



# Valtek® Valdisk™ High-Performance Butterfly Control Valve



*Experience In Motion*

# Maintain process integrity and ensure a smooth production flow

Control valves play a critical role in process applications by maintaining process integrity and ensuring a smooth production flow. They assure process variables remain close to the desired setpoint and facilitate improvements in process productivity, plant uptime and employee safety.

Control valve reliability is even more vital in demanding, high-cycle applications — such as pressure swing adsorption (PSA) and air separation in oil and gas refineries and chemical refining — that experience more than 200,000 cycles per year.

Operators in these and other industries are challenged with selecting durable control valves that deliver reliable performance, high control and throttling accuracy while minimizing operating, maintenance and ownership costs.

The Valtek Valdisk control valve from Flowserve is a high-performance butterfly valve designed to improve uptime and minimize operating and ownership costs. It is engineered to deliver bubble-tight shutoff, reliable control and throttling accuracy in a variety of standard and high-cycle applications.

## Improved uptime

The Valdisk control valve features a soft seat designed to provide long-lasting, tight shutoff in both flow directions. This allows for optimum leakage resistance in demanding applications to minimize downtime and improve plant productivity.

## Lower maintenance costs

The double-offset disc design minimizes seat and disc wear as well as leakage, which extends seat life and reduces maintenance costs.

## High-performance throttling

The Valdisk control valve has a high-thrust cylinder actuator coupled with an eccentric-cammed disc, which enables unmatched, high-performance throttling.

## Flowserve is everywhere you are

Flowserve manufacturing sites and Quick Response Centers are located all around the world, so customers have on-the-spot availability for technical support and experienced field service technicians.

Wherever your operations are, Flowserve is there to help you be successful.



**Logix™ 3800 positioner**

*Digital positioner for high reliability and simplified installation with an innovative, one-button, quick-calibration feature*

**Piston cylinder actuator**

*High thrust for high-performance throttling, air pressure up to 150 psi (10.3 bar)*

**Clamped/splined actuator lever**

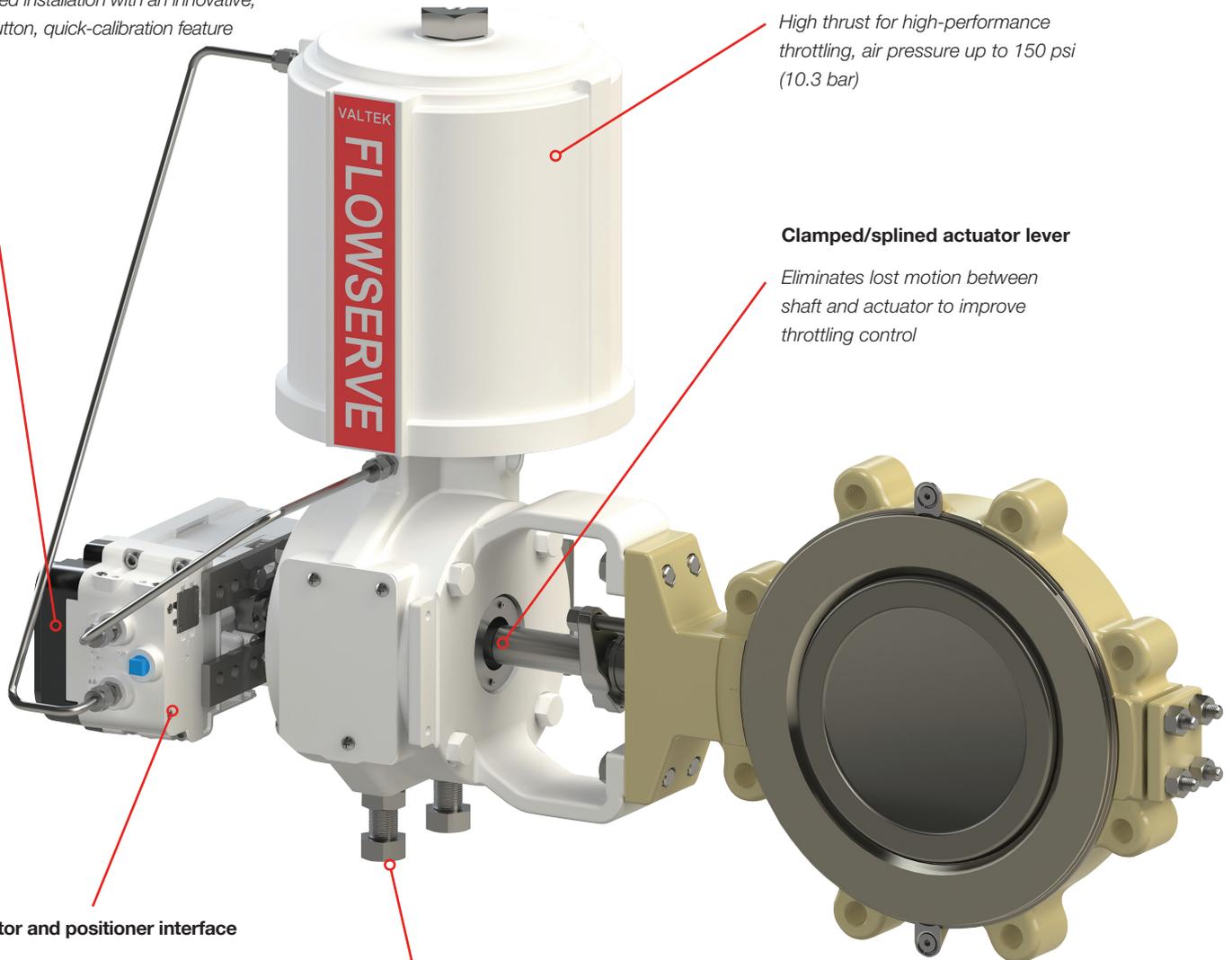
*Eliminates lost motion between shaft and actuator to improve throttling control*

**Actuator and positioner interface**

*A spring-biased linkage provides repeatability and reduces hysteresis.*

**Stroke stops**

*Adjustable stroke stops prevent excessive rotation to avoid shaft damage.*



**Splined shaft end**

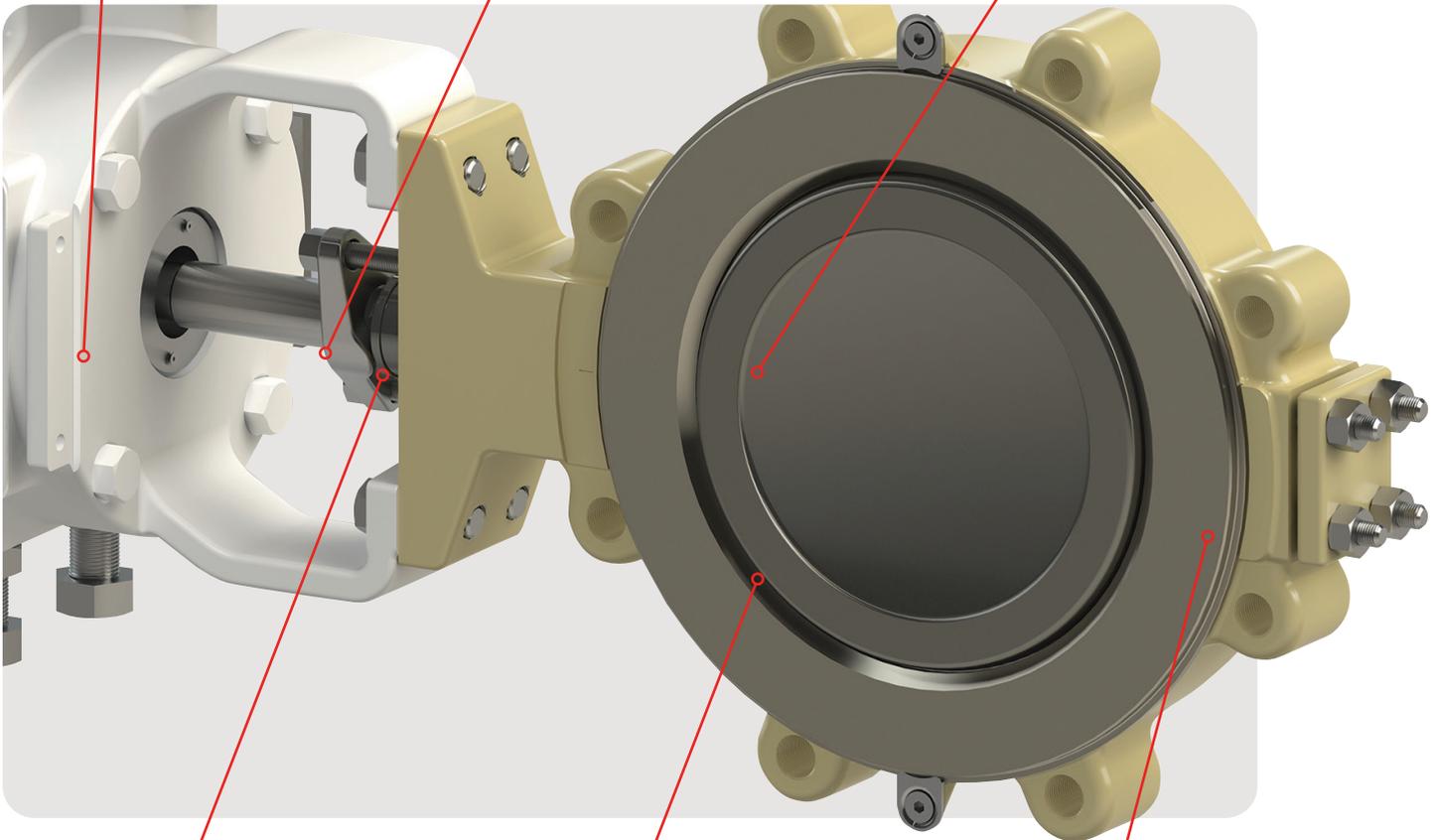
*One-piece, splined shaft end provides a tight connection between shaft and actuator to improve throttling control.*

**Shaft retention**

*Anti-blowout protection for safety compliance to industry standards*

**Pinned shaft to disc**

*Tapered pins provide tight connection for excellent control without the need to drill the shaft.*



**Packing options**

*Low-emissions for variety of applications, complying with industry standards*

**Excellent shut-off**

*Soft seat/jam-lever toggle (Class VI) and metal seat (Class IV) provide reliable, long-life, shut-off capability.*

**Heavy-duty end post**

*Robust design for safety and easy maintenance*

## Seats

### Soft seat

Unique seat design utilizes the pressure drop across the valve to help energize the soft seat to bubble-tight shutoff in either flow direction, including alternating flow applications. This is done in such a way that seating capacity is increased as differential pressure is increased.

ANSI/FCI 70-2 Class VI shutoff.

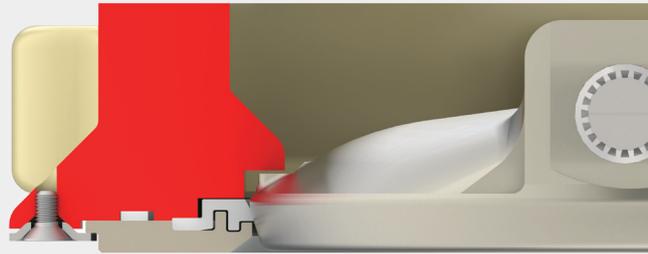


Figure 1: Soft seating arrangement

### Metal seat

Metal seats are used for applications involving temperatures higher than those permitted by the soft seat. The design incorporates a highly flexible lip, which assures full-circle contact between the seat and disc when the valve is closed.

ANSI/FCI 70-2 Class IV shutoff.

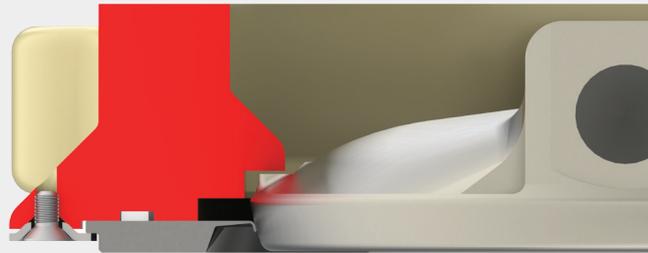


Figure 2: Metal seating arrangement

### Dual fire-safe seat

This seat arrangement incorporates the unique design of the soft seat for tight shutoff plus a metal seat that provides full seat contact in the event a fire damages the soft seat.

ANSI/FCI 70-2 Class VI shutoff.



Figure 3: Dual fire-safe seating arrangement

## Specifications and certifications

Options	ASME	DIN
<b>Sizes</b>	NPS 2 to 60	DIN 80 to 600
<b>Pressure classes</b>	ASME CL 150 to 1500	PN 10 to 40
<b>End connection</b>	ASME 16.5 and ASME B16.47	EN 1092-1 raised face
<b>Body materials</b>	WCC, CF8M; alloys upon request	1.0619, 1.4408; alloys upon request
<b>Face to face</b>	API 609 (Valtek standard for large sizes)	EN 558 Series 20
<b>Body style</b>	Lug, wafer (flangeless), double-flanged	Lug, wafer
<b>Temperature</b>	-196°C to 427°C (-320°F to 800°F)	
<b>Packing</b>	PTFE V-ring, braided PTFE, graphite braid, SureGuard XT, SafeGuard	
<b>Packing type</b>	Single, twin, vacuum, live-loaded, fire-safe	
<b>Fire safety</b>	API 607, ISO 10497	
<b>Fugitive emissions</b>	ISO 15848-1	
<b>Shut-off</b>	ANSI/FCI 70-2: Class IV (metal seat) and VI (soft seat)	

### Design standards

ASME (B16.34, B16.10, B16.25), PED, DIN, CRN, ISO, NACE, EN

### Test standards

ASME B16.34, ANSI/FCI 70-2

### Certifications/approvals

ISO 9001, PED, CRN, TRCU, SIL



## Actuation and instrumentation

### VR spring cylinder rotary actuator

The Flowserve VR spring cylinder rotary actuator combines high torque and pneumatic stiffness with excellent throttling capabilities. These characteristics are designed into a lightweight, rugged and compact assembly, making this actuator an ideal choice for quarter-turn applications.

### Limitorque® LPS pneumatic Scotch yoke actuator

The Limitorque LPS actuator is ideal for medium or large valve actuation and any application requiring robust design, long service life and high-speed operation. Its modular construction allows easy on-site maintenance without special tools or valve removal. The actuator's 25-year design life and maintenance intervals of up to six years lower its total cost of ownership.



### Logix 3800 digital positioner

Compatible with linear and rotary valves and actuators, the Logix 3800 digital positioner delivers high reliability in harsh environments. It provides unparalleled modularity and versatility within a single unit. Its ability to handle double- or single-acting, linear and rotary applications reduces inventory and operating costs. An innovative, one-button, quick-calibration feature simplifies installation.



Flowserve Corporation  
5215 North O'Connor Blvd.  
Suite 700  
Irving, Texas 75039-5421 USA

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