



## Application Spotlight

### Extended Stem 360 Series Valve for Cryogenic Glass Level Gage Applications

Cryogenic and low-temperature services are common throughout refinery, chemical, and petrochemical facilities, especially where light hydrocarbons, refrigerants, liquefied gases, or industrial gases are stored, transferred, or separated. These applications often require local visual level indication on vessels, receivers, accumulators, storage tanks, and process drums where operators need a clear, direct, and dependable indication of liquid level.

Typical cryogenic and low-temperature applications include:

- LPG / NGL storage and handling — propane, butane, ethane, methane, light-end hydrocarbons
- Ethylene and petrochemical units — ethylene, propylene, cracked gas, and refrigeration services
- Refrigeration systems — ammonia, propane, CO<sub>2</sub>, and mixed refrigerant receivers or accumulators
- LNG / natural gas processing — liquefaction, regasification, cold separators, and storage vessels
- Industrial gas systems — liquid nitrogen, liquid oxygen, argon, and CO<sub>2</sub> storage or transfer
- Cold process drums and knock-out vessels where insulated level indication is required

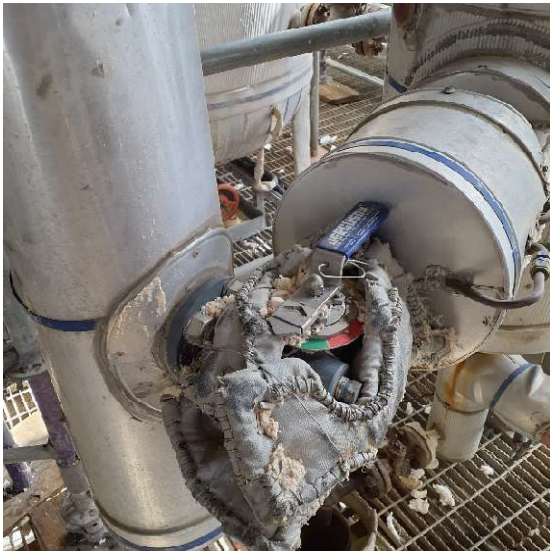
In these services, frost build-up and insulation can make standard valve operation difficult. Armored glass level gages may be equipped with Non-Frost Extensions to maintain visibility in low-temperature service, and these are specifically required for cryogenic installations where frost or insulation could obstruct the viewing area.

The same practical issue applies to the gage valves. When a cryogenic glass gage assembly is insulated, the valve handle and position indicator can become recessed, obstructed, or difficult to access. The Extended Stem 360 Series Safety Ballcheck Valve helps address this by moving the operating handle and visual position indicator outward, beyond the insulated area, giving operators easier access without disturbing the insulation or working around frost-covered components. Similar to Non-Frost Extensions, the extended stem allows the valve body to be fully insulated without leaving openings that could allow moisture intrusion and lead to frost build-up. The handle and visual position indicator remain outside the insulation for clear access and valve position confirmation.

Anderson Separators® Clark Steam Traps™ Ernst Flow Industries® Enervac™ GPI Meters  
Jacoby-Tarbox® Jerguson® Ernst Instruments™ Oil Filtration Systems® Reliance® Boiler Trim



This is especially valuable with the 360 Series valve because valve position is a major part of the product's safety and usability. The 360 Series is designed with a visible quarter-turn handle, color indicator ring, bypass mode, lock-out/tag-out capability, and safety ballcheck functionality to help reduce false level readings during commissioning and support safer operation of armored glass gage assemblies. This allows the valve body to remain insulated while keeping the operating handle and position indicator accessible to plant personnel.



Standard 360 valve with field-applied insulation, showing limited handle and position-indicator access.



The extended stem option keeps handle, and indicator outside the insulation envelope, allowing the valve area to be fully insulated and finished consistently with the surrounding process piping.

### Typical Recommended Configuration for Cryogenic Service

For cryogenic applications, Jerguson typically recommends an **L10 Series Large Chamber Gage** to help minimize the effects of boiling or flashing liquids. **Non-Frost Extensions** should be used to help prevent frost buildup from obstructing the visible area, while **spring washers** help maintain gasket loading and reduce maintenance requirements. **Cold insulation** should be applied to help maintain process temperature and complete the insulation system. When isolation valves are required, **360 Series Safety Ballcheck Valves with extended stems** are recommended to keep the operating handle and visual position indicator accessible outside the insulation envelope.

### Result:

A complete cryogenic glass gage assembly that maintains local level visibility, improves valve accessibility, and allows insulation to be completed without burying the valve handle or position indicator.