To:	TSSA	From:	Janet Townsend
Company:	Endress+Hauser GmbH+Co. KG	Phone:	416-747-4291
Pages:	7	Location:	Toronto
Our File:	ANR-3224	Date:	August 26, 2014

Your File: 1432732

Subject: <u>Request for Design Registration</u>

Dear Ms. Francis,

CSA has reviewed the documentation submitted by TSSA on behalf of Endress+Hauser GmbH+Co. KG. 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-0F16950.56.
The cost for this service is $ 760.00 plus HST.
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

Janet Townsend
Account Manager
CSA Group
janet.townsend@csagroup.org
www.csagroup.org

TECHNICAL STANDARDS & SAFETY AUTHORITY
14th Floor, Centre Tower
3300 Bloor Street West
Toronto, Ontario
Canada M8X 2X4

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

Endress+Hauser

People for Process Automation

STATUTORY DECLARATION
Registration of Fittings

I, Michael Frei Quality Assurance Manager
(Name and Position, e.g. President, Plant Manager, Chief Engineer)

of Endress+Hauser GmbH+Co. KG; Endress + Hauser(Suzhou) Automation Instr. Co. Ltd.; E+H(India); Endress+Hauser (USA) Automation Instrumentation, Inc.
(Name of Manufacturer)

Located at DE-79689 Maulburg, Germany; 215021 Suzhou (P.R. China); Aurangabad - 431136; +49 7622 28 1737 +49 7622 28 1573
(Plant Address) (Telephone No.) (Fax No.)
2340 Endress Place, Greenwood, IN, 46143 USA

☑ 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 B31.3
(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 ISO 9001:2009 _____ which has been verified by the following authority, SQS _____.
The items covered by this declaration, for which I seek registration, are category Category F type fittings. In support of this application, the following information and/or test data are attached as follows:
Technical Description 960016068--; Scope of Registration Summary 960016105--; Drawing 960015905--
(drawings, calculations, test reports, etc.)

Declared before me at _____ **in the** _____ **of** _____

the _____ **day of** _____ **AD 20**_____.

Commissioner for Oaths:

_____
(Printed name)

_____
(Signature)

Michael F
(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 F.

CRN: CSA-OF16950.56

Registered by: R. BARNES

Dated: AUGUST 15, 2014

NOTE: This registration expires on June 19, 2024

CSA Group

REGISTERED
C.R.N.: CSA-OF16950.56
Signed: R. Barnes
Date: August 15, 2014
178 Rexdale Boulevard, Toronto, ON Canada M9W 1R3

***Note:** See the attachment for the scope of the registration

1.2.3 Material Specifications

Table 1.2.3 Material Specifications and Design Temperatures

Part	Listed Material	Temperature Range
Liquiphant Transducer	UNS S31603, A-479, (316L, 1.4435, 1.4404) UNS S31603, A-312, (TP316L, 1.4435, 1.4404) ASTM B883, MIM-316L	-40 °C to 150°C

Name and Form [1,2]	UNS	Min. Tensile (ksi) [1]	Min. Yield (ksi) [1]	Maximum Allowable Stress (psi) up to 302°F [1]
ASTM B883, MIM-316L	--	65	20	13,300
UNS S31603, A-479, (316L, 1.4435, 1.4404)	S31603	70	25	16,676
UNS S31603, A-312, (TP316L, 1.4435, 1.4404)	S31603	70	25	16,676

NOTES

[1] Per ASME B31.3-2012 table A-1

[2] Alloy types and grades with superior physical and chemical properties permissible.

[3] Note that all E+H alloys are dual listed, and comply to International, European and ASME standards.

CRN OF16950.5
Technical Standards & Safety Authority
Boilers & Pressure Vessels
Safety Division

CSA Group

ATTACHMENT TO
C.R.N.: CSA-OF16950.56
Signed:
178 Rexdale Boulevard, Toronto, ON Canada M9W 1R3

	Process connection		Method qualifying to CSA B51(Please refer to drawing 960015905--) Proof tests results and calculations in Appendix B of this report
	Design	Pressure components	
0F16950.5	ISO 2852	DN25-38 (1..1-1/2"), DN40-51 (2")	o Valid CRN 0F15498.5C o Proof test results witnessed by an authorized inspector per CSA B51 para. 4.2.6 (viii) o Proof test reports: 970004359, 970004360, 970004361 (Appendix B of this report)
	DIN 11851 Tube connection and slotted nut	DN25, DN32, DN40, DN50	o Valid CRN 0F15498.5C o Pressures and temperatures per DIN 11851 published standard. (section 1.5 of report)
	SMS Adapter connection and slotted nut	≤ 1-1/2"	o Valid CRN 0F15498.5C o ASME B31.3 304.7.2 (d) detailed stress analysis (Section 1.8 of this report)
LIQUIPHANT	E+H proprietary weld adapter	≤ ø65mm	o Valid CRN 0F15498.5C o Proof test results witnessed by an authorized inspector - CSA B51 para. 4.2.6 (viii) o Proof test result: 970004363 (Appendix B of this report)
	Varivent	F (DN25), N (DN32-DN162)	o Valid CRN 0F15498.5C o Detailed stress analysis - B31.3 para. 304.7.2 (d) (Section 1.6.1 of this report)
	Pipe Thread standard DIN/ISO 228	G1/2", G3/4", G1"	o Valid CRN 0F15498.5C o Proof test results witnessed by an authorized inspector - CSA B51 para. 4.2.6 (viii) o Proof test reports: 970004356, 970004357 (Appendix B of this report)
FTL31 FTL33	Pipe Thread standard DIN/ISO 228	G3/4", G1" (including welding boss)	o Valid CRN 0F15498.5C o Proof test results witnessed by an authorized inspector per CSA B51 para. 4.2.6 (viii) o Proof test report: 970004358 (Appendix B of this report)
OTL31 OTL33	ASME B1.1 DIN/ISO 13	M24 x 1.5	o Valid CRN 0F15498.5C o Proof test results witnessed by an authorized inspector - CSA B51 para. 4.2.6 (viii) o Proof test report: 970004363 (Appendix B of this report) o ASME B31.3 table 326.1: ASME B1.13M Non-Mandatory Appendix B (Section 1.3.2 and 1.3.3 of this report)
	ASME B1.20.1-1983 NPT Thread	NPT 1/2", NPT 3/4", NPT 1"	o Valid CRN 0F15498.5C o ASME B31.3 paragraph 314.2.1(Section 1.3.1 of this report)
	DIN EN 10226-1 Thread	Threaded: R 1/2", R3/4", R1"	o ASME B31.3 paragraph 314.2. (Section 1.3.1 of this report)
	Flush mounted for welding neck 1"	G1" aligned (including welding boss) Rd52 (including welding boss)	o Valid CRN 0F15498.5C (full version) & 0F11261.5C (Aligned) o Proof test results witnessed by an authorized inspector per CSA B51 para. 4.2.6 (viii) o Proof test report: 970004362, 970004357, 970004361, 970004359, 970004363 (Appendix B of this report)
		Extension Tube	o Proof test results witnessed by an authorized inspector - CSA B51 para. 4.2.6 (viii) o Proof test results: 970004356 (Appendix B of this report)
		Fork	o Proof test results witnessed by an authorized inspector - CSA B51 para. 4.2.6 (viii) o Proof test results: All of the above. (Appendix B of this report)

CSA Group

ATTACHMENT TO
C.R.N.: CSA-0F16950.56
Signed: Phil Barnes
A. Krumbholz
178 Rexdale Boulevard, Toronto, ON Canada M9W 1R3

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1.2.2 Scope of Registration

Table 1.2.2 – Scope of Registration Summary - Notes: Refer to drawing E+H drawing 960015905 - -.

	Process connection (please refer to drawing 960015905--)		Materials of Construction	Maximum Design Pressure (bar) and Temperature (°C)
	Design	**Pressure components**		
LIQUIPHANT	ISO 2852	DN25-38 (1" to 1-1/2"), DN40-51 (2")		25 bar @ -40°C…+150°C
	DIN 11851 Tube connection and slotted nut	DN25, DN32, DN40, DN50		DN25, DN32, DN40: 40 bar @ -40°C…+100°C 25 bar @ -40°C…+140°C DN50: 25 bar @ -40°C…+140°C
	SMS Adapter connection and slotted nut	≤ 1-1/2"		25 bar @ -40°C…+150°C
FTL31 FTL33 OTL31 OTL33	E+H proprietary weld adapter	≤ ø65mm	UNS S31603, SA-479, (316L, 1.4435, 1.4404)	25 bar @ -40°C…+150°C
	Varivent	F (DN25), N (DN32-DN162)	UNS S31603, SA-312, (TP316L, 1.4435, 1.4404)	25 bar @ -40°C…+150°C
	Pipe Thread standard DIN/ISO 228	G1/2", G3/4", G1"		40 bar @ -40°C…+150°C
	Pipe Thread standard DIN/ISO 228	G3/4", G1" (including welding boss)		40 bar @ -40°C…+100°C 25 bar @ -40°C…+150°C
	ASME B1.1 DIN/ISO 13	M24 x 1.5		40 bar @ -40°C…+150°C
	ASME B1.20.1-1983 NPT Thread	NPT 1/2", NPT 3/4", NPT 1"		40 bar @ -40°C…+150°C
	DIN EN 10226-1 Thread	Threaded: R 1/2", R3/4", R1"		40 bar @ -40°C…+150°C
	Flush mounted for welding neck 1"	G1" aligned (including welding boss) Rd52 (including welding boss)		40 bar @ -40°C…+100°C 25 bar @ -40°C…+150°C
		Extension Tube	UNS S31603, SA-312, (TP316L, 1.4435, 1.4404) UNS S31603, SA-479, (316L, 1.4435, 1.4404)	40 bar @ -40°C…+150°C
		Fork	MIM-316L (B 883-97)	40 bar @ -40°C…+150°C

THIS IS PART OF CRN OF16950.5 Technical Standards & Safety Authority Boilers & Pressure Vessels Safety Division

CSA Group

ATTACHMENT TO C.R.N. CSA-OF16950.56 Signed: 178 Rexdale Boulevard, Toronto, ON Canada M9W 1R3

Certificate

SQS herewith certifies that the company named below has a management system which meets the requirements of the standards specified below.

Endress+Hauser GmbH+Co. KG
79689 Maulburg, Germany

Certified area

ISO 9001:2008 I ISO 14001:2004 I OHSAS 18001:2007

Germany:
Facilities in Maulburg, Kassel, Stahnsdorf

India:
Endress+Hauser (India)
Automation Instrumentation Pvt. Ltd.
Aurangabad – 431136, India

Japan:
Endress+Hauser Yamanashi Co., Ltd.
4060846 Yamanashi, Japan

P.R. China:
Endress+Hauser (Suzhou)
Automation Instrumentation Co., Ltd.
215021 Suzhou, P.R. China

USA:
Endress+Hauser Automation Instrumentation, Inc.
Greenwood, IN 46143, USA

Field of activity

Measurement and Automation Technology

Standards

ISO 9001:2008	Quality Management System
ISO 14001:2004	Environmental Management System
OHSAS 18001:2007	Occupational Health and Safety Management System

Swiss Association for Quality and Management Systems SQS
Bernstrasse 103, CH-3052 Zollikofen
Issue date: April 4, 2013

This SQS Certificate is valid up to and including April 3, 2016
Scope numbers 18, 19
Registration number 10391

X. Edelmann, President SQS

R. Glauser, CEO SQS

Trusted Cert

SCESm 001

Swiss Made

Partner of IQNet

Saskatchewan

Saskatchewan
Municipal
Government

Transition Services
330 - 1855 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,

N. Surtees, P. Eng.
Executive Director