



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: A8434G
NB Cap Cert. No.: REG-M46112

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: A8434G

Organization Type: Manufacturer

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

Certification Expiration Date: April 29, 2025

Sincerely,

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

REFERENCING TEST NUMBERS: 48471A, 48473A
File:GF: 181107 REG-M46112 Pass

National Board Testing Laboratory

Nitrogen Test - Orifice Plate Flow Meter Method

Valve ID Data		Revision 2.4	
1	Test Number	48471A	
2	Test Sponsor	Engineered Controls International, LLC	
3	Company Type	Manufacturer	Elon, NC
4	Test Date	10/30/2018	REG
5	Valve Type	A8434G	
6	Manufacturer	Engineered Controls International, LLC	
7	Cap. Cert. ID No.	46112	
8	Set Pressure	250 psig	
9	Inlet Size	2 M	
10	Outlet Size	Top	
11	Stamped Capacity	3456. SCFM	
12	Code Section	VIII	
13	Serial Number		
14	Date Code	10B18	
Operational Data and Measured Dimensions			
15	Warn Pressure		psig
16	Set Pressure	251.7	psig
17	Reset Set Pressure		psig
18	Blowdown	25.4	psi
19	Reset Blowdown		psi
20	Bore Diameter	1.015	inch Nominal
21	Lift		inch
Measured Data			
22	Flow Area	0.80914	in ²
23	Line Pressure	304.5	psig
24	Differential Pressure	5.83	psid
25	Line Temp.	48	°F
26	Vessel Pressure	299.9	psig
27	Vessel Temp.	65	°F
28	P _b	14.34	psia
29	Plate ID Number	5A	2.1 Plate Dia.
Calculated Data			
	Line Pressure (absolute)	318.842	psia
32	Density @ Flow Condition _(w)	1.6472	lbm/ft ³
33	Area Factor _(Fa)	0.999692	
34	Trial Flow Rate	4.5825	lbm/sec
35	Viscosity	1.1448E-05	lbm/ft-sec
36	Reynolds Number RD	1,687,636	
37	Theoretical Capacity _(WT)		
	WT=CKAP√M/T	20,902.3	lbm/hr N2
38	Measured Capacity at Std. Cond.	16,496.9	lbm/hr N2
39	Measured Capacity at Std. Cond.	3661.9	SCFM AIR
40	Slope	11.653	SCFM/PSIA
41	Coefficient	0.78923	
42	Rated Capacity For Measured Set	3451.0	SCFM
43	Rated 3 Vlv. Ave.	3456.	
44			

National Board Testing Laboratory

Air Test - Orifice Plate Method: Test Summary

Test Summary for test 48471A:

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

10-30-15
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	48473A	
2	Test Sponsor	Engineered Controls International, LLC	
3	Company Type	Manufacturer	Elon, NC
4	Test Date	10/30/2018	REG
5	Valve Type	A8434G	
6	Manufacturer	Engineered Controls International, LLC	
7	Cap. Cert. ID No.	46112	
8	Set Pressure	250 psig	
9	Inlet Size	2 M	
10	Outlet Size	Top	
11	Stamped Capacity	3456 SCFM	
12	Code Section	VIII	
13	Serial Number		
14	Date Code	10B18	
Operational Data and Measured Dimensions			
15	Warn Pressure		psig
16	Set Pressure	273.5	psig
17	Reset Set Pressure		psig
18	Blowdown	36.4	psi
19	Reset Blowdown		psi
20	Bore Diameter	1.015	inch Nominal
21	Lift		inch
Measured Data			
22	Flow Area	0.80914	in ²
23	Line Pressure	303.9	psig
24	Differential Pressure	5.11	psid
25	Line Temp.	36	°F
26	Vessel Pressure	299.7	psig
27	Vessel Temp.	55	°F
28	P _b	14.34	psia
29	Plate ID Number	5A	2.1 Plate Dia.
Calculated Data			
	Line Pressure (absolute)	318.24	psia
32	Density @ Flow Condition _(w)	1.6870	lbm/ft ³
33	Area Factor _(Fa)	0.999502	
34	Trial Flow Rate	4.3441	lbm/sec
35	Viscosity	1.1237E-05	lbm/ft-sec
36	Reynolds Number RD	1,629,915	
37	Theoretical Capacity _(WT)		
	WT=CKAP√M/T	21,088.5	lbm/hr N2
38	Measured Capacity at Std. Cond.	15,638.8	lbm/hr N2
39	Measured Capacity at Std. Cond.	3471.4	SCFM AIR
40	Slope	11.054	SCFM/PSIA
41	Coefficient	0.74158	
42	Rated Capacity For Measured Set	3448.8	SCFM
43	Rated 3 Vlv. Ave.	3456.	
44			

National Board Testing Laboratory

Air Test - Orifice Plate Method: Test Summary

Test Summary for test 48473A:

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