

**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

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1. Manufactured and certified by: MAHLE Industrial Filtration (Benelux) B.V., Plant Lochem, Hanzeweg 21 C, Lochem, 7241 CS, The Netherlands  
 (Name and address of Manufacturer)

2. Manufactured for: Técnicas Reunidas  
 (Name and address of Purchaser)

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

4. Type: Horizontal WO1301340 n/a WO1301340 rev3 220 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 specification of the ASME BOILER AND PRESSURE VESSEL CODE. The design, construction, and workmanship conform to the ASME rules, Section VIII, Division 1  
 to 2011 None 2010  
 [addenda, if applicable (date)] (Code Case numbers) (Special Service per UG-120(d))

6. Shell: SA-240 316L 10.0 0.8 mm 1230 3010  
 (Material spec. number, grade) (Nominal thickness) (Corr. Allow.) (Inner diameter) (length overall)

7. Seams: Long, Welded, dbl, butt spot 85 n/a n/a dbl, Butt spot 85 2  
 ((Long, welded, dbl., singl., lap, butt)) (R.T. (spot or full)) (Eff., %) H.T. temp. (Time, hr) ((Grth: welded, dbl., singl., lap, butt)) (R.T. (spot or full)) (Eff., %) (No. course)

8. Heads: (a) SA-240 316L (b) SA-240 316L  
 (Material spec. number grade or type) (Material spec. number grade or type)

	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)	End (fixed)	9	0.8	1000	192.5					Convex + Concave
(b)	End (dished)	10.8	0.8	1000						Convex + Concave

If removable, bolts used (describe other fastening) Fastening with bayonet / clamp ring.  
 (Material spec. number grade, size, number)

9. MAWP 12.1 bar(g) 0.7 bar(g) at max temp. 189 °C 189 °C  
 (Internal) (External) (Internal) (External)

Min. design metal temp. -6 °C at 12.1 bar(g) Hydro., pneu., or comb. test pressure 16.4 bar(g)

Proof test: N/A

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain)	Number	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment details		Location (Insp. Opening)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
See attachment U4											

11. Supports: Skirt No Lugs 4 Legs No Others With frame Attached Attached Welded to shell Welded to shell  
 (Yes or No) (Number) (Number) (Describe) (Where and how)

12. Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: No  
 (List the name of part, item number, Manufacturer's name and identifying stamp)

Safety device 3" not in Mahle supply

**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 42-183 expires Jan 17, 2015

Date 28-02-14 Co. Name MAHLE Industrial Filtration (Benelux) B.V. Signed [Signature]  
 (Manufacturer) (Representative)

**CERTIFICATE OF SHOP/FIELD INSPECTION**

Vessel constructed by MAHLE Industrial Filtration (Benelux) B.V. at Hanzeweg 21 C, Lochem, 7241 CS, The Netherlands

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 n.a. and employed by TÜV NORD Systems GmbH + Co.KG

have inspected the component described in this Manufacturer's Data Report on Feb 26, 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 March 04, 2014 Signed [Signature] Commissions NE 10190 A.B  
 (Authorized Inspector) (National Board (incl. endorsements) State, Province and number)

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**FORM U-4 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS** As Required by the Provisions of the ASME Code Rules,

1. Manufactured and certified by MAHLE Industrial Filtration (Benelux) B.V., Plant Lochem, Hanzéweg 21 C, Lochem 7241 CS, The Netherlands  
(Name and address of manufacturer)

2. Manufactured for Tecnicas Reunidas  
(Name and address of purchaser)

3. Location of installation Unknown  
(Name and Address)

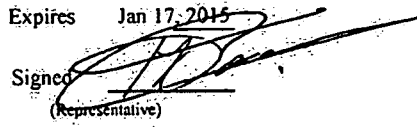
4. Type Horizontal Vessel WO1301340  
(Horiz. or vert. tank) (Tank, Separator, etc.) Mfg's. serial No.  
n/a WO1301340-A rev3 220 2014  
(Canadian Registration Number) (Drawing No.) (National Board Number) (Year Built)


ASME CODE SECTION VIII Div 1 Edition 2010, Addenda no. 2011

Purpose	No	Size	Flange type	Material		Nozzle thicknes		Reinforcement	How Attached		Location (insp opening)
				Nozzle	Flange	nom	corr		Material	Nozzle	
A1 Inlet	3	3"	WN 150,S80	SA-403 WP316L	A-182 F316	7.6	0.8	integral	Butt	Butt	n/a
B1 Outlet	1	4"	WN 150,S80	SA-312 TP316L	A-182 F316	8.6	0.8	integral	16,1(c)	Butt	n/a
V1 Vent	1	2"	WN 150,S80	SA-312 TP316L	A-182 F316	5.5	0.8	integral	16,1(c)	Butt	n/a
S1 Spare	1	2"	WN 150,S80	SA-312 TP316L	A-182 F316	5.5	0.8	integral	16,1(c)	Butt	n/a
V2 safety valve	1	1"	WN 150,S80	SA-312 TP316L	A-182 F316	4.5	0.8	integral	16,1(c)	Butt	n/a
P1 PT	1	2"	WN 150,S80	SA-312 TP316L	A-182 F316	5.5	0.8	integral	16,1(c)	Butt	n/a
L1 Outlet	1	3"	WN 150,S80	SA-312 TP316L	A-182 F316	7.6	0.8	integral	16,1(c)	Butt	n/a
C1 N2 inlet	1	2"	WN 150,S80	SA-312 TP316L	A-182 F316	5.5	0.8	integral	16,1(c)	Butt	n/a
DR1,2,3 Drain	3	3"	WN 150,S80	SA-312 TP316L	A-182 F316	7.6	0.8	integral	16,1(c)	Butt	n/a
B2 Shell outlet	1	2"	WN 150,S80	SA-312 TP316L	A-182 F316	5.5	0.8	integral	16,1(c)	Butt	n/a
R1 safety	1	3"	WN 150,S80	SA-312 TP316L	A-182 F316	7.6	0.8	integral	16,1(c)	Butt	n/a

Dished end item 8(b) attached to shell item 6 by means of 2 flanges ID=1230 mm, thick 30 mm, height 115 mm, SA-182-316L.

Certificate of Authorization: Type ASME "U" No. 42.183 Expires Jan 17, 2015

Date 28-02-2014 Name MAHLE Industrial Filtration (Benelux) B.V., plant Lochem Signed   
(Manufacturer) (Representative)

Date March 04, 2014 Name   
(Authorized inspector) Commissions NB10190 A,B (Nat'l Board, (incl. endorsements) State, Prov. and No.)