

# Refrigeration and Air Conditioning Tubes

Pipeline solutions for refrigeration and air conditioning, all to EN 12735-1:2016.

Our copper tubing is designed specifically for refrigeration and air conditioning use and accordingly cleaned, nitrogen-purged and capped.

## Material Analysis

Material Grade Phosphorus de-oxidised copper; Cu-DHP or CW024A as defined in BS EN 1976.

Minimum Copper Content 99.90 % (including silver)

Phosphorus 0.015-0.040 %

Total Impurity Maxima 0.060 % (excluding phosphorus and silver)

The melting point of copper is 1083°C and it has a density of 8.9 gm/cc

## Mechanical Properties

### BS EN 12735-1 Refrigeration and Air Conditioning Tubes



Material Temper EN 1173	Tensile Strength min. (N/mm <sup>2</sup> )	Elongation min. (%)	Hardness (Indicative) HV5 VPN
R220 (soft)	220	40	40-70
R250 (Half Hard)	250	30	75-100
R290 (Hard)	290	3	Over 100

The table below and on the next page give the maximum working pressure (MWP)

They have been calculated based on the requirements of EN378:2:2008 using the stress values according to EN 14276. Although straight tube is supplied in either half hard or fully hard condition, we have also quoted figures based on annealed condition which is representative of the tube in the area immediately surrounding brazed joints.

The maximum test pressure can be 1.5 times that of the (MWP)

### Standard Copper Coiled Tube to EN 12735-1 R220



O.D. (inches)	Wall (inches)	Gauge (SWG)	MWP in annealed condition up to 100 c
1/4	0.028	22	125
5/16	0.028	22	98
5/16	0.036	20	129
3/8	0.032	21	81
1/2	0.032	21	69
5/8	0.036	20	61
3/4	0.040	19	54
7/8	0.040	19	46

**Copper Straight Tube to EN 12735-1 R250/R290**

O.D. (inches)	Wall (inches)	Gauge (SWG)	MWP in annealed condition at 100deg C	MWP in supplied* condition at 100deg C
3/8"	0.032	21	93	108
1/2"	0.036	20	78	91
1/2"	0.048	18	102	118
5/8"	0.036	20	62	73
5/8"	0.040	19	67	79
5/8"	0.048	18	81	95
3/4"	0.036	20	51	61
3/4"	0.040	19	57	73
3/4"	0.048	18	65	77
3/4"	0.064	16	88	102
7/8"	0.040	19	46	55
7/8"	0.048	18	55	66
7/8"	0.064	16	75	88
7/8"	0.104	12	125	142
1.1/8"	0.048	18	43	51
1.1/8"	0.064	16	57	68
1.1/8"	0.080	14	72	85
1.3/8"	0.048	18	35	41
1.3/8"	0.064	16	47	55
1.3/8"	0.080	14	59	69
1.3/8"	0.104	12	77	90
1.5/8"	0.048	18	29	35
1.5/8"	0.064	16	39	47
1.5/8"	0.080	14	49	58
1.5/8"	0.104	12	65	76
1.5/8"	0.116	11	73	85
2.1/8"	0.048	18	22	27
2.1/8"	0.064	16	30	35
2.1/8"	0.080	14	37	44
2.1/8"	0.104	12	49	58
2.5/8"	0.048	18	18	25
2.5/8"	0.064	16	24	33
2.5/8"	0.080	14	30	41
2.5/8"	0.104	12	39	54
3.1/8"	0.064	16	20	28
3.1/8"	0.080	14	25	35
3.1/8"	0.104	12	33	45
3.5/8"	0.064	16	17	24
3.5/8"	0.080	14	22	30
4.1/8"	0.064	16	15	21
4.1/8"	0.080	14	19	26
4.1/8"	0.104	12	25	34

\*Sizes 3/8 - 2 1/8" supplied in Half Hard, Sizes 2 5/8 - 4 1/8" supplied Hard

## ACR Fitting Range

Copper end feed type fittings manufactured to:

ASME B16.22-2013-Wrought Copper and Copper Alloy Solder Joint pressure Fittings.

### Specific benefits include:

All sealed in protective polythene bags and are product labelled. Fittings are supplied in reinforced cardboard boxes, labelled with product information and outline drawing of fitting. Each fitting is engraved with unique branding, space permitting



3 1/8 sample

## Fittings for CO<sub>2</sub>

Degreased copper fittings specifically for ACR and manufactured to ASME B16.22-2001 which can be used in assemblies subject to the Pressure Equipment Directive. The burst pressure of each fitting size at 55°C has been determined and a safety factor of at least 3 has been applied to establish a recommended maximum working pressure. All testing has been conducted in accordance with BS EN 378-2:2008 [+A1:2009].



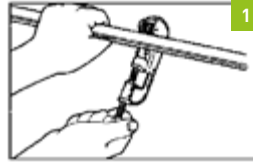
### Maximum Working Pressures

**LAWTON**  
ACR FITTINGS

Size	Burst Pressure	up to 55°C	up to 100°C	up to 150°C
1/4 "	500 bar	150 bar	15 bar	131 bar
3/8 "	360 bar	120 bar	120 bar	105 bar
1/2 "	320 bar	100 bar	100 bar	87 bar
5/8 "	300 bar	100 bar	100 bar	87 bar
3/4 "	280 bar	90 bar	90 bar	79 bar
7/8 "	240 bar	80 bar	80 bar	70 bar
1 1/8 "	220 bar	75 bar	75 bar	66 bar
1 3/8 "	220 bar	65 bar	65 bar	57 bar
1 5/8 "	180 bar	55 bar	55 bar	48 bar
2 1/8 "	100 bar	33 bar	33 bar	29 bar
2 5/8 "	93 bar	31 bar	31 bar	27 bar
3 1/8 "	87 bar	29 bar	29 bar	25 bar
3 5/8 "	84 bar	28 bar	28 bar	24.5 bar
4 1/8 "	81 bar	27 bar	27 bar	23.5 bar

# Copper tube and solder type fittings

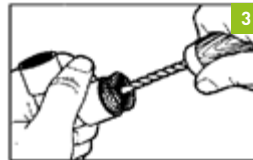
1. Cut tube square with the cutter or fine hack saw (32 tooth blade is recommended). Remove Burr.
2. Clean outside end of copper tube thoroughly with sand cloth or sandpaper equal depth of fitting. Leave no dark spots.
3. Clean inside of fitting carefully to tube stop with wire brush. Note: Sand cloth or sandpaper may also be used.
4. Apply heat uniformly around the fitting with torch. When brazing rod melts upon contact with heated fitting, the proper brazing temperature has been reached. Remove flame and feed brazing rod slightly off center at the bottom of the joint. Proceed across the bottom of the fitting and up to the top center position. Return to the starting point, and then proceed up the incomplete side to the top, again, overlapping the filler metal. Wipe off surplus brazing alloy with a piece of cloth.



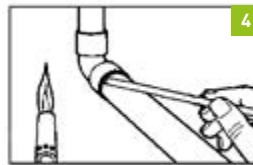
Cut tube to length & remove burr with file or scraper.



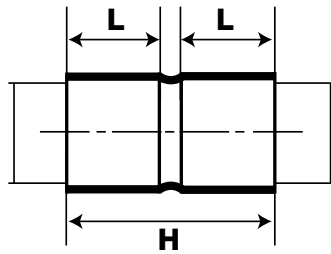
Clean outside of tube with sandpaper or sand cloth.



Clean inside of fitting with wire brush, sand cloth or sandpaper.

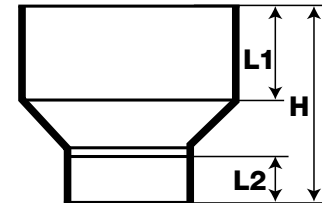


Apply heat with torch. When brazing rod melts upon contact with heated fitting, the proper temp for brazing has been reached. Remove flame & feed rod to the joint at one or two points until a ring of brazing appears at the end of the fitting.



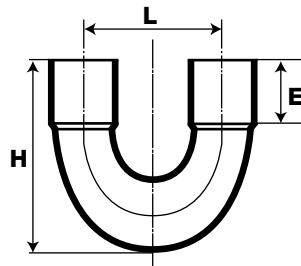
**Straight Coupler**

Size	Dimensions (mm)		Product Code
	H	L	
1/4	15	6.4	RFCP14
3/8	18	7.874	RFCP38
1/2	22	9.652	RFCP12
5/8	28	12.7	RFCP58
3/4	34	15.748	RFCP34
7/8	40	19.05	RFCP78
1	48	23.1	RFCP1
1 1/8	48	23.114	RFCP1.18
1 3/8	52	24.638	RFCP1.38
1 5/8	58	27.686	RFCP1.58
2 1/8	70	34.036	RFCP2.18
2 5/8	77	37.338	RFCP2.58
3 1/8	87	42.164	RFCP3.18
3 5/8	99	48.514	RFCP3.58
4 1/8	113	54.864	RFCP4.18



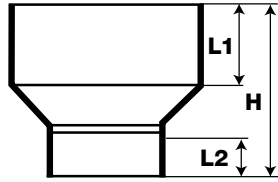
**Reducer Coupler**

Size	Dimensions (mm)			Product Code
	H	L1	L2	
3/4*1/2	31	15.748	9.652	RFCP34X12
1/2*3/8	25	9.652	7.874	RFCP12X38
3/8*1/4	20.5	7.874	6.4	RFCP38X14
5/8*1/4	28.1	12.7	6.4	RFCP58X14
5/8*3/8	28.3	12.7	7.874	RFCP58X38
5/8*1/2	28	12.7	9.652	RFCP58X12
7/8*1/2	37.5	19.05	9.652	RFCP78X12
7/8*3/4	40.5	19.05	15.748	RFCP78X34
7/8*3/8	38.3	19.05	7.874	RFCP78X38
7/8*5/8	39.6	19.05	12.7	RFCP78X58
1 1/8*1/2	47.2	23.114	23.1	RFCP1.18X12
1 1/8*5/8	46.6	23.114	12.7	RFCP1.18X58
1 1/8*3/4	48.9	23.114	15.748	RFCP1.18X34
1 1/8*7/8	50.2	23.114	19.05	RFCP1.18X78
1 3/8*1/2	52	24.638	9.652	RFCP1.38X12
1 3/8*5/8	45.7	24.638	12.7	RFCP1.38X58
1 3/8*3/4	52.5	24.638	15.748	RFCP1.38X34
1 3/8*7/8	53.6	24.638	19.05	RFCP1.38X78
1 5/8*3/8	60.3	27.686	7.874	RFCP1.58X38
1 5/8*5/8	59	27.686	12.7	RFCP1.58X58
1 5/8*1 1/8	61.5	27.686	23.114	RFCP1.58X1.18
1 5/8*1 3/8	59.6	27.686	24.638	RFCP1.58X1.38
2 1/8*5/8	72.5	34.036	12.7	RFCP2.18X58
2 1/8*3/4	74	34.036	15.748	RFCP2.18X34
2 1/8*7/8	76	34.036	19.05	RFCP2.18X78
2 1/8*1 1/8	75.8	34.036	23.114	RFCP2.18X1.18
2 1/8*1 3/8	74.7	34.036	24.638	RFCP2.18X1.38
2 1/8*1 5/8	84.5	34.036	27.686	RFCP2.18X1.58
2 5/8*1 1/8	88	37.338	23.114	RFCP2.58X1.18
2 5/8*1 3/8	84.3	37.338	24.638	RFCP2.58X1.38
2 5/8*1 5/8	84.3	37.338	27.686	RFCP2.58X1.58
2 5/8*2 1/8	85.3	37.338	34.036	RFCP2.58X2.18
3 1/8*1 3/8	95	42.164	24.638	RFCP3.18X1.38
3 1/8*1 5/8	97	42.164	27.686	RFCP3.18X1.58
3 1/8*2 1/8	95.3	42.164	34.036	RFCP3.18X2.18
3 1/8*2 5/8	91.5	42.164	37.338	RFCP3.18X2.58
3 5/8*1 1/8	111	48.514	23.114	RFCP3.58X1.18
3 5/8*1 5/8	125.5	48.514	27.686	RFCP3.58X1.58
3 5/8*2 1/8	112.5	48.514	34.036	RFCP3.58X2.18
3 5/8*2 5/8	121.7	48.514	37.338	RFCP3.58X2.58
3 5/8*3 1/8	121.1	48.514	42.164	RFCP3.58X3.18
4 1/8*1 5/8	125.5	54.864	27.686	RFCP4.18X1.58
4 1/8*2 1/8	121.5	54.864	34.036	RFCP4.18X2.18
4 1/8*2 5/8	121.7	54.864	37.338	RFCP4.18X2.58
4 1/8*3 1/8	121.2	54.864	42.164	RFCP4.18X3.18
4 1/8*3 5/8	115.5	54.864	48.514	RFCP4.18X3.58



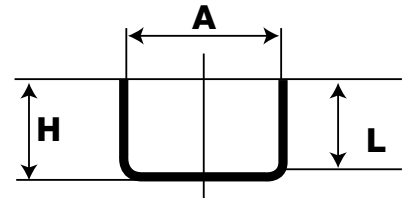
**U-bend**

Size	Dimensions (mm)			Product Code
	L	H	E	
U3/8*1 1/2	38.1	32.7	7.874	RFUB38X1.12
U1/2*1 1/2	38.1	36.3	9.652	RFUB12X1.12
U5/8*1 7/8	47.6	49	12.7	RFUB58X1.78
U5/8*2	50.8	46.9		RFUB58X2
U3/4*2	50.8	51.6	15.748	RFUB34X2
U3/4*2 1/8	54	53.8	15.748	RFUB34X2.18
U3/4*2 1/2	63.5	60.3	15.748	RFUB34X2.12
U3/4*2 1/4	57.1	55.3	15.748	RFUB34X2.14
U7/8*2	50.8	57.2	19.05	RFUB78X2
U7/8*2 1/2	63.5	63.3	19.05	RFUB78X2.12
U1 1/8*2 1/8	54	65.5	23.114	RFUB1.18X2.18
U1 1/8*3	76.2	77.5	23.114	RFUB1.18X3
U1 1/8*2 1/2	63.5	75.3	24.638	RFUB1.18X2.12
U1 3/8*3 3/4	95.3	94.9	24.638	RFUB1.38X3.34
U1 5/8*4 1/2	114.3	107.7	27.686	RFUB1.58X4.12
U2 1/8*5 1/2	139.7	132.8	34.036	RFUB2.18X5.12



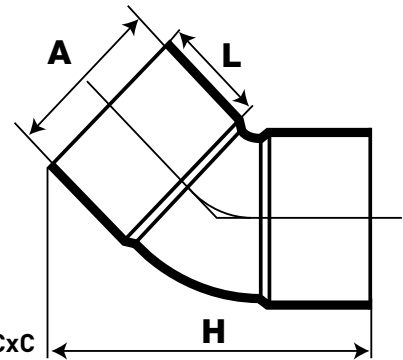
**Fitting Reducer cfx**

Size	Dimensions (mm)			Product Code
	H	L1	L2	
1/2*3/8	23/2	11.176	7.874	RFRED12X38
3/4*3/8	35.3	17.526	7.874	RFRED34X38
3/4*5/8	34.9	17.526	12.7	RFRED34X58
1/2*1/4	25.2	11.176	6.4	RFRED12X14
3/8*1/4	20.5	9.652	6.4	RFRED38X14
3/4*1/2	33	17.526	9.652	RFRED34X12
5/8*3/8	29.2	14.224	7.874	RFRED58X38
5/8*1/2	28.9	14.224	9.652	RFRED58X12
7/8*3/8	38.1	20.574	7.874	RFRED78X38
7/8*1/2	37.7	20.574	9.652	RFRED78X12
3/4*5/8	34.9	17.526	12.7	RFRED34X58
7/8*5/8	38.7	20.574	12.7	RFRED78X58
7/8*3/4	42.6	20.574	15.748	RFRED78X34
1 1/8*5/8	49.1	24.638	12.7	RFRED1.18X58
1 1/8*3/4	47.8	24.638	15.748	RFRED1.18X34
1 1/8*7/8	50	24.638	19.05	RFRED1.18X78
1 3/8*5/8	51.9	26.162	12.7	RFRED1.38X58
1 3/8*3/4	53.6	26.162	15.748	RFRED1.38X34
1 3/8*7/8	55.6	26.162	19.05	RFRED1.38X78
1 3/8*1 1/8	57	26.162	23.114	RFRED1.38X1.18
1 5/8*7/8	55.6	29.464	19.05	RFRED1.58X78
1 5/8*1 1/8	62.2	29.464	23.114	RFRED1.58X1.18
1 5/8*1 3/8	62.9	29.464	24.638	RFRED1.58X1.38
2 1/8*5/8	75.5	35.814	12.7	RFRED2.18X58
2 1/8*7/8	75.5	35.814	19.05	RFRED2.18X78
2 1/8*1 1/8	78.6	35.814	23.114	RFRED2.18X1.18
2 1/8*1 3/8	75.5	35.814	24.638	RFRED2.18X1.38
2 1/8*1 5/8	75.5	35.814	27.686	RFRED2.18X1.58
2 5/8*1 1/8	84.6	38.862	23.114	RFRED2.58X1.18
2 5/8*1 3/8	85	38.862	24.638	RFRED2.58X1.38
2 5/8*1 5/8	84.2	38.862	27.686	RFRED2.58X1.58
2 5/8*2 1/8	85.2	38.862	34.036	RFRED2.58X2.18
3 1/8*1 3/8	96	43.688	24.638	RFRED3.18X1.38
3 1/8*1 5/8	93.4	43.688	27.686	RFRED3.18X1.58
3 1/8*2 1/8	96.6	43.688	34.036	RFRED3.18X2.18
3 1/8*2 5/8	92.3	43.688	37.338	RFRED3.18X2.58
3 5/8*2 5/8	104.5	50.038	37.338	RFRED3.58X2.58
3 5/8*3 1/8	102.8	50.038	42.164	RFRED3.58X3.18
4 1/8*1 5/8	128	56.388	27.686	RFRED4.18X1.58
4 1/8*2 1/8	121	56.388	34.036	RFRED4.18X2.18
4 1/8*2 5/8	114	56.388	37.338	RFRED4.18X2.58
4 1/8*3 1/8	116.8	56.388	42.164	RFRED4.18X3.18
4 1/8*3 5/8	115.5	56.388	48.514	RFRED4.18X3.58



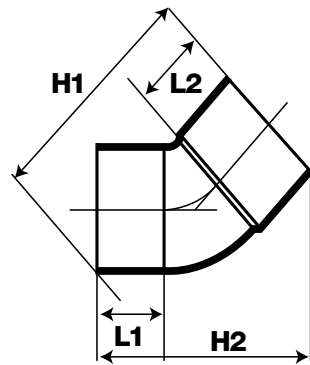
**End Cap**

Size	Dimensions (mm)		Product Code
	H	L	
3/8	9.5	7.874	RFEC38
1/2	11.5	9.652	RFEC12
5/8	14.5	12.7	RFEC58
3/4	18	15.748	RFEC34
7/8	22	19.05	RFEC78
1	26	23.1	RFEC1
1 1/8	27	23.114	RFEC1.18
1 3/8	29.5	24.638	RFEC1.38
1 5/8	32.5	27.686	RFEC1.58
2 1/8	38.5	34.036	RFEC2.18
2 5/8	40	37.338	RFEC2.58
3 1/8	47.5	42.164	RFEC3.18
3 5/8	54.5	48.514	RFEC3.58
4 1/8	61	54.864	RFEC4.18



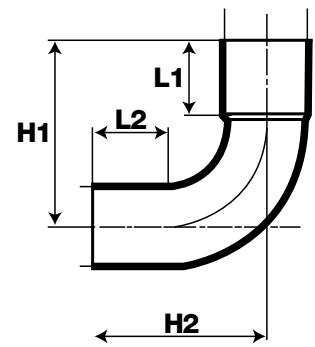
**45deg Elbow CxC**

Size	Dimensions (mm)		Product Code
	H	L	
1/4	22.3	6.4	RFEL45/14
3/8	27.5	7.874	RFEL45/38
1/2	32	9.652	RFEL45/12
5/8	38.3	12.7	RFEL45/58
7/8	57	19.05	RFEL45/78
1 1/8	68.2	23.114	RFEL45/1.18
1 3/8	74.5	24.638	RFEL45/1.38
1 5/8	84	27.686	RFEL45/1.58
2 1/8	92.5	34.036	RFEL45/2.18
2 5/8	127.5	37.338	RFEL45/2.58
3 1/8	143	42.164	RFEL45/3.18
3 5/8	166.5	48.514	RFEL45/3.58
4 1/8	187.5	54.864	RFEL45/4.18



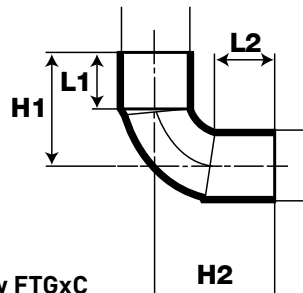
**45deg Street Elbow FTGxC**

CCL	Dimensions (mm)				Product Code
	H1	H2	L1	L2	
3/8	31.2	32.2	7.874	9.652	RFELS45/38
1/2	36	37.2	9.652	11.176	RFELS45/12
5/8	42.8	44.3	12.7	14.224	RFELS45/58
3/4	52.8	54.5	15.748	17.526	RFELS45/34
7/8	60.8	62.3	19.05	20.574	RFELS45/78
1 1/8	69.4	70.9	23.114	24.638	RFELS45/1.18
1 3/8	79	81.7	24.638	26.162	RFELS45/1.38
1 5/8	88	90	27.686	29.464	RFELS45/1.58
2 1/8	110	114	34.036	35.814	RFELS45/2.18
2 5/8	126.7	128.6	37.338	38.862	RFELS45/2.58
3 1/8	146	149.5	42.164	43.688	RFELS45/3.18
4 1/8	185.5	189	54.864	56.388	RFELS45/4.18



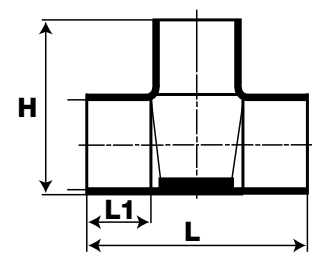
**90 deg Long Radius Street Elbow FTGxC**

CCL	Dimensions (mm)				Product Code
	H1	H2	L1	L2	
1/4	20	18.5	6.4	7.9	RFELLRS14
3/8	23	23.5	7.874	9.652	RFELLRS38
1/2	27.6	28.8	9.652	11.176	RFELLRS12
5/8	35	34	12.7	14.224	RFELLRS58
3/4	41.5	43.5	15.748	17.526	RFELLRS34
7/8	50	49.3	19.05	20.574	RFELLRS78
1 1/8	62.2	70.2	23.114	24.638	RFELLRS1.18
1 3/8	75.5	81.5	24.638	26.162	RFELLRS1.38
1 5/8	86.5	89.5	27.686	29.464	RFELLRS1.58
2 1/8	110	113	34.036	35.814	RFELLRS2.18
2 5/8	133	142.5	37.338	38.862	RFELLRS2.58
3 1/8	165.5	168	42.164	43.688	RFELLRS3.18
3 5/8	193	193	48.514	50.038	RFELLRS3.58



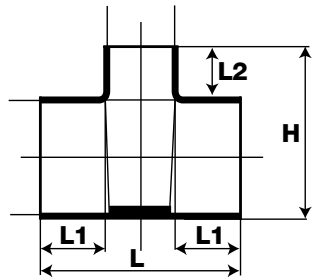
**90deg Short Radius Street Elbow FTGxC**

CCL	Dimensions (mm)				Product Code
	H1	H2	L1	L2	
3/8	18.2	23.4	7.874	9.652	RFELSRS38
1/2	19.5	25	9.652	11.176	RFELSRS12
5/8	23.5	29.3	12.7	14.224	RFELSRS58
3/4	30.5	36.5	15.748	17.526	RFELSRS34
7/8	36	39	19.05	20.574	RFELSRS78
1	40.5	44	23	24.6	RFELSRS1
1 1/8	42	47	23.114	24.638	RFELSRS1.18
1 3/8	47	57.5	24.638	26.162	RFELSRS1.38
1 5/8	51.5	62.5	27.686	29.464	RFELSRS1.58
2 1/8	65	74	34.036	35.814	RFELSRS2.18
2 5/8	79.6	87.3	37.338	38.862	RFELSRS2.58
3 1/8	97.5	101	42.164	43.688	RFELSRS3.18
4 1/8	120	124	54.864	56.388	RFELSRS4.18



**Equal Tee CxCxC**

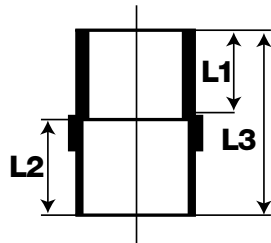
Size	Dimensions (mm)			Product Code
	L	H	E	
1/4	25.5	16.2	6.4	RFTE14
3/8	30.5	20.8	7.874	RFTE38
1/2	35.5	25.1	9.652	RFTE12
5/8	43.7	32.6	12.7	RFTE58
3/4	53	39.6	15.748	RFTE34
7/8	62.5	46.1	19.05	RFTE78
1	73.2	53.8	23.1	RFTE1
1 1/8	77.7	56	23.114	RFTE1.18
1 3/8	85.5	65.2	24.638	RFTE1.38
1 5/8	99	73.3	27.686	RFTE1.58
2 1/8	126	93	34.036	RFTE2.18
2 5/8	146	112	37.338	RFTE2.58
3 1/8	170	129	42.164	RFTE3.18
3 5/8	198	147	48.514	RFTE3.58
4 1/8	220	168	54.864	RFTE4.18



### Reducing Tee CxCxC

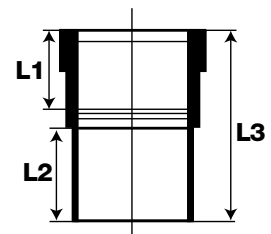
SIZE	Dimensions (mm)				Product Code
	L	H	L1	L2	
3/8*1/4	28	20	7.874	6.4	RFTE38x38x14
3/8*5/8	45	33	7.874	12.7	RFTE38x38x58
1/2*1/4	43	24	9.652	6.4	RFTE12x12x14
1/2*3/8	35	23.5	9.652	7.874	RFTE12x12x38
1/2*5/8	52	32/5	9/652	12/7	RFTE12x12x58
5/8*3/8	38	27	12.7	7.874	RFTE58x58x38
5/8*1/2	42	29.5	12.7	9.652	RFTE58x58x12
5/8*3/4	63.5	38.5	12.7	15.748	RFTE58x58x34
5/8*7/8	50	39	12.7	19.05	RFTE58x58x78
3/4*3/8	42.5	31	15.748	7.874	RFTE34x34x38
3/4*1/2	46.5	32.5	15.748	9.652	RFTE34x34x12
7/8*1/2	53	36.5	19.05	9.652	RFTE78x78x12
7/8*3/8	52	33.5	19.05	7.874	RFTE78x78x38
7/8*3/4	60	42	19.05	15.748	RFTE78x78x34
7/8*5/8	56.5	38	19.05	12.7	RFTE78x78x58
7/8*1 1/8	71	52	19.05	23.114	RFTE78x78x1.18
1 1/8*1/2	62	42.5	23.114	9.652	RFTE1.18x1.18x12
1 1/8*3/4	69	51.5	23.114	15.748	RFTE1.18x1.18x34
1 1/8*5/8	64	46	23.114	12.7	RFTE1.18x1.18x1.58
1 1/8*7/8	70	53	23.114	19.05	RFTE1.18x1.18x1.78
1 1/8*1 3/8	86	63.5	23.114	24.638	RFTE1.18x1.18x1.38
1 1/8*1 5/8	120	73.3	23.114	27.686	RFTE1.18x1.18x1.58
1 3/8*5/8	70	52.5	24.638	12.7	RFTE1.38x1.38x58
1 3/8*7/8	75	59	24.638	19.05	RFTE1.38x1.38x78
1 3/8*1 5/8	93	71	24.638	27.686	RFTE1.38x1.38x1.58
1 3/8*2 1/8	150	93	24.638	34.036	RFTE1.38x1.38x2.18
1 3/8*1 1/8	72	61	24.638	23.114	RFTE1.38x1.38x1.18
1 5/8*5/8	73.5	63	27.686	12.7	RFTE1.58x1.58x58

SIZE	Dimensions (mm)				Product Code
	L	H	L1	L2	
1 5/8*3/4	76	65	27.686	15.748	RFTE1.58x1.58x34
1 5/8*7/8	81	65	27.686	19.05	RFTE1.58x1.58x78
1 5/8*1 3/8	92.5	72	27.686	24.638	RFTE1.58x1.58x1.38
1 5/8*1 1/8	85	71	27.686	23.114	RFTE1.58x1.58x1.18
1 5/8*2 1/8	147	93	27.686	34.036	RFTE1.58x1.58x2.18
2 1/8*5/8	89	74	34.036	12.7	RFTE2.18x2.18x58
2 1/8*7/8	92	79	34.036	19.05	RFTE2.18x2.18x78
2 1/8*1 3/8	110	85	34.036	24.638	RFTE2.18x2.18x1.38
2 1/8*1 5/8	112.5	90	34.036	27.686	RFTE2.18x2.18x1.58
2 1/8*1 1/8	102	84.5	34.036	23.114	RFTE2.18x2.18x1.18
2 1/8*2 5/8	173	110	34.036	37.338	RFTE2.18x2.18x2.58
2 5/8*5/8	92.5	88	37.338	12.7	RFTE2.58x2.58x58
2 5/8*7/8	103	94	37.338	19.05	RFTE2.58x2.58x78
2 5/8*1 1/8	108	97	37.338	23.114	RFTE2.58x2.58x1.18
2 5/8*1 3/8	113	99	37.338	24.638	RFTE2.58x2.58x1.38
2 5/8*1 5/8	120	104	37.338	27.686	RFTE2.58x2.58x1.58
2 5/8*2 1/8	130	105	37.338	34.036	RFTE2.58x2.58x2.18
3 1/8*5/8	102.5	101	42.164	12.7	RFTE3.18x3.18x58
3 1/8*2 1/8	146	120	42.164	34.036	RFTE3.18x3.18x2.18
3 1/8*1 5/8	134	114	42.164	27.686	RFTE3.18x3.18x1.58
4 1/8*7/8	138	134	54.864	19.05	RFTE4.18x4.18x78
4 1/8*1 1/8	141	136	54.864	23.114	RFTE4.18x4.18x1.18
4 1/8*1 3/8	150	140	54.864	24.638	RFTE4.18x4.18x1.38
4 1/8*1 5/8	161	145	54.864	27.686	RFTE4.18x4.18x1.58
4 1/8*2 1/8	167	153	54.864	34.036	RFTE4.18x4.18x2.18
4 1/8*2 5/8	181	153	54.864	37.338	RFTE4.18x4.18x2.58
4 1/8*3 1/8	194	157	54.864	42.164	RFTE4.18x4.18x3.18



### Male Adaptor CxM

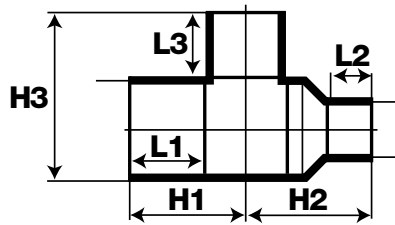
Size	Dimensions (mm)			Product Code
	L1	L2	L3	
7/8*3/4MC	16	19.1	37.5	RFMAD78x34
1 1/8*1MC	20	23.1	44.6	RFMAD1.18x1
2 1/8*2MC	22	34	59.5	RFMAD2.18x2
1/2*1/2MC	13.4	9.7	33.5	RFMAD12x12



### Female Adaptor CxF

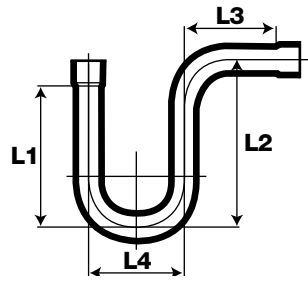
Size	Dimensions (mm)			Product Code
	L1	L2	L3	
5/8*1/2FC	15	16	33.3	RFFAD58X12
3/4*3/4FC	16.8	15.8	38.9	RFFAD34X34
7/8*1/2FC	15.5	19.1	35.6	RFFAD78X12





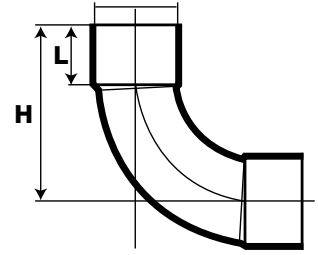
### Reducing tee One End and branch

SIZE	Dimensions (mm)						Product Code
	H1	H2	H3	L1	L2	L3	
1/2*3/8*3/8	16.5	20.5	24.5	9.652	7.874	7.874	RFTE12X38X38
1/2*3/8*1/2	18	22	25	9.652	7.874	9.652	RFTE12X38X12
5/8*3/8*3/8	19	22	27	12.7	7.874	7.874	RFTE58X38X38
5/8*1/2*3/8	19	21.5	27	12.7	9.652	7.874	RFTE58X12X38
5/8*1/2*1/2	21.5	23.5	29.5	12.7	9.652	9.652	RFTE58X12X12
3/4*5/8*5/8	26	27	35.5	15.748	12.7	12.7	RFTE34X58X58
7/8*1/2*1/2	26.5	31	31	19.05	9.652	9.652	RFTE78X12X12
7/8*1/2*7/8	31.5	36	44.5	19.05	9.652	19.05	RFTE78X12X78
7/8*5/8*1/2	28	29.5	31	19.05	12.7	9.652	RFTE78X58X12
7/8*5/8*7/8	31.5	35	44.5	19.05	12.7	9.652	RFTE78X58X78
7/8*3/4*3/4	31	34	43	19.05	15.748	15.748	RFTE78X34X34
7/8*5/8*5/8	28	30	38.5	19.05	12.7	12.7	RFTE78X58X58
1 1/8*5/8*5/8	33	35	46	23.114	12.7	12.7	RFTE1.18X58X58
1 1/8*5/8*7/8	35.5	40	52	23.114	19.05	19.05	RFTE1.18X58X78
1 1/8*5/8*1 1/8	39	42	57	23.114	12.7	23.114	RFTE1.18X58X1.18
1 1/8*7/8*7/8	35	42	52	23.114	19.05	19.05	RFTE1.18X78X78
1 1/8*7/8*1 1/8	39	46	57	23.114	19.05	23.114	RFTE1.18X78X1.18
1 1/8*7/8*5/8	32	39	46	23.114	19.05	12.7	RFTE1.18X78X58
1 1/8*7/8*1/2	30.5	38	42.5	23.114	19.05	9.652	RFTE1.18X78X12
1 3/8*5/8*1 3/8	43	54	64.5	24.638	12.7	24.638	RFTE1.38X58X1.38
1 3/8*7/8*5/8	35	45	52.5	24.638	19.05	12.7	RFTE1.38X78X58
1 3/8*7/8*7/8	38	51.5	59	24.638	19.05	19.05	RFTE1.38X78X78
1 3/8*7/8*1 3/8	43	58	64.5	24.638	19.05	24.638	RFTE1.38X78X1.38
1 3/8*1 1/8*7/8	37	45	57	24.638	23.114	19.05	RFTE1.38X1.18X78
1 3/8*1 1/8*5/8	34	44	53.5	24.638	23.114	12.7	RFTE1.38X1.18X58
1 3/8*1 1/8*1 1/8	41	49	57	24.638	23.114	23.114	RFTE1.38X1.18X1.18
1 5/8*7/8*7/8	40	54	67	27.686	19.05	19.05	RFTE1.58X78X78
1 5/8*7/8*1 5/8	50	60	76	27.686	19.05	27.686	RFTE1.58X78X1.58
1 5/8*1 1/8*7/8	41	53.5	66.5	27.686	23.114	19.05	RFTE1.58X1.18X78
1 5/8*1 1/8*1 1/8	42.5	52.5	71	27.686	23.114	23.114	RFTE1.58X1.18X1.18
1 5/8*1 1/8*1 3/8	48	56	72.5	27.686	23.114	24.638	RFTE1.58X1.18X1.38
1 5/8*1 1/8*1 5/8	51	59	75	27.686	23.114	27.686	RFTE1.58X1.18X1.58
1 5/8*1 3/8*1 3/8	42.5	55	72.5	27.686	24.638	24.638	RFTE1.58X1.38X1.38
1 5/8*1 3/8*1 5/8	51.5	59.5	75	27.686	24.638	27.686	RFTE1.58X1.38X1.58
2 1/8*1 1/8*1 1/8	50	64	84.5	34.036	23.114	23.114	RFTE2.18X1.18X1.18
2 1/8*1 3/8*7/8	47.5	61.5	79	34.036	24.638	19.05	RFTE2.18X1.38X78
2 1/8*1 3/8*1 1/8	50	63	87	34.036	24.638	23.114	RFTE2.18X1.38X1.18
2 1/8*1 3/8*1 3/8	54	69	85	34.036	24.638	24.638	RFTE2.18X1.38X1.38
2 1/8*1 3/8*2 1/8	63	75	92	34.036	24.638	34.036	RFTE2.18X1.38X2.18
2 1/8*1 5/8*1 1/8	50	61	84	34.036	27.686	23.114	RFTE2.18X1.58X1.18
2 1/8*1 5/8*7/8	48	61	77.5	34.036	27.686	19.05	RFTE2.18X1.58X78
2 1/8*1 5/8*1 3/8	54	65	85.5	34.036	27.686	24.638	RFTE2.18X1.58X1.38
2 1/8*1 5/8*1 5/8	56.5	63.5	89	34.036	27.686	27.686	RFTE2.18X1.58X1.58
2 5/8*7/8*2 5/8	73.5	88	112	37.338	19.05	37.338	RFTE2.58X78X2.58
2 5/8*2 1/8*1 5/8	61.5	73	101	37.338	34.036	27.686	RFTE2.58X2.18X1.58
2 5/8*2 1/8*2 1/8	67.5	78.5	105.5	37.338	34.036	34.036	RFTE2.58X2.18X2.18
3 1/8*2 1/8*2 1/8	72	88	123	42.164	34.036	34.036	RFTE3.18X2.18X2.18
3 1/8*2 5/8*1 5/8	70	77	121	42.164	34.036	27.686	RFTE3.18X2.58X1.58
3 1/8*2 5/8*2 1/8	71.5	83.5	123	42.164	37.338	34.036	RFTE3.18X2.58X2.18



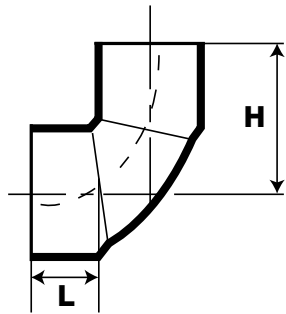
**P-Trap**

SIZE	Dimensions (mm)				Product Code
	L1	L2	L3	L4	
3/8	87.2	35.1	95.2	38.1	RFPT38
1/2	64	73.2	42.6	43.2	RFPT12
5/8	80.2	94.8	55.6	57.2	RFPT58
3/4	134.1	152.4	73	76.2	RFPT34
7/8	133.4	142.9	69.85	76.2	RFPT78
1 1/8	125	134.1	55.2	89.7	RFPT1.18
1 3/8	133.4	177.6	88.9	127	RFPT1.38
1 5/8	196.8	223.8	88.9	127	RFPT1.58
2 1/8	219	250.8	104.8	152.4	RFPT2.18



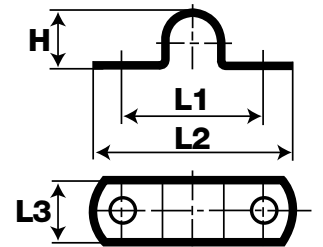
**90deg Long Radius Elbow**

Size	Dimensions (mm)		Product Code
	H	L	
1/4	19	6.4	RFELLR14
3/8	23.5	7.874	RFELLR38
1/2	27.8	9.652	RFELLR12
5/8	34	12.7	RFELLR58
3/4	41.5	15.748	RFELLR34
7/8	50.8	19.05	RFELLR78
1 1/8	62.5	23.114	RFELLR1.18
1 3/8	73.6	24.638	RFELLR1.38
1 5/8	84	27.686	RFELLR1.58
2 1/8	110	34.036	RFELLR2.18
2 5/8	131.5	37.338	RFELLR2.58
3 1/8	165	42.164	RFELLR3.18
3 5/8	193	48.514	RFELLR3.58
4 1/8	217	54.864	RFELLR4.18



**90deg Short Radius Elbow**

Size	Dimensions (mm)		Product Code
	H	L	
1/4	14.6	6.4	RFELSR14
3/8	16.9	7.874	RFELSR38
1/2	19.5	9.652	RFELSR12
5/8	22.6	12.7	RFELSR58
3/4	28.5	15.748	RFELSR34
7/8	33.8	19.05	RFELSR78
1	40	23.1	RFELSR1
1 1/8	41.8	23.114	RFELSR1.18
1 3/8	47	24.638	RFELSR1.38
1 5/8	53.5	27.686	RFELSR1.58
2 1/8	66	34.036	RFELSR2.18
2 5/8	79.6	37.338	RFELSR2.58
3 1/8	98	42.164	RFELSR3.18
3 5/8	111	48.514	RFELSR3.58
4 1/8	120	54.864	RFELSR4.18



**Tube Strap - Double Hole**

SIZE	Dimensions (mm)					Product Code
	L1	L2	L3	H		
1/2	33.5	46	13	14.2	6.6	RFSPS12
5/8	36	53	13	16.5	8	RFSPS58
3/4	40.2	53.3	13	20.2	9.6	RFSPS34
7/8	44	61.5	13	22.5	11.3	RFSPS78
1 1/8	48.8	67	13	30.5	14	RFSPS1.18
1 3/8	58	71	13	36.5	17.8	RFSPS1.38
1 5/8	62	74	12.8	42	21	RFSPS1.58
2 1/8	79.3	91.7	13	55.5	27.25	RFSPS2.18

# Brazing Rods

## Type of Product

5% Silver Brazing Alloy

## Composition

5% Silver

89% Copper

6% Phosphorous

Impurities to BSEN 17672 Group CP

Alloy conforms to  
BSEN 17672:2010 CuP104

## Melting Range

645 - 815°C

## Appearance

Copper coloured metal

## Occupational Health Data

TLV

Odour threshold

Silver 0.1mg/m3 as fume

Phosphorous 1mg/m3 as  
phosphoric acid

Copper 0.2mg/m3 as fume

## Working Temp

710°C

**Tensile Strength** 600N/mm<sup>2</sup>

**Hardness** 190

**Elongation** 7%

## Electrical Conductivity

10% I.A.C.S. at 20°C

## Type of Product

2% Silver Brazing Alloy

## Composition

2% Silver

91.7% Copper

6.3% Phosphorous

Impurities to BSEN 17672 Group CP

Alloy conforms to  
BSEN 17672:2010 CuP104

## Melting Range

645 - 825°C

## Appearance

Copper coloured metal

## Occupational Health Data

TLV

Odour threshold

Silver 0.1mg/m3 as fume

Phosphorous 1mg/m3 as  
phosphoric acid

Copper 0.2mg/m3 as fume

## Working Temp

740°C

**Tensile Strength** 490N/mm<sup>2</sup>

**Hardness** 195

**Elongation** 5%

## Electrical Conductivity

9% I.A.C.S. at 20°C

## Type of Product

Square 0.2% Silver Brazing Alloy

## Composition

0.2% Silver

93.5% Copper

6.3% Phosphorous

Impurities to BSEN 17672 Group CP

Alloy conforms to  
BSEN 17672:2010 CuP104

## Melting Range

645 - 815°C

## Appearance

Copper coloured metal

## Occupational Health Data

TLV

Odour threshold

Silver 0.1mg/m3 as fume

Phosphorous 1mg/m3 as  
phosphoric acid

Copper 0.2mg/m3 as fume

## Working Temp

760°C

**Tensile Strength** 490N/mm<sup>2</sup>

**Hardness** 195

**Elongation** 5%

## Electrical Conductivity

8.5% I.A.C.S. at 20°C