



THE NATIONAL BOARD

OF BOILER AND PRESSURE VESSEL INSPECTORS

November 7, 2018

David Jones
Engineered Controls International, LLC
100 Rego Drive
Elon, NC 27244

Subject: Capacity Certification, Valve Type: A8436G
NB Cap Cert. No.: REG-M46134

Dear Mr. Jones:

We have reviewed the enclosed test results, referenced below, which were performed at the **National Board Testing Laboratory** on October 30, 2018 for the purpose of testing for capacity certification of the subject valve type as required by paragraph UG-136(c)(3) of Section VIII of the ASME Code.

Engineered Controls International, LLC is hereby granted capacity certification and authorization to apply the “NB” mark and ASME Certification mark with “UV” designator to the valve type listed in the scope of certification. This authorization is valid only for the above location and only while the organization is fully implementing its quality control system as accepted by the National Board.

SCOPE OF CERTIFICATION

Valve Type: A8436G

Organization Type: Manufacturer

Certified Rating Value/Sizes/Pressure Ranges: As listed in the NB-18

Certification Expiration Date: March 6, 2025

Sincerely,

Thomas P. Beirne, P.E.
Technical Manager, Pressure Relief Dept.

REFERENCING TEST NUMBERS: 48479A, 48516A
File:GF: 181107 REG-M46134 Pass

National Board Testing Laboratory

Nitrogen Test - Orifice Plate Flow Meter Method

Valve ID Data		Revision 2.4	
1	Test Number	48479A	
2	Test Sponsor	Engineered Controls International, LLC	
3	Company Type	Manufacturer	Elon, NC
4	Test Date	10/30/2018	REG
5	Valve Type	A8436G	
6	Manufacturer	Engineered Controls International, LLC	
7	Cap. Cert. ID No.	46134	
8	Set Pressure	250 psig	
9	Inlet Size	3 M	
10	Outlet Size	Top	
11	Stamped Capacity	9598. SCFM	
12	Code Section	VIII	
13	Serial Number		
14	Date Code	9D18	
Operational Data and Measured Dimensions			
15	Warn Pressure		psig
16	Set Pressure	254.7	psig
17	Reset Set Pressure		psig
18	Blowdown	129.9	psi
19	Reset Blowdown		psi
20	Bore Diameter	1.766	inch Nominal
21	Lift		inch
Measured Data			
22	Flow Area	2.44947	in ²
23	Line Pressure	306.3	psig
24	Differential Pressure	6.36	psid
25	Line Temp.	33	°F
26	Vessel Pressure	296.5	psig
27	Vessel Temp.	49	°F
28	P _b	14.31	psia
29	Plate ID Number	9	3 Plate Dia.
Calculated Data			
	Line Pressure (absolute)	320.606	psia
32	Density @ Flow Condition _(w)	1.7107	lbm/ft ³
33	Area Factor _(Fa)	0.999455	
34	Trial Flow Rate	12.5930	lbm/sec
35	Viscosity	1.1184E-05	lbm/ft-sec
36	Reynolds Number RD	4,747,003	
37	Theoretical Capacity _(WT)		
	WT=CKAP√M/T	63,584.6	lbm/hr N2
38	Measured Capacity at Std. Cond.	45,334.6	lbm/hr N2
39	Measured Capacity at Std. Cond.	10063.1	SCFM AIR
40	Slope	32.377	SCFM/PSIA
41	Coefficient	0.71298	
42	Rated Capacity For Measured Set	9479.2	SCFM
43	Rated 3 Vlv. Ave.	9598.	
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National Board Testing Laboratory

Air Test - Orifice Plate Method: Test Summary

Test Summary for test 48479A:

1. Valve tested for 6 Year Capacity Recertification as a Manufacturer.

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.

RYAN FORD
Authorized Observer: Ryan Ford

10-30-18
Date

Test Personnel

Company Representatives

Steve Bowman
Ryan Ford

National Board Testing Laboratory

Nitrogen Test - Orifice Plate Flow Meter Method

Valve ID Data		Revision 2.4	
1	Test Number	48516A	
2	Test Sponsor	Engineered Controls International, LLC	
3	Company Type	Manufacturer	Elon, NC
4	Test Date	11/2/2018	REG
5	Valve Type	A8436G	
6	Manufacturer	Engineered Controls International, LLC	
7	Cap. Cert. ID No.	46134	
8	Set Pressure	250 psig	
9	Inlet Size	3 M	
10	Outlet Size	Top	
11	Stamped Capacity	9598. SCFM	
12	Code Section	VIII	
13	Serial Number		
14	Date Code	9D18	
Operational Data and Measured Dimensions			
15	Warn Pressure	252.1	psig
16	Set Pressure	254.7	psig
17	Reset Set Pressure		psig
18	Blowdown	162.5	psi
19	Reset Blowdown		psi
20	Bore Diameter	1.766	inch Nominal
21	Lift		inch
Measured Data			
22	Flow Area	2.44947	in ²
23	Line Pressure	310.0	psig
24	Differential Pressure	6.71	psid
25	Line Temp.	45	°F
26	Vessel Pressure	300.0	psig
27	Vessel Temp.	56	°F
28	P _b	14.16	psia
29	Plate ID Number	9	3 Plate Dia.
Calculated Data			
	Line Pressure (absolute)	324.157	psia
32	Density @ Flow Condition _(w)	1.6854	lbm/ft ³
33	Area Factor _(Fa)	0.999645	
34	Trial Flow Rate	12.8368	lbm/sec
35	Viscosity	1.1395E-05	lbm/ft-sec
36	Reynolds Number RD	4,749,406	
37	Theoretical Capacity _(WT)		
	WT=CKAP√M/T	63,851.8	lbm/hr N2
38	Measured Capacity at Std. Cond.	46,212.5	lbm/hr N2
39	Measured Capacity at Std. Cond.	10257.9	SCFM AIR
40	Slope	32.652	SCFM/PSIA
41	Coefficient	0.72375	
42	Rated Capacity For Measured Set	9581.4	SCFM
43	Rated 3 Vlv. Ave.	9598.	
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National Board Testing Laboratory

Air Test - Orifice Plate Method: Test Summary

Test Summary for test 48516A:

1. Valve tested for 6 Year Capacity Recertification as a Manufacturer.

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.

RYAN FORD
Authorized Observer: Ryan Ford

11-2-18
Date

Test Personnel

Company Representatives

Tim Brown
Ryan Ford