







 Delcop™
 Triflow™
 Delbraze®
 Clyde
 Coas®



Capillary Fittings and Accessories



Innovation You Can Trust 

Contents	Page
 Delcop™ End Feed Capillary Fittings	
Technical Specifications	4
Installation Dimensions	10
Product Range -	
End Feed Capillary Fittings	17
6mm-54mm Copper	
15mm-54mm Red Brass	
End Feed Capillary Waste Fittings	34
35mm-54mm Copper and Red Brass	
 Triflow™ Integral Solder Ring Fittings	
Technical Specifications	38
Installation Dimensions	44
Product Range -	
Integral Solder Ring Fittings	53
6mm-67mm	
 Delbraz® Brazing Fittings - Short Cup	
Technical Specifications	66
Installation Dimensions	75
Product Range -	
Brazing Fittings - Short Cup	77
67mm-219mm Copper	
15mm-219mm Red Brass	
Brazing Flanges	84
15mm-219mm	
 Clyde Brazing Fittings - Long Cup	
Technical Specifications	86
Installation Dimensions	90
Product Range -	
Brazing Fittings - Long Cup	92
67mm-159mm Copper	
 Coas®	
Accessories	96



Technical Specifications

General Information

Delcop end feed capillary fittings are manufactured in accordance with EN 1254-1 (formerly BS 864: Part 2).

The materials used in manufacture (copper, DZR brass and gunmetal) make them resistant or immune to dezincification.

Delcop fittings are primarily designed for soft solder applications but, with the exception of Union fittings with copper tails, may also be brazed.

As there are no relevant standards for waste fittings these are manufactured to our own exacting in-house specification.

A range of accessories is also offered such as mats and cleaning brushes. All products enable the installer to meet the stringent conditions imposed by the Water Regulations.

Applications and Uses

Delcop fittings are used in a wide variety of domestic and commercial applications such as plumbing, heating, gas and refrigeration, fluid distribution, air pressure lines and air conditioning.



page 4

The fitting's simplicity, versatility and speed of installation makes it a popular choice with installers.

Size Availability

6mm–54mm, suitable for connecting copper tubes in accordance with EN 1057 (formerly BS 2871: Part 1) and many other standards including ISO 274.

For sizes above 54mm please ask for details about our Delbraze and Clyde ranges of brazing fittings and flanges up to 219mm in diameter.

Material Availability

Most fittings in the range are manufactured from Copper or Gunmetal thereby being immune to dezincification.

Some items are produced in dezincification resistant (DZR) Brass.

Table A

Material	Specification
Copper	EN 12165 CW24A
Brass (Forging)	EN 12164/5 617N
Brass (Turning)	EN 12164/5 614N
DZR Brass (Stamping)	EN 12164/5 602N
DZR Brass (Turning)	EN 12164/5 602N
Gunmetal (Red Brass)	BS 1400 LG2

Dezincification of ordinary Duplex brass fittings may occur under certain water supply conditions but fittings made from DZR brass can be safely used in these circumstances.

The DZR alloy, a joint development of manufacturers and British Non-Ferrous Metal Technology Centre, contains a highly effective corrosion inhibitor. It's an outstanding material, ideally suited to the high quality standards maintained by IBP, and can be used where dezincification could cause problems.

DZR fittings are marked with the **OR** symbol, recognised and accepted by the Water Industry, British Plumbing Fittings Manufacturers' Association, and specified in British Standards as a mark denoting material of assessed capability of resistance.

Where DZR brass is used, it complies with the requirements of EN 12164 CW602N and EN 12165 CW602N.

Table A provides a list of materials and the relevant European Norme that governs its performance.

page 5



Health and Safety

It is the responsibility of the end user to ensure that all adequate protection is available where required and the necessary information regarding Health and Safety Regulations is adhered to.

Copper and copper alloy fittings are considered non-hazardous under normal circumstances.

Before using solders, fluxes and mats, you are advised to read the relevant COSHH Regulations. Copies are available on request. All per COSHH 4 REG 1988.

Quality Assurance

The Company is a B.S.I. Registered Firm of assessed capability, Registration Number FM 11836, manufacturing in accordance with EN ISO 9001:2000.

Delcop fittings are manufactured in accordance with EN 1254-1 and 4 (formerly BS 864: Part 2).

Most fittings in the range are covered by the B.S.I. Kitemark under Licence No. KM 07283 (detailed list available upon request). Listings can also be found in the WRAS Water Fittings and Materials Directory under 'Kitemarked and Quality Assured Fittings'.



Certificate No. FM 11836



In addition to audits carried out by the British Standards Inspectorate, an internal audit system is also in operation to further enhance quality control.

Design

Delcop fittings use the principle of capillary attraction to ensure that, when correctly jointed to copper tube, a sufficient layer of solder is present between tube and fitting to form a mechanically strong, leak-proof joint.

To effect a successful joint there must be a controlled gap between the mating parts.

This precise dimension is engineered by sizing the sockets to close tolerances and using tube to EN 1057 (formerly BS 2871: Part 1).

Fittings are designed to comply with the relevant standards, to maximise flow rate and to blend with the connecting pipework.

For potable systems, lead-free solder in accordance with EN 29453 and ISO 9453 must be used.

Connecting Threads

Taper male threads are in accordance with EN 1254-4 (ISO 7).

Parallel threads are in accordance with EN 1254-4 (ISO 228/ISO 7). Generally, female fittings are manufactured with parallel threads whilst male fittings are produced with taper threads.

Assembly of Coned Joints and Screwed Fittings

Coned Joints

Coned face connectors to EN 1254-4 rely on a metal x metal seal and care must be taken to avoid damage prior to assembly. Should difficulty be experienced, the use of a WRAS listed sealant is permitted.

Do not overtighten.

Male/Female Threaded Joints

The use of a WRAS listed sealant or tape (e.g. PTFE) is recommended for making joints on fittings with taper male threads. For making joints with parallel connector threads, a good quality washer made from a WRAS listed material should be used. Suitable washers are supplied with Delcop tap connector fittings and these should be used.

NB: To avoid heat degradation of sealing materials the solder joint should be made first and allowed to cool.

Performance

Hydraulic working temperatures and pressures shown in Table B are based on EN 1254-1.

Table B

Maximum Temperatures and Pressures			
Filler Metal	Temp °C	Max. Pressure (Bar)	
		6mm-28mm	35mm-54mm
Tin/Silver 95/5%	30	25	25
Tin/Copper 97/3% max 99.6/0.4% min	65	25	16
	110	16	10

Our Technical Department can provide data for other requirements



Making a Joint 6mm-54mm

1. Ensure that the copper tube and fitting sizes are compatible. Cut the tube end square making sure the tube retains its shape. The tube will then make even contact with the tube stop in the body of the fitting. The use of a tube cutter is recommended where practicable.
2. Remove any burrs from in and outside of the tube.
3. Clean the socket of the fitting with a brush and the exterior of the tube with fine steel wool, fine glass paper or a cleaning pad.
4. If using fully annealed tube in accordance with EN 1057 R220 it may be necessary to re-round the tube with a re-rounding tool.
5. Apply a film of flux to both the socket and the outside of the tube.

All fluxes are, to some degree, corrosive. Those recommended by IBP are chosen to minimise this corrosion and to give a long term reliable joint, providing the correct jointing procedure is adhered to.



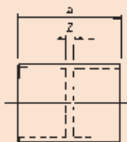
6. Insert tube fully into the fitting. (In the case of slip fittings, ensure tube enters the socket to the appropriate distance). Rotate the tube or fitting and remove excess flux where possible.
7. Apply heat to the tube and fitting, checking at intervals with the heat source removed until the solder melts when it is touched on the tube. Remove the heat source and add only sufficient solder to fill the capillary gap. When correctly made, a ring of solder will be observed around the joint.
8. Allow joint to cool, ensuring that no movement occurs.
9. Wipe the joint with a damp cloth to remove flux residues.
10. Flush all residues out of the system as soon as practicable and thoroughly clean joint.





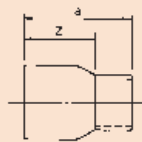
Installation Dimensions

**DC601
STRAIGHT COUPLING**
Copper x Copper



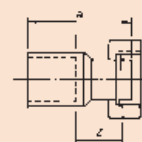
Size	a (mm)	Z (mm)
6	16	2
8	17	2
10	17	2
12	19	2
15	23	2
22	33	2
28	39	2
35	48	2
42	56	2
54	68	2

**DC601-2
FITTING REDUCER**
Male Copper x Copper



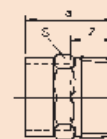
Size	a (mm)	Z (mm)
8 x 6	17	11
10 x 6	17.5	11.5
10 x 8	16.5	9.5
12 x 8	21	14
15 x 8	25	18
15 x 10	25	17
15 x 12	24	15
22 x 15	33	22
28 x 15	40	29
28 x 22	40	24
35 x 15	50	39
35 x 22	52	36
35 x 28	49	30
42 x 15	64	51
42 x 22	60	44
42 x 28	58	39
42 x 35	59	36
54 x 15	66	55
54 x 22	67	51
54 x 28	70	51
54 x 35	72	49
54 x 42	73	46

**DC601-TC
STRAIGHT TAP CONNECTOR**
Copper x Swivel Female Thread



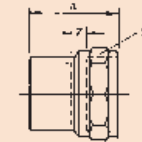
Size	a (mm)	Z (mm)
15 x 1/2	28	12
15 x 3/4	35	24
22 x 3/4	40	24

**DC604
MALE STRAIGHT CONNECTOR**
Copper x Male Thread (Taper)



Size	a (mm)	S (mm)	Z (mm)
15 x 1/2	28	22	17
15 x 3/4	42	28	31
22 x 1/2	29	25	13
22 x 3/4	36	28	20
28 x 1	40	34	21

**DC603
FEMALE STRAIGHT CONNECTOR**
Copper x Female Thread (Parallel)



Size	a (mm)	S (mm)	Z (mm)
15 x 1/2	32	25	9
15 x 3/4	35	30	7
22 x 1/2	30	25	3
22 x 3/4	36	31	6
28 x 1	43	38	8

**DC606
OBTUSE ELBOW 45°**
Copper x Copper




Size	a (mm)	Z (mm)
15	17	6
22	25	9
28	29	10
35	37	14
42	42	15
54	52	20



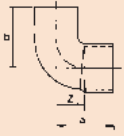
Installation Dimensions

**DC607
ELBOW**
Copper x Copper



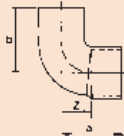
Size	a (mm)	Z (mm)
6	15	9
8	17	10
10	20	12
12	19	10
15	20	10
22	30	14
28	35	16
35	48	24
42	55	28
54	71	39

**DC607-2
STREET ELBOW**
Male Copper x Copper



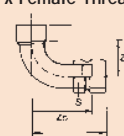
Size	a (mm)	b (mm)	Z (mm)
10	20	22	12
12	20	21	11
15	22	24	11
22	31	32	16
28	35	36	17
35	49	52	26
42	57	57	30
54	72	74	40

**DC607-2-LT
STREET BEND**
Male Copper x Copper



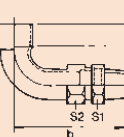
Size	a (mm)	b (mm)	Z (mm)
15	29	31	18
22	42	44	26
28	52	54	34

**DC607-6-3 FEMALE BENT
UNION CONNECTOR
(COPPER TAIL)**
Copper x Female Thread (Parallel)



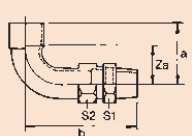
Size	a (mm)	b (mm)	S (mm)	Za (mm)	Zb (mm)
22 x 3/4	40	60	30	29	29
22 x 1	50	78	37	34	58
28 x 1	60	80	45	39	60

**DC607-6-UA
BENT CYLINDER UNION (CONE)**
Copper x Swivel Female Thread



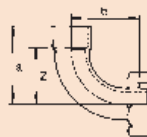
Size	a (mm)	b (mm)	S (mm)	Za (mm)
22 x 1	41	46	37	29
28 x 1 1/4	60	64	45	34

**DC607-6-4 MALE BENT
UNION CONNECTOR (COPPER TAIL)**
Copper x Male Thread (Taper)



Size	a (mm)	b (mm)	S1 (mm)	S2 (mm)	Za (mm)
22 x 3/4	48	88	33	36	32
22 x 1	47	86	38	36	32
28 x 1	56	98	38	45	36

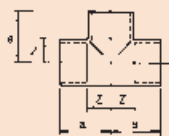
**DC607-TC
BENT TAP CONNECTOR**
Copper x Swivel Female Thread



Size	a (mm)	b (mm)	Z (mm)
15 x 1/2	32	27	21
15 x 3/4	46	41	34
22 x 3/4	45	42	29



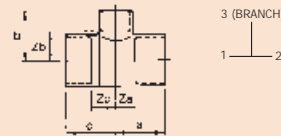
**DC611
TEE-EQUAL
Copper All Ends**



Size	a (mm)	Z (mm)
6	11	5
8	12	5
10	15	7
12	16	7
15	19	8
22	28	12
28	34	15
35	44	21
42	52	24
54	62	30

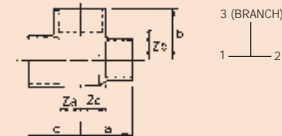
page 14

**DC611-RB
TEE-REDUCED BRANCH
Copper All Ends**



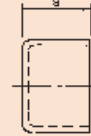
Size	a (mm)	b (mm)	c (mm)	Za (mm)	Zb (mm)	Zc (mm)
15 x 15 x 8	19	18	19	8	9	8
15 x 15 x 10	19	18	19	8	9	8
15 x 15 x 12	18	18	18	7	9	7
22 x 22 x 10	24	22	24	7	13	7
22 x 22 x 12	23	21	23	7	12	7
22 x 22 x 15	28	28	25	12	12	14
28 x 28 x 15	36	34	34	17	15	23
28 x 28 x 22	35	35	35	16	16	19
35 x 35 x 15	36	31	31	13	20	13
35 x 35 x 22	37	37	37	13	21	13
35 x 35 x 28	40	41	40	17	22	17
42 x 42 x 15	37	33	37	10	22	10
42 x 42 x 22	43	45	43	16	29	16
42 x 42 x 28	48	49	48	20	30	20
42 x 42 x 35	48	49	48	21	26	21
54 x 54 x 15	49	44	49	17	33	17
54 x 54 x 22	50	48	50	18	32	18
54 x 54 x 28	52	51	52	20	32	20
54 x 54 x 35	53	53	53	21	30	21
54 x 54 x 42	63	62	63	31	35	31

**DC611-RE
TEE-REDUCED END
Copper All Ends**



Size	a (mm)	b (mm)	c (mm)	Za (mm)	Zb (mm)	Zc (mm)
22 x 15 x 22	28	28	25	12	12	14
28 x 15 x 28	36	34	34	17	15	23
28 x 22 x 28	35	35	35	16	16	19
35 x 28 x 35	45	43	47	22	19	28
42 x 28 x 42	55	55	55	27	27	36

**DC617
STOP END
Copper**



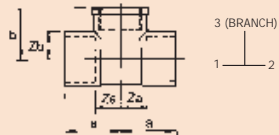
Size	a (mm)
8	Upon request
10	8
12	9
15	11
22	16
28	19
35	25
42	33
54	39

page 15






Installation Dimensions

DC712 TEE WITH FEMALE BRANCH Copper x Copper x Female Thread (Parallel)






Size	a (mm)	b (mm)	Za (mm)	Zb (mm)
15 x 15 x 1/2	23	21	12	10
22 x 22 x 1/2	28	24	12	13
22 x 22 x 3/4	31	26	15	13
28 x 28 x 1/2	31	28	12	17
28 x 28 x 3/4	34	30	15	17
28 x 28 x 1	38	32	19	17
35 x 35 x 1/2	35	31	12	20

Product Range

Part No.	Description	Size
DC600 	Slip Coupler Copper x Copper	15
		22
		28
		35
		42
		54
DC601 	Straight Coupler Copper x Copper	6
		8
		10
		12
		15
		22
		28
		35
		42
DC601R 	Reduced Straight Coupler Copper x Copper	8 x 6
		10 x 8
		15 x 8
		15 x 10
		15 x 12
		22 x 15
		28 x 15
		28 x 22
		35 x 15
		35 x 22
		35 x 28
		42 x 22
		42 x 25
		42 x 35
		54 x 15
		54 x 22
		54 x 28
		54 x 35
		54 x 42

END FEED CAPILLARY FITTINGS Copper 6mm-54mm








Part No.	Description	Size
DC6012 	Fitting Reducer Male Copper x Copper	8 x 6
		10 x 6
		10 x 8
		12 x 8
		15 x 8
		15 x 10
		15 x 12
		22 x 15
		28 x 15
		28 x 22
		35 x 15
		35 x 22
		35 x 28
		42 x 15
		42 x 22
		42 x 28
		42 x 35
		54 x 15
		54 x 22
		54 x 28
		54 x 35
		54 x 42
DC6012L 	Fitting Reducer (Long) Male Copper x Copper	15 x 8
		15 x 10
DC6011M 	Imperial to Metric Straight Coupler Copper (Metric) x Copper (Imperial)	15 x 1/2 22 x 3/4 28 x 1

page 18

END FEED CAPILLARY FITTINGS

Copper 6mm-54mm





Part No.	Description	Size
DC6012IM 	Imperial to Metric Adaptor Male Copper (Metric) x Copper (Imperial)	15 x 1/2 22 x 3/4 28 x 1 35 x 1 1/4
DC601TC 	Straight Tap Connector Copper x Swivel Female Thread (Supplied with a Sealing Washer)	15 x 1/2 15 x 3/4 22 x 3/4
DC603 	Female Straight Connector Copper x Female Thread (Parallel ISO 228)	15 x 1/2 22 x 3/4 28 x 1
DC604 	Male Straight Connector Copper x Male Thread (Taper ISO 7)	15 x 1/2 22 x 3/4 28 x 1
DC606 	Obtuse Elbow Copper x Copper	15 22 28 35 42 54

page 19

END FEED CAPILLARY FITTINGS

Copper 6mm-54mm




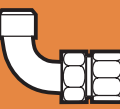


Part No.	Description	Size
DC606-2 	Obtuse Street Elbow Male Copper x Copper	15 22 28 35 42 54
DC607 	Elbow Copper x Copper	6 8 10 12 15 22 28 35 42 54
DC607R 	Reduced Elbow Copper x Copper	22 x 15 28 x 22
DC607LT 	Slow Elbow Copper x Copper	10 12 15 22 28 35 42 54

page 20

END FEED CAPILLARY FITTINGS

Copper 6mm-54mm





Part No.	Description	Size
DC6072 	Street Elbow Male Copper x Copper	10 12 15 22 28 35 42 54
DC6072LT 	Street Bend Male Copper x Copper	15 22 28
DC607TC 	Bent Tap Connector Copper x Swivel Female Thread (Supplied with a Sealing Washer)	15 x 1/2 15 x 3/4 22 x 3/4
DC60763 	Female Bent Union Connector (Copper Tail) Copper x Female Thread (Parallel ISO 228)	15 x 1/2 22 x 3/4 22 x 1 28 x 1

page 21

END FEED CAPILLARY FITTINGS

Copper 6mm-54mm






Part No.	Description	Size
DC60764 	Male Bent Union Connector (Copper Tail) Copper x Male Thread (Taper ISO 7)	15 x 1/2 22 x 3/4 22 x 1 28 x 1 35 x 1 1/4
DC6076AB 	Female Bent Union Connector (Spigot) Copper x Swivel Female Thread	22 x 1
DC6076UA 	Bent Cylinder Union (Cone) Copper x Swivel Female Thread (Designed for soft soldering only)	22 x 1 28 x 1 1/4
DC609 	Female Gas Elbow - Side Entry with Wall Plate Copper x Female Thread (Taper ISO 7)	15 x 1/2

page 22

END FEED CAPILLARY FITTINGS

Copper 6mm-54mm



Part No.	Description	Size
DC611 	Tee - Equal Copper All Ends	6 8 10 12 15 22 28 35 42 54
DC611RB 	Tee - Reduced Branch Copper All Ends	15 x 15 x 8 15 x 15 x 10 15 x 15 x 12 22 x 22 x 10 22 x 22 x 12 22 x 22 x 15 28 x 28 x 15 28 x 28 x 22 35 x 35 x 15 35 x 35 x 22 35 x 35 x 28 42 x 42 x 15 42 x 42 x 22 42 x 42 x 28 42 x 42 x 35 54 x 54 x 15 54 x 54 x 22 54 x 54 x 28 54 x 54 x 35 54 x 54 x 42
DC611RE 	Tee - Reduced End Copper All Ends	22 x 15 x 22 28 x 15 x 28 28 x 22 x 28 35 x 28 x 35 42 x 28 x 42

page 23

END FEED CAPILLARY FITTINGS

Copper 6mm-54mm



Part No.	Description	Size
DC611REB	Tee – Reduced End and Branch Copper All Ends	15 x 10 x 10 22 x 15 x 15 28 x 15 x 15 28 x 15 x 22 28 x 22 x 15 28 x 22 x 22 35 x 22 x 22 35 x 28 x 22 35 x 28 x 28 42 x 35 x 35
DC611REE	Tee – Reduced Both Ends Copper All Ends	15 x 15 x 22 22 x 22 x 28 28 x 28 x 35
DC617	Stop End Copper	8 10 12 15 22 28 35 42 54
DC633	Straight Union Coupler (Copper Tail) Copper x Copper (Designed for soft soldering only)	15 22 28 35 42

page 24

END FEED CAPILLARY FITTINGS
Copper 6mm-54mm








Part No.	Description	Size
DC6333	Female Straight Union Connector (Copper Tail) Copper x Female Thread (Parallel ISO 228)	15 x 1/2 22 x 3/4 28 x 1
DC6334	Male Straight Union Connector (Copper Tail) Copper x Male Thread (Taper ISO 7)	15 x 1/2 22 x 3/4 22 x 1 28 x 1 35 x 1 1/4 42 x 1 1/2
DC633AB	Female Straight Union Connector (Spigot) Copper x Swivel Female Thread	22 x 1
DC633UA	Female Straight Union Connector (Cone) Copper x Swivel Female Thread	15 x 3/4 22 x 3/4 22 x 1 28 x 1 28 x 1 1/4
DC636	Cross Over Copper x Copper	15 22

page 25

END FEED CAPILLARY FITTINGS
Copper 6mm-54mm







Part No.	Description	Size
DC636A 	Part Cross Over Male Copper x Copper	15 22
DC639 	Return Bend Copper x Copper	15 22
DC640 	Extended Street Elbow Male Copper x Copper	22
DC690MU 	Straight Gas Meter Union to BS746 Copper x Swivel Female Thread	22 x 3/4 22 x 1 28 x 1
DC695MU 	Bent Gas Meter Union to BS746 Copper x Swivel Female Thread (Supplied with a Rubber Washer)	22 x 3/4

page 26

END FEED CAPILLARY FITTINGS

Copper 6mm-54mm

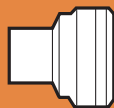
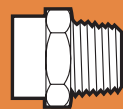
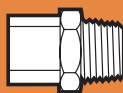
Part No.	Description	Size
DC701D 	Straight Coupler with Air Vent Copper x Copper	15 22 28
DC702 	Eccentric Coupler Copper x Copper	22 x 15
DC703 	Female Straight Connector Copper x Female Thread (Parallel ISO 228)	15 x 1/4 15 x 1/2 15 x 3/4 22 x 3/4 22 x 1 28 x 3/4 28 x 1 35 x 1 1/4 42 x 1 1/2 54 x 2
DC703T 	Female Straight Connector Copper x Female Thread (Parallel ISO 228) (Turned)	15 x 1/2 22 x 3/4

page 27

END FEED CAPILLARY FITTINGS

Red Brass 15mm-54mm







Part No.	Description	Size
DC7032 	Female Straight Connector Male Copper x Female Thread (Parallel ISO 228)	22 x $\frac{3}{4}$
DC704 	Male Straight Connector Copper x Male Thread (Taper ISO 7)	15 x $\frac{1}{4}$ 15 x $\frac{3}{8}$ 15 x $\frac{1}{2}$ 15 x $\frac{3}{4}$ 22 x $\frac{3}{4}$ 22 x 1 28 x $\frac{3}{4}$ 28 x 1 35 x $\frac{1}{4}$ 42 x $\frac{1}{2}$ 54 x 2
DC7042 	Male Straight Connector Male Copper x Male Thread (Taper ISO 7)	15 x $\frac{1}{2}$ 22 x $\frac{3}{4}$ 28 x 1

page 28

END FEED CAPILLARY FITTINGS
Red Brass 15mm-54mm


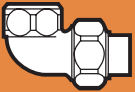





Part No.	Description	Size
DC705D 	Elbow with Air Vent Copper x Copper	15 22
DC7073 	Female Elbow Copper x Female Thread (Parallel ISO 228)	15 x $\frac{1}{2}$ 22 x $\frac{3}{4}$ 28 x 1
DC70725 	Female Wall Plate Elbow (2 Hole) Copper x Female Thread (Parallel ISO 228)	15 x $\frac{1}{2}$ 22 x $\frac{3}{4}$
DC70735 	Female Wall Plate Elbow (3 Hole) Copper x Female Thread (Parallel ISO 228)	15 x $\frac{1}{2}$ 22 x $\frac{3}{4}$

page 29





END FEED CAPILLARY FITTINGS
Red Brass 15mm-54mm



Part No.	Description	Size
DC7074 	Male Elbow Copper x Male Thread (Taper ISO 7)	15 x 1/4 15 x 1/2 22 x 3/4 28 x 1 35 x 1 1/4 42 x 1 1/2 54 x 2
DC70763 	Female Bent Union Connector (Red Brass Tail) Copper x Female Thread (Parallel ISO 228)	15 x 1/2 22 x 3/4 22 x 1 28 x 1 35 x 1 1/4
DC70764 	Male Bent Union Connector (Red Brass Tail with Internal Lugs) Copper x Male Thread (Taper ISO 7)	15 x 1/2 22 x 3/4 22 x 1 28 x 1 35 x 1 1/4 42 x 1 1/2 54 x 2
DC708 	Female Wall Plate Connector Copper x Female Thread (Parallel ISO 228)	15 x 1/2
DC711 	Tee - Reduced End Copper All Ends	35 x 15 x 35 54 x 35 x 54

page 30





END FEED CAPILLARY FITTINGS
Red Brass 15mm-54mm

Part No.	Description	Size
DC711P 	Sweep Tee - Equal Copper All Ends	15 22 28 35 42 54
DC712 	Tee with Female Branch Copper x Copper x Female Thread (Parallel ISO 228)	15 x 15 x 1/2 22 x 22 x 1/2 22 x 22 x 3/4 28 x 28 x 1/2 28 x 28 x 3/4 28 x 28 x 1 35 x 35 x 1/2
DC714 	Tee with Female End Copper x Female Thread (Parallel ISO 228) x Copper	15 x 1/2 x 15 22 x 1/2 x 22 28 x 1/2 x 28
DC716D 	Air Vent Male Fit	15

page 31

END FEED CAPILLARY FITTINGS
Red Brass 15mm-54mm








Part No.	Description	Size
DC717D 	Stop End with Air Vent Copper	15 22
DC733 	Straight Union Coupler (Red Brass Tail) Copper x Copper	15 22 28 35 42 54
DC7333 	Female Straight Union Connector (Red Brass Tail) Copper x Female Thread (Parallel ISO 228)	15 x 1/2 22 x 3/4 28 x 1 35 x 1 1/4 42 x 1 1/2 54 x 2
DC7334 	Male Straight Union Connector (Red Brass Tail with Internal Lugs) Copper x Male Thread (Taper ISO 7)	15 x 1/2 22 x 3/4 28 x 1 35 x 1 1/4 42 x 1 1/2 54 x 2

page 32

END FEED CAPILLARY FITTINGS

Red Brass 15mm-54mm



Part No.	Description	Size
DC737 	Offset Tee Copper All Ends	15 22
DC750A 	Tank Connector Copper x Male Thread	15 x 1/2 22 x 3/4 28 x 1
DC750B 	Tank Connector (Long) Copper x Male Thread (Turned)	15 x 1/2 22 x 3/4 28 x 1
DC750B 	Tank Connector (Long) Copper x Male Thread (Cast)	35 x 1 1/4 42 x 1 1/2 54 x 2
DC397 	Sealing Washer For use with Tap Connectors	1/2 3/4

page 33

END FEED CAPILLARY FITTINGS

Red Brass 15mm-54mm



Part No.	Description	Size
DC901	Straight Coupler Copper x Copper	35 42 54
DC906	Obtuse Bend Copper x Copper	35 42 54
DC9062	Obtuse Street Bend Male Copper x Copper	35 42 54
DC907	Bend 91¹/₂° Copper x Copper	35 42 54

page 34

END FEED CAPILLARY WASTE FITTINGS

Copper 35mm-54mm







Part No.	Description	Size
DC9072	Street Bend 91¹/₂° Male Copper x Copper	35 42 54
DC911	Pitcher Tee Copper All Ends	35 42 x 42 x 35 42 54 x 42 x 42 54 x 54 x 35 54 x 54 x 42 54

page 35

END FEED CAPILLARY WASTE FITTINGS

Copper 35mm-54mm



Part No.	Description	Size
DC8012 	Fitting Reducer Male Copper x Copper	42 x 35 54 x 35 54 x 42
DC80716LH 	Bend with Cleaning Eye Copper x Copper	35 42 54
DC816 	Cleanout Fitting and Plug Male Copper x Plug	35 54
DC816S 	Cleanout Fitting and Plug Flush Fitting Male Copper x Plug	35 x $\frac{3}{4}$ 42 x 1 54 x $1\frac{1}{2}$



Technical Specifications



General Information

Triflow integral solder ring fittings are manufactured in accordance with EN 1254-1 and 4.

The **TP** symbol on Triflow products indicates the use of lead-free solder.

All products meet the most stringent conditions imposed by the Water Regulations against the effect of materials on water quality as leaded solder is not used. Only lead-free solder complying with EN 29453 and ISO 9453 (S-Sn99Cu1 Tin-Copper) is used in the construction of the joint: this is factory applied to the solder groove.

page 38

Size Availability

6mm–66.7mm suitable for connecting copper tubes in accordance with EN 1057 and other standards including ISO 274.

Imperial copper tube to BS 659 in sizes $\frac{3}{8}$ ", $\frac{1}{2}$ ", 2" and $2\frac{1}{2}$ " can be readily joined using 12mm, 15mm, 54mm and 66.7mm fittings respectively.

Material Availability

To counteract the dezincification problem, products are manufactured from high grade copper, gunmetal or dezincification resistant (DZR) brass. Where dezincification resistant brass is used, this complies with EN 12164/5 and fittings are marked with **CR** symbol.

Table A

Material	Specification
Copper	EN 12165 CW24A
Brass (Forging)	EN 12164/5 617N
Brass (Turning)	EN 12164/5 614N
DZR Brass (Stamping)	EN 12164/5 602N
DZR Brass (Turning)	EN 12164/5 602N
Gunmetal (Red Brass)	BS 1400 LG2

Health and Safety

It is the responsibility of the end user to ensure that adequate protection is available where required and the necessary information regarding possible health and safety regulations is adhered to.

Copper and copper alloy fittings are considered non-hazardous under normal circumstances.

All per COSHH 4 REG 1988.

Quality Assurance

The Company is a B.S.I. Registered Firm of assessed capability, Registration Number FM 11836, manufacturing in accordance with EN ISO 9001:2000.

Triflow fittings are manufactured in accordance with EN 1254-1 and 4 (formerly BS 864: Part 2).

Most fittings in the range are covered by the B.S.I. Kitemark under Licence No. KM 07283 (detailed list available upon request). Listings can also be found in the WRAS Water Fittings and Materials Directory under 'Kitemarked and Quality Assured Fittings'.

In addition to audits carried out by the British Standards Inspectorate, an internal audit system is also in operation to further enhance quality control.

Design

Triflow potable products use the principle of capillary attraction to ensure that, when correctly jointed to copper tube, a sufficient layer of lead-free solder is present between tube and fitting to form a mechanically strong, leakproof joint without the need for external solder application.

page 39



Fittings are designed to comply with the relevant standards and to maximise flow rate.

Connecting Threads

Taper male threads are in accordance with EN 1254-4 (ISO 7).

Parallel threads are in accordance with EN 1254-4 (ISO 228).

Generally, our female fittings are manufactured with parallel threads whilst male fittings are produced with taper threads.

Assembly of Coned Joints and Screwed Fittings

Coned Joints

Coned face connectors to EN 1254-1 rely on a metal x metal seal and care should be taken to avoid damage prior to assembly. Should difficulty be experienced, the use of a WRAS approved sealant is permitted. Do not overtighten.

Male/Female Threaded Joints

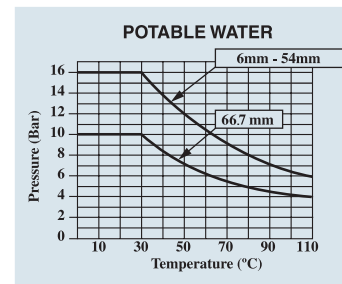
The use of a WRAS approved sealant or tape (e.g. PTFE) is recommended for making joints on fittings with taper male threads. For making joints with parallel connector threads, a good quality washer made from a WRAS listed material should be used. Suitable washers are supplied with Triflow tap connector fittings and these should be used.

NB: To avoid heat degradation of any sealing materials applied to screw threads, the solder joint should be made first.

Performance

Hydraulic working temperatures and pressures are based on EN 1254-1. Table B, prepared from the stated values, enables direct reading of intermediate values.

Table B



Fittings up to and including 28mm can be used at higher pressures than those shown in Table B provided that the installation does not impart additional tensile loads on the joints. Please contact our Technical Department for further data. They may also be used with light mineral oils, natural gases, LPG or compressed air, in accordance with Table C, when assembled with copper tube to EN 1057 R250 and R290.

Table C

For use with	Tube Sizes	Temps Not Exceeding	Max Working Pressures
	mm	°C	Bar
Potable Water or Light Mineral Oils	6	30	16
	to	65	10
	54	95	7
		110	6
	66.7	30	10
		65	6
		110	4
LPG, Natural Gases	8 to 28	30	1
Compressed Air	8 to 28	30	7



Making a Joint 6mm-54mm

1. Ensure that the copper tube and fitting sizes are compatible.
Cut the tube end square but ensure tube retains its shape.
The tube will then make even contact with the tube stop in the body of the fitting.
The use of a tube cutter is recommended where practicable.
2. Remove any burrs from the tube, both inside and out.
3. Clean the socket of the fitting with a brush and the exterior of the tube with fine steel wool, fine glass paper or a cleaning pad.
4. If using fully annealed tube in accordance with EN 1057 R220 it may be necessary to re-round the tube with a re-rounding tool.
5. Apply a film of flux to both the socket and the outside of the tube.

All fluxes are, to some degree, corrosive. Those recommended by IBP are chosen to minimise this corrosion and to give a long term reliable joint, providing the correct jointing procedure is adhered to.



If it is necessary to make the joint at one end only, this can be done by inserting a short length of uncleaned tube into the end(s) to be leftunjointed and keeping it cool with a wet rag whilst the remaining joint(s) is made.

6. Insert tube fully into the fitting. (In the case of slip fittings, ensure tube enters the socket to the appropriate distance). Rotate the tube or fitting and remove excess flux where possible.
7. Apply heat with a low temperature torch, evenly heating both tube and socket until a complete ring of solder appears at the mouth of the fitting. Do not apply excessive heat or additional solder.
8. Allow joint to cool, ensuring no movement occurs.
9. Wipe joint with a damp cloth to remove flux residues.
10. Flush all residues out of the system as soon as practicable and thoroughly clean joint.



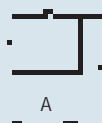
Important note

67mm products must be installed by a professionally qualified plumber.



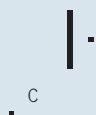
Installation Dimensions

SOLDER RING END TUBE STOP DIMENSION Standard for all Components



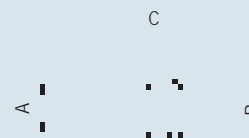
Size	A (mm)
15	14.2
22	19.0
28	22.9
35	27.5

MALE COPPER END TUBE STOP DIMENSION Standard for all Components



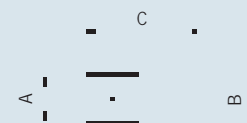
Size	A (mm)
15	15.0
22	20.0
28	24.0
35	27.5

TP1 STRAIGHT COUPLER Copper x Copper



Size	A (mm)	B (mm)	C (mm)
8	8	8	21.0
10	10	10	23.5
12	12	12	26.0
15	15	15	28.5
22	22	22	39.5
28	28	28	47.5
35	35	35	58.0
42	42	42	65.0
54	54	54	78.0
67	67	67	79.0

TP1 IM IMPERIAL TO METRIC STRAIGHT COUPLER Copper (Metric) x Copper (Imperial)



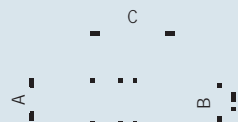
Size	A (mm)	B (ins.)	C (mm)
15 x 1/2	15	1/2	31.0
22 x 3/4	22	3/4	42.0
28 x 1	28	1	49.0
35 x 1 1/4	35	1 1/4	58.0
42 x 1 1/2	42	1 1/2	67.0



Installation Dimensions

TP2 FEMALE STRAIGHT CONNECTOR

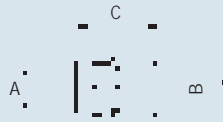
Copper x Female Thread (Parallel)



Size	A (mm)	B (BSP)	C (mm)
15 x 1/2	15	1/2	31.5
22 x 3/4	22	3/4	38.0
28 x 1	28	1	44.0
35 x 1 1/4	35	1 1/4	53.0
42 x 1 1/2	42	1 1/2	60.0
54 x 2	54	2	67.0

TP3 MALE STRAIGHT CONNECTOR

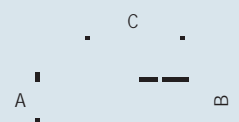
Copper x Male Thread (Taper)



Size	A (mm)	B (BSP)	C (mm)
15 x 1 1/2	15	1 1/2	28.5
22 x 3/4	22	3/4	38.3
28 x 1	28	1	42.5
35 x 1 1/4	35	1 1/4	46.0
42 x 1 1/2	42	1 1/2	54.0
54 x 2	54	2	62.0
67 x 2 1/2	67	2 1/2	75.0

TP6 FITTING REDUCER

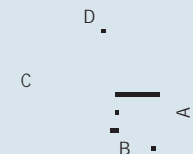
Male Copper x Copper



Size	A (mm)	B (mm)	C (mm)
10 x 8	10	8	22.0
15 x 8	15	8	32.5
15 x 10	15	10	31.0
22 x 15	22	15	42.0
28 x 15	28	15	56.0
28 x 22	28	22	46.0
35 x 15	35	15	59.0
35 x 22	35	22	54.0
35 x 28	35	28	55.0
42 x 15	42	15	60.0
42 x 22	42	22	66.0
42 x 28	42	28	70.0
42 x 35	42	35	69.0
54 x 15	54	15	73.5
54 x 22	54	22	75.5
54 x 28	54	28	76.0
54 x 35	54	35	78.0
54 x 42	54	42	78.0
67 x 28	67	28	90.0
67 x 35	67	35	90.0
67 x 42	67	42	92.0
67 x 54	67	54	91.0

TP12 ELBOW

Copper x Copper

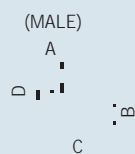


Size	A (mm)	B (mm)	C (mm)	D (mm)
8	8	21	21	8
10	10	24	24	10
15	15	25	25	15
22	22	35	35	22
28	28	38	38	28
35	35	52	52	35
42	42	63	63	42
54	54	75	75	54
67	67	90	90	67



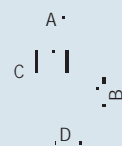
Installation Dimensions

TP12S STREET ELBOW
Male Copper x Copper



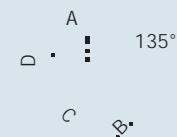
Size	A (mm)	B (mm)	C (mm)	D (mm)
15	15	15	29.5	32.5
22	22	22	34.0	37.5
28	28	28	40.0	41.0

TP14 FEMALE ELBOW
Copper x Female Thread (Parallel)



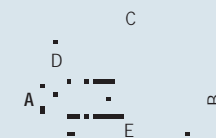
Size	A (mm)	B (mm)	C (mm)	D (mm)
15 x 1/2	15	1/2	26.6	20.0
22 x 3/4	22	3/4	39.0	25.0
28 x 1	28	1	43.0	32.0

TP21 OBTUSE BEND
Copper x Copper



Size	A (mm)	B (mm)	C (mm)	D (mm)
15	15	15	21.5	21.5
22	22	22	34.0	34.0
28	28	28	34.0	34.0
35	35	35	37.7	37.7
42	42	42	47.5	47.5
54	54	54	75	75
67	67	67	58	58

TP24 TEE-EQUAL
Copper all Ends

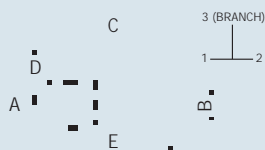


Size	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
8	8	8	8	15	30
10	10	10	10	17	34
12	12	12	12	19	38
15	15	15	15	23.3	46.6
22	22	22	22	32.5	63.2
28	28	28	28	38.5	76.9
35	35	35	35	48	102
42	42	42	42	56	121
54	54	54	54	70	140
67	67	67	67	75	150



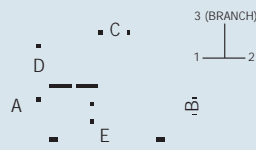
Installation Dimensions

TP25 TEE-REDUCED BRANCH
Copper all Ends



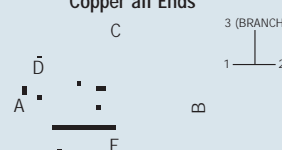
Size	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
15 x 15 x 8	15	15	8	19	39.5
15 x 15 x 10	15	15	10	19	40.5
22 x 22 x 10	22	22	10	28	56
22 x 22 x 15	22	22	15	26.8	54.5
28 x 28 x 15	28	28	15	32.0	70.0
28 x 28 x 22	28	28	22	34.0	69.8
35 x 35 x 15	35	35	15	44	94
35 x 35 x 22	35	35	22	40	80
35 x 35 x 28	35	35	28	45	94
42 x 42 x 15	42	42	15	45	100
42 x 42 x 22	42	42	22	43	99
42 x 42 x 28	42	42	28	45	94
42 x 42 x 35	42	42	35	52	104
54 x 54 x 15	54	54	15	65	120
54 x 54 x 22	54	54	22	61	115
54 x 54 x 28	54	54	28	56	112
54 x 54 x 35	54	54	35	57	114
54 x 54 x 42	54	54	42	60	118
67 x 67 x 28	67	67	28	62	117

TP26 TEE-REDUCED END
Copper all Ends



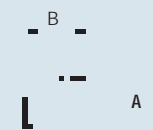
Size	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
22 x 15 x 22	22	15	22	31.6	65
28 x 15 x 28	28	15	28	37.8	66.7
28 x 22 x 28	28	22	28	42	80
35 x 15 x 35	35	15	35	47	106
42 x 28 x 42	42	28	42	57	122
42 x 35 x 42	42	35	42	57	124

**TP27 TEE-REDUCED END
AND BRANCH**
Copper all Ends



Size	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
22 x 15 x 15	22	15	15	26.8	57
28 x 15 x 15	28	15	15	31	78
28 x 22 x 15	28	22	15	30	70
28 x 22 x 22	28	22	22	34.6	65.7

TP61 STOP END
Copper

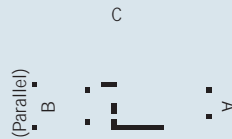


Size	A (mm)	B (mm)
8	8	13
10	10	13.5
15	15	14.9
22	22	19.5
28	28	25.0
35	35	28.5
42	42	33



TP62 STRAIGHT TAP CONNECTOR

Swivel Female Copper x Thread

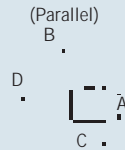


Size	A (mm)	B (BSP)	C (mm)
15 x 1/2	15	1/2	36
15 x 3/4	15	3/4	32
22 x 3/4	22	3/4	42

Supplied with a sealing washer.

TP63 BENT TAP CONNECTOR


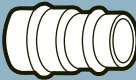
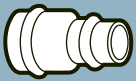
Swivel Female Copper x Thread



Size	A (mm)	B (BSP)	C (mm)	D (mm)
15 x 1/2	15	1/2	33	29
22 x 3/4	22	3/4	41	45

Supplied with a sealing washer.

Product Range

Part No.	Description	Size
TP1	 Straight Coupler Copper x Copper	8 10 12 15 22 28 35 42 54 67
TP1IM	 Imperial to Metric Straight Coupler Copper (Metric) x Copper (Imperial)	15 x 1/2 22 x 3/4 28 x 1 35 x 1 1/4 42 x 1 1/2
TP1R	 Reducing Straight Coupler Copper x Copper	10 x 8 15 x 8 15 x 10 22 x 15 28 x 15 28 x 22 35 x 22 35 x 28 42 x 28 42 x 35 54 x 35 54 x 42

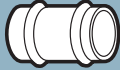
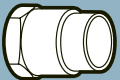
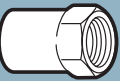
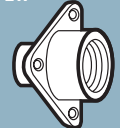
SOLDER RING FITTINGS

6mm-67mm

page 53

page 52

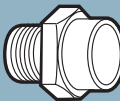
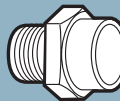
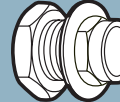


Part No.	Description	Size
TP1S 	Slip Coupler Copper x Copper	15 22 28
TP2 	Female Straight Connector Copper x Female Thread (Parallel ISO 228)	15 x 1/2 22 x 3/4 28 x 1 35 x 1 1/4 42 x 1 1/2 54 x 2
TP2LC 	Female Reduced Straight Connector Copper x Female Thread (Parallel ISO 228)	15 x 1/4 15 x 3/8
TP2W 	Female Wall Plate Connector Copper x Female Thread (Parallel ISO 228)	15 x 1/2

page 54

SOLDER RING FITTINGS
6mm-67mm

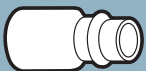
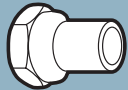


Part No.	Description	Size
TP3 	Male Straight Connector Copper x Male Thread (Taper ISO 7)	15 x 1/2 22 x 3/4 28 x 1 35 x 1 1/4 42 x 1 1/2 54 x 2 67 x 2 1/2
TP3LC 	Male Reduced Straight Connector Copper x Male Thread (Taper ISO 7)	15 x 1/4 15 x 3/8 22 x 1/2
TP5 	Tank Connector Copper x Male Thread	15 x 1/2 22 x 3/4

page 55

SOLDER RING FITTINGS
6mm-67mm







Part No.	Description	Size
TP6 	Fitting Reducer Male Copper x Copper	10 x 8
		15 x 8
		15 x 10
		15 x 12
		22 x 15
		28 x 15
		28 x 22
		35 x 15
		35 x 22
		35 x 28
		42 x 15
		42 x 22
		42 x 28
		42 x 35
		54 x 15
		54 x 22
		54 x 28
		54 x 35
		54 x 42
		67 x 28
		67 x 35
		67 x 42
		67 x 54
TP7 	Female Adaptor Male Copper x Female Thread (Parallel ISO 228)	15 x 1/2
		22 x 3/4

page 56

SOLDER RING FITTINGS

6mm-67mm






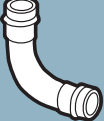
Part No.	Description	Size
TP9 	Imperial to Metric Adaptor Male Copper (Metric) x Copper (Imperial)	15 x 1/2
		22 x 3/4
		28 x 1
TP12 	Elbow Copper x Copper	8
		10
		12
		15
		22
		28
		35
		42
		54
		67
TP12S 	Street Elbow Male Copper x Copper	15
		22
		28
TP13 	Male Elbow Copper x Male Thread (Taper ISO 7)	15 x 1/2
		22 x 3/4

page 57

SOLDER RING FITTINGS


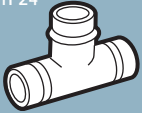
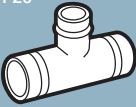
6mm-67mm



Part No.	Description	Size
TP13LC 	Male Reduced Elbow Copper x Male Thread (Taper ISO 7)	15 x 1/4
TP14 	Female Elbow Copper x Female Thread (Parallel ISO 228)	15 x 1/2 22 x 3/4 28 x 1
TP15 	Female Wall Plate Elbow Copper x Female Thread (Parallel ISO 228)	15 x 1/2 22 x 3/4
TP18 	Slow Bend Copper x Copper	15 22

page 58

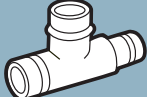
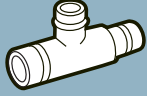
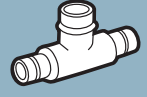
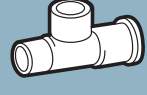
SOLDER RING FITTINGS
6mm-67mm

Part No.	Description	Size
TP21 	Obtuse Bend Copper x Copper	15 22 28 35 42 54 67
TP24 	Tee - Equal Copper All Ends	8 10 12 15 22 28 35 42 54 67
TP25 	Tee - Reduced Branch Copper All Ends	15 x 15 x 8 15 x 15 x 10 22 x 22 x 15 28 x 28 x 15 28 x 28 x 22 35 x 35 x 15 35 x 35 x 22 35 x 35 x 28 42 x 42 x 15 42 x 42 x 22 42 x 42 x 28 42 x 42 x 35 54 x 54 x 15 54 x 54 x 22 54 x 54 x 28 54 x 54 x 35 54 x 54 x 42 67 x 67 x 28

page 59

SOLDER RING FITTINGS
6mm-67mm

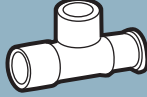
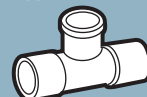
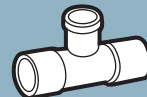
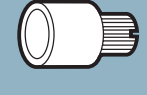


Part No.	Description	Size
TP26 	Tee – Reduced End Copper All Ends	22 x 15 x 22 28 x 15 x 28 28 x 22 x 28 35 x 15 x 35 35 x 22 x 35 35 x 28 x 35 42 x 28 x 42 42 x 35 x 42 54 x 42 x 54
TP27 	Tee – Reduced End and Branch Copper All Ends	22 x 15 x 15 28 x 15 x 15 28 x 15 x 22 28 x 22 x 15 28 x 22 x 22
TP28 	Tee – Reduced Both Ends Copper All Ends	15 x 15 x 22 22 x 22 x 28 42 x 42 x 54
TP29 	Tee with Female End Copper x Female Thread (Parallel ISO 228) x Copper	15 x 1/2 x 15 22 x 3/4 x 22

page 60

SOLDER RING FITTINGS

6mm-67mm


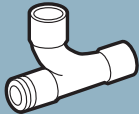

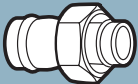
Part No.	Description	Size
TP29R 	Tee with Female Reduced End Copper x Female Thread (Parallel ISO 228) x Copper	22 x 1/2 x 22
TP30 	Tee with Female Branch Copper x Copper x Female Thread (Parallel ISO 228)	22 x 22 x 3/4
TP30R 	Tee with Female Reduced Branch Copper x Copper x Female Thread (Parallel ISO 228)	22 x 22 x 1/2 28 x 28 x 1/2
TAV35 	Air Vent Copper	15

page 61

SOLDER RING FITTINGS

6mm-67mm



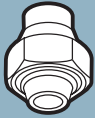
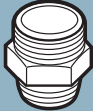


Part No.	Description	Size
TRV35 	Air Vent	15
TP37 	Sweep Tee – Equal Copper all Ends	15
TP61 	Stop End Copper	8 10 15 22 28 35 42 54
TP62 	Straight Tap Connector Copper x Swivel Female Thread	15 x 1/2 15 x 3/4 22 x 3/4

page 62

SOLDER RING FITTINGS
6mm-67mm

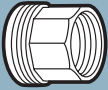




Part No.	Description	Size
TP63 	Bent Tap Connector Copper x Swivel Female Thread (Supplied with a Sealing Washer)	15 x 1/2 22 x 3/4
TP64 	Bent Cylinder Union (Coned) Copper x Swivel Female Thread	15 x 3/4 22 x 1 28 x 1 1/4
TP68 	Straight Cylinder Union (Coned) Copper x Swivel Female Thread	15 x 3/4 22 x 1 28 x 1 1/4 35 x 1 1/2
TP70 	Male Nipple (Taper)	3/4 x 1/2 1 x 3/4 1 1/4 x 1 1 1/2 x 1 1/4

page 63

SOLDER RING FITTINGS
6mm-67mm



Part No.	Description	Size
TP72 	Female Nipple (Parallel ISO 228)	1 x 3/4 1 1/4 x 1 1 1/2 x 1 1/4
TP472 	Hexagonal Swivel Nut (Parallel ISO 228) For use with Union Connectors	1/2 3/4 1
TP97 	Sealing Washer For use with Tap Connectors	1/2 3/4



Technical Specifications



General Information

Delbrazé brazing fittings are manufactured to the highest standards complying with EN1254-5.

The materials used in manufacture, Copper, DZR Brass and Gunmetal, make them resistant or immune to dezincification. Fittings are designed for brazing applications only and are not suitable to be jointed using the soft soldering technique. Our range of accessories includes brazing rods to EN 1044, brazing flux, mats and an extensive range of flanges.

All products enable the installer to meet the stringent conditions imposed by Water Regulations.

Applications and Uses

Delbrazé fittings are used in a wide variety of industrial and commercial applications such as plumbing, heating, fluid distribution, air conditioning and refrigeration, air pressure lines, steam and condense lines.

The fitting's simplicity, and versatility of installation makes it a popular choice with installers.

Size Availability

66.7mm - 159mm, suitable for connecting copper tubes in accordance with EN1057 and other standards including ISO 274. Certain configurations are also available for joining 219mm diameter tubes.

For sizes below 66.7mm please refer to the section describing the Delcop range which, with the exception of Union fittings with copper tails, may also be brazed.

Material Availability

Most fittings in the range are manufactured from Copper or Gunmetal thereby being immune to dezincification.

Health and Safety

It is the responsibility of the end user to ensure that adequate protection is available where required and the necessary information regarding possible health and safety regulations is adhered to.

Copper and copper alloy fittings are considered non-hazardous under normal circumstances.

Before using brazing rods, fluxes and mats, you are advised to read the relevant COSHH Regulations. Copies are available on request.

All per COSHH 4 REG 1988.

Quality Assurance

The Company is a B.S.I. Registered Firm of assessed capability, Registration Number FM 11836, manufacturing in accordance with EN ISO 9001:2000.

Delbrazé fittings are manufactured in accordance with EN 1254-1 and 4 (formerly BS 864: Part 2).

Most fittings in the range are covered by the B.S.I. Kitemark under Licence No. KM 07283 (detailed list available upon request). Listings can also be found in the WRAS Water Fittings and materials Directory under 'Kitemarked and Quality Assured Fittings'.

Table A

Material	Specification
Copper	EN 12165 CW024A
Gunmetal	BS 1400 LG2
Brass	BS1400 SCB6
Steel Plate	BS 4360



In addition to audits carried out by the British Standards Inspectorate, an internal audit system is also in operation to further enhance quality control.

Design

Delbrazé fittings are designed with a short cup thus economising on filler metals. These heavy duty products are manufactured from copper tube complying with EN1057 - R250.

Delbrazé fittings use the principle of capillary attraction to ensure that, when correctly jointed to copper tube, a sufficient layer of filler metal is present between tube and fitting to form a mechanically strong, leak-proof joint. To ensure a successful joint there must be a controlled gap between the mating parts. This precise dimension is engineered by sizing the sockets to close tolerances and by the installer using tube manufactured to EN1057.

Fittings are designed to comply with all relevant standards, to maximise flow rate and to blend with the connecting pipework.

Connecting Threads

Generally, female fittings are manufactured with parallel threads whilst male fittings are produced with taper threads. Relevant thread standards EN1254-4, ISO 228, and ISO 7.

Assembly of Coned Joints and Screwed Fittings

Coned Joints

Coned face connectors rely on a metal x metal seal and care must be taken to avoid damage prior to assembly. Should difficulty be experienced, the use of a WRAS approved sealant is permitted. Do not overtighten.

Male/Female Threaded Joints

The use of a WRAS approved sealant or tape (e.g. PTFE) is recommended for making joints on fittings with taper male threads. For making joints with parallel connector threads, a good quality washer made from a WRAS approved sealant should be used.

N.B: To avoid heat degradation of sealing materials applied to screw threads, the brazed joint should be made first.

Performance

Hydraulic working temperatures and pressures shown in Table B are based on EN1254-1, EN1254-4 and EN1254-5.

Table B

TEMPERATURES AND PRESSURES FOR WATER AND LIGHT MINERAL OILS					
Filler Metal	Max temp °C	Max. working pressures (bar)			
		15-28mm	35-54mm	67-108mm	108-159mm
Silver Copper (Cadmium-free) 55-40% Ag	30	25	25	16	5
Silver with Cadmium 30-40% Ag	65	25	16	16	3
Copper/ Phosphorous/ 94/6% or Copper/ Phosphorous with 2% Silver 92/6/2%	110	16	10	10	2

Brazing (Capillary Joint) - Definition

Brazing is carried out with the principal aim of using a filler metal to penetrate capillary gaps between the metals being joined and thereby create a strong, leak-proof joint by the bonding of the filler metal to the parent surfaces over a comparatively large area. The formation of a fillet is secondary to this aim.

Low Temperature Brazing is that which takes place within the temperature range of 600°C to 850°C normally using filler metals based on silver and copper. This process can also be referred to as: Silver brazing, Silver alloy brazing, Silver soldering or Hard soldering.



Rods and Fluxes for Brazing

Rods recommended for this jointing technique are detailed within EN 1044 'Filler Metals for Brazing' and those more widely used are shown below.

Group AG

Silver Brazing Alloys

Type AG 14 with an approximate melting temperature of 610°C to 620°C.

Group CP

Phosphorous Brazing Alloys

Type CP2 has an approximate temperature range of 645°C to 740°C with a high self-fluxing activity. This alloy has no zinc or cadmium content and is therefore useful in certain applications. Flux is not required when jointing copper to copper using CP2 rods.

BS1723 sets out general requirements for brazed joints.

All fluxes are, to some degree, corrosive. Those recommended by IBP are chosen to minimise this corrosion and to give a long term reliable joint, providing the correct jointing procedure is adhered to.

Note: For tubing 28mm and larger, it is difficult to bring the whole joint up to heat at one time when using propane or similar gases. It is recommended that oxy-acetylene flame be used and that a mild preheating of the whole fitting be carried out before heating proceeds in the steps detailed herein. If difficulty is encountered in getting the whole joint up to heat at one time, then the alloy is fed into the joint when the joint portion is nearly up to the desired temperature. The torch is then moved to an adjacent area and the operation carried on progressively all round the joint.

Making a Joint

1. Ensure that the copper tube and fitting sizes are compatible. Cut the tube end square and remove all burrs.
2. Clean end of tube with a cleaning pad or wire wool.
3. Clean fitting socket with wire wool.
4. Immediately after cleaning, apply flux to the mating surfaces. Joints made with copper to copper do not require flux when using CP rods.





5. Insert the tube up against the stop of the fitting. A small twist will help spread the flux over the two surfaces. Remove any excess. The assembly should be firmly supported so that it will remain in alignment during the jointing operation.

6. Apply heat to the parts to be joined. The preferred method is by oxy-acetylene flame, adjusted to provide a neutral or very slightly oxidising flame. A large nozzle should be used to set a wide flame so that a large area is heated quickly rather than overheating one small area. We recommend that the "pepperpot" type of nozzle be used. Heat the tube first, beginning at about 25mm from the edge of the fitting. Sweep the flame around the tube in short strokes up and down at right angles to the run of the tube. Then switch the flame to the fitting. Heat uniformly, sweeping the flame from fitting to tube. Avoid excessive heating of castings. Generally, the flux may be used as a guide as to how long to heat the joint.

Flux will pass through four stages:

- At 100°C the water boils off.
- At 315°C the flux becomes white and slightly puffy and starts to work.
- At 430°C it lays against the surface and has a milky appearance.
- At 595°C it is completely clear, active and has the appearance of water.



7. When the flux appears liquid and transparent, start sweeping the flame along the axis of the joint so maintaining heat on the parts to be joined, especially toward the base of the socket of the fitting. The flame must be kept moving to avoid burning the tube or the fitting.

8. Apply the brazing wire or rod at a point where the tube enters the socket of the fitting, the temperature of the joint being hot enough to melt the brazing alloy. Keep both fitting and tube heated by moving the flame back and forth from one to the other as the alloy is drawn into the joint. When the correct temperature is reached, the alloy will flow readily into the space between the tube outer wall and the fitting socket, drawn in by the natural force of capillary attraction. Maintain the temperature by sweeping the flame from tube to fitting. When the joint is filled, a continuous fillet of brazing alloy will be visible around the joint. Stop feeding as soon as the joint is filled.

9. After the brazing alloy has set, remove residual flux with hot water, detergent and a soft cloth. Unlike copper fittings it is advisable to allow cast fittings to cool naturally to some extent before applying a swab. All flux residues must be removed before inspection and pressure testing.





Horizontal Joints

When making horizontal joints, it is preferable to start applying the brazing alloy at the top, then two sides, and finally the bottom, making sure that the operations overlap.

Vertical Joints

It is immaterial where the start is made. If the opening of the socket is pointed downwards, care should be taken to avoid overheating the tube as this may cause the alloy to run down the tube. If this condition is encountered, take the heat away and allow the brazing alloy to set. Then, re-heat the solder cup of the fitting to draw up the alloy.

Trouble Spots

If the brazing alloy fails to flow or has a tendency to 'ball up', it indicates oxidation on the metal surfaces or insufficient heat.

Oxidisation during heating indicates too little flux or it is of too thin a consistency. If the brazing alloy refuses to enter the joint, it indicates that one part is overheated, or the other is under heated or both.

Operations should be stopped and the joint disassembled, re-cleaned and fluxed.

Caution

- Brazing alloy and flux manufacturers' recommendations should be adhered to.
- These notes are given as a guide only and IBP cannot accept responsibility for installation work or system performance.

Further Information - Publications

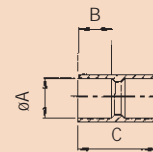
TR/3 Code of practice:

'Brazing and Bronze Welding of Copper Pipework and Sheet' produced by Heating and Ventilation Contractors Association, 34 Palace Court, London W2 4JG.

Joining of Copper and Copper Alloys, Publication number 98 is available from the Copper Development Association.

Installation Dimensions

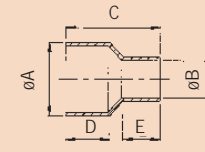
DB601 COUPLER Copper x Copper



Size	A (mm)	B (mm)	C (mm)
67	66.7	13.0	33.0
*76	76.1	15.0	36.0
108	108	17.5	41.0
133	133	25.0	111.0
159	159	25.0	127.0
219	219	30	70

*These Dimensions are the same for DB 601-IM but one end suits 3" Imperial Tube.

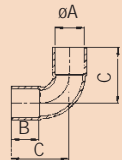
DB601-2 FITTING REDUCER Male Copper x Copper



Size	A (mm)	B (mm)	C (mm)	D (mm)	E (m)
67 x 28	66.7	28	55	16	9
67 x 35	66.7	35	55	16	14
67 x 42	66.7	42	50.0	15.0	11.1
67 x 54	66.7	54	43.0	15.0	12.7
76 x 35	76.1	35	55	20	14
76 x 42	76.1	42	55	20	14
76 x 54	76.1	54	51.0	17.0	12.7
76 x 67	76.1	66.7	43.0	17.0	13.0
108 x 54	108	54	70	23	16
108 x 67	108	66.7	65	23	16
108 x 76	108	76.1	52.0	19.5	15.0
133 x 67	133	66.7	100	30	16
133 x 76	133	76.1	90	30	20
133 x 108	133	108	85	30	23
159 x 76	159	76.1	107	30	20
159 x 108	159	108	90	30	23
159 x 133	159	133	78	30	30
219 x 108	219	108	110	30	23
219 x 219	219	219	75	30	30

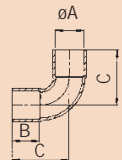


DB607 ELBOW
Copper x Copper



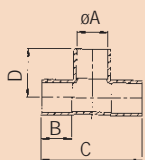
Size	A (mm)	B (mm)	C (mm)
67 x 67	66.7	13.0	70.0
76 x 76	76.1	15.0	71.0

DB607-LT SLOW BEND
Copper x Copper





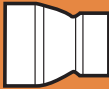
Size	A (mm)	B (mm)	C (mm)
67	67	11.0	118
76	76	12.0	138
108	108	17.5	190.0
133	133	25.0	241.0
159	159	25.0	279.0

DB611 TEE - EQUAL
Copper x Copper x Copper



Size	A (mm)	B (mm)	C (mm)	D (mm)
67	66.7	13.0	113.0	51.0
76	76.1	15.0	117.0	60.0
108	108	17.5	160.0	77.0
133	133	25.0	254.0	130.0
159	159	25.0	302.0	143.0

Product Range

Part No.	Description	Size
DB601	 Straight Coupler Copper x Copper	67
		76
		108
		*133
		*159
		**219
DB601-IM	 Imperial to Metric Straight Coupler Copper (Metric) x Copper (Imperial)	76 x 3 108 x 4 133 x 5
DB601-R	 Reduced Straight Coupler Copper x Copper The following sizes are manufactured to order	67 x 54 76 x 42 76 x 54 76 x 67 67 x 35 67 x 42 108 x 54 108 x 67 108 x 76 133 x 67 133 x 76 133 x 108 159 x 76 159 x 108 159 x 133 219 x 133 219 x 159




** 219mm fittings will be manufactured to order.

* Please note that the configuration of indicated fittings could vary due to the different production techniques used.

BRAZING FITTINGS (SHORT CUP)
Copper 67mm-219mm

page 77



Part No.	Description	Size
DB601-2  	Fitting Reducer Male Copper x Copper	67 x 28
		67 x 35
		67 x 42
		67 x 54
		76 x 35
		76 x 42
		76 x 54
		76 x 67
		*108 x 54
		108 x 67
		108 x 76
		133 x 67
		*133 x 76
		*133 x 108
		*159 x 76
		*159 x 108
DB606 	Obtuse Elbow Copper x Copper	67
		76
		108
		133
		159
		**219






** 219mm fittings will be manufactured to order.

* Please note that the configuration of indicated fittings could vary due to the different production techniques used.

page 78

BRAZING FITTINGS (SHORT CUP)
Copper 67mm-219mm



Part No.	Description	Size
DB606-2 	Obtuse Street Elbow Male Copper x Copper The following sizes are manufactured to order	67 76 108
DB607 	Elbow Copper x Copper	67 76
DB607-LT 	Slow Bend Copper x Copper	67 76 108 133 159
DB611  	Tee - Equal Copper all Ends	67 76 108 *133 *159 **219

** 219mm fittings will be manufactured to order.

* Please note that the configuration of indicated fittings could vary due to the different production techniques used.

page 79

BRAZING FITTINGS (SHORT CUP)
Copper 67mm-219mm



Part No.	Description	Size
DB611-RB	Tee – Reduced Branch Copper all Ends	*67 x 67 x 28 *67 x 67 x 35 *67 x 67 x 42 *67 x 67 x 54 *76 x 76 x 28 *76 x 76 x 35 *76 x 76 x 42 *76 x 76 x 54 *76 x 76 x 67 108 x 108 x 28 108 x 108 x 35 108 x 108 x 42 *108 x 108 x 54 *108 x 108 x 67 *108 x 108 x 76 133 x 133 x 28 133 x 133 x 35 133 x 133 x 42 133 x 133 x 54 133 x 133 x 67 133 x 133 x 76 133 x 133 x 108 159 x 159 x 35 159 x 159 x 42 159 x 159 x 54 159 x 159 x 67 159 x 159 x 76 159 x 159 x 108 159 x 159 x 133 219 x 219 x 108 219 x 219 x 133 219 x 219 x 159
	The following sizes are manufactured to order	

** 219mm fittings will be manufactured to order.

* Please note that the configuration of indicated fittings could vary due to the different production techniques used.

page 80

BRAZING FITTINGS (SHORT CUP)
Copper 67mm-219mm

Part No.	Description	Size
DB611-P	Sweep Tee - Equal Fabricated Copper all Ends	67 76 108 133 159
DB617	Stop End Copper	67 76 108 133 159



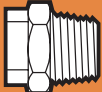
** 219mm fittings will be manufactured to order.

* Please note that the configuration of indicated fittings could vary due to the different production techniques used.

page 81

BRAZING FITTINGS (SHORT CUP)
Copper 67mm-219mm



Part No.	Description	Size
DB701 	Straight Coupler Copper x Copper	67 76 108
DB703 	Female Straight Connector Copper x Female Thread (Parallel ISO 228)	67 x 2 ¹ / ₂ 76 x 3
DB704 	Male Straight Connector Copper x Male Thread (Taper ISO 7)	67 x 2 ¹ / ₂ 76 x 3 108 x 4




** 219mm fittings will be manufactured to order.

* Please note that the configuration of indicated fittings could vary due to the different production techniques used.

page 82

BRAZING FITTINGS (SHORT CUP)
Red Brass 15mm-219mm



Part No.	Description	Size
DB707 	Elbow Copper x Copper	15 22 28 35 42 54 67 76 108 133 159 **219
DB733-4 	Male Straight Union Connector Copper x Male Thread (Taper ISO 7)	67 x 2 ¹ / ₂
DB750-A 	Tank Connector Copper x Male Thread (Parallel ISO 228)	67 x 2 ¹ / ₂ 76 x 3 108 x 4


** 219mm fittings will be manufactured to order.

* Please note that the configuration of indicated fittings could vary due to the different production techniques used.

page 83

BRAZING FITTINGS (SHORT CUP)
Red Brass 15mm-219mm



Part No.	Description	Size
DB-748-16 	BS4504 PN16 Bi-Metallic Brazing Flange to BS4504: Part 3- Section 3.3 (The Steel Outer has a protective paint finish)	15
		22
		28
		35
		42
		54
		67
		76
		108
		133
		159

Technical Specifications



General Information

Clyde brazing fittings are manufactured to the highest standards complying with EN1254-1.

The fittings are generally manufactured from copper tube to EN1057-R250 making them immune to dezincification.

Fittings are designed for brazing applications only and are not suitable to be jointed using the soft soldering technique.

Our range of accessories includes brazing rods to BS1845, brazing flux, mats and an extensive range of Flanges.

All products enable the installer to meet the stringent conditions imposed by water regulations.

Applications and uses

Clyde fittings are the economical choice for low pressure systems and waste disposal in commercial and Industrial applications. The fitting's simplicity and versatility makes it a popular choice with installers.

Size Availability

66.7mm - 159mm, suitable for connecting copper tubes in accordance with EN1057 and other standards including ISO 274. For sizes below 66.7mm please refer to the section describing the Delcop range which, with the exception of Unions with copper tails, may also be brazed.

Materials Availability

All fittings in the range are manufactured from Copper making them immune to dezincification.

Table A

Material	Specification
Copper	EN 12165 CW02HA

Health and Safety

It is the responsibility of the user to ensure that all adequate protection is available where required and the necessary information regarding Health and Safety Regulations is adhered to. Copper and Copper alloy fittings are considered non-hazardous under normal circumstances. Before using brazing rods, fluxes and mats, you are advised to read the relevant COSHH Regulations. Copies are available on request.

All Per COSHH 4 Reg 1988.

Quality Assurance

The Company is a B.S.I. Registered Firm of assessed capability, Registration Number FM 11836, manufacturing in accordance with EN ISO 9001:2000.

Clyde fittings are manufactured in accordance with EN 1254-1 and 4 (formerly BS 864: Part 2).

Most fittings in the range are covered by the B.S.I. Kitemark under Licence No. KM 07283 (detailed list available upon request). Listings can also be found in the WRAS Water Fittings and Materials Directory under 'Kitemarked and Quality Assured Fittings'.



In addition to audits carried out by the British Standards Inspectorate, an internal audit system is also in operation to further enhance quality control.

Design

Clyde fittings are designed with a long cup ensuring a strong leak-proof joint when correctly installed. With economy in mind, these brazing fittings are manufactured from copper tube complying with EN1057 - R250.

Clyde brazing fittings use the principle of capillary attraction to ensure that, when correctly jointed to copper tube, a sufficient layer of filler metal is present between tube and fittings to form a mechanically strong, leak-proof joint. To ensure a successful joint there must be a controlled gap between the mating parts. This precise dimensions is engineered by sizing the sockets to close tolerances and by the installer using tube manufactured to EN1057.

Fittings are designed to comply with all relevant standards, to maximise flow rate and to blend with the connecting pipework.

Performance

Hydraulic working temperatures and pressures shown in Table B are based on EN 1254-1.

Table B

TEMPERATURES AND PRESSURES FOR WATER AND LIGHT MINERAL OILS			
Filler Metal	Temp °C	Max. Pressure (bar)	
		67mm - 108mm	108mm - 159mm
Silver Copper (Cadmium Free)	30	16	5
55/40%Ag. or Copper/Phosphorous 94/6% or Copper/Phosphorous/Silver 92/6/2%	65	16	3
	110	10	2

Note: Clyde fittings are designed for low pressure applications such as soil and waste stacks where pressures are not likely to exceed 2 bar.

Brazing (Capillary Joint) - Definition

Brazing is carried out with the principal aim of using a filler metal to penetrate capillary gaps between the metals being joined and thereby create a strong, leak - proof joint by the bonding of the metal to the parent surfaces over a comparatively large area. The formation of a fillet is secondary to this aim.

Low Temperature Brazing is that which takes place within the temperature range of 600°C to 850°C normally using filler metals based on silver and copper. This process can also be referred to as:

Silver brazing, Silver alloy brazing, Silver soldering or Hard soldering.

Rods and Fluxes for Brazing

Rods recommended for this jointing technique are detailed within BS 1845: 1984 'Filler Metals for Brazing' and those more widely used are shown below.

Group AG

Silver Brazing Alloys

Type AG 14 with an approximate melting temperature of 610°C to 620°C.

Group CP

Phosphorous Brazing Alloys

Type CP2 has an approximate temperature range of 645°C to 740°C with a high self - fluxing activity. This alloy has no zinc or cadmium content and is therefore useful in certain applications. Flux is not required when jointing copper using CP2 rods.

All fluxes are, to some degree, corrosive. Those recommended by IBP are chosen to minimise this corrosion and to give a long term reliable joint, providing the correct jointing procedure is adhered to.

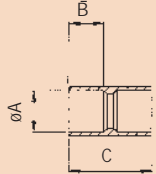
Making a Joint

Please refer to Delbraz, as the jointing procedure is the same.



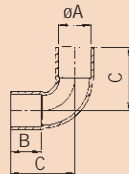
Installation Dimensions

C101 STRAIGHT COUPLER
Copper x Copper



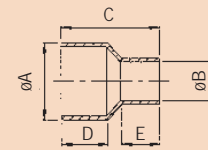
Size	A (mm)	B (mm)	C (mm)
67	66.7	25.0	58.0
76	76.1	25.0	58.0
108	108	30.0	68.0
133	133	35.0	111.0
159	159	35.0	128.0

C103 SLOW BEND
Copper x Copper



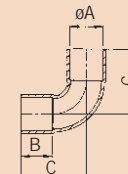
Size	A (mm)	B (mm)	C (mm)
67	67	33.5	118
76	76	33.5	138
108	108	30.0	190.0
133	133	35.0	241.0
159	159	35.0	279.0

C105-2 REDUCED STRAIGHT COUPLER
Male Copper x Copper



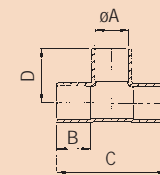
Size	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)
67 x 22	66.7	22	85	38	17
67 x 28	66.7	28	85	38	20
67 x 35	66.7	35	85	38	25
67 x 42	66.7	42	64.0	25.0	20.0
67 x 54	66.7	54	66.7	25.0	25.0
76 x 22	76.1	22	85	38	17
76 x 28	76.1	28	85	38	20
76 x 35	76.1	35	85	38	25
76 x 42	76.1	42	85	38	29
76 x 54	76.1	54	65.0	25.0	25.0
76 x 67	76.1	66.7	63.0	25.0	25.0
108 x 42	108	42	120	50	29
108 x 54	108	54	120	50	34
108 x 67	108	66.7	115	50	36
108 x 76	108	76.1	77.0	30.0	25.0
133 x 76	133	76.1	120	50	36
133 x 108	133	108	130	50	50
159 x 76	159	76.1	142	50	36
159 x 108	159	108	132	50	50

C103-E ELBOW
Copper x Copper



Size	A (mm)	B (mm)	C (mm)
67	66.7	25.0	80.0
76	76.1	25.0	81.0

C106 EQUAL TEE
Copper All Ends



Size	A (mm)	B (mm)	C (mm)	D (mm)
67	66.7	35	144	71
76	76.1	35	150	77
108	108	50	215	108
133	133	50	265.0	140.0
159	159	50	302.0	156.0



Product Range

Part No.	Description	Size
C101	Straight Coupler Copper x Copper	67 76 108 *133 *159
C102	Obtuse Elbow Copper x Copper	67 76 108 133 159
C103	Slow Bend Copper x Copper	67 76 108 133 159
C103-E	Elbow Copper x Copper	67 76

* Please note that the configuration of indicated fittings could vary due to the different production techniques used.

page 92

BRAZING FITTINGS (LONG CUP)
Copper 67mm-159mm







Part No.	Description	Size
C105	Reduced Straight Coupler Copper x Copper	67 x 54 76 x 42 76 x 54 76 x 67 *108 x 54 108 x 67 108 x 76 *159 x 108
C105-2	Fitting Reducer Male Copper x Copper	*67 x 22 *67 x 28 67 x 35 67 x 42 67 x 54 *76 x 22 *76 x 28 76 x 35 76 x 42 76 x 54 76 x 67 *108 x 42 *108 x 54 108 x 67 108 x 76 *133 x 76 *133 x 108 *159 x 76 *159 x 108

* Please note that the configuration of indicated fittings could vary due to the different production techniques used.

page 93

BRAZING FITTINGS (LONG CUP)
Copper 67mm-159mm





Part No.	Description	Size
C106	Tee – Equal Copper All Ends	67 76 108 *133 *159
		
		
C107	Tee – Reduced Branch Copper All Ends	67 x 67 x 15 67 x 67 x 22 *67 x 67 x 28 *67 x 67 x 35 *67 x 67 x 42 67 x 67 x 54 76 x 76 x 22 76 x 76 x 28 76 x 76 x 35 *76 x 76 x 42 *76 x 76 x 54 76 x 76 x 67 108 x 108 x 28 108 x 108 x 35 108 x 108 x 42 108 x 108 x 54 108 x 108 x 67 108 x 108 x 76
		
		

* Please note that the configuration of indicated fittings could vary due to the different production techniques used.

page 94

BRAZING FITTINGS (LONG CUP)
Copper 67mm-159mm







Part No.	Description	Size
C109	The following sizes are manufactured to order Sweep Tee - Equal Fabricated Copper All Ends	67 76 108 133 159
		
C119	Stop End Copper	67 76 108 133 159
		

BRAZING FITTINGS (LONG CUP)
Copper 67mm-159mm


page 95



Part No.	Description	Size
DC315 	Medium Steel Wool	1lb Pack
DC318 	Cleaning Pad	9" x 6"
DC321 	EQA Grade Mat	12" x 10"
DC330N 	Cup Cleaning Brush	10 15 22

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