Manifolds

1 2 3 4 5

WAY MANIFOLDS
ASTAVA draws from a strong engineering heritage, as well as seasoned business management. We offer a broad range of products – valves and manifolds suitable for gas and liquid services as well as full-service solutions that include custom engineering, design and manufacture of instrument enclosures, modular mounting systems, hook-ups and interlocking solutions for critical conditions and temperatures.

As a customer-focused company, ASTAVA provides high-quality products and engineering solutions that address our customers’ business and technical requirements.

For the ASTAVA line, we can offer scalability to design:

- Choice of materials from AISI 316 to special alloy solutions for highly toxic areas
- Connections, pressure and temperature ratings varieties
- Bonnet assemblies offering different stem, seal and material selections
- Option for standard packing, O-Ring sealing and fugitive emissions bonnets
- Extensive range of valve configurations and flow schemes
- Fully equipped instrument enclosures

With over 50 years of designing and manufacturing reliable products and solutions, ASTAVA has acquired an outstanding reputation for quality and customer service. We are always inspired by the need to evolve and stay ahead of the ever-changing marketplace.

ASTAVA offers a broad line of 1, 2, 3, 4 and 5-way instrument manifolds, all available in a wide range of materials and fully compatible with the requirements of the Oil & Gas, Petro-Chemical and Chemical industries.

In addition to this standard range of products, ASTAVA has over 3,500 different types of valves and manifolds available.
MANIFOLD FEATURES AND BENEFITS

The following unique features of the ASTAVA Line of Instrument Manifolds enable tailoring our high-quality products to the exact requirements of the customer and application:

**NACE MR-01-75 / MR-01-03**

All manifolds comply with NACE MR-01-75 / MR-01-03 standards

**FULL TRACEABILITY**

All products are fully traceable to its components.

**THR RC INS 922**

All products are compliant with THR RC INS 922.

**CERAMIC STEM BALL TIP Al$_2$O$_3$**

Superior hardness prevents deformation of the sealing tip and wear, significantly increasing the lifetime of the product for isolation purposes.

**BONNET SELECTIONS**

**O-ring stem-seal bonnet**
1. No packing adjustment
2. Extremely low operating torque
3. Compact design
4. Long life-cycle
5. Sealing below stem thread
6. Metal-to-Metal bonnet option

**Packing stem-seal bonnet**
1. Wide chemical compatibility range
2. High temperature option (Grafoil®)
3. Low operating torque
4. Sealing below stem thread

**STEM MATERIAL**

Monel K500 material

Features

- Certified for ISO 15848-1:2006(E), (with PEEK or Polyimide seals)
- Blowout-proof stem
- Integrated back seat on stem for a secondary seal in the fully opened position
- Safety stop pin – prevents the bonnet from detaching the body due to vibration
- Stem seals below stem threads
- A choice of O-ring materials
- Oxygen clean per ASTM G-93 as an option
- 100% Factory Tested Compliance with MSS–SP–99
- Direct mount flange design per IEC61518 (MAWP 6000 psig)
- Working pressure range up to 690 bar (10,000 psig)
- Working temperature range up to 550°C (1022°F)

Grafoil —TM GrafTech International Holdings, Inc.
The special sealing design applied in all ASTAVA Instrument Manifolds features a non-rotating ceramic ball tip.

The chemical composition of a ceramic ball tip is superior in hardness and functionality to a metal ball tip, eliminating sealing tip deformation and significantly increasing the lifetime of the product.

The stem threads are rolled and an integrated back seat design is applied to the packing type of bonnet. Applying a Stainless Steel 316 Ti stem with a chromium carbide diffusion coating results in maximum operation cycles and minimal risk of stem galling. Both packing and O-ring bonnets are designed with sealing below stem threads for maximum protection of the stem threads.

For maximum safety, the bonnet design prevents stem blowout, and a locking pin prevents unintentional disassembling of the bonnet.

### PACKING MATERIAL

Grafoil — TM GrafTech International Holdings, Inc.

### PRESSURE AND TEMPERATURE RATING

Red: Vent Valves
Blue: Isolate Valves
Green: Equalize Valves

For severe service applications, ASTAVA manifolds can be configured with a metal-to-metal seal below the bonnet thread. A dust ring is attached to the bonnet thread or tack weld on the locking pin for extreme vibrating conditions.

### HANDLE OPTIONS

The standard handle of the ASTAVA Line of Instrument Manifolds is a Stainless Steel T-bar. For high pressure applications of 10,000 psi (690 bar) an extended T-bar or hand wheel can be applied. Anti-tamper bonnet and key* lock options assure that the manifold is operated by qualified personnel only.

*Not included in order of anti-tampered bonnet manifold. This key should be ordered separately

### CLEANING

All instrument manifolds are cleaned in accordance with the ASTAVA WIQ-016 cleaning procedure. Oxygen clean is available in accordance with ASTM G-93.

### TESTING

Testing is executed and qualified according to THR RC 922
## Construction Materials

### Packing Bonnet

<table>
<thead>
<tr>
<th>No</th>
<th>Part</th>
<th>Qty</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Set Screw</td>
<td>1</td>
<td>St.St. 304</td>
</tr>
<tr>
<td>2</td>
<td>Bar Handle</td>
<td>1</td>
<td>St.St. 316L</td>
</tr>
<tr>
<td>3</td>
<td>Gland</td>
<td>1</td>
<td>St.St. 316L</td>
</tr>
<tr>
<td>4</td>
<td>Locking Nut</td>
<td>1</td>
<td>St.St. 316L</td>
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<tr>
<td>5A</td>
<td>Pressure Ring</td>
<td>1</td>
<td>St.St. 316L</td>
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<tr>
<td>5B</td>
<td>Back-up Ring</td>
<td>-</td>
<td>-</td>
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<tr>
<td>6A</td>
<td>Stem Packing</td>
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<td>Grafoil®</td>
</tr>
<tr>
<td>6B</td>
<td>Stem O-Ring</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7</td>
<td>Bonnet</td>
<td>1</td>
<td>St.St. 316L</td>
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<td>8</td>
<td>Stem</td>
<td>1</td>
<td>Monel K500</td>
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<tr>
<td>9</td>
<td>Ball</td>
<td>1</td>
<td>Ceramic (Al₂O₃)</td>
</tr>
<tr>
<td>10</td>
<td>Dust Protector</td>
<td>-</td>
<td>-</td>
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</table>
STANDARD CONFIGURATION DIMENSIONS
5-WAY MANIFOLDS

<table>
<thead>
<tr>
<th>Instrument Mount Type</th>
<th>End Connection</th>
<th>Basic Ordering Part Number</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Process</td>
<td>Instrument</td>
<td>A</td>
</tr>
<tr>
<td>Remote Mount</td>
<td>12mm or 1/2&quot;</td>
<td>EN 61518-B 1T *</td>
<td>254</td>
</tr>
<tr>
<td></td>
<td>12mm or 1/2&quot;</td>
<td>EN 61518-B 1T-HT *</td>
<td>254</td>
</tr>
</tbody>
</table>

* Add process connection type

How to order:

- **Family**
  - 1P: 5 heads Direct assembly
  - 1T: 5 heads Remote assembly

- **Heat Tracing**
  - BLANK: Without heat tracing
  - HT: Heat tracing

- **Process Connection type**
  - A: ASME B16.5 DN15 Class 600
  - B: ASME B16.5 DN15 Class 1500
  - PM: 12mm Parker
  - PF: 1/2” Parker
  - HM: 12mm Ham-Let
  - HF: 1/2” Ham-Let

- **Option**
  - BLANK: SS bracket
  - NOB: Without bracket
  - OXY: Oxygen clean
## Standard Configuration Dimensions
### 4-Way Manifolds

<table>
<thead>
<tr>
<th>Instrument Mount Type</th>
<th>End Connection</th>
<th>Basic Ordering Part Number</th>
<th>Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Process</td>
<td>Instrument</td>
<td>A</td>
</tr>
<tr>
<td><strong>Direct Mount</strong></td>
<td>ASME B16.5 DN15</td>
<td>EN 61518-B</td>
<td>254</td>
</tr>
<tr>
<td><strong>Remote Mount</strong></td>
<td>12mm or 1/2”</td>
<td>EN 61518-B</td>
<td>254</td>
</tr>
</tbody>
</table>

* Add process connection type

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### How to order:

**Family**
- **2P**: 4 heads Direct assembly
- **2T**: 4 heads Remote assembly

**Heat Tracing**
- **BLANK**: Without heat tracing
- **HT**: Heat tracing

**Process connection type**
- **A**: ASME B16.5 DN15 Class 600
- **B**: ASME B16.5 DN15 Class 1500
- **PM**: 12mm Parker
- **PF**: 1/2” Parker
- **HM**: 12mm Ham-Let
- **HF**: 1/2” Ham-Let

**Option**
- **BLANK**: SS bracket
- **NOB**: Without bracket
- **OXY**: Oxygen clean
# STANDARD CONFIGURATION DIMENSIONS

## 2-WAY MANIFOLDS

<table>
<thead>
<tr>
<th>Instrument Mount Type</th>
<th>End Connection</th>
<th>Basic Ordering Part Number</th>
<th>Dimensions A</th>
<th>Dimensions B</th>
<th>Dimensions C</th>
<th>Dimensions D</th>
<th>Dimensions E</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Mount</td>
<td></td>
<td></td>
<td>mm</td>
<td>in</td>
<td>mm</td>
<td>in</td>
<td>mm</td>
</tr>
<tr>
<td>ASME B16.5 DN15</td>
<td>EN 61518-B</td>
<td>3P-HT A</td>
<td>162</td>
<td>6.381</td>
<td>222</td>
<td>8.72</td>
<td>254</td>
</tr>
<tr>
<td>ASME B16.5 DN15</td>
<td>EN 61518-B</td>
<td>3P-HT B</td>
<td>175</td>
<td>6.873</td>
<td>222</td>
<td>8.72</td>
<td>254</td>
</tr>
<tr>
<td>Remote Mount</td>
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<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12mm or 1/2”</td>
<td>EN 61518-B</td>
<td>3T *</td>
<td>151</td>
<td>5.928</td>
<td>168</td>
<td>6.59</td>
<td>219</td>
</tr>
<tr>
<td>12mm or 1/2”</td>
<td>EN 61518-B</td>
<td>3T-HT *</td>
<td>151</td>
<td>5.928</td>
<td>168</td>
<td>6.59</td>
<td>254</td>
</tr>
</tbody>
</table>

* Add process connection type

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### How to order:

**Family**
- **3P**: 2 Heads Direct assembly
- **3T**: 2 Heads Remote assembly

**Heat Tracing**
- **BLANK**: Without Heat tracing
- **HT**: Heat tracing

**Process connection type**
- **A**: ASME B16.5 DN15 Class 600
- **B**: ASME B16.5 DN15 Class 1500
- **PM**: 12mm Parker
- **PF**: 1/2” Parker
- **HM**: 12mm Ham-Let
- **HF**: 1/2” Ham-Let

**Option**
- **BLANK**: SS Bracket
- **NOB**: Without bracket
- **OXY**: Oxygen clean
## STANDARD CONFIGURATION DIMENSIONS
### 2-WAY MANIFOLDS

<table>
<thead>
<tr>
<th>Instrument Mount Type</th>
<th>End Connection</th>
<th>TOTAL Ordering Part Number</th>
<th>Dimensions</th>
<th>A (mm)</th>
<th>B (in)</th>
<th>C (mm)</th>
<th>D (in)</th>
<th>E (mm)</th>
<th>F (in)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Direct Mount</td>
<td>ASME B16.5 DN15 EN 61518-B</td>
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<tr>
<td>Remote Mount</td>
<td>12mm or 1/2”</td>
<td>12mm or 1/2”</td>
<td>4T-HT-*</td>
<td>151</td>
<td>5.928</td>
<td>167</td>
<td>6.59</td>
<td>254</td>
<td>9.99</td>
</tr>
</tbody>
</table>

* Add process connection type

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**How to order:**

```
4P 2 Heads Direct assembly
4T 2 Heads Remote assembly
```

**Process connection type**

```
A ASME B16.5 DN15 Class 600
B ASME B16.5 DN15 Class 1500
C ASME B16.5 DN15 Class 600
D ASME B16.5 DN15 Class 1500
PM 12mm Parker
PF 1/2” Parker
HM 12mm Ham-Let
HF 1/2” Ham-Let

**Option**

```
BLANK SS Bracket
NOB Without bracket
OXY Oxygen clean
```
# STANDARD CONFIGURATION DIMENSIONS

## 2-WAY MANIFOLDS

<table>
<thead>
<tr>
<th>Instrument Mount Type</th>
<th>End Connection</th>
<th>TOTAL Ordering Part Number</th>
<th>Dimensions (mm)</th>
<th>Dimensions (in)</th>
</tr>
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<tbody>
<tr>
<td>Remote Mount</td>
<td>Process Instrument</td>
<td>5P-HT-*</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td></td>
<td>61518-B</td>
<td>12mm or 1/2”</td>
<td>162</td>
<td>6.381</td>
</tr>
<tr>
<td></td>
<td>61518-B</td>
<td>12mm or 1/2”</td>
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<td>6.381</td>
</tr>
</tbody>
</table>

* Add process connection type

---

**How to order:**

<table>
<thead>
<tr>
<th>Family</th>
<th>Heat Tracing</th>
<th>Process connection type</th>
<th>Option</th>
</tr>
</thead>
<tbody>
<tr>
<td>5P</td>
<td>BLANK</td>
<td>PM</td>
<td>BLANK</td>
</tr>
<tr>
<td>5P</td>
<td>HT</td>
<td>PF</td>
<td>NOB</td>
</tr>
<tr>
<td>5T</td>
<td>HT</td>
<td>HM</td>
<td>OXY</td>
</tr>
<tr>
<td>5T</td>
<td>BLANK</td>
<td>HF</td>
<td></td>
</tr>
</tbody>
</table>

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STANDARD CONFIGURATION DIMENSIONS

2-WAY MANIFOLDS
ASTAVA PRODUCT RANGE

Monoflanges

Sizes
up to 4” / 10,000 PSI
According to
• ASME B16.5
• API
• EN 1092.1

Materials:
• AISI 316(L)
• Alloy 400
• Alloy C-276
• Alloy 625/825
• Duplex
• Titan
• Additional exotic

Slimline Monoflanges

Probes
Flushing Rings
Distribution valves

Up to 20 Outlets
0-690 Bar (0-10,000 psi)
Ball / Needle Type

Sunshades
Instrument Enclosures
Half-Body Enclosures
Full-Body Enclosures
ASTAVA PRODUCT RANGE

Enclosures

Equipped Instrument Enclosures

Body Options
- Full-body GRP enclosures
- Half-body GRP enclosures
- Full-body AISI 316 enclosures

Heating Options
- Steam heater
- Electrical space heater (black anodized aluminum, AISI 316)
- Electrical block heater (black anodized aluminum, AISI 316)
- Thermostat (black anodized aluminum)

Manifolds
- According to customer application

Mounting Accessories
- According to ordering information

Nuclear Valves

The products are engineered and manufactured in accordance with ASME and RCC-M international technical standards and completed according to specific customer requirements.

Venturi Assemblies
INTERLOCKING SOLUTIONS

Configurations:
- 1001 (SIL3)
- 1002 (SIL4)
- 2003 (SIL4)
- 1004 (SIL4)

Unmatched Design
- Highest Safety
- Optimal Availability
- Safety IEC 61508 Approved
- SIL3/4 Certified
- HIPPS

ACCESSORIES

SEAL POTS
ASTAVA supplies buffer and drain pots for buffering and draining functions. The buffer/seal pot is used in level applications and is designed to act as a buffer for excess fluids from the wet leg process.

SPECIAL PRODUCTS
Tailored per customer request for a complete package
- ASTAVA Engineering
- ASTAVA Manufacturing
- ASTAVA Assembling
- ASTAVA Documentation
ASTAVA B.V. Industrieweg 30, 7944 HS Meppel, The Netherlands

For pricing and technical information, please contact:

T: +31 522 237030  |  Inquiries: rfq@astava.com
F: +31 522 237040  |  Orders: order@astava.com
www.astava.com  |  General: info@astava.com

The main focus of ASTAVA B.V. is to provide its customer with a complete high-quality solution. Creativity and innovation for new solutions go hand-in-hand with the continuous improvement of our existing product line to assure that ASTAVA continues to play a leading role in its field.

ASTAVA B.V. is approved by the following notified bodies: