

API Standard 641, First Edition, 2016

Test Report

“Type Testing of Quarter-turn Valves for
Fugitive Emissions”

Performed for

SCV Valve LLC

www.scvvalve.com



6 inch Class 600 Trunnion Ball Valve
Product Code: BAL0606B1215RGFV15DC/S

Project Number: 220299
Test Start Date: March 1, 2021



Performed by

YARMOUTH RESEARCH AND TECHNOLOGY, LLC

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API 641 TEST CERTIFICATE

Certificate Number: 220299A

Test Start Date: 3/1/2021

Test End Date: 3/5/2021

Customer Information

Customer: SCV Valve LLC

Web Address: www.scvvalve.com

Manufacturer Location: 5321 FM 646 Rd North, Santa Fe, Texas 77510

Valve Information

Valve Size: 6" Valve Pressure Class: 600

Valve Description: 6 inch Class 600 Trunnion Ball Valve

Product Code: BAL0606B1215RGFV15DC/S

Assembly Drawing No.: BAL0606B1215RGFV15DC/S

API/ASME Design Standards: API 6D

Stem Seal Description: Dual O-rings + 2 Graphoil Rings

Body Seal Description: A350 LF2

Test Results

Test Specification: API 641, First Edition, 2016

Max. Allowable Stem Seal Leakage: 100 PPMv Methane

Number of Mechanical Cycles: 610

High Temperature: 350 deg. F

Test Pressure at Ambient Temp.: 600 psig

Test Pressure at High Temp.: 600 psig

Did valve pass test requirements? YES

Valves of the same quarter-turn design as the test valve may be deemed to be qualified subject to paragraph 11 of the test specification.



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FUGITIVE EMISSION TEST SUMMARY

Customer: SCV Valve LLC	Start Date: 3/1/2021
Project Number: 220299	End Date: 3/5/2021
Manufacturing Facility: 5321 FM 646 Rd North, Santa Fe, Texas 77510	

Valve Information

Valve Description: 6 inch Class 600 Trunnion Ball Valve	
Product Code: BAL0606B1215RGFV15DC/S	
Valve Selected by: Manufacturer	
API/ASME Design Standard(s): API 6D	
Body Material: A350 LF2	Stem Material: A182 F6A Cl. 2
Body Seal Description: A350 LF2	
Manufacturer's Published Running Torque: 328 ft-lb	Closing Torque: 655 ft-lb

Stem Seal Information

Stem Seal Description: Dual O-rings + 2 Graphoil Rings			
Recommended Packing Torque: N/A			
Nominal ID:	2.38	inches	OD: 2.75 inches
Minimum Sealing Stress:	Not Provided		Stack Height: 0.375 inches
Stem Seal Chamber Depth:	0.312	inches	# of Rings: 2

Test Conditions

Test Specification: API 641, First Edition, 2016			
Maximum Allowable Leakage:	100	PPMv	
Cycling Rate:	30	seconds per cycle	
Maximum Temperature:	350	F	
Amb. Temp. Test Pressure:	600 psig	High Temp. Test Pressure:	600 psig

Stem Seal Leakage Data

Cycle Number	Stem Seal Temp - (F)	Pressure (psig)	Static Leakage (PPMv)		Dynamic Leakage (PPMv)	
			Avg.	Max.	Avg.	Max.
0	64	600	0	0		
100	64	600	1	2	3	6
101	348	600	18	21		
200	350	600	15	17	19	22
201	80	600	1	2		
300	80	600	1	1	1	1
301	351	600	1	2		
400	346	600	2	3	2	3
401	79	600	1	2		
500	78	600	1	1	1	1
501	349	600	0	1		
600	349	600	1	2	1	2
601	61	600	1	1		
610	60	600	1	1	1	1
Averages ->			3	4	4	5
Maximums ->			18	21	19	22

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Body Seal Leakage

<i>Leak Path</i>	<i>Cycle Number</i>	<i>Bonnet Temp - (F)</i>	<i>Pressure (psig)</i>	<i>Leakage (PPMv)</i>	
				<i>Avg.</i>	<i>Max.</i>
Body Seal A	0	64	600	0	1
Body Seal B	0	65	600	0	1
Bonnet Seal	0	65	600	0	1
Trunnion Seal	0	65	600	0	1
Body Seal A	610	63	600	1	1
Body Seal B	610	63	600	1	1
Bonnet Seal	610	64	600	1	2
Trunnion Seal	610	64	600	1	2

<i>Operating Actuator Pressure</i>	<i>Operating Actuator Pressure First Cycle:</i>	30	psig
	<i>Operating Actuator Pressure Last Cycle:</i>	27	psig

Results

Number of Mechanical Cycles Completed:	610
Number of Thermal Cycles Completed:	3
Maximum Static Leakage Throughout Test:	21 PPMv
Maximum Dynamic Leakage Throughout Test:	22 PPMv
Maximum Body/Bonnet Leakage Throughout Test:	2 PPMv

<i>Final Test Results:</i>	PASS
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<i>Qualifications of similar valves according to para. 11 of test standard per</i>	
<i>Valve Group:</i>	D

Test Notes:

Certified By



Matthew J Wasielewski, PE
 President and Manager
 Yarmouth Research and Technology, LLC
 Test Technician: Jesse Jarvi

