



345 Carlingview Drive  
Toronto, Ontario  
CANADA M9W 6N9  
Tel.: 416.734.3300  
Fax.: 416.231.1626  
Toll Free: 1.877.682.8772  
[www.tssa.org](http://www.tssa.org)

June 26, 2018

Jerome Grant  
DEZURIK  
250 RIVERSIDE AVE N  
SARTELL MN 56377  
US

Service Request Type.: BPV-National BC  
Service Request No.: 2300298  
Your Reference No.:  
Registered to.: DEZURIK

Dear Jerome Grant,

Please find enclosed the original response from BC, registered under the CRN No.: 0C0707.51.

As all jurisdictional fees are handled by the Technical Standards and Safety Authority (TSSA), you do not pay any jurisdictions directly.

Should you have any questions or require further assistance, I will be happy to assist you. For general enquiries, please contact a Customer Service Advisor at 1.877.682.TSSA (8772) or e-mail [customerservices@tssa.org](mailto:customerservices@tssa.org). When contacting TSSA regarding this file, please refer to the Service Request number provided above.

Yours truly,

Joanna Karpinski

Tel: 416-734-3377  
Fax: 416-231-6183  
Email: [jkarpinski@tssa.org](mailto:jkarpinski@tssa.org)

TECHNICAL STANDARDS & SAFETY AUTHORITY  
345 CARLINGVIEW DRIVE  
TORONTO ON M9W 6N9

**Date:** May 28, 2018  
**Account #:** 35231  
**Journal #:** 70807

**Attn:** TANYA FRANCIS

**Re: Application for Design Registration**

The design, as detailed in your, TSSA 2300298, for a Fitting is accepted for registration as follows:

**Registered To:** DEZURIK INC

**CRN:** 0C0707.51

**Drawing #:** Tech Bull, FEA, SOR sheets

**Conditions Of Registration:**

Reg'n of Valves: BAW, BOS-US Butterfly Valves & PEC, PEF Plug Valves as per att'd scope sheets.

This design was registered based on a technical review performed by the province of initial registration in accordance with the Association of Chief Inspectors policy on reciprocal recognition of design review.

**Reviewer's Notes:**

As required by CSA B51 4.2.1, this registration expires on May 01, 2028. This CRN is valid until the expiry date as long as the Manufacturer maintains a valid quality control program verified by an acceptable third-party agency until that date. Should the certification of the quality control program lapse before the expiry date, this registration shall become void.

Contact me if you have any questions. The invoice for registration will be forwarded under separate cover.

SHARON PETERS

boiler.designregistration@technicalsaftybc.ca  
Design Administration

**cc:**

## DeZURIK, Inc. DeZURIK BAW Butterfly Valves

The BAW AWWA butterfly valves are produced in standard sizes 80mm to 1800 mm (3"-72"). Sizes up to 3600 mm (120") are available on application. Standard body materials are cast iron and ductile iron and are available with flanged ends in all sizes or mechanical joint ends in sizes 100 mm to 1200 mm (4"-48"). Two resilient seat material options are available. The BAW butterfly valves have provided successful service since 1997.

### DESIGN SUMMARY:

SIZES	BODY MATERIALS	DESIGN CODE	AWWA* CLASSES	NOTES
80mm-1800mm (3"-72")	Cast Iron ASTM A126, Class B (AWWA Class 25A-150B)*  Ductile Iron ASTM A536 Grade 65-45-12 (AWWA Class 25A-250B)*	<b>ASME B16.1</b> <i>Gray Iron Pipe Flanges and Flanged Fittings</i>  <b>ASME B16.42</b> <i>Ductile Iron Pipe Flanges and Flanged Fittings</i>  <b>AWWA C504</b> <i>Rubber Seated Butterfly Valves</i>  <b>AWWA C111</b> <i>Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings</i>	25A, 75B, 150B, 250B	BAW Valve flange thicknesses and bolt patterns comply with ASME B16.1 Class 125, for AWWA pressure classes 25A, 75B, 150B, and 250B through 2400 mm (96"). For Sizes 2600 mm (102") and larger, flange bolt patterns and thicknesses comply with AWWA C516 & C207. Mechanical joint ends comply with AWWA C111.  See attached tables, drawings and ER1802 for compliance to AWWA C504 & C516 minimum body shell thickness, and ASME 16.1, AWWA C516 & C207 flange and bolting dimensions.  Valve temperature ratings are limited by the rubber seat material options (180F for NBR and 290F for EPDM). See Bulletin 43.00-2. Reference ASTM A395 / A395M Scope Paragraph 1.1 (This specification covers ductile iron castings for pressure – retaining parts for use at elevated temperatures. Castings of all grades are suitable for use up to 450F.)
2000mm- 600mm (78"-120")	Cast Iron ASTM A126, Class B (AWWA Class 25A-75B)*  Ductile Iron ASTM A536 Grade 65-45-12 (AWWA Class 25A-250B)*  (108" & 120" not available above AWWA Class 150B)	<b>ASME B16.1</b> <i>Gray Iron Pipe Flanges and Flanged Fittings</i>  <b>AWWA C516</b> <i>Large-Diameter Rubber Seated Butterfly Valves, Sizes 78 In. (2,000 mm) and Larger</i>  <b>AWWA C207</b> <i>Steel Pipe Flanges for Waterworks Service, Sizes 4 In. Through 144 In. (100 mm Through 3,600 mm)</i>	25A, 75B, 150B, 250B	See Bulletin 43.00-2 <i>AWWA Butterfly valves</i> for further description, materials of construction, and applicable standards for DeZURIK AWWA butterfly valves.



CRN #: 0C0707.51  
Date: May 24, 2018  
BC J#: 70807

**THIS IS PART OF**  
**CRN 0C0707.5R5**

Technical Standards & Safety Authority  
Boilers & Pressure Vessels  
Safety Program

*e.g. 5/11/18*

## DeZURIK, Inc.

### DeZURIK BOS-US Resilient-Seated Butterfly Valves

The BOS-US butterfly valves are produced in standard sizes 50mm (2") to 900 mm (36"). Standard body materials are ductile iron (2" – 36") and cast iron (24" – 36"). Two resilient seat material options are available, NBR and EPDM. The BOS-US butterfly valves are available in lugged and wafer bodies. The (2" – 20") valve sizes have been in service since 2006. The (24" – 36") valve sizes have been in service since 1974.

#### DESIGN SUMMARY:

SIZES	BODY MATERIALS	DESIGN CODE	CLASS	NOTES
50 mm – 500 mm (2" – 20")	Ductile Iron, ASTM A536 Grade 65-45-12	ASME B16.42 Ductile Iron Pipe Flanges and Flanged Fittings	150	Conforms to ASME B16.42 Class 150 flange drilling, body wall thickness and pressure-temperature ratings.
600 mm - 900 mm (24" - 36")	Cast Iron, ASTM A126 Class B  Ductile Iron, ASTM A536	ASME B16.1 Cast Iron Pipe Flanges and Flanged Fittings  ASME B16.5 Pipe Flanges and Flanged Fittings  AWWA C504 Rubber-Seated Butterfly Valves		Flange bolt patterns comply with ASME B16.1, Class 125 and ASME B16.5, Class 150.  Valve temperature ratings are limited by the seat material options (180F for NBR and 250F for EPDM).  Wall thickness exceeds AWWA C504, Class 150B standard. Shaft diameter meets AWWA C504, Class 75B standard.  Valves have a blowout proof shaft per API 609 standard.  See Bulletins 46.00-2B and 40.00-1 BOS-US Resilient-Seated Butterfly Valves for further description, materials of construction, and applicable standards.



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CRN #: 0C0707.51

Date: May 24, 2018

BC J#: 70807

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CRN 0C0707.5RS  
Technical Standards & Safety Authority  
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Z. G. 5/11/18

# DeZURIK, Inc.

## DeZURIK PEC Eccentric Plug Valves

The DeZURIK PEC Eccentric Plug valves are produced in standard sizes 15mm (.5") to 1800 mm (72"). Standard body materials are cast iron, ductile iron, carbon steel, and stainless steel. Flanged end connections are available in cast iron and ductile iron in all sizes, and carbon steel and stainless steel up to 500mm (20"). Mechanical Joint end connections are available in cast iron and ductile iron in sizes 80mm (3") to 1200mm (48"). Threaded end connections are available in all materials in sizes up to 100mm (4"). Many resilient seat material options are available. PEC valves have been in successful service for over 50 years.

### DESIGN SUMMARY:

SIZES	BODY MATERIALS	DESIGN CODE	PRESSURE RATING	NOTES
15mm-1800mm (.5" - 72")	ASTM A126 Class B Cast Iron  ASTM A536 Grade 65-45-12 Ductile Iron	<b>AWWA C517</b> <i>Resilient Seated Cast Iron Plug Valves</i>  <b>ASME B16.1</b> <i>Cast Iron Flanges</i>  <b>ASME B16.42</b> <i>Ductile Iron Flanges</i>  <b>ASME B16.5</b> <i>Pipe Flanges and Flanged Fittings</i>  <b>AWWA C111/A21.11</b> <i>Rubber-Gasket Joints</i>	175 psi (.5"-12" CI)  150 psi (14"-72" CI)  285 psi (.5"-12" DI)  250 psi (14"-72" DI)	PEC valve line meets the design safety factor requirements of AWWA C517. Engineering Report ER0706 summarizes the design analysis.  Flange bolt patterns comply with ASME B16.1 Class 125, ASME B16.42 Class 150, and ASME B16.5 Class 150.  Mechanical Joint end connection dimensions and bolt patterns comply with AWWA C111/A21.11.  Valve temperature ratings are limited by the rubber plug face seat materials or 450F for cast iron or ductile iron valves with all-metal plugs. See Bulletin 12.00-1B or 1D. Reference ASTM A395/A395M Scope Paragraph 1.1. This specification covers ductile iron castings for pressure retaining parts use at elevated temperatures. Castings of all grades are suitable for use up to 450F.  See Bulletin 12.00-1B and 12.00-1D <i>PEC Eccentric Plug Valves Technical</i> for further description, materials of construction, and applicable standards for PEC eccentric plug valves.  See Engineering Report ER0709 for verification that the carbon steel and stainless steel valves meet the allowable stress limits found in the ASME Pressure Vessel Code, Section II, Part D, Materials, Table 1A.
15mm-500mm (.5" - 20")	Carbon Steel, ASTM A216, WCB Stainless Steel, ASTM A743, ASTM A351, CF8M		275 psi (.5-20" SST)  285 psi (.5-20" CS)	



CRN #: 0C0707.51  
Date: May 24, 2018  
BC J#: 70807

THIS IS PART OF  
CRN 0C0707.525  
Technical Standards & Safety Authority  
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Safety Program

z. c. 5/11/18

**DeZURIK, Inc.**  
**DeZURIK PEF 100% Port Eccentric Plug Valves**

The DeZURIK PEF 100 % Port Eccentric Plug valves are produced in standard sizes 50mm (3”) to 900 mm (36”) with Flanged and Mechanical Joint body end connections. Standard body materials are cast iron and ductile iron. Several resilient seat material options are available. PEF valves have been in successful service for over 10 years.

**DESIGN SUMMARY:**

SIZES	BODY MATERIALS	DESIGN CODE	PRESSURE RATING	NOTES
80mm-900mm (3” - 36”)	ASTM A126 Class B Cast Iron  ASTM A536 Grade 65-45-12 Ductile Iron	<b>AWWA C517</b> <i>Resilient Seated Cast Iron Plug Valves</i>  <b>ASME B16.1</b> <i>Cast Iron Flanges</i>  <b>ASME B16.42</b> <i>Ductile Iron Flanges</i>  <b>ASME B16.5</b> <i>Pipe Flanges and Flanged Fittings</i>  <b>ASME/AWWA C111/A21.11</b> <i>Rubber-Gasket Joints</i>	175 psi (3”-12”) 150 psi (14”-36”)	PEF valve line was designed to meet the requirements of AWWA C517. Engineering Report ER0708 summarizes the design analysis.  Flange bolt patterns comply with ASME B16.1 Class 125, ASME B16.42 Class 150, and ASME B16.5 Class 150.  Mechanical Joint end connection dimensions and bolt patterns comply with AWWA C111/A21.11.  PEF temperature ratings are limited by the rubber plug face seat material and packing material.  See Bulletin 12.60-1B <i>PEF 100% Port Eccentric Plug Valves Technical Specifications</i> for further description, materials of construction, and applicable standards for PEF plug valves.



CRN #: 060707.51  
 Date: May 24, 2018  
 BC J#: 70807

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