

FRANKLIN
DELIVERING INNOVATIVE SOLUTIONS SINCE 1954

JCT Trade

represents a manufacturing company which specialises in supplying Plumbing Products. We provide a complete range of cost effective solutions to the plumbing and building industries to help get the job done quicker, easier and at a lower cost.



WM74650
WM74651
WM74750
AMI74689

Australian
Standard
AS/NZS 2492
AS/NZS 2537
AS4176

Disclaimer: All care has taken to ensure the information provided in this brochure is accurate and reliable but it must be treated as being of a general nature only. Products in this brochure may change as JCT Trade is committed to continuous product improvement. JCT Trade provide no guarantee nor accept responsibility for information contained in this brochure.

JCT Copper Crimp for Water, 16mm to 25mm.

JCT Slide for Water 16mm to 32mm.

JCT Stainless Steel Crimp for Water 16mm to 25mm.

JCT Stainless Steel Crimp PEX-AL-PEX System for Gas, 16mm to 32mm.

JCT Stainless Steel Crimp PEX-AL-PEX for GAS and **JCT Stainless Steel Crimp for WATER** use the same JCT Crimp tools.

JCT Water System is licensed by ApprovalMark International to Australian Standards and complies with Australian and New Zealand Standards AS/NZ 2492:2007 for Pipe (Licence WM 74650) and AS/NZS 2537:2011 for Fittings (Licence WM 74651).

JCT Gas System is licensed by ApprovalMark International to Australian Standards and complies with Australian Standards AS 4176.8-2010 for Pipe (Licence AMI74689) and Fittings (Licence AMI74689).

JCT Pipe Systems (excluding tooling) carries a 25 year manufacturers warranty when the system is installed by a licensed plumber or gasfitter in accordance with AS/NZS3500 and Local Authority Requirements. This is backed by Franklins Comprehensive Insurance Cover.

TEST PROCEDURES FOR WATERMARK COMPLIANCE

Listed below are the characteristics that are being tested for as well as the code from which the method for testing is followed:

- Carbon black or Pigment Dispersion - ISO 18553
- Diameter and Wall Thickness - AS/NZS 1462.1
- Degree of Cross Linking - ISO 10147
- Effect on Water - AS4020
- Elongation at Break - ISO 6259-1, ISO 6259-3
- Hydrostatic Strength - ISO 1167 or AS 1462.6
- Long Term Stability - ISO 1167 or AS 1462.6
- Longitudinal Reversion - ISO2505
- Opacity - ISO7866
- Resistance to Weathering - ISO 14531-1
- Slow Crack Growth - ISO 13479
- Thermal Stability - ISO-TR 10837

PN16 PE-Xb Water Pipe

JCT PN16 PE-Xb Pipe is made from Silane - Cross Linked Polyethelene and manufactured under strict quality controls to New Zealand Standards AS/NZS 2492:2007 for hot and cold water applications under Licence WM 74650.

JCT PN16 PE-Xb Pipes are completely Non Toxic and are approved to AS4020.

JCT PN16 PE-Xb Pipes carries a 25-year manufacturers warranty when the system is installed by a licensed plumber in accordance with AS/NZS3500 and Local Authority Requirements. This is backed up by Franklins Comprehensive Insurance Cover.

The great advantage of JCT PN16 PE-Xb Pipe is that it can be used with **JCT Stainless Steel Crimp** fittings.

JCT PN16 PE-Xb Pipe is recommended that unprotected pipe not be exposed to direct sunlight on a permanent basis.

Black - cold potable water



Performance

The use of JCT PN16 PE-Xb Pipe provides users with many advantages over traditional piping materials.

JCT PE-Xb pipes have great flexibility making installation quick and easy

JCT PE-Xb pipes have good thermal and acoustic insulation properties

JCT PE-Xb use a Universal DZR Water and Gas Stainless Steel Crimp fitting.

Pipe Sizes and Tolerances

Nom.O.D (DN)	Mean Outside Diameter (mm)	Maximum Out-of-Roundness (mm)	Wall Thickness (mm)
SDR 9 PN16			
16	16.0	1.2	2.0
20	20.0	1.2	2.3

Pressure Ratings

Pipes for water applications are classified in terms of the nominal pressure rating (PN) at water service temperature of 20°C. JCT PE-Xb Pipe has a pressure rating of PN16 and a nominal working pressure of 1600kPa at 20°C. The following table shows the relationship of the pipe working pressure and pipe material temperature (PMT).

Working Pressure kPa

PMT	200C	600C	700C	General Working
PN16	1600	1200	1100	1000

PN16 PE-Xb Pipe					
Working Pressure Water	Temp. °C	20	40	60	80
	Pressure kPa, PN16	1600	1200	950	760
Continuous operation temperature	PN16	72°C at 810kPa			
Maximum operation temperature	90°C				
Minimum wall thickness	Nom.O.D (DN)	Thickness			
	16mm PN16	2.0mm			
	20mm PN16	2.3mm			
Linear thermal expansion coefficient	(m/m°C)11.4*10-4				
Thermal conductivity	0.35				
Minimum bending radius without aid	8 x diameter				

PE-Xb PIPE TECHNICAL DATA

Water Quality

JCT Stainless Steel Crimp fittings are made from high quality DZR brass which provides good resistance to corrosive water conditions. However, if water conditions are outside the NZ drinking water guidelines of pH 6.5 - 8.5, JCT Pex DZR fittings should not be used.

Handling and Storage

UV radiation can damage PE-Xa pipes, so always protect JCT pipe from direct sunlight.

Avoid damage to the pipe surface from dragging pipes across rough surfaces.

Protect uninstalled pipes from entry of harmful liquids.

Protect DZR fittings from corrosion.

Protect pipes from freezing by insulation or draining the system when not in use.

JCT PE-Xb water pipes may be installed underground or under-slab so long as all fittings are kept to a minimum and are wrapped in a "Denso" type protective coating.

No fittings should be installed within a concrete slab.

All JCT PE-Xb pipes should be sleeved as they penetrate the slab using JCT Conduit.

Installation

Do not use PE-Xb on installations with uncontrolled heat sources such as Solar or Wetbacks before a Tempering Valve

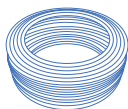
Test JCT PE-Xb Water systems at 1500 kPa for 30 minutes, check crimps visually and after testing to ensure crimps are complete and no leaks have occurred. Check Crimps using JCT Crimp Gauge for PE-Xb.

Flush Pipes so they are clean and ready for use.

Horizontal Pipes

Horizontal Pipes		Vertical Pipes	
Clip Spacing \emptyset		Clip Spacing \emptyset	
Pipe	(metres)	Pipe	(metres)
16mm	0.60	16mm	1.20
20mm	0.70	20mm	1.40
25mm	0.75	25mm	1.50
32mm	0.85	32mm	1.70

NOTE: Horizontal hot water lines may require closer clip spacing to maintain straight lines and avoid sagging.



CODE	SIZE	PACKING
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Black Pipe - Water

JPEX1650	16mm	50m/coil
JPEX16L5	16mm	5m/len
JPEX16100	16mm	100m/coil
JPEX2050	20mm	50m/coil
JPEX20L5	20mm	5m/len

Red Pipe - Hot Water

JPEX16L5R	16mm	5m/len
JPEX1650R	16mm	50m/coil
JPEX20L5R	20mm	5m/len
JPEX2050R	20mm	50m/coil

Lilac Pipe - Recycled Water

JPEX16L5LILAC	16mm	5m/len
JPEX1650LILAC	16mm	50m/coil

Blue Pipe - PEX-b Cold Water

JPEX16L5B	16mm	5m/len
JPEX1650B	16mm	50m/coil
JEPX20L5B	20mm	5m/len
JPEX20L5B	20mm	50m/coil

Pipe Clips - Black

JCT16B	16mm	100/bag
JCT20B	20mm	100/bag
JCT25B	25mm	100/bag
JCT32B	32mm	100/bag

PEX-AL-PEX Gas MLP Pipe

JCT Stainless Steel Crimp Gas System is a Plumbing System comprising of a multi-layer composite PEX-AL-PEX pipe using the full range of Stainless Steel dual purpose crimp fittings and a set of tooling complete with bevelling tools to ensure tool performance.

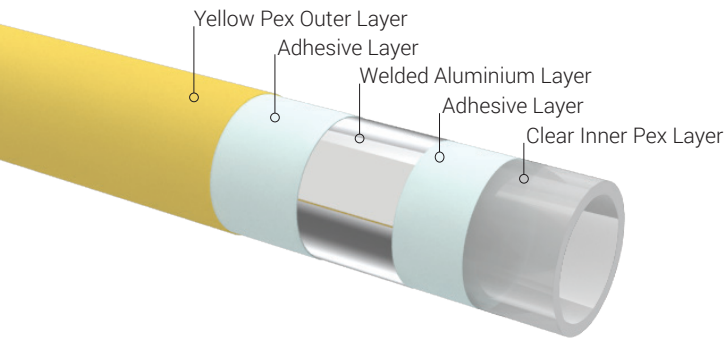
JCT PEX-AL-PEX Gas Pipe is manufactured as a composite pipe consisting of an inner and outer layer of cross-linked polyethylene which is permanently adhered to a central core of Aluminium. The pipe is manufactured under strict quality controls to Australian Standard AS4176.8-2010 under Licence AMI74689.

JCT MLP Gas Pipe carries a 25 year manufacturers warranty when the system is installed by or under supervision of a craftsman gasfitter in accordance with AS/NZS3500 and Local Authority Requirements. This is backed up by Franklins Comprehensive Insurance Cover.



Features and Benefits of JCT Gas System

- Pipe made from five layers, the PEX and Aluminium layers provide strength and flexibility
- Light weight during transport and installation
- Non toxic
- Non corrosive
- Resistant to oxygen and gases
- Smooth inner layer reduces pressure losses
- Low levels of thermal conductivity and expansion
- Leak proof fitting connections
- No open flame during installation
- Manual crimping tools can be used for both JCT Crimp Water PEX and JCT Crimp Gas PEX-AL-PEX Systems applications
- Double "O" ring seal
- Long entry stainless steel crimp sleeve
- Easy to see witness holes to confirm full engagement of fitting onto pipe



(Natural Gas only) NATURAL GAS flow through PEX/AL/PEX Composite Pipe Crimped Fittings(MJ/h) Pressure Drop of 0.75kPa(Metre Pressure 1.1kPa) Fitting Allowance(M)

Length of run (M)	2	4	6	8	10	12	14	16	18	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95
Pipe size 16	84	57	45	38	37	36	34	30	27	24	19	16	14	12	11	10	9	8	/	/	/	/	/	/	/
20	158	106	84	72	63	57	52	48	45	43	41	40	35	30	27	24	22	20	18	17	/	/	/	/	/
25	314	211	167	142	125	113	103	96	89	84	79	75	71	68	64	62	60	58	54	50	48	46	45	45	44
32	602	405	322	273	240	216	198	184	172	162	142	128	117	109	102	98	95	89	85	83	80	78	76	74	73
40	985	663	526	446	393	354	324	300	281	264	233	210	192	178	166	157	150	141	136	131	126	121	117	113	110
50	1900	1278	1014	860	757	682	625	579	541	510	449	404	370	343	321	302	285	272	256	248	238	229	221	214	207
63	3691	2505	1994	1696	1495	1349	1236	1146	1072	1010	889	802	734	680	636	589	567	539	515	494	474	457	452	427	414

(Natural Gas only) NATURAL GAS flow through PEX/AL/PEX Composite Pipe Crimped Fittings(MJ/h) Pressure Drop of 0.75kPa(Metre Pressure 2.75kPa)

Length of run (M)	2	4	6	8	10	12	14	16	18	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95
Pipe size 16	315	214	168	142	125	113	103	96	90	84	74	67	61	57	53	50	47	45	42	41	39	37	36	35	34
20	589	396	314	267	235	212	194	179	168	158	139	125	115	106	99	94	88	84	80	77	74	71	69	67	65
25	1169	787	624	530	466	420	385	356	333	314	276	249	228	211	197	186	181	178	167	157	151	146	141	137	133
32	2246	1511	1199	1017	895	807	739	684	640	602	530	478	438	405	379	357	340	335	329	321	309	298	287	278	270
40	3671	2470	1960	1662	1463	1319	1207	1119	1046	985	867	781	715	663	620	583	555	526	505	484	466	449	434	420	408
50	7082	4766	3780	3207	2823	2544	2329	2158	2018	1900	1672	1507	1380	1278	1195	1125	1027	1014	936	897	863	832	804	778	756
63	13362	8995	7125	6040	5313	4784	4379	4055	3806	3586	3172	2878	2645	2452	2286	2156	2043	1946	1860	1784	1716	1654	1599	1548	1503

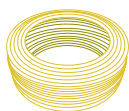
(LP Gas only) NATURAL GAS flow through PEX/AL/PEX Composite Pipe Crimped Fittings(M/J/h) Pressure Drop of 0.250kPa(Metre Pressure 2.75kPa-5.0kPa)

Length of run (M)	2	4	6	8	10	12	14	16	18	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95
Pipe size 16	448	303	241	204	180	162	148	137	128	116	106	95	88	81	76	71	67	64	61	58	56	54	52	50	48
20	847	574	457	388	342	308	282	262	245	229	203	182	167	155	144	136	129	123	117	112	107	104	100	96	94
25	1721	1169	931	792	699	631	578	536	501	473	416	375	343	318	298	280	265	252	241	231	222	214	206	200	192
32	3463	2358	1881	1602	1414	1276	1171	1086	1016	963	844	762	698	647	606	570	540	514	491	471	453	436	421	408	396
40	4921	3354	2677	2281	2014	1819	1669	1548	1449	1366	1205	1087	997	924	865	815	772	735	702	673	647	624	603	583	566
50	9076	6197	4952	4222	3730	3370	3093	2871	1688	2534	2237	2020	1852	1719	1608	1516	1436	1368	1307	1254	1206	1162	1124	1088	1055
63	17719	12118	9694	8271	7311	6609	6068	5634	5277	4977	4396	3971	3645	3381	3166	2985	2830	2694	2586	2472	2378	2293	2216	2146	2084

(LP Gas only) NATURAL GAS flow through PEX/AL/PEX Composite Pipe Crimped Fittings(MJ/h) Pressure Drop of 10.0kPa(Metre Pressure 40.0kPa-70.0kPa)

Length of run (M)	2	4	6	8	10	12	14	16	18	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95
20	6188	4347	3531	3045	2714	2470	2280	2127	2001	1894	1685	1533	1413	1316	1237	1171	1112	1063	1018	979	943	911	882	855	830
25	11467	8060	6552	5654	5042	4590	4329	3955	3721	3523	3137	2853	2632	2454	2306	2182	2075	1983	1900	1827	1762	1702	1649	1599	1552
32	24003	16887	13737	11860	10579	9635	8901	8309	7820	7406	6598	6003	5541	5168	4860	4599	4375	4181	4008	3855	3718	3593	3481	3377	3280
40	35937	25294	20582	17774	15885	14445	13447	12463	11730	11110	9903	9010	8319	7761	7299	6910	6574	6283	6024	5795	5589	5403	5233	5078	4936
50	66663	46949	38219	33016	29467	26847	24813	23174	21816	20667	18427	16775	15491	14457	13601	12878	12256	11713	11235	10809	10427	10081	9766	9478	9252
63	131992	92961	75706	65422	58407	53229	49206	45963	43279	41008	36578	33309	30771	28726	27032	25600	24369	23295	22348	21505	20748	20063	19440	18871	18364

CODE	SIZE	WALL	PACKING
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Yellow Pipe - MLP Gas

JG1650	16mm	2.0mm	50m/coil
JG16-5M	16mm	2.0mm	5m/len
JG2050	20mm	2.0mm	50m/coil
JG20-5M	20mm	2.0mm	5m/len
JG2550	25mm	2.5mm	50m/coil
JG25-5M	25mm	2.5mm	5m/len
JG3250	32mm	3.0mm	50m/coil
JG32-5M	32mm	3.0mm	5m/len



White Pipe - MLP Water

JW1650	16mm	2.0mm	50m/coil
JW16-5M	16mm	2.0mm	5m/len
JW2050	20mm	2.0mm	50m/coil
JW20-5M	20mm	2.0mm	5m/len
JW2550	25mm	2.5mm	50m/coil
JW25-5M	25mm	2.5mm	5m/len
JW3250	32mm	3.0mm	50m/coil
JW32-5M	32mm	3.0mm	5m/len



Pipe Clips - Yellow

JCT16Y	16mm	100/bag
JCT20Y	20mm	100/bag
JCT25Y	25mm	100/bag
JCT32Y	32mm	100/bag

JCT Stainless Steel Crimp System

JCT Stainless Steel Crimp product range is a complete PEX Plumbing System comprising of JCT PN16 PE-Xb Water Pipe, PEX-AL-PEX Gas Multilayer Pipe and a full range of DZR Brass Fittings with a set of tooling complete with Beveling tools to ensure tool performance.

JCT Stainless Steel Crimp and DZR fittings are dual purpose for water and gas with a double O Ring and Stainless Steel Crimp Ring.

The outlay advantage is a cost saver to the installer carrying one fitting for two applications.

JCT Stainless Steel Crimp complies with AS2537, AS2492 and AS4176 and is certified by ApprovalMark (Licences AMI74689, WM74650 and WM74651).

JCT Stainless Steel Crimp System carries a 25 year manufacturers warranty when the system is installed by a licenced plumber for water and by or under supervision of a Craftsman Gasfitter for Gas in accordance with AS/NZS3500 and Local Authority Requirements. This is backed up by Franklins Comprehensive Insurance Cover.



AS/NZS 2537



WaterMark

AMI74689

WM74650

WM74651

INSTALLATION INSTRUCTIONS

STEP 1:

Measure and cut the pipe using the pipe cutter. Make sure that the pipe is cut cleanly and squarely and there are no scores, cuts or scratches on the surface of the pipe.



STEP 2:

Round and deburr the end of the pipe by inserting the bevelling tool - ensure it is size matched to suit the pipe diameter. Insert the bevelling tool fully into the pipe using a twisting action then rotate 2-3 full turns or until it moves freely within the pipe. Visually check and remove any excess material or burrs for a clean end.



STEP 3:

Insert the pipe firmly into the crimp sleeve of the fitting body.



STEP 4:

Insert until the pipe end reaches the plastic sight sleeve and make sure the pipe can be seen through all the witness holes. Note - if an incorrect joint is made, the defective joint must be removed and replaced with a new fitting.



STEP 5:

Place the crimp sleeve in the pressing tongs and press until the jaws are completely closed.



STEP 6:

Open tongs and remove fitting, ensure the fitting body has not been damaged and that there are 3 clear crimp lines around the sleeve.

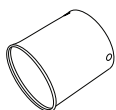


STEP 7:

At completion, carry out pressure testing as required per AS5601.1:2010 and or any requirements specified by local authorities.

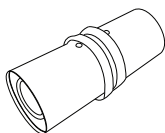
IMPORTANT:

This system must be installed by a licensed gasfitter in accordance with AS 5601.1:2010 and this procedure otherwise warranty will be void.



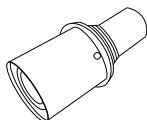
Ring Only

JSS16	16mm
JSS20	20mm
JSS25	25mm
JSS32	32mm



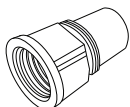
Straight Connection

JSC16	16mm
JSC20	20mm
JSC25	25mm
JSC32	32mm



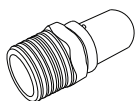
Reducing Connection

JRC2016	20mm x 16mm
JRC2516	25mm x 16mm
JRC2520	25mm x 20mm
JRC3220	32mm x 20mm
JRC3225	32mm x 25mm



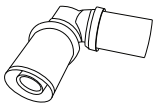
Female Connection

JFC16	16mm
JFC2015	20mm x 15mm BSP
JFC20	20mm
JFC2520	25mm x 20mm BSP



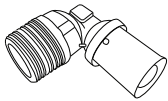
Male Connection

JMC16	16mm
JMC2015	20mm x 15mm BSP
JMC20	20mm
JMC2515	25mm x 15mm BSP
JMC2520	25mm x 20mm BSP
JMC25	25mm
JMC3225	32mm x 25mm BSP



Equal Elbow

JEE16	16mm
JEE20	20mm
JEE25	25mm
JEE32	32mm



Male Elbow

JME16	16mm
JME20	20mm
JME2520	25mm x 20mm BSP



Female Elbow

JFE16	16mm
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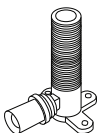
Female Wingback

JFWB16	16mm
JFWB1620	16mm x 20mm BSP
JFWB20	20mm
JFWB2015	20mm x 15mm BSP
JFWB2520	25mm x 20mm BSP



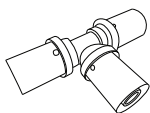
Female Double Fix Wingback

JFWB16DF	16mm
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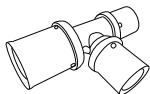
Male Wingback

JMWB161590	16mm x 15mm BSP x 90mm
JMWB1615150	16mm x 15mm BSP x 150mm
JMWB201590	20mm x 15mm BSP x 90mm
JMWB2020100	20mm x 20mm BSP x 100mm



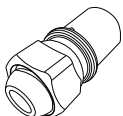
Equal Tee

JET16	16mm
JET20	20mm
JET25	25mm
JET32	32mm



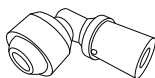
Reducing Tee

JRT201616	20mm x 16mm x 16mm
JRT202016	20mm x 20mm x 16mm
JRT2016	20mm x 16mm
JRT251616	25mm x 16mm x 16mm
JRT252020	25mm x 20mm x 20mm
JRT2516	25mm x 16mm
JRT2520	25mm x 20mm
JRT252520	25mm x 25mm x 20mm
JRT3225	32mm x 25mm



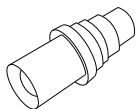
Swivel Connector

JSWC16	16mm
JSWC1620	16mm x 20mm BSP
JSWC2015	20mm x 15mm BSP
JSWC20	20mm
JSWC2520	25mm x 20mm BSP
JSWC25	25mm



Swivel Elbow

JSE16	16mm
JSE2015	20mm x 15mm BSP
JSE20	20mm



Connecting Barb

JCB16	16mm
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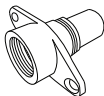
Plug

JP16	16mm
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JP20	20mm
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JP25	25mm
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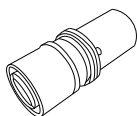
JP32	32mm
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Hose Plate

JHP16	16mm
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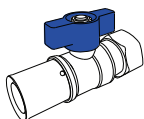
JHP20	20mm
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Straight Connection Polybuteline Adaptor

JSC16PB	16mm
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JSC20PB	20mm
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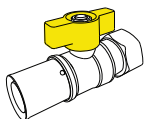


Swivel Ball Valves - Water

JBBV16SV	16mm x 1/2"
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JBBV20SV	20mm x 3/4"
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JBBV2520SV	25mm x 3/4"
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Swivel Ball Valves - Gas

JGBV16SV	16mm x 1/2"
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JGBV20SV	20mm x 3/4"
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JGBV2520SV	25mm x 3/4"
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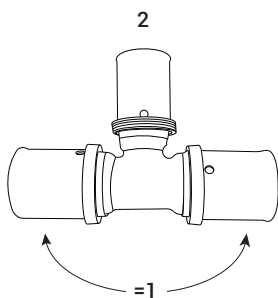
TEE CODING

The end number always represents the branch

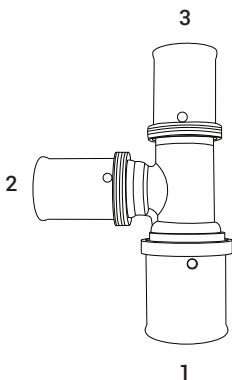
If the tee is equal on both sides and reduces at the branch then we only have two numbers not three. The larger number is always first.

e.g.

JRT2016



JRT201616



JCT Tools



Manual Crimp Tools

JCT.MC1620 CC	16mm - 20mm
JCT.C16L CC	16mm - 20mm
JCT.C20L CC	16mm - 20mm
JCT.MC1620 SS	16mm - 20mm



REMS Mini Press Tool Kit

REMS K (Copper Crimp)	16mm - 32mm
REMS U (Stainless Steel Crimp)	16mm - 32mm
REMS S (Sliding Sleeve)	16mm - 32mm



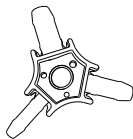
Manual Slide Tool

JCT.MS1632 Slide	16mm - 32 mm
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Pipe Cutter

PC30	16mm - 32mm
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S/S Plastic Reamer

JCT.PR1625	16 - 20 - 25mm
JCT.PR2032	20 - 25 - 32mm



90° Profile Bend

PPB016	16mm	10/bag
JCT16GALVPB	16mm	10/bag
JCT20GALVPB	20mm	10/bag
JCT25GALVPB	25mm	10/bag



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