TWIN FERRULE "Wao-Loc" TUBE FITTINGS
INSTRUMENTATIONS & PIPE FITTINGS SOLUTIONS FOR
"WATER, ACID & OIL INDUSTRIES"
ABOUT US

METAL TUBES (INDIA) manufactures high quality Stainless Steel Tube Fittings, Instrumentation fittings and Instrumentation Valves, Valve manifolds suitable for Instrumentation, Hydraulic and Pneumatic applications in different sizes and metals such as stainless steel, Duplex Steel, Titanium, Inconel, Monel, Hastelloy and other materials according to customer’s request for Industries like Gas Refineries, Fertilizer fields, Automobile, Chemical, Petrochemical Fields, Oil & Gas, Nuclear, Power generation plants, Pharmaceutical Industry, Marine Industry, Packing & Printing Industries etc.

We even manufactures pipes and Tubes along with TIG Welded Pipes & Tubes, Large Diameter Pipes, Seamless Pipes/Tubes, U-Tubes and TIG Welded Polished Pipes. Apart from this, we also offer S.S. Welded Automobile Exhaust Tube, S.S. Welded Pipe and S.S. ERW Pipe which are Developed using premium metals such as Stainless steel and Nickel Alloy, Mild Steel, Monel, Inconel, Titanium, Hastelloy Incoloy, Carbon Steel, Alloy Steel & Tool Steel the offered range is utilized in chemicals, oil & gas, power plants, petrochemical, fertilizers, water supply, heat exchangers and pharmaceutical. This range is available in various sizes ranging from 3 mm to 650 mm OD & thickness from 0.2 mm to 50 mm.

Quality at METAL TUBES (INDIA)

Being an ISO Enterprise and A leader in Manufacturing Tubes & Fittings along with Instrumentation fittings we have achieved an enviable position in the global market because of our commitment towards delivering an excellent product range. We have a team of quality controllers, which is highly efficient and experienced in this domain. Our quality controllers also conduct an in-depth quality check of various parameters at our end to ensure the conformity of our range with international standards.

We take pride in offering you excellent quality products. Anything less than that does not leave our premises, thanks to our state-of-the-art quality check facility.

Our quality check process is conducted on the basis of following parameters:
• Durability • High Tensile Strength • Corrosion Resistance • Compact Design • Dimensional Accuracy

Some of our Valued Clients & Third Party Inspection Agencies

TUBE FITTINGS

Our Wao Loc Single Ferrule & Double Fittings are designed/manufactured for process & instrumentation tubing which provide a leak proof torqu-free seal at all tubing connection & Eliminate Costly & Hazardous leaks.

MATERIAL: Stainless Steel, Carbon Steel, Brass & Nickel Alloys
TUBE OD: 1/16" to 1" (3mm to 25.4mm)
END CONNECTION: 1/16" to 1" (NPT, BSP, BSPT, Socket Weld & Plain End)
WORKING PRESSURES: Upto 2000 to 6000 PSI

TUBES

Wao-Loc is having a good capacity to make seamless Tubes form its own Mother Hollows with solution annealing in a continuous roller health furnace. We giving product under all third party and customers inspection with in-house testing facilities also can supply in double random length up to 12 meter on customer's request.

NICKEL ALLOYS: Hastalloy C 276, Alloy 20, Monel, Inconel, Titanium, Tantalum,Nickel .
DUPLEX & SUPER DUPLEX STEEL: UNS S31803, UNS S32750, UNS S32760, 904L,
NEEDLE & GLOBE VALVES

For Effective leak proof, safe & Most Reliable connection choose Wao-Loc Instrumentation Needle, Globe & Gate Valve

MATERIAL: Brass Extruded & Forged, Forged CarbonSteel, Stainless Steel & Alloy Steel & Gun Metal Casting.

SIZE: 1/8” to 1”

TYPE: Male Female Thread, Screwed, Tube OD, Socket Weld

PRESSURE RATING: Varies as Per M.O.C & Media i.e upto 6000 PSI Hydraulically & 300 PSI Pneumatically

MANIFOLD VALVES

Designed to isolate / drain / calibrate pressure gauge, pressure transmitters & differential pressure transmitter. They are offered in two mounting arrangements viz. direct mounting and line mounting remote from instrument i.e. ‘T’ Type & ‘H’ Type.

MATERIAL: SS 304, SS 316 Carbon Steel

PROCESS END: ½” NPT (F) Optional drain ¼” (F) with plug, Female Pipe to Female Pipe to Flange Tube Fitting, Tube Fittings to Flange, Flange to Flange

WORKING PRESSURES: Upto 6000 PSI

RANGE: 2 Way, 3 Way, 5 Way

BALL VALVES

Design for application on instrument Lines, Gas Sampling lines, Pneumatic systems, Piolet Plants, Analyzer Labs etc. These valves performs of ON/OFF FUNCTION.

TYPE: 2/3/4/5 Way, 1 Piece, 2 Piece, 3 Piece Design, Quarter Turn, Half Turn, Full Turn i.e. L Port (90°), T Port (Full Turn)

MATERIAL: Brass Carbon Steel, Mild Steel, Alloy Steel, Stainless Steel (Including Teflon Coating if required)

CONNECTION: 1/8” to 1”

PATTERN: Screwed Type, Socket Weld Type, Butt Weld Type & Flanged end, Tube OD Connection i.e. thread connection BSP, BSPT, NPT & as per ASA & BS specification.

PRESSURE RATING: 0 to 2000 PSI Hydraulically & 0 to 300 PSI Pneumatically

GATE / CHECK / GLOBE VALVES

TYPE: Screwed, S/W. and Flanged

MATERIAL: CS-105, AS-F11, F12, S.S.-304, 304 L, 316, 316 L

GLAND PACKING: Graphite Asbestos, Inconel, Teflon asbestos, PTFE STEM

SPINDLE: AISI 316 / AISI 410

TEMPERATURE: Varies as per packing material range from cryogenic up to 750°C

END CONDITION:
1. Screwed to ANSI B2.1 / IS 554
2. Socket Weld Ends. ANSI B16. 11 / IS 4712
3. Butt Weld to ANSI B 16.25
4. Flanged according to ANSI-B 16.5 / BS 1560

DETAILS OF TESTS:

<table>
<thead>
<tr>
<th>Test Part</th>
<th>Test Pressure</th>
</tr>
</thead>
<tbody>
<tr>
<td>BODY (HYD)</td>
<td>211 kg / cm² i.e 3000 psi</td>
</tr>
<tr>
<td>SEAT (HYD)</td>
<td>141 kg / cm² i.e 2000 psi</td>
</tr>
<tr>
<td>SEAT (AIR)</td>
<td>5.6 kg / cm² i.e 80 psi</td>
</tr>
</tbody>
</table>
**AIR MANIFOLD**

We have pioneered in the field of Air Distributor parts / headers for instrumentation and pneumatic applications. Various sizes and combinations are offered in stainless steel, brass and carbon steel construction. These are manufactured as per customer requirement.

**MATERIAL:** Brass, Carbon, Stainless Steel, Alloy Steel & Galvanised Iron  
**TESTING:** 200 PSI Pneumatically & 1000 PSI Hydraulically  
All Stainless Steel Air Headers are pickled, Passivated & Glass bead blasted as per ASME.  
All Carbon Steel Air Header are sunblasted & Primer coated / Galvanised As per requirement.  
**SIZE:** 1”, 1½”, 2” & 3” as per your requirement

**CONDENSATE POTS**

Designed for high temperature and high pressure steam applications in chemical, thermal, nuclear & other process industries. They are made in different sizes as per standards or custom-designed. The Condensate pot are available in the range of materials- CS/ SS 304/ SS 316/ P 11 / P 22/ P 91 Monel, Inconel, Hastalloy  
**TYPE:** Horizontal, Vertical Type  
**END CONNECTION:** Socket Weld, Screwed, Flange End  
**APPLICATION:** Typical Industry application include power plant, Steel plant, Refineries & other process industries.

**SYPHON & SNUBBER**

**SYPHON:** We offer wide varieties of syphon tubes, that are widely used in different industries like oil, Gas Petrochemicals, Chemicals etc. Design for high temperature & high pressure steam application manufactured from Seamless Carbon Steel, Alloy Steel & Stainless Steel with butt weld or threaded pots  
**SIZE:** 1/4” to 1” PIPE Sch.: 40, 80, 160 & XXS  
**END CONNECTION:** Tube Pipe S/W, Screwed, NPT, BSP, Male / Female, Swivel Type  
**SNUBBER:**  
**MATERIAL:** Brass Carbon Steel, Alloy steel & Stainless Steel with butt weld or threaded pots.  
**FINISH:** Blackened for M.S., Natural for brass & Stainless Steel.  
**PRESSURE RATING:** Upto 3000 PSI.

**THERMOWELL**

A wide range of thermo wells tor almost all temperature sensing requirements in high and low temperature, high pressure, high velocity, corrosive and abrasive media can be offered  
**AVAILABLE IN:** Standard type & Customize Configuration. Bar Stock Drilled / Fabricated, Flanged, Screwed, Weld on Weld Type.  
**TYPE:** Straight, Taper, (Vertical)  
**MATERIAL:** Brass, C.S., S.S. 304 / 316, Alloy Steel  
**CONNECTION:** Screwed, (BSP/NPT) S/W, Flange  
**FINISHING:** Mirror finish with high precision work and strict quality supervision.  
**TESTING:** Radiography of all weld joints, Hydro Test.
**PIPE & TUBE FITTINGS**
Wao Loc manufacturing comprehensive range of high pressure pipe fittings for process control, Instrumentation, Hydraulic & Pneumatic application

**MATERIAL:** Forged Carbon Steel / Stainless Steel, Alloy Steel, Brass Forged / Bar Stock

**SIZE:** 1/8” to 2”

**THREADS:** BSP, BSPT, NPT, TUBE OD / PIPE NB Socket Weld & Screwed (Male / Female)

**PRESSURING RATING:** From 2000 to Upto 9000 PSI

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**FLANGES**
Flanges are joint each other by bolting & joint to pipe system by welding or threading

**SIZE:** Nominal Pipe: 1/2”, 3/4”, 1”, 1 1/4: 1 1/2”

**NB:** 15, 20, 25, 32, 40, 50, 65, 80 Upto 600 mm

**DIMENSION:** As per ANSI B 16.5 for forged steel flange.

**TYPE:** Slip on, Weldneck, Blind, Socket Weld, Threaded, Lap joint (Stubend) Ring Joint, Threaded Reducing & Orifice Pressure Rating as per BS 10 : 1962

**MATERIAL:** As per ASTM A 105 (High Temperature Service) as per ASTM A181 (General Service ) Carbon Steel Grade ASTM A 182 for High

**TEMPERATURE SERVICE:** For SS 304 & SS 316

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**INSTANT PUSH ON FITTING**
Wao Loc Instant Push on Fitting of Labour Saving Hydro Pneumatic Device for Instruments & Pneumatic Control System. Wao Loc Push on Instant Hydro Pneumatic Fitting for Polyurethane Nylon & Flexible Tubing

**MATERIAL:** Brass Forged / Extruded

**PRESSURE:** 15 kg / cm²

**TUBE OD:** mm / inches

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**PIPE CLAMP / NUT BOLT**

**PIPE CLAMP:** Wao Loc offer Pipe Clamps for hydraulic, applications in sizes of 1/8” to 6”. The Clamps Eliminates vibration and thus fittings and connections do not loose. Body is of HDPE and top and bottom plates of steel.

**NUT BOLT:** This Wao Loc specifies the characteristics of hexagon head bolts with threads from M5 upto and including M64 of product grade C.
COPPER TUBES

AS PER ASTM / BSS SPECIFICATION Specification for PVC Coated & Bare ‘COPPER TUBING’ COIL.

TYPE: Soft, Annealed, Seamless Copper Tube as per ASTM B-68/75 & BS-2871 Part 2.

SIZE: 1/8” OD to 1” OD / 24 gage to 16 gage

PVC COATING: 0.5 MM, 1 MM & 1.5 MM PVC Coating (Blue / Black / White & Others)

LENGTH: 15 mtr, 50 mtr, 100 mtr, & Above in the coil form in continuous length.

CHEMICAL COMPOSITION: Copper 99.92% Phosphorous 0.022%, Various 0.015 to 0.040.

HYDROSTATIC: 100 KG / Cm2

TESTING: Ball & Bubble Test 200 PSI

STAINLESS STEEL PIPES

Wao Loc engage in production of best and high quality bright anneled Seamless pipes which are made stainless steel. Austenitic, Ferritic, Martensitic, Duplex & Super Duplex. These pipes are tested on various parameters like Strength, Durability, Temperature & Pressure resistance etc. before supplied to the clients.

Range: 1/2” NB to 24” NB in SCH 5, 10, 20, 40, STD, 60, 80, XS, 100, 120, 140, 160, & XXS as per NACE MR 0175

TYPE: Seamless / Welded

FORM: Round, Square, Rectangular, Hydraulic, etc.

LENGTH: Single Random, Double Random & Cut Length

END: Plain end, Beveled end


NICKEL ALLOYS: Hastalloy C 276, Alloy 20, Monel, Inconel, Titanium, tantalum, Nickel.

DUPLEX & SUPER DUPLEX STEEL: UNS S31803, UNS S32750, UNS S32760, 904L

STAINLESS STEEL PIPE DIMENSION & WEIGHT-KG. PER MTR. (ANSI B36.19)

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<th>Nominal Size</th>
<th>Outside Diameter</th>
<th>Schedule 5S</th>
<th>Schedule 10S</th>
<th>Schedule 40S</th>
<th>Schedule 80S</th>
<th>Schedule 160S</th>
<th>Schedule XXS</th>
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<tbody>
<tr>
<td>mm</td>
<td>mm</td>
<td>mm</td>
<td>mm</td>
<td>mm</td>
<td>mm</td>
<td>mm</td>
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<tr>
<td>3</td>
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<td>10.3</td>
<td>1.24</td>
<td>0.276</td>
<td>1.24</td>
<td>0.28</td>
<td>1.73</td>
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<tr>
<td>6</td>
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<td>13.7</td>
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<td>0.49</td>
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<tr>
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<td>25</td>
<td>1</td>
<td>33.4</td>
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<td>1.30</td>
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<tr>
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<td>323.9</td>
<td>3.96</td>
<td>31.25</td>
<td>45.76</td>
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<td>355.6</td>
<td>3.96</td>
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<td>4.78</td>
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<td>11.13</td>
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<td>16</td>
<td>406.4</td>
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<td>41.56</td>
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<td>85.47</td>
<td>6.35</td>
<td>94.45</td>
<td>17.48</td>
</tr>
</tbody>
</table>

Weight Calculation: Weight (Kg/m) = πd^2 / 4 * Schedule Thickness (mm) * Density of Stainless Steel

Density of Stainless Steel: 7.85 g/cm³

Note: Values are approximate and may vary based on specific material properties.

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