



To:	TSSA	From:	Janet Townsend
Company:	Engineered Controls International, LLC.	Phone:	416-747-4291
Pages:	9	Location:	Toronto
Our File:	ANR-4418	Date:	March 22, 2017

Your File: 2013132

**Subject: Request for Design Registration**

Dear Ms. Francis,

CSA has reviewed the documentation submitted by TSSA on behalf of Engineered Controls International, LLC.

These fittings have been registered by CSA for the Province of Québec. In accordance with an agreement between CSA, the Provinces of Québec and Saskatchewan; this registration is recognized by Quebec and Saskatchewan. These fittings are acceptable for use in these Provinces.

The letters CSA will be applied as a prefix to the CRN indicate which fittings have been registered in this manner. A copy of the stamped Statutory Declaration is attached.

The CRN is CSA-0H19064.56.

A copy of the Statutory Declaration with an original stamp affixed will be forwarded to you along with our invoice by regular mail.

Yours truly

A handwritten signature in blue ink that reads 'Janet Townsend'.

**Janet Townsend**  
Account Manager  
CSA Group



Technical Standards and Safety Authority  
345 Carlingview Drive  
Toronto, Ontario M9W 6N9  
www.tssa.org

Show facsimile of manufacturer's logo or trademark, as it will appear on the fitting, in the space below

**REGO®**

## STATUTORY DECLARATION Registration of Fittings

I, **CHAD THOMAS, VP GLOBAL ENGINEERING**

(Name and Position, e.g. President, Plant Manager, Chief Engineer)

of **ENGINEERED CONTROLS INTERNATIONAL LLC**

(Name of Manufacturer)

Located at **100 REGO DRIVE, ELON, NC - 27244**

(Plant Address)

**336-449-7707**

(Telephone No.)

(Fax No.)

☒ do solemnly declare that the fittings listed hereunder, which are subject to the **Technical Standards and Safety Act**, Boilers and Pressure Vessels Regulation, comply with all of the requirements of **ASME B31.1**

(Title of recognized North American Standard)

which specifies the dimensions, materials of construction, pressure/temperature ratings, identification marking the fittings and service;

☐ or are not covered by the provisions of a recognized North American standard and are therefore manufactured to comply with as supported by the attached data which identifies the dimensions, material of construction, pressure/temperature ratings and the basis for such ratings, the marking of the fitting for identification and service.

I further declare that the manufacture of these fittings is controlled by a quality system meeting the requirements of **ISO90001** which has been verified by the following authority, **UNDERWRITERS LABORATORY INC**

The items covered by this declaration, for which I seek registration, are category **"H"** type fittings. In support of this application, the following information and/or test data are attached as follows:  
**SEE ATTACHED LIST**

(drawings, calculations, test reports, etc.)

Declared before me at **Engineered Controls, Intl / ELON** in the **County** of **Alamance, NC**  
the **16<sup>th</sup>** day of **December** AD 20**16**

Commissioner for Oaths:

**Marisa E. Elliott**

(Printed name)

**Marisa E. Elliott**

(Signature)

**Chad Thomas**

(Signature of Declarer)

### FOR OFFICE USE ONLY

To the best of my knowledge and belief, the application meets the requirements of the **Technical Standards and Safety Act**, Boilers and Pressure Vessels Regulation, and CSA Standard B51 and is accepted for registration in Category **H**

CRN:

**CSA-0H19064.56**

Registered by:

**A. BANWATT**

Dated:

**MARCH 16 2017**

NOTE: This registration expires on:

**JAN 09 2027**

PV 09553 (08/16)

Note: 1. This registration is based on a technical review performed by the province of initial registration in accordance with CSA B51 policy on reciprocal recognition of design review.

2. See attached scope of registration.

**CERTIFIED  
TRUE COPY**

Date:

Signature:

**Colleen Anne Ratcliff,**  
a Commissioner, etc., City of Toronto, for the  
Technical Standards & Safety Authority.  
Expires July 24, 2019.

**MARISA E. ELLIOTT  
NOTARY PUBLIC  
ALAMANCE COUNTY  
NORTH CAROLINA**

My Commission Expires 8/31/2024

**REGISTERED**

**CRN: CSA-0H19064.56**

Registration Process administered by  
CSA Group per CSA B51



REGISTERED



CRN: CSA-041906456


Registration Process administered by  
CSA Group per CSA B51

Technical Review performed per CSA B51  
Performed by: ANRIC Enterprises Inc.

Signed: *ASBwatt*

Date: 16 March 2017

Category	System Number	Description	Drawing Number	Body Number	Body Material	Service Pressure
H	MVE4D	Manifold	450154	450154	Stainless Steel Pipe, ASTM A249, TP304L	600
			450043	450043	FC Brass, UNS C36000, ASTM B16	600
			2227-25	2227-25	FC Brass, UNS C36000, ASTM B16	600
			450153	450153	FC Brass, UNS C36000, ASTM B16	600
			450059	450059	Stainless Steel Pipe, ASTM A249, TP304L	600
			450151	450151	Stainless Steel Pipe, ASTM A249, TP304L	600
			1337C- 22 SER	1337C-22 B, C	Stainless Steel Pipe, ASTM A249, TP304L	600
			1337-53	1337-53	Stainless Steel Pipe, ASTM A249, TP304L	600
			1337B-22 SER	1337B-22B	Stainless Steel Pipe, ASTM A249, TP304L	600
			1337B-62A	1337B-62A	Stainless Steel Pipe, ASTM A249, TP304L	600
			B-8400-12C	B-8400-12SE	Bronze Cast Alloy, UNS C92200, ASTM B61	600
			B-9407-1C	B-9408ST-1	Bronze Cast Alloy, UNS C92200, ASTM B61	600
			B-9403-1C	B-9404ST-2	Bronze Cast Alloy, UNS C92200, ASTM B61	600
			B-8412-11	B-8412-11	Stainless Steel Pipe, ASTM A249, TP304L	600
			BK9450-8	BK9450-8	FC Brass, UNS C36000, ASTM B16	600
			B-9402-10	B-9402-10	Stainless Steel Pipe, ASTM A249, TP304L	600


**CSA Group** 10F3

ATTACHMENT TO

C.R.N. CSA-CH19064.56

Signed: ASBWA

178 Rexdale Boulevard, Toronto, ON Canada M9W 1R3

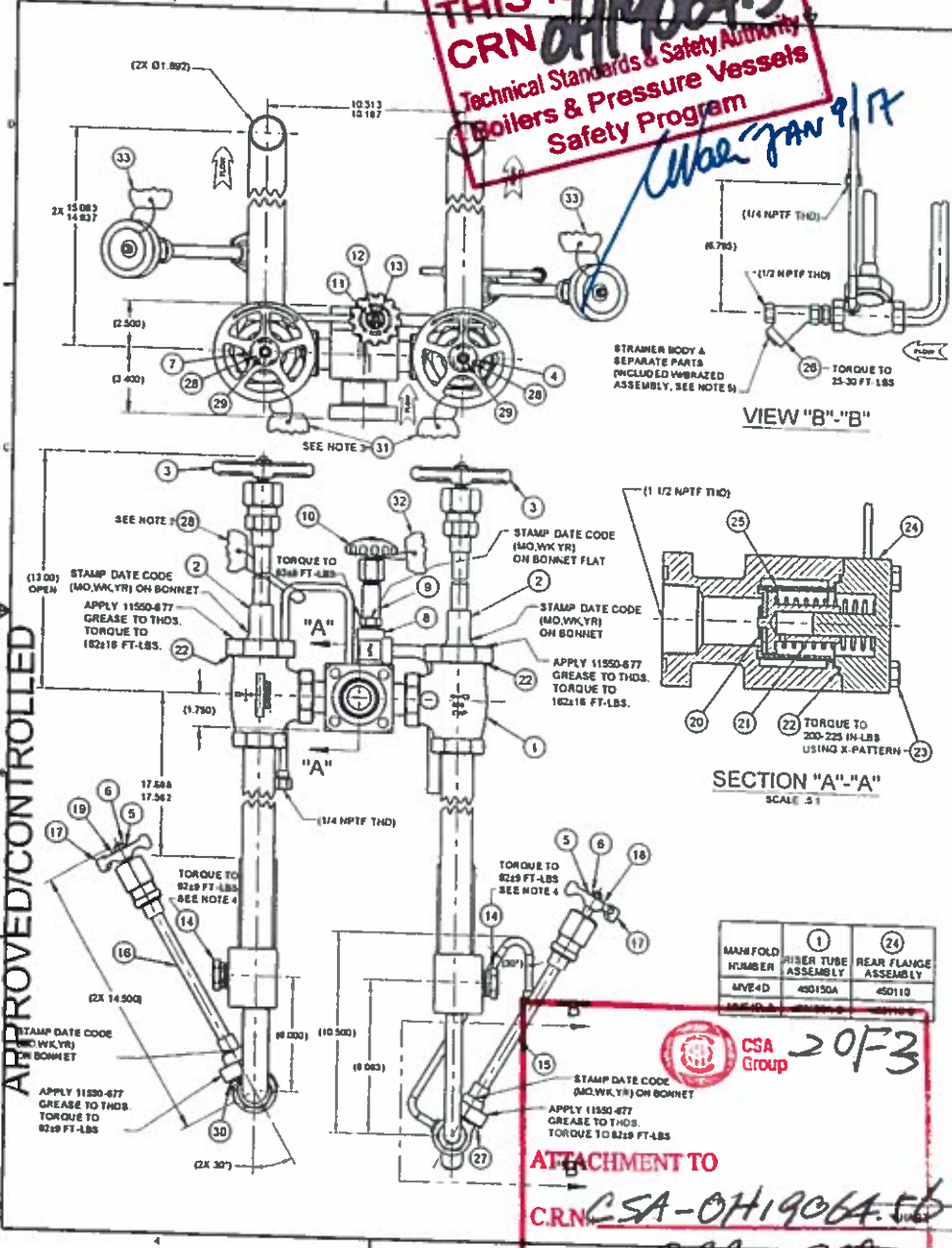
THIS IS PART OF  
 CRN CH19064.5  
 Technical Standards & Safety Authority  
 Boilers & Pressure Vessels  
 Safety Program

Cubert Jan 9/17



THIS IS PART OF  
CRN 0H19064.5  
Technical Standards & Safety Authority  
Boilers & Pressure Vessels  
Safety Program

Ube JAN 9/17



- NOTES:
- CLEAN ALL COMPONENTS PER B-11550-400 OXYGEN SERVICE. INCLUDE OXYGEN CLEAN INFO ON OR ON PACKAGING. SEE RESPECTIVE ASSEMBLY DRAWINGS FOR DETAILS. ASSEMBLE & TEST IN CLEAN AREA
  - INK STAMP "213" IN TORQUE BOX OF (1) TORQUE TAG AND ATTACH TO RISER TUBE ASSEMBLY
  - INK STAMP "18907" IN TORQUE BOX OF (4) TORQUE TAGS AND ASSEMBLE TAGS TO HANDWHEELS
  - WRAP THREADS WITH 11550-544 (PTFE TAPE) COMPOUND AND ASSEMBLE INTO CRODS.
  - LUBRICATE GASKET WITH LIGHT COATING OF 11550-677 GREASE. ASSEMBLE STRAINER SCREEN & CAP
  - TEST PER 8400-100.
  - INSTALL CLOSURES ON ALL OPENINGS
  - PACK IN POLYBAG AND ATTACH TO ASSEMBLY
  - SEAL PRODUCT IN POLYBAG AND INCLUDE OXYGEN CLEAN INFORMATION ON OR ON BAG
  - DIMENSIONS REQUIRED TO BE INSPECTED ARE NOTED WITH TOLERANCES
  - B-8404-4 SEAT DISC ASSEMBLY (#36) TO BE USED WITH B-8404-KITU UPPER ASSEMBLY-UNTESTED KIT (#15)
  - B-8412-8 SEAT DISC ASSEMBLY (#36) TO BE USED WITH BK48412-KITU UPPER ASSEMBLY-UNTESTED KIT (#2)
  - B-8408-7 SEAT DISC ASSEMBLY (#37) TO BE USED WITH B-8408-KITU UPPER ASSEMBLY-UNTESTED KIT (#16)

REV	DATE	DESCRIPTION	ISSUED
A	2012-230	5-19-12	

30	2	SEAT DISC ASSY (NOT SHOWN) SEE NOTE 12	B-8412-8
36	1	SEAT DISC ASSY (NOT SHOWN) SEE NOTE 11	B-8404-4
37	1	SEAT DISC ASSY (NOT SHOWN) SEE NOTE 13	B-8408-7
38	2	CAP SCREW (NOT SHOWN) SEE NOTE 9	TCV8500-7
35	2	LOCK WASHER (NOT SHOWN) SEE NOTE 9	TCV8500-8
34	2	WASHER (NOT SHOWN) SEE NOTE 8	TCV8500-9
33	2	TAG, TORQUE (1100)	B-8403-60C
32	1	TAG, TORQUE (900-1100)	B-8403-50A
31	3	TAG, TORQUE (BLANK)	B-8403-50
30	1	GASKET	B-8408-1
29	2	LOCKOUT	7513-135S
28	2	WASHER	450027
27	1	GASKET	450104-44
26	1	GASKET	450073-40
25	1	STRAINER	450038
24	1	REAR FLANGE ASSY	SEE TABLE
23	4	CAP SCREW	450040
22	3	GASKET	B-8400-39
21	1	SPRING	450045
20	1	PISTON ASSY	450047
19	1	TAG HCV-11 PB OUTLET	11573-506
18	1	TAG HCV-3 PB INLET	11573-509
17	2	HANDWHEEL - GREEN	2507-150P
16	1	UPPER ASSY - UNTESTED SEE NOTE 13	B-8408-KITU
15	1	UPPER ASSY - UNTESTED SEE NOTE 11	B-8404-KITU
14	2	PLUG	865F
13	1	NUT	450029
12	1	WASHER	A80168-73S
11	6	TAG HCV-7 FILL DRAIN	11573-505
10	1	HANDWHEEL - BLUE	8600-308
9	1	UPPER ASSY - UNTESTED	BK8450R-KITU
8	1	GASKET	9432E-3
7	1	TAG HCV-2 TOP FILL	11573-511
6	2	LOCKOUT	7505A-135S
5	2	WASHER	450028
4	1	TAG - HCV-1 BOTTOM FILL	11573-510
3	2	HANDWHEEL - BLUE	7508-1578P
2	2	UPPER ASSY - UNTESTED SEE NOTE 12	BK48412-KITU
1	1	BRAZED ASSY	SEE TABLE

ITEM	QTY	TITLE	PART NUMBER
T TICKLE	5-16-12		
W LEE	7-24-12		
K SMITH	7-24-12		
D GENTLE	7-25-12		

MANIFOLD NUMBER	1	24
WVE4D	450150A	450110

STAMP DATE CODE (MO, WK, YR) ON BONNET	APPLY 11550-677 GREASE TO THDS. TORQUE TO 82±9 FT-LBS
--	---

ENGINEERED CONTROLS INTERNATIONAL, L.L.C.	MANIFOLD 1 1/2" FILL
MVE4D SER	

ATTACHMENT TO  
CRN CSA-0H19064.5  
Signed: [Signature]  
178 Rexdale Boulevard, Toronto, ON Canada M9W 1R1

THE GRADING CLASSER A PROPRIETARY DESIGN CONSTRUCTED BY  
GARDEN EQUIPMENT LLC AND ALL OTHERS, UNPUBLISHED, INFORMATION  
AND ARE SALES BEING HANDLED BY THE FIRM AND EXCLUSIVELY FOR THE  
IT IS ELABORATE UNDER A COOPERATIVE RELATIONSHIP FOR A SPECIFIC  
PURPOSE, AND THE COMPANY AGREES TO ACCEPTING THE COMPANY NOT  
IN DEPT. OF BUSINESS AND COOPERATIVE RELATIONSHIP TO IT AN UNPUBLISHED  
FORM, NOT TO BE REPRODUCED IN ANY FORM, OR BY ANY MEANS, WITHOUT  
PERMISSION TO THE FIRM. ALL OTHERS SALES ACTING ARE EXCLUSIVELY  
HANDLED BY GARDEN EQUIPMENT LLC.

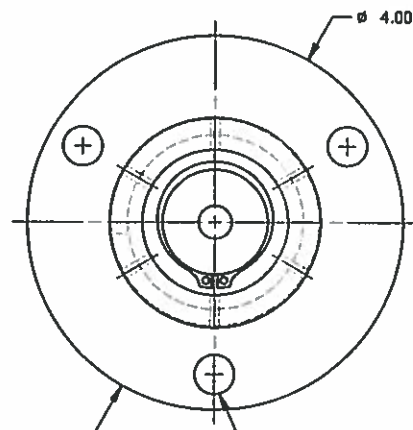
THE PART MUST BE MADE TO THE PROPOSED CHANGES AS INDICATED ON THIS DRAWING.



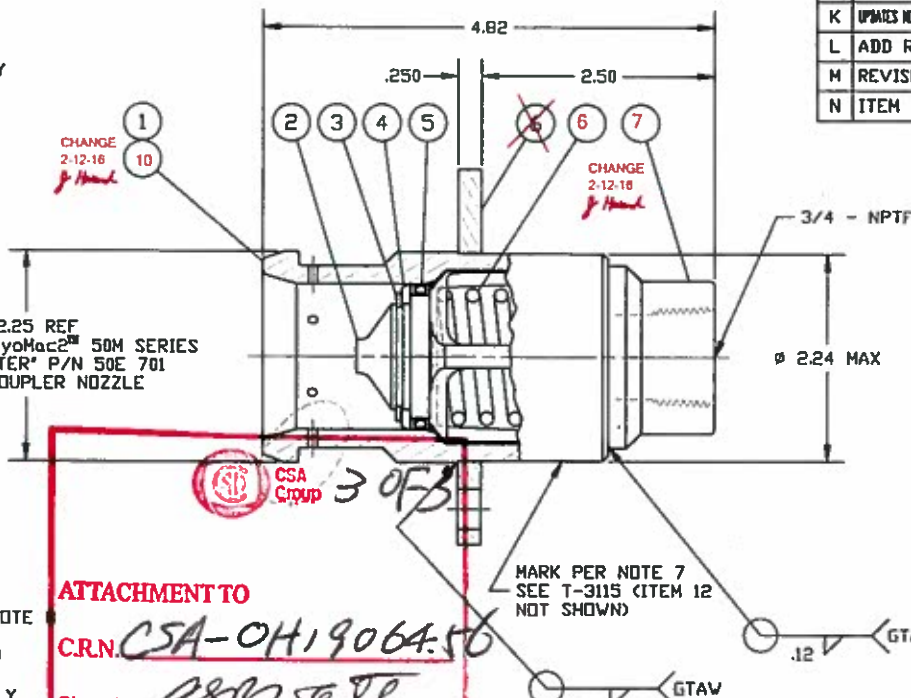
**-3 CONFIGURATION ONLY**

CHANGE  
1-26-16  
N. LEE

REVISIONS			
LIFE	DESCRIPTION	DATE	APPROVED
F	REMOVED PARENTHESIS IN NOTE 7.d	01-06-12	JO
G	ADDED -1 AND -2 CONFIGURATIONS	06-06-12	JO
H	MAT'L'S WERE 303/304/316 CRES	07-02-12	JO
J	ADD -3 CONFIG	12-12-12	JO
K	UPDATES NOTES 5, 6c, DELETE NOTES 6a & 6b, AND NOTE 9	08-01-13	JO
L	ADD R110 NO. AND PART MARK	06-09-14	GF
M	REVISED R110 CERTIFICATION NO.	06-09-14	GF
N	ITEM 5 WAS 14010	08-07-14	JO



Ø .272-.288 THRU (3) PLS, SEE NOTE  
- EQ SPACED ON Ø 3.25 BC  
RADIAL LOCATION NOT MAINTAINED



ATTACHMENT TO

CRN

**Signed:**

**15 REQUIRED**

www.pearsoned.com.au

MARK PER NOTE 7  
- SEE T-3115 (ITEM 12  
NOT SHOWN)

**BODY &  
FLANGE ASSY**

CHANGE  
2-12-16

1. ALL COMPONENTS TO BE INSPECTED PRIOR TO CGA G-4.1 PRIOR TO ASSEMBLY
2. LUBRICATE THREADED JOINTS USING "KRYTOX" GPL-206 OR EQUAL
3. GENERAL OPERATING SPECIFICATIONS:
- a. MEDIA: LNG (LIQUEFIED NATURAL GAS)
  - b. MAX. INTERNAL PRESSURE: 300 PSIG (FUELING); 550 PSIG (STATIC SYSTEM)
  - c. TEMPERATURE RANGE: -350°F TO +150°F
4. PACKAGE IN A SEALED POLY BAG IDENTIFIED PER W.O. REQUIREMENTS
5. ALL WELDS PROVIDING A INTERNAL PRESSURE TIGHT INTERFACE SHALL BE LEAK FREE
6. FUNCTIONAL TEST: TEST PER 14604-100.
- a. ~~DELETED~~
  - b. ~~DELETED~~
  - c. ~~VERIFY 0 LEAKAGE AT THE POPPET SEAL. USE "SNOP" OR "TRAX" AT 50 PSIG (LOW) AND 300 PSIG (HIGH) FOR 30 SECONDS EACH. 0 BUBBLES~~
7. PERMANENTLY MARK ON SURFACE INDICATED THE FOLLOWING:
- a. MACRO PART NUMBER & REVISION LEVEL
  - b. ASSEMBLY DATE CODE
  - c. HOUSING MATERIAL TRACEABILITY CODE "MMC"
  - d. OPERATING PRESSURE:
    - 1. FUELING 300 PSIG / 20.7 BAR
    - 2. SYSTEM 550 PSIG / 38 BAR
  - e. ECE R110 NO. & PART MARK:  
(E) 110R-010362-L
8. (3) MOUNTING HOLES (Ø .280 NOM) MAY HAVE SLIGHT DISCONTINUITIES DUE TO MFG. METHODS. A Ø .262 PIN SHALL FREELY PASS THROUGH ALL HOLES
9. BUFF WELDS TO REMOVE WELD HEAT DISCOLORATION

NOT SHOWN  
FOR CLARITY

QTY	UNIT	DESCRIPTION	MATERIAL / FINISH SPECIFICATION
0	0	T-3115	ROLLER STAMP
1	0	13598-1	BODY, GROOVED VENT CRES
0	1	13665	ALUMINUM CAP ALUMINUM, CRES
0	0	14091	POLY CAP STEEL, CRES, ALUMINUM, VINYL
1	1	13602	END CAP CRES
1	1	13607	SPRING CRES
1	1	13626	FLANGE CRES
1	1	14500	SEAL ASSY UHMW POLYMER / CRES SPRING
1	1	13527	RETAINER BRASS
1	1	13531	RETAINING RING CRES
1	1	13599	POPPET CRES
0	1	13598	BODY CRES
-3	-2	-1	ESC FSCM NO. PART NUMBER PART DESCRIPTION MATERIAL / FINISH SPECIFICATION

QUANTITY REQ'D		PARTS LIST	
DRILLED HOLE TOOL 2.00 TO .125 = .000 - .001 .125 TO .250 = .000 - .001 .250 TO .375 = .000 - .001 .375 TO .500 = .000 - .001 .500 TO .750 = .000 - .001 .750 TO 1.000 = .000 - .001 1.000 TO 1.500 = .000 - .001		* UNLESS OTHERWISE SPECIFIED * ALL DIMENSIONS ARE IN INCHES UNLESS NOTED OTHERWISE DECIMALS      FRACTIONS .XX = .0      .XXX = .000 INCHES SHOWN DIMS .000 - .001 & DECIMAL DIMS DIMENSIONS REFLECT TO BE .000 - .001 TOLERANCE DIMS. OF ALL DIMENSIONS - .001 FOR SHIP DIMENSIONS, PLEASE TO BE 1/16 INCH PER DIA. DIM.	
NOTE ASSY PART NO.	QTY	Macro Technologies LLC 12530 - 130th Ave N.E. • Redmond, WA • 98034	
DRILLED HOLE TOOL 2.00 TO .125 = .000 - .001 .125 TO .250 = .000 - .001 .250 TO .375 = .000 - .001 .375 TO .500 = .000 - .001 .500 TO .750 = .000 - .001 .750 TO 1.000 = .000 - .001 1.000 TO 1.500 = .000 - .001		QDV, MALE, RECEPTACLE, FUELING	
DRILLED HOLE TOOL 2.00 TO .125 = .000 - .001 .125 TO .250 = .000 - .001 .250 TO .375 = .000 - .001 .375 TO .500 = .000 - .001 .500 TO .750 = .000 - .001 .750 TO 1.000 = .000 - .001 1.000 TO 1.500 = .000 - .001		C 62529 13620 & DASH N	
DRILLED HOLE TOOL 2.00 TO .125 = .000 - .001 .125 TO .250 = .000 - .001 .250 TO .375 = .000 - .001 .375 TO .500 = .000 - .001 .500 TO .750 = .000 - .001 .750 TO 1.000 = .000 - .001 1.000 TO 1.500 = .000 - .001		HK 08-12-08 NONE	



# CERTIFICATE



This is to certify that

## Engineered Controls International, LLC

100 Rego Drive  
Elon, NC 27244  
United States of America

with the organizational units/sites as listed in the annex

has implemented and maintains a **Quality Management System**.

### Scope:

The design and manufacture of valves, regulators and fittings for the L.P. Gas, Anhydrous Ammonia, LNG, and Compressed Gas Industries.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

## ISO 9001 : 2008

Certificate registration no.	10001523 QM08
Date of original certification	1994-10-04
Date of certification	2015-12-22
Valid until	2018-09-14



**DQS Inc.**

Ganesh Rao  
Managing Director





**Annex to Certificate**  
**Registration No. 10001523 QM08**

**Engineered Controls International, LLC**

100 Rego Drive  
Elon, NC 27244  
United States of America

**Location**

**10003889**  
**Engineered Controls International, LLC**  
**3181 Lear Drive**  
**Burlington, NC 27215**  
**United States of America**

**10003890**  
**Engineered Controls International, LLC**  
**911 Industrial Drive S.W.**  
**Conover, NC 28613**  
**United States of America**





Saskatchewan  
Municipal  
Government

## Saskatchewan

Procedural Services  
330 - 1851 Victoria Avenue  
Regina, Saskatchewan  
S4P 3V7

787-4509

April 23, 1998

### Re: Fittings Registration

The Province of Saskatchewan will be participating with Quebec, Manitoba and the Canadian Standards Association (CSA) in a pilot project for the registration of fittings. We will recognize registrations done by CSA and accept such fittings for use in Saskatchewan.

The letters CSA will be applied as a prefix to the CRN to indicate which fittings have been registered in this manner. I would appreciate if you could inform your clients of this additional marking requirement.

You may also inform your clients that fittings registered by CSA are accepted for use in Saskatchewan.

Yours truly,

A handwritten signature in black ink, appearing to read 'N. Surtees'.

N. Surtees, P. Eng.  
Executive Director