November 10, 2021

Mr. Jason Woh
ValvTechnologies, Incorporated
5904 Bingle Road
Houston, TX 77092
United States

SUBJECT: Scope Change, Device Type: Z*-14********-*****-***
NB Cap Cert No.: VLC-M59015

Dear Mr. Woh:

Test number 55071S was performed at the National Board Testing Laboratory on October 15, 2021, to determine if a 3" increase in inlet length can be included in the subject certification as a scope change. This test was performed in accordance with paragraph PG-69.6 of Section I of the ASME Code with steam as the test medium.

The test device had a measured slope of **84.04 PPH/PSIA.** This slope **is within** the required range of ± 5 % of the average slope of **81.88 PPH/PSIA** derived from your provisional test results.

ValvTechnologies, Incorporated has successfully completed testing to add this design change to the subject capacity certification.

Sincerely,

Austin Peck
Manager of Pressure Relief Testing Laboratory

FILE: < 211110 VLC-M59015 Scope Change Testing Pass>

National Board Testing Laboratory

Steam Test - Timed Weight Method

	Valve ID Data		*LabVIEW Test Report - Steam, Revision 1*
1	Test Number	55071S	
2	Test Sponsor	**(VLC) ValvTechnologies, Incorporated**	
3	Company Type	Manufacturer	
4	Test Date	10/15/2021	
5	Valve Type	Z***-14********-*****-***	
6	Manufacturer	ValvTechnologies, Incorporated	
7	Cap. Cert. ID No.	59015	
8	Set Pressure	100 psig	
9	Inlet Size	1 1/2 FL	
10	Outlet Size	2 FL	
11	Stamped/ Estimated Capacity	10141. PPH	
12	Code Section	I	
13	Serial Number	1	
14	Date Code		
	Operational Data and Measured Dimensions		
15	Warn Pressure		psig
16	Set Pressure	NaN	psig
17	Reset Set Pressure		psig
18	Blowdown	NaN	psi
19	Reset Blowdown		psi
20	Bore Diameter	1.500	inch
21	Lift	0.000	inch
	Measured Data		
22	Flow Area	1.767	in^2
23	Vessel Pressure	100.3	psig
24	P_b	14.21	psia
25	Calorimeter Temp.	290.6	^oF
26	Time of Run	4.0	minutes
27	Weight	642.4	lbm
28	Leakage	0.0	PPH
	Calculated Data		
29			
30	Vessel Pressure	114.6	psia
31	Enthalpy, calorimeter	1,188.4	BTU/lbm
32	Saturation Temp., Vessel	337.8	^oF
33	Saturation Volume, Vessel	3.8970	ft^3/lbm
34	Steam Quality, Vessel	99.8	%
35	Vessel Temp. (Theoretical)	337.8	^oF
36	Vessel Volume	3.8900	ft^3/lbm
37	Degrees Superheat	NaN	^oF
38	Capacity Correction	0.9991	
39	**Measured Capacity**	**9627.6**	PPH
40	Slope	84.041	PPH/PSIA
41	Coefficient	0.92340	
42	Rated Capacity For Measured Set	8,443.0	PPH
43	Red Book Kd	0.000	
44	Nominal Area	1.767	in2
	Rated Slope	73.7	
	Rated 3 Valve Average	0.	

National Board Testing Laboratory
Steam Test - Timed Weight Method: Test Summary

Test Summary for test 55071S: *LabVIEW Test Report - Steam, Revision 1*

Valve tested for Scope Change as Manufacturer.
Measured slope of 84.041 PPH/PSIA is within 5% of original average slope (81.88 PPH/PSIA).

RESULT: Pass

I certify that the data on the attached test data sheets was obtained under my supervision in accordance with the provisions of ASME PTC 25, the applicable sections of the ASME Boiler and Pressure Vessel Code, and the National Board Testing Laboratory Quality Control Manual. To the best of my knowledge and belief the objects tested were of the same type and design as indicated.

Devon Ault

Authorized Observer: Devon Ault

10/15/2021
Date

Test Personnel

Devon Ault
Steve Bowman
Tim Brown

Company Representatives

NATIONAL BOARD TESTING LABORATORY
STEAM DATA FORM

I. VALVE DATA

LabVIEW Test Report - Steam, Revision 1

Test Sponsor	(VLC) ValvTechnologies, Incorporated			**Instrumentation**	**NB Control #**
Test Number	55071S			Vessel Pressure	PT-9
Date	10/15/2021			Cal Temp/Calorimeter	TC-20B, CAL 520
Device Type	Z***-14********-*****-***			Bore Linear Device	C-2
Sponsor Type	Manufacturer			Lift Linear Device	
Manufacturer	ValvTechnologies, Incorporated			Cal Nozzle	5/32
Inlet	1 1/2 FL	Outlet	2 FL		
Set Pressure	100	Plant Set	(0.0)	**Measured Data**	**Value**
Stamped Capacity	10141. PPH	Verified	NO	Bore Diameter	1.5
Code Section	I	Stamped	NO	Barometer	14.209
Serial Number	1			Lift	0
Date Code		VR Stamp	NO	**NOTES:**	
Unique ID		NB Mark	NO		
		NB Seals Intact	NO		
Repair Date		Vis. Insp.	YES		
		Cert #:	59015		

II. FUNCTIONAL TEST DATA (SEE REVERSE SIDE)

III. CAPACITY TEST, TIMED WEIGHT METHOD DATA, PROCEDURE TP-3

Time	Scale: WS-1	Scale: WS-2	Net Weight / Hotwell Level
*0	0.0	0.0	13.11
*2	0.0	321.7	13.06
*4	320.7	0.0	13.13
		Total =	642.4

Data Recorder	Devon Ault
Authorized Observer	Devon Ault

STEAM DATA FORM

II. FUNCTIONAL TEST DATA: PROCEDURE TP-1

LabVIEW Test Report - Steam, Revision 1

Test Number 55071S	

Set Pressure 100	Definition:

Warn Pressure	Set Pressure	Popping Pressure	Closing Pressure	Blowdown	Notes/Adjustments

Measured Set: NaN Blowdown: NaN

Data Recorder	Devon Ault
Authorized Observer	Devon Ault

NATIONAL BOARD TESTING LABORATORY

STEAM DATA FORM NO. 1 *LabVIEW Test Report - Steam, Revision 1*

COMPANY: (VLC) ValvTechnologies, Incorporated DATE: 10/15/2021

TEST NUMBER: 55071S VALVE TYPE: Z***-14********-*****-*** SIZE: 1 1/2 FL SET: 100

TIME	P_{TANK}	T_{CAL}	P_{EXH}	ESTIMATED LEAKAGE	COMMENTS	
TARGET:	NaN	0.0/0.0/0.0		Leak Dia.=0.000"		
*1.0	100.6	285.4	0			
*2.0	99.8	290.4	0			
*3.0	100.8	292.8	0			
*4.0	100.2	293.9	0			
AVE.	100.3	290.6	0		Re-close After Flow:	0

DATA RECORDER: Devon Ault

REVIEWED BY AUTHORIZED OBSERVER: Devon Ault

Post-Test Uncertainty Calculation on Mass Flow Rate

LabVIEW Test Report - Steam, Revision 1

Test No. 55071S

1	Measured Flow	9627.6	(PPH)
3	Time of Run	4	(min)

Elemental Error List Summary

	Description	Value	Bias	Precision
4	Weight Collected	642.4	0.05	0.01
5	Time of run	4.	0.0083	0.001
6	Flowing Pressure	114.6	0.273989	0.
7	Cal. Temperature	290.6	3.8	0.1
8	Density Correction	0.9991	0.002426	0.000027

Intermediate Calculations

9	Bias Weight	0.749348	
10	Bias Time	-19.977331	
11	Bias Density Corr.	11.698089000	
12	Total Bias	23.162482	0.2405834%
13	Prec. Weight	0.14987	
14	Prec. Time	-2.406907000	
15	Prec. Density Corr.	0.129432	
16	Total Precision	2.41504	0.0250845%
17	**Error 95% Confidence**		**0.2457586%**