

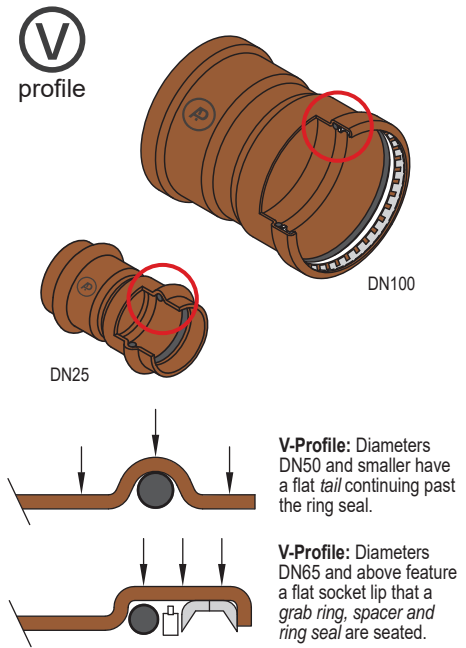
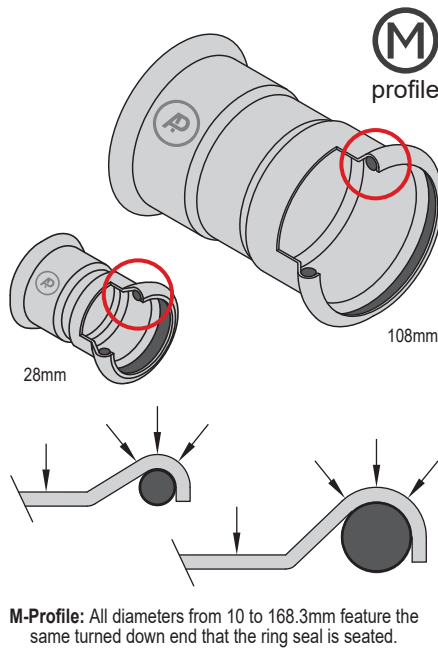
The Strength of Press-Fit

It's All In The Join

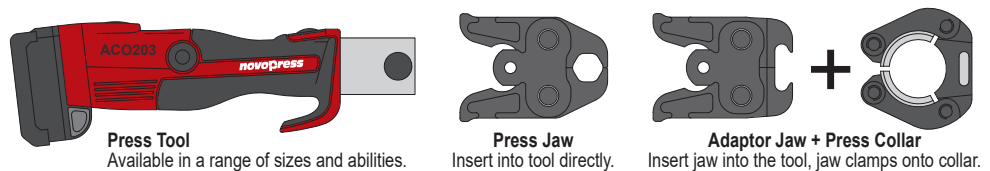
The socket on each press fitting is fitted with a rubber ring seal, engineered to provide both a strong and sealed joint after being pressed with a press tool.

By using a calibrated press tool, each 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.



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

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

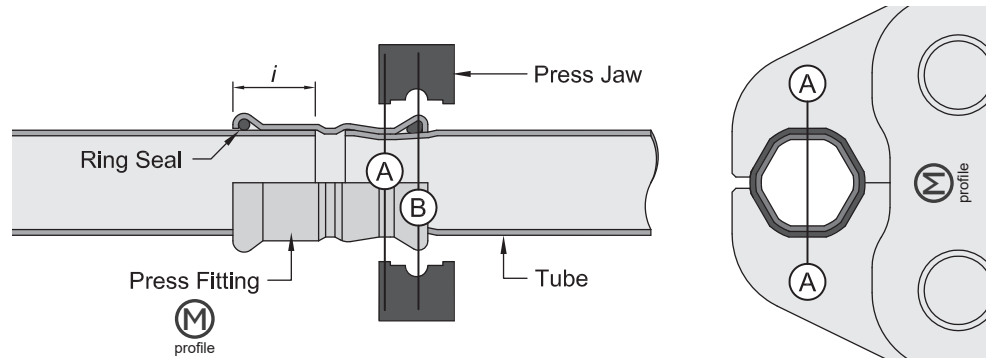
DID YOU KNOW?

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

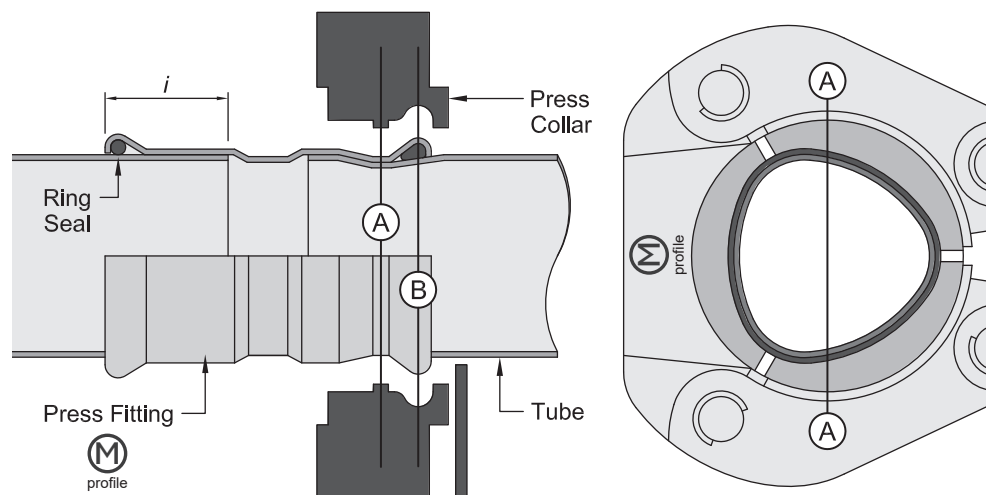
Two different cross section shapes are pressed depending on the tube diameter - the hexagonal and the lemon shape.

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.



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.



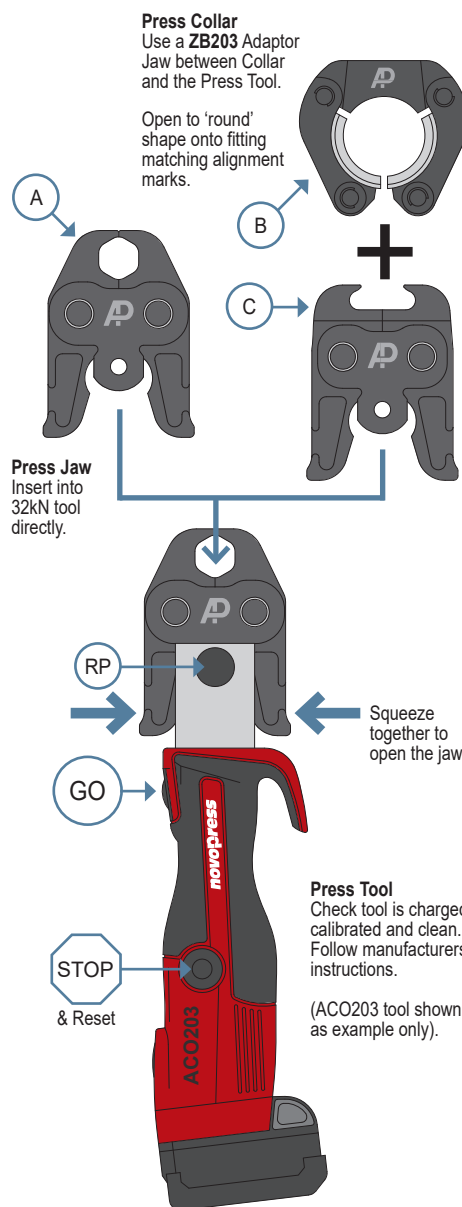
Example shows due 07/2016

Half or Cancelled Press?

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

Tool Training & Safety

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



Use the Right Tool...

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

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



Safety & Tool Training

We offer onsite 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

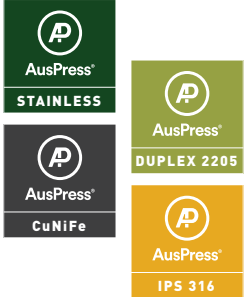
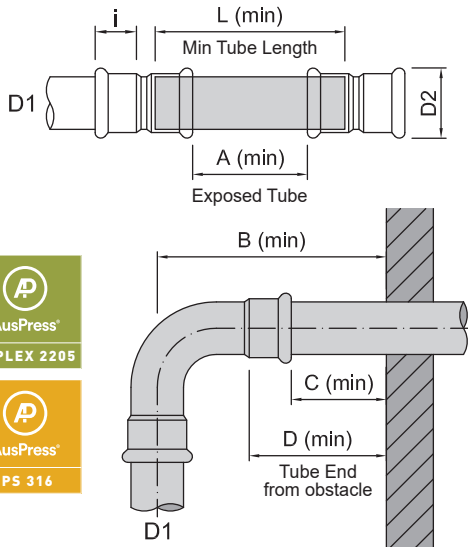
Please contact us before using generators with the 240V Press Tools.

Batteries

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

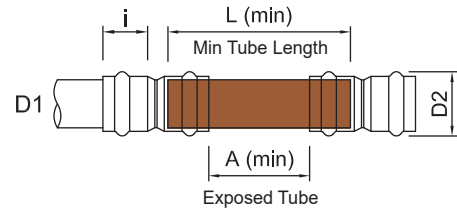
Installation Clearances

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



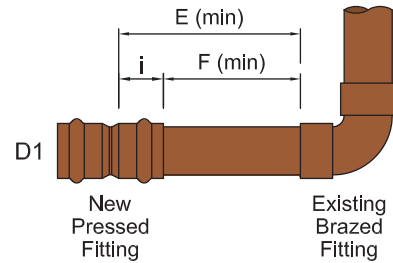
i = insertion depth

D1	i	L	A	D2	B	C	D
10mm	10	50	30	16	62	35	45
15	20	50	10	23	85	35	55
22	21	52	10	32	95	35	56
28	23	56	10	38	107	35	58
35	26	62	20	45	121	35	61
42	30	80	20	54	147	35	65
54	35	90	20	66	174	35	70
76.1	53	126	20	95	223	75	128
88.9	58	140	20	110	249	75	135
108	69	170	20	133	292	75	150
168.3	121	279	37	195	483	100	221
1/2"	21	50	10	32	85	35	55
3/4"	24	50	10	37	89	35	55
1"	26	50	10	44	95	35	56
1.1/2"	30	62	10	63	121	75	57
2"	45	80	20	78	147	75	65

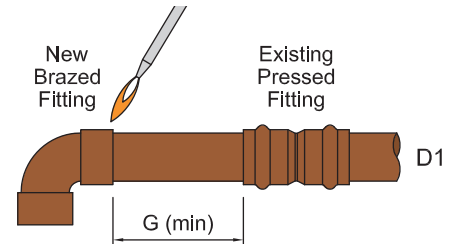


V-Profile fittings DN15 - 50 shown.

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

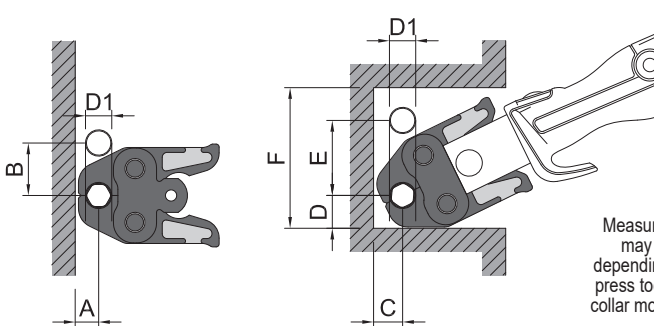


We recommend to wrap the closest existing press fittings with a wet cloth while brazing.



i = insertion depth

D1	i	L	A	D2	E	F	G
DN15	19	51	13	20	32	13	350
18	21	55	13	24	34	13	380
20	22	57	13	27	35	13	500
25	23	61	15	34	38	15	650
32	26	67	15	41	41	15	800
40	32	84	20	19	52	20	1000
50	40	105	25	61	65	25	1300
65	42	109	25	79	67	25	1600
80	48	126	30	90	78	30	2000
100	60	150	30	116	90	30	2500

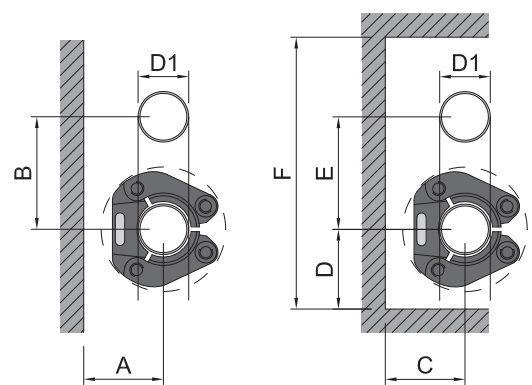


Measurements may differ depending on the press tool, jaw or collar model used.

ACO203 tooling options used as example only.

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

D1	A	B	C	D	E	F
10mm	20	56	20	28	75	131
15	20	56	20	28	75	131
22	20	65	31	35	80	150
28	25	75	31	35	80	150
35	30	75	31	45	80	170
1/2"	22	57	22	29	76	133
3/4"	22	60	25	29	76	133
1"	25	67	32	35	80	152



D1	A	B	C	D	E	F
42	75	115	75	75	115	265
54	85	120	85	85	120	290
76.1	110	140	110	110	140	360
88.9	120	150	120	120	150	390
108	140	170	140	140	170	450
168.3	200	335	260	260	335	850
1.1/2"	75	115	75	75	115	265
2"	61	76	76	76	117	269



Material Performance

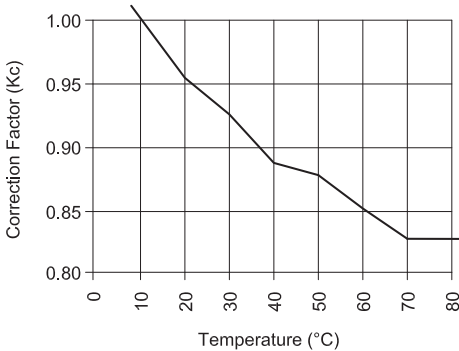
Material Composition



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

Temperature Correction Factor

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



Batch Numbers (Tube & Fittings)

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

DID YOU KNOW?
WaterMark notation.

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

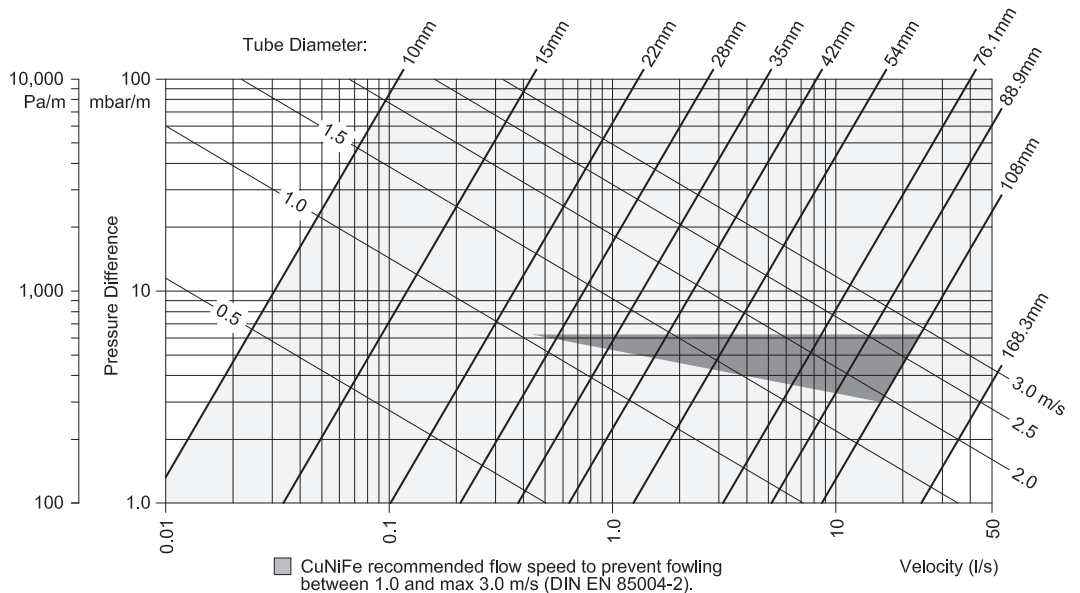
Tube: '3.1 Cert' Reference starts C-...

Flow Rates

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

Test Details

- Material: Stainless Steel 316L
- Media: Water
- Test Temperature: 10°C
- Surface Roughness Coefficient: 0.0015mm (ave).



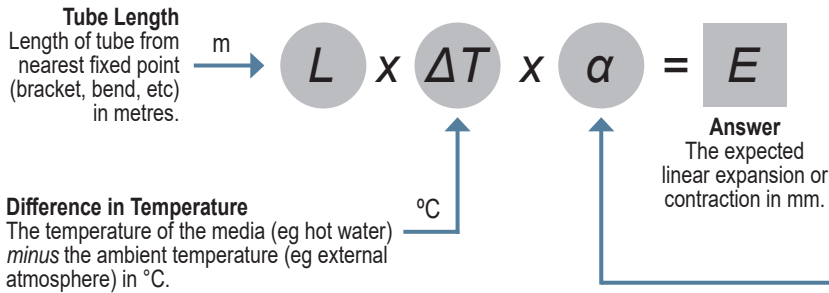
Expansion & Contraction

Calculate the Expected Thermal Movement

The table below shows the relative longitudinal expansion of 316L stainless steel tubes 'E', based on the **difference (change) in temperature** between the external environment and the internal media using the formula below...

Tube Length	Expansion Length, Longitudinal (E)										
	ΔT:	10	20	30	40	50	60	70	80	90	100°C
1m		0.17	0.33	0.5	0.66	0.83	0.99	1.16	1.32	1.49	1.65mm
6m		1.02	1.98	3.0	3.96	4.98	5.94	6.96	7.92	8.94	9.90mm

Note: Positive values are expansion, negative values are compression.



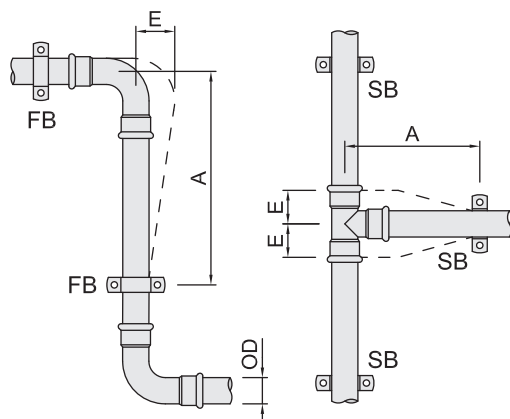
Thermal Coefficient (10⁻⁶m/mK)

Different materials have different thermal properties, identified by the expansion coefficients below (between +20 to +100°C).

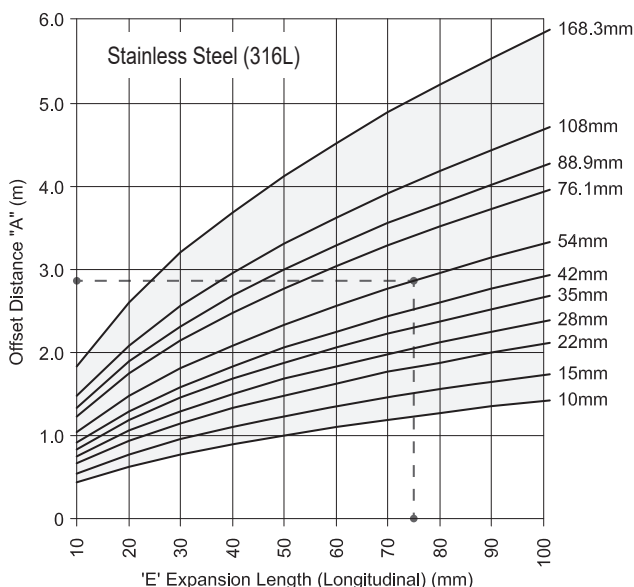
The larger the number, the greater the material will expand per metre.

Material	α
Carbon Steel	0.0117
Stainless Steel (2205)	0.0137
Stainless Steel (316L)	0.0165
Stainless Steel (304L)	0.0166
Copper (Cu)	0.0168
Copper Nickel (CuNiFe)	0.017
PEX	0.018
Aluminium	0.0231
PP-RP	0.035
PVC-U	0.0504
ABS	0.063
HDPE	0.12
PE	0.15

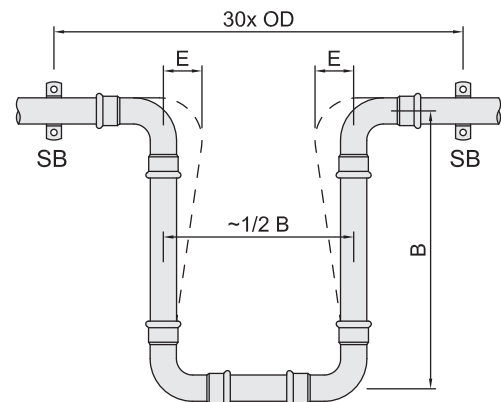
Note: Confirm product specific coefficients with manufacturer.



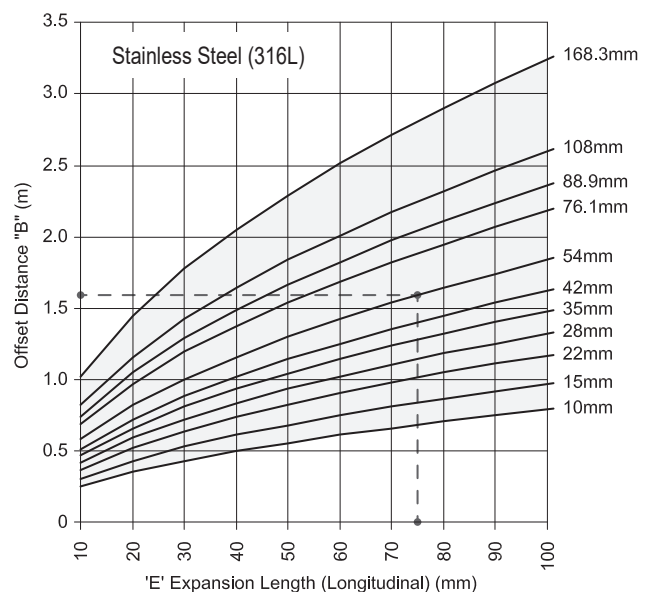
Above: 'Z' & 'T' Shape Arrangements. Can also be achieved with cold bending the tube (up to 35mm). Use the chart below to calculate measurement 'A' based on the diameter.



Above: 'Z' & 'T' Shaped Arrangements - based on $A = 0.045 \times \sqrt{(\text{Tube OD} \times E)}$. In the equation, for CuNiFe use the constant 0.054; for Copper use 0.061.



Above: 'U' Shape Arrangement. Can also be achieved with cold bending the tube (up to 35mm). Use the chart below to calculate measurement 'B' based on the diameter.



Above: 'U' Shaped Arrangements - based on $B = 0.025 \times \sqrt{(\text{Tube OD} \times E)}$. In the equation, for CuNiFe use the constant 0.031; for Copper use 0.032.

Common Installation Topics



Tech Notes Available
Contact us for Technical Notes that cover the topics below in much greater detail.

Always confirm, before you install, the suitability of:

- 1 **The Material (inside & out)**
The system material with the media internally and the environmental conditions externally (eg coastal areas).
- 2 **The Elastomer (ring seal)**
The fitted rubber ring seal with the media & operating temperatures.
- 3 **The Conditions**
Working pressure, operating temperatures & other operational variables.

The following topics are a brief guide. For full technical & project specific information, please contact us directly.

Bending Tubes	5	Flushing the System	9
Bracketing	4	Insulation & Lagging	2
Commissioning	13	Maintenance	14
Corrosion Resistance:		Pressure Testing	10
- External	8	Ring Seal Suitability	1
- Internal	7	Sealants	3
De-Scaling	12	Steam & High Temp	6
Disinfecting	11	Threaded Fittings	3

1: Ring Seal 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.

Please contact us with your project details by completing a Project Info Sheet and we can make a recommendation.

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 Technical Media Chart for specific ring seal suitability and limits.

2: Insulation & Lagging

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

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.

Contact us for the Tech Note with more information.

3: Threaded Fittings & Sealants

Support the threaded press fitting using the fixed nut to tighten to prevent torsional or bending forces being applied to the pressed join. For stainless threads, only commercial chloride free sealant or tapes shall be used.

4: Bracketing

- Install supports, bracketing & centres (spans) to AS 4041 & AS 3500 as required appropriate to the installation.
- Bracketing is not to be positioned directly on a fitting.
- Refer to the Expansion & Contraction section of the technical information for bracket type and positioning.

5: 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.

Tube Dia (mm)	15	22	28	35
Min Bending Radius	52.5	77	98	122.5

6: Steam & High Temperatures

If your project involves steam or temperatures over +100°C, contact us for specific advice and relevant Tech Note.

7: Internal Corrosion Resistance

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

Undesirable effects such as pitting, crevice corrosion with stainless or 'blue water' with copper can occur if this protective layer is compromised through additives, chemicals or 'alternative' water qualities.

In the case of stainless, problems can occur in water with unduly high chloride content. This can occur from excessive chlorous disinfectant use or naturally occurring such as in bore water. Therefore, the duration of application and concentration for use must be strictly observed.

The content of water-soluble chloride ions at ambient temperature in potable water and water which is similar to potable water should not exceed 250 mg/l (250 ppm). Corrosion resistance decreases as the temperature increases.



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

Continued...

Analysis testing by a NATA certified laboratory is the only certain method of confirming the composition of water, potable or otherwise - please complete a Project Information Form before installing so we can provide a product suitability recommendation.

Purified Waters

AusPress stainless is resistant to purified waters such as softened, de-carbonised, fully desalinated, de-ionised, de-mineralised, distilled and pure condensates. 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.

Copper and Copper Nickel are not suitable for purified water types.

Chemicals and Water Additives

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

Oil, Fuel, Compressed Air and Other Applications

Different ring seals are available to suit a range of applications and temperatures. Please contact us for advice before installation for suitability of the AusPress material and the ring seal to be used.

8: External Corrosion Resistance

Resistance Against External Corrosion

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

For example, 316 stainless is susceptible to chlorides; coastal areas where the tube is exposed and unwashed.

Or building materials (such as concrete) in direct contact with the press-fit materials can cause an undesired effect.

Please contact us for advice where chemicals (including cleaning), alkaline or acidic environments exist where AusPress is to be installed, regardless of material.

Protection Against External Corrosion

In areas at risk of unsuitable external conditions, installation of AusPress without protection is not recommended.

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 Bimetal (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/NZ 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.

10: Pressure Testing

Conduct the pressure test in accordance with AS/NZ 3500.

- **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.



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.

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.

Continued...



LPG and Natural Gas Systems:

Conduct the pressure test of the system in accordance with AS/NZ 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 note the test results as a record that can be downloaded from our website. The more stringent requirements between those listed below and the relevant AS/NZ standard are to be followed.

Pressure: Whichever is greater of:

- 1.5 times the maximum operating working pressure for the completed system and;
- AS/NZ 3500: 1,500kPa (15 bar, 218psi) or,
- AS/NZ 5601: 7.0kPa (0.07bar, 1.0psi) (pipework only).

Do not exceed the maximum working pressure of the press-fit system!

Duration: Minimum of 45 minutes. For hot water systems, the duration may be longer allowing for the water to heat after the first cold water test.

System considered 'passed' if:

- No pressure drop over the test duration (as per relevant AS/NZ for the installation).
- 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 the 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 below:

	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.

Project Information Form

Please complete this form so we can best advise product suitability and technical assessment for your project.

For the current version of this guide, visit our website.

Contact Information

(please complete all fields below)

Customer Name:	
Date:	
Client:	
Contractor:	
Main Contact Name:	
Main Contact Phone:	
Main Contact Email:	
Main Contact Address:	

Why?

As part of our product quality assurance, we'd like to ensure what we're supplying will meet the needs of your project.

The more you can tell us, the more certain we can be in supplying you with the right answers.

We have project based water analysis and metallurgy analysis services available for customers too.

Project Information

(please complete all fields below)

Project Name:		
Project Address:		
Designated Use:		
Size:		
Product / Media Name:		
Product Concentration (%):		
Operating Temperatures:	Min (°C):	Max (°C):
Operating Pressures: Complete the relevant units of measure:	Min (bar):	Max (bar):
	Min (PSI):	Max (PSI):
	Min (kPa):	Max (kPa):
MSDS: (Material Safety Data Sheets)	<input type="checkbox"/> I've attached the relevant sheets with this form.	
Water Test Results: (Including pH levels)	<input type="checkbox"/> I've attached the reports with this form.	

When Use This Form?

Customers should complete and submit this form for all projects.

Most supply this information at the design stage - the earlier this information is available, the better response we can provide for your design.

More Information?

Any other relevant information...

Email your completed form directly to **technical@blucher.com.au** for assessment.

Please ensure all items are completed for a faster response.



Test Protocol Form

For AusPress Press-Fit Systems using oil-free compressed air, (potable) water or inert gas as the test medium.

For the current version of this guide, visit our website.

Test in accordance to AusPress recommendations in the Technical Section of the catalogue.

Project Name:	
Location:	
Customer Name:	
Customer Phone:	
Contractor Name:	
Contractor Phone:	

More info?

As part of our product quality assurance, we'd like to ensure what we're supplying will meet the needs of your project.

Important..

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

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.

AusPress System/Material:		
Maximum Permissible System Operating Pressure:	(bar):	(PSI):
Ambient Temperature:	(°C):	
Test Medium Temperature:	(°C):	
Test Medium:	<input type="checkbox"/> Potable Water <input type="checkbox"/> Oil-free Compressed Air <input type="checkbox"/> Nitrogen <input type="checkbox"/> Other >	
The system has been tested as...	<input type="checkbox"/> as an entire system.	<input type="checkbox"/> in sections - qty:

Pre-Test Checks	<input type="checkbox"/> All pipelines are sealed, ready for test.
	<input type="checkbox"/> Appliances, pressure tanks or hot water heaters are isolated from the piping system.
	<input type="checkbox"/> A visual check has been carried out to ensure all pipe joints have been executed professionally.
Pressure Test Parameters	Test Pressure: Whichever is greater of: <ul style="list-style-type: none"> 1.5 times the maximum operating working pressure for the completed system and; AS/NZ 3500: 1,500kPa (15 bar, 218psi) or, AS/NZ 5601: 7.0kPa (0.07bar, 1.0psi) (pipework only).
	Minimum Test Time Required: 45 minutes. <input type="checkbox"/> Actual Test Time (mins):
Test Results	<input type="checkbox"/> There was no pressure drop in test pressure during the test time.
	<input type="checkbox"/> Visual check of all joins resulted in no leaks identified during the test time.
	<input type="checkbox"/> The piping system has been professionally tested and found to be leak proof.
	<input type="checkbox"/> Pressure drop noted = System failed pressure test, rework required before re-testing.
	NCR Number:

Print Name (Contractor)

Print Name (Witness)

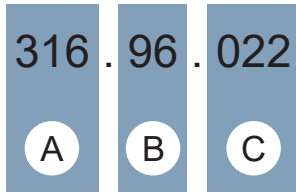
Date Signed

Signature (Contractor)

Print Name (Witness)

Understanding Our Product Codes

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



A: Material Type
B: Fitting Style
C: Dimension

eg: **316.96.022**
Stainless 316; Tube 6m length; 22mm OD.

Previous	New
30102	316.31.090.015
30103	discontinued
30104	316.31.090.022
30105	316.31.090.028
30302	316.32.090.015
30304	316.32.090.022
30305	316.32.090.028
30402	316.33.090.015
30404	316.33.090.022
30405	316.33.090.028
30406	316.33.090.035
30407	316.33.090.042
30408	316.33.090.054
30409	discontinued
30410	discontinued
30411	discontinued
30602	316.31.045.015
30603	discontinued
30604	316.31.045.022
30605	316.31.045.028
30702	316.32.045.015
30704	316.32.045.022
30705	316.32.045.028
30802	discontinued
30804	discontinued
30805	discontinued
30862	discontinued
30864	discontinued
30865	discontinued
30866	discontinued
30867	discontinued
30868	discontinued
30869	discontinued
30871	discontinued
30872	discontinued
30874	discontinued
30875	discontinued
30876	discontinued
30877	discontinued
30878	discontinued
30879	discontinued

30881	discontinued	31244	316.52.108.022	31838	316.74.028.025N
30892	discontinued	31245	316.52.108.028	31839	316.74.035.032N
30894	discontinued	31246	316.52.108.035	31840	316.74.042.040N
30905	discontinued	31247	316.52.108.042	31841	316.74.054.050N
30906	discontinued	31248	316.52.108.054	31932	316.76.015.015
30907	discontinued	31249	316.52.108.076	31936	316.76.022.020
30908	discontinued	31250	316.52.108.088	31937	316.76.028.025
30909	discontinued	31304	316.53.015.015	31938	316.76.035.032
30910	discontinued	31307	316.53.022.015	31939	316.76.042.040
30911	discontinued	31308	316.53.022.020	31940	316.76.054.050
30932	discontinued	31309	316.53.028.015	32002	316.21.015
30934	discontinued	31310	316.53.028.020	32003	discontinued
30935	discontinued	31311	316.53.028.025	32004	316.21.022
30936	discontinued	31312	316.53.035.015	32005	316.21.028
30937	discontinued	31313	316.53.035.020	32006	316.21.035
30938	discontinued	31316	316.53.042.015	32007	316.21.042
30939	discontinued	31317	316.53.042.020	32008	316.21.054
30940	discontinued	31320	316.53.054.015	32009	316.21.076
30941	discontinued	31321	316.53.054.020	32010	316.21.088
30942	discontinued	31324	316.53.054.050	32011	316.21.108
30944	discontinued	31326	316.53.076.020	32102	316.22.015
30955	discontinued	31329	316.53.076.050	32103	discontinued
30956	discontinued	31331	316.53.088.020	32104	316.22.022
30957	discontinued	31334	316.53.088.050	32105	316.22.028
30958	discontinued	31336	316.53.108.020	32106	316.22.035
30959	discontinued	31339	316.53.108.050	32107	316.22.042
30961	discontinued	31454	316.54.015.015	32108	316.22.054
31002	316.51.015	31458	316.54.022.020	32109	316.22.076
31004	316.51.022	31459	316.54.022.025	32110	316.22.088
31005	316.51.028	31461	316.54.028.025	32111	316.22.108
31006	316.51.035	31464	316.54.035.032	32305	316.23.022.015
31007	316.51.042	31703	316.74.015.015	32307	316.23.028.015
31008	316.51.054	31707	316.74.022.020	32309	316.23.028.022
31009	316.51.076	31708	316.74.028.025	32310	316.23.035.015
31010	316.51.088	31709	316.74.035.032	32312	316.23.035.022
31011	316.51.108	31710	316.74.042.040	32313	316.23.035.028
31106	316.31.090.035	31711	316.74.054.050	32314	316.23.042.015
31107	316.31.090.042	31713	316.74.076.065	32316	316.23.042.022
31108	316.31.090.054	31714	316.74.015.020	32317	316.23.042.028
31109	316.31.090.076	31715	316.74.022.015	32318	316.23.042.035
31110	316.31.090.088	31716	316.74.022.025	32319	316.23.054.015
31111	316.31.090.108	31717	316.74.028.020	32321	316.23.054.022
31206	316.52.022.015	31718	316.74.028.032	32322	316.23.054.028
31209	316.52.028.015	31719	316.74.035.025	32323	316.23.054.035
31211	316.52.028.022	31720	316.74.035.040	32324	316.23.054.042
31212	316.52.035.015	31721	316.74.042.032	32331	316.23.076.054
31214	316.52.035.022	31722	316.74.054.040	32338	316.23.088.054
31215	316.52.035.028	31724	316.74.088.080	32339	316.23.088.076
31216	316.52.042.015	31730	316.74.076.080	32345	316.23.108.054
31218	316.52.042.022	31802	316.73.015.015	32346	316.23.108.076
31219	316.52.042.028	31805	316.73.022.015	32348	316.23.108.088
31220	316.52.042.035	318054	discontinued	32606	316.31.045.035
31221	316.52.054.015	31806	316.73.022.020	32607	316.31.045.042
31223	316.52.054.022	31807	316.73.028.015	32608	316.31.045.054
31224	316.52.054.028	31809	316.73.028.025	32609	316.31.045.076
31225	316.52.054.035	31811	316.73.035.032	32610	316.31.045.088
31226	316.52.054.042	31814	316.73.042.040	32611	316.31.045.108
31229	316.52.076.022	31818	316.73.054.050	32706	316.32.045.035
31230	316.52.076.028	31819	316.73.028.020	32707	316.32.045.042
31231	316.52.076.035	31820	316.73.035.025	32708	316.32.045.054
31232	316.52.076.042	31821	316.73.042.032	32709	316.32.045.076
31233	316.52.076.054	31822	316.73.054.040	32710	316.32.045.088
31236	316.52.088.022	31823	316.73.015.020	32711	316.32.045.108
31237	316.52.088.028	31824	316.73.022.025	330402	304.96.015
31238	316.52.088.035	31825	316.73.028.032	330404	304.96.022
31239	316.52.088.042	31826	316.73.035.040	330404-3	304.93.022
31240	316.52.088.054	31833	316.74.015.015N	330405	304.96.028
31241	316.52.088.076	31837	316.74.022.020N	330406	304.96.035



330407	304.96.042	33761E	316.79.100E	3BCF4-28	discontinued	90432	FKM.11.114
330408	304.96.054	33762A	316.79.150A	3BCF4-35	discontinued	90434	FKM.11.168
330409	304.96.076	33762E	316.79.150E	3BCF4-54	discontinued	90452	NBR.11.015
330410	304.96.088	33803	316.34.015.015	3BE-25	discontinued	90453	NBR.11.022
330411	304.96.108	33805	316.34.022.020	3CF.108S	316.CF.108	90454	NBR.11.028
331602	316.96.015	33806	316.34.028.025	3CF.15S	316.CF.015	90455	NBR.11.035
331602-3	316.93.015	33807	316.34.035.032	3CF.22S	316.CF.022	90456	NBR.11.042
331604	316.96.022	33833	316.35.015.015	3CF.28S	316.CF.028	90457	NBR.11.054
331605	316.96.028	33835	316.35.022.020	3CF.35S	316.CF.035	90458	NBR.11.076
331606	316.96.035	33836	316.35.028.025	3CF.42S	316.CF.042	90471	NBR.11.088
331607	316.96.042	33837	316.35.035.032	3CF.54S	316.CF.054	90473	NBR.11.108
331608	316.96.054	33838	316.35.042.040	3CH-108S	316.CH.108	90483	discontinued
331609	316.96.076	33839	316.35.054.050	3CH-15S	316.CH.015	90485	discontinued
331610	316.96.088	35350	316.81.015.015	3CH-22S	316.CH.022	90486	discontinued
33212	316.24.015	35352	316.81.022.020	3CH-28S	316.CH.028	90487	discontinued
33214	316.24.022	35353	316.81.028.025	3CH-35S	316.CH.035	90488	discontinued
33215	316.24.028	35354	316.81.035.032	3CH-42S	316.CH.042	90489	discontinued
33216	316.24.035	35355	316.81.042.040	3CH-54S	316.CH.054	90490	discontinued
33217	316.24.042	35356	316.81.054.050	3CH-76	304.CH.076	90932	316.75.015.015
33218	316.24.054	35357	316.81.015.020	3CH-76S	316.CH.076	90935	316.75.022.015
33219	316.24.076	35359	316.81.022.025	3CH-88.9S	316.CH.088	90936	316.75.022.020
33220	316.24.088	35360	316.82.015.015	3SB1S	316.SB1		
33221	316.24.108	35361	316.82.015.020	3SB4S	316.SB4		
33306	316.32.090.035	35364	316.82.022.015	3SB5	discontinued		
33307	316.32.090.042	35365	316.82.022.020	3SB8-15	discontinued		
33308	316.32.090.054	35366	316.82.022.025	3SB8-22	discontinued		
33309	316.32.090.076	35367	316.82.028.025	3SB8-28	discontinued		
33310	316.32.090.088	35368	316.82.035.032	90081	EPDM.12.015		
33311	316.32.090.108	35369	316.82.042.040	90082	EPDM.12.022		
33403	316.36.015.015	35370	316.82.054.050	90083	EPDM.12.028		
33407	316.36.022.020	35380	316.84.015.015	90084	EPDM.12.035		
33423	discontinued	35384	316.84.022.020	90085	EPDM.12.042		
33427	discontinued	35386	316.84.028.025	90086	EPDM.12.054		
33702A	316.71.015A	35387	316.84.035.032	90092	FKM.12.015		
33702E	316.71.015E	35388	316.84.042.040	90093	discontinued		
33704A	316.71.022A	35389	316.84.054.050	90094	FKM.12.022		
33704E	316.71.022E	35400	316.85.015.015	90095	FKM.12.028		
33705A	316.71.028A	35405	316.85.022.020	90096	FKM.12.035		
33705E	316.71.028E	35407	316.85.028.025	90097	FKM.12.042		
33706A	316.71.035A	35408	316.85.035.032	90098	FKM.12.054		
33706E	316.71.035E	35409	316.85.042.040	90222	discontinued		
33707A	316.71.042A	35410	316.85.054.050	90224	discontinued		
33707E	316.71.042E	37402	316.77.015.015	90225	discontinued		
33708A	316.71.054A	37404	316.77.022.020	90226	discontinued		
33708E	316.71.054E	37405	316.77.028.025	90227	discontinued		
33709A	316.71.076A	37406	316.77.035.032	90228	discontinued		
33709E	316.71.076E	37407	316.77.042.040	90229	discontinued		
33710A	316.71.088A	37408	316.77.054.050	90230	discontinued		
33710E	316.71.088E	37409	316.77.076.080	90231	discontinued		
33711A	316.71.108A	37410	316.77.088.090	90402	EPDM.11.015		
33711AT	316.72.108A	37411	316.77.108.100	90404	EPDM.11.022		
33711E	316.71.108E	37414	316.77.168.150	90405	EPDM.11.028		
33711ET	316.72.108E	39202	316.96.015	90406	EPDM.11.035		
33714A	316.71.168A	39204	316.96.022	90407	EPDM.11.042		
33714E	316.71.168E	39205	316.96.028	90408	EPDM.11.054		
33752A	316.79.015A	39206	316.96.035	90409	EPDM.11.076		
33752E	316.79.015E	39207	316.96.042	90410	EPDM.11.088		
33754A	316.79.020A	39208	316.96.054	90411	EPDM.11.108		
33755A	316.79.025A	39209	316.96.076	90414	EPDM.11.168		
33755E	316.79.025E	39211	316.96.108	90422	FKM.11.015		
33756A	316.79.032A	90932	316.75.015.015	90424	FKM.11.022		
33757A	316.79.040A	90935	316.75.022.015	90425	FKM.11.028		
33757E	316.79.040E	90936	316.75.022.020	90426	FKM.11.035		
33758A	316.79.050A	90932	316.75.015.015	90427	FKM.11.042		
33758E	316.79.050E	90935	316.75.022.015	90428	FKM.11.054		
33759A	316.79.080A	90936	316.75.022.020	90429	FKM.11.076		
33759E	316.79.080E	3BCF4-15	discontinued	90430	FKM.11.088		
33761A	316.79.100A	3BCF4-22	discontinued	90431	FKM.11.108		

An Excel version of these number conversions can be downloaded from our website.