



AusPress®

CuNiFe



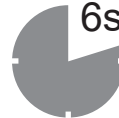
Commonly used for very high chloride environments commonly found with seawater, bore water & offshore applications.



profile



15 to 108mm



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

AusPress® Press-Fit  
CuNiFe

### Faster to Install

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

### Safer to Use

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

### 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.

### Quality to Install

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

### 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.

### Environmental Choice

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



# Installing AusPress®



profile



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.

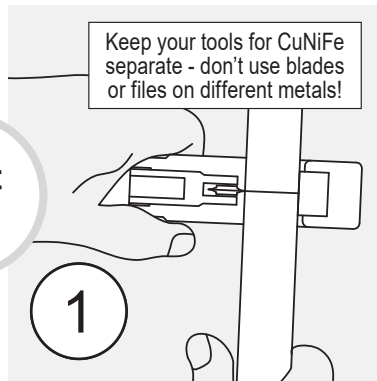


Start here

## 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.

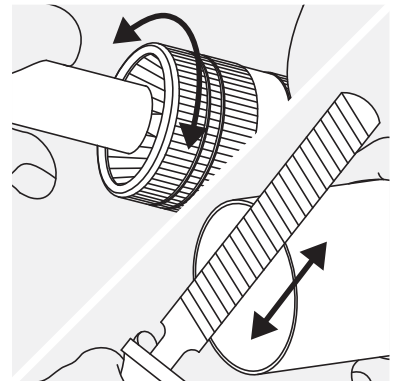


1

## Cut to Length

Cut the tube square using a tube cutter with an 'inox' suitable blade.

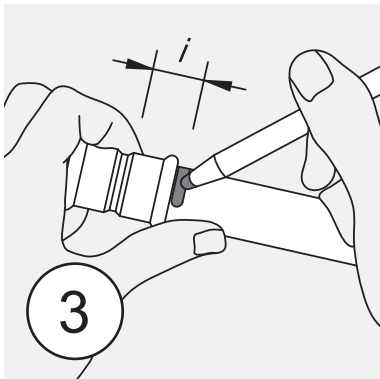
For larger sizes, cut square with an 'inox' blade using a stainless rotary cutter or 5" thin blade grinder disc.



## 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.

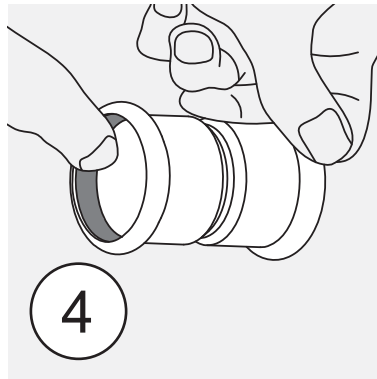


3

## Mark the Insertion Depth "i"

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.

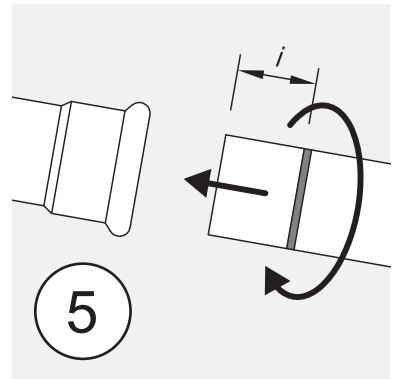


4

## 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.

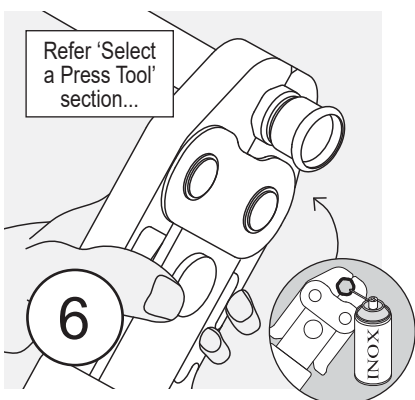


5

## Join the Tube & Fitting

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

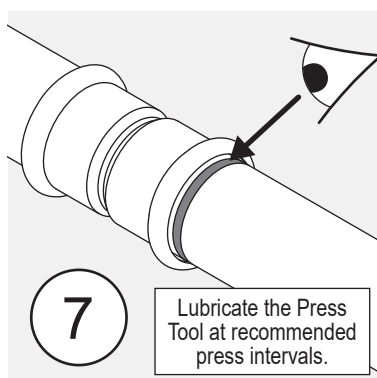
Soapy water can be used if joining is difficult.



6

## Press the Join

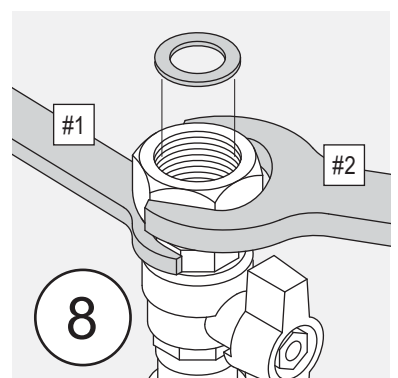
Using a suitable press tool and M-profile jaw or collar, align the press jaw with the fitting and join following the tool manufacturer's instructions.



7

## Check & Complete

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



8

## 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.

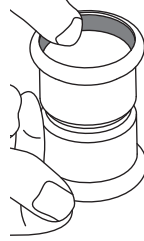
## Shipping & Offshore Applications

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.

Chart below shows tool compatibility and maximum working pressure per diameter for a water installation up to 95°C.



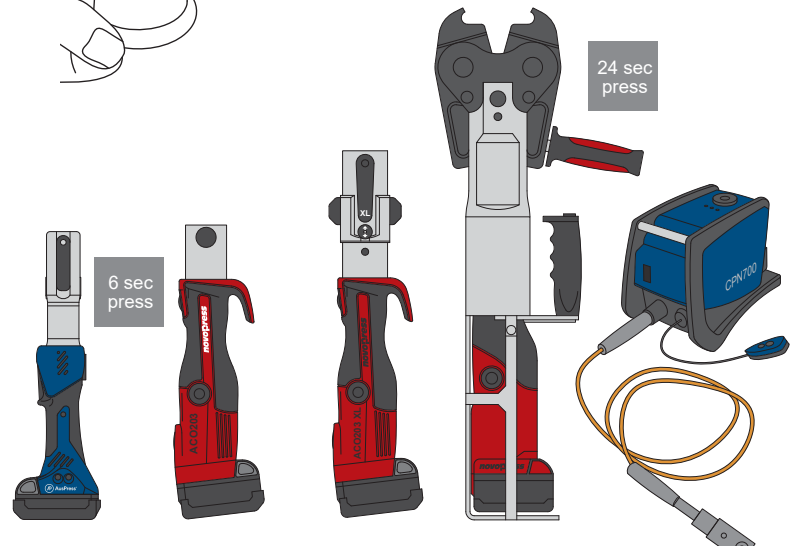
AusPress Metric CuNiFe fittings and metric tube.



## The 'M' Profile Press...

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

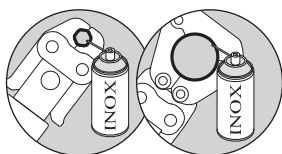
The press tools, jaws and collars we supply are designed to suit M-Profile and although they may look similar to other types, the tolerances of others may be different. Using incorrect tooling may effect warranty as a result.



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

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



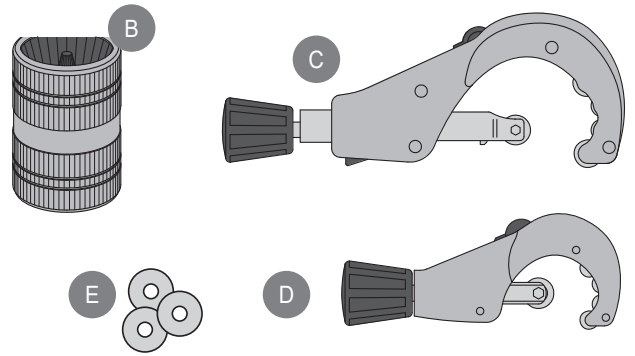
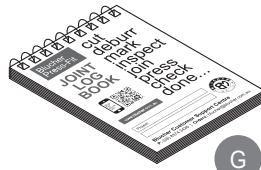
Ensure the inner press surfaces are lubricated with INOX for a smooth consistent press.

Reapply as needed.

## Installation Tools

These items make installing AusPress press-fit easier.

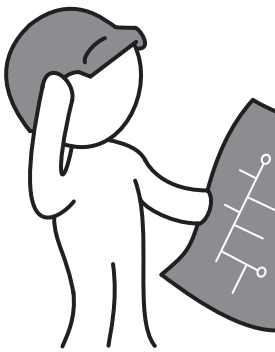
Remember using the same cutting or deburring tool on different metals can lead to corrosion (eg cut steel then cut CuNiFe).



### Press Tools:

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

Image	Suits...	Product No
<b>B</b>	Manual Deburrer 10 - 54mm	VT.DEB
<b>C</b>	Manual Tube Cutter 6 - 76.1mm	VT.TCUT.006.076
<b>D</b>	Manual Tube Cutter 3 - 45mm	VT.TCUT.003.045
<b>E</b>	Replacement Cutting Wheel for 'C & D' (each)	VT.TCUT.WHEEL
<b>G</b>	AusPress Joint Log Book	

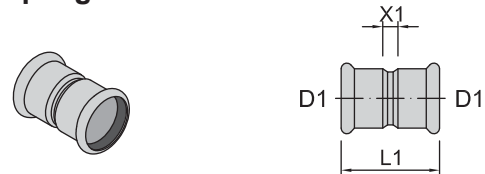


## Why Choose Copper Nickel?

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 contact us for technical advice to confirm suitability with your application.

For technical information for specialised projects please ask us!

## Coupling Socket - Socket



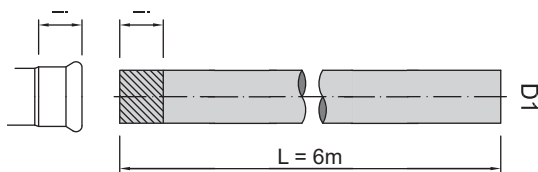
Material: CuNiFe (2.1972.11).

Ring Seal: CIIR x2 supplied.

Product No	D1	L1	X1
CUNI.21.015	15	48	8
CUNI.21.022	22	50	8
CUNI.21.028	28	54	8
CUNI.21.035	35	62	10
CUNI.21.042	42	71	11
CUNI.21.054	54	83	13
CUNI.21.076*	76.1	141	35
CUNI.21.088*	88.9	162	42
CUNI.21.108*	108	194	44

\* Item available on request, lead time likely.

## Tube - Metric OD

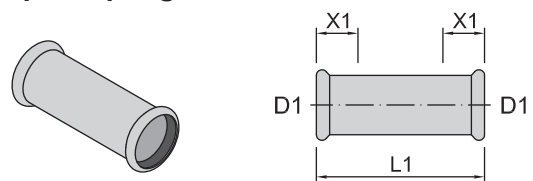


**i** = insertion depth. Tube must be inserted into the press socket a minimum distance to ensure the joint is pressed successfully.

Product No	D1 (mm)	DN	i depth	t Wall	Weight/lm kg (dry-wet)
CUNI.96.015	15	12	20	1.0	0.4 - 0.5
CUNI.96.022	22	20	21	1.0	0.6 - 0.9
CUNI.96.028	28	25	23	1.5	1.1 - 1.6
CUNI.96.035	35	32	26	1.5	1.4 - 2.2
CUNI.96.042	42	40	30	1.5	1.7 - 2.9
CUNI.96.054	54	50	35	1.5	2.2 - 4.3
CUNI.96.076*	76.1	80	53	2.0	4.2 - 8.2
CUNI.96.088*	88.9	90	60	2.0	4.9 - 10.5
CUNI.96.108*	108	100	75	2.5	7.4 - 15.7

\* Item available on request, lead time likely.

## Slip Coupling Socket - Socket

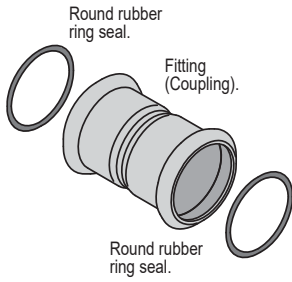


Material: CuNiFe (2.1972.11).

Ring Seal: CIIR x2 supplied.

Product No	D1	L1	X1
CUNI.22.015	15	80	25
CUNI.22.022	22	84	25
CUNI.22.028	28	91	30
CUNI.22.035	35	102	30
CUNI.22.042	42	120	40
CUNI.22.054	54	140	40
CUNI.22.076*	76.1	230	60
CUNI.22.088*	88.9	260	70
CUNI.22.108*	108	310	80

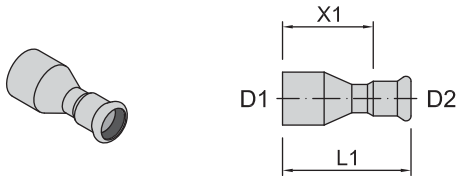
\* Item available on request, lead time likely.



**Rubber Ring Seals**  
Depending on the application, the ring seals may need to be changed to a different type for higher chemical or temperature resistance.

More info in the ring seal product listing.

### Spigot Reducer Socket - Tube End



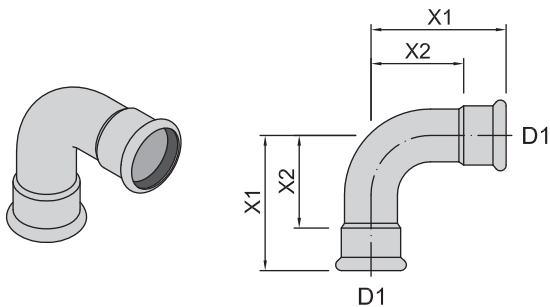
Material: CuNiFe (2.1972.11).

Ring Seal: CIIR x1 supplied.

Product No	D1	D2	L1	X1
CUNI.23.022.015	22	15	59	39
CUNI.23.028.015	28	15	66	46
CUNI.23.028.022	28	22	60	39
CUNI.23.035.022	35	22	71	50
CUNI.23.035.028	35	28	68	45
CUNI.23.042.028	42	28	83	60
CUNI.23.042.035	42	35	73	47
CUNI.23.054.035	54	35	106	80
CUNI.23.054.042	54	42	89	59
CUNI.23.076.042*	76.1	42	164	134
CUNI.23.076.054*	76.1	54	146	111
CUNI.23.088.054*	88.9	54	163	128
CUNI.23.088.076*	88.9	76.1	160	107
CUNI.23.108.076*	108	76.1	184	131
CUNI.23.108.088*	108	88.9	204	144

\* Item available on request, lead time likely.

### 90 Bend Socket - Socket



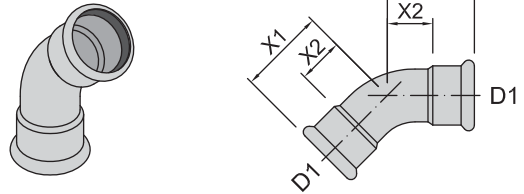
Material: CuNiFe (2.1972.11).

Ring Seal: CIIR x2 supplied.

Product No	D1	X1	X2
CUNI.31.090.015	15	38	18
CUNI.31.090.022	22	47	26
CUNI.31.090.028	28	57	34
CUNI.31.090.035	35	68	42
CUNI.31.090.042	42	80	50
CUNI.31.090.054	54	100	65
CUNI.31.090.076*	76.1	153	100
CUNI.31.090.088*	88.9	179	119
CUNI.31.090.108*	108	222	147

\* Item available on request, lead time likely.

### 45 Bend Socket - Socket



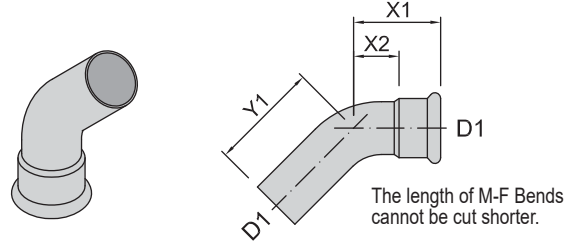
Material: CuNiFe (2.1972.11).

Ring Seal: CIIR x2 supplied.

Product No	D1	X1	X2
CUNI.31.045.015	15	28	8
CUNI.31.045.022	22	32	11
CUNI.31.045.028	28	37	14
CUNI.31.045.035	35	43	17
CUNI.31.045.042	42	51	21
CUNI.31.045.054	54	62	27
CUNI.31.045.076*	76.1	97	44
CUNI.31.045.088*	88.9	112	52
CUNI.31.045.108*	108	139	64

\* Item available on request, lead time likely.

### 45 Bend Socket - Tube End



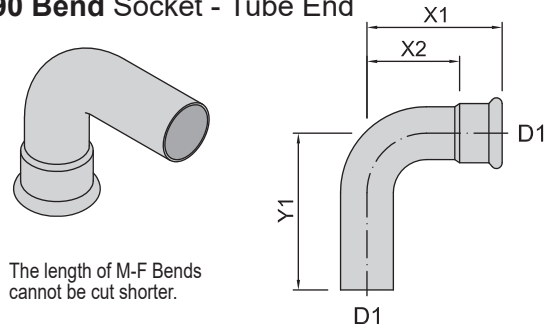
Material: CuNiFe (2.1972.11).

Ring Seal: CIIR x1 supplied.

Product No	D1	X1	X2	Y1
CUNI.32.045.015	15	28	8	37
CUNI.32.045.022	22	32	11	44
CUNI.32.045.028	28	37	14	50
CUNI.32.045.035	35	43	17	52
CUNI.32.045.042	42	51	21	61
CUNI.32.045.054	54	62	27	73
CUNI.32.045.076*	76.1	97	44	111
CUNI.32.045.088*	88.9	112	52	130
CUNI.32.045.108*	108	139	64	157

\* Item available on request, lead time likely.

### 90 Bend Socket - Tube End



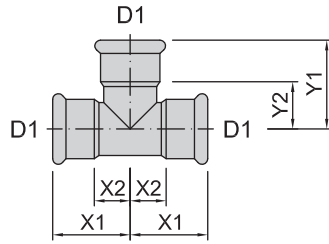
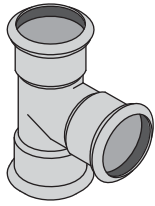
Material: CuNiFe (2.1972.11).

Ring Seal: CIIR x1 supplied.

Product No	D1	X1	X2	Y1
CUNI.33.090.015	15	38	18	51
CUNI.33.090.022	22	47	26	60
CUNI.33.090.028	28	57	34	66
CUNI.33.090.035	35	68	42	77
CUNI.33.090.042	42	80	50	90
CUNI.33.090.054	54	100	65	111
CUNI.33.090.076*	76.1	153	100	166
CUNI.33.090.088*	88.9	179	119	194
CUNI.33.090.108*	108	222	147	240

\* Item available on request, lead time likely.

### ■ Tee Equal Socket Ends & Branch



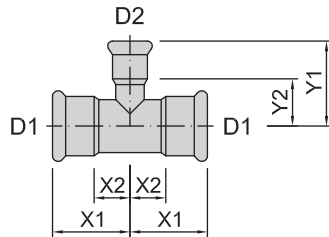
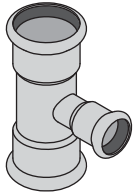
Material: CuNiFe (2.1972.11).

Ring Seal: CIIR x3 supplied.

Product No	D1	X1	X2	Y1	Y2
CUNI.51.015	15	32	12	40	20
CUNI.51.022	22	37	16	45	24
CUNI.51.028	28	42	19	51	28
CUNI.51.035	35	50	24	59	33
CUNI.51.042	42	57	27	66	36
CUNI.51.054	54	69	34	72	37
CUNI.51.076*	76.1	115	62	110	57
CUNI.51.088*	88.9	130	70	128	68
CUNI.51.108*	108	155	80	153	78

\* Item available on request, lead time likely.

### ■ Tee Reduced Socket Ends & Branch



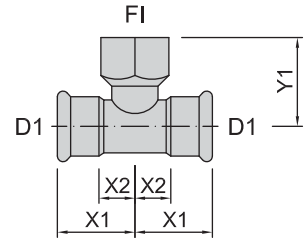
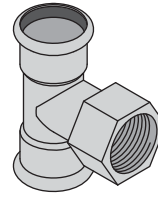
Material: CuNiFe (2.1972.11).

Ring Seal: CIIR x3 supplied.

Product No	D1	D2	X1	X2	Y1	Y2
CUNI.52.022.015	22	15	37	16	44	24
CUNI.52.028.015	28	15	42	19	47	27
CUNI.52.028.022	28	22	42	19	48	27
CUNI.52.035.015	35	15	50	24	49	29
CUNI.52.035.022	35	22	50	24	52	21
CUNI.52.035.028	35	28	50	24	55	32
CUNI.52.042.022	42	22	57	27	54	33
CUNI.52.042.028	42	28	57	27	58	35
CUNI.52.042.035	42	35	57	27	62	36
CUNI.52.054.022	54	22	69	34	61	40
CUNI.52.054.028	54	28	69	34	64	41
CUNI.52.054.035	54	35	69	34	68	42
CUNI.52.054.042	54	42	69	34	72	42
CUNI.52.076.022*	76.1	22	115	62	77	56
CUNI.52.076.028*	76.1	28	115	62	79	56
CUNI.52.076.035*	76.1	35	115	62	81	55
CUNI.52.076.042*	76.1	42	115	62	81	51
CUNI.52.076.054*	76.1	54	115	62	87	52
CUNI.52.088.022*	88.9	22	130	70	85	64
CUNI.52.088.028*	88.9	28	130	70	87	64
CUNI.52.088.035*	88.9	35	130	70	90	64
CUNI.52.088.042*	88.9	42	130	70	92	62
CUNI.52.088.054*	88.9	54	130	70	93	58
CUNI.52.088.076*	88.9	76.1	130	70	114	61
CUNI.52.108.022*	108	22	155	80	103	82
CUNI.52.108.028*	108	28	155	80	105	82
CUNI.52.108.035*	108	35	155	80	108	82
CUNI.52.108.042*	108	42	155	80	110	80
CUNI.52.108.054*	108	54	155	80	113	78
CUNI.52.108.076*	108	76.1	155	80	124	71
CUNI.52.108.088*	108	88.9	155	80	135	75

\* Item available on request, lead time likely.

### ■ FI Tee Socket Ends & FI Branch



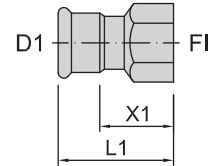
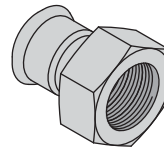
Material: CuNiFe (2.1972.11).

Ring Seal: CIIR x2 supplied.

Product No	D1	FI BSP	X1	X2	Y1
CUNI.53.015.015	15	1/2"	32	8	37
CUNI.53.022.015	22	1/2"	37	16	41
CUNI.53.022.020	22	3/4"	37	16	46
CUNI.53.028.015	28	1/2"	42	19	44
CUNI.53.028.020	28	3/4"	42	19	46
CUNI.53.035.015	35	1/2"	50	24	48
CUNI.53.035.020	35	3/4"	50	24	53
CUNI.53.042.015	42	1/2"	57	27	51
CUNI.53.042.020	42	3/4"	57	27	56
CUNI.53.054.015	54	1/2"	69	34	57
CUNI.53.054.020	54	3/4"	69	34	62
CUNI.53.076.015*	76.1	1/2"	115	62	73
CUNI.53.076.020*	76.1	3/4"	115	62	79
CUNI.53.088.015*	88.9	1/2"	130	70	81
CUNI.53.088.020*	88.9	3/4"	130	70	88
CUNI.53.108.015*	108	1/2"	155	80	99
CUNI.53.108.020*	108	3/4"	155	80	105

\* Item available on request, lead time likely.

### ■ FI Adaptor Socket - FI Thread



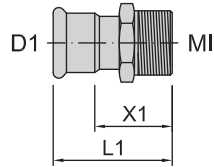
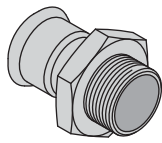
Material: CuNiFe (2.1972.11).

Ring Seal: CIIR x1 supplied.

Product No	D1	FI BSP	L1	X1
CUNI.73.015.015	15	1/2"	55	35
CUNI.73.022.015	22	1/2"	56	35
CUNI.73.022.020	22	3/4"	58	37
CUNI.73.028.025	28	1"	64	41
CUNI.73.035.032	35	1.1/4"	70	44
CUNI.73.042.040	42	1.1/2"	74	44
CUNI.73.054.050	54	2"	89	54

\* Item available on request, lead time likely.

### MI Adaptor Socket - MI Thread



Material: CuNiFe (2.1972.11).

Ring Seal: CIIR x1 supplied.

Product No	D1	MI	L1	X1	Thread
CUNI.74.015.015	15	1/2"	53	33	BSP
CUNI.74.022.015	22	1/2"	54	33	BSP
CUNI.74.022.020	22	3/4"	58	37	BSP
CUNI.74.028.025	28	1"	64	41	BSP
CUNI.74.035.032	35	1.1/4"	72	46	BSP
CUNI.74.042.040	42	1.1/2"	77	47	BSP
CUNI.74.054.050	54	2"	89	54	BSP

CUNI.74.015.015N*	15	1/2"	61	41	NPT
CUNI.74.022.015N*	22	1/2"	62	41	NPT
CUNI.74.022.020N*	22	3/4"	63	42	NPT
CUNI.74.028.025N*	28	1"	72	49	NPT
CUNI.74.035.032N*	35	1.1/4"	78	52	NPT
CUNI.74.042.040N*	42	1.1/2"	83	53	NPT
CUNI.74.054.050N*	54	2"	90	55	NPT

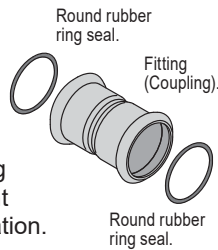
\* Item available on request, lead time likely.

### Ring Seals

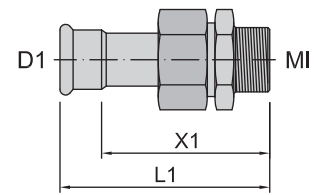
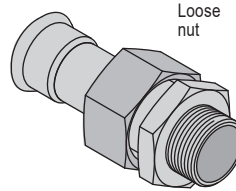
Fittings with a press-fit socket are fitted with a EPDM rubber ring seal as standard.

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 BSP



Material: CuNiFe (2.1972.11).

Ring Seal: CIIR x1 supplied.  
Gasket Seal: EPDM x1 supplied.

Product No	D1	MI 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

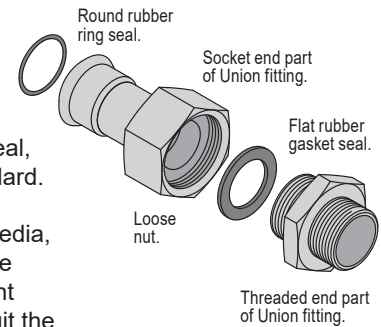
Note: MI Union is not suitable for gas or steam applications.

### Union Gaskets

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

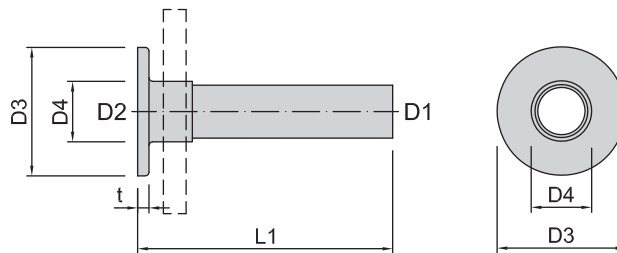
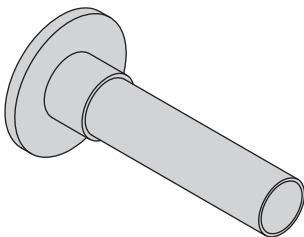
Depending on the media, **both seals** should be changed to a different rubber material to suit the application.

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	19	58	27	135	6
CUNI.87.028.PN16	28	PN 10/16	25	68	32	135	6
CUNI.87.035.PN16	35	PN 10/16	32	78	40	135	6
CUNI.87.042.PN16	42	PN 10/16	39	88	47	135	6
CUNI.87.054.PN16	54	PN 10/16	51	102	59	135	8
CUNI.87.076.PN16*	76.1	PN 10/16	72.1	122	78	135	8
CUNI.87.088.PN16*	88.9	PN 10/16	84.9	138	91	135	10
CUNI.87.108.PN16*	108	PN 10/16	104	158	110	135	10

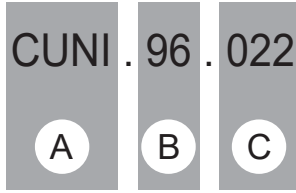
Note: Loose flange, gasket, nuts & bolts not included.

\* Item available on request, lead time likely.



## Understanding Our Product Codes

For those familiar with our superseded product numbers, the table below shows the old vs the current product number on the right.



- A: Material Type
- B: Fitting Style
- C: Dimension

eg: **CUNI.96.022**  
Copper Nickel (CuNiFe);  
Tube 6m length; 22mm OD.

Previous	New
67002	CUNI.21.015
67004	CUNI.21.022
67005	CUNI.21.028
67006	CUNI.21.035
67007	CUNI.21.042
67008	CUNI.21.054
67009	CUNI.21.076
67010	CUNI.21.088
67011	CUNI.21.108
67102	CUNI.22.015
67104	CUNI.22.022
67105	CUNI.22.028
67106	CUNI.22.035
67107	CUNI.22.042
67108	CUNI.22.054
67109	CUNI.22.076
67110	CUNI.22.088
67111	CUNI.22.108
67206	CUNI.52.022.015
67209	CUNI.52.028.015
67211	CUNI.52.028.022
67212	CUNI.52.035.015
67214	CUNI.52.035.022
67215	CUNI.52.035.028
67218	CUNI.52.042.022
67219	CUNI.52.042.028
67220	CUNI.52.042.035
67225	CUNI.52.054.035
67226	CUNI.52.054.042
67227	CUNI.52.054.022
67228	CUNI.52.054.028
67229	CUNI.52.076.022
67230	CUNI.52.076.028
67231	CUNI.52.076.035
67232	CUNI.82.015.015
67233	CUNI.52.088.022
67234	CUNI.82.022.015
67235	CUNI.82.028.025
67236	CUNI.82.035.032
67237	CUNI.82.042.040
67238	CUNI.82.054.050

67239	CUNI.52.088.042	67604	CUNI.31.045.022	68701	CUNI.71.108.PN16
67243	CUNI.82.022.020	67605	CUNI.31.045.028	68703	CUNI.74.015.015
67244	CUNI.52.108.022	67606	CUNI.31.045.035	68707	CUNI.74.022.020
67245	CUNI.52.108.028	67607	CUNI.31.045.042	68708	CUNI.74.028.025
67246	CUNI.52.108.035	67608	CUNI.31.045.054	68709	CUNI.74.035.032
67247	CUNI.52.108.042	67609	CUNI.31.045.076	68710	CUNI.74.042.040
67248	CUNI.52.108.054	67610	CUNI.31.045.088	68711	CUNI.74.054.050
67250	CUNI.52.088.028	67611	CUNI.31.045.108	68715	CUNI.74.022.015
67251	CUNI.52.088.035	67702	CUNI.32.045.015	68736	CUNI.31.030.015
67252	CUNI.52.076.042	67704	CUNI.32.045.022	68738	CUNI.31.030.022
67253	CUNI.52.076.054	67705	CUNI.32.045.028	68739	CUNI.31.030.028
67260	CUNI.52.088.054	67706	CUNI.32.045.035	68740	CUNI.31.030.035
67261	CUNI.52.088.076	67707	CUNI.32.045.042	68741	CUNI.31.030.042
67269	CUNI.52.108.076	67708	CUNI.32.045.054	68742	CUNI.31.030.054
67270	CUNI.52.108.088	67709	CUNI.32.045.076	68743	CUNI.31.030.076
67305	CUNI.23.022.015	67710	CUNI.32.045.088	68744	CUNI.31.030.088
67307	CUNI.23.028.015	67711	CUNI.32.045.108	68745	CUNI.31.030.108
67309	CUNI.23.028.022	67802	CUNI.73.015.015	68756	CUNI.87.022.PN6
67312	CUNI.23.035.022	67805	CUNI.73.022.015	68757	CUNI.87.028.PN6
67313	CUNI.23.035.028	67806	CUNI.73.022.020	68758	CUNI.87.035.PN6
67317	CUNI.23.042.028	67809	CUNI.73.028.025	68759	CUNI.87.042.PN6
67318	CUNI.23.042.035	67811	CUNI.73.035.032	68760	CUNI.87.054.PN6
67323	CUNI.23.054.035	67814	CUNI.73.042.040	68761	CUNI.87.076.PN6
67324	CUNI.23.054.042	67818	CUNI.73.054.050	68762	CUNI.87.088.PN6
67325	CUNI.23.076.054	68002	CUNI.51.015	68763	CUNI.87.108.PN6
67327	CUNI.23.088.076	68004	CUNI.51.022	68764	68692
67330	CUNI.23.108.088	68005	CUNI.51.028	68766	68694
67337	CUNI.23.076.042	68006	CUNI.51.035	68767	68695
67338	CUNI.23.088.054	68007	CUNI.51.042	68768	68696
67344	CUNI.53.015.015	68008	CUNI.51.054	68769	68697
67346	CUNI.23.108.076	68009	CUNI.51.076	68770	68698
67347	CUNI.53.022.015	68010	CUNI.51.088	68771	68699
67348	CUNI.53.022.020	68011	CUNI.51.108	68772	68700
67349	CUNI.53.028.015	68102	CUNI.31.090.015	68773	68701
67350	CUNI.53.028.020	68104	CUNI.31.090.022	68774	68682
67352	CUNI.53.035.015	68105	CUNI.31.090.028	68776	68684
67353	CUNI.53.035.020	68106	CUNI.31.090.035	68777	68685
67356	CUNI.53.042.015	68107	CUNI.31.090.042	68778	68686
67357	CUNI.53.042.020	68108	CUNI.31.090.054	68779	68687
67360	CUNI.53.054.015	68109	CUNI.31.090.076	68780	68688
67361	CUNI.53.054.020	68110	CUNI.31.090.088	68781	68689
67365	CUNI.53.076.015	68111	CUNI.31.090.108	68782	68690
67366	CUNI.53.076.020	68302	CUNI.32.090.015	68783	68691
67368	CUNI.53.088.015	68304	CUNI.32.090.022	68791	CUNI.87.022.PN16
67369	CUNI.53.088.020	68305	CUNI.32.090.028	68793	CUNI.87.028.PN16
67372	CUNI.53.108.015	68306	CUNI.32.090.035	68794	CUNI.87.035.PN16
67373	CUNI.53.108.020	68307	CUNI.32.090.042	68795	CUNI.87.042.PN16
67402	CUNI.33.090.015	68308	CUNI.32.090.054	68796	CUNI.87.054.PN16
67404	CUNI.33.090.022	68309	CUNI.32.090.076	68797	CUNI.87.076.PN16
67405	CUNI.33.090.028	68310	CUNI.32.090.088	68798	CUNI.87.088.PN16
67406	CUNI.33.090.035	68311	CUNI.32.090.108	68799	CUNI.87.108.PN16
67407	CUNI.33.090.042	68682	CUNI.71.015.PN6	68804	CUNI.31.060.015
67408	CUNI.33.090.054	68684	CUNI.71.022.PN6	68806	CUNI.31.060.022
67503	CUNI.34.015.015	68685	CUNI.71.028.PN6	68807	CUNI.31.060.028
67506	CUNI.34.022.015	68686	CUNI.71.035.PN6	68808	CUNI.31.060.035
67507	CUNI.34.022.020	68687	CUNI.71.042.PN6	68809	CUNI.31.060.042
67508	CUNI.34.028.025	68688	CUNI.71.054.PN6	68810	CUNI.31.060.054
67509	CUNI.34.035.032	68689	CUNI.71.076.PN6	68811	CUNI.31.060.076
67510	CUNI.34.042.040	68690	CUNI.71.088.PN6	68812	CUNI.31.060.088
67511	CUNI.34.054.050	68691	CUNI.71.108.PN6	68813	CUNI.31.060.108
67515	CUNI.35.015.015	68692	CUNI.71.015.PN16	68833	CUNI.74.015.015N
67516	CUNI.35.022.015	68694	CUNI.71.022.PN16	68835	CUNI.74.022.015N
67517	CUNI.35.022.020	68695	CUNI.71.028.PN16	68837	CUNI.74.022.020N
67518	CUNI.35.028.025	68696	CUNI.71.035.PN16	68838	CUNI.74.028.025N
67519	CUNI.35.035.032	68697	CUNI.71.042.PN16	68839	CUNI.74.035.032N
67520	CUNI.35.042.040	68698	CUNI.71.054.PN16	68840	CUNI.74.042.040N
67521	CUNI.35.054.050	68699	CUNI.71.076.PN16	68841	CUNI.74.054.050N
67602	CUNI.31.045.015	68700	CUNI.71.088.PN16		