valve body?

A custom valve body can be built to meet the requirements of your application such as:

- Matching to existing pipe configuration
- Steam or hot oil tracing
- A variety of end connections such as butt weld end, flanged, or hub
- Leak-off or flushing connection
- Integrated steam conditioning valve, reducer, and cooler
- Temperature extremes beyond catalog offering
- Tank mounting
- API and ASME special and intermediate pressure classes



**Custom body**

- Valve Type: Fisher CAV4
- Valve Inlet and Outlet Size: NPS 10
- Pressure Rating: ASME Intermediate Class 3700
- Port Diameter: 4-3/8 inch (111 mm)
- Valve Travel: 3 inch (76 mm)
- Trim Type: 5-stage Fisher Cavitrol™ IV trim
- Body Material: F22
- Trim Material: S17400 cage, S44004 plug and seat ring
- Application: Boiler feedwater
- Valve Capacity: 39 Cv
- Assembled Height: 8 feet (2.44 meters)
- Assembled Weight: 12,500 pounds (5,760 kg)
- Highlighted Features: 8000 psid (552 bar) flowing pressure drop capability



**Custom body**

- Valve Type: Fisher FBD
- Valve Inlet by Outlet Size: NPS 36 x 42
- Pressure Rating: ASME Class 150
- Port Diameter: 32 inch (813 mm)
- Valve Travel: 23-7/8 inch (606 mm)
- Trim Type: Fisher Whisper Trim™ III characterized noise attenuation trim
- Body Material: Carbon steel
- Trim Material: S17400 cage, S17400/CoCr-A plug and seat ring
- Application: Compressor antisurge
- Valve Capacity: 21,000 Cv
- Assembled Height: 16-1/2 feet (5.03 meters)
- Assembled Weight: 24,250 pounds (11,000 kg)
- Highlighted Features: Fisher HIGH-SEAL packing to eliminate fugitive emissions; cushioned actuator; FIELDVUE™ DVC6000 Series digital valve controller with optimized digital valve tier

# Need unusual trim?

We can characterize valve trim to control rangeability, maximum/minimum capacity, flow characteristic, pressure staging, noise, or cavitation:

- Characterized Fisher Cavitrol III cage
- Characterized Whisper Trim III or WhisperFlo™ cage
- Fisher DST-G trim designed for a specific vapor-to-liquid ratio
- Fisher DST trim or NotchFlo™ DST valves for cavitating, dirty services
- Fisher V260 rotary valve with attenuator
- Coatings, overlays, and carbide components as needed

In addition, we can design trim to meet the needs of difficult applications such as:

- Continuous catalyst regeneration
- Purified terephthalic acid letdown
- Supercritical startup bypass
- Hot high pressure separator letdown
- Gas turbine fuel control



## ***Custom trim***

Special characterized Fisher trim is available in many different configurations and body styles.



## ***Custom trim***

Fisher Aerodome and Hydrodome attenuators in the Fisher V260 ball valve can be customized for noise and cavitation protection as well as flow characteristic.



## ***Custom trim***

Fisher Dirty Service Trim for out-gassing applications (DST-G) is a patented, multi-stage control valve trim design. It is used in services where the fluid has dissolved gases within the fluid that comes out of solution due to a reduction in pressure and may contain entrained particulate. Fisher DST-G trim is mainly used in refining and oil and gas applications.

# Need a special material?

Special applications may require materials that can withstand corrosion, temperature extremes, erosion, flashing, out-gassing, and wear. Also, applications may require base material surface modifications such as chrome carbide spray, nitriding, nickel coatings, chrome coatings, and weld overlays such as CoCr-A. The following materials can be used on a valve body, bonnet, or trim:

- Alloy steels
- Super-austenitic stainless steels
- Duplex stainless steels
- Nickel alloys
- Titanium
- Tungsten carbide
- Zirconium



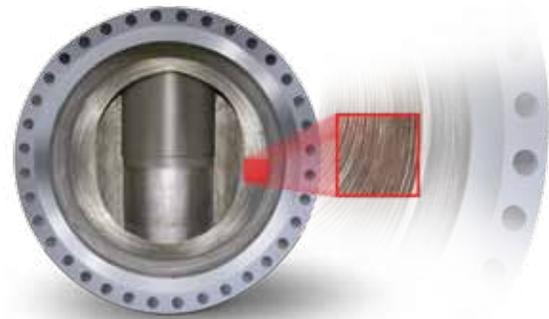
## ***Custom material***

- Valve Type: Fisher SS-83
- Valve Inlet by Outlet Size: NPS 2x3 (51 x 76 mm)
- Pressure Rating: ASME Class 600
- Body Material: Titanium
- Highlighted Features: Adapter to existing piping



## ***Custom material***

Surface treatments, coatings, and weld overlays such as CoCr-A are widely used on valve trims for extended life.



## ***Custom material***

Cladding on valves is available.

- Sizes: NPS 8 to NPS 24 x 20 globe style; NPS 3 and larger angle style
- Pressure Rating: ASME Class 150 to 600
- Materials: N06625; N08825; N04400, N01276, austenitic, martensitic and duplex stainless steels

# Need custom actuation?

Custom actuation can be designed to meet your need:

- Pneumatic
- Electric
- Electro-hydraulic
- High pressure
- Fast stroke speed
- Accuracy
- Controllability
- Response



## ***Custom actuation***

- Actuator Type: Double-acting piston
- Cylinder Size: 30 inch (762 mm)
- Travel: 2 inch (51 mm)
- Highlighted Features: Lock-in-last position upon loss of instrument air; hydraulic manual override



## ***Custom actuation***

The Fisher optimized antisurge control valve is an engineered control valve package specifically designed for the rigors of compressor antisurge applications. Each component in the system is optimized to meet best-available performance as required by a performance specification and to ensure reliability and availability of the compressor system.



*Fisher powder coat paint shown in customer-specified color.*

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