FLOWSERVE

Kämmer TotalFlow

High Pressure Control Valves

Experience In Motion

TotalFlow - 335000

Introduction

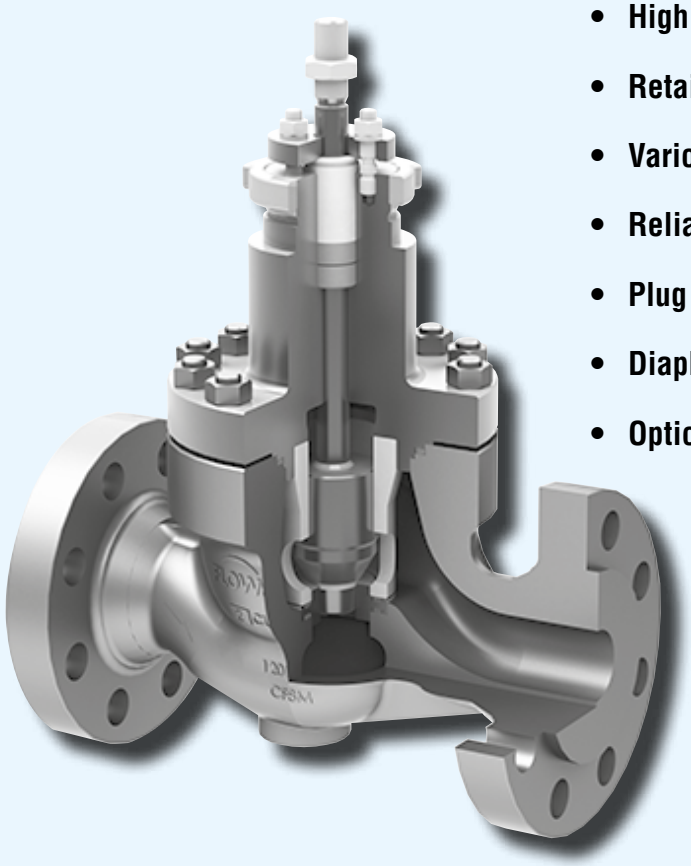
Kammer has been designing, engineering and manufacturing control valves, actuators and accessories since 1966. On countless occasions customers have approached Kammer requesting lasting solutions for their very special application requirements. In many cases this has involved engineering and manufacturing components from non-standard (exotic) materials such as Monel, Titan, Hastelloy or Ceramics. Although over 50% of all valves shipped by Kammer are custom designed, due to the versatility and interchangeability of Kammer's designs this often does not necessarily mean longer delivery times or added cost.

True to this principle the new Kammer High Pressure Control series **TotalFlow – 335000**, offers a wide range of options for ANSI pressure classes 600 to 1500. Its modular design provides greater flexibility, an assurance of shorter delivery times and competitive costs. It combines component parts from the proven Severe Service Multi-Z valve series and uses Kammer's established trim technology.

TotalFlow's outstanding feature is the clamped or retained seat design, which provides simple maintenance without the need for expensive special tools. It provides a solution in applications where threaded seats are not acceptable. This design is ideal for applications in the Oil & Gas Industry, the Power Industry and, not least, the Chemical Industry.

By using Kammer's established trim technology this valve series is designed for use with single acting, diaphragm actuators. The TotalFlow – 335000 series bridges a product gap for clamped/retained seat valve design and diaphragm actuators, complementing the Valtek Mark One Valve Series.

Features



- High pressure castings
- Retained seat configuration
- Various trim materials
- Reliable and proven trim design
- Plug head guided with different characteristics
- Diaphragm actuators KP Diaphragm and FlowAct
- Optional electric actuators

Figure 1: TotalFlow Features

Applications

Power

Throughout our rich history, Flowserve has been closely identified with power generation. Our experience with power generation applications has continued to position Flowserve as a market leader in fossil fuel, combined cycle, nuclear power and renewable energy solutions. By combining high-quality, technology-driven products with industry expertise, Flowserve delivers reliable solutions for our customers' critical applications

Oil&Gas

On every continent and in every ocean, the world's largest and most technologically advanced companies extract millions of barrels of oil each day. Over the course of a year, almost 3000 billion cubic meters of natural gas are harvested. Approximately 3.25 million kilometers (2.0 million miles) of pipelines along with a vast fleet of the largest ships on Earth transport this oil and gas to gas plants and refineries for processing into fuels, lubricating oils, waxes, asphalt and petrochemical feedstocks.

The people, products and services of Flowserve play a crucial role in the day-to-day operational success and the future technological advancement of the world's largest and most critical industry. Wherever oil and gas are produced, transported and processed, you will find Flowserve petroleum flow and control products and systems

Chemical

Providing products and services that define chemical industry standards, Flowserve solutions deliver maximum value and dependability to our customers safely and reliably.

Our solutions are used around the clock to help process, transfer, and store some of the world's most hazardous and corrosive chemicals while improving system performance and plant uptime, providing customers with a competitive advantage.

At Flowserve, we want to help our customers exceed their business goals through the use of our collective resources and extensive experience in the chemical industry.

Figure 2: 335000 Globe Valve

Flowserve can help relieve the stresses and reduce the life cycle costs associated with the most important aspects of plant operation. Dedicated to delivering the highest quality support, Flowserve integrates mechanical and materials engineering knowledge with creative solutions to improve equipment reliability and system performance, reduce energy consumption and improve the safety and environmental impact of operations.

Specifications

Size	1 - 4 inch, other sizes upon request
Pressure Class	Class 600 - 1500
Body Materials	Carbon Steel (WCC, LCC) Stainless Steel (CF8M) Chrome-Moly (WC9)
Body Type	Globe Angle
End Connections	Flanged Weld ends Others upon request

Trim Type	Unbalanced Balanced	
Trim Design	Linear single stage Multihole Plugs	
Plug Material	1.4571 (316Ti SS) Alloy 6	or as required by application
Seat Material	1.4571 (316Ti SS) Alloy 6	or as required by application
Seat Retainer Material	1.4571 (316Ti SS)	or as required by application

Actuator	Diaphragm Actuator Type KP (Stainless Steel) Diaphragm Actuator Type FlowAct (Carbon Steel) Electric Actuator

Retained seat option. In many applications a screwed in seat is not the preferred design. Temperature changes makes it difficult to tighten the seat against the valve body. Also special tools are required to maintain the valve, a clamped seat with a retainer makes the life easier. Valtek and Kämmer have a long term experience with retained seat solutions.

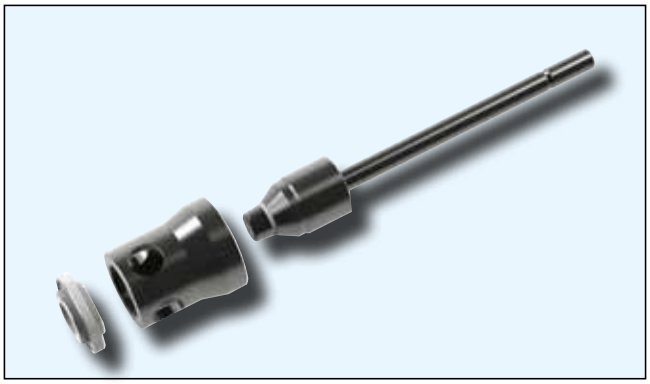


Figure 3: Exploded view of a Plug, Seat and Retainer

Valve Design

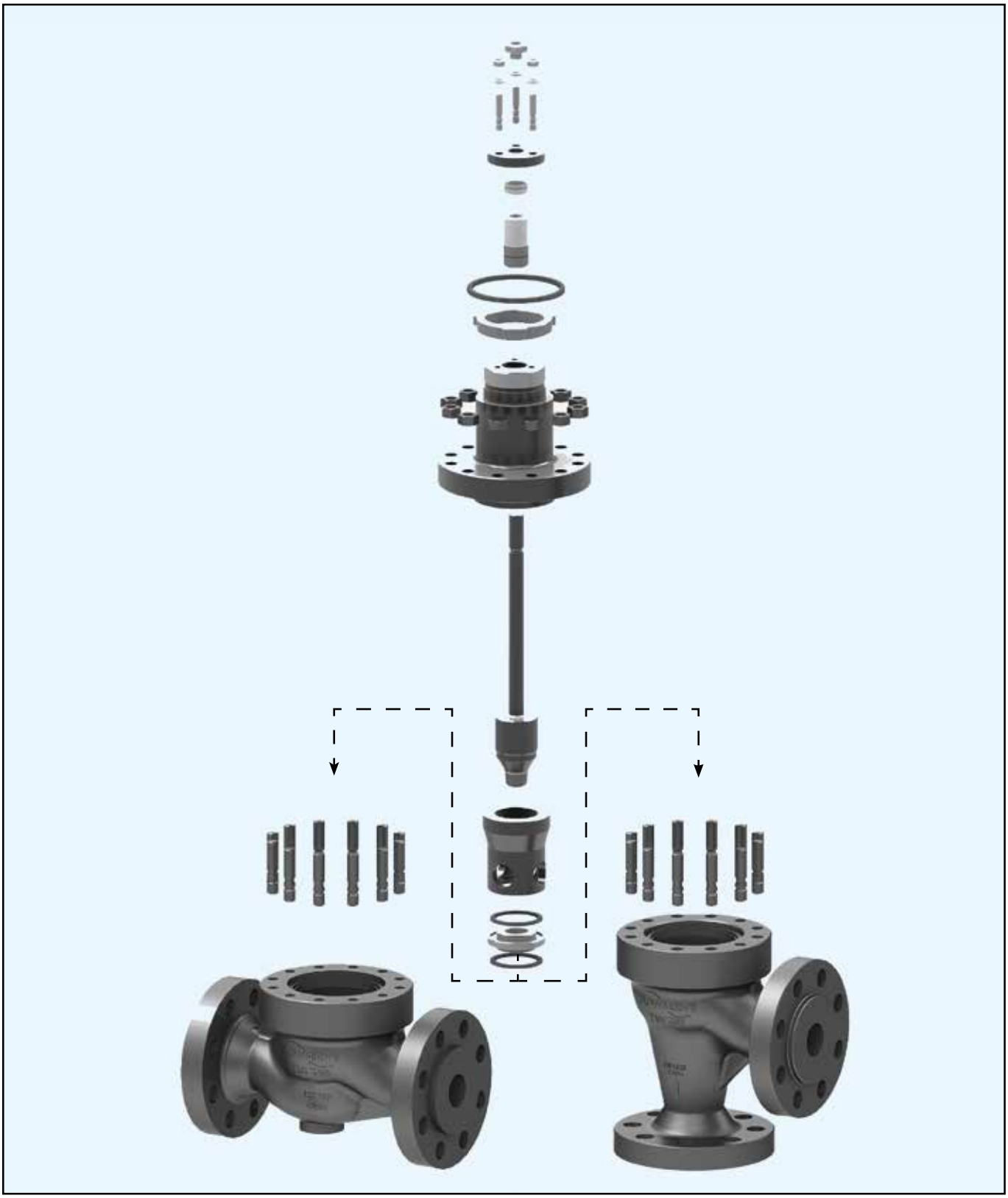


Figure 4: Exploded view

Actuator Options

KP Series - Stainless Steel

Standard linear actuators for control valves:

- Standard actuator made from stainless steel
- Air supply up to 6 bar
- Multi-spring design
- Reversible
- Top handwheel or top mounted limit switches optional
- Flowserve DIRECT (no tubing required) and NAMUR mounting

Kämmer series 2 actuators types P1, P2, P3, P4 and P5 are powerful and compact. By using stainless steel material the actuators have far reaching resistance to corrosion even without a protective coating. Accessories such as positioners, limit switches or solenoid valves etc. can be fitted either DIRECT or according to NAMUR standards. Compact versions with enclosed accessories are also available.

Figure 5: KP Stainless Steel Actuator

Figure 6: FlowAct Actuator

FlowAct Series - Carbon Steel

Due to the modular design, FlowAct is interchangeable on multiple Flowserve valve models. With the multi-function cast yoke design, you have the ability to mount the accessories directly or to the NAMUR mounting pads. Direct mounting is available without the tubing (close at air failure) for stroke lengths to 40 mm (1.5”) and actuator size 700 (accessories for VDI/VDE 3845 and 3847 for solenoid valves, positioners and filter regulators).

- Modular and compact design
- Reversible
- Maintenance free
- Multi-function cast yoke design
- Flowserve DIRECT (no tubing required) and NAMUR mounting

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KMENBR3530-00-A4 07/15