A WORLD LEADER IN VALVE TECHNOLOGY
We have supplied many differing styles, shapes or sizes of the MMS product line such as 5 Valve Manifolds in preference to the customary 4 Valve, or 1/4" NPT process and vent connections to attach tube fittings to in preference to the G1/4" (BSP .P) as the client finds NPT tube fittings more accessible.

Some Differential Pressure Transmitters and Gauges have differing centre dimensions than the common 54 mm therefore we have designs suitable for such occasions, and also have models suitable for remote mounted instruments.

With the advent of differing styles of transmitters we can provide novel solutions...
The Oliver Modular Mounting System (MMS) is designed to accommodate all pressure instrument needs for mounting and isolation from the process fluid. Based around standard manifold design principles, the components provided in this range of equipment also embodies the ‘building block’ approach thereby allowing ease of installation on site.

The range of manifolds has been tailored against the application requirements of the process and the style, and connection of the measuring instrument. The range includes for instrument connections of direct mounting (BN 19213) and also screwed connections which allows the fitting of different Pressure Transmitters and Gauge Pressure Transmitters, Pressure Gauges and Switches. Each one of the manifolds have the identical plate mounting dimension which allow them to be mounted either of the Mounting Plates, dependent on design.

All the process and vent connections on the manifold and accessories typically have a compression fitting installed to ensure the ease of field fitting flexibility. Mounted in the main range are two suppliers of fittings supplied both imperial, and metric sizes, but others can be provided. The standard connection provided for the tube fittings is G1/4” to BS 3799 where BSPT FF can also be provided.

Included in the range on the accessories which provide a complete solution to each of the instrument hook-up styles. A Filling Connector is available complete with non-return valve, Flanging Flanges, Port Protector, Single and Double Venting Pipe Blocks and a Sealing Kit. The Sealing and Pump Blocks are used when a suitable bore medium is required between the instrument and the process fluid.

The MMS range provides you with the total isolation, utilisation, venting unit protectors together following a standard hook-up design. The range also takes into consideration the differences in global climate and these by providing heating accessories as well as liquids.

Simply select your plate design, then your manifold based on the measuring instrument, select the appropriate environmental protection device, the manifolds and the process tube fittings of choice from all our Oliver Values the instrument mount manufacturer with the right solution.

**MODULAR MOUNTING SYSTEM**

- **DOUBLE ISOLATE/EQUALISE/VENT BLOCK**
  - For isolation and vent service.
  - Orifice Plate - A regulated flow device for the purge block.
  - Single and Double Venting Purge Blocks - To allow cleaning of the system.

- **PROCESS & VENT BLOCK**
  - Angle Valve - For isolation and vent service.
  - Port Protector - To ensure no ingress of vermin, insects or dirt.
  - Filling Connector - Allows filling of the instrument hook-up complete with non-return valve.
  - Adapters and Syphons to complete the package.

- **INSTRUMENT BLOCK**
  - Adapters and Syphons to complete the package.
  - Angle Valve - For isolation and vent service.
  - Port Protector - To ensure no ingress of vermin, insects or dirt.
  - Filling Connector - Allows filling of the instrument hook-up complete with non-return valve.

- **GENERAL MOUNTING PLATES**
  - Rectangular Mounting Plate

- **ACCESSORIES**
  - Complete range of pure silicon rubber blocks provide a complete solution to each of the instrument hook-up styles.

**PRODUCT DESCRIPTION**

- The MMS range provides you with the total isolation, utilisation, venting unit protectors together following a standard hook-up design. The range also takes into consideration the differences in global climate and these by providing heating accessories as well as liquids.

**STANDARD BLOCK**

- The manifold is provided with 4 stainless steel transmitter mounting bolts, 4 stainless steel plate mounting bolts and also parallel in accordance with DIN 3852. The valve can be provided with tube fittings of choice.

**SINGLE ISOLATE/VENT BLOCK**

- The manifold is provided with 1/2” NPT female, 1/2” NPT male and G1/2” parallel female. The isolation valve is Tee bar operable, the vent valve having anti tamper head units.

**DOUBLE ISOLATE/EQUALISE/VENT BLOCK**

- The manifold is provided with 1/2” NPT female, 1/2” NPT male and G1/2” parallel female. The isolation valves are Tee bar operable, the vent and equalise valve each having anti tamper head units.

**DIRECT MOUNTING BLOCK**

- The manifold is provided with 1/2” NPT female, 1/2” NPT male and G1/2” parallel female. The isolation valve is Tee bar operable, the vent valve having anti tamper head units.

**MODULAR MOUNTING SYSTEM**

- The modular mounting units provide a modular mounting unit allowing the manifold units to be combined and then attached to the mounting plate or structure.

**DIRECT MOUNTING BLOCK**

- The manifold is provided with 1/2” NPT female, 1/2” NPT male and G1/2” parallel female. The isolation valve is Tee bar operable, the vent valve having anti tamper head units.

**ACCESSORIES**

- Complete range of pure silicon rubber blocks provide a complete solution to each of the instrument hook-up styles.

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**ACCESSORIES**

- Complete range of pure silicon rubber blocks provide a complete solution to each of the instrument hook-up styles.
**STANDARD MMS**

The Oliver Modular Mounting System (MMS) is designed to encompass all pressure instrument needs for mounting and isolation from the process fluid. Built around standard mounting plate designs, the components provided in this range of equipment truly is modular ‘building blocks’ approach thereby allowing ease of installation on site.

The range of manifolds has been tested against the application requirements of the process and its style, and connection of the mounting instrument. The range includes for instrument connections of direct mounting ANSI 150#, and all screwed connections which allows the fitting of different Pressure Transducers/Transmitters and Process Gauges and Switches. Each one of the manifold has the identical plate mounting dimension which allow them to be mounted to either of the Mounting Plates, dependent on design.

All the process and vent connections on the manifold and accessories typically have a compression fitting installed to ensure the area of best sealing quality. Provided in the main range are two suppliers of fittings supplied both imperial, and metric sizes, others can be provided. The standard connection provided for the tube fittings is G1/4", and for B13002 however G1/2" NPT can also be provided.

Included in the range are the accessories which provide a complete solution to each of the instrument hook-up styles. A Filling Connector is available complete with non-return valve, Galley Blanking Flanges, Port Protector, Single and Double Venting Pump Blocks and a System Pump and Pump Blocks are used when a suitable bore medium is required between the instrument and the process fluid.

The MMS range provides you with the total isolation, isolators, vent and protectors suitable for a standard hook up design. The range also takes into consideration the different world climate conditions by providing heating accessories as well as sunshades.

Simply select your plate design, then your manifold based on the measuring instrument, select the appropriate environmental protection device, the accessories and the port hole fitments of choice from all choice Oliver Values the instrument value manufacturer with the right solutions.

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### MODULAR MOUNTING SYSTEM

<table>
<thead>
<tr>
<th>Recognition Block</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>RECTANGULAR MOUNTING PLATE</td>
<td>The Manifold is of 316 stainless steel construction, the instrument connection being flanged to DIN 19213 pt. 2 and the process and vent connections are G1/4&quot; parallel in accordance with DIN 3852. The valve can be provided with tube fittings of choice.</td>
</tr>
<tr>
<td>L SHAPED MOUNTING PLATE</td>
<td>The ‘L’ shaped mounting plate is provided as a plate which provides the option of mounting a sunshade. There are other versions which can be offered to customer specifications along the same theme.</td>
</tr>
</tbody>
</table>

#### ACCESSORIES

<table>
<thead>
<tr>
<th>Recognition Block</th>
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<tbody>
<tr>
<td>Orifice Plate - A regulated flow device for the purge block.</td>
<td>According to the measuring instrument, for the process connections and venting connections the valve can be supplied with stainless steel Monoflange, Monoflange adapters and Syphons to complete the package.</td>
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**STANDARD MOUNTING BLOCK**

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<th>Recogniton Block</th>
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<tbody>
<tr>
<td>Single ISOLATE/VENT BLOCK</td>
<td>The Standard block with a single Isolate Valve and a Single Vent Valve is used when there is no equalize valve in the system. There is no equalize valve, but in its place there is a further vent valve, to allow the isolation and venting of both sides independently.</td>
</tr>
<tr>
<td>DOUBLE ISOLATE/VENT BLOCK</td>
<td>The ‘L’ shaped Isolate and Vent block with a differential pressure Transmitter/Gauge is the most commonly used four valve manifold and constitutes one isolate valve for the high side, one isolate valve for the low side, one equalize valve and one single vent valve. The isolation valves are Tee bar operable, the vent and equalise valve each have anti tamper head units.</td>
</tr>
</tbody>
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**ENVIRONMENT PROTECTION**

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<td>Orifice Plate - A regulated flow device for the purge block.</td>
<td>The manifold is provided with 4 stainless steel transmitter mounting bolts, 4 stainless steel plate mounting bolts and also PTFE flange sealing rings (Grafoil when selected for high temperature service).</td>
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**Technical Specifications**

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<tr>
<td>Orifice Plate - A regulated flow device for the purge block.</td>
<td>The Monoflange is of 316 stainless steel construction, the instrument connection being 1/2&quot; NPT and the vent connection being G1/4&quot; parallel in accordance with DIN 3852. The valve can be provided with tube fittings of choice.</td>
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**Maximum working temperature:**

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<tr>
<td>Orifice Plate - A regulated flow device for the purge block.</td>
<td>Maximum working pressure: 413 Bar Maximum working temperature (Grafoil): 540 Deg C Maximum working temperature (PTFE): 200 Deg C</td>
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<td>Orifice Plate - A regulated flow device for the purge block.</td>
<td>The components of the Mounting Block are provided complete with a differential pressure Transmitter/Gauge, a Sealpot and Purge Blocks are used when a suitable barrier medium is required between the Instrument and the process fluid.</td>
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The Oliver Modular Mounting System (OMMS) is designed to encompass all of the process and the style, and connection of the mounting instrument. The scope includes for instrument connections of direct mounting B(N) 19213 and also screwed connections which allows the fitting of different Pressure Test Flanges/Gauge and Pressure Test Flanges, Process Flanges and Santechs. Each one of the manifold has the identical plate mounting direction which allow them to be mounted to either of the Mounting Plates, dependent on design.

All the process and vent connections on the manifold and branches typically have a compression fitting installed to ensure the ease of build and changeability. Positioned in the main scope are two supplies of fittings specifying both imperial, and metric units, others can be provided. The standard connection provided for the tube fittings is to 1/2” B (N) 1/2” parallel in Me 3852 whereas MPT can also be provided.

Included in the range are the accessories which provide a complete solution to each of the instrument hook up style. A Filling Connector is available complete with non-return valve, Blocking Flanges, Port Fittings, Single and Double Venting Pumps Blocks and a Filling Pump. The Mounting Plate is made using a suitable frame material is required between the instrument and the process fluid.

The OMMS scope provides you with the total isolation, by-passing, venting and protection required following a standard hook up design. The scope also takes into consideration the differences in environmental conditions by providing heating accessories as well as coolers.

Simply select your plate design, then your manifold based on the mounting instrument, select the appropriate environmental protection device, the accessories and the loop tube fittings of choice. All of Oliver Valves the instrument valve manufacturer with the right solution.

**STANDARD**

MMS direct mounting flanged DIN 19213 and also screwed connections reading instrument. The range includes for instrument connections of the process and vent connections of the style, and connection of the mounting instrument. The scope includes for instrument connections of direct mounting B(N) 19213 and also screwed connections which allows the fitting of different Pressure Test Flanges/Gauge and Pressure Test Flanges, Process Flanges and Santechs. Each one of the manifold has the identical plate mounting direction which allow them to be mounted to either of the Mounting Plates, dependent on design.

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**MODULAR MOUNTING SYSTEM**

The Manifold is of 316 stainless steel construction, the instrument connection being flanged to DIN 19213 pt. 2 and the process and vent connections are G1/4” parallel in accordance with DIN 3852. The valve can be provided with tube fittings of choice.

Maximum working temperature: (Grafoil) 540 Deg C

Maximum working pressure: 413 Bar

PTFE flange sealing rings (Grafoil when selected for high temperature service).

The Sealpot and P urge Blocks are used when a suitable barrier is available complete with non-return valve, Kidney Blanking Flange, Filling Connector - Allows filling of the instrument hook-up complete with non-return valve.

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We have supplied many differing styles, shapes or sizes of the MMS product line such as 5 Valve Manifolds in preference to the customary 4 Valve, or 1/4” NPT process and vent connections to add bulk fittings in preference to the G1/4” (BSP .P) as the client finds NPT tube fittings more accessible.

Some Differential Pressure Transmitters and Gauges have differing centre dimensions than the common 54 mm, therefore we have designs suitable for such occurrences, and also have models suitable for remote mounted instruments.

With the advent of differing styles of transmitters we can provide novel solutions...

HOW TO ORDER MANIFOLDS

<table>
<thead>
<tr>
<th>AOD</th>
<th>520M</th>
<th>25BPF–GY</th>
<th>FGC</th>
<th>RA</th>
</tr>
</thead>
</table>

**TECHNICAL EXCELLENCE**

Every year and then, a product comes along that beyond the expectations of market place. It re-defines a category, it is doing so, and establishes a new benchmark for the industry.

In 1980 we introduced a new concept in high pressure needle valve design, by incorporating a non-rotating spindle tip that gives a plug type closure. In doing so, we eliminated galling at the tip to body interface, a major cause of leakage on needle valves. By developing a self-adjusting pressure spindle seal, we eliminated leakage even on temperature cycling applications, again a major cause of problems on other needle valve products.

Also, when entering the high pressure performance ball valve business, we were determined to incorporate advanced features. Small details like one-piece self-aligning handles that are not certain installations are typical of our user consideration.

In 1990 Oliver pioneered the concept of integrating primary pipeline class isolation valves with instrument block and bleed valves – all in one body. This has led our company to be the foremost supplier to the worlds major oil, gas and petrochemical operators for this new style of Double Block and Bleed valve technology which offers huge savings in space, weight and cost. Our designs also lead to much improved safety.

All of Oliver Valves hundreds of combinations are possible in a wide variety of materials due to our modular approach to product design. If you need high quality valves, from small special process connections through to 2” ANSI Class 2500lb rating and above, our team of engineers are waiting to serve you.

**MODULAR MOUNTING SYSTEM**

<table>
<thead>
<tr>
<th>MOD</th>
<th>DIEV</th>
<th>S</th>
<th>25BPF–GYI</th>
<th>FLC</th>
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</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>S – 316L Stainless steel</td>
</tr>
<tr>
<td>M – Monel 400</td>
</tr>
<tr>
<td>IN625 – Inconel 625</td>
</tr>
<tr>
<td>HC – Hastelloy C276</td>
</tr>
</tbody>
</table>

<table>
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<tr>
<th>PROCESS &amp; VENT CONNECTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>25BPF – GYI – Gyrolok Imperial (3/8” OD)</td>
</tr>
<tr>
<td>25BPF – GYM – Gyrolok Metric (10 mm OD)</td>
</tr>
<tr>
<td>25BPF – SWI – Swagelok Imperial (3/8” OD)</td>
</tr>
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<td>25BPF – SWM – Swagelok Metric (10 mm OD)</td>
</tr>
</tbody>
</table>

*Others available*

<table>
<thead>
<tr>
<th>INSTRUMENT CONNECTION</th>
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</thead>
<tbody>
<tr>
<td>FLG – DIN 19213 Kidney Flange</td>
</tr>
<tr>
<td>50M – 1/2” NPT male</td>
</tr>
<tr>
<td>50F – 1/2” NPT female</td>
</tr>
</tbody>
</table>

*Others available*

<table>
<thead>
<tr>
<th>OPTIONS</th>
</tr>
</thead>
<tbody>
<tr>
<td>NA – NACE MR-01-75 (latest revision)</td>
</tr>
<tr>
<td>AG – Grafoil packed</td>
</tr>
<tr>
<td>OXY – Cleaned for oxygen service</td>
</tr>
<tr>
<td>AT-KEY – Anti tamper key</td>
</tr>
</tbody>
</table>

*Others available*

Continuous development in Oliver Valves products may necessitate changes in the details contained in this brochure. Some features may cause the right to make such changes at their discretion without prior notice.

Oliver Valves Ltd reserve the right to effect such changes at their discretion without prior notice.

The Oliver Group products are made in England and sold and supported in over 50 countries worldwide.

**Parkgate Industrial Estate Knutsford Cheshire WA16 6DK England Tel: 01565 623636 (14 Lines) Fax: 01565 624099 or 01565 624098 Email: sales@valves.co.uk WWW: valves.co.uk or olivervalves.com**

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With the cohort of differing styles of transmitters we can provide novel solutions...

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**Technological Excellence**

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In 1980 we introduced a new concept in high pressure needle valve design, by incorporating a non-rotating spindle tip that gives a plug type closure. In doing so, we eliminated galling at the tip to body interface, a major cause of leakage on needle valves. By developing a self-adjusting pressure spindle seal, we eliminated leakage even on temperature cycling applications, again a major cause of problems on other needle valve products.

Also, when entering the high pressure performance ball valve business, we were determined to incorporate advanced features. Small details like stainless steel actuation handles that do not rust on installation are typical of our user consideration.

In 1990 Oliver pioneered the concept of integrating primary pipeline class isolation valves with instrument block and bleed valves – all in one forging.

This has led our company to be the foremost supplier to the worlds major oil, gas and petrochemical operators for this new style of Double Block and Bleed valve technology which offers huge savings in space, weight and cost. Our designs also lead to much improved safety.

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<th>S</th>
<th>3BPF-001</th>
<th>FLG</th>
<th>MA</th>
</tr>
</thead>
</table>

**Options**

- NAG - NACE MR-01-75 (latest revision)
- AG - Grafoil packed
- OXY - Cleaned for oxygen service
- AT-KEY - Anti tamper key

### Material

- S - 316S31 Stainless steel
- M - Monel 400
- IN625 - Inconel 625
- HC - Hastelloy C276

### Process & Vent Connections

- 25BPF – Gyrolok Imperial (3/8” OD)
- 25BPF – Gyrolok Metric (10 mm OD)
- 25BPF – Swagelok Imperial (3/8” OD)
- 25BPF – Swagelok Metric (10 mm OD)

*Others available*

### Instrument Connection

- FLG – DIN 19213 Kidney Flange
- 50M – 1/2” NPT male
- 50F – 1/2” NPT female

*Others available*

### Made in Great Britain

Continuous development in Oliver Valves product ranges means changes to the details contained in this brochure. Please ensure you obtain the latest in order to avoid changes to our technical data prior to order.

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**Modular Mounting System**

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</table>

**Options**

- NAG - NACE MR-01-75 (latest revision)
- AG - Grafoil packed
- OXY - Cleaned for oxygen service
- AT-KEY - Anti tamper key

### Material

- S - 316S31 Stainless steel
- M - Monel 400
- IN625 - Inconel 625
- HC - Hastelloy C276

### Process & Vent Connections

- 25BPF – Gyrolok Imperial (3/8” OD)
- 25BPF – Gyrolok Metric (10 mm OD)
- 25BPF – Swagelok Imperial (3/8” OD)
- 25BPF – Swagelok Metric (10 mm OD)

*Others available*

### Instrument Connection

- FLG – DIN 19213 Kidney Flange
- 50M – 1/2” NPT male
- 50F – 1/2” NPT female

*Others available*

---

**Options**

- NAG - NACE MR-01-75 (latest revision)
- AG - Grafoil packed
- OXY - Cleaned for oxygen service
- AT-KEY - Anti tamper key

### Material

- S - 316S31 Stainless steel
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*Others available*
OUR CAPABILITIES
We supply technically advanced, high quality valve products designed for critical service in the oil, gas, petrochemical and power generation industries worldwide.

Our pipeline and instrumentation valves are available in materials of your choice, incorporating a wide variety of process connections. Our modular designs and manufacturing flexibility, guarantees short delivery times.

Our ISO 9000 Quality Product Range includes:

NEEDLE VALVES TO 15,000 PSI - (1,000 BAR)

BALL VALVES TO 15,000 PSI - (1,000 BAR)

NEEDLE AND BALL VALVE STYLE MANIFOLDS FOR ALL MAKES OF PRESSURE AND FLOW TRANSMITTERS

COMPACT, SPACE SAVING SLIMLINE VALVES AND MONO FLANGE VALVES

DOUBLE BLOCK AND BLEED VALVES

GAUGE PROTETORS, ADAPTORS, AND A WIDE RANGE OF INSTRUMENT ACCESSORIES

SPECIAL HIGH AND LOW TEMPERATURE VALVES, OXYGEN SERVICE VALVES

CUSTOMISED VALVE PRODUCTS FOR MANY SPECIAL APPLICATIONS

PATENTED VALVE DESIGNS, FOR EXAMPLE THE TWINSAFE DOUBLE BLOCK AND BLEED VALVE THAT FITS INTO A SINGLE VALVE ANSI B16.10 LENGTH, AND THE SMART MANIFOLD THAT ISOLATES, VENTS, ZEROS EQUALISES FOR CALIBRATION OF THE DIFFERENTIAL PRESSURE TRANSMITTER IN ONE QUARTER TURN ACTION.

Wide Product Range
A comprehensive range of instrument and piping valves designed to meet the demands of today’s international clients.

Unusual Flexibility
From standard designs to specially manufactured assemblies, we offer total flexibility and creative innovative design concepts.

Strong Worldwide Capability
Our products - designed to meet international standards - are stocked and marketed in over 50 countries worldwide by factory trained local service specialists.

Delivery Reliability
The modern modular design and “just in time” manufacturing philosophy of Oliver Valves ensuring short lead times, remain an attractive feature of doing business with our company.
### ISOLATION MANIFOLD

The isolation manifold allows assembly of the first isolate valves with options for rodability and fire safe certification. The assembly is flexible and allows the user to set up in block, block and bleed or double block and bleed configurations or even be left out altogether. The isolation module meets ANSI, ASME and API piping design codes when used with the heavy duty, fire safe bonnet.

### INSTRUMENT MANIFOLD

The instrument manifold is available in equalize, isolate and equalize or isolate, equalize and vent configurations. The venting manifolds can be specified in either single or double equalize for power gas configurations.

### PART NUMBER ASSEMBLER

<table>
<thead>
<tr>
<th>OliverMount Assembly</th>
<th>OM/</th>
<th>SBI/</th>
<th>TS/</th>
<th>B-</th>
<th>HDFS/</th>
<th>OM01/</th>
<th>OXY</th>
</tr>
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<tbody>
<tr>
<td><strong>Installation Type</strong></td>
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<td><strong>Orifice Connector</strong></td>
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<td>B-</td>
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<td>BB-</td>
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<td>HDFS</td>
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<td>DI</td>
<td>Di-electric Isolation</td>
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<td>MT</td>
<td>Metering tips on Instrument Manifold</td>
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<td>SB</td>
<td>Static Bar - P to DP adaptor</td>
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<td>SS</td>
<td>Graphol manifold seals</td>
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<td>SP</td>
<td>Special Requirements - Consult factory</td>
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</tbody>
</table>
### Introduction / Applications

**Introduction**

The OliverMount™ system is designed to allow direct mounting of differential pressure transmitters onto an orifice flange union without the need for impulse lines or separate mounting brackets and stands. Oliver Valves improved direct mounting of pressure instruments with our modular double block and bleed range and have been able to utilise much of the same field proven technology in the OliverMount™ system.

The OliverMount™ system provides piping class isolation as well as a capability to equalize and vent the transmitter within a single assembly. This results in a reduction in the number of connections and potential leak paths as well as reducing space, weight and installation costs.

OliverMount™ represents an improvement over the traditional installation by eliminating the need for impulse lines connecting a remote mounted transmitter and manifold valve to the orifice flange. Eliminating impulse lines also eliminates the problems associated with traditional transmitter installations:

- Hydrostatic head error
- Gauge line error
- Leakage through threaded connections
- Freezing
- Need for pipe stands and mounting brackets

Whilst current transmitter technology enables extreme signal accuracy, it has been shown that poorly installed or excessively long impulse lines can result in measurement errors as much as 15%. Use of OliverMount™ enables the full potential of today’s transmitter technology to be realised.

**Applications**

The OliverMount™ system can be used to close couple DP transmitters to orifice flange unions in gas, liquid and steam service and can be mounted either horizontally or vertically. Selection of a variety of different bonnets and manifold configurations allows specific requirements such as fire safety or full rotatability to be addressed. OliverMount™ can be adapted to suit bi-planar or co-planar (Rosemount 3051) transmitters in 3 or 5 valve configuration for use in power, process or gas transmission applications.

### Features and Benefits

<table>
<thead>
<tr>
<th>Feature</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Close coupled installation</td>
<td>Direct Connection to orifice flange union</td>
</tr>
<tr>
<td>Separate stabilized orifice connector</td>
<td>Provides rigidity to installation</td>
</tr>
<tr>
<td>Eccentric stabilized connector</td>
<td>Allows easy access during installation</td>
</tr>
<tr>
<td>Flanged manifold connections</td>
<td>Reduced leak points</td>
</tr>
<tr>
<td>Threaded or welded connection to orifice flange union option</td>
<td>Welded option allows full installation without use of pressure containing threads</td>
</tr>
<tr>
<td>Mount vertically or horizontally</td>
<td>Suitable for Gas or Liquid Service</td>
</tr>
<tr>
<td>Suitable for co-planar or bi-planar configuration</td>
<td>Can be installed with all types of DP transmitters</td>
</tr>
<tr>
<td>Choice of size, type and style instrument manifolds</td>
<td>Allows flexibility for calibration, maintenance and removal of transmitter while on stream</td>
</tr>
<tr>
<td>Choice of isolation manifolds</td>
<td>Allows single, double and triple block and bleed configuration</td>
</tr>
<tr>
<td>Static Bar available</td>
<td>Allows dual mounting of P and DP transmitters from one orifice tapping</td>
</tr>
<tr>
<td>Fire safe, heavy duty bonnet available</td>
<td>Certified by API 607 and BS 6755 Part II fire safety codes</td>
</tr>
<tr>
<td>Fully rotatable 3/8” bore manifolds available</td>
<td>Reduces plugging on viscous processes</td>
</tr>
<tr>
<td>Isolation manifolds meet API and ASME piping codes</td>
<td>Eliminates pulsation and square root error</td>
</tr>
<tr>
<td>Can be ordered as complete assembly</td>
<td>Increases instrument accuracy</td>
</tr>
<tr>
<td>Common bolt seating used throughout</td>
<td>Installation suitable when piping class fail isolator is a requirement</td>
</tr>
<tr>
<td>Di-Electric insulation available</td>
<td>Reduced installation time and cost</td>
</tr>
<tr>
<td>Isolation manifolds meet API and ASME piping codes</td>
<td>Can be pressure tested as assembly</td>
</tr>
<tr>
<td>Common bolt seating used throughout</td>
<td>Reduced risk of installation error</td>
</tr>
<tr>
<td>Di-Electric insulation available</td>
<td>Eliminated risk of seal ring blow out</td>
</tr>
<tr>
<td>Isolation manifolds meet API and ASME piping codes</td>
<td>Eliminated risk of transmitter damage when static built up is a problem</td>
</tr>
</tbody>
</table>

### Stabilized Coupling

A pair of 1/2” male socket weld or threaded connectors allow for tapping directly into the orifice flange union. These connectors feature an eccentric design to allow installation onto tapping centres from 2” through 2 1/4” and a separated stabilizer assembly for easy installation.

### Product Overview

The OliverMount™ system combines the traditionally separate piping and instrument components of a transmitter hook up into a single, close coupled and rigid installation. The principle components included within the assembly are as follows:
**OUR CAPABILITIES**

We supply technically advanced, high quality valve products designed for critical service in the oil, gas, petrochemical and power generation industries worldwide.

Our pipeline and instrumentation valves are available in materials of your choice, incorporating a wide variety of process connections. Our modular designs and manufacturing flexibility, guarantees short delivery times.

Our ISO 9000 Quality Product Range includes:

- **NEEDLE VALVES** TO 15,000 PSI – (1,000 BAR)
- **BALL VALVES** TO 15,000 PSI – (1,000 BAR)
- **NEEDLE AND BALL VALVE STYLE MANIFOLDS FOR ALL MAKES OF PRESSURE AND FLOW TRANSMITTERS**
- **COMPACT SINCE SAVING SLIMLINE VALVES AND MONO FLANGE VALVES**
- **DOUBLE BLOCK AND BLEED VALVES**
- **A WIDE RANGE OF INSTRUMENT ACCESSORIES**
- **SPECIAL HIGH AND LOW TEMPERATURE VALVES, OXYGEN SERVICE VALVES**
- **CUSTOMISED VALVE PRODUCTS FOR MANY SPECIAL APPLICATIONS**
- **PATENTED VALVE DESIGNS, FOR EXAMPLE THE TWINSAFE DOUBLE BLOCK AND BLEED VALVE THAT FITS INTO A SINGLE VALVE ANSI BI6.10 LENGTH AND THE SMART MANIFOLD THAT ISOLATES, VENTS, ZEROS, EQUALISES FOR CALIBRATION OF THE DIFFERENTIAL PRESSURE TRANSMITTER IN ONE QUARTER TURN ACTION**

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A comprehensive range of instrument and piping valves designed to meet the demands of today's international clients.

**Unusual Flexibility**

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Our products – designed to meet international standards – are stocked and marketed in over 50 countries worldwide by factory trained local service specialists.

**Delivery Reliability**

The modern modular design and “just in time” manufacturing philosophy of Oliver Valves ensuring short lead times, remain an attractive feature of doing business with our company.

Parkgate Industrial Estate
Knutsford
Cheshire
WA16 8DX
England
Tel: 01565 632636
Fax: 01565 654089 or 01565 650060
Email: sales@valves.co.uk
WWW: valves.co.uk or olivervalves.com

The Oliver Group products are made in England and sold and supported in over 50 countries worldwide.
OPERATION, INSTALLATION AND MAINTENANCE INSTRUCTIONS

SAFETY NOTES:
iv) All adjustments should be carried out by qualified personnel with the valve at zero pressure.
vi) Maximum torque to be applied to tee bars is 10lb ft.
vii) Valves must be suitably supported in service.
viii) Needle Valves; No excessive side forces (>30lb ft) to be applied to the head unit.
ix) Ball Valves: No excessive forces to be applied to the handle/handle locking arrangement, and do not carry valve by the handle.
xi) Do not paint over valve body markings.
vi) Do not rod valves under pressure.

EQUIPMENT REQUIRED

HEAVY DUTY NEEDLE VALVE - 22mm A/F socket and torque wrench.
GAUGE SNUBBERS - 1/4" A/F spanner.
PRESSURE PLUG - 1/2" A/F spanner.
VENT PLUG - 22mm A/F spanner.

OUTSIDE SCREW AND YOKE VALVE - 5/8" A/F spanner.

SAFETY NOTES:
ii) End connectors must not be removed from bodies.
iii) Handle wrenches/extensions must not be used to operate the valves.
iv) Vent plugs must not be removed when the isolate valve is open and under pressure.
v) Head units and locking pins must not be removed once installed.

OPERATING INSTRUCTIONS

STANDARD NEEDLE VALVES
- Approximately 6 Turns from open to closed, clockwise to close.
- 1/2 Turn from open to closed, clockwise to close as standard, (ie Valve is closed when handle is at 90° to the valve body)

HEAVY DUTY NEEDLE VALVE
- 4 1/2 Turns from open to closed, clockwise to close.

SEVERE SERVICE VALVE (11mm bore)
- 5 Turns from open to closed, clockwise to close.
- 4 1/2 Turns from open to closed, clockwise to close.

MINIATURE VALVES
- Approximately 6 Turns from open to closed, clockwise to close.

NOTE
- Apart from Ball Valves, the packing on these valves is adjustable, so turns between open and closed will vary slightly from valve to valve.

INSTALLATION AND MAINTENANCE INSTRUCTIONS

NEEDLE VALVES
If needle valve has socket weld, stub weld or butt weld connections the needle valve will be supplied in kit form. (This means the valve head unit is supplied separately to the body) Then after welding the valve body into the pipeline:
- Replace locking pin in either one of the 4mm holes and secure.
- Replace the bar and tighten down the bar bolt.
- Adjust packing if required by loosening lock nut (bottom nut on head unit). Close the valve by turning the tee bar in a clockwise direction until it stops. Open the valve by full turn from the tee bar anti-clockwise. Tighten down the pushing (top nut on head unit) which compresses packing until the valve feels not too slack or difficult to operate.
- If valve packing Grafoil wait two minutes after tightening the two nuts before checking valve operation.

WARNING:
- Bonnets and yokes must not be removed from bodies.

BALL VALVE
No maintenance required. End connections must not be removed from bodies. Packing is adjustable. The valve is closed when handle is at 90° to the valve body. The variable orifice is adjusted by slackening off the lock nut, adjusting the screw and then retightening the nut.
INSTRUMENT NEEDLE VALVES AND MANIFOLDS

features

• Millions of successful installations worldwide.
• Worldwide stocking distributor support.
• Unique non-rotating tips - field interchangeable.
• Unique pressure compensating spindle seal.
• Actuation threads protected from the process and environment.
• Anti-blow out spindle safety feature.
• One of the very few fully fire tested, approved and certified needle valve designs available.
SOLID SPINDLE TYPE

Rotation of the spindle causes metal to metal pick-up or galling of the seat and tip on closure. The result is a leak path across the seat after only a few operations! Also the spindle threads are in contact with the process media giving potential seizure of the entire valve.

SWAGED BALL TYPE

If the swaging operation is too tight or if dirt gets behind the ball, galling occurs; a ‘seating’ line on the ball is also made and if the ball rotates the ‘seating’ line becomes a leak path. If there is a bearing flat on the ball, the ball will spin in a lateral plane inside the spindle. This spinning causes wear to the swaged portion of the spindle which in turn loosens the ball until the bearing flat of the ball is exposed. Damage to the seat and ball will occur if the ball is spinning at a high velocity or the exposed bearing flat on the ball comes into contact with the valve seat.

OLIVER SOLUTIONS

WITH MILLIONS OF SUCCESSFUL INSTALLATIONS - ALL OVER THE WORLD ON TOUGH APPLICATIONS - OUR DESIGN IS STILL UNRIVALLED. THE UNIQUE OLIVER DESIGN SOLVES THE TWO TYPICAL NEEDLE VALVE LEAKAGE PROBLEMS.

FIRST PROBLEM - Leakage across the seat

Our unique non-rotating plug type tip closure eliminates ‘pick up’ or galling between the spindle tip and the seat of the valve – a big problem with many competitive designs. Simple interchangeability of a range of tips gives a family of high-quality instrument valves suitable for gas (soft tip), oil (hard tip), sour gas (NACE specification tip), metering of fluids (long nose tip), or even a stellite tip if your application warrants it!

SECOND PROBLEM - Leakage from the spindle seal

Our pressure dynamic self-adjusting spindle seal addresses the traditional problems of valve spindle leakage by ensuring that as the pressure on the seal increases, the seal grip also increases in direct proportion. The higher the pressure the better the seal. All this with a valve design suitable for vacuum service, also our roller burnished spindle with rolled threads gives low torque operation making the valve easily hand operable across its pressure range. A choice of spindle seals gives a wide range of temperature choices.
**TEE BAR**
316 Stainless Steel for maximum corrosion resistance, fastened to spindle by anti-vibration bolt can be interchanged with anti-tamper feature or a handwheel with or without our patented locking device.

**SEAL**
Precision machined, works in conjunction with a dynamic piston ring, giving leak free operation for the life of the product. Seals in alternative materials are available.

**PISTON RING**
Uniquely offers dynamic adjustment of the packing gland seal in response to pressure change. This feature ensures leak free spindle sealing.

**INTERCHANGEABLE TIPS**
Non-rotating self-centering, anti-galling spindle tip gives positive bubble-tight shut-off self-centering closure and field inter-changeability of different tip styles is possible.

**TRACEABILITY OF MATERIALS**
All Oliver products have material traceability and pressure test certificates to BS EN 10204 3.1.B and controlled by QA procedures approved to BS5750/ISO9000/EN29002. A unique code is stamped on all valve bodies linking them with their material and chemical analysis certificates.

**HOUSING**
Rugged design with rolled threads in contact with body ensures high factor of safety when valve is at maximum pressure and temperature. Metal to metal, body to bonnet contact coupled with a special secondary seal offers an extremely effective leak free joint.

**DUST CAP**
Protects lubricated spindle threads from the ingress of dirt. Caps are colour coded to show the type of service condition the valve is suitable for: RED (standard) PTFE packed; WHITE degreased for oxygen service; BLUE to NACE specification; GREEN to NACE specification and Grafoil packed; BLACK Grafoil packed.

**PUSHER & LOCK NUT**
These precision machined parts adjust piston ring compression on the packing to give leak free operation, even on vacuum service.

**ANTI-BLOWOUT SPINDLE**
The heart of our valve. All threads are rolled and lubricated to eliminate galling. A special ten micro inch super finish on the seal diameter dramatically reduces operating torque. And the stem is anti-blowout/non-removable – a major safety feature.

**LOCKING PIN**
A 316 Stainless Steel pin eliminates unauthorised removal of the bonnet assembly. The pin is held by an anti-vibration spline into the body.

**IDENTITY RING**
A Stainless Steel ring around the housing indicates in colour coded form the status of the valve: isolate (blue), vent (red) or equalise (green).
TECHNICAL SPECIFICATIONS

NEEDLE VALVES

HEAVY DUTY NEEDLE VALVES
STANDARD SPECIFICATION

(Oliver Valves invites enquiries for special variations on our product lines)

- Pressure: 6,000 PSI (see graph)
- Temperature: 240°F (see graph)
- Packing: PTFE
- Thread Form: NPT
- Handle: 'T' Bar
- Seat: Metal to Metal
- Bore: 0.21" (5.4mm)
- CV: 0.46

- All direct mount manifolds are supplied with Teflon gaskets and high tensile carbon steel bolts, grafoil gaskets and stainless steel bolts are available on request.
- All valves are available to NACE MR-01-75 (Latest revision) for sour service specification (add suffix /NA).

- Manifolds are not supplied with plugs unless specified.
- Manifold valves have stainless steel colour coded identity tags affixed to individual valve head units, blue for isolate, green for equalize and red for vent.
- Products may be degreased for oxygen service to Air Products AO3 standard (add suffix /OXY).
- Our 6,000 PSI needle valves and our remote mounted manifolds can be uprated to 10,000 PSI (add suffix /HP).
- Firesafe needle valves and manifolds constructed in austenitic stainless steel and Duplex stainless steel Class 150lb to 2500lb can be supplied. These products have Lloyds Register Approval certificate number 92/00140 (EZ) and are to BS 6755 Part 2 (1987) with a maximum working pressure of 6,000 PSI and a maximum working temperature of 540°C (add suffix /FS).
- Standard needle valves, with PTFE packing, have been tested to full vacuum conditions.

OPTIONS OF OLIVER NEEDLE VALVES

OPTIONAL BONNETS CAN BE FITTED TO ALL MANIFOLDS

- **PM** panel mount.
- **HL-PI** handwheel locking and position indication.
- **RHW** red nylon handwheel, **CSHW** carbon steel handwheel.
- **AT** anti-tamper **AT KEY** extra.
**STANDARD HAND VALVES**

Female x Female configuration
Standard = 6,000 PSI
HP = 10,000 PSI.

<table>
<thead>
<tr>
<th>PART NO</th>
<th>SIZE</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>WEIGHT (KG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>F25</td>
<td>1/4&quot;</td>
<td>3.6</td>
<td>2.1</td>
<td>1.1</td>
<td>0.5</td>
</tr>
<tr>
<td>F38</td>
<td>3/8&quot;</td>
<td>3.6</td>
<td>2.4</td>
<td>1.1</td>
<td>0.5</td>
</tr>
<tr>
<td>F50</td>
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<tr>
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<td>0.8</td>
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<tr>
<td>F10</td>
<td>1&quot;</td>
<td>4.5</td>
<td>3.2</td>
<td>2.0</td>
<td>1.4</td>
</tr>
</tbody>
</table>

**FIRESAFE VALVES**

Male or Female configuration
FIRESAFE tested 6,000 PSI
BS6755 Part 2,
Lloyds Certificate No. 92/00140.

**HEAVY DUTY VALVES**

Male or Female configuration
HD = 6,000 PSI
HD/HP = 10,000 PSI
HD/15HP = 15,000 PSI.

<table>
<thead>
<tr>
<th>PART NO</th>
<th>SIZE</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>WEIGHT (KG)</th>
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</thead>
<tbody>
<tr>
<td>M25</td>
<td>1/4&quot;</td>
<td>3.6</td>
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<tr>
<td>M38</td>
<td>3/8&quot;</td>
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<td>2.9</td>
<td>1.1</td>
<td>0.5</td>
</tr>
<tr>
<td>M50</td>
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<td>3.4</td>
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<td>0.5</td>
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<tr>
<td>M75</td>
<td>3/4&quot;</td>
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<td>3.6</td>
<td>1.5</td>
<td>0.8</td>
</tr>
<tr>
<td>M10</td>
<td>1&quot;</td>
<td>4.5</td>
<td>3.3</td>
<td>2.0</td>
<td>1.4</td>
</tr>
</tbody>
</table>

Note: 3/4", 3/8" and 1/2" NPT threads rate to 10,000 PSI only
3/4" and 1" NPT threads rate to 6,000 PSI only
Twin ferrule compression fitting 6,000 PSI.

Angle Hand Valves
Standard 6,000 PSI
HP = 10,000 PSI.

<table>
<thead>
<tr>
<th>PART NO</th>
<th>SIZE</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>WEIGHT (KG)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BI25</td>
<td>1/4&quot;</td>
<td>3.6</td>
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<td>0.3</td>
</tr>
<tr>
<td>BI38</td>
<td>3/8&quot;</td>
<td>3.6</td>
<td>2.9</td>
<td>1.1</td>
<td>0.4</td>
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<tr>
<td>BI50</td>
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<table>
<thead>
<tr>
<th>PART NO</th>
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<th>SIZE</th>
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<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>WEIGHT (KG)</th>
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<tbody>
<tr>
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<td>-</td>
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<td>AM25</td>
<td>Male x Female</td>
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<td>1.1</td>
<td>4.0</td>
<td>-</td>
<td>0.4</td>
</tr>
<tr>
<td>AF50</td>
<td>Female x Female</td>
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<td>1.1</td>
<td>-</td>
<td>4.5</td>
<td>0.5</td>
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<tr>
<td>AM50</td>
<td>Male x Female</td>
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<td>3.0</td>
<td>2.0</td>
<td>1.1</td>
<td>4.5</td>
<td>-</td>
<td>0.5</td>
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CRYOGENIC BONNETS

<table>
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<tr>
<th>SUFFIX</th>
<th>EXTENSION</th>
<th>TEMPERATURE</th>
</tr>
</thead>
<tbody>
<tr>
<td>LT100</td>
<td>5.81&quot; (148mm)</td>
<td>-100ºC</td>
</tr>
<tr>
<td>LT200</td>
<td>12.38&quot; (314mm)</td>
<td>-200ºC</td>
</tr>
</tbody>
</table>

Extension length does not include valve body

| LT100 | LT200 |
GAUGE VALVES

MALE AND FEMALE THREADED OR BUTTWELD INLET OPTIONS

**GB1 TYPE**
Gauge bleed valve with 1/4" UNF bleed.

**GV1 TYPE**
Gauge vent valve with 1/4" NPT bleed.

**GM1 TYPE**
Gauge multiport valve Male inlet x three Female outlets GM150S/Ext = 3" lagging extension available on inlet GM1-75/50S = 3/4" connection available on inlet.

**G12AF TYPE**
Two valve manifold Female x Female for wall mounting and bottom venting.

BLEED SCREW SUPPLIED

VENT PLUG SUPPLIED

MOUNTING HOLES ARE STANDARD

0.5kg

0.7kg

1.0kg
Two valve manifold Female x Female.

Two valve manifold Male x Female.

KIDNEY FLANGES IN MANY STYLES ARE OPTIONAL
THREE VALVE MANIFOLDS

**Y33 TYPE**
Remote mounting pipe to pipe.

**YV33 TYPE**
Remote mounting pipe to pipe manifold, with vent ports.

**Y34 TYPE**
Direct mounting pipe to flange.

**T24 TYPE**
Direct mounting pipe to flange.

---

PLUGS SUPPLIED

---

Dimensions and weights:

- **D P**: 2.50" (63.5 mm), 3.06" (77.4 mm)
- **D P**: 2 1/8" (54 mm), 8.38" (213.4 mm), 3.38" (85.8 mm)
- **1.5kg**
Direct mounting flange to flange.

Direct mounting pipe to flange manifold, with vent ports.

Direct mounting pipe to flange manifold, with purge ports.

Kidney flanges in many styles are optional.

Kidney flanges in many styles are optional.

Direct mounting pipe to flange manifold, with vent ports.

Direct mounting pipe to flange manifold, with purge ports.

Plugs supplied.

Plugs supplied.
FIVE VALVE MANIFOLDS

**Remote mounting pipe to pipe.**
- Y54 Type
- 2.3kg

Optional to Y54 type allows for mounting to wall or panel.
- Y5PM Type
- 3.8kg

**Direct mounting pipe to flange.**
- Y53 Type
- 2.3kg

Direct mounting pipe to flange manifold, with purge ports.
- Y53 Type
- 2.3kg

**PLUGS SUPPLIED**
- 2.3kg
- 3.8kg

Dimensions:
- 2.13" x 2.13" x 6.25" x 4.25" x 10.42"
- 2.96" x 1.56" x 1.36" x 1.94" x 2.50"
- 0.28" DIA x 7.63"
The Y43/Y12 four valve manifold and one valve equalise manifold are mounted to the back and the front faces of a Differential Pressure Transmitter to allow purging prior to removal. TWO MANIFOLDS ASSEMBLED ONTO A DIFFERENTIAL PRESSURE TRANSMITTER.

KIDNEY FLANGES IN MANY STYLES ARE OPTIONAL
Oliver Valves Ltd., in close co-operation with Fisher Rosemount, one of the world’s leading transmitter manufacturers, has designed and developed a range of coplanar manifolds to be utilised with the Fisher Rosemount 3051 Smart pressure transmitter family.

These unique manifolds incorporate Oliver’s tried, tested and field-proven needle valve design for seat and stem sealing, whilst allowing the manifold to be truly integrated with the pressure transmitter.

Whilst shown in 2-, 3- and 5-valve standard configurations, other variants are available upon request to suit your exact applications.
**MANIFOLD ACCESSORIES**

**UNIVERSAL MOUNTING BRACKET**

For mounting 2, 3 & 5 valve manifolds to a 2" NB pipestand. Mounting brackets supplied with "U" bolts, washers and nuts. Material of all components is zinc plated and passivated Carbon Steel. Special brackets can be supplied on request.

**STEAM TRACE BLOCKS**

The steam trace block is bolted to the manifold and because it is not an integral part of the manifold, stress levels (due to temperature cycling) are kept to a minimum. Steam trace blocks vary in size depending on manifold type.

**MANIFOLD HEATING, ELECTRICAL**

Specially designed 3/8" diameter cartridge manifold heater is available. The heater is inserted into the valve manifold and is protected by a brass cable gland and steel conduit designed for Zone 1 hazardous areas and approved to EExd and EExe IIc, BAS number: EXbI22U. Output range either 25 or 50 watts, for 200/240 volts.

**FLANGED VALVES**

Flanged valves are available in many materials, flange sizes & configurations, please consult office stating flange class and rating.

**HOW TO ORDER**

**EASY ORDERING DESCRIPTION**

<table>
<thead>
<tr>
<th>MANIFOLD TYPE</th>
<th>M</th>
<th>S</th>
<th>AG</th>
</tr>
</thead>
<tbody>
<tr>
<td>MATERIAL SELECTION</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S – 316SS1 Stainless Steel standard (316)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SL – 316S1 Stainless Steel (316L)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C – 230M07 Carbon Steel plated (En1a)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>CB – 070M20 Carbon Steel (En3b) for NACE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M – Monel (400)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NI – Nickel (200)</td>
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<td></td>
</tr>
<tr>
<td>HC – Hastalloy (C276)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>IL25 – Incoloy (825)</td>
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</tr>
<tr>
<td>IN625 – Inconel (625)</td>
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</tr>
<tr>
<td>FER – Ferralium (255)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AB – Aluminium Bronze (DGS1043)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DUP – Duplex (UNS S31803)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>T248 – Titanium (248)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NA – NACE MR-01-75 (latest revision)</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

**EXAMPLE**

F25S/NA/PM

- F – Female x female connections
- 25 – 3/4" size (NPT Standard)
- S – 316 Stainless Steel
- NA – NACE specification
- PM – Panel mounting option

**OTHER OPTIONS AVAILABLE ON REQUEST**

- Process connection options
- BP – BSP Parallel (for sealing standard)
- BT – BSP Taper
- BW-SCH – Butt weld, Schedule 40, 80, 160, xxs (Nominal Pipe Size)
- SW-SCH – Socket weld, Schedule 40, 80, 160, xxs (Nominal Pipe Size)
- SW-OD – Socket weld, outside diameter (tube)
- BW-OD – Butt weld, outside diameter (tube)

**Other Options:** Specify in alphabetical order

- AG – Grafoil packing
- AT – Anti-tamper (e.g., AT-V if vent)
- AT-KEY – Anti-tamper key
- ATEQ – AT on equalise (for 3 and 5 valve manifolds)
- BKTC – CS bracket complete with mounting bolts
- BKT5 – SS bracket complete with mounting bolts
- CSHW – Carbon Steel handwheel
- FS – Firesafe
- HD – 10,000 PSI max pressure (Heavy Duty Head Unit, for isolation valves only)
- HD/15HP – 15,000 PSI max pressure (Heavy Duty Head Unit, for isolation valves only)
- HL – Handwheel locking (PAD - Padlock)
- HL-PI – Handwheel locking and position indication
- HP – 10,000 PSI maximum pressure rating (except direct mount) for Standard Needle Valve
- LT100 – Cryogenic head unit (good for -320ºC)
- LT200 – Cryogenic head unit (good for -250ºC)
- MTG – 2 Mounting holes to mount BKT
- MT – Metering tip
- NA – NACE MR-01-75 latest revision
- OXY – Oxygen clean degreased
- PAD – Padlock (for HL option)
- PK – PEEK Soft tip
- PM – Panel Mount (gauge valves only)
- PP – Pressure plug
- RW – Red nylon hand wheel
- SG – Grafoil flange seal rings
- SS – Stainless steel bolts (rated to 4,500 PSI) for Direct Mount manifold
- SS-TAG – Stainless steel tag
- ST – Stellite 6 hard tip

**Y3**

For 2, 3 & 5 valve manifolds to a 2" NB pipestand. Mounting brackets supplied with "U" bolts, washers and nuts. Material of all components is zinc plated and passivated Carbon Steel. Special brackets can be supplied on request.
HIGH PERFORMANCE BALL VALVES

**Features**

- Instrument ball valves to 15,000 PSI (trunion mount).
- Instrument ball valves to 10,000 PSI (free floating).
- Instrument manifolds to 3,000 PSI.
- Actuated ball valves.
- Double block and bleed ball valves.
- Connections threaded, flanged, butt weld and socket weld ends.
- Severe services - Cryogenic - NACE - Firesafe - Anti-static.
OLIVER HIGH QUALITY BALL VALVES

SPECIFICATIONS

1. ADVANCED LOW TORQUE DESIGN
   Our ball valves have very low operating torques, and a range of seat materials to give the ultimate in process environmental compatibility.

2. STAINLESS STEEL HANDLE
   One piece stamped 316 Stainless Steel handle gives positive feel, quarter turn rust-free operation.

3. STOP PIN
   A 316 Stainless Steel “dead stop” pin is held into the body by a machined anti-vibration spline.

4. SEATS
   Our totally enclosed seats offer wide process compatibility whilst maintaining a positive sealing across the entire operating range. This high level of seat integrity allows both vacuum, and high pressure services from one valve.

5. FIRESAFE SEATS
   This option, in the event of a fire, ensures the ball/seat metal to metal contact is maintained. Note that the body and stem seals are changed to grafoil.

6. BALL
   This precision machined component is super finished assuring low operating torques.

7. FULL FLOW
   Positive 90° travel combined with clear thru’ bores, review table for full or reduced bore.

8. PROCESS THREADS
   CNC super finished screw cut threads ease assembly with reduced risk of galling.

9. SPINDLE
   A one piece stem incorporates an anti-blowout shoulder which maintains seal integrity at all pressures. Twin anti-vibration lock nuts are standard.

10. BODY SEALS
    Totally contained PTFE ‘O’ ring body seals give high body integrity, and additionally protect the body threads from process media.

ENGINEERING DATA

BALL VALVE PRESSURE vs TEMPERATURE CURVE

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Teflon/KEL-F and PEEK seats</th>
<th>Teflon/PVDF seats</th>
</tr>
</thead>
<tbody>
<tr>
<td>1000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2000</td>
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<tr>
<td>9000</td>
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<tr>
<td>10,000</td>
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</tr>
</tbody>
</table>

QUALITY ASSURANCE
BS5750, ISO 9000, EN 29002 quality systems accredited by both Lloyd's Register and British Standards.

CERTIFICATION AND TRACEABILITY
All body components exhibit unique identification coding and material test certificates to BS EN 10204 3.1.B.

TESTING
All Oliver ball valves are subjected to three pressure tests, a hydrostatic test at the full rated pressure and low pressure pneumatic test at 50 PSI (3.5 bar), as well as a shell test to 1.5 times working pressure.

VACUUM SERVICE
Our ball valves are suitable for vacuum service and have been tested at 0.01mbar with no detectable leakage.

ANTI-STATIC OPTION
Can be specified with our ball valves.

CONTINUOUS DEVELOPMENT
of existing and new ball valve products maintain the highest levels of performance and integrity for our products. Oliver Valves maintain in-house fire test, cycling and combined pressure/temperature test facilities.

CRYOGENIC
Ball valves have been cryogenically tested down to minus 196°C please consult factory with system specifications.

SEATS
- Three piece body 30mm ball valves with unique twin seat 120°C (250°F) maximum: Teflon/PVDF standard.
  200°C (390°F) maximum: Teflon/KEL-F add KEL.
- Three piece 14 and 20mm ball valves with solid seat 200°C (390°F) maximum: PEEK.
**BALL VALVE OPTIONS**

**HANDLE LOCKING**
Valves can be locked in either the open or closed position with padlock available.

**PMB SERIES PANEL MOUNT VALVES**
Panel mount “PMB series” three piece 6,000 PSI range ball valves. Coloured handles – black standard, options – red (RD), green (GR), blue (BL), yellow (YL), orange (OR) or stainless steel (HSS). Range of end connectors as standard and NACE option.

**REMOVABLE HANDLE**
Available in 3,000 and 6,000 PSI pressure ranges, with ⅛", ¼", ½", ¾" and 1", other end options available. Handle and lock nuts are easily removed without affecting integrity of spindle sealing assembly. Design of handle and spindle ensures handle can only be fitted in correct orientation with open/close position of ball.

**FIRESAFE/ANTI-STATIC**
Tested to BS6755 part 2, these valves have body and stem seals in fire resistant Grafoil. The metal lip seat is designed to ensure leak free seating when the PTFE burns in fire conditions. The spindle disc springs ensure a positive leak-free gland.

**SPANNER ACTUATED**
With spanner actuation the valve is operated using a 1" A/F spanner, reducing tampering and accidental operation.

**OVAL HANDLE**
An oval handle can be fitted as an option to the standard lever style (Plan view shown).

**TANGENTIAL LOCKING PIN**
This simple but effective patented solution totally eliminates any possibility of inadvertent removal of end connector pieces by operator or vibration whilst in service.

**NACE SPECIFICATION**
Many of our valves can be supplied to NACE MR-01-75 (latest revision). Suitable for sour service they have solution annealed 316 stainless steel balls and spindles, for NACE products ask sales.

**ACTUATION**
A complete range of electric or pneumatic actuators either double acting or spring return can be factory fitted. Options such as solenoid valves, open and closed indication, limit switches and stainless steel housing are available on request.

**POSITION INDICATOR**
This feature indicates orientation of the ball on the valve handle showing at a glance whether the valve is opened or closed. Position indication can also be used with spanner actuation and handle locking options.
LOW PRESSURE BALL VALVES TO 1,000 PSI AND 3,000 PSI

FEATURES & BENEFITS

These families of high performance quality ball valve products are stocked in 316 stainless steel. Even the pressed handle on the valve is 304 stainless steel avoiding rusting on site. Offered in pressure ranges from 1,000 PSI to 3,000 PSI and sizes from 9mm to 19mm diameter bores these valves are recommended for use in oil, gas and petrochemical applications where reliable long-term performance is essential. Threaded connections are NPT, Handle Locking Standard, NACE Standard, Firesafe Standard (on 3,000 PSI version).

BALL VALVES TO 1,000 PSI

<table>
<thead>
<tr>
<th>SIZE</th>
<th>(A)</th>
<th>(B)</th>
<th>(C)</th>
<th>(D)</th>
<th>PART No</th>
<th>Weight Kg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/4&quot;</td>
<td>2.150&quot;</td>
<td>1.875&quot;</td>
<td>4.250&quot;</td>
<td>9mm</td>
<td>LPB1F25S/HL/NA</td>
<td>0.22</td>
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<tr>
<td>3/8&quot;</td>
<td>2.150&quot;</td>
<td>1.875&quot;</td>
<td>4.250&quot;</td>
<td>9mm</td>
<td>LPB1F38S/HL/NA</td>
<td>0.22</td>
</tr>
<tr>
<td>1/2&quot;</td>
<td>2.220&quot;</td>
<td>1.875&quot;</td>
<td>4.250&quot;</td>
<td>9mm</td>
<td>LPB1F50S/HL/NA</td>
<td>0.20</td>
</tr>
<tr>
<td>3/4&quot;</td>
<td>2.420&quot;</td>
<td>2.062&quot;</td>
<td>4.250&quot;</td>
<td>12mm</td>
<td>LPB1F75S/HL/NA</td>
<td>0.28</td>
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<tr>
<td>1&quot;</td>
<td>2.930&quot;</td>
<td>2.375&quot;</td>
<td>5.830&quot;</td>
<td>16mm</td>
<td>LPB1F10S/HL/NA</td>
<td>0.48</td>
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</table>

BALL VALVES TO 3,000 PSI

<table>
<thead>
<tr>
<th>SIZE</th>
<th>(A)</th>
<th>(B)</th>
<th>(C)</th>
<th>(D)</th>
<th>PART No</th>
<th>Weight Kg</th>
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</thead>
<tbody>
<tr>
<td>3/4&quot;</td>
<td>4.25&quot;</td>
<td>2.56&quot;</td>
<td>5.84&quot;</td>
<td>19mm</td>
<td>LPB3F75S/FS/HL/NA</td>
<td>1.32</td>
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<td>2.56&quot;</td>
<td>5.84&quot;</td>
<td>19mm</td>
<td>LPB3F10S/FS/HL/NA</td>
<td>1.32</td>
</tr>
</tbody>
</table>
**BALL VALVES TO 10,000 PSI**

Four pressure ranges 3,000 PSI (200 BAR), 4,000 PSI (280 BAR), 6,000 PSI (400 BAR) and 10,000 PSI (700 BAR). Sizes to 2" NPT.

**Features & Benefits**

These families of high performance quality ball valve products are stocked in 316 stainless steel. Even the pressed handle on the valve is 316 stainless steel avoiding rusting on site.

Offering in pressure ranges from 3,000 PSI to 10,000 PSI (280-700 Bar) and sizes from 0.4" to 2" dia (10mm to 50mm dia) bores these valves are recommended for use in oil, gas and petrochemical applications where reliable long-term performance is essential. Compression end connections are Twin Ferrule “Bilok” type, to 6,000 PSI only.

Threaded connections are NPT.

For Male x Female valves use dimension ‘E’ - replace prefix ‘F’ with ‘M’ i.e. B6FX50S becomes B6MX50S.

---

**Features & Benefits**

<table>
<thead>
<tr>
<th>Style</th>
<th>Size</th>
<th>Max Pressure (at 20°C)</th>
<th>Part number</th>
<th>Bore size (in mm)</th>
<th>Dimensions (inches)</th>
<th>Max Temperature °C</th>
<th>Weight Kg</th>
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<tbody>
<tr>
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<td>6mm</td>
<td>6000</td>
<td>B6B6x6mmS</td>
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<td>B6B25x25S</td>
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<td></td>
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<td>6000</td>
<td>B6B50x50S</td>
<td>10</td>
<td>0.40</td>
<td>4.13</td>
<td>2.50</td>
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</tbody>
</table>

**Female (NPT)**

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<tr>
<th>Style</th>
<th>Size</th>
<th>Max Pressure (at 20°C)</th>
<th>Part number</th>
<th>Bore size (in mm)</th>
<th>Dimensions (inches)</th>
<th>Max Temperature °C</th>
<th>Weight Kg</th>
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<td>B6F20S</td>
<td>20</td>
<td>0.80</td>
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<td>2.00</td>
</tr>
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</table>

**Ball Valves to 15,000 PSI**

Trunnion Mount Ball Valves also available - Contact Office for Details.
MANIFOLDS

Oliver Valves manufacture a range of instrument manifolds with 10mm bores.

Multiport ball valves allow compact solutions to the joint mounting of remote and local indicating instruments and can be supplied with a range of blanking or venting plugs and/or swivel gauge adaptors.

Standard connections \( \frac{1}{2}'' \) NPT (female) inlet and outlet, with \( \frac{1}{2}'' \) NPT (female) vent.

Three valve remote mount pipe to pipe manifold for isolation of process and equalising of instrument. Available in 3,000 PSI pressure range with 10mm bore. Standard connections \( \frac{1}{2}'' \) NPT (female).

Three valve direct mount pipe to flange manifold for isolation of process and equalising of instrument. Available in 3,000 PSI pressure range with 10mm bore. Standard inlet connections \( \frac{1}{2}'' \) NPT (female).
DIVERSION VALVES

OPTIONAL END CONNECTIONS

FLANGES - Various flanged ends to your requirements.
BP - BSP parallel pipe thread (BS2779). Top sealing only.
BT - BSP taper pipe thread (BS21).
SW - Extended male or female socket weld.
BW - Extended butt weld.

Details available upon request, specify size, type and pressure class.

SMART MANIFOLD

MANUAL - SMART MANIFOLD
To prevent the accidental over pressurisation of the transmitter capsule on one side by an untrained operator or after calibration of instrument leaving equalise or vent valves open or isolate valves left closed.

AUTOMATIC - SMART MANIFOLD
Can be operated via a single actuator from the control room allowing for remote calibration in hazardous or difficult to get to places.

Maximum Pressure 3,000 PSI
Maximum Temperature 200º C
Available actuated or manual
Air supply pressure if actuated, varies from 80 PSI to 100 PSI depending upon process static pressure

PATENT No. 2260243

Smart Manifold Ball Valve 3,000 PSI
316 ST STL
Pipe to Flange 5mm Bore
BARSTOCK DOUBLE BLOCK AND BLEED MANIFOLDS

Barstock body with 3 balls arranged for sampling, chemical injection, double block and bleed of instrument. Variety of connections, optional surface mounting & cam interlock possible.

Barstock body with centre 'T' ported ball valve for compact double block and bleed, sampling or chemical injection. Variety of connections, optional surface mounting possible.

Weight 1.5kg

Weight 1.2kg

SEQUENTIAL INTERLOCKING CAM SYSTEM WITH REMOVABLE HANDLE ON PRIMARY ISOLATION VALVE

With primary isolation valve in open position, vent valve is cam locked in closed position and secondary isolation valve is cam locked in open position.

Primary isolation valve handle operator can only be removed when primary isolation valve is in open position.

With primary isolation valve in closed position, vent valve can be operated to open position and secondary isolation valve can be operated to closed position.

CAM INTERLOCKING SEQUENCE FOR T TYPE

PATENT No. 9119669

HOW TO ORDER

EASY ORDERING DESCRIPTION

BALL VALVE

PRESSURE RANGES
2 2,000 PSI (c.w.p.)
3 3,000 PSI (c.w.p.)
4 4,000 PSI (c.w.p.)
6 6,000 PSI (c.w.p.)
10 10,000 PSI (c.w.p.)

CONNECTIONS
F Female x Female
M Male x Female
Bl compression ended
SL side entry "L" port
BL bottom entry "L" port

BALL VALVE BORES
W = 0.20" (5mm)
X = 0.40" (10mm)
Y = 0.55" (14mm)
Z = 0.80" (20mm)
P = 1.00" (25mm)
Q = 1.50" (40mm)
R = 2.00" (50mm)

MATERIAL SELECTION
S BS970-316S11/S31 STAINLESS STEEL STANDARD
M MONEL 400
DUP DUPLEX STAINLESS STEEL UNS 531803 (other materials available on request)

OR MANIFOLD PART NO
PMB Panel Mount Series

CONNECTION SIZES
12 = 1/2"
25 = 1/4"
38 = 3/8"
6mm = 6mm O.D. compression fitting
10mm = 10mm O.D. compression fitting
12mm = 12mm O.D. compression fitting
Manifold connections are 1/2" NPT STANDARD

PROCESS CONNECTIONS:
BT BSP taper thread**
BP BSP parallel thread** (top sealing standard)

OPTIONS: (Specify in alphabetical order)
BKT Bracket (carbon steel)
BKT5 Bracket (stainless steel)
FS Firesafe (BS5755 Part 2)
HL Handle locking (PAD = Padlock)
NA NACE MR-01-75 latest revision
OH Oval Handle
PE Pinned ends
PMHT Panel mounting (dipped halves) top
PMHB Panel mounting (dipped halves) bottom
SA Spanner actuation (1" A/F)
SS-TAG Stainless steel tag

SEATS
- THREE PIECE BODY 10mm Ball valves with unique twin seat - Teflon/PVDF - standard, Teflon/KELF-std/DF
- THREE PIECE BODY 14mm and 20mm Ball valves with solid seat PEEK - standard

IMPORTANT NOTE - Always refer to table on page 21 to make sure that the required connection size, pressure rating and bore size are available.
SEVERE SERVICE HIGH TEMPERATURE AND HIGH PRESSURE NEEDLE VALVES

**Features**

- Pressures to 6,000 PSI.
- Temperatures to 650°C (1,200°F).
- 4mm, 6mm and 11mm bore sizes.
- Stellite seat and tip option available.
- Panel mount option available.
- Non wetted body bonnet thread on 11mm bore valve.
- Compact lightweight body for 11mm bore valve.
SEVERE SERVICE HIGH TEMPERATURE AND HIGH PRESSURE NEEDLE VALVES

Flow coefficient $C_v$ to turns open

- **PRESSURES**
  - Up to 6,000psig (414 barg) at 100 degrees F (38 degrees C).
  - Up to 1,715psig (118 barg) at 1,200 degrees F (650 degrees C).

- **MATERIALS OF CONSTRUCTION**
  - Body - 316 stainless steel.
  - Gland Packing - Grafoil as standard, PTFE optional, maximum temperature 650 degrees C.
  - Body Joint - Grafoil as standard, PTFE optional, maximum temperature 650 degrees C.

  Straight and angle pattern body styles with choice of end connections. Orifice sizes of 0.156" (4mm), 0.250" (6mm), 0.438" (11mm).

  Flow Coefficients ($C_v$) from 0.35 to 2.2.

- **SEAT AND TIP**
  - 316 stainless steel seat and tip as standard.
  - With option of stellite 12 seat and stellite 6 tip for high pressure steam blow down applications.
  - (Note: Tip is hipped and then 100% die penetrant inspected to insure against centreline porosity, a big problem in cast stellite).

- **SPINDLE**
  - One piece design with non-rotating tip and integral back seating safety feature. All threads are rolled to eliminate galling. Seal diameter is burnished to ten micro inch super finish, to reduce operating torques to a minimum. Packing is a unique three piece packing system developed alongside customers after years of constant 650ºC temperature service.

- **SEAL HOUSING**
  - Rugged design with metal to metal, body to bonnet contact to achieve controlled compression of body joint seal, which with Grafoil is a fire tested proven design.

- **LOCKING PIN**
  - A 316 stainless steel pin adjacent to the bonnet hexagon prevents any unscrewing of the head unit.

- **PUSHER AND LOCK NUT**
  - To permit packing adjustments in open or closed positions with safety lock nut.

- **THREAD PROTECTOR SEAL**
  - To stop any ingress into thread adjusting area.

- **PANEL MOUNT**
  - The valve can be supplied with panel mount option, as shown in the photograph (one nut is standard, two is optional).

- **DESIGN**
  - Body strength calculations have been completed in accordance with ASME VIII Division 1.

- **TESTING**
  - Oliver severe service needle valves have been fully tested by the University of Leeds.

- **BUTT WELD SOCKET WELD CONNECTIONS**
  - Socket Weld (SW) and Butt Weld (BW) denotes the nominal pipe size. If the connections need to fit an outside diameter tube size then add "OD", for example, F5OS/SW for pipe and F5OS/SW-OD for tube.

  Note - for metric size, quote only the size ie. 12mm in – 14mm out, (this will be taken as the tube size).

- **OPTIONS**
  - /17.4T 17.4PH TIP
  - /STT Stellite 6 TIP
  - /STS Stellite 12 seat
  - /PM Panel mount head unit
  - /LTB For SSVII valve a 5½" long tee bar in 316 stainless steel

- **IMPORTANT NOTE**
  - FOR STEAM BLOW DOWN APPLICATION ALWAYS USE STELLITE SEAT + TIP

  **BORE SIZE AND $C_v$**
  - 11mm (7/16") $C_v = 2.2$
  - 6mm (1/4") $C_v = 0.86$
  - 4mm (5/32") $C_v = 0.35$

  **PRESSURE AND TEMPERATURE RATINGS**
  - Pressure
    - 6000psig (414BARG) 1000 (38ºC)
    - 1715psig (118BARG) 1200 (650ºC)
  - Valve Material 316 Stainless Steel
features

- A complete range of instrumentation accessory products.
- A wide choice of sizes and pressures.
- Gauge adaptors - allows 360° orientation of gauges on site.
- Gauge snubbers - protects gauges from line surges.
- Gauge syphons - protects gauges from steam.
- Check valves - flow control, in one direction only.
INSTRUMENT ACCESSORIES

Swivel Gauge Adaptor

- Type: GAL0S
- Weight: 0.3kg
- "1 5/16" (33mm)

Seals: Metal
Max Temperature: 540°C
Max Pressure: 10,000 PSI
Standard Material: 316 stainless steel
Standard Connections: 1/2" NPT Male x Female

Advantages:
1. More compact than "Pigtail" syphon
2. All 316 stainless steel construction
3. Protects gauges from steam by condensing into water via internal chambers.

Gauge Snubber (variable orifice)

- Type: SN50S
- Weight: 0.2kg
- "1 1/4" (34mm)

Seals: VITON
Max Temperature: 120°C
Max Pressure: 6,000 PSI
Standard Material: 316 stainless steel
Standard Connections: 1/2" NPT Male x Female

Advantages:
1. Only one spindle needed for all processes.
2. Snubbing rate can be altered after installation on site.
3. Anti-blowout spindle.
4. In emergency situation can be shut off.

Check valve. In-line Poppet type.

- Type: CV
- Weight: 0.4kg
- Max Pressure: 6,000 PSI
- Standard Material: 316 stainless steel
- Standard Connections: 1/2" NPT Male x Female

(Alternative connection sizes and materials available upon request).

Advantages:
1. More compact than "Pigtail" syphon
2. All 316 stainless steel construction

Protects gauges from steam by condensing into water via internal chambers.
**RISING PLUG VALVES**

**Features**

- Including straight through flow characteristics, bore size 0.24” (6mm) with a CV of 1.04.
- Non rotating tip.
- Bubble-tight soft seat closure, Delrin seat standard.
- Anti-blowout spindle safety feature.
- 6,000 PSI pressure rating, as standard. 10,000 PSI high pressure option available.
- Spindle threads are rolled and lubricated.
- Actuating threads are above the adjustable packing, which incorporates a piston ring to compress the packing under pressure ensuring a vacuum to high pressure seal.
- Removable seat locked in place to prevent rotation.
- Optionally available to NACE specification and handwheel locking and many other features.

**Temperature v Pressure**

Gauge multiport valve Male inlet x three Female outlets. 3” lagging extension, and ¼” inlet available.
AIR HEADERS AND DISTRIBUTION MANIFOLDS

features

- Air Headers are produced from seamless tubing in carbon or stainless steel.
- Both headers and manifolds can be configured quickly in any layout to suit application, utilising standard components.
- Distribution manifolds for high pressure applications to 6,000 PSI.
- Choice of ball or needle valve isolations.
- Widely specified in the oil, gas and petrochem industries, for compact installations.
- For even more compact high pressure valving, and for ease of mounting, our compact mount distribution manifold - “CMDM Series” - is available with all the options and advantages of the Oliver Needle Valve.
AIR HEADERS

Oliver low pressure Air Headers fulfil the need for a manifold designed specifically for this pressure range. Manufactured from specially extruded section in 316 stainless or carbon steel.

Drawings show typical layouts - lengths, number of valves & flanges etc, to suit application.

See back page for how to specify.

<table>
<thead>
<tr>
<th>STANDARD SPECIFICATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAXIMUM WORKING PRESSURE</td>
</tr>
<tr>
<td>MAXIMUM TEMPERATURE</td>
</tr>
<tr>
<td>VALVE TYPE</td>
</tr>
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</table>
DISTRIBUTION MANIFOLDS

Oliver high pressure Distribution Manifolds fulfil the need for a specific manifold working at instrument pressures. Designed in conjunction with our customers’ requirements.

Drawings show typical layouts - lengths, number of valves & flanges, etc. to suit application. Needle valves and ball valves shown.

See back page for how to specify.

**STANDARD SPECIFICATION**

<table>
<thead>
<tr>
<th></th>
<th>BALL VALVES</th>
<th>NEEDLE VALVES</th>
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<td><strong>MAXIMUM WORKING PRESSURE</strong></td>
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<td></td>
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<tr>
<td><strong>VALVE TYPES</strong></td>
<td>BALL VALVES</td>
<td>NEEDLE VALVES</td>
</tr>
<tr>
<td><strong>MAXIMUM TEMPERATURE</strong></td>
<td>200ºC</td>
<td>240ºC</td>
</tr>
</tbody>
</table>
### HOW TO ORDER AIR HEADERS

**Air Header**

8 / S

**Material**

- S 316 Stainless Steel
- C 220M07 Carbon Steel

Other materials available on request.

**Ball Valves**

- BAH2SS \(\frac{1}{4}\)" NPT Female
- BAH2S5SS \(\frac{1}{4}\)" NPT Female

(ball valves are stainless steel)

**Ports**

- HRB75/50C \(\frac{1}{4}\)" (F) Connection CS
- HRB75/50S \(\frac{1}{4}\)" (F) Connection SS
- HRB75/25C \(\frac{1}{4}\)" (F) Connection CS
- HRB75/25S \(\frac{1}{4}\)" (F) Connection SS

Standard \(\frac{1}{8}\)" ports, inlet and vent.

**Inlet Connections**

- M25 \(\frac{1}{4}\)" NPT Female
- M38 \(\frac{1}{4}\)" NPT Female
- M50 \(\frac{1}{4}\)" NPT Female
- M75 \(\frac{1}{4}\)" NPT Female
- M100 \(\frac{1}{4}\)" NPT Female

**Outlet Connections**

- M50 \(\frac{1}{4}\)" NPT Female
- M100 \(\frac{1}{4}\)" NPT Female

**Vent Connections**

- M50 \(\frac{1}{4}\)" NPT Male
- M100 \(\frac{1}{4}\)" NPT Male

**Letters in Brackets**

- (I) Inlet Port
- (O) Outlet Port
- (V) Vent Port

**Mounting**

- BKTC Carbon Steel Bracket
- BKTS Stainless Steel Bracket

---

**Example:** AH20C/TWO/HRB75/50C (I)/BAH2SS (OV)

A 20-way double sided (10 down each side) air header in carbon steel with \(\frac{1}{8}\)" NPT Female inlet, \(\frac{1}{4}\)" NPT Female ball valve outlets and a \(\frac{3}{8}\)" NPT Female ball valve vent. All ball valves are stainless steel.

---

### DISTRIBUTION MANIFOLDS

**DM** Distribution Manifold

**CMDM** Compact Mount Distribution Manifold

**Total Number of Outlet Ports**

**Example:** DM8S TWO/50IN/M38S/75V/PP

Distribution manifold with four \(\frac{3}{8}\)" NPT Female Oliver Needle valves on outlets down each side with \(\frac{1}{4}\)" NPT Female inlet and \(\frac{3}{8}\)" NPT Female outlet, and pressure plug on vent.

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Continuous development in Oliver Valves Products may necessitate changes in the details contained in this brochure. Oliver Valves Ltd. reserve the right to effect such changes at their discretion without prior notice.
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2 THE DOUBLE BLOCK AND BLEED SOLUTION
3 DOUBLE BLOCK AND BLEED SPECIFICATIONS
4 DOUBLE BLOCK AND BLEED SPECIFICATIONS
5 INSTRUMENT DOUBLE BLOCK AND BLEED VALVES
6 D TYPE DOUBLE BLOCK AND BLEED VALVES
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15 TWINSAFE® DIMENSIONS AND PERFORMANCE
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23 HOW TO ORDER PRIMARY ISOLATION VALVES
24 OLIVER PIPING SOLUTIONS
25 OPERATION, INSTALLATION AND MAINTENANCE INSTRUCTIONS

Parkgate Industrial Estate Knutsford Cheshire WA16 8DX England Tel: 01565 632636 (14 Lines)
Fax: 01565 650089 or 01565 650060 Email: sales@valves.co.uk WWW: valves.co.uk or olivervalves.com
The Oliver Group products are made in England and sold and supported in over 50 countries worldwide.
DOUBLE BLOCK AND BLEED VALVES

features

• Styles: Needle and ball valve combinations.

• Valve Sizes: 1/2” to 2” nominal bores.

• Design Codes: API 6D and ANSI B16.34 & all others (page 4).

• Pressure Ratings: Class 150 to 2,500.

• Connections: Flanged, Threaded, Pipe Clamp Locking Hubs, Buttweld, Socketweld, Special end profiles.

• Materials of Construction as Standard: Forged bodies in Carbon Steel, Stainless Steel and Duplex Steel.

• Firesafe: Lloyds Register type approved in accordance with BS 6755 part 2.

ADDITIONAL BENEFITS ON ALL DOUBLE BLOCK AND BLEED TWINSAFE® VALVES

• Conform to NACE MR-01-75 latest revision.

• Firesafe: to BS 6755 part 2.

• Fully material traceable, unique number system.
YOUR PROBLEM

In the conventional “HOOK UP” of pressure instruments both the piping and instrument departments are involved in ordering and stocking separate valves, gaskets and other fittings. Assembling so many components suggests many potential leak points. This costly and time-consuming “HOOK UP” has the further disadvantage of taking up working space, and produces a large bending moment. The higher mass induces vibration stress failures. It is also expensive, particularly if welding of joints is required.

OUR SOLUTION

Oliver’s unique approach offers the designer of sampling, draining, injection and pressure instrument take-off points a simple, rigid, compact, safe, low-cost option to “CONVENTIONAL PRACTICE”. Our double block and bleed valves are used in critical applications, where cost, weight and space saving are paramount for:

- Pressure instrument take-off points.
- Sampling systems, where a pipeline probe is integral with our valve.
- Chemical injection systems, where a check valve is part of our valve assembly.
- Drains for tanks and pipes, where space is restricted.
- High pressure firesafe diverter valves.
- Hydraulic power unit systems.
- Reduced vibrational stresses.
- Cost savings with exotic material designs are huge.

![Diagram showing weight and overhang comparison between conventional and Oliver's solution.](2)

<table>
<thead>
<tr>
<th>Component</th>
<th>Conventional</th>
<th>Oliver's Solution</th>
<th>Savings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight A</td>
<td>40Kg</td>
<td>7Kg</td>
<td>33Kg</td>
</tr>
<tr>
<td>Overhang A</td>
<td>21&quot;</td>
<td>7&quot;</td>
<td>14&quot;</td>
</tr>
<tr>
<td>Weight B</td>
<td>7Kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overhang B</td>
<td>7&quot;</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
CARBON STEEL DOUBLE BLOCK AND BLEED VALVES have stainless steel end adaptors, seal housings and inserts as standard construction. The parts mentioned can also be made from carbon steel if specifically requested. Plating as standard with painting options available.

HANDLE LOCKING - /HL Oliver unique handle locking system will prevent accidental operation - tamper-proof.

SPANNER ACTUATION - /SA Oliver tamper-proof spanner actuation - for ball valve handles only.

TOUGH HANDLES
Rugged, 316 stainless steel, low torque, quarter turn handles will not rust in offshore service.

EXPLOSIVE DECOMPRESSION
Explosive decomposition occurs when gas at high pressure permeates into seal materials. When the gas pressure is reduced the absorbed gas expands which can cause the seals to swell and blister. Oliver Valves only use seal material within their ‘Double Block and Bleed Valve’ range that are resistant to explosive decomposition.

ADVANCED DESIGNS
Our products conform to the latest international design specifications and are approved by leading companies.

HIGH PERFORMANCE SEATS
Unique enclosed seats offer great process compatibility but restrict creep or distortion in service. Our approach achieves high levels of seat integrity at low and high pressures.

FIRESAFE BALL VALVES
Go metal to metal in a fire to reduce leakage due to seat destruction.

BALL
This precision machined component is super finished assuring low operating torques.

THROUGH RODABILITY OF BALL VALVES
True positive 90° opening combined with clear through bores across the range allows rodding.

FIRESAFE - /FS Firesafe construction compliant with BS 6755 part 2, API 607 and API 68A. Fully certified to Lloyds type approval certificate numbers 88/0345, 93/0117, 92/0140 and 93/00068. High temperature Grafoil replaces PTFE for seals.

NACE - /NA Compliance to NACE specification MR-01-75 latest revision - suitable for sour service - resistant to sulphide stress corrosion cracking. 316 stainless steel is solution annealed for trims.
FLANGED VALVE RATINGS
come with, and are affected by, the material class pressures and
temperatures of ANSI B16.5 unless the temperature limitations
above apply. For clarification consult Oliver Valves.

QUALITY ASSURANCE
BS EN ISO 9002: 1994 quality systems accredited by Lloyds
Register Institution ensure confidence. Oliver holds certificate
number 0870012/A.

CERTIFICATION AND TRACEABILITY
All major pressure containing components exhibit unique
identification coding and material test certificates, to BS EN 10204
3.1.B which are available for a nominal charge. All our double
block and bleed products carry unique serial numbers against
which a lifetime factory history is maintained.

(3.I.C. certification available on request)

Note: See page 22 for needle and ball valve pressure v temperature.

DOUBLE BLOCK AND BLEED - OPTIONAL END CONNECTIONS

TESTING
All products receive hydrostatic testing at the full rated pressure
with proof shell test at 1.5 times full rated pressure and
pneumatic test of the seats at 80 psi thereby ensuring suitability
for use across a wide operating range. And a 1.1 times full rated
hydrostatic seat test.

DESIGN
Our DBB products meet the relevant code requirements of ASME
VIII, ANSI B16.34/B16.5, ANSI B31.3 and API 6D.

VACUUM SERVICE
All of our valves are suitable for use in vacuum service and have
passed helium leak testing at 0.01 m bar.

DEVELOPMENT
Continuous development maintains the highest levels of
performance and integrity for our valves. Oliver Valves maintains
its own in-house fire testing facilities and constantly performs
cycling and combined pressure temperature test programmes. All
aimed at the ultimate product specification.

EL TYPE
Integrally flanged one piece body forging machined to ANSI B16.5
flange dimensions fitted with corresponding studs and nuts. This style of
body does not have to be necked at the back of the flange to suit
standard bolting configurations and therefore it has greater
strength to withstand higher external and connecting pipework
forces.
The EL Type can be provided in the following styles:

i) Two in-line ball pattern primary and secondary isolating valves
   with a heavy duty needle valve vent, offering ‘through to process’
   rodding in bore sizes from 10mm to 20mm.
ii) Three ball pattern primary and secondary isolating valves and
    vent valve, offering ‘through to process’ rodding in 10mm and
    14mm bore sizes.
iii) Three heavy duty metal seated Needle primary and secondary
    isolating valves and vent valve with 5.4mm bores.

Any make or size of “Pipe Clamp Lock Connection” can be
accommodated on the standard D, F or N type Double Block and
Bleed Valves (N type shown) and also on the larger Twinsafe
Valves.
**INSTRUMENT DOUBLE BLOCK AND BLEED VALVES**

INSTRUMENTATION VALVES

These valves are double block and bleed type with different combinations of ball pattern and needle pattern valves in various configurations.

**L TYPE**
Barstock body with three needle balls arranged for sampling, chemical injection and double block and bleed of instrument. Surface mounting option available. Cam Interlock option available to allow only the correct sequence of operation and to prevent accidental opening of the vent valve when the first isolation valve is open.

**T TYPE**
Barstock body with rodable central 'T' ported ball valve for compact double block and bleed, sampling or chemical injection. Surface mounting and Cam Interlock options available.

**IN TYPE**
Barstock body with three needle pattern valves arranged for double block and bleed of instrument.

**INPM TYPE**
Barstock body with three needle pattern valves in different configuration to achieve panel surface mounting for double block and bleed of instrument.

**INV + B TYPE**
Barstock body with ball pattern primary isolating valve with two needle pattern valves for secondary isolating valve and vent valve.

**ID TYPE**
Barstock body with two in-line ball pattern primary and secondary isolating valves with a needle pattern valve vent, offering 'through to process' rodding in 10mm bore size.

**NOTE** – On instrument double block and bleed Firesafe & NACE specifications are options.
DOUBLE BLOCK AND BLEED VALVES

Machined from a single piece "grain flow controlled" forging. This valve features two in-line ball pattern primary and secondary isolating valves with a heavy duty needle valve vent, offering "through to process" rodding in bore sizes from 10mm to 20mm (0.4" to 0.8").

This all forged manifold comprises two in-line ball primary and secondary isolating valves with a heavy duty needle valve vent. Offering through to process rodding in bore sizes from 10mm to 14mm (0.4" to 0.55").

FLANGE TO PIPE - THREE BORES - THREE STANDARD MATERIALS

SIZE RANGES

<table>
<thead>
<tr>
<th>BALL VALVE BORE 0.40/10mm</th>
<th>BALL VALVE BORE 0.55/14mm</th>
<th>BALL VALVE BORE 0.80/20mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>CV 6.3</td>
<td>CV 11.7</td>
<td>CV 27.9</td>
</tr>
<tr>
<td>Flange size</td>
<td>Flange size</td>
<td>Flange size</td>
</tr>
<tr>
<td>1/2 NB to 2 NB, Flange Classes 150 to 2500 RF &amp; RTJ</td>
<td>1/2 NB to 2 NB, Flange Classes 150 to 2500 RF &amp; RTJ</td>
<td>1/2 NB to 2 NB, Flange Classes 150 to 2500 RF &amp; RTJ</td>
</tr>
</tbody>
</table>

CARBON STEEL

Standard specification - ASTM A350 LF2 body material with BS970 316 S11/S31 barstock stainless steel trims, inserts, end adaptors and head units, with PTFE/Grafoil seals and gland packings. Needle valves have non-rotating hard tip giving metal to metal closure. Standard 1/4 turn lever and screw down tee bar operators. All end adaptors have Oliver BLOK-LOK protection against accidental disassembly.

DUPLEX STAINLESS STEEL

Standard specification - ASTM A182 F316 body material with UNS S31803 barstock stainless steel trims, inserts, end adaptors and head units, with PTFE/Grafoil seals and gland packings. Needle valves have non-rotating hard tip giving metal to metal closure. Standard 1/4 turn lever and screw down tee bar operators. All end adaptors have Oliver BLOK-LOK protection against accidental disassembly.

STAINLESS STEEL

Standard specification - ASTM A182 F316 body material with UNS S31803 barstock stainless steel trims, inserts, end adaptors and head units, with PTFE/Grafoil seals and gland packings. Needle valves have non-rotating hard tip giving metal to metal closure. Standard 1/4 turn lever and screw down tee bar operators. All end adaptors have Oliver BLOK-LOK protection against accidental disassembly.

STANDARD

NACE: Conformance to NACE MR-01-75 (latest revision).

FIRESAFE: Firesafe construction.

OPTIONS

INJECTION: Available for chemical injection service (page 12).

SAMPLING: Available for sampling service (page 10).
Machined from a single piece ‘grain flow controlled’ forging. This valve features two in-line ball pattern primary and secondary isolating valves with ball valve vent, offering ‘through to process’ rodding in bore sizes from 10mm to 14mm (0.4” to 0.55”).

This all forged manifold comprises two in-line ball primary and secondary isolating valves with ball valve vent. Offering through to process rodding in bore sizes from 10mm to 14mm (0.4” to 0.55”).

**FLANGE TO PIPE - TWO BORES - THREE STANDARD MATERIALS**

<table>
<thead>
<tr>
<th>SIZE RANGES</th>
<th>BALL VALVE BORE</th>
<th>BALL VALVE BORE</th>
</tr>
</thead>
<tbody>
<tr>
<td>CV 6.3</td>
<td>0.40”/10mm</td>
<td>0.55”/14mm</td>
</tr>
<tr>
<td>Range size</td>
<td>1/2” NB to 2” NB, Flange Classes 150 to 2500 RF &amp; RTJ</td>
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</tr>
<tr>
<td>Outlet connection:</td>
<td>1/2” NPT female standard.</td>
<td>1/2” NPT female standard.</td>
</tr>
</tbody>
</table>

**CARBON STEEL**
Standard specification - ASTM A350 LF2 body material with BS970 316 S11/S31 barstock stainless steel trims, inserts. End adaptors with PTFE seats and PTFE/Grafoil seals and gland packings. Standard 1/4” turn lever 1/2 turn to vent. All end adaptors have Oliver BLOK-LOK protection against accidental disassembly.

**STAINLESS STEEL**
Standard specification - ASTM A182 F316 body material with UNS S31803 barstock stainless steel trims, inserts. End adaptors with PTFE seats and PTFE/Grafoil seals and gland packings. Standard 1/4” turn lever 1/2 turn to vent. All end adaptors have Oliver BLOK-LOK protection against accidental disassembly.

**DUPLEX STAINLESS STEEL**
Standard specification - ASTM A182 F51 body material with UNS S31803 barstock stainless steel trims, inserts. End adaptors with PTFE seats and PTFE/Grafoil seals and gland packings. Standard 1/4” turn lever 1/2 turn to vent. All end adaptors have Oliver BLOK-LOK protection against accidental disassembly.

**STANDARD**
NACE: Conformance to NACE MR-01-75 (latest revision).
FIRESAFE: Firesafe construction.

**OPTIONS**
INJECTION: Available for chemical injection service (page 11).
SAMPLING: Available for sampling service (page 10).
Machined from a single piece ‘grain flow controlled’ forging. This valve features primary and secondary valve & vent with heavy duty needle valves, offering 5.4mm (0.23”) bores and metal seated valves.

This all forged manifold comprises three heavy duty needle valves. Offering 5.4mm (0.23”) bores and metal seated valves.

Valves have three heavy duty metal seated needle valves with 5.4mm (0.23”) bores.

**CARBON STEEL**
Standard specification – ASTM A350 LF2 body material with BS970 316 S11/S31 barstock stainless steel trims and head units with Grafoil seals and gland packings. Needle valves have non-rotating hard tip giving metal to metal closure and screw down tee bar operators.

**STAINLESS STEEL**
Standard specification – ASTM A182 F316 body material with BS970 316S11/S31 barstock stainless steel trims and head units with Grafoil seals and gland packings. Needle valves have non-rotating hard tip giving metal to metal closure and screw down tee bar operators.

**DUPLEX STAINLESS STEEL**
Standard specification – ASTM A182 F51 body material with UNS S31803 barstock stainless steel trims and head units with Grafoil seals and gland packings. Needle valves have non-rotating hard tip giving metal to metal closures and screw down tee bar operators.

**STANDARD**
- NACE: Conformance to NACE MR-01-75 (latest revision).
- FIRESAFE: Firesafe construction.
### FLANGE TO PIPE (TABLE A)

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<th>SIZE</th>
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<th>1500</th>
<th>600</th>
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### FLANGE TO FLANGE (TABLE B)

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<th>SIZE</th>
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<th>RF/RTJ FLANGE TYPE</th>
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<td>267</td>
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<td>Y/N</td>
<td>9.25</td>
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<td>267</td>
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</tbody>
</table>

- not available

*inch mm kg*
SAMPLING DOUBLE BLOCK AND BLEED VALVES

Sampling the process stream can be accomplished with this valve design, where a sample can be taken even at full system pressure directly from the process line. The product allows double isolation from process for safety. The orientation of the sample nozzle is fixed at the assembly stage and can be specified to suit the application.

The flanged body drop forging is machined to ANSI B16.5 flange dimensions with the forged body section incorporating two isolation valves and one bleed valve. A custom designed sampling probe extends from the flange connection into the process media for correct removal of the sample. If projections into the process line cannot be allowed the valve can be supplied without a probe. Sampling valves can be provided with either a single flange connection and screwed connection or double flange connections in the following styles:

- **F TYPE**: Three ball pattern primary and secondary isolating valves and vent valve.
- **D TYPE**: Two in-line ball pattern primary and secondary isolating valves with a heavy duty needle valve vent.
- **DN TYPE**: Two in-line ball pattern with primary and secondary isolating valves incorporating a heavy duty needle valve vent and an additional heavy duty needle isolation valve on the outlet. With this construction a sample is produced in the cavity between the ball valves and the needle isolation valve. Exact trapped volume ensures precise repetitive sampling.

**FLANGE SIZE 1½” NB, FLANGE CLASSES 150 TO 2500 RF & RTJ.**
**OPTION, FLANGE SIZE 2” NB, FLANGE CLASSES 150 to 2500 RF & RTJ.**
OTHER BALL VALVE BORE SIZES AND FLANGE SIZES CAN BE ACCOMMODATED.
INJECTION DOUBLE BLOCK AND BLEED VALVES

Injection of chemicals and other media onto the process stream can be accomplished with this valve design. The valve inlet houses a one way check valve which opens for injection and goes normally closed to eliminate process fluid outflow. The orientation of the injection nozzle is fixed at the assembly stage and can be specified to suit the application.

The flanged body forging is machined to ANSI B16.5 flange dimensions and incorporates two isolating valves and a bleed needle valve. The injection probe extends from the flange connection into the centre of the process stream for correct positioning of the injection media. Injection valves can be provided with either a single flange connection and screwed connection or double flange connections in the following styles:

The N Type double block and bleed with injection facility is also available.

F TYPE
Inlet check valve with three ball pattern primary and secondary isolating valves and vent valve.

D TYPE
Inlet check valve with two in-line ball pattern primary and secondary isolating valves with a heavy duty needle valve vent.

PROBE LENGTH:
This length is manufactured to suit customer requirements for the correct positioning of the injection orifice, up to a maximum length of 24". The position of the injection orifice can also be rotated at assembly to suit orientation relative to the valve handles.

PROBE MATERIALS:
The standard material is 316 stainless steel but other materials can be used to suit customer requirements.

INJECTION NOZZLES:
The standard orifice is a 0.125” (3mm) diameter hole but other arrangements can be accommodated including swirl pattern spray nozzles to improve dispersion of the media.

CHECK VALVE:
This poppet type spring return valve has a Viton soft seat, and offers bore sizes of 10mm (CV2.0) or 12mm (CV4.6) or 16mm (CV7.2). Alternatively flange to flange styles of 6mm (CV2.0) max or 10mm (CV2.0) (maximum temperature 120ºC) can be furnished. For Methanol injection specify Kalrez ‘O’ ring material for check valve seat.

NOZZLE TECHNICAL INFORMATION

FLANGE SIZE 3½” NB, FLANGE CLASSES 150 TO 2500 RF & RTJ. OPTION, FLANGE SIZE 2” NB, FLANGE CLASSES 150 TO 2500 RF & RTJ. OTHER BALL VALVE BORE SIZES AND FLANGE SIZES CAN BE ACCOMMODATED.
BOLTED CONSTRUCTION DOUBLE BLOCK AND BLEED

- Increased speed of delivery.
- Proven manufacturing performance.
- Flexible choice of end connectors at a significantly reduced lead time.
- Designed to ASME VIII & ANSI B16.34.
- Complements the existing one piece range.
- NACE & firesafe to API 607 REV 4 and BS 6755 Part 2 as standard.
- From 1/2" class 150 through to 2" 2500.
- Materials from carbon steel, stainless steel to more exotic alloys.
**DOUBLE BLOCK AND BLEED VALVES IN USE**

- With every double block and bleed product coded with its own unique number, quality and traceability right through the product’s factory history is assured.
- With more experience in the double block and bleed market than any other company, Oliver Valves’ proven product range is used on thousands of applications worldwide.
- Listed below are some of those areas.

<table>
<thead>
<tr>
<th>Company</th>
<th>Areas</th>
</tr>
</thead>
<tbody>
<tr>
<td>AMERADA Hess</td>
<td>AH001 – SCOTT</td>
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<tr>
<td>AMOCO</td>
<td>BESSEMER – CATS – DAVY &amp; BESSEMER</td>
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<tr>
<td>ARCO</td>
<td>TRENT &amp; TYNE</td>
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<td>BHP (HAMILTON)</td>
<td>JOHNSON – LIVERPOOL BAY</td>
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<td>MORECAMBE BAY – ARMADA – KARACHAGANAK</td>
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<td>TEXACO</td>
<td>CAPTAIN</td>
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THE TWINSAFE® ADVANTAGE

TRADITIONAL DOUBLE VALVE PIPELINE ISOLATION
Current working practices frequently demand that double isolation of the pipeline be provided, the conventional solution being the installation of two gate or ball valves.

![Diagram of traditional double valve pipeline isolation](image)

- NACE-INA - Compliance to NACE specification MR-01-75 (latest revision) - suitable for sour service, resistant to sulphide stress corrosion cracking.
- FIRESAFE-IFS - Firesafe construction compliant with BS 6755 part 2, API 607 and API 6FA.
- DESIGN - Double block and bleed valve products comply with the relevant code requirements of ASME VIII, ANSI B16.34, ANSI B16.5 and API 6D.
- OPTION - Of end connections include butt weld, socket weld, hub connections and threaded connections.

OPTIONS
- HANDLE LOCKING -HL - Oliver unique handling locking system to prevent unauthorised/accidental operation.
- STAINLESS STEEL CENTRE JOINT BOLTS -SSB - Centre joint bolts manufactured in 316 stainless steel material specification ASTM A193 B16 CL2.

TESTING - Each double block and bleed valve product is individually tested hydrostatically and pneumatically as follows:
- Shell Test to 1.5 x full rated pressure; Seat test to 1.1 x full rated pressure and pneumatic seat test to 80 PSIG.

QUALITY ASSURANCE - BS 5750, ISO 9000 and EN 29002 quality systems accredited by both Lloyds Register and British Standards Institution ensure confidence.

CERTIFICATION AND TRACEABILITY - All valves exhibit unique identification coding and material test certificates to BS EN 10204 3.1.B as well as lifetime factory history being available.

DEVELOPMENT - Continual Development maintains the highest levels of performance and integrity for our double block and bleed valves. Oliver Valves maintains in-house performance and fire test facilities.
1" to 2" DOUBLE BLOCK AND BLEED VALVES TO ANSI

HEAVY DUTY DESIGN FOR BIGGER BORES/HIGHER RATINGS 2¼" - 1500, 2½" - 2500, 2" - 1500, 2" - 2500
### HOW TO ORDER

**Model**

<table>
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<tr>
<th>Type</th>
<th>Integral flange 2 ball in line &amp; needle vent</th>
<th>Integral flange, 3 needle valves</th>
<th>Integral flange, 3 ball in line pattern</th>
<th>Integral flange, 3 ball oblique pattern</th>
<th>Integral flange, 3 needle valves</th>
<th>Integral flange, 3 needle valves, panel mount</th>
<th>Barstock, 1 ball first isolate, 2 needle valves isolate and vent</th>
<th>Barstock, 2 ball in line &amp; needle vent</th>
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**Material Selection**

- **C**: Carbon steel (barstock) EN1A Carbon steel (forged) ASTM A350LF2
- **S**: Stainless steel (barstock) 316L/316Ti Stainless steel (forged) ASTM A182 F316
- **DUP**: Duplex ASTM A182 F53
- **SUP-DUP**: Super Duplex UNS S32760
- **M**: Monel 400
- **FER**: Ferralium 255
- Other materials available on request

**Flange Details**

- Select flange size
  - 50 1/2" 75 1" 100 1 1/2" 200 2" 300 3"
- Followed by class
  - 150 150lb 300 300lb 600 600lb 900 900lb 1500 1500lb 2500 2500lb
- Followed by flange type
  - RF Spiral finish raised face
  - SRF Smooth spiral finish raised face

**Connections Details**

- **Connection size**
  - 25 1/4" (Std vent)
  - 38 1/2" (Std Process/Instrument)
- **Process connection**
  - NPT STANDARD
  - BS Butt weld (4" extensions)
  - BW Butt weld (4" extensions)

**Options**

- **HL**: Handle locking
- **IL**: Cam interlocking (on T and L types only)
- **IP**: Injection probe
- **SA**: Spanner actuation
- **SP**: Sample probe

**Bolts/Gaskets**

- Flange bolts and gaskets are not provided

**Patent application**

- No 88 17668
**PRIMARY ISOLATION VALVES**

**Features**

**SLIMLINE PRIMARY ISOLATE VALVES**
- Double Block and Bleed valves.
- Designed in accordance with ASME VIII Division 1.
- Primary isolate: Outside screw and Yoke type construction.
- Secondary isolate: Needle pattern.
- Bleed valve: Needle pattern.
- Horizontal and vertical instrument connections.
- Valves designed to connect with ANSI B16.5 flanges.

**GAUGE BLOCK MONO FLANGE VALVES**
- Double Block and Bleed valves.
- Block and Bleed valves.
- Single Block valve.
- Primary isolate: Needle pattern.
- Secondary isolate: Needle pattern.
- Bleed valve: Needle pattern.
- Horizontal and vertical instrument connections.
- Valves designed to connect with ANSI B16.5 flanges.

**PRIMARY ISOLATION ROOT VALVES**
- Valves weldable directly onto pipelines.
- Double Block and Bleed valves.
- Block and Bleed valves.
- Single Block valves.
- Ball and Needle pattern valve configurations.

**PRIMARY ISOLATION GAUGE OUTSIDE SCREW AND YOKE VALVES**
- Single Block valves.
- Outside screw and Yoke type construction.
- Orifice valves.
- Cryogenic valves.
SLIMLINE PRIMARY ISOLATE VALVES

“Slimlines” incorporate a primary isolate piping valve and combine also the instrument Block and Bleed functions. They are designed to replace the traditional primary isolate valve. Our primary isolate valve is of outside screw and yoke construction and is designed to ASME VIII specifications. First isolation outside screw and yoke valves can be supplied to NACE & Firesafe specifications.

This “EL” Type Double Block and Bleed Style Slimline shows special needle pattern bleed (shown with anti-tamper option) and secondary isolate valves. This Slimline type is also shown with gauge nut for ease of gauge orientation.

Also available as double block and single block.

This standard configuration of Double Block and Bleed Style Slimline is shown with standard needle valves for bleed and secondary isolation.

Also available as double block and single block.

Slimline can be installed as the primary/isolate valve, in either single block, block and bleed or double block and bleed versions. Dual instrument connections enable instrument to be mounted vertically on either horizontal or vertical line mounting application.
GAUGE BLOCK MONOFLANGE VALVES

Gauge block monoflange valves work in conjunction with a pre-installed primary isolate valve. They provide very compact instrument Double Block and Bleed valving. This range is also available in a single block configuration.

SINGLE BLOCK AND BLEED CONFIGURATION

DOUBLE BLOCK AND BLEED CONFIGURATION

Modular construction allows easy installation after an existing primary isolate valve. Dual instrument connections enable instrument to be mounted vertically on either horizontal or vertical line mounting application.

HORIZONTAL PIPING PRESSURE MEASUREMENT

VERTICAL PIPING PRESSURE MEASUREMENT
ROOT VALVES FOR PRIMARY ISOLATION

This family of valves is designed for welding into a process line. Offered in many configurations with heavy duty needle valves or rotatable ball valves.

**Major Weaknesses with Traditional Installation**
- Cost of installation.
- Overall Size.
- Increased Gland Emission Risk.
- High bending moments hence need for gusset plates.
- Large number of potential leak points within assembly.
- Increased installation time due to complex arrangement.
- On-site welding due to gusset plates.
- Large number of items to stock and to purchase.

**Major Advantages of Oliver Solution**
- Safe Hook Up by Elimination of many potential leak points.
- Very cost competitive installation.
- Major space saving.
- Major weight saving.
- Compact/lightweight significantly reduces bending moments and pipework stresses.
- Firesafe to BS 6755 Pt 2, API 607 and API 6FA.
- Simplification of installation – direct labour time savings.
- Wide range of 6000 PSI, Ball, Needle and Check Valve styles.
- Wide range of materials and configurations (including NACE) on fast deliveries.
- One item only to stock.
- Greatly reduced maintenance.

---

**OTHER OPTIONS**

- Heavy duty Needle valve as isolate.
- Available with handle locking.
- Ball valve as isolate and Ball valve as vent.
- Two Ball valves as blocks and one Needle valve as vent. Three Needle valves as blocks and vent.

---

**SINGLE BLOCK**
(BALL VALVE)

**SINGLE BLOCK**
('PMB' STYLE BALL VALVE)

**BLOCK AND BLEED**
(BALL VALVE – ISOLATE)
(NEEDLE VALVE – VENT)

**DOUBLE BLOCK AND BLEED**
(ALl BALL VALVES)

---

**FIRST ISOLATION**
LOW PRESSURE

1/2" BALL OR WEDGE GATE VALVE WITH 6" EXTENSION

**EQUAL TEE**

**SECOND ISOLATION**

1/2" BALL OR WEDGE GATE VALVE

GUSSET PLATE

WELDOLET

REDUCING BUSH

PROCESS PIPELINE

25" TYPICAL N.T.S

NIPPLES

VENT 1/2" BALL OR WEDGE GATE VALVE

7"

TYPICAL

PRESSURE INSTRUMENT IE. GAUGE, SWITCH, TRANSMITTER

2" N.B. PIPE STAND FOR INSTRUMENT SUPPORT

SPECIALLY PREPARED BASE REQUIRED

36" TYPICAL WELDED TO PIPE (FLANGED OPTIONS)

9 1/4" (NTS)

INST. CONN.
**APPLICATION**

Oliver Outside Screw and Yoke Valves are designed to be placed directly into the orifice carriers on 2 1/8" (54mm) centres.

(If valves are not staggered, special 2" T-bars will be required.)

Please note outside screw and yoke valves can be supplied to NACE & Firesafe specifications, and with handwheel locking option.
TECHNICAL INFORMATION

NEEDLE VALVE SPECIFICATION

Oliver needle valve bonnet assemblies can be provided to NACE or Firesafe specifications, as an option. Wide variety of flange sizes and classes. Needle valve bore size 5.4mm (0.23”). Vent connection 1/8” NPT female standard. Process connections ANSI 1/2” to 3”, 1500lb to 2500lb. Temperature (heavy-duty) 540ºC (1000ºF) Temperature (standard PTFE) 240ºC (460ºF)

Cross bar handle (XB), optional on heavy duty style. Flange to Flange, or Flange to Threaded options.

NEEDLE VALVE PRESSURE x TEMPERATURE

Needle Valves are used on Mono Flanges, Gosy Valves, Root Valves and Slimline configurations.

Max Pressure 6,000 PSI (414 BAR G)
Max Temperature See table
Packing See table
Seat Metal to Metal
Standard Connections 1/8” or 1/4” NPT
Material 316 Stainless Steel
Bore 0.23” (5.4mm)
CV 0.46

Ratings comply with and are affected by the material class pressures and temperature per ANSI B16.5. And can be supplied to NACE & Firesafe specifications.

BALL VALVE SPECIFICATION

Covers piping products that have ball valves in the configuration such as twinsafe valves, double block and bleed valves and root valves.

Max Pressure 6,000 PSI
Max Temperature See table
Packing See table
Seat Metal to Metal
Standard Connections 1/8” or 1/4” NPT
Material 316 Stainless Steel
Bore 0.23” (5.4mm)
CV 0.46

Ratings comply with and are affected by the material class pressures and temperature per ANSI B16.5. And can be supplied to NACE & Firesafe specifications.

MONO FLANGES - OPTIONAL CONNECTIONS

INTEGRAL INSTRUMENT COMPRESSION FITTING
INTEGRAL LAP JOINT TUBE ADAPTOR

GOSY VALVE SPECIFICATION

Pressures (PSI)

Temperature (ºC)

Piping Products

Metal to Metal

PTFE Packing

Grafoil Packing

Seat

Temperature

Pressure
**HOW TO ORDER**

### SLIMLINE/MONO FLANGE

<table>
<thead>
<tr>
<th>MONO</th>
<th>MONO FLANGE</th>
<th>SLIMLINE</th>
</tr>
</thead>
</table>

#### Material Selection

<table>
<thead>
<tr>
<th>Material</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>Carbon steel (barstock) (En 8)</td>
</tr>
<tr>
<td>S</td>
<td>Stainless steel (barstock) (En 8)</td>
</tr>
<tr>
<td>DUP</td>
<td>Duplex ASTM A182 F51 (UNS S31803)</td>
</tr>
<tr>
<td>SUP-DUP</td>
<td>Super Duplex UNS S32760</td>
</tr>
<tr>
<td>M</td>
<td>Monel 400</td>
</tr>
<tr>
<td>FER</td>
<td>Ferralium 255</td>
</tr>
</tbody>
</table>

(Other materials available on request)

### Process Details

#### Option Details

- S: Slimline
- EL: Special

#### Flange Details

- Select flange size:
  - 50
  - 75
  - 100
  - 150
  - 200
  - 300
  - 400
  - 500

Followed by class:
- 150
- 300
- 600
- 900
- 1500
- 2500

Followed by flange:
- RF: Raised face
- SF: Smooth face

### Connection Details

#### Option Details

- N: NACE MR-01-75 (latest revision)

#### Connection size

- 25
- 38
- 50
- 75
- 100
- 150
- 200
- 300

### Valve Type

- OR: Orifice Carrier Valve
- GT: Gate Valve
- M: Multiport Valve
- SW: Socket weld
- NW: Neck weld

### Material Selection

<table>
<thead>
<tr>
<th>Material</th>
<th>Description</th>
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<tbody>
<tr>
<td>S</td>
<td>Stainless Steel standard (316)</td>
</tr>
<tr>
<td>SL</td>
<td>Stainless Steel (316L)</td>
</tr>
<tr>
<td>C</td>
<td>Carbon Steel plate (316L)</td>
</tr>
</tbody>
</table>

(Other materials available on request)

### Primary Isolation

#### Option Details

- AG: Anti-tamper
- CSW: Carbon Steel handwheel
- DL: Delrin soft tip
- HD: Heavy Duty Bonnet
- IFT: Instrumentation
- NA: NACE MR-01-75 (latest revision)
- PK: Peak soft tip
- SH: Shinny handle

### Connection Details

#### Option Details

- BP: BSP parallel pipe thread BS2779-1086
- BT: BSP taper pipe thread BS2779-1086
- CE: Compression Fitting
- SA: Spanner actuation

### Continuous development in Oliver Valves products may necessitate changes in the details contained in this brochure. Oliver Valves Ltd reserve the right to effect such changes at their discretion without prior notice.
**Quick Reference Oliver Piping Solutions**

**Traditional Installation**

**Category A Installation**

- Liquid/Gas/Condensate Flanged Transmitter

- Used in conjunction with piping valves

**Category B & C Installation**

- Liquid/Gas Screwed Transmitter and Gauge

**Major Weaknesses with Traditional Installation**

1. Cost of installation
2. Overall size
3. Increased gland emission risk
4. High bending moments and high pipework stresses
5. Large number of potential leak points within assembly
6. Increased installation time due to complex arrangement
7. Large number of items to stock and to purchase
8. High bending moments & pipework stresses
9. Large number of potential leak points within assembly

**Oliver Solution**

**Category A Installation**

**Category B & C Installation**

- With and without first isolation

**Major Advantages of Oliver Solution**

1. Safe hook up by elimination of many potential leak points
2. Very cost competitive installation
3. Major space saving
4. Major weight saving
5. Compact/Lightweight, significantly reduces bending moments & pipework stresses
6. Firesafe to BS6755 Pt 2, API 607 and API 6FA options available
7. Simplification of installation direct labour time savings
8. Wide range of 6000 PSI ball and needle valve styles
9. Wide range of materials and configurations (incl. NACE) on fast delivery
10. One item only to stock

Note: Heavy duty needle valves are required for firesafe applications.
OPERATION, INSTALLATION AND MAINTENANCE INSTRUCTIONS

SAFETY NOTES:

i) All adjustments should be carried out by qualified personnel with the valve at zero pressure.

ii) End connections must not be removed from bodies.

iii) Handle wrenches/extensions must not be used to operate the valves.

iv) Vent plugs must not be removed when the isolate valve is open and under pressure.

v) Head units and locking pins must not be removed once installed.

EQUIPMENT REQUIRED

HEAVY DUTY

AND STANDARD

NEEDLE VALVE

Packer nut - 1/4" A/F spanner.

Lock nut - 1/4" A/F spanner.

BALL VALVE -

No maintenance required.

SEVERE SERVICE -

(See Heavy Duty and Standard Needle Valve.)

VALUE -

4mm and 6mm bore

SEVERE SERVICE -

(See Heavy Duty and Standard Needle Valve.)

VALUE -

4mm, 6mm and 11mm bore

SEVERE SERVICE -

(See Heavy Duty and Standard Needle Valve.)

VALUE -

11mm bore

SEVERE SERVICE -

(See Heavy Duty and Standard Needle Valve.)

VALUE -

11mm bore

MINIATURE VALVE -

Tee bar grubscrew - 3mm A/F hex key.

Head unit - 9/64" A/F spanner.

OUTSIDE SCREW

AND YOKE VALVE -

Tee bar bolt - 1/8" A/F spanner.

Packing bolt - 1/8" A/F spanner.

1/8" VENT PLUG -

22mm A/F spanner.

1/16" VENT PLUG -

22mm A/F spanner.

PRESSURE PLUG -

22mm A/F spanner.

VENT VALVE MOUNTING BOLTS FOR MANIFOLDS -

1/8" A/F spanner.

OTHER EQUIPMENT NEEDED -

1. Screw driver. 2. Hammer - to secure pin.

SAFETY NOTE: This operation must be carried out at zero pressure and ambient temperature.

OPERATING INSTRUCTIONS

STANDARD NEEDLE VALVES -

Approximately 6 turns from open to closed, clockwise to closed.

HEAVY DUTY NEEDLE VALVE -

4½ turns from open to closed, clockwise to closed.

SEVERE SERVICE VALVE (4mm and 6mm bore) -

4½ turns from open to closed, clockwise to closed.

SEVERE SERVICE VALVE (11mm bore) -

5 turns from open to closed, clockwise to closed.

MINIATURE VALVES -

Approximately 4½ turns from open to closed, clockwise to closed.

OUTSIDE SCREW AND YOKE VALVES -

Approximately 6 turns from open to closed, clockwise to closed.

BALL VALVES -

1½ turn from open to closed, clockwise to close as standard (ie Valve is closed when handle is at 90° to the valve body).

NOTE - Apart from Ball Valves, the packing on these valves is adjustable, so turns between open and closed will vary slightly from valve to valve. All valve bodies show our company name, maximum cold working pressure, valve material, the valve part number and also a trace code number which relates to the material certificates for that particular valve.

INSTALLATION AND MAINTENANCE INSTRUCTIONS

NEEDLE VALVES -

If needle valve has socket weld, stub weld or butt weld connections the needle valve will be supplied in kit form. (This means the valve head unit is supplied separately to the valve body) then after welding the valve body into the pipeline –

1. Ensure that the spindle is fully retracted into the head unit so the tip is hardly showing.

2. Place PTFE ring into the undercut at the top of the ½" UNF thread.

3. If head unit is seamless steel, please ensure that a PTFE spray is applied to the ¾" UNF thread PRIOR to engaging it with the body.

4. Screw head unit down and ‘Torque to’ -

- CARBON STEEL -

850 ft.

- STAINLESS STEEL -

1350 ft.

5. Replace locking pin in one of the 4mm holes and secure.

6. Replace tee bar and tighten down tee bar bolt.

7. Adjust packing if required by loosening lock nut (bottom nut on head unit). Close the valve by turning the tee bar in a clockwise direction until it stops. Open the valve one full turn (turn tee bar anti-clockwise). Tighten down the pusher (top nut on head unit) which compresses packing until the valve feels not too slack or difficult to operate, then tighten down lock nut.

8. If valve packing is Grafoil wait two minutes after tightening the pusher and before checking valve operation.

IMPORTANT NOTE - If socket weld, butt weld, stub weld connections are required for Ball valve, Miniature and Outside Screw and Yoke valves then valves will include 3mm extensions, so the valve can be welded into the line without destroying the seats and packing and without having to dismantle or re-build the valve.

BALL VALVE -

No maintenance required. End connections must not be removed from bodies.

MINIATURE VALVES -

No maintenance required. Warning: Head unit/locking pins must not be removed from bodies once installed.

OUTSIDE SCREW AND YOKE VALVE -

SAFETY NOTE: These operations must be carried out at zero pressure and ambient temperature.

GAUGE PROTECTORS AND RELIEF VALVES -

Are preset in our premises and must not be adjusted or interfered with in any way.

GAUGE SHIMMERS -

SAFETY NOTE: This operation must be carried out at zero pressure and ambient temperature.

The variable orifice is adjusted by slackening off the lock nut, adjusting the screw and then retightening the nut.

SOUR GAS SERVICE

Valves can be manufactured for Sour Gas Service in accordance with NACE MR-01-75 latest revision.

OXYGEN SERVICE

Oliver valves have in-house facilities to degrease valves and remove all dirt and hydrocarbons making valves suitable for oxygen service applications.

Oliver Valves DO NOT offer the following valves for oxygen service:

- All carbon steel valves.

VAUCUM SERVICE

Oliver valves can supply Needle (soft and hard tip) and Ball Valves for Vacuum Service. Both have been successfully tested to a .01mbar absolute vacuum.
OUR CAPABILITIES

We supply technically advanced, high quality valve products designed for critical service in the oil, gas, petrochemical and power generation industries worldwide.

Our pipeline and instrumentation valves are available in materials of your choice, incorporating a wide variety of process connections. Our modular designs and manufacturing flexibility, guarantees short delivery times.

Our ISO 9000 Quality Product Range includes:

NEEDLE VALVES TO 15,000 PSI - (1,000 BAR)

BALL VALVES TO 15,000 PSI - (1,000 BAR)

NEEDLE AND BALL VALVE STYLE MANIFOLDS FOR ALL MAKES OF PRESSURE AND FLOW TRANSMITTERS

COMPACT, SPACE SAVING SLIMLINE VALVES AND MONO FLANGE VALVES

DOUBLE BLOCK AND BLEED VALVES

GAUGE PROTECTORS, ADAPTORS, AND A WIDE RANGE OF INSTRUMENT ACCESSORIES

SPECIAL HIGH AND LOW TEMPERATURE VALVES, OXYGEN SERVICE VALVES

CUSTOMISED VALVE PRODUCTS FOR MANY SPECIAL APPLICATIONS

PATENTED VALVE DESIGNS, FOR EXAMPLE THE TWINSAFE DOUBLE BLOCK AND BLEED VALVE THAT FITS INTO A SINGLE VALVE ANSI B16.10 LENGTH, AND THE SMART MANIFOLD THAT ISOLATES, VENTS, ZEROS EQUALISES FOR CALIBRATION OF THE DIFFERENTIAL PRESSURE TRANSMITTER IN ONE QUARTER TURN ACTION.

Wide Product Range

A comprehensive range of instrument and piping valves designed to meet the demands of today’s international clients.

Unusual Flexibility

From standard designs to specially manufactured assemblies, we offer total flexibility and creative innovative design concepts.

Strong Worldwide Capability

Our products - designed to meet international standards - are stocked and marketed in over 50 countries worldwide by factory trained local service specialists.

Delivery Reliability

The modern modular design and “just in time” manufacturing philosophy of Oliver Valves ensuring short lead times, remain an attractive feature of doing business with our company.

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The Oliver Group products are made in England and sold and supported in over 50 countries worldwide.