

<A> Press Inox



<A> Press Inox Technical Brochure - 316L
15 to 54 mm

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1. General

<A> Press Inox M profile is a flame-free fitting, manufactured using high quality stainless steel 1.4404 (AISI 316L) and offers an extremely high corrosion resistance. The entire series is type-tested and approved for drinking water applications.

1.1 Quality and certification

Conex Bänninger has 110 years of experience in manufacturing innovative products and operates an accredited Quality Management System to EN ISO 9001.

<A> Press Inox press fittings are tested and certified by independent national certification bodies confirming their suitability and reliability for water applications. <A> Press Inox is certified by the following bodies:

Table 1

<A> Press Inox fittings 15 to 54 mm		Material grade
UK	WRAS	316L
Germany	DVGW	316L

<A> Press Inox tube 15 to 54 mm		Material grade
UK	WRAS	316L

1.2 Features and benefits

- Suitable for drinking water, hot and cold water installations, local and district heating, rainwater harvesting, oil-free compressed air and vacuum. For additional applications please refer to section 2.
- Easy to install, saving on labour time.
- Permanent, flame-free connection – no brazing or soldering consumables or hot works permit required.
- Leak before press indicator assists identification of unpressed joints.
- Maximum continuous operating temperature 110 °C.
- Manufactured using high quality materials, including an EPDM O-ring, that is to applicable standards.
- Suitable for in-built water installations.
- Tested and approved by national and international standard authorities.
- Full product guarantee, for full terms and conditions please see section 12.
- Available in sizes 15 to 54 mm.
- Suitable for use with stainless steel tubes to EN 10312 series 1 and 2. See tube compatibility table in section 8.5.
- Compatible with commonly available press tools (see section 6).

1.3 Materials and threads

<A> Press Inox fittings and tubes are available in the following austenitic stainless steel material grade 1.4404 (AISI 316L) in accordance with EN 10088.

Fittings and tubes are WRAS and DVGW approved for drinking water applications.

The tubes correspond in properties and dimensions with the requirements of EN 10312 in both wall thicknesses, series 1 and 2.



<A> Press Inox

Threaded connections

<A> Press Inox fittings are available with male and female threaded connections to the following standards:

- Joining threads are to ISO 7-1 and EN 10226-1. Female are parallel and male are taper.
- Fastening threads are to ISO 228-1 parallel.

1.4 Storage and handling

Store in a cool and dry place to protect the fittings from contamination, damage and dirt. Keep out of direct sunlight. Fittings should be left in their packaging to preserve the lubrication on the O-rings prior to installation.

1.5 Black EPDM sealing elements

<A> Press Inox EPDM O-rings are peroxide-cured rubber seals with high elasticity, excellent cold and heat performance.

Please refer to section 2 for the fitting operating parameters for the different applications.

1.6 Leak before press indicator

<A> Press Inox benefits from patented 'leak-before-press' O-ring technology (15 to 54 mm) which indicates if a joint has not been pressed. The O-ring contains two in-built water pathways that in the unpressed condition allows water to pass through and create a noticeable leak when the system is tested at low pressure (0.1 to 6.0 bar). Any unpressed joints can be pressed without draining down.



1.7 Cold bending of stainless steel tubes

Stainless steel tubes up to 28 mm, comply with EN 10312 Series 1 & 2. Tubes can be bent cold with suitable bending equipment, with a minimum bend radius of 3.5 times the tube diameter.

1.8 System testing

Pressure testing should be carried out to the appropriate standard (e.g. EN 806 specifies 1.1 x maximum design pressure) or to the satisfaction of the supervising engineer with a maximum test pressure of 1.5 times the operating pressure. For further information please refer to section 5.

1.9 Electrical continuity

<A> Press Inox fittings maintain earth continuity without the need for additional continuity straps.

1.10 Recommended water velocities

Please note the maximum allowances for water velocities are per the relevant national standards and codes, which includes EN 806 part 2 and part 3.

1.11 COSHH

(Control of substances hazardous to health)

It is the responsibility of the end user to ensure that adequate protection is available where required and the necessary information regarding possible health and safety regulations is adhered to. Stainless steel fitting is considered non-hazardous under normal circumstances.

1.12 Tube compatibility

<A> Press Inox fittings are suitable for use with stainless steel tubes stainless steel tubes manufactured in accordance with EN 10312 Series 1 and 2. Please refer to section 8.5 for the full tube compatibility table.

1.13 Product marking

<A> Press Inox 316L are marked on the body '316L'.



2. Product Suitability & Applications

<A> Press Inox 316 is suitable for use in a variety of applications, including drinking water installations, with the operating parameters outlined in table 2.

Installations must be planned and operated in accordance with local regulations, codes of practice and by laws and standards governing the installation e.g. EN 806: parts

1 to 4: Specifications for installations inside buildings conveying water for human consumption or EN 12828: Heating systems in buildings. Design for water-based heating systems

For information on corrosion protection please see section 4.

Table 2

Application	Flow medium	Pressure bar	Temp °C	M 316
Drinking water installations EN 806	Drinking water	10 max	95	✓
		16 max	25	✓
Hot water heaters EN 12828	Heating water	16	110 max	✓
Local and district heating tubes	Heating and district heating water	16	110 max	✓
Thermal solar systems with operating temperatures ≤ 110°C EN 12975 /12976	Water and water-glycol mixtures. Mixing ratio max 50/50%.	6	-35 to +110	✓
			180 ≤ 30 h/a**	
			200 ≤ 10 h/a**	
Water based air conditioning systems	Water and water-glycol mixtures. Mixing ratio max 50/50%.	6	-10 min	✓
Rainwater harvesting systems	Rainwater from cisterns.	10	25	✓
Oil-free compressed air	Compressed air classes 1 - 3 in accordance with ISO 8573-1	10	≤60	✓
Industrial and process water	Treated, softened, partially de-ionized water with a pH ≥ 6.5**	16	110 max	✓
Vacuum lines for non-medical purposes	N/A	-0.8	Ambient	✓

A chloride limit value of 250 mg applies to drinking water within the EU. The chloride content of other water (e.g. process water) should not exceed 600 mg when using <A> Press Inox (316L).

* h/a – Hours per annum

** In the event of deviating parameters, please contact the technical department, technical@ibpgroup.com.

For applications outside those stated in the table above, please contact the technical department: technical@ibpgroup.com.

3. Thermal Expansion

3.1 Effects of expansion

Using the general equation for change in length (linear expansion) which is:

$$\Delta L = L \times \Delta t \times \alpha$$

Where:

ΔL = change in length in mm

L = length in m

Δt = change in temperature °C

α = coefficient of linear expansion.

For example, for 316L, a 10 m length of stainless steel tube, irrespective of its size, wall thickness or temper, will increase in length by 9.6 mm with a temperature rise of 60 °C where the coefficient of linear expansion for 316 stainless steel = 0.016 i.e.
 $9.6 = 10 \times 60 \times 0.016$.

Tubes installed on hot water services must be free to accommodate this expansion; otherwise stresses will build up in the pipework that may lead to joints being pulled apart and/or tubes fracturing. Clearly the magnitude and frequency of such changes in length will determine the life of the joint or failure of the tube.

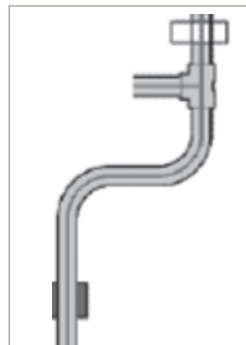
Table 3 shows the amount of tube expansion for a given temperature rise. In the case of tube in domestic hot water and heating installations the limited size of rooms and hence straight tube runs, together with the many bends and offsets that normally occur, will result in thermal movement being accommodated automatically. However, where long straight tube runs, exceeding 10 m, are encountered, allowance for expansion should be made.

A quick, economic and effective way of accommodating thermal expansion is to simply incorporate the horseshoe or compensating bend to the system design.

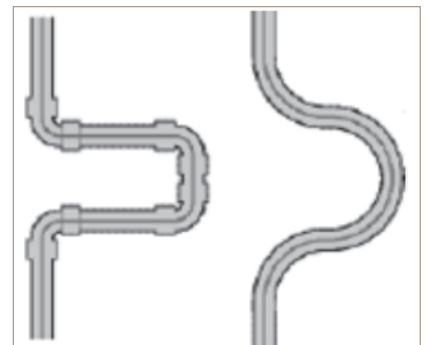
3.2 Expansion devices

Where stainless steel tubes pass through walls, floors and ceilings, they should be able to move as a result of expansion and contraction. This can be arranged by passing the tube through a sleeve or length of larger diameter tube fixed through the whole thickness of the wall, floor or ceiling, or by means of flexible joints on either side of the wall.

Short stubs to and from radiators, connected to relatively long straight runs should also be avoided. This can usually be achieved by introducing an expansion loop, thereby increasing the length of pipework fixed between the flow/return legs and the radiator connection. However, expansion accommodation techniques such as the use of loops and horseshoes may not be sufficient to accommodate large expansions and in such cases the use of the bellow type couplers may be necessary.



By change of direction



Horseshoe or compensating bend



The table below shows the increase in length due to thermal expansion as a function of change in temperature Δt and the length of the tube, irrespective of diameter, temper or wall thickness.

Table 3

Thermal Expansion - Stainless Steel 316L - Coefficient of Expansion = 0.016								
Tube length m	Change in length mm with temperature difference Δt °C							
	$\Delta t=30^\circ$	$\Delta t=40^\circ$	$\Delta t=50^\circ$	$\Delta t=60^\circ$	$\Delta t=70^\circ$	$\Delta t=80^\circ$	$\Delta t=90^\circ$	$\Delta t=100^\circ$
1	0.48	0.64	0.8	0.96	1.12	1.28	1.44	1.6
2	0.96	1.28	1.6	1.92	2.24	2.56	2.88	3.2
3	1.44	1.92	2.4	2.88	3.36	3.84	4.32	4.8
4	1.92	2.56	3.2	3.84	4.48	5.12	5.76	6.4
5	2.4	3.2	4	4.8	5.6	6.4	7.2	8
10	4.8	6.4	8	9.6	11.2	12.8	14.4	16
15	7.2	9.6	12	14.4	16.8	19.2	21.6	24
20	9.6	12.8	16	19.2	22.4	25.6	28.8	32
25	12	16	20.00	24	28	32	36	40

ΔL dimensional increase is stated in mm.



4. Corrosion Resistance, Frost / Heat Protection

4.1 Internal corrosion

The term stainless comes from the steel's ability to form a thin but dense protective film, known as the passive layer, which minimises the effects of corrosion and provides high levels of hygiene, durability and water quality.

The passive layer is formed when the chromium content of the material reacts with oxygen, resulting in the compound chromium oxide.

Chloride ions have the ability under certain conditions to penetrate the passive layer and cause localised corrosion.

A chloride limit of 250 mg applies to drinking water within the EU. The chloride content of other water (e.g. process water) should not exceed 600 mg when using <A> Press Inox (316L).

It has also been proved that the risk of crevice and pitting corrosion increases with temperature. It is therefore important that local chloride levels are taken into consideration and risks are minimised with the use of a suitable corrosion inhibitor for heating and cooling systems.

Please refer to manufacturers' instructions regarding the use of inhibitors in stainless steel systems.

For further information on the protection of metallic materials against corrosion please refer to EN 12502 and EN 14868.

4.2 Disinfection

It is preferable that stainless steel pipe systems are disinfected with hydrogen peroxide (H₂O₂). Where this is not possible, chlorine concentrations up to 25ppm during a 24 hour period are acceptable, providing that the lines are comprehensively flushed with fresh water and that residual chlorine is restricted to <2ppm. It is recommended that this is verified by analysis.

4.3 External corrosion

In the event that a stainless steel system is exposed to corrosive environments external to the system, such as chloride from cladding materials or coastal/offshore sites, it is recommended that prior to the application of thermal insulation, a suitable protective paint or appropriate thickness aluminium foil wrap or thermal spray is applied.

Any corrosion barriers should be applied in accordance with BS 5970 - Code of practice for thermal insulation of pipework and equipment.

4.4 Thermal insulation

The thermal insulation of tubes should be implemented in accordance with national codes and standard including BS 5970.

4.5 Protection against heat gain and frost

Regulations require that all water services (except warning or overflow pipes) shall be protected from freezing temperatures and heat gain. This is best achieved by protecting the system by use of a suitable thickness of insulation or in the case of particular situations such as unheated roof spaces that require special care, a self-regulating trace heating tape.

In non-drinking water applications, if a frost protection inhibitor is to remain in the pipelines permanently, at least one concentration test must be carried out annually. All chemical additions must be agreed before use to rule out negative interactions with materials and sealing elements (O-rings).

4.6 Connecting to other materials

Stainless steel, copper and copper alloys can be combined in a single system with no restriction of flow direction.

However in order to minimise the likelihood of galvanic corrosion, a direct connection should not be made in systems where the use of corrosion inhibitors is not possible, and a dielectric union or copper alloy spacer of at least 50mm in length should be used for this connection.

For further information on galvanic corrosion, please refer to EN14868 for closed water circulation systems and EN 12502-4 for guidance specific to stainless steel systems.

5. Pressure Testing

It is preferable that testing a system containing <A> Press Inox fittings is initially carried out pneumatically with oil-free compressed air or inert gas (eg nitrogen).

This is particularly important where systems are to remain idle for extended periods of time, and if tested hydrostatically and not properly drained or flushed (See section 5.1), there is the potential for bacteria growth and or corrosion. Pneumatic testing shall be carried out to a maximum of 3 bar and the pressure shall be increased slowly and incrementally.

A hydrostatic test shall only be carried out immediately prior to commissioning the installation. The system shall be filled with clean drinking water against an open high point valve allowing all trapped air to be removed from the network. Once free of trapped air, the high-level valve should be closed and the system topped up, at that stage testing should be completed between 1-2 bar to ensure any unpressed joints are identified. The recommended system test pressure should be in accordance with the requirements of EN 806 part 4 (1.1 x maximum design pressure or to the satisfaction of the supervising engineer with a maximum test pressure of 1.5 times the operating pressure). Full test pressure should be maintained for a minimum of 30 minutes with without any sign of pressure drop. A full inspection should then be carried out to identify any leaks.

During hydrostatic or pneumatic testing, any joints identified as unpressed and are showing signs of leakage should be pressed upon the return to atmospheric pressure, however it is essential the tube is fully inserted to the tube stop prior to pressing.

All joints shall remain uncovered and visible when pressure testing systems containing <A> Press Inox fittings.

Pressure testing should be carried out in accordance with national regulations and appropriate specifications drawn up and a risk assessment must be completed prior to testing.

5.1 Flushing of water installations

It is essential to flush the systems with water after installation to remove dust, and debris. Commissioning should be carried out in accordance with EN 806-4.

If installations are not used immediately after commissioning, they should be flushed at regular intervals, at least once a week. After an extended time, the system should be disinfected to comply with legionella guidelines.

5.2 Water softening

Hard water may be softened to avoid excessive deposits of scale in hot water services. <A> Press Inox system is fully compatible with reverse osmosis and ion exchange treatment methods and highly resistant to corrosions with softened decarbonised water or desalinated water.

6. Compatible Press Tools

6.1 Tool chart

Table 4

15 to 35 mm Compact 19kN machines						
Manufacturer	Press machine	Press jaws	Size range (mm)	Profile	EN 10312 Series 1	EN 10312 Series 2
Rems	Mini Press ACC	Rems - Mini	15 to 35	M	✓	✓
Klauke	MAP219/MAP2L19	Klauke – SBMX	15 to 28	M	✗	✓
Novopress	ACO102/ACO103	NovoPress - Press jaw M15 to M35	15 to 35	M	✓	✓
Geberit Mapress	ACO102/ACO103	Geberit - Press jaws [1 series] M15 to M35 (Black colour)	15 to 35	M	✓	✓
Pegler XPress	ACO102/ACO103	Pegler SB211 PB1 series	15 to 35	M	✓	✓

Table 5

15 to 54 mm Standard 32kN machines						
Manufacturer	Press machine	Press jaws	Size range (mm)	Profile	EN 10312 Series 1	EN 10312 Series 2
Rems	Power-Press/ Akku-Press	Rems - Standard	15 to 54	M	✓	✓
Klauke	UAP2/UAP3L/UAP332	Klauke - Standard SB	15 to 54	M	✗	✓
Novopress	ECO202/ACO202	Novopress - Press jaws M15 to M35	15 to 35	M	✓	✓
	ECO203/ACO203	Novopress - Press Collars - M42, M54 plus ZB203 Adaptor	42 to 54	M	✓	✓
	ACO202XI/ACO203XL	Novopress - Press Collars - M42, M54 plus ZB203 Adaptor	42 to 54	M	✓	✓
Geberit Mapress	ECO202/ACO202	Geberit - Press jaws [2 series] M15 to	15 to 35	M	✓	✓
	ECO203/ACO203	M35 (Black colour)	15 to 35	M	✓	✓
	ACO202XI/ACO203XL	Geberit - Press Collars - M42, M54 plus ZB203A Adaptor	42 to 54	M	✓	✓
			42 to 54	M	✓	✓
Pegler Xpress	ECO202/ACO202	Pegler S227 ECOTEC series	15 to 35	M	✓	✓
	ECO203/ACO203	Press Jaws	15 to 35	M	✓	✓
	ACO202XI/ACO203XL	Pegler S228 series Press Collars plus ZB203 Adaptor	42 to 54	M	✓	✓
			42 to 54	M	✓	✓

For full machine/tool compatibility please refer to the website - www.conexbanninger.com

7. Loss Coefficients (Zeta Values)

Table 6

Symbol	Designation	ζ	Application		Symbol	Designation	ζ	Application	
			DW	H				DW	H
	Angle or elbow reference value in accordance with DIN 1988 T3	0,70	X	X		Distributor outlet	0,5	X	X
						Collective inlet	1,0	X	X
	Angle 90° r/d	= 0,5	X	X		Reservoir outlet	0,5	X	
	(r/d = 1,2)	= 1,0	X	X		Inlet	1,0	X	X
	with fittings	= 2,0	X	X					
	complying with DIN EN 1254)	= 3,0	X	X					
	Angle	$\beta = 90^\circ$	X	X		Reducer	0,4	X	X
		= 60°	X	X					
		= 45°	X	X					
	Crossover	0,5	X	X		Constriction β - constant	= 30° 45° 60°	0,02 0,04 0,07	X X X
	Branch, square flow separation	1,3	X	X		Expansion β - constant	= 10° 20° 30° 40°	0,10 0,15 0,20 0,20	X X X X
	Flow merging	0,9	X	X					
	Clearance at flow merging	0,3	X	X					
	Clearance at flow merging	0,6	X	X					
	Counter-flow at flow merging	3,0	X	X		Expansion bends		1,0	X
	Counter-flow at flow separation	1,5	X	X					
						Compensator		2,0	X
						Compensator		2,0	X

Symbol	Designation	ζ	Application		Symbol	Designation	ζ	Application	
			DW	H				DW	H
	Branch, curved flow separation	0,9	X	X		Shut-off valve Straight seat valve			
	Flow merging	0,4	X	X		DN 15	10,0	X	X
	Clearance at flow separation	0,3	X	X		DN 20	8,5	X	X
	Clearance a flow merging	0,2	X	X		DN 25	7,0	X	X
	Angle valves					DN 32	6,0	X	X
	DN 10	7,0	X	X		DN 40 to DN 100	5,0	X	X
	DN 15	4,0	X	X		Angle seat valve			
	DN 20	2,0	X	X		DN 15	3,5	X	X
	to DN 50	3,5	X	X		DN 20	2,5	X	X
	DN 65 to DN 100	4,0	X	X		DN 25 to DN 50	2,0	X	X
						DN 65	0,7	X	X
	Diaphragm valves					Return flow inhibitor			
	DN 15	10,0	X	X		DN 15 to DN 20	7,7	X	
	DN 20	8,5	X	X		DN 25 to DN 40	4,3	X	
	DN 25	7,0	X	X		DN 50	3,8	X	
	to DN 32	6,0	X	X		DN 65 to DN 100	2,5	X	
	DN 40 to DN 100	5,0	X	X		Control valve with return flow inhibitor			
	Shutter valves					Valve tapping sleeve			
	Piston valves					DN 25 to DN 80	5,0	X	
	Ball valves								
	DN 10 to DN 15	1,0	X	X		Boiler	2,5		X
	DN 20 to DN 25	0,5	X	X					
	DN 32 to DN 150	0,3	X	X		Heating radiator	2,5		X
	Radiator valves	4,0		X					
	Control valve	2,0		X		Panel radiator	3,0		X
	Pressure regulator fully open	30,0		X					

8. Installation Requirements

8.1 Space required for the pressing process

The following minimum clearances are required from structural components to allow operation of tool for press fitting.

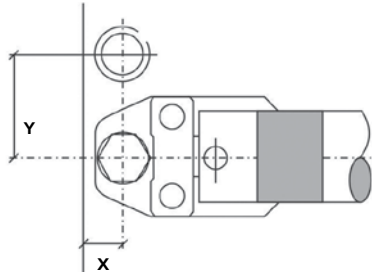


Table 7

Space required for the pressing process between fittings and wall.		
External tube	X	Y
Size mm	mm	mm
15	26	53
22	26	56
28	33	69
35	33	73
42	75	115
54	85	120

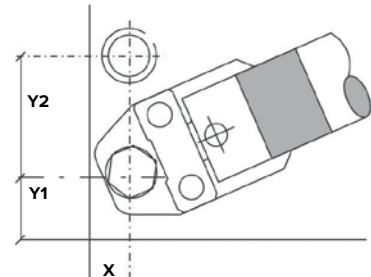


Table 8

Space required for the pressing process between fittings and wall corner.			
External tube	X	Y1	Y2
Size mm	mm	mm	mm
15	31	45	73
22	31	45	76
28	38	55	80
35	38	55	85
42	75	75	115
54	85	85	140

8.2 Insertion depth and minimum distances between pressings

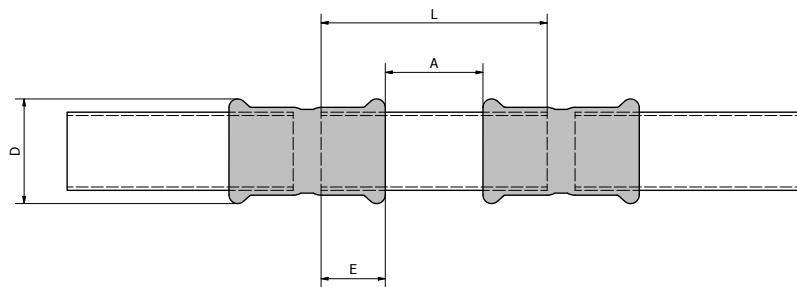


Table 9

Insertion depth and minimum distance between pressings				
Size	External - Ø pressing bead	Minimum distance	Minimum tube length	Insertion depth
mm	D - mm	A - mm	L - mm	E - mm
15	22	10	50	20
18	25	10	55	20
22	23	20	62	21
28	35.5	20	66	23
35	42.5	25	77	26
42	51	30	90	30
54	62.7	35	105	35

8.3 Minimum distance for press fittings from an existing welded or brazed joint

To ensure proper sealing of both the welded/brazed and <A> Press Inox fitting, the following minimum distances must be maintained between the two fittings. Please see Table 10 for further information.

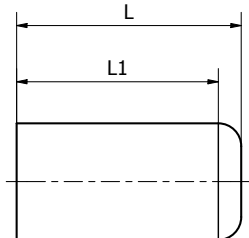


Table 10

Minimum distance from a welded joint	
Tube size	mm
15	5
22	5
28	5
35	10
42	15
54	20

8.4 Minimum welding or brazing distance to an existing pressed fitting

Caution: welding or brazing near <A> Press Inox joints should be avoided as this may cause the seal to degrade due to heat transfer. Table 11 states the minimum distance away from the press joint which is acceptable to weld or braze. If this distance cannot be maintained then adequate precautions must be taken such as fabricating the welded or brazed section prior to assembly with the press fittings, wrapping in a wet rag or applying a hot block to prevent heat transfer to the press fitting during welding/brazing.

Table 11

Minimum distance welding	
Tube size	mm
15	450
22	600
28	700
35	900
42	1200
54	1500

8.5 <A> Press Inox tube compatibility table

The dimensions of stainless steel tube, to be used with <A> Press Inox need to be to standard EN 10312 Series 1 or Series 2.

Table 12

Tube wall thickness (mm)		
Tube O/D	Wall thickness (series 1)	Wall thickness (series 2)
15	0.6	1.0
18	0.7	1.0
22	0.7	1.2
28	0.8	1.2
35	1.0	1.5
42	1.1	1.5
54	1.2	1.5

9. Tube Preparation

To ensure a secure and permanent joint the tube must be correctly prepared prior to installation. Incorrect tube preparation can result in damaging the O-ring and causing the fittings to leak.

Note: Avoid grinding wheels, fast cutting saw and hacksaws as they are not suitable for cutting tube. If the tube ends become distorted, remove the damaged section by using the appropriate cutting method.

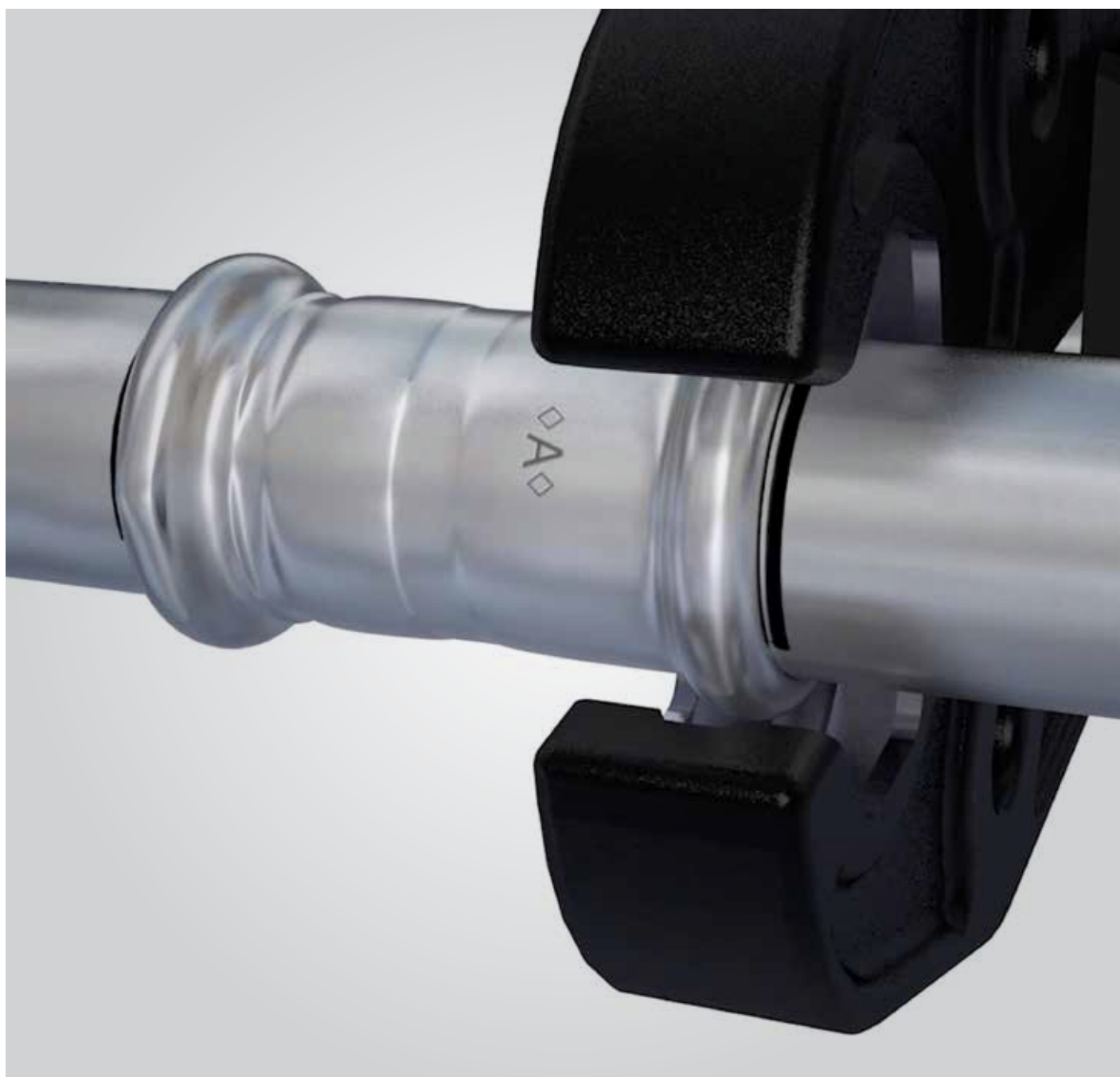
When preparing tube ensure that the tube is correctly supported and eye protection is worn. If using power

tools, great care must be taken. Refer to the manufacturers instructions before use.

Safety note: When using press tools, care must be taken to ensure hands are kept away from the jaw during the pressing process. Always wear ear and eye protection.

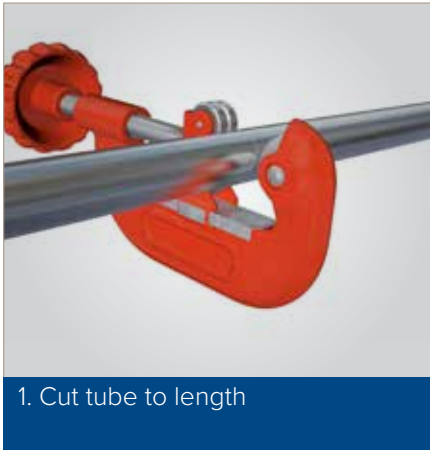
Sizes 15 mm - 54 mm

For instructions on how to cut the tube please refer to section 10.



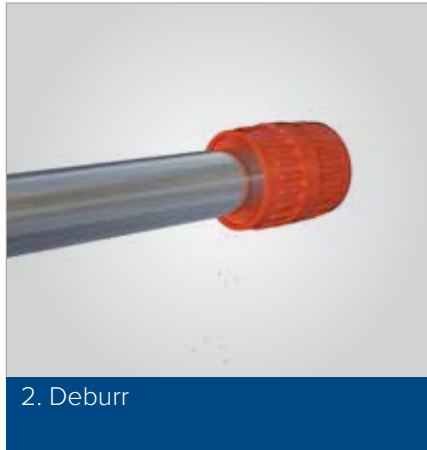
10. Fitting Installation Instructions

Leave the fittings in the packaging prior to final installation to protect them from contamination and to preserve the lubrication of the O-rings. Please note the space required for pressing tools (see section 8).



1. Cut tube to length

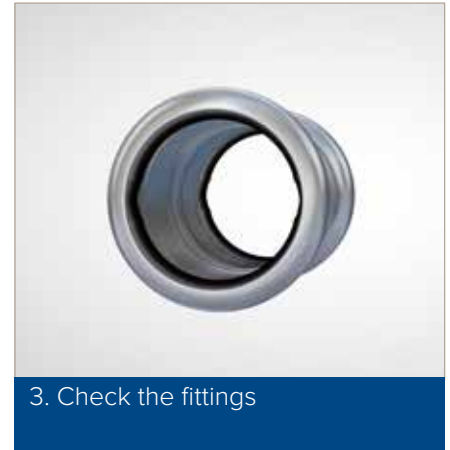
- Use a rotary tube cutter.
- Ensure that the tube is cut square.
- Check the tube has maintained its shape and is damage free.



2. Deburr

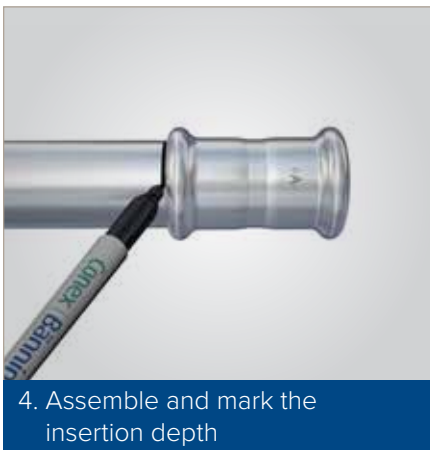
- Deburr the tube both internally and externally.
- Where possible angle the tube downwards to prevent filings entering the tube.
- Make sure the internal and external surfaces of the tube ends are smooth and free from burrs and sharp edges.

Caution: Please ensure that the tube surface is free from any deep score or scratches.



3. Check the fittings

- Check the fittings is the correct size for the tube.
- Check the O-rings are present and correctly seated.
- It is good practice to add a small amount of Conex Bänninger press fitting lubricant to the O-rings to aid tube insertion.



4. Assemble and mark the insertion depth

- The tube must be fully inserted into the fitting until it reaches the tube stop.
- To reduce the risk of dislodging the O-ring, rotate the tube (if possible) while slipping it into the fittings.
- Mark the insertion depth on the tube.
- Prior to pressing ensure the tube has not moved out from the fitting socket.



5. Complete the joint with the press tool

- Ensure pipework is correctly aligned prior to pressing.
- Ensure the correct size jaw is inserted into the tool.
- The jaws must be placed squarely on the fitting, locating the groove on the bead.
- The bead on the fitting should fit centrally in the groove of the jaw.
- Depress and hold the start button on the press tool to complete the pressing cycle.
- Pressing is complete when the jaws are fully closed.

Caution: The <A> Press Inox joint is complete after one full cycle of the tool. Do not crimp any <A> Press Inox fitting more than once.

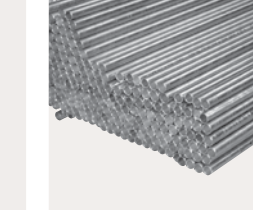
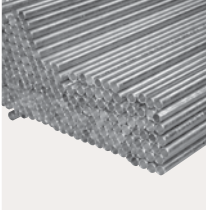


6. Completed joint

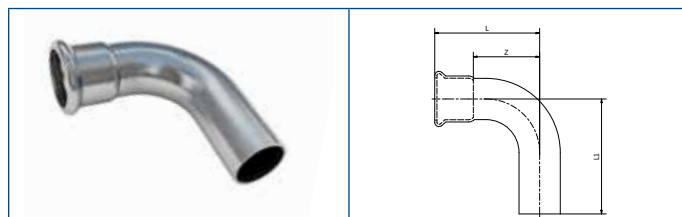
- Mark the completed joint after pressing.
- This enables joints to be inspected easily before testing.

<A> Press Inox

11. The Range

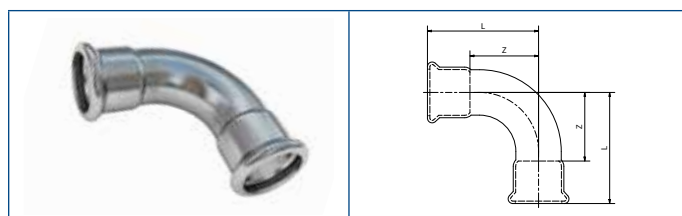
PS26001 90° Street Elbow	PS26002 90° Elbow	PS26002G CxFi 90° Swivel Connector	PS26040 45° Obtuse Street Elbow	PS26041 45° Obtuse Elbow
				
S26085 Full Crossover Coupler	PS26090G CxFi 90° Elbow ISO - 7	PS26092G CxMi 90° Elbow ISO - 7	PS26292 Plug End	PS26130 Equal Tee
				
PS26130RB Reduced Branch Tee	PS26130G CxCxFi Branch Tee ISO - 7	PS26133G CxCxMi Branch Tee ISO - 7	PS26230B Flange Adaptor PN16	PS26355 CxFi Con Flat Seal Face
				
PS26243 Fitting Reducer	PS26243G CxMi Coupler ISO - 7	PS26270 Coupler	PS26270G CxFi Coupler ISO - 7	PS26275 Slip Coupler
				
PS26301 Cap End	PS26340G 3-Pcs Female Thread Union	PS26341G 3-Pcs Male Thread Union	PS26471G Wallplate Elbow ISO - 7	MPABPSOIL100ML Fitting Lubricant for O-ring
				
>B< Press Inox tube 				

*PS26 refers to material grade 316L



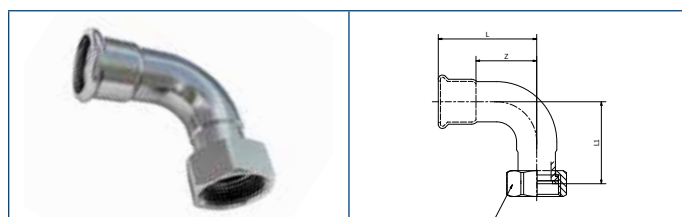
PS26001 90° Street Elbow

Code 316L	Fitting size	L	L1	Z
PS26001 0150000	15	45	52	25
PS26001 0180000	18	50	57	30
PS26001 0220000	22	57	70	36
PS26001 0280000	28	68.5	76	45.5
PS26001 0350000	35	73.5	90	47.5
PS26001 0420000	42	85	100	55
PS26001 0540000	54	104	121	69



PS26002 90° Elbow

Code 316L	Fitting size	L	Z
PS26002 0150000	15	45	25
PS26002 0180000	18	50	30
PS26002 0220000	22	57	36
PS26002 0280000	28	68.5	45.5
PS26002 0350000	35	73.5	47.5
PS26002 0420000	42	85	55
PS26002 0540000	54	104	69

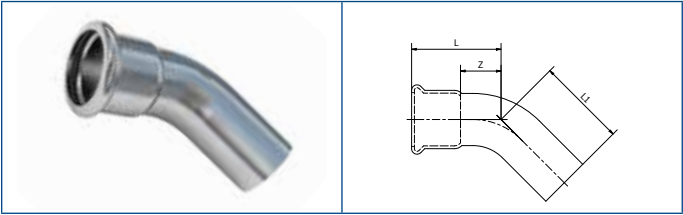


PS26002G CxFi 90° Swivel Connector

Code 316L	Fitting size	L	L1	Z	S
PS26002G0150400	15 x 1/2"	45	38	25	24
PS26002G0180400	18 x 1/2"	50	43	30	24
PS26002G0220600	22 x 3/4"	57	47	36	30
PS26002G0280800	28 x 1"	68	58.5	45	37
PS26002G0351000	35 x 1 1/4"	73.5	65	47.5	46
PS26002G0421200	42 x 1 1/2"	85.5	83	55.5	52.5
PS26002G0541600	54 x 2"	116	106	81	64

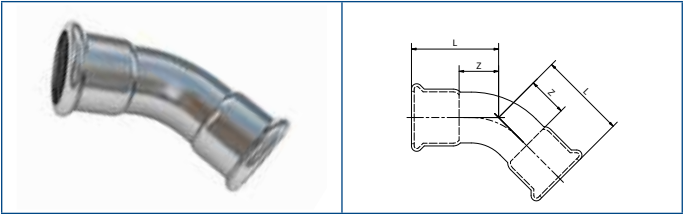
*All above measurements are in mm unless stated differently.

<A> Press Inox



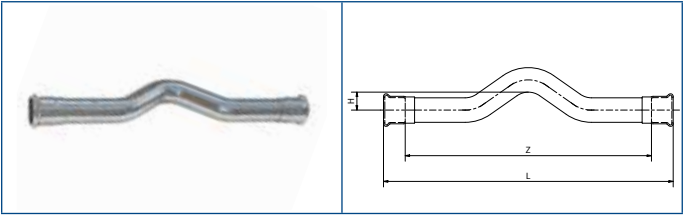
PS26040
45° Obtuse Street Elbow

Code 316L	Fitting size	L	L1	Z
PS26040 0150000	15	39	48	19
PS26040 0180000	18	39	48	19
PS26040 0220000	22	45	56	24
PS26040 0280000	28	52	60	29
PS26040 0350000	35	58	68	32
PS26040 0420000	42	70	78	40
PS26040 0540000	54	83	92	48



PS26041
45° Obtuse Elbow

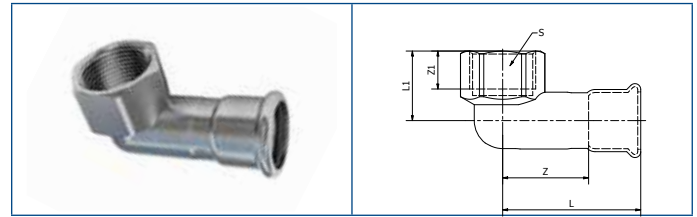
Code 316L	Fitting size	L	Z
PS26041 0150000	15	36	16
PS26041 0180000	18	36	16
PS26041 0220000	22	42	21
PS26041 0280000	28	52	29
PS26041 0350000	35	58	32
PS26041 0420000	42	70	40
PS26041 0540000	54	75	40



PS26085
Full Crossover Coupler

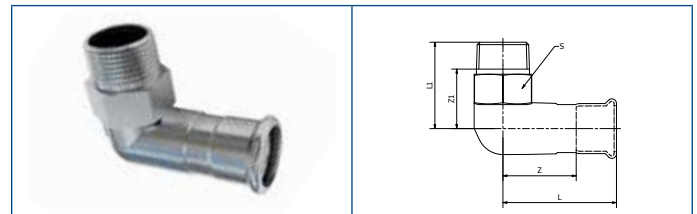
Code 316L	Fitting size	L	Z	H
PS26085 0150000	15	167	127	12.5
PS26085 0180000	18	186	146	14
PS26085 0220000	22	203	161	16
PS26085 0280000	28	227.5	181.5	20.5

*All above measurements are in mm unless stated differently.



PS26090G
CxFi 90° Elbow ISO - 7

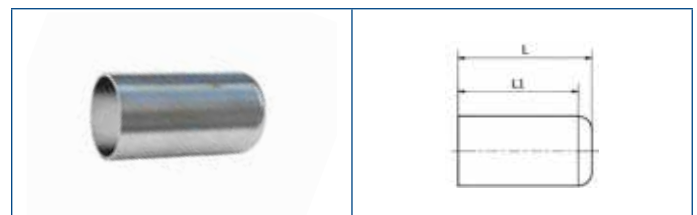
Code 316L	Fitting size	L	L1	Z	Z1	S
PS26090G0150400	15 x 1/2"	53.5	26.5	33.5	15.5	26
PS26090G0180400	18 x 1/2"	53.7	25.7	33.7	15.5	26
PS26090G0220400	22 x 1/2"	53.7	25.7	32.7	15.5	26
PS26090G0220600	22 x 3/4"	61	31	40	16.5	32
PS26090G0280800	28 x 1"	69.5	35	46.5	20	38
PS26090G0351000	35 x 1 1/4"	77.5	40	51.5	21.5	48



PS26092G
CxMi 90° Elbow ISO - 7

Code 316L	Fitting size	L	L1	Z	Z1	S
PS26092G0150400	15 x 1/2"	59	37	39	21	24.5
PS26092G0180400	18 x 1/2"	61	37	41	21	24.5
PS26092G0220600	22 x 3/4"	62.5	46	41.5	29.5	28
PS26092G0280800	28 x 1"	71	54	48	35	34
PS26092G0351000	35 x 1 1/4"	78	55	52	33	44
PS26092G0421200	42 x 1 1/2"	84	60	54	35	50
PS26092G0541600	54 x 2"	97.5	65	62.5	38	62

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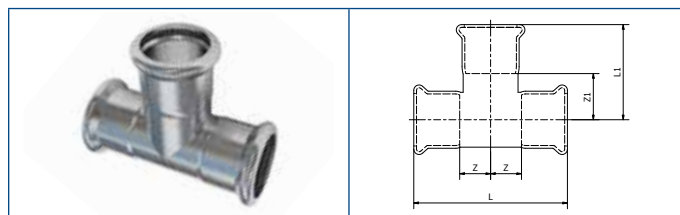
PS26292
Plug End

Code 316L	Fitting size	L	L1
PS26292 0150000	15	47	42
PS26292 0220000	22	53	47.5
PS26292 0280000	28	54	49
PS26292 0350000	35	59	54
PS26292 0420000	42	59	54
PS26292 0540000	54	65	60

*All above measurements are in mm unless stated differently.

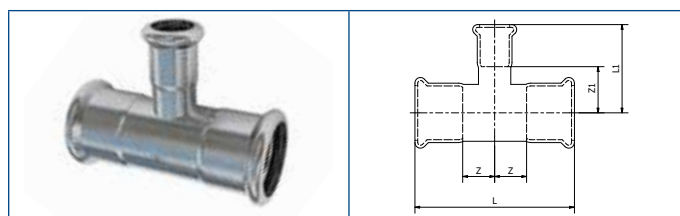
<A> Press Inox

PS26130 Equal Tee



Code 316L	Fitting size	L	L1	Z	Z1
PS26130 0151515	15	68	39	14	9.5
PS26130 0181818	18	68	42	14	10.5
PS26130 0222222	22	74	45	16	13.5
PS26130 0282828	28	84	52	19	17
PS26130 0353535	35	103	57	25	19.5
PS26130 0424242	42	116	62	28	23
PS26130 0545454	54	140	77	35	29.5

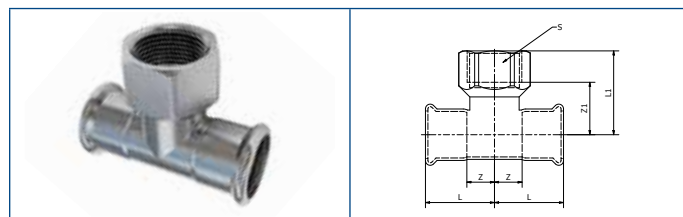
PS26130RB** Reduced Branch Tee



Code 316L	Fitting size	L	L1	Z	Z1
PS26130 0181518	18 x 15 x 18	68	41.5	14	21.5
PS26130 0221522	22 x 15 x 22	74	43	16	23
PS26130 0221822	22 x 18 x 22	74	45	16	25
PS26130 0281528	28 x 15 x 28	84	46.5	19	26.5
PS26130 0281828	28 x 18 x 28	84	48.5	19	28.5
PS26130 0282228	28 x 22 x 28	84	48.5	19	27.5
PS26130 0351535	35 x 15 x 35	102.5	49	25	29
PS26130 0351835	35 x 18 x 35	102.5	51	25	31
PS26130 0352235	35 x 22 x 35	102.5	51	25	30
PS26130 0352835	35 x 28 x 35	102.5	54.5	25	31.5
PS26130 0421542	42 x 15 x 42	116	52.5	28	32.5
PS26130 0422242	42 x 22 x 42	116	54.5	28	33.5
PS26130 0422842	42 x 28 x 42	116	58	28	35
PS26130 0423542	42 x 35 x 42	116	60.5	28	34.5
PS26130 0541554	54 x 15 x 54	140	59	35	39
PS26130 0542254	54 x 22 x 54	140	61	35	40
PS26130 0542854	54 x 28 x 54	140	64.5	35	41.5
PS26130 0543554	54 x 35 x 54	140	67	35	41
PS26130 0544254	54 x 42 x 54	140	68.5	35	38.5

** The above description reads end, branch, end.

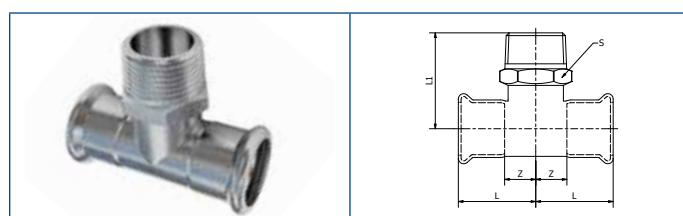
*All above measurements are in mm unless stated differently.



PS26130G**

C x C x Fi Branch Tee ISO - 7

Code 316L	Fitting size	L	L1	Z	S
PS26130G0150415	15 x 1/2" x 15	34	39.5	14	26
PS26130G0180418	18 x 1/2" x 18	34	41	14	26
PS26130G0180618	18 x 3/4" x 18	34	42	14	31
PS26130G0220422	22 x 1/2" x 22	37	43	16	26
PS26130G0220622	22 x 3/4" x 22	37	44	16	31
PS26130G0280428	28 x 1/2" x 28	42	46	19	26
PS26130G0280628	28 x 3/4" x 28	42	47	19	31
PS26130G0280828	28 x 1" x 28	42	51	19	39
PS26130G0350435	35 x 1/2" x 35	51	49	25	26
PS26130G0350635	35 x 3/4" x 35	51	50	25	31
PS26130G0350835	35 x 1" x 35	51	55.5	25	39
PS26130G0351035	35 x 1 1/4" x 35	51	55.5	25	48
PS26130G0420442	42 x 1/2" x 42	58	52	28	26
PS26130G0420642	42 x 3/4" x 42	58	53	28	31
PS26130G0420842	42 x 1" x 42	58	57	28	39
PS26130G0421242	42 x 1 1/2" x 42	58	61	28	55
PS26130G0540454	54 x 1/2" x 54	70	58	35	26
PS26130G0540654	54 x 3/4" x 54	70	59	35	31
PS26130G0540854	54 x 1" x 54	70	63	35	39
PS26130G0541654	54 x 2" x 54	70	73	35	67



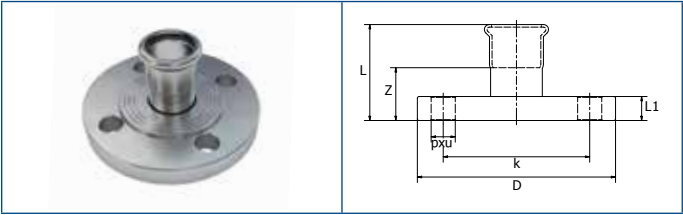
PS26133G**

CxCxMi Branch Tee ISO - 7

Code 316L	Fitting size	L	L1	Z	S
PS26133G0150315	15 x 3/8" x 15	34	34.5	14	19
PS26133G0150415	15 x 1/2" x 15	34	40	14	24
PS26133G0220622	22 x 3/4" x 22	37	48	16	28
PS26133G0280828	28 x 1" x 28	42	52	19	34
PS26133G0351035	35 x 1 1/4" x 35	51.2	60	25	44

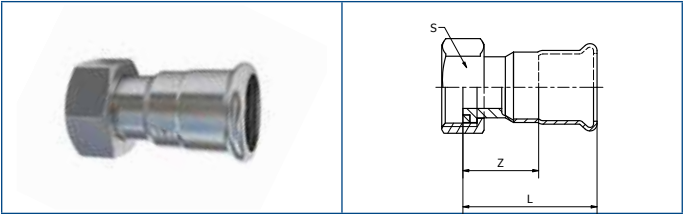
** The above descriptions reads end, branch, end.

<A> Press Inox



PS26230B
Flange Adaptor PN16

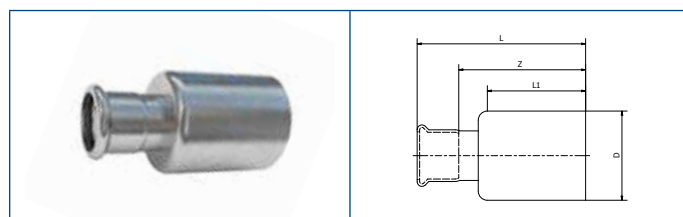
Code 316L	Fitting size	L	L1	Z	D	k	d	n
PS26230B0150000	15	43	12	23	95	65	14	4
PS26230B0180000	18	43	14	23	95	65	14	4
PS26230B0220000	22	48	14	27	105	75	14	4
PS26230B0280000	28	56	14	33	115	85	14	4
PS26230B0350000	35	60.5	16	34.5	140	100	18	4
PS26230B0420000	42	73	16	43	140	100	18	4
PS26230B0540000	54	89	17	54	165	125	18	4



PS26355
CxFi Con Flat Seal Face

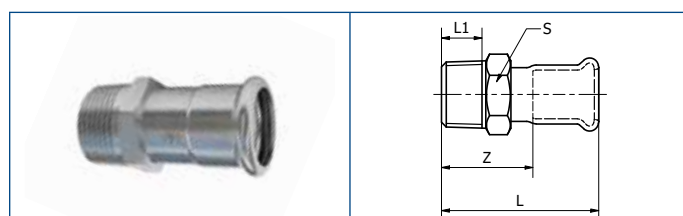
Code 316L	Fitting size	L	Z	S
PS26355 0150400	15 x 1/2"	52.5	32.5	24
PS26355 0180600	18 x 3/4"	52.5	32.5	24
PS26355 0220600	22 x 3/4"	54.5	34.5	30
PS26355 0220800	22 x 1"	54.5	34.5	24
PS26355 0280800	28 x 1"	52.5	32.5	30
PS26355 0351000	35 x 1 1/4"	53.5	32.5	30
PS26355 0421200	42 x 1 1/2"	60	39	36
PS26355 0541600	54 x 2"	83	48	64

*All above measurements are in mm unless stated differently.



PS26243 Fitting Reducer

Code 316L	Fitting size	D	L	L1	Z
PS26243 0181500	18 x 15	18	66	35.5	46
PS26243 0221500	22 x 15	22	67	32	45
PS26243 0221800	22 x 18	22	66	33	46
PS26243 0281500	28 x 15	28	92	45	68
PS26243 0281800	28 x 18	28	88.5	49	68.5
PS26243 0282200	28 x 22	28	73	40	52
PS26243 0351500	35 x 15	35	90	53	70
PS26243 0351800	35 x 18	35	92.5	53	72.5
PS26243 0352200	35 x 22	35	95	53	74
PS26243 0352800	35 x 28	35	85	58	75
PS26243 0421500	42 x 15	42	92	53	72
PS26243 0422200	42 x 22	42	94	54	73
PS26243 0422800	42 x 28	42	96	52	73
PS26243 0423500	42 x 35	42	93	45	67
PS26243 0541500	54 x 15	54	99	60	79
PS26243 0542200	54 x 22	54	99	60	78
PS26243 0542800	54 x 28	54	102	60	79
PS26243 0543500	54 x 35	54	104	59	78
PS26243 0544200	54 x 42	54	102	50	72



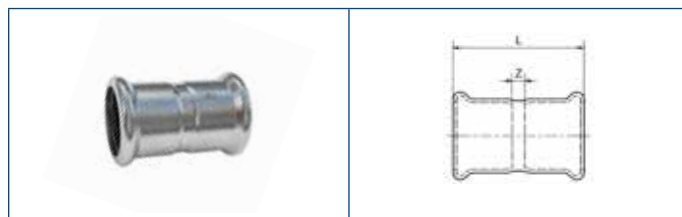
PS26243G CxMi Coupler ISO - 7

Code 316L	Fitting size	L	min L1	Z	S
PS26243G0150300	15 x 3/8"	54	10.5	34	19
PS26243G0150400	15 x 1/2"	59.5	15	39.5	24
PS26243G0150600	15 x 3/4"	65.5	15.5	45.5	28
PS26243G0180400	18 x 1/2"	61.5	15	41.5	24
PS26243G0180600	18 x 3/4"	65.5	15.5	45.5	28
PS26243G0220400	22 x 1/2"	62.5	15	44.5	24
PS26243G0220600	22 x 3/4"	65.5	15.5	44.5	28
PS26243G0220800	22 x 1"	71	18	50	34
PS26243G0280600	28 x 3/4"	85	15.5	62	28
PS26243G0280800	28 x 1"	71	18	48	34
PS26243G0281000	28 x 1 1/4"	81	21	58	44
PS26243G0350800	35 x 1"	71.5	18	45.5	35
PS26243G0351000	35 x 1 1/4"	78.5	21	52.5	44
PS26243G0351200	35 x 1 1/2"	91	23.5	65	50
PS26243G0421000	42 x 1 1/4"	96	21	66	44
PS26243G0421200	42 x 1 1/2"	81	23.5	51	50
PS26243G0541200	54 x 1 1/2"	105.5	23.5	69.5	50
PS26243G0541600	54 x 2"	96.5	25.8	61.5	62

*All above measurements are in mm unless stated differently.

<A> Press Inox

PS26270 Coupler



Code 316L	Fitting size	L	Z
PS26270 0150000	15	48	8
PS26270 0180000	18	48	8
PS26270 0220000	22	50	8
PS26270 0280000	28	56	10
PS26270 0350000	35	65	13
PS26270 0420000	42	74	14
PS26270 0540000	54	86	16

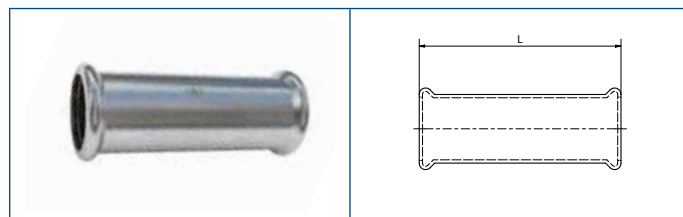
22

PS26270G CxFi Coupler ISO -7



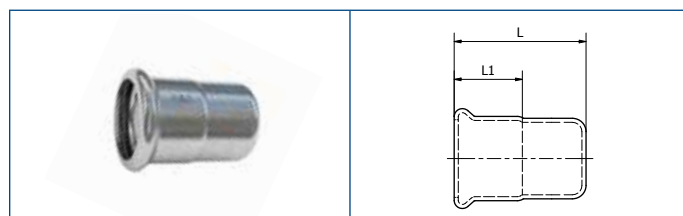
Code 316L	Fitting size	L	L1	Z	S
PS26270G0150300	15 x 3/8"	54	13.5	20	19
PS26270G0150400	15 x 1/2"	58.5	15	22.5	26
PS26270G0150600	15 x 3/4"	61.5	16.3	24.5	31
PS26270G0180400	18 x 1/2"	60.5	15	24.5	26
PS26270G0180600	18 x 3/4"	61.5	16.3	24.5	31
PS26270G0220400	22 x 1/2"	60.5	15	23.5	26
PS26270G0220600	22 x 3/4"	62	16.3	24	31
PS26270G0220800	22 x 1"	69	19.1	28	39
PS26270G0280600	28 x 3/4"	65	16.3	25	31
PS26270G0280800	28 x 1"	69	19.1	26	39
PS26270G0281000	28 x 1 1/4"	75.5	21.4	30.5	48
PS26270G0350800	35 x 1"	87.5	19.1	41.5	39
PS26270G0351000	35 x 1 1/4"	73.5	21.4	24.5	48
PS26270G0351200	35 x 1 1/2"	86	21.4	38	55
PS26270G0421000	42 x 1 1/4"	92	21.4	39	48
PS26270G0421200	42 x 1 1/2"	77	21.4	24	55
PS26270G0541200	54 x 1 1/2"	102.5	21.4	44	55
PS26270G0541600	54 x 2"	91.5	25.7	29	67

*All above measurements are in mm unless stated differently.



PS26275
Slip Coupler

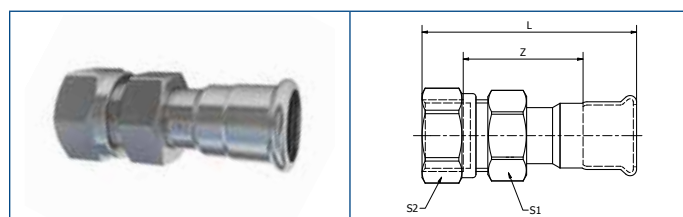
Code 316L	Fitting size	L
PS26275 0150000	15	74
PS26275 0180000	18	78
PS26275 0220000	22	83
PS26275 0280000	28	92
PS26275 0350000	35	101
PS26275 0420000	42	118
PS26275 0540000	54	142



PS26301
Cap End

Code 316L	Fitting size	L	L1
PS26301 0150000	15	41	20
PS26301 0180000	18	43	20
PS26301 0220000	22	44	21
PS26301 0280000	28	47.5	23
PS26301 0350000	35	51	26
PS26301 0420000	42	52.5	30
PS26301 0540000	54	62	35

23

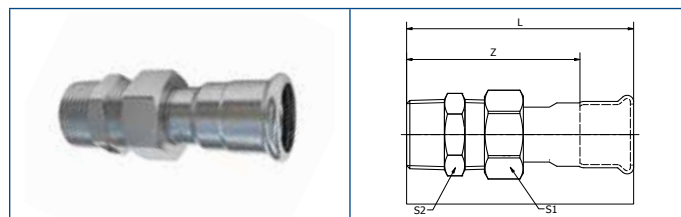


PS26340G
3-pcs female thread union

Code 316L	Fitting size	L	Z	S1	S2
PS26340G0150400	15 x 1/2"	85.5	47.5	24	26
PS26340G0150600	15 x 3/4"	89.5	52.5	30	31
PS26340G0180400	18 x 1/2"	87.5	49.5	24	26
PS26340G0220600	22 x 3/4"	88.5	51.5	30	31
PS26340G0220800	22 x 1"	95.5	54.5	36	39
PS26340G0280800	28 x 1"	99	56	36	39
PS26340G0281000	28 x 1 1/4"	101	57	46	48
PS26340G0351000	35 x 1 1/4"	105	56	46	48
PS26340G0421200	42 x 1 1/2"	120	68	52.5	55
PS26340G0541600	54 x 2"	136.5	74.5	64	67

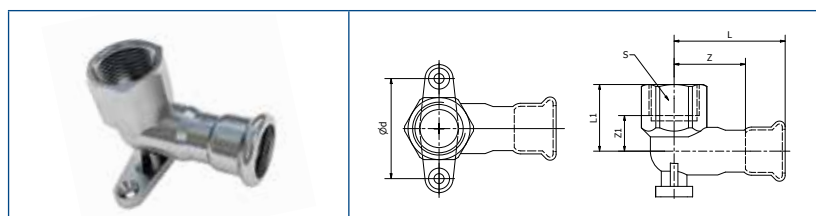
*All above measurements are in mm unless stated differently.

<A> Press Inox



PS26341G 3-pcs male thread union

Code 316L	Fitting size	L	Z	S1	S2
PS26341G0150400	15 x 1/2"	91.5	71.5	24	21.5
PS26341G0150600	15 x 3/4"	94.5	74.5	30	27
PS26341G0180400	18 x 1/2"	93.5	73.5	24	21.5
PS26341G0220600	22 x 3/4"	94.5	73.5	30	27
PS26341G0220800	22 x 1"	101	80	36	34
PS26341G0280800	28 x 1"	104.5	81.5	36	34
PS26341G0281000	28 x 1 1/4"	109	86	46	43
PS26341G0351000	35 x 1 1/4"	111.5	85.5	46	43
PS26341G0421200	42 x 1 1/2"	125	95	52.5	50
PS26341G0541600	54 x 2"	141	106	64	62



PS26471G Wallplate Elbow ISO -7

Code 316L	Fitting size	L	L1	Z	Z1	ød	S
PS26471G0150400	15 x 1/2"	48.5	27	28.5	12	45	26
PS26471G0180400	18 x 1/2"	50.5	27	30.5	12	45	26
PS26471G0220600	22 x 3/4"	58	35	37	18	50	31

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Fitting Lubricant for O-ring

Code	Size
MPABPSOIL100ML	100 ml



>B< Press Inox Tube

Code	Grade	Length (M)	Marking
PSTUBE-316-15 15 x 1.0 x 6M	316L	6	>B<
PSTUBE-316-18 18 x 1.0 x 6M			
PSTUBE-316-22 22 x 1.2 x 6M			
PSTUBE-316-28 28 x 1.2 x 6M			
PSTUBE-316-35 35 x 1.5 x 6M			
PSTUBE-316-42 42 x 1.5 x 6M			
PSTUBE-316-54 54 x 1.5 x 6M			

*All above measurements are in mm unless stated differently.

12. Product Guarantee

When professionally installed, used and maintained in accordance with the installation and maintenance instructions detailed in the <A> Press Inox technical brochure available on the Conex Bänninger website www.conexbanninger.com.

316L

Conex Universal Ltd. guarantees that <A> Press Inox (316L) supplied by Conex Universal Ltd. will be free of material defects resulting from errors in manufacture, for twenty five (25) years from the date of first purchase by an end user. This Guarantee is limited to the repair or replacement of defective product(s) (at the sole discretion of Conex Universal Ltd.). At the request of Conex Universal Ltd. the allegedly defective product(s) must be returned to the address below* and Conex Universal Ltd. reserves the right to inspect and test the alleged defects. This guarantee provided by Conex Universal Ltd. does not affect your statutory rights.

The Guarantee set out above is given by Conex Universal Ltd. and subject to the following conditions:

- A. Any alleged defects must be reported to Conex Universal Ltd. within one month of the first occurrence of any such alleged defect, clearly setting out the nature of the claim and the circumstances surrounding it.
- B. Conex Universal Ltd. shall be under no liability in respect of any defect in any product arising from:
- defective installation,
 - fair wear and tear,
 - wilful damage,
 - negligence of any party other than Conex Universal Ltd.,
 - abnormal working or environmental conditions,
 - failure to follow the instructions of Conex Universal Ltd.,
 - misuse (which includes any use of the product(s) concerned for a purpose or in a situation / environment or for an application other than that for which it was designed), or
 - alteration or repair of any product without the prior approval of Conex Universal Ltd.
- C. At the request of Conex Universal Ltd. the person claiming under this guarantee must deliver to Conex Universal Ltd. written evidence of the date of first purchase by an end user of the product(s) concerned.

*** The address for returns is:**

Customer Services at Conex Universal Limited.
Global House, 95 Vantage Point, The Pensnett Estate,
Kingswinford, West Midlands, DY6 7FT,
UNITED KINGDOM

*All above measurements are in mm unless stated differently.

›B‹ Press ›B‹ Press Gas ›B‹ Press Solar ›B‹ Press XL ›B‹ Press Carbon ›B‹ Press Inox ›B‹ Steel	›B‹ MaxiPro ›B‹ ACR K65 ‹A› Press Inox ›B‹ Push ›B‹ Sonic ›B‹ Oyster	›B‹ Flex Triflow Solder Ring Delcop End Feed Delbrazo Medical Gas Valves	Conex Compression Series 3000 Series 4000 Series 5000 Series 8000 OEM Solutions
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