



Champ Instruments & Engineers

Efficient Engineering solutions

SOME OF OUR VALUED CLIENTS, CONSULTANTS & THIRD PARTY
INSPECTION AGENCIES

COMPANY PROFILE

“CHAMP INSTRUMENTS & ENGINEERS” is manufacturer of high quality Instrumentation Valves, Fittings & Accessories to meet customer requirements in National and International market.

Scope	: Manufacture of Instrumentation Hardware Materials.
Tube Fittings	: Tube Fittings (double ferrule compression), Olive type Fittings, Ermeto Fittings, Instant / Insert type Fittings / Push Fittings.
Pipe Fittings	: Precision Pipe Fittings, Forged Steel Pipe Fittings.
Instrument Valves	: Needle Valves, Gauge Valves, Manifold Valves, Ball Valves, Union Bonnet Globe Valves, Gate Valves (OS&Y type), Globe Valves (OS&Y type), NRV
Instrument Hardware	: Bleed Valves, Gauge Snubbers, Pressure Gauge Unions, Flanges, Oval Flanges, Condensate Pots, Air Header Distributors, Syphons, Thermowells.
Flanges	: Flanges-IBR/non IBR, Orifice Flanges & Orifice Plate, Nuts, Bolts & Gaskets.
Tubes/Pipes	: S.S. - Stainless Steel Tubes (SMLS), as per ASTM grade. C.S. - Carbon Steel Tubes, as per ASTM grade. C.S.- Carbon Steel Pipes (SMLS), as per ASTM grade, ERW Pipe. Copper Tubes (Bare / PVC coated) ASTM / BS grade.
Regd. Head Office Address	: B-3, Shyam Sadan, R.R.Roy Road, Next to Girgaon Church, Charni Road (E), Mumbai – 400004. (India) Tele. : +91 - 22 - 2387 0078 / 2388 0355 / 2385 6660
Partner	: Mr. Mehul Kadakia - 98203 36266 Mr. Hiten Parikh - 93232 12770 E-mail : sales_champ@rediffmail.com / champinst@gmail.com Web Site : www.champinstruments.com
Works	: RPA Society Compound, unit no. 12, M.S.A. Marg, Byculla (W), Mumbai 400011,
Inspection & Testing	: Laxmi Indl. Estate, Unit no. 22/B, Shankarrao Naram Path, Lower Parel (W), Mumbai – 400013,
Year of Establishment	: 1986
Contact Persons	: Mr. Mehul Kadakia (Partner) Mr. Hiten Parikh (Partner)
Manufacturing Standard	: ASTM, ANSI, ASME, BS, JIS, & DIN

INTRODUCTION LETTER

Manufacturer & Supplier of Instrumentation Hardware Materials

Dear Sir.,

With Immense pleasure, we take this opportunity to introduce ourselves as a leading manufacturer & supplier of **CHAMP** brand Instrumentation Valves, Tube Fittings & Pipe Fittings. These Piping products are manufactured by us at our factory under strict quality control and skilled supervision in accordance with the relevant International Standards ; ASTM, ASA, BS, DIN, JIS, in various Materials of Constructions : SS 304, 304L, 316, 316L, Brass, Alloy Steel and Forged Carbon Steel.

We have been a regular supplier of above products to various industries all over the country for more than three decades. We are regularly dealing with corporate Companies like,

M/S HONEYWELL AUTOMATION INDIA LTD.,
M/S FICHTNER CONSULTING ENGINEERS (I) PVT. LTD.,
M/S THYSSENKRUPP INDUSTRIAL SOLUTIONS (INDIA) PVT. LTD.,
M/S THERMAX LTD.,
M/S TOYO ENGINEERING INDIA LTD.,
M/S TECNIMONT ICB PVT. LTD.,
M/S AKER POWER GAS PVT. LTD.,
M/S SIEMENS LTD.,
M/S RELIANCE INDUSTRIES LTD.,
M/S RASHTRIYA CHEMICALS & FERTILIZERS LTD.,
M/S INDIAN OIL CORPORATION LTD.,
M/S MOTT MACDONALD,
M/S EMERSON PROCESS MANAGEMENT INDIA PVT. LTD.,
M/S HINDUSTAN PETROLEUM CORPORATION LTD.,
M/S ESSAR PROJECTS LTD.,
M/S DEVELOPMENT CONSULTANTS PVT. LTD.,
M/S BGR ENERGY SYSTEM PVT. LTD.,
M/S SUPREME PETROCHEM LTD.
M/S JACOBS ENGINEERING INDIA PVT. LTD.,
M/S PROJECTS & DEVELOPMENT INDIA LTD.,
M/S LARSEN & TOUBRO LTD.,
M/S KNEXIR CONSULTANTS PVT. LTD.,
M/S OIL AND NATURAL GAS CORPORATION LTD.,
M/S TATA POWER COMPANY LTD.,
M/S NOCIL LTD.,
M/S GOA GLASS FIBRE LTD.,
M/S AMBUJA CEMENTS LTD.,
M/S DCW LTD.,
M/S BURNS & MCDONNELL INDIA PVT. LTD.,
M/S SCHNEIDER ELECTRIC,
M/S TATA CONSULTING ENGINEERS LTD.,
M/S IOT ENGINEERING PROJECTS LIMITED.,
M/S IPS-MEHTALIA PVT. LTD.,
M/S ACC LTD.,
M/S DEEPAK FERTILISERS AND PETROCHEMICALS CORP. LTD.,

Also our Products are inspected by Third Party Inspection agency such as Bureau Veritas, DNV, TUV & PDIL. We are happy to enclose herewith the company profile along with the catalogue of our products, for your kind perusal. In case you desire any clarification we will be happy to provide all details.

Thanking you and looking forward to have a mutual beneficial association with your Esteemed Organization.

Your's Faithfully,

For CHAMP INSTRUMENTS & ENGINEERS

Hiten Parikh
(Partner)

THE INTERNATIONAL STANDARD FOLLOWED FOR THE CHAMP PRODUCTS

DESCRIPTION	MATERIAL	GRADE
Needle Valves, Tees, Elbows, Pipes & Tube Fittings (Forged)	Brass Copper (Ferrule Type : Olive)	IS 3488
Unions, Nuts etc. Pipe, Tube & Flare Fittings (Extruded)	Brass Copper (Ferrule Type : Olive)	IS 319
Tube Fittings, Instrument Manifold Valve (Extruded and Forged)	Stainless Steel (Ferrule Type : Double Ferrule)	ASTM A276 / A479 / A182
Free Cutting Steel (Extruded)	Carbon Steel (Ferrule Type : Ermeto)	IS 1570 part III
High Pressure forged Pipe Fittings, Valve, Flanges (NPT Thread as per ANSI B1.20.1)	Stainless Steel and Alloy Steel	ASTM A182 / 335 Gr F5, F11 and F22 Dimension as per ANSI B16.11
High Pressure Screwed and Socket Weld Three Piece Union Fittings & Flanges	CS, SS and Alloy Steel	ASTM A105, A182 / A181, BS 3799, Dimension as per ANSI B16.5
Gate Valves Bolted Bonnet (OS&Y) Type	CS, SS 316, SS 304, Alloy Steel	API 602
Globe Valves Bolted Bonnet (OS&Y) Type		BS 5352
Ball Valves	SS 316, 304, (Bar stock Forging)	As per CHAMP manufacturing standard
SS Seamless Tubings	Stainless Steel	ASTM A269
SS Seamless Pipes	Stainless Steel	ASTM A312
Copper Tubes - seamless	Copper	ASTM B68 / 75, BS 2871 part - 2
Carbon Steel Pipes & Tubes	Carbon Steel	ASTM A106 GR B, ASTM A 179
Needle Valve	Stainless Steel (Bar stock, Forging)	ASTM A276, ASTM A479, ASTM A182
G.I. Pipe Fittings and MS Fittings	Galvanized Iron, Mild Steel	IS 1239
Copper Plumbing Fittings	Copper (Types : Self Solder, End Feed & Compression)	BS 2871

BOUGHT OUT ITEMS

MECHANICALS ITEMS	ELECTRICALS ITEMS
<p>Hot Dip Galvanize Pipe (ERW & Seamless).</p> <p>Pipes & Tubes i.e. SS, CS, Teflon, Nylon & PU, Copper.</p> <p>Pressure Gauges, Diaphragm Gauges & Dial Thermometers.</p> <p>Hoses for High / Low Pressure & Temperature.</p> <p>G.I. Pipe Fittings Copper plumbing.</p> <p>Hydraulic Pipe Clamps.</p> <p>Nut, Bolt, Gasket.</p> <p>Pipe Fittings PVDF, Teflon, Nylon, Peek material.</p> <p>Filter, Regulator & Lubricator.</p>	<p>Cable Gland,</p> <p>Conduit Pipe.</p> <p>Cable Tray.</p> <p>RTD Thermocouple.</p> <p>Enclosure, Canopy, Sunshade.</p> <p>Structural Steel.</p> <p>Junction Box.</p>

CONSISTENT QUALITY, RELIABILITY & EXCELLENT LEAKPROOF FITTINGS

TUBE FITTINGS-DOUBLE COMPRESSION TYPE



The **CHAMP** high quality, leak-proof Double Ferrule Tube Fittings for Process, Power, Automation and Instrumentation applications. These Fittings design to provide secure leak-proof joints capable of satisfying high pressure, vacuum and vibration applications

Specification

- Size** : 1/8" to 3/4"
- End Connection** : OD Tube, NPT, BSP, BSPT, ISO
- Material** : SS 316; SS316L, SS304, SS304L, CS, Brass
- Thread Conformance Standard** : NPT as per Std ANSI B1.20.1
- Testing** : SS Fittings are tested up to 3000 psig Hydraulically & 150 psig Pneumatically
CS Fittings tested up to 3000 psig Hydraulically, & 150 psig Pneumatically.
Brass Fittings tested up to 1000 psig Hydraulically & 150 psig Pneumatically.
- Features** :
- **CHAMP** Double Ferrule Tube Fittings consists of four precision machined components for a reliable LEAK PROOF JOINT.
 - Back Ferrule provides a excellent Mechanical and anti vibration hold on the Tube (available in SS316/SS316L).
 - The Front Ferrules provides a pressure seal between the Tube and the Body.
 - The Nut is Silver Plated to ensure no galling on body thread.
 - Fittings are available in many combinations of sizes, shapes which reduce the number of joints needed in a system
 - Good finishes meet quality appearance requirements for precision equipment.
 - Male threads are protected with dust cap.
 - Product shaped (Elbows, Tees, Crosses) are hot forged and machined, while Straights are manufactured from cold drawn bar stock.

To provide a reliable, leak-proof connection in Instrumentation and Process Tubing Systems. **CHAMP** Tube Fitting are available, assembled and ready to use with variety of Tubing Materials. For 1-1/4 turns of the nut are required for 1/4" (6 mm) OD Tube to 1" (25 mm) OD Tube Fittings & 3/4 of a turn of the nut is required for 1/16" (2 mm) OD Tube to 3/16" (4 mm) OD Tube Fittings.

Temperature : 20° C to +100° C

Importer & Distributer of : **COMAP** make Pipe Gas Products manufactured in FRANCE.

OLIVE TYPE COMPRESSION TUBE FITTINGS IN BRASS MATERIAL



- Features** :
- 1) **CHAMP** Single Ferrule Olive type Brass Tube Fittings consists of three precision machined components for a reliable LEAK PROOF JOINT.
 - 2) Olive Ferrule provides a excellent Mechanical and anti vibration hold on the tube.
 - 3) The Olive Single Ferrule provides a pressure seal between the tube and the body.

To provide a reliable, leak-proof connection in Instrumentation and Process Tubing systems. **CHAMP** Olive type Tube Fitting are available assembled and ready to use with Copper and Steel tube. All you need is the right selection of Tubing. For assembly of fitting just insert the Tube in Fitting and tighten the nut 3/4 turn with spanner.

Consistent Quality, Reliability & excellent leakproof Fittings

PRECISION PIPE FITTINGS



The **CHAMP** Threaded Pipe Fittings permit connection between components and system which use BSP, NPT threads, high quality, leak-proof Threaded Fitting for Process, Power, Automation and Instrumentation application. These Fittings to provide secure leak-proof joints capable of satisfying high pressure, vacuum and vibration applications.

Specification

Size	: 1/8" to 1"
End Connection	: NPT, BSP, BSPT (Male & Female)
Material	: Brass Forged Pipe Fittings as per IS 3488, Extruded Pipe Fittings as per IS 319, SS Forged Pipe Fittings as per ASTM A182 & Bar Stock Fittings as per ASTM A276,
Thread Conformance Standard	: NPT as per Std. ANSI B1.20.1 BSPT as per Std. BS 21
Testing	: - SS Fittings are tested up to 3000 psig Hydraulically & 150 psig Pneumatically. - Brass Fittings tested up to 1000 psig Hydraulically & 150 psig Pneumatically.

HIGH PRESSURE FORGED PIPE FITTINGS



CHAMP manufacturing comprehensive range of High Pressure forged Pipe Fittings for Process Control, Instrumentation, Hydraulic & Pneumatic application which meet general & critical needs of Petrochemical, Chemical, Fertilizer, Steel Plant, Offshore & Power Generating Industries.

Specification

Type	: Low, Medium & High Pressure, Screwed & Socket-Weld Pipe Fittings.
Size	: 1/8" to 2"
End connection	: Socket-Weld & Screwed (Threaded with BSP, BSPT, NPT -Male, Female).
Standard Item	: 90° Elbows, Crosses, Tees, Couplings, Half Couplings, Caps, Hex Head Plugs, Hex Head Bushings (Socket-Weld & Screwed)
Material	: SS Forged Pipe Fittings as per ASTM A182 & Bar Stock Fittings as per ASTM A276, Alloy Steel Pipe Fittings as per ASTM 182 F22, F11, F5, Carbon Steel Forged Fittings as per ASTM A105/A181
Pressure Rating	: For pressure class 3000 Fittings are tested up to 3000 psig Hydraulically & 150 psig Pneumatically. For pressure class 6000 Fittings are tested up to 6000 psig Hydraulically & 150 psig Pneumatically. For pressure class 9000 Fittings are tested up to 9000 psig Hydraulically & 150 psig Pneumatically.
Standard	: As per ANSI B16.11

(IBR CERTIFIED ALSO AVAILABLE)

THREE PIECE UNION, PIPE FITTINGS



Socket Weld Three Piece Union



Threaded Three Piece Union

Three Piece Unions are used to join two lengths of threaded pipe.

Specification

Size	:	1/8" to 2"
End connection	:	Socket-Weld & Screwed (Threaded with BSP, BSPT, NPT -Female).
Material	:	Stainless Steel, Carbon Steel, Alloy Steel
Thread Conformance Standard	:	NPT as per Std. ANSI B1.20.1 BSPT as per Std. BS 21
Standard	:	As per BS 3799
Testing	:	Three piece Union are tested 3000 psig Hydraulically & 150 psig Pneumatically.

SWAGE NIPPLE, PIPE FITTINGS



Concentric Threaded End Swage Nipple



Eccentric Plain End Swage Nipple

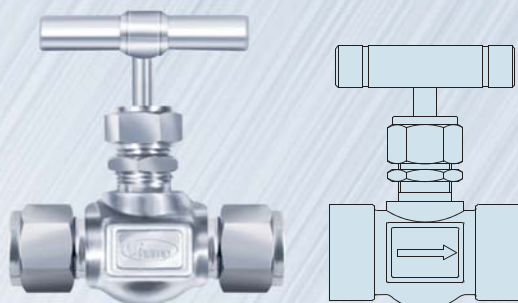


Threaded End Barrel Nipple

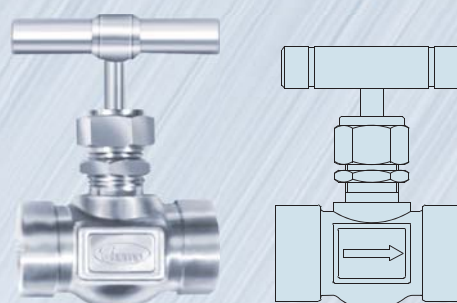
Specification

Size	:	1/8" to 1-1/4"
End Connection	:	NPT, BSPT
Material	:	Carbon Steel, Stainless Steel, Alloy Steel
Thread Conformance Standard	:	NPT as per Std. ANSI B1.20.1 BSPT as per Std. BS 21
Standard	:	As per MSS-SP-95
End connection	:	Plain End & Screwed (Threaded with BSP, BSPT, NPT - Male).

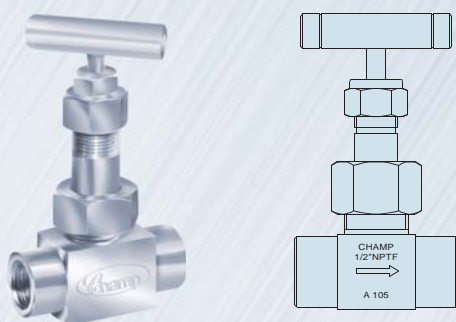
INSTRUMENTATION NEEDLE VALVES, GLOBE VALVES, GATE VALVES


 Schematic
 Diagram


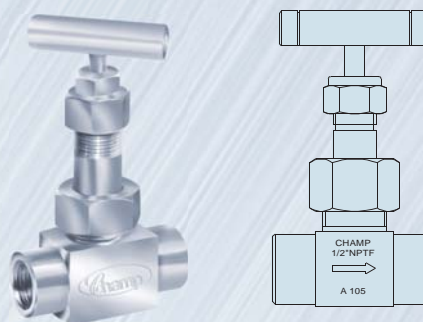
Integral Bonnet Needle Valve
- with OD Tube End



Integral Bonnet Needle Valve
- with Female Thread End



Union Bonnet Globe Valve
- with Female Thread End



Union Bonnet Gate Valve
- with Female Thread End

CHAMP Needle Valves are specially designed & manufactured for use in corrosive & hazardous environment. These Valves are used in process control Instrumentation and flow control applications.

Features

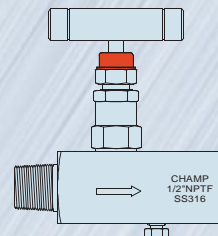
- One piece body forged and bar stock construction Non-Rotating Vee tip design, which forms bearing joint with the stem eliminates rotation between plug & seat at closure. This prevents scoring and galling up the valve seat and ensure long life in repetitive shut off service.
- Non-rotating Stem Tip, Rotating, Regulating.

Specification

Size	: 1/8" to 1/2"
Bonnet Design	: Integral Bonnet Needle Valve, Screwed Bonnet Needle Valve, Union Bonnet Globe Valve Union Bonnet Gate Valve.
End Connection	: NPT, BSPT (Male & Female), Socket Weld, Butt Weld and OD Tube.
Packing	: PTFE, Grafoil, Graphited Asbestos & Teflon Asbestos.
Testing	: Valves are tested 3000 psig Hydraulically & 150 psig Pneumatically.
Temperature Rating	: PTFE-up to 200° C / Grafoil-up to 350° C

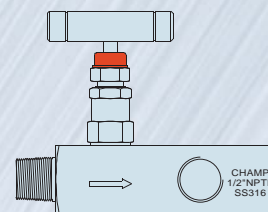
INSTRUMENT GAUGE VALVES.

Single Block with Bleed Plug Gauge Valves



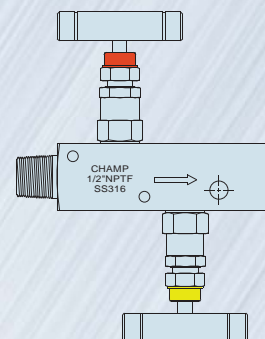
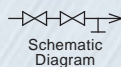
Size : 1) Inlet-1/2"NPT(M) x Outlet1/2"NPT(F),
2) Inlet-1/2"NPT(F) x Outlet1/2"NPT(F),

Multiport Gauge Valves



Size : 1) Inlet-1/2"NPT(M) x Outlet1/2"NPT(F),
2) Inlet-1/2"NPT(F) x Outlet1/2"NPT(F),
3) Inlet-3/4"NPT(M) x Outlet1/2"NPT(F),

Block & Bleed Gauge Valves



Size : 1) Inlet-1/2"NPT(M) x Outlet1/2"NPT(F),
2) Inlet-1/2"NPT(F) x Outlet1/2"NPT(F),

Single Block with Bleed Plug Gauge Valves : Needle Valve with Down Stream vent for usage with Static Pressure protecting the Instrument Gauge with contaminated fluids and constant pressure, Bleed Plug is provided so as to release the Fluid / Pressure on Instrument side after use. Are specially designed & manufactured for use in corrosive & hazardous environment.

Multiport Gauge Valves : Needle Valve with Blanking Plug & down stream Bleed Valve for usage with Static Pressure protecting the Instrument Gauge with contaminated fluids and constant pressure, Bleed Valve is provided so as to release the fluid / pressure on Instrument side after use. Are specially designed & manufactured for use in corrosive & hazardous environment.

Block & Bleed Gauge Valves : Design for use with gauge switches or Pressure Transmitter these Gauge Valve incorporates two valve with single outlet that combines isolation, calibration and venting. Are specially designed & manufactured for use in corrosive & hazardous environment.

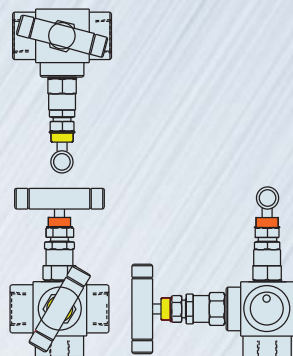
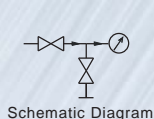
Features

- One piece body bar stock construction Non-Rotating Vee Tip design, which forms bearing joint with the Stem eliminates rotation between plug & seat at closure. This prevents scoring and galling up the valve seat and ensure long life in repetitive shut off service.
- Non-rotating Stem Tip, Rotating,Regulating.

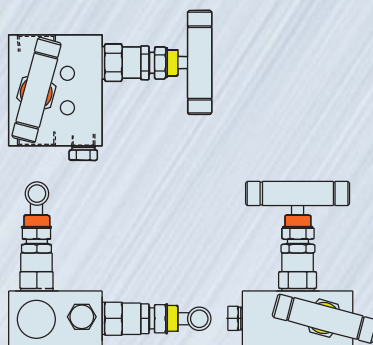
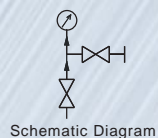
Specification

Bonnet Design	: Screwed Bonnet.
End Connection	: NPT, BSPT (Male & Female)
Packing	: PTFE, Grafoil, Graphited Asbestos & Teflon Asbestos
Testing	: Valves are tested 3000 psig Hydraulically & 150 psig Pneumatically.
Temperature Rating	: PTFE-up to 200° C / Grafoil-up to 350° C

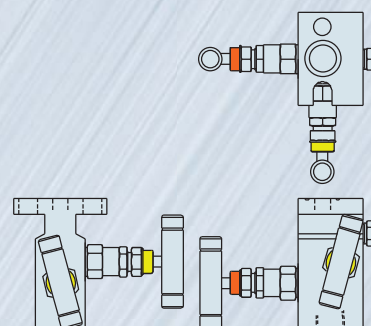
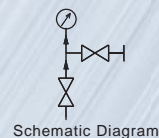
INSTRUMENT MANIFOLD VALVES



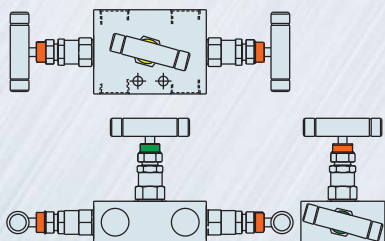
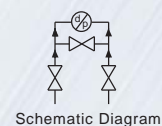
TWO VALVE (THREE-WAY) MANIFOLDS
(Remote Mounting-pipe to pipe)



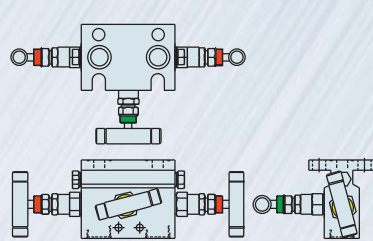
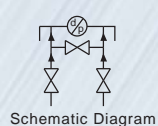
TWO VALVE MANIFOLDS
(Remote Mounting-pipe to pipe)



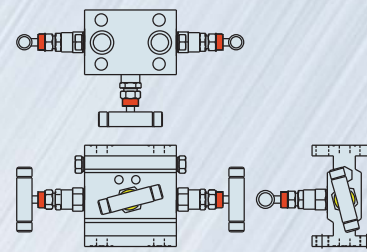
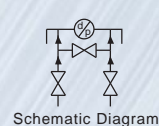
TWO VALVE MANIFOLDS
(Direct Mounting-pipe to flange)



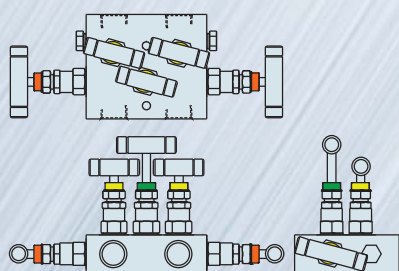
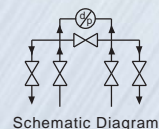
THREE VALVE MANIFOLD
(Remote Mounting-pipe to pipe)



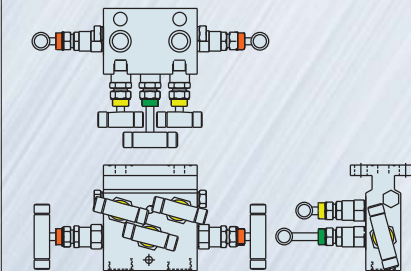
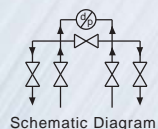
THREE VALVE MANIFOLD
(Direct Mounting-pipe to flange)



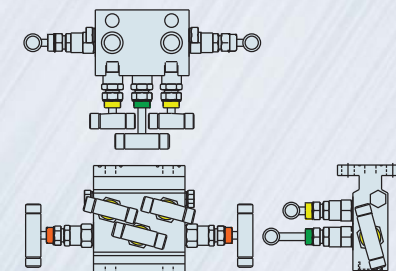
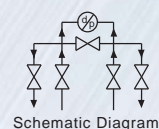
THREE VALVE MANIFOLD
(Direct Mounting-flange to flange)



FIVE VALVE MANIFOLD
(Remote Mounting-pipe to pipe)



FIVE VALVE MANIFOLD
(Direct Mounting-pipe to flange)



FIVE VALVE MANIFOLD
(Direct Mounting-flange to flange)

INSTRUMENT MANIFOLD VALVES

CHAMP offers a variety range of 2, 3 & 5 Valves Instrument Manifold, Which are designed for safety, reliability and positive LEAK TIGHT sealing of process fluid, Static Pressure Transmitters and for Differential Pressure Transmitters application in a wide range of Instrumentation. These Manifold gives the user grater flexibility, because these offers a variety of simple configuration of easy Block, Bleed and Calibration of Static Pressure Transmitter, Differential Pressure Transmitter, Pressure Transmitter, Pressure Switch and Gauges.

The flow through **CHAMP** Manifold is controlled by a Needle Valve. Each Valve has specific function to Isolate the Pressure, to Bleed off Pressure or to Equalise the Pressure, depending on its location on the Manifold.

CHAMP Manifold are available in 2, 3 & 5 Valve construction.

- 1) TWO VALVE (THREE-WAY) MANIFOLDS - For Static Pressure Transmitter- Remote Mounting Manifold-Pipe to Pipe connections.
- 2) TWO VALVE MANIFOLDS - For Static Pressure Transmitter - Remote Mounting Manifold - Pipe to Pipe connection
- 3) TWO VALVE MANIFOLDS - For Static Pressure Transmitter - Direct Mounting Manifold - Pipe to Flanged connection
- 4) THREE VALVE MANIFOLD - For Differential Pressure Transmitter - Remote Mounting Manifold - Pipe to Pipe connection
- 5) THREE VALVE MANIFOLD - For Differential Pressure Transmitter - Direct Mounting Manifold - Pipe to Flanged connection
- 6) THREE VALVE MANIFOLD - For Differential Pressure Transmitter - Direct Mounting Manifold - Flanged to Flanged connection
- 7) FIVE VALVE MANIFOLD - For Differential Pressure Transmitter - Remote Mounting Manifold - Pipe to Pipe connection
- 8) FIVE VALVE MANIFOLD - For Differential Pressure Transmitter - Direct Mounting Manifold - Pipe to Flanged connection
- 9) FIVE VALVE MANIFOLD - For Differential Pressure Transmitter - Direct Mounting Manifold - Flanged to Flanged connection

CHAMP INSTRUMENTS & ENGINEERS Manifold are available in variety of materials depending on the usage. The most common materials of construction are Carbon Steel (ASTM A105), Stainless Steel (ASTM A276 Gr.304, 316, 304L and 316L / ASTM A182 F304, 316, 304L, 316L and F321), Cupro Nickel, Monel.

Specification

Bonnet Design	: Screwed Bonnet
Inlet connection	: 1/2"NPT(F) / BSPT(F) or Flanged
Outlet connection	: 1/2"NPT(F) / BSPT(F) or Flanged
Drain connection	: 1/4" NPT(F)
Packing	: PTFE, Grafoil, Asbestos & Teflon Asbestos
Testing	: Valves are tested 3000 psig Hydraulically & 150 psig Pneumatically.
Temperature Rating	: PTFE-up to 200° C / Grafoil-up to 350° C



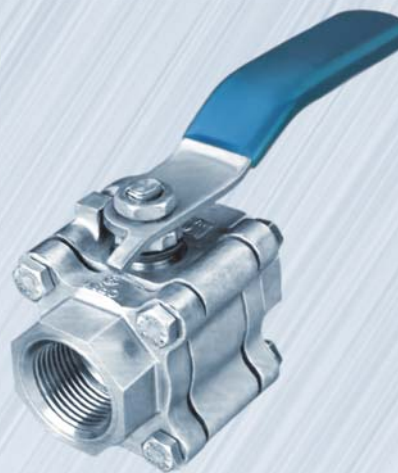
INSTRUMENT BALL VALVES



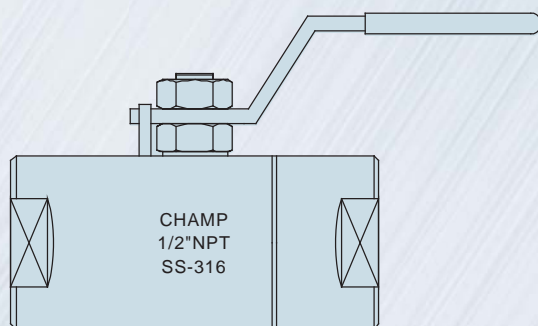
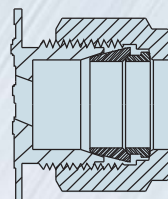
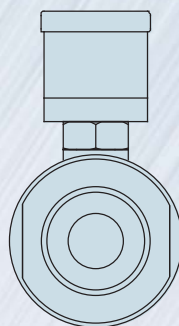
Schematic Diagram



2 Piece Screwed Ball Valve



3 Piece Screwed Ball Valve

2 Piece Screwed Ball Valve
- Female Thread Conn

OD Tube Conn




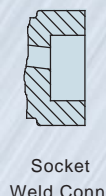
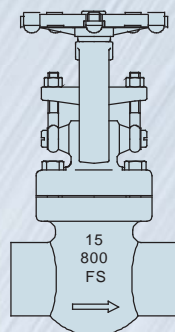
Socket Weld Conn

Specification

Size	: 1/4", 3/8", 1/2"
End Connection	: NPT,BSP,BSPT- thread (Female & Male),OD TUBE, SW, BW
Temperature	: Depend upon seat material, normal Temp. 0 to 225° C
Packing	: PTFE, Glass Filled, Carbon Filled, Bronze Filled & Natural
Body Pattern	: Round
Material	: Brass, CS, MS, Alloy Steel, Stainless Steel
Type	: 2-way, 3-way, 2 piece & 3 piece are also available.
Testing	: Ball Valve are tested up to 1000 psig Hydraulically & 150 psig Pneumatically.

FORGED STEEL GATE VALVES - OS&Y TYPE


 Schematic Diagram



Socket
Weld Conn

Testing			
Description	Pressure Class	Hydrostatic	Pneumatic
Body	800#	210 Kg/Cm ²	-----
Seat		100 Kg/Cm ²	10 Kg/Cm ²
Body	1500#	300 Kg/Cm ²	-----
Seat		150 Kg/Cm ²	10 Kg/Cm ²
Body	2500#	400 Kg/Cm ²	-----
Seat		200 Kg/Cm ²	10 Kg/Cm ²

Specification

Size : 1/4" to 3/4"
End Connection : NPT, BSP, BSPT (Female Thread & Socket Weld)
Thread Conformance Standard : NPT as per Std. ANSI B1.20.1, BSPT as per Std. BS 21, Socket Weld Ends to ASME B16.11
Standard : API 602

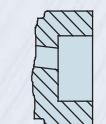
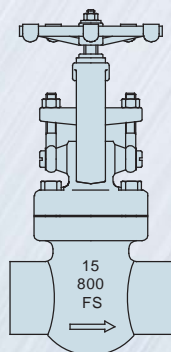
Features :

- Outside Screw and Yoke (OS&Y)
- Packing - Spiral-wound gasket
- Integral backseat

(IBR CERTIFIED ALSO AVAILABLE)

FORGED STEEL GLOBE VALVES - OS&Y TYPE


 Schematic Diagram



Socket
Weld Conn

Testing			
Description	Pressure Class	Hydrostatic	Pneumatic
Body	800#	210 Kg/Cm ²	-----
Seat		100 Kg/Cm ²	10 Kg/Cm ²
Body	1500#	300 Kg/Cm ²	-----
Seat		150 Kg/Cm ²	10 Kg/Cm ²
Body	2500#	400 Kg/Cm ²	-----
Seat		200 Kg/Cm ²	10 Kg/Cm ²

Specification

Size : 1/4" to 3/4"
End Connection : NPT, BSP, BSPT (Female Thread & Socket Weld)
Thread Conformance Standard : NPT as per Std. ANSI B1.20.1, BSPT as per Std. BS 21, Socket Weld Ends to ASME B16.11
Standard : BS 5352

Features :

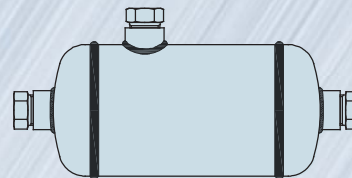
- Outside Screw and Yoke (OS&Y)
- Packing - Spiral-wound gasket
- Integral backseat

(IBR CERTIFIED ALSO AVAILABLE)

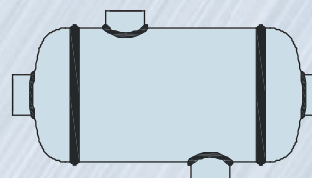
CONDENSATE POTS, SEAL POTS & DRAIN POTS



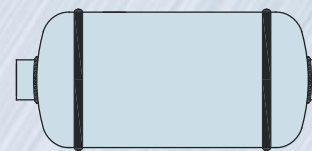
CONDENSATE POT



SEAL POT



DRAIN POT



Features

Condensate pots for Instrument are made from Seamless Pipe and hot formed Caps. The Caps & connecting nipples are assembled to the body by employing the best weld techniques. Further more the ports are tested hydraulically at a pressure much higher than design pressure.

Specification

- Size** : Fabricated from Seamless Pipe 2", 3", 4" NB, schedule 80, 160, XXS
End connection : SW, Screwed, Flanged end with spare Fittings of different size & type can also be provided as against specific requirement.

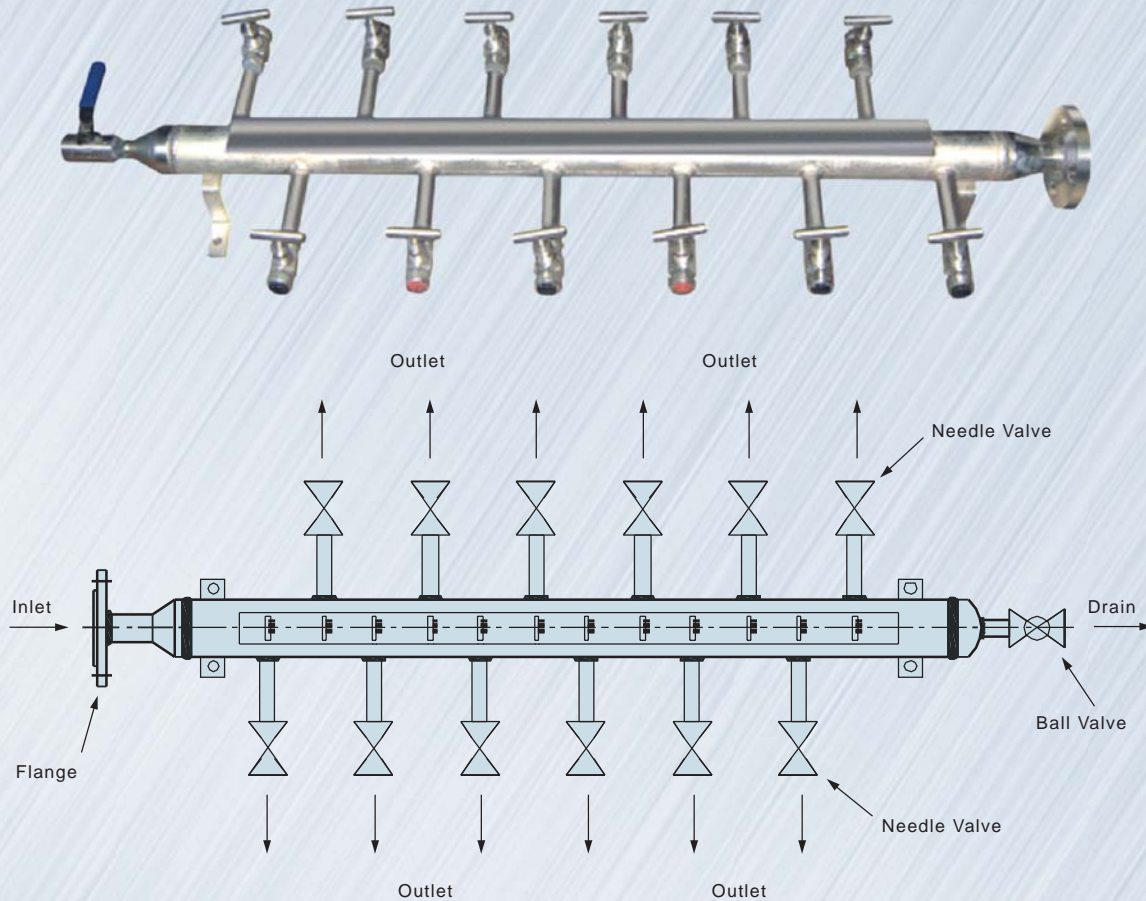
Condensate Pot with flange connection are also available.

(IBR CERTIFIED ALSO AVAILABLE)

TEST PRESSURE (Kg/Cm ²)		
CS	SCH 40	80 Kg/Cm ²
	SCH 80	125 Kg/Cm ²
	SCH 160	210 Kg/Cm ²
SS	SCH 40	90 Kg/Cm ²
	SCH 80	150 Kg/Cm ²
	SCH 160	210 Kg/Cm ²
Alloy Steel	SCH 40	80 Kg/Cm ²
	SCH 80	125 Kg/Cm ²
	SCH 160	210 Kg/Cm ²

Material	Shell (Pipe)	Cap
Carbon Steel	ASTM A106	ASTM A105
Stainless Steel	ASTM A312 TP 316 / 304	ASTM A182 F316 / 304
Alloy Steel	ASTM A335 P11 / P22	ASTM A182 F11 / F22

AIR HEADER DISTRIBUTERS



Air Headers machined from quality seamless pipes & fitted with Forged or Bar stock Fittings Confirming to ASTM Standards or to customer applications. Available in threaded and flange connection. Solid welded connection used to reduce leakage. Inlet and outlets connection should be Ball Valves or Needle Valves as per customer requirement.

Specification

Material : Brass, Carbon Steel, Stainless Steel, Galvanize Hot Dip Carbon Steel Pipe and G.I. (ERW) Pipes.

Connection : Available with outlet connection 4, 6, 8, 10, 12, 14, 16, 18 and 20, or as per customer requirement. This outlet Connection are provided with **CHAMP** make Ball and Needle Valves of 1/4" or 3/8" size and also with compression Type OD Tube Fittings and also screwed connection available.

Connection : Generally constructed out of Seamless Pipe size 2" NB schedule 40 and 80. In this there are three types of Nipple are used, 1" size for Inlet Flange connection, 1/2" size for Drain Connection and 1/4" size for Outlet Connection. This Nipple are constructed out of Seamless Pipe Precision machined, one end welded and other end threaded to (ANSI B1.20.1) NPT, Caps and Reducers of forged material welded to the pipe.

Testing : All **CHAMP** make Air Header tested at 150 psig Pneumatically.

FLANGES, ORIFICE FLANGE & ORIFICE PLATE



Weld-Neck Flange



Slip-On Flange



Lap-Joint Flange



Threaded Flange



Socket-Weld Flange



Blind Flange



Ring Type Joint Flange



Orifice Flange



Orifice Plate

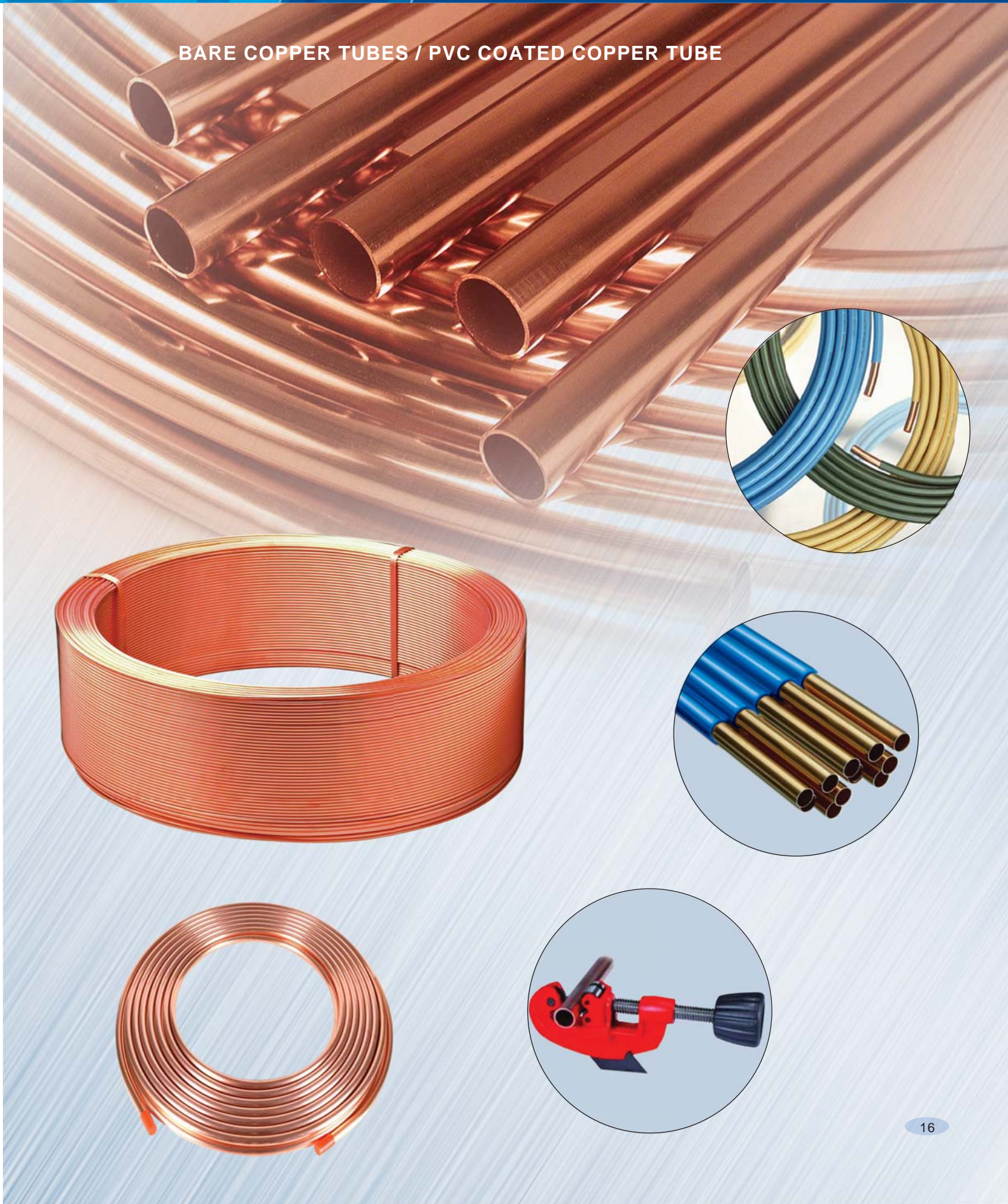
A Flange is Forged Steel, Alloy Steel & Stainless Steel, Design to connect section of Pipe or joint Pipe to Pressure Vessel, Valve, Pump or any other integral Flange assembly. Flanges are joint to each other by bolting & joint to Pipe system by Welding or Threading.

Specification

Size	: Nominal Pipe : 1/2", 3/4", 1", 1-1/4", 1-1/2", 2", 2-1/2", 3" up to 12"
NB	: 15, 20, 25, 32, 40, 50, 65, 80 up to 300 mm NB.
Type	: Weld-Neck Flange, Slip-On Flange, Lap-Joint Flange, Threaded Flange, Socket-Weld Flange, Blind Flange, Ring Type Joint Flange, Orifice Flange & Orifice Plate.
Standard	: Flanges As per ANSI B 16.5, Orifice Flange as per ANSI B16.36.
Material	: As per ASTM A105 (High Temperature Service). As per ASTM A181 (General Service) Carbon Steel Grade. As per ASTM A182 (High Temperature Service) for SS316 & SS304

(IBR CERTIFIED ALSO AVAILABLE)

BARE COPPER TUBES / PVC COATED COPPER TUBE



BARE COPPER TUBES (DHF12200 Gr.) / PVC COATED COPPER TUBE

BARE COPPER TUBES / PVC COATED COPPER TUBE

A wide Range of Bare & PVC coated Copper Tube of different size & in various length are available in annealed condition as per ASTM / BS specification & are stocked as standard item.

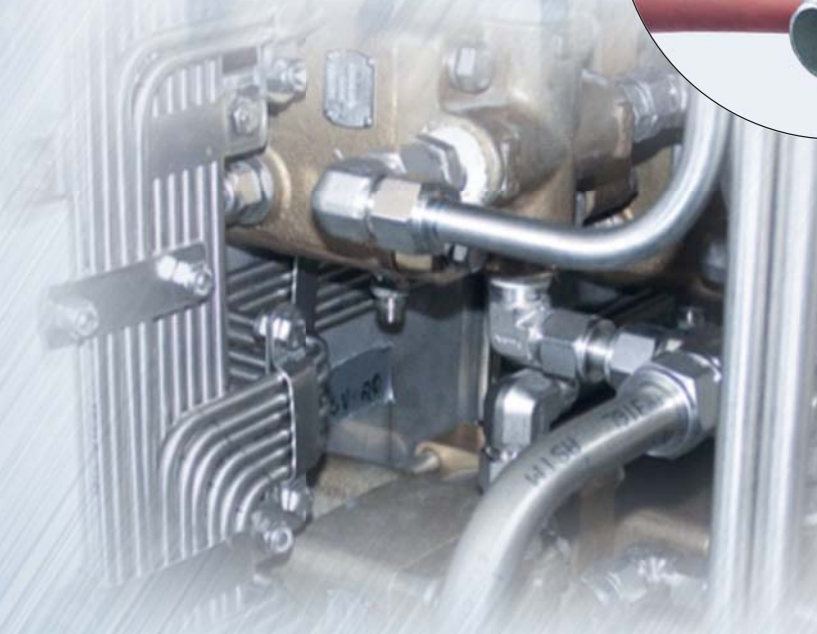
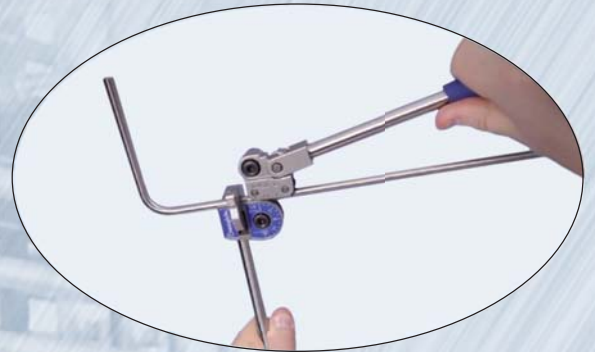
Specification

Type	: Soft annealed, Seamless Copper Tube as per ASTM B 68/75 (BS 2871 part-II)
Size	: In inches 1/4", 5/16", 3/8", 1/2", in metric 6 mm, 8 mm, 10 mm, 12 mm
Gauge	: 14, 16, 18, 19, 20 SWG
PVC coating	: 1 mm & 0.5 mm thick coating.
Colour	: Blue (or any other colour for bulk quantity)
Length	: 15 meters, 50 meters, 100 meters & above in one continuous length.
Chemical Composition	: Copper - 99.92 %, Phosphorous - 0.022 % (varies 0.015 to 0.040)
Testing	: Tubes are tested 1000 psig Hydraulically, Ball & Bubble Test 150 psig Pneumatically.
Coil form	: Coil end shall be plugged prior to dispatch. - The bore of tube is clear by blowing air before dispatch. - Coil shall be of continuous length of tube without any joint in between.
Note	: 1. Hardness in Bare Maximum 60RB (without coating) 2. Physical Test : Elongation Tensile (on request)

DIFFERENT REQUIREMENT SPECIFIED IN ASTM B68, ASTM B75 & BS 2871 PART II

	TESTING	ASTM B68	ASTM B75	BS 2871
1	Tolerance on OD 1/4" or 6mm	± 0.0003"	± 0.003"	± 0.05"
2	Tolerance on wall thickness 0.9 mm or 1.0 mm	± 0.0003"	± 0.003"	± 10 %
3	Hardness (HV5)	-	60 HV5	60 HV5
4	Elongation	40 % min	40 % min	40 % min
5	Flaring	40 % min	40 % min	40 % min
6	Copper %	99.9 % min	99.9 % min	99.85 % min
7	Phosphorous %	0.015 % to 0.040 %	0.015 % to 0.040 %	0.013 % to 0.050 %
8	UTS	21.42 Kg / mm ²	21.42 Kg / mm ²	200 to 250 N/mm ²
9	Hydraulic	70 BAR	70 BAR	70 BAR
10	Pneumatic Test (bubble)	10 BAR	10 BAR	10 BAR
11	Ball Test	4 BAR	4 BAR	4 BAR
12	Temperature (max)	200 ^o C	200 ^o C	200 ^o C

STAINLESS STEEL TUBE (SMLS)



STAINLESS STEEL TUBE (SMLS)

Specification

Tubing Selection

- Selection of Tubes are based on the Material, Hardness, Wall thickness and Surface finish.
- Finished Tubes shall be reasonably straight and have smooth ends free from burrs. It shall be free from injurious defects.

Material : SS 316, 316L / SS 304, 304L (as per ASTM A269)

Tubing Quality :

- The Tube should be fully annealed high quality Stainless Steel Instrumentation Tubing to ASTM A269 or equivalent the preferred hardness is RB 80 or less. If harder Tube is used (RB 90 is the maximum allowed by ASTM A269) care should be taken to assemble the joints the full 1-1/4 turns from ring grip.
 - The Tubing should be free from scratches & suitable for bending also reasonably straight & have smooth ends free from burrs & from injurious defects. Its dimensions should be within tolerance with compare to Tube Fittings dimension tolerance.
 - Tube cutters or hacksaws should be sharp. Do not take deep cuts with each turn of the cutter or stroke of the saw.
 - Tube ends should be deburred. This helps to ensure that the Tubing will go all the way through the ferrules without damaging the Ferrule sealing edge.
-

Standard Test :

1) Dimensional, 2) Chemical, 3) Hydro Test, 4) Hardness : RB max.90, 5) Micro Test (to verify seamless or welded), 6) Visual Inspection i.e. Finishing, 7) Physical

Size :

- In Inches 1/4" to 1/2" and in Metric 6mm to 12 mm
 - Marked to indicate Size, Material, Specifications and Heat Code.
 - Standard Instrumentation Tubing.
-

Gauge :

- 14, 16, 18, 19, 20 SWG
-

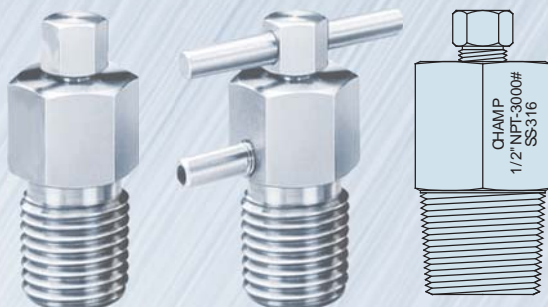
Length :

- 6 meters
-

Testing :

- Tubes are tested 1500 psig Hydraulically & 150 psig Pneumatically.

BLEED VALVES

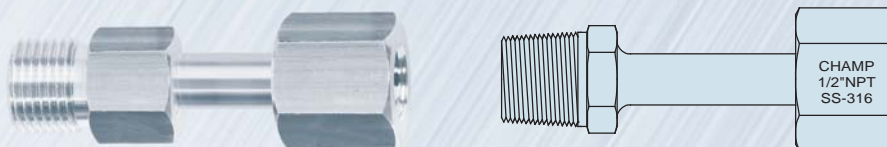


Bleed Valves are designed to vent single line pressure to atmosphere before removal of an Instrument or for calibration of control devices. These Valves are generally used along with multi valve like manifold valves, Gauge Root Valves.

Specification

Size : 1/4" Male Thread
Test Pressure : 28° C room temperature
Testing : Valves are tested 1000 psig Hydraulically & 150 psig Pneumatically.
Material : A 105, A 276 (SS 316, SS304).

PRESSURE GAUGE UNIONS (SWIVEL TYPE)



Pressure Gauge Union connect to pressure gauge on field & can swivel under any direction to note down reading of pressure in line.

Specification

Size : 1/2" Male x Female / NPT, BSPT, BSP
Testing : Fittings are tested 1000 psig Hydraulically & 150 psig Pneumatically.
Material : SS 316, SS 304 & CS

OVAL FLANGES



CHAMP Oval Flanges are available in a series which includes integrally machined **CHAMP** Fittings. It avoids use of tapered thread connector by selecting standard flange to flange manifolds together with range of compression Fittings. It also reduces potential leak paths. These Oval Flanges can be supplied with connections upto 1/2" OD Tube. For Pipe size upto 1/2" Buttweld connections are also available. Flanges are supplied with two 7/16" UNF x 1.34" length, Carbon Steel Bolts and one Teflon sealing ring.

Specification

Connection : NPT Female, NPT Male, OD Tube, Socket Weld
 - Graphite gaskets are available for applications over 500° F (260° C).
 - Blind Flanges are also available.
 - For Butt Weld end please specify Pipe schedule.

SYPHONS



Coiled Pipe Syphon are used for steam pressure measurement and are generally connected between Pressure Gauges and Process Taps to prevent line steam coming in direct contact with Instruments. Further more these Syphon allows a fair deal of heat dissipation protecting pressure gauges from high temperatures which could have impaired their good operation and their life.

Specification

Type	: Coil Type, Pig Tail Type, U-type
Material	: Brass, Copper, SS 316, SS 304, SS 213, SS 312, C.S. (A 106 Gr.B), Alloy Steel & P22/11
Size	: 1/4" to 1"
End connection	: Tube / Pipe SW, Screwed NPT, BSP Male, Female & Swivel type.
Pipe schedule	: 40, 80, 160, & XXS
Testing	: Syphon are tested 1000 psig Hydraulically & 150 psig Pneumatically.

(IBR CERTIFIED ALSO AVAILABLE)

GAUGE SNUBBERS

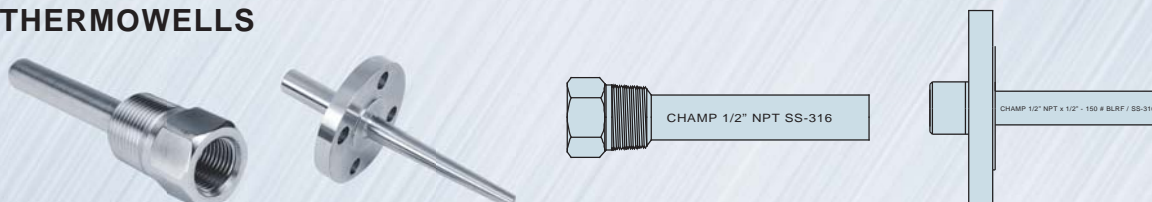


Snubbers are designed to protect Pressure Gauges against pressure pulses, surge and fluid hammers. This enables sensing Instrument to provide consistent readings, while extending product service life. It is installed upstream from pressure sensitive Instrument to smoothly come to line Pressure Dampener is adjustable. It is used to isolate the gauge for service or replacement.

Specification

Size	: 1/2" Male x Female
Test Pressure	: 28° C room temperature
Testing	: Valves are tested 1000 psig Hydraulically & 150 psig Pneumatically.
Gland Seal	: Teflon
Material	: A 105, A 276 (SS 316, SS304).

THERMOWELLS



A wide range of Thermowells for almost all temperature sensing requirements in high and low temperature, high pressure, high velocity, corrosive media can be offered. Screw threads, Weld on well for directly welding on process equipment and Flanged wells with Flanges as per ANSI, BS, DIN standard.

Specification

Available in	: Standard type & as per customer specification, Bar stock drilled / fabricated, flanged, screwed, pattern.
Type	: Threaded, Socket Weld, Flanged, Weld-in type.
Contour	: Tapered, Straight, Stepped,
Process Connection	: Threaded Type : 1/2" NPT, 3/4" NPT, 1" NPT Pipe soc. Weld Type : 3/4", 1" Flange Type : Size 1" to 4" / class : 150# to 2500#
Instrument Connection	: 1/2" NPT(F), 3/4" NPT(F)
Material	: Brass, CS, SS, SS 316, SS 304, Alloy Steel
Testing	: Thermowells are tested up to 1000 psig Hydraulically & 150 psig Pneumatically.

HIGH AND LOW PRESSURE HYDRAULIC AND STEM HOSE ASSEMBLIES



Oil & Refineries Hose



Construction Industries Hose



Chemical & Fertiliser Hose

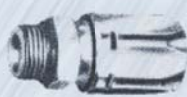


Steel Plant & Food Industries Hose

TYPES OF HOSE CONNECTIONS



Nut & Nipple



Male Fixed



NPT Male



Male JIC



Swivel 90° Elbow



SAE Flange



BE Nipple Compression Fitting



BE Nipple



Banjo Fitting



Straight Flange

Specification

Size : 6mm (1/4") to 100mm (4")

Pressure : upto 1000 psig

Temperature : 100° C

Material : 316, 316 L, 304, 304L,
- Stainless steel with SS braiding
- Plain Teflon or Corrugated Teflon with SS braiding
- High Pressure Hoses

Rubber : Natural, Nitrile, Neoprene, Butyl

Services : Air, Water, Steam, Gas, Chemicals, Acids, Alkalies, Oil, Cooling Water, Suctions in piping systems.

Material : MS Carbon Steel, Forged Steel, Brass, Stainless Steel, 304, 304L, 316, 316L.

Threaded : API, BSP, BSPT, NPT, NPTF, Metric, SAE, JIC, Flare type or Flareless as per ISS, BS, Din & ASA Standards

Types of connection : Male, Swivel Male, Swivel Female, Elbow type 45° & 90°, Stand Pipe, Pipe end, Swaged or Reusable.

Flanged end : As per BS, ASA, Din standard.

Types of Flanged connections : Slip-on, Threaded, Weld-Neck, Flat Face, Raised Face, RTJ, Tongue & groove type.

Teflon lined Fittings.

Rubber lined Fittings.

E.R.W., BLACK & GALVANISED CONDUIT PIPES



ISI Marked Hot Dipped Galvanised



Black Stove Enamelled



E.R.W. Rigid Steel Conduits

Specification

Black stove enamelled E.R.W. rigid steel conduits

Size : OD 16, 20, 25, 32, 40, 50, 63 mm

Wall Thk : 1.4 mm to 2.2 mm

Length : 4 to 7 meters

Standard : as per IS - 9537/1981 part 1 & 2

ISI marked Hot dipped Galvanised

- Pre Galvanised Steel conduits - class 3

- Hot dipped Galvanised Steel conduits - class 4

Size : OD 20, 25, 32 mm

Wall thk : 1.6 mm

Standard : As per BS 4568

CABLE GLANDS & LUGS

Specification

CABLE GLAND

Type : 1) Single Compression, Double Compression,
2) Weather Proof & Flame Proof,
3) Multicore & Flange type.

Size : 1.5mm² to 400mm².

Standard : As per BS 6121

Testing : IP66 as per IS 13947 (part I)

Material : High quality Brass & plain Brass or Nickel plated finish, Aluminium alloy, SS.

Seal Material : Thermoplastic Elastomeric Rubber Gasket.
Cable outer sheath sealing by displacement technique.



Cable Glands



Lugs

LUGS

Lugs are available in Copper & Aluminium, insulated & non-insulated,
Size from 1.5mm² to 600mm²

CABLE TRAYS

Specification

Ladder Type

W-from 50 mm to 800 mm

H-from 50 mm to 150 mm

T-from 10 SWG to 16 SWG

B-from 10 mm to 25 mm

RW-from 30 mm to 50 mm

RH-from 10 mm to 20 mm



Ladder Type

Perforated Type

Return Flange / Inward Bend

Width : From 50 mm to 1000 mm

Depth : From 20 mm to 150 mm

Length : From 2500 mm to 3000 mm

Finish : Painted / Epoxy Coated / H.D. Galvanised /
Anodized Thickness from 1 mm to 3 mm

Material : Mild Steel / Aluminium / FRP / Stainless Steel



Perforated Type

Multi Compartment Type

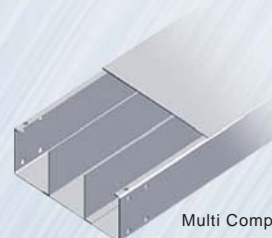
Length : 2500 mm to 3000 mm

Width : 50 mm to 300 mm

Thickness : 1 mm to 3 mm

Finish : Painted, Epoxy coated, Powder coated

Material : MS



Multi Compartment Type

PRESSURE GAUGES

Specification

Size	: 55mm, 68mm, 80mm, 10mm, 150mm.
Case	: Drawn steel stoved enameled black.
Bezel	: Drawn steel stoved enameled black.
Sensing element	: Bourdon's 'C' shaped tube for ranges up to 100 Kg/Cm ² For higher ranges coiled shape tube.
Element material	: Brass
Socket	: Brass
Movement	: Brass
Dial	: Tin / Aluminium with black markings on white background.
Pointer	: Steel / Aluminium in black
Window	: Plain glass
Joint	: Hard soldered
Temperature rating	: 120° C
Accuracy	: ± 2% of F.S.D. from 10% to 90% of scale and ± 3% for rest of scale.

Mounting Type	: Bottom direct / Bottom Surface / Center back direct / Center back panel / Center back bracket / Side back panel / Side back bracket.
----------------------	--

Thread Connection : 1/4" BSP(M), 3/8" BSP(M), NPT(M) thread on request.

Specified detail while place an Order : Dial size, Type no. & thread connection
Pressure range Accessory, Optional feature
If special application



INSTRUMENT ENCLOSURES / SUN SHADES

Products Enclosure systems are available in a wide range of sizes to protect single, or multiple instrument applications. Produced from fire retardant GRP the Enclosures feature a neoprene sealing strip and Stainless Steel toggle latches to keep the Enclosure tightly sealed in all environment conditions.

With a choice of specifications offered as standard, Products enclosure systems can be fitted with a variety of accessories and options in addition to the range of two, three, and Five Valve Enclosure Manifolds. Designed and fitted out to customer's specifications Products enclosure systems provide the complete solution.

Materials :

Enclosures are manufactured from glass reinforced polyester sheet moulding compound for rigidity and strength. Enclosures are provided as standard in beige. Black and other colors available as options.

Fire Retardant :

All Enclosures are fire retardant to BS 5734 Part I Method 4 (for moulding compounds).

Weather proofing :

All Enclosures are fitted with 316 Stainless Steel toggle latches and a closed cell neoprene sealing strip retained in a recessed channel in the lid of the enclosure ensuring weatherproof rating to IP66.

Brackets :

All Enclosure systems are supplied as standard with epoxy coated Carbon Steel base plates and brackets for mounting to 2-inch NB Pipe Stand. Stainless Steel base plates and brackets are also available.

Insulation :

Standard insulated GRP enclosures are manufactured with pre-molded [20 mm] thick isocyanurate foam. All insulated systems offer instrument protection at external temperatures down to -94°F [-70°C].



JUNCTION BOX



Casting Junction Box



Sheet Fabrication Junction Box



Moulding Junction Box

Standard Junction Box are available in all size & gauge, & fabricated from M.S. (with powder coated) & FRP material.

Flame Proof Equipment

Material of construction for Junction Box :

- 1) Casting : Aluminium Alloy, CI & SS
- 2) Sheet Fabrication : Aluminium Alloy, SS & MS
- 3) Moulding : FRP





Champ Instruments & Engineers

An ISO Certified Company

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