

Elson Australasia Pty Ltd

PRODUCT APPRAISAL REPORT 1821 Issue 4

Elson Metal Bodied Ball Valves for Property Services

AS 4796:2016 Water supply – Metal bodied and plastic - bodied ball valves for property service connection

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Overview of WSAA

The Water Services Association of Australia (WSAA) is the peak industry body representing the urban water industry. Our members provide water and sewerage services to over 20 million customers in Australia and New Zealand and many of Australia's largest industrial and commercial enterprises.

Based around our vision of 'customer driven, enriching life', WSAA facilitates collaboration, knowledge sharing, networking and cooperation within the urban water industry. We are proud of the collegiate attitude of our members which has led to industry-wide approaches to national water issues.

WSAA can demonstrate success in the standardisation of industry performance monitoring and benchmarking, as well as many research outcomes of national significance. The WSAA Executive retains strong links with policy makers and legislative bodies and their influencers, to monitor emerging issues of importance to the urban water industry.

WSAA was formed in 1995 as a non-profit organisation to foster the exchange of information between industry, government and the community, and to promote sustainable water resource management.

The urban water industry is committed to anchoring its services to customers' values, and to enrich communities where water services have broad economic, environmental and social values. In line with this our main activities focus on four areas:

- 1. influencing national and state policies on the provision of urban water services and sustainable water resource management
- 2. promoting debate on environmentally sustainable development and management of water resources and the community health requirements of public water supplies
- 3. improving industry performance and establishing benchmarks and industry leading practices for water service processes; and
- 4. fostering the exchange of information on education, training, research, water and wastewater management and treatment and other matters of common interest.

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1 EXECUTIVE SUMMARY

Elson is an Australian owned and operated company since 1993, supplying plumbing products designed specifically for the Australian market.

The valves are manufactured in the Peoples Republic of China (PRC) by Elson Plumbing Manufacturing (Changzhou) Co Ltd.

This appraisal is for DN 20 service connection ball valves, DN 20 and DN 25 right-angle meter assembly ball valves and DN 20 sub meter assemblies manufactured to comply with AS 4796:2016 Water supply – Metal bodied and plastic bodied ball valves for property service connection.

This Issue 4 is a replacement for the previous version of the appraisal which had reached its 5-year expiry date and includes a DN 25 right-angle ball valve and DN 20 sub meter assemblies.

The ball valves are rated as PN 25 and are operated using lockable lever handles.

The available end configurations are female thread to female thread, male thread to female thread, female thread to copper flared compression joint, female thread to copper olive compression joint and female thread to copper press joint.

The sub meter assemblies include ball valves with male thread to swivel nut couplings to suit either nut and tail or ball joint (NSW/ACT) drinking water meters.

The ball valves, including lever handles, are manufactured from dezincification resistant lead-free copper alloy and incorporate a Grade 316 stainless steel ball.

A ball valve range is also available with lilac-coloured handles for non-drinking water applications.

Elson Plumbing Manufacturing (Changzhou) Co Ltd has ISO 9001 certification.

The ball valves have ISO Type 5 StandardsMark product certification to AS 4796:2016 Water supply – Metal bodied and plastic bodied ball valves for property service connection.

This Appraisal has determined that the Elson metal bodies ball valves, as detailed in this report, meet the requirements of WSA PS - 274 Ball Valves for Pressure Applications – Drinking Water and Non-Drinking Water Supply and are considered as 'fit-for-purpose'

1.1 Recommendations

It is recommended that WSAA members, subject to any specific requirements of the member, accept or authorise Elson metal bodied ball valves, as detailed in this report, for use in property service connections in above-ground and below-ground water supply applications, provided they are installed in accordance with WSAA Codes and the manufacturer's requirements, where specified.

2 THE APPLICANT

The applicant is Elson Australasia Pty Ltd.

2.1 The Supplier

Elson is an Australian owned company supplying plumbing products designed specifically for the Australian market.

Elson manufactures and distributes the following major product brands:

- elson LEAD FREE plumbing fittings, ball valves, hot water valves, recycled water and civil water meter products
- elson TAPWARE fashion tapware, mixers, bathroom accessories,

- elson BUSH PEX PEX plumbing systems including pull-on, crimp-on and push-on for hot & cold water and crimp-on for gas.
- elson BRASSWARE screwed, compression, flared fittings, T-head taps, flat spindle taps, grates and wastes
- elson PRESS brass and copper press fittings for use with copper tubes
- elson VALVE range of lead-free DR brass valves
- elson CIVIL civil meter ball valve, civil meter connection kits, dual check valves, water meter risers
- elson CAPILLARY copper and brass pressure fittings

More information is available at the following link: https://elson.net.au/

2.2 The Manufacturer

Elson Plumbing Manufacturing (Changzhou) Co Ltd was established by Elson Australasia Pty Ltd in 1999 in Changzhou, China to manufacture its range of products. Manufacturing facilities include casting, forging, machining and assembly, polishing and powder coating, testing and inspection, research and development as well as an analytical laboratory.

3 THE PRODUCT

This appraisal is for DN 20 service connection ball valves, DN 20 and DN 25 right-angle meter assembly ball valves and DN 20 sub meter assemblies manufactured to comply with AS 4796:2016 Water supply – Metal bodied and plastic bodied ball valves for property service connection.

The end configurations for the ball valves incorporate various combinations including:

- (a) 3/4" BSP Male
- (b) 3/4" BSP Female
- (c) 1" BSP Female
- (d) Swivel nut to suit DN 20 nut and tail drinking water meter
- (e) Swivel nut to suit DN 20 ball joint drinking water meter (NSW/ACT)
- (f) DN 20 Copper flared compression joint
- (g) DN 25 Copper flared compression joint
- (h) DN 20 Copper olive joint
- (i) DN 20 Copper press joint

See Tables 1, 2 and 3 and Section 6.2.1 for more details relating to end connections.

The ball valves are rated as PN 25 and are operated by lockable lever handles. See Figures 1, 2 and 3.



FIGURE 1 SERVICE CONNECTION BALL VALVES AND SUB METER ASSEMBLIES



FIGURE 2 RIGHT ANGLE METER ASSEMBLY BALL VALVES

The sub meter assemblies include ball valves with male thread to swivel nut couplings to suit either nut and tail or ball joint (NSW/ACT) drinking water meters.

The ball valves, including lever handles, are manufactured from dezincification resistant lead-free copper alloy and incorporate a Grade 316 stainless steel ball. The bore diameter for the DN 20 service connection ball valves is 19.6mm and 16.0 mm for the right-angle ball valves. The bore diameter for the DN 25 service connection ball valve is 25mm. These bore diameters exceed the minimum specified in AS 4796

For non-drinking water applications, the valve handles are coated with a lilac-coloured thermal bonded polymeric coating.

4 SCOPE OF THE APPRAISAL

The ball valves included in the Scope of this appraisal are detailed in Tables 1 and 2 and as included in the ISO Type 5 StandardsMark Product Certification Schedule attached in Appendix B.

TABLE 1
DN 20 ELSON SERVICE CONNECTION BALL VALVES

Produ	Product Code						
Drinking Water	Non-Drinking Water	DN	End Connections				
LF74055	LF74065	20	3/4" BSP Male Thread to 3/4" BSP Female Thread				
LF74052	LF74062	20 %" BSP Female Thread to %" BSP Female Thre					
LF74166Q	-	20	3/4" BSP Female Thread to swivel nut to suit DN 20 nut and tail water meter. (Incorporates coupling)				
LF74167Q _		20	3/4" BSP Male Thread to swivel nut to suit DN 20 nut and tail water meter. (Incorporates coupling)				

TABLE 2 DN 20 SUB METERING KITS

Product Code	DN	Description
LF74160 (Comprises LF74055 and LF74052 with meter couplings)	20	3/4" BSP Male to swivel nut to suit DN 20 ball joint water meter (NSW/ACT) and 3/4" BSP Female to swivel nut to suit DN 20 ball joint water meter (NSW/ACT)
LF74161 (Comprises LF74055 and LF74052 with meter couplings)	20	3/4" BSP Male to swivel nut to suit DN 20 nut and tail water meter and 3/4" BSP Female to swivel nut to suit DN 20 nut and tail water meter.
LF74161Q (Comprises LF4166Q and LF4167Q with meter couplings)	20	3/4" BSP Male to swivel nut to suit DN 20 nut and tail water meter and 3/4" BSP Female to swivel nut to suit DN 20 nut and tail water meter.

TABLE 3 ELSON RIGHT ANGLE BALL VALVES

Produ	uct Code		
Drinking Water	Non-Drinking Water	DN	End Connections
		Locka	ble Handle Type 1
LF74105	LF74120	20	3/4" BSP Female Thread to 3/4" BSP Female Thread
LF74110	LF74125	20	3/4" BSP Male Thread to 3/4" BSP Female Thread
LF74115	LF74130	20	3/4" BSP Female Thread to DN 20 Copper Flared
LF74150	LF74151	20	¾" BSP Female Thread to DN 20 Copper Flared
LF74155	-	25	1" BSP Female Thread to DN 25 Copper Flared
		Locka	ble Handle Type 2
LF74135	LF74235	20	¾" BSP Female Thread to DN 20 Copper Olive
LF74136	LF74236	20	3/4" BSP Female Thread to 3/4" BSP Female Thread
LF74137	LF74237	20	3/4" BSP Male Thread to 3/4" BSP Female Thread
LF74138	LF74238	20	¾" BSP Female Thread to DN 20 Copper Flared
LF74139	-	20	3/4" BSP Female Thread to DN 20 Copper Press Joint

5 APPRAISAL CRITERIA

5.1 Quality Assurance Requirements

The WSAA Product Appraisal Technical Advisory Group accepts ball valves manufactured in compliance with AS 4796:2016 Water supply – Metal bodied and plastic bodied ball valves for property service connection and duly certified by means of an ISO Type 5 product certification scheme undertaken by a JAS-ANZ accredited Conformity Assessment Body (CAB) or by an international accreditation system recognised by JAS-ANZ.

The manufacturer is generally expected to have a production management and control system that has been duly accredited in accordance with AS/NZS ISO 9001 as a prerequisite to undergoing a product certification audit.

The ISO Type 5 Product Certification Scheme shall meet the criteria described in WSA TN-08.

5.2 Performance Requirements

Elson ball valves have been appraised for compliance with AS 4796:2016 *Water supply – Metal bodied and plastic bodied ball valves for property service connection.* The following Product Specification is relevant to this application:

WSA PS - 274 Ball Valves for Pressure Applications – Drinking Water and Non-Drinking Water Supply

A copy of the Product Specification is available at the following link:

https://www.wsaa.asn.au/shop/product/60961

6 COMPLIANCE WITH APPRAISAL CRITERIA

6.1 Compliance with Quality Assurance Requirements

Elson has submitted the following quality certificates:

- ISO 9001:2015 Certificate of Registration No. QEC27227 issued to Elson Plumbing Manufacturing (Changzhou) Co Ltd by Intertek SAI Global.
- AS 4796:2016 StandardsMark Licence No SMKP26244 issued to Elson Plumbing Manufacturing (Changzhou) Co Ltd by SAI Global.

Copies of the quality licences have been included in Appendix B and are also available from WSAA.

6.2 Compliance with Performance Requirements

6.2.1 End connections

The Elson ball valves are offered with end connections as described below:

- BSP Female Threads

These threads are parallel complying with AS ISO 7.1 Series Rp.

- BSP Male Threads

These threads are tapered complying with AS ISO 7.1 Series R.

Copper Flared Compression Joint, Copper Olive Compression Joint or Copper Press joint

These joints comply with AS3688:2016 Water supply and gas systems – *Metallic fittings* and end connectors.

- Female threads for meter connections

The couplings that are utilised in the meter assemblies incorporate a BSP male thread one end and a swivel nut the other end to suit either nut and tail or ball joint (NSW/ACT) drinking water meters.

Threaded ends on domestic water meters are defined in AS 3565.1 *Meters for cold and heated drinking and non-drinking water supplies.* They are not standard BSP threads. The Standard does not specify complete tolerances for threaded ends on meters and does not include specifications for female threads on coupling nuts.

WSAA has now published WSA PS - 300 Threaded end connections for drinking water and non-drinking water meters and associated nuts.

The details of parallel female threads to suit nut and tail and ball joint meters are detailed below.

TABLE 4 WSA PS - 300 THREAD DIMENSIONS FOR METER NUTS

DN Joint	Indian Trans	TPI	Pitch	Major Diameter		Pitch Diameter		Minor Diameter	
	Joint Type			Min	Max	Min	Max	Min	Max
20	Nut & Tail	14	1.81	32.50	-	31.35	31.52	30.19	30.79
20	Ball Joint	14	1.81	36.60	-	35.44	35.61	34.28	34.88
25	Nut & Tail	14	1.81	38.86	-	37.70	37.87	36.54	37.14
25	Ball Joint	14	1.81	43.76	-	42.60	42.77	41.44	42.04

Elson couplings with end connections for meters are as described below:

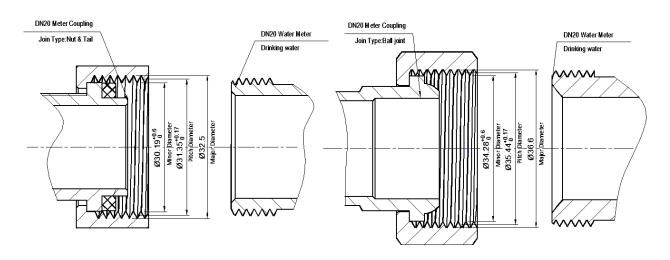
- Female swivel nuts for nut and tail drinking water meters

These nuts have a parallel thread with a seated elastomeric seal.

- Female swivel nuts for ball joint (NSW/ACT) drinking water meters.

These nuts have a parallel thread with a concave / convex joint sealed using a nylon washer.

Examples of the meter jointing mechanisms are shown in Figure 3. See Section 12 for more details on jointing for meters.



Nut and Tail Seated Joint

Ball Joint

FIGURE 3 METER JOINTS

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6.2.2 Type testing

Elson has provided type test results for a DN 20 right angle ball valve and a DN 25 termination ball valve to demonstrate compliance to the performance requirements of AS 4796. Prove Standards and Engineering Pty Ltd (NATA Accreditation No. 18640) conducted the tests.

The tests successfully completed for the PN25 rated valves were flow capability, watertightness, strength, torque test for connector nut and torque test for valve operation.

Type test reports from National Centre for Inspection & Testing of Drainage (CNAS Accreditation No. L0606) have been submitted to demonstrate that the DN 20 nut threads for joining to nut and tail meters and ball joint meters comply with WSA PS – 300.

6.2.3 Suitability for contact with drinking water

Elson has submitted test reports dated 9 December 2022 from National Centre for Inspection and Testing of Drainage Irrigation & Water-Saving Equipment Products Quality (CNAS Accreditation No L0606) on a DN 20 ball valve to demonstrate compliance with AS/NZS 4020:2018.

6.2.4 Components material list

The material specifications for the components of the Elson metal bodied ball valves are given in Table 3 and are deemed to comply with AS 4796.

Test reports have been submitted to demonstrate that the stainless steel, EPDM and copper alloy comply with the relevant specifications, including a dezincification test for the C46500 copper alloy.

TABLE 3
ELSON COMPONENTS MATERIAL LIST

Component	Material	Standard	Grade
Body	Lead Free Copper Alloy	AS 2738	C46500
Washers and Seals	PTFE	-	-
Ball	Stainless Steel	ASTM A276	316L
Spindle	Lead Free Copper Alloy	AS 2738	C46500
Handle	Lead Free Copper Alloy	AS 2738	C46500
O-Rings	EPDM	EN 681-1	IRHD 70
Compression Nut	Lead Free Copper Alloy	AS 2738	C46500

7 FITTING INSTRUCTIONS, TRAINING AND INSTALLATION

Ball valves are standard water industry products. Installation instructions are available directly from Elson if required.

Elson has advised that the tightening torque required for both nut and tail and ball joint joints is 22 Nm.

8 PRODUCT MARKING

The Elson ball valves have the following minimum markings in compliance with AS 4796:

- Manufacturer's name or trademark Elson
- Nominal size DN 20 DR
- Pressure classification PN25

- StandardsMark and No. SMKP26244
- The number of this standard: AS 4796
- Batch number: e.g., B091902

9 PACKAGING AND TRANSPORTATION

Ball valves are packed in individual plastic bags and then packed into cardboard cartons for handling and delivery. The plastic bags are labelled with the manufacturers name, product code and description. See Figure 3.



FIGURE 3 MARKING EXAMPLE

10 PRODUCT WARRANTY

The products are covered by the normal commercial and legal requirements of the Competition and Consumer Act 2010 (Cth), which covers manufacture to the relevant standard, and details of Elson's warranty is included in their terms and conditions of sale.

11 WATER AGENCY EXPERIENCE WITH THE PRODUCT OR FIELD-TESTING REPORT

Ball valves are considered standard products. Installation trials were not required as part of this Appraisal.

12 DISCUSSION

Elson supply two types of jointing mechanisms for couplings used with DN 20 domestic water meters. There are no Standards that cover the dimensions of these joints.

The seated elastomeric joint is utilised on a nut and tail meter and incorporates an elastomeric washer that seals on a recess incorporated into the meter end. The female end of the joint has a protruding spigot that fits into the bore of the meter. Replacement of the meter requires lateral movement to disengage the joint.



FIGURE 7 SEATED ELASTOMERIC JOINT

The ball joint consists of a concave / convex joint sealed using a nylon washer. This was a joint originally utilised for gas and was adopted by NSW/ACT many years ago.

This joint requires a high torque to seal. It is reported that often installers are required to revisit a new installation to retorque the joint. Replacement of the meter requires lateral movement to disengage the joint.



FIGURE 6 BALL JOINT

13 OUTCOMES OF EXPERT PANEL PRODUCT REVIEW

No issues have been raised.

14 FUTURE WORKS

There are no future works requirements.

15 DISCLAIMER

This Product Appraisal Report (Report) is issued by the Water Services Association of Australia Limited on the understanding that:

This Report applies to the product(s) as submitted. Any changes to the product(s) either minor or major shall void this Report.

To maintain the recommendations of this Report any such changes shall be detailed and notified to the Product Appraisal Manager for consideration and review of the Report and appropriate action. Appraisals and their recommendations will be the subject of continuous review dependent upon the satisfactory performance of products.

WSAA reserves the right to undertake random audits of product manufacture and installation. Where products fail to maintain appraised performance requirements the appraisal and its recommendations may be modified and reissued. Appraisal reports will be reviewed and reissued at regular intervals not exceeding five (5) years.

The following information explains a number of very important limits on your ability to rely on the information in this Report. Please read it carefully and take it into account when considering the contents of this Report.

Any enquiries regarding this report should be directed to the Program Manager, Carl Radford, email carl.radford@wsaa.asn.au.

15.1 Issue of Report

This Report has been published and/or prepared by the Water Services Association of Australia Limited and nominated Project Manager and peer group of technical specialists (the Publishers).

The Report has been prepared for use within Australia only by technical specialists that have expertise in the function of products such as those appraised in the Report (the Recipients).

By accepting this Report, the Recipient acknowledges and represents to the Publisher(s) and each person involved in the preparation of the Report that the Recipient has understood and accepted the terms of this Disclaimer.

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Recipients should also independently verify and assess the appropriateness of any recommendation in the Report, especially given that any recommendation will not take into account a Recipient's particular needs or circumstances.

WSAA has not evaluated the extent of the product liability and professional indemnify insurance that the provider of the product maintains. Recipients should ensure that they evaluate the allocation of liability for product defects and any professional advice obtained in relation to the product or its specification including the requirements for product liability and professional indemnity insurance.

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The Publisher(s) do[es] not, in any way, warrant that steps have been taken to verify or audit the accuracy or completeness of the information in this Report, or the accuracy, completeness or reasonableness of any recommendation in this Report.

APPENDIX A - PRODUCT LITERATURE



LEAD FREE* Civil Products elson Civil Ball Valves - Potable Water













METER B/V R/A LOCKABLE LEAD METER B/V R/A LOCKABLE LEAD FREE DR BRASS Rp3/4 FI × Rp3/4 FI FREE DR BARSS R3/4 MI × Rp3/4 FI

METER B/V R/A LOCKABLE LEAD
FREE DR BRASS Rp3/4 FI x 20Cn
FLARED INLET

METER B/V R/A LOCKABLE LEAD
FREE DR BRASS Rp3/4 FI x 20Cn C/
OUVE INLET

METER B/V R/A LOCKABLE LEAD FREE DR BRASS Rp3/4 FI x Rp3/4 FI x Rp3/4 FI NILET

Code: LF74105

Code: LF74110

Code: LF74115

Code: LF74135

Code: LF74136











DR BRASS R3/4 MI x Rp3/4 FI INLET

METER B/V R/A LOCKABLE LEAD FREE METER B/V R/A LOCKABLE LEAD FREE METER B/V R/A LOCKABLE LEAD FREE DR BRASS Rp3/4 FI x 20Cn FLARED

DR BRASS Rp3/4 FI x DN20 PRESS

METER B/V 740S LOCKABLE LEAD FREE DR BRASS Rp3/4 FI x Rp3/4 FI

METER B/V 740S LOCKABLE LEAD FREE DR BRASS R3/4 MI x Rp3/4 FI

Code: LF74137

Code: LF74138

Code: LF74139

Code: LF74052









ison IF METER B/V R/A LOCKABLE IF DR BRASS elson IF METER B/V R/A LOCKABLE IF DR BRASS Rp3/4 FI X Rp3/4 FI INLET RP3/4 FI X 25Cn FLARED INLET

elson LF METER COUPLING METER NUT&TAIL WITH BALL VALVE LF DR BRASS MI[QUU]

Code: LF74150

Code: LF74155

Code: LF74166Q

Code: LF74167Q







SUB WATER METER ASSEMBLY KIT L/A LEAD FREE DR DN20 BAIL JOINT NSW

SUB WATER METER ASSEMBLY KIT L/A LEAD FREE DR DN20 NUT & TAIL

on LF SUB WATER METER ASSEMBLY KIT L/A LF DR DN20 NUT & TAIL (QUU)

Code: LF74160

Code: LF74161

Code: LF74161Q

TECHNICAL SPECIFICATION

- . Made of LEAD FREE* DR Brass
- Certified to AS 5830.1 WMKA21922, AS4796 SMKP26244
- Allowable operating pressure (AOP): 2500kPa
- Working temperature up to 95°C
- . With 1/4 Turn full-bore for optimum flow · Manufactured by Elson, certified to ISO 9001
- * Elsen Lead Free capper alloy products are 99.9% Lead Free and contain less than 0.1% Lead by weight.











Elson Australasia Pty Ltd ABN 45 059 613 991

PO Box 3217, Mt.Druitt Village, NSW 2770 38 Eddie Road, Minchinbury, NSW 2770 92 Fox Drive Dandenong South Victoria 3175 T. (02) 9625 7899 | E. sales@elson.net.au









ESON LEAD FREE* Plumbing Solutions

LEAD FREE* Civil Products RECYCLED WATER BALL VALVES









METER B/V R/A L/ABLE LILAC LF DR BRASS Rp3/4 FI x Rp3/4 FI INLET

METER B/V R/A L/ABLE LILAC LF DR BRASS R3/4 MI x Rp3/4 FI INLET

METER B/V R/A L/ABLE ULAC LF DR BRASS Rp3/4 FI x 20Cn FLARED INLET

Code: LF74120

Code: LF74125

Code: LF74130









METER B/V R/A L/ABLE LILAC LF DR BRASS Rp3/4 FI x 20Cn C/O INLET Code: LF74235

METER B/V R/A L/ABLE LILAC LF DR BRASS Rp3/4 FI x Rp3/4 FI INLET Code: LF74236

METER B/V R/A L/ABLE LILAC LF DR BRASS R3/4 MI x Rp3/4 FI INLET

METER B/V R/A L/ABLE LILAC LF DR BRASS Rp3/4 FI x 20Cn FLARED INLET

Code: LF74237

Code: LF74238







METER B/V 740S L/ABLE LILAC LF DR BRASS Rp3/4 FI x METER B/V 740S L/ABLE LILAC LF DR BRASS R3/4 MI x Rp3/4 FI

elson LF METER B/V R/A L/ABLE LILAC LF DR BRS Rp3/4 FI X Rp3/4 FI INLET

Code: LF74062

Code: LF74065

Code: LF74151

TECHNICAL SPECIFICATION

- Made of LEAD FREE* DR Brass
- Recycled Water Ball Valve certified to AS 5830.1 WMKA21922
- Recycled Water Civil Ball Valve certified to AS4796 SMKP26244
- Recycled Water Ball Valve allowable operating pressure (AOP): 2500kPa
- Recycled Water Ball Valve working temperature up to 95°C
- Recycled Water Civil Ball Valve with 1/4 Turn full-bore for optimum flow
- Manufactured by Elson, certified to ISO 9001

* Elson Lead Free copper alloy products are 99.9% Lead Free and contain less than 0.1% Lead by weight









Elson Australasia Pty Ltd ABN 45 059 613 991

PO Box 3217, Mt.Druitt Village, NSW 2770 38 Eddie Road, Minchinbury, NSW 2770 92 Fox Drive Dandenong South Victoria 3175 T. (02) 9625 7899 | E. sales@elson.net.au







EPS LEPEX | TAPWARE | BUTHPEX | BRASSWARE | LEPRESS | LEVALVE | LECIVIL

APPENDIX B - QUALITY CERTIFICATIONS

Copies of the following Quality Certificates are available from WSAA.

TABLE B1 ELSON PLUMBING MANUFACTURING (CHANGZHOU) PTY LTD MANAGEMENT SYSTEMS

126 Hengfu Road Hengs	shanqiao Town Wujin District Changzhou Jiangsu China
Quality Systems Standard	ISO 9001:2015
Certification Licence No.	QEC27227
Certifying Agency	Intertek SAI Global
First Date of Certification	17 May 2010
Current Date of Certification	25n July 2023
Expiry Date of Certification	31 July 2026

TABLE B2 ELSON PLUMBING MANUFACTURING (CHANGZHOU) PTY LTD PRODUCT CERTIFICATION

126 Hengfu Road Hengs	shanqiao Town Wujin District Changzhou Jiangsu China
Product Standard/Spec.	AS 4796:2016
Certificate No.	SMKP26244
Issuing Certification Body	SAI Global
First Date of Certification	20 November 2018
Current Date of Certification	18 July 2023
Expiry Date of Certification	19 November 2028



CERTIFICATE OF REGISTRATION

This is to certify that:

Elson Plumbing Manufacturing (Changzhou) Co. Ltd

(Changzhou) Co. Ltd Head Office,126 Hengfu Road, Hengshanqiao Town Wujin District, Changzhou Jiangsu 213025 CHINA

operates a

QUALITY MANAGEMENT SYSTEM

which complies with the requirements of

ISO 9001:2015

for the following scope

The design, production and sales of brass Tapware, PEX pipe and PX/AL/PEX pipes.

Certificate Number: QEC27227

Originally Certified: 17 May 2010

Current Certification:

25 July 2023

Issue Date:

27 July 2023

Expiry Date:

31 July 2026



Calin Moldovean

President, Business Assurance

SAI Global Certification Services Pty. Ltd. Level 7 Suite 7.01 45 Clarence Street Sydney NSW 2000 Australia

Registered by:

SAI Global Certification Services Pty Ltd (ACN 108 716 669) Level 7 Suite 7.01 45 Clarence Street Sydney NSW 2000 Australia with ("SAI Global") and subject to the SAI Global Terms and Conditions for Certification. While all due care and skill was exercised in carrying out this assessment, SAI Global accepts responsibility only for proven negligence. This certificate remains the property of SAI Global and must be returned to SAI Global upon its request. To verify that this certificate is current please refer to SAI Global On-Line Certification register at https://register.saiglobal.com/





SAI Global hereby grants:

Elson Plumbing Manufacturing (Changzhou) Co. Ltd

(Changzhou) Co. Ltd, Head Office,126 Hengfu Road, Hengshanqiao Town, Wujin District, Changzhou, Jiangsu China

StandardsMark Licence

Manufactured to:

AS 4796-2016 - Water supply - Metal bodied and plastic bodied ball valves for property service connection

"the StandardsMark Licensee" the right to use the STANDARDSMARK as shown below only in respect of the goods described and detailed in the Schedule which are produced by the Licensee or on behalf of the Licensee* and which comply with the appropriate Standard referred to above as from time to time amended. The Licence is granted subject to the rules governing the use of the STANDARDSMARK and the Terms and Conditions for certification and licence. The Licensee covenants to comply with all the Rules and Terms and Conditions.

Licence No: SMKP26244

Issued: 19 July 2023 Expires: 19 November 2028 Originally Certified: 20 November 2018 Current Certification: 18 July 2023

Calin Moldovean President, Business Assurance SAI Global Assurance





ustralian www.as-anz.org/regist

^{*} For details of manufacture, refer to the licensee

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(ACN 108 716 669) ("SAI Global") 650 Lorimer Street, Port Melbourne VIC 3207, GPO Box 5420 Sydney

NSW 2001. This certificate remains the property of SAI Global and must be returned to SAI Global upon its request. Refer to

www.saiglobal.com, for the list of product models.

Model Identification	Model Name	Brand Name	Product Description	Product Type	Nominal Size	Operating Mechanism	Inlet Designation	Outlet Designation	Material Designation	Product Image	Date Endorsed
74138	N/A	elson	elson METER BALL VALVE R/A DR LF BRS Rp3/4 X 20Cn FLARED LOCKABLE 74138	Meter Ball Valve	DN20	Lever	Rp3/4	20Cn	DR Lead Free Brass		6 Nov 2019
74235	NIA	elson	elson METER BALL VALVE RIA DR LF LILAC BRS R934 X 20Cn COPPER OLIVE LOCKABLE 74235	Meter Ball Valve	DN20	Lever	Rp3/4	20Cn	DR Lead Free Brass		6 Nov 2019
74236	N/A	elson	elson METER BALL VALVE R/A DR LF LILAC BRS Rp3/4 X Rp3/4 LOCKABLE 74236	Meter Ball Valve	DN20	Lever	Rp3/4	Rp3/4	DR Lead Free Brass		6 Nov 2019
74237	N/A	elson	elson METER BALL VALVE R/A DR LF LILAC BRS R3/4 X Rp3/4 LOCKABLE 74237	Meter Ball Valve	DN20	Lever	R3/4	Rp3/4	DR Lead Free Brass		6 Nov 2019
74238	N/A	elson	elson METER BALL VALVE R/A DR LF LILAC BRS Rp3/4 X 20Cn FLARED LOCKABLE 74238	Meter Ball Valve	DN20	Lever	Rp3/4	20Cn	DR Lead Free Brass		6 Nov 2019
LF74052	N/A	elson	elson LF METER B/V 7408 LOCKABLE LF DR BRASS Rp3/4 FI X Rp3/4 FI LF74052	METER Ball Valve	DN20	Lever	Rp3/4	Rp3/4	C46500,less than 0.1% lead	equal to 74052 add new code	24 Oct 2022
LF74055	N/A	elson	elson LF METER B/V 740S LOCKABLE LF DR BRASS R3/4 MIX Rp3/4 FI LF74055	METER Ball Valve	DN20	Lever	Rp3/4	Rp3/4	C46500,less than 0.1% lead	equal to 74055 add new code	24 Oct 2022
LF74062	N/A	elson	elson LF METER B/V 740S L/ABL LILAC LF DR BRASS Rp3/4 F1 X Rp3/4 F1 LF74062	METER Ball Valve	DN20	Lever	Rp3/4	Rp3/4	C46500,less than 0.1% lead	equal to 74062 add new code	24 Oct 2022

Licence No: SMKP26244 Issued Date: 19 July 2023

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^{*} For details of manufacture, refer to the licensee

Model Identification	Model Name	Brand Name	Product Description	Product Type	Nominal Size	Operating Mechanism	Inlet Designation	Outlet Designation	Material Designation	Product Image	Date Endorsed
LF74065	N/A	elson	elson LF METER B/V R/A L/ABLE LF DR BRASS Rp3/4 F1 X 20Cn FLARED IN LF74115	METER Ball Valve	DN20	Lever	Rp3/4	Rp3/4	C46500,less than 0.1% lead	equal to 74065 add new code	4 Oct 2022
LF74105	NIA	elson	elson LF METER B/V R/A L/ABLE LF DR BRASS Rp3/4 FI X Rp3/4 FI INLET LF74105	METER Ball Valve	DN20	Lever	Rp3/4	Rp3/4	C46500,less than 0.1% lead	equal to 74105 add new code	24 Oct 2022
LF74110	N/A	elson	elson LF METER B/V R/A L/ABLE LF DR BARSS R3/4 MI X Rp3/4 FI IMLET LF74110	METER Ball Valve	DN20	Lever	Rp3/4	Rp3/4	C46500,less than 0.1% lead	equal to 74110 add new code	24 Oct 2022
LF74115	N/A	elson	elson LF METER B/V R/A L/ABLE LF DR BRASS Rp3/4 FI X 20Cn FLARED IN LF74115	METER Ball Valve	DN20	Lever	Rp3/4	20Cn	C46500,less than 0.1% lead	equal to 74115 add new code	24 Oct 2022
LF74120	N/A	elson	elson LF METER B/V R/A L/ABL LILAC LF DR BRS Rp3/4 FI X Rp3/4 FI IN LF74120	METER Ball Valve	DN20	Lever	Rp3/4	Rp3/4	C46500,less than 0.1% lead	equal to 74120 add new code	24 Oct 2022
LF74125	N/A	elson	elson LF METER B/V R/A L/ABLE LILAC LF DR BRS R3/4 MI X Rp3/4 FI IN LF74125	METER Ball Valve	DN20	Lever	Rp3/4	Rp3/4	C46500,less than 0.1% lead	equal to 74125 add new code	24 Oct 2022
LF74130	N/A	elson	elson LF METER B/V R/A L/ABLE LILAC LF DR Rp3/4 FI X 20Cn FLARED IN LF74130	METER Ball Valve	DN20	Lever	Rp3/4	20Cn	C46500,less than 0.1% lead	equal to 74130 add new code	24 Oct 2022
LF74135	N/A	elson	elson LF METER B/V R/A L/ABLE LF DR BRASS Rp3/4 F1 X 20Cn C/O IN LF7/4135	METER Ball Valve	DN20	Lever	Rp3/4	20Cn	C46500,less than 0.1% lead	equal to 74135 add new code	24 Oct 2022
LF74136	NIA	elson	elson LF METER B/V R/A LOCKABLE LF DR BRASS Rp3/4 F1 X Rp3/4 F1 IN LF74136	METER Ball Valve	DN20	Lever	Rp3/4	Rp3/4	C46500,less than 0.1% lead	equal to 74136 add new code	24 Oct 2022

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 $^{^{\}star}$ For details of manufacture, refer to the licensee

Model Identification	Model Name	Brand Name	Product Description	Product Type	Nominal Size	Operating Mechanism	Inlet Designation	Outlet Designation	Material Designation	Product Image	Date Endorsed
LF74137	N/A	elson	elson LF METER B/V R/A LOCKABLE LF DR BRASS R3/4 MI X Rp3/4 FI IN LF74137	METER Ball Valve	DN20	Lever	Rp3/4	R3/4	C46500,less than 0.1% lead	equal to 74137 add new code	24 Oct 2022
LF74138	N/A	elson	elson LF METER B/V R/A L/ABLE LF DR BRASS Rp3/4 FI X 20Cn FLARED IN LF74138	METER Ball Valve	DN20	Lever	Rp3/4	20Cn	C46500,less than 0.1% lead	equal to 74138 add new code	24 Oct 2022
LF74139	N/A	elson	elson LF METER BIV R/A L/ABLE LF DR BRASS Rp3/4 FI X DN20 PRESS IN LF74139	METER Ball Valve	DN20	Lever	Rp3/4	20mm PRESS	C46500,less than 0.1% lead	Similar As 74136 different outlet	24 Oct 2022
LF74150	N/A	elson	elson LF METER B/V R/A LOCKABLE LF DR BRASS Rp3/4 FI X Rp3/4 FI IN LF74150	METER Ball Valve	DN20	Lever	Rp3/4	20Cn	C46500,less than 0.1% lead	Similar As 74115	24 Oct 2022
LF74151	N/A	elson	elson LF METER B/V R/A L/ABLE LILAC LF DR BRS Rp3/4 FI X Rp3/4 FI IN LF74151	METER Ball Valve	DN20	Lever	Rp3/4	20Cn	C46500,less than 0.1% lead	equal to 74151 just different colour	24 Oct 2022
LF74152	N/A	elson	elson LF METER BALL VALVE LF DR BRASS R3/4 MI X Rp3/4 FI LF74152	METER Ball Valve	DN20	Lever	Rp3/4	R3/4	C46500,less than 0.1% lead	Similar As 74052 different screw thread	24 Oct 2022
LF74155	N/A	elson	elson LF METER B/V R/A LOCKABLE LF DR BRASS Rp1 FI X 25Cn FLARED IN LF74155	METER Ball Valve	DN25	Lever	Rp1	25Cn	C46500,less than 0.1% lead	Similar As 74115 different DN SIZE	24 Oct 2022
LF74235	N/A	elson	elson LF METER B/V R/A L/ABL LILAC LF DR BRS Rp3/4 FI X 20Cn C/O IN LF74235	METER Ball Valve	DN20	Lever	Rp3/4	20Cn	C46500,less than 0.1% lead	equal to 74235 add new code	24 Oct 2022
LF74236	N/A	elson	eelson LF METER B/V R/A L/ABL LILAC LF DR BRS Rp3/4 FI X Rp3/4 FI IN LF74236	METER Ball Valve	DN20	Lever	Rp3/4	Rp3/4	C46500,less than 0.1% lead	equal to 74236 add new code	24 Oct 2022

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Model Identification	Model Name	Brand Name	Product Description	Product Type	Nominal Size	Operating Mechanism	Inlet Designation	Outlet Designation	Material Designation	Product Image	Date Endorsed
LF74237	N/A	elson	elson LF METER B/V R/A L/ABLE LILAC LF DR BRS R3/4 MI X Rp3/4 FI IN LF74237	METER Ball Valve	DN20	Lever	Rp3/4	R3/4	C46500,less than 0.1% lead	equal to 74237 add new code	24 Oct 2022
LF74238	N/A	elson	elson LF METER B/V R/A L/ABLE LILAC LF DR Rp3/4 F1 X 20Cn FLARED IN LF74238	METER Ball Valve	DN20	Lever	Rp3/4	20Cn	C46500,less than 0.1% lead	equal to 74238 add new code	24 Oct 2022

End of Record

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APPENDIX C - SUPPLIER CONTACTS

Elson Australasia Pty Ltd

38 Eddie Road Minchinbury NSW 2770

Phone: 02 9625 7899

Email: admin@elson.net.au Website: www.elson.net.au



Melbourne Office

Wurundjeri Country Level 8, Suite 8.02 401 Docklands Drive Docklands VIC 3008

Sydney Office

Gadigal Country Level 6 75 Elizabeth Street Sydney NSW 2000 GPO Box 915 Sydney NSW 2001

P +61 (0) 3 8605 7600 email: info@wsaa.asn.au

www.wsaa.asn.au