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October 21, 2020

SCOTT ISLIP
ROUND ENGINEERING INC
10 SEGWUN RD
WATERDOWN ON L8B 0K6
CA

Service Request Type: BPV-Fitting Registration
Service Request No.: 2942598
Your Reference No.: R1218-2
Registered to: ENDRESS + HAUSER GMBH + CO KG

Dear SCOTT ISLIP,

Technical Standards and Safety Authority (TSSA) is pleased to inform you that your submission has been reviewed and registered as follows:

CRN No.: 0F18141.5ADD2
Main Design No.: CERABAR / CERAPHANT, CRN Scope
Expiry Date: 21-Dec-2025

Please be advised that a valid quality control system must be maintained for the fitting registration to remain valid until the expiry date.

Note: Attached "Part of CRN" for scope.

The stamped copy of the approved registration and the invoice are mailed separately. Should you have any questions or require further assistance, please contact a Customer Service Advisor at 1.877.682.TSSA (8772) or e-mail customerservices@tssa.org. We will be happy to assist you. When contacting TSSA regarding this file, please refer to the Service Request number provided above.

Yours truly,

Charley Dong, M.Sc. P.Eng.
Mechanical Engineer

Tel.: 416-734-3436
Fax: 416-231-6183
Email: cdong@tssa.org



Technical Standards and Safety Authority
 345 Carlingview Drive
 Toronto, Ontario M9W 6N9
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Show facsimile of manufacturer's logo or trademark, as it will appear on the fitting, in the space below

Endress+Hauser

STATUTORY DECLARATION Registration of Fittings

I, DR. KARL BARTON, EXPERT QUALITY MANAGEMENT PROCESSES
(Name and Position, e.g. President, Plant Manager, Chief Engineer)

of ENDRESS+HAUSER SE+Co. KG
(Name of Manufacturer)

Located at SEE ATTACHED WORLDWIDE LOCATIONS APPENDIX
(Plant Address) (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 B31.3
(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 which has been verified by the following authority, SQS

The items covered by this declaration, for which I seek registration, are category F - CERABAR, CERAPHANT type fittings. In support of this application, the following information and/or test data are attached as follows:

SCOPE OF CRN REGISTRATION, REPORTS, DRAWINGS, CALCULATIONS
(drawings, calculations, test reports, etc.)

Declared before me at _____ in the _____ of _____
 the _____ day of _____ AD 20_____.

Commissioner for Oaths:

(Printed name)

(Signature)

(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: 0F18141.5ADD2 Attached
 Registered by: Charley Dong "Part of CRN" for scope.
 Dated: Oct.21, 2020

NOTE: This registration expires on: Dec-21, 2025

Technical Standards and Safety Authority
 Boilers and Pressure Vessels Safety Program

REGISTERED

C.R.N.: 0F18141.5ADD2
 Signed:
 Date: October 21, 2020.

**Information provided in this application is releasable under the Freedom of Information and Privacy Protection Act and may be disclosed upon request.*

WORLDWIDE LOCATIONS APPENDIX

**ENDRESS+HAUSER SE+Co. KG MANUFACTURING LOCATIONS
& CERTIFYING AUTHORITIES**

(rev. 22/Jan/2020)

Endress+Hauser SE+Co. KG

Hauptstrasse 1
79689 Maulburg, Germany
ISO 9001 Certified by SQS

Endress+Hauser (Suzhou) Automation Instrumentation Co. Ltd.

China – Singapore Industrial Park (SIP)
Su Hong Zhong Lu No. 491
Jiangsu Province, 215021 Suzhou, P.R. China
ISO 9001 Certified by SQS

Endress+Hauser (India) Automation Instrumentation Pvt. Ltd.

M-192, Waluj MIDC
Aurangabad – 431136,
Maharashtra State, India
ISO 9001 Certified by SQS

Endress+Hauser Yamanashi Co., Ltd.

862-1 Mitsukunugi
Sakaigawa-cho
Fuefuki-shi
406 0846 Yamanashi, Japan
ISO 9001 Certified by SQS

**Endress+Hauser (USA)
Automation Instrumentation Inc.**

2340 Endress Place
Greenwood, Indiana 46143, USA
ISO 9001 Certified by SQS

**Endress+Hauser (Brazil)
Instrumentação e Automação Ltda.**

Estrada Municipal Antonio Sesti
600 Bairro Recreio Costa Verde
Itatiba/SP – 13254-085, Brazil
ISO 9001 Certified by SQS

Endress+Hauser SE+Co. KG

Queremathe 2
14532 Stahnsdorf
Germany
ISO 9001 Certified by SQS

Doc. #960017312

SCOPE OF CRN REGISTRATION

Product 1:	CERABAR Types: PMP11, OPMP11, PMP21, OPMP21, PMP23, OPMP23, PMP43, OPMP43, PMC11, OPMC11, PMC21, OPMC21
Product 2:	CERAPHANT Types: PTP31B, OPTP31B, PTP33B, OPTP33B, PTC31B, OPTC31B
Code of Construction:	ASME B31.3-2012; ISA 82.03; IEC 61010-1 2010 ⁴⁾

PRODUCT DESCRIPTION

Design Report Number	Process Connection		Materials of Construction ¹⁾	Maximum Design Pressure (bar) and Temperature (°C) ²⁾	Drawing	Shop level drawing		Type
	Design	Pressure Components						
960017312-01 Revision 1	ASME B1.20.1-2012 NPT Thread	Thread ASME MNPT1/4, bore 3mm (0.12"), 316L	UNS S31600, A-479, (316, 1.4401)	40 bar -40°C up to 100°C	960016340	960017724	960017721	PMC11, OPMC11, PMC21, OPMC21, PTC31B, OPTC31B
		Thread ASME MNPT1/2, bore 11.4mm (0.45"), 316L	UNS S31603, A-479, (316L, 1.4435)			960017726	960017723	
		Thread ASME MNPT1/2 FNPT1/4 (female), 316L	UNS S31603, A-479, (316L, 1.4404)			960017725	960017722	
960017312-02	ASME B1.20.1-2012 NPT Thread	Thread ASME MNPT1/4, bore 3mm (0.12"), 316L	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	25 bar -40°C up to 100°C	960017295	960017717	960017720, 960017719, 960017714, 960017715	PMP11, OPMP11, PMP21, OPMP21, PTP31B, OPTP31B
		Thread ASME MNPT1/2, bore 11.4mm (0.45"), 316L		100 bar -40°C up to 100°C				
		Thread ASME MNPT1/2 FNPT1/4 (female), 316L		25 bar -40°C up to 100°C				
				100 bar -40°C up to 100°C				
				25 bar -40°C up to 100°C				
				100 bar -40°C up to 100°C				
R-1218A	ISO228 EN837 Thread	Thread ISO228 G1/2, EN837, 316L	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	25 bar -40°C up to 100°C	961004126	961004124	960017720, 960017719, 960017714, 960017715	
				100 bar -40°C up to 100°C				
				400 bar -40°C up to 100°C				
960017312-03	ASME B1.20.1-2012 NPT Thread	Thread ASME MNPT1/4, bore 3mm (0.12"), 316L	UNS S31600, A-479, (316, 1.4401)	400 bar -40°C up to 100°C	960017296	960017485	960017484, 960017504	PMP11, OPMP11, PMP21, OPMP21, PTP31B, OPTP31B
		Thread ASME MNPT1/2, bore 11.4mm (0.45"), 316L	UNS S31603, A-479, (316L, 1.4435)			960017489		
		Thread ASME MNPT1/2 FNPT1/4 (female), 316L	UNS S31603, A-479, (316L, 1.4404)			960017492		
R-1218B	ISO228 EN837 Thread	Thread ISO228 G1/2, EN837, 316L	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	400 bar -40°C up to 100°C	961004128	961004127	960017484, 960017504	PMP11, OPMP11, PMP21, OPMP21, PTP31B, OPTP31B
960017312-04	ISO 228 Thread	Thread ISO228 G1 seal conical metal joint, weld-in adapter, 316L	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	100 bar -40°C up to 100°C	960017433	960017682	960017692, 960017697, 960017685	PMP23, OPMP23, PMP43, OPMP43, PTP33B, OPTP33B
				25 bar -40°C up to 100°C		960017683		
		Thread ISO228 G1 seal O-ring, weld-in adapter, 316L		40 bar -40°C up to 100°C		960017681	960017708, 960017709, 960017687	
	25 bar -40°C up to 100°C			960017679				
	100 bar -40°C up to 100°C			960017684		960017710, 960017711, 960017686		
	25 bar -40°C up to 100°C			960017680				
DIN13 Thread	Thread M24, 316L, seal O-ring, weld-in adapter							

PRODUCT DESCRIPTION

Design Report Number	Process Connection		Materials of Construction ¹⁾	Maximum Design Pressure (bar) and Temperature (°C) ²⁾	Drawing	Shop level drawing		Type
	Design	Pressure Components						
960017312-05	DIN11851	DIN11851 DN50 (2") PN25, 316L	UNS S31600, A-479, (316, 1.4401) UNS S31603, A-479, (316L, 1.4435) UNS S31603, A-479, (316L, 1.4404)	25 bar -40°C up to 100°C	960017420	960017650	960017639	PMP23, OPMP23, PMP43, OPMP43, PTP33B, OPTP33B
		DIN11851 DN25 (1") PN40, 316L		40 bar -40°C up to 100°C		960017647	960017628	
		DIN11851 DN40 (1-1/2") PN40, 316L		25 bar -40°C up to 100°C		960017646	960017637	
				40 bar -40°C up to 100°C		960017649	960017629	
				25 bar -40°C up to 100°C		960017648	960017638	
				40 bar -40°C up to 100°C		960017640	960017625	
960017312-06	ISO2825 ³⁾	Clamp ISO2852 DN18-22 (3/4"), 316L		25 bar -40°C up to 100°C	960017297	960017641	960017634	
		Tri-Clamp ISO2852 DN25-38 (1-1/2"), 316L		40 bar -40°C up to 100°C		960017643	960017626	
		Tri-Clamp ISO2825 DN40-51 (2"), 316L		25 bar -40°C up to 100°C		960017642	960017635	
				40 bar -40°C up to 100°C		960017644	960017627	
				25 bar -40°C up to 100°C		960017645	960017636	
				40 bar -40°C up to 100°C		960017614	960017623	
960017312-07	GEA Tuchenhagen ³⁾	Varivent F pipe DN25-32 PN40, 316L	25 bar -40°C up to 100°C	960017419	960017615	960017630		
		Varivent N pipe DN40-162 PN40, 316L	40 bar -40°C up to 100°C		960017619	960017624		
			25 bar -40°C up to 100°C		960017616	960017631		
			25 bar -40°C up to 100°C		960017655	960017633		
			10 bar -40°C up to 100°C		960017652	960017632, 960017651, 960017653, 960017654		
		960017312-08	SMS ⁵⁾		SMS 1-1/2" PN25, 316L			
Endress+Hauser UNI	Universal adapter 44mm 316L, weld-in adapter D65, D85							

- Note 1)** The following additional alloys of superior or equivalent properties to those listed above are also included in the scope of registration as follows:
 N06022, 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 2)** During the Steam-in-Place (SIP) cleaning procedure models PMP23, PMP43 and PTP33B may be subjected to temperatures up to 149 °C (300 °F).
- Note 3)** 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 4)** CRN Registration Code of Construction is ASME B31.3.
- Note 5)** 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.
- Note 6)** See Attached List of Endress+Hauser Manufacturing locations applicable to this CRN.