Installed quickly & easily, AusPress Stainless is installed without flame as the preferred method for installing grade 316 stainless pipework.

M profile

OD 15 to 168mm

WaterMark

ACTIVFIRE CERTIFIED

6s

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

Faster to Install

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

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.

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 WaterMark, ActivFire, Australian & International standards.
Material traced from coil to tube & fittings (3.1 certs).
Superior temperature tolerance.
Longitudinally **TIG welded** stainless tube 15 - 108mm**.**

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 (completely recycled to make more stainless).
Efficient and waste free install.

Installing AusPress®

M profile

OD 15 to 168mm

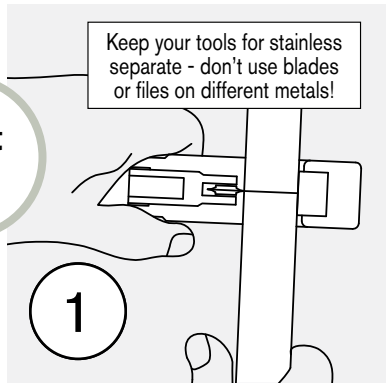
Start to install quicker...
AusPress press-fit is installed easily & quickly using a Press Tool to form a permanent 'M' profile pressed join between tube and fitting.

Start here

Check for suitability...
Both the piping material (eg 316L stainless steel) and the elastomer (the rubber ring seal) must be checked if suitable.

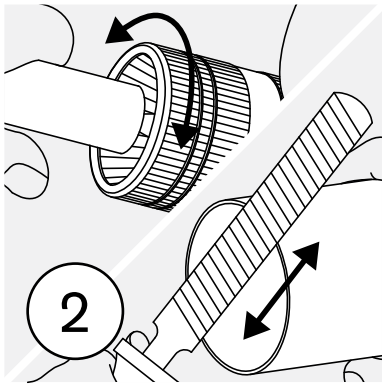
Installation only by qualified and licensed plumber in accordance with AS3500.

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



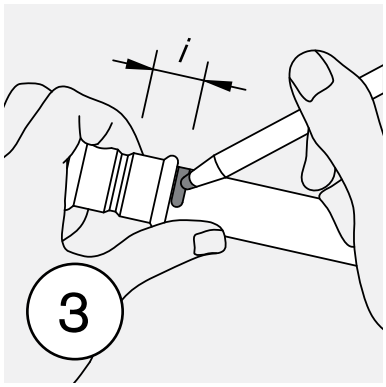
Cut to Length
Cut the tube square using a tube cutter with an 'inox' suitable blade.

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



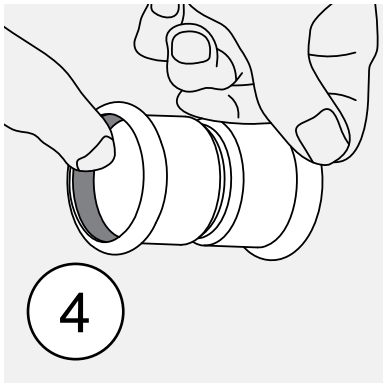
Deburr Tube
Deburr both inside & outside edges of tube ends to avoid cutting the ring seal on insertion.

For large sizes, use a half round smooth file reserved for stainless.



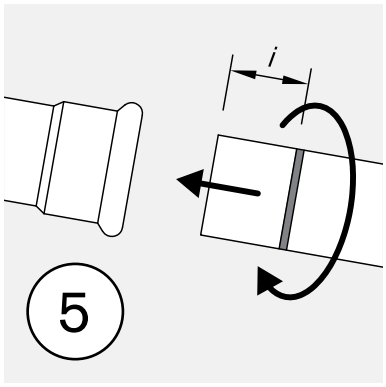
Mark the Insertion Depth "*i*"
Measure or use a depth gauge to mark the insertion depth (socket depth) onto the tube end.

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



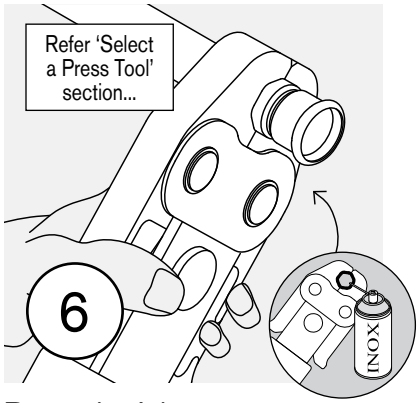
Inspect Fitting & Ring Seals
Check that the rubber ring seal is:

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

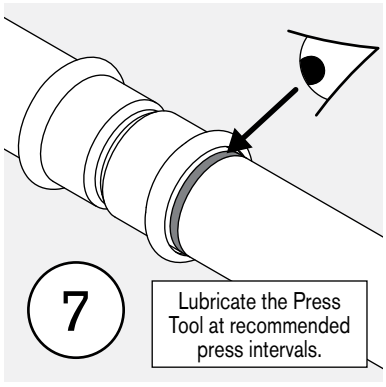


Join the Tube & Fitting
Insert the tube into the fitting press socket, turning slightly until it reaches the previously marked insertion depth.

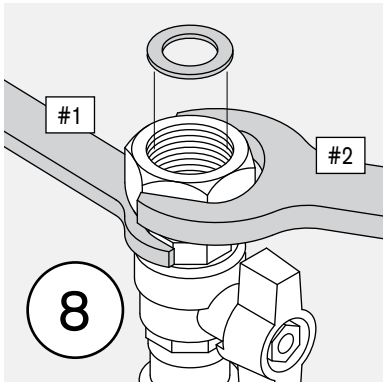
Soapy water can be used if joining is difficult.



Press the 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.



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 join alone.

Select a Press Tool

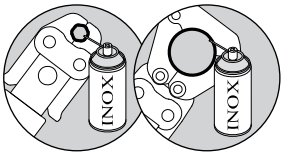
The right tool for the job...

AusPress fittings are joined quickly & consistently using a press tool, fitted with an interchangable jaw or collar (matching the fitting diameter and socket M-profile) to form a permanent join.

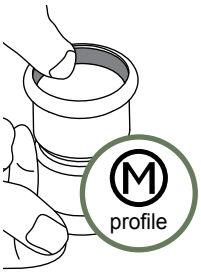
The chart below identifies the rated working pressure based on the tube diameter and suitable press tool & jaw/collar combination.

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. Installation only by a qualified & licenced plumber to AS 3500 and AS 5601.1.



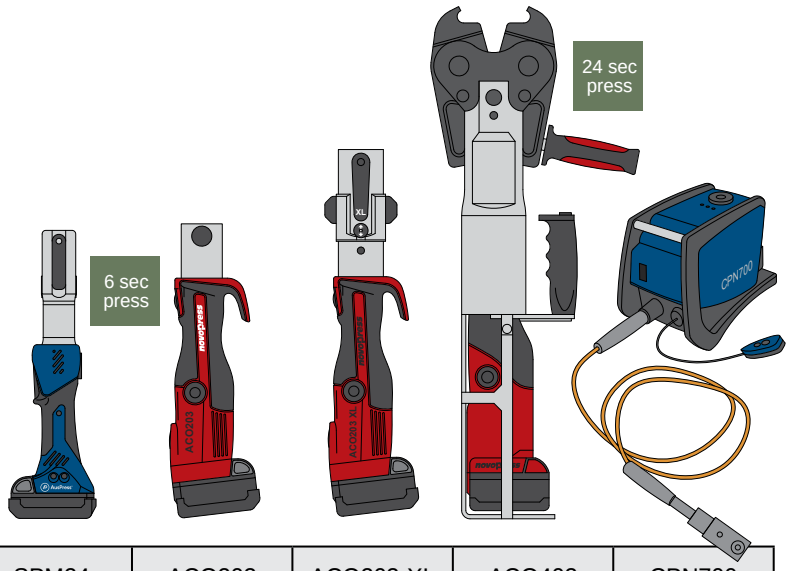
Ensure the inner press surfaces are lubricated with Inox for a smooth consistent press. Reapply as needed.



The 'M' Profile Press...

AusPress Stainless Metric fittings are manufactured 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.



OD

AusPress Stainless
System Working Pressures

Maximum working pressures for a potable water up to 85°C.

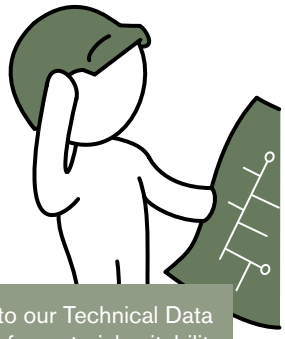
		SPM24	ACO203	ACO203-XL	ACO403	CPN700
15 to 22mm	Press Jaw or Adaptor + Press Ring	**25 bar**Ω 362 psiΩ 2,500 kPaΩ	**25 bar**Ω 362 psiΩ 2,500 kPaΩ	**25 bar**Ω 362 psiΩ 2,500 kPaΩ	N/A	**25 bar**Ω 362 psiΩ 2,500 kPaΩ
28 to 35mm	Press Jaw or Adaptor + Press Ring	**25 bar** 362 psi 2,500 kPa	**25 bar** 362 psi 2,500 kPa	**25 bar** 362 psi 2,500 kPa	N/A	**25 bar** 362 psi 2,500 kPa
	'HP' Collar & ZB203 Adaptor Jaw	N/A	HP **40 bar** 580 psi 4,000 kPa	HP **40 bar** 580 psi 4,000 kPa	N/A	N/A
42 & 54mm	ZB203 Adaptor Jaw & Collar	N/A	**25 bar** 362 psi 2,500 kPa	**25 bar** 362 psi 2,500 kPa	N/A	**25 bar** 362 psi 2,500 kPa
	'HP' Collar & ZB203 Adaptor Jaw	N/A	HP **40 bar** 580 psi 4,000 kPa	HP **40 bar** 580 psi 4,000 kPa	N/A	N/A
66.7mm	Adaptor Jaw(s) only required for the ACO203-XL tool: - 66.7, 76.1, 88.9: use ZB221 jaw. - 108: use ZB221 & ZB222 jaws.	N/A	N/A	**25 bar** 362 psi 2,500 kPa	N/A	N/A
76.1 to 108mm		N/A	N/A	**16 bar**Ω 232 psi 1,600 kPa	HP **25 bar**‡Ω 362 psi‡Ω 2,500 kPa‡Ω Use 'HP' collars, no Adapt Jaw req	**25 bar** 362 psi 2,500 kPa
168.3 mm	Press Collar — Double Offset Press	N/A	N/A	N/A	**16 bar**Ω 232 psiΩ 1,600 kPaΩ Higher pressures approved on request.	N/A

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.

‡ Pressure not suitable for gases or compressed air installations (refer AusPress Media Suitability Chart).

Ω Higher working pressures are possible subject to the application and with written approval by AusPress.

AusPress Metric Stainless Range



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

What Stainless Grade should I use?

We stock grade 316 annealed stainless steel tube in metric diameters to suit the AusPress press-fit range.

Fittings are supplied in 316L stainless steel and are compatible with either 304 or 316 metric tube to AS 5200.053 (EN 10312, series 2).

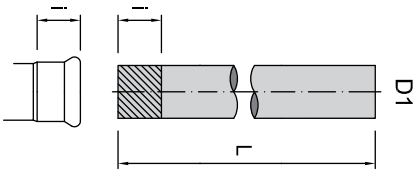
Please ask us if you require more information or technical advice for your project.

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

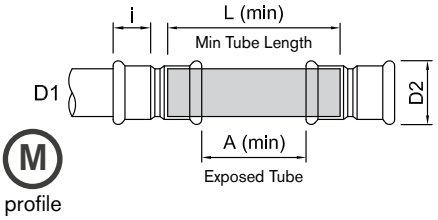
Tube Bending:
Tube diameters up to 35mm can be cold bent with a commercial bender to a radius no less than 3.5x the tube diameter.

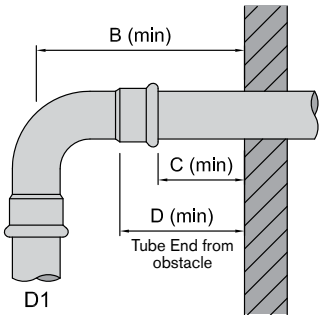
Eg: 15 (tube dia) x 3.5 = 52.5mm radius min along the centre line.

Tube ANNEALED
Metric OD Stainless



Tubes are TIG welded 15 to 108mm.





OD

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

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

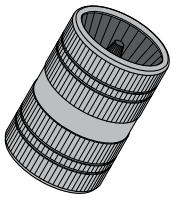
Product No	D1 (mm)	*i* depth	Length (L)	Thk (t)	Tube Weights (kg) dry/m	dry/6m	wet/m	wet/6m	L	A	D2	B	C	D
316.**96**.015	**15**	20	6m	1.0	0.4	**2.1**	0.5	**2.9**	50	10	23	85	35	55
316.**96**.018	**18**	21	6m	1.0	0.4	**2.6**	0.6	**3.8**						
316.**96**.022	**22**	21	6m	1.2	0.6	**3.8**	0.9	**5.6**	52	10	32	95	35	56
316.**96**.028	**28**	23	6m	1.2	0.8	**4.9**	1.3	**7.9**	56	10	38	107	35	58
316.**96**.035	**35**	26	6m	1.5	1.3	**7.6**	2.1	**12.4**	72	20	45	121	35	61
316.**96**.042	**42**	30	6m	1.5	1.5	**9.2**	2.7	**16.3**	80	20	54	147	35	65
316.**96**.054	**54**	35	6m	1.5	2.0	**11.9**	4.0	**24.1**	90	20	66	174	35	70
316.**96**.066	**66.7**	49	6m	2.0	3.3	**19.5**	6.3	**38.0**						
316.**96**.076	**76.1**	53	6m	2.0	3.7	**22.3**	7.8	**42.8**	126	20	95	223	75	128
316.**96**.088	**88.9**	58	6m	2.0	4.4	**26.3**	10.0	**60.2**	136	20	110	249	75	135
316.**96**.108	**108**	69	6m	2.0	5.3	**32.1**	13.8	**82.9**	158	20	133	292	75	150
316.**96**.168	**168.3**	121	6m	2.0	8.4	**50.3**	29.6	**177.4**	302	60	195	456	70	191

Installation Tools

These items make installing AusPress press-fit easier.

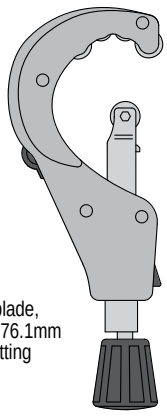
Remember using the same cutting or deburring tool on different metals can lead to corrosion (eg cut steel then cut stainless steel).

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

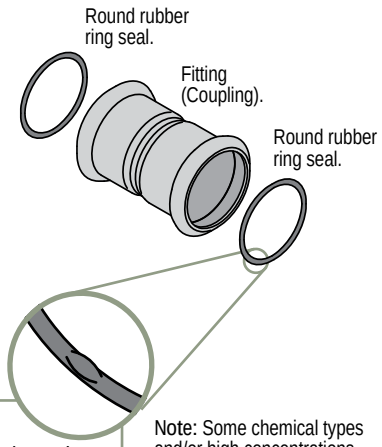
Replacement Inox Cutting Wheels (each)
Suitable for both cutters shown.
Order: VT.TCUT.WHEEL



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 EPDM type ring seal as standard in each press-socket.

Depending on the application, the EPDM ring seal may need to be changed to a different type, ie for higher chemical or temperature resistance.



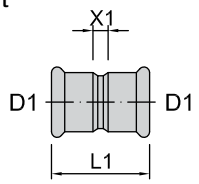
LBP (Leak Before Press) features are small depressions that allow un-pressed fittings to drip leak during initial commissioning (testing) to identify joins that require attention.

EPDM Seal: Unpressed seal leaks when tested with water, pressures between 100 to 500kPa.

Note: Some chemical types and/or high concentrations can be unsuitable with stainless steel and ring seals.

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

Coupling Socket - Socket

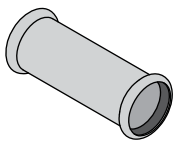


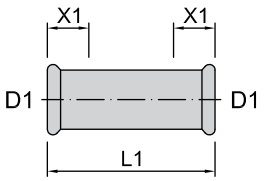
Material: 316L stainless steel.

Ring Seal: EPDM x2 supplied.

Product No	D1	L	X1
316.**21**.015	**15**	48	8
316.**21**.018	**18**		
316.**21**.022	**22**	51	8
316.**21**.028	**28**	52	8
316.**21**.035	**35**	70	18
316.**21**.042	**42**	78	18
316.**21**.054	**54**	86	18
316.**21**.066	**66.7**	127	31
316.**21**.076	**76.1**	141	33
316.**21**.088	**88.9**	160	45
316.**21**.108	**108**	197	58
316.**21**.168	**168.3**	300	64

Slip Coupling Socket - Socket



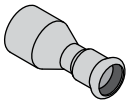


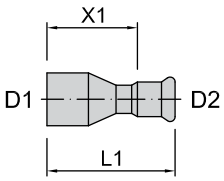
Material: 316L stainless steel.

Ring Seal: EPDM x2 supplied.

Product No	D1	L	X1min
316.**22**.015	**15**	80	28
316.**22**.018	**18**		
316.**22**.022	**22**	71	20
316.**22**.028	**28**	89	22
316.**22**.035	**35**	99	26
316.**22**.042	**42**	114	30
316.**22**.054	**54**	136	34
316.**22**.066	**66.7**	194	48
316.**22**.076	**76.1**	226	54
316.**22**.088	**88.9**	255	58
316.**22**.108	**108**	300	72

Spigot Reducer Socket - Tube End



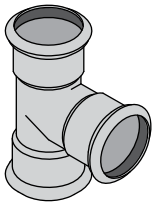


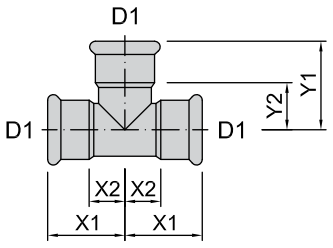
Material: 316L stainless steel.

Ring Seal: EPDM x1 (D2) supplied.

Product No	D1	D2	L	X1
316.**23**.022.015	**22**	**15**	64	44
316.**23**.022.018	**22**	**18**		
316.**23**.028.018	**28**	**15**	68	48
316.**23**.028.022	**28**	**22**	65	46
316.**23**.035.015	**35**	**15**	77	57
316.**23**.035.022	**35**	**22**	81	62
316.**23**.035.028	**35**	**28**	74	52
316.**23**.042.015	**42**	**15**	85	65
316.**23**.042.022	**42**	**22**	86	67
316.**23**.042.028	**42**	**28**	82	60
316.**23**.042.035	**42**	**35**	88	62
316.**23**.054.015	**54**	**15**	92	72
316.**23**.054.022	**54**	**22**	92	73
316.**23**.054.028	**54**	**28**	93	71
316.**23**.054.035	**54**	**35**	101	75
316.**23**.054.042	**54**	**42**	101	71
316.**23**.066.042	**66.7**	**42**	131	
316.**23**.066.054	**66.7**	**54**	123	
316.**23**.076.042	**76.1**	**42**	132	102
316.**23**.076.054	**76.1**	**54**	132	98
316.**23**.076.066	**76.1**	**66.7**	142	
316.**23**.088.042	**88.9**	**42**	162	132
316.**23**.088.054	**88.9**	**54**	162	128
316.**23**.088.066	**88.9**	**66.7**	161	
316.**23**.088.076	**88.9**	**76.1**	179	126
316.**23**.108.054	**108**	**54**	179	145
316.**23**.108.066	**108**	**66.7**	176	
316.**23**.108.076	**108**	**76.1**	198	145
316.**23**.108.088	**108**	**88.9**	206	148
316.**23**.168.088	**168.3**	**88.9**	379	321
316.**23**.168.108	**168.3**	**108**	360	289

Tee Equal Socket Ends & Branch



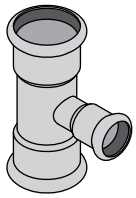


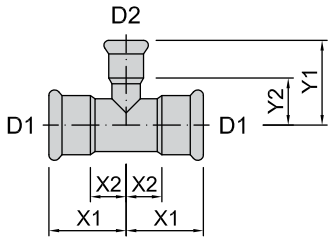
Material: 316L stainless steel.

Ring Seal: EPDM x3 supplied.

Product No	D1	X1	X2	Y1	Y2
316.**51**.015	**15**	32	12	39	19
316.**51**.018	**18**				
316.**51**.022	**22**	36	16	42	21
316.**51**.028	**28**	41	19	47	25
316.**51**.035	**35**	50	24	53	27
316.**51**.042	**42**	57	27	60	30
316.**51**.054	**54**	68	34	71	37
316.**51**.066	**66.7**	97	49	99.5	51.5
316.**51**.076	**76.1**	113	59	110	55
316.**51**.088	**88.9**	128	72	128	69
316.**51**.108	**108**	150	81	154	85
316.**51**.168	**168.3**	257	139	235	118

Tee Reduced Socket Ends & Branch

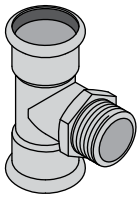


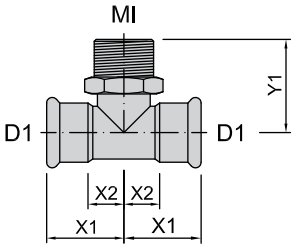


Material: 316L stainless steel. Ring Seal: EPDM x3 supplied.

Product No	D1	D2	X1	X2	Y1	Y2
316.**52**.022.015	**22**	**15**	36	16	42	22
316.**52**.028.015	**28**	**15**	41	19	45	25
316.**52**.028.022	**28**	**22**	41	19	45	25
316.**52**.035.015	**35**	**15**	50	24	48	28
316.**52**.035.022	**35**	**22**	50	24	48	28
316.**52**.035.028	**35**	**28**	50	24	51	28
316.**52**.042.015	**42**	**15**	57	27	52	32
316.**52**.042.022	**42**	**22**	57	27	51	31
316.**52**.042.028	**42**	**28**	57	27	53	31
316.**52**.042.035	**42**	**35**	57	27	57	31
316.**52**.054.015	**54**	**15**	68	34	57	38
316.**52**.054.022	**54**	**22**	68	34	57	38
316.**52**.054.028	**54**	**28**	68	34	60	38
316.**52**.054.035	**54**	**35**	68	34	63	37
316.**52**.054.042	**54**	**42**	68	34	67	37
316.**52**.066.015	**66.7**	**15**	97	49	66.5	18.5
316.**52**.066.018	**66.7**	**18**	97	49	62.5	14.5
316.**52**.066.022	**66.7**	**22**	97	49	66.5	18.5
316.**52**.066.028	**66.7**	**28**	97	49	71.5	23.5
316.**52**.066.035	**66.7**	**35**	97	49	72.5	24.5
316.**52**.066.042	**66.7**	**42**	97	49	76.5	28.5
316.**52**.066.054	**66.7**	**54**	97	49	82.5	34.5
316.**52**.076.022	**76.1**	**22**	113	59	68	48
316.**52**.076.028	**76.1**	**28**	113	59	72	49
316.**52**.076.035	**76.1**	**35**	113	59	74	48
316.**52**.076.042	**76.1**	**42**	113	59	76	46
316.**52**.076.054	**76.1**	**54**	113	59	83	47
316.**52**.076.066	**76.1**	**66.7**	97			
316.**52**.088.022	**88.9**	**22**	128	72	75	55
316.**52**.088.028	**88.9**	**28**	128	72	79	56
316.**52**.088.035	**88.9**	**35**	128	72	81	55
316.**52**.088.042	**88.9**	**42**	128	72	83	53
316.**52**.088.054	**88.9**	**54**	128	72	90	54
316.**52**.088.076	**88.9**	**76.1**	128	72	115	63
316.**52**.108.022	**108**	**22**	150	81	84	64
316.**52**.108.028	**108**	**28**	150	81	88	65
316.**52**.108.035	**108**	**35**	150	81	90	64
316.**52**.108.042	**108**	**42**	150	81	95	65
316.**52**.108.054	**108**	**54**	150	81	99	65
316.**52**.108.076	**108**	**76.1**	150	81	127	73
316.**52**.108.088	**108**	**88.9**	150	81	136	74
316.**52**.168.054	**168.3**	**54**	257	139	140	105
316.**52**.168.076	**168.3**	**76.1**	257	139	157	103
316.**52**.168.088	**168.3**	**88.9**	257	139	167	110
316.**52**.168.108	**168.3**	**108**	257	139	182	111

MI Tee Socket Ends - MI (R) BSP Branch

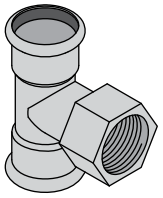


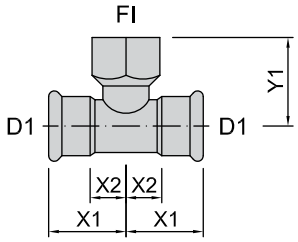


Material: 316L stainless steel. Ring Seal: EPDM x2 supplied.

Product No	D1	MI (R) BSP	X1	X2	Y1
316.**54**.015.015	**15**	**1/2”**	32	12	36
316.**54**.022.015	**22**	**1/2”**	37	16	41
316.**54**.022.020	**22**	**3/4”**	36	16	44
316.**54**.022.025	**22**	**1”**	42	19	49
316.**54**.028.015	**28**	**1/2”**	42	19	44
316.**54**.028.025	**28**	**1”**	41	19	50
316.**54**.035.020	**35**	**3/4”**	50	24	51
316.**54**.035.032	**35**	**1.1/4”**	50	24	57
316.**54**.042.040	**42**	**1.1/2”**	57	27	60
316.**54**.054.020	**54**	**3/4”**	69	34	62
316.**54**.054.050	**54**	**2”**	69	34	75

FI Tee Socket Ends - FI (Rp) BSP Branch

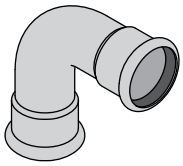


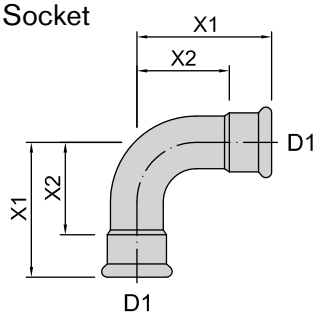


Material: 316L stainless steel. Ring Seal: EPDM x2 supplied.

Product No	D1	FI (Rp) BSP	X1	X2	Y1
316.**53**.015.015	**15**	**1/2”**	32	12	36
316.**53**.022.015	**22**	**1/2”**	36	16	39
316.**53**.022.020	**22**	**3/4”**	36	16	44
316.**53**.028.015	**28**	**1/2”**	41	19	42
316.**53**.028.020	**28**	**3/4”**	41	19	46
316.**53**.028.025	**28**	**1”**	41	19	47
316.**53**.035.015	**35**	**1/2”**	50	24	45
316.**53**.035.020	**35**	**3/4”**	50	24	50
316.**53**.035.025	**35**	**1”**	50	24	52
316.**53**.035.032	**35**	**1.1/4”**	50	24	55
316.**53**.042.015	**42**	**1/2”**	57	27	48
316.**53**.042.020	**42**	**3/4”**	57	27	52
316.**53**.042.025	**42**	**1”**	57	27	55
316.**53**.042.040	**42**	**1.1/2”**	57	27	62
316.**53**.054.015	**54**	**1/2”**	68	34	55
316.**53**.054.020	**54**	**3/4”**	68	34	58
316.**53**.054.025	**54**	**1”**	68	34	60
316.**53**.054.050	**54**	**2”**	68	34	76
316.**53**.066.015	**66.7**	**1/2”**	97	49	64.5
316.**53**.066.020	**66.7**	**3/4”**	97	49	67.5
316.**53**.066.040	**66.7**	**1.1/2”**	97	49	72.5
316.**53**.076.020	**76.1**	**3/4”**	113	59	71
316.**53**.076.050	**76.1**	**2”**	113	59	91
316.**53**.088.020	**88.9**	**3/4”**	128	70	78
316.**53**.088.050	**88.9**	**2”**	128	70	97
316.**53**.108.020	**108**	**3/4”**	150	81	87
316.**53**.108.050	**108**	**2”**	150	81	107

90 Bend Socket - Socket



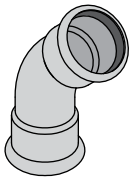


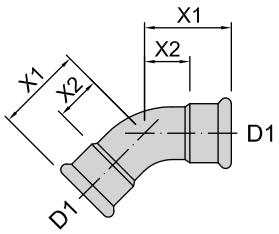
Material: 316L stainless steel.

Ring Seal: EPDM x2 supplied.

Product No	D1	X1	X2
316.**31**.090.015	**15**	48	28
316.**31**.090.018	**18**		
316.**31**.090.022	**22**	61	40
316.**31**.090.028	**28**	72	49
316.**31**.090.035	**35**	74	48
316.**31**.090.042	**42**	86	56
316.**31**.090.054	**54**	106	72
316.**31**.090.066	**66.7**	137	89
316.**31**.090.076	**76.1**	177	124
316.**31**.090.088	**88.9**	181	123
316.**31**.090.108	**108**	214	140
316.**31**.090.168	**168.3**	386	268

45 Bend Socket - Socket



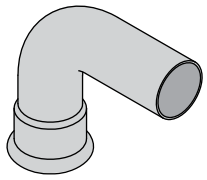


Material: 316L stainless steel.

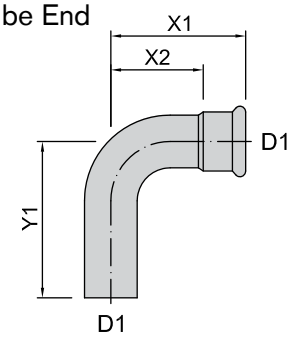
Ring Seal: EPDM x2 supplied.

Product No	D1	X1	X2
316.**31**.045.015	**15**	35	15
316.**31**.045.018	**18**		
316.**31**.045.022	**22**	41	20
316.**31**.045.028	**28**	46	24
316.**31**.045.035	**35**	55	29
316.**31**.045.042	**42**	68	38
316.**31**.045.054	**54**	81	47
316.**31**.045.066	**66.7**	90	42
316.**31**.045.076	**76.1**	111	58
316.**31**.045.088	**88.9**	114	56
316.**31**.045.108	**108**	138	64
316.**31**.045.168	**168.3**	252	134

90 Bend Socket - Tube End



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

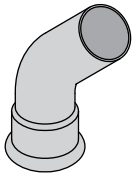


Material: 316L stainless steel.

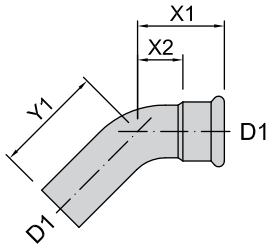
Ring Seal: EPDM x1 supplied.

Product No	D1	X1	X2	Y1
316.**32**.090.015	**15**	48	28	67
316.**32**.090.022	**22**	61	40	74
316.**32**.090.028	**28**	72	49	82
316.**32**.090.035	**35**	74	48	85
316.**32**.090.042	**42**	86	56	97
316.**32**.090.054	**54**	105	72	122
316.**32**.090.066	**66.7**	137	89	152
316.**32**.090.076	**76.1**	177	124	195
316.**32**.090.088	**88.9**	181	123	202
316.**32**.090.108	**108**	214	140	240
316.**32**.090.168	**168.3**	386	268	404

45 Bend Socket - Tube End



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

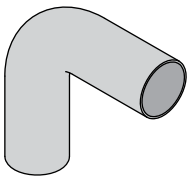


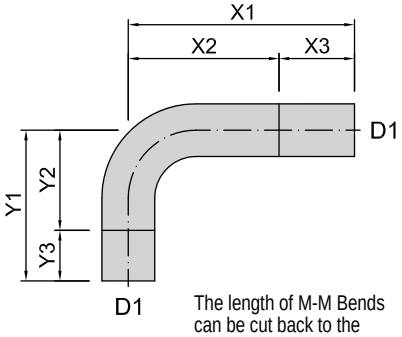
Material: 316L stainless steel.

Ring Seal: EPDM x1 supplied.

Product No	D1	X1	X2	Y1
316.**32**.045.015	**15**	35	15	47
316.**32**.045.022	**22**	40	20	52
316.**32**.045.028	**28**	46	24	58
316.**32**.045.035	**35**	55	29	69
316.**32**.045.042	**42**	68	38	78
316.**32**.045.054	**54**	81	47	92
316.**32**.045.066	**66.7**	90	42	104
316.**32**.045.076	**76.1**	111	58	128
316.**32**.045.088	**88.9**	114	56	135
316.**32**.045.108	**108**	138	64	169
316.**32**.045.168	**168.3**	252	134	253

90 Bend Tube End - Tube End





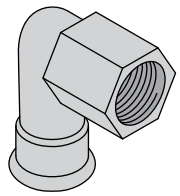
The length of M-M Bends can be cut back to the dashed line maximum.

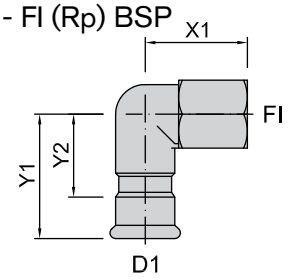
Material: 316L stainless steel.

Product No	D1	X1	X2	X3	Y1	Y2	Y3
316.**33**.090.015	**15**	120	58	62	70	58	12
316.**33**.090.022	**22**	120	70	50	70	63	7
316.**33**.090.028	**28**	120	80	40	80	70	10
316.**33**.090.035	**35**	200	100	100	120	80	40
316.**33**.090.042	**42**	250	120	130	150	100	50
316.**33**.090.054	**54**	300	145	155	200	120	80

Tube up to 35mm diameter can be bent using a commercial tube bender - refer to the technical section for more information.

FI 90 Bend Socket - FI (Rp) BSP

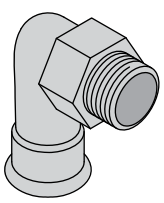


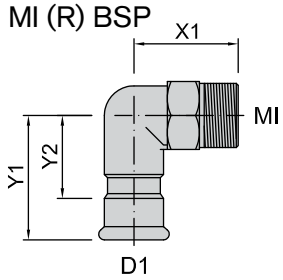


Material: 316L stainless steel. Ring Seal: EPDM x1 supplied.

Product No	D1	FI (Rp) BSP	X1	Y1	Y2
316.**34**.015.015	**15**	**1/2”**	37	57	37
316.**34**.022.015	**22**	**1/2”**	39	59	38
316.**34**.022.020	**22**	**3/4”**	46	59	39
316.**34**.028.020	**28**	**3/4”**	46	68	45
316.**34**.028.025	**28**	**1”**	54	67	44
316.**34**.035.032	**35**	**1.1/4”**	63	75	49

MI 90 Bend Socket - MI (R) BSP

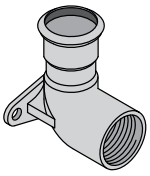


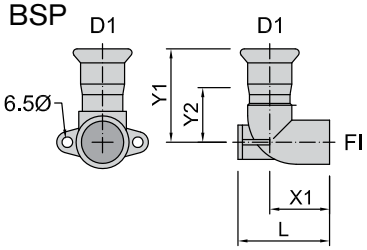


Material: 316L stainless steel. Ring Seal: EPDM x1 supplied.

Product No	D1	MI (R) BSP	X1	Y1	Y2
316.**35**.015.015	**15**	**1/2”**	37	57	37
316.**35**.022.020	**22**	**3/4”**	46	59	39
316.**35**.028.025	**28**	**1”**	54	67	44
316.**35**.035.032	**35**	**1.1/4”**	63	75	49
316.**35**.042.040	**42**	**1.1/2”**	67	84	54
316.**35**.054.050	**54**	**2”**	78	93	60

FI 90 Bend with Wall Plate
Socket - FI (Rp) BSP



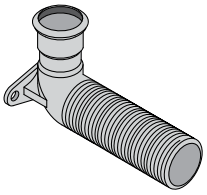


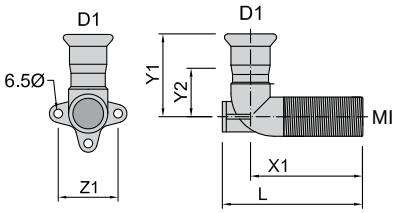
Material: 316L stainless steel. Ring Seal: EPDM x1 supplied.

Product No	D1	FI (Rp) BSP	L	X1	Y1	Y2
316.**36**.015.015	**15**	**1/2”**	44	30	50	28
316.**36**.015.015**L**	**15**	**1/2”**	65	30	50	30
316.**36**.022.015	**22**	**1/2”**	44	30	52	31
316.**36**.022.020	**22**	**3/4”**	51	34	55	33
316.**36**.022.020**L**	**22**	**3/4”**	65	34	55	34

L = Longer mounting plate offset version.

MI 90 Bend with Wall Plate
Socket - MI (R) BSP

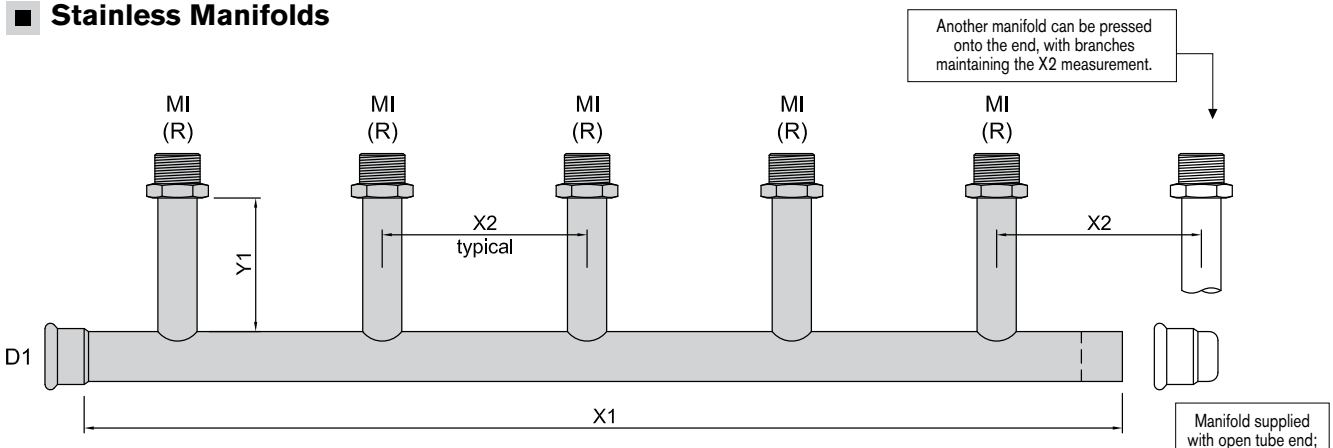




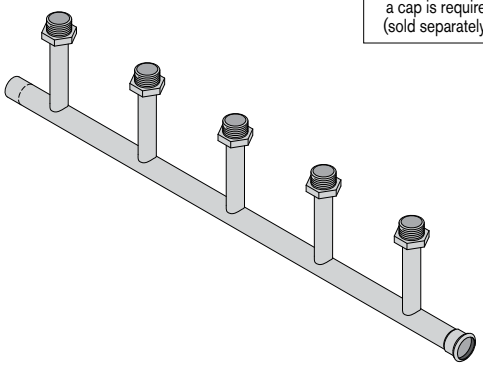
Material: 316L stainless steel. Ring Seal: EPDM x1 supplied.

Product No	D1	MI (R) BSP	L	X1	Y1	Y2
316.**37**.015.015	**15**	**1/2”**	90	44	53	32
316.**37**.022.015	**22**	**1/2”**	90	44	60	34
316.**37**.022.020	**22**	**3/4”**	90	51	64	40

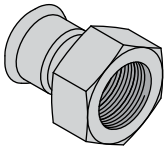
Stainless Manifolds

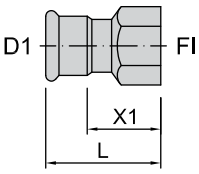


D1	MI (R)	X1	X2	Y1	Water	Gas
	BSP-T				Ring Seal: EPDM x1	Ring Seal: hNBR x1
28	**1/2”**	749	150	100	316.**58**.028.515	316G.**58**.028.515
28	**3/4”**	749	150	100	316.**58**.028.520	316G.**58**.028.520
35	**1/2”**	749	150	100	316.**58**.035.515	316G.**58**.035.515
35	**3/4”**	749	150	100	316.**58**.035.520	316G.**58**.035.520
42	**1/2”**	749	150	100	316.**58**.042.515	316G.**58**.042.515
42	**3/4”**	749	150	100	316.**58**.042.520	316G.**58**.042.520
54	**1/2”**	749	150	100	316.**58**.054.515	316G.**58**.054.515
54	**3/4”**	749	150	100	316.**58**.054.520	316G.**58**.054.520



Fl Adaptor Socket - Fl (Rp) BSP

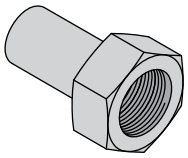


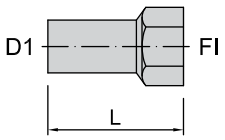


Material: 316L stainless steel. Ring Seal: EPDM x1 supplied.

Product No	D1	Fl (Rp) BSP	L	X1
316.**73**.015.015	**15**	**1/2”**	54	34
316.**73**.015.020	**15**	**3/4”**	58	38
316.**73**.022.015	**22**	**1/2”**	52	32
316.**73**.022.020	**22**	**3/4”**	55	35
316.**73**.022.025	**22**	**1”**	58	38
316.**73**.028.015	**28**	**1/2”**	55	32
316.**73**.028.020	**28**	**3/4”**	60	37
316.**73**.028.025	**28**	**1”**	60	37
316.**73**.028.032	**28**	**1.1/4”**	66	43
316.**73**.035.025	**35**	**1”**	64	38
316.**73**.035.032	**35**	**1.1/4”**	69	43
316.**73**.035.040	**35**	**1.1/2”**	73	47
316.**73**.042.032	**42**	**1.1/4”**	72	42
316.**73**.042.040	**42**	**1.1/2”**	77	47
316.**73**.054.040	**54**	**1.1/2”**	82	48
316.**73**.054.050	**54**	**2”**	90	56
316.**73**.066.065	**66.7**	**2.1/2”**	109	61
316.**73**.076.065	**76.1**	**2.1/2”**	117	38
316.**73**.088.080	**88.9**	**3”**	130	36
316.**73**.108.100	**108**	**4”**	156	41

Fl Adaptor Tube End - Fl (Rp) BSP



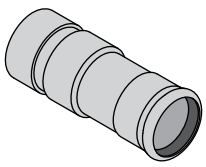


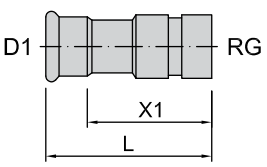
The length of this fitting cannot be cut shorter.

Material: 316L stainless steel.

Product No	D1	Fl (Rp) BSP	L
316.**75**.015.015	**15**	**1/2”**	58
316.**75**.022.015	**22**	**1/2”**	58
316.**75**.022.020	**22**	**3/4”**	62
316.**75**.028.020	**28**	**3/4”**	68
316.**75**.028.025	**28**	**1”**	69
316.**75**.035.032	**35**	**1.1/4”**	83
316.**75**.042.040	**42**	**1.1/2”**	94
316.**75**.054.050	**54**	**2”**	101

Roll Groove Adaptor Socket - RG

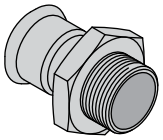


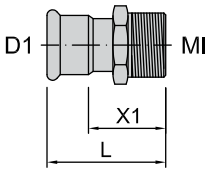


Material: 316L stainless steel. Ring Seal: EPDM x1 supplied.

Product No	D1	RG	L	X1
316.**77**.028.025*	**28**	**1”**	89	66
316.**77**.035.032*	**35**	**1.1/4”**	97	71
316.**77**.042.040*	**42**	**1.1/2”**	105	75
316.**77**.054.050*	**54**	**2”**	116	81

Ml Adaptor Socket - Ml (R) BSP

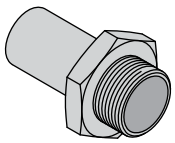


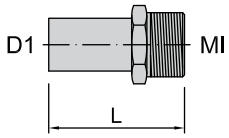


Material: 316L stainless steel. Ring Seal: EPDM x1 supplied.

Product No	D1	Ml (R) BSP	L	X1
316.**74**.015.015‡	**15**	**1/2”**	54	34
316.**74**.015.020	**15**	**3/4”**	58	38
316.**74**.022.015	**22**	**1/2”**	53	34
316.**74**.022.020	**22**	**3/4”**	57	38
316.**74**.022.025	**22**	**1”**	61	41
316.**74**.028.020	**28**	**3/4”**	60	38
316.**74**.028.025	**28**	**1”**	63	41
316.**74**.028.032	**28**	**1.1/4”**	67	45
316.**74**.035.025	**35**	**1”**	67	41
316.**74**.035.032	**35**	**1.1/4”**	71	45
316.**74**.035.040	**35**	**1.1/2”**	74	48
316.**74**.042.032	**42**	**1.1/4”**	75	45
316.**74**.042.040	**42**	**1.1/2”**	78	48
316.**74**.054.040	**54**	**1.1/2”**	82	48
316.**74**.054.050	**54**	**2”**	84	50
316.**74**.066.065	**66.7**	**2.1/2”**	112	64
316.**74**.076.065	**76.1**	**2.1/2”**	128	74
316.**74**.076.080	**76.1**	**3”**	142	86
316.**74**.088.080	**88.9**	**3”**	132	38
316.**74**.108.100	**108**	**4”**	157	42

Ml Adaptor Tube End - Ml (R) BSP



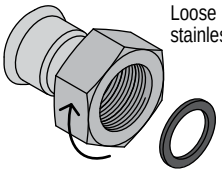


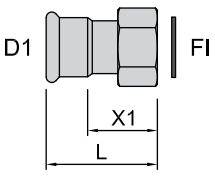
The length of this fitting cannot be cut shorter.

Material: 316L stainless steel.

Product No	D1	Ml (R) BSP	L
316.**76**.015.015‡	**15**	**1/2”**	60
316.**76**.022.015	**22**	**1/2”**	55
316.**76**.022.020‡	**22**	**3/4”**	64
316.**76**.022.025	**22**	**1”**	62
316.**76**.028.025‡	**28**	**1”**	71
316.**76**.035.032	**35**	**1.1/4”**	81
316.**76**.042.040‡	**42**	**1.1/2”**	88
316.**76**.054.050	**54**	**2”**	93

Fl Adaptor Nut Socket - Fl (G) BSP



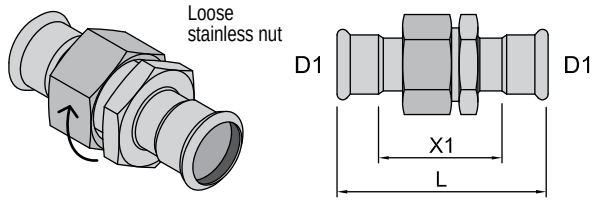


Material: 316L stainless steel. Ring Seal: EPDM x1 supplied.

Product No	D1	Fl (G) BSP	L	X1
316.**44**.015.015	**15**	**1/2”**	50	30
316.**44**.015.020	**15**	**3/4”**	49	29
316.**44**.022.015	**22**	**1/2”**	58	37
316.**44**.022.020	**22**	**3/4”**	61	40
316.**44**.022.025	**22**	**1”**	54	33
316.**44**.028.025	**28**	**1”**	59	36
316.**44**.028.032	**28**	**1.1/4”**	61	38
316.**44**.035.040	**35**	**1.1/2”**	63	37
316.**44**.042.045	**42**	**1.3/4”**	68	38
316.**44**.054.050	**54**	**2”**	94	59

Note: Fl (Rp) Adaptor Nut is not suitable for gas or steam applications!

Press Union Socket - Socket



Material: 316L stainless steel.

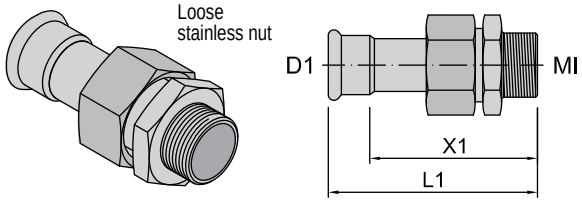
Ring Seal: EPDM x2 supplied.
Gasket Seal: EPDM x1 supplied.

Product No	D1	L	X1
316.**83**.015	**15**	89	49
316.**83**.022	**22**	99	57
316.**83**.028	**28**	112	66
316.**83**.035	**35**	115	67
316.**83**.042	**42**	128	68
316.**83**.054	**54**	141	71

When the Union (nut) is loosened or opened, the gasket is recommended to be replaced each time.

Note: Press Union is not suitable for gas or steam applications!

MI Union Socket - MI (R) BSP



Material: 316L stainless steel.

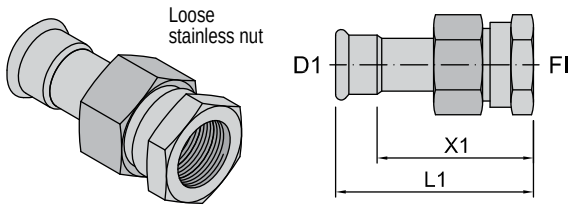
Ring Seal: EPDM x1 supplied.
Gasket Seal: EPDM x1 supplied.

Product No	D1	MI (R) BSP	L	X1
316.**82**.015.015	**15**	**1/2"**	72	52
316.**82**.015.020	**15**	**3/4"**	75	55
316.**82**.022.015	**22**	**1/2"**	78	57
316.**82**.022.020	**22**	**3/4"**	79	78
316.**82**.022.025	**22**	**1"**	86	65
316.**82**.028.025	**28**	**1"**	91	69
316.**82**.035.032	**35**	**1.1/4"**	105	79
316.**82**.042.040	**42**	**1.1/2"**	113	83
316.**82**.054.050	**54**	**2"**	134	100

When the Union (nut) is loosened or opened, the gasket is recommended to be replaced each time.

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

FI Union Socket - FI (Rp) BSP



Material: 316L stainless steel.

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

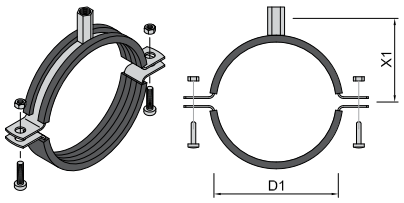
Product No	D1	FI (Rp) BSP	L	X1
316.**81**.015.015	**15**	**1/2"**	67	47
316.**81**.015.020	**15**	**3/4"**	69	49
316.**81**.022.020	**22**	**3/4"**	74	54
316.**81**.022.025	**22**	**1"**	77	58
316.**81**.028.025	**28**	**1"**	85	63
316.**81**.035.032	**35**	**1.1/4"**	96	70
316.**81**.042.040	**42**	**1.1/2"**	105	95
316.**81**.054.050	**54**	**2"**	127	93

When the Union (nut) is loosened or opened, the gasket is recommended to be replaced each time.

Note: FI (Rp) Union is not suitable for gas or steam applications!

Stainless Steel Rubber Lined Brackets

Material: 316 stainless steel, mill finish. EPDM rubber lining.

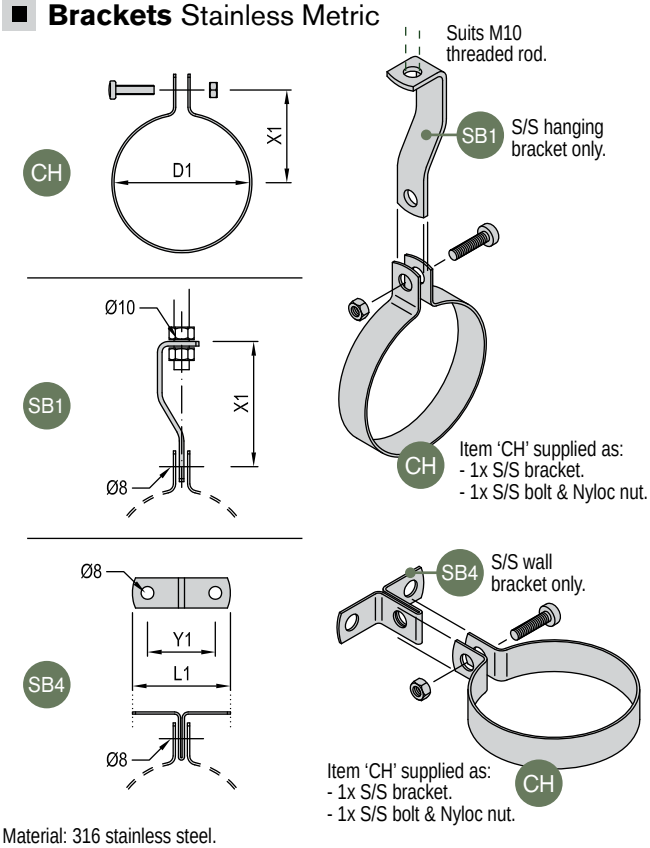


M10 Thread fixed nut

Clip Head 'D' includes:
- 1x two-piece S/S bracket.
- 2x S/S bolt & Nyloc nut.

Product No	D1	X1	Thk
316.**PC**.015	**15**	27	1.5
316.**PC**.022	**22**	32	1.5
316.**PC**.028	**28**	34	1.5
316.**PC**.035	**35**	38	1.5
316.**PC**.042	**42**	41	1.5
316.**PC**.054	**54**	47	1.5
316.**PC**.066	**66**	52	1.5
316.**PC**.076	**76**	58	1.5
316.**PC**.089	**88**	64	1.5
316.**PC**.108	**108**	74	1.5
316.**PC**.168	**168**	104	1.5

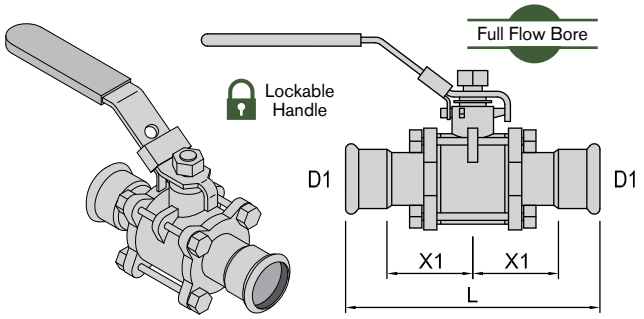
Brackets Stainless Metric



Material: 316 stainless steel.

Product No	D1	X1
316.**SB1**	-	80
316.**SB4**	-	12-22
316.**CH**.015	**15**	20
316.**CH**.022	**22**	24
316.**CH**.028	**28**	28
316.**CH**.035	**35**	32
316.**CH**.042	**42**	35
316.**CH**.054	**54**	40
316.**CH**.066	**66**	50
316.**CH**.076	**76.1**	50
316.**CH**.088	**88.9**	57
316.**CH**.108	**108**	70

Press Ball Valve 3-Piece

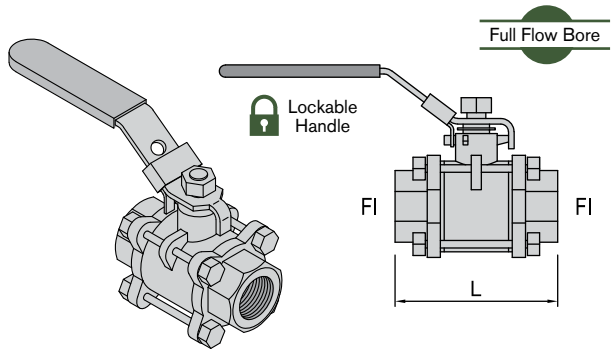


Press ends, Ball & Cast Body: 316 stainless steel.
Seat: PTFE, Handle Wrap: PVC. Ring Seal: EPDM x2 supplied.

Product No	D1	L	X1	AOP	MAOP
316.**47**.3PC.015	**15**	103	32	16 bar	19.2
316.**47**.3PC.018	**18**	103	32	16 bar	19.2
316.**47**.3PC.022	**22**	118	38	16 bar	19.2
316.**47**.3PC.028	**28**	135	44	16 bar	19.2
316.**47**.3PC.035	**35**	150	49	16 bar	19.2
316.**47**.3PC.042	**42**	168	54	16 bar	19.2
316.**47**.3PC.054	**54**	200	65	16 bar	19.2
316.**47**.3PC.076	**76.1**	273	84	16 bar	19.2
316.**47**.3PC.088	**88.9**	312	96	16 bar	19.2
316.**47**.3PC.108	**108**	369	109	16 bar	19.2

*Check suitability of chemicals with us before ordering or installing.

Ball Valve 3-Piece Fl (Rp) BSP

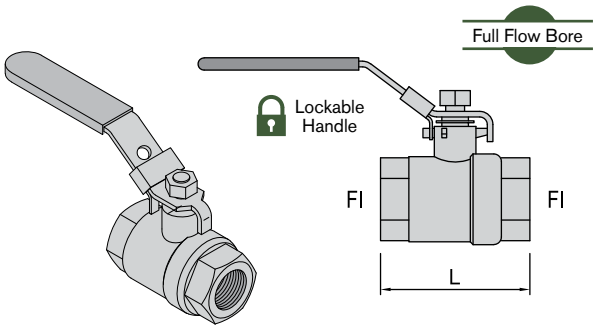


Body: CF8M stainless steel (cast version of 316).
Ball, Stem & Lever: 316 stainless steel. Working Temp: -20 to 180°C.
Seat: PTFE. Cold Max Water Working Pressure: 6,895kPa.

Product No	Fl (Rp) BSP	L
316.**BV3**.006	**1/4”**	50
316.**BV3**.010	**3/8”**	50
316.**BV3**.015	**1/2”**	64
316.**BV3**.020	**3/4”**	71
316.**BV3**.025	**1”**	81
316.**BV3**.032	**1.1/4”**	94
316.**BV3**.040	**1.1/2”**	104
316.**BV3**.050	**2”**	127

*Check suitability of chemicals with us before ordering or installing.
Larger sizes are available on request. Specify if WaterMark (WM) or non-Watermark version required when ordering.

Ball Valve 2-Piece Fl (Rp) BSP

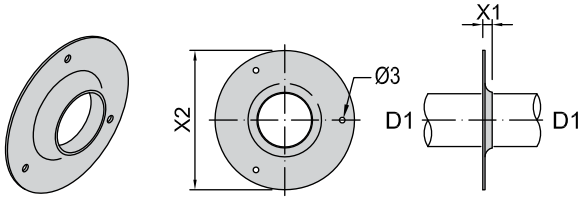


Body: CF8M stainless steel (cast version of 316).
Ball, Stem & Lever: 316 stainless steel. Working Temp: -20 to 180°C.
Seat: PTFE. Max Cold Water Working Pressure: 6,895kPa.

Product No	Fl (Rp) BSP	L
316.**BV2**.006	**1/4”**	48
316.**BV2**.010	**3/8”**	48
316.**BV2**.015	**1/2”**	58
316.**BV2**.020	**3/4”**	66
316.**BV2**.025	**1”**	77
316.**BV2**.032	**1.1/4”**	90
316.**BV2**.040	**1.1/2”**	98
316.**BV2**.050	**2”**	121

*Check suitability of chemicals with us before ordering or installing.
Larger sizes are available on request. Specify if WaterMark (WM) or non-Watermark version required when ordering.

Cover Flange (Escutcheon Plate)

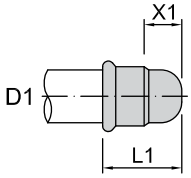


Material: 316L stainless steel. Finish: 2B surface.

Product No	D1	X1	X2
316.**CF**.015	**15**	5	40
316.**CF**.018	**18**	5	
316.**CF**.022	**22**	5	58
316.**CF**.028	**28**	5	74
316.**CF**.035	**35**	5	91
316.**CF**.042	**42**	5	110
316.**CF**.054	**54**	5	140

Note: The press socket end cannot pass through the cover flange opening, only the tube end.

End Cap Socket End

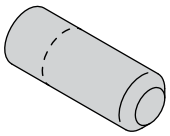


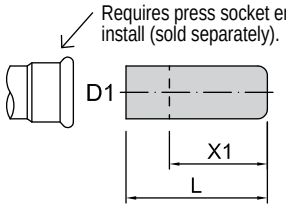
Material: 316L stainless steel.

Ring Seal: EPDM x1 supplied.

Product No	D1	L	X1
316.**24**.015	**15**	36	16
316.**24**.018	**18**	35	15
316.**24**.022	**22**	40	21
316.**24**.028	**28**	42	20
316.**24**.035	**35**	51	25
316.**24**.042	**42**	54	24
316.**24**.054	**54**	59	25
316.**24**.066	**66.7**	81	33
316.**24**.076	**76.1**	90	36
316.**24**.088	**88.9**	102	45
316.**24**.108	**108**	125	56

Plug Tube End





Material: 316L stainless steel.

Product No	D1	L	X1
316.**25**.015	**15**	36	16
316.**25**.022	**22**	40	21
316.**25**.028	**28**	42	20
316.**25**.035	**35**	51	25
316.**25**.042	**42**	54	24
316.**25**.054	**54**	59	25

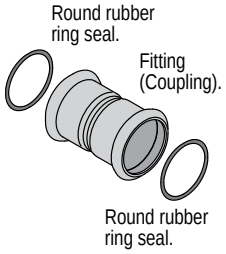
Ring Seals & Union Gaskets

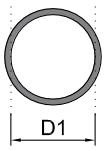
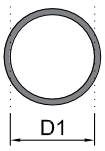
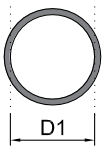
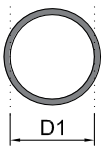
Ring Seals

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

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

Not sure? Refer to our Media Chart & Suitability Guide or contact us for more confirmation of suitability.



	Pre-fitted in fitting standard	Optional extra	Optional extra	Optional extra
Type:	**EPDM**	**FKM**	**NBR**	**PTFE**
Ring Seal				
Colour:	**Black**	**Green/Red**	**Yellow**	**White**
Temp:	-20°C to +110°C	-20°C to +180°C	-20°C to +70°C	-40°C to +150°C
D1	Product No	Product No	Product No	Product No
15	EPDM.**11**.015	FKM.**11**.015	NBR.**11**.015	PTFE.**11**.015
18	EPDM.**11**.018	FKM.**11**.018	NBR.**11**.018	PTFE.**11**.018
22	EPDM.**11**.022	FKM.**11**.022	NBR.**11**.022	PTFE.**11**.022
28	EPDM.**11**.028	FKM.**11**.028	NBR.**11**.028	PTFE.**11**.028
35	EPDM.**11**.035	FKM.**11**.035	NBR.**11**.035	PTFE.**11**.035
42	EPDM.**11**.042	FKM.**11**.042	NBR.**11**.042	-
54	EPDM.**11**.054	FKM.**11**.054	NBR.**11**.054	-
66.7	EPDM.**11**.066	FKM.**11**.066	NBR.**11**.066	-
76.1	EPDM.**11**.076	FKM.**11**.076	NBR.**11**.076	-
88.9	EPDM.**11**.088	FKM.**11**.088	NBR.**11**.088	-
108	EPDM.**11**.108	FKM.**11**.108	NBR.**11**.108	-
168.3	EPDM.**11**.168	FKM.**11**.168	-	-

PTFE coated over FKM-G core.

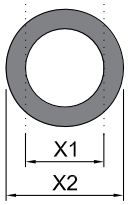
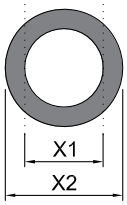
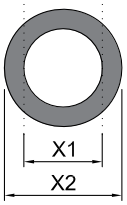
Refer to our technical information for ring seal suitability and resistance.

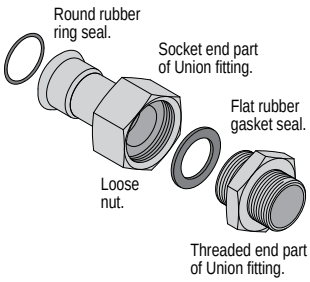
Union Gaskets

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.

When the Union (nut) is loosened or opened, the gasket is recommended to be replaced each time.

Union Gasket			
Colour:	**Black**	**Green**	**White (PTFE)**
Temp:	-20°C to +110°C	-20°C to +180°C	-40°C to +150°C
X1 **X2**	Product No	Product No	Product No
18 13	EPDM.**12**.180.130	FKM.**12**.180.130	PTFE.**12**.180.130
24 15	EPDM.**12**.240.150	FKM.**12**.240.150	PTFE.**12**.240.150
30 21.5	EPDM.**12**.300.215	FKM.**12**.300.215	PTFE.**12**.300.215
38 27	EPDM.**12**.380.270	FKM.**12**.380.270	PTFE.**12**.380.270
44.5 33.5	EPDM.**12**.445.335	FKM.**12**.445.335	PTFE.**12**.445.335
50 41	EPDM.**12**.500.410	FKM.**12**.500.410	PTFE.**12**.500.410
55 47	EPDM.**12**.550.470	FKM.**12**.550.470	PTFE.**12**.550.470
65.5 53	EPDM.**12**.655.530	FKM.**12**.655.530	PTFE.**12**.655.530
72 59	EPDM.**12**.720.590	FKM.**12**.720.590	PTFE.**12**.720.590



Unions are not approved to be used for gas or steam applications.

Adaptor Flange Socket - Flange

Material: 316L stainless steel. Ring Seal: EPDM x1 supplied.

Product No	D1	FL*	D3	L‡	X1‡	t‡	PCD	ØB
316.**71**.015A	**15**	**ANSI 150**	90	35	15	12.7	60.3	16 x4
316.**71**.022A	**22**	**ANSI 150**	100	42	21	14.2	69.9	16 x4
316.**71**.028A	**28**	**ANSI 150**	110	52	29	15.8	79.4	16 x4
316.**71**.035A	**35**	**ANSI 150**	115	64	38	17.4	88.9	16 x4
316.**71**.042A	**42**	**ANSI 150**	125	75	45	19.0	98.4	16 x4
316.**71**.054A	**54**	**ANSI 150**	150	68	33	20.6	120.7	20 x4
316.**71**.066A	**66.7**	**ANSI 150**						
316.**71**.076A	**76.1**	**ANSI 150**	190	113	60	25.4	152.4	20 x4
316.**71**.088A	**88.9**	**ANSI 150**	190	127	67	25.4	152.4	20 x4
316.**71**.108A	**108**	**ANSI 150**	230	178	81	25.4	190.5	20 x8
316.**71**.168A	**168.3**	**ANSI 150**	280	150	29	26.9	241.3	23 x8

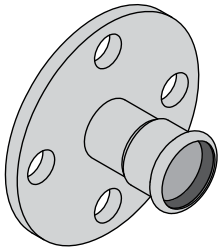
*ANSI flanges in accordance with ASME B16.5.
‡ANSI flange dimensions 't', 'X1' & 'L1' include the raised face height of 1.5mm.

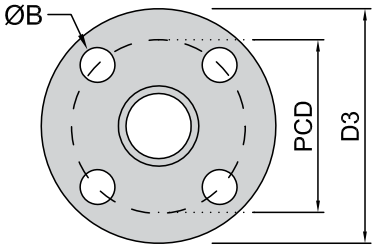
Product No	D1	FL†	D3	L	X1	t	PCD	ØB
316.**71**.015E	**15**	**Table E**	95	35	15	6	67	14 x4
316.**71**.022E	**22**	**Table E**	100	42	21	6	73	14 x4
316.**71**.028E	**28**	**Table E**	115	52	29	7	83	14 x4
316.**71**.035E	**35**	**Table E**	120	64	38	8	87	14 x4
316.**71**.042E	**42**	**Table E**	135	75	45	9	98	14 x4
316.**71**.054E	**54**	**Table E**	150	68	33	10	114	18 x4
316.**71**.066E	**66.7**	**Table E**		114	65		145	
316.**71**.076E	**76.1**	**Table E**	185	113	60	11	146	18 x4
316.**71**.088E	**88.9**	**Table E**	185	127	67	11	146	18 x4
316.**71**.108E	**108**	**Table E**	215	150	81	13	178	18 x8
316.**71**.168E	**168.3**	**Table E**	280	150	29	17	235	22 x8

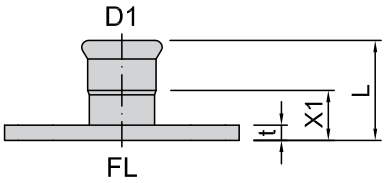
†Flat face Table flanges in accordance with AS 2129.

Product No	D1	FL†	D3	L	X1	t	PCD	ØB
316.**71**.015.PN16	**15**	**PN16**	95			14+2	65	14 x4
316.**71**.022.PN16	**22**	**PN16**	105			16+2	75	14 x4
316.**71**.028.PN16	**28**	**PN16**	115			16+2	85	14 x4
316.**71**.035.PN16	**35**	**PN16**	140			18+2	100	18 x4
316.**71**.042.PN16	**42**	**PN16**	150			18+3	110	18 x4
316.**71**.054.PN16	**54**	**PN16**	165			20+3	125	18 x4
316.**71**.066.PN16	**66.7**	**PN16**	185			20+3	145	18 x8
316.**71**.076.PN16	**76.1**	**PN16**	200			20+3	160	18 x8
316.**71**.088.PN16	**88.9**	**PN16**	200			20+3	160	18 x8
316.**71**.108.PN16	**108**	**PN16**	220			22+3	180	18 x8
316.**71**.168.PN16	**168.3**	**PN16**	285			24+3	240	22 x8

†to EN1092-1 DIN. Thickness includes raised face thickness.







Flanges are welded internally & externally.

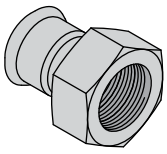
Blind (blank) Flange = 316.79...

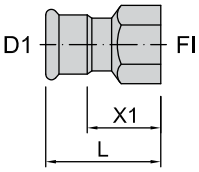
Adaptor Flange (Tube End x Flange) = 316.72...

Note: Flange working pressures are referenced in AS 2129 for Table flange types and ASME B16.5 for ANSI flange types. Confirm the type suitable for your project pressures before ordering or installing.

AusPress Electrical Conduit fittings are designed for use in electrical and data installations offering faster and more hygienic conduit installations in industrial applications. The AusPress Electrical Conduit fittings are designed for use in conjunction with AusPress standard tube and fittings in applications such as abattoirs, dairies, breweries, hospitals and various other applications requiring hygienic conduit systems.

Electrical Conduit Adaptor
Socket - FI Metric





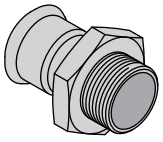
Material: 316L stainless steel.
Thread type: 1.5M

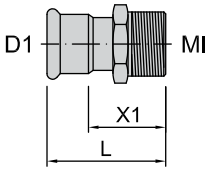
Ring Seal: EPDM x1 supplied.

Product No	D1	FI	L	X1
316.**63**.022.M20.15	**22**	**20**		
316.**63**.028.M25.15	**28**	**25**		
316.**63**.035.M32.15	**35**	**32**		
316.**63**.042.M40.15	**42**	**40**		
316.**63**.054.M50.15	**54**	**50**		

Metric thread to ISO 724 & ANSI/ASME B1.13M-1995 (not compatible with BSP).

Electrical Conduit Adaptor
Socket - MI Metric





Material: 316L stainless steel.
Thread type: 1.5M

Ring Seal: EPDM x1 supplied.

Product No	D1	MI	L	X1
316.**64**.022.M20.15	**22**	**20**		
316.**64**.028.M25.15	**28**	**25**		
316.**64**.035.M32.15	**35**	**32**		
316.**64**.042.M40.15	**42**	**40**		
316.**64**.054.M50.15	**54**	**50**		

Metric thread to ISO 724 & ANSI/ASME B1.13M-1995 (not compatible with BSP).

Tech Data Sheet:
AusPress Stainless Press-Fit

M-Profile System	3.1 Cert Traceability	Diameters 15 to 168mm

What is Press-Fit?
A quick, flame free and consistent process using a press tool fitted with matching profiled jaw or collar to form a permanent and consistent join between tube and fitting.

Applications:
Common applications include:
- Potable, Chilled and Hot Water.
- Compressed Air.
- Fire Sprinklers & Services.
- Chemical lines.
- Fuels & Oils.
- Gases - Inert & Flammable.
- Steam (wet).
- Treated Water (including RO & demineralised).
- Vacuum.
- Not suitable for sewer or stormwater.
- Other applications on request.

Refer to our Media Chart, Technical Catalogue or contact us directly for specific information and suitability.

Key Features
- Very fast installation process.
- No need for hot-work permits.
- Simple process to train users to install using a press tool.
- One system suits a wide range of applications.
- Stocked in Australia.
- Tube & fittings grade 316L (1.4404) stainless steel.
- Large range of fitting types including flanged adaptors and threaded fittings.
- Long service life and recyclable product (closed reuse loop).
- Efficient and waste free install.

FAQ:
- Insulating? Spec 'low-chloride', refer our Tech Note!
- The jaw/collar profile must match the fitting profile: M-Profile on M-Profile.
- Lubricate the jaw & collar 'press zone' regularly with Inox spray.
- Deburr the tube to prevent damage to the ring seal.
- Using Steam, Oil, Fuel, Chlorine, Chlorides or going Underground? Refer our range of Tech Notes!
- Chemicals? Ask us to confirm suitability for stainless and ring seal.
- Pressure Test? Test to 1.5x the working pressure for a minimum 45 mins.
- Expansion? Calcs available.

Metric Tube
- Metric OD sizing, **15 to 168.3mm**.
- 316L **annealed** stainless steel.
- 320 grit finish (polished).
- **3.1 certified**; batch traceable.
- TIG welded (15 to 108mm) longitudinal welded, rolled seam; laser welded (168mm).
- ASTM 269 compliant tube.
- EN 10312 compliant tube.
- Markings – black.

Tube OD	Tube Wall	Weight (kg)	
		dry/m	wet/m
15	1.0	0.4	0.5
18	1.0	0.4	0.6
22	1.2	0.6	0.9
28	1.2	0.8	1.3
35	1.5	1.3	2.1
42	1.5	1.5	2.7
54	1.5	2.0	4.0
66.7	2.0	3.3	6.3
76.1	2.0	3.7	7.8
88.9	2.0	4.4	10.0
108	2.0	5.3	13.8
168.3	2.0	8.4	29.6

Press Fittings
- Metric OD sizing, **15 to 168.3mm**.
- **M-Profile** socket (with ring seal).
- Grade 316L (1.4404) **annealed** stainless steel.
- 320 grit finish (polished).
- **3.1 certified**; traceable batches.
- Ring seal pre-fitted to socket ends.
- Markings – laser etched.

Ring Seals (Elastomers)
- EPDM supplied standard.
- Contain no softening agents or other fillers which lead to embrittlement.
- Leak before press detection; identifies unpressed joins between 100-500kPa up to 54mm diameter.
- Slow aging process.
- Maintain a low compression set value, even at higher temps.
- Low oxygen permeation rate; this is critical in avoiding corrosion effects due to the intrusion of oxygen.

Seal Type*	Temp Range
EPDM	-20 to +100°C
hNBR	-20 to +70°C
FKM	-20 to +180°C

*Refer to our Media Chart & contact us for suitability before installation.

Pressure Ratings:
The maximum working pressure depends on the tool used to form the press, the operating temperature, fitting diameter and application parameters.

Maximum working pressures (kPa) for Potable Water at 85°C:		
Tube OD	Process Type	Working Pressure*
15 to 22	Standard	2,500
28 to 54	Standard	2,500
	HP	4,000
66.7	Standard	2,500
76.1 to 108	Standard	1,600
	HP	2,500
168.3	Double Offset Press	1,600

* Figures noted are maximum and subject to the tool selected to install.

System Approvals & Compliance:
- WaterMark AS 5200.053
- WaterMark AS 3688
- CSIRO ActivFire
- DNV*
- AS 1940 - Section 6.
- AS 5601, Table 4.1.
- AS 4041.
- AS 4118 – 1995.
- AS 4289.
- LANL B31.3 Process Piping Guide.
- *Marine (certificates upon request).

Technical Assistance
- Suitability checks for projects & applications on request.
- Tech Notes and Media Chart product reference material.
- Onsite tool training of installers is recommended with certificates issued on completion.
- AusPress staff available across Australia & New Zealand.

Need More Information?
Please contact us for product support, technical advice or your project specific requirements:
- Phone: 1300 287 773
- Email: sales@auspress.com.au

Visit auspress.com.au for the latest product information, tech notes & catalogues.

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 join after being pressed with a press tool.

By using a calibrated press tool, each join 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.

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.

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.

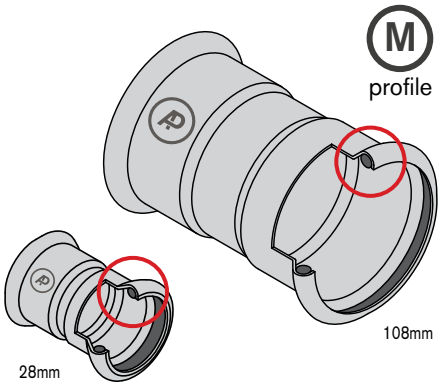
Did You Know?

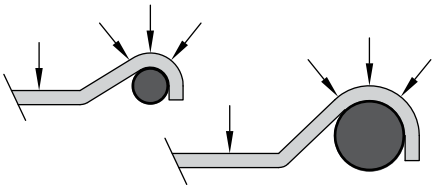
Originally designed in 1962 by Swedish engineer Gunther Larsson, the first press fittings were manufactured by German company Mannesmann from 1969.

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

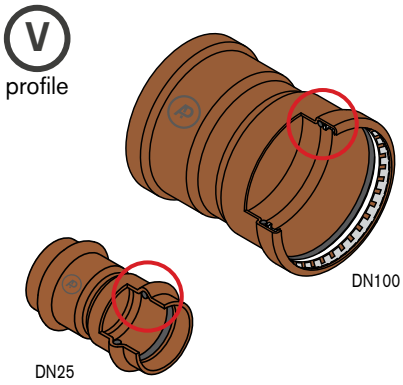
Section A:
This forms the mechanical strength of the pressed join.

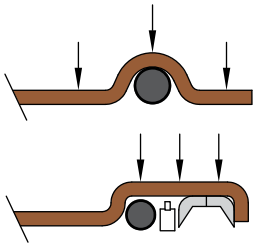
Section B:
The deformation of the rubber ring seal ensures a permanently tight join.





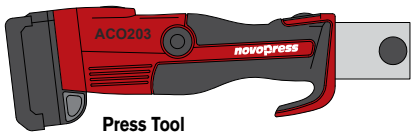
M-Profile: All diameters from 10 to 168.3mm feature the same turned down end that the ring seal is seated.



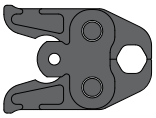


V-Profile: Diameters DN50 and smaller have a flat *tail* continuing past the ring seal.

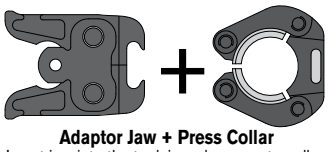
V-Profile: Diameters DN65 and above feature a flat socket lip that a *grab ring, spacer and ring seal* are seated.



Press Tool
Available in a range of sizes and abilities.

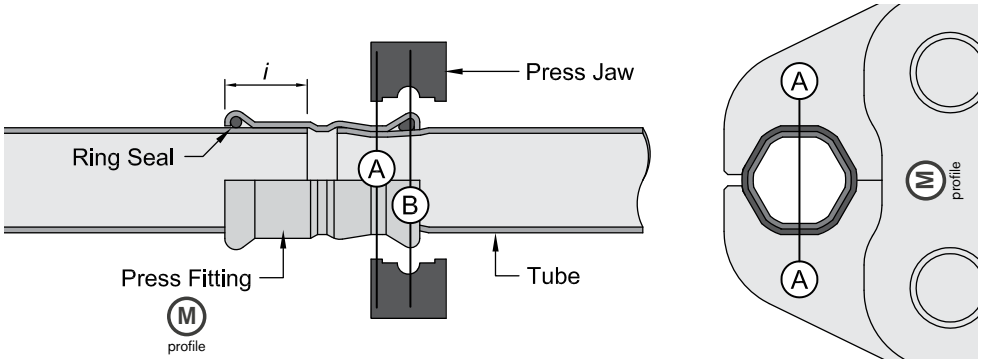


Press Jaw
Insert into tool directly.

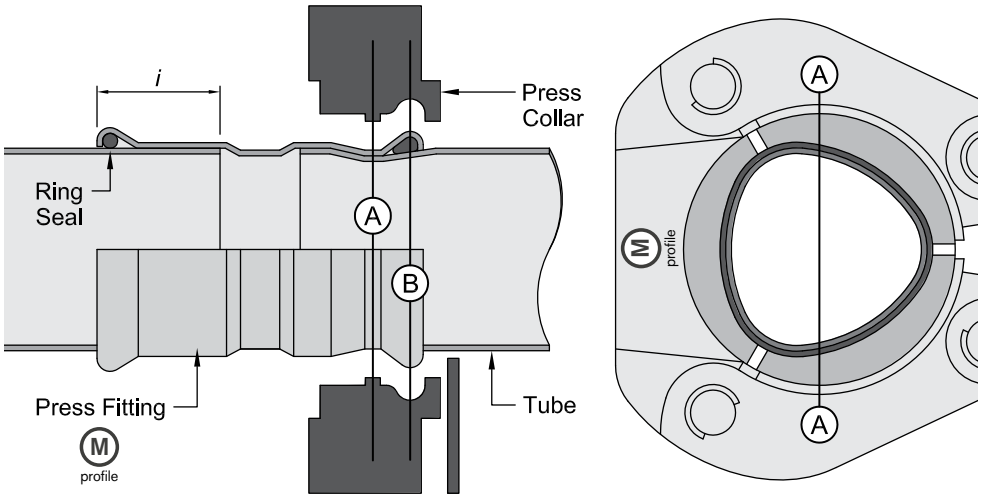


Adaptor Jaw + Press Collar
Insert jaw into the tool, jaw clamps onto collar.

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.



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



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

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.

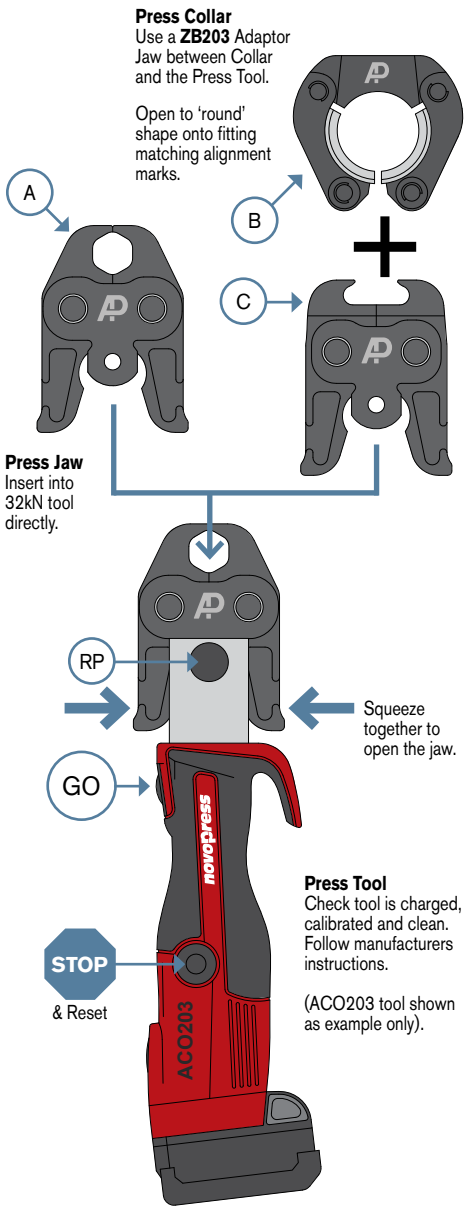
Example shows due 08/2022

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.

Did You Know?

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

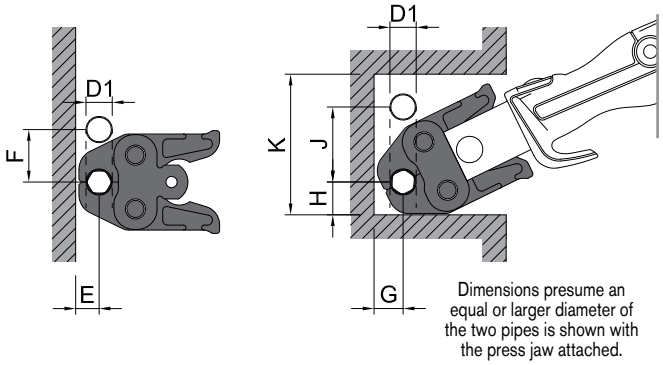
Please contact us before using generators with the 240V Press Tools.

Batteries

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

Jaw & Collar Clearances

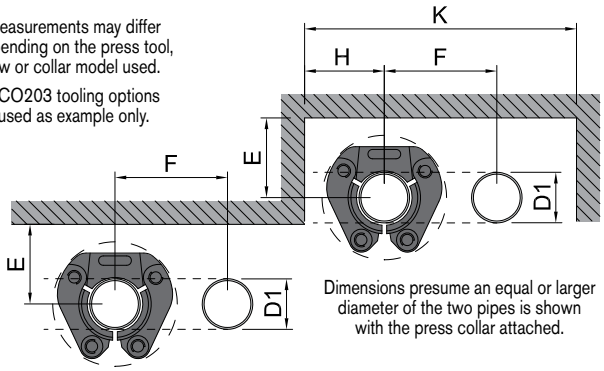
Measurements are dependant on the actual fitting dimensions and the Press Tool used to join. Confirm clearances before proceeding with your installation.



Dimensions presume an equal or larger diameter of the two pipes is shown with the press jaw attached.

Measurements may differ depending on the press tool, jaw or collar model used.

ACO203 tooling options used as example only.

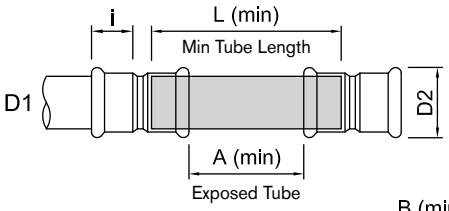


Dimensions presume an equal or larger diameter of the two pipes is shown with the press collar attached.

M profile

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

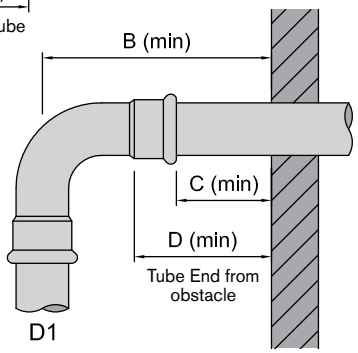
D1	T	E	F	G	H	J	K
15	Jaw	20	56	25	31	75	135
18	Jaw						
22	Jaw	23	65	31	38	80	155
28	Jaw	25	75	31	39	83	160
35	Jaw	30	75	36	45	90	180
42	Collar	75	115	-	75	-	265
54	Collar	85	120	-	85	-	290
66.7	Collar						
76.1	Collar	110	140	-	110	-	360
88.9	Collar	120	150	-	120	-	390
108	Collar	140	170	-	140	-	450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



M-Profile fittings 15 - 168.3mm shown.

Confirm dimensions before installation.

Consult AusPress before welding near press-fit joins.



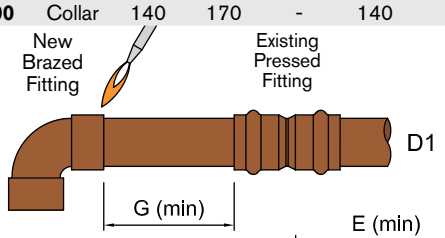
Insertion depth

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

Dimensions for AusPress Copper Fittings

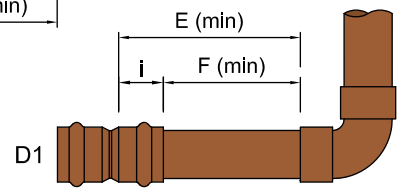
DN	T	E	F	G	H	J	K
15	Jaw	20	56	25	31	75	135
18	Jaw	23	65	31	38	80	155
20	Jaw	23	65	31	38	80	155
25	Jaw	25	75	31	39	83	160
32	Jaw	30	75	36	45	90	180
40	Jaw	50	90	68	54	92	265
40	Collar	67	110	-	82	-	274
50	Jaw	64	121	60	90	125	295
50	Collar	71	121	-	90	-	300
65	Collar	110	140	-	110	-	360
80	Collar	120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

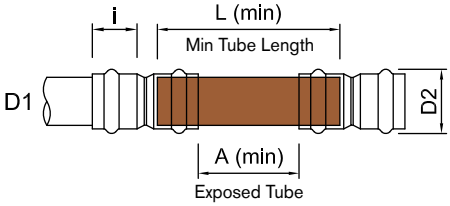


V-Profile fittings DN15 - 50 shown.

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.





Insertion depth

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

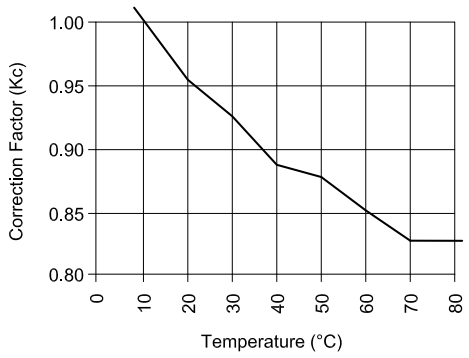
Material Performance

Material Composition

		AISI 316L	AISI 304	90/10	C12200	AISI S31803
		AusPress STAINLESS	304 S/S	AusPress CuNiFe	AusPress COPPER	AusPress DUPLEX 2205
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

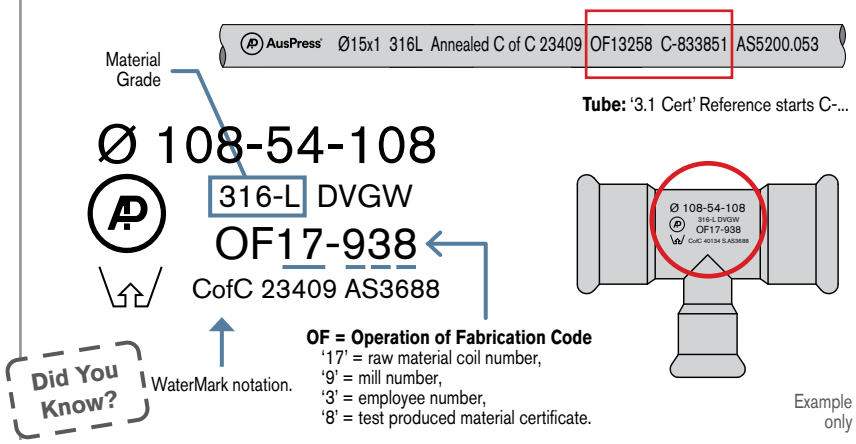
Temperature Correction Factor

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.



Pressure Loss & Flow Rates

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

Test Details

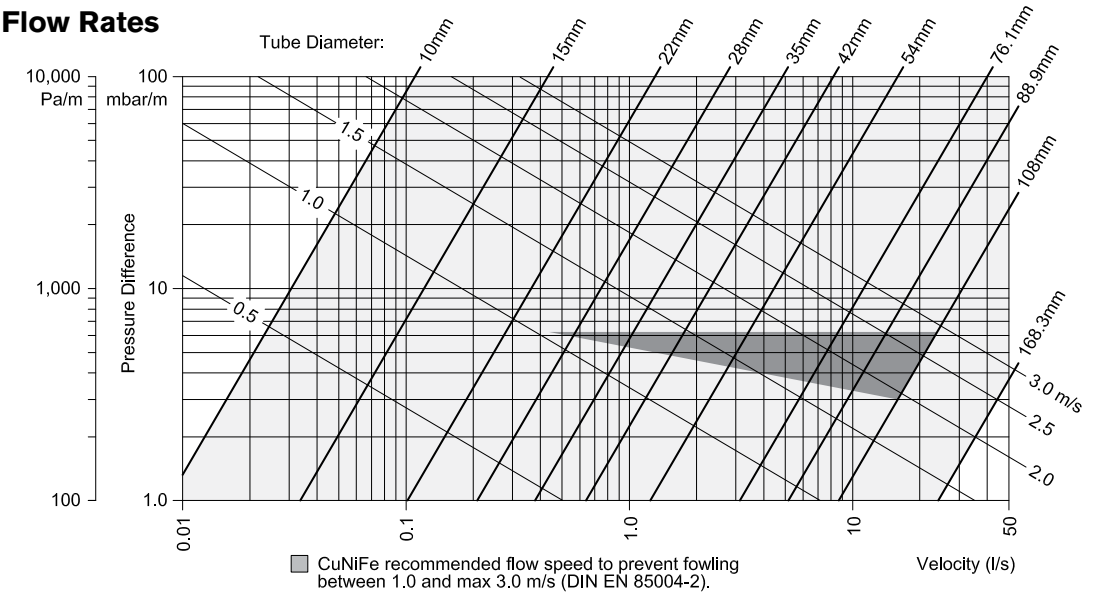
Material:
Stainless Steel 316L

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.

Did You Know?

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).

Did You Know?

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.