



## Minimum Standards New-build: T-11 UN Portable ISO Tank Specifications:

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### 1. DESIGN PARAMETERS

1.1	Nominal Capacity (Tolerance +- 0.75%)	<b>24,000 to 25,000 Liter</b>
1.2	Tare Mass (Tolerance +- 3.3%)	<b>3500 to 3700 kg</b>
1.3	General Arrangement Drawing No.:	
1.4	Maximum Gross Mass: Rated	<b>36 000 kg</b>
1.5	Maximum Allowable Working Pressure	<b>4 bar</b>
	Tested to	<b>6 bar</b>
	External Pressure	<b>0.41 bar</b>
1.6	Design Temperature	<b>140°C</b>
1.7	Design Code	<b>ASME VIII DIV.1</b>

### 2. TANK VESSEL

2.1	Tank Barrel Material	316 Stainless steel Dual designated: DIN 17441 Type 1.4401 ( $C \leq 0.03\%$ ) Columbus TCG316L Minimum thickness 4.3mm Material used 4.4mm Corrosion allowance 0.0mm Cold rolled 2B finish
2.2	Tank End Material	316 Stainless steel Dual designated: DIN 17440 Type 1.4401 ( $C \leq 0.03\%$ ) Columbus TCG316L Minimum thickness 4.6mm Material used 5.6mm Corrosion allowance 0.0mm Hot Rolled and polished to equivalent 2B finish
2.3	Vacuum/Circumferential Rings	2 off in stainless steel
2.4	Radiography	As per ASME VIII UW.52

- 2.5 Interior Finish  
 Longitudinal welds - as welded  
 Circumferential welds - as welded with bottom 400mm polished flush to 180 grit  
 Flanges and fittings - as welded except for bottom discharge flange where the weld is polished flush to 180 grit  
 Neckring - weld is polished smooth to 180 grit  
 Repair - any repair to parent material surface defects or weld profiles are to be polished smooth to 180 grit  
 Total area of polishing (in addition to that specified above) to be less than 4% of total tank interior surface  
 Complete tank internal surface cleaned, degreased, pickled and passivated
- 2.6 Exterior Finish  
 Welds descaled  
 Barrel cleaned, degreased and anti-stress corrosion lacquer applied
- 2.7 Steam Heating  
**10 Longitudinal** stainless steel elements:  
 Working pressure **6 bar**, tested to 9 bar  
 Outlet: 3/4" BSP connection with plastic cap and retaining wire. Inlet: 1" BSP connection with plastic cap and retaining wire. **Effective heating surface min. 10 sqm**
- 2.8 Insulation  
 Polyurethane panels over compressed mineral wool nominal thickness 50mm on barrel  
 Polyurethane spray foam on ends
- 2.9 Cladding  
**0.8mm White pre-painted aluminum panels** on barrel  
**White GRP preformed panels on ends**  
 All joints and seams sealed  
 Aluminum, insulated stainless steel rivets and customs rivets
- 2.10 Calibration  
 20% Stainless steel captive dipstick mounted to neckring and calibrated in centimeters  
 20% Etched stainless steel calibration plate in liters and US gallons fitted adjacent to manlid

### **3. FRAMEWORK**

- 3.1 Configuration:  
 Collar tank, with end frames connected to vessel by stainless steel 304L skirts  
 Rectangular tube lower side longitudinal beams fitted  
 Rectangular tube top longitudinal beams fitted

3.2	Material	Carbon steel BS 4360 grades 50C and 43C or equivalent
3.3	Dimensions to ISO	Length: 6058mm Width: 2438mm Height: 2591mm
3.4	Corner Castings	To ISO 1161
3.5	Access Ladder	Rear right hand side and stainless steel anti slip rungs
3.6	Walkways	1 Longitudinal, 2 transverse, 475mm wide Marine grade aluminum
3.7	Finish	Shot blasted to grade minimum standard ISO 8501-1:1988. Blast profile 30 – 40 microns Interzinc 42 (zinc epoxy) primer, minimum 50 microns thickness Interthane 990 (recoatable acrylic) <b>top coat in color NewPort Grey RAL 7012</b> , minimum thickness 70 microns. Combined dry film thickness minimum 120 microns

#### 4. FITTINGS

4.1	Manlid	500mm Stainless steel Swift, 8 point fixing complete with stainless steel swing bolts with naval brass wing nuts braided PTFE gasket
4.2	Safety Relief Valves	<b>1 Stainless steel Fort Vale 3" pressure (4.4 bar) relief valve with flameproof gauze. Type "Super Maxi" High-flow</b> Provision for rupture disc and manometer.
4.3	Air Inlet	<b>1½" straight stainless steel Fort Vale ball valve with gauze, captive blank cap with 1½" BSP terminal connection. Blind cap with retaining wire. Provision for manometer fitment</b>
4.4	Top Discharge Provision	3" Weld in and blank stainless steel flanges Siphon tube lower retaining bracket but <b>no</b> siphon tube
4.5	Bottom Discharge	<b>3" 45° Stainless steel Fort Vale High-lift</b> foot valve and a clamp type butterfly valve <b>3" BSP stainless steel outlet</b> with captive blank cap and retaining chain
4.6	Remote Control	Full-length RHS cable fitted to foot valve <b>Fusible link fitted</b>

4.7	Thermometer	Contact type analog from <b>-40°C to 160°C with dual read out in both Celsius &amp; Fahrenheit.</b>
4.8	Spill Boxes	2 Stainless steel boxes fitted around manlid / relief valve and around top discharge / air inlet. 25mm stainless steel internal tubes fitted.
4.9	Earth Connection	Fitted to lower rear frame diagonal (size 42x30x3mm with a 9mm hole)
4.10	Document box	ø110mm, clear PVC document box fitted.

## **5. GENERAL**

- 5.1 Manhole, air inlet, safety and discharge valves are all fitted with customs sealing devices.
- 5.2 One set of decals is applied per tank as per code requirements with **NewPort corporate logo decals (Sides, Front, and Back)**
- 5.3 One set of stainless steel data plates is applied as per code requirements.
- 5.4 All tank containers are manufactured under ISO 9001 Quality Management System.
- 5.5 Each container certified by Bureau Veritas/ Lloyd Registry.
- 5.6 Each container is supplied with the requirements of type approval, certification and registration and, where applicable, embodying:

ISO 1496/111 ISO 668 ISO 1161 ISO 2716 ISO 3874

CFR 49 (Appraisal only – no certificates)

IMDG (Appraisal only – no certificates)

ASME VIII Div 1

UK DfT

RID / ADR

AAR 600

TC

CSC

UIC

Customs Convention

5.7 The following documentation is to be supplied by manufacturer:

**ALL DOCS TO BE EMAILED**

- 1) An original "Cleanliness Certificate" is to be placed into the tanks document box.
- 2) A "Calibration Chart" for each tank is to be e-mailed in pdf. format
- 3) An original Bureau Veritas "Initial Construction Certificate" is to be e-mailed in pdf. format.
- 4) The following certificates are to be e-mailed in pdf. format :-
  - a) CSC Type Approval certificate.
  - b) MDG 5 Type Approval certificate.
  - c) RID/ADR - Prototype Conformity Certificate.
  - d) AAR 600 Conformance.
  - e) TIR Customs Convention on the International Transport of Goods
  - f) TC - Transport Canada. – Pre-notification letter.
  - g) UIC - Letter of Conformance
  - h) MDG 10 - Certificate of Fitness.