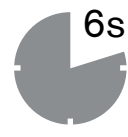


Commonly used for very high chloride environments commonly found with seawater, bore water & offshore applications.



Press a 28mm fitting onto the CuNi tube in under 6 seconds. Join done.

Faster to Install

AusPress press-fit offers large time savings compared to welding, threading, grooving or glueing.

Quality to Install

Approved to International & Shipbuilding Standards.
Superior temperature & chloride tolerance.

Safer to Use

- We train your team on-site.
- One button tool operation.
- Lightweight battery tools.
- No flames or hot work permits.
- No heavy gas tanks.
- No hazardous fumes.
- Less risk.

Reliable Design

Suits a wide range of applications.
Permanent high strength with the original 'M' press join profile.
Consistent low profile join look & quality each time.

Experience Counts

We were the first to supply press-fit stainless in Australia & New Zealand.
We work with consultants & installers on specialised complex projects regularly.

Environmental Choice

Long service life.
Closed loop material.
Efficient and waste free install.

Installing AusPress®



OD 15 to 108mm

Start to install quicker...

AusPress press-fit is installed easily & quickly using a Press Tool to form a permanent 'M' profile pressed joint between tube and fitting.

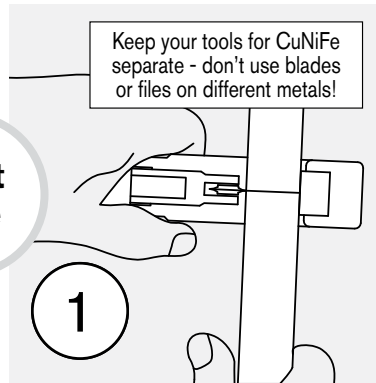


Start here

Check for suitability...

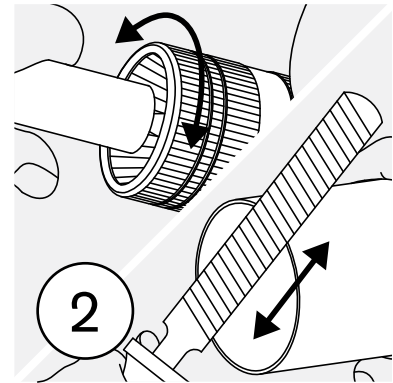
Both the piping material (eg copper nickel) and the elastomer (the rubber ring seal) must be checked if suitable for the conveyed fluid and exterior environments.

This guide is for standard applications. For different or specialised applications please contact us first.



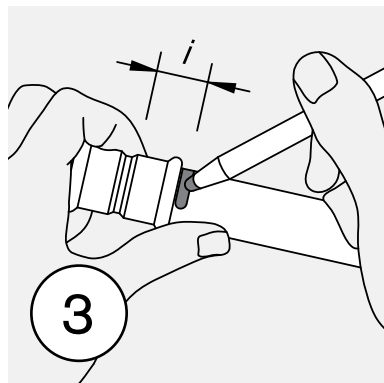
Cut to Length

Cut the tube square using a tube cutter with an 'inox' suitable blade. For larger sizes, cut square with an 'inox' blade using a stainless rotary cutter or 5" thin blade grinder disc.



Deburr Tube

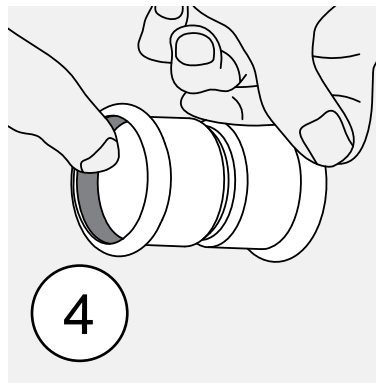
Deburr both inside & outside edges of tube ends to avoid cutting the ring seal on insertion. For large sizes, use a half round smooth file reserved for CuNiFe.



Mark the Insertion Depth "7"

Measure or use a depth gauge to mark the insertion depth (socket depth) onto the tube end.

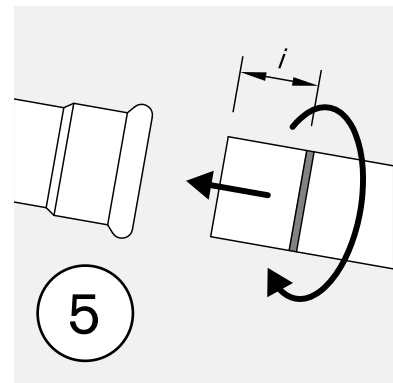
This is a visual quality control mark to ensure the tube is fully inserted.



Inspect Fitting & Ring Seals

Check that the rubber ring seal is:

- The correct material type (colour) of seal is used.
- The seal is not damaged.
- Both fitting & seal are free of debris.



Join the Tube & Fitting

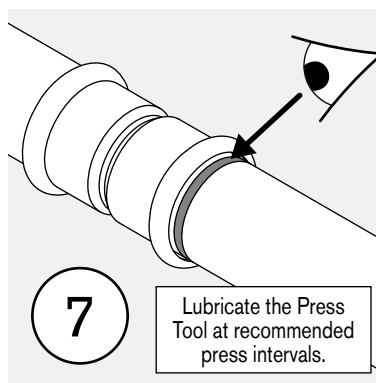
Insert the tube into the fitting press socket, turning slightly until it reaches the previously marked insertion depth.

Soapy water can be used if joining is difficult.



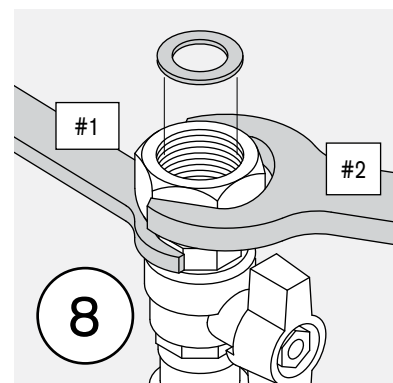
Press the Joint

Using a suitable press tool and M-profile jaw or collar, align the press jaw with the fitting and join following the tool manufacturer's instructions.



Check & Complete

Visually inspect the pressed fitting & that the insertion mark is aligned with the end of the socket.



Threaded Ends

Tighten threads with the fitting supported, don't tighten against a pressed joint alone.



Select a Press Tool

The right tool for the job...

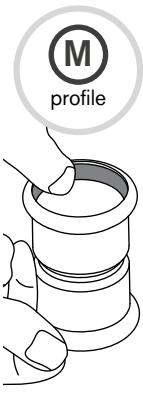
Our fleet of tools are designed to install AusPress press-fit quickly & consistently without the need for welding or threading to form a permanent join.

Confirm your project suitability before installing as some applications are limited to a lower pressure despite the system able to achieve higher; in these cases, the lesser pressure is used.

Refer to the technical section and contact us for more information.

Shipping & Offshore Applications

Note requirements for shipping are specific to the approval certificate for that vessel and operating pressures are often lower than the 16 bar approved for land based applications. The approval may also nominate a brand of tooling.



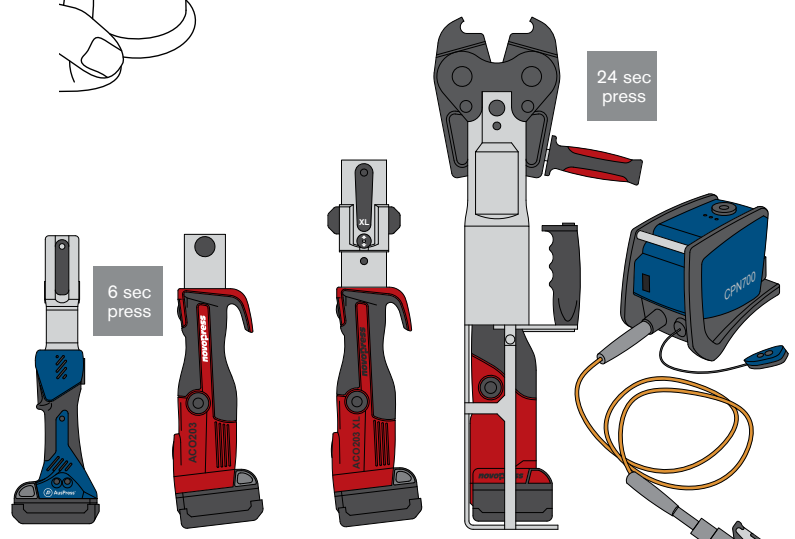
The 'M' Profile Press...

AusPress CuNiFe Metric fittings are supplied with a M-Profile press socket.

The press tools, jaws and collars we supply are designed to suit M-Profile and although they may look similar to other types, the tolerances of others may be different. Using incorrect tooling may effect warranty as a result.

Chart below shows tool compatibility and maximum working pressure per diameter for a water installation up to 85°C.

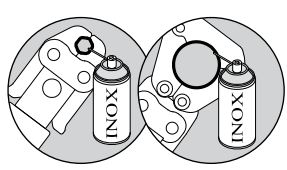
OD AusPress Metric CuNiFe fittings and metric tube.



		SPM24	ACO203	ACO203-XL	ACO403	CPN700
15 to 35mm	Press Jaw	16 bar 232 psi 1,600 kPa	16 bar 232 psi 1,600 kPa	16 bar 232 psi 1,600 kPa	N/A	16 bar 232 psi 1,600 kPa
42 & 54mm	ZB203 Adaptor Jaw & Collar	N/A	16 bar 232 psi 1,600 kPa	16 bar 232 psi 1,600 kPa	N/A	16 bar 232 psi 1,600 kPa
76.1 to 108mm	Adaptor Jaw(s) & Collar	N/A	N/A	16 bar 232 psi 1,600 kPa	16 bar* 232 psi* 1,600 kPa*	16 bar 232 psi 1,600 kPa

Please Note: This chart is a guide only with other tool and application suitability available on request. Values noted are *Maximum Working Pressure*, not the safety or testing pressure of the system. More information is available in the technical section and contact us.

* Not suitable for gas or compressed air installations (76.1, 88.9 & 108 'HP' collars with the ACO401 or ACO403 tools).



Ensure the inner press surfaces are lubricated with Inox for a smooth consistent press. Reapply as needed.

AusPress Metric Stainless Range



Refer to our Technical Data Sheets for material suitability and resistance.

Why Choose Copper Nickel?

Designed specifically for seawater applications, Copper Nickel has a much higher tolerance to chlorides and is the choice of material for shipping and offshore applications.

Please ask us if you require more information or technical advice for your project.

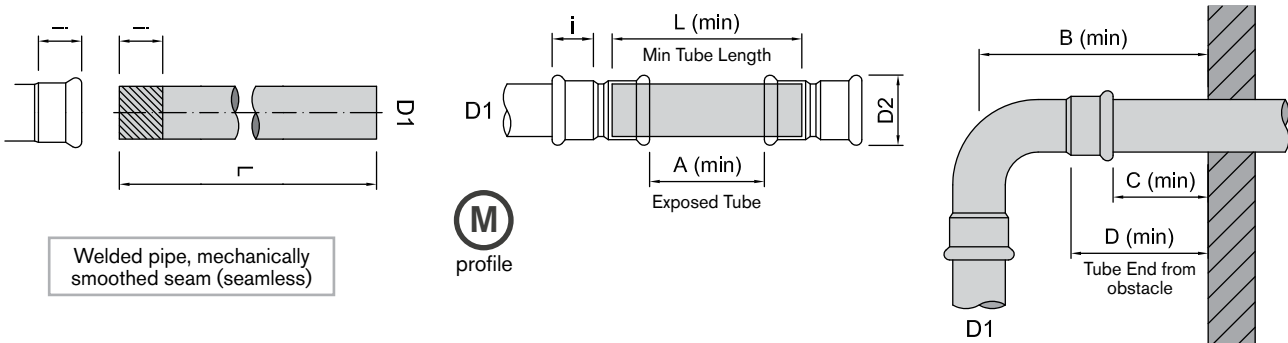
For technical information for specialised projects please ask us. With over 30 years of experience, have access to testing metallurgist services too.

Tube Bending:

Tube diameters up to 35mm can be cold bent with a commercial bender to a radius no less than 3.5x the tube diameter.

Eg: 15 (tube dia) x 3.5 = 52.5mm radius min along the centre line.

Tube Metric OD Stainless



Tool Jaw & Collar Clearance? See the technical section for dimensions to install press-fit clear of obstructions.

Product No	D1 (mm)	i depth	Length (L)	Thk (t)	Tube Weights (kg)				L	A	D2	B	C	D
					dry/m	dry/6m	wet/m	wet/6m						
CUNI.96.015	15	20	6m	1.0	0.4	2.3	0.5	3.1	50	10	23	85	35	55
CUNI.96.018*	18	21	6m	1.0	0.5	2.9	0.7	4.1	52	10				
CUNI.96.022	22	21	6m	1.0	0.6	3.5	0.9	5.4	52	10	32	95	35	56
CUNI.96.028	28	24	6m	1.5	1.1	6.7	1.6	9.6	58	10	38	107	35	58
CUNI.96.035	35	27	6m	1.5	1.4	8.4	2.2	13.3	74	20	45	121	35	61
CUNI.96.042	42	32	6m	1.5	1.7	10.2	2.9	17.4	84	20	54	147	35	65
CUNI.96.054	54	38	6m	1.5	2.2	13.2	4.2	25.5	96	20	66	174	35	70
CUNI.96.076*	76.1	55	6m	2.0	4.1	24.9	8.2	49.4	130	20	95	223	75	128
CUNI.96.088*	88.9	64	6m	2.0	4.9	29.2	10.5	63.1	148	20	110	249	75	135
CUNI.96.108*	108	78	6m	2.5	7.4	44.2	15.7	94.2	176	20	133	292	75	150

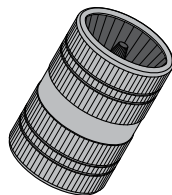
Installation Tools

These items make installing AusPress press-fit easier.

Remember using the same cutting or deburring tool on different metals can lead to corrosion (eg cut steel then cut stainless steel).

Press Tools:

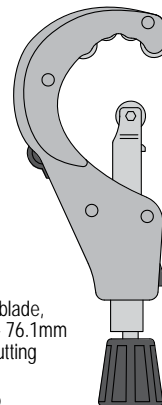
Information and capacities are listed under "Select a Press Tool" Section.



Tube Deburrer
Inside and outside diameter cones, suits diameters 10 - 54mm.
Order: VT.DEB



Replacement Inox Cutting Wheels (each)
Suitable for both cutters shown.
Order: VT.TCUT.WHEEL



Manual Tube Cutter
Metal construction, Inox blade, suitable for diameters 6 - 76.1mm OD. Includes 1x spare cutting wheel in handle end.
Order: VT.TCUT.006.076

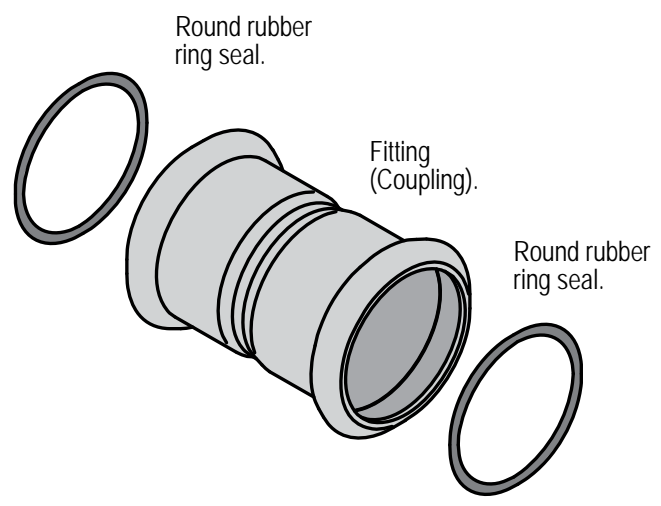


Rubber Ring Seals

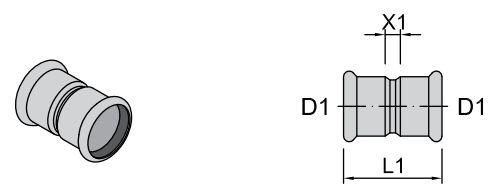
Fittings are supplied with an NBR type ring seal as standard in each press-socket.

Note: Some chemical types and/or high concentrations can be unsuitable.

Please contact us for suitability confirmation before installing, with a Project Info Sheet and any MSDS details or laboratory test results.



■ **Coupling Socket - Socket**

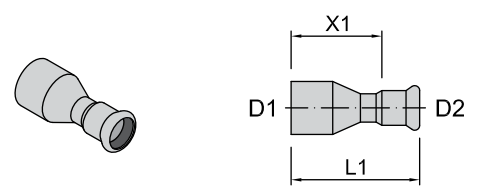


Material: CuNiFe (2.1972.11).

Ring Seal: NBR x2 supplied.

Product No	D1	L1	X1
CUNI.21.015	15	56	16
CUNI.21.018	18	55	13
CUNI.21.022*	22	51	9
CUNI.21.028	28	56	8
CUNI.21.035	35	68	14
CUNI.21.042	42	74	10
CUNI.21.054	54	94	18
CUNI.21.076*	76.1	125	15
CUNI.21.088*	88.9	158	30
CUNI.21.108*	108	183	27

■ **Spigot Reducer Socket - Tube End**

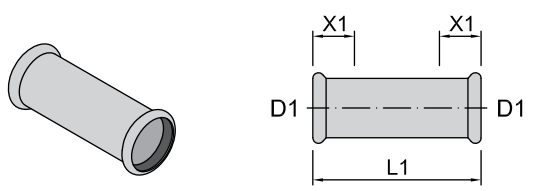


Material: CuNiFe (2.1972.11).

Ring Seal: NBR x1 supplied.

Product No	D1	D2	L1	X1
CUNI.23.022.015*	22	15	72.5	55
CUNI.23.028.015	28	15	80	51
CUNI.23.028.022	28	22	77	52
CUNI.23.035.022	35	22	85	64
CUNI.23.035.028	35	28	83.5	67
CUNI.23.042.028	42	28	96.5	76
CUNI.23.042.035	42	35	103	75
CUNI.23.054.035	54	35	116	89
CUNI.23.054.042	54	42	118	86
CUNI.23.076.042*	76.1	42	157	126
CUNI.23.076.054*	76.1	54	157	119
CUNI.23.088.054*	88.9	54	168.5	137
CUNI.23.088.076*	88.9	76.1	180	125
CUNI.23.108.076*	108	76.1	208	153
CUNI.23.108.088*	108	88.9	298	140

■ **Slip Coupling Socket - Socket**



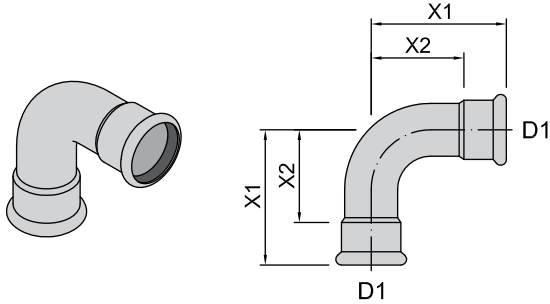
Material: CuNiFe (2.1972.11).

Ring Seal: NBR x2 supplied.

Product No	D1	L1	X1
CUNI.22.015	15	80	20
CUNI.22.018	18	80	21
CUNI.22.022	22	84	21
CUNI.22.028	28	92	24
CUNI.22.035	35	102	27
CUNI.22.042	42	120	32
CUNI.22.054	54	139	38
CUNI.22.076*	76.1	226	55
CUNI.22.088*	88.9	255	64
CUNI.22.108*	108	304	78



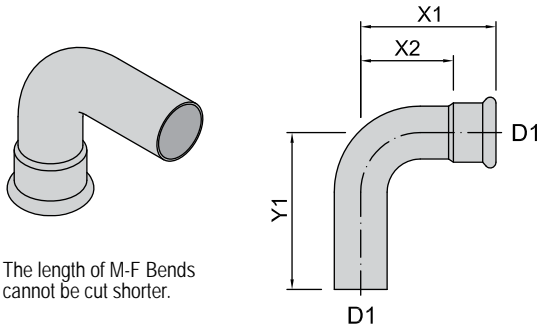
■ 90 Bend Socket - Socket



Material: CuNiFe (2.1972.11). Ring Seal: NBR x2 supplied.

Product No	D1	X1	X2
CUNI.31.090.015	15	36	56
CUNI.31.090.018	18	40	61
CUNI.31.090.022	22	51	72
CUNI.31.090.028	28	59	83
CUNI.31.090.035	35	97	124
CUNI.31.090.042	42	123	155
CUNI.31.090.054	54	129	167
CUNI.31.090.076*	76.1	184	239
CUNI.31.090.088*	88.9	212	276
CUNI.31.090.108*	108	263	341

■ 90 Bend Socket - Tube End

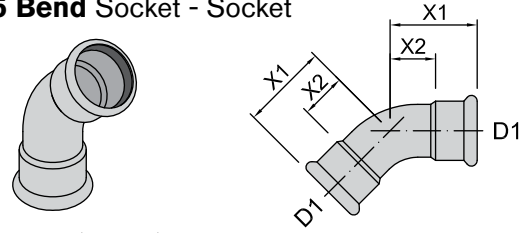


The length of M-F Bends cannot be cut shorter.

Material: CuNiFe (2.1972.11). Ring Seal: NBR x1 supplied.

Product No	D1	X1	X2	Y1
CUNI.32.090.015	15	36	36	62
CUNI.32.090.018	18	40	40	62
CUNI.32.090.022	22	51	51	77
CUNI.32.090.028	28	59	59	79
CUNI.32.090.035	35	97	93	127
CUNI.32.090.042	42	123	127	161
CUNI.32.090.054	54	129	129	173
CUNI.32.090.076*	76.1	184	184	246
CUNI.32.090.088*	88.9	212	212	284
CUNI.32.090.108*	108	263	263	350

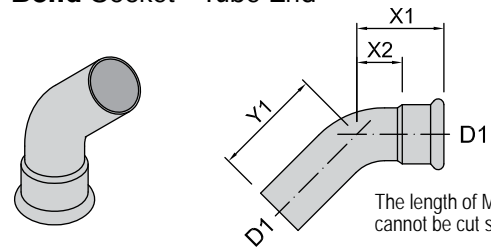
■ 45 Bend Socket - Socket



Material: CuNiFe (2.1972.11). Ring Seal: NBR x2 supplied.

Product No	D1	X1	X2
CUNI.31.045.015	15	38	18
CUNI.31.045.022	22	45	24
CUNI.31.045.028	28	52	28
CUNI.31.045.035	35	75	48
CUNI.31.045.042	42	88	56
CUNI.31.045.054	54	115	77
CUNI.31.045.076*	76.1	186	131
CUNI.31.045.088*	88.9	211	147
CUNI.31.045.108*	108	247	169

■ 45 Bend Socket - Tube End



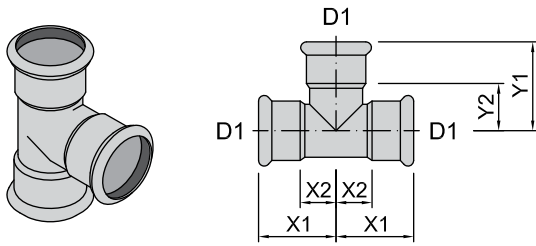
The length of M-F Bends cannot be cut shorter.

Material: CuNiFe (2.1972.11). Ring Seal: NBR x1 supplied.

Product No	D1	X1	X2	Y1
CUNI.32.045.015	15	38	18	48
CUNI.32.045.022	22	45	34	60
CUNI.32.045.028	28	52	31	62
CUNI.32.045.035	35	75	48	79
CUNI.32.045.042	42	88	56	93
CUNI.32.045.054	54	115	77	121
CUNI.32.045.076*	76.1	186	131	194
CUNI.32.045.088*	88.9	211	147	220
CUNI.32.045.108*	108	247	169	256



■ **Tee Equal Socket Ends & Branch**

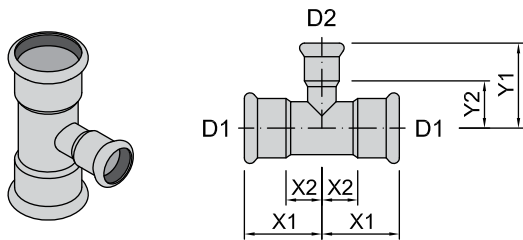


Material: CuNiFe (2.1972.11).

Ring Seal: NBR x3 supplied.

Product No	D1	X1	X2	Y1
CUNI.51.015	15	38	18	39
CUNI.51.018	18	41	20	41
CUNI.51.022	22	44	23	44
CUNI.51.028	28	50	26	50
CUNI.51.035	35	56.5	29.5	56.5
CUNI.51.042	42	66	34	66
CUNI.51.054	54	79	41	79
CUNI.51.076*	76.1	116.5	61.5	118
CUNI.51.088*	88.9	128	64	128
CUNI.51.108*	108	154.5	76.5	154.5

■ **Tee Reduced Socket Ends & Branch**

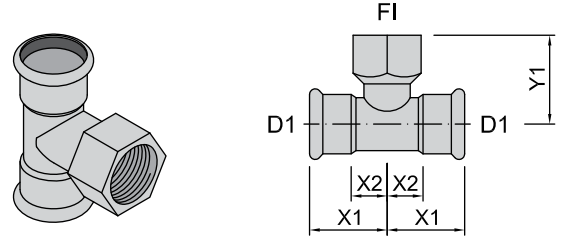


Material: CuNiFe (2.1972.11).

Ring Seal: NBR x3 supplied.

Product No	D1	D2	X1	X2	Y1	Y2
CUNI.52.022.015	22	15	40	19	42.2	22
CUNI.52.028.015	28	15	40	20	45.2	25
CUNI.52.028.022	28	22	44	20	47.2	26
CUNI.52.035.015	35	15	52	25	47.5	27.5
CUNI.52.035.022	35	22	52	25	49.5	28.5
CUNI.52.035.028	35	28	52	25	52.5	28.5
CUNI.52.042.022	42	22	57	25	53	32
CUNI.52.042.028	42	28	57	25	56	32
CUNI.52.042.035	42	35	57	25	60	33
CUNI.52.054.022	54	22	54	34	60	39
CUNI.52.054.028	54	28	72	34	63	39
CUNI.52.054.035	54	35	72	34	67	40
CUNI.52.054.042	54	42	72	34	73	41
CUNI.52.076.022*	76.1	22	87	66	71	50
CUNI.52.076.028*	76.1	28	90	66	74	50
CUNI.52.076.035*	76.1	35	93	66	78	51
CUNI.52.076.042*	76.1	42	98	66	84	52
CUNI.52.076.054*	76.1	54	111	66	90	52
CUNI.52.088.022*	88.9	22	82	61	78	57
CUNI.52.088.028*	88.9	28	85	61	81	57
CUNI.52.088.035*	88.9	35	88	61	85	58
CUNI.52.088.042*	88.9	42	93	61	91	59
CUNI.52.088.054*	88.9	54	99	61	97	59
CUNI.52.088.076*	88.9	76.1	116	61	123.5	68.5
CUNI.52.108.022*	108	22	156	77	87	66
CUNI.52.108.028*	108	28	156	77	90	66
CUNI.52.108.035*	108	35	156	77	94	67
CUNI.52.108.042*	108	42	156	77	100	68
CUNI.52.108.054*	108	54	156	77	106	68
CUNI.52.108.076*	108	76.1	156	77	132.5	77.5
CUNI.52.108.088*	108	88.9	156	77	137.5	73.5

■ **FI Tee Socket Ends & FI (Rp) Branch**

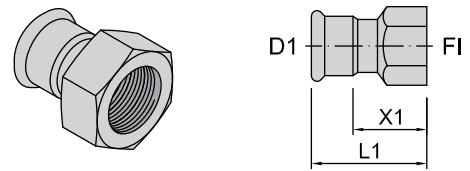


Material: CuNiFe (2.1972.11).

Ring Seal: NBR x2 supplied.

Product No	D1	FI (Rp)	BSP	X1	X2	Y1
CUNI.53.015.015	15	1/2"		32.5	12.5	35.4
CUNI.53.022.015	22	1/2"		40	19	39.2
CUNI.53.022.020	22	3/4"		40	19	42.2
CUNI.53.028.015	28	1/2"		44	20	42.2
CUNI.53.028.020	28	3/4"		44	22	45.2
CUNI.53.035.015	35	1/2"		52.5	25.5	44.5
CUNI.53.035.020	35	3/4"		52.5	25.5	47.5
CUNI.53.042.015	42	1/2"		57	25	48
CUNI.53.042.020	42	3/4"		57	25	51
CUNI.53.054.015	54	1/2"		72	34	55
CUNI.53.054.020	54	3/4"		72	34	58
CUNI.53.076.015*	76.1	1/2"		121	66	69
CUNI.53.076.020*	76.1	3/4"		121	66	69
CUNI.53.088.015*	88.9	1/2"		125	61	76
CUNI.53.088.020*	88.9	3/4"		125	61	76
CUNI.53.108.015*	108	1/2"		155	77	85
CUNI.53.108.020*	108	3/4"		155	77	85

■ **FI Adaptor Socket - FI (Rp) Thread**



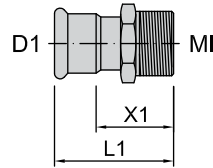
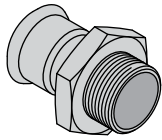
Material: CuNiFe (2.1972.11).

Ring Seal: NBR x1 supplied.

Product No	D1	FI (Rp)	BSP	L1	X1
CUNI.73.015.015	15	1/2"		78	58
CUNI.73.022.015	22	1/2"		83	61
CUNI.73.022.020	22	3/4"		83	61
CUNI.73.028.025	28	1"		91	67
CUNI.73.035.032	35	1.1/4"		98	71
CUNI.73.042.040	42	1.1/2"		108	76
CUNI.73.054.050	54	2"		130	92



MI Adaptor Socket - MI (R) Thread



Material: CuNiFe (2.1972.11).

Ring Seal: NBR x1 supplied.

Product No	D1	MI	L1	X1	Thread
CUNI.74.015.015	15	1/2"	83	63	BSP
CUNI.74.022.015	22	1/2"	88	66	BSP
CUNI.74.022.020	22	3/4"	88	66	BSP
CUNI.74.028.025	28	1"	98	74	BSP
CUNI.74.035.032	35	1.1/4"	106	79	BSP
CUNI.74.042.040	42	1.1/2"	117	85	BSP
CUNI.74.054.050	54	2"	139	101	BSP

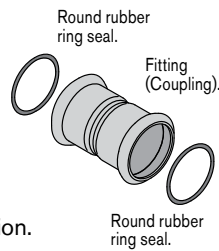
Product No	D1	MI	L1	X1	Thread
CUNI.74.015.015N*	15	1/2"	83	63	NPT
CUNI.74.022.015N*	22	1/2"	88	66	NPT
CUNI.74.022.020N*	22	3/4"	88	66	NPT
CUNI.74.028.025N*	28	1"	98	74	NPT
CUNI.74.035.032N*	35	1.1/4"	106	79	NPT
CUNI.74.042.040N*	42	1.1/2"	117	85	NPT
CUNI.74.054.050N*	54	2"	139	101	NPT

Ring Seals

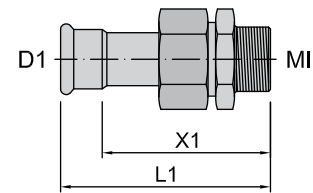
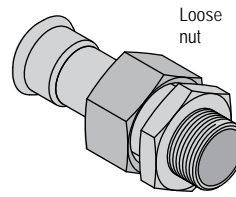
Fittings with a press-fit socket are fitted with a NBR rubber ring seal as standard.

Depending on the media, this ring seal can be changed to a different rubber material to suit the application.

Refer to our relevant Technical Media Chart for suitability and contact us for more information.



MI Union Socket - MI (R) BSP



Material: CuNiFe (2.1972.11).

Ring Seal: NBR x1 supplied.
Gasket Seal: NBR x1 supplied.

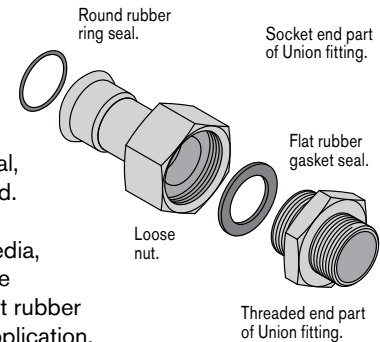
Product No	D1	MI (R) BSP	L1	X1	Gasket Size
CUNI.82.015.015	15	1/2"	81	61	A1
CUNI.82.022.015	22	1/2"	84	63	B1
CUNI.82.022.020	22	3/4"	85	64	B1
CUNI.82.028.025	28	1"	96	73	C1
CUNI.82.035.032	35	1.1/4"	104	78	D1
CUNI.82.042.040	42	1.1/2"	109	79	E1
CUNI.82.054.050	54	2"	124	89	F1

Note: MI (R) Union is not suitable for gas or steam applications.

Union fittings are fitted with a (flat) rubber gasket seal and a (round) ring seal, both NBR as standard.

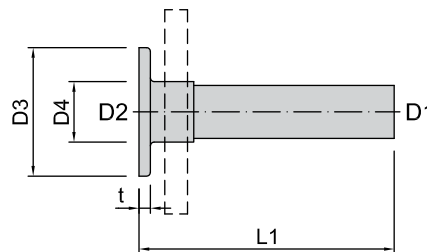
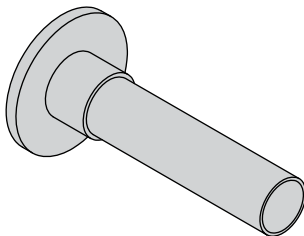
Depending on the media, **both seals** should be changed to a different rubber material to suit the application.

The gasket seal should be replaced when the union fitting is separated and before re-tightening the loose nut. Dispose of the used gasket.



Refer to our Technical Data Sheets for ring seal suitability and resistance.

Flanged Stub End for a Loose Flange



Material: CuNiFe (2.1972.11).

Product No	D1	FL	D2	D3	D4	L1	t
CUNI.87.022.PN16	22	PN 10/16	27	58	27	135	6
CUNI.87.028.PN16	28	PN 10/16	32	68	32	135	6
CUNI.87.035.PN16	35	PN 10/16	40	78	40	135	6
CUNI.87.042.PN16	42	PN 10/16	46.5	88	46.5	135	6
CUNI.87.054.PN16	54	PN 10/16	59	102	59	135	8
CUNI.87.076.PN16*	76.1	PN 10/16	78	122	78	135	8
CUNI.87.088.PN16*	88.9	PN 10/16	91	138	91	135	10
CUNI.87.108.PN16*	108	PN 10/16	110	158	110	135	10

Note: Loose flange, gasket, nuts & bolts not included.



The Strength of Press-Fit

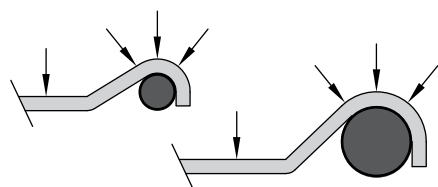
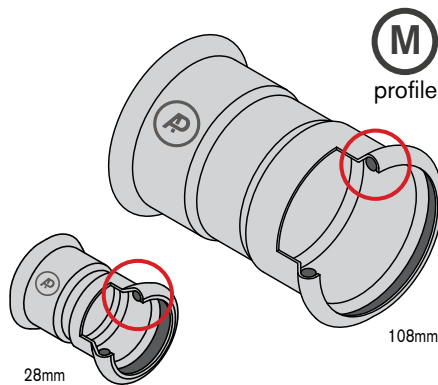
It's All In The Join

The socket on each press fitting is fitted with a rubber ring seal, engineered to provide both a strong and sealed joint after being pressed with a press tool.

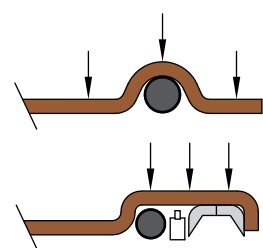
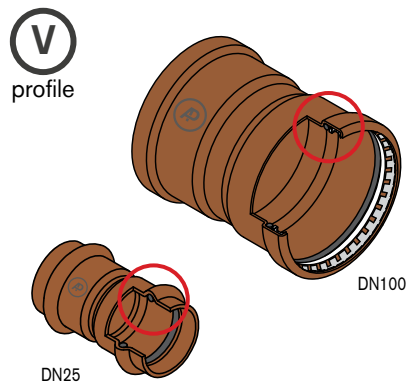
By using a calibrated press tool, each joint is permanent and uniform as the join is deformed in two ways;

The engineered shaping of the fitting against the tube to provide strength to the join as the primary seal plus,

The deformation of the rubber ring seal to form the secondary seal in the encapsulated pocket between the fitting and tube.



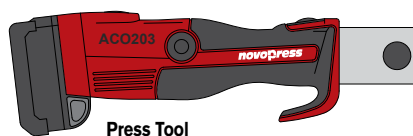
M-Profile: All diameters from 10 to 168.3mm feature the same turned down end that the ring seal is seated.



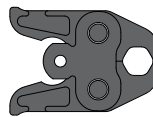
V-Profile: Diameters DN50 and smaller have a flat tail continuing past the ring seal.

V-Profile: Diameters DN65 and above feature a flat socket lip that a grab ring, spacer and ring seal are seated.

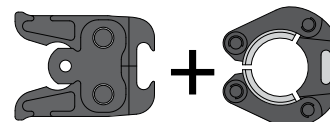
The press jaw (or collar) determines the shape and it is important to ensure the jaw (or collar) used with the press tool matches not only the diameter but also the fitting profile to ensure a successful pressed joint.



Press Tool
Available in a range of sizes and abilities.



Press Jaw
Insert into tool directly.



Adaptor Jaw + Press Collar
Insert jaw into the tool, jaw clamps onto collar.

Above: Press Tools are fitted with an interchangeable jaw or, adaptor jaw and collar combination depending on the fitting material, system diameter and fitting press profile to be pressed. All must match for the press to be successful.

Since the original M-Profile was invented by Larsson, other profiles have been developed based on his design. Although appearing to be similar, each profile performs with different strength, deformation and ability characteristics.

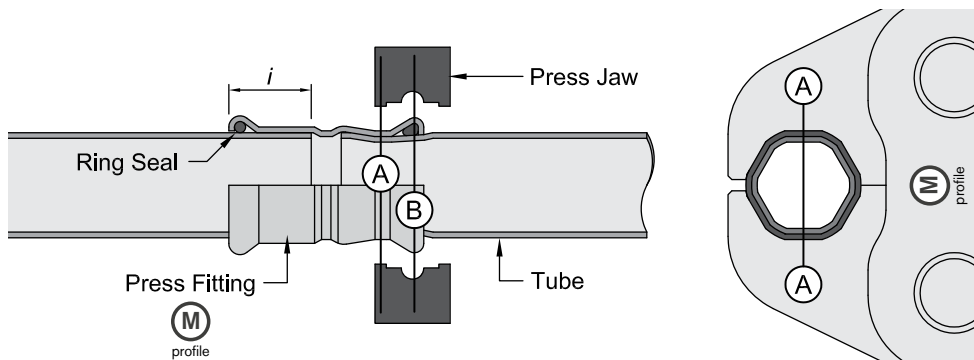


Originally designed in 1962 by Swedish engineer Gunther Larsson, the first press fittings were manufactured by German company Mannesmann from 1969.

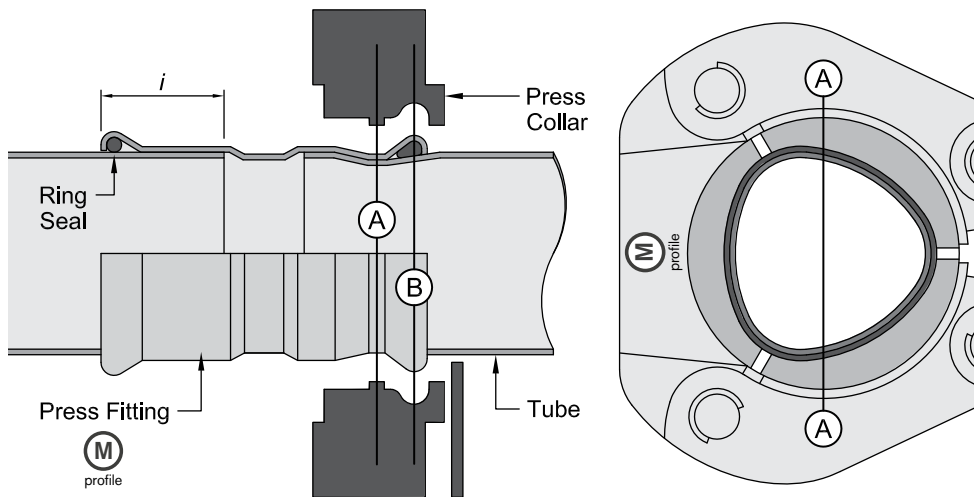
Two different cross section shapes are pressed depending on the tube diameter - the hexagonal and the lemon shape.

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

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



Above: Hexagonal shape section profile - Before pressing (fitting left), after pressing (fitting right) & Section A through pressed joint.



Above: Lemon shape section profile - Before pressing (fitting left), after pressing (fitting right) & Section A through pressed joint.

Using a Press Tool

The Tool Does All The Work

Press Tools are designed specifically for the installation of press fittings and come in a range of shapes and sizes. They often have an on-board computer that controls the press pressure, duration and other quality control parameters that is recorded on the press tool.

Press fittings can only be pressed with a press tool that is fitted with the correct jaw or collar that matches the profile type and diameter of the fitting. After a successful press, a permanent joint between the fitting and the tube is made.

Different press tools have different abilities and determine the working pressure of the completed system so use the 'Select a Press Tool' charts at the start of each section to check for suitability.

Every press tool is slightly different so check with the tool manufacturer for their specifications and operating instructions.

Read in conjunction with the Installing AusPress guide at the start of each catalogue section.

- 1 Check the press jaw (A) or collar (B+C) matches the profile and diameter of the fitting and is suitable for the press tool.
- 2 Retract the retaining pin (RP) of the tool and insert the jaw into the press tool. Once seated, close the retaining pin.
- 3 Open the press jaw and align the inner groove of the jaw with the raised profile of the fitting.
- 4 Check the fitting is fully engaged by the insertion depth mark and if so, press and hold the start button (GO) to begin the press.
- 5 Once complete the tool will 'click' and retract the internal roller pins. Open the press jaw and move away from the fitting.
- 6 An occasional spray with Inox lubricant on the jaw moving parts and press zone will ensure ongoing smooth operation.

Tool, Jaw & Collar Calibration

Tool calibration show when next due for calibration.



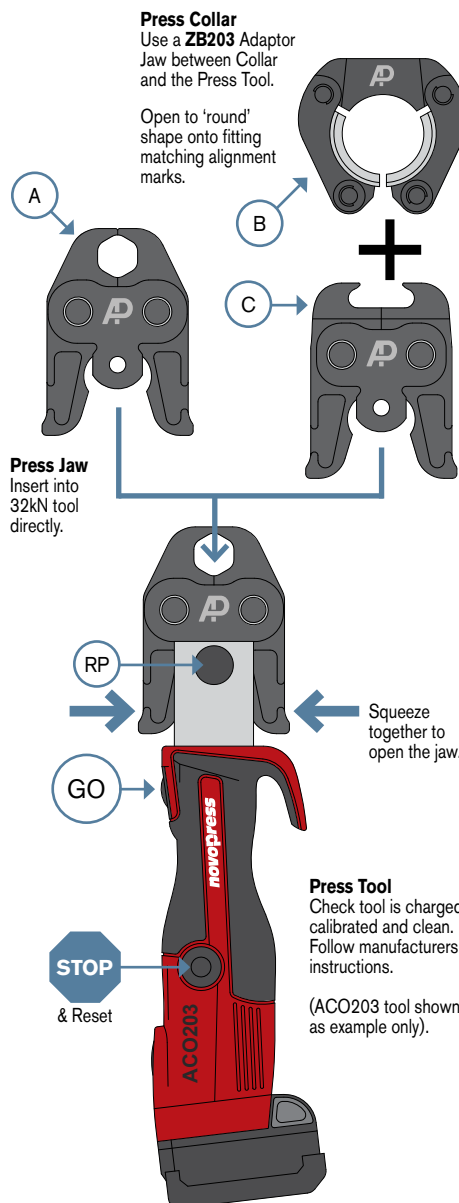
Example shows due 08/2022

Half or Cancelled Press?

If the press tool operation is stopped before completing a full press cycle, the press tool must reset before removing the jaws. **Press fittings cannot be re-pressed.**

Tool Training & Safety

For OH&S and product warranty reasons, before using a press tool you must of completed the relevant AusPress Tool Training.



Use the Right Tool...

The Press Tool used determines the maximum working pressure of the installation.

Use the 'Select a Press Tool' chart to check suitability.



Safety & Tool Training

We offer on-site tool training and maintain records of attendees for OH&S and Quality Assurance.

Tool Servicing

We're authorised press tool repair & service centre for our Novopress & Vetec tools.

Tool Maintenance Every 10x Presses:

Lightly lubricate inside press zone groove of jaws & collars with an Inox spray.

Weekly:

Lubricate and inspect press jaws and collars for wear or damage.

Regular Servicing:

Refer to manufacturer's tool manual for service interval & warranty details.

Tool Not Working?

Press the Reset Button?
LED status?
Contact Us...

Green LED

Off = Tool is on standby or press is in progress.
Steady = Tool is ready.
Flash = Check retaining pin or Battery Charge.

Red LED

Steady = Fault / Service.
Flash (x3) = Extreme temperatures or tool fault.

Red & Green LEDs

Flash = Service.

Generators

Please contact us before using generators with the 240V Press Tools.

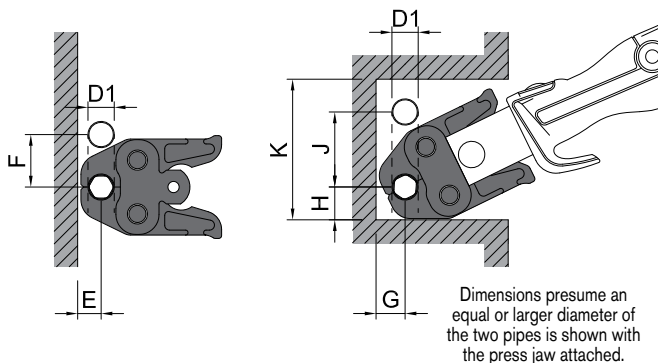
Batteries

Press tools generally don't commence a press unless there is enough battery charge to complete a press.

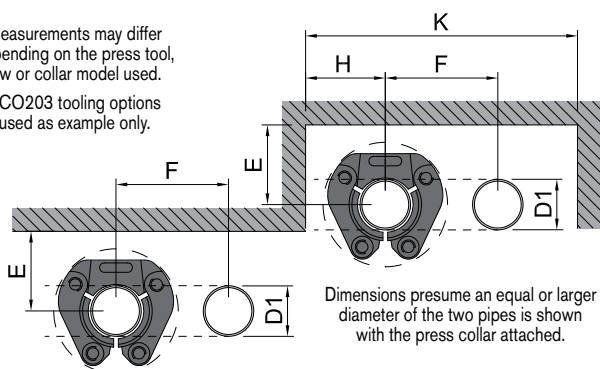


Jaw & Collar Clearances

Measurements are dependant on the actual fitting dimensions and the Press Tool used to join. Confirm clearances before proceeding with your installation.



Measurements may differ depending on the press tool, jaw or collar model used. ACO203 tooling options used as example only.



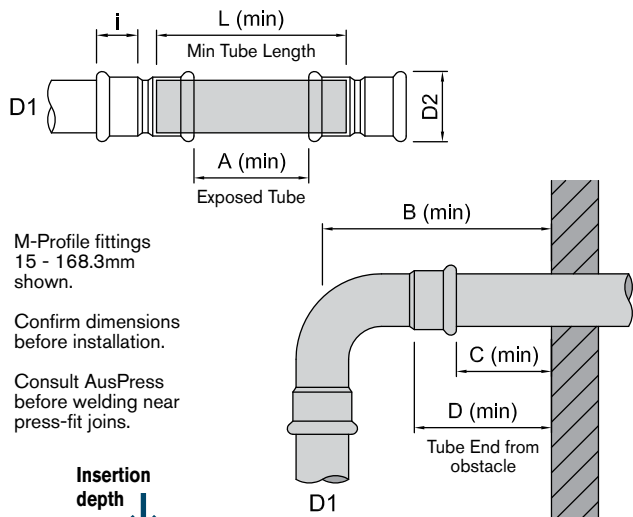
Dimensions for AusPress Metric 316 Stainless, AusPress CuNiFe & AusPress 2205 Fittings

D1	T	E	F	G	H	J	K
15	Jaw	20	56	25	31	75	135
18	Jaw						
22	Jaw	23	65	31	38	80	155
28	Jaw	25	75	31	39	83	160
35	Jaw	30	75	36	45	90	180
42	Collar	75	115	-	75	-	265
54	Collar	85	120	-	85	-	290
66.7	Collar						
76.1	Collar	110	140	-	110	-	360
88.9	Collar	120	150	-	120	-	390
108	Collar	140	170	-	140	-	450
168.3	Collar	200	335	-	200	-	850



Dimensions for AusPress Copper Fittings

DN	T	E	F	G	H	J	K
15	Jaw	20	56	25	31	75	135
18	Jaw	23	65	31	38	80	155
20	Jaw	23	65	31	38	80	155
25	Jaw	25	75	31	39	83	160
32	Jaw	30	75	36	45	90	180
40	Jaw	50	90	68	54	92	265
40	Collar	67	110	-	82	-	274
50	Jaw	64	121	60	90	125	295
50	Collar	71	121	-	90	-	300
65	Collar	110	140	-	110	-	360
80	Collar	120	150	-	120	-	390
100	Collar	140	170	-	140	-	450

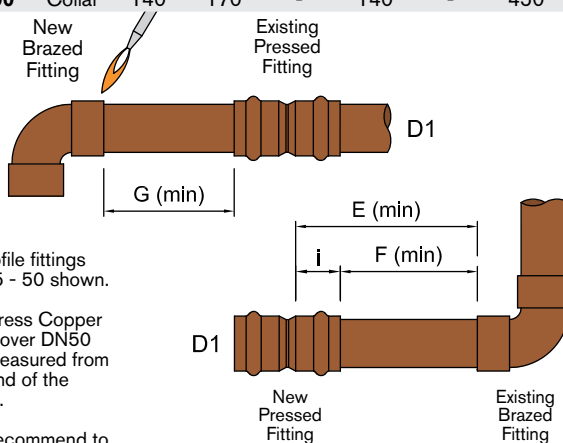


M-Profile fittings 15 - 168.3mm shown.

Confirm dimensions before installation.

Consult AusPress before welding near press-fit joints.

D1	i	L	A	D2	B	C	D
15	20	50	10	23	85	35	55
18							
22	21	52	10	32	95	35	56
28	23	56	10	38	107	35	58
35	26	72	20	45	121	35	61
42	30	80	20	54	147	35	65
54	35	90	20	66	174	35	70
66.7							
76.1	53	126	20	95	223	75	128
88.9	58	136	20	110	249	75	135
108	69	158	20	133	292	75	150
168.3	121	302	60	195	456	70	191



V-Profile fittings DN15 - 50 shown.

AusPress Copper sizes over DN50 are measured from the end of the fitting.

We recommend to wrap the closest existing press fittings with a wet cloth while brazing.

DN	i	L	A	D2	E	F	G
15	19	51	13	20	32	13	1,000
18	21	55	13	24	34	13	1,000
20	22	57	13	27	35	13	1,000
25	23	61	15	34	38	15	1,000
32	26	67	15	41	41	15	1,000
40	32	84	20	19	52	20	1,000
50	40	105	25	61	65	25	1,300
65	42	109	25	79	67	25	1,600
80	48	126	30	90	78	30	2,000
100	60	150	30	116	90	30	2,500

Material Performance

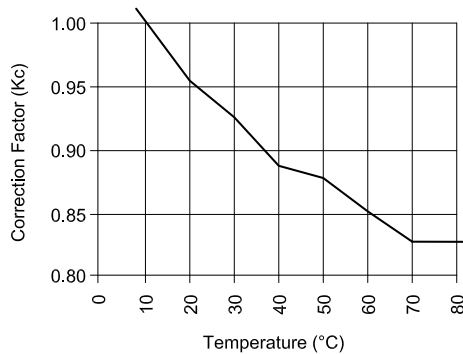
Material Composition



		AISI 316L	AISI 304	90/10	C12200	AISI S31803
Grade No:		1.4404	1.4301	2.1972	C12200	1.4462
Chromium (Cr)	%	16.5 - 18.5	18 - 19.5	-	-	21.0 - 23.0
Carbon (C)	% max	0.03	0.03	0.05	-	0.03
Copper (Cu)	% min	-	-	85.6	99.9	-
Iron (Fe)	%	bal	bal	1.5 - 1.8	-	bal
Lead (Pb)	% max	-	-	0.01	-	-
Manganese (Mn)	% max	2	2	1	-	2
Molybdenum (Mo)	%	2 - 2.5	-	-	-	2.5 - 3.5
Nickel (Ni)	%	10 - 13	8 - 10.5	10 - 11	-	4.5 - 6.5
Nitrogen (N)	%	-	-	-	-	0.08 - 0.20
Phosphorus (P)	% max	0.045	0.045	0.02	0.04	0.03
Silicon (Si)	% max	1	1	-	-	1
Sulphur (S)	% max	0.015	0.03	0.005	-	0.02
Zinc (Zn)	% max	-	-	0.05	-	-
Zirconium (Zr)	% max	-	-	0.01	-	-
PREN	ave	24.9	18.8	-	-	34.2

Temperature Correction Factor

The graph below shows the correction factor (Kc) based on the water temperature.



Batch Numbers (Tube & Fittings)

Our fittings and tubes are marked with a batch (or heat) number identifying the material as part of our 3.1 certifications for our 316, IPS & 2205 ranges.

Did You Know? WaterMark notation.

OF = Operation of Fabrication Code
 '17' = raw material coil number,
 '9' = mill number,
 '3' = employee number,
 '8' = test produced material certificate.

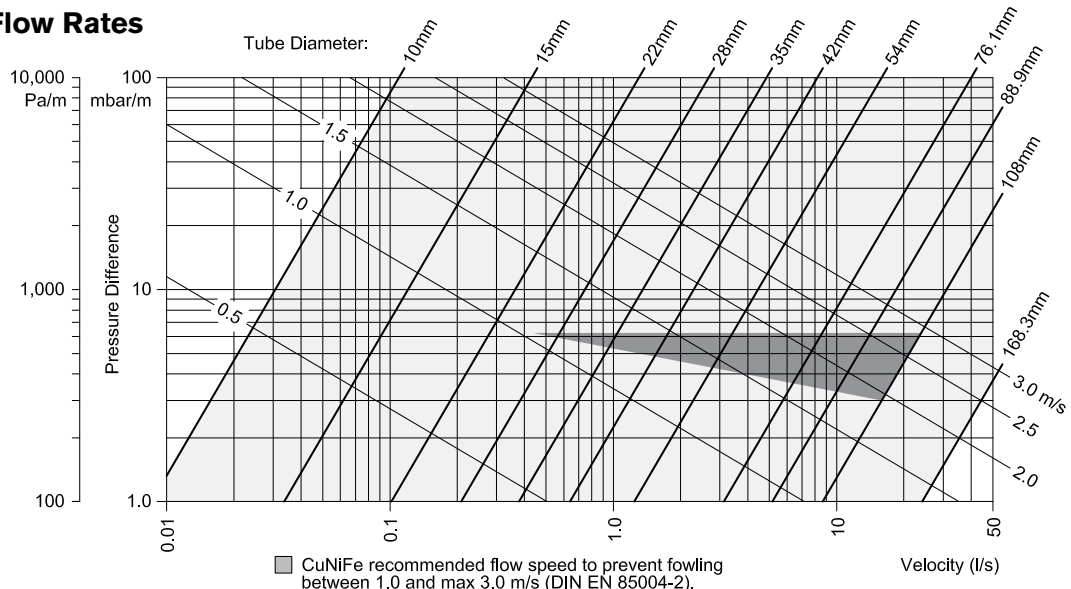
Tube: '3.1 Cert' Reference starts C-...

Example only

Pressure Loss & Flow Rates

The graph adjacent shows the relationship between pressure loss, flow velocity for each diameter.

Test Details
 Material: Stainless Steel 316L
 Media: Potable Water
 Test Temperature: 10°C
 Surface Roughness Coefficient: 0.0015mm (average)



For further details refer to TN.30



Design for Press-Fit

This information is suitable for 'normal' applications within the abilities of press-fit including potable water and compressed air however some applications require additional consideration; these include (but not limited to) steam, pressurised oil lines and chemical lines. In these instances, contact us before installation for technical assessment.

The following information is a general guide only. For project & application specific assessment, contact us directly.



Tech Notes Available

Contact us for Technical Notes that cover topics in much greater detail.

1: Ring Seal (Elastomer) Suitability

The rubber ring seal is an important part of the press fitting join and must be assessed as suitable for the application and media to be used. AusPress fittings are supplied with a pre-fitted EPDM (black) ring seal standard, unless otherwise noted at the time of ordering. We don't recommend the swapping of ring seals from one type to another after the time of ordering.

Refer to our AusPress Suitability Guide for specific ring seal suitability and limits and/or contact us for confirmation before installation by completing a Project Information form available from our website.

2: System Pressures

Maximum working pressure depends on a combination of the press tool used to install, the fitting profile, fitting diameter, the system material, operating temperature and application (use) as approved by AusPress. Some applications are limited to a lesser pressure despite the system able to achieve higher; in these cases, the lesser pressure is used.

Working Pressure – 'normal' operating pressure, designed for and in accordance to relevant standards.

Test Pressure – 1.5x the working pressure, during site test conditions only (see Pressure Testing section).

For suitability of other press tools, applications and limits for



Refer to the 'Select a Press Tool' page at the beginning of each AusPress catalogue section to find the right tool for your project.

AusPress products, please contact us for advice.

3: Insulation & Lagging

Insulating AusPress is suitable however consideration must be given to the piping material and the insulation type to be installed. *Tech Note available.*

For example, insulation materials used with stainless 316 must be specified 'low chloride' (less than 0.05% soluble chloride ion content by weight). This issue is critical to the performance of stainless installations at any temperature. **(For further info refer to TN.04)**

4: Threaded Fittings & Sealants

Support the threaded press fitting using the fixed nut to tighten and prevent torsional forces being applied to the pressed join.

For threads, both thread tapes and liquid/paste sealants must be chloride free and suitable with the material and application.

Contact us for more information.

5: Bracketing

Install bracketing & centres (spans) to AS/NZS 3500 & AS/NZS 4041 as required appropriate to the application.

Bracketing is to be the same material as the pipework or separated with an inert lining such as rubber.

Brackets are not to be positioned directly on a fitting.

Refer to the Expansion & Contraction section for bracket type and positioning. **(For further info refer to TN.20)**

6: Bending Tubes

Tube up to 35mm diameter can be cold bent using a commercial tube bender to a radius no less than 3.5x the tube diameter. Do not heat stainless or CuNiFe to bend.

7: Material Suitability

AusPress is suitable for a range of applications; please complete a Project Info Form and contact us for product suitability based on your project requirements.

Press-Fit for Potable Water

AusPress systems are resistant to potable water meeting the requirements of the Australian Drinking Water Guidelines (ADWG) 2011.

Stainless & copper are resistant due to the protective layer these materials create naturally. The content of water-soluble chloride ions at ambient temperature (including in potable water) should not exceed 250mg/l (250ppm).

Copper Nickel (CuNiFe) is not suitable for potable water applications but can be tested with potable water.

Problems can occur with high chloride content found in some chlorous disinfectants or naturally occurring sources such as bore water. Confirm suitability with AusPress before use.



Stagnant water, low flow periods and dead legs require caution and are not recommended.

Water analysis testing by a NATA certified laboratory is required to confirm the composition of waters.

Press-Fit for Purified Waters

Purified waters such as softened, de-carbonised, fully desalinated, de-ionised, de-mineralised, distilled and pure condensates are suitable. Ultrapure water with a conductivity of > 0.1 µS/cm is also suitable. No additional measures to protect against corrosion are necessary.

Other types are to be confirmed before installation on request.

Water sample and parameters may be required. Note Copper and CuNiFe are not suitable for purified water types.

Press-Fit for Chemicals, Disinfectants and Additives

Please complete a Project Info Sheet with the relevant MSDS and contact us to check the suitability.

Press-Fit for Compressed Air

Dry or wet (lubricated) systems are suitable with AusPress; use the FKM ring seal for wet systems or when oil is possible.

Press-Fit for Wet Steam

Only the Red FKM ring seal is suitable for wet steam. Water quality and additives must be confirmed as suitable. For AusPress stainless, max limits of 75 psi (550 kpa) & 160°C installed with pressure relief valve, temp gauge & suitable press tool. Contact us for advice and the *Tech Note*.

Press-Fit for Oil, Fuels, Grease & Viscous Liquids

Systems must be installed with a thermal expansion safety valve, the pump isolated and system depressurised during non-operational periods. Confirm the ring seal suitability before installation. *Tech Note available*.

Press-Fit for Sewer, Stormwater or Gravity Waters

Press-Fit is not suitable, designed or approved for these applications. Contact us for information about our range of stainless drainage pipes and floor drains.

Press-Fit in Cold Climates

Allowance must be allowed for expansion of water within the pipework that may freeze. Various methods such as trace heating are used, please contact us for specific advice.

8: Protecting External Surfaces

Material Resistance

Despite the robust protective layer to the material formed naturally, the external environment and conditions must be considered; contaminants settling or in contact for a period of time may effect the outside surface of the tube & fittings.

For example;

316 stainless is susceptible to chlorides; coastal areas where the tube is exposed, unwashed or buried;

Building materials in contact such as concrete, galvanised brackets or grinding sparks;

Chemicals (including cleaning), alkaline or acidic environments where AusPress is to be installed;

Underground installation of press-fit is not recommended where protection from damage, interference from plant roots or soil/groundwater conditions is not provided. Refer our Tech Note for more information. **(For further info refer to TN.01)**

Protection of External Surfaces

In areas at risk of unsuitable external conditions, installation of AusPress without protection is not recommended - contact AusPress for advice before installation.

To prevent against direct contact issues, installing press-fit using off-set brackets, material separation (such as inert rubber spacers) and other 'material' solutions is suitable.

Covering the external surface can protect and insulate the surface from contaminants. Care to prepare the press-fit surface before applying the covering is critical to prevent locking any contaminants between the tube and protection.

Protection against external contaminants must be waterproof and non-porous and resistant to heat and ageing and continuous (no gaps or damage). The use of encased or sealed blanket insulation, allowing to drain trapped condensation and barrier wrapping are all recommended. Materials that retain moisture including felts are not recommended.

Effects of Bi-Metal (Mixed) Installations

Caused by the direct connection of different materials or the water passing from one material to another (the flow rule), bimetallic reactions can effect some metals.

AusPress stainless is not effected by the flow rule and with potable water can be used with other nonferrous metals although this is not a preferred method of installation.

Colouring caused by deposits of other metals does not necessarily indicate corrosion.

Materials that do bimetallicly react are separated by an inert section to reduce the reaction.

For example, if stainless is directly connected to galvanised steel pipe, bimetallic reaction will occur to the galvanised steel. This can be prevented by:

Installing an inert separation piece between the two or;

Fitting a ball valve made of non-ferrous material.

9: Flushing the System

It is best practice to avoid the introduction of foreign matter or contaminants during installation including dirt and swarf. Flushing the pipework is recommended to reduce the negative effects contaminants may cause and AS/NZS 3500 has further directions for flushing water supply systems.

Flushing Water Systems: Potable water is recommended.

Flushing Air, Oil & Gas Systems: Use oil-free air or an inert gas such as carbon dioxide or nitrogen. Oxygen or other flammable gasses are not to be used.

Flush main-line separately before connection.

10: Pressure Testing

Conduct the pressure test in accordance with AS/NZS 3500 (and AS/NZS 2419.1 for Fire Hydrant applications).



If the system is to be emptied again after a water pressure test, or not remain completely full, it is advisable to conduct the pressure test with air in order to avoid an increased risk of pitting and corrosion.

Testing with Water: Potable water is recommended.

Testing with Air: Use oil-free air or an inert gas such as carbon dioxide or nitrogen. Oxygen or other flammable gasses are not to be used.

Water Supply Systems:

Flush the system then fill with potable water so that it is free from air pockets before commencing the test. If connecting to an existing water supply, flush any connecting pipework before connection.

Hot and Warm Water Systems:

In addition to the notes above for Water Supply Systems, conduct the preliminary and main tests with cold water first. As soon as possible after a successful cold water test, slowly heat up the system to the full designed hot water temperature and re-inspect for any issues.

Note the system will expand when heated and bracketing should not be fully tightened nor insulation fitted before normal operating temperature has been reached.



LPG and Natural Gas Systems:

Conduct the pressure test of the system in accordance with AS/NZS 5601. Water is not a suitable medium for testing, use the air testing method.

Pressure Test Process:

We recommend using the Test Protocol Form to record the test results as a record that can be downloaded from our website. Use the more stringent requirements of those listed below and the relevant AS/NZS standard to your installation.

	Test Pressure (the greater of):		Minimum Test Time Required:
AS/NZS 3500	1,500 kPa or...	1.5 times the maximum operating working pressure for the system.	45 minutes
AS/NZS 5601	7.0 kPa (pipework only) or...		2 minutes temp stabilisation time + 5 minutes for test
AS/NZS 2419.1	1,700 kPa or...		4 hours
Refer to the relevant standard for specific requirements of testing.			

For hot water systems, the duration may be longer allowing for the water to heat after the first cold water test.

For flange pressures, consult the relevant standard (i.e. AS/NZS 2129 for Table & ASME B16.5 for ANSI).

System considered 'passed' if:

No pressure drop over the test duration (as per relevant AS/NZS for the installation) and a visual inspection confirmation of no leaks or deformation.

11: Disinfecting the System

Prior to commissioning the system or in the event of microbial contamination, the Australian Drinking Water Guidelines (ADWG) recommend the use of hydrogen peroxide to disinfect pipework. Chlorine is also listed as suitable in this context.

Please contact us so we can offer project specific advice before you proceed.

Familiarise the manufacturer's safety precautions of using the chemical and instructions for use, particularly in relation to the contact time, maximum solution concentration and subsequent flushing requirements.

The Australian water regulations allow dosing with up to 1.2ppm of free chlorine in the disinfectant solution, provided a limit of 0.3ppm of free (active) chlorine is not exceeded in the drinking water.

Quantities can be increased to 6ppm and 0.6ppm respectively in exceptional circumstances for example, high or increased micro-bacterial contamination.

To prevent damage to AusPress products during disinfection, do not exceed the maximum chlorine concentration and contact times as tabled:

	Option 1	Option 2
Maximum concentration of free chlorine in water:	100ppm	50ppm
Maximum contact time:	16 hours	24 hours
Thorough flushing with potable (drinking) water:	Residue free chlorine in potable (drinking) water < 1ppm.	
1ppm = 1mg/L		

12: De-Scaling

Limescale on the bore tubes can be caused by a variety of service conditions including high water temperatures or excessively 'hard' water quality.

Additives for de-scaling tubes must be checked for suitability with the pipe material, rubber seal ring and approved for use with AusPress before use.

When using any solution, ensure the system is flushed correctly and the manufacturer's instructions are followed in an accurate and safe manner at all times.

13: Commissioning

Systems must be commissioned in accordance with the applicable standards and regulations.

The installation contractor must familiarise the owners and users with the system. This is to be documented with a hand-over and acceptance documentation.

Completing an *Operation and Maintenance Manual* is recommended to record the actual products installed, the ring seals used and the installer's information for future reference.

14: Operation and Maintenance

The user (or owner) of the system is under an obligation to ensure the system is maintained in a serviceable and safe condition at all times.

The system must be operated in such a way that faults and other factors affecting the reliability of the system are resolved before a hazard or issue occurs.

Ongoing maintenance includes assessing the interior and exterior of the pipework with regular inspections and timely rectification if required.

Avoid damage by keeping the system clean & free of contaminants, protect from sparks, grindings and confirm changes in media before making changes to operating conditions.

The user is advised to enter into a maintenance agreement with an installation contractor.