



Product Submittal

Project _____ Date _____

Engineer _____

Contractor _____

Submitted by _____

Approved by _____ Date _____

Approved by _____ Date _____

Application

- ☐ Potable Water
- ☐ Hydronic Heating
- ☐ Chilled Water
- ☐ Compressed Air
- ☐ Nitrogen N₂
- ☐ Argon
- ☐ Low Pressure Steam
- ☐ Vacuum
- ☐ Corgon
- ☐ Oxygen O₂ (non-medical)

- ☐ _____
- ☐ _____
- ☐ _____
- ☐ _____

System Data Sheet

► Product features and benefits

- Press fittings are suitable for potable water, hydronic heating, chilled water, compressed air, non-medical gases, low pressure steam and vacuum
- Easy and rapid installation reduces valuable labor time.
- A permanent flame-free connection is made with no fire hazard.
- Press fittings are compatible with ASTM B88 (Types K, L, M) hard-drawn copper tube (1/2" to 4") and soft copper tube (1/2" to 1-1/4") . (When soft tube is used, rounding and sizing of the tube ends must be performed where needed.)
- Certified by leading international approval authorities.
- Maximum working pressure 300 PSI
- Maximum working temperature 0°F-250°F
- Sourced in full compliance with relevant standards, only the highest quality raw materials are used in manufacturing.
- Un-pressed fittings are easily identified with Leak Before Press technology built into the sealing elements.
- System is compatible with most common press tools and jaws in use.
- Threaded tees are arc-welded for a stronger and more consistent connection.
- All press tees are manufactured in one-piece and are tested individually before packaging.

► Materials and threads

- Copper bodies are made from DHP phosphorus deoxidized copper (ASTM B85 Alloy C12200).
- Copper alloy fittings are produced from lead-free brass (C46500).
- Threaded ends conform to ASME B1.20.1.

Application and Approvals

Media	System Operating Conditions			Product and Sealing Element
				Copper Press Fittings
	Comments	Max Pressure (psig)	Temperature Range (°F)	EPDM

Water/Liquids

Hot and Cold Potable Water	Test pressure 600 psi	300	0° to 250°	✓
Rainwater/ Graywater				✓
Chilled Water	≤50% Ethylene /Propylene glycol			✓
Hydronic Heating Water ⁹	≤50% Ethylene /Propylene glycol			✓
Steam	Residential	5	Max 227°	✓

Fuels/Oils/Lubricants

Ethanol	Pure grain alcohol	200	Ambient	✓
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Gases

Compressed Air	Oil Concentration ≤25 mg/m ³	200	Max 140°	✓
Nitrogen - N ₂	Non-medical			✓
Carbon Dioxide - CO ₂	Dry			✓
Carbon Monoxide - CO				✓
Argon - Ar				✓
Ammonia	Ammonia environment ⁷	200	Max 120°	✓
Oxygen - O ₂	Non-medical	140	Max 140°	✓
Hydrogen - H ₂	Keep free of oil and grease	125		✓
Vacuum	Minimum absolute pressure Maximum differential pressure	750µm Hg 29.2" Hg	Max 160°	✓

Special Media

Acetone	Liquid	70	-14° to 104°	✓
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Listings and Certifications

- ASME B16.51: Copper and Copper Alloy Press-Connect Pressure Fittings
- IAPMO PS 117: Press Connections
- IAPMO/ANSI/CAN Z1117: Press Connections
- ICC-ES LC1002: Press Connection Fittings for Potable Water Tube and Radiant Heating Systems
- NSF/ANSI/CAN 61: Drinking Water System Components - Health Effects
- NSF/ANSI 372: Drinking Water System Components - Lead Content

Codes and Standards

- International Plumbing Code (IPC)
- International Mechanical Code (IMC)
- International Residential Code (IRC)
- Uniform Plumbing Code (UPC)
- Uniform Mechanical Code (UMC)
- California Plumbing Code (CPC)
- California Mechanical Code (CMC)
- ASTM B 88: Standard Specification for Seamless Copper Water Tube, Type K, L, or M.
- City of Los Angeles Plumbing Code
- City of Los Angeles Mechanical Code
- Code of Massachusetts Regulation 248 CMR 10.00: Uniform State Plumbing Code
- Massachusetts State Building Code 780 CMR Ninth Edition: Chapter 28
- National Plumbing Code of Canada (NPC)

Installation Instruction (1/2" - 2")

WARNING. Fully read all PT copper press fitting installation instructions. Failure to follow all instructions may result in extensive property damage, serious injury or death.



1.Cut the Tube: Tube should be cut completely square and there should be no defects and scratches on the tube which may affect the integrity of joints.

MAKE SURE You Have a Square Cut

2.Deburr the Tube: Using the deburring tool to make sure both inside and outside of the tube end are free from any burrs or sharp edges to avoid damaging the sealing element.

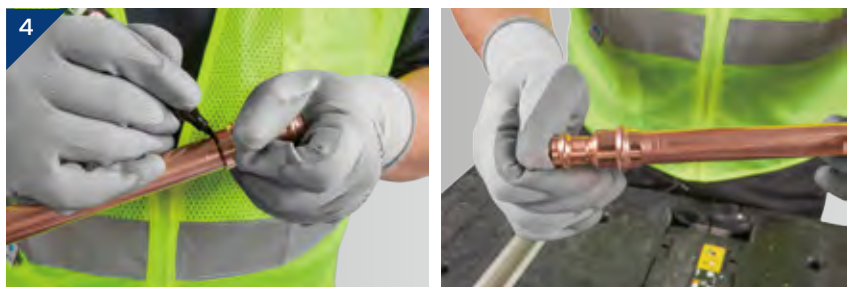
MAKE SURE Deburr the Tube Thoroughly Inside and Out



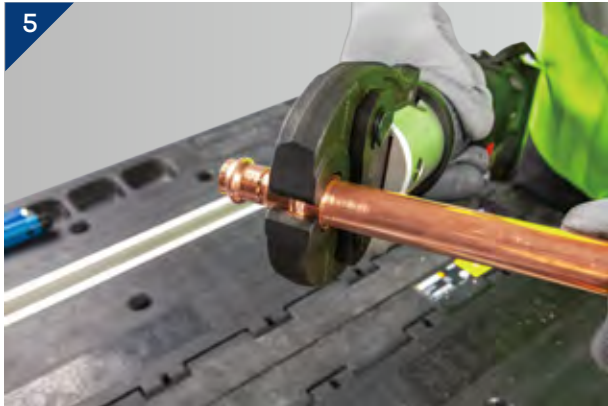
3.Check the Fitting and Tube End: Before inserting the tube, check that the body of the fitting is free from any physical damage, and check that the sealing element is clean, and seated in the groove; ensure that the tube end is not bent or damaged and is thoroughly deburred.

4.While turning slightly. Insert the tube into the fitting and mark the insertion depth. Tube needs to be fully inserted into the fittings stop end. Marking the tube will allow any movement of the fitting to be seen before pressing.

MAKE SURE Fully Insert Tube and Mark Tube Insertion Depth



Installation Instruction (1/2" - 2")



5. Press the fitting: Right jaw sizes should be used. Choose the correct jaw size, depress and hold the trigger of tool until the press cycle of the tool is fully completed. In addition, please refer to tool manufacturer's operation manual for details of instructions.



6. Check and Complete: Inspect connections to ensure they are fully inserted and properly pressed. In addition, conduct necessary pressure test in compliance with the local codes and regulations.

MAKE SURE Use the Correct Jaw Size and Go Through the Full Crimp Cycle

► Installation Instructions: Quick Reference Checklist

1. Cut tube square with tubing cutter or fine tooth saw.
2. Deburr inside & outside of tube end. Make sure surface is smooth with no burrs or sharp edges.
3. Check fitting for sealing element.
4. Mark insertion depth on tube and insert tube (slightly turning) into fitting. (Do NOT use any type of oil lubrication).
5. Safely press fitting with proper tools & jaws.
6. Double-check connection to confirm that each fitting has been inserted correctly and fully pressed.
7. Test system in accordance with installation instructions and local jurisdiction piping codes and regulations. System rated @ 300 PSI 0°F to 250 °F.

Insertion Depth Chart	
Tube size	Insertion Depth
Inch	Inches
1/2	3/4
3/4	7/8
1	7/8
1 1/4	1 1/8
1 1/2	1 7/8
2	1 5/8

PT Copper Press Fittings recommends pressing with the tool/machine brands as set out in Section 3.1 on Page 8. Contact the appropriate brand's customer service department for specific jaw set compatibility

Installation Instruction (2-1/2" - 4")



1. Cut copper tube to length using a pipe cutter or fine tooth saw and ensure the pipe is cut square.



2. Carefully deburr and wipe clean the end of the tube Internally.



3. Ensure you have the correct sized fitting, check the fitting is clean and the stainless steel grip ring and O-ring are free from debris and correctly seated in the fitting.



4. Measure insertion depth with ruler. Then mark the proper insertion depth on the outside of the tube.



5. Secure the tube in a vise or pipe support to prevent any movement of the tube and insert the fitting onto the tube. Ensure the outer edge of the fitting lines up with the insertion depth mark made in step 4.

Installation Instruction (2-1/2" - 4")



6. Select the appropriate sized collar, check it is clean and that the surface of the pressing area is smooth.



7. Open the collar and place it around the fitting, such that the bump on the fitting is rested into the groove of the pressing collar. Close the press collar ensuring it fits square with the fitting and check the insertion depth mark still lines up with the outer edge of the fitting.



8. Select the adaptor jaw, insert onto the pressing tool and arrest the locking bolts of the tool.



9. Open the adaptor jaw by depressing the jaw levers and attach to the press collar so that the claws of the jaw grip around the pins of the press collar. Initiate the pressing job by pressing the start button.



10. Release the adaptor jaw from the collar and the collar from the fitting. Remove the label to indicate completion of the press.

Installation Instruction (2-1/2" - 4")

► Installation Instructions: Quick Reference Checklist

1. Cut tube square with tubing cutter or fine tooth saw.
2. Deburr inside & outside of tube end.
3. Select the correct sized fitting and secure the stainless steel grip ring and O-ring correctly in the fitting.
4. Measure insertion depth and mark insertion depth on the outside of the tube.
5. Insert the tube (slightly turning) into fitting.
6. Select the appropriate sized collar and check its cleanliness and smoothness.
7. Open the collar. Then put the fitting inside. Close the press collar and check if the insertion depth mark is still aligned with the outer edge of the fitting.
8. Select the adaptor jaw, insert onto the pressing tool.
9. Open the adaptor jaw by depressing the jaw levers and attach to the press collar. Initiate the pressing job by pressing the start button.
10. Release the adaptor jaw from the collar and the collar from the fitting. Then remove label.

Insertion Depth Chart	
Tube size	Insertion Depth
Inch	Inches
2 1/2	1 11/16
3	1 15/16
4	2 3/8

PT Copper Press Fittings recommends pressing with the tool/machine brands as set out in Section 3.1 on Page 8. Contact the appropriate brand's customer service department for specific jaw set compatibility

Compatible Press Tools

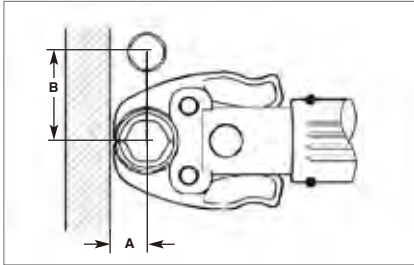
1/2" to 1-1/4" Compact or Mini Machines		
Manufacturer	Press Machine	Press jaws
Milwaukee	M12 FORCE LOGIC PRESS TOOL	M12 Compact CTS JAWS
Ridgid	RP200-B/210-B/240/241	Ridgid - Compact Series
	RP115	Ridgid - 1/2", 3/4" Mini Jaws for ProPress
Viega	Picco	Viega ProPress Compact Jaw
Rems	Mini Press ACC	Rems - Mini Press Tongs 1/2" to 1"
Nibco	PC-20M	PC-1M/PC-2M/PC-3M
Hilti	NPR 019-A22/24-22	Hilti - NPR PC JAWS
Rothenberger	Romax Compact	Rothenberger - Compact
	Romax Compact TT	Rothenberger - Compact
DeWalt	20V MAX Compact Press Tool	DeWalt Compact CTS Press Jaw

1/2" to 4" Standard Machine		
Manufacturer	Press Machine	Press jaws
Milwaukee	M18 FORCE LOGIC PRESS TOOL	M18 Standard CTS JAWS/M18 Rings and Jaws 2-1/2" to 4"
	M18 FORCE LOGIC LONG THROW PRESS TOOL	M18 Standard CTS JAWS/M18 Rings and Jaws 2-1/2" to 4"
Ridgid	RP 320/330/340/342/350	Ridgid - Standard Series/Press Rings and Jaws 2-1/2" to 4"
Viega	Pressgun 5/6	Viega ProPress Standard Jaw/Press Rings and Jaws 2-1/2" to 4"
Rems	Power-Press/ Akku-Press	Rems - Standard Press Tongs/Press Rings 2-1/2" to 4"
Hilti	NPR 032-A22	Hilti - NPR PS Standard Jaws/Press Rings 2-1/2" to 4"
Nibco	PC-280	PC10S/11S/12S/13S/14S/15S only up to 2"
Rothenberger	Romax 3000/4000	Rothenberger - Standard* only up to 2"
DeWalt	20V MAX Cordless Press Tool	DeWalt Standard CTS Press Jaw/Rings 2-1/2" to 4"

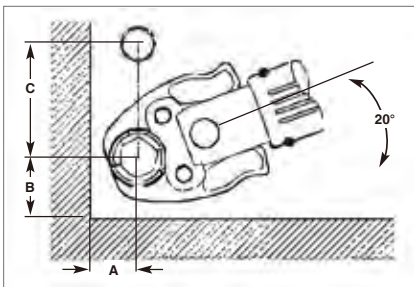
Installation Requirements

► Space required for the pressing process

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

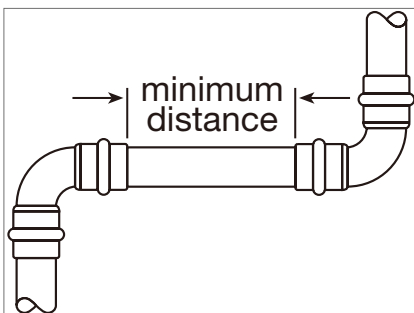


Tube Diameter (inches)	A minimum (inches)	A minimum (mm)	B minimum (inches)	B minimum (mm)
1/2	3/4	19	1 5/8	41
3/4	7/8	22	2 1/8	54
1	1	26	2 1/2	64
1 1/4	1 1/8	29	2 7/8	73
1 1/2	1 3/4	45	3 1/2	89
2	2	51	4 3/8	111



Tube Diameter (inches)	A minimum (inches)	A minimum (mm)	B minimum (inches)	B minimum (mm)	C minimum (inches)	C minimum (mm)
1/2	7/8	23	1 3/8	35	2 1/2	64
3/4	1	26	1 1/2	38	2 1/2	64
1	1 1/8	29	1 3/4	45	3	76
1 1/4	1 1/4	32	2 1/4	57	3 1/8	80
1 1/2	1 7/8	48	2 1/2	64	3 3/4	95
2	2 1/8	54	3 1/8	80	5	127
2 1/2	3 5/8	92	6	152	3 1/2	89
3	3 7/8	98	6 1/2	165	4	102
4	4 7/8	124	7 5/8	194	4 1/4	108

► Insertion depth and minimum distances between pressings



MINIMUM DISTANCE BETWEEN STREAMLINE PRS™ JOINTS		
TUBE DIAMETER	MINIMUM DISTANCE REQUIRED	
NOMINAL INCH	INCH	MM
1/2"	-	-
3/4"	-	-
1"	-	-
1 1/4"	7/16"	10
1 1/2"	5/8"	15
2"	3/4"	20
2 1/2"	5/8"	15
3"	5/8"	15
4"	5/8"	15

Installation Requirements

► Minimum distance for press fittings from an existing brazed joint

To ensure proper sealing of both the brazed and pressed joints, the following minimum distances must be maintained between the joints. Please see following table for further information.

Tube Diameter (inches)	Minimum distance from Soldered(inches)	Minimum distance from Soldered(mm)	Minimum distance from Brazed(inches)	Minimum distance from Brazed(mm)
1/2	1/4	7	1	26
3/4	1/4	7	1 1/2	38
1	7/16	11	2	51
1 1/4	7/16	11	2 1/2	64
1 1/2	5/8	16	3	76
2	3/4	19	4	102
2 1/2	1/4	7	5	127
3	1/4	7	6	153
4	1/4	7	8	204

► Minimum brazing distance to an existing pressed fitting

Caution: Brazing or soldering near to Press joints should be avoided as this may cause the seal to degrade due to heat transfer. Following table 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.

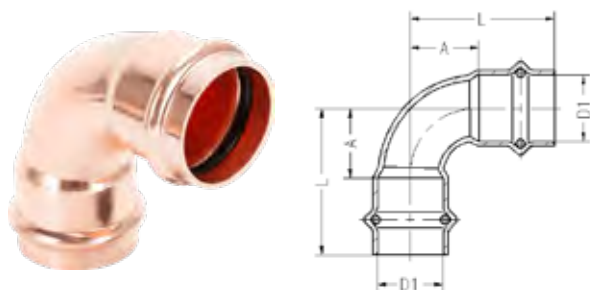
Tube Diameter (inches)	Soldering minimum distance (inches)	Soldering minimum distance (mm)	Brazing minimum distance (inches)	Brazing minimum distance (mm)
1/2	1 1/2	38	4 1/2	114
3/4	2 1/4	57	6 3/4	172
1	3	76	9	229
1 1/4	3 3/4	95	11 1/4	286
1 1/2	4 1/2	114	13 1/2	343
2	6	153	18	457
2 1/2	7 1/2	191	22 1/2	572
3	9	229	27	686
4	12	305	36	915

► Press tube compatibility table

PT press fittings may only be pressed onto copper tube in accordance with ASTM B88. When pressing onto B88 copper tube, types K, L, and M may be used. Tempers O60 and O50, known as “soft copper”, are limited to nominal sizes 1/2" to 1 1/4". Temper H58, known as hard copper, may be used with nominal sizes 1/2" to 4".

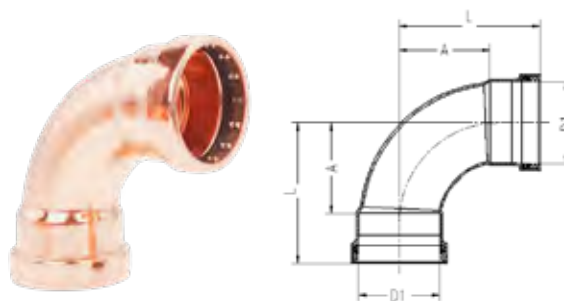
The Range

90° Elbow PxP



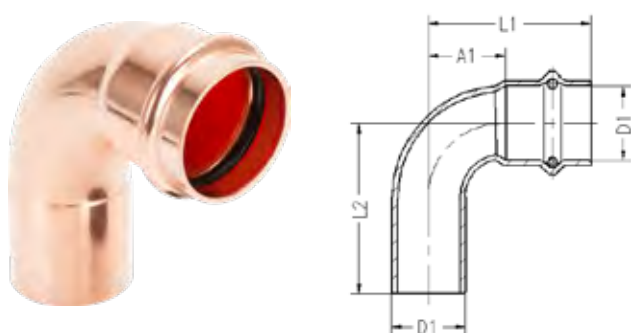
PT Part No	Size D1	L(inch)	A(inch)
100071	½"	1.56	0.75
100072	¾"	1.97	1.02
100073	1"	2.22	1.30
100074	1¼"	2.64	1.50
100075	1½"	3.23	1.77
100076	2"	3.98	2.36

90° Elbow PxP



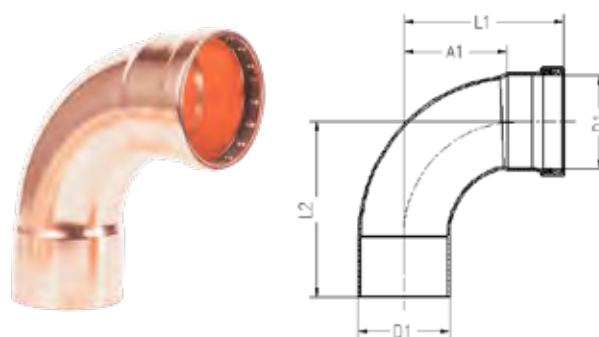
PT Part NO	Size D1	L(inch)	A(inch)
100460	2½"	4.65	2.95
100461	3	5.43	3.50
100462	4	6.97	4.65

90° Street Elbow FTGxP



PT Part No	Size D1	L1(inch)	A1(inch)	L2(inch)
100078	½"	1.57	0.77	1.73
100079	¾"	2.01	1.06	2.13
100080	1"	2.24	1.30	2.36
100081	1¼"	2.62	1.48	2.93
100082	1½"	3.21	1.75	3.52
100083	2"	3.96	2.34	4.31

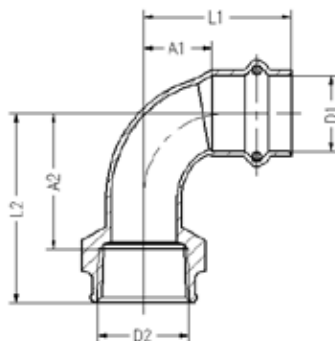
90° Street Elbow FTGxP



PT Part NO	Size D1	L1(inch)	A1(inch)	L2(inch)
100463	2½"	4.65	2.95	5.04
100464	3	5.43	3.50	5.93
100465	4	6.97	4.65	7.68

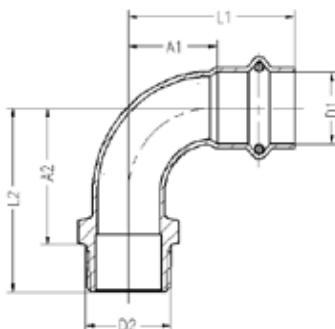
The Range

90° Elbow Female Px FPT



PT Part No	Size D1	Size D2	L1(inch)	A1(inch)	L2(inch)	A2(inch)
100341	1/2"	3/8"	1.57	0.77	1.50	1.08
100335	1/2"	1/2"	1.57	0.77	1.81	1.26
100342	1/2"	3/4"	1.57	0.77	1.91	1.30
100343	3/4"	1/2"	2.01	1.06	1.99	1.44
100336	3/4"	3/4"	2.01	1.06	2.11	1.50
100344	3/4"	1"	2.01	1.06	2.24	1.56
100345	1"	1/2"	2.24	1.30	2.24	1.69
100337	1"	1"	2.24	1.30	2.54	1.85
100338	1 1/4"	1 1/4"	2.62	1.48	3.03	2.24
100339	1 1/2"	1 1/2"	3.21	1.75	3.27	2.48
100340	2"	2"	3.96	2.34	4.21	3.25

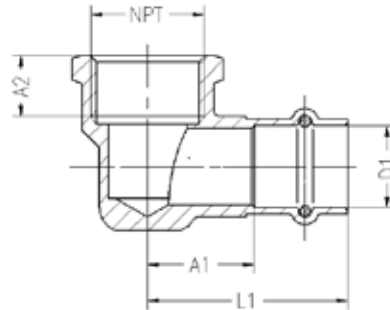
90° Elbow Male P x MPT



PT Part No	Size D1	Size D2	L1(inch)	A1(inch)	L2(inch)	A2(inch)
100397	1/2"	1/2"	1.56	0.75	1.87	1.32
100403	1/2"	3/4"	1.56	0.75	2.01	1.44
100404	3/4"	1/2"	2.03	1.08	2.15	1.59
100398	3/4"	3/4"	2.03	1.08	2.22	1.65
100399	1"	1"	2.24	1.30	2.76	2.01
100400	1 1/4"	1 1/4"	2.64	1.50	3.11	2.36
100401	1 1/2"	1 1/2"	3.23	1.77	3.39	2.60
100402	2"	2"	3.98	2.36	4.29	3.46

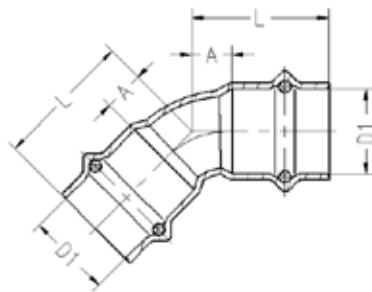
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90° Elbow - Drop Ear PxFTP



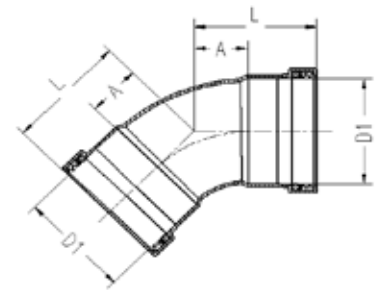
PT Part No	Size D1	Size D2	L1(inch)	A1(inch)	A2(inch)
100258	1/2"	1/2"	1.67	0.80	0.53
100259	3/4"	3/4"	2.04	1.06	0.64

45° Elbow PxP



PT Part No	Size D1	L(inch)	A(inch)
100059	1/2"	1.10	0.30
100060	3/4"	1.40	0.45
100061	1"	1.42	0.47
100062	1 1/4"	1.97	0.83
100063	1 1/2"	2.30	0.85
100064	2"	2.44	0.83

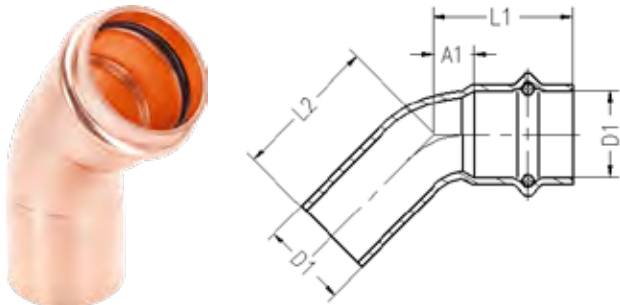
45° Elbow PxP



PT Part NO	Size D1	L(inch)	A(inch)
100454	2 1/2"	2.95	1.26
100455	3	3.43	1.50
100456	4	4.09	1.77

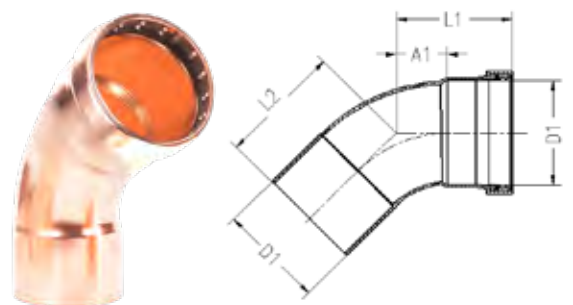
The Range

45° Street Elbow FTGxP



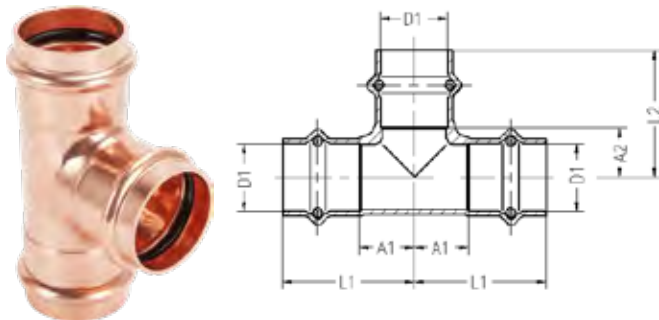
PT Part No	Size D1	L1(inch)	A1(inch)	L2(inch)
100065	½"	1.10	0.30	1.22
100066	¾"	1.40	0.45	1.46
100067	1"	1.52	0.57	1.57
100068	1¼"	1.97	0.83	1.91
100069	1½"	2.30	0.85	2.36
100070	2"	2.44	0.83	2.76

45° Street Elbow FTGxP



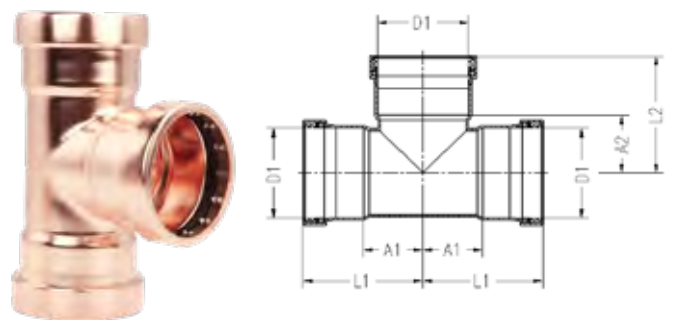
PT Part NO	Size D1	L1(inch)	A1(inch)	L2(inch)
100457	2½"	2.95	1.26	3.15
100458	3	3.43	1.50	3.65
100459	4	4.09	1.77	4.63

Equal Tee PxPxP



PT Part No	Size D1	L1 (inch)	A1 (inch)	L2 (inch)	A2 (inch)
100001	½"	1.54	0.73	1.30	0.49
100002	¾"	1.77	0.83	1.57	0.63
100003	1"	1.91	0.96	1.73	0.79
100004	1¼"	2.13	0.98	1.95	0.81
100005	1½"	2.62	1.16	2.74	1.28
100006	2"	2.97	1.36	3.13	1.52

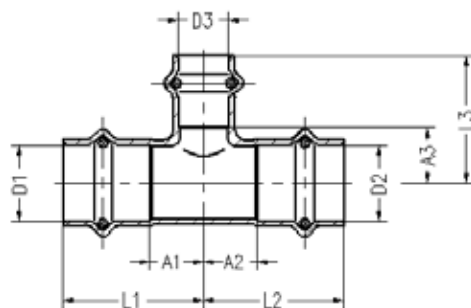
Equal Tee PxPxP



PT Part No	Size D1	L1 (inch)	A1 (inch)	L2 (inch)	A2 (inch)
100405	2½"	3.48	1.79	3.48	1.79
100406	3	3.98	2.05	4.02	2.09
100407	4	4.92	2.60	4.96	2.64

The Range

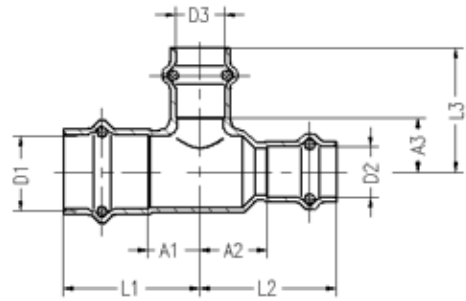
Reducing Tee PxPxP



PT Part No	Size D1	Size D2	Size D3	L1(inch)	A1(inch)	L2(inch)	A2(inch)	L3(inch)	A3(inch)
100008	1/2"	1/2"	1"	2.22	1.42	2.22	1.42	1.73	0.79
100007	1/2"	1/2"	3/4"	1.71	0.91	1.71	0.91	1.54	0.59
100009	3/4"	1/2"	1/2"	1.63	0.69	1.75	0.94	1.44	0.63
100011	3/4"	3/4"	1/2"	1.63	0.69	1.63	0.69	1.44	0.63
100010	3/4"	1/2"	3/4"	1.79	0.85	1.87	1.06	1.59	0.65
100012	3/4"	3/4"	1"	1.95	1.00	1.95	1.00	1.73	0.79
100013	1"	1/2"	1/2"	1.63	0.69	2.01	1.20	1.59	0.79
100016	1"	3/4"	1/2"	1.63	0.69	1.91	0.96	1.59	0.79
100019	1"	1"	1/2"	1.63	0.69	1.63	0.69	1.59	0.79
100014	1"	1/2"	3/4"	1.79	0.85	2.13	1.32	1.73	0.79
100017	1"	3/4"	3/4"	1.75	0.81	2.01	1.06	1.73	0.79
100020	1"	1"	3/4"	1.79	0.85	1.79	0.85	1.73	0.79
100015	1"	1/2"	1"	1.89	0.94	2.20	1.40	1.73	0.79
100018	1"	3/4"	1"	1.91	0.96	2.17	1.22	1.73	0.79
100021	1"	1"	1 1/4"	2.24	1.30	2.24	1.30	2.05	0.91
100023	1 1/4"	3/4"	1/2"	1.77	0.63	2.19	1.24	1.73	0.93
100027	1 1/4"	1"	1/2"	1.77	0.63	2.09	1.14	1.73	0.93
100031	1 1/4"	1 1/4"	1/2"	1.77	0.63	1.77	0.63	1.73	0.93
100024	1 1/4"	3/4"	3/4"	1.87	0.73	2.28	1.34	1.97	1.02
100028	1 1/4"	1"	3/4"	1.87	0.73	2.11	1.16	1.97	1.02
100032	1 1/4"	1 1/4"	3/4"	1.87	0.73	1.87	0.73	1.95	1.00
100025	1 1/4"	3/4"	1"	1.99	0.85	2.38	1.44	2.05	1.10
100029	1 1/4"	1"	1"	1.99	0.85	2.22	1.28	2.03	1.08
100022	1 1/4"	1/2"	1 1/4"	2.11	0.96	2.60	1.79	1.97	0.83
100026	1 1/4"	3/4"	1 1/4"	2.11	0.96	2.44	1.50	1.97	0.83
100030	1 1/4"	1"	1 1/4"	2.13	0.98	2.24	1.30	1.97	0.83

The Range

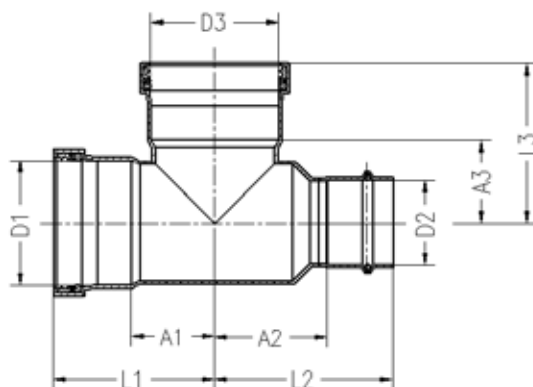
Reducing Tee PxPxP



PT Part No	Size D1	Size D2	Size D3	L1(inch)	A1(inch)	L2(inch)	A2(inch)	L3(inch)	A3(inch)
100033	1¼"	1¼"	1"	1.97	0.83	1.97	0.83	2.03	1.08
100038	1½"	1¼"	½"	2.05	0.59	2.15	1.00	1.91	1.10
100043	1½"	1½"	½"	1.95	0.49	1.95	0.49	2.01	1.20
100035	1½"	1"	¾"	2.13	0.67	2.36	1.42	2.09	1.14
100039	1½"	1¼"	¾"	2.13	0.67	2.28	1.14	2.09	1.14
100044	1½"	1½"	¾"	2.11	0.65	2.13	0.67	2.09	1.14
100036	1½"	1"	1"	2.26	0.81	2.38	1.44	2.09	1.14
100040	1½"	1¼"	1"	2.26	0.81	2.34	1.20	2.09	1.14
100045	1½"	1½"	1"	2.26	0.81	2.26	0.81	2.09	1.14
100041	1½"	1¼"	1¼"	2.38	0.93	2.54	1.40	2.22	1.08
100046	1½"	1½"	1¼"	2.38	0.93	2.38	0.93	2.24	1.10
100034	1½"	½"	1½"	2.62	1.16	2.91	2.11	2.56	1.10
100037	1½"	1"	1½"	2.60	1.14	2.70	1.75	2.56	1.10
100042	1½"	1¼"	1½"	2.62	1.16	2.78	1.63	2.54	1.08
100054	2"	2"	½"	2.40	0.79	2.42	0.81	2.09	1.28
100049	2"	1½"	¾"	2.42	0.81	2.85	1.40	2.40	1.46
100055	2"	2"	¾"	2.40	0.79	2.40	0.79	2.40	1.46
100047	2"	1"	1"	2.66	1.04	2.62	1.67	2.44	1.50
100050	2"	1½"	1"	2.54	0.93	2.93	1.48	2.44	1.50
100056	2"	2"	1"	2.54	0.93	2.54	0.93	2.44	1.50
100048	2"	1¼"	1¼"	2.66	1.04	2.85	1.71	2.60	1.46
100051	2"	1½"	1¼"	2.66	1.04	3.09	1.63	2.60	1.46
100057	2"	2"	1¼"	2.66	1.04	2.66	1.04	2.60	1.46
100052	2"	1½"	1½"	2.78	1.16	3.21	1.75	2.76	1.30
100058	2"	2"	1½"	2.78	1.16	2.78	1.16	2.99	1.54
100053	2"	1½"	2"	2.91	1.30	3.23	1.77	2.91	1.30

The Range

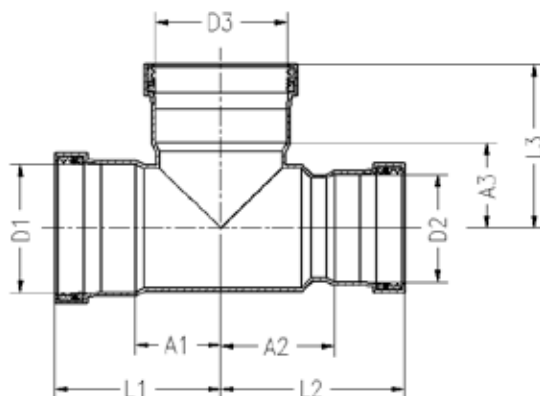
Reducing Tee PxPxP



PT Part No	Size D1	Size D2	Size D3	L1(inch)	A1(inch)	L2(inch)	A2(inch)	L3(inch)	A3(inch)
100408	2½"	2½"	½"	2.54	0.85	2.54	0.85	2.46	1.65
100409	2½"	2½"	¾"	2.66	0.96	2.66	0.96	2.62	1.67
100410	2½"	2½"	1	2.78	1.08	2.78	1.08	2.62	1.67
100411	2½"	2½"	1¼"	2.91	1.22	2.91	1.22	2.81	1.67
100412	2½"	2½"	1½"	3.05	1.36	3.05	1.36	3.13	1.67
100413	2½"	2½"	2	3.29	1.59	3.29	1.59	3.31	1.69
100414	2½"	¾"	2½"	3.48	1.79	4.02	3.07	3.48	1.79
100415	2½"	1	2½"	3.48	1.79	3.86	2.91	3.48	1.79
100416	2½"	1¼"	2½"	3.48	1.79	3.80	2.66	3.48	1.79
100418	2½"	1½"	2½"	3.48	1.79	3.98	2.52	3.48	1.79
100421	2½"	2	2½"	3.48	1.79	3.88	2.26	3.48	1.79
100417	2½"	1½"	2	3.29	1.59	3.80	2.34	3.31	1.69
100419	2½"	2	¾"	2.66	0.96	3.07	1.46	2.62	1.67
100420	2½"	2	1	2.78	1.08	3.19	1.57	2.62	1.67
100422	3	3	½"	2.80	0.87	2.80	0.87	2.72	1.91
100423	3	3	¾"	2.91	0.98	2.91	0.98	2.85	1.91
100424	3	3	1	3.05	1.12	3.05	1.12	2.87	1.93
100425	3	3	1¼"	3.17	1.24	3.17	1.24	3.07	1.93
100426	3	3	1½"	3.31	1.38	3.31	1.38	3.39	1.93
100427	3	3	2	3.54	1.61	3.54	1.61	3.54	1.93
100437	3	3	2½"	3.72	1.79	3.72	1.79	3.74	2.05
100430	3	¾"	3	3.98	2.05	4.82	3.88	4.02	2.09

The Range

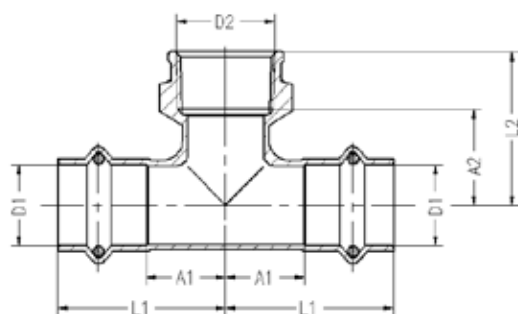
Reducing Tee PxPxP



PT Part No	Size D1	Size D2	Size D3	L1(inch)	A1(inch)	L2(inch)	A2(inch)	L3(inch)	A3(inch)
100431	3	1	3	3.98	2.05	4.65	3.70	4.02	2.09
100432	3	1¼"	3	3.98	2.05	4.47	3.33	4.02	2.09
100433	3	1½"	3	3.98	2.05	4.49	3.03	4.02	2.09
100434	3	2	3	3.98	2.05	4.39	2.78	4.02	2.09
100436	3	2½"	3	3.98	2.05	4.41	2.72	4.02	2.09
100428	3	2	2	3.54	1.61	3.96	2.34	3.54	1.93
100435	3	2	2½"	3.72	1.79	4.13	2.52	3.74	2.05
100429	3	2½"	2½"	3.72	1.79	4.17	2.48	3.74	2.05
100438	4	4	½"	3.23	0.91	3.23	0.91	3.21	2.40
100439	4	4	¾"	3.37	1.04	3.37	1.04	3.35	2.40
100440	4	4	1	3.50	1.18	3.50	1.18	3.37	2.20
100441	4	4	1¼"	3.62	1.30	3.62	1.30	3.56	2.42
100442	4	4	1½"	3.76	1.44	3.76	1.44	3.88	2.42
100443	4	4	2	4.00	1.67	4.00	1.67	4.04	2.42
100444	4	4	2½"	4.19	1.87	4.19	1.87	4.23	2.54
100445	4	4	3	4.45	2.13	4.45	2.13	4.51	2.58
100447	4	3	2	4.00	1.67	4.59	2.66	4.04	2.42
100446	4	3	3	4.45	2.13	5.02	3.09	4.51	2.58

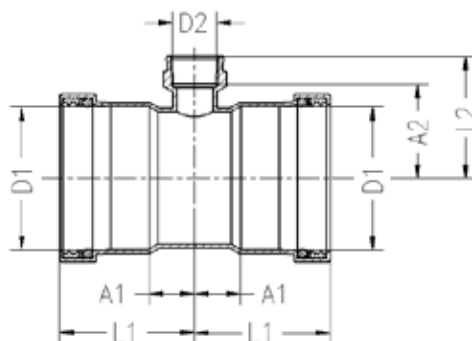
The Range

Tee Adapter Female PxPxFPT



PT Part No	Size D1	Size D2	L1(inch)	A1(inch)	L2(inch)	A2(inch)
100346	1/2"	1/2"	1.56	0.75	1.44	0.89
100348	3/4"	1/2"	1.79	0.85	1.56	1.00
100347	3/4"	3/4"	1.79	0.85	1.63	1.02
100349	1"	1/2"	1.79	0.85	1.71	1.16
100350	1"	3/4"	1.91	0.96	1.85	1.24
100351	1 1/4"	1/2"	1.87	0.73	1.79	1.24
100352	1 1/4"	3/4"	1.99	0.85	1.85	1.24
100353	1 1/2"	1/2"	2.13	0.67	1.89	1.34
100354	1 1/2"	3/4"	2.26	0.81	1.40	2.01
100355	2"	1/2"	2.54	0.93	2.13	1.57
100356	2"	3/4"	2.54	0.93	2.30	1.69

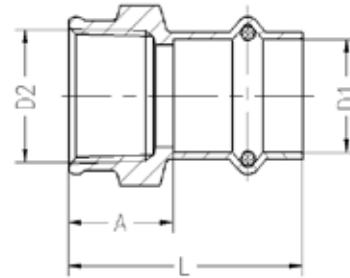
Tee Adapter Female PxPxFPT



PT Part No	Size D1	Size D2	L1(inch)	A1(inch)	L2(inch)	A2(inch)
100448	2 1/2"	3/4"	2.66	0.96	2.44	1.79
100449	2 1/2"	2"	3.29	1.59	2.93	1.97
100450	3"	3/4"	2.91	0.98	2.68	2.07
100451	3"	2"	3.54	1.61	3.17	2.20
100452	4"	3/4"	3.37	1.04	3.17	2.56
100453	4"	2"	4.00	1.67	3.66	2.70

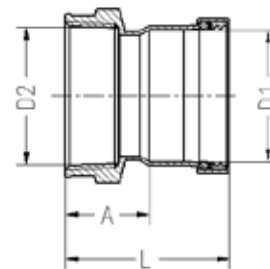
The Range

Female Adapter P x FPT



PT Part No	Size D1	Size D2	L	A
100162	1/2"	3/8"	1.65	0.79
100156	1/2"	1/2"	1.69	0.83
100163	1/2"	3/4"	1.69	0.83
100164	3/4"	1/2"	1.65	0.63
100157	3/4"	3/4"	1.85	0.83
100165	1"	1/2"	2.09	1.06
100166	1"	3/4"	1.77	0.75
100158	1"	1"	1.93	0.91
100167	1"	1 1/4"	2.13	1.10
100168	1 1/4"	1"	2.13	0.98
100159	1 1/4"	1 1/4"	2.20	1.06
100170	1 1/4"	1 1/2"	2.24	1.10
100159	1 1/2"	1 1/4"	2.52	1.06
100160	1 1/2"	1 1/2"	2.52	1.06
100161	2"	2"	2.87	1.26

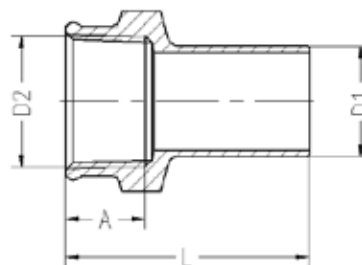
Female Adapter Px FPT



PT Part NO	Size D1	Size D2	L(inch)	A(inch)
100469	2 1/2"	2 1/2"	3.54	1.85
100470	3	3	3.94	2.01
100471	4	4	4.47	2.15

The Range

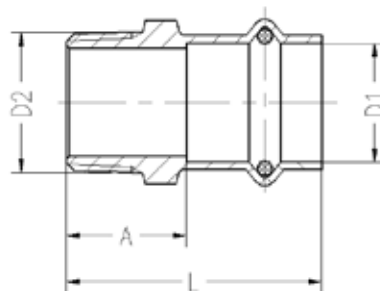
Female Street Adapter FTG x FPT



PT Part No	Size D1	Size D2	L	A
100381	1/2"	3/8"	1.57	0.47
100375	1/2"	1/2"	1.73	0.55
100382	1/2"	3/4"	1.93	0.63
100383	3/4"	1/2"	1.73	0.55
100376	3/4"	3/4"	1.93	0.63
100384	1"	1/2"	1.81	0.55
100385	1"	3/4"	1.93	0.63
100377	1"	1"	1.99	0.71
100386	1 1/4"	1/2"	2.03	0.55
100378	1 1/4"	1 1/4"	2.32	0.79
100379	1 1/2"	1 1/2"	2.58	0.83
100380	2"	2"	3.07	0.98

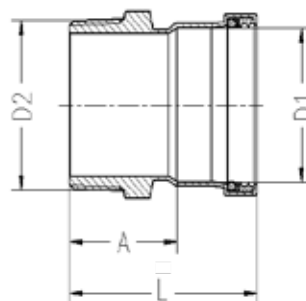
The Range

Male Adapter P x MPT



PT Part No	Size D1	Size D2	L	A
100144	1/2"	3/8"	1.65	0.79
100138	1/2"	1/2"	1.73	0.87
100145	1/2"	3/4"	1.81	0.94
100146	3/4"	1/2"	2.05	1.02
100139	3/4"	3/4"	1.93	0.91
100147	3/4"	1"	2.09	1.06
100148	1"	1/2"	2.13	1.10
100149	1"	3/4"	1.97	0.94
100140	1"	1"	1.97	0.94
100150	1"	1 1/4"	2.09	1.06
100151	1 1/4"	1"	2.20	1.06
100141	1 1/4"	1 1/4"	2.20	1.06
100152	1 1/4"	1 1/2"	2.28	1.14
100153	1 1/2"	1 1/4"	2.70	1.24
100142	1 1/2"	1 1/2"	2.64	1.18
100154	1 1/2"	2"	2.68	1.22
100155	2"	1 1/2"	2.87	1.26
100143	2"	2"	2.83	1.22

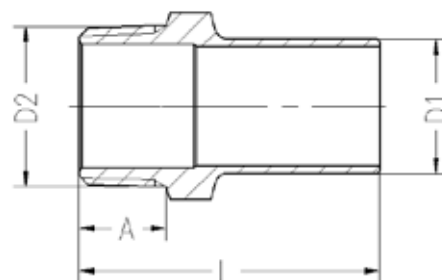
Male Adapter P x MPT



PT Part NO	Size D1	Size D2	L(inch)	A(inch)
100466	2 1/2"	2 1/2"	4.06	2.36
100467	3	3	4.51	2.58
100468	4	4	5.20	2.87

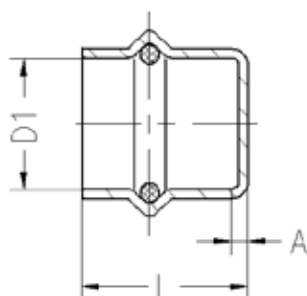
The Range

Male Street Adapter FTG x MPT



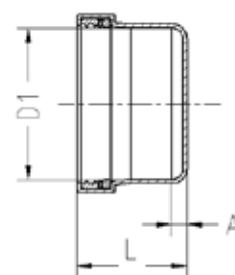
PT Part No	Size D1	Size D2	L	A
100393	1/2"	3/8"	1.69	0.47
100387	1/2"	1/2"	1.77	0.55
100394	1/2"	3/4"	1.93	0.57
100395	3/4"	1/2"	1.95	0.63
100388	3/4"	3/4"	1.97	0.57
100396	1"	3/4"	1.97	0.57
100389	1"	1"	2.13	0.65
100390	1 1/4"	1 1/4"	2.48	0.79
100391	1 1/2"	1 1/2"	2.87	0.79
100392	2"	2"	3.19	0.83

Cap PxCap



PT Part No	Size D1	L(inch)	A(inch)
100171	1/2"	0.94	0.10
100172	3/4"	1.06	0.12
100173	1"	1.06	0.12
100174	1 1/4"	1.26	0.12
100175	1 1/2"	1.69	0.20
100176	2"	1.85	0.20

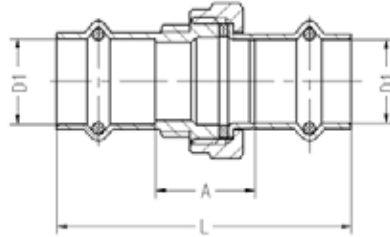
Cap PxCAP



PT Part NO	Size D1	L(inch)	A(inch)
100507	2 1/2"	1.97	0.28
100508	3	2.24	0.31
100509	4	2.80	0.47

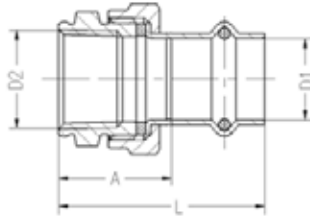
The Range

Union PxP



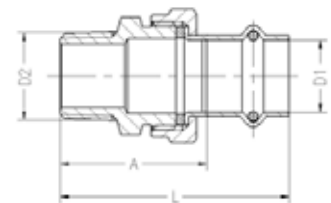
PT Part No	Size D1	L	A
100357	½"	2.81	1.16
100358	¾"	3.03	1.04
100359	1"	3.03	1.04
100360	1¼"	3.48	1.18
100361	1½"	4.13	1.18
100362	2"	4.63	1.36

Union-Female PxFTP



PT Part No	Size D1	Size D2	L	A
100369	½"	½"	2.03	1.25
100370	¾"	¾"	2.19	1.21
100371	1"	1"	2.30	1.33
100372	1¼"	1¼"	2.97	1.80
100373	1½"	1½"	2.95	1.46
100374	2"	2"	3.37	1.72

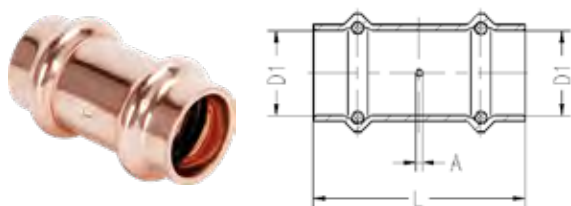
Union-Male PxMPT



PT Part No	Size D1	Size D2	L	A
100363	½"	½"	2.56	1.78
100364	¾"	¾"	2.76	1.78
100365	1"	1"	2.93	1.96
100366	1¼"	1¼"	3.27	2.09
100367	1½"	1½"	3.66	2.17
100368	2"	2"	4.04	2.39

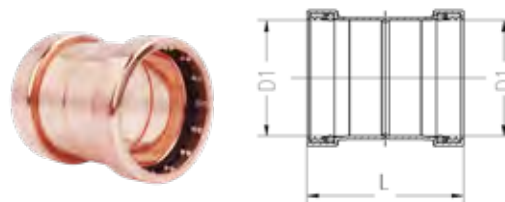
The Range

Coupling with Stop PxP



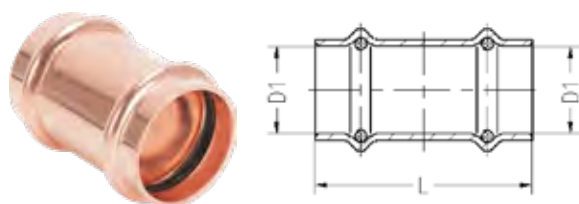
PT Part No	Size D1	L(inch)	A(inch)
100092	1/2"	1.61	0.16
100093	3/4"	2.05	0.20
100094	1"	2.05	0.20
100095	1 1/4"	2.44	0.20
100096	1 1/2"	3.03	0.20
100097	2"	3.35	0.20

Coupling with Stop PxP



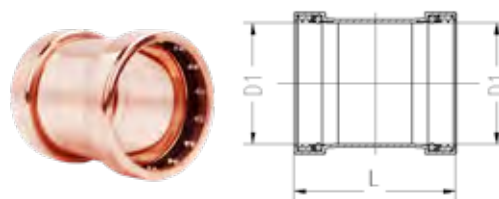
PT Part NO	Size D1	L(inch)
100479	2 1/2"	3.58
100480	3	4.06
100481	4	4.88

Coupling No Stop PxP



PT Part No	Size D1	L(inch)
100098	1/2"	1.61
100099	3/4"	2.05
100100	1"	2.05
100101	1 1/4"	2.44
100102	1 1/2"	3.03
100103	2"	3.35

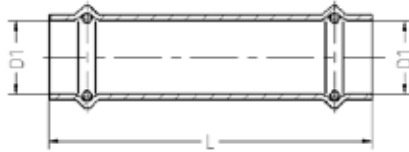
Coupling No Stop PxP



PT Part NO	Size D1	L(inch)
100482	2 1/2"	3.58
100483	3	4.06
100484	4	4.88

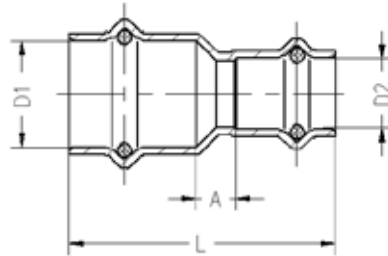
The Range

Extended Coupling No Stop PxP



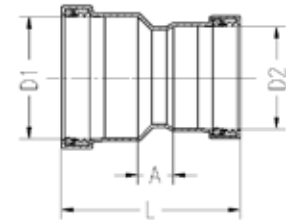
PT Part No	Size D1	L(inch)
100104	1/2"	2.99
100105	3/4"	3.50
100106	1"	3.74
100107	1 1/4"	4.13
100108	1 1/2"	4.72
100109	2"	5.31

Reducing Coupling PxP



PT Part No	Size D1	Size D2	L(inch)	A(inch)
100110	3/4"	1/2"	2.11	0.35
100111	1"	1/2"	2.28	0.53
100112	1"	3/4"	2.24	0.35
100113	1 1/4"	1/2"	2.66	0.71
100114	1 1/4"	3/4"	2.64	0.55
100115	1 1/4"	1"	2.48	0.39
100116	1 1/2"	3/4"	3.21	0.81
100117	1 1/2"	1"	3.01	0.61
100118	1 1/2"	1 1/4"	3.07	0.47
100119	2"	3/4"	3.74	1.18
100120	2"	1"	3.52	0.96
100121	2"	1 1/4"	3.56	0.81
100122	2"	1 1/2"	3.74	0.67

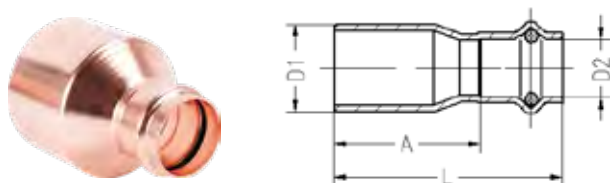
Reducing Coupling PxP



PT Part No	Size D1	Size D2	L(inch)	A(inch)
100485	2 1/2"	1"	4.02	1.38
100486	2 1/2"	1 1/4"	3.94	1.10
100487	2 1/2"	1 1/2"	4.11	0.96
100488	2 1/2"	2"	4.02	0.71
100489	3"	1 1/4"	4.61	1.54
100490	3"	1 1/2"	4.61	1.22
100491	3"	2"	4.51	0.96
100492	3"	2 1/2"	4.53	0.91
100493	4"	2"	5.65	1.71
100494	4"	2 1/2"	5.45	1.44
100495	4"	3"	5.47	1.22

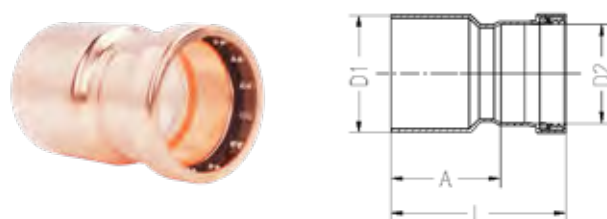
The Range

Fitting Reducer FTGxP



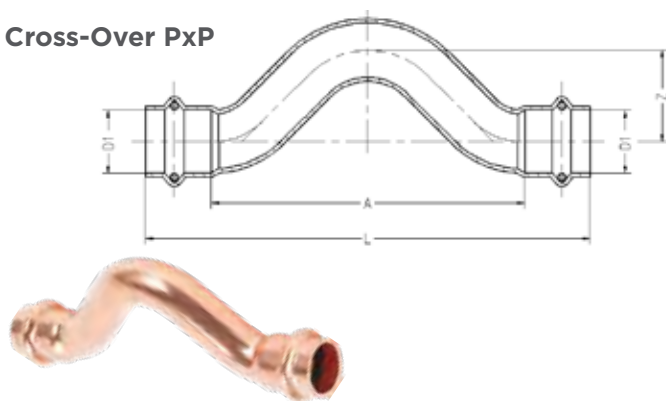
PT Part No	Size D1	Size D2	L(inch)	A(inch)
100123	3/4"	1/2"	2.15	1.34
100124	1"	1/2"	2.32	1.52
100125	1"	3/4"	2.24	1.30
100126	1 1/4"	1/2"	2.62	1.81
100127	1 1/4"	3/4"	2.64	1.69
100128	1 1/4"	1"	2.52	1.57
100129	1 1/2"	1/2"	3.03	2.22
100130	1 1/2"	3/4"	3.09	2.15
100131	1 1/2"	1"	2.93	1.99
100132	1 1/2"	1 1/4"	3.01	1.87
100133	2"	1/2"	3.64	2.83
100134	2"	3/4"	3.74	2.80
100135	2"	1"	3.52	2.58
100136	2"	1 1/4"	3.56	2.42
100137	2"	1 1/2"	3.70	2.24

Fitting Reducer FTGXP



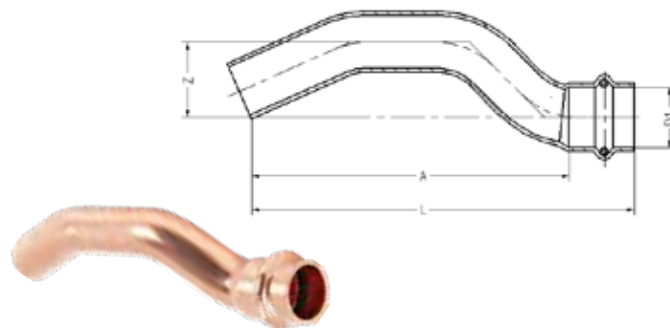
PT Part NO	Size D1	Size D2	L(inch)	A(inch)
100496	2 1/2"	1	4.00	3.05
100497	2 1/2"	1 1/4"	3.94	2.80
100498	2 1/2"	1 1/2"	4.11	2.66
100499	2 1/2"	2	4.02	2.40
100500	3	1 1/4"	4.59	3.44
100501	3	1 1/2"	4.61	3.15
100502	3	2	4.51	2.89
100503	3	2 1/2"	4.53	2.83
100504	4	2	5.83	4.21
100505	4	2 1/2"	5.43	3.74
100506	4	3	5.55	3.62

Cross-Over PxP



PT Part No	Size D1	L(inch)	A(inch)	Z(inch)
100177	1/2"	5.20	3.58	1.08
100178	3/4"	6.34	4.45	1.34

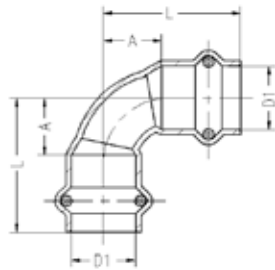
Street Cross-Over Px FTG



PT Part No	Size D1	L(inch)	A(inch)	Z(inch)
100179	1/2"	4.61	3.80	0.79
100180	3/4"	5.55	4.61	1.10

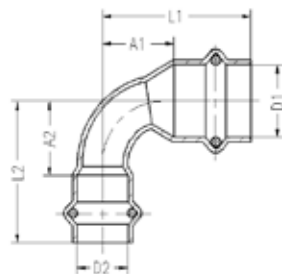
The Range

90° Elbow PxP(SR)



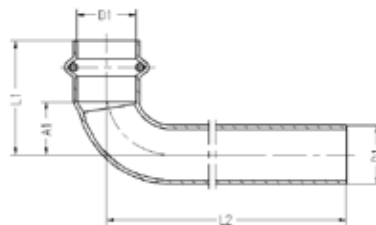
PT Part No	Size D1	L(inch)	A(inch)
100510	1/2"	1.34	0.57
100077	3/4"	1.75	0.79
100511	1"	2.09	1.12
100512	1 1/4"	2.32	1.30
100513	1 1/2"	2.91	1.50
100514	2"	3.70	2.13

90° Reducing Elbow PxP



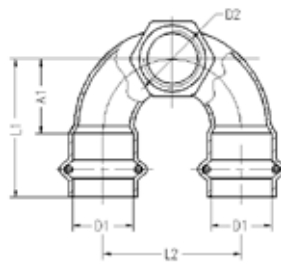
PT Part No	Size D1	Size D2	L1(inch)	A1(inch)	L2(inch)	A2(inch)
100084	3/4"	1/2"	1.83	0.89	1.69	0.89
100085	1"	3/4"	2.30	1.36	2.01	1.06

90° Street Elbow FTGxP (LR)



PT Part No	Size D1	L1(inch)	A1(inch)	L2(inch)
100515	3/4"	1.69	0.79	5.98

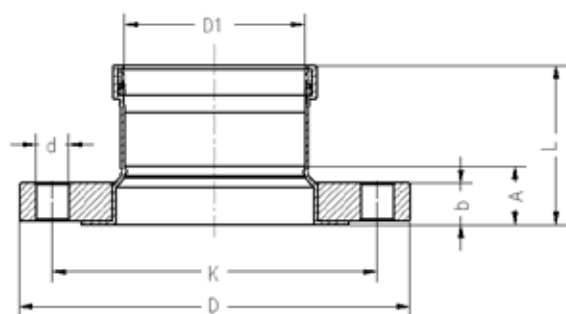
Double Drop Elbow PxPxPPT



PT Part No	Size D1	Size D2	L1(inch)	A1(inch)	L2(inch)
100516	3/4"	3/4"	1.97	1.06	1.97

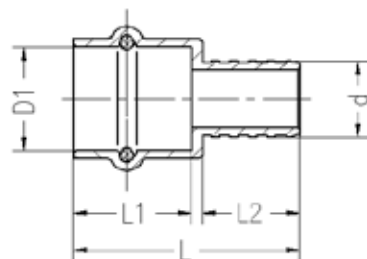
The Range

Flange PxFLG



PT Part NO	Size D1	L(inch)	A(inch)	b(inch)	D(inch)	K(inch)	d(inch)
100472	1	2.30	1.36	0.69	4.25	3.12	0.62
100473	1¼"	2.36	1.22	0.69	4.62	3.50	0.62
100474	1½"	2.72	1.26	0.70	5.00	3.88	0.62
100475	2	2.93	1.32	0.74	6.00	4.75	0.75
100476	2½"	2.97	1.28	0.89	7.01	5.50	0.75
100477	3	3.25	1.32	0.96	7.50	6.00	0.75
100478	4	3.69	1.36	0.98	9.02	7.50	0.75

Pex Adapter (F1807) PEX x P



PT Part No	Size D1	L(inch)	L1(inch)	L2(inch)	d(inch)
100301	½"	1.58	0.87	0.63	0.47
100302	¾"	1.69	0.98	0.63	0.67
100303	1"	1.89	0.99	0.80	0.86

NOTE

This image shows a full page of blank, lined paper. It features approximately 20 evenly spaced horizontal blue or grey lines across its entire width, typical of notebook paper. The lines are uniform in thickness and color, providing a guide for handwriting. There are no margins, text, or other markings on the page.