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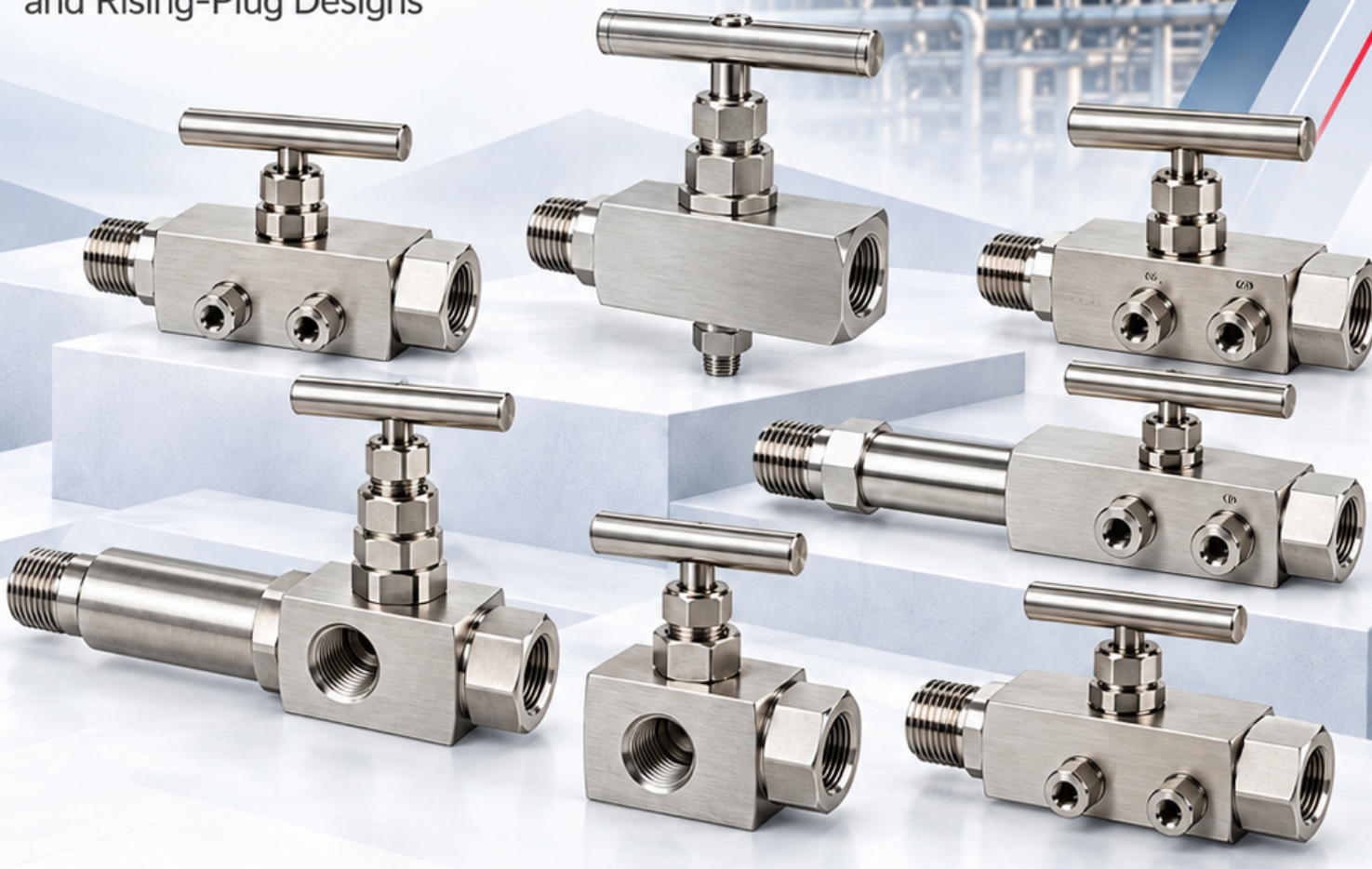
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INSTRUMENT
GAUGE
VALVES

# TSI-12 Instrument Gauge Valves

## Product Catalogue

Multi-Port, Extended, Gauge Isolation and Rising-Plug Designs



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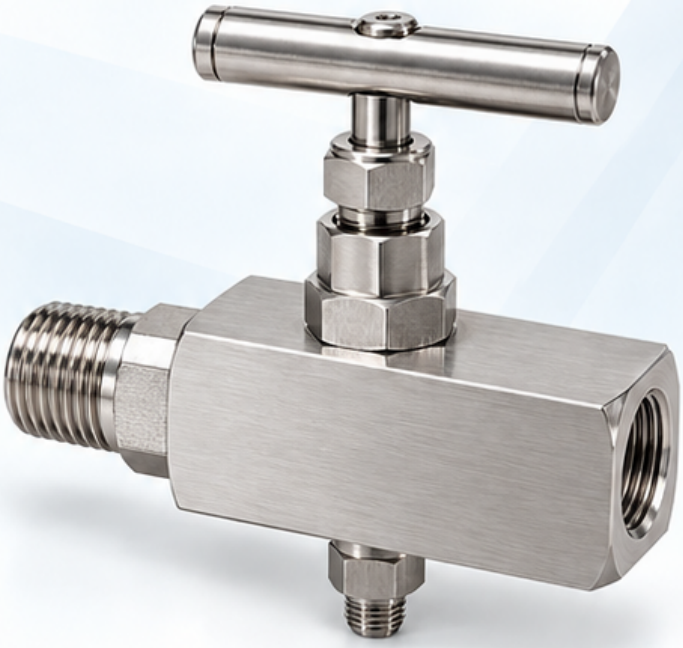
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**Instrument Gauge Valves**

# TSI-12-001 Multi-Port Gauge Valve

## Standard Body / 3-Port Design



## Overview

Compact multi-port gauge valve for isolation, venting and instrument connection duties. The standard-body configuration combines a male process inlet, female instrument outlet and auxiliary gauge / test access in a compact block form for hook-up and calibration service.

## Key Features

- Multi-port block body for gauge and instrument isolation
- Non-rotating stem with T-bar handle operation
- Positive shut-off needle design
- Stainless steel bar-stock construction
- Compact standard-body layout
- Additional alloys and source-specific options on request

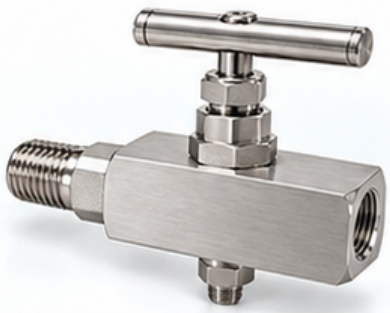
## Technical Information

| | |
|---|---|
| **Engineering reference** | Representative standard-body multi-port gauge valve |
| **Stem design** | Non-rotating stem; replaceable packing system |
| **Connection pattern shown** | 1/2 in male NPT process inlet x 1/2 in female NPT instrument outlet |
| **Gauge/test ports** | Front 1/2 in female NPT auxiliary port; opposite-side port available by configuration |
| **Available sizes** | 1/2 and 3/4 in nominal connection ranges |
| **Body material** | 316 stainless steel standard; additional alloys on request |
| **Pressure at 100 °F** | Up to 6,000 psig (414 bar); selecteal high-pressure variants subject to selected source |
| **Temperature / packing** | PTFE -65 to 450 °F (-54 to 232 °C); graphite available for higher-temperature service on selected variants |
| **Flow orifice** | Typical 0.156 in / 4.0 mm |
| **Reference overall length** | Representative 5.38 in (137 mm) overall length for the benchmark route |
| **Standards / design notes** | NPT threaded interfaces to ASME B1.20.1; sour-service options available by selected route |
| **Application / service** | Gauge isolation, venting, instrument hook-up and calibration duties |

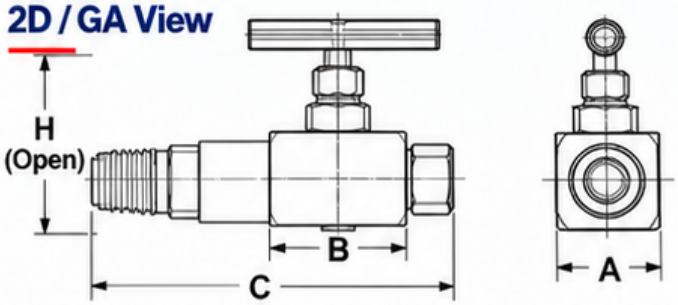
### Selection Note

Exact pressure class, auxiliary-port arrangement, packing system and documentation are confirmed with the quotation. Bottom 2D / GA views are representative engineering illustrations only.

## 3D View



## 2D / GA View




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**Instrument Gauge Valves**

# TSI-12-002 Multi-Port Gauge Valve

## Lagging Extension Body / 3-Port Design



## Overview

Extended-body multi-port gauge valve designed for applications where lagging or insulation clearance is required. The 3-port arrangement provides isolation of the process, instrument and auxiliary gauge/test access in a single compact valve.

## Key Features

- Extended inlet section for lagging / insulation stand-off
- Multi-port block body for gauge and instrument isolation
- Adjustable packing design with T-bar handle operation
- Non-rotating lower stem with positive shut-off
- Stainless steel bar-stock construction
- Other alloys available on request

## Technical Information

| | |
|---|---|
| **Engineering reference** | Representative extended-body multi-port gauge valve |
| **Stem design** | Non-rotating stem; replaceable packing system |
| **Connection pattern shown** | 1/2 in male NPT process inlet x 1/2 in female instrument outlet |
| **Gauge/test ports** | Front 1/2 in female NPT auxiliary port; opposite-side auxiliary port available by configuration |
| **Available sizes** | 1/2 and 3/4 in nominal connection ranges |
| **Body material** | 316 stainless steel standard; additional alloys on request |
| **Pressure at 100 °F** | Up to 6,000 psig (414 bar); high-pressure variants subject to selected source |
| **Temperature / packing** | PTFE -65 to 450 °F (-54 to 232 °C); graphite available for higher-temperature service on selected variants |
| **Reference extension length** | 4 in and 6 in extension routes available |
| **Typical benchmark dimensions** | A open 4.84 in (123 mm); B 2.97 in (75.4 mm); C 7.25 in (184 mm) |
| **Standards / design notes** | NPT threaded interfaces to ASME B1.20.1; pressure boundary and sour-service options subject to quoted source |
| **Application / service** | Gauge isolation where insulation stand-off is needed in hook-up or process systems |

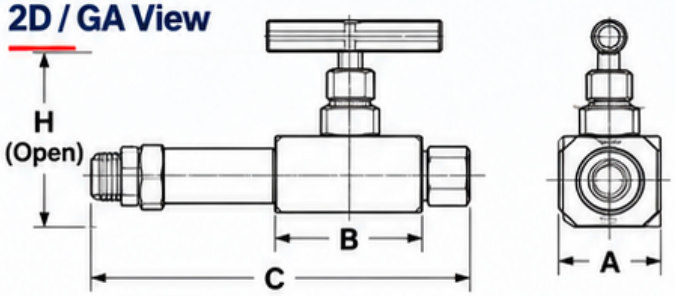
### Selection Note

Actual extension length, pressure class, packing system, auxiliary-port arrangement and documentation are confirmed with the quotation. Bottom 2D / GA views are representative engineering illustrations only.

## 3D View



## 2D / GA View




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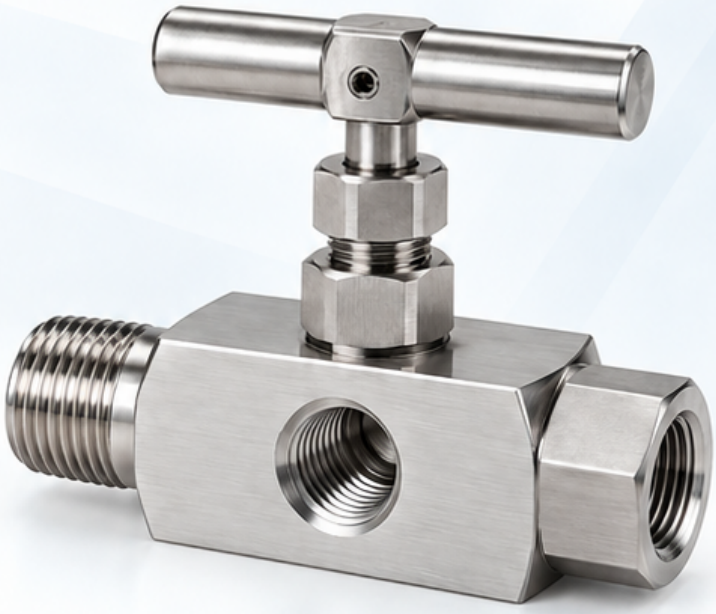
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**Instrument Gauge Valves**

# TSI-12-003 Gauge Isolation Valve

## Vent / Bleed Type



## Overview

Compact gauge isolation valve intended for manual shut-off with a dedicated vent or bleed function. The documented benchmark image represents the bleed-screw / bleed-connection style commonly used for draining or venting trapped pressure after instrument isolation.

## Key Features

- Isolation valve with dedicated vent / bleed provision
- Suitable for instrument calibration and safe pressure release
- Compact block body with T-bar handle operation
- Adjustable packing design and positive shut-off stem arrangement
- Stainless steel bar-stock construction
- Other alloys available on request

## Technical Information

| | |
|---|---|
| **Engineering reference** | Representative gauge isolation valve with vent / bleed arrangement |
| **Stem design** | Isolation valve stem with vent / bleed arrangement; T-bar handle |
| **Connection shown** | 1/2 in male NPT inlet x 1/2 in female NPT outlet x 1/4 in vent / bleed connection |
| **Connection alternatives** | Female x female and alternate bleed / vent arrangements subject to source selection |
| **Body material** | 316 stainless steel standard; additional alloys on request |
| **Pressure at 100 °F** | 6,000 psig (414 bar) representative standard rating |
| **Temperature / packing** | PTFE -65 to 450 °F (-54 to 232 °C); graphite option for higher-temperature service on selected variants |
| **Orifice / typical Cv** | Representative bore 0.21 in (5.4 mm); typical Cv about 0.46 depending on benchmark route |
| **Standards / design notes** | Pressure boundary aligned for instrument service; NACE MR0175 / ISO 15156 options available by selected route; factory pressure tested |
| **Documentation on RFQ** | Heat / material certificate, GA drawing, pressure test and traceability subject to quotation |
| **Application / service** | Gauge isolation, controlled venting, bleed-down, instrument maintenance and calibration duties |

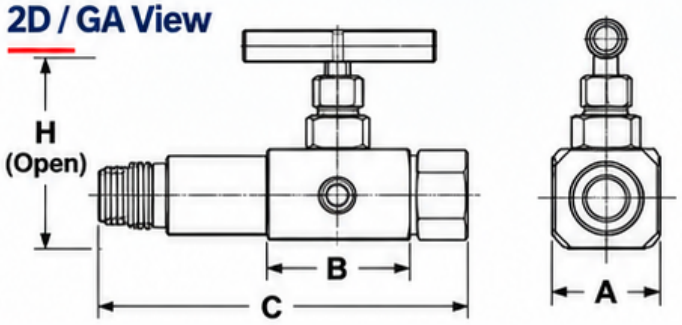
### Selection Note

Vent-port and bleed-screw patterns are source-specific and not universally interchangeable. Final connection details, packing system and documentation are confirmed with the quotation.

## 3D View



## 2D / GA View




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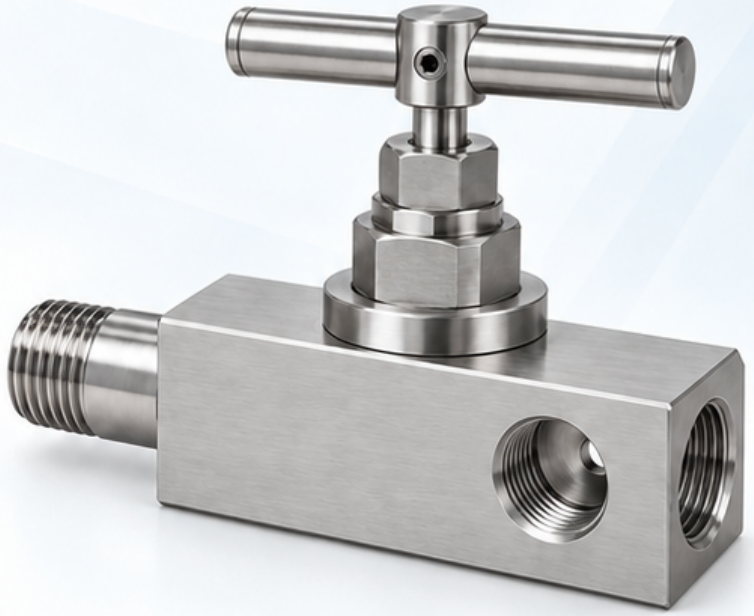
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**Instrument Gauge Valves**

# TSI-12-004 Rising-Plug Gauge Valve

## Soft-Seat / 3-Port Design



## Overview

Rising-plug gauge valve built for isolation, calibration and instrument service where a soft-seated shut-off route is required. The documented benchmark form is a standard-body 3-port design with a front gauge / test connection and a bonnet lock ring wider than the valve body.

## Key Features

- Rising-plug soft-seat design
- Standard-body 3-port gauge valve configuration
- Front gauge / test port for instrument service
- T-bar handle with adjustable packing system
- Replaceable seat options for service selection
- Additional alloys and source-specific options on request

## Technical Information

| | |
|---|---|
| **Engineering reference** | Representative rising-plug gauge valve |
| **Stem design** | Rising-plug stem with replaceable soft seat |
| **Connection pattern shown** | 1/2 in male NPT process inlet x 1/2 in female NPT outlet |
| **Gauge/test port** | Front female NPT gauge / test port as shown |
| **Available sizes** | 1/4 in to 3/4 in NPT routes depending on connection pattern |
| **Body material** | 316 stainless steel standard; Alloy 400 and Alloy C-276 available on selected routes |
| **Pressure at 100 °F** | Standard soft-seat routes up to 6,000 psig (414 bar); selected high-pressure variants up to 10,000 psig (690 bar) by route |
| **Seat material / temperature** | Acetal, PFA / PTFE and PEEK seat routes available; temperature capability depends on seat selection |
| **Representative temperature range** | Acetal to about 250 °F (121 °C); PTFE / PFA and PEEK routes for higher service temperatures as specified |
| **Standards / design notes** | NPT threaded interfaces to ASME B1.20.1; sour-service and oxygen-cleaning options available by selected route |
| **Application / service** | Isolation, calibration and gauge service; suitable for demanding instrument applications |

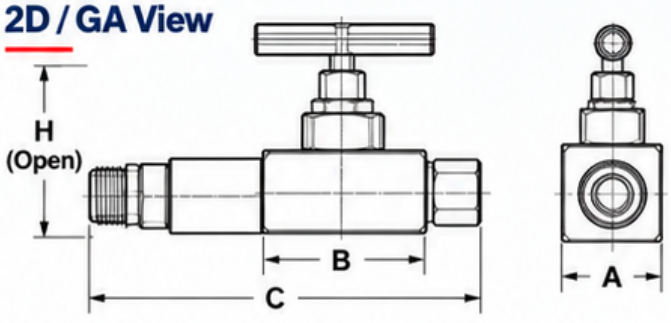
### Selection Note

Seat material, pressure class, exact dimensions and service documentation are confirmed with the quotation.
Bottom 2D / GA views are representative engineering illustrations only.

## 3D View



## 2D / GA View




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