



# Daemco Australia Pty Ltd

## PRODUCT APPRAISAL REPORT 1806 Issue 2

Valve Spindle Extensions

**AS/NZS 2638.1:2011 Gate valves for waterworks purposes -  
Metal seated**

**AS/NZS 2638.2:2011 Gate valves for waterworks purposes -  
Resilient seated**

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## Peer Reviewers

Name/Title	Organisation	Date
Product Appraisal Technical Advisory Group	WSAA	10 April 2018
WSAA Expert Panel	WSAA	10 April 2018
Peter Pittard, WSAA Consultant	WSAA	19 March 2018
Carl Radford, Product Appraisal Manager	WSAA	11 April 2018
Peter Pittard, WSAA Consultant	WSAA	17 April 2023
Carl Radford, Product Appraisal Manager	WSAA	17 April 2023

## 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

Daemco Australia Pty Ltd, a private company established in 2014, is an original design manufacturer with research and development capabilities, specialising in the water industry.

Dalian Reliable Industrial Co Ltd (DRIC), located in Dalian, Liaoning Province, Peoples Republic of China, manufactures Daemco's valve spindle extensions.

This appraisal is for a range of integrally cast ductile iron valve spindle extensions in lengths from 150mm to 1500mm, suitable for operation on gate valves up to and including DN 600. The shafts of the ductile iron valve spindle extensions are 36mm in diameter for all lengths.

The valve spindle extensions are manufactured to comply with AS/NZS 2638.1:2011 *Gate valves for waterworks purposes – Metal seated* and AS/NZS 2638.2:2011 *Gate valves for waterworks purposes – Resilient Seated*.

Each valve spindle extension is fitted with an M10 Grade 316 stainless steel grub screw to allow for retention to the spindle cap.

The valve spindle extensions have a hot dip zinc galvanised coating.

Daemco and DRIC both have ISO 9001 Quality Management System licences.

This Appraisal has determined that Daemco DI valve spindle extensions, as detailed in this report, meet the requirements of WSA PS-262 *Extension Spindles for Gate Valves* 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 the Daemco valve spindle extensions as detailed in this report for use with gate valves up to DN 600 in waterworks applications, provided they are installed in accordance with WSAA Codes and the manufacturer's requirements, where specified.

## 2 THE APPLICANT

The Applicant is Daemco Australia Pty Ltd.

### 2.1 The Supplier

Daemco Australia Pty Ltd, a private company established in December 2014, is an original design manufacturer with research and development capabilities, specializing in the water industry. The company supplies an extensive range of pipeline components to the water, irrigation, mining and industrial segments.

The Daemco range of products is distributed through established Australian resellers.

For more information, see [www.daemco.com.au](http://www.daemco.com.au)

### 2.2 The Manufacturer

Dalian Reliable Industrial Co Ltd (DRIC), is located in Dalian, Liaoning Province, Peoples Republic of China.

DRIC is a manufacturer and trading group specialising in the export of ferrous and non-ferrous metal castings and forgings. Its products include water valves and fittings, power line fittings, fire-fighting equipment, motor and pump parts, automotive and machine parts. DRIC has been engaged in exporting products to Europe and America since 1994 and also exports to countries including Italy, Germany, Spain, Sweden, Colombia, Brazil, Russia, UAE, Saudi Arabia, Australia and New Zealand.

The company has one commercial office and three manufacturing facilities, with differing specialist capabilities, employing more than 200 people.

### 3 THE PRODUCT

This appraisal is for a range of integrally cast ductile iron valve spindle extensions suitable for operation on gate valves up to and including DN 600. The shafts of the ductile iron valve spindle extensions are 36mm in diameter for all lengths.

The Daemco range of valve spindle extensions incorporate lengths of 150, 225, 300, 375, 450, 525, 600, 750, 900, 1000, 1200 and 1500mm

Traditionally valve extension spindles are manufactured by welding or pinning forged or cast end-pieces onto a tube or shaft. The integrity of any welding is considered to be critical in allaying any operator safety concerns. The Daemco range of integrally cast valve spindle extensions provides the benefit of a single piece solid product with no joins or welds.

Where the components are not corrosion resistant to soil and ground water, they are required to be protected with a suitable coating. The valve spindle extensions have a hot dip zinc galvanised coating.

Each spindle extension is fitted with a M10 Grade 316 stainless steel grub screw to allow for retention to the spindle cap.



**FIGURE 1 DAEMCO VALVE EXTENSION SPINDLES**

### 4 SCOPE OF THE APPRAISAL

The scope of this Appraisal includes integrally cast ductile iron valve spindle extensions for use with gate valves up to and including DN 600 and with lengths of 150, 225, 300, 375, 450, 600, 750, 900, 1000, 1200 and 1500mm.

### 5 APPRAISAL CRITERIA

#### 5.1 Quality Assurance Requirements

The WSAA Product Appraisal Technical Advisory Group accepts Valve Spindle Extensions manufactured in compliance with AS/NZS 2638.1:2011 *Gate valves for waterworks purposes-Metal seated* and AS/NZS 2638.2 *Gate valves for waterworks purposes-Resilient seated*. The requirements relating to valve spindle extensions is identical in both standards and reference within this appraisal to AS/NZS 2638 is intended to refer to both Parts 1 and 2.

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.

#### 5.2 Performance Requirements

Daemco valve spindle extensions have been appraised for compliance with AS/NZS 2638:2011 *Gate valves for waterworks purposes*.

Appraisal criteria are also determined by the WSAA Product Appraisal Technical Advisory Group and regularly reviewed to ensure that the criteria reflect the requirements of WSAA members.

The following Product Specification is also relevant to this application:

WSA PS-262 *Extension Spindles for Gate Valves*

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**

Daemco has submitted the following quality certificates:

- ISO 9001:2015 Certificate of Registration No.87603136670Q issued to Daemco Australia Pty Ltd by Best Practice Certification.
- ISO 9001:2015 Certificate of Registration No. 01 100 039053 issued to Dalian Reliable Industrial Co Ltd by TUV Rheinland.

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

### **6.2 Compliance with Performance Requirements**

#### **6.2.1 Materials**

The valve spindle extensions are manufactured from Grade 500/7 ductile iron. Daemco has provided a copy of a typical material test report to demonstrate compliance.

#### **6.2.2 Dimensions**

AS/NZS 2638 specifies critical mating dimensions of the caps and keys to ensure compatibility of all components in the field.

Daemco has detailed the critical dimensions of their valve spindle extensions in a Data Sheet included in Appendix A. The dimensions comply with AS/NZS 2638.

#### **6.2.3 Type Tests**

A strength test is specified in AS/NZS 2638 to ensure safe performance of valve spindle extensions in the field. The test requires the spindle extension to be fitted to a spindle cap and a torque applied until it reaches 1.25 times the minimum strength test torque of the maximum size valve it has been designed to operate with.

AS 2638.1 and AS/NZS 2638.2 both specify a minimum strength test torque for a DN 600 gate valve as 2400Nm, which equates to an applied test torque for the valve spindle extension of 3000Nm.

Daemco has provided a copy of a report detailing the test carried out on a 1500mm long valve spindle extension (considered to be the worst case) at 3035Nm. The test was conducted by ALS Industrial Pty Ltd. There was no failure and a permanent set of 0.2mm was recorded.

## **7 FITTING INSTRUCTIONS, TRAINING AND INSTALLATION**

Valve Spindle Extensions are commonly used in the industry and it is not considered necessary to provide additional training or installation instructions.

## 8 PRODUCT MARKING

The Daemco valve spindle extensions are marked in accordance with the requirements of the AS/NZS2638, as below and shown in Figure 2.

- Manufacturers Name: Daemco
- Allowable size range: ≤ DN600
- Length of Spindle: e.g.300



**FIGURE 2 PRODUCT MARKING**

## 9 PACKAGING AND TRANSPORTATION

The spindle extensions are typically included with other products that Daemco supplies and are packed within a crate, on a skid, pallet or bubble wrapped in cardboard.

## 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 Daemco's warranty is included in their terms and conditions of sale.

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

Daemco valve extension spindles have been approved by most Australian water agencies over the last 5 years.

Valve spindle extensions are considered standard products and installation trials were not deemed necessary as part of this Appraisal.

## 12 OUTCOMES OF EXPERT PANEL PRODUCT REVIEW

No issues have been raised.

## 13 FUTURE WORKS

No future works have been identified for this Appraisal.

## 14 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, Phone: 03 8605 7601 email [carl.radford@wsaa.asn.au](mailto:carl.radford@wsaa.asn.au).

#### **14.1 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 indemnity 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.

### **14.3 No Updating**

Neither the Publisher(s) nor any person involved in the preparation of this Report [has] [have] any obligation to notify you of any change in the information contained in this Report or of any new information concerning the Publisher(s) or the Product or any other matter.

### **14.4 No Warranty**

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

# VALVE EXTENSION SPINDLES



## Design Advantage

- Integral cast ductile iron
- Hot dipped galvanised

### Technical Detail

**Range** 150mm to 1500mm  
\*Welded longer lengths available upon request

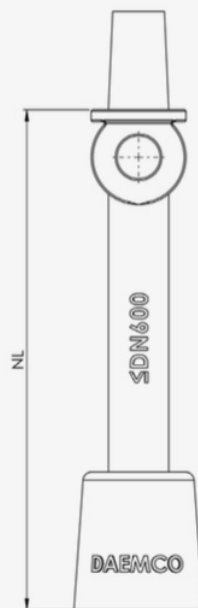
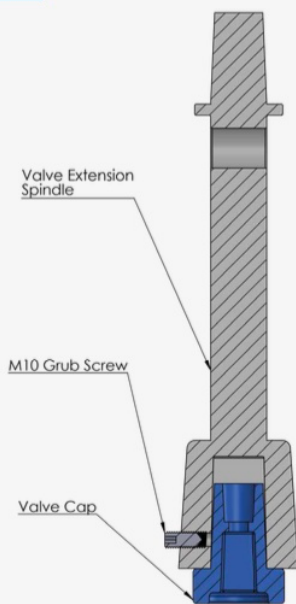
**Valves** Resilient and Metal Seat

**Valve Size** Up to and including DN600

**Applications** Suitable for above and below ground installations

### Compliance

- AS/NZS 2638.1 Test J
- AS/NZS 2638.2 Test M
- WSAA PA 1806



NL (mm)
150
225
300
375
450
525
600
750
900
1000
1200
1500

## APPENDIX B - QUALITY CERTIFICATIONS

Copies of the following quality certificates are available from WSAA.

**TABLE B1  
MANAGEMENT SYSTEMS - DAEMCO AUSTRALIA PTY LTD**

65 Assembly Drive Tullamarine Victoria	
Product Standard/Spec	ISO 9001:2015
Certificate No.	87603136670Q
Certifying Agency	Best Practice Certification
First date of certification	8 August 2016
Current date of certification	21 July 2022
Expiry date of certification	7 August 2025

**TABLE B2  
MANAGEMENT SYSTEMS - DALIAN RELIABLE INDUSTRIAL CO LTD**

No. 158 Youhao Road Dalian City Liaoning China	
Quality Systems Standard	ISO 9001:2015
Certification Licence No.	01 100 039053
Certifying agency	TUV Rheinland
First date of certification	2005
Current date of certification	17 January 2023
Expiry date of certification	16 January 2026



## Daemco Australia Pty Ltd

*Best Practice Certification Pty Ltd has assessed the above company as complying with the following management system standard requirements at the address shown.*

<b>Standard:</b>	ISO 9001:2015 Quality Management System Requirements	
<b>Scope of Certification:</b>	The design, manufacture and distribution of industrial products for the water supply, sewerage, drainage, electrical, gas and communications industry.	
<b>Head Office Address:</b>	65 Assembly Drive, Tullamarine, VIC 3043, Australia	
<b>Initial Certification Date:</b>	08/08/2016	
<b>Issue Date:</b>	<b>Expiry Date:</b>	<b>Certificate Number:</b>
21/07/2022	07/08/2025*	87603136670Q



CERTIFICATION APPROVED:

Kobi Simmat  
 Managing Director  
 Best Practice Certification Pty Ltd

- a» Office A3  
1-3 Rodborough Rd  
Frenchs Forest NSW 2086  
Australia
- p» 1300 402 602
- w» <https://bestpracticecertification.com.au>

\* Subject to regular surveillance assessments



# Certificate

Standard **ISO 9001:2015**

Certificate Registr. No. **01 100 039053**

Certificate Holder: **Dalian Reliable Industrial Co., Ltd.**  
 Unified Social Credit Code: 91210200723494999T  
 Registration Address:  
 No. 158, Youhao Road, Zhongshan District,  
 Dalian City  
 116001 Liaoning  
 P.R. China  
 Operation Address:  
 Room 1909 Youhao Mansion  
 No. 158 Youhao Road, Zhongshan District,  
 Dalian City  
 116001 Liaoning  
 P.R. China

Scope: International Trade of Metal Products (including Iron Castings, Steel Castings, Forgings, Power Line Fittings, Valves, Pipe Fittings)

Proof has been furnished by means of an audit that the requirements of ISO 9001:2015 are met.

Validity: The certificate is valid from 2023-01-17 until 2026-01-16.  
 It remains valid subject to satisfactory surveillance audits.  
 First certification 2005  
 This certificate information can be searched on CNCA official website <http://www.cnca.gov.cn>

2023-01-06

  
 TÜV Rheinland Cert GmbH  
 Am Grauen Stein · 51105 Köln

Authorized responsible office: TÜV Rheinland China Ltd., Room 301, 3F and Room 1203, 12F, Building 4, No.15, Ronghua South Road, Beijing Economic-Technological Development Area, Beijing (Yizhuang group in high-end industrial area of Beijing Pilot Free Trade Zone), 100176, P. R. China

## **APPENDIX C - SUPPLIER CONTACTS**

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