olivervalves

INSTRUMENT VALVE AND DOUBLE BLOCK & BLEED VALVE SOLUTIONS

INDEX

reliability under pressure

THE MOST UNIQUE NEEDLE VALVE ON THE MARKET TODAY

TEE BAR

316 Stainless Steel for maximum corrosion resistance, fastened to spindle by anti-vibration bolt can be inter-changed 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

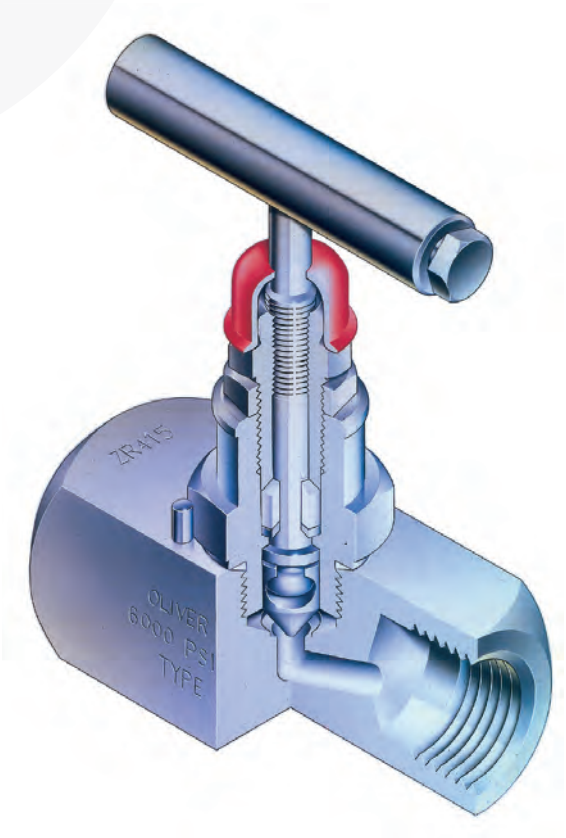
Uniquely offers dynamic adjustment of the packing gland seal in response to pressure change. This feature ensures leak free spindle sealing.

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 and controlled by QA procedures approved to ISO 9001:2008. 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: BLACK Graphite 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.

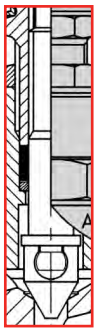
IDENTITY RING

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

The Oliver Valves non-rotating plug ensures non-rotating linear plug closure eliminating galling.

Threads protected from process media.

Automatic seal pressure adjuster - ensures effective leak free spindle sealing at low and very high pressures.



Dirty media washes thru clearance - no chance of tip rotation.

Plug type open/close tips - no rotary motion on closure, no galling.

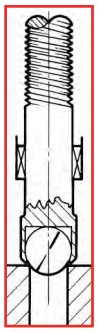
Self centering non-rotating plug closure tip.

These unique features ensure years of trouble free service even under the most adverse process conditions.

Most of the **world's instrument valves** use a "swaged" ball or tip as shown.

"Non-rotating ball" - can seize to spindle due to fine clearances.

Dirty media stays trapped in causing ball/spindle to gall on closure



Wear on non-adjustable spindle seals leads to valve leaking in service.

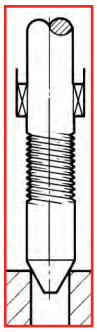
On closure ball develops an indentation, if ball then rotates leakage occurs.

Above problems frequently cause ball to gall with the seat.

Most **lower priced** valves have these weaknesses. They are not suitable for critical instrumentation applications.

Seal is frequently only an "O" ring.

Rotating spindle gives fast wear on closure.



Threads are in contact with process media and thread lubricant is washed away.

"Live" spindle wears or galls at the tip, giving leakage.

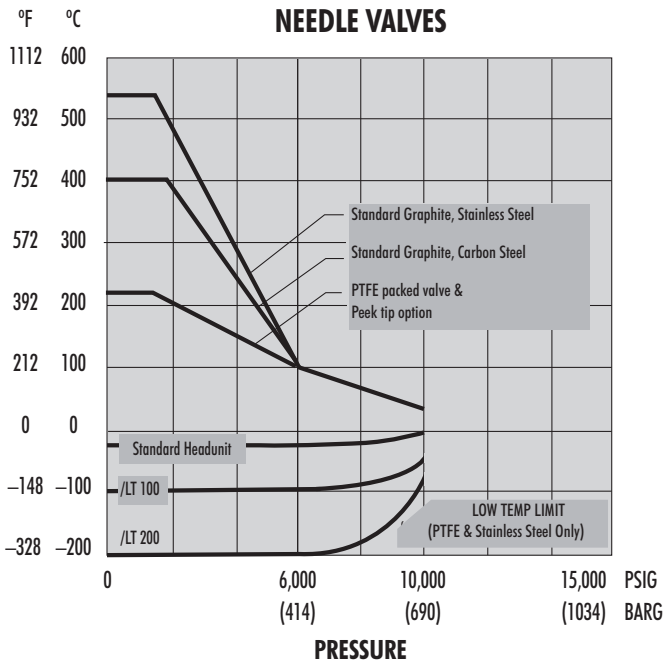
STANDARD SPECIFICATION

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

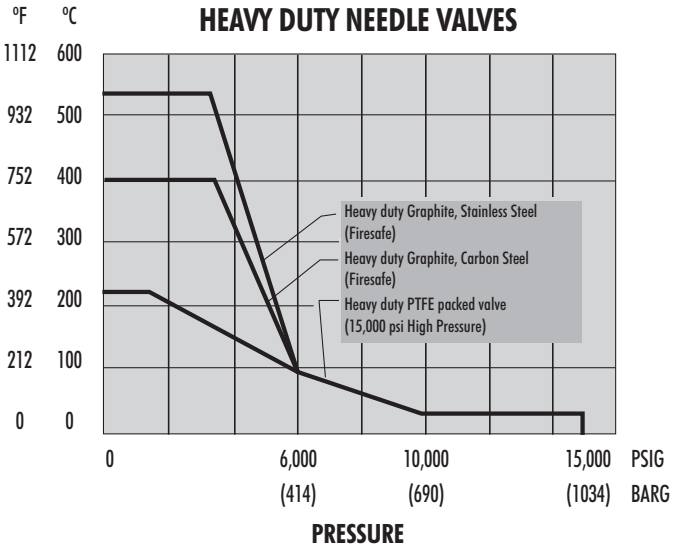
PRESSURE	**6,000 PSI (see graph)**
TEMPERATURE	**240⁰ (see graph)**
PACKING	**PTFE**
THREAD FORM	**NPT**
MANIFOLD CONN SIZE	**1/2"**
HANDLE	**'T' BAR**
SEAT	**METAL TO METAL**
BORE	**0.21" (5.4mm)**
CV	**0.46**

- All direct mount manifolds are supplied with Teflon gaskets and high tensile carbon steel bolts, graphite 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 (E2) and are to BS 6755 Part 2 (1987) with a maximum working pressure of 6,000 PSI and a maximum working temperature of 540⁰C (add suffix /FS).
- Standard needle valves, with PTFE packing, have been tested to full vacuum conditions

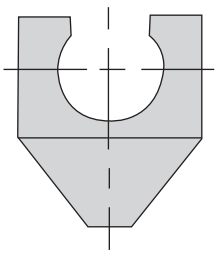
NEEDLE VALVES



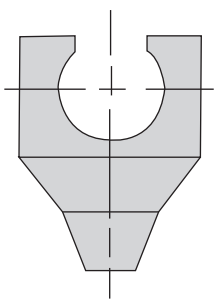
HEAVY DUTY NEEDLE VALVES



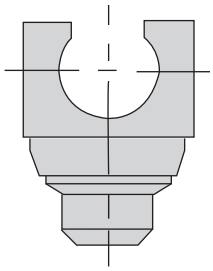
STANDARD TIP



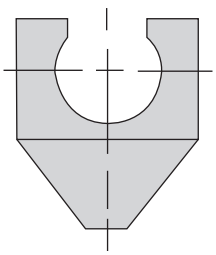
METERING TIP



SOFT TIP



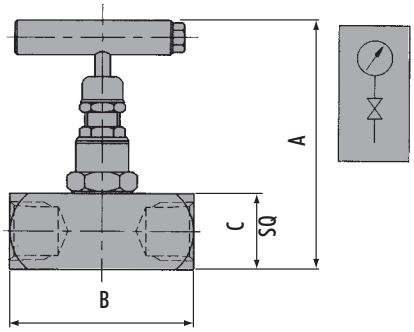
HARD TIP



F TYPE

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

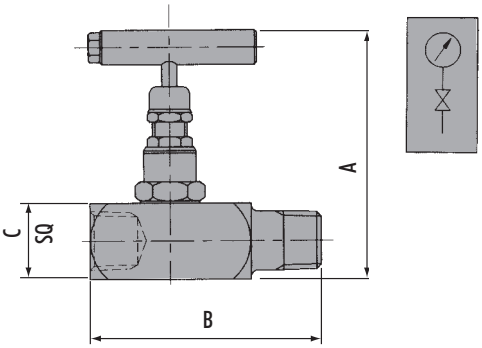
PART NO	SIZE	A	B	C	WEIGHT (KG)
F25	¼"	3.6	2.1	1.1	0.5
F38	⅜"	3.6	2.4	1.1	0.5
F50	½"	3.6	2.6	1.1	0.5
F75	¾"	4.0	2.9	1.5	0.8
F10	1"	4.5	3.2	2.0	1.4



M TYPE

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

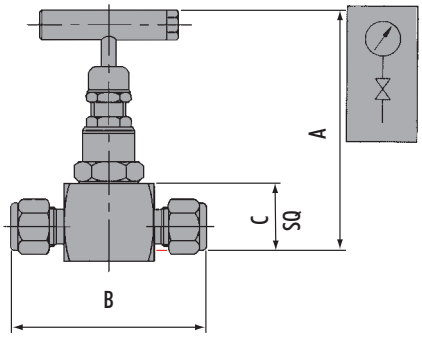
PART NO	SIZE	A	B	C	WEIGHT (KG)
M25	¼"	3.6	2.8	1.1	0.5
M38	⅜"	3.6	2.9	1.1	0.5
M50	½"	3.6	3.4	1.1	0.5
M75	¾"	4.0	3.6	1.5	0.8
M10	1"	4.5	3.3	2.0	1.4



BI TYPE

Twin Ferrule compression fitting 6,000 PSI.
As standard not supplied with nuts and ferrules, add suffix /NF (nuts & ferrules).

PART NO	SIZE	A	B	C	WEIGHT (KG)
BI25	¼"	3.6	2.4	1.1	0.3
BI38	⅜"	3.6	2.9	1.1	0.4
BI50	½"	3.6	3.1	1.1	0.4
BI6mm	6mm	3.6	2.4	1.1	0.3
BI10mm	10mm	3.6	2.9	1.1	0.4
BI12mm	12mm	3.6	3.1	1.1	0.4

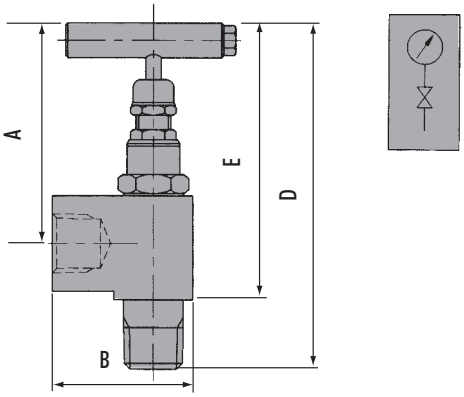


A TYPE

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

PART NO	CONNECTION TYPE	SIZE	A	B	C	D	E	WEIGHT (KG)
AF25	Female x Female	¼"	3.0	1.5	1.1	-	4.0	0.4
AM25	Male x Female	¼"	3.0	1.5	1.1	4.0	-	0.4
AF50	Female x Female	½"	3.0	2.0	1.1	-	4.5	0.5
AM50	Male x Female	½"	3.0	2.0	1.1	4.5	-	0.5

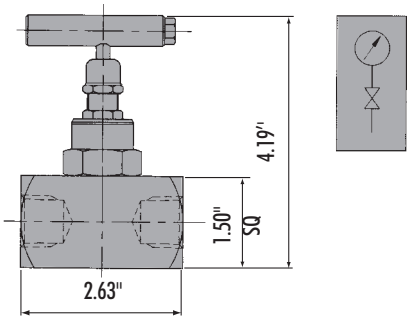
C = width



HD TYPE HEAVY DUTY NEEDLE VALVE

Male or female configuration
HD = 6,000 PSI
HD/HP = 10,000 PSI
HD/15HP = 15,000 PSI (with autoclave fitting)

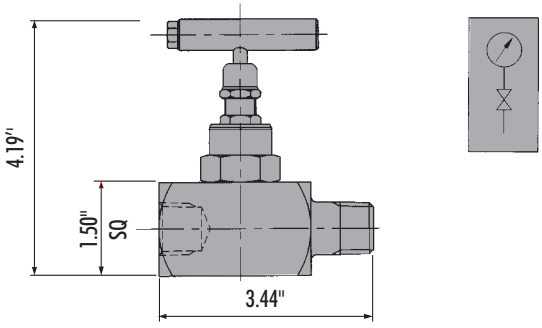
Note: 1/4", 3/8" and 1/2" NPT threads rate to 10,000 PSI only
3/4", 1" NPT threads rate to 6,000 PSI only
Above is strictly in accordance to ANSI Standards



FS TYPE FIRE SAFE NEEDLE VALVE

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

Male x Female type shown.



LT100 & LT200 CRYOGENIC NEEDLE VALVES

HEAD UNIT EXTENSION TYPE		
SUFFIX	EXTENSION	TEMPERATURE
LT100	5.81 (148mm)	-100°C
LT200	12.38" (314mm)	-200°C

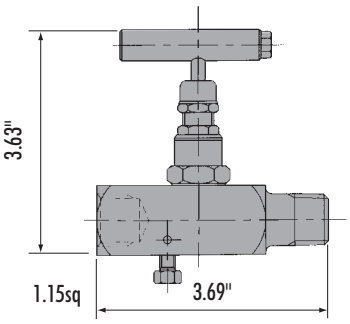
Extension length does not include valve body.

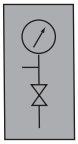
Shown are LT200 low temperature cryogenic head unit extensions in Y24 and Y53 manifold configurations.

GB1 TYPE

Gauge bleed valve with1/4" UNF bleed.

Note: Bleed screw supplied



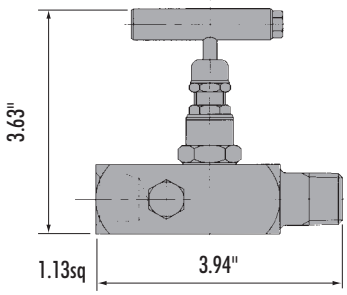


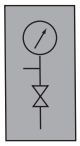
0.5kg

GV1 TYPE

Gauge vent valve with 1/4" NPT bleed.

Note: Vent plug supplied

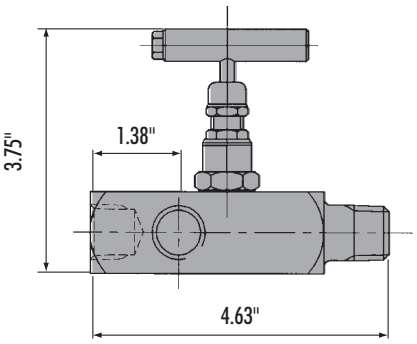


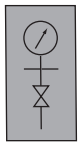


0.5kg

GM1 TYPE

Gauge multiport valve Male inlet x three Female outlets



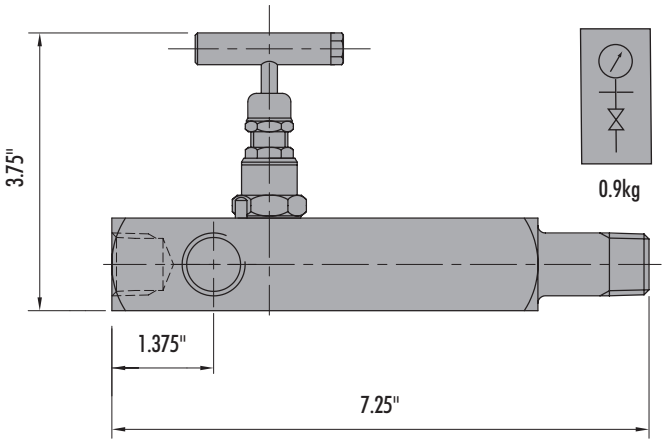


0.7kg

GM1/EXT TYPE

GM1/Ext = 3" lagging extension available on inlet

GM1-75/50S = 3/4" connection available on inlet

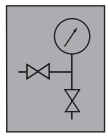


0.9kg

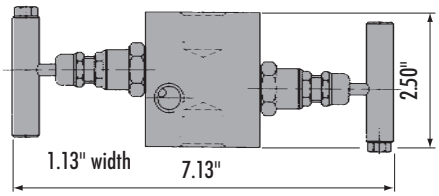
Extension length does not include valve body

G12FF TYPE

Two valve manifold Female x Female thread orientation.

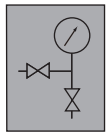


0.9kg

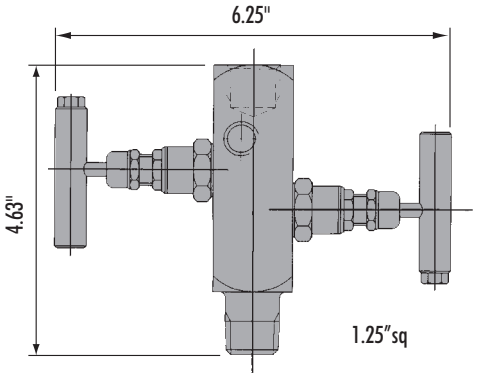


G12MF TYPE

Two valve manifold Male x Female thread orientation.

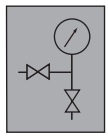


0.9kg

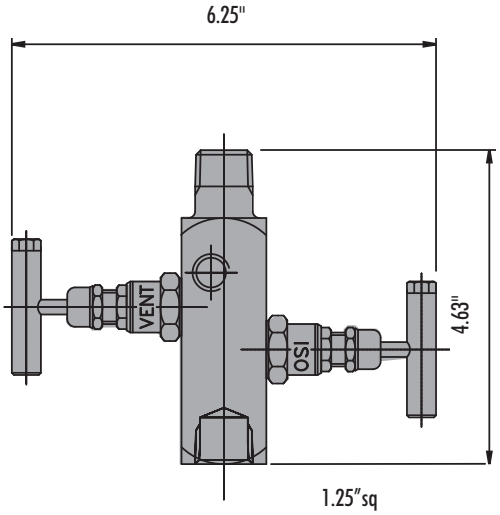


G12FM TYPE

Two valve manifold Female x Male thread orientation.

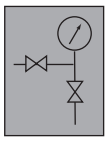


0.9kg

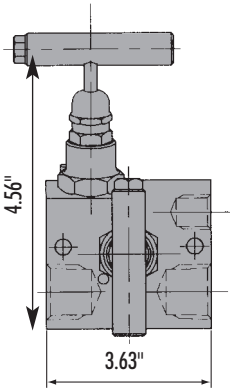


G12AF TYPE

Two valve manifold Female x Female thread orientation, for wall mounting and bottom venting.



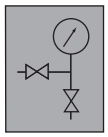
1.0kg



Note: Mounting holes are standard

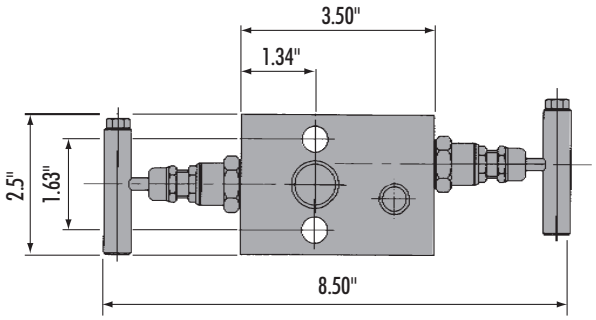
Width 1.25"

Y24 TYPE



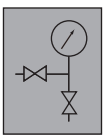
1.4kg

Direct mounting pipe to flange two valve manifold.

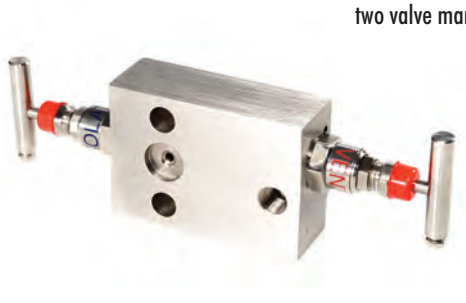


Width 2.50"

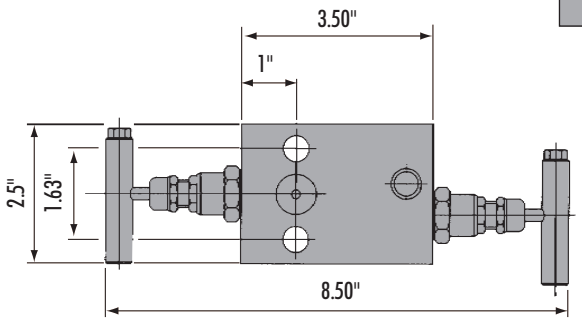
Y25 TYPE



1.4kg



Direct mounting flange to flange two valve manifold.

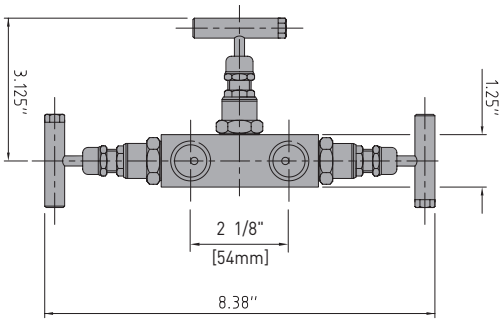


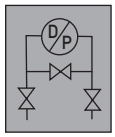
Note: Kidney flanges in many styles are optional

Width 1.25"

Y33 TYPE

Remote mounting pipe to pipe.



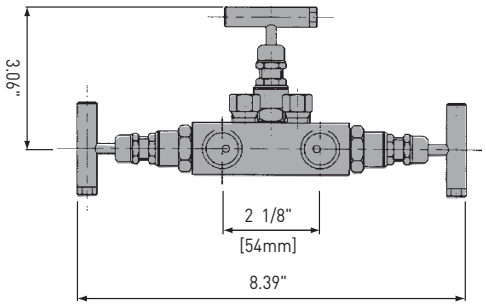


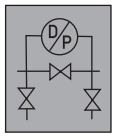
1.5kg

Width 1.25"

YV33 TYPE

Remote mounting pipe to pipe, with vent ports.



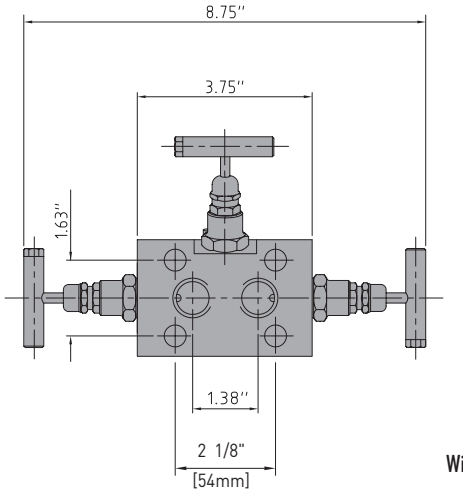


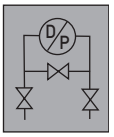
1.5kg

Width 1.25"

Y34 TYPE

Direct mounting pipe to flange.



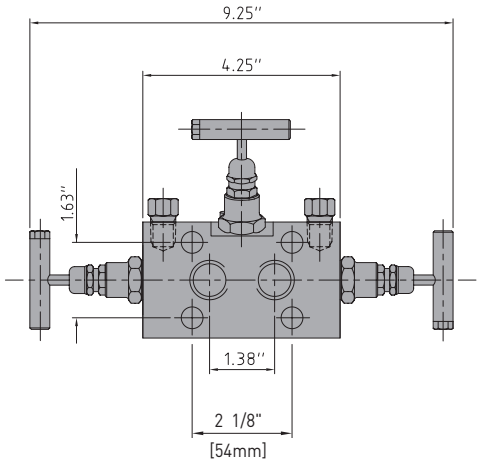


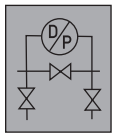
1.5kg

Width 1.25"

YV34 TYPE

Direct mounting pipe to flange manifold, with vent ports.

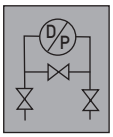




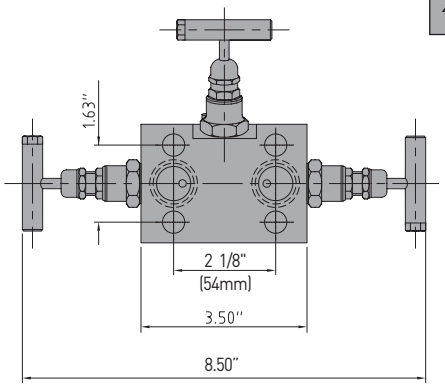
1.5kg

Y35 TYPE

Direct mounting flange to flange.



1.5kg

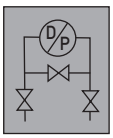


Note: Kidney flanges in many styles are optional

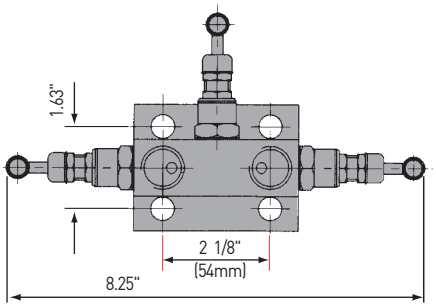
Width 1.25"

T34 TYPE

Direct mounting pipe to flange.

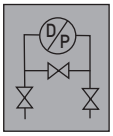


1.5kg

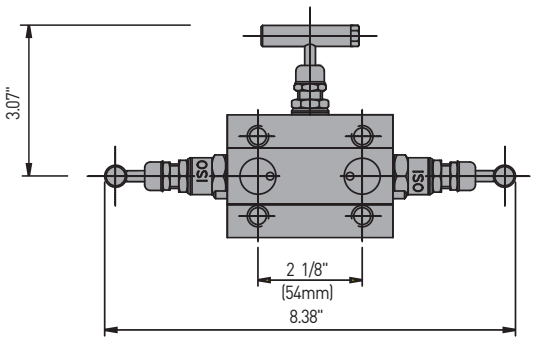


H33 TYPE

Direct mounting flange to flange.



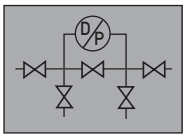
2.0kg



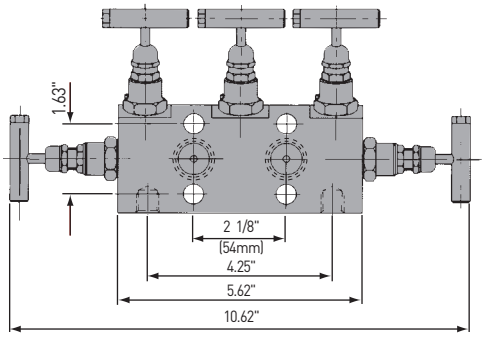
Note: Kidney flanges in many styles are optional

Y52 TYPE

Direct mounting flange to flange

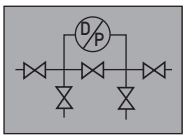


2.3kg

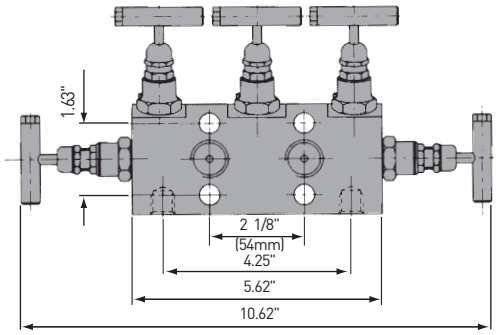


Y53 TYPE

Direct mounting pipe to flange.

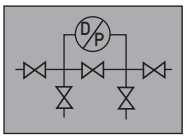


2.3kg

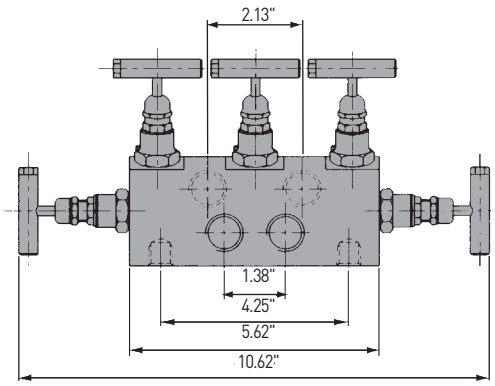


Y54 TYPE

Remote mounting pipe to pipe.

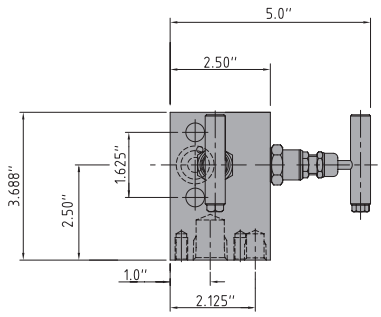


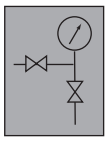
2.3kg



Y28 TYPE

Direct mounting pipe to flange two valve manifold, also available as pipe to pipe.





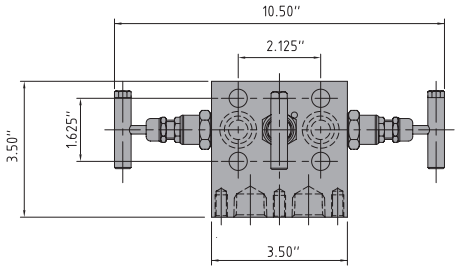
1.0kg

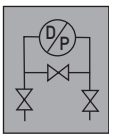
BOLTS AND SEAL RINGS SUPPLIED.

Width 1.25"

Y38 TYPE

Direct mounting pipe to flange three valve manifold.





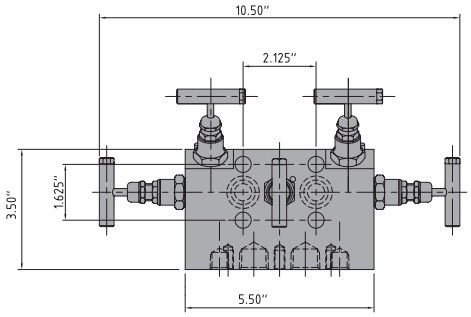
1.5kg

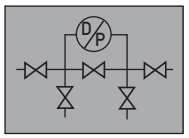
BOLTS AND SEAL RINGS SUPPLIED.

Width 1.25"

Y58 TYPE

Direct mounting pipe to flange five valve manifold.





2.3kg

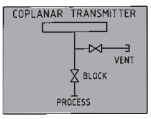
BOLTS AND SEAL RINGS SUPPLIED.

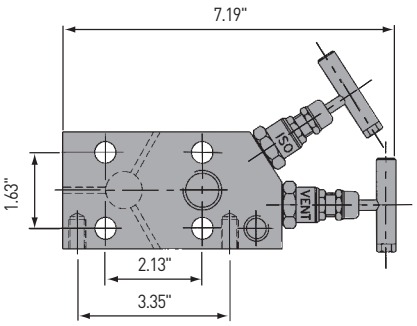
Width 1.25"

YCP24 TYPE

TWO VALVE INTEGRAL MANIFOLD WITH TRANSMITTER

2 valve manifold, pipe to flange.

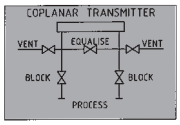


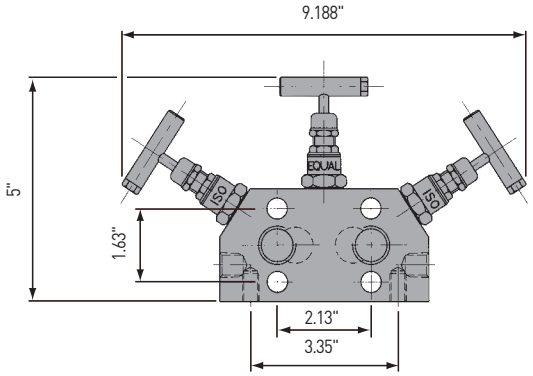


YCP34 TYPE

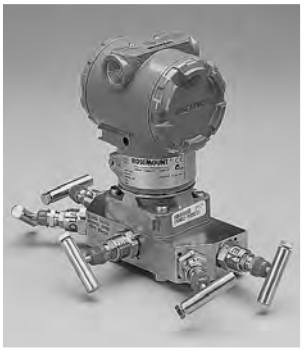
THREE VALVE INTEGRAL MANIFOLD WITH TRANSMITTER

3 valve manifold, pipe to flange.



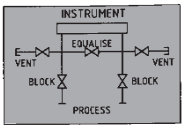


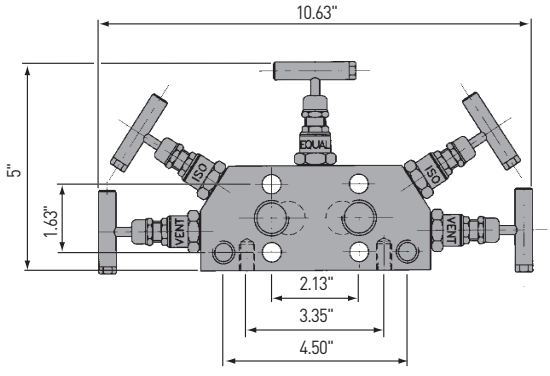
YCP53 TYPE



FIVE VALVE INTEGRAL MANIFOLD WITH TRANSMITTER

5 valve manifold, pipe to flange.





CLOSED COUPLED TRANSMITTER MANIFOLD SYSTEM OLIVERMOUNT™

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

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 Oliver Mount™ 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.

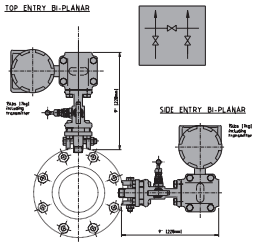
OliverMount™ represents an improvement over the traditional installation by eliminating the need for impulse lines connecting a remote mounted transmitter and manifold valve to the orifice flange. Eliminating impulse lines also eliminates the problems associated with traditional transmitter installations:

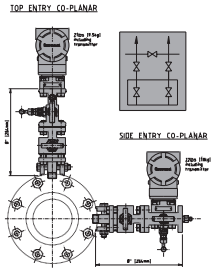
- Hydrostatic head error
- Gauge line error
- Leakage through threaded connections
- High installation and maintenance costs
- Freezing
- Need for pipe stands and mounting brackets

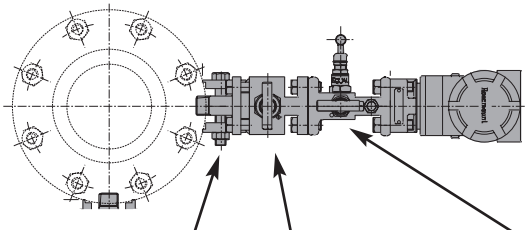
Whilst current transmitter technology enables extreme signal accuracy, it has been shown that poorly installed or excessively long impulse lines can result in measurement errors as much as 15%. Use of OliverMount™ enables the full potential of today's transmitter technology to be realised.

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 to be addressed. OliverMount™ can be adapted to suit bi-planar or coplanar (Rosemount 3051) transmitters in 3 or 5 valve configuration for use in power, process or gas transmission applications.







STABILIZED COUPLING

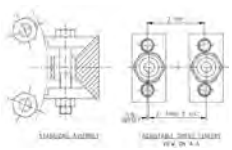
A pair of 1/2" male socket weld or threaded connectors allow for tapping directly into the orifice flange union. These connectors feature an eccentric design to allow installation onto tapping centres from 2" through 2 1/4" and a separated stabilizer assembly for easy installation.

ISOLATION MANIFOLD

The isolation manifold allows assembly of the first isolate valves with options for and fire safe certfication. 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.



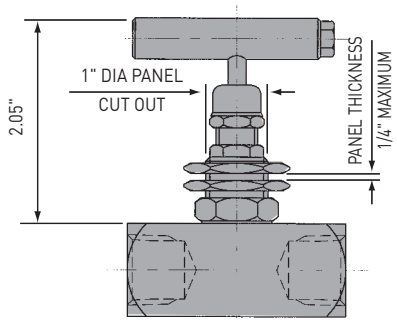
FEATURES AND BENEFITS

• Close coupled installation	Direct Connection to orifice flange union No separate brackets or mounting stands
• Separate stabilized orifice connector	Provides rigidity to installation Allows easy access during installation
• Eccentric stabilized connector	Easily adjustable centres from 2" to 2 1/4"
• Flanged manifold connections	Reduced leak points Minimal or NO pressure containing threads
• Threaded or welded connection to orifice flange union option	Welded option allows full installation without use of pressure containing threads
• Mounts vertically or horizontally	Suitable for Gas or Liquid Service
• Suitable for co-planar or bi-planar configuration	Can be installed with all types of DP transmitters
• Choice of one, three and five valve instrument manifolds	Allows flexibility for calibration, maintenance and removal of transmitter whilst on stream
• Choice of isolation manifolds	Allow single block, block and bleed and double block and bleed configuration
• Static Bar available	Allows dual mounting of P and DP transmitters from one orifice tapping
• Fire safe, heavy duty bonnet available	Certified to API 607 and BS 6755 Part II fire safety codes Isolation manifolds meet API and ASME piping codes
• Fully 3/8" bore manifolds available	Reduces plugging on viscous process Eliminates pulsation and square root error Increases instrument accuracy
• Isolation manifolds meet API and ASME piping codes	Installation suitable when 'piping class first isolate' is a requirement
• Can be ordered as complete assembly	Reduces installation time and cost Can be pressure tested as assembly
• Common bolt sizing used throughout	Reduced risk of installation error Eliminated risk of seal ring blow out
• Di-Electric Isolation available	Eliminates risk of transmitter damage when static build up is a problem

PANEL MOUNT OPTION

Panel mount option.
Suffix / PM.

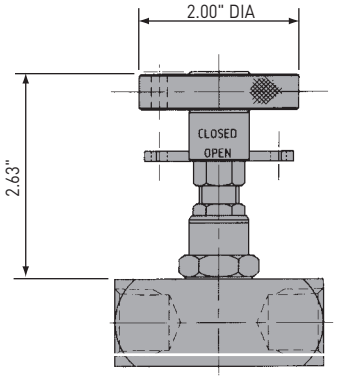
Note: Drilled and tapped mounting holes top or bottom available.



HAND WHEEL LOCKING AND POSITION INDICATOR OPTION

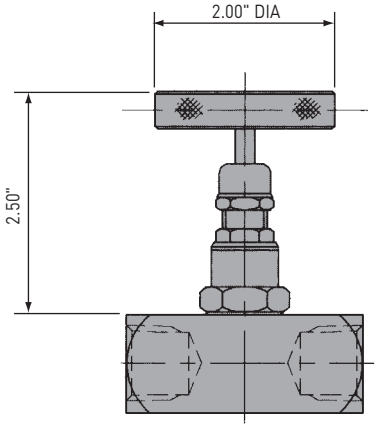
Hand wheel locking and position indicator option.
Suffix / HL-PL.

Note: Padlock is extra.
Suffix / PAD.



STAINLESS STEEL HAND WHEEL OPTION

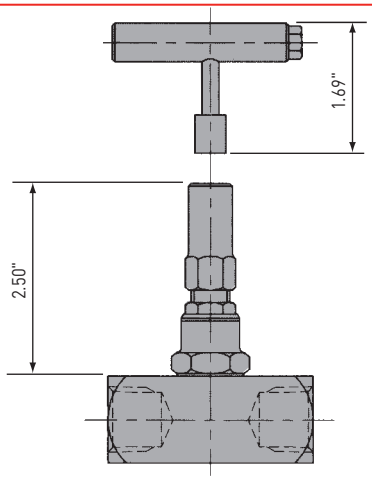
Stainless steel hand wheel (316 grade).
Suffix / SSHW.



ANTI TAMPER OPTION

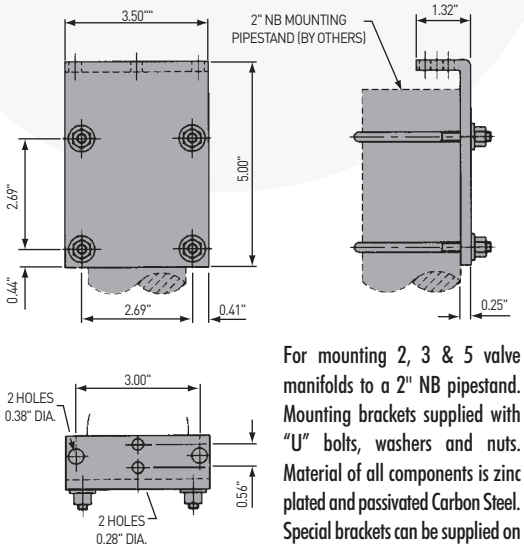
Anti-tamper option.
Suffix / AT.

Note: Anti-'key' is extra.
Suffix / AT-KEY.



MANIFOLD ACCESSORIES

UNIVERSAL MOUNTING BRACKET

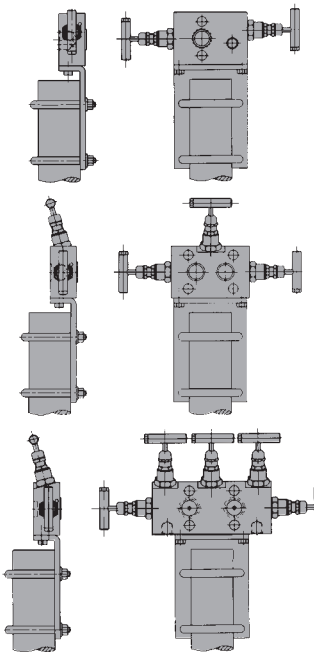


For mounting 2, 3 & 5 valve manifolds to a 2" NB pipestand. Mounting brackets supplied with "U" bolts, washers and nuts. Material of all components is zinc plated and passivated Carbon Steel. Special brackets can be supplied on request.

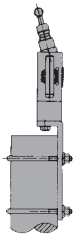
Y24/Y25

Y34/Y35

Y52/Y53



STEAM TRACE BLOCKS



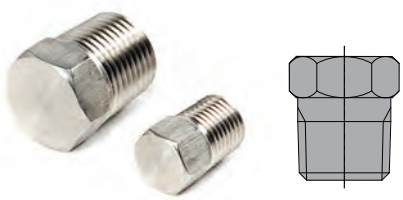
The steam trace block is bolted to the manifold and because it is not an integral part of the manifold, stress levels (due to temperature cycling) are kept to a minimum. Steam trace blocks vary in size depending on manifold type.

MANIFOLD HEATING, ELECTRICAL

Specially designed ⅜" 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: EX831220U. Output range either 25 or 50 watts, for 200/240 volts.

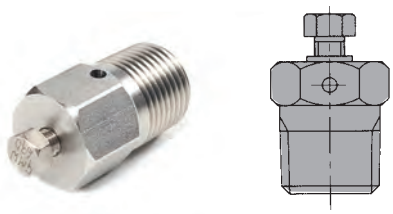
PP TYPE

1/4" & 1/2" pressure plugs.



CVP TYPE

Captive vent plugs 1/4" & 1/2" NPT size.

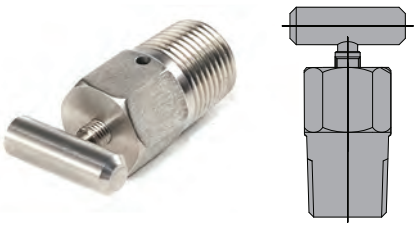


VP TYPE

Vent plugs 1/4" & 1/2" NPT sizes.

CVPT TYPE

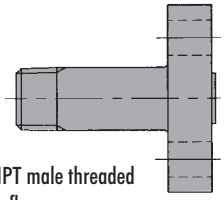
Captive vent plug with T bar 1/2" NPT size.



KIDNEY FLANGES

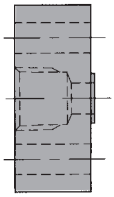
FLM50S TYPE

1/2" NPT male threaded Kidney flange.



FLF50S TYPE

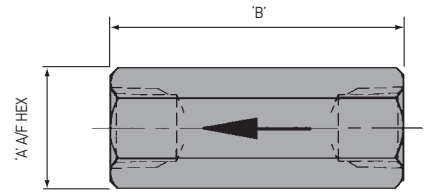
1/2" NPT female threaded Kidney flange.



CV TYPE

Check valve. In line Poppet type. Allows flow in one direction only, closing when flow reverses.

Max Temperature	120°C		
Optional Pressures*	1/4", 3/8" & 1/2"	10,000 PSI	Add suffix /HP
	3/4" & 1"	6,000 PSI	
Material & Trim	316 stainless steel	Springs 316 stainless steel	
Connections	NPT Female x Female		
Seat	VITON (VITON 90 available for NACE. KALREZ and PEEK also available if required).		



SIZES	PART NO	MAX PRESSURE	CRACKING PRESSURE	A	B	WEIGHT	CV (MAX)
1/4"	CV25S	6,000 PSI*	7 PSI	0.87"	2.31"	0.2kg	0.7
3/8"	CV38S	6,000 PSI*	7 PSI	1.10"	2.50"	0.3kg	0.7
1/2"	CV50S	6,000 PSI*	7 PSI	1.10"	3.06"	0.3kg	2.0
3/4"	CV75S	6,000 PSI	4 PSI	1.63"	3.63"	0.8kg	4.6
1"	CV10S	6,000 PSI	4 PSI	2.05"	4.19"	0.9kg	7.2

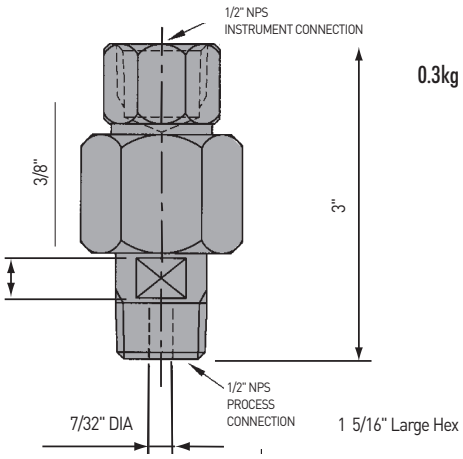
GA50S TYPE

Swivel Gauge Adaptor 0.3kg

Seals	Metal
Max Temperature	540°C
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).

Allows 360° positioning of gauges on site.



SN50S TYPE

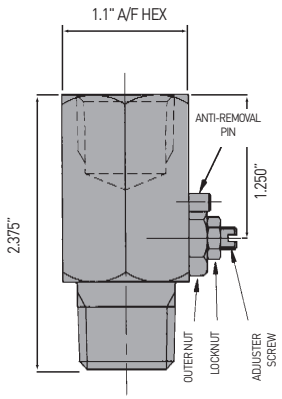
Gauge Snubber (variable orifice) 0.2kg

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.

Protects gauges from line surges by damping variations down, via a variable orifice.

Seals	VITON
Max Temperature	120°C
Max Pressure	6,000 PSI
Standard Material	316 stainless steel
Standard Connections	1/2" NPT Male x Female (SN50S)



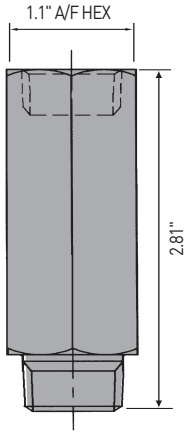
SY50S TYPE

Gauge Syphon 0.4kg

Max Pressure	6,000 PSI
Standard Material	316 stainless steel
Standard Connections	1/2" NPT Male x Female

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

Protects gauges from steam by condensing into water via internal chambers.



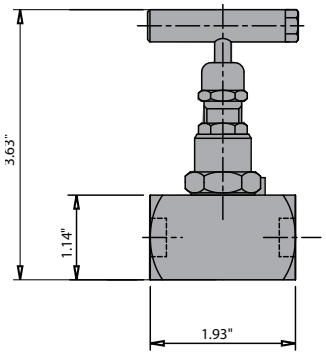
OVER CRITICAL SEVERE SERVICE VALVES

• 10,000PSIG @ 38°C • 2,775PSIG @ 650°C

The Oliver over critical severe service valves are designed to conform to rigorous specifications capable of 650 degC and 10,000psig (standard) operation. A non rotating stellite tip (standard)which stops the effects of wire drawing (which damages normal seats when valve is subject to high pressure and high temperature steam).

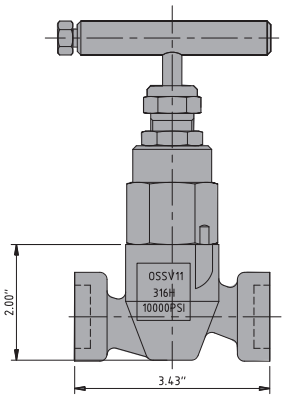
0SSV6 TYPE

Pressure - Temperature Rating (see table)
6000psig @ 100°F (414 bar @ 38°C)
1455psig @ 1200°F (107 bar @ 650°C)
Cv = 0.46
Bore Dia = 6mm
Body construction = Bar stock 316H
Lubrication - Molybdenum Disulphide
Weight - 0.5kgs
No of turns - 4
Connections - Female socket weld from 6mm (min) to 20mm dia (max)



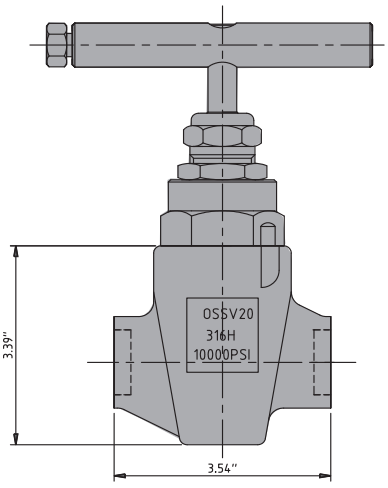
0SSV11 TYPE

Pressure - Temperature Rating (see table)
6000psig @ 100°F (414 bar @ 38°C)
1455psig @ 1200°F (107 bar @ 650°C)
Cv = 2.2
Bore Dia = 11mm
Body construction = Forged 316H
Lubrication - Molybdenum Disulphide
Weight - 1.7kgs
No of turns - 4
Connections - Female socket weld from 14mm (min) to 28mm dia (max)



0SSV20 TYPE

Pressure - Temperature Rating (see table)
10,000psig @ 100°F (414 bar @ 38°C)
2775psig @ 1200°F (107 bar @ 650°C)
Cv = 7.0
Bore Dia = 20mm
Body construction = Forged 316H
Lubrication - Molybdenum Disulphide
Weight - 1.7kgs
No of turns - 6



SSV SERIES ALSO AVAILABLE

Severe Service Needle Valve

• 6,000psig @ 38°C
• 1545psig @ 650°C
• 6, 11mm Bore
• Socket Weld

BALL VALVE SPECIFICATIONS

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

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

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

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.

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 graphite.

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

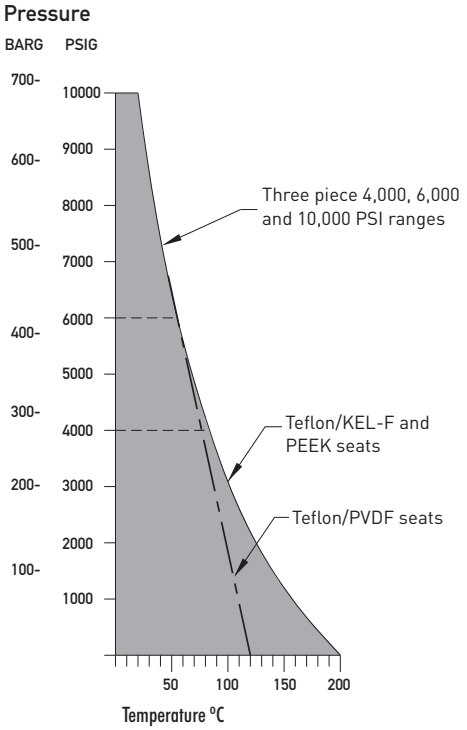
FULL FLOW
Positive 90º travel combined with dear thru' bores, review table for full or reduced bore.

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

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

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

BALL VALVE PRESSURE VS TEMPERATURE CURVE



Flow Co-efficient "C_V"
The Flow Co-efficient "C_V" of a valve is the flow of water (gallons/minute) through a fully opened valve, with a pressure drop of 1 psi across the valve.

$Q_L = C_V \sqrt{\frac{\Delta P}{G}}$ (For liquid)

Q_L = flow rate of liquid (gal./minute)
ΔP = differential pressures across the valve (psi)
G = specific gravity of liquid (for water, G = 1)

$Q_g = 61\ C_V \sqrt{\frac{P_2 \Delta P}{g}}$ (For gas)

Q_g = flow rate of gas (CFM at STP)
P_2 = outlet pressures (psi)
g = specific gravity of gas; g air = 1.0000

QUALITY ASSURANCE
BS5750, ISO 9000, EN 29002 quality systems accredited by both Lloyds 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 low temperature tested down to minus 196ºC please consult factory with system specifications.

SEATS
- Three piece body 10mm ball valves with unique twin seat
  120ºC (250ºF) maximum: Teflon/PVDF standard.
  200ºC (390ºF) maximum: Teflon/KEL-F add /KL.
- Three piece 14 and 20mm ball valves with solid seat
  200ºC (390ºF) maximum: PEEK.

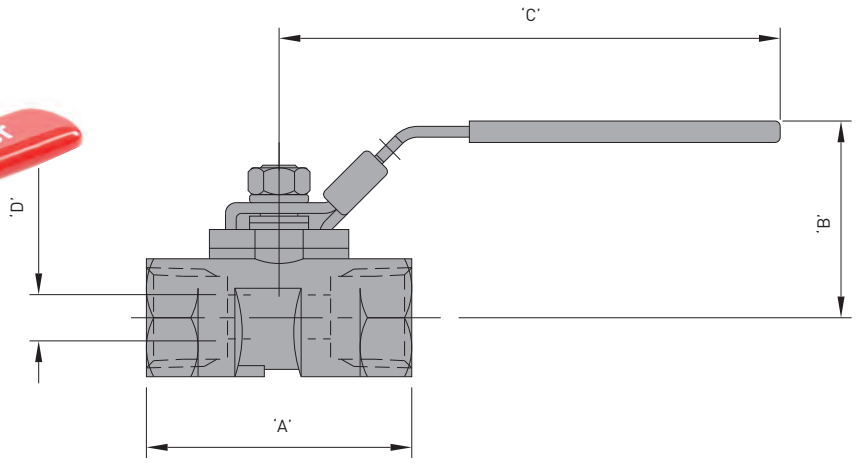
Size	1/4"*	3/8"	1/2"	1/2"*	3/4"	1"
Bore (inches)	0.375	0.375	0.375	0.375	0.375	0.375
Bore (mm)	10	10	10	14	14	20
Flow C_V	6.3	6.3	6.3	11.7	11.7	27.9

* Over size bore

FEATURES AND BENEFITS

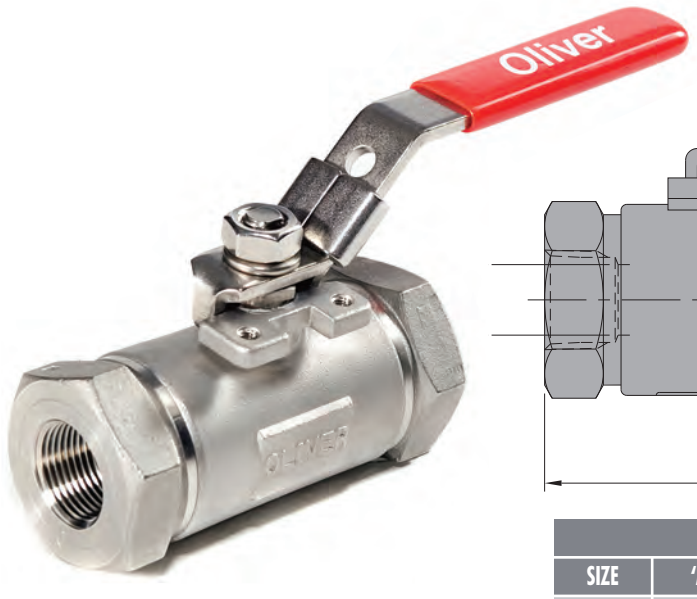
These families of high performance quality ball valve products are stocked in 316 stainless steel. Even the pressed handle on the valve is 304 stainless steel avoiding rusting on site.
Offered in pressure ranges from 1,000 PSI to 3,000 PSI and sizes from 9mm to 19mm diameter bores these valves are recommended 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).

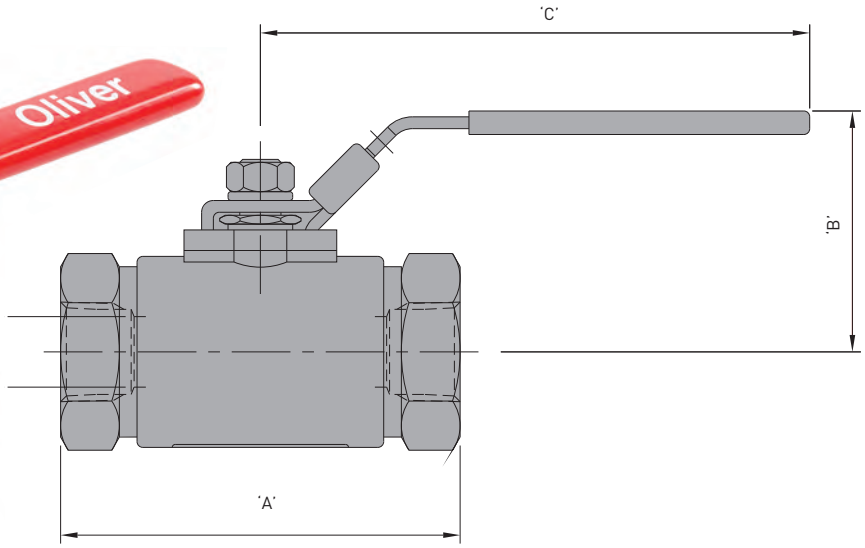
BALL VALVES TO 1,000 PSI



DIMENSION						
SIZE	'A'	'B'	'C'	'D'	PART No	Weight Kg
1/4"	2.150"	1.875"	4.250"	9mm	LPB1F25S/HL/NA	0.22
3/8"	2.150"	1.875"	4.250"	9mm	LPB1F38S/HL/NA	0.22
1/2"	2.220"	1.875"	4.250"	9mm	LPB1F50S/HL/NA	0.20
3/4"	2.420"	2.062"	4.250"	12mm	LPB1F75S/HL/NA	0.28
1"	2.930"	2.375"	5.830"	16mm	LPB1F10S/HL/NA	0.48

BALL VALVES TO 3,000 PSI



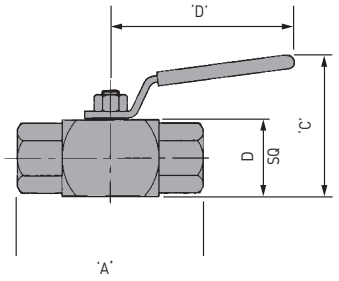


DIMENSION						
SIZE	'A'	'B'	'C'	'D'	PART No	Weight Kg
3/4"	4.25"	2.56"	5.84"	19mm	LPB3F75S/FS/HL/NA	1.32
1"	4.25"	2.56"	5.84"	19mm	LPB3F10S/FS/HL/NA	1.32

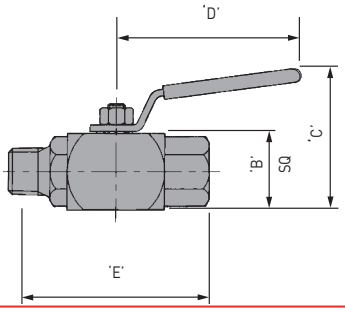
BALL VALVES TO 10,000 PSI

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 1" NPT.

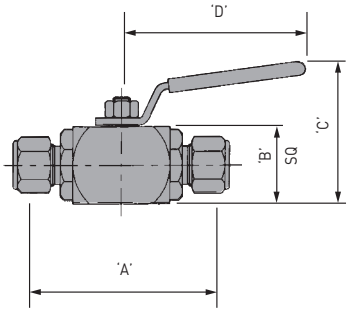
FEMALE X FEMALE THREADED ENDS



MALE X FEMALE THREADED ENDS



INTEGRAL TWIN FERRULE COMPRESSION ENDS



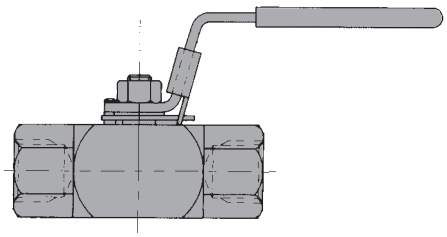
As standard not supplied with nuts and ferrules.
Suffix / NF (nuts and ferrules).

Style	Size	Max pressure (at 20° C)	Part number	Bore size		Dimensions (inches)					Max temperature °C	Weight Kg
				mm	inch	A	B	C	D	E		
Twin ferrule compression fitting (Tube O.D.)	6mm	6000	B6BIX6mmS	10	0.40	3.97	1.25	2.50	3.31	-	200	0.4
	10mm	6000	B6BIX10mmS	10	0.40	3.97	1.25	2.50	3.31	-	200	0.4
	12mm	6000	B6BIX12mmS	10	0.40	4.13	1.25	2.50	3.31	-	200	0.4
	1/4"	6000	B6BIX25S	10	0.40	3.88	1.25	2.50	3.31	-	200	0.4
	3/8"	6000	B6BIX38S	10	0.40	3.88	1.25	2.50	3.31	-	200	0.4
	1/2"	6000	B6BIX50S	10	0.40	4.13	1.25	2.50	3.31	-	200	0.4
Female (NPT)	1/4"	6000	B6FX25S	10	0.40	2.38	1.25	2.50	3.31	2.94	200	0.4
		10000	B10FX25S	10	0.40	2.38	1.25	2.50	3.31	2.94	200	0.4
	3/8"	6000	B6FX38S	10	0.40	2.38	1.25	2.50	3.31	3.00	200	0.4
		10000	B10FX38S	10	0.40	2.38	1.25	2.50	3.31	3.00	200	0.4
	1/2"	6000	B6FX50S	10	0.40	3.38	1.25	2.50	3.31	3.63	200	0.5
		10000	B10FX50S	10	0.40	3.38	1.25	2.50	4.06	3.63	200	0.5
		6000	B6FY50S	14	0.55	4.07	1.50	3.00	4.06	4.50	200	1.2
	3/4"	6000	B6FY75S	14	0.55	4.07	1.50	3.00	4.06	4.75	200	1.1
		6000	B6FZ75S	20	0.80	4.83	2.00	3.50	4.06	5.56	200	2.0
	1"	6000	B6FZ10S	20	0.80	4.83	2.00	3.50	4.06	5.66	200	1.9

HANDLE LOCKING OPTION

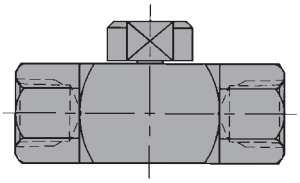
Valves can be locked in either the open or closed position with padlock available.
Suffix / HL.

Note: Padlock is extra.
Suffix / PAD.



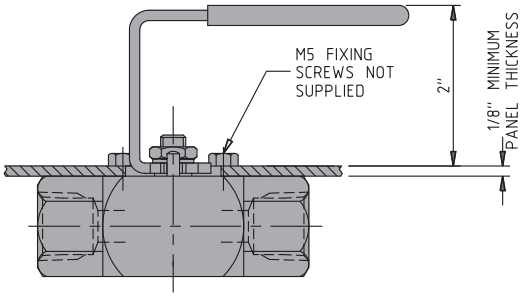
SPANNER ACTUATED OPTION

With Spanner actuation the valve is operated using a 1" A/F spanner, reducing tampering and accidental operation.
Suffix / SA.

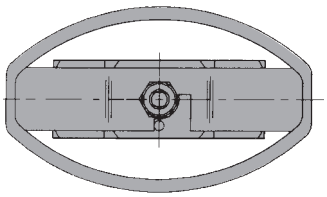


PANEL MOUNT OPTION

For all three piece ball valve body sizes this simple, and cost effective handle solution is a clear advantage.
Suffix / PM.



OVAL HANDLE OPTION

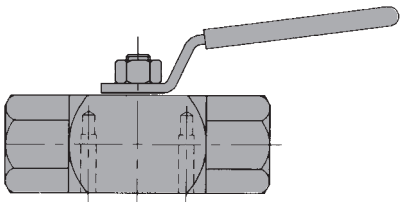


An oval handle can be fitted as an option to the standard lever style (Plan view shown).
Suffix / OH.

ACTUATED BALL VALVE OPTION

A range of air, pneumatic or electric actuators can be factory or plant fitted to any Oliver ball valve.

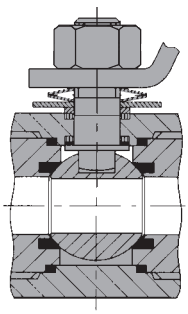
TANGENTIAL LOCKING PIN OPTION



This simple but effective patented solution totally eliminates any possibility of inadvertent removal of end connector pieces by operator or vibration whilst in service.
Suffix / PE.

FIRESAFE/ANTI-STATIC OPTION

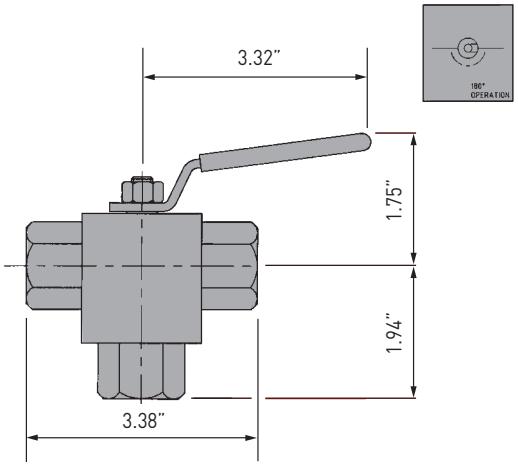
Tested to BS6755 part 2, these valves have body and stem seals in fire resistant Graphite. The metal lip seat is designed to ensure leak free seating when the seats burns in fire conditions.
The spindle disc springs ensure a positive leak-free gland.



TYPE B*BL50S BOTTOM ENTRY DIVERSION VALVE

3 way single 'L' port ball
bottom entry 10mm
bore only in:-

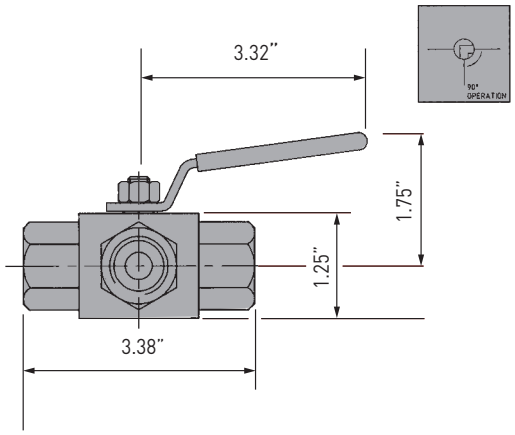
3,000 PSI (*=3)
6,000 PSI (*=6)
10,000 PSI (*=10)



TYPE B*SL50S SIDE ENTRY DIVERSION VALVE

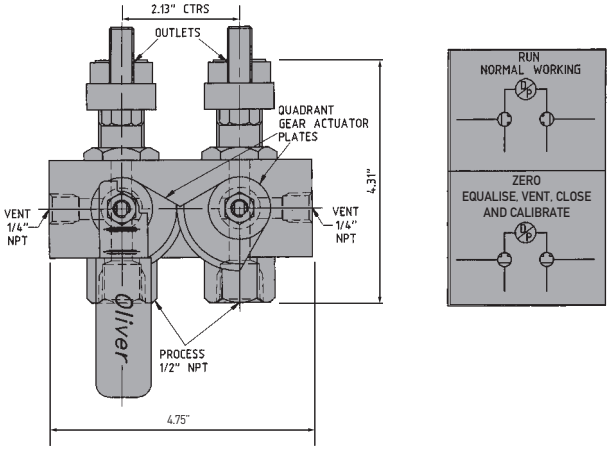
3 way single 'L' port ball
side entry 10mm
bore only in:-

3,000 PSI (*=3)
6,000 PSI (*=6)
10,000 PSI (*=10)



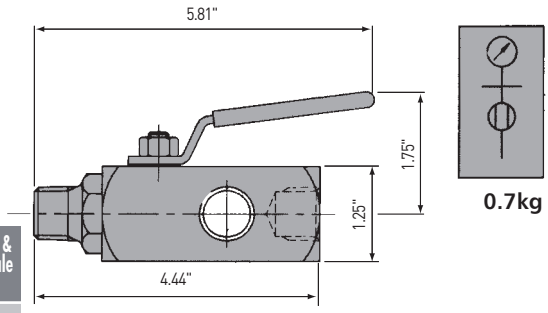
TYPE SMB3Y24S SMART MANIFOLD

In a quarter turn of the handle the smart manifold isolates vents and equalises thereby calibrating the differential pressure transmitter in a quarter turn. Available both in manual for untrained operators or actuated for hazardous/ dangerous or difficult to get to locations.



B6GM1S TYPE

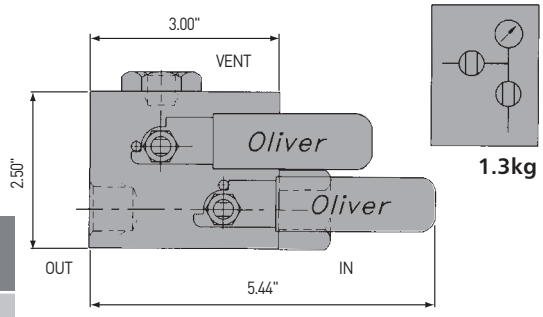
Multiport ball valves allow compact solutions to the joint mounting of remote and local indicating instruments and can be supplied with a range of blanking or venting plugs and/or swivel gauge adaptors.



Max press PSI (at 20°C)	Bore size		Weight Kg	1/2" male inlet & three 1/2" female outlets	3/4" male inlet & three 1/2" female outlets
	mm	inches			
6000	10	0.40	0.7	B6XGM1S	B6XGM175-50S
10000	10	0.40	0.7	B10XGM1S	B10XGM175-50S

B6G12FFS TYPE

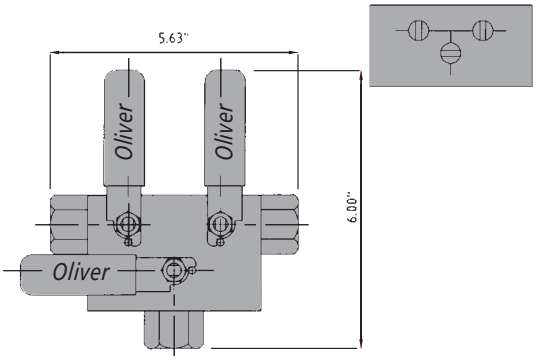
Standard connections 1/2" NPT (female) inlet and outlet, with 1/4" NPT (female) vent.



Max press PSI (at 20°C)	Bore size		Weight Kg	Remote mount 1/2" female x female connections
	mm	inches		
6000	10	0.40	1.3	B6XG12FFS

DBBL TYPE

Barstock body with three 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.

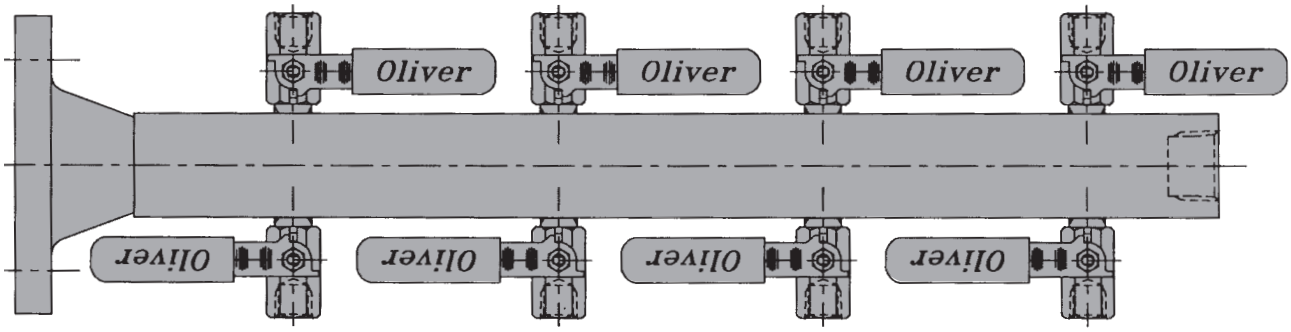


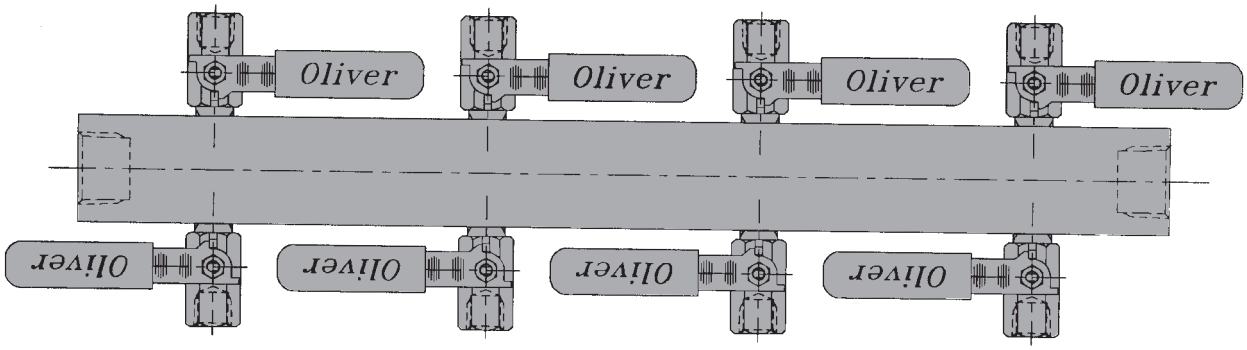
AIR HEADERS

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.

STANDARD SPECIFICATION	
MAXIMUM WORKING PRESSURE	150 PSI
MAXIMUM TEMPERATURE	200°C
VALVE TYPE	BALL VALVES





DISTRIBUTION MANIFOLDS

STANDARD SPECIFICATION		
MAXIMUM WORKING PRESSURE		6,000 PSI
VALVE TYPES	BALL VALVES	NEEDLE VALVES
MAXIMUM TEMPERATURE	200°C	240°C

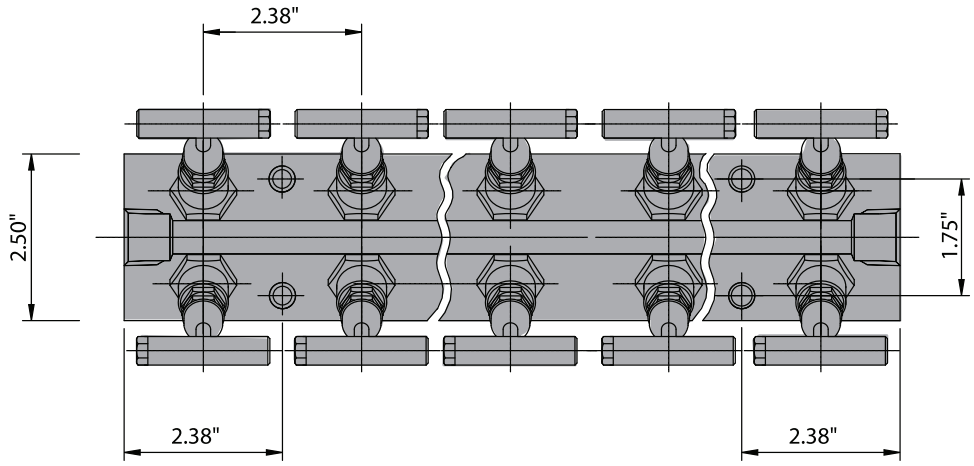
Oliver high pressure Distribution Manifolds fulfil the need for a specific manifold working at instrument pressures. Designed in conjunction with our customers' requirements.

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.

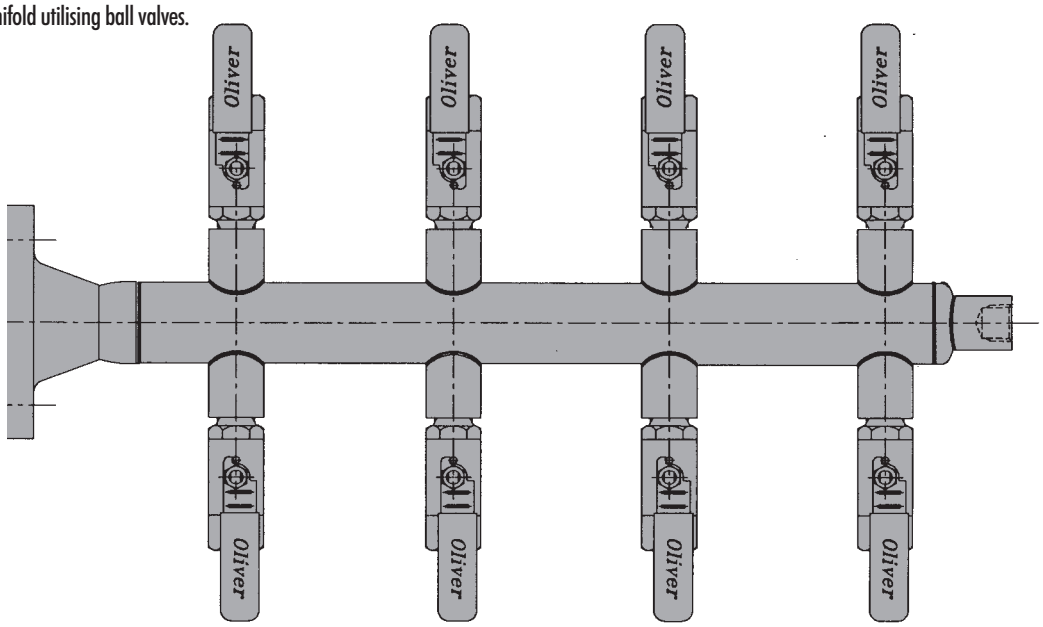
CMDM TYPE

Compact Mount Distribution Manifold utilising needle valves.



DM TYPE

Distribution Manifold utilising ball valves.



HOW TO ORDER NEEDLE VALVES

Y33 S / AG

MANIFOLD TYPE

MATERIAL SELECTION

S	– 316 Stainless Steel standard (316)
SL	– 316 Stainless Steel (316L)
C	– 230M07 Carbon Steel plated (En1a)
CB	– 070M20 Carbon Steel (En3b) for NACE
M	– Monel (400)
HC	– Hastalloy (C276)
IL825	– Incoloy (825)
IN625	– Inconel (625)
DUP	– Duplex (UNS S31803)
TI248	– Titanium (248)

EXAMPLE

F25S/NA/PM

F	– Female x female connections
25	– 1/4" size (NPT Standard)
S	– 316 Stainless Steel
NA	– NACE specification
PM	– Panel mounting option

Process connection options

BP	BSP Parallel (top 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)

NA	NACE MR-01-75 (latest revision)
AG	Graphite 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
BKTS	SS bracket complete with mounting bolts
FS	Firesafe
HD	6,000 PSI
HD/HP	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) with autoclave fitting
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 (down to -100°C)
LT200	Cryogenic head unit (down to -200°C)
MTG	2 Mounting holes to mount BKT
MT	Metering tip
NA	NACE MR-01-75 latest revision
NF	Nuts and ferrules on BI type
OXY	Oxygen clean degreased
PAD	Padlock (for HL option)
PK	PEEK Soft tip
PM	Panel Mount (gauge valves only)
PP	Pressure plug
SG	Graphite flange seal rings
SSHW	Stainless steel handwheel
SSB	Stainless steel bolts (rated to 4,800 PSI) for Direct Mount Manifold
SSB-6K	Stainless steel bolts (rated to 6,000 PSI) for Direct Mount Manifold
SS-TAG	Stainless steel tag
ST	Stellite 6 hard tip

HOW TO ORDER BALL VALVES

B 6 F X PMB 50 S / HL

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
BI	compression ended
SL	side entry "L" port
BL	bottom entry "L" port

BALL VALVE BORES

W = 0.20" (5mm) Y = 0.55" (14mm)

X = 0.40" (10mm) Z = 0.80" (20mm)

OR MANIFOLD PART NO

PMB Panel Mount Series

CONNECTION SIZES

12 = 1/8" 38 = 3/8"

25 = 1/4" 50 = 1/2"

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

MATERIAL SELECTION

S	BS970-316S11/S31 STAINLESS STEEL STANDARD
M	MONEL 400
DUP	DUPLEX STAINLESS STEEL UNS S31803 (other materials available on request)

Process Connections:

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

Options: (Specify in alphabetical order)

BKTC	Bracket (carbon steel)
BKTS	Bracket (stainless steel)
FS	Firesafe (BS6755 Part 2)
HL	Handle locking (PAD = Padlock)
NA	NACE MR-01-75 latest revision
OH	Oval Handle
PE	Pinned ends
PM	Panel mounting
SA	Spanner actuation (1" A/F)
NF	Nuts and ferrules on BI type

Seats

– THREE PIECE BODY 10mm Ball valves with unique twin seat – Teflon/PVDF – standard, Teflon/KEL-F-add/KF

– THREE PIECE BODY 14mm and 20mm Ball valves with solid seat PEEK – standard

HOW TO ORDER DISTRIBUTION MANIFOLDS

DM 3 S / TWO / INLET 75IN / OUTLET M50 S / VENT 50V / PP

TYPE
DM Distribution Manifold
CMDM Compact Mount Distribution Manifold

TOTAL NUMBER OF OUTLET PORTS

ONE SINGLE SIDED
TWO DOUBLE SIDED
IE DM 10S/TWO –
5 OUTLETS DOWN EACH SIDE
DM 10S/ONE –
10 OUTLETS DOWN ONE SIDE ONLY

MATERIAL SELECTION

S	316 Stainless Steel standard (316)
SL	316 Stainless Steel (316L)
C	220M07 Carbon Steel plated (En1a)
CB	070M20 Carbon steel (En3b)
M	Monel (400)
HC	Hastalloy (C276)

OUTLET CONNECTIONS NEEDLE VALVES

M25	1/4" NPT FEMALE
M38	3/8" NPT FEMALE
M50	1/2" NPT FEMALE
M75	3/4" NPT FEMALE
M10	1" NPT FEMALE

OUTLET CONNECTIONS BALL VALVES

B6M25	1/4" NPT FEMALE
B6M38	3/8" NPT FEMALE
B6M50	1/2" NPT FEMALE
B6M75	3/4" NPT FEMALE
B6M10	1" NPT FEMALE

INLET CONNECTIONS

25IN	1/4" NPT FEMALE
38IN	3/8" NPT FEMALE
50IN	1/2" NPT FEMALE
75IN	3/4" NPT FEMALE
10IN	1" NPT FEMALE

VENT CONNECTIONS

25V	1/4" NPT FEMALE
38V	3/8" NPT FEMALE
50V	1/2" NPT FEMALE
75V	3/4" NPT FEMALE
10V	1" NPT FEMALE

VALVE MATERIAL
See Material Selection

OPTIONS

NA	NACE MR-01-75 (Latest revision)

CONNECTIONS

BP	BSP parallel pipe thread BS2779-1986
BT	BSP taper pipe thread BS21-1985
SW	Socket weld
BW	Butt weld

HEAD UNIT OPTIONS (specify in alphabetical order)

AT	Anti-tamper handle
AT/KEY	Anti-tamper key
BKTC	Bracket (in carbon steel)
HL	Handwheel locking
PI	Position indicator (Handwheel locking only)
PM	Panel mounting (including nuts)
PP	Pressure plug on vent
SSHW	Stainless steel handwheel
VP	Vent plug on vent
VV	Vent valve on vent

EXAMPLE: DM8S TWO/50IN/M38S/75V/PP
Distribution manifold with four 3/8" NPT Female Oliver Needle valves on outlets down each side with 1/2" NPT Female inlet and 3/4" NPT Female outlet, and pressure plug on vent.

HOW TO ORDER AIR HEADERS

AH 8 / S TWO/HRB75/25S(I) / BAH25/50S(O) (V) /BKTS

AIR HEADER

TOTAL NUMBER OF OUTLET PORTS

MATERIAL
S 316 STAINLESS STEEL
(other materials available on request).

ONE SINGLE SIDED
TWO DOUBLE SIDED
IE AH10S/TWO –
5 OUTLETS DOWN EACH SIDE
AH5S/ONE –
5 OUTLETS DOWN ONE SIDE ONLY

BALL VALVES

BAH25S	1/4" NPT FEMALE
BAH25/50S	1/2" NPT FEMALE

(ball valves are stainless steel)

PORTS

HRB75/50S	1/2" (F) CONNECTION SS
HRB75/25S	1/4" (F) CONNECTION SS

Standard 3/4" ports, inlet and vent.

LETTERS IN BRACKETS
(I) INLET PORT
(O) OUTLET PORT
(V) VENT PORT

(I)
(O) – (O)
(O) – (O)
(O) – (O)
(O) – (O)
(O) – (O)
(V)

MOUNTING

BKTC	CARBON STEEL BRACKET
BKTS	STAINLESS STEEL BRACKET

EXAMPLE: AH20C/TWO/HRB75/50C (I)/BAH25S (OV)
A 20-way double sided (10 down each side) air header in carbon steel with 1/2" NPT Female inlet, 1/4" NPT Female ball valve outlets and a 1/4" NPT Female ball valve vent. All ball valves are stainless steel.

DOUBLE BLOCK & BLEED VALVE SOLUTIONS

- Oliver Valves in the early 80's pioneered this concept, which has very much now become a standard world wide. Each Double Block & bleed has a unique number recording its factory history and we are now way above 100,000 of these units in installation worldwide.
- A smaller unit vs the traditional hook-up, bringing both piping and instrumentation isolation into one unit – this means;
- Less weight, which is significant on the top side of a platform, when you combine all the pressure instrument take-offs. Typical installation it is reduced from 33kg to 7kg, a weight reduction of 75%!
- Weight reduction is also an issue when take-off is horizontal, this instils a bending moment and could cause critical fracture of pipeline interface and is generally overcome by adding more stanchions & cussetting to support traditional installation, which adds even more weight.
- Cost reduction – typically 30% saving over traditional installation, which jumps up to 70% in the case of valves made from exotic materials for more exacting processes!
- Cost saving on site – the cost of one factory tested component, as opposed to different piping valves, instrument valves, flanges, connections and flanged seal rings and then the cost to raise purchase orders and expediting department to chase the parts in goods receivable, etc., and then the shipping costs are larger and weightier, specs must all be taken into account, rises in cost can be 30% of the overall cost. Coded welders could be required as well.
- Safety – including spool pieces the type of valve, i.e. standard 3-piece valve used in installation may have as many as nine additional leak points.
- Health & safety legislation is moving more and more towards testing at a considerable cost to each one of these joints after installation, cost of which can be excessive.
- Health & Safety – USA and abroad process safety management document OCEA 3132, here in the UK Health & Safety Executive application HSG253 which is readily downloadable free, states double block & bleed must be used. All these documents stem from the Piper Alpha disaster over 20 years ago and the P36 disaster in Brazil, both of which indicated double block & bleed as a marked improvement for safety.
- The 'top-hat' or T-section forging use of the body of the valve, and the H section use of flange to flange variance is upset forged, which means the grain flow of the material flows into the flange, making for a very strong body.
- First isolation is to a full piping valve ASME V111 specification, ball configurations whether they be standard 2-ball valves isolate and needle valve vent, 3-needle valves or 3-ball valves are all firesafe certified valves.
- Delivery – the DBB part machine program that was set-up many years ago, in which we machined all aspects of the double block & bleed apart from one aspect, the customer specifies which is the flange, which leads to very quick lead times.
- Any different variations, including vent and injection, ball range, exotic materials, all the options available from standard ball and needle valves.

DOUBLE BLOCK & BLEED VALVE SOLUTIONS

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

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

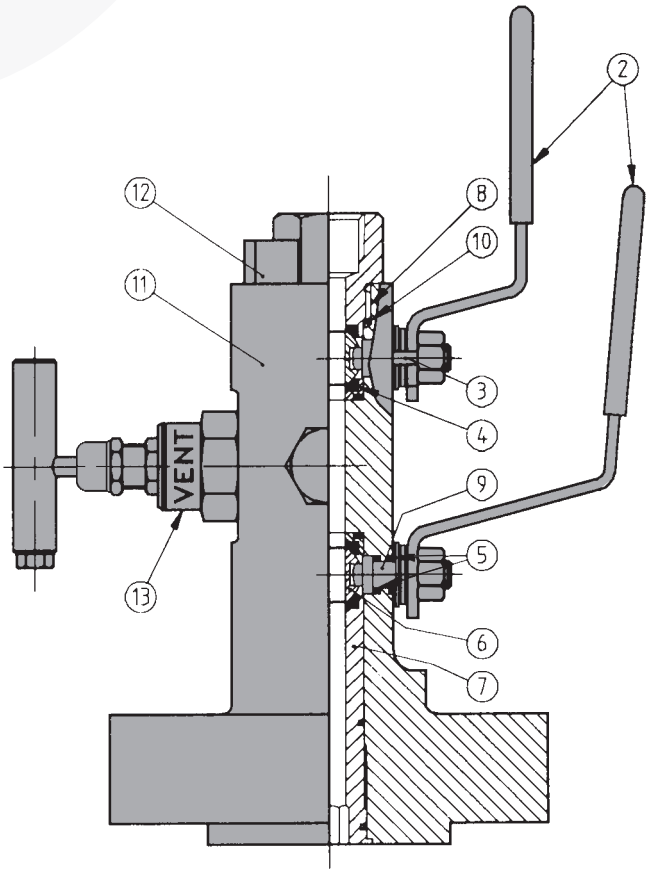
3 POSITIVE STOP PINS
A 316 stainless steel pin held into the body by a machined anti-vibration spline assures an absolute 90° turn.

4 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.

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

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

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



EXPLOSIVE DECOMPRESSION
Explosive decompression 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 decompression.

8 PRECISION PROCESS THREADS
Super finished screwcut – not tapped threads – using advanced CNC machines ensure easy assembly and leak tight threads with reduced risk of galling.

9 SOLID BACKSEATED ANTI-BLOWOUT SPINDLE
Precision, rugged one piece stem incorporates anti-blow out feature and maintains seal integrity at all pressures. Anti-vibration lock nuts are standard to all products.

10 BODY SEALS
Totally contained 'O' ring type body seals for body integrity and additionally protecting internal body threads from process media.

11 DROP FORGED BODY
A rigid one piece drop forged body, eliminates potential leak points experienced with conventional hook ups.

12 'BLOK-LOK' (PATENT PENDING)
Anti-removable pin, non-welded connector locking system which prevents accidental disassembly when in service.

13 HEAVY DUTY FIRESAFE NEEDLE VALVES
Oliver's proven heavy duty needle pattern head unit features a rugged firesafe and tested construction.

OPTIONS

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.

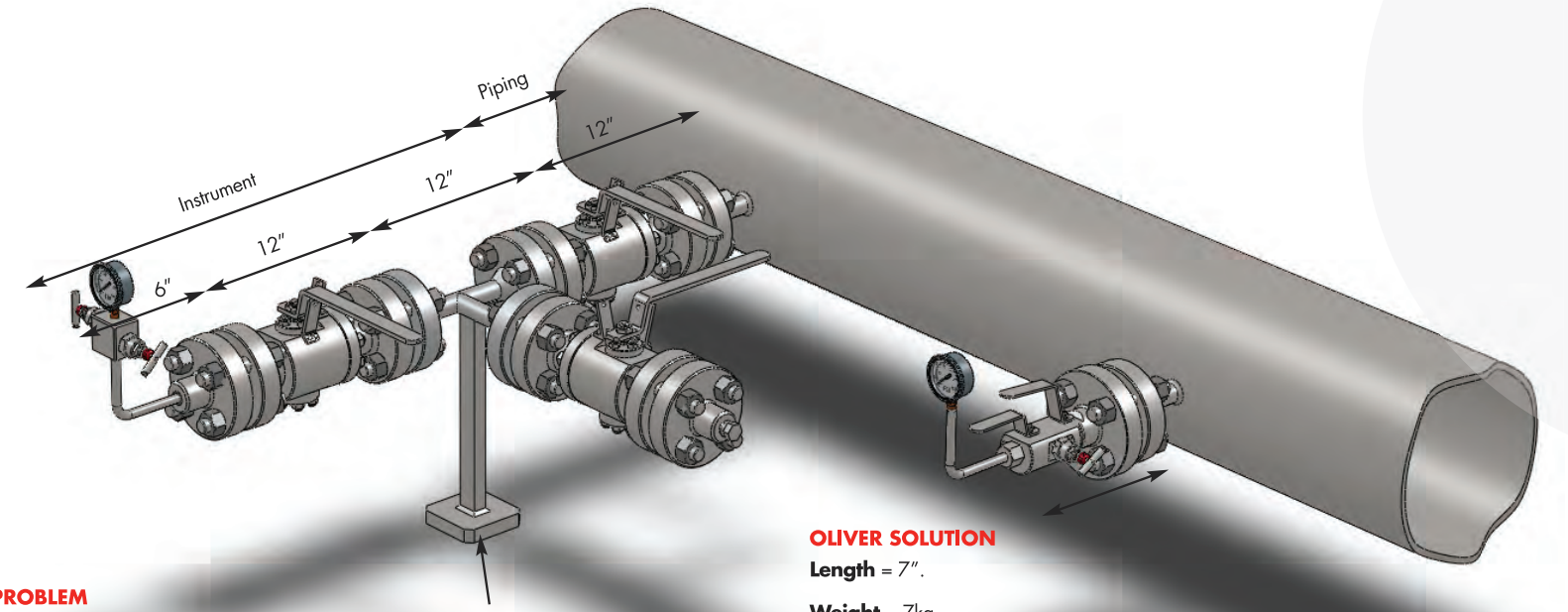
HANDLE LOCKING - /HL Oliver unique handle locking system will prevent accidental operation – tamper-proof.

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

STANDARD

FIRESAFE - /FS Firesafe construction compliant with BS 6755 part 2. API 607 and API 6FA. Fully certified to Lloyds type approval certificate numbers 88/0345, 91/0117, 92/0140 and 93/00068. High temperature Graphite 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.



Pipe support required due to high bending , movement / additional weight.

YOUR PROBLEM

Length = 40".

Weight = 100kg (Based on 1.5" 1500 class).

- 3 Ball & needle valve manifolds.
- 24 Bolts.
- 6 Gaskets.

OLIVER SOLUTION

Length = 7".

Weight = 7kg.

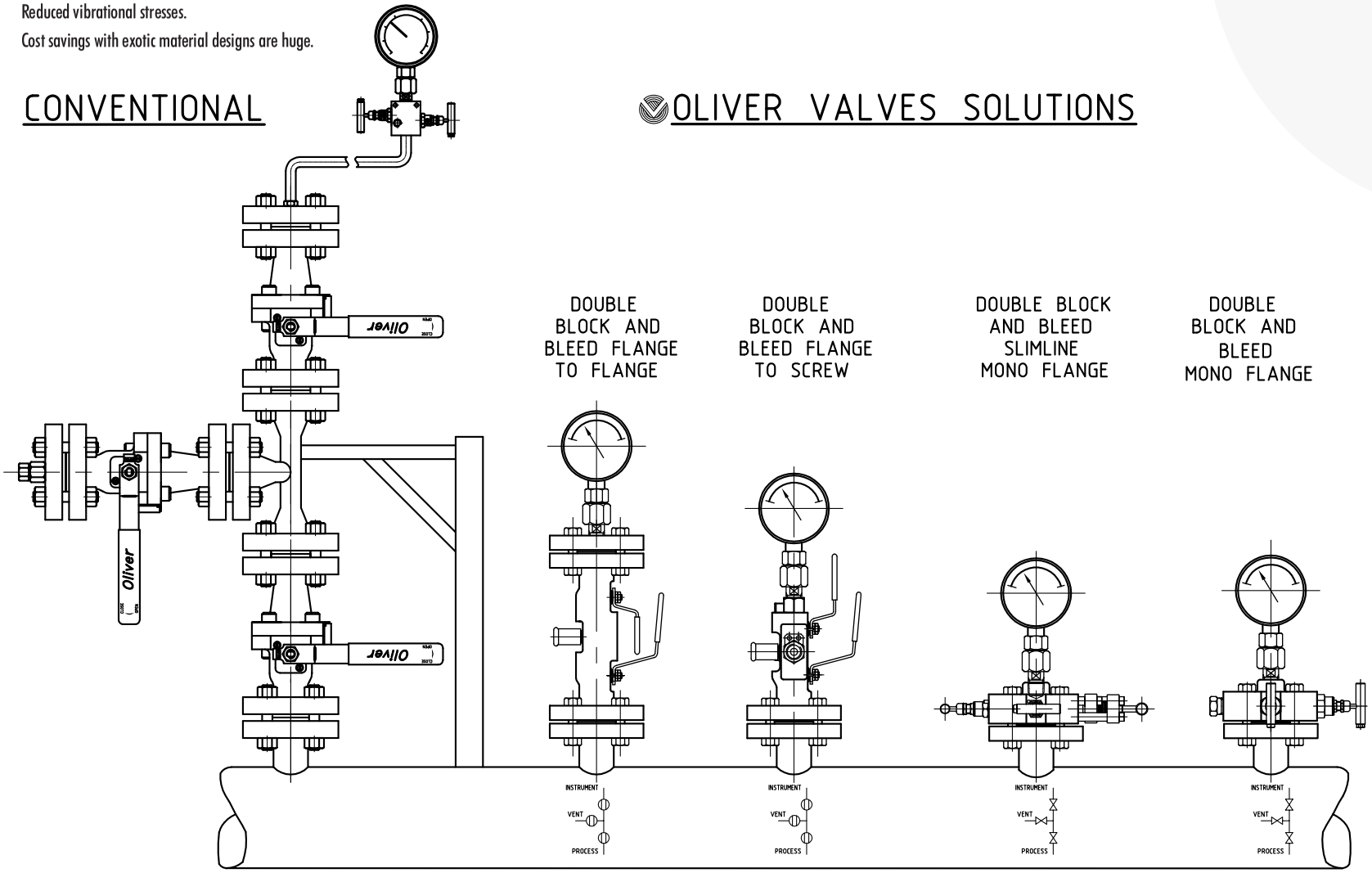
- 1 valve.
- 4 Bolts.
- 1 Gaskets.

Your Key Selling Points

- We eliminate a terrific amount of space when compared with welding three individual valves together.
- We save a huge amount of direct labour and site installation costs.
- We have reduced leakage points massively – a huge benefit as fugitive emissions are so important.
- We have reduced costs.
- We only have one component to be ordered, not many as in the old applications, which can save on inventory and site confusion.
- We can get away from local site support by reducing the bending moment.
- We can bring the pressure instrument a lot closer to the point of pressure measurement thus saving space which is most important on skip mounting applications.
- Unique numbering system on each valve recording factory history (the "original manufacture being over 25 years and 200,000+ sold).

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.



D TYPE DOUBLE BLOCK & BLEED

FLANGE TO PIPE WEIGHT

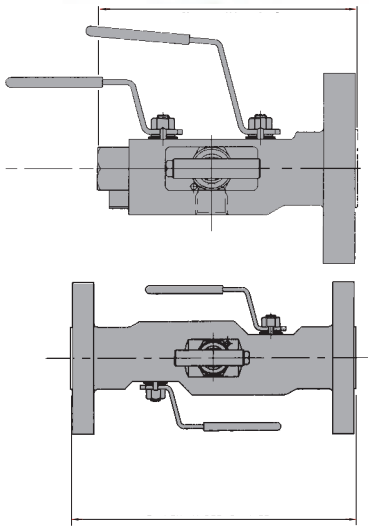
BORE		10mm	14mm	20mm
SIZE	FLANGE CLASS	kg	kg	kg
1/2"	150	3.4	–	–
	300	4	–	–
	600	4	–	–
	1500	5.2	–	–
	2500	6.4	–	–
3/4"	150	4.2	7.2	–
	300	4.7	7.7	–
	600	4.7	7.7	–
	1500	5.6	8.6	–
	2500	6.7	9.7	–
1"	150	4.4	7.4	8.2
	300	4.8	7.8	8.6
	600	5.3	8.3	9.1
	1500	7.3	10.3	11.1
	2500	10.1	13.1	14.1
1 1/2"	150	5	8	8.8
	300	7.4	10.4	11.2
	600	7.4	10.4	11.2
	1500	9.1	12.1	12.9
	2500	13.5	16.5	17.3
2"	150	7.2	10.2	11
	300	7.4	10.4	11.2
	600	7.7	10.7	11.5
	1500	14.5	17.5	18.3
	2500	20	22.1	22.9

– not available

FLANGE TO FLANGE WEIGHT

BORE		10mm	14mm	20mm
SIZE	FLANGE CLASS	kg	kg	kg
1/2"	150	5.4	–	–
	300	6.6	–	–
	600	6.6	–	–
	1500	9	–	–
	2500	11.4	–	–
3/4"	150	7	10	–
	300	8	11	–
	600	8	11	–
	1500	9.8	12.8	–
	2500	12	15	–
1"	150	7.4	10.4	9.4
	300	8.2	11.2	10.2
	600	9.2	12.2	11.2
	1500	13.2	16.2	15.2
	2500	18.8	21.8	20.8
1 1/2"	150	8.6	11.6	10.6
	300	13.4	16.4	15.4
	600	13.4	16.4	15.4
	1500	16.8	19.8	18.8
	2500	25.6	27.6	27.6
2"	150	13	16	15
	300	13.4	16.4	15.4
	600	14	17	16
	1500	27.6	29.6	29.6
	2500	38	40	40

– not available



FLANGE TO PIPE – TWO BORES – THREE STANDARD MATERIALS

SIZE RANGES	
BALL VALVE BORE 0.40"/10mm CV 6.3	BALL VALVE BORE 0.55"/14mm CV 11.7
Flange size 1/2" NB to 2" NB, Flange Classes 150 to 2500 RF & RTJ	Flange size 3/4" NB to 2" NB, Flange Classes 150 to 2500 RF & RTJ
Outlet connection: 1/2" NPT female standard. Vent connection: 1/2" NPT female standard.	Outlet connection: 3/4" NPT female standard. Vent connection: 1/2" NPT female standard.

FLANGE TO FLANGE – TWO BORES – THREE STANDARD MATERIALS

SIZE RANGES	
BALL VALVE BORE 0.40"/10mm CV 6.3	BALL VALVE BORE 0.55"/14mm CV 11.7
Flange size 1/2" NB to 2" NB, Flange Classes 150 to 2500 RF & RTJ	Flange size 3/4" NB to 2" NB, Flange Classes 150 to 2500 RF & RTJ
Outlet connection: Flange size & Class can be different from inlet. Vent connection: 1/2" NPT female standard.	Outlet connection: Flange size & Class can be different from inlet. Vent connection: 1/2" NPT female standard.

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/Graphite 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 steel trims, Inserts, End adaptors with PTFE seats and PTFE/Graphite 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 BS970 316S11/S31 barstock stainless steel trims, Inserts, End adaptors with PTFE seats and PTFE/Graphite 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 37).
SAMPLING:	Available for sampling service (page 37).

F TYPE DOUBLE BLOCK & BLEED

FLANGE TO PIPE WEIGHT

BORE		10mm	14mm
SIZE	FLANGE CLASS	kg	kg
1/2"	150	3.4	–
	300	4	–
	600	4	–
	1500	5.2	–
	2500	6.4	–
3/4"	150	4.2	7.2
	300	4.7	7.7
	600	4.7	7.7
	1500	5.6	8.6
	2500	6.7	9.7
1"	150	4.4	7.4
	300	4.8	7.8
	600	5.3	8.3
	1500	7.3	10.3
	2500	10.1	13.1
1 1/2"	150	5	8
	300	7.4	10.4
	600	7.4	10.4
	1500	9.1	12.1
	2500	13.5	16.5
2"	150	7.2	10.2
	300	7.4	10.4
	600	7.7	10.7
	1500	14.5	17.5
	2500	20	22.1

– not available

FLANGE TO FLANGE WEIGHT

BORE		10mm	14mm
SIZE	FLANGE CLASS	kg	kg
1/2"	150	5.4	–
	300	6.6	–
	600	6.6	–
	1500	9	–
	2500	11.4	–
3/4"	150	7	10
	300	8	11
	600	8	11
	1500	9.8	12.8
	2500	12	15
1"	150	7.4	10.4
	300	8.2	11.2
	600	9.2	12.2
	1500	13.2	16.2
	2500	18.8	21.8
1 1/2"	150	8.6	11.6
	300	13.4	16.4
	600	13.4	16.4
	1500	16.8	19.8
	2500	25.6	27.6
2"	150	13	16
	300	13.4	16.4
	600	14	17
	1500	27.6	29.6
	2500	38	40

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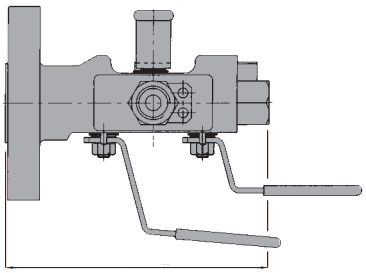
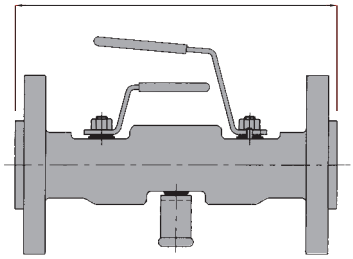




FLANGE TO PIPE – TWO BORES – THREE STANDARD MATERIALS

SIZE RANGES	
BALL VALVE BORE 0.40"/10mm CV 6.3	BALL VALVE BORE 0.55"/14mm CV 11.7
Flange size 1/2" NB to 2" NB, Flange Classes 150 to 2500 RF & RTJ	Flange size 3/4" NB to 2" NB, Flange Classes 150 to 2500 RF & RTJ
Outlet connection: 1/2" NPT female standard. Vent connection: 1/2" NPT female standard.	Outlet connection: 3/4" NPT female standard. Vent connection: 1/2" NPT female standard.

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/Graphite 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 steel trims, Inserts, End adaptors with PTFE seats and PTFE/Graphite 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.

FLANGE TO FLANGE – TWO BORES – THREE STANDARD MATERIALS

SIZE RANGES	
BALL VALVE BORE 0.40"/10mm CV 6.3	BALL VALVE BORE 0.55"/14mm CV 11.7
Flange size 1/2" NB to 2" NB, Flange Classes 150 to 2500 RF & RTJ	Flange size 3/4" NB to 2" NB, Flange Classes 150 to 2500 RF & RTJ
Outlet connection: Flange size & Class can be different from inlet. Vent connection: 1/2" NPT female standard.	Outlet connection: Flange size & Class can be different from inlet. Vent connection: 1/2" NPT female standard.

STAINLESS STEEL

Standard specification – ASTM A182 F316 body material with BS970 316S11/S31 barstock stainless steel trims, Inserts, End adaptors with PTFE seats and PTFE/Graphite 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 37).
SAMPLING:	Available for sampling service (page 37).

N TYPE DOUBLE BLOCK & BLEED

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.

FLANGE TO PIPE WEIGHT

BORE 5.5mm		
SIZE	FLANGE CLASS	KG
1/2"	150	3.4
	300	4
	600	4
	1500	5.2
	2500	6.4
3/4"	150	4.2
	300	4.7
	600	4.7
	1500	5.6
	2500	6.7
1"	150	4.4
	300	4.8
	600	5.3
	1500	7.3
	2500	10.1
1 1/2"	150	5
	300	7.4
	600	7.4
	1500	9.1
	2500	13.5
2"	150	7.2
	300	7.4
	600	7.7
	1500	14.5
	2500	20

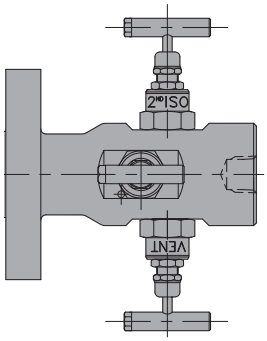
– not available

FLANGE TO FLANGE WEIGHT

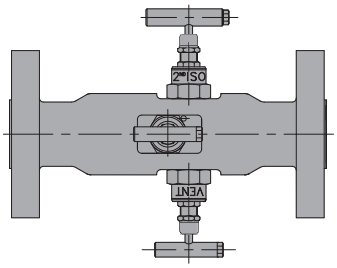
BORE 5.5mm		
SIZE	FLANGE CLASS	KG
1/2"	150	3.4
	300	4
	600	4
	1500	5.2
	2500	6.4
3/4"	150	4.2
	300	4.7
	600	4.7
	1500	5.6
	2500	6.7
1"	150	4.4
	300	4.8
	600	5.3
	1500	7.3
	2500	10.1
1 1/2"	150	5
	300	7.4
	600	7.4
	1500	9.1
	2500	13.5
2"	150	7.2
	300	7.4
	600	7.7
	1500	14.5
	2500	20

– not available

FLANGE TO PIPE – ONE BORE – THREE STANDARD MATERIALS



FLANGE TO FLANGE – ONE BORE – THREE STANDARD MATERIALS



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 Graphite 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 steel trims and head units with Graphite seals and gland packings. Needle valves have non-rotating hard tip giving metal to metal closures and screw down tee bar operators.

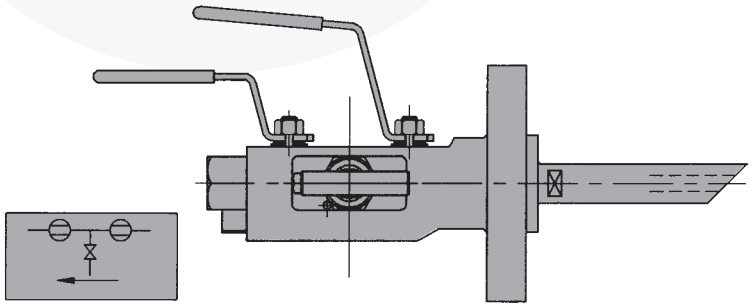
STAINLESS STEEL

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

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

SAMPLING DOUBLE BLOCK & BLEED VALVES

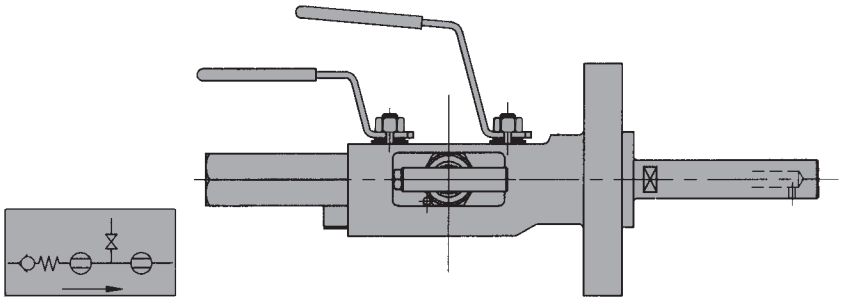
Sampling the process stream can be accomplished with this valve design, where a sample can be taken even at full system pressure directly from the process line. The product allows double isolation from process for safety. The orientation of the sample nozzle is fixed at the assembly stage and can be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



Two in-line ball pattern primary and secondary isolating valves with a heavy duty needle valve vent. D type DBB pattern.

INJECTION DOUBLE BLOCK & 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 the 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.



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

FLANGE SIZE 11/2" 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.

NOZZLE TECHNICAL INFORMATION

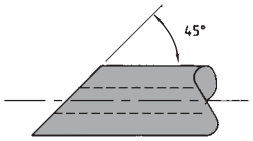
PROBE LENGTH:
This length is manufactured to suit customer requirements for the correct positioning of the injection orifice, up to a maximum length of 24". The position of the injection orifice can also be rotated at assembly to suit orientation relative to the valve handles.

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

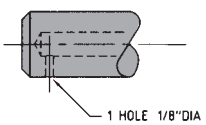
INJECTION NOZZLES:
The standard orifice is a 0.125" (3mm) diameter hole but other arrangements can be accommodated including swirl pattern spray nozzles to improve dispersion of the media.

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 120°C) can be furnished. For Methanol injection specify Kalrez 'O' ring material for check valve seat.

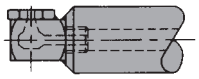
SAMPLE NOZZLE



INJECTION NOZZLE



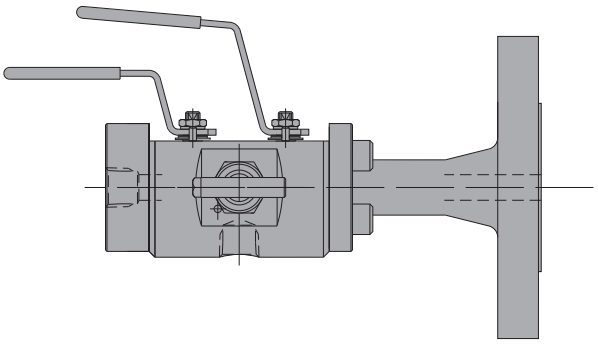
INJECTION SWIRL PATTERN NOZZLE



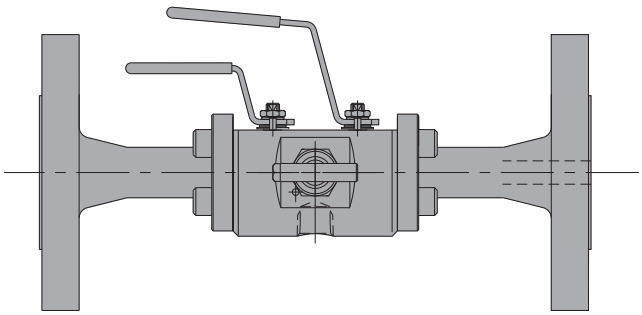
BOLTED CONSTRUCTION DOUBLE BLOCK & BLEED

- 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.

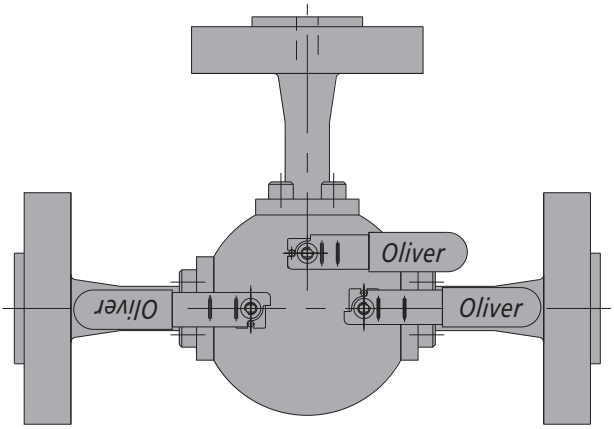
FLANGE TO PIPE



FLANGE TO FLANGE



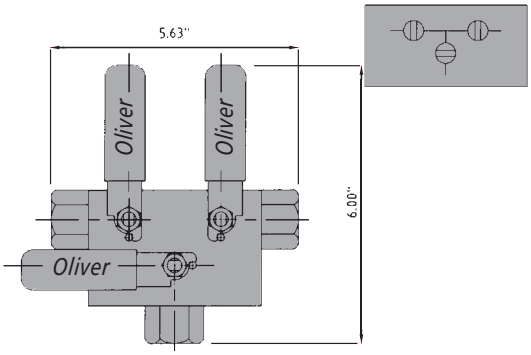
FLANGE X FLANGE X FLANGE



INSTRUMENT DOUBLE BLOCK & BLEED VALVES

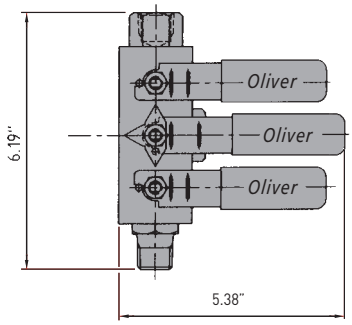
L TYPE

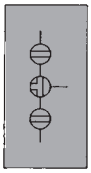
Barstock body with three balls arranged for sampling, chemical injection and double block and bleed of instrument. Surface mounting option available. Cam Interlock option available to allow only the correct sequence of operation and to prevent accidental opening of the vent valve when the first isolation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



T TYPE

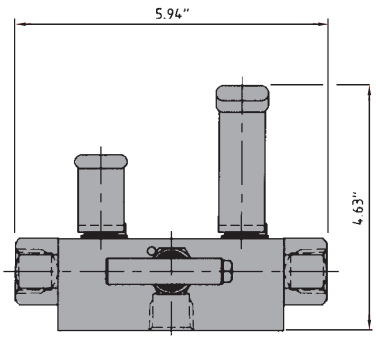
Barstock body with central 'T' ported ball valve for compact double block and bleed, sampling or chemical injection. Surface mounting and Cam Interlock options available.

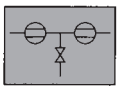




ID TYPE

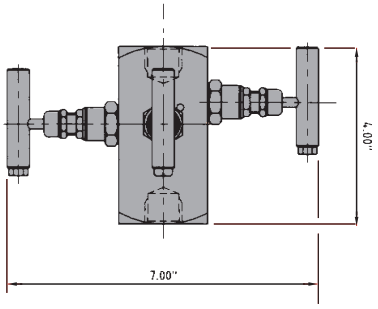
Barstock body with ball pattern primary isolating valve with two needle pattern valves for secondary isolating valve and vent valve.

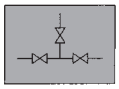




IN TYPE

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.

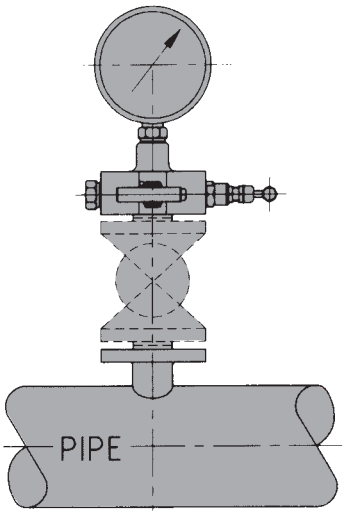




GAUGE BLOCK MONOFLANGE VALVES

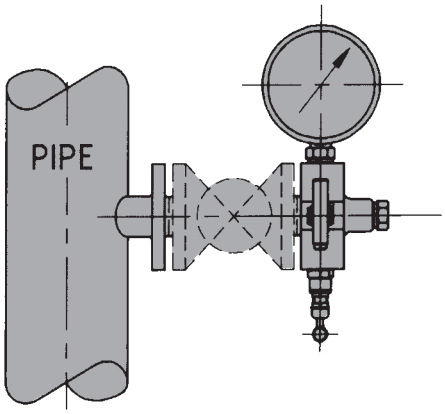
Gauge block monoflange valves work in conjunction with a pre-installed primary isolate valve. They provide very compact instrument Double Block and Bleed valving. This range is also available in a single block and Double Block and Bleed configuration's.

- Block and bleed configuration has multi gauge ports for orientation of valve on horizontal and vertical pipelines.
- Gauge block monoflange valves to be used in conjunction with primary isolate.
- Use standard or heavy duty needle valves, for different pressures.
- Valves designed to connect to ASME B16.5 flanges.
- Block, Block and Bleed, Double Block and Bleed options.
- Weight, space and hook - up time saving.
- Leak paths greatly reduced.



HORIZONTAL PIPING PRESSURE MEASUREMENT

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.



VERTICAL PIPING PRESSURE MEASUREMENT

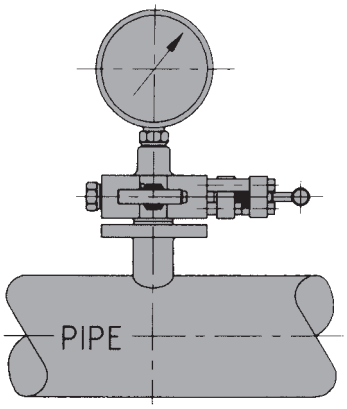
SLIMLINE PRIMARY ISOLATE VALVES

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

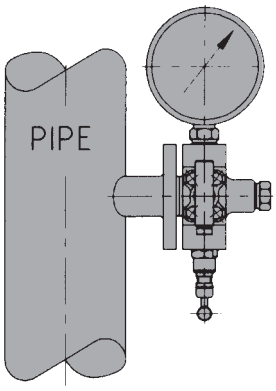
Also available as double block and single block.

- Slimline primary isolate valves replace traditional isolate valve and instrument hook-up.
- GOSY primary isolate design to ASME VIII.
- Block and bleed configuration has multi gauge ports for orientation of valve on horizontal and vertical pipelines.
- Gauge block monoflange valves to be used in conjunction with primary isolate.
- Use standard or heavy duty needle valves, for different pressures.
- Valves designed to connect to ASME B16.5 flanges.
- Block, Block and Bleed, Double Block and Bleed options.
- Weight, space and hook - up time saving.
- Leak paths greatly reduced.



HORIZONTAL PIPING PRESSURE MEASUREMENT

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.

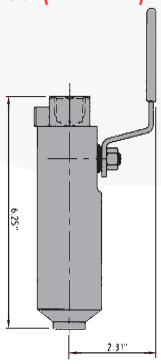


VERTICAL PIPING PRESSURE MEASUREMENT

ROOT VALVES FOR PRIMARY ISOLATION

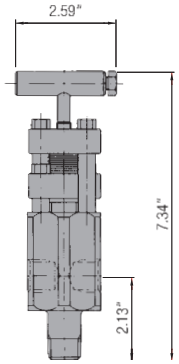
This family of valves is designed for welding into a process line. Offered in many configurations with heavy duty needle valves or ball valves.

SINGLE BLOCK (BALL VALVE)



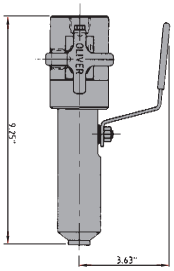
OTHER OPTIONS Heavy duty Needle valve as isolate.

PRIMARY GAUGE OUTSIDE SCREW AND YOKE VALVE



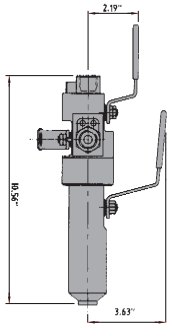
OTHER OPTIONS Available with handle locking.

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



OTHER OPTIONS Ball valve as isolate and Ball valve as vent.

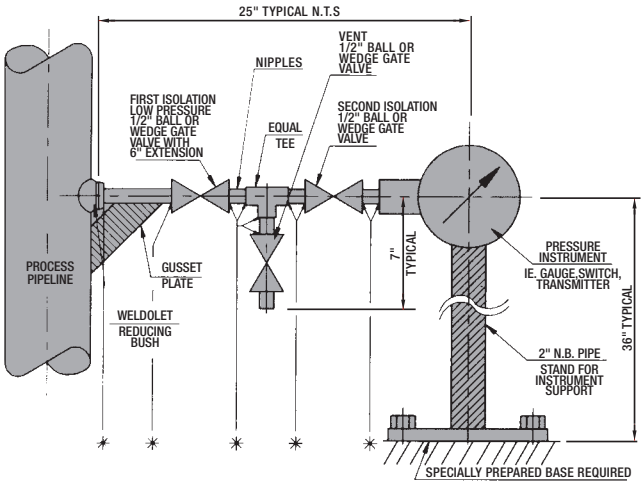
DOUBLE BLOCK AND BLEED (ALL BALL VALVES)



OTHER OPTIONS Two Ball valves as blocks and one Needle valve as vent. Three Needle valves as blocks and vent.

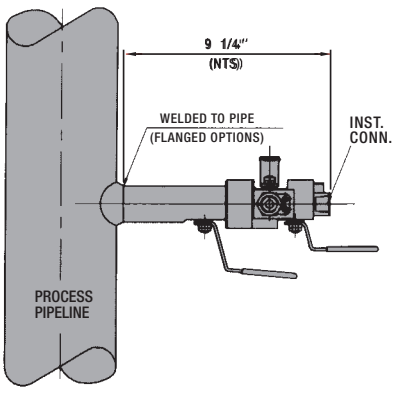
Major Weaknesses with Traditional Installation

- 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.



reliability under pressure

people creating positive change with valve solutions in the global energy sector

The three Oliver Valves companies have a reputation for innovative design and technical excellence, gained over many years of supplying into the harsh and hostile environment of the North Sea and beyond. Many of the world's principal operators and contractors are regular users of our well proven products.

The preceding descriptions represent the basis of our product lines but other options are available, and we would welcome the opportunity of discussing your specific requirements with you. Please contact our experienced sales team with any queries.

safety
delivery
relationship
innovation
improvement

www.valves.co.uk

HOW TO ORDER
DOUBLE BLOCK & BLEED VALVES

MODEL	/TYPE	/MATERIAL	/BORE	/CONNECTIONS			/OPTIONS
EXAMPLE DBB	/D	/S	/X	/10-1500 RTJ	/50F	/25F	/FS/HL/NA

Model
DBB Double block and bleed

Type

D	Integral flange 2 ball in line & needle vent
N	Integral flange, 3 needle valves
F	Integral flange, 3 ball in line pattern
A	Integral flange, 2 balls in line
L	Barstock, 3 ball oblique pattern
T	Barstock, 3 ball in line pattern
IN	Barstock, 3 needle valves
ID	Barstock, 2 ball in line & needle vent

Material Selection

C	Carbon steel (barstock) EN1A Carbon steel (forged) ASTM A350LF2
S	Stainless steel (barstock) 316SS/BS970-316S11 Stainless steel (forged) ASTM A182 F316
DUP	Duplex ASTM A182 F51 UNS S31803
SUP-DUP	Super Duplex UNS S32760
M	Monel 400
FER	Ferralium 255

Other materials available on request

Bolts/Gaskets
Flange bolts and gaskets are not provided

Patent application
No 88 17668

Ball Bores
X = 0.40"(10mm)
Y = 0.55"(14mm)
Z = 0.80"(20mm)
P = 1.00"(25mm)
Q = 1.50"(40mm)
R = 2.00"(50mm)
"Twinsafe" Available only in D Type 1" to 2" bore, 3 piece body only

Flange Details

Select flange size

50	1/2"
75	3/4"
10	1"
150	1 1/2"
20	2"
30	3"

Followed by class

150	150lb
300	300lb
600	600lb
900	900lb
1500	1500lb
2500	2500lb

Followed by flange type

RTJ	Ring type joint
RF	Spiral finish raised face
SRF	Smooth spiral finish raised face

Process | Instrument | Vent

Options (specify in alphabetical order)

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

Standard

NA	NACE MR-01-75 (latest revision) (EN1A Carbon steel to NACE not available)
FS	Firesafe to API 607 and API 6FA and BS 6755 Part 2

Connections Details

Connection size

25	1/4" (Std vent)
38	3/8"
50	1/2" (Std Process/Instrument)
75	3/4"
10	1"

Process connection

	NPT STANDARD
BP	BSP parallel pipe thread BS2779-1986
BT	BSP taper pipe thread BS21-1985
BW	Butt weld (4" extensions)
BI	Twin Ferrule, Compression fitting
SW	Socket weld (4" extensions)

Connection type

F	Female thread (Std instrument/vent)
M	Male thread

For Actuation Options
Consult factory

HOW TO ORDER
SLIMLINE / MONO FLANGE VALVES

MONO /BK / EL S /50F-150RF /50F /25F /HL/NA

MONO MONO FLANGE
SLIM SLIMLINE

Model
BK Block
BB Block and Bleed
DBB Double Block and Bleed

ADD "EL" IF SPECIAL SLIM-LINE REQUIRED

Material Selection

C	O8OM 40 Carbon steel (barstock) (En 8) Carbon steel (forged) ASTM A350 LF2
S	Stainless steel (barstock) 316SS/BS970-316S11 Stainless steel (forged) ASTM A182 F316
DUP	Duplex ASTM A182 F51 UNS S31803
SUP-DUP	Super Duplex UNS S32760
M	Monel 400
FER	Ferralium 255 (other materials available on application)

Process | Instrument | Vent

Flange Details
Select flange size
50 1/2"
75 3/4"
10 1"
150 1 1/2"
20 2"
30 3"
Followed by class
150
300
600
900
1500
2500
Followed by flange
RTJ Ring type joint
RF Spiral finish raised face
SRF Smooth spiral finish raised face

Options (specify in alphabetical order)
ATV Anti-tamper on vent
FS Firesafe to API 607 and API 6FA
HD Heavy Duty bonnets
HL Handle locking
NA NACE MR-01-75 (latest revision)

Connection Details
Connection size
25 1/4" (Std vent)
38 3/8"
50 1/2" (Std Process/Instrument)

Instrument connections
NPT STANDARD
BP BSP parallel pipe thread BS2779-1986
BT BSP taper pipe thread BS21-1985
CE Compression Fitting
LJTA Lap Joint Tube Adaptor
GA Swivel Gauge Adaptor

HOW TO ORDER
ROOT VALVES

RT DBB N S /75M /50F /25F /HL/NA

ROOT VALVE

Model
BK Block
BB Block and Bleed
DBB Double Block and Bleed

Type
D 2 ball valves in line & needle vent
N 3 needle valves
F 3 ball valves in line pattern

Material Selection

C	Carbon steel (forged) ASTM A350 LF2
S	Stainless steel (barstock) 316SS/BS970-316S11 Stainless steel (forged) ASTM A182 F316
DUP	Duplex ASTM A182 F51 UNS S31803
SUP-DUP	Super Duplex UNS S32760
M	Monel 400
FER	Ferralium 255 (other materials available on application)

Process | Instrument | Vent

Options (specify in alphabetical order)
FS Firesafe to API 607 and API 6FA
HL Handle locking
NA NACE MR-01-75 (latest revision) (En 1a Carbon steel to NACE not available)
OH Oval Handle
SA Spanner actuation

Connection Details
Connection size
25 1/4" (Std vent)
38 3/8"
50 1/2" (Std Process/Instrument)
75 3/4"
10 1"

Connection type NPT STANDARD
BP BSP parallel pipe thread BS2779-1986
BT BSP taper pipe thread BS21-1986
BW Butt weld (4" extensions)
BI Compression fitting
SW Socket weld (4" extensions)

HOW TO ORDER
GAUGE OUTSIDE SCREW AND YOKE VALVES

OR50 S OSY / SWIN AG

Valve Type
OR50 Orifice Carrier Valve (1/2" NPT Male inlet)
OR75 Orifice Carrier Valve (3/4" NPT Male inlet)
GM1 Gauge Multiport Valve
F50 Female x female 1/2" NPT isolate valve
M50 Male x female 1/2" NPT isolate valve

Primary Isolation Outside Screw & Yoke Valve

Process connections
BP BSP parallel pipe thread BS2779 (ISO 228)
BT BSP taper pipe thread BS21 (ISO 7)
SWIN Socket weld on inlet
BWIN Butt weld on inlet

Material selection
S 316S31 Stainless Steel standard (316)
SL 316S11 Stainless Steel (316L)
C 230M07 Carbon Steel plated (En1a)
(other materials available on request)

Options (specify in alphabetical order)
AG Graphite high temp gland seal
HD Heavy Duty Bonnet
MT Metering tip
NA NACE MR-01-75 (latest revision)
PK Peek soft tip
SSHW Stainless Steel handwheel
SST Stellite seat insert
2T 2" long T bar

INSTRUMENTATION VALVES INSTALLATION, OPERATION AND SAFETY INSTRUCTIONS

IMPORTANT: BEFORE INSTALLATION THESE INSTRUCTIONS MUST BE READ AND UNDERSTOOD

SAFETY NOTES:

i) All adjustments should be carried out by qualified personnel with the valve at zero pressure.
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.
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.
x) Do not paint over valve body markings.

EQUIPMENT REQUIRED

HEAVY DUTY AND STANDARD NEEDLE VALVE	Tee bar bolt – 10mm A/F spanner. Pusher nut – 9/16" A/F spanner. Head Unit Cartridge – 22mm socket and torque wrench. Lock Nut – 3/4" A/F spanner.
BALL VALVE –	No maintenance required. Ball Valve spanner actuation – 1" A/F spanner.
SEVERE SERVICE – VALVE – 4mm and 6mm bore	(See Heavy Duty and Standard Needle Valve.)
SEVERE SERVICE – VALVE – 11mm bore	Tee bar bolt – 13mm A/F spanner. Pusher nut – 7/8" A/F spanner. Head Unit Cartridge 13/8" socket and torque wrench. Lock nut – 1.1" A/F spanner.
OUTSIDE SCREW AND YOKE VALVE – GAUGE SNUBBER – 1/4" VENT PLUG, PRESSURE PLUG – 1/2" VENT PLUG – PRESSURE PLUG,	Tee bar bolt – 1/2" A/F spanner. Packing bolt – 1/2" A/F spanner. Lock nut – 8mm A/F spanner. 9/16" A/F spanner. 22mm A/F spanner.

OPERATING INSTRUCTIONS

STANDARD NEEDLE VALVES – Approximately 6 Turns from open to closed, clockwise to close.
HEAVY DUTY NEEDLE VALVE – 4 1/2 Turns from open to closed, clockwise to close.
SEVERE SERVICE VALVE (4mm and 6mm bore) – 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.
OUTSIDE SCREW AND YOKE VALVES – Approximately 6 Turns from open to closed, clockwise to close.
BALL VALVES – 1/4 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 3/4" UNF thread.
3. If head unit is stainless steel, please ensure that a PTFE spray is applied to the 3/4" UNF thread PRIOR to engaging it with the body.
4. Screw head unit down and Torque to:-

CARBON STEEL	95lb ft
STAINLESS STEEL	180lb ft

5. Replace locking pin in either one of the 4mm holes and secure.
6. Replace Tee bar and tighten down Tee bar bolt. Max torque to operate Tee bar 2lb ft.
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 Graphite 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 3" 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.
OUTSIDE SCREW AND YOKE VALVE – SAFETY NOTE: These operations must be carried out at zero pressure and ambient temperature.

1. To adjust PTFE packing close the valve by turning the tee bar in a clockwise direction until it stops. Do not exceed 10lb ft torque. Open the valve one full turn (turn tee bar anti-clockwise). The two packing nuts either side of the spindle must be adjusted evenly to keep the gland bridge square and compress the gland packing until the valve feels not too slack or difficult to operate.
2. If valve packing is Graphite, wait for two minutes after tightening the two nuts before checking valve operation.
   Carry out operation 1 again if required.
   WARNING: Bonnets and yokes must not be removed from bodies.

GAUGE SYPHONS AND CHECK VALVES – No maintenance required.
GAUGE SNUBBERS – 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 has 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, Ball Valves, Valves with soft seats, Needle Valves with handwheel locking.

VACUUM SERVICE
Oliver Valves can supply Needle (soft and hard tip) and Ball Valves for Vacuum Service. Both have been successfully tested to a .01m bar absolute vacuum.

DOUBLE BLOCK & BLEED VALVES INSTALLATION, OPERATION AND SAFETY INSTRUCTIONS

IMPORTANT: BEFORE INSTALLATION THESE INSTRUCTIONS MUST BE READ AND UNDERSTOOD

Storage

If the valves are not required for immediate use then they should be stored in their original packaging and end protectors should not be disturbed. Storage should be off the ground in a clean, dry indoor area. If storage period exceeds 12 months then items should be inspected by Oliver Valve personnel prior to installation.

Warning Notice:

For Safety reasons it is important that the following precautions are taken before starting work on the valve.

1. **That personnel instructed to carry out any necessary work are familiar with this type of valve and have read and understood the information provided in this instruction.**
2. **That the materials of construction of the valve and pressure/temperature limits shown on the valve nameplate are suitable for the process fluid and conditions.**
3. **Personnel should use suitable protective equipment and clothing that is appropriate for the area in which the valve is to be installed.**
4. **That the line is depressurised, drained and vented before installing/removing the valve.**
5. **Flange covers or end protectors should be removed before installation and the valve inspected internally to ensure that it is free from foreign matter.**

Installation

1. Single Block, Block & Bleed, Double Block and Double Block & Bleed ball valve internals are bi-directional; the body configuration usually determines the orientation of the valve. If the valve is fitted with an injection quill or sample probe please ensure that it is fitted correctly in relation to the direction of the pipeline flow.
2. For Needle Valves, ensure that the flow arrow on the valve body is pointing in the direction of the flow.
3. Do not carry or lift valves by the handle.
4. For flanged joints ensure that mating flanges and gaskets are clean and undamaged.
5. Ensure that mating flanges are aligned correctly; bolting should be inserted through the bolt-holes without interference. Bolting should be tightened evenly in a diagonal pattern
6. For pipe threads requiring a pressure tight joint first ensure that the mating threads are clean and free from damage. Add a suitable sealant to the threads and wrench-tighten. On certain materials such as stainless steels the sealant should contain a lubricant to prevent galling.
7. To prevent body distortion and leakage ensure that the pipe-work is correctly supported and no undue stress is placed on the body.
8. Prior to operating the valve ensure that there is no possibility of abrasive particles such as weld slag or sand within the piping system. The system needs to be thoroughly flushed clean prior to operation.
9. It is the user's responsibility to ensure that Injection and Sampling operations are carried out using appropriate safeguards to minimise all risks associated with pressure and the media concerned.

Operation

1. All valves are hand operated and are clockwise to close as standard
2. Ball Valves are ¼ turn (90°) from Open to Close with the exception of the Vent feature shown in **Figure 1**
3. With the exception of the Vent feature shown in **Figures 1 & 2** when the Ball Valve lever is parallel to the Valve centre line (C/L) the valve is open
4. With the exception of the Vent feature shown in **Figures 1 & 2** when the Ball Valve lever is perpendicular to the Valve centre line (C/L) the valve is closed
5. Ball Valves are intended for On-Off duty and should not be used for regulating flow. Please ensure that valve is either in the fully open or fully closed positions
6. Needle Valves are approximately 6 turns from fully open to fully closed.
7. Do not use excessive force to operate the valve, if the valve is difficult to operate consult factory.

The Vent feature on Valves with a Bleed option can be used for the following:

a) In closed coupled systems such as instrument isolation it can be used to vent pressure to enable maintenance or inspection of instrumentation to be undertaken.

b) To determine if seat leakage is present between 1st & 2nd isolates

Note: Due to the small size of the vent orifice it is not recommended that valves with this feature are used to depressurise long pipe runs.

To vent a close-coupled system proceed as follows:

1. Close 1st Isolation Valve see **Figures 1 & 2.** If checking for seat leakage close 2nd Isolate also.
2. If a pressure plug is fitted ensure the Vent valve is in the closed position before unscrewing the pressure plug slowly to release any trapped pressure.

Note: If the process fluid is hazardous then it should be vented to a safe location

3. Open Vent valve slowly, standing clear of the vent port while venting is in progress.
4. When venting is complete close Vent Valve & 2nd Isolate.
5. Refit Pressure Plug if supplied.
6. Valve can be returned to normal operating position when it is safe to do so.

Figure 1
'F' type with in-line vent

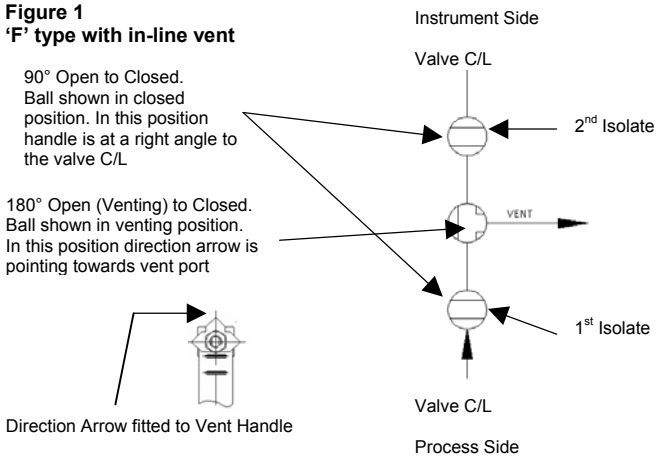
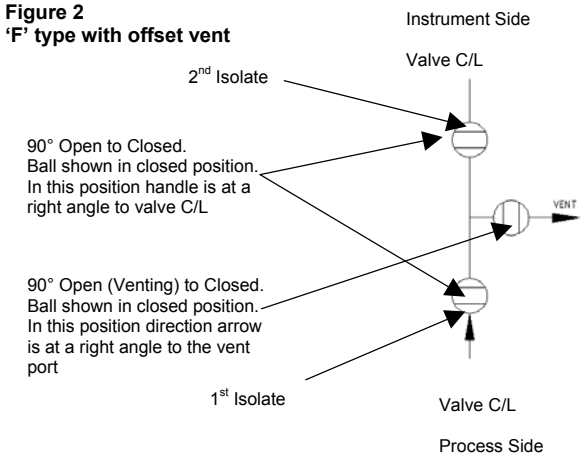


Figure 2
'F' type with offset vent



Maintenance

- Other than periodic inspection to ensure satisfactory operation & sealing no routine maintenance is necessary.
- On Needle Valves any gland leakage should be addressed by first de-pressurising the valve and tightening the pusher clockwise gradually until the leakage stops.
- If no further adjustment is possible or seat leakage is suspected then the valve will require a complete overhaul and should be returned to Oliver Valves Ltd.
- Head Units & End Connectors are fitted with anti-tamper pins to prevent unauthorised removal. Under no circumstances should these pins be removed without the prior written consent of Oliver Valves Ltd.
- No attempt to remove or dismantle the Valve should be undertaken without first ensuring that the line is depressurised, drained and vented.

Inspection

- Valves should be at zero pressure and ambient temperature prior to any inspection.
- Maintenance Engineers & Operators are reminded to use correct tools and equipment.
- A full risk assessment and methodology statement must be compiled prior to any maintenance work.
- The risk assessment must consider the possibility of the allowable limits being exceeded resulting in a potential hazard.
- Maintenance programme should include checks on the development of unforeseen conditions which could lead to failure.
- In systems where corrosion could be a potential hazard checks on the body and body seals should be made. If corrosion or leakage is present then the valve should be replaced.

reliability under pressure

quality

Accredited to ISO9001:2000, The Oliver Valve companies are able to offer complete component traceability across a wide range of instrumentation, pipeline valves and accessories. Comprehensive in-house facilities satisfy both production and special testing requirements including:

- Hydrostatic testing
- Nitrogen gas testing
- Cryogenic testing
- High temperature testing
- Helium leak detection
- L.P.I. & M.P.I. NDT methods
- Fire testing BS6755 Pt2, API607/4
- Oxygen clean facilities
- Low pressure testing
- Blasting and painting facilities

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