

## TIJ Series Thermal Insulating Jacket

Protect Your Instrumentation and Equipment From Excessive Heat Loss

### Description

Becker Thermal Insulating Jackets (TIJ) ensure reliable operation of your control instrumentation and control valves in arctic conditions where temperatures can drop to extremes. The TIJ minimizes loss of entrained heat within natural gas supply gas system necessary to “power” the control systems. The TIJ features a rugged design that prevents heat from escaping into the atmosphere. The TIJ also incorporates a modular design that may be easily removed and replaced during maintenance operations. The easy reinstallation ensures that operators will replace the insulation and maintain the benefit of the TIJ indefinitely. The TIJ typically maintains a +50°F (+90°C) delta between ambient temperature and the protected control system component.

### Benefits

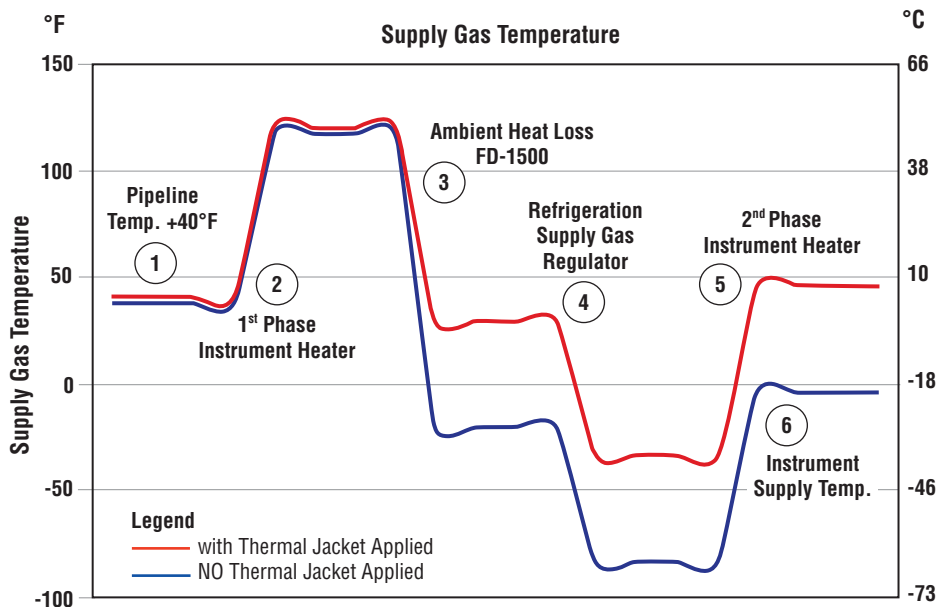
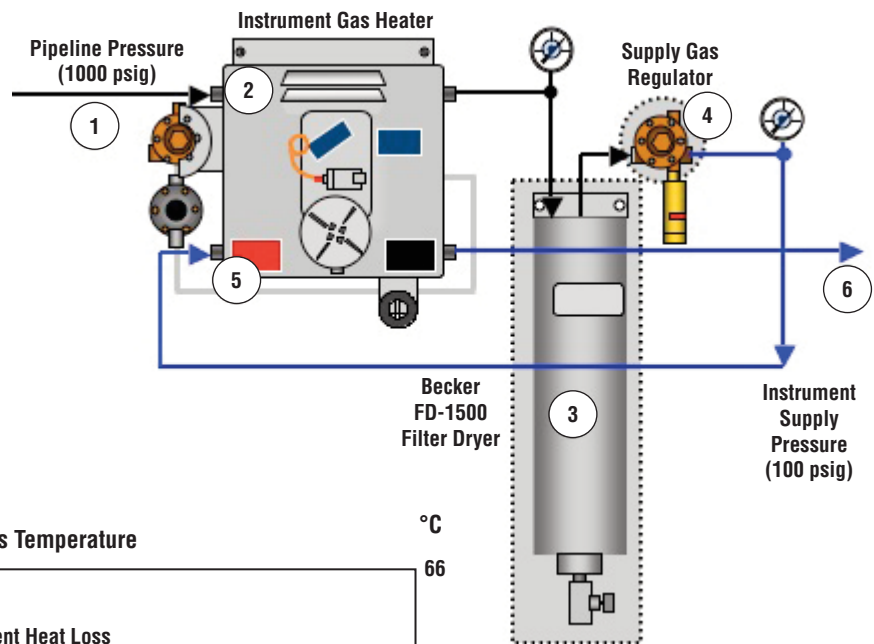
- Allows control systems to operate reliably in a lower range of operating temperatures
- Minimizes frost and condensation buildup
- Maximizes the efficiency of installed instrumentation gas heater systems
- Improves operational reliability of pipeline control systems
- Features an easily installed modular design that ensures easy replacement during maintenance
- Rugged design ensures longevity
- Fire resistant per ASTM Specification
- Endorsed by the United States Department of Energy (US DOE)
- Readily available for almost any custom pipeline application

**Figure 1.0** - Typical Natural Gas Supply Gas System with Thermal Insulating Jacket

The Supply Gas System provides clean, dry, heated (instrument quality) gas to operate control instrumentation and valve actuators. Control Instrumentation and control valves are challenged to provide reliable operation when temperatures reach arctic conditions. The Becker TIJ protects ensures operation of your control system by maintaining heat within the supply gas system and related equipment.

### Notes

Pipeline Pressure = 1000 psig (69 barg)  
 Inlet Gas Temperature (Pipeline) = 40°F (4.4°C)  
 Instrument Supply Pressure = 100 psig (6.9 barg)  
 Ambient Temperature = -20°F (-29°C)



**Figure 2.0** - Compare Temperature Difference with Thermal Insulating Jackets

Application of Thermal Insulating Jackets to the FD-1500 Filter Dryer and Supply Gas Regulator minimize ambient heat loss and frost/condensation buildup. With an ambient temperature of -20°F (-29°C), the TIJ ensures a resultant Supply Gas Pressure Temperature sendout +50° (90°C) greater than without the TIJ. This ensures more reliable operation of your pipeline control systems.

Specifications	
<b>Color</b>	Gray (Standard)
<b>Inner Jacketing</b>	17 ounce/yard <sup>2</sup> Teflon® Impreg. Fiberglass Cloth
<b>Outer Jacketing</b>	17 ounce/yard <sup>2</sup> Teflon® Impreg. Fiberglass Cloth
<b>Insulation</b>	1.0 in (3.0 in uncompressed), LD Fiberglass
<b>Thread</b>	Teflon® coated fiberglass thread
<b>Attachments</b>	Teflon® Impreg. Fiberglass Cloth straps with 316SS Double-D Rings Hook & Loop Seam Fasteners
<b>ID Tags</b>	ATC Type 304SS w/ Embossed Lettering
<b>Installation</b>	Outdoor/Indoor
<b>Flammability</b>	Class 1 flame spread and smoke develop rating per ASTM
<b>Mildew and Rot</b>	Full Resistance
<b>Abrasion Resistance</b>	Excellent
<b>Temperature Limits</b>	-40°F to +500°F (-20°C to +260°C)
<b>Chemical Resistance</b>	Resists oils, grease moisture, mild acids, alkalis, dirt, dust, and salt atmospheres
<b>Cleanability</b>	Outer/Inner Jacket may be cleaned with standard industrial cleaners
<b>Performance</b>	Maintains min. T>50°F (90°C) Temperature Differential above ambient

#### Products

- Thermal Insulation Cover Model TIC/FD-1500 (FD-1500)
- Thermal Insulation Cover Model TIC/P-225 (High Pressure Supply Gas Regulator)
- Thermal Insulation Cover Model TIC/F-225 (High Pressure Supply Gas Regulator)
- Thermal Insulation Cover Model TIC/CAB (CAB Series Fiberglass Cabinet)
- Instrumentation Cabinet Jacket (Consult Becker for Details)
- Instrument Tubing Modular Lagging (Consult Becker for Details)
- Custom TIJ Applications are Available to Suit any Application

#### Accessories

- FD-1
- FD-2
- FD-1500
- High Pressure Supply Gas Regulator
- CAB Fiberglass Cabinet

#### Options

- Electronic Thermal Heat Trace (Explosion Proof/Class 1, Div 1)



#### Technology Endorsed by United States Department of Energy (US DOE)

During maintenance, the insulation that covers pipes, valves, and fittings is often damaged or removed and not replaced. Pipes, valves, and fittings that are not insulated can be safety hazards and sources of heat loss. Removable and reusable insulating pads are available to cover almost any surface. The pads are made of a noncombustible inside cover, insulation material, and a noncombustible outside cover that resists tears and abrasion. Material used in the pads resists oil and water and has been designed for high temperatures. Wire laced through grommets or straps with buckles hold the pads in place.

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