# conex | Bänninger | Press

# >B< Press XL





>B < Press Water
Technical Brochure 1/2" to 4"

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### 1.1 General

>B< Press fittings are quick and easy to install and are available in copper and lead-free brass. This flame-free range is designed with an innovative 3-point press system, with >B< Press XL (2 1/2" to 4") featuring a stainless steel grip ring for additional strength. Both ranges ensure a secure, permanent leak-free joint that is suitable for multiple applications.

#### 1.1.1 Quality and certification

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

>B< Press copper and lead-free brass fittings are tested and certified by independent national certification bodies confirming its suitability and reliability for use with potable water applications. >B< Press is certified by the following bodies:

Listings and Certificates				
IAPMO	PS 117			
NSF/ANSI	61			
NSF/ANSI	372			
ICC-ES	LC 1002			

Standards and Codes Compliance					
	B16.51 Copper and Copper Alloy Press-Connect Pressure Fittings				
ASME	B31 Code for Pressure Pipe; Standards B31.1, B31.3 and B31.9				
	B1.20.1 Pipe Threads, General purpose, Inch				
	Uniform Plumbing Code (UPC)				
IAPMO	National Plumbing Code of Canada (NPC)				
	California Health and Safety Code - Lead Free Plumbing Products				
	International Residential Code (IRC)				
ICC	International Plumbing Code (IPC)				
	International Mechanical Code (IMC)				

Other >B< Press International Certifications				
Australia	Watermark			
_	ACS			
France	CSTB			
C = ==== :	DVGW			
Germany	DNV			
Netherlands	KIWA			
Marine	Lloyd's register			
Poland	ITB			
Sweden	KIWA SE			
Switzerland	SVGW			
	WRAS			
UK	BSI Kitemark			

#### 1.1.2 Benefits

The following are benefits of the >B< Press fitting:

- Suitable for potable water, hydronic heating, chilled water, compressed air, non-medical gases, low pressure steam, vacuum.
- Quick and easy to install, saving on labor costs.
- Permanent, flame-free connection no hot works permit required.
- Suitable for use with hard, half-hard and soft copper tubes to ASTM B88.
- Leak before press indicator assists identification of unpressed joints.
- Manufactured using high quality materials to applicable standards.
- Tested and approved by national and international standard authorities.
- Maximum working pressure 200 psi.
- Fifty year limited warranty, for full terms and conditions please see section 1.3.
- Maximum working temperature 250 °F.
- 3-point press safety feature for added security. (1/2" to 2" only).
- >B< Press XL has a stainless grip ring for additional strength.
- No soldering or brazing consumables required.
- Comprehensive range of fittings sizes from 1/2" to 4".
- Compatible with commonly available press tools (see section 2.4.3 for >B< Press and section 3.2.1 for >B< Press XL).
- Suitable for concealed water installations.

#### 1.1.3 Materials and threads

>B< Press and >B< Press XL copper fittings are made of oxygen-free copper CU-DHP (material number ASTM C12200) which can be combined with copper tubes in accordance with ASTM B88.

All >B< Press and >B< Press XL threaded fittings are designed and manufactured in accordance with ANSI/ASME B1.20.1 (NPT) and are accordingly 'thread sealed' (threaded connections are conical).

Lead free materials: All >B< Press products comply with the regulations of both NSF/ANSI standard 372 (0.25% or less percent maximum weighted average lead content) and NSF/ANSI 61.

#### 1.1.4 Storage and handling

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

#### 1.1.5 Black EPDM sealing elements

>B< Press and >B< Press XL copper EPDM O-ring contains a peroxide cured rubber seal with high elasticity, and excellent cold and heat performance.

Please refer to section 1.2 for the fitting operating parameters for the different applications.

#### 1.1.6 Leak before press indicator and system testing

>B< Press benefits from a patented 'leak-before press' O-ring technology (sizes 1/2" to 2"). This tri-lobal O-ring allows water to pass through and create a noticeable leak when the system is tested at low pressure (1.5 to 85 PSI).

The >B< Press XL (2 1/2" to 4") features a larger internal fitting diameter so water can pass through and create a leak path when the system is tested at low pressure (1.5 to 85 PSI).

Low pressure testing for leaks or unpressed joints should be done once the installation has been completed. The benefit from this technology is that it will identify any unpressed joints within the system, allowing the installer to revisit and press any joint that may have been unpressed. The unpressed fittings can then be pressed without having to drain the system, saving time.

### 1.2 Areas of Service

>B< Press copper fittings are suitable for use in the following applications.

Type of service	Comments	Pressure PSI	Temp °F
Fluids/water			
Hot and cold potable water	-	200	32 to 250
Rainwater/gray water	PH 6.5 < 9.5	200	32 to 250
Chilled water	Ethylene glycol/Propylene glycol*	200	0 to 250
Hydronic heating	Up to 50% Ethylene glycol/Propylene glycol	200	32 to 250
Cooling water	Up to 50% Ethylene glycol/Propylene glycol	200	0 to 250
Fuel oil and lubricant			
Ethanol	Pure grain alcohol	200	Ambient
Gases			
Compressed air	Less than 25mg/m³ oil content	200	Up to 140
Nitrogen	-	200	Up to 140
Argon	Welding use	200	Up to 140
Vacuum	-	24.5 in Hg	Up to 140
Carbon dioxide - Co2	Dry	200	Up to 140

<sup>\*</sup> Please refer to manufactures instructions.

### 1.3. Limited Warranty

Conex Universal Ltd. warrants that its >B< Press and >B< Press XL fittings will be free of material defects resulting from errors in manufacture, for fifty (50) years from the date of first purchase by an end user. This warranty will be void if not professionally installed, used and maintained in accordance with the installation and maintenance instructions detailed in the >B< Press and >B< Press XL technical brochure.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THIS DESCRIPTION, EXCEPT FOR ANY REQUIREMENTS THAT ARE LEGALLY MANDATED IN THE JURISDICTION OF THE FIRST END USER'S PREMISES. THIS WARRANTY IS LIMITED TO THE REPAIR OR REPLACEMENT OF MATERIALLY DEFECTIVE FITTINGS AT THE SOLE DISCRETION OF CONEX UNIVERSAL LTD.

At the request of Conex Universal Ltd. the claimed defective fitting(s) must be returned to the address opposite\*. Conex Universal Ltd. reserves the right to inspect and test claimed defective fittings before deciding whether to repair or replace a fitting claimed to be defective.

This Warranty is subject to the following additional conditions:

A. Any claimed defect(s) must be reported to Conex Universal Ltd. within one month of the first occurrence of any such claimed defect, clearly setting out the nature of the claim and the circumstances surrounding it in accordance with the Conex Universal Ltd. Warranty Returns Procedure.\*\*

B. Conex Universal Ltd. shall have no liability in respect of any fitting claimed to be defective if any of the following circumstances apply:

- · defective installation;
- normal wear and tear;
- wilful misconduct;
- negligence or omissions of any party other than Conex Universal Ltd.;
- abnormal working or environmental conditions;
- failure to follow the installation and maintenance instructions detailed in the >B< Press and >B< Press XL technical brochure, and any other instructions of Conex Universal Ltd. communicated through the Conex Bänninger website or its successor, www.conexbanninger.com (the Website) or otherwise;
- misuse (which includes any use of the fittings for a purpose or in a situation / environment or for an

application other than that for which it was designed according to the specifications of the fittings as described on the website or in other materials provided to the buyer from Conex Universal Ltd.); or

• alteration or repair of any fitting without the prior written approval of Conex Universal Ltd.

C. At the request of Conex Universal Ltd., the person claiming under this warranty must deliver to Conex Universal Ltd. written evidence of the date of first purchase by an end user of the products claimed to be defective.

#### \* The address for returns is:

Customer Services at IBP Group LLC. 24 Cathedral Place, Suite 400, St Augustine, Florida 32084.

\*\* For full details of the Warranty Returns Procedure please refer www.conexbanninger.com

Note: This warranty applies in the United States of America only.

### 1.4 Product Suitability

The application parameters referred to in section 1.2 and the tube compatibility tables (section 2.5.5 > B < Press and section 3.3.5 > B < Press XL) must be adhered to when using and connecting > B < Press copper and brass fittings.

#### 1.4.1 Drinking water installations

Drinking water installations must be designed in compliance with the appropriate standards e.g. NSF/ANSI 61 and NSF/ANSI 372 and in line with federal, state and local regulations, codes of practice and by-laws governing the installation. All applicable health and safety practices must be adhered to.

>B< Press and >B< Press XL fittings are IAPMO approved for use in drinking water systems.

# 1.5 System Commissioning

To ensure the quality and safety of hot and cold water supply systems always follow best practice techniques in their design, installation, commissioning, and maintenance.

Therefore a reliable and predictive regime of commissioning should be in place as governed by the laws and regulations enacted by the federal, state and local governments. Final water test pressure should be carried out at 1.5 x system operating pressure to a maximum of 300 psi

Rain water can be collected for gray water services for example flushing of the toilet. Copper can be used for rain water distribution providing the level of the water is within pH 6.5<9.5.

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>B< Press 1/2" to 2"

## 2.1 >B < Press Copper Fittings – 1/2" to 2"

>B< Press fittings are quick and easy to install and are available in copper. This flame-free fitting is designed with an innovative 3-point press system to ensure a leak-free, secure and permanent joint and are suitable for multiple applications.

### 2.2 Fitting Construction

#### 2.2.1 Fitting construction 1/2" to 2"

The >B< Press copper design has the advantage of a 3-point press profile; two hexagonal mechanical presses on either side of the bead, and one press on the O-ring. The O-ring material compresses to form a permanent leak proof joint.

Our >B < Press copper fittings have a 'leak before press indicator' that highlights unpressed connections at low pressure. This specifically designed tri-lobal O-ring allows water to pass through and create a small leak when the system is tested at low pressure (1.5 to 85 PSI). Any unpressed joints can be identified during the test phase and pressed, saving valuable time and money. There is no need to drain down as the pressing operation can be carried out while the water is still in the system.

For a leak-free joint you must use approved pressing jaws, see section 2.4.3.

>B< Press copper fittings are installed using a press tool with a compatible >B< profile or V profile jaw. Jaws are sized to match the fitting required. When force is exerted through the press tool the jaw closes to make a permanent joint.

Please refer to the approved list of press machines and jaws in section 2.4.3.

## 2.3 Product Suitability

#### 2.3.1 Compressed air systems

>B< Press fittings with the black EPDM O-ring seal can be used in oil free compressed air systems under the conditions referred to in section 1.2.

### 2.4 >B < Press Tools

#### 2.4.1 >B< Press jaws

A wide range of industry standard press machines and jaws have been tested for use when installing >B< Press fittings. Note: we offer press jaws in sizes 1/2" to 2". See approved press jaws listed in section 2.4.3.

#### 2.4.2 Maintenance 1/2" to 2"

For maintenance requirements please contact the tool manufacturer.





#### 2.4.3 Compatible press tools

		Press jaw manufacturer												
		Milwa V Profi			ems 5 Profile	RIDGID	V Profile		Rothenberg V/SV Profile		NII	всо	Klauk	eKSP4
Manufacturer	Press machine	M12	M18	Mini	Standard	Compact	Standard	Compact	Compact TT	Standard	Mini	Standard	Mini SBMX	Standard
Nibco	PC-20M										V			
Nibco	PC-280		V		V		V			~		~		V
Milwaukee	M12	V												
Milwaukee	M18		V		V		V			~		~		V
Rems	Mini Press ACC			V										
Rems	Power-Press/ Akku-Press		V		V		V			~		V		V
Ridgid	RP 200 / 210 / 240 / 241					V								
Ridgid	CT400		V		V		V			~		~		V
Ridgid	RP 320 / 330 / 340		V		V		V			~		~		V
Rothenberger	Romax Compact							V						
Rothenberger	Compact TT US					V			V					
Rothenberger	Romax 3000		V		V		V			~		V		
Rothenberger	Romax 4000		V		V		V			~		v		V
Klauke	MAP2L19												V	
Klauke	UAP3 / UAP4		V		V		V			~		V		V

<sup>\*</sup>Milwaukee press jaws must be marked with a



Please contact Technical@lbpgroup.com for other tool and jaws compatibility.

! Always read the manufacturers instruction book before using press machines and jaws. When using a press tool always wear ear and eye protection.

#### 2.4.4 Use of tools

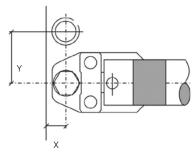
If other machines and press jaws are used, their suitability for a permanent leak proof connection must be demonstrated by an accredited test. A constant thrust of at least 32 kN and max. 36 kN is a pre-requisite to ensure that sufficient power reserves for the dimension of 2" are available, and that high shear forces cannot reduce the lifetime of the pressing jaws or destroy them.



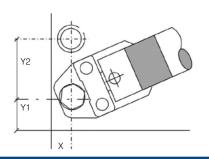
# 2.5 Installation Requirements

#### 2.5.1 Space required for the pressing process

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

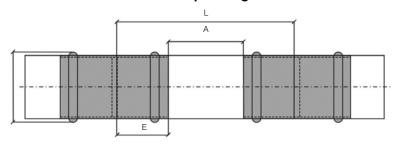


Space required for the pressing process between pipes						
External pipe	X	Y				
Size inch	inch	inch				
1/2	1.02	2.09				
3/4	1.02	2.20				
1	1.30	2.32				
1 1/4	1.30	2.87				
1 1/2	2.95	4.53				
2	3.35	4.72				



Space required for the pressing process between tubes						
External pipe	Х	Y1	Y2			
Size inch	inch	inch	inch			
1/2	1.22	1.77	2.87			
3/4	1.22	1.77	2.99			
1	1.50	2.17	3.15			
1 1/4	1.50	2.17	3.35			
1 1/2	2.95	2.95	4.53			
2	3.35	3.35	5.51			

#### 2.5.2 Insertion depth and minimum distances between pressings



Insertion depth and minimum distance between pressings						
Size	Minimum distance	Minimum tube length	Insertion depth			
inch	A - inch	L - inch	E - inch			
1/2	0.39	1.89	0.75			
3/4	0.79	2.60	0.91			
1	0.79	2.60	0.91			
1 1/4	0.98	3.03	1.02			
1 1/2	1.18	4.02	1.42			
2	1.38	4.53	1.57			

Due to reforming of the tube profile when pressed, it is advised that a minimum distance is allowed between each fitting.



## 2.5.3 Minimum distance for press fittings from an existing brazed joint

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

#### Table A

Minimum distance from a brazed joint					
Tube size	inch				
1/2"	0.4"				
3/4"	0.8"				
1"	0.8"				
1 1/4"	1.0"				
1 1/2"	1.2"				
2"	1.4"				

# 2.5.4 Minimum brazing distance to an existing pressed fitting

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

#### Table B

Minimum distance brazing					
Tube size	inch				
1/2"	18"				
3/4"	24"				
1"	30"				
1 1/4"	36"				
1 1/2"	48"				
2"	60"				

#### 2.5.5 >B< Press tube compatibility table

Nominal or	Average outside diameter <sup>4</sup> tolerance				Wall thickness and tolerances (inches)									
standard	Outside diameter	(incl		Тур	e K	Тур	e L	Туре М						
size (inches)	(inches)	Annealed	Drawn	Wall thickness	Tolerance <sup>B</sup>	Wall thickness	Tolerance <sup>B</sup>	Wall thickness	Tolerance <sup>B</sup>					
1/4	0.375	0.002	0.001	0.035	0.0035	0.030	0.003	С	С					
3/8	0.500	0.0025	0.001	0.049	0.005	0.035	0.004	0.025	0.002					
1/2	0.625	0.0025	0.001	0.049	0.005	0.040	0.004	0.028	0.003					
5/8	0.750	0.0025	0.001	0.049	0.005	0.042	0.004	С	С					
3/4	0.875	0.003	0.001	0.065	0.006	0.045	0.004	0.032	0.003					
1	1.125	0.0035	0.0015	0.065	0.006	0.050	0.005	0.035	0.004					
1 1/4	1.375	0.004	0.0015	0.065	0.006	0.055	0.006	0.042	0.004					
1 1/2	1.625	0.0045	0.002	0.072	0.007	0.060	0.006	0.049	0.005					
2	2.125	0.005	0.002	0.083	0.008	0.070	0.007	0.058	0.006					

- A The average outside diameter of a tube is the average of the maximum and minimum outside diameter, as determined at any one cross section of the tube.
- B Maximum deviation at any one point
- C- Indicated that the material is not generally available or that no tolerance has been established

### 2.6 > B < Press Installation Process

Leave the fittings in the packaging prior to final installation to protect them from contamination and to preserve the lubrication of the O-rings. Please note the space required for pressing tools (see section 2.5.1).



#### 1. Cut tube to length

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



#### 2. Deburr and calibrate

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



- · Check the fitting is the correct size for the tube.
- Check the O-rings are present and correctly seated.
- · Additional lubricant (silicon oil) may be used to aid tube insertion.



#### 4. Mark the insertion depth

- The tube must be fully inserted into the fitting until it reaches the tube stop.
- To reduce the risk of dislodging the O-ring, rotate the tube (if possible) while slipping it into the fitting.
- Mark the insertion depth on the tube.



#### 5. Assemble the tube and fitting

- Insert the tube fully into the fitting up to the tube stop.
- To reduce the risk of dislodging the O-ring rotate the tube (if possible) while slipping it into the fitting.
- Prior to pressing ensure the tube has not moved out from the fitting socket.
- Use the insertion depth mark as a guide.



6. Complete the joint with the press tool

- Ensure pipework is correctly aligned prior to pressing.
- Ensure the correct size jaw is inserted into the
- The jaws must be placed squarely on the fitting, locating the groove on the bead.
- The bead on the fitting should fit centrally in the groove of the jaw.
- Depress and hold the start button on the press tool to complete the pressing cycle.
- Pressing is complete when the jaws are fully
- Complete the press cycle once only do not repress.



# 2.7 The Range

	21190			
Straight Coupler	Reduced Straight Coupler	Slip Coupler	Female Straight Connector	Male Straight Connector
				OTOTO
PA5270	PA5240	PA5270S	PA5270G	PA5243G
90° Bend	90° Street Bend	Fitting Reducer	90° Bend with Male Thread	90° Elbow with Female Thread
PA5002	PA5001	PA5243	PA5001G	PA5090G
45° Obtuse Elbow	45° Obtuse Street Elbow	Tee - Equal	Tee - Reduced Branch	Tee - Reduced End and Branch
				Harris State of the State of th
PA5041	PA5040	PA5130	PA5130RB	PA5130REB
Tee with Female Threaded Branch	Stop End	Wall Plate Elbow	Crossover	Union
The state of the s		CHE STATE OF THE S	NEW YORK	ON THE STATE OF TH
PA5130G	PA5301	PA4471G	PA5085	PA4340
Male Union	Female Union			
OTHER PROPERTY.	OTHER PROPERTY.			
PA4341G	PA4340G			



PA5270	Straight Coupler							
	Dimension	L	Z	Product code				
- L	1/2	1.77	0.28	PA5270 00400000				
+ <sup>Z</sup> +	3/4	2.22	0.41	PA5270 00600000				
	1	2.22	0.41	PA5270 00800000				
<u> </u>	1 1/4	2.44	0.39	PA5270 01000000				
<u> </u>	1 1/2	3.31	0.47	PA5270 01200000				
	2	3.62	0.47	PA5270 01600000				

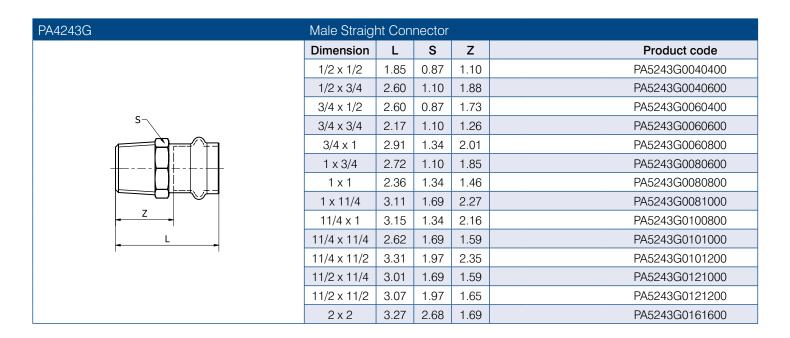
PA5270S	Slip Couple	Slip Coupler						
	Dimension	L	Product code					
	1/2	1.77	PA5270S00400000					
	3/4	2.22	PA5270S00600000					
	1	2.22	PA5270S00800000					
	1 1/4	2.44	PA5270S01000000					
	1 1/2	3.31	PA5270S01200000					
	2	3.62	PA5270S01600000					

PA5240	Reduced Straight Coupler								
	Dimension	L	Z	Product code					
L L J	3/4 x 1/2	2.05	0.39	PA5240 0060400					
la Z al	1 x 3/4	2.24	0.43	PA5240 0080600					
	1 1/4 x 1	2.44	0.51	PA5240 0100800					
++-+-+	1 1/2 x 1	3.03	0.71	PA5240 0120800					
	2 x 1	3.62	1.14	PA5240 0160800					
	2 x 1 1/4	3.62	1.02	PA5240 0161000					
	2 x 1 1/2	3.77	0.78	PA5240 0161200					

PA5243	Fitting Reducer							
	Dimension	L	L1	Z	Product code			
L Z	3/4 x 1/2	2.05	1.30	0.31	PA5243 0060400			
	1 x 1/2	2.52	1.77	0.79	PA5240 0080400			
<del>  L1</del>	1 x 3/4	2.20	1.30	0.31	PA5240 0080600			
	1 1/4 x 1	2.56	1.65	0.55	PA5240 0100800			
<u> </u>	1 1/2 x 1	3.11	2.20	0.71	PA5240 0120800			
	1 1/2 x 1 1/4	3.11	2.09	0.59	PA5240 0121000			
	2 x 1	3.82	2.91	1.26	PA5240 0160800			
	2 x 1 1/2	3.82	2.28	0.75	PA5240 0161200			

<sup>\*</sup>All above measurements are in inches unless stated differently.



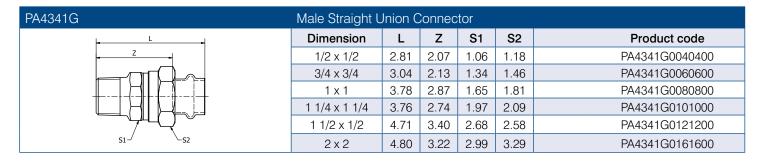


PA5270G	Female Stra	ight C	onnect	or	
	Dimension	L	Z	S	Product code
	1/2 x 1/2	1.73	0.39	1.02	PA5270G0040400
	1/2 x 3/4	2.44	1.09	1.20	PA5270G0040600
L L	3/4 x 1/2	2.48	1.00	1.02	PA5270G0060400
Z	3/4 x 3/4	2.01	0.37	1.20	PA5270G0060600
	3/4 x 1	2.66	1.00	1.46	PA5270G0060800
<del></del>	1 x 1/2	2.48	1.02	1.02	PA5270G0080400
<u>-</u>	1 x 3/4	2.56	0.96	1.20	PA5270G0080600
	1 x 1	2.11	0.45	1.46	PA5270G0080800
	1 1/4 x 1	2.87	1.14	1.46	PA5270G0100800
S-J	1 1/4x 1 1/4	2.28	0.49	1.85	PA5270G0101000
	1 1/2 x 1 1/4	2.68	0.49	1.85	PA5270G0121000
	1 1/2 x 1 1/2	2.80	0.61	2.09	PA5270G0121200
	2 x 2	2.91	0.59	2.76	PA5270G0161600

PA4340	Union					
- L	Dimension	L	Z	S1	S2	Product code
- Z	1/2 x 1/2	2.78	1.28	1.10	1.18	PA4340 0040400
	3/4 x 3/4	3.13	1.32	1.34	1.46	PA4340 0060600
	1 x 1	3.58	1.77	1.81	1.69	PA4340 0080800
	1 1/4 x 1 1/4	3.82	1.77	2.09	1.99	PA4340 0101000
	1 1/2 x 1 1/2	5.00	2.40	2.58	2.68	PA4340 0121200
S2_/	2 x 2	5.31	2.17	3.29	2.99	PA4340 0161600

<sup>\*</sup>All above measurements are in inches unless stated differently.





PA4340G	Male Union							
	Dimension	L	Z	S1	S2	Product code		
	1/2 x 1/2	2.24	0.90	1.18	1.10	PA4340G0040400		
	3/4 x 3/4	2.43	0.91	1.46	1.34	PA4340G0060600		
	1 x 1	2.83	1.14	1.81	1.69	PA4340G0080800		
	1 1/4 x 1 1/4	3.01	1.20	2.09	1.97	PA4340G0101000		
S2 S1	1 1/2 x 1/2	3.87	1.68	2.58	2.68	PA4340G0121200		
	2 x 2	4.05	1.49	3.29	2.99	PA4340G0161600		

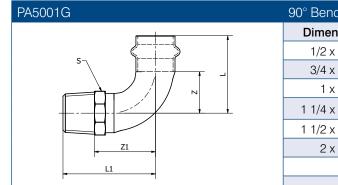
PA5085	Crossover Coupler							
	Dimension	L	Z	Н	Product code			
	1/2 x 1/2	5.13	3.63	0.77	PA5085 0040000			
	3/4 x 3/4	6.38	4.56	0.89	PA5085 0060000			
z , z								
<u> </u>								

PA5002	90° Bend			
	Dimension	L	Z	Product code
2	1/2	1.50	0.75	PA5002 0040000
	3/4	1.95	1.04	PA5002 0060000
	1	2.24	1.34	PA5002 0080000
	1 1/4	2.68	1.65	PA5002 0100000
	1 1/2	3.43	2.01	PA5002 0120000
	2	4.13	2.56	PA5002 0160000

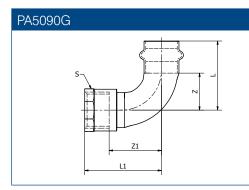
PA5041	45° Obtuse Elbow							
	Dimension	L	Z	Product code				
FTT	1/2	1.06	0.31	PA5041 0040000				
	3/4	1.34	0.43	PA5041 0060000				
	1	1.50	0.59	PA5041 0080000				
Z	1 1/4	1.73	0.71	PA5041 0100000				
	1 1/2	2.24	0.83	PA5041 0120000				
	2	2.64	1.06	PA5041 0160000				

<sup>\*</sup>All above measurements are in inches unless stated differently.

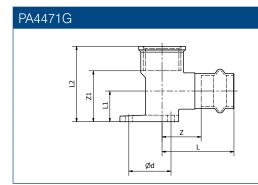
# conex | Bänninger | >B < Press



90° Bend with Male Thread							
Dimension	L	L1	Z	<b>Z</b> 1	S	Product code	
1/2 x 1/2	1.50	1.91	0.77	1.16	0.87	PA5001G0040400	
3/4 x 3/4	1.95	2.32	1.04	1.53	1.10	PA5001G0060600	
1 x 1	2.20	2.81	1.30	1.83	1.34	PA5001G0080800	
1 1/4 x 1 1/4	2.68	3.31	1.65	2.32	1.69	PA5001G0101000	
1 1/2 x 1 1/2	3.41	3.70	2.01	2.70	1.97	PA5001G0121200	
2 x 2	4.17	4.53	2.62	3.48	2.68	PA5001G0161600	



90° Elbow with Female Thread							
Dimension	L	L1	Z	Z1	S	Product code	
1/2 x 1/2	1.50	1.71	0.77	1.08	1.02	PA5001G0040400	
3/4 x 3/4	1.95	2.17	1.04	1.48	1.20	PA5001G0060600	
1 x 1	2.20	2.54	1.30	1.69	1.46	PA5001G0080800	
1 1/4 x 1 1/4	2.68	2.95	1.65	2.09	1.85	PA5001G0101000	
1 1/2 x 1 1/2	3.41	3.43	2.01	2.56	2.09	PA5001G0121200	
2 x 2	4.19	4.00	2.62	3.13	2.76	PA5001G0161600	



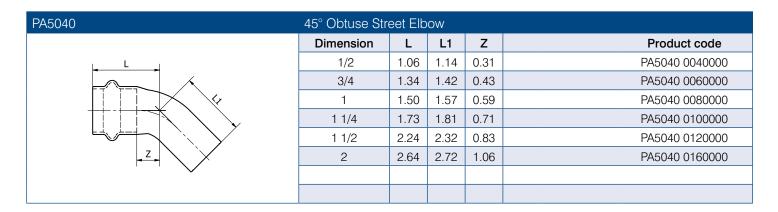
٧	Wallplate Elbow (3 Hole) with Female Thread (ISO 7 Rp)								
	Dimension	L	L1	L2	d	Z	<b>Z</b> 1	Product code	
	1/2 x 1/2	1.89	0.75	1.76	1.50	0.94	1.10	PA4471G0040400	
	3/4 x 3/4	2.03	0.75	2.13	1.87	1.12	1.87	PA4471G0060600	

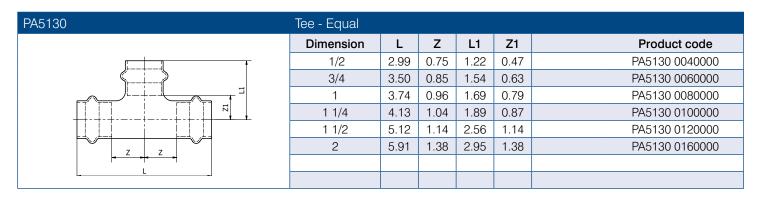
PASUUT	
	1.1

90° Street E	Bend			
Dimension	L	L1	Z	Product code
1/2	1.48	1.57	0.72	PA5001 0040000
3/4	1.95	2.04	1.04	PA5001 0060000
1	2.23	2.24	1.32	PA5001 0080000
1 1/4	2.67	2.75	1.65	PA5001 0100000
1 1/2	3.42	3.50	2.00	PA5001 0120000
2	4.19	4.13	2.62	PA5001 0160000

<sup>\*</sup>All above measurements are in inches unless stated differently.



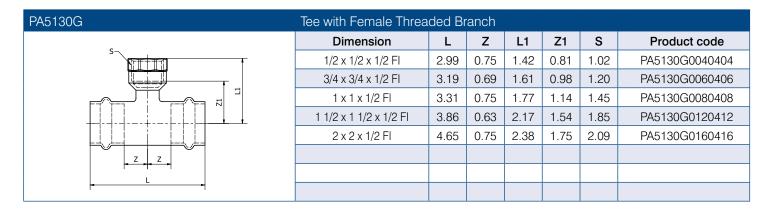




PA5130RB	Tee - Reduced Brancl	h				
	Dimension	L	Z	L1	Z1	Product code
E 1 3 +	3/4 x 3/4 x 1/2	3.23	0.71	1.40	0.63	PA5130 0060406
\$ <del></del> \$	1 x 1 x 1/2	3.61	0.87	1.69	0.78	PA5130 0080408
	1 x 1 x 3/4	3.54	0.87	1.69	0.79	PA5130 0080608
	1 1/4 x 1 1/4 x 1	3.82	0.88	1.81	0.87	PA5130 0100810
<del>                                      </del>	1 1/2 x 1 1/2 x 1/2	4.02	0.59	1.42	1.14	PA5130 0120412
	1 1/2 x 1 1/2 x 3/4	4.17	0.67	2.09	1.14	PA5130 0120612
Z   Z	1 1/2 x 1 1/2 x 1	4.18	0.75	2.09	1.14	PA5130 0120812
L L	2 x 2 x 1	4.88	0.87	2.28	1.38	PA5130 0160816
	2 x 2 x 1 1/4	5.28	1.06	2.40	1.38	PA5130 0161016
	2 x 2 x 1 1/2	5.42	1.14	2.78	1.37	PA5130 0161216

PA5130	Tee - Reduced En	d and	Branch	1				
	Dimension	L	Z	L1	<b>Z</b> 1	L2	Z2	Product code
\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	1/2 x 1/2 x 3/4	1.77	0.91	1.38	0.47	1.77	0.91	PA5130 0040604
	3/4 x 1/2 x 1/2	1.59	0.69	1.40	0.63	1.78	1.04	PA5130 0060404
	3/4 x 1/2 x 3/4	1.75	0.85	1.71	0.79	1.93	1.02	PA5130 0060604
	3/4 x 3/4 x 1	1.91	2.00	1.58	0.63	1.91	1.00	PA5130 0060806
	1 x 3/4 x 3/4	1.77	0.87	1.71	0.79	1.93	1.02	PA5130 0080606
<del>      </del>								

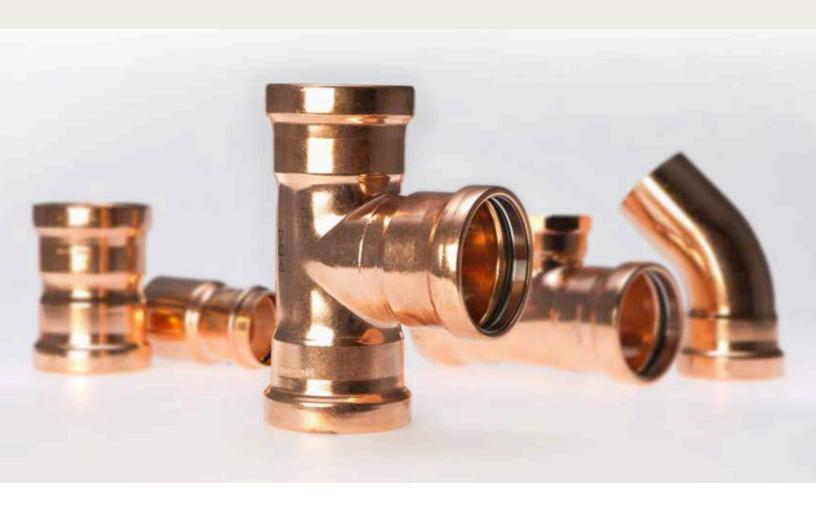
<sup>\*</sup>All above measurements are in inches unless stated differently.



PA5301	Stop End			
	Dimension	L	L1	Product code
	1/2	0.94	0.75	PA5301 0040000
<del></del>	3/4	1.10	0.91	PA5301 0060000
L1 +	1	1.10	0.91	PA5301 0080000
	1 1/4	1.26	1.02	PA5301 0100000
	1 1/2	1.65	1.42	PA5301 0120000
	2	1.81	1.57	PA5301 0160000
ا الناب				

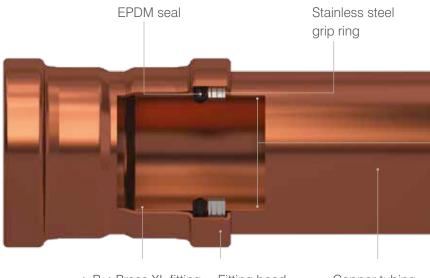
<sup>\*</sup>All above measurements are in inches unless stated differently.

# conex | Bänninger | Press XL



>B< Press XL 2 1/2" to 4"

## 3.1 > B < Press XL Copper Fittings - 2 1/2" to 4"



The action of the pressing ring closes the joint and forces the grip ring teeth into the tube making a high strength connection.

>B< Press XL fitting

Fitting bead

Copper tubing

#### 3.1.1 Product features

>B< Press XL has only two internal parts, the grip ring and the seal. Both parts have an internal diameter larger than the tube, which allows for easy tube insertion and prepress leak indication.

#### 3.1.2 Stainless steel grip ring

Full circumference grip ring ensures all round equal grip on the tube and an even seal compression between tube and fitting after pressing.



Stainless steel grip ring

#### 3.1.3 Seal design

Triple point seal on the pressed fitting body counters any pressing distortion and gives greater seal contact area on the tube. The seal is self setting to ensure correct functioning. Seal security and longevity increased as a result.



Fitting section



Triple point seal

# 3.2 Compatible Press Tools

#### 3.2.1 Tool chart

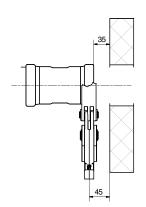
		Press jaw manufacturer
Manufacturer	Press machine	RIDGID XL-C + V2 Profile
Milwaukee	M18	V
Rems	Power-Press/ Akku-Press	~
Ridgid	CT400	~
Ridgid	RP 320 / 330 / 340	V
Rothenberger	Romax 4000	V

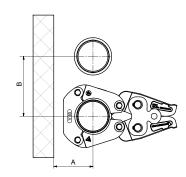
# 3.3 Installation Requirements

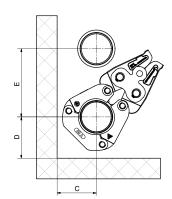
#### 3.3.1 Space required for the pressing process

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

Size	Minimum clearance required for the pressing process							
Size	A	В	С	D	Е			
2 1/2"	3.94"	5.71"	3.94"	3.94"	6.50"			
3"	4.72"	6.69"	4.72"	4.92"	7.48"			
4"	5.31"	7.87"	5.31"	5.71"	9.06"			



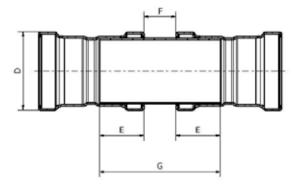




#### 3.3.2 Minimum distances between pressings

Due to reforming of the tube profile when pressed, it is advised that a minimum distance is allowed between each fitting.

Size	D	Е	F	G
2 1/2"	3.17"	1.73"	1.18"	4.65"
3"	3.69"	1.91"	1.57"	5.39"
4"	4.69"	2.30"	1.97"	6.57"



# 3.3.3 Minimum distance for press fittings from an existing brazed joint

To ensure proper sealing of both brazed and >B< Press fittings, the following minimum distances must be maintained. Please see table A for further information.

Table A

Minimum distance from a brazed joint						
Tube size	inch					
2 1/2"	1.18"					
3"	1.77"					
4"	1.97"					

# 3.3.4 Minimum brazing distance to an existing pressed fitting

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

Table B

Minimum distance brazing							
Tube size	Ft						
2 1/2"	5.25'						
3"	6.55'						
4"	6.55'						

#### 3.3.5 >B< Press XL tube compatibility table

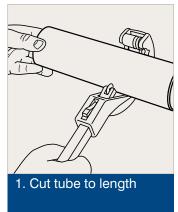
Copper tube compatibility table ASTM B88									
Tuba 0/D		Soft	Hard						
Tube O/D	Type K	Type L	Type M	Type K	Туре М				
2 1/2"	-	-	-	V	~	<b>✓</b>			
3"	-	-	-	V	~	V			
4"	-	-	-	V	~	~			

20

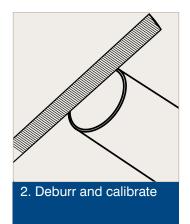


### 3.4 >B < Press XL Installation Process

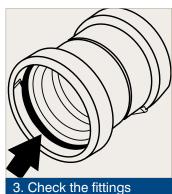
To install >B< Press XL, a press tool, actuator and compatible sized press ring to fit each size fitting is required. When pressure is exerted through the press tool a permanent joint is made and the fitting cannot be disassembled or reused.



We recommend you use a pipe cutter. It is important to ensure that the pipe is cut completely square. Tube ends should be clean and free from scratches no less than the socket length.



Make sure that the internal and external tube end is free from burrs or sharp edges by using a 1/2 round file or deburring tool. Then wipe the tube end clean to avoid damaging the seal on tube insertion.



Before inserting the tube check seal for correct placement, damage or any ingress of debris. To prevent this occurring we recommend the fittings are retained in packaging up to the point of use.



The tube must be fully inserted into the fitting until it reaches the tube stop in order to make a perfect joint. Marking insertion depth will ensure that any tube movement is detected, which is especially important if the joints are to be pressed at a later

time. The depth marking must be visible on the pressed fitting.



Using the appropriate size pressing

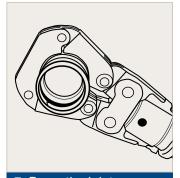
ring, open the pressing ring, locate

on the fitting bead and close the

6. Engage the actuator

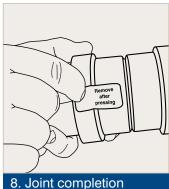
and check insertion depth

With the actuator fitted in the press tool open the actuator and locate the actuator onto the aperture of the pressing ring. Check for any tube movement prior to pressing.



7. Press the joint

Depress and hold the trigger of the tool until the press cycle of the tool is automatically completed. Keep hands clear of the press actuator and press ring until the cycle is completed.



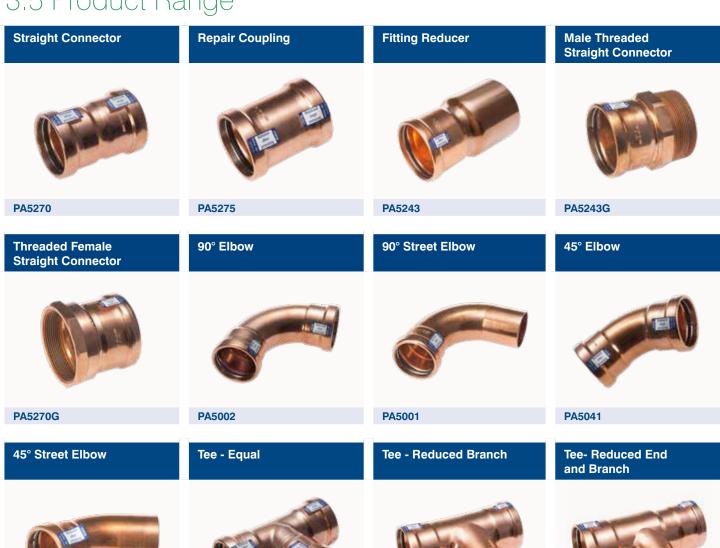
Remove the actuator from the press ring, remove the press ring from the tube and remove the label to indicate the joint is pressed and complete.

#### **Important**

pressing ring.

It is important to keep the fitting free of any dust or dirt, and to ensure the seal stays lubricated and protected from damage. Select the correct size of tube and fitting for the job. Ensure that both are clean and free from damage and imperfections. When using a press tool always wear ear and eye protection.

## 3.5 Product Range



**PA5130RB** 



PA5040

PA5130G

### Stop End

PA5130

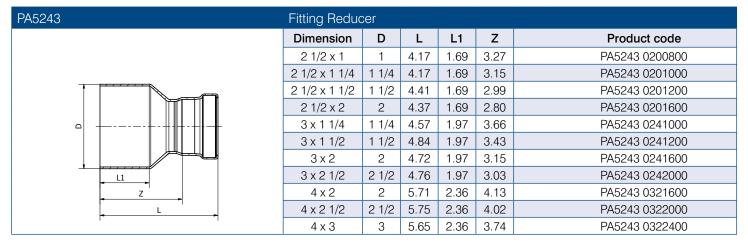




PA5130REB

PA5270	Straight Co	Straight Connector							
	Dimension	L	Z	Product code					
	2 1/2	4.57	1.10	PA5270 02000000					
<b>4</b> -41-41-41-4	3	4.61	0.79	PA5270 02400000					
	4	5.39	0.79	PA5270 03200000					
<u>Z</u>									
<u> </u>									

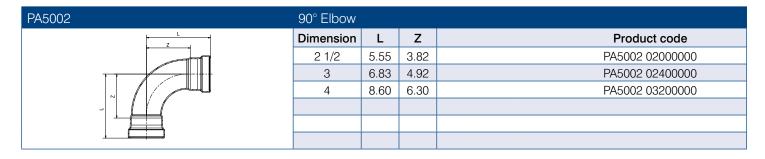
PA5275	Repair Cou	pling	
	Dimension	L	Product code
	2 1/2	4.21	PA5275 02000000
<b>#</b> -#	3	4.61	PA5275 02400000
	4	5.39	PA5275 03200000
ļ. L			



PA5243G	Male Threaded Straight Connector							
5	Dimension	L	Z	S	Product code			
	2 1/2	4.61	2.87	3.07	PA5243G0200000			
	3	4.86	2.95	3.74	PA5243G0240000			
	4	5.61	3.31	4.72	PA5243G0320000			
L .								

PA5270G	Female Thr	eaded	Straig	ht Con	nector
S THE SHAPE OF THE	Dimension	L	Z	S	Product code
	2 1/2	3.50	1.77	3.15	PA5270G0200000
<b>#</b>	3	3.88	1.97	3.94	PA5270G0240000
	4	4.39	2.09	4.92	PA5270G0320000
z					
L .					

<sup>\*</sup>All above measurements are in inches unless stated differently.



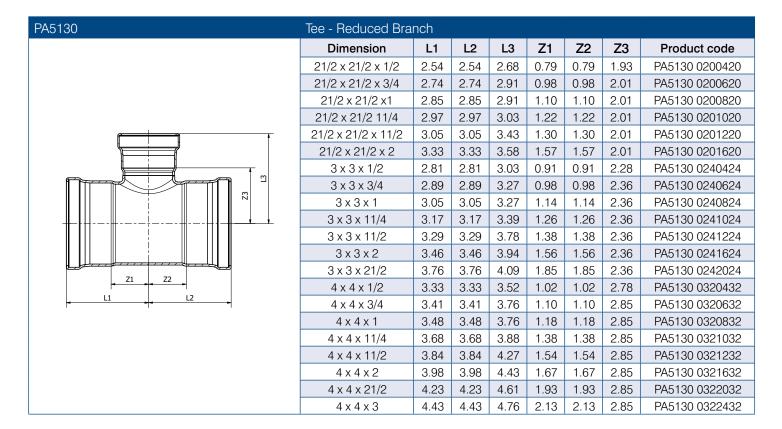
PA5001	90° Street Elbow							
, L	Dimension	L	L1	Z	Product code			
	2 1/2	5.55	5.39	3.82	PA5001 02000000			
+ + + + + + + + + + + + + + + + + + + +	3	6.83	6.79	4.92	PA5001 02400000			
	4	8.60	8.58	6.30	PA5001 03200000			
=								
* " " "								

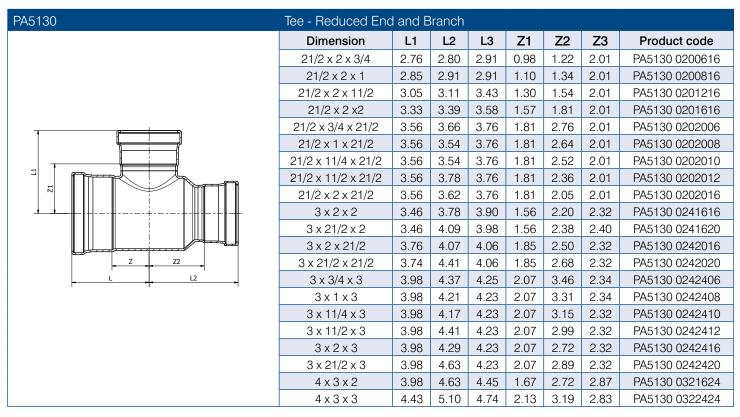
PA5041	45° Elbow			
<u> </u>	Dimension	L	Z	Product code
- 7	2 1/2	3.27	1.54	PA5041 02000000
	3	3.88	1.97	PA5041 02400000
	4	5.14	2.83	PA5041 03200000
•				

PA5040	45° Street Elbow							
<del> L</del>	Dimension	L	L1	Z	Product code			
	2 1/2	3.27	3.37	1.54	PA5040 02000000			
* * * * * * * * * * * * * * * * * * *	3	3.88	4.09	1.97	PA5040 02400000			
	4	5.14	5.08	2.83	PA5040 03200000			

PA5130	Equal Tee					
	Dimension	L	L1	Z	Z1	Product code
	2 1/2	7.52	3.74	2.01	2.20	PA5130 02000000
	3	7.95	4.27	2.07	2.36	PA5130 02400000
	4	9.88	5.35	2.68	3.05	PA5130 03200000
Z1 Z2						
L1 L2						

<sup>\*</sup>All above measurements are in inches unless stated differently.





<sup>\*</sup>All above measurements are in inches unless stated differently.



PA5301	End Cap			
	Dimension	L	L1	Product code
	2 1/2	2.22	1.73	PA5301 02000000
<del></del>	3	2.54	1.91	PA5301 02400000
	4	3.17	2.30	PA5301 03200000
<u>L1</u>				
- L -				

PA5130G	Tee with Female Threaded Branch								
	Dimension	L	L1	Z	<b>Z</b> 1	S	Product code		
S T	2 1/2 x 2 1/2 x 1/2	5.47	2.42	0.98	1.89	1.02	PA5130G0200420		
	2 1/2 x 2 1/2 x 3/4	5.89	2.56	1.20	2.01	1.20	PA5130G0200620		
	2 1/2 x 2 1/2 x 2	6.67	2.80	1.57	2.11	2.56	PA5130G0201620		
<b> </b>	3 x 3 x 3/4	5.79	2.91	0.98	2.36	1.20	PA5130G0240624		
	3 x 3 x 2	6.93	3.15	1.56	2.46	2.56	PA5130G0241624		
Z   Z	4 x 4 x 1/2	6.81	3.27	1.10	2.74	1.02	PA5130G0320432		
L	4 x 4 x 3/4	6.97	3.41	1.10	2.85	1.20	PA5130G0320632		
	4 x 4 x 2	7.95	3.64	1.67	2.95	2.56	PA5130G0321632		

<sup>\*</sup>All above measurements are in inches unless stated differently.

	>B< Press XL
Conex   Bänninger	Conex   Bänninger


# Conex | Bänninger

>B< Press

>B< Press XL

>B< Press Gas

>B< Press Solar

>B< MaxiPro

K65°

Conex | Bänninger >B< ACR

>B< Oyster

>B< Press Inox

>B< Press Carbon

>B< Push

>B< Sonic

>B< Flex

Conex | Bänninger

Triflow Solder Ring

**Delcop End Feed** 

Delbraze

**Conex Compression** 

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**OEM** 

Series 3000

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