

### Description

In addition to our rugged, versatile line of standard Optimux® OpGL™ Globe Control Valves, which are typically built with cast bodies in stainless or carbon steels, Trimteck also excels at engineering, designing, and manufacturing custom sliding stem valves with bodies fabricated from bar stock. We call these fabricated bar stock valves Optimux OpGL-XT Control Valves.

### Why use a fabricated OpGL-XT?

- **Quick Lead Time** – fabricated OpGL-XT bar stock bodies are not subject to foundry delays
- **Availability of Exotic Alloys** – no limitation on construction material, which allows quick turnaround of valves fabricated from uncommon alloys
- **Availability of High Pressure Valves** – the OpGL-XT can be machined up to ANSI Class 4500; again, with a faster turnaround than cast valves
- **Customizability** – body styles, end connections, and face-to-face dimensions can all be customized as required
- **Severe Service** – available with an array of severe service trims including venturi seats for flashing service - as well as oversized wall thickness for noise abatement and added durability



### Case Studies

#### Production of Polyethylene Terephthalate (PET) Level Control for Titanium Dioxide Flash Tank

**Location:** DAK Americas  
North Carolina, USA

**Requirements:** A custom-built level control valve with an inverted plug; body to be built entirely in Grade 2 Titanium with Grade 7 Titanium welded inlays to protect against the extremely erosive effects of TiO<sub>2</sub>.

**Solution:** Working closely with the customer, Trimteck designed a 3" CL600 X 10" CL300 OpGL-XT Angle Body Control Valve, with an inverted plug and catch-plate. Manufacturing of the valve took place under a very tight delivery schedule, and Trimteck was able to meet it in time for the customer's shutdown. All wetted components were machined from Grade 2 Ti bar stock, and treated with a Grade 7 Ti welded inlay.

**Photo:** 3" CL600 X 10" CL300 Titanium OpGL-XT Angle Body Level Control Valve

**Photo (right):** 2" CL300 316SS OpGL-XTSB Cryogenic Angle/Split Body Valve



#### Rocket Propulsion System Testing Bubble-tight Shutoff of Liquid Oxygen in Chemical Steam Generator

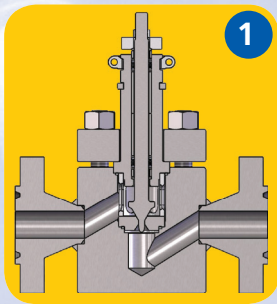
**Location:** NASA Stennis Space Center  
Mississippi, USA

**Requirements:** A cage-less cryogenic globe valve for quick, safe, and repeatable Class VI shutoff of LOX in a new CSG system used by NASA to create a vacuum chamber for rocket testing.

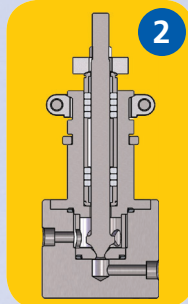
**Solution:** In close collaboration with NASA engineers, Trimteck designed and manufactured QTY27 custom 2" CL300 316SS OpGL-XTSB Cryogenic Angle/Split Body valves fitted with OpTK piston-cylinder actuators. The rugged, fabricated split body configuration allowed for the seat to be held in place without the need for a retainer or a cage – a requirement for most LOX valves at Stennis Space Center. The force applied by six equidistant bolts holding the upper and lower body segments together ensures that the seat is "sandwiched," subjected to even pressure, and held in place to reduce the effects of line torsion or vibration on the seal. Tight shutoff was achieved using our standard soft wafer seat insert that is easily and inexpensively replaceable when servicing the valve.



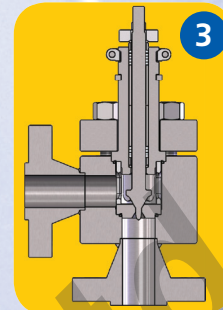
### OpGL-XT Bar Stock Body Styles



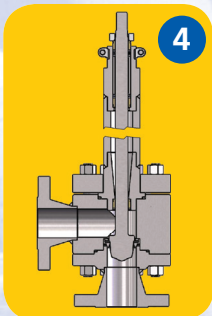
**1 In-Line Globe**  
Standard T-Style globe body configuration accommodates in-line piping systems



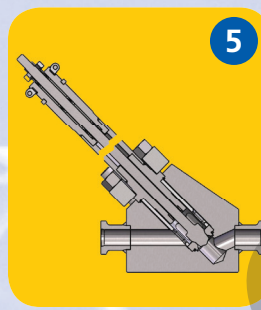
**2 Offset Globe**  
If piping can be offset, this allows for a more economical machining process and thus a more economical valve



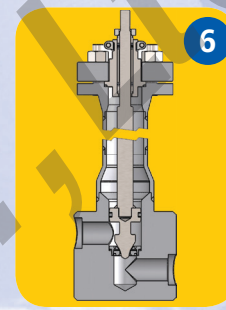
**3 Angle Body**  
Often employed to displace the effects of cavitation; and is available with an extended venturi seat ring to protect the outlet passage



**4 Angle Split Body**  
Two body segments lend this configuration in-line serviceability of trim, and eliminate the need for a retainer or cage



**5 Y-Body**  
Nearly straight-through flow passage is less restrictive than standard globe valves, which helps reduce turbulence and vibration

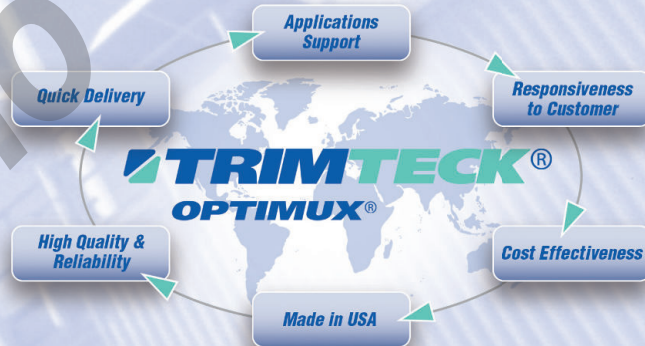


**6 Cold Box**  
Welded cryogenic bonnet extension design permits easy access and removal of the trim from outside the cold box

### About Trimteck

Trimteck is a NASA VDB-approved, ISO 9001-2008-certified U.S. company (Registration No. 2012-98243) with over thirty years of experience engineering, manufacturing, and marketing high-quality, cost-effective flow, pressure, and temperature control solutions and equipment for critical processes, and our products are currently helping customers safely improve quality, optimize throughput, and reduce emissions and energy costs across an array of industries in more than 42 countries.

We manufacture a comprehensive line of control valves – and variety of actuators, positioners, severe service trims, and other accessories – that our applications engineers and representatives use to solve even the most complex flow control problems quickly and economically.



Products in compliance with:  
ASME B16.34  
ANSI/ISA-75.05.01-2000 (R2005)

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