

# TRIV™ Injection Safety Valve with VOi and HiFlo™ Lock



## Dual Barrier Sub-Surface Controlled Injection Safety Valve

### Applications:

- Injection operations
- Water / Gas (WAG) Applications
- CO<sub>2</sub> Storage Wells
- Cryogenic Gas Injection
- Formations requiring injection rates to 65,000 bpd [10,334 m<sup>3</sup>pd]
- Wells requiring injection pressure up to 10,000 psi [68,948 kPa]
- Subsurface controlled safety valve operations

### Benefits:

- Dual barrier protection
- Autonomous control
- No surface equipment control lines required
- Eliminates flapper chatter and throttling
- Unlimited injection range
- No orifice size change-outs over time
- Active surge protection
- Minimized pressure drop
- Unlimited setting depth
- 20-year design life
- Simple installation and recovery

### Features:

- Tubing retrievable
- API-14A Validated
- Erosion resistant
- M-t-M Body Joints
- Non-Elastomeric Seals
- Cryogenic options available

### Description:

The Tejas tubing retrievable injection valve, or TRIV™, is a subsurface controlled, injection safety valve that features the Patented Tejas WR-VOi™ variable orifice insert safety valve. It is designed to prevent injection fluid from flowing back out of the well if the surface control system becomes damaged or malfunctions.

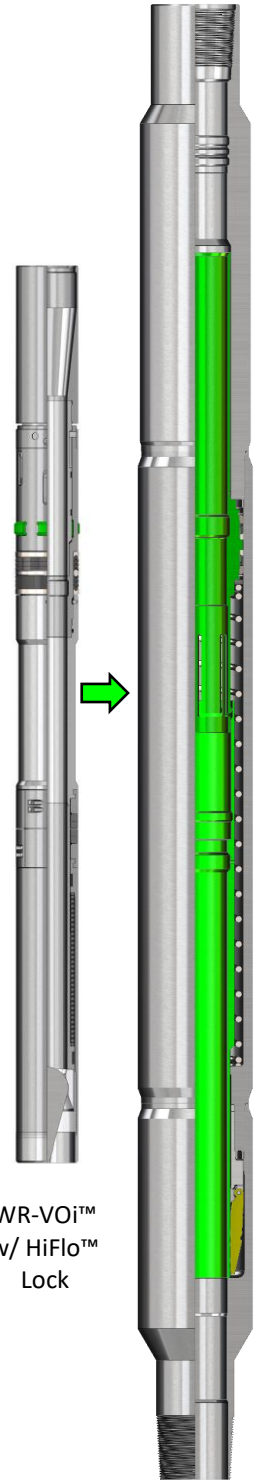
The design of the TRIV provides a reliable, extremely versatile system that is virtually maintenance free. Together with the WR-VOi and HiFlo™ Lock, the TRIV system provides full well integrity without the necessity of running a control line to depth. The TRIV™ features metal-to-metal body joints and incorporates our proven curved flapper and hard/soft seat primary seal designs.

The TRIV system will provide a dual-barrier safety system designed to provide a 20-year service life. The tubing retrievable valve and wireline insert valve have unlimited setting depths and are available in a wide variety of material selections that are suitable for high surge potential, severely corrosive, highly erosive, and cryogenic environments associated with water and gas (WAG) injection applications.

Tubing Size in [mm]	Max Tool OD <sup>†</sup> in [mm]	Working Pressure psi [kPa]	Polished Bore Diameter* in [mm]	Tensile Strength lbf [kN]	Maximum Allowable Injection Rate** bbl/day
4.500 [114.3]	6.765 [171.8]	10,000 [68,948]	3.750 [95.25]	475,000 [2,113]	40,000
			3.812 [96.82]		
5.500 [139.7]	8.250 [209.5]	10,000 [68,948]	4.313 [109.55]	832,000 [3,243]	65,000
			4.562 [115.87]		

† Alternate OD's are available upon request based on the material selection  
 \* Alternate Polished Bores are available upon request  
 \*\* Maximum Injection Rate depends on the anticipated solids loading expected during operation  
 ™ The Tejas logo is a trademark of Tejas Research & Engineering LLC  
 † Engineering data illustrate the scope of this product offering and are not all inclusive. Additional sizes and pressure ratings are available upon request

[Direct request for quotations to: product.sales@tejasre.com](mailto:product.sales@tejasre.com)



WR-VOi™  
w/ HiFlo™  
Lock

TRIV™  
RIH Condition  
Shown