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TECHNICAL STANDARDS & SAFETY AUTHORITY
14TH FLOOR CENTRE TOWER-3300 BLOOR STREE
TORONTO ON M8X 2X4

Date: June 3, 2016
Account #: 35231
Journal #: 65640
Our File #: 5593935

Attn: TANYA FRANCIS

Re: Application for Design Registration

The design, as detailed in your, TSSA SR# 1873728, for a Fitting is accepted for registration as follows:

Registered To: ENDRESS + HAUSER GMBH + CO. KG **CRN:** 0F18434.51

Drawing #: 960018080 **Drawing Revision:** 3

Conditions Of Registration:

Registration of Adapters as per scope of registration sheets (2 pages).

This design was registered based on a technical review performed by the province of initial registration in accordance with the Association of Chief Inspectors policy on reciprocal recognition of design review.

Reviewer's Notes:

As required by CSA B51 4.2.1, this registration expires on April 26, 2026. This CRN is valid until the expiry date as long as the Manufacturer maintains a valid quality control program verified by an acceptable third-party agency until that date. Should the certification of the quality control program lapse before the expiry date, this registration shall become void.

Contact me if you have any questions. The invoice for registration will be forwarded under separate cover.

SHARON PETERS

boiler.designregistration@safetyauthority.ca
Design Administration

cc:

ENDRESS+HAUSER GmbH+Co KG
DE-79689 MAULBURG,
GERMANY

Endress+Hauser

People for Process Automation

25/April/2016

Rev.2

Doc.	96001XXXX

SCOPE OF CRN REGISTRATION

Product:	ADAPTERS	Drawing overview	960018080
Code of Construction:	ASME B31.3-2014		

PRODUCT DESCRIPTION

Adapter Model	Connection		Materials of Construction [1]	Maximum Design Pressure (bar) and Temperature (°C) [2]
	Process Installation	Sensor Installation		
RD52 [3]	Flush Mounted Welding Boss, 65mm OD	RD52 Thread, 42.3mm ID	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	40 barg -60°C up to 150°C
UNI D85 [3]	Flush Mounted Welding Boss, 85mm OD	RD52 Thread, 44.0mm ID	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	10 barg -60°C up to 150°C
UNI D65 [3]	Flush Mounted Welding Boss, 65mm OD	RD52 Thread, 44.0mm ID	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	10 barg -60°C up to 150°C
M24 D65 [3]	Flush Mounted Welding Boss, 65mm OD	M24 Thread	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	100 barg -60°C up to 150°C
G1" adjustable [3]	Flush Mounted Welding Boss, 65mm OD	G1" Thread Aligned	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	40 barg -60°C up to 150°C
G3/4", d=29 without flange [3]	Welding Boss, 29mm OD, 26mm ID	G3/4" Thread	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	40 barg -60°C up to 150°C
G3/4", d=50 with flange [3]	Flush Mounted Welding Boss, 50mm OD	G3/4" Thread	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	40 barg -60°C up to 150°C
G1" Flush Mounted (sealing taper) [3]	Flush Mounted Welding Boss, 50mm OD	G1" Thread	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	100 barg -60°C up to 150°C
G1", d=60 with flange [3]	Flush Mounted Welding Boss, 60mm OD	G1" Thread	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	40 barg -60°C up to 150°C
G1", d=53 without flange [3]	Welding Boss, 53mm OD, 50mm ID	G1" Thread	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	40 barg -60°C up to 150°C
Varivent F DN25-32 PN40 [4]	Varivent F DN25-32 PN40	M24 Thread	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	40 barg -60°C up to 150°C
Varivent N DN40-162 PN40 [4]	Varivent N DN40-162 PN40	M24 Thread	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	40 barg -60°C up to 150°C
DIN11851 DN25, DN32, DN40	DIN11851 DN25, DN32, DN40	M24 Thread	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	40 barg -60°C up to 150°C
DIN11851 DN50	DIN11851 DN50	M24 Thread	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	25 barg -60°C up to 150°C

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PRODUCT DESCRIPTION

Adapter Model	Connection		Materials of Construction [1]	Maximum Design Pressure (bar) and Temperature (°C) [2]
	Process Installation	Sensor Installation		
SMS 1-1/2" [3]	SMS 1-1/2"	M24 Thread	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	25 barg -60°C up to 150°C
Clamp 1-1/2" [4]	ISO2852 Clamp 1-1/2"	M24 Thread	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	40 barg -60°C up to 150°C
Clamp 2" [4]	ISO2852 Clamp 2"	M24 Thread	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	40 barg -60°C up to 150°C

MANUFACTURING LOCATIONS	
Endress+Hauser GmbH Co. KG DE-79689 Maulburg Germany	Endress+Hauser (USA) Automation Instrumentation Inc. Greenwood, Indiana 46143, USA
Endress+Hauser Suzhou Automation Instrumentation Co. Ltd. 215021 Suzhou P.R. China	Endress+Hauser (India) Automation Instrumentation Pvt. Ltd. Aurangabad-431136 India

Note 1) This CRN consolidates various adapters previously registered under CRN 0F16950.5C and 0F18141.5C into one CRN. No structural or dimensional changes to the adapter fittings and/or fitting components have occurred since the original CRN's were issued. In additional the following CRN registration optimization has been performed:

- The CRN registered pressure and temperature has been maximized based on ASME B31.3 and/or ASME Section II Part D allowable stress values.

- Various new materials have been added **(See Note 2)** that have a higher allowable stress over the CRN registered temperature range than the originally registered material of ASTM A479-316/316L.

Note 2) The following additional alloys of superior or equivalent properties to those listed above are also included in the scope of registration as follows: N08904, A479/A182, (904L, 1.4539), N06022, B575/B574/B564, (C-22, 2.4602); N10276, B574/B564, (C-276, 2.4819); S31803, A479/A182, F51, (318LN, 1.4462); S32750, A240/A182, F53, (2507, 1.4410); S32760, A479/A182, F55, (Zeron 100, 1.4501); N06600, B166/B564, (Inconel 600, 2.4816); N06625, B446/B564, (Inconel 625, 2.4856); N08825, B425/B564, (Inconel 825, 2.4858); S30400/S30403, A479/A182, (304/304L, 1.4301/1.4306/1.4307);

Note 3) Maximum Design Pressure stated is for the adapter only and not the sensor being installed in the adapter. Pressure-temperature ratings may be limited by the sensor installed in the adapter. Consult sensor CRN for sensor pressure temperature ratings. MDMT for materials UNS S31803, S32750, S32760 limited to -51°C.

Note 4) Welding of the welding boss to process piping or vessels is to be in accordance with the requirements of CSA B51, applicable ASME codes and Canadian jurisdictional requirements. Suitability of the welding joint design and strength is the responsibility of the installer/designer and is not covered under this CRN.

Note 5) The assembly clamp is not part of the CRN and is not manufactured by ENDRESS+HAUSER. Pressure-Temperature ratings may be limited by the clamp type used in the joint assembly. Consult clamp Manufacturer for clamp Pressure-Temperature ratings.

Note 6) ENDRESS+HAUSER supplies only the SMS nut and female part of the ferrule. The SMS mating ferrule (male part) is not part of the CRN and is not manufactured and not delivered by ENDRESS+HAUSER. Pressure-Temperature ratings may be limited by the SMS mating ferrule used in the joint assembly. Consult mating ferrule manufacturer for SMS mating ferrule Pressure-Temperature ratings.

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Safety AUTHORITY
British Columbia
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THIS IS PART OF CRN 0F18434.5
Technical Standards & Safety Authority
Boilers & Pressure Vessels Division

NOTE: SCOPE FOR PAGE 1 & 2.
CRD
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