TANK CONTAINER SPECIFICATION NO.
INNOVACION CONTENEDOR/26/O/T11/0422
UN PORTABLE TANK
DATE: 07/02/2023

DESCRIPTION: 26 000 LITRE INSULATED UN PORTABLE TANK, TYPE T11 / L4BN

1 Technical Characteristics

1.1 Design

Tank -	in accordance with:	ASME VIII / EN14025 (where applicable) IMDG, 49CFR, RID/ADR
Frame -	in accordance with:	ISO Standard 1496/3
General		UIC, CSC, TC, TIR
Type		Odyssey design Tank

1.2 Nominal Capacity (± 0,75% Tolerance)

26 000 Litres

1.3 Frame Dimensions and Weight

Max Gross Weight	39 000 kg	
Tare Weight	3 660 kg	Est.
Length	6 058 mm	
Width	2 438 mm	
Height	2 591 mm	

1.4 Configuration

Odyssey design collar tank, with end frames connected to vessel by stainless steel skirts.
200 IPE lower side longitudinal beams fitted above corner castings
Rectangular tube top longitudinal beams fitted, and triangular plates fitted on top corners. End frame bottom cross members with chassis interface reinforcement and recesses adjacent to corner castings.

1.5 Tank Dimensions

Shell Minimum Thickness	4.20 mm
Shell Corrosion Allowance	0.40 mm
Shell Manufacturing Thickness	4.60 mm
Head Minimum Thickness	4.90 mm
Head Corrosion Allowance	0.40 mm
Head Manufacturing Thickness	5.30 mm
Thickness of the reference steel	Barrel – 6 mm Ends – 6 mm

1.6 Pressure & Temperature Rating

Maximum operating Temperature	130ºC
Maximum Allowable Working Pressure	4.0 bar
Hydrostatic Test Pressure	6.0 bar
Maximum Allowable Vacuum Rating	0.40 bar
Metallurgical Design Temp for Tank	-40º to +130ºC
Saturated steam Working Pressure	6.0 bar
Saturated steam Test Pressure	9.0 bar

1.7 **Material of Construction**

Shell:		Stainless steel 316L to SANS 50028-7 Type 1.4402 / 1.4404 EN 10028-7 Type 1.4404
Dished End:		Stainless steel 316L to SANS 50028-7 Type 1.4402 / 1.4404 EN 10028-7 Type 1.4404
Vacuum Rings:		4 off Stainless steel
Framework:	Hollow Section	S355J2 or Equivalent
	Plates	S355J2 or Equivalent
	Top Side Rails	S275J0 or Equivalent
Corner Castings		In accordance with ISO Standard 1161

1.8 **NDE (Non Destructive Examination)**

Shell (Joint Coefficient)	ASME VIII - 0.85 / EN 14025 - 0.8
Dished Ends (Joint Coefficient)	ASME VIII - 1.0 / EN 14025 - 1.0

1.9 **Surface Finish**

Barrel	2B Cold Rolled Finish
Dished Ends	Polished smooth to Ra of less than1.2 Microns
Manlid Neckring Weld	Weld left as welded
Bottom Discharge Flange	Weld flush ground to 180 grit finish
Other weld in flanges	Welds left as welded
Circumferential Welds	Bottom 300mm flush ground to 180 grit, remainder as welded
Longitudinal Welds	Welds left as welded
Repairs	Polished smooth to 180 grit finish

2. **<u>Tank Fittings and Accessories</u>**

2.1 **Manhole**

Supplier	Swift (STM 5008301)
Quantity	One
Material	316 stainless steel
Dimensions	500mm I/D
Specification	8 copper alloy wing nuts and lid to be insulated, TIR sealing points provided
Gasket	Braided PTFE

2.2 **Safety Relief Valve Assembly**

Supplier	Fort Vale (010/144000) metric valve
Quantity	One
Material	316 stainless steel
Dimensions	2.5” (65 NB)
Specification	4.4 bar pressure only relief valve with flameproof gauze. Adaptor flange with provision for CDC ICON XL DN 65mm rupture disc and manometer fitment.
Gasket	Solid PTFE Gasket
Remarks	Weld-in pad drilled - 4 x M16 holes on a 152.4.0mm PCD. Tank pad fitted tangentially. Stainless steel “SAFETY VALVE” label plate to be fitted.

2.3 **Air Inlet Assembly**

Supplier	Fort Vale (530/0000GW)
Quantity	One
Material	316 stainless steel
Dimensions	1½”

Specification	1½" stainless steel ball valve with 1½" BSP terminal connection, captive blank cap and provision for manometer fitment without gauze. Manometer protection bar to be fitted.
Remarks	Weld-in pad drilled - 4 x M10 holes on a 103.4mm PCD. Tank pad fitted horizontally. Stainless steel "AIR" label plate to be fitted.

2.4 **Top Discharge Provision**

Supplier	Welfit Oddy
Quantity	One
Material	316 stainless steel
Dimensions	3" (102 NB to suit 3" syphon tube)
Specification	3" Weld in and blank stainless steel flanges.
Gasket	Envelope PTFE gasket
Remarks	Weld-in pad dual drilled - 6 x M12 holes on a 168mm PCD and 4 x M16 holes on a 160mm PCD. Tank pad fitted horizontally. Stainless steel "FILL" label plate to be fitted.

2.5 **Bottom Discharge Assembly**

Supplier	Fort Vale (804/4000ABH & 330/5010)
Quantity	One
Material	316 stainless steel
Dimensions	3" (80 NB)
Specification	45° Univalve, comprising of 3" 45° Foot valve, 3" Butterfly Valve, and 3" BSP outlet & cap.
Gasket	Envelope PTFE gasket.
Remark	½ length cable remote control system with provision for fusible link is connected to the internal valve handle.

2.6 **Protective Housing / Spill Box**

Quantity	Two
Material	304 stainless steel
Specification	The housings are provided with 25mm PVC external drainage tubes. Lockable stainless steel covers fitted.
Remarks	The rear box contains the top discharge provision and air inlet assembly. The centre box contains the manhole and safety relief valve assembly.

2.7 **Protective Housing / Bottom Cabinet**

Quantity	One
Material	304 stainless steel
Specification	A stainless steel housing is provided, with lockable door fitted.
Remarks	The housing contains the bottom discharge assembly

2.8 **Walkways**

Supplier	Welfit Oddy
Quantity	1 Longitudinal on RHS, 2 transverse adjacent to spillbox.
Material	Marine resistant aluminium ASTM B209 M86 or 5052H32 or equivalent
Dimensions	475mm wide, open pattern, non-slip, self draining
Remarks	Stainless steel collapsible handrail fitted on RHS side of longitudinal walkway. Bolts and nuts welded.

2.9 **Insulation**

Barrel:	Polyurethane panels nominal thickness 45mm where possible on barrel, incorporating compressed mineral wool over steam elements.
Ends:	Pre moulded polyurethane foam on ends.

2.10 **Cladding**

High Impact GRP, 1.6 mm White RAL 9010 panels on barrel with Overlap joints.
3 panels with centre panel fitted first and outer panels second.
White GRP preformed panels on ends
All joints and seams sealed; customs rivets fitted

2.11 **Steam Heating**

Steam Connections	12 Longitudinal stainless steel elements (affective area 12m²) Inlet 1" BSP connection with captive plastic cap Outlet 3/4" BSP connection with captive plastic cap
Material	Duplex and 304 Stainless steel
Remarks	The steam outlet will be positioned with clear access for steam supply hose and fitting. ½" drainage valve fitted on lowest point.

2.12 **Calibration**

Quantity	One
Specification	Pin stamped stainless steel 20% calibration plate in litres and US gallons fitted adjacent to manlid. No dipstick or bracket fitted.

2.13 **Thermometer**

Quantity	One
Dimensions	100mm dial diameter
Specification	Dual scale -40ºC to 160ºC Gas filled capillary fitted. Shock resistance glass. Glycerine filled Analogue thermometer fitted to rear dome at lower left hand side.

2.14 **Ladder**

Material	Stainless steel uprights with stainless steel anti slip rungs
Remarks	Ladder to open away from frame, to be fitted with securing device in closed position. All bolts and nuts to be welded (secure against theft)

2.15 **Earth Connection**

1-off 304 stainless steel plate is located at rear of tank frame.

2.16 **Document Holder**

1-off 4" clear PVC document holder with BSP cap is provided. The holder is water resistant and is fixed in a position that affords adequate protection and has drain holes.

2.17 **Decals**

Innovacion-Contenedor logo decals supplied and fitted by Welfit Oddy. One set per tank as per code requirements**.** Material: 5-7 year vinyl:
Regulatory decals to be die cut in Helvetica medium font.

2.18 **Data Plates: Single language**

Supplier	Welfit Oddy
Quantity	One
Remarks	A stainless steel data plate, to code requirements, is welded to the frame.

3 **Cleaning & Painting**

3.1 **Cleaning**

On completion of fabrication, the vessel's internal surface is degreased, pickled, passivated and neutralised. The opening points are sealed so that the tank is supplied clean and ready for use. Welfit Oddy cleaning certificate, that interior is suitable for food grade cargo, placed in document box. Any specialized cleaning, that may be required for certain products, is not allowed for.

3.2 **Painting**

3.2.1 The carbon steel frame and components are abrasive blasted to a minimum Sa 2 ½ according to ISO 8501-1:2007 with a surface profile corresponding to Rugotest No 3 BN 9a:

Hempadur AvantGuard 750	1736G	50 micron min DFT
Hempatex hi-build	46410	60 micron min DFT
	Total	110 micron min DFT

Colour - Red RAL 3002

3.2.2 Top 4 Corner castings

Hempel Hempatex	46410	90 micron min DFT

Colour - Yellow RAL1021

3.2.2 Shell Exterior:
Welds descaled Barrel cleaned, degreased and anti-stress corrosion lacquer applied

4. **Test and Homologations**

4.1 Each tank container constructed according to an approved design and under the supervision and approval of competent authority, Bureau Veritas.

4.2 Each production unit is subject to testing and non-destructive examination as required by EN 14025 / ASME VIII Division 1, UIC and Welfit Oddy's own quality requirements and each tank container will be inspected and certified by Bureau Veritas

4.3 The tank container has been specially tested and approved for nine-high stacking.

4.4 The tank container fulfils the performance specification of the following international organisations' regulations and recommendations and is supplied with their approvals.

1. US DOT 49 CFR – T11
2. TIR / Customs
3. RID / ADR – T11
4. ISO
5. IMDG – T11
6. CSC
7. TC
8. UIC
9. RID / ADR – L4BN

5 **Assembly Drawings**

As indicated on the GA drawing

6 **Warranty**

As per Purchase Order

REVISIONS TO ORIGINAL SPECIFICATION

Rev No.	Item No.	Description	Requested By	Date