



be used to groove the copper tubing. **DO NOT** use rolls intended for light wall stainless steel, aluminum, PVC or steel pipe.

### Approvals/Listings:



See Victaulic Publication 10.01 for more details.

### Product Description:

The Victaulic copper connection system is for joining copper tubing, and is available to join Australian Standard (AS-1432) copper tubing sizes DN 50 – DN 200 / 2 – 8" Types A, B and D.

The Victaulic copper connection system consists of couplings, valves and grooved copper tube size fittings. This means no heat is required and no lead is used. The Victaulic copper connection system is rated for pressures up to 2450 kPa/355 psi depending on the copper tubing type and size.

Copper Tube Size fittings for use with Style 606-AS copper connection couplings. Currently available fitting configurations are 90° elbows, 45° elbows, straight tees, grooved x grooved concentric reducers and end caps.

Victaulic has designed tools for grooving AS-1432 copper tubing. Tools must be equipped only with Victaulic rolls designed specifically for grooving AS-1432 Australian copper tubing. For in-place grooving of tubing, the VE26AC is available. Australian Copper roll sets must

The series 608N-AS Butterfly Valve is discontinued. For the most current information on the Style 606-AS coupling and Australian copper fittings, please visit [www.victaulic.com](http://www.victaulic.com)

#### Job/Owner

System No.	
Location	

#### Contractor

Submitted By	
Date	

#### Engineer

Spec Section	
Paragraph	
Approved	
Date	

**Material Specifications:**

**Coupling:**

**Housing:** Ductile iron conforming to ASTM A-536, grade 65-45-12. Ductile iron conforming to ASTM A-395, grade 65-45-15, is available upon special request.

**Housing Coating:** Copper colored alkyd enamel.

**Gasket: (specify choice<sup>1</sup>)**

NOTE: Additional gasket styles are available. Contact Victaulic for details.

Grade "EHP" Flushseal® EPDM

EPDM (Red and Green Stripes). Temperature range -30°F to +230°F / -34°C to +110°C. Recommended for hot water service within the specified temperature range plus a variety of dilute acids, oil-free air and many chemical services. UL classified in accordance with ANSI/NSF 61 for cold +86°F / +30°C and hot +180°F / +82°C potable water service. NOT RECOMMENDED FOR PETROLEUM SERVICES.

**Fittings:**

Wrought copper fittings manufactured in accordance with AS-3688.

**Valve:**

**Body:** Brass castings conforming to UNS C87850

**Disc:** Aluminum-bronze casting conforming to UNS C95500

**Seal Material:**

Grade "CHP" Fluoroelastomer

EPDM (Blue/Copper color code). Temperature range -50°F to +250°F / -12°C to +121°C. May be specified for cold and hot water service within the specified temperature range plus a variety of dilute acids, air, and many chemical services. UL Classified in accordance with ANSI/NSF 61 for ambient +86°F/+30°C and hot +180°F/+82°C potable water service and ANSI/NSF 342.<sup>1</sup> See Victaulic Publication 02.06 for more details.

<sup>1</sup> Services listed are General Service Guidelines only. It should be noted that there are services for which these gaskets are not compatible. Reference should always be made to the latest Victaulic Gasket Selection Guide for specific gasket guidelines and for a listing of services which are not compatible.

NOTE: When connecting butterfly valves to Style 641 Vic-Flange® adapters please contact Victaulic.

**Drive Hub Adapter:** Steel - black enamel coated

**Stem / Lower Nut Seals:** EPDM

**Trim:** (Stem / Lower Nut) 316SS

**Operator Bracket:** Steel - black enamel coated

**Bracket Bolts / Washers:** Steel - zinc plated

**Operator:**

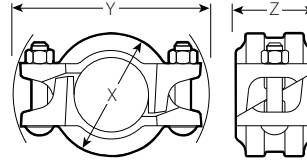
**Manual lever lock/ininitely variable handle with memory stop:** Steel -black enamel coated

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and Australian copper fittings.

**Dimensions:**

**Copper Coupling**

**Style 606-AS**



Style 606-AS Australian Standard Copper Coupling

Nominal Size mm inches	Actual Size mm inches	Bolt/Nut <sup>2</sup> No. – size inches	Allow. Pipe End Separation <sup>3</sup> mm inches	Dimensions			Approx. Weight Each kg lbs.
				X mm inches	Y mm inches	Z mm inches	
DN 50 2	50.8 2.0	2 – 3/8 × 2 Lg.	0.76 0.03	77.5 3.05	122.3 4.81	45.7 1.80	0.63 1.4
DN 65 2 1/2	63.5 2.5	2 – 3/8 × 2 Lg.	0.76 0.03	89.8 3.54	138.8 5.31	45.7 1.80	0.86 1.9
DN 80 3	76.2 3.0	2 – 1/2 × 2 3/4 Lg.	0.76 0.03	102.9 4.05	164.6 6.48	45.7 1.80	0.91 2.0
DN100 4	101.6 4.0	2 – 1/2 × 2 3/4 Lg.	4.39 0.17	131.8 5.19	188.9 7.44	49.2 1.94	1.41 3.1
DN 125 5	127.0 5.0	2 – 5/8 × 3 1/4 Lg.	4.60 0.18	158.8 6.25	233.8 9.20	49.4 1.95	2.16 4.8
DN 150 6	152.4 6.0	2 – 5/8 × 3 1/4 Lg.	4.60 0.18	184.1 7.25	256.9 10.11	49.4 1.95	2.52 5.6
DN 200 8	203.2 8.0	2 – 5/8 × 4 1/4 Lg.	4.57 0.18	239.0 9.41	306.1 12.05	50.0 1.97	3.54 7.8

WARNING: FOR ONE TIME FIELD TEST ONLY, the Maximum Joint Working Pressure may be increased to 1 1/4 times the figures shown.

2 Number of bolts required equals number of coupling segments.

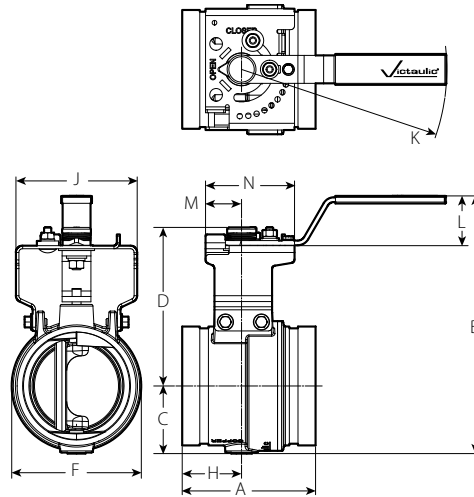
3 For field installation only. Style 606-AS is essentially rigid and does not accommodate expansion or contraction.

The Series 608N-AS Butterfly Valve is discontinued. Please visit www.victaulic.com for the most current information on the Style 606-AS coupling and Australian copper fittings.

**Dimensions:**

**Butterfly Valve**

**Series 608N-AS**



Series 608N DN50–DN150

Nominal Size mm inches	Dimensions											Approx. Weight Each kg lbs.
	A mm inches	B mm inches	C mm inches	D mm inches	F mm inches	H mm inches	J mm inches	K mm inches	L mm inches	M mm inches	N mm inches	
DN 50 2	100.6 3.96	198.9 7.83	46.0 1.81	66.8 2.63	82.5 3.25	45.7 1.80	107.7 4.24	180.6 7.11	43.2 1.7	31.8 1.25	78.5 3.09	3.2 7.0
DN 65 2½	102.9 4.05	198.8 7.83	46.0 1.81	66.8 2.63	82.5 3.25	48.0 1.89	107.7 4.24	180.6 7.11	43.2 1.7	31.8 1.25	78.5 3.09	3.3 7.2
DN 80 3	102.9 4.05	214.9 8.46	53.3 2.10	77.0 3.03	101.6 4.00	48.0 1.89	107.7 4.24	180.6 7.11	43.2 1.7	31.8 1.25	78.5 3.09	3.5 7.7
DN100 4	123.7 4.87	227.1 8.94	59.7 2.35	86.1 3.35	104.3 4.50	58.4 2.30	107.7 4.24	180.6 7.11	43.2 1.7	31.8 1.25	78.5 3.09	4.9 10.8
DN 125 5	149.4 5.88	284.8 11.21	73.7 2.90	107.1 4.22	112.2 5.60	72.9 2.87	174.6 6.86	168.0 10.55	66.0 2.6	47.8 1.88	130.3 5.13	7.5 16.6
DN 150 6	158.8 6.25	310.6 12.23	84.8 3.34	113.7 4.47	160.0 6.30	72.9 2.87	175.5 6.91	168.0 10.55	66.0 2.6	47.8 1.88	130.3 5.13	9.4 20.8

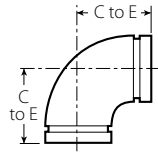
The Series 608N-AS Butterfly Valve is also continued.  
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**Elbows, Tee**

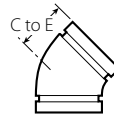
**No. 610-AS** 90° Elbow

**No. 611-AS** 45° Elbow

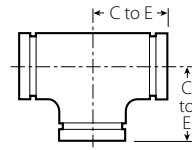
**No. 620-AS** Tee



No. 610-AS



No. 611-AS



No. 620-AS

Nominal Size mm inches	Actual Size mm inches	No. 610-AS 90° Elbow		No. 611-AS 45° Elbow		No. 620-AS Tee	
		C to E mm inches	Approx. Weight Each kg lbs.	C to E mm inches	Approx. Weight Each kg lbs.	C to E mm inches	Approx. Weight Each kg lbs.
DN 50 2	50.8 2.0	76.0 2.99	0.26 0.57	47.0 1.81	0.16 0.35	62.0 2.44	0.23 0.51
DN 65 2½	63.5 2.5	89.0 3.50	0.36 0.80	51.1 2.01	0.22 0.49	72.0 2.83	0.34 0.75
DN 80 3	76.2 3.0	101.1 3.98	0.58 1.27	56.0 2.20	0.33 0.73	80.0 3.15	0.59 1.31
DN100 4	101.6 4.0	127.0 5.00	0.94 2.07	67.1 2.64	0.55 1.16	105.0 4.13	1.05 2.31
DN 125 5	127.0 5.0	216.0 8.50	1.98 4.17	104.0 4.09	1.02 2.25	118.1 4.65	1.43 3.15
DN 150 6	152.4 6.0	253.0 9.96	3.18 7.00	119.1 4.69	1.67 3.69	130.0 5.12	2.30 5.06

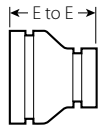
Note: Couplings available in 50 – 200mm to join Type A, B and D copper tube in accordance with AS 4142.

Fittings available in 2 – 6 7/50 – 150mm consistent with Type B copper tube. Fittings are manufactured in accordance with AS 3688.

**The Series 608N-AS Butterfly Valve is discontinued.**  
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**Concentric Reducer**

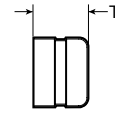
No. 650-AS Grv. x Grv.



No. 650-AS

**Cap**

Style 660-AS



Style 660-AS

Nominal Size mm inches	Actual Size mm inches	No. 650-AS Grv. x Grv.	
		E to E mm inches	Approx. Weight Each kg lbs.
63.5 2 1/2	x 50.8 2.0	86 3.39	0.14 0.33
		76.2 3	x 50.8 2.0
x 63.5 2.5	86 3.39		
	101.6 4	x 50.8 2.0	92 3.62
x 63.5 2.5			92 3.62
		x 76.2 3.0	92 3.62
127.0 5			x 63.5 2.5
	x 76.2 3.0	102 4.02	
		x 101.6 4.0	92 3.62
152.4 6	x 76.2 3.0	102 4.02	0.67 1.49
		x 101.6 4.0	102 4.02
	x 127.0 5.0		102 4.02

Nominal Size mm inches	Actual Size mm inches	Dimensions	Approx. Weight Each Lbs. kg
		T mm inches	
DN50 2	50.8 2.0	40.0 1.57	0.2 0.1
DN65 2 1/2	63.5 2.5	40.0 1.57	0.2 0.1
DN80 3	76.2 3.0	40.0 1.57	0.4 0.2
DN100 4	101.6 4.0	55.0 2.17	0.7 0.3
DN125 5	127.0 5.0	55.0 2.17	0.9 0.4
DN150 6	152.4 6.0	55.0 2.17	1.5 0.7

Note: Couplings available in 50 – 200mm to join Type A, B and C copper tube in accordance with AS-1432.

Fittings available in 2 – 6”/50 – 150mm consistent with Type B copper tube. Fittings are manufactured in accordance with AS-3688.

The Series 608N-AS Butterfly Valve is discontinued. Please visit www.victaulic.com for the most current information on the Style 606-AS coupling and Australian copper fittings.

**Performance**

**Style 606-AS Australian Standard Coupling**

The Victaulic copper connection system has been thoroughly tested on Types A, B and D copper tubing to establish the pressure ratings shown in the adjacent table.

Pipe		Type "A" to AS-1432		Type "B" to AS-1432		Type "D" to AS-1432	
Nominal Size mm inches	Actual Size mm inches	Max. Joint Wk. <sup>5</sup>	Max. Permis. End Load	Max. Joint Wk. <sup>5</sup>	Max. Permis. End Load	Max. Joint Wk. <sup>5</sup>	Max. Permis. End Load
		kPa psi	N lbs.	kPa psi	N lbs.	kPa psi	N lbs.
DN 50 2	50.8 2.0	2450 355	4940 1110	1790 260	3650 820	650 94	1290 290
DN 65 2½	63.5 2.5	1960 284	6230 1400	1450 210	4580 1030	650 94	2050 460
DN 80 3	76.2 3.0	2030 294	9250 2080	1620 235	7390 1660	650 94	2940 660
DN100 4	101.6 4.0	1520 220	12280 2760	1210 176	9790 2200	650 94	5250 1180
DN 125 5	127.0 5.0	1210 176	15300 3440	970 141	12230 2750	650 94	8190 1840
DN 150 6	152.4 6.0	1310 190	24165 5370	1000 145	18450 4100	650 94	11790 2650
DN 200 8	203.2 8.0	920 134	29935 6730	730 106	23710 5350	—	—

<sup>5</sup> Working Pressure and End Load are total, from all internal and external loads, based on Australian Standard copper tubing of the table indicated, standard roll grooved in accordance with Victaulic specifications. Contact Victaulic for performance on other pipe.

**Flow Data:**

**Series 608N-AS**

C<sub>v</sub>/K<sub>v</sub> values for flow of water at +60°F/+16°C with various disc positions are shown in the table below.

**Formulas for C<sub>v</sub>/K<sub>v</sub> Values:**

$$\Delta P = \frac{Q^2}{C_v^2}$$

$$Q = C_v \times \sqrt{\Delta P}$$

**Where:**

Q = Flow (GPM)  
 ΔP = Pressure Drop (psi)  
 C<sub>v</sub> = Flow Coefficient

$$\Delta P = \frac{Q^2}{K_v^2}$$

$$Q = K_v \times \sqrt{\Delta P}$$

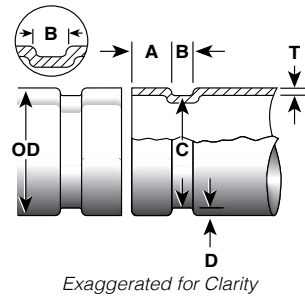
**Where:**

Q = Flow (m<sup>3</sup>/hr)  
 ΔP = Pressure Drop (Bar)  
 K<sub>v</sub> = Flow Coefficient

Valve Size inches mm	C <sub>v</sub> /K <sub>v</sub>
	Full Open
2 ½ 66.7	113 98
3 79.4	276 238
4 104.8	383 330
6 155.6	1029 887

**Groove Specifications:**

**Australian Standard Copper Tubing**



Nominal Size mm inches	Actual Outside Diameter mm inches		Dimensions mm inches				
	Min.	Max.	Gasket Seat "A" ± 0.8 ± 0.03	Groove Width "B" + 0.8/- 0 + 0.03/- 0	Groove Diameter "C" + 0/- 0.5 + 0/- 0.020	Groove Depth "D" Ref. Only	Maximum Allowable Flare Diameter
DN 50 2	50.6 1.99	50.8 2.00	15.87 0.625	7.62 0.300	48.23 1.899	1.27 0.049	53.06 2.089
DN 65 2½	63.3 2.49	63.5 2.50	15.87 0.625	7.62 0.300	60.88 2.397	1.27 0.050	65.83 2.592
DN 80 3	76.0 2.99	76.2 3.00	15.87 0.625	7.62 0.300	73.56 2.896	1.27 0.050	78.51 3.091
DN100 4	101.3 3.99	101.6 4.00	15.87 0.625	7.62 0.300	98.78 3.889	1.35 0.053	103.88 4.090
DN 125 5	126.7 4.99	127.0 5.00	15.87 0.625	7.62 0.300	123.67 4.869	1.60 0.063	128.77 5.070
DN 150 6	152.1 5.99	152.4 6.00	15.87 0.625	7.62 0.300	140.05 5.868	1.60 0.063	154.66 6.089
DN 200 8	202.8 7.99	203.2 8.00	15.87 0.625	7.62 0.300	179.80 7.866	1.60 0.063	205.80 8.102

NOTE: Always refer to Tool Operating Instructions and Groove Specification notes before proceeding with pipe preparation.

The Series 608N-AS Butterfly Valve is discontinued. Please visit www.victaulic.com for the most current information on the Style 606AS coupling and Australian copper fittings.

**Installation**

Reference should always be made to the I-600 Victaulic Field Installation Handbook for Copper Connection Products. Handbooks are included with each shipment of Victaulic products for complete installation and assembly data, and are available in PDF format on our website at www.victaulic.com.

**Warranty**

Refer to the Warranty section of the current Price List or contact Victaulic for details.

**Note**

This product shall be manufactured by Victaulic or to Victaulic specifications. All products to be installed in accordance with current Victaulic installation/assembly instructions. Victaulic reserves the right to change product specifications, designs and standard equipment without notice and without incurring obligations.

**Trademarks**

Victaulic® is a registered trademark of Victaulic Company.