

EU-TYPE EXAMINATION CERTIFICATE - PRODUCTION TYPE

Certificate No.:
10998-2017-CE-HOU-ACCREDIA

Initial date:
24 April, 2018

Valid:
24 April, 2018 – 23 April, 2028

This certificate consists of 4 pages

This is to certify that representative examples of products manufactured by

Stewart Tool Company, Inc.

3647 Omec Circle, Rancho Cordova, CA, USA

have been assessed with respect to the conformity assessment procedure described in

ANNEX III MODULE B – PRODUCTION TYPE OF DIRECTIVE 2014/68/EU ON PRESSURE EQUIPMENT

and found to comply with the requirements in Annex I – Essential Safety Requirements of the Directive.

The certificate is valid for the following products:

Type of Pressure Equipment	Vessel (family)
Product Name	Cryogenic pump containment vessels
Product Version	Family of cryogenic pump containment vessels

Place and date:
Vimercate 24 April, 2018



SGQ N° 003 A EMAS N° 009 P
SGA N° 003 D PRO N° 003 B
SGE N° 007 H PRS N° 094 C
SCR N° 004 F SSI N° 002 G

Member of MLA EA per gli schemi di accreditamento
SGQ, SGA, PRO, PRS, SSP, GNG, LAB e LAT, di MLA IAF
per gli schemi di accreditamento SGQ, SGA, SSI, PSR
e PRD e di MRA ILAC per gli schemi di accreditamento
LAB, MED, LAT e ISP.

For the notified body 0496:
DNV GL Business Assurance Italia
S.r.l.

Nicola Privato
Management Representative

Certificate No.: 10998-2017-CE-HOU-ACCREDIA
 Place and date: Vimercate 24 April, 2018
 Revision No.: 00

Jurisdiction

Application of Directive 2014/68/EU and Decreto Legislativo n. 26 of 15 February 2016

Certificate history

Revision	Description	Issued date
00	Original	24 April, 2018

Products covered by this certificate

Product name	Product description	Product version	PED Category	Product standard
Pressure Vessel	cryogenic pump containment vessels	Family of vessels (design parameters listed in Design Data)	IV	ASME Section VIII, Div 1, 2017 ed. Note: Latest valid ASME ed. Are used for new vessel design

Design data

Product name	Maximum allowable pressure (PS) range	Minimum allowable temperature (TS)	Maximum allowable temperature (TS)	Test pressure (PT)
cryogenic pump containment vessels	3.9 barg [56.6 psi] – 172.1 Barg [2,496 psi]	-196 °C	50°C	1.5 x MAWP

Design data

Product name	Volume (range)	Vessel Diameter (range)	Vessel Length (range)	Fluid	Fluid group
cryogenic pump containment vessels	311 L [82 gal] – 5,697 L [1,505 Gal]	22 in [558.8mm] thru 55.25 in [1403.35mm]	1,524mm [60 in] thru 6,096mm [240 in]	LNG (liquid) *	1

Sites covered by this certificate

Product name	Site Address	Date	Report ref
cryogenic pump containment vessels	3647 Omec Circle, Rancho Cordova, CA. USA	24 April 2018	Prototype Report Cryo Pump Containment Vessel Sept 2017

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Applications/limitations

- Family of cryogenic pump containment vessels
- Vessel consist of vertical cylinder
- Capped with an elliptical head (welded) on bottom
- With bolted flat headplate on top
- Nozzles: suction nozzle and fill / drain nozzle (on the can)
- Discharge, Electrical, and instrumentation nozzles on headplate
- *Media contained is LNG (or other comparable liquefied flammable gas) / Fluid group 1

Documents reviewed

Drawing/Document No.	Rev.	Date	Title	Statu
<u>Vessel 20A-P17-0238</u> <u>Vessel Family sample –Small (diameter) – High pressure</u>				
20A-P17-0238	4	2016.01.07	PV Elite Pressure Vessel Design Calculations	A
15321-301-151110	E	2016.01.12	20A-P17-0238 Vessel General Arrangement	A
Re: 20A-P17-0238	Shell: SA-240 Gr304 / Ellip Hd:SA-240 304 / Lug: SA-240 / Nozzle SA-312 TP			FI
<u>Vessel 20B-P17-0109</u> <u>Vessel Family sample – Small (dia / PS): Design Pressure 12 Bar (low)</u>				
20B-P17-0109	5	2011.09.27	COMPRESS Pressure Vessel Design Calculations	A
20B-P17-0109	O	2016.10.06	20B-P17-0109 Vessel General Arrangement	A
Re: 20B-P17-0109	Shell: SA-240 Gr304 / Ellip Hd:SA-240 316 / Hd (Fl& Ellip) SA-240 316/ N:SA-			FI
<u>Vessel 17228-01 and 17228-02</u> <u>Design Technical Construction File – Latest</u>				
5001477-Calc	0	2016.10.18	New vessel ASME VIII-1 [COMPRESS 2016 Bld 7600]-	A
5001477-Dwg	A	2017.04.17	5001477 Headplate & Vessel General Arrangement	A
PED-5001477	-	2017.04.27	Essential Safety Requirement Report - 5001477	A
PHA-01	A	2010.12.22	PED Hazard Analysis Vessel # 5001477 Job # 17228	A
QOP-6-01	C	2011.04.21	STC Hydro Procedure	A
PMM 2012-0002A	-	-	Ref IOM for EBARA INTERNATIONAL [5001477 in	A
5001477-DoC	3	2016.06	Decl_1 _ DoC Part Number: 17228-01 and 17228-02	A
Exhibit 6.2	A	2017.08.14	Nameplate – template NB#0496	A
<u>Vessel 20A-P17-0058</u> <u>Design Technical Construction File</u>				
20A-P17-0058	06	2013.10.22	PV Elite Pressure Vessel Design Calculations / FEA	A
13277-301-130637	J	2013.11.18	20A-P17-0058 Main Assembly	A
13277-501-130637	D	2013.11.18	20A-P17-0058 Main Assembly Weld Map	FI
ESR - 20A-P17-0058	-	2010.11.17	Essential Safety Requirement Report - 20A-P17-0058	A
PHA-01	A	2010.12.22	PED Hazard Analysis Vessel Job# 13277	A
PMM 2012-0002A	NC	2013.10.31	PUMP MAINTENANCE AND INSTALLATION MANUAL	A
Decl_1	3	2016.06.06	Declaration of Conformity - template	A
<u>Vessel 5001111</u> <u>Vessel Family sample: Small volume / lowest pressure configuration</u>				
5001111 Calcs	0	2007.03.15	COMPRESS Pressure Vessel Design Calculations	A
5001111 Dwg	A	2007.03.08	Headplate and Vessel General Arrangement	A
<u>Vessel 5001107</u> <u>Vessel Family sample: Large volumer: low Pressure 3.9 bar</u>				
5001107 Calc	0	2007.02.19	Compress Pressure Vessel Design Calculations	A
5001107 Dwg	A	2006.12.19	Headplate and Vessel General Arrangement	A

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Vessel 5001409	Vessel Family sample: Largest volume / greatest pressure / largest diameter			
5001409 Calc	3	2015.02.26	COMPRESS Pressure Vessel Design Calculations	A
5001409 Dwg	C	2015.02.27	Headplate and Vessel General Arrangement	A
Ref. Documents				
4557-2014-CE-HOU-	-	2015.01.15	EC Type Examination Certificate 0575	FI
4560-2014-CE-HOU-	-	2015.01.15	EC Type Examination Certificate 0575	FI
91572-2011-CE-HOU-	-	2011.02.21	EC Certificate of Conformity (Module G) 0575	FI

*) A=Approved, FI=For information

Terms and conditions for the certificate

This Certificate does not give the Manufacturer the right to CE mark and put on the market the product(s) listed on this Certificate. Only after the product(s) have been found to comply with the requirements in one of the following Conformity Assessment Modules C2, D, E or F, the Manufacturer may draw up an EC declaration of conformity and legally affix the CE mark followed by the identification number of the Notified Body involved in these modules.

Other valid terms and conditions are found in the DNV GL's PED Certification Rules.

END OF CERTIFICATE

