

HYDROPRESS

STAINLESS STEEL PRESS-FIT



Technical Manual

HYDROFLOW

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HYDROPRESS

STAINLESS STEEL PRESS-FIT A NUMEPRESS PRODUCT

Introduction

The Hydropress Press-Fit system, a Numepress product features a range of stainless steel tubes, fittings, and tools that enable quick and secure installation without using welding or threads.

Available in diameters from 15 mm to 168.3 mm, the Hydropress system can be utilized in any installation. Main applications include compressed air, heating, sanitation, fire-extinguishing, solar energy, plumbing, industrial, shipping, mining and gas.

The core of the Hydropress system is the press-fitting process, which involves an O-ring and a tube. The O-ring is placed at the end of the accessory to ensure a watertight seal. The tube is then inserted into the accessory up to its limit, and a joint is formed through mechanical deformation using an electric hydraulic tool.

The joint's strength comes from the precise fit between the accessory and the tube, resulting in a durable, inseparable connection.

Features

Quick and safe installation.

Less labour is needed

Reliable installation, even under severe use conditions

Resistant to corrosion.

Easy to handle

No anti-fire measures are needed

Technical Specifications

Joint type

O-ring resistant to hot water, ageing and the additives commonly used in drinking water. There are three types: EPDM, FKM & HNBR Inseparable press fitting for joining stainless steel tubes.

Fitting material

Stainless steel n° 1.4404 (AISI 316L)

characteristics:

Hygienic - suitable for food and pharmaceutical industry applications

Minimum load loss - faster fluid flow

Aesthetically pleasing - no need for additional painting or external protection costs

Less heat conduction than other materials

The use of molybdenum results in good performance in chlorinated environments

Good resistance to oxidation up to temperatures of 900°C

Good mechanical and deformation resistance at high temperatures.

Working pressure

Max 16 bar

Working temperature

With EPDM O-ring (black) -20 °C to +110 °C With FKM O-ring (green) -20 °C to +200 °C With FKM O-ring (red) -10 °C to +200 °C With HNBR O-ring (yellow) -20 °C a +70 °C

Thickness of the fitting:

1.5 mm for diameters 15, 22, 28, 35, 42, 54

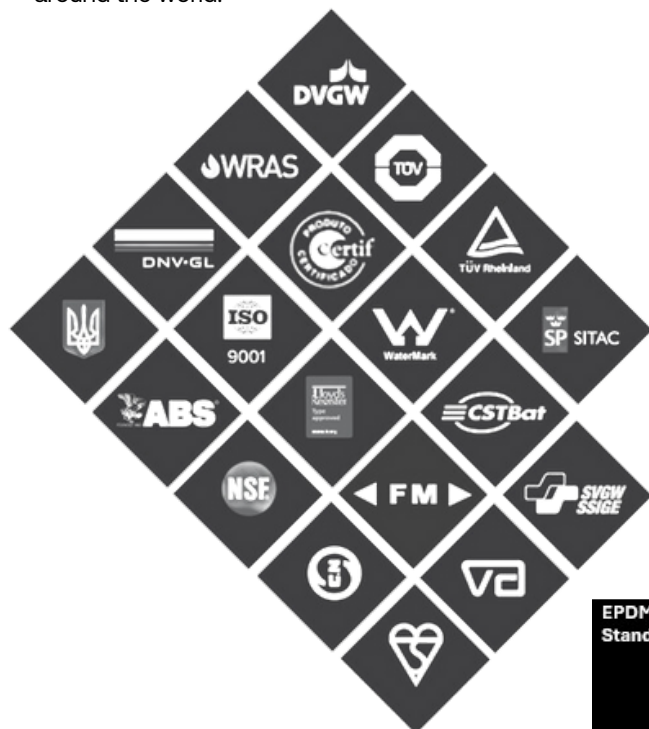
2 mm for diameters 76.1, 88.9, 108, 139.7, 168.3





Certificates

As the manufacturer of the Hydropress system of stainless-steel tubes and accessories, ISOTUBI S.L. has been awarded certificates from the most prestigious bodies in Europe and around the world.



O-Ring Seals

Several different O-ring seal versions have been developed which are resistant to ageing so that the Hydropress system can be used in as wide a range of installations as possible:

FKM (Red) Fluoroelastomer rubber

- Applications: Steam
- Temperature: From -10°C to $+200^{\circ}\text{C}$

EPDM (Black) Ethylene rubber, resistant to ageing and hot water.

- Applications: Hot water, heating, fire protection and compressed air (oil-free)
- Temperature: From -20°C to $+110^{\circ}\text{C}$

FKM (Green) Fluoroelastomer rubber

- Applications: Oils, hydrocarbons (except diesel), solar power installations, compressed air
- Temperature: From -20°C to $+200^{\circ}\text{C}$

HNBR (Yellow) Nitrile rubber

- Applications: Gas
- Temperature: From -20°C to $+70^{\circ}\text{C}$

Always use the appropriate O-ring seal to suit the type of fluid going through the system. Our technical department can provide advice on this.

Standards

All Hydropress fittings are manufactured using AISI 316L N°1.4404 UNE EN 10088 stainless steel tubing, meeting the requirements of the DVGW W534 standard.

Threads in mixed format accessories are manufactured to the DIN 2999 standard.

Union Gaskets

Depending on the media, both seals should be changed to a different rubber material to suit the application. Unions are not approved to be used for gas or steam applications.

EPDM Standard	P0002306	Union Gasket Seal – EPDM Flat 15mm
	P0002307	Union Gasket Seal – EPDM Flat 22mm
	P0002308	Union Gasket Seal – EPDM Flat 28mm
	P0002309	Union Gasket Seal – EPDM Flat 35mm
	P0002310	Union Gasket Seal – EPDM Flat 42mm
	P0002311	Union Gasket Seal – EPDM Flat 54mm
FKM (Viton) High Temp	Non-Stock	Union Gasket Seal – FKM Flat 15mm
	Non-Stock	Union Gasket Seal – FKM Flat 22mm
	Non-Stock	Union Gasket Seal – FKM Flat 28mm
	Non-Stock	Union Gasket Seal – FKM Flat 35mm
	Non-Stock	Union Gasket Seal – FKM Flat 42mm
	Non-Stock	Union Gasket Seal – FKM Flat 54mm



Applications	Other Factors	EPDM (Black)	FKM (Green)	HNBR (Yellow)
Acetone		x		
Acetylene		x		
Ad Blue/ Urea			x	
Ammonia		x		
Argon		x		
Compressed Air >5MG/M3 Oil content			x	
Compressed Air <5MG/M3 Oil content		x		
Citric Acid				
Demineralised Partially Demineralised Water	pH Value 4.0-9.5 ; Conductivity above 0.1µS/cm	x		
Diesel	diesel oil (only light diesel)		x	
Ethane			x	
Fire Services Sprinklers FM Approved		x		
Glycols		x		
Hydrogen	gas (cold or hot)	x		
Kerosene			x	
Methane				x
Mineral Oils			x	
Natural gas	AS3688 Approved			x
Nitrogen	gas (not liquid)	x		
Osmosis Water		x		
Propane/ LPG	AS3688 Approved			x
Petrol ROZ 95			x	
Petrol ROZ 98			x	
Potable Water	Water Mark	x		
Purified Water RO		x		
Solar Hot Water	120 °C to 200 °C (in solar systems, max.160°C approx.)		x	
Spring Water	(careful with sediments, Cl- level, etc.)	x		
Synthetic air		x		
Steam	saturated steam, max. 170-180°C constant t°C			
Vacuum	maximum negative pressure -0.8 bar for our SS press-fit	x		

The 'M' Pressed Join

The Hydropress stainless steel press-fit system uses the M-profile pressing method to create a permanent, secure, and leak-tight connection.

Using a correctly calibrated Hydropress-compatible press tool and M-profile press jaw, each joint is formed by two key sealing mechanisms:

- **Mechanical Strength** – The press tool permanently deforms the fitting onto the tube, creating a strong mechanical connection that resists pull-out forces.
- **Permanent Seal** – Simultaneously, the elastomeric O-ring is compressed to create a durable, watertight seal.

This dual-action pressing process ensures every connection is uniform, reliable, and maintenance-free when installed in accordance with Hydropress installation guidelines.

Hydropress M-Profile Compatibility

Hydropress fittings are manufactured exclusively with an M-profile and are designed to be used only with Hydropress-approved M-profile press tooling and jaws. Using incompatible press profiles or non-approved tooling may result in an incomplete or incorrect press, compromising the integrity of the joint and voiding system performance.

M-Profile Design Benefits

The Hydropress M-profile offers several installation advantages:

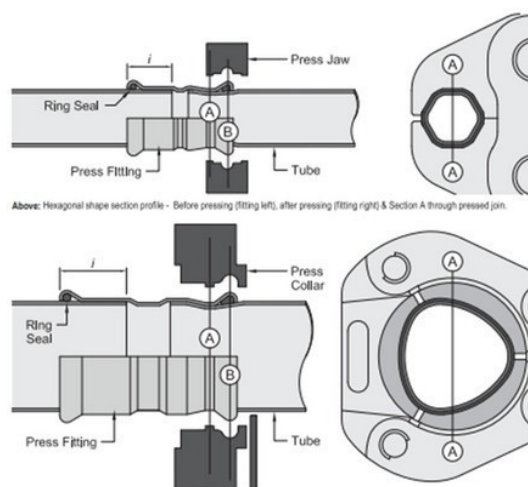
- Excellent mechanical joint strength through the dual-press deformation.
- Clear visual access to the O-ring prior to pressing, allowing installers to verify correct positioning and condition before installation.
- Easy inspection and replacement of the O-ring if required before pressing.
- Consistent and reliable joint formation across the full Hydropress product range.

Press Profiles by Tube Size

Hydropress utilises two M-profile press geometries depending on the pipe diameter:

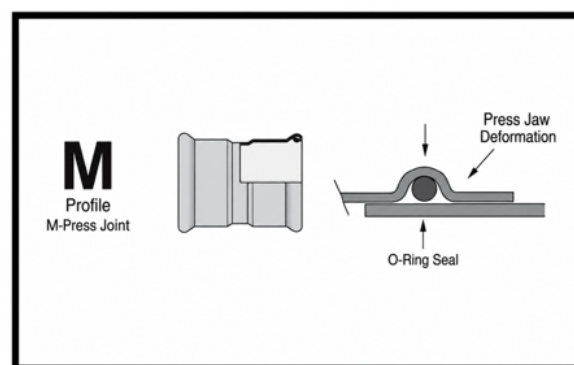
- **Hexagonal profile** – Used on selected smaller diameters.
- **Lemon-shaped profile** – Used on larger diameters to ensure optimal force distribution and joint integrity.

Both profiles are engineered to provide the same high level of mechanical performance and sealing reliability.



Section A: This forms the mechanical strength of the pressed join.

Section B: The deformation of the rubber ring seal ensures a permanently tight join.



Pressing Requirements

For every installation:

- Use only a calibrated press tool in accordance with the tool manufacturer's maintenance schedule.
- Ensure the correct Hydropress M-profile press jaw or sling is selected for the fitting size being installed.
- Confirm the tube is fully inserted to the marked insertion depth before pressing.
- Never attempt to repress or reuse a pressed fitting.

When installed using approved Hydropress components and tooling, the M-profile pressed joint provides a permanent, high-strength, watertight connection suitable for the demanding requirements of commercial, industrial, and potable water applications.



Stainless-steel tubes

Welded stainless steel tubes are manufactured in accordance with the EN 10312 standard. This meets the 1.4404/1.4301 AISI 316L/AISI 304 standard under UNE EN 10088 and EN 10.217-7. The tubes comply with DVGW W541 specifications.

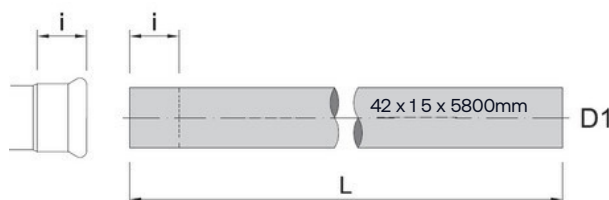
Ext. diameter Wall thickness x (mm)		Weight (Kg/m) & Length		Max pressure (bar)		Water capacity (l/m)
OD	WT	Weight	Length	Tube	System	
15	1	0.333	5.8	160	PN16	0.133
22	1.2	0.624	5.8	131	PN16	0.302
28	1.2	0.790	5.8	103	PN16	0.514
35	1.5	1.240	5.8	103	PN16	0.804
42	1.5	1.503	5.8	86	PN16	1.194
54	1.5	1.972	5.8	67	PN16	2.042
76.1	2	3.655	5.8	63	PN16	4.082
88.9	2	4.286	5.8	54	PN16	5.661
108	2	5.223	5.8	44	PN16	8.494
139.7	2	8.96	5.8	32	PN16	14.20
168.3	2	10.788	5.8	27	PN16	21.19

Format supplied: 5.8 metre lengths.

- **Curvature radius:** $r = 3.5 \times d$ **Surface supplied:** The exterior and interior surfaces are smooth.
- **Heat insulation:** The content of dissolved chlorine ions in insulating materials for stainless steel tubes should not exceed 0.05%.
- Heat insulation should be in accordance with current regulations.

Stainless-steel grade

We stock grade 316L stainless-steel tube in metric diameters to suit the Hydropress range. Fittings are supplied in 316L stainless steel and are compatible with either 304L or 316L metric tube. There is more than just cost differences between the two types.



Due to the design of the jaws and the compression collars, minimum distances need to be respected during the assembly of the press-fitting joint system.



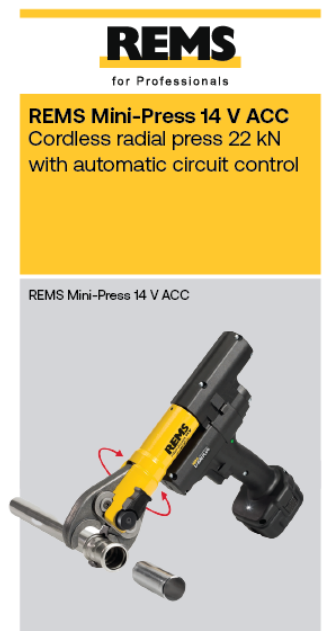
Press-fitting Tools

The press fitting tool can be battery or electrically powered. There is a corresponding easily exchangeable jaw for each diameter which is placed in the tool cylinder.

Most of the machines that exist in the market allow pressing Hydropress fittings properly from diameter 15 mm to diameter 54mm. Each diameter needs its own jaw or collar. There is one machine that presses from 15 mm to 54 mm and another one that presses from 76.1 mm to 168.3 mm (ask for bigger dimensions).

M profile jaws or collars should always be used. If in doubt, reach out to our technical department.

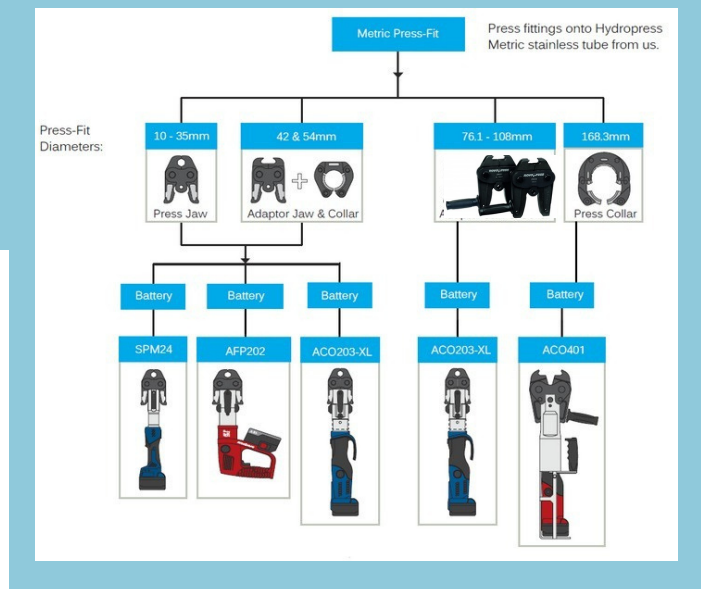
	Model	Range of use	Battery	Weight	Piston force	Dimensions
novopress	ACO 203 XL	Ø15-Ø108	18V 5Ah	3,2 Kg	32 kN	460x83x113
	ACO 403*	ØHP76-Ø168	18V 5Ah	12,8 Kg	120 kN	650x95x320
Klauke	MAP219L	Ø15-Ø35	18V 3Ah	2 Kg	19kN	395x80x118
	UAP432CL	Ø15-Ø108	18V 5Ah	4,5 Kg	32kN	530x83x325



Tool Selection Guide

Hydropress Press-Tools are calibrated to suit our products and although they may look similar to others, the tolerances of the systems are different.

Our tooling recognises the difference and does not complete a full press. Any warranty or similar is void as a result.



Please Note: This chart is a guide and full specifications and instructions are available on request.

Applications

Drinking water All design, calculation, installation, and service of drinking water facilities must comply with current regulations.

Hydopress' AISI 316L stainless steel tubes and accessories do not affect drinking water quality.

The O-ring seal complies with recommendations for drinking water installations (EPDM O-ring seals are used for sanitation water).

Stainless steel is not suitable for seawater installations.

Solar power facilities Stainless steel is preferred in solar power installations for lower maintenance costs, better performance, and reduced labour.

FKM (green) O-ring seals, which withstand temperatures up to 200°C, are recommended. Consult the manufacturer for installations using glycol-based anti-freeze agents with additives.

Sprinkler systems Sprinkler systems use fixed tubing with fittings for connecting hoses and outlets, divided into:

- Wet tubes: always full of water.
- Dry tubes: filled by firefighters or automatic devices in emergencies.

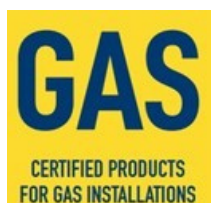
These systems must meet the accreditation and approval conditions of insurance companies.

Compressed air Compressed air is used in various applications.

Service pressures in compressed air installations can reach up to 10 bar, but tools usually require a maximum of 6 bar.

Hydopress systems can operate at pressures up to 16 bar. FKM (green) O-ring seals are used due to the presence of oil in most installations. Standard EPDM black O-rings are suitable when residual oil is below 1 mg/m³.

HYDOPRESS Gas Protection



Gas has numerous applications in domestic and industrial settings. The Hydopress gas system is suitable for installing natural gas (family 2 - groups H, L, E per EN437 Table 1) and LPG (family 3 - groups B/P, P, B per EN437 Table 1). Hydopress gas fittings are globally tested and certified, meeting the EN 10.352 requirements for gas installation.

One critical test, known as GT1, subjects the Hydopress gas system to 1 bar working pressure and +650°C for 30 minutes. This ensures the system can withstand high temperatures and prevent explosive mixtures during a fire in case of a leak.

Hydopress Gas fittings, made from stainless steel AISI 316L/1.4404, are certified for diameters from 15mm to 168.3mm. They can operate at 5 bar pressure above ground and 1 bar within fire-regulated buildings, with a temperature range of -20°C to +70°C.

Pressure	Temperature Range	
PN5 (Max/ Pressure 5 bar)	From -20°C	Up to +70°C

Hydopress tube (Series 1 - thinner wall, Serie2 - thicker wall) is certified for gas applications in stainless steel dual grade AISI 316/316L (1.4401/1.4404), with diameters from 15mm to 168.3mm, and manufactured according to EN 10.312.

Gas fittings have yellow markings and are equipped with a yellow H-NBR O-ring, specially developed for gas applications to meet EN 549 requirements.

Proper crimping is crucial. Using appropriate press-tools and jaws/slugs in good condition is essential. For questions about press-tools and accessories, ISOTUBI's sales department is available to assist.

The Hydopress gas system is at risk of external corrosion when exposed to gases, vapors, or materials containing chlorides, especially in humid environments.

The project designer or installer is responsible for selecting effective anti-corrosion protection.

	Diameter (mm)	Material	
		Symbolic	Numeric
Fittings	15 - 168.3	AISI 316L	1.4404
Tube	15 - 168.3	AISI 316L	1.4404



HYDROPRESS Fire Protection

Fire Protection

The Hydropress system is suitable for fixed water extinguishing systems (wet and dry) and it's certified and tested by VdS and FM.

The tightness of the connection is ensured by the sealing ring (EPDM) inserted in the inner groove (M-Profile) of each end of the press fitting, which is deformed in a defined manner during the pressing process.

All the fittings are laser marked displaying:

Fixed water extinguishing systems

For proper installation, permanent water extinguishing systems must be clearly distinguishable and activate immediately the extinguishing process.

Sprinkler systems containing Hydropress Press fittings must comply with the specifications of the certifying companies (VdS standard CEA 4001).

If, due to structural and planning conditions, a crossover with other components such as cable trays or ventilation ducts cannot be avoided, the sprinkler line must be reinforced with safe supports tested by the certifying companies.

The maximum intervals between the supports must comply with CEA 4001 for the installation to meet the VdS requirements.

Transport and storage specifications

All pipes are supplied with plastic caps that must not be removed until installation.

Loads of any kind on the pipe must be avoided during transport and storage.

Fire hazard classes

The Fire Protection Press fitting system is only for the following fire hazard classes valid: LH, OH1, OH2, OH3 and OH4 only in cinemas, exhibitions, theatres, concert halls.

Extinguishing water additives

The addition of additives to the extinguishing water is forbidden, excluded from anti-corrosion agents after approval by the manufacturer and VdS approval.

The certified dimensions for Fire Protection Systems are:

VdS

- ø15 DN10 - ø88.9 DN 80 Wet & Dry
- ø108 DN100 Wet
- ø28 DN25 - ø108 DN100/ ø1/2inch - ø2inch
- Maximum working pressure 175 psi

◀ FM ▶

For the dimensions up to ø54 mm (DN50), a machine with a driving force of at least 32kN must be used.

From ø76.1 mm (DN65) up to ø108 mm (DN100) a machine with a driving force of at least 120 kN must be used.

Equivalent pipe lengths of the fittings should comply with the table of the VdS CEA 4001.

Required pressing tools (VdS)

mm	Driving Force		Max. Pressure
15 - 22	32kN	+Pressjaw	16 bar
28 - 35 - 42 - 54	32kN	+HP Collar	16 bar
76,1 - 88,9	120kN	+HP Collar	16 bar
108	120kN	+HP Collar	12.5 bar

Pressure test After the pressure test has been completed successfully, the system must be thoroughly washed up to prevent dirt from clogging up the sprinkler nozzles.

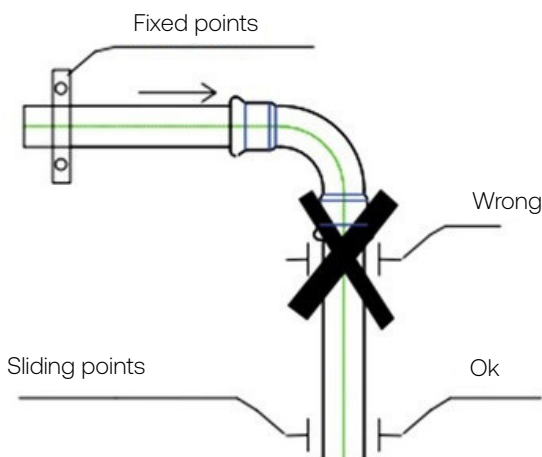
Correct repair of fixed and sliding fasteners

Tube fixings serve two purposes: supporting the tube system and directing length changes due to temperature variations.

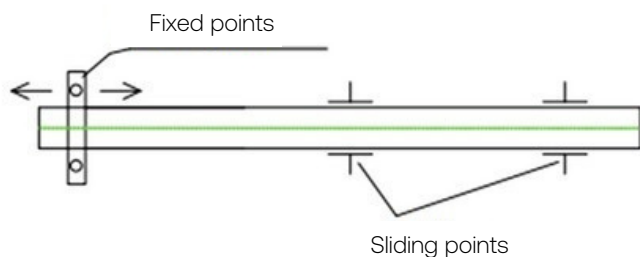
There are two types of fixings: fixed (static) fasteners and sliding fasteners (allowing axial movement).

Fixed fastenings should not be used with accessories. Sliding fastenings must be installed to prevent them from becoming fixed unintentionally.

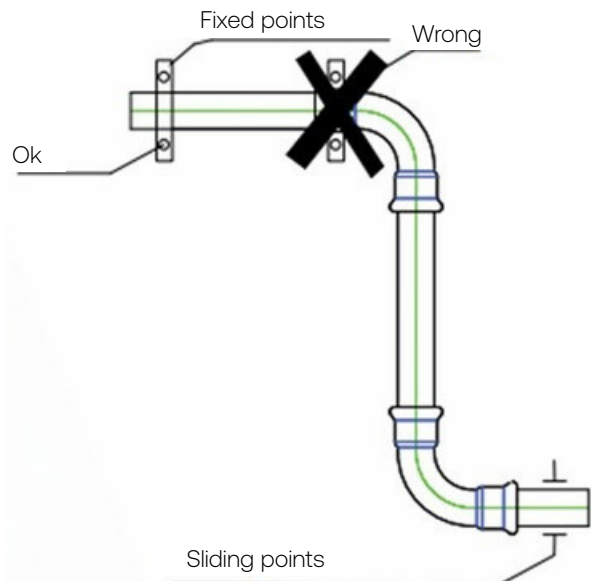
When dealing with tube elongation, ensure the first sliding fastening is at the minimum required distance. A straight stretch of tubing without direction changes or an elongation compensator should have only one fixed fastening.



Incorrect fixing: the horizontal tube cannot extend freely.



Fixing a continuous length with a fixed fastening.



Fixing of fixed fastenings on the tube and not the fitting.

For long stretches, we recommend placing the fixed fastening at the center to evenly distribute elongation in both directions. This is common in vertical tubes between floors in a building without an elongation compensator.

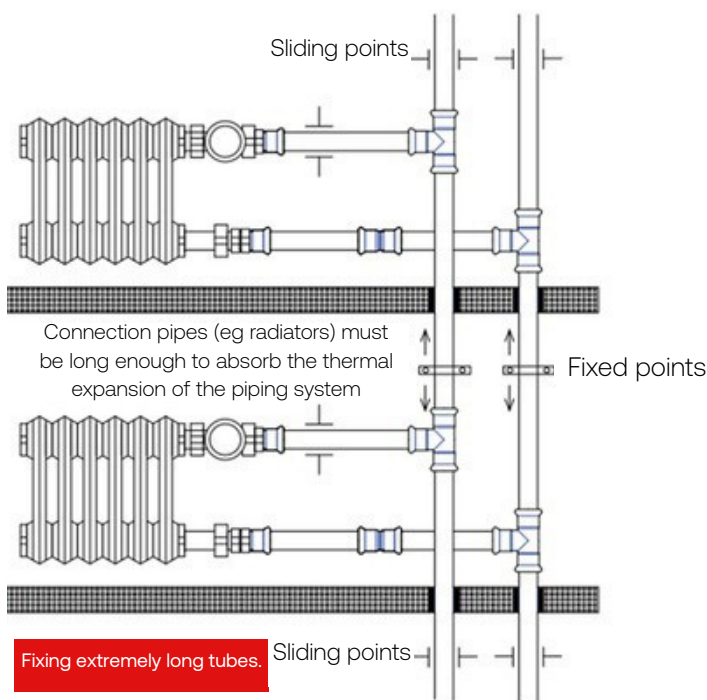
Fixing the ascending tube in the center, rather than attaching it unilaterally to the building, distributes heat elongation in both directions and reduces deviation force. Use commercial fastenings and insulating brackets for noise insulation.

While tubing typically does not produce noise, it can transmit noise from other equipment. Therefore, it should be installed to minimize noise pollution.



Bracket distances for stainless steel tubes

Diameter x thickness	Support distances (m)
15 x 1.0	1.25
22 x 1.2	2.25
28 x 1.5	2.75
35 x 1.5	2.75
42 x 1.5	3.0
54 x 1.5	3.5
76.1 x 2	4.25
88.9 x 2	4.75
108 x 2	5.0
139.7 x 2	5.0
168.3 x 2	5.0



Installation Instructions

Storage

To prevent damage and maintain cleanliness during transport and storage, accessories are securely packed in plastic bags to ensure they reach the warehouse or installer in perfect condition.

Bending

Stainless steel tubes should not be bent using heat, as it damages their properties. Tubes with a DN of 35 mm or less can be cold-bent using common tube bending tools, with a minimum radius of 3.5 times the exterior diameter.

Threaded joints

The stainless-steel press fitting system for domestic drinking water installations can be connected to standard threaded accessories (DIN 2999) or non-ferrous metal accessories using connection parts.

Limits for application

Maximum pressure 16 bar

Mechanical properties

- Minimum elasticity limit - 240 N/mm²
- Minimum elongation - 40%
- Minimum breakage load - 530 N/mm²

Cutting

Once the tubes have been measured, they can be cut to the correct length using:

- A fine tooth saw
- A tube-cutting knife (stainless steel)
- A fine-tooth electric saw

The tools must be suitable for stainless steel.

Cutting stainless steel with abrasive discs can make it more fragile due to the high temperature from friction. After cutting, thoroughly deburr the inside and outside of the tube ends to avoid damaging the O-ring seal during insertion. When using electro-mechanical saws cooled with oil or other refrigerants, remove all oil traces to prevent affecting the O-ring seals on the fittings.

Preparation of the joint for press fitting

After cutting, deburr the inside and outside of the tube ends before fitting accessories. Ensure the O-ring seal for the accessory is present before assembly. The contact zone for the O-ring on the pipe must be clean, smooth, and free of dirt, rills, and grooves.

To create a sound joint using press fitting, mark the insertion length on the tube. If inserting the tube into the accessory is difficult due to tolerance issues, use water or soap as a lubricant.

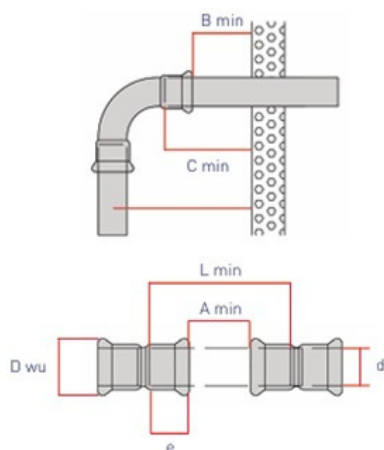
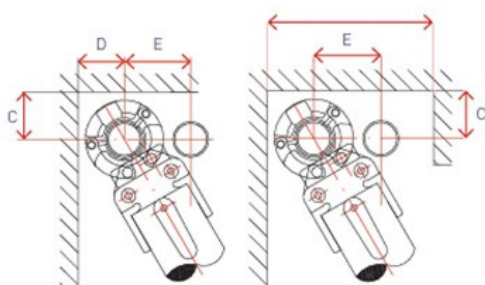
Before press fitting, fit the tube and accessory together by gently rotating and pressing to the limit or mark. For fittings without a limit, insert the tube based on its nominal diameter and **mark the insertion depth**.

Use the press-fitting tool with the correct interchangeable jaw for the tube diameter. Press fitting can only be done with the correct jaw.

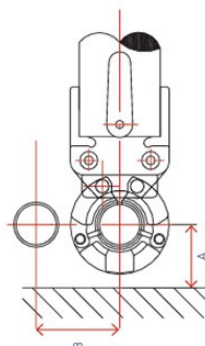
If changes are needed for press-fitted tubes, do not alter the press-fitted sections. Movement of the tubes during installation or removal is acceptable. Tape tubes before press fitting using commercial substances free of chlorides.

Space required and minimum distances.

Due to the design of the jaws and the compression collars, minimum distances need to be respected during assembly of the press-fitting joint system. The tables show this information based on the external diameter of the tube and the jaws and collars required.



External diameter of the tube (mm)	A (mm)	B (mm)
Jaws		
15	20	56
18	20	60
22	25	65
28	25	75
35	30	75
Collars		
42	75	115
54	85	120
76.1	110	140
88.9	120	150
108	140	170
139.7	230	290
168.3	260	330



External diameter of the tube (mm)	C (mm)	D (mm)	E (mm)	F (mm)
Jaws				
15	20	75	130	130
18	35	75	131	131
22-28	31	80	150	150
35	31	80	170	170

Collars				
42	75	115	265	265
54	85	120	290	290
76.1	110	140	350	350
88.9	120	150	390	390
108	140	170	450	450
139.7	230	290	750	750
168.3	260	330	850	850



Minimum distance and length of fit

External tube diameter	Accessory distance		Tube dist.	Tube depth	Min. tube length	Accessory edge	Depth of insertion
d (mm)	A (mm)	B (mm)	D (mm)	C (mm)	L (mm)	D (mm)	e (mm)
15 x 1	10	35	85	55	50	23	20
22 x 1.2	10	35	95	56	52	32	21
28 x 1.2	10	35	107	58	56	38	23
35 x 1.5	10	35	121	61	62	45	26
42 x 1.5	20	35	147	65	80	54	30
54 x 1.5	20	35	174	70	90	66	35
76.1 x 1.5	20	75	223	128	126	95	53
88.9 x 2	20	75	249	135	140	110	60
108 x 2	20	75	292	150	170	133	71
139.7 x 2	60	140	459	240	232	166	100
168.3 x 2	60	140	523	261	279	195	121

Press fitting

There is one press fitting tool for diameters from 15 mm to 54 mm and another for diameters from 76.1 mm to 168.3 mm.

You should take into account the minimum space you need to be able to use the pliers around the tube and the accessory.

There are a range of jaws and collars with adaptors that can be changed quickly and easily depending on the external diameter of the tubes.

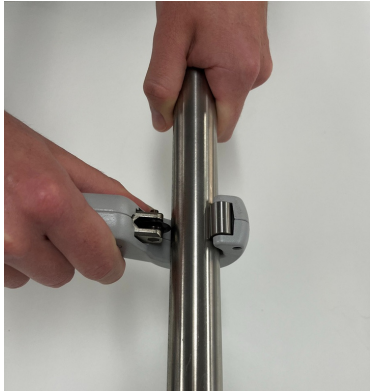
Only the appropriate jaws, collars and adaptors should be used with the press-fitting tool.

The internal slot in the jaws or collars should enclose the edge of the accessory to produce an adequate join. Our system uses an M jaw profile.

Assembly sequence

1. Cut the tube at the right angle.
2. Debur the tube internally and externally to avoid damaging the seal.
3. Check that the seal is properly placed. Do not use oil or grease.
4. Rotate the tube slowly as you insert it into the joint until the limit.
5. Mark the tube as a reference point.
6. Place the press-fitting jaw in the machine and insert the fastening bolt until it fits.
7. Open the jaw, place it at a right angle and carry out the press fitting.
8. After the press fitting: a longitudinal section of a press-fitted joint.

Connection Method using Jaws 15, 22, 28 & 35mm



1. Cut To Length



2. Deburr Tube



3. Mark Insertion Depth "1"



4. Inspect Fitting & Ring Seals



5. Join Tube & Fitting



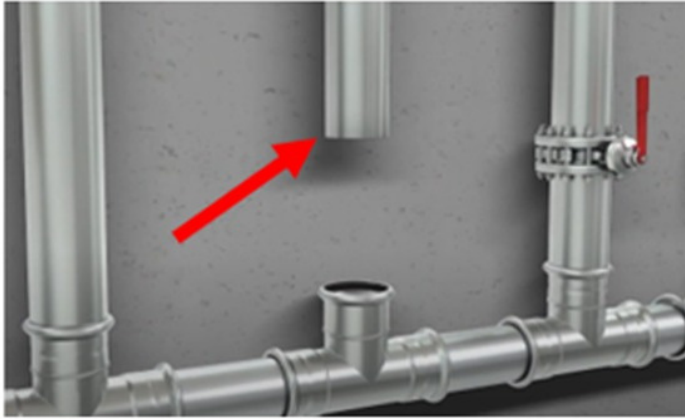
6. Press The Join



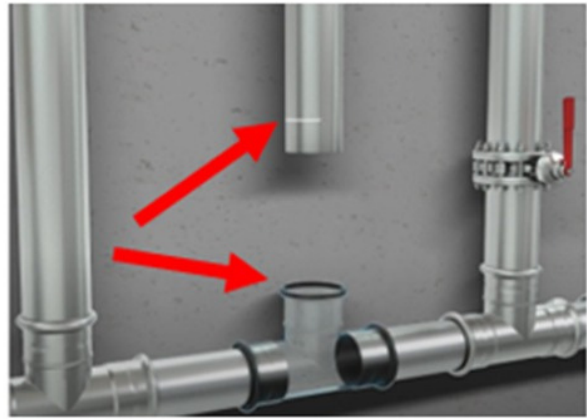
7. Check & Complete

Connection Method For 42, 54, 76 & 88.9mm

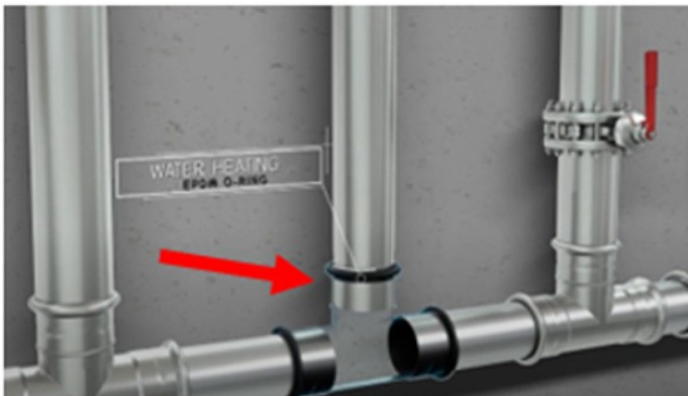
Using the Jaw adaptor and Sling - Single Crimp process



1. Cut tube to length
2. Deburr tube, both inside and out



3. Mark insertion Depth "1"
4. Inspect fittings and ring seals



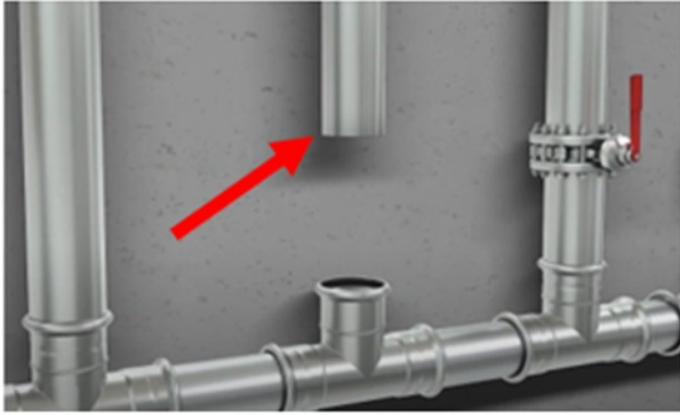
5. Join the tube and fitting
6. Ensure the depth mark is in the correct position



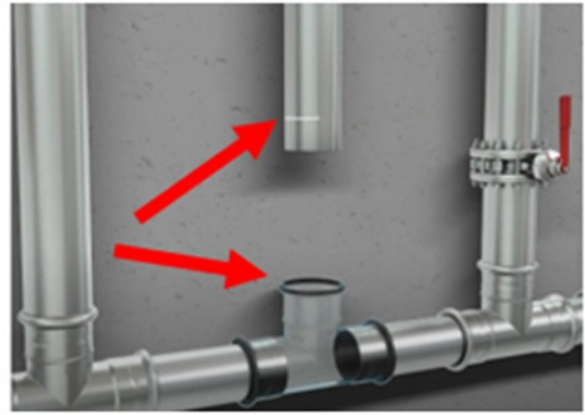
7. Join the tube and fitting

Connection Method For 108mm

Using the Jaw adaptor and Sling - A double Crimp process using two different jaw adaptors as below



1. Cut tube to length
2. Deburr tube, both inside and out



3. Mark insertion Depth "I"
4. Inspect fittings and ring seals



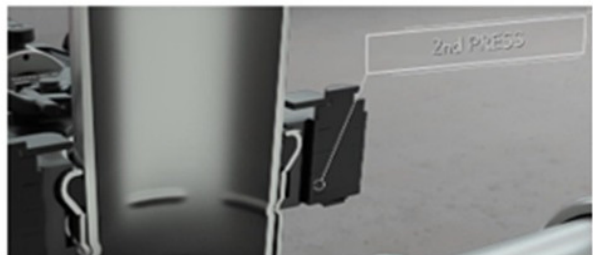
5. Join the tube and fitting
6. Ensure the depth mark is in the correct position



7. Complete the first press with the ZB221 Jaw adaptor

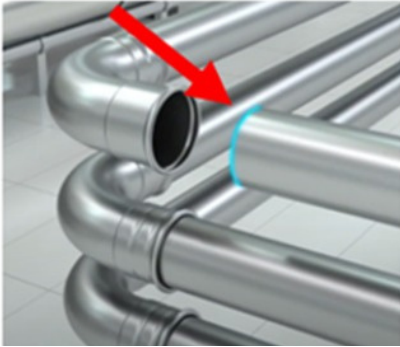


8. Second Press required for the 108mm when using the Novopress tooling.
 - a. Change from the ZB221 to the ZB222 and then do the second press



Connection Method For 139.7mm & 168.3mm

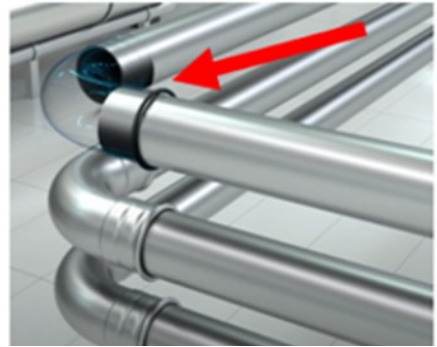
Using the Jap adaptor and Sling - A double Crimp process is required by crimping in two different locations



1. Cut tube to length
2. Deburr tube, both inside and out



3. Mark insertion Depth "I"
4. Inspect fittings and ring seals



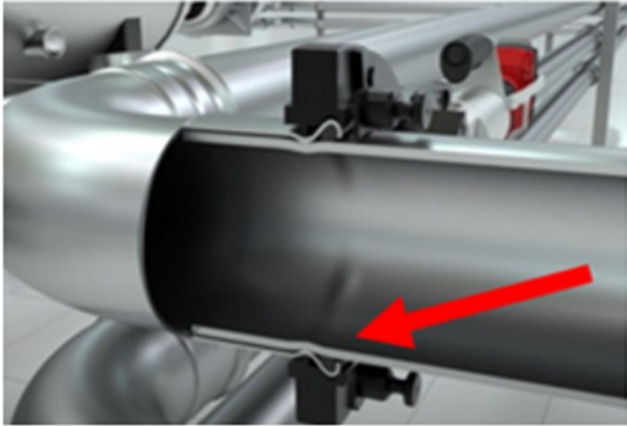
5. Join the tube and fitting
6. Ensure the depth mark is in the correct position



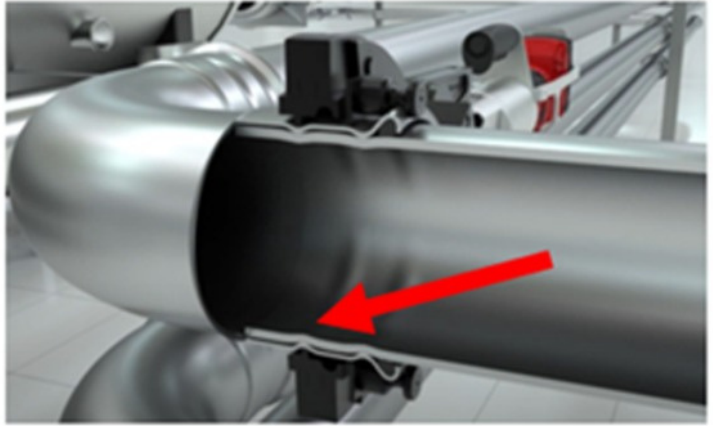
7. Position the 168mm sling ready for the first press

Connection Method For 139.7mm & 168.3mm Cont.

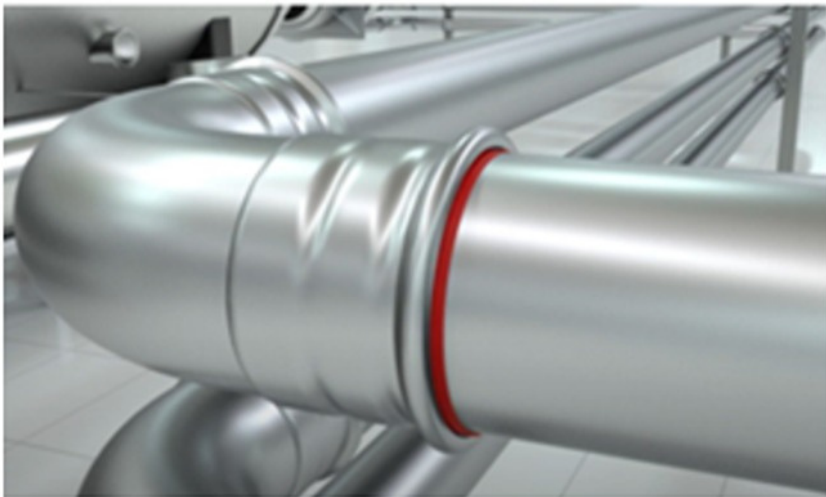
Using the Jaw adaptor and Sling – Double Crimp process in two different positions



9. First press position



10. Second press position



11. Visual appearance after both press connections have been completed



Testing for water-tightness

Finished tubes are tested for watertightness before being covered or painted.

Water is used for testing drinking water and heating installations. The results should be documented properly.

If the tubes will not be used for a long time after testing, air should be used instead of water to prevent corrosion (specifically puncture corrosion). Verify if authorization is needed for air testing.

Drinking water installation

The watertightness test for the installed tubes is conducted according to current regulations. Tubes should be filled with filtered water, ensuring no air is present. This test is used for both preliminary and main evaluations.

The preliminary test may suffice for small parts of the installation, such as connection and distribution tubing in wet areas.

Preliminary test

- The preliminary test involves applying a test pressure corresponding to the acceptable overpressure plus 5 bar.
- This test pressure should be applied twice for ten minutes, within a total interval of 30 minutes.
- After another 30 minutes, the test pressure should not have fallen by more than 0.6 bar (0.1 bar per 5 minutes).

Main test

- Immediately after the preliminary test
- After 120 minutes, the pressure reading from the end of the preliminary test should not have fallen by more than 0.2 bar
- There should be no visible signs of leakage in any part of the installation.

Air tightness test

- If appropriate, carried out with the corresponding authorisation.

Heating installation

The watertightness test for the tubes is conducted using water.

For water-based heating systems, the test pressure should be 1.3 times the operating pressure at each point, with a minimum increase of 1 bar.

If possible, immediately after the cold water test, verify watertightness at the system's maximum temperature by heating the water to the calculated maximum.

Before operation, flush the tubes with drinking water.

Insulation

Insulation of tubing serves to reduce:

- Heat loss
- Heating of transported fluids by ambient temperatures
- Noise
- Condensation

Closed-cell insulation material also protects against corrosion. Requirements for tube insulation are specified in local regulations.

Insulating materials and hoses can cause tube corrosion, so their suitability should be carefully assessed when choosing materials. Ensure materials contain no more than 0.05% chloride ions. AS quality insulation is suitable for stainless steel.

Drinking Water Installation

Drinking water tubes should be protected against condensation and heating. Cold water tubes should be installed away from heat sources and insulated to maintain water quality. Hot water and circulation tubes should be insulated to prevent excessive heat loss, saving energy and ensuring hygiene.

Heating Installations

Insulating water-based heating installations saves energy and reduces CO2 emissions. Heating is the largest domestic energy consumer, accounting for 53% of energy use.

Water-Based Refrigeration Systems

Insulating refrigeration systems prevents condensation and reduces energy losses. Correct insulation is essential to manage increasing energy costs effectively and sustainably.

Thermal Elongation

Elongation compensation

While in use, tubes are subject to thermal loads that cause varying degrees of elongation. Tube installations consider thermal elongation by:

- Allowing space for longitudinal elongation
- Using elongation compensators
- Correctly fixing the fixed and sliding fastenings

Flexion and torsion effects on a tube can be absorbed if these factors are considered during assembly. Small longitudinal changes can be managed by providing expansion space or relying on the tube network's elasticity.

For large tube networks, elongation compensators (such as flexible arms or expansion bends) should be used. The choice of compensator depends on the material, construction characteristics, and service temperature.

Longitudinal change Δl (mm) of stainless steel

Tube length (m)	Δl (mm) / Δu : temperature difference (K)									
	10	20	30	40	50	60	70	80	90	100
1	0.16	0.33	0.50	0.66	0.82	1.00	1.16	1.30	1.45	1.60
2	0.33	0.66	1.00	1.30	1.60	2.00	2.30	2.60	2.90	3.20
3	0.50	1.00	1.50	2.00	2.50	3.00	3.5	4.00	4.50	5.00
4	0.66	1.30	2.00	2.60	3.30	4.00	4.60	5.20	5.90	6.60
5	0.82	1.60	2.50	3.30	4.10	5.00	5.80	6.60	7.40	8.20
6	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.40	10.80
7	1.16	2.30	3.50	4.60	6.70	7.00	8.20	9.00	10.20	11.40
8	1.32	2.60	4.00	5.30	6.50	8.00	9.30	10.40	11.70	13.00
9	1.48	3.00	4.50	6.00	7.40	9.00	10.50	11.70	13.30	14.80
10	1.65	3.30	5.00	6.60	8.30	10.00	11.60	13.20	14.90	16.60

Expansion loops In stainless steel tubes, the longitudinal change resulting from thermal elongation (from 20°C to 100°C) is given by:

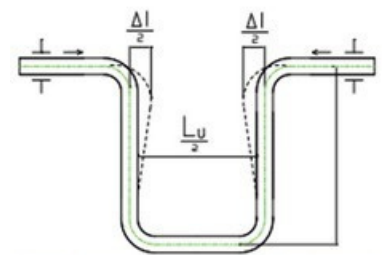
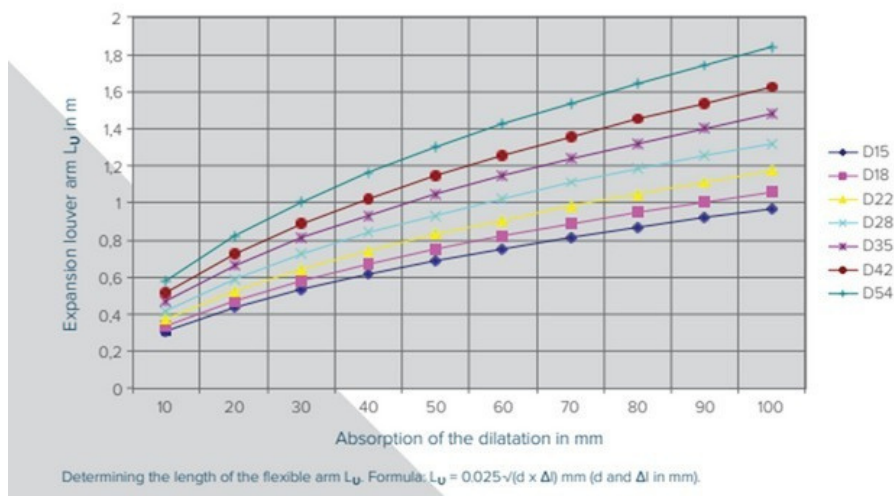
$$\Delta l = 10 \times \alpha \times \Delta u$$

With a thermal elongation coefficient of:

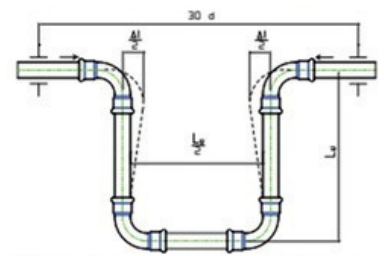
$$\alpha [10^{-6} K^{-1}] = 16.5$$

For tube length 10m:

$$\Delta u = 50 K, \Delta l \text{ (mm)} = 8.3$$



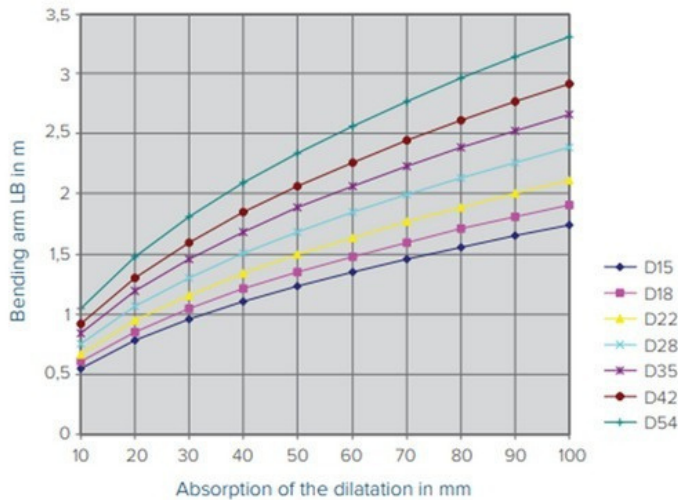
Offsetting elongation using bend based on a curved tube.



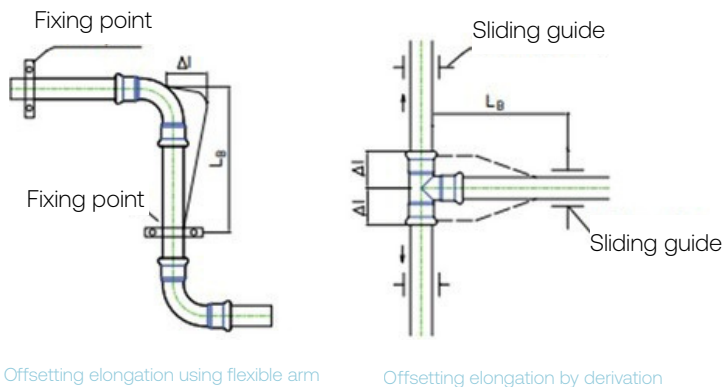
Offsetting elongation using bend made with fittings.



Elongation compensation



Determining the length of the flexible arm L_B . Formula: $L_B = 0.045 \sqrt{(d \times \Delta l)}$ (d and Δl in mm).



Heat emission and heat insulation for tubes

At this point, we need to differentiate between the heat emitted by hot water tubes –heating and hot water– and drinking water tubes. The former case deals with tubes installed in areas involving heating, whilst the other does not require specific heating, and might even need to be kept cold.

In the first case, the emission of heat by tubes has a favourable effect on the parts of buildings to be heated and, as a result, taking into account this heat emission in thermal calculations does not result in economic losses.

Tubes that should be protected against heat emissions require additional insulation. Tubes can be insulated using fibres (such as glass fibre) or by prefabricated elements in the form of single-shell casings. We do not recommend the use of tubular casings or felt wrappings, as felt retains absorbed moisture for too long which can result in corrosion.

Elongation space

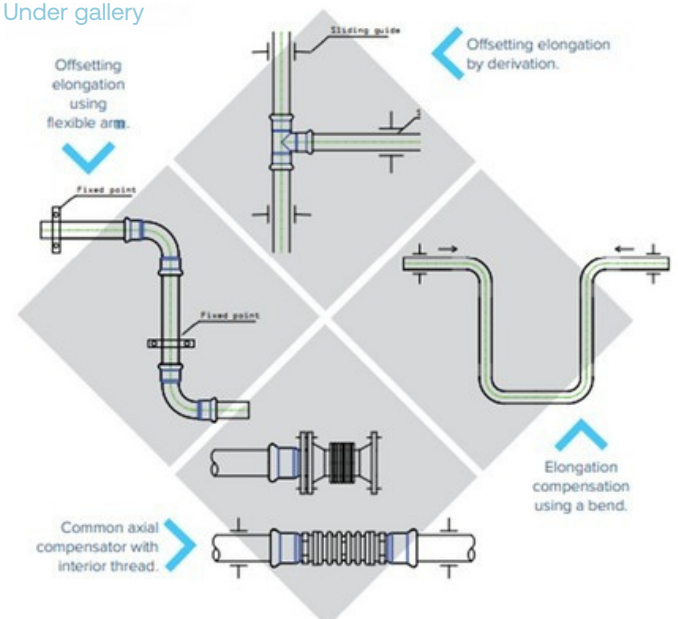
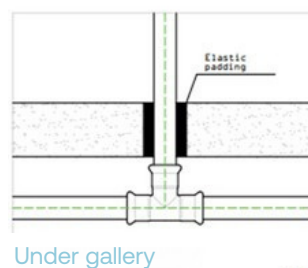
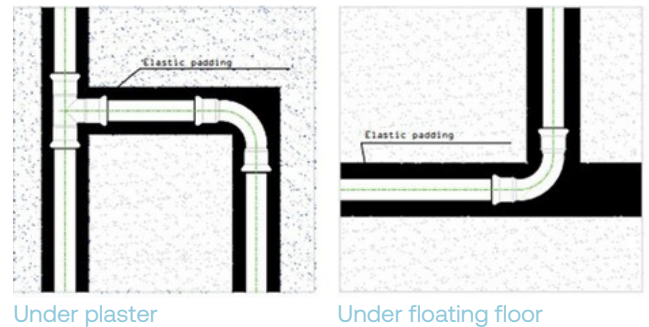
In installations we have to distinguish the following types of tubes:

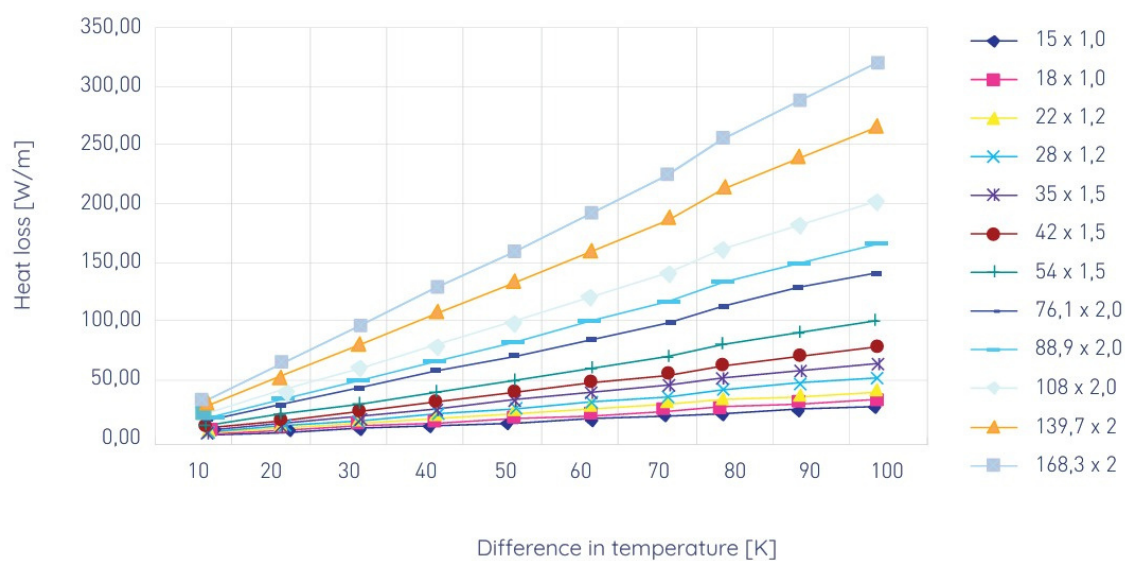
- Visible or installed under galleries.
- Not visible - under plaster (built-in)
- Not visible - under floating floors.

For visible installations or those under galleries, sufficient space is provided. For built-in tubes, ensure the installation includes an elastic protective filling made of insulating fibres, such as glass fibre, rock wool, or closed-cell sponge materials.

Elongation compensators

The longitudinal variation of tubes may be offset by an expansion space and/or absorbed by elasticity in the tube network. If this is not possible, elongation compensators should be installed.





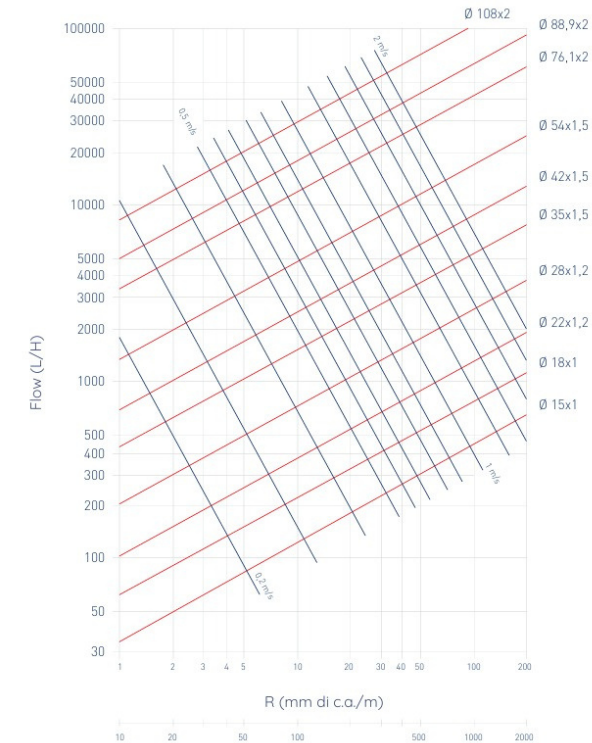
Diameter x	Δv : temperature difference (K)									
Thickness mm	10	20	30	40	50	60	70	80	90	100
15 x 1.0	2.72	5.44	8.16	10.88	13.60	16.32	19.04	21.76	24.48	27.20
22 x 1.2	4.02	8.04	12.06	16.08	20.10	24.12	28.14	32.16	36.18	40.20
28 x 1.2	5.15	10.31	15.46	20.61	25.77	30.92	36.08	41.23	46.38	51.54
35 x 1.5	6.44	12.88	19.32	25.76	32.21	38.65	45.09	51.53	57.97	64.41
42 x 1.5	7.76	15.53	23.29	31.05	38.81	46.58	54.34	62.10	69.86	77.63
54 x 1.5	10.03	20.05	30.08	40.11	50.13	60.16	70.19	80.21	90.24	100.26
76.1 x 2.0	14.14	28.28	42.42	56.56	70.70	84.83	98.97	113.11	128.43	144.39
88.9 x 2.0	16.55	33.11	49.66	66.21	82.76	99.32	115.87	132.42	148.97	165.53
108 x 2.0	20.15	40.31	60.46	80.61	100.77	120.92	141.70	161.23	181.38	201.53
139.7 x 2.0	26.54	53.09	79.63	106.17	132.72	159.26	185.80	212.34	238.89	265.43
168.3 x 2.0	31.98	63.95	95.93	127.91	159.89	191.86	223.84	255.82	287.79	319.77



Load Loss The tube network places a continuous restriction on the flow of fluid resulting from friction which is known as load loss. This reduces pressure in the system as it flows through the tubes and accessories. This chart will help to calculate this factor.

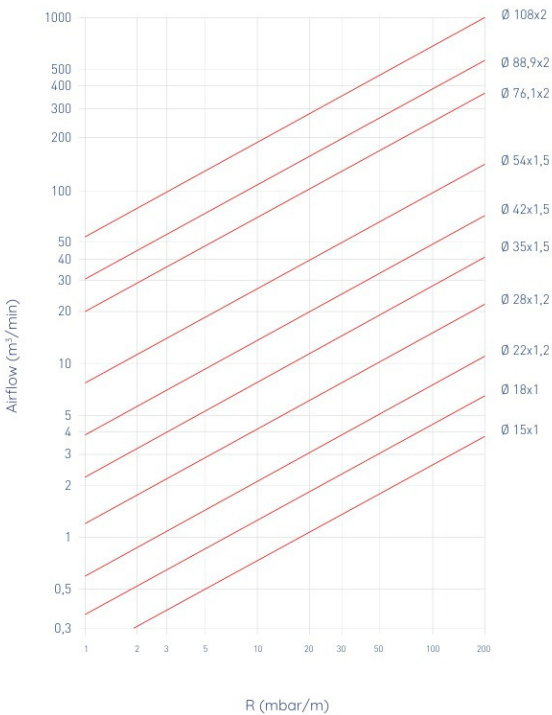
UP TO 108MM

The chart shows the value of the load loss R and the flow as a function of fluid velocity m/s for water at 10°C.



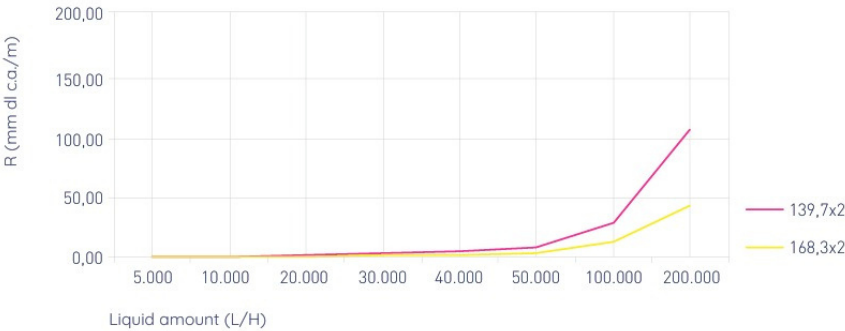
BIGPRESS: 139,7MM & 168,3MM

Chart of load loss for compressed air at 7 bar and 15°C



LOAD LOSS FROM 139,7 & 168,3MM

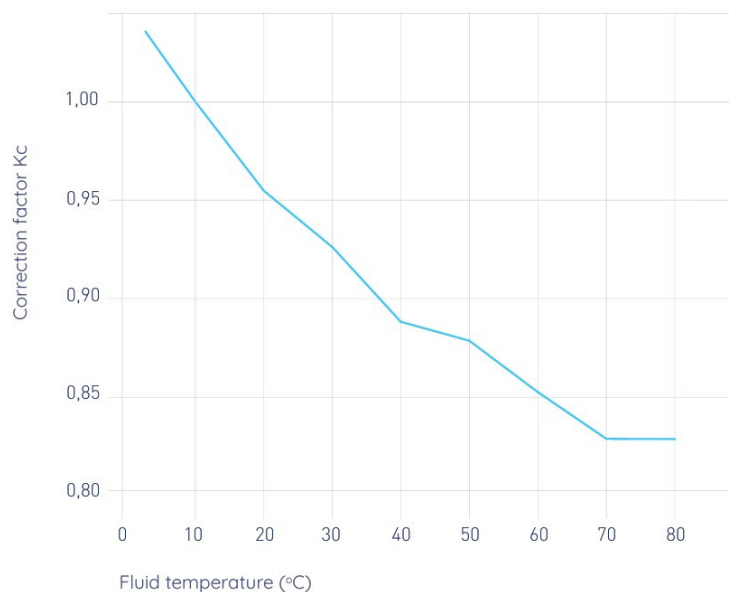
This graphic shows the values for the accessories 139.7 and 168.3.



Tables of load loss in the main fittings (in equivalent meters of tube):

Resistance coefficient in equivalent metres, calculated for a water velocity of 0.7m/s										
Hydropress										
	1.5	0.7	0.5	0.5	0.4	0.5	0.7	0.9	1.8	0.9
15 x 1.0	0.90	0.40	0.30	0.30	0.25	0.65	0.90	1.1	2.3	1.1
22 x 1.2	1.40	0.60	0.50	0.50	0.40	1.1	1.5	1.9	3.8	
28 x 1.2	1.90	0.90	0.60	0.60	0.50	1.5	2.1	2.5	5	
35 x 1.5	2.50	1.20	0.80		0.70	1.8	2.6	3.1	6.2	
42 x 1.5	3.10	1.40	1.00		0.90	2.3	3.3	4	8	
54 x 1.5	4.00	1.80	1.30		1.10	3.1	5	5.6	11.5	
76.1 x 2		2.50	1.90		1.60	3.7	5.8	6.5	13	
88.9 x 2		3.00	2.20		1.90	4.4	7	7.8	16	
108 x 2		3.50	2.60		2.20	4.8	7.43	8.46	17.15	
139.7 x 2		4.75	3.49		2.93	5.87	9.08	10.34	20.96	
168.3 x 2		5.72	4.21		3.53	7.07	10.94	12.45	25.25	

We also have the correction Kc based on the water temperature.



Resistance to interior corrosion

Reaction to corrosion in drinking water systems

General Perforation corrosion occurs in stainless steel only under specific conditions, while fissure corrosion occurs in cracks or areas of sedimentation.

Resistance to interior corrosion

Austenitic stainless steel is passive in drinking water systems, making it completely resistant to uniform surface corrosion. This prevents hygiene problems such as contamination by heavy metals. Stainless steel is also resistant to corrosion from chemicals used in water treatment, including decalcinated, decarbonated, and distilled water.

Types of corrosion and their Causes:

Perforation corrosion

This occurs only in water with high levels of chlorides. For AISI 316 stainless steel, the chloride ion concentration must not exceed 500 mg/L (30 mol/m³). Most substances in water inhibit perforation corrosion, and typical chloride levels of 1 to 2 mg/L do not increase its likelihood.

Fissure corrosion

Similar to perforation corrosion, AISI 316 stainless steel fittings with molybdenum have sufficient resistance to fissure corrosion in domestic water with authorized chloride levels.

Intercrystalline corrosion

Tubes and fittings are resistant to intercrystalline corrosion. Consult our technical department if the water system contains disinfectants.

Transcrystalline corrosion from tension fissuring

This does not occur in drinking water at temperatures below 45°C. It only occurs at higher temperatures combined with perforation and fissure corrosion. Adhering to the guidelines for perforation corrosion will prevent tension-fissuring corrosion.

Resistance to external corrosion

Risk Factors:

Hot water systems in contact with construction materials containing chlorides (e.g., antifreeze, chloride-based, accelerators) and insulating materials with chlorides, especially under prolonged humidity. Inability to prevent humidity in hot water tubes and accessories, leading to high chloride concentrations.

Preventive Measures

Apply a thick, non-porous, defect-free anti-corrosive layer that is resistant to heat and ageing. Use plastic tape for adequate corrosion protection. Heat insulation alone is insufficient; follow the manufacturer's instructions. Dry stainless steel components before installation if they may contact wet construction materials containing chlorides. No anti-corrosive layer is needed for installations on plaster or under galleries.

Mixed Installations

Mixed installations of stainless steel and galvanized steel tubes can cause contact corrosion in galvanized steel. This risk is mitigated by using a non-ferrous metal accessory between the two types of tubes. Current flow direction is not a concern. No contact corrosion risk exists in mixed installations of stainless steel with threaded or copper accessories.

Compensation of Potential Voltage

All electrically conductive tubes must comply with regulations for potential voltage compensation. Stainless steel systems, being conductive, must meet these regulatory requirements.

Materials Corrosion Resistance

Stainless steel's resistance to corrosion is due to its ability to form a passive, invisible, and stable protective layer in various atmospheres. Corrosion resistance varies among stainless steel types. European regulation EN-10088 specifies these types.

Common stainless-steels

AISI 304 (1.4301): Most commonly used in drinking water installations.

AISI 316L (1.4404): Recommended for water with dissolved chlorides above 200 ppm, especially in hot water systems, due to increased corrosion risk at higher temperatures. The presence of 2-2.5% molybdenum (Mo) in the alloy enhances resistance to chloride action.

Additional properties

Stainless steel is a poor heat conductor, reducing heat loss in fluid transport. Linear elongation should be considered in installations subject to hot-cold cycles.

Physical properties	
Density	8.000 kg/m ³
Specific heat (20°C)	500 J/kg · K
Thermal conductivity (20°C)	15 W/m · K
Linear elongation coefficient (20-200°C)	16.5 10 ⁻⁶ /K
Elasticity module (20°C)	200 KN/mm ²
Electrical resistance (20°C)	0.75 Ω mm ² /m

Mechanical properties	
Minimum elasticity limit	240 N/mm ²
Minimum elongation	40%
Minimum breakage load	530 N/mm ²

Chemical composition		
%	AISI 316L	AISI 304
Cr	16.5 - 18.5	17 - 19.5
Ni	10 - 13	8 - 10.5
Mo	2 - 2.5	
Mn max.	2	2
Si max.	1	1
P max.	0.045	0.045
S max.	0.015	0.015
C max.	0.03	0.07

Comparison of main characteristics with other materials

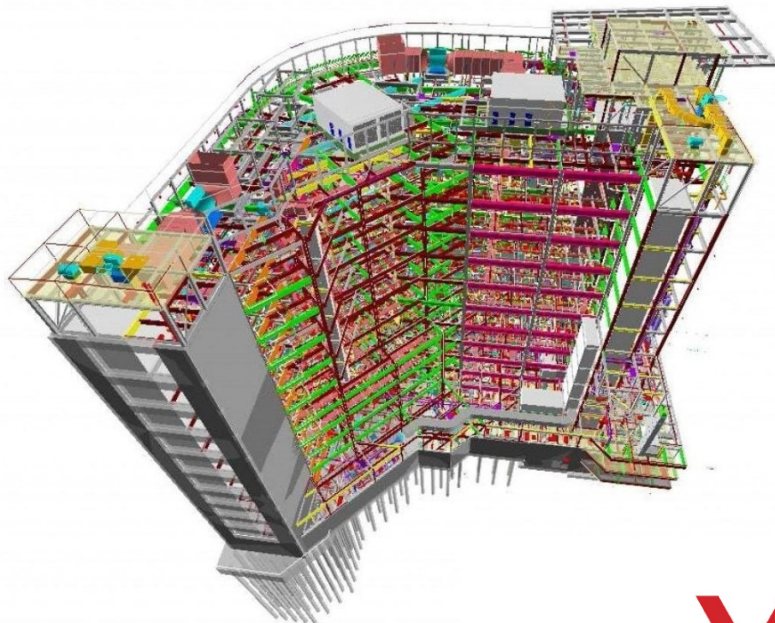
	Physical properties		Mechanical properties		
	Specific weight (kg/dm ³)	Linear elongation (k 10 ⁻⁶ /°C)	Resistance to traction (N/mm ²)	Elastic limit (N/mm ²)	Lengthening
Stainless steel	8.0	16	600	220	45
Galvanised steel	8.0	12	350	220	25
Copper	8.9	16.5	250	130	50
Aluminium	2.7	24	90	70	15
Heat-resistant PVC		70	55		30



BIM Services

www.isotubi.com/en/bim/ ISOTUBI offers CAD and BIM files, to support the planning process with Autodesk® Revit® 2017 software.

- BIM / REVIT® modeling CAD
- BIM conversion project
- Presentation / Render



Lead Free

Certificate of Conformity

Pro-Switch Pty Ltd grants to the WaterMark Approved User:

ISOTUBI SL

Trading as ISOTUBI SL

The right to use the WaterMark as shown above in conjunction with the Certificate No. on product/s as identified in the WaterMark Schedule and as listed on the WaterMark database (www.abcb.gov.au/ProductCertification/WaterMark-Certification-Scheme) which have been shown to comply with the appropriate Applicable Specification referred to below and as amended from time to time. The WaterMark User is granted a licence to use the WaterMark subject to the rules governing the use of the WaterMark.

Product Type: Stainless Steel Tubes and Fittings (Press Fit)
 Product Use: Water Supply
 Brand: Numepress
 Certification Specifications: AS 5200.053:2008 Plumbing and drainage products Part 053: Stainless steel pipes and tubes for pressure applications
 AS 3688:2016 Water supply and gas systems—Metallic fittings and end connectors
 Conditions or Limitations: To be installed in accordance with Plumbing Code of Australia (PCA)

Issue Date: 23rd September 2025
 Initial Issue Date: 16th May 2019
 Expiry Date: 6th May 2029

Simon Clarke
 Simon Clarke
 General Manager

Certificate No.: 23375

This Certificate is issued by a JAS-ANZ accredited certification body. The ABCB and JAS-ANZ do not in any way warrant, guarantee or represent that the product the subject of this Certificate conforms to the WaterMark Certification Scheme Rules, nor accepts any liability arising out of the use of the product. The ABCB disclaims to the extent permitted by law, all liability (including negligence) for claims of losses, expenses, damages and costs arising as a result of the use of the product(s) referred to in this Certificate. The WaterMark Certification Scheme is a conformity assessment scheme based on ISO/IEC 17067. This Certificate may only be reproduced in its entirety.



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Certificate Number: 23375
 Issue Date: 23/09/2025
 Revision: CR05

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HYDROPRESS

Water Range

STAINLESS TUBE SS 316 6M LENGTH

	Product No	Thickness	Diameter
	P0002164	1.0	15
	P0002165	1.2	22
	P0002166	1.2	28
	P0002167	1.5	35
	P0002282	1.5	42
	P0002283	1.5	54
	P0002284	2.0	76.1
	P0002339	2.0	88.9
	P0002285	2.0	108
	P0002341	2.0	168.3

45 BEND SOCKET – TUBE (MALE/FEMALE)

	Product No	D1	D2
	P0001619	15	15
	P0001620	22	22
	P0001621	28	28
	P0002078	35	35
	P0002079	42	42
	P0002080	54	54
	P0002081	76.1	76.1
	P0002349	88.9	88.9
	P0002350	108	108
	P0002351	168.3	168.3

The length of M-F Bends cannot be cut shorter.

90 BEND SOCKET – SOCKET (FEMALE/FEMALE)

	Product No	D1
	P0001607	15
	P0001608	22
	P0001609	28
	P0001633	35
	P0001634	42
	P0001635	54
	P0001636	76.1
	P0002345	88.9
	P0001637	108
	P0002346	168.3

45 BEND SOCKET – SOCKET (FEMALE/FEMALE)

	Product No	D1
	P0001616	15
	P0001617	22
	P0001618	28
	P0002074	35
	P0002075	42
	P0002076	54
	P0002077	76.1
	P0002347	88.9
	P0069356	108
	P0002348	168.3

90 BEND SOCKET – TUBE END (MALE/FEMALE)

	Product No	D1	X1	X2	Y1
	P0001610	15	48	28	67
	P0001611	22	61	40	74
	P0001612	28	72	49	82
	P0002088	35	74	48	85
	P0002089	42	86	56	97
	P0002090	54	105	72	122
	P0002091	76.1	177	124	195
	P0002092	88.9	181	123	202
	P0002093	108	214	140	240
	P0002094	168.3	386	268	404

The length of M-F Bends cannot be cut shorter.

FI 90 BEND WALL FLEX SOCKET – FI BSP

	Product No	D1	F1
	With no wall plate offset:		
	P0002130	15	1/2" BSP
	P0002131	22	3/4" BSP

FI 90 BEND SOCKET – FI BSP

	Product No	D1	D2
	P0002138	15	1/2" BSP
	P0002139	22	3/4" BSP
	P0002140	28	1" BSP
	P0002141	35	1.1/4" BSP



FI TEE SOCKET ENDS – FI BSP BRANCH

	Product No	D1	FI
	P0001799	15	1/2" BSP
	P0001800	22	1/2" BSP
	P0001801	22	3/4" BSP
	P0001802	28	1/2" BSP
	P0001803	28	3/4" BSP
	P0009327	28	1" BSP
	P0001804	35	1/2" BSP
	P0001805	35	3/4" BSP
	P0002356	35	1" BSP
	P0002357	35	1 1/4" BSP
	P0001806	42	1/2" BSP
	P0001807	42	3/4" BSP
	P0002358	42	1" BSP
	P0002359	42	1 1/2" BSP
	P0001808	54	1/2" BSP
	P0001809	54	3/4" BSP
	P0002360	54	1" BSP
	P0001810	54	2" BSP
	P0001811	76.1	1 3/4" BSP
	P0001812	76.1	2" BSP
	P0002361	88.9	3/4" BSP
	P0002362	88.9	2" BSP
	P0002363	108	3/4" BSP
	P0002364	108	2" BSP

TEE REDUCED SOCKET ENDS & BRANCH

	Product No	D1	D2
	P0001638	22	15
	P0001639	28	15
	P0001640	28	22
	P0001641	35	15
	P0001642	35	22
	P0001789	35	28
	P0001790	42	15
	P0001791	42	22
	P0001792	42	28
	P0001793	42	35
	P0008995	54	15
	P0001794	54	22
	P0001795	54	28
	P0001796	54	35
	P0008994	54	42
	P0008996	76.1	22
	P0001797	76.1	28
	P0008997	76.1	35
	P0001643	76.1	42
	P0001798	76.1	54
	P0002365	88.9	22
	P0002366	88.9	28
	P0002367	88.9	35
	P0002368	88.9	42
	P0002369	88.9	54
	P0002370	88.9	76.1
	P0002371	108	22
	P0002372	108	28
	P0002373	108	35
	P0002374	108	42
	P0069361	108	54
	P0069360	108	76.1
	P0002375	108	88.9
	P0002376	168.3	76.1
	P0002377	168.3	88.9
	P0002378	168.3	108

TEE EQUAL SOCKET ENDS & BRANCH

	Product No	D1
	P0001625	15
	P0001626	22
	P0001627	28
	P0001628	35
	P0001629	42
	P0001630	54
	P0001631	76.1
	P0002353	88.9
	P0001632	108
	P0002354	168.3

MI ADAPTOR TUBE END – MI THREAD

	Product No	D1	MI
	P0001923	15	1/2" BSP
	P0069352	22	1/2" BSP
	P0001924	22	3/4" BSP
	P0069362	28	3/4"
	P0001925	28	1" BSP
	P0001926	35	1 1/4" BSP
	P0001927	42	1 1/2" BSP
	P0069353	54	2" BSP

MI TEE SOCKET ENDS – MI BSP BRANCH

	Product No	D1	MI	D2
	P0001813	15	1/2" BSP	15
	P0001814	22	3/4" BSP	22
	P0001815	22	1" BSP	22
	P0008998	28	3/4" BSP	28
	P0001816	28	1" BSP	28
	P0008999	35	3/4" BSP	35
	P0002355	35	1 1/4" BSP	35
	P0009000	42	3/4"	42

FI ADAPTOR SOCKET – FI THREAD

	Product No	D1	FI
	P0001908	15	1/2" BSP
	P0001920	15	3/4" BSP
	P0001909	22	1/2" BSP
	P0001910	22	3/4" BSP
	P0001921	22	1" BSP
	P0001911	28	1/2" BSP
	P0001916	28	3/4" BSP
	P0001912	28	1" BSP
	P0001922	28	1 1/4" BSP
	P0001917	35	1" BSP
	P0001913	35	1 1/4" BSP
	P0002385	35	1 1/2" BSP
	P0001918	42	1 1/4" BSP
	P0001914	42	1 1/2" BSP
	P0001919	54	1 1/2" BSP
	P0001915	54	2" BSP

MI ADAPTOR SOCKET – MI THREAD

	Product No	D1	MI
	P0001817	15	1/2" BSP
	P0001824	15	3/4" BSP
	P0001825	22	1/2" BSP
	P0001818	22	3/4" BSP
	P0001826	22	1" BSP
	P0001903	28	3/4" BSP
	P0001819	28	1" BSP
	P0001829	28	1 1/4" BSP
	P0001904	35	1" BSP
	P0001820	35	1 1/4" BSP
	P0001905	35	1 1/2" BSP
	P0001906	42	1 1/4" BSP
	P0001821	42	1 1/2" BSP
	P0001907	54	1 1/2" BSP
	P0001822	54	2" BSP
	P0069354	76.1	2 1/2" BSP
	P0001827	88.9	3" BSP
	P0001828	108	4" BSP

FI UNION SOCKET – FI BSP

	Product No	D1	FI
	P0002147	15	1/2" BSP
	P0002153	15	3/4" BSP
	P0002148	22	3/4" BSP
	P0002154	22	1" BSP
	P0002149	28	1" BSP
	P0002387	28	1 1/4" BSP
	P0002150	35	1 1/4" BSP
	P0002151	42	1 1/2" BSP
	P0002152	54	2
	Item not suitable for steam or gas.		

ADAPTOR FLANGE SOCKET – FLANGE

	Product No	D1	FI
	P0002134	28	Table D
	P0002391	35	Table D
	P0002135	42	Table D
	P0002136	54	Table D
	P0002137	76.1	Table D
	P0002392	88.9	Table D
	P0008735	108	Table D
	P0002393	108	Table E
	P0002394	168.3	Table D
	P0002395	168.3	Table E

SLIP COUPLING SOCKET – SOCKET

	Product No	D1
	P0001936	15
	P0001937	22
	P0001938	28
	P0001939	35
	P0001940	42
	P0002054	54
	P0002055	76.1
	P0002344	88.9
	P0002056	108

COUPLING SOCKET – SOCKET

	Product No	D1
	P0001928	15
	P0001929	22
	P0001930	28
	P0001931	35
	P0001932	42
	P0001933	54
	P0001934	76.1
	P0002342	88.9
	P0001935	108
	P0002343	168.3

MI UNION SOCKET – MI BSP

	Product No	D1	FI
	P0002155	15	1/2" BSP
	P0002156	15	3/4" BSP
	P0002157	22	1/2" BSP
	P0002158	22	3/4" BSP
	P0002159	22	1" BSP
	P0002160	28	1" BSP
	P0002161	35	1 1/4" BSP
	P0002162	42	1 1/2" BSP
	P0002163	54	2" BSP
	Item not suitable for steam or gas.		



SPIGOT REDUCER SOCKET – TUBE END (MALE/FEMALE)



Product No	D1	D2
P0002057	22	15
P0002058	28	15
P0002059	28	22
P0002060	35	15
P0002061	35	22
P0002062	35	28
P0002063	42	15
P0002064	42	22
P0002065	42	28
P0002066	42	35
P0002067	54	15
P0002068	54	22
P0002069	54	28
P0002070	54	35
P0002071	54	42
P0002072	76.1	42
P0002073	76.1	54
P0002100	88.9	42
P0002379	88.9	54
P0002380	88.9	76.1
PLM32345	108	54
PLM32346	108	76.1
P0002381	108	88.9
P0002382	168.3	88.9
P0002383	168.3	108
P0002384	168.3	139.7

FI CONNECTOR TUBE END – FI THREAD



Product No	M	BSP
P0001950	15	1/2" BSP
P0001951	22	1/2" BSP
P0001952	22	3/4" BSP

CAP END SOCKET END



Product No	D1
P0002082	15
P0002083	22
P0002084	28
P0002085	35
P0002086	42
P0002087	54
P0002388	76.1
P0002389	88.9
P0002390	108

M10 BOSS HANGER



Product No	D1
P0002286	15
P0002287	22
P0002288	28
P0002289	35
P0002290	42
P0002291	54
P0002292	76
P0002293	108
P0002399	168.3

RING SEALS



Depending on the application, the ring seals may need to be change to a different type for higher chemical or temperature resistance.

Fittings with a press-fit socket are fitted with an EPDM rubber ring seal as standard.

Refer to our relevant Technical Media Chart for suitability or contact us for more information. Union fittings with a (flat) rubber gasket seal and a (round) ring seal, both EPDM as standard.

D1	EDPM Black -20°C to +110°C Standard	FKM (Viton) Red or Green -20°C to +200°C High Temperature	NBR Yellow or Grey -20°C to +70°C Oil or Gas
15	P0002500	P0002315	P0002403
22	P0002501	P0002316	P0002404
28	P0002502	P0002317	P0002405
35	P0002503	P0002318	P0002406
42	P0002504	P0002319	P0002407
54	P0002505	P0002402	P0002408
76.1	P0002506	P0002320	P0002409
88.9	P0002507	P0002321	P0002410
108	P0002508	P0002322	P0002411
168.3	P0002509	P0002323	P0002412

THREADED ROD 1 METRE



Product No	Type
P0002423	M10
P0002418	M12

BACKING PLATE



Product No	Type
P0002401	M10
P0002419	M12

**PRE-FORMED PIPE BRIDGE
PLAIN ENDS (MALE/MALE)**

	Product No	D1
	P0009020	15
	P0009021	22
	P0009022	28

**PIPE BRIDGE
PLAIN ENDS (MALE/MALE)**

	Product No	D1
	P0009023	15
	P0009024	22
	P0009025	28

**PIPE BRIDGE
SOCKET ENDS (FEMALE/FEMALE)**

	Product No	D1
	P0009026	15
	P0009027	22
	P0009028	28

**MI 90 BEND
SOCKET – MI BSP**

	Product No	D1	MI
	P0002142	15	1/2" BSP
	P0002143	22	3/4" BSP
	P0002144	28	1" BSP
	P0002145	35	1.1/4" BSP
	P0002146	42	1.1/2" BSP
	P0002352	54	2"

**90 BEND
TUBE – TUBE (MALE)**

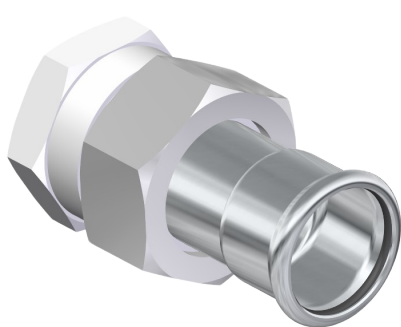
	Product No	D1	D2
	P0001613	15	15
	P0001614	22	22
	P0001615	28	28
	P0002095	35	35
	P0002096	42	42
	P0002097	54	54

**SWIVEL NUT
BEND FI BSP**

	Product No	D1	FI
	P00035151/26	15	1/2" BSP
	P00035223/46	22	3/4" BSP
	P000352816	28	1" BSP

**SWIVEL NUT
SOCKET FI BSP**

	Product No	D1	FI
	P00011151/26	15	1/2" BSP
	P00011223/46	22	3/4" BSP
	P000112816	28	1" BSP



HYDROPRESS

Gas Range

45 BEND TUBE – TUBE (MALE)



Product No	D1	D2
GASP0001619	15	15
GASP0001620	22	22
GASP0001621	28	28
GASP0002078	35	35
GASP0002079	42	42
GASP0002080	54	54

90 BEND SOCKET – TUBE END (MALE/FEMALE)



Product No	D1
GASP0001610	15
GASP0001611	22
GASP0001612	28
GASP0002088	35
GASP0002089	42
GASP0002090	54

45 BEND SOCKET – SOCKET (FEMALE/FEMALE)



Product No	D1
GASP0001616	15
GASP0001617	22
GASP0001618	28
GASP0002074	35
GASP0002075	42
GASP0002076	54

90 BEND SOCKET – SOCKET (FEMALE/FEMALE)



Product No	D1
GASP0001607	15
GASP0001608	22
GASP0001609	28
GASP0001633	35
GASP0001634	42
GASP0001635	54

FI 90 BEND SOCKET – FI BSP



Product No	D1	D2
GASP0002138	15	1/2" BSP
GASP0002139	22	3/4" BSP
GASP0002140	28	1" BSP
GASP0002141	35	1.1/4" BSP

TEE EQUAL SOCKET ENDS & BRANCH



Product No	D1
GASP0001625	15
GASP0001626	22
GASP0001627	28
GASP0001628	35
GASP0001629	42
GASP0001630	54

TEE EQUAL SOCKET ENDS & BRANCH



Product No	D1
GASP0001625	15
GASP0001626	22
GASP0001627	28
GASP0001628	35
GASP0001629	42
GASP0001630	54

MI ADAPTOR SOCKET – MI THREAD



Product No	D1	MI
GASP0001817	15	1/2" BSP
GASP0001818	22	3/4" BSP
GASP0001903	28	3/4" BSP
GASP0001819	28	1" BSP
GASP0001820	35	1.1/4" BSP
GASP0001821	42	1.1/2" BSP
GASP0001822	54	2" BSP

**FI ADAPTOR
SOCKET – FI THREAD**

	Product No	D1	FI
	GASP0001908	15	1/2" BSP
	GASP0001910	22	3/4" BSP
	GASP0001921	22	1" BSP
	GASP0001916	28	3/4" BSP
	GASP0001912	28	1" BSP
	GASP0001922	28	1.1/4" BSP
	GASP0001913	35	1.1/4" BSP
	GASP0001914	42	1.1/2" BSP
	GASP0001915	54	2" BSP

**CAP END
SOCKET END**

	Product No	D1
	P0002082	15
	P0002083	22
	P0002084	28
	P0002085	35
	P0002086	42
	P0002087	54

**SLIP COUPLING
SOCKET – SOCKET**

	Product No	D1
	GASP0001936	15
	GASP0001937	22
	GASP0001938	28
	GASP0001939	35
	GASP0001940	42
	GASP0002054	54

**3-PCS UNION TWO PRESS ENDS
SOCKET - FI BSP**

	Product No	D1	FI
	GASP00046156	15	1/2" BSP
	GASP00046226	22	3/4" BSP
	GASP00046286	28	1" BSP

**SWIVEL NUT
SOCKET - FI BSP**

	Product No	D1	FI
	GASP00011151/26	15	1/2" BSP
	GASP00011223/46	22	3/4" BSP
	GASP000112816	28	1" BSP

**FI UNION
SOCKET - FI BSP**

	Product No	D1	FI
	GASP0002147	15	1/2" BSP
	GASP00042223/46	22	3/4" BSP
	GASP0002149	28	1" BSP

**SPIGOT REDUCER
SOCKET – TUBE END (MALE/FEMALE)**

	Product No	D1	D2
	GASP0002057	22	15
	GASP0002058	28	15
	GASP0002059	28	22
	GASP0002060	35	15
	GASP0002061	35	22
	GASP0002062	35	28
	GASP0002063	42	15
	GASP0002064	42	22
	GASP0002065	42	28
	GASP0002066	42	35
	GASP0002067	54	15
	GASP0002068	54	22
	GASP0002069	54	28
	GASP0002070	54	35
	GASP0002071	54	42

**COUPLING
SOCKET – SOCKET**

	Product No	D1
	GASP0001928	15
	GASP0001929	22
	GASP0001930	28
	GASP0001931	35
	GASP0001932	42
	GASP0001933	54

**MI UNION
SOCKET - MI BSP**

	Product No	D1	MI
	GASP0002155	15	1/2" BSP
	GASP00041223/46	22	3/4" BSP
	GASP0002160	28	1" BSP

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