

1000007072.

**FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS**  
**(Alternative Form for Single Chamber, Completely Shop or Field Fabricated Vessels Only)**  
**As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1**

1. Manufactured and certified by: FILTER SOLUTIONS INC. 649 Enfield Road, Burlington, Ontario, Canada L7T 2X9  
(Name and address of Manufacturer)

2. Manufactured for: ESG FILTRATION #11 6025 12th St. SE, Calgary, Alberta, Canada, T2H 2K1  
(Name and address of Purchaser)

3. Location of installation: Unknown  
(Name and address)

4. Type: Vertical Filter 14967M W2404.23 WO14967 FAB REV.1 None 2014  
(Horizontal or vertical, tank) (Manufacturer's serial number) (CRN) (Drawing number) (National Board number) (Year built)

5. The chemical and physical properties of all parts meet the requirements of material specifications of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to ASME Rules, Section VIII, Division 1. 2010 Edition  
(Year)

to 2011a Addenda None  
(Addenda, if applicable (date)) (Code Case numbers) (Special service per UG-120(d))

6. Shell: SA 240 316 1" None 36.5" 26"  
(Material spec. number, grade) (Nominal thickness) (Corr. allow.) (Inner diameter) (Length overall)

7. Seams: Type 1 Full 100 - - Type 1 Full 100 1  
(Long welded, dbl. angl., lap, butt) (R.T. (spot or full)) (Eff. (%)) (H.T. temp.) (Time, hr) (Girth (welded, dbl. angl., lap, butt)) (R.T. (spot or full)) (Eff. (%)) (No. of courses)

8. Heads: (a) Material SA 240 316 (b) Material SA 240 316  
(Spec. no., grade) (Spec. no., grade)

	Location (Top, Bottom, Ends)	Minimum Thickness	Corrosion Allowance	Crown Radius	Knuckle Radius	Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure (Convex or Concave)
(a)	Top	0.947"	-	-	-	2:1	-	-	-	Concave
(b)	Bottom	0.947"	-	-	-	2:1	-	-	-	Concave

If removable, bolts used (describe other fastenings) SA 193 B7 / SA 194 2H, 2.5"-8 UN STUD/NUT, (8) Required  
(Material, spec. number, grade, size, number)

9. MAWP 1440 psi - at max temp. 100 °F  
(Internal) (External) (Internal) (External)

Min. design metal temp. -50 °F at 1440 psi Hydro., pneu., or comb. test pressure (Hydro) 1872 psig

Proof test None

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment Details		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Inlet (N1)	1	4"	CL600 LWN	SA 182F 316	SA 182F 316	1"	-	-	WLD	INTG'L	-
Outlet (N2)	1	4"	CL600 LWN	SA 182F 316	SA 182F 316	1"	-	-	WLD	INTG'L	-
Vent (N3)	1	1"	CPLG.	SA 182F 316	-	6000#	-	-	WLD	-	-
Clean Drain (N4)	1	2"	CL600 WN	SA 182F 316	SA 182F 316	0.154"	-	-	WLD	INTG'L	-
Dirty Drain (N5)	1	1/2"	CPLG.	SA 182F 316	-	6000#	-	-	WLD	-	-
Gauge Port (N6/7)	2	1/2"	CPLG.	SA 182F 316	-	6000#	-	-	WLD	-	-

11. Supports: Skirt No Lugs No Legs 4 Others None Attached Welded to shell & bottom head  
(Yes or no) (Number) (Number) (Describe) (Where and how)

12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: Impact test exempt per UHA-51 & UCS-66 / Built to drawing WO14967 FAB REV.3  
(Name of part, item number, Manufacturer's name and identifying stamp)

**CERTIFICATE OF SHOP/FIELD COMPLIANCE**

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. "U" Certificate of Authorization Number 35087  
 expires May, 3rd 2014  
 Date Feb. 24/14 Co. Name Filter Solutions Inc. Signed [Signature]  
(Manufacturer) (Representative)

**CERTIFICATE OF SHOP/FIELD INSPECTION**

Vessel constructed by Filter Solutions Inc at Burlington, Ontario  
 I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province of Ontario and employed by TSSA of Ontario  
 have inspected the component described in this Manufacturer's Data Report on FEB 24 2014 and state that,  
 to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. By signing this certificate neither the inspector nor his/her employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the inspector nor his/her employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.  
 Date FEB 24 2014 Signed [Signature] Commissions WB 0424A  
(Authorized Inspector) (National Board (inc.) endorsement) State, Province, and number)