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# 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.

#### The Oliver Valves non-rotating plug ensures nonrotating linear plug closure eliminating galling. Threads protected Dirty media washes from process media. thru clearance - no chance of tip rota-Automatic seal prestion sure adjuster - ensures effective leak Plug type open/close free spindle sealing at tips - no rotary molow and very high tion on closure, no pressures. galling. Self centering nonrotating plug closure tip.

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



#### 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 antiblowout/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).



3

#### **STANDARD SPECIFICATION**

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

PRESSURE	6,000 PSI (see graph)
TEMPERATURE	240º (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 540°C (add suffix /FS).
- Standard needle valves, with PTFE packing, have been tested to full vacuum conditions



STANDARD TIP







SOFT TIP







#### HAND VALVES



Female x Female configuration Standard = 6,000 PSI HP = 10.000 PSI.

SIZE	A	В	C	WEIGHT (KG)
1⁄4"	3.6	2.1	1.1	0.5
3⁄8"	3.6	2.4	1.1	0.5
1⁄2"	3.6	2.6	1.1	0.5
3⁄4"	4.0	2.9	1.5	0.8
1"	4.5	3.2	2.0	1.4
	SIZE 1/4" 3/8" 1/2" 3/4" 1"	SIZE         A           1/4"         3.6           3/8"         3.6           1/2"         3.6           3/4"         4.0           1"         4.5	SIZE         A         B           1/4"         3.6         2.1           3/8"         3.6         2.4           1/2"         3.6         2.6           3/4"         4.0         2.9           1"         4.5         3.2	SIZE         A         B         C           1/4"         3.6         2.1         1.1           3/8"         3.6         2.4         1.1           1/2"         3.6         2.6         1.1           3/4"         4.0         2.9         1.5           1"         4.5         3.2         2.0



#### **M TYPE**



Male x Female configuration Standard = 6,000 PSI HP = 10,000 PSI. PART NO SIZE A B M25 14" 26 28

M25	1⁄4"	3.6	2.8	1.1	0.5
M38	3⁄8"	3.6	2.9	1.1	0.5
M50	1⁄2"	3.6	3.4	1.1	0.5
M75	3⁄4"	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	В	C	WEIGHT (KG)
B125	1⁄4"	3.6	2.4	1.1	0.3
B138	3⁄8"	3.6	2.9	1.1	0.4
B150	1⁄2"	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

PART NO	CONNECTION TYPE	SIZE	A	B	C	D	E	WEIGHT (KG
AF25	Female x Female	1⁄4"	3.0	1.5	1.1	-	4.0	0.4
AM25	Male x Female	1⁄4"	3.0	1.5	1.1	4.0	-	0.4
AF50	Female x Female	1⁄2"	3.0	2.0	1.1	-	4.5	0.5
AM50	Male x Female	1⁄2"	3.0	2.0	1.1	4.5	-	0.5





#### **HD TYPE HEAVY DUTY NEEDLE VALVE**



Male or female configuration HD = 6,000 PSIHD/HP = 10,000 PSIHD/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

# 1.19 1.50 20 2.63"

**HAND VALVES** 

#### **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.





## **GAUGE VALVES**



Gauge bleed valve with1/4" UNF bleed.





Note: Bleed screw supplied

**GV1 TYPE** 



Gauge vent valve with 1/4" NPT bleed.





0.5kg

Note: Vent plug supplied

**GM1 TYPE** 



**GM1/EXT TYPE** 

Gauge multiport valve Male inlet x three Female outlets





0.7kg



GM1/Ext = 3'' lagging extension

GM1-75/50S = 3/4'' connection

Extension length does not include valve body



## **TWO VALVE MANIFOLDS**



Two valve manifold Female x Female thread orientation.







#### **G12MF TYPE**



Two valve manifold Male x Female thread orientation.





0.9kg

#### **G12FM TYPE**



Two valve manifold Female x Male thread orientation.





#### **TWO VALVE MANIFOLDS**







Width 2.50"

**Y25 TYPE** 



Note: Kidney flanges in many styles are optional



Width 1.25"





### **THREE VALVE MANIFOLDS**





Note: Kidney flanges in many styles are optional

#### **T34 TYPE**

**Y35 TYPE** 



#### **H33 TYPE**



Note: Kidney flanges in many styles are optional







Width 1.25"

## **FIVE VALVE MANIFOLDS**





**Y53 TYPE** 

**Y52 TYPE** 









**Y54 TYPE** 







### **ENCLOSURE MANIFOLDS**



**Y28 TYPE** 



BOLTS AND SEAL RINGS SUPPLIED.



Direct mounting pipe to flange five

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

#### BOLTS AND SEAL RINGS SUPPLIED.

**Y58 TYPE** 

Width 1.25"

-12



2.3kg

BOLTS AND SEAL RINGS SUPPLIED.



Width 1.25"

www.valves.co.uk

Width 1.25"

#### **COPLANAR MANIFOLDS**



TWO VALVE INTEGRAL MANIFOLD WITH TRANSMITTER

YCP34 TYPE



THREE VALVE INTEGRAL MANIFOLD WITH TRANSMITTER

# WITH TRANSMITTER

## YCP53 TYPE



FIVE VALVE INTEGRAL MANIFOLD WITH TRANSMITTER



2 valve manifold, pipe to flange.











#### CLOSED COUPLED TRANSMITTER MANIFOLD SYSTEM **OLIVERMOUNT<sup>TM</sup>**

The OliverMount <sup>™</sup> 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<sup>™</sup> 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<sup>™</sup> system.

The OliverMount<sup>™</sup> 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<sup>™</sup> 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<sup>™</sup> enables the full potential of today's transmitter technology to be realised.

#### APPI ICATIONS

The OliverMount<sup>™</sup> 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<sup>™</sup> can be adapted to suit bi-planar or coplanar (Rosemount 3051) transmitters in 3 or 5 valve configuration for use









#### FEATURES AND BENEFITS

Direct Connection to orifice flange union No separate brackets or mounting stands

Provides rigidity to installation Allows easy access during installation

Easily adjustable centres from 2" to 2 1/4"

Reduced leak points Minimal or NO pressure containing threads

Welded option allows full installation without use of pressure containing threads

Suitable for Gas or Liquid Service

Can be installed with all types of DP transmitters

Allows flexibility for calibration, maintenance and removal of transmitter whilst on stream

Allow single block, block and bleed and double block and bleed configuration

Allows dual mounting of P and DP transmitters from one orifice tapping

Certified to API 607 and BS 6755 Part II fire safety cod Isolation manifolds meet API and ASME piping codes

Reduces plugging on viscous process Eliminates pulsation and square root error Increases instrument accuracy

Installation suitable when 'piping class first isolate' is a requirement

Reduces installation time and cost Can be pressure tested as assembly

Reduced risk of installation error Eliminated risk of seal ring blow out

Eliminates risk of transmitter damage when static build up is a problem



#### **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.



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 eaualize or isolate, eaualize and vent configurations. The venting manifolds can be specified in either single or double equalize for power aas configurations.





- Separate stabilized orifice connector
- Eccentric stabilized connector
- Flanged manifold connections
- Threaded or welded connection to orifice flange union option
- Mounts vertically or horizontally
- Suitable for co-planar or bi-planar configuration
- Choice of one, three and five valve instrument manifolds
- Choice of isolation manifolds
- Static Bar available
- Fire safe, heavy duty bonnet available
- Fully 3/8" bore manifolds available
- Isolation manifolds meet API and ASME piping codes
- Can be ordered as complete assembly
- Common bolt sizing used throughout
- Di-Electric Isolation available





in power, process or gas transmission applications.

170s ling

# reliability

#### **HEAD UNIT OPTIONS**



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.



2.00" DIA

#### **ANTI TAMPER OPTION**



Anti-tamper option. Suffix / AT.

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



#### MANIFOLD ACCESSORIES

#### UNIVERSAL MOUNTING BRACKET



2 HOLES 0.38° DIA





#### STEAM TRACE BLOCKS The steam trace block is bolted to the manifold and because it is not

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 <sup>3</sup>/<sub>8</sub>" 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.





## **INSTRUMENT PRODUCTS**

CV Max)

0.7

0.7

2.0

4.6

7.2

0.2kg

0.4kg

WEIGHT

0.2kg

R

2.31"



3/4"

1"

**CV75S** 

CV10S

\$

**GA50S TYPE** 



540°C

6,000 PSI

316 stainless steel

1/2" NPT Male x Female

KALREZ and PEEK also available if required).

Seals Max Temperature Max Pressure Standard Material Standard Connections

(Alternative connection sizes and materials available upon request).

Allows 360° positioning of gauges on site.

#### **SN50S TYPE**

#### Gauge Snubber (variable orifice)

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 Max Temperature Max Pressure Standard Materia Standard Connections

VITON 120°C 6,000 PSI 316 stainless steel 1/2" NPT Male x Female (SN50S)

#### SY50S TYPE

#### **Gauge Syphon**

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



2. All 316 stainless steel construction

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









1.1" A/F HEX 2.81



### **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).

#### **OSSV6 TYPE**

Pressure - Temperature Rating (see table) 6000psig @ 100°F (414 bar @ 38°C) 1455psig @ 1200°F (107 bar @ 650°C) Cv = 0.46Bore Dia = 6mmBody 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)





#### **OSSV11 TYPE**

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





#### **OSSV20 TYPE**

Pressure - Temperature Rating (see table) 10,000psig @ 100°F (414 bar @ 38°C) 2775psig @ 1200°F (107 bar @ 650°C) Cv = 7.0Bore Dia = 20mmBody 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℃
- 6, 11mm Bore Socket Weld



#### 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.

#### BALL VALVE PRESSURE VS TEMPERATURE CURVE



#### Flow Co-efficient "Cv"

The Flow Co-efficient "C<sub>v</sub>" 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)  $\Delta P =$  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)

 $\mathbf{Q}_{\mathbf{g}} = \mathbf{flow} \ \mathbf{rate} \ \mathbf{of} \ \mathbf{gas} \ \mathbf{(CFM \ at \ STP)}$ 

 $P_2 =$ outlet pressures (psi)

- g = specific gravity of gas;
- g air = 1.0000

#### **BALL VALVE SPECIFICATIONS**

review table for full or reduced bore.

Positive 90° travel combined with dear thru' bores,

CNC super finished screw cut threads ease

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

Totally contained PTFE 'O' ring body seals give high body integrity, and additionally protect the

body threads from process media.

assembly with reduced risk of galling.

FULL FLOW

SPINDI F

standard.

**BODY SEALS** 

PROCESS THREADS

#### **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.

#### 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 0.01 mbar 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 196°C please consult factory with system specifications.

SEATS

- Three piece body 10mm ball valves with unique twin seat 120°C (250°F) maximum: Teflon/PVDF standard.
   200°C (390°F) maximum: Teflon/KEL-F add /KL.
- Three piece 14 and 20mm ball valves with solid seat 200°C (390°F) 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 <sub>v</sub>	6.3	6.3	6.3	11.7	11.7	27.9

\* Over size bore



#### LOW PRESSURE BALL VALVES TO 1,000 PSI AND 3,000 PSI

.С,

#### 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







#### www.valves.co.uk

LPB3F10S/FS/HL/NA

1.32

4.25"

2.56'

5.84"

19mm

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.



and ferrules. Suffix / NF (nuts and ferrules).

Stulo	(i <del>r</del> o	Max Part		Bore size		Dimensions (inc			nches)		Max	Weight
JIAIC	3126	(at 20° C)	number	mm	inch	A	B	C	D	E	temperature ° C	Kğ
	6mm	6000	B6BIX6mmS	10	0.40	3.97	1.25	2.50	3.31		200	0.4
Twin ferrule	10mm	6000	B6BIX10mmS	10	0.40	3.97	1.25	2.50	3.31	•	200	0.4
compression	12mm	6000	B6BIX12mmS	10	0.40	4.13	1.25	2.50	3.31		200	0.4
fitting	1/4″	6000	B6BIX25S	10	0.40	3.88	1.25	2.50	3.31	•	200	0.4
(lube O.D.)	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
1///"		6000	B6FX25S	10	0.40	2.38	1.25	2.50	3.31	2.94	200	0.4
	IJΤ	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
	0/0	10000	B10FX38S	10	0.40	2.38	1.25	2.50	3.31	3.00	200	0.4
		6000	B6FX50S	10	0.40	3.38	1.25	2.50	3.31	3.63	200	0.5
	1/2″	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	
Female	2///"	6000	B6FY75S	14	0.55	4.07	1.50	3.00	4.06	4.75	200	1.1
Female 3/4 (NDT)	6000	B6FZ75S	20	0.80	4.83	2.00	3.50	4.06	5.56	200	2.0	
(m i)	]″	6000	B6FZ10S	20	0.80	4.83	2.00	3.50	4.06	5.66	200	1.9



#### **BALL VALVE OPTIONS**

#### 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.

#### 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.



#### **ACTUATED BALL VALVE OPTION**



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

#### **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.



#### **DIVERSION VALVES**

#### **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.





#### **BALL VALVE MANIFOLDS**





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 Pross PSI	Bore	size	Weight	1/2" male inlet &	3/4" male inlet 8	
(at 20°C)	mm	inches	Kğ	outlets	outlets	
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 (fema	le) inlet and
outlet, with 1/4" NPT (female) vent.	

Max pross PCI	Bore	size	Weight	Remote mount 1/2"
(at 20°C)	mm	inches	Kğ	connections
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 values & flanges etc, to suit application.

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











#### **DISTRIBUTION MANIFOLDS**

S T A N D A	RD SPECIFI	CATION
MAXIMUM WORKING PR	ESSURE	6,000 PSI
VALVE TYPES	PES BALL VALVES NEEDLE	
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.

# Compact Mount Distribution Manifold utilising needle valves.

#### **DM TYPE**

Distribution Manifold utilising ball valves.





M

MATER S SL С CB М

HC

IL825

IN625 DUP TI248

F25S F 25 S NA PM

#### **HOW TO ORDER NEEDLE VALVES**

only) with autoclave fitting

Y33 S / A INIFOLD TYPE IAL SELECTION - 316 Stainless Steel standard (316) - 316 Stainless Steel (316L) - 230M07 Carbon Steel plated (En1a) - 070M20 Carbon Steel (En3b) for NACE - Monel (400) - Hastalloy (C276) - Incoley (825) - Incoley (825) - Duplex (UNS S31803) - Titanium (248)	G	Br Br BW-SCH*** SW-SCH*** SW-OD BW-OD Other Options: (Specify NA AG AT AT-KEY ATEQ BKTC BKTC BKTC BKTC BKTC BKTS FS HD HD/HP HD/15HP HL HL-PI HP LT100 LT200 MTG MT NA	BSP Taper BSP Taper Butt weld, Schedule 40, 80, 160, xxs (Nominal Pipe Size) Socket weld, Schedule 40, 80, 160, xxs (Nominal Pipe Size) Socket weld, outside diameter (tube) Butt weld, outside diameter (tube) <i>in alphabetical order</i> ) NACE MR-01-75 (latest revision) Graphite packing Anti-tamper (e.g. AT-V if vent) Anti-tamper key AT on equalise (for 3 and 5 valve manifolds) CS bracket complete with mounting bolts SS bracket complete with mounting bolts SS bracket complete with mounting bolts Firesafe 6,000 PSI 10,000 PSI max pressure (Heavy Duty Head Unit, for isolation valves only) 15,000 PSI max pressure (Heavy Duty Head Unit, for isolation valves only) 15,000 PSI max pressure (Heavy Duty Head Unit, for isolation valves only) with a Handwheel locking (PAD - Padlock) Handwheel locking and position indication 10,000 PSI maximum pressure rating (except direct mount) for Standard Needle Valve Cryogenic head unit (down to -100°C) Cryogenic head unit (down to -200°C) 2 Mounting holes to mount BKT Metering tip MACE MR 01, 75 Intext reavision
EXAMPLE 'NA/PM - Female x female connections - '/4" size (NPT Standard) - 316 Stainless Steel - NACE specification - Panel mounting option		NF OXY PAD PK PM PP SG SSHW SSB SSB-6K SS-TAG ST	Nuts and ferrules on BI type Oxygen clean degreased Padlock (for HL option) PEEK Soft tip Panel Mount (gauge valves only) Pressure plug Graphite flange seal rings Stainless steel handwheel Stainless steel bolts (rated to 4,800 PSI) for Direct Mount Manifold Stainless steel bolts (rated to 6,000 PSI) for Direct Mount Manifold Stainless steel bolts (rated to 6,000 PSI) for Direct Mount Manifold Stainless steel bolts (rated to 6,000 PSI) for Direct Mount Manifold Stainless steel bolts (rated to 6,000 PSI) for Direct Mount Manifold Stainless steel bolts (rated to 6,000 PSI) for Direct Mount Manifold Stainless steel tag

Process connection options

#### **HOW TO ORDER BALL VALVES**



# reliability under pressure

#### HOW TO ORDER DISTRIBUTION MANIFOLDS



#### HOW TO ORDER AIR HEADERS



EXAMPLE: AH20C/TW0/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.



# pressure

#### 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  $90^\circ$  opening combined with clear through bores across the range allows rodding.

## **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.



#### **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.



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.



#### 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.



Unique numbering system on each valve recording factory history (the "original manufacture being over 25 years and 200,000+ sold).



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#### **DOUBLE BLOCK & BLEED VALVE SOLUTIONS**

# reliability

# **D TYPE DOUBLE BLOCK & BLEED**

#### FLANGE TO PIPE WEIGHT

BO	RE	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 <sup>1</sup> /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

#### FLANGE TO FLANGE WEIGHT

BC	RE	10mm	14mm	20mm
SIZE	FLANGE CLASS	kg	kg	kg
<sup>1</sup> /2″	150	5.4	-	-
	300	6.6	-	-
	600	6.6	-	-
	1500	9	-	-
	2500	11.4	-	-
<sup>3</sup> /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 <sup>1</sup> /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 FLANGE – TWO BORES – THREE STANDARD MATERIALS

SIZE R	ANGES
BALL VALVE BORE	BALL VALVE BORE
0.40″/10mm	0.55″/14mm
CV 6.3	CV 11.7
Flange size	Flange size
<sup>1</sup> /2" NB to 2" NB,	<sup>3</sup> /4" NB to 2" NB,
Flange Classes 150	Flange Classes 150
to 2500 RF & RTJ	to 2500 RF & RTJ
Outlet connection: Flange size & Class can be dif- ferent from inlet. Vent connection: <sup>1</sup> /2" NPT female standard.	Outlet connection: Flange size & Class can be dif- ferent from inlet. Vent connection: <sup>1</sup> /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 <sup>1</sup>/<sub>4</sub> turn lever <sup>1</sup>/<sub>2</sub> turn to vent. All end adaptors have Oliver BLOK-LOK protection against accidental disassembly.

	S T A N D A R D
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).

#### FLANGE TO PIPE – TWO BORES – THREE STANDARD MATERIALS

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

#### **CARBON STEEL**

- not available

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 <sup>1</sup>/<sub>4</sub> turn lever <sup>1</sup>/<sub>2</sub> 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 PIPE WEIGHT

BORE		10mm	14mm
SIZE	FLANGE CLASS	kg	kg
<sup>1</sup> /2″	150	3.4	-
	300	4	-
	600	4	-
	1500	5.2	-
	2500	6.4	-
3/4″	150	4.2	72
	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	73	10.3
	2500	10.1	13.1
1 <sup>1</sup> /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

FLANGE TO FLANGE WEIGHT				
BO	RE	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 <sup>1</sup> /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	

#### F TYPE DOUBLE BLOCK & BLEED







#### - not available

#### FLANGE TO PIPE – TWO BORES – THREE STANDARD MATERIALS

- not available

SIZE R	ANGES
BALL VALVE BORE	BALL VALVE BORE
0.40"/10mm	0.55"/14mm
CV 6.3	CV 11.7
Flange size	Flange size
<sup>1</sup> /2" NB to 2" NB,	<sup>3</sup> /4" NB to 2" NB,
Flange Classes 150	Flange Classes 150
to 2500 RF & RTJ	to 2500 RF & RTJ
Outlet connection:	Outlet connection:
1/2" NPT female standard.	<sup>3</sup> /4" NPT female standard.
Vent connection:	Vent connection:
1/2" NPT female standard.	<sup>1</sup> /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 <sup>1</sup>/<sub>4</sub> turn lever <sup>1</sup>/<sub>2</sub> 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 R	ANGES
BALL VALVE BORE	BALL VALVE BORE
0.40"/10mm	0.55″/14mm
CV 6.3	CV 11.7
Flange size	Flange size
<sup>1</sup> /2" NB to 2" NB,	3/4" NB to 2" NB,
Flange Classes 150	Flange Classes 150
to 2500 RF & RTJ	to 2500 RF & RTJ
Outlet connection:	Outlet connection:
Flange size & Class can be	Flange size & Class can be
different from inlet.	different from inlet.
Vent connection:	Vent connection:
<sup>1</sup> /2" NPT female standard.	<sup>1</sup> /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 <sup>1/4</sup> turn lever <sup>1/2</sup> turn to vent. All end adaptors have Oliver BLOK-LOK protection against accidental disassembly.

	S T A N D A R D
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).



#### 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.

#### FLANGE TO PIPE WEIGHT

	BORE 5.5mm				
SIZE	FLANGE CLASS	KG		5	
1/2"	150	3.4		1/2"	
	300	4			
	600	4			
	1500	5.2			
	2500	6.4			
3/4"	150	4.2		3/4"	
	300	4.7			
	600	4.7			
	1500	5.6			
	2500	6.7			
1″	150	4.4		1″	
	300	4.8			
	600	5.3			
	1500	7.3			
	2500	10.1			
1 1/2"	150	5		1 1/2	
	300	7.4			
	600	7.4			
	1500	9.1			
	2500	13.5			
2″	150	7.2		2″	
	300	7.4			
	600	7.7			
	1500	14.5			
	2500	20			
– not availat	ale			- no	

#### 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	73			
	2500	10.1			
1 1/2"	150	5			
	300	7.4			
	600	7.4			
	1500	9.1			
	2500	13.5			
2″	150	72			
	300	7.4			
	600	7.7			
	1500	14.5			
	2500	20			
– not availal	ole				

## N TYPE DOUBLE BLOCK & BLEED

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

#### 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.

	S T A N D A R D
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**

SAMPLE

NOZZLE

INJECTION

NOZZLE

INJECTION

SWIRI

PATTERN

#### 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 '0' ring material for check valve seat.





1 HOLE 1/8"DIA





### **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**



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.



-@-

 $\Theta - \Theta$ 

#### 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.





# reliability under pressure

#### 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



# reliability under pressure

#### **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.



- EQUAL TEE DICA GUSSET PROCESS PIPELINE PLATE WELDOLET REDUCING BUSH
- One item only to stock. 9 1/4 (NTS) WELDED TO PIPE INST. CONN. FLANGED OPTIONS PROCESS PIPELINE



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Greatly reduced

maintenance.

# 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



# reliability under pressure

#### HOW TO ORDER DOUBLE BLOCK & BLEED VALVES

MC	DEL	/TYPE /N	<b>IATERIA</b>	L /B	ORE	/	CONNECTIONS		<b>/OPTIONS</b>
EXAMPLE	DBB	/D 	/S	,	/X /10-150	0 RTJ	/50F	/25F	/FS/HL/NA
Model DBB Double block	and bleed		E	3all Bores = 0.40''(10)	Proce	ess	Instrument Options (spo	Vent	betical order)
D Integral flar N Integral fla F Integral fla A Integral fla L Barstock, 3 T Barstock, 3 IN Barstock, 3 ID Barstock, 2	ge 2 ball in line & a nge, 3 needle va nge, 3 ball in lin nge, 2 balls in lin ball oblique pat ball in line patte needle valves ball in line & ne	needle vent lves e pattern ne tern ern edle vent	F F	<pre>/ = 0.55"(14) / = 0.80"(20) / = 1.00"(25) / = 1.50"(40) / = 2.00"(50) / = 2.00"(50)</pre>	nm) nm) (Twinsafe" Available only in D Type 1" to 2" bore, 3 piece body only		IL Car (on IP Inje SA Spa SP Sar Standard NA NA (EN not	m interlocking i T and L type ection probe anner actuati nple probe CE MR-01-75 I1A Carbon st t available)	g s only) on (latest revision) teel to NACE
Material Selection				Flange De	tails		and	d BS 6755 Par	t 2
C Carb Carb ASTN S Stain	on steel (barstoc on steel (forged) 1 A350LF2 less steel (barsto	k) EN1A ck)		Select flar           50         1/2           75         3/4           10         1"	nge size " "		Connections Det Connection size 25 1/4" (Std	ails l vent)	
316S Stain ASTN DUP Dupl	S/BS970-316S11 less steel (forgeo 1 A182 F316 ex ASTM A182 F5	1)		150 11 20 2" 30 3"	/2''	5	50 1/2" (Std 75 3/4" 10 1"	l Process/Insti	rument)
UNS SUP-DUP Supe UNS M Mon FER Ferra Other materia	S31803 r Duplex S32760 el 400 lium 255 als available on ro	equest		Followed 150 15 300 30 600 60 900 90 1500 15 2500 25	by class Olb Olb Olb Olb Olb OOlb	E	Process connecti NPT STA BP BSP par BT BSP tap BW Butt we BI Twin Fe	on ANDARD allel pipe threa er pipe threa eld (4" extens rrule, Compro	ead BS2779-1986 d BS21-1985 ions) ession fitting
Bolts/Gask Flange bol are not pro Patent app	ets ts and gaskets ovided lication			Followed type RTJ Rin RF Sp rai SRF Sn	by flange ng type joint iral finish sed face nooth spiral	F	Connection type For Actuation Or	thread (Std in read	nstrument/vent)
No 88 176	68			fac	ce	C	Consult factory		



# eliability

#### HOW TO ORDER SLIMLINE / MONO FLANGE VALVES



#### HOW TO ORDER ROOT VALVES



#### HOW TO ORDER GAUGE OUTSIDE SCREW AND YOKE VALVES



#### INSTRUMENTATION VALVES **INSTALLATION, OPERATION** AND SAFETY INSTRUCTIONS

#### IMPORTANT: BEFORE INSTALLATION THESE INSTRUCTIONS MUST BE READ AND UNDERSTOOD

#### **SAFETY NOTES:**

- All adjustments should be carried out by qualified personnel with the valve at zero pressure.
- ιί End connectors must not be removed from bodies.
- Handle wrenches/extensions must not be used to operate the valves. iii
- Vent plugs must not be removed when the isolate iv

v) Head units and locking pins must not be remove

#### EQUIPMENT REQUIRED

HEAVY DUTY AND STANDARD

NEEDLE VALVE

BALL VALVE -

SEVERE SERVICE -

VALVE - 4mm and 6mm bore SEVERE SERVICE -

VALVE - 11mm

bore

e removed when the isolate valve is open and under pressure. g pins must not be removed once installed.	<ul><li>carry valve by the handle.</li><li>x) Do not paint over valve body markings.</li></ul>			
Tee bar bolt — 10mm A/F spanner.	OUTSIDE SCREW	Tee bar bolt — 1/2″ A/F spanner.		
Pusher nut – 9/16" A/F spanner.	AND YOKE VALVE —	Packing bolt – 1/2" A/F spanner.		
Head Unit Cartridge – 22mm socket and torque	GAUGE SNUBBER —	Lock nut – 8mm A/F spanner.		
wrench.	1/4" VENT PLUG,	9/16" A/F spanner.		
Lock Nut – 3/4" A/F spanner.	PRESSURE PLUG —			
No maintenance required.	1/2" VENT PLUG —	22mm A/F spanner.		
Ball Valve spanner actuation $-1''$ A/F spanner.	PRESSURE PLUG,			

vi)

vii)

viii)

ix)

Maximum torque to be applied to tee-bars is 10lb ft.

Needle Valves: No excessive side forces (>30lb ft) to be applied to the head unit.

Ball Valves: No excessive forces to be applied to the handle/handle locking arrangement, and do not

Valves must be suitably supported in service.

#### **OPERATING INSTRUCTIONS**

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

Lock nut – 1.1" A/F spanner.

Tee bar bolt – 13mm A/F spanner. Pusher nut – 7/8" A/F spanner.

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

SEVERE SERVICE VALVE (4mm and 6mm bore)  $-4 \frac{1}{2}$  Turns from open to closed, clockwise to close.

(See Heavy Duty and Standard Needle Valve.)

Head Unit Cartridge 13/8" socket and torque wrench.

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 -

- Ensure that the spindle is fully retracted into the head unit so the tip is hardly showing.
- Place PTFE ring into the undercut at the top of the 3/4" UNF thread. 2.

3.	If head unit is stainless steel, please ensure that a PTFE spray is applied to the 3/4" I	UNF thread PRIOR to engaging it with the body.
1	Scrow boad unit down and Torque to	CAPPON STEEL

in neua onn is sianness sieci, piease ensore mar a r n'e spray is applied to me /4	on micual not to engaging it with the boay.	
Screw head unit down and Torque to:-	CARBON STEEL	95lb ft
·	STAINLESS STEEL	180lb ft
Renlace locking nin in either one of the Amm holes and secure		

5. 6. Replace Tee bar and tighten down Tee bar bolt. Max torque to operate Tee bar 2lb ft.

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. 7

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.
- 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 1. 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.
- 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. 2

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.

#### VACIIIIM 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.



# eliability

#### IMPORTANT: BEFORE INSTALLATION THESE INSTRUCTIONS MUST BE READ AND UNDERSTOOD

#### DOUBLE BLOCK & BLEED VALVES INSTALLATION, OPERATION AND SAFETY INSTRUCTIONS





# 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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REGISTRATION NUMBER 40697

SSESSMENT



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