

# 290/390 series

Angle Seat Valves for Fluid Control



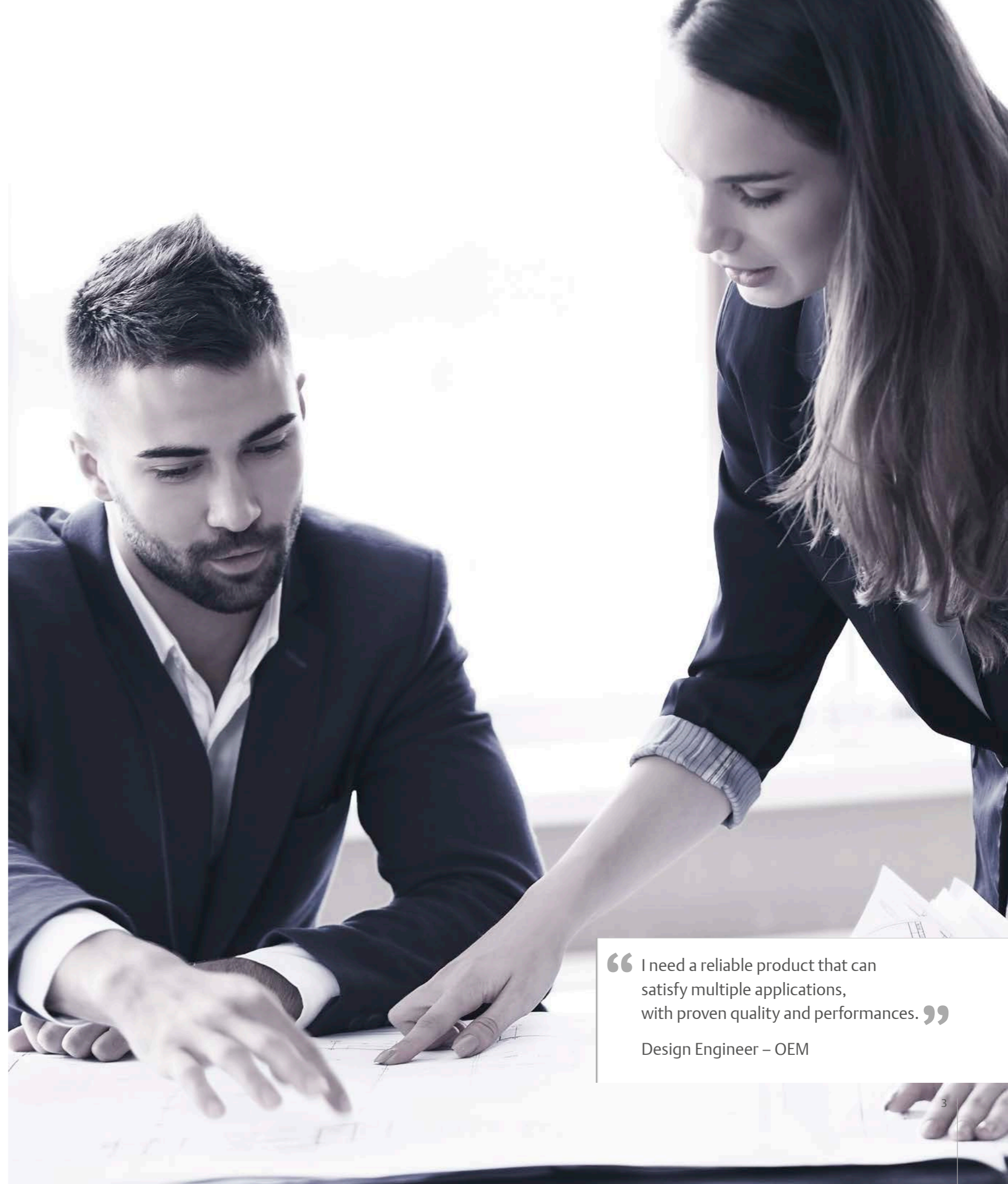
# Reliable and Robust Angle Seat Valves

The 290/390 series is a line of robust, highly reliable and high-flow angle seat valves by ASCO.

Ideal for controlling the flow or pressure of liquids, steam, air, or other gases in a broad range of industrial applications even in aggressive environments, our 290/390 series offers the ultimate flexibility in use – with pneumatically operated and motorised options, both available for on/off or proportional control.

At ASCO, we understand your need for reliable high performances on your applications. Equipment maintenance, and the resulting downtime, costs you valuable time and money – that's why we deliver the most reliable and robust angle-seat valves on the market.

What's more, with a significant performance in terms of flow in relation to valve size and unequalled cycle and reliability rates, they also offer cost effective and long lasting solutions that you can rely on, year after year.



“ I need a reliable product that can satisfy multiple applications, with proven quality and performances. ”

Design Engineer – OEM



# Benefits

The high performance ASCO 290/390 series enables reliable and accurate control in even the most demanding applications. Designed for harsh working conditions, this high-flow and versatile product range can be used to control a wide variety of media types and viscosities.

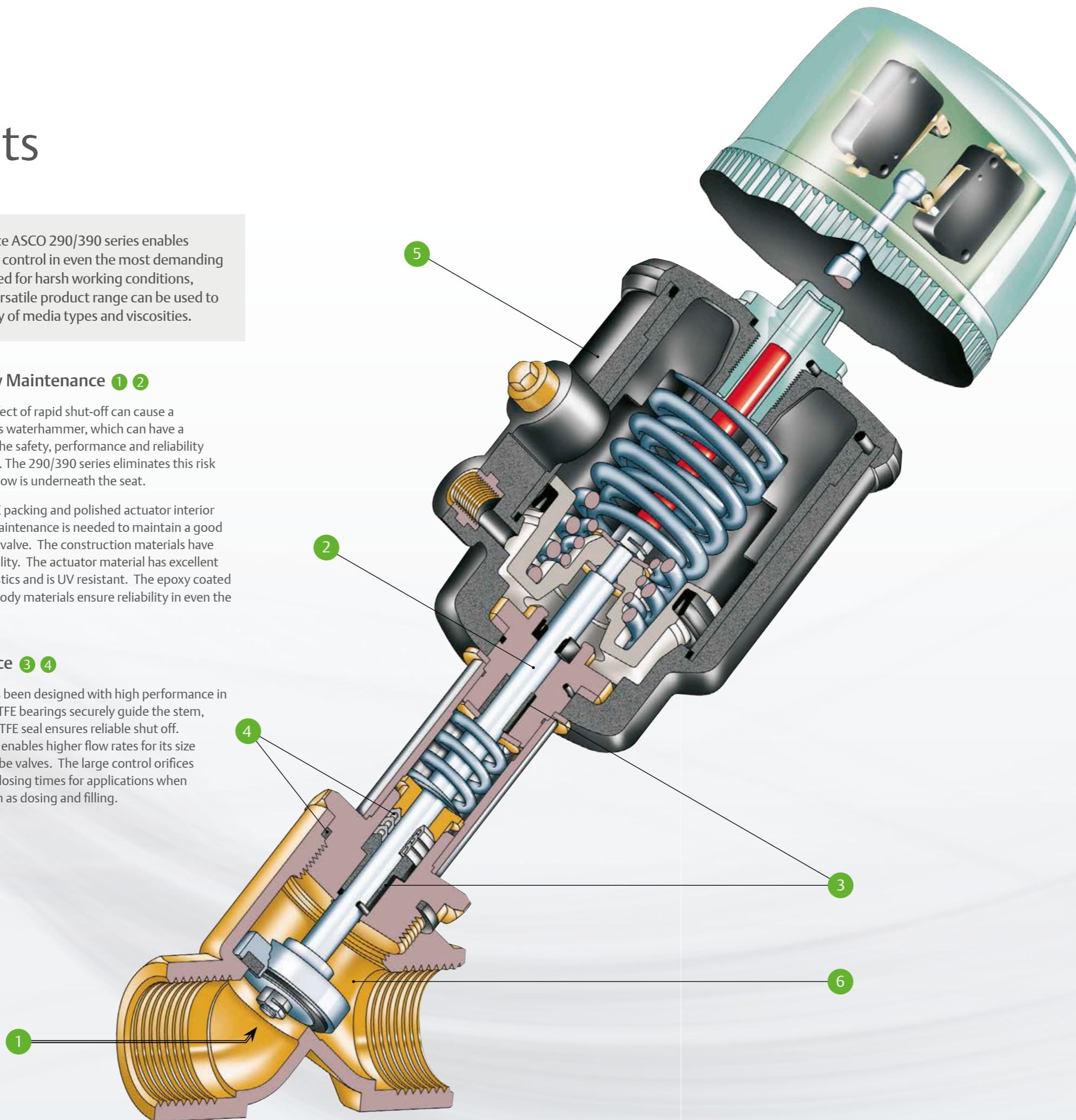
## Durable and Low Maintenance 1 2

For some valves the effect of rapid shut-off can cause a phenomenon known as waterhammer, which can have a detrimental effect on the safety, performance and reliability of your valve over time. The 290/390 series eliminates this risk when oriented so the flow is underneath the seat.

The self-adjusting PTFE packing and polished actuator interior means that minimal maintenance is needed to maintain a good seal over the life of the valve. The construction materials have been chosen for durability. The actuator material has excellent mechanical characteristics and is UV resistant. The epoxy coated springs and choice of body materials ensure reliability in even the harshest atmospheres.

## High Performance 3 4

The 290/390 series has been designed with high performance in mind. The oversized PTFE bearings securely guide the stem, which along with the PTFE seal ensures reliable shut off. The angle body design enables higher flow rates for its size when compared to globe valves. The large control orifices ensure fast opening / closing times for applications when this is important – such as dosing and filling.



## Easy Selection and Installation 5

The flexibility of the 290/390 series with regards to flow rates, material choices, types of operator, accessories and wide media compatibility make it a versatile product that can be specified into more applications, making selection and design simpler and reducing stock holding.

The smaller envelope size of the 290/390 series compared to a quarter turn valve means that it is ideally suited to applications where space is at a premium. The 360° rotatable actuator makes it easy to align the actuator to the connections, potentially making further savings in installed space.

## Excellent Flow rate 6

The angled body enables high flow rates compared to valve size. This means you can specify a smaller valve for the same flow or you can design your process or machine with a lower overall pressure drop. All this without compromising on performance or durability.

## Safety First

The valve is water-proof with an IP66 protection level, and is ATEX and SIL accredited.

Our valves comply with the essential requirements of ATEX Directive 2014/34/EU, and compliance with essential health and safety requirements has been assured by compliance with European Standard EN 13463-1 and RoHS.



# Made for You

## Fluids Controlled

Water, air, inert gas, oil, steam (184°C) industrial vacuum, corrosive fluids

	Bronze - stainless steel 2/2 NC - NO	Bronze 3/2 NC - NO
Nominal diameter	10 to 65mm	15 to 50mm
Ports	3/8 to 2 1/2"	1/2 to 2"
Differential pressure	0 to 16 bar	0 to 16 bar
Max. pressure	16 bar	16 bar
Fluid temp (°C)	-10°C to +184°C	-10°C to +184°C
Ambient temp (°C)	-10°C to +60°C	-10°C to +60°C
Pilot fluids	Air, water	Air, water
Pilot pressure standard	4 to 10 bar	4 to 10 bar
Connection types	<ul style="list-style-type: none"> <li>• Threaded</li> <li>• Flange</li> <li>• Butt Welding</li> <li>• Clamp</li> </ul>	<ul style="list-style-type: none"> <li>• Threaded</li> <li>• Flange</li> <li>• Butt Welding</li> <li>• Clamp</li> </ul>

A fully 316L Stainless Steel construction is also available for the highest corrosion and aggressive media resistance requirements.

## Certifications



ATEX for explosive atmospheres



FDA CFR21 and EC 1935-2004 for food contact



SIL for functional safety applications



PED (Pressure Equipment Directive) 2014/68/EU



RoHS which restricts use of hazardous materials



EAC CUTR for trade in Russia, Kazakhstan and Belarus

## Plus many more:

- EN-161 for combustion
- (EU) 10/2011 standard for plastic material intended to come in contact with food
- (EC) 2023/2006 standard for good manufacturing practice
- EMC (Electro-Magnetic Compatibility)
- Materials Certification 2.2 (EN 10204 standard)
- Oxygen application
- Vacuum application

# Controlling your valve

We offer a selection of solenoid valves and accessories to control your pneumatically operated 290/390 series:

## Solenoid Valves

**Banjo** – A compact design enabling easy installation on all 290/390 series.



**Pilot solenoid valves** – For use with filtered air and water.



**Namur capabilities** – For added environmental protection against the ingress of liquids, dusts or any other foreign matter.

**NAMUR pad mount** – For improved resistance to vibrations and the strength to withstand heavier loads.



## Accessories

**Signal boxes** – Inductive switches (PNP, 3 wires)  
– NAMUR switches (Exia, 2 wires)  
– Mechanical switches



**Visual Indicators** – Provide indication of the valve position.



**Positioner D** – For proportional control.



Other options include stroke and travel limiters which control the opening of the valve, preventing too much flow for manual safety.



# Versatile Operation

## General Characteristics

290 Motorised On-Off and Proportional		
Material	NBR/PBT	FPM/Stainless Steel
DN	10-15-20	
Fluid temp (°C)	-10°C to +90°C	-10°C to +145°C (steam)
Ambient temp (°C)	-10°C to +50°C	-10°C to +50°C

## Technical Characteristics

290 Motorised		
Function	2/2 on/off NC	2/2 Proportional
Voltage	24VDC	
	AC: 110V to 250V 50-60Hz	
	AC: 24V to 48V 50-60Hz	
Set point	4-20 mA/0-10V	



# Flexible Proportional Flow Positioner D

Applied where greater control of the media is required, proportional valves deliver variable flow in proportion to the control signal. The robust Positioner D allows refined proportional control to vary and direct the flow rate of a broad range of fluids and gases on pneumatically controlled valves, with design and construction that ensures a long service life of up to 3 million cycles.

Rotatable by 360°, the Positioner D is easily installed directly on to the pneumatic actuator, and provides both open and closed loop control modes with LED indicators for operating status display and diagnostic functions. As a solution, the 290/390 with positioner D arrives fully configured and tested, ready for immediate use.



Series	290/390 Proportional
DN	15 to 65
Voltage	24VDC
Set point	4-20mA / 0-10V
Feedback signal	4-20mA / 0-10V
Max pressure	16 bar
Function	2/2 & 3/2 NC
Temp Max.	184°C

# ASCO Complete Solutions

ASCO has the expertise to offer you your 290/390 series valve as part of a complete solution - for example as part of a cabinet solution or fitted to a control panel. This allows you to integrate a fully commissioned system into your existing application and provides you with the safety and protection benefits that come from working with a single supplier.





# Why Emerson

Emerson has an established worldwide reputation for technology innovation and industry leadership. Our technologies have served to transform entire industries, from the creative solutions provided by the smallest detail, to their greater collective impact on the environments we live and work in. Helping our customers achieve that distinct competitive advantage is our priority – and the reliability of our ASCO 290/390 series truly delivers this.

Problem solving is our passion. We are committed to driving technological progress and setting the standards of the future by maintaining a strong focus on research and development, and investment in training and future talent.

Our approach includes extensive research on both emerging technology and key global market trends, and our own customer challenges enable us to prioritise our R&D efforts.

Fluid Automation. Right. Now.



**A service that's built around your business.**  
ASCO Express offers a comprehensive range of product options, designed to meet 90% of all potential application requirements.

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