

ISO 15848-1
Helium Fugitive Emission Test Report

Performed for

ViNtrol, Inc.

www.vintrol.com



6 inch Class 600 FB 3-Piece
Trunnion-mounted Ball Valve
Product Code: 5610-41614599A1

Project Number: 212199
October 2012

Performed by

YARMOUTH RESEARCH AND TECHNOLOGY, LLC

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Fugitive Emission Test Data Sheet

Customer: ViNtrol, Inc.

Date: 10/9/2012

Project #: 212199

Product Description: 6" FB Class 600, 3 PC, Raised Face, T Stem seal leakage only

Product Code: 5610-41614599A1

Packing Description: HNBR

Sample Supplied by: Customer

Stem Diameter: 48.0 mm

Packing Nut Torque: as received

Test Conditions

Test Standard: ISO 15848-1

Test Stand: Yarmouth Stand 1

Tightness Class: BH

Allowable: 8.45E-05 atm cc/sec

Test Media: 99% Helium

Endurance Class: C03 2500 Mechanical Cycles

Temperature Class: 150C 4 Thermal Cycles

Pressure Class: 600 **Rating:** 1485 psig at ambient 1315 psig at High Temp

Testing Method: Purge for stem seals, sniffing (enclosed area) for bonnet seal

Mounting Position: Stem and Bore Horizontal

Max. Allowable Bonnet Gasket Leakage: 50 ppmv

Leakage Device: Pfeiffer SmartTest HLT560

Cycling Rate: 1 cycle per 30 seconds

Test Data Summary - Stem Seal

Cycle Number	Nom. Temp (C)	Stem Seal Leakage Readings - atm cc/sec				Packing Retorque See Notes	Actuator Pressure (psig)
		Static		Dynamic			
		Avg.	Max.	Avg.	Max.		
0	20	6.6E-07	7.3E-07	7.3E-07	7.9E-07		20
125	20	6.6E-07	7.3E-07	7.2E-07	7.5E-07		20
125	150	1.4E-06	1.6E-06	2.1E-06	2.4E-06		20
250	150	2.8E-06	2.8E-06	2.8E-06	2.9E-06		20
250	20	7.3E-07	8.2E-07	7.5E-07	1.9E-06		20
375	20	9.9E-07	1.1E-06	9.9E-07	1.1E-06		20
375	150	1.1E-06	1.2E-06	2.2E-06	3.0E-06		20
500	150	1.0E-06	1.1E-06	1.4E-06	1.5E-06		20
500	20	3.8E-06	5.0E-06	3.3E-06	1.1E-05		20
1,000	20	5.8E-07	6.5E-07	7.2E-07	9.3E-07		20
1,000	150	4.0E-07	4.5E-07	3.4E-06	7.1E-06		20
1,500	150	1.1E-06	1.1E-06	8.4E-06	1.0E-05		20
1,500	20	2.4E-06	2.5E-06	6.0E-07	7.1E-07		20
2,000	20	9.1E-07	9.8E-07	9.0E-07	9.7E-07		20
2,000	150	1.2E-06	1.3E-06	3.3E-06	4.2E-06		20
2,500	150	2.5E-06	2.6E-06	5.3E-06	7.4E-06		20
2,500	20	1.1E-06	1.2E-06	9.0E-06	1.9E-05		20
Maximum Leakage:		3.8E-06	5.0E-06	9.0E-06	1.9E-05		20
Maximum Allowable:		8.45E-05	8.45E-05				

Yarmouth Research and Technology, LLC

Test Data Summary - Bonnet Seal

<i>Cycle Number</i>	<i>Nom.Temp (C)</i>	<i>Leakage - PPMv</i>	
		<i>Avg.</i>	<i>Max.</i>
0	20	0.6	0.7
500	20	0.3	0.3
1,500	20	0.8	0.9
2,500	20	2.8	3.7
Maximum Leakage:		0.6	0.7
Maximum Allowable:		50	50

Packing Retorque Notes:

<i>Adjustment Number</i>	<i>Cycle Number</i>	<i>Nom.Temp (C)</i>	<i>Static Leakage Readings before Tightening</i>		<i>Before Adjustment Nut Torque (ft-lb)</i>	<i>After Adjustment Nut Torque (ft-lb)</i>
			<i>Avg.</i>	<i>Max.</i>		
Maximum Allowable:			8.45E-05	8.45E-05		

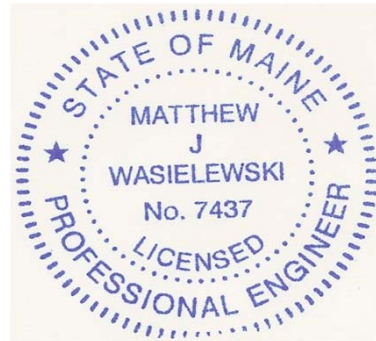
Results

Stem seals completed the CO3 endurance level with 0 packing nut adjustments.

Matthew J. Wasielewski

Witnessed:

President, Yarmouth Research



**Static Leakage Chart
Maximum Reading**

