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I. TECHNICAL SPECIFICATION

OWNER:	OCEAN CONTAINER INVESTMENTS
OPERATOR:	TANKSPAN LEASING LIMITED
MODEL NUMBER:	21FSTD
QUANTITY:	10
MANUFACTURERS SERIAL NUMBERS:	20-1385 to 20-1394
OWNERS' SERIAL NUMBERS:	TASU 911000 to 911009
CONTRACT:	ITL 007

1. Technical Characteristics

1.1 Design & Testing

Tank - in accordance with: IMDG, CFR49 and RID/ADR
 Frame - in accordance with: ISO Standard 1496/3

1.2 ISO type 1CC / 22T6

1.3 IMO type IMO 1

1.4	Nominal Capacity (- 0 + 1% Tolerance)	SI	US	
		21000 l	5548	US gal

1.5 Frame Dimensions and Weight

Max Gross Weight	36000 kg	79366	lbs.
Tare Weight Maximum	3850 kg	8488	lbs.
Length	6058 mm	20	ft
Width	2438 mm	8	ft
Height	2591 mm	8 ft 6	in

1.6 Tank Dimensions

Internal Diameter	2200 mm	86.61	in
Seam to Seam length	4913 mm	193.425	in
Shell Minimum Thickness	4.403 mm	0.1733	in
Head Minimum Thickness			
Knuckle	4.954 mm	0.1950	in
Crown	4.403 mm	0.1733	in
Corrosion Allowance	0 mm	0.0	in
Dished Ends	Torispherical		

1.7 Pressure & Temperature Rating

Tank Design Temperature	132 °C	271	°F
RID/ADR Calculation Pressure	6.0 bar	87.0	psi
Maximum Allowable Working Pressure	4.0 bar	58.0	psi
Test Pressure	6.0 bar	87.0	psi
Vacuum Pressure	0.4 bar	5.8	psi

1.8 Materials of Construction

Framework	EN 10210-1 S355 J2H (Hollow section) 50D or Equivalent (Tested to -40°C)
Corner Castings	ISO Standard 1161
Shell	DIN 17441 W1.4401 Low Carbon (C = 0.03%) Cold Rolled 2B finish (ASTM A240-93B, 316)
Heads (Columbus Material)	DIN 17440 W1.4401 Low Carbon (C = 0.03%) Hot Rolled, Ra = 1.6 (ASTM A240-93B, 316)
Vacuum Stiffening Rings	ASTM A240 Gr. 304

2. Tank Fittings and Accessories

2.1 Manhole

Supplier	Perolo	(Part No. 51-13-26)
Dimensions	500mm ID, Neckring Radius 1104mm	
Material	316L	
Description	8 point fixing	
Gasket	PTFE braided fibre, non-leaking type	

2.2 Safety Relief Valve Assembly

Supplier	Perolo	(Part No: MX65F44TSC)
Quantity	One plus provision for a second valve	
Description	2½" BSP Mega Superventix	
Specifications	+ 4,4 bar pressure	
Gasket	Solid PTFE	
Flanged Adapter	yes	

2.3 Air Inlet Assembly

Supplier	Gestra	(Part No: P/N 15VV10A66T11211)
Quantity	One	
Description	1 ½" BSP, with s/steel cap	
Gasket	PTFE	
Manometer	Yes (with protector, silicon oil filled)	
Supplier	WIKA	
Range	-1 bar to 5 bar / -14.5 psi to +72.52 psi	

2.4 Top Discharge Provision

Supplier	Swift Engineering	
Quantity	One	
Dimensions	DN 80 (3")	
Specification	Blank flange (4 x M16 on 160mm PCD)	
Gasket	Klinger SIL C-4430 and PTFE	
Remarks	Provision is made for the future fitting of a clamped 3" butterfly valve and 3" syphon tube	
Weld In Flange	Yes, with 92mm dia opening for DN80 syphon tube	
Guide fitted	Yes	
Blind flange	Yes	

2.5 Thermometer

Supplier	Wika	
Quantity	One	
Description	Surface type, 100mm dial diameter Dual scale -20°C to 150°C, -4°F to 302°F	
Type	Gas in metal / Contact type	
Position	Rear end (8 o'clock)	

2.6 Bottom Discharge

Supplier	Perolo	
Dimensions	DN 80 (3") opening diameter	
Specification	Internal valve – 30° foot valve. External valve – clamped butterfly valve, left hand operated	(Part No: N3397B3) (Part No: 12-85-57)
Gasket	Klinger SIL C-4430 / PTFE	
Flange Adaptor	3" BSP adaptor complete with a stainless steel cap & retaining cable.	
Remarks	Insulated bottom outlet box with insulated lid. A full-length remote control, with provision for a fusible link is connected to the internal valve handle.	

- 2.7 Spill-boxes**
Quantity Two
Position Main Spillbox on centre line around Manhole and Safety Relief Valve(s). Accessories spillbox off centre line around top discharge provision and air inlet.
Dimensions 945 mm x 750 mm and 550mm x 400mm
Material ASTM A240 Gr. 316L, 2mm
Lid Yes (Insulated)
Drain Pipes External
Material Reinforced plastic 25mm NB
- 2.8 Steam Heating**
Heating area 7.5 m² (effective)
No of runs 10
Inlet diameter ¾ " BSP male threaded
Outlet diameter ¾ " BSP male threaded
Test Pressure 10,5 bar
Working Pressure 7 bar
Drain Valve Yes, ¾ " BSP Ball Valve
End cap material PVC
- 2.9 Walkways**
Layout "T" Type
Width / Thick 475mm / 3.0mm
Material Aluminium Grade 5042-0
- 2.10 Ladder**
One ladder 300mm wide (32 x 32mm section) and painted in the same colour as the frame is provided on the right hand side of the rear frame. The ladder rungs are made from stainless steel and have an anti-slip surface. One handle is provided adjacent to the ladder.
- 2.11 Corner Protection**
8 off per tank located at the top and bottom frame corners.
- 2.12 Earthing Connection**
One stainless steel lug 50x30x3mm, with a 15mm diameter hole, located at rear of tank frame.
- 2.13 Document Holder**
1-off water resistant PVC document holder 90mm diameter 300mm long is mounted in a protected position near the left rear corner of the frame.
Colour: Opaque
Drain hole diameter: 6mm
- 2.14 Dipstick**
Dipstick Fitted Yes Bracket Yes

3. Insulation and Cladding

3.1 Insulation

Material	Mineral Wool	Polyurethane
Shell	30mm (min 60kg/m ³)	70mm (min 35kg/m ³)
Ends	varies (min 60kg/m ³)	

3.2 Cladding

Cladding material 0.8 mm thick pre-painted white aluminum (Grade 5251 H44) or equivalent

4. Decals and Markings

4.1 Decals

Standard, Mandatory decals:

Description	Quantity
Operator's Code and Serial Number	6
Size and Type Code "22T6"	3
IMO 1/ IM 101	2
TC Impact Approved	2
UIC "IC70"	2
Weight (Max Gross Weight 36000kg)	1
RID / ADR	2
Warning Overhead Electrical Cables	1
Working Pressure "4 Bar MAWP"	2
Earthing	1
Remote Control "EMERGENCY-PULL CABLE CLOSE"	1
Nominal Capacity (21 000l/ 5548 US Gal)	1
Classification Society (Bureau Veritas)	1
AAR 600	2
Foot Valve Warning	1
Steam Outlet	1
Steam Inlet Maximum Pressure	1
Manufacturer "Trencor"	3
No Walking	2
No Forklift	2
UIC "Super Heavy"	3
MAGW For UIC Rail 34000kg	1
BSLT	1
Steam Heating "Drain Valve"	1
Height Decal (2,6)	2
2 nd SRV	1
Product Transported	2
Decal Warranty: Mandatory Decals	7 years

4.2 Data Plate

One stainless steel data plate as per code requirements

4.3 Calibration

Calibration plate	Yes, marked in cm/litres/US gallons, tack-welded to the inside of the main Spillbox
Chart material	316 Stainless Steel
Actual paper chart	Yes, supplied in document holder

5. Finish, Surface Treatment and Painting

5.1 Internal welds

Longitudinal	Not ground, smooth low bead scotch brite polished.
Circumferential	Bottom \pm 400 mm ground flush and polished (Ra = 1.6)
Repairs	Ground flush and polished (Ra = 1.6)

5.2 Cleaning

On completion of fabrication, the vessel's internal surface is de-greased, pickled, passivated and neutralized. The opening points are sealed so that the tank is supplied clean and ready for use.

5.3 Frame Treatment

Surface Preparation The entire frame is shot blasted to SA 2,5 Finish.

5.4 Painting of Frame

Coat	Type	DFT (min)
Primer	Zinc Rich	30 micron
Intermediate	Zinc Phosphate	40 micron
Topcoat	CFC free chlorinated rubber	50 micron
	Total minimum DFT	120 micron
Colour of frame:	Jet-Black	
RAL Number	9005	

5.5 Painting of Tank

Full exterior of tank is coated with anti – stress corrosion lacquer (15 – 25 micron DFT)

6. Tests and Approvals

6.1 Each production unit is subject to testing and non-destructive examination as required by ASME VIII Division 1, UIC and Suppliers own quality requirements. The independent Inspection Authority, Bureau Veritas, inspects each unit.

6.2 The tank container has been tested and approved for a stacking load of 86400 kg per corner post.

6.3 The tank container fulfills the performance specification of the following International Organization's regulations and recommendations and is supplied with their Approvals / Registrations.

US-DOT	IMDG – (via US DOT)
TIR/Customs	CSC
RID/ADR	Transport Canada
AAR 600	UIC (IC 70)

6.4 Radiography (UW51 and UW52)

Shell: Spot
Dished Ends: 100%

7. Products (RID/ADR)

Approved for products in classes 3; 6.1; 8 and 9 as applicable.

Note: These products are allowed to be transported within the limits of the applicable regulations and according to equipment options (operator's responsibility to check prior to loading).

II. OPERATING INSTRUCTIONS

1. FILLING

Before any filling operations:

- Make sure that the tank is empty and clean.
- Connect the earth wire to the earthing lug on the rear frame, identified by a circular earthing decal.
- If vapours of the transported liquid are hazardous, a pipe should be connected to the airline valve to capture gas from the tank into a closed system, according to local environmental regulations.

1.1 FILLING VIA MANHOLE

- (a) Make sure that the airline valve, top and bottom discharge valves, foot valve, butterfly valve and blank flange or end cap are closed.
- (b) Fill the tank to the correct level leaving the required ullage space.
- (c) Close the manlid and tighten the swingbolts.

1.2 FILLING VIA BOTTOM OUTLET

- (a) Open the manhole or the airline valve.
- (b) Remove end cap or blind flange on bottom discharge.
- (c) Connect the filling hose to the bottom outlet.
- (d) Open the foot valve and discharge valve.
- (e) Fill the tank to the correct level leaving the required ullage space.
- (f) Close the foot valve, butterfly valve and blank flange or end cap and then the airline valve and / or manlid.

1.3 FILLING VIA TOP OUTLET (IF CONVERTED)

- (a) Open the manhole or airline valve.
- (b) Make sure that the foot valve and butterfly valve and blank flange or end cap are closed.
- (c) Connect the filling hose.
- (d) Open the top outlet butterfly valve.
- (e) Fill the tank to the correct level leaving required ullage space.
- (f) Close top discharge valve and then the manhole and airline valve.

1.4 FILLING FOR TRANSPORT UNDER INERT GAS

- (a) Fill the tank 100% as per method in 1.2 or 1.3 above.
- (b) Allow the inert gas blanket through the airline to force the required quantity of liquid (ullage) out of the tank.

Alternatively:

- (a) Purge the tank with inert gas via the airline.
- (b) Fill the tank to the required volume as per method 1.2 or 1.3 above with manlid closed allowing excess gas to escape via the airline.
- (c) Close all valves and replace cap.

When filling has been completed and filling pipes have been removed:

- Disconnect the earth wire.
- Apply seals to all sealing points.

2. EMPTYING

Before any emptying operations:

- Connect the earth wire to the earthing lug on the rear frame, identified by a circular earthing decal.

2.1 GRAVITY DISCHARGE

- (a) Remove the cap or blank flange and connect discharge pipe to the bottom outlet.
- (b) Open the manhole or the airline valve.
- (c) Open the foot valve and butterfly valve.

2.2 PRESSURE DISCHARGE (Air or gas) VIA BOTTOM OUTLET

- (a) Remove the cap or blank flange.
- (b) Connect the discharge pipe to the bottom outlet and the air or gas line to the airline valve.
- (c) Open the foot valve and the butterfly valve.
- (d) Apply pressure (max. 4 bar or 58 PSI).

2.3 PRESSURE DISCHARGE (Air or gas) VIA TOP OUTLET (IF CONVERTED)

- (a) Remove the blank flange.
- (b) Connect the discharge pipe to the top discharge and the air or gas line to the airline valve.
- (c) Open the butterfly valve.
- (d) Apply pressure (max. 4 bar or 58 PSI).

2.4 VACUUM DISCHARGE VIA BOTTOM OUTLET

- (a) Remove the cap or blank flange.
- (b) Connect the discharge pipe to the bottom outlet.
- (c) Open the manhole or the airline valve.
- (d) Open the foot valve and the butterfly valve.

2.5 VACUUM DISCHARGE VIA TOP OUTLET (IF CONVERTED)

- (a) Remove the cap or blank flange.
- (b) Connect the discharge pipe to the top discharge flange.
- (c) Open the manhole or the airline valve.
- (d) Open the butterfly valve.

2.6 VACUUM DISCHARGE VIA MANHOLE

- (a) Open the manhole and dip the suction pipe into the liquid.

When emptying has been completed and air/or discharge pipes have been removed:

- Disconnect the earth wire.

3. CLEANING

Due to the hazardous nature of the products generally transported in this container and due to the risk of incompatibility with cleaning products we are not in a position to recommend any cleaning process.

However, we bring to the operator's attention that there is a general code of practice on the subject.

Chlorinated disinfectants are not recommended, due to the adverse effects of chlorine on stainless steel; if unavoidable they must be used with great care (cold cleaning, diluted solution, short lying time, thorough rinsing).

Never use steel wool or an iron/steel brush to wipe the tank.

4. STEAM HEATING

Maximum allowable working pressure: 7 bar (101.5 PSI)

Maximum allowable working temperature: 132° C or 270° F

The steam inlet is located on the left-hand side of the rear end, above the discharge accessories and the condensate outlet on the right.

Return of the condensate to the steam generator saves energy.

III. MAINTENANCE AND REPAIR

1. FRAME

The frame, of welded EN 10201-1 steel S355J2H tubular sections and BS 4360 – Gr. 50D plates is protected with a minimum of 30 micron of zinc rich primer, a minimum of 40 micron zinc phosphate intermediate primer and a minimum of 50 micron chlorine free chlorinated rubber top coat (Colour: Jet Black – semi gloss, RAL 9005).

2. TANK

Tank repairs must be made in a workshop approved by the owner of the tank container using skilled labour. Before commencement, a repair procedure must be approved by the classification society and the repair approved according to the procedure.

Damage on the shell can only be repaired with ASTM A240 grade 316 (C < 0.03%) stainless steel or equivalent.

After any repair work to the tank, a full hydrostatic test must be carried out in the presence of an approved classification society, with the safety devices removed.

3. INSULATION

Layer of 30mm rock wool (against shell) and 70mm polyurethane foam all round shell.
Rock wool over dished ends.

External protection by 0,8mm pre-painted white RAL 9012, grade 5251 H44 aluminium cladding.

If cladding is damaged, it must be repaired immediately to avoid water penetration.

4. MANHOLE

The manhole is closed by swing-bolts. Damaged swing-bolts, pivot pins must be replaced immediately.

It is recommended that they be lubricated with either of the following:

- 1) Molybdenum disulphide (grease, oil, spray)
- 2) Graphite grease.

Replacement of the gasket:

Place the gasket on a flat surface, as it would go into the groove of the manlid. Turn one end of the gasket on its side and cut the end at a 45° angle. After checking that the groove of the lid is clean, position the gasket on top of the groove with the "0" thickness cut end at the bottom of the groove and with the end of the gasket aligned with a centre of a swing bolt bracket. Starting at the end of the seal, insert the gasket progressively into the groove around the full circumference. Where the gasket overlaps, mark the position and cut that end at a 45° angle in such a way that the joint will blend in with the other end of the gasket.

5. BOTTOM DISCHARGE

The discharge assembly is composed of:

80mm (3") diameter bottom operated foot valve with remote control (see below).

80mm (3") diameter butterfly valve (see below).

80mm (3"BSP) diameter flange adapter and cap.

6. FOOT VALVE

Fitted onto the tank by means of 4 bolts. TIR sealing wires are welded to the heads of fasteners according to the relevant customs regulations. They must be welded back in place after any repair or replacement has been undertaken.

The pressure plate seal can be changed either from inside the tank, or by removing the foot valve.

Repair the valve according to the repair procedure of the manufacturer.

Note: if the foot valve has been removed from the tank, the tensioning of the remote control cable must be adjusted to suit the valve operation.

7. BUTTERFLY VALVE

Replacement of the valve:

The TIR sealing wires are welded onto the heads of the fasteners of the valve for customs purposes. They must be welded back in place after repair or replacement has been made.

It is imperative that the valve is in the fully closed position when the bolts are being tightened. Bolts to be progressively cross-tightened.

Repair the valve according to the repair procedure of the manufacturer

8. SAFETY RELIEF VALVE

Valve to be screwed into position using a pin wrench (Max. tightening torque: 20daN.m)

Repair the valve according to the repair procedure of the manufacturer.

Regular cleaning of the gauze filter is recommended to maintain original operating characteristics.

9. AIR LINE VALVE

The valve is fitted to the tank by means of 4 bolts. If the valve is repaired or replaced make sure that the valve orientation is in such a way that the side of the spill box does not interfere with the operating of the valve.

Repair the valve according to the repair procedure of the manufacture.

10. STEAM HEATING DRAIN VALVE

The steam heating system drain valve is screwed into position on the steam heating system with a TIR wire for custom purposes. This bracket must be welded back in place after repair or replacement has been made.

11. PARTS IN CONTACT WITH THE LIQUID

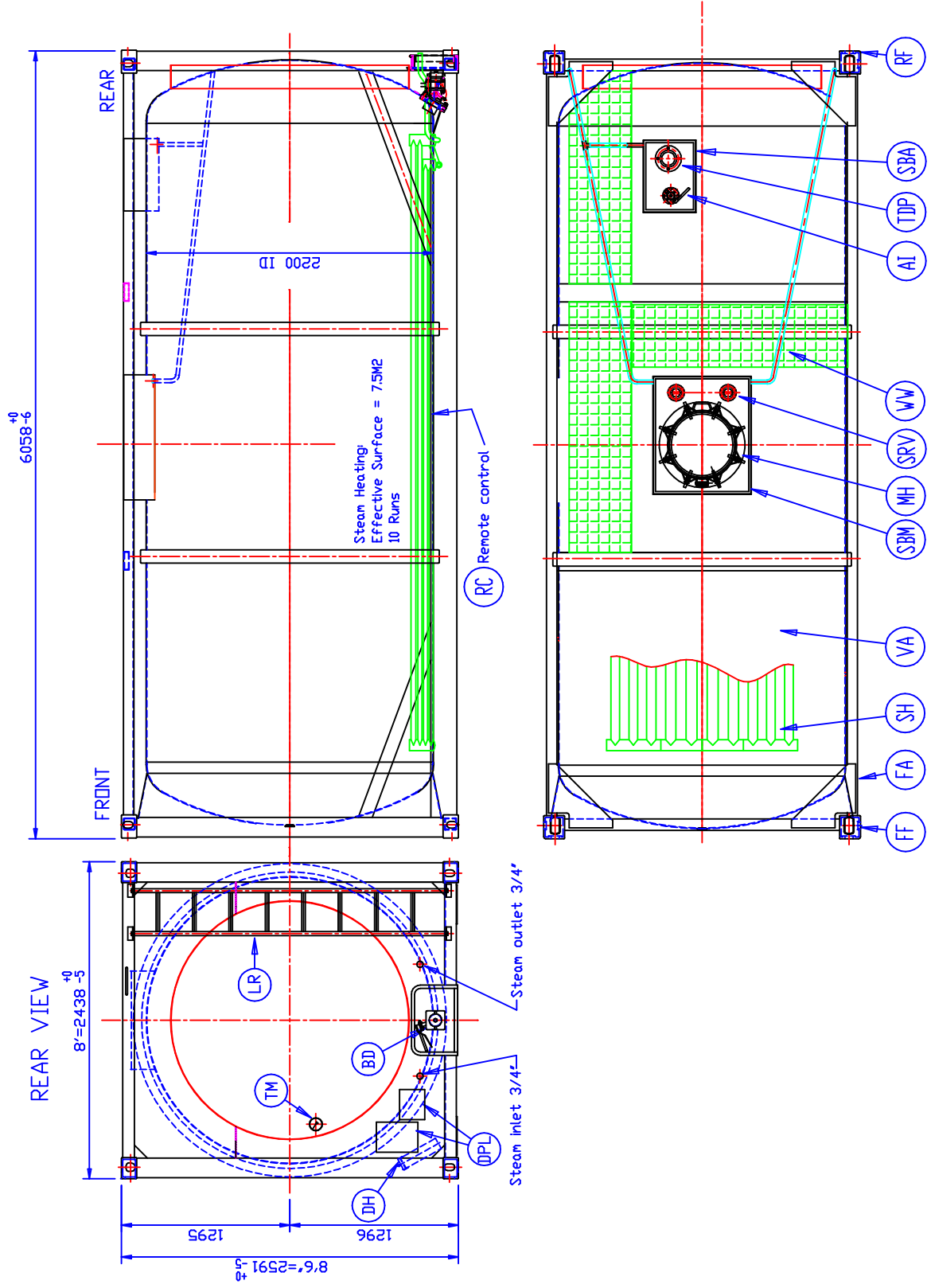
PART:	MATERIAL:	PART NUMBER:
Barrel	DIN 17441 W1.4401	VA21FCOL_1
Dished ends	DIN 17440 W1.4401	VA21FCOL_2
Dished end plug	ASTM A240 Gr. 316	TA-330-001
Tankpads	ASTM A240 Gr. 316L	-
Blind flanges	ASTM A240 Gr. 316L	-
Air inlet valve	ASTM A240 Gr. 316L	P/N 15VV10A66T11211
Safety relief valve	AISI 316L	MX65F44TSC
Manhole	AISI 316Ti	51-13-26
Bottom outlet butterfly valve	AISI 316L	12-85-57
Bottom outlet footvalve	ASTM A240 Gr. 316L	N33-97-B3
Bottom outlet flanged adapter	ASTM A240 Gr. 316L	STF 700601
Bottom outlet threaded cap	ASTM A240 Gr. 316L	STF 700901

IV. PARTS LIST AND DRAWINGS

GA – GENERAL ARRANGEMENT

FA	FRAME ASSEMBLY
FF	FRONT FRAME ASSEMBLY
RF	REAR FRAME ASSMEBLY
VA	VESSEL ASSEMBLY
SH	STEAM HEATING
VSR	VACUUM STIFFENER RINGS
SBM	SPILL BOX MANHOLE
SBA	SPILL BOX ACCESSORIES
MH	MANHOLE
SRV	SAFETY RELIEF VALVE
WW	WALKWAY ASSEMBLY
AI	AIR INLET VALVE
TDP	TOP DISCHARGE PROVISION
DPL	DATAPLATE
DH	DOCUMENT HOLDER
BD	BOTTOM DISCHARGE
TM	THERMOMETER
LR	LADDER ASSEMBLY
RC	REMOTE CONTROL

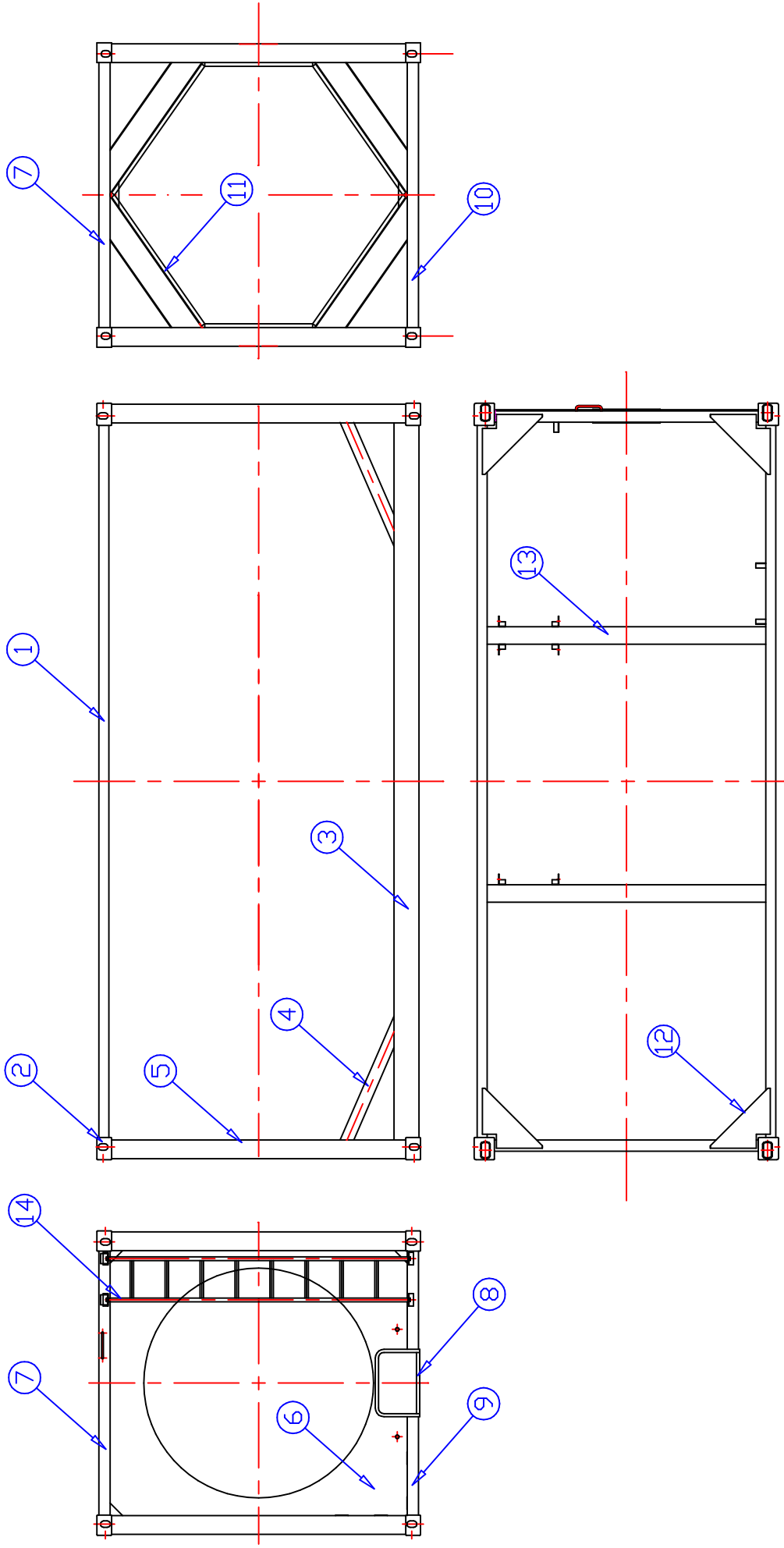
General Arrangement



FA – FRAME ASSEMBLY

No	Description	Size	Material
1	Top longitudinal	80 x 80 x 3.2mm	EN10210-1 S355J2H
2	Corner casting	STD ISO 1161	Cast Steel
3	Bottom Longitudinal	200 x 100 x 5mm	EN10210-1 S355J2H
4	Side diagonals	140 x 40 x 5mm	EN10210-1 S355J2H
5	Corner posts	150 x 150 x 6mm	EN10210-1 S355J2H
6	Rear end plate	10 mm plate	BS4360 Gr. 50 D or eqv.
7	Top cross members	90 x 90 x 5mm	EN10210-1 S355J2H
8	Sill plate	110 x 20mm	BS4360 Gr. 50 D or eqv.
9	Bottom cross member, Rear	90 x 90 x 5mm	EN10210-1 S355J2H
10	Bottom cross member, Front	90 x 90 x 5mm	EN10210-1 S355J2H
11	Front Frame Diagonals	215 x 65 x 6mm	BS 4360 Gr.50D OR eqv.
12	Corner protection spreader	500 x 500 x 6mm	BS4360 Gr. 50 D or eqv.
13	Upper cross members	140 x 40 x 3.2mm	EN10210-1 S355J2H
14	Ladder - Frame	32 x 32 x 2.5mm	Mild Steel
	- Rungs	300 x 73 x 2mm	AISI 304

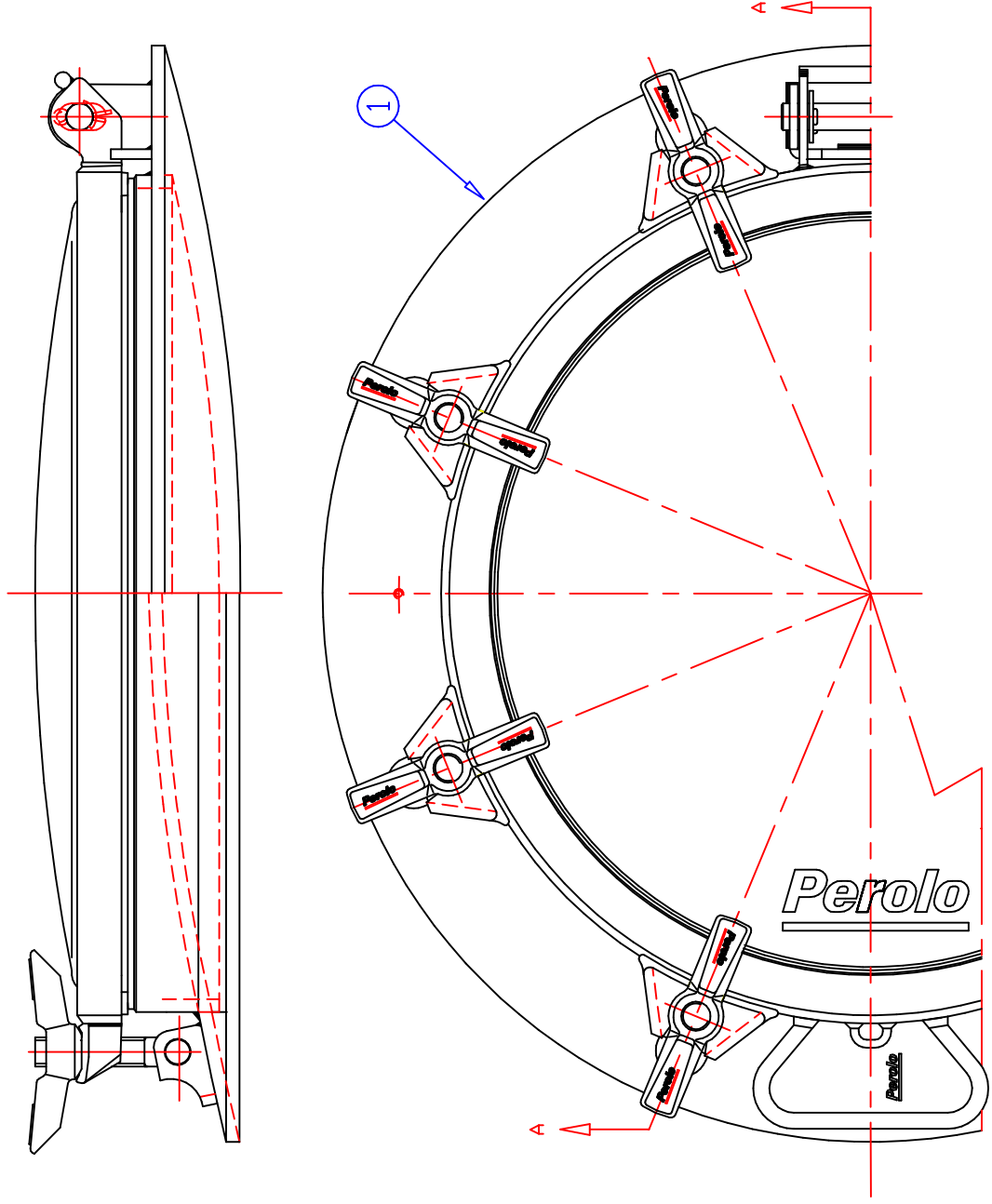
Frame Assembly



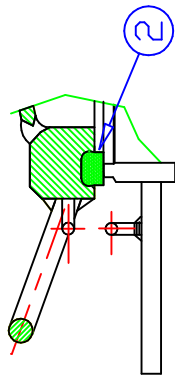
MH – MANHOLE

No.	Description	Supplier	Part Number
1	500mm Profile Manlid neck-ring radius 1104mm	Perolo	51-13-26
2	Manlid Seal	Wright Seal & Plastics	STZS 14141625

Manhole



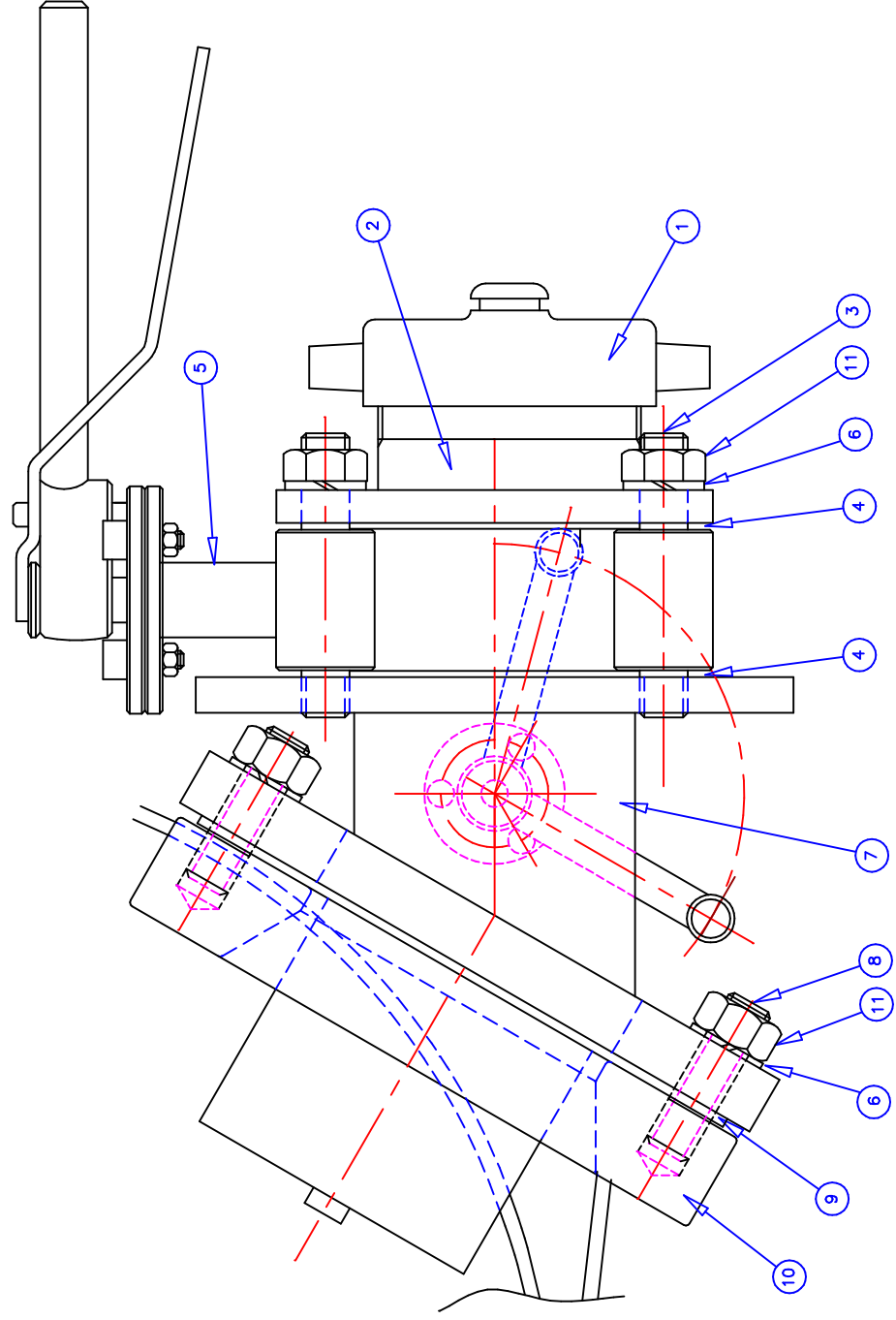
Seal Section



BD – BOTTOM DISCHARGE

No.	Description	Supplier	Part Number
1	Cap with PTFE gasket	Swift	STF 700901
2	Flanged Adaptor	Swift	STF 700601
3	Stud St/St M16 x 100 lg.	-	-
4	PTFE gasket	Gasket & Shim Industries	TP 0200-01B
5	Butterfly valve	Perolo	12-85-57
6	Spring washer St/St M16	-	-
7	Foot valve	Perolo	N33-97-B3
8	Stud St/St M16 X 50 lg.	-	-
9	Gasket Klinger Silicon	Gasket & Shim Industries	TP 0089-06F
10	Weld in Flange	Swift	STF 700401
11	Nut St/St M16	-	-

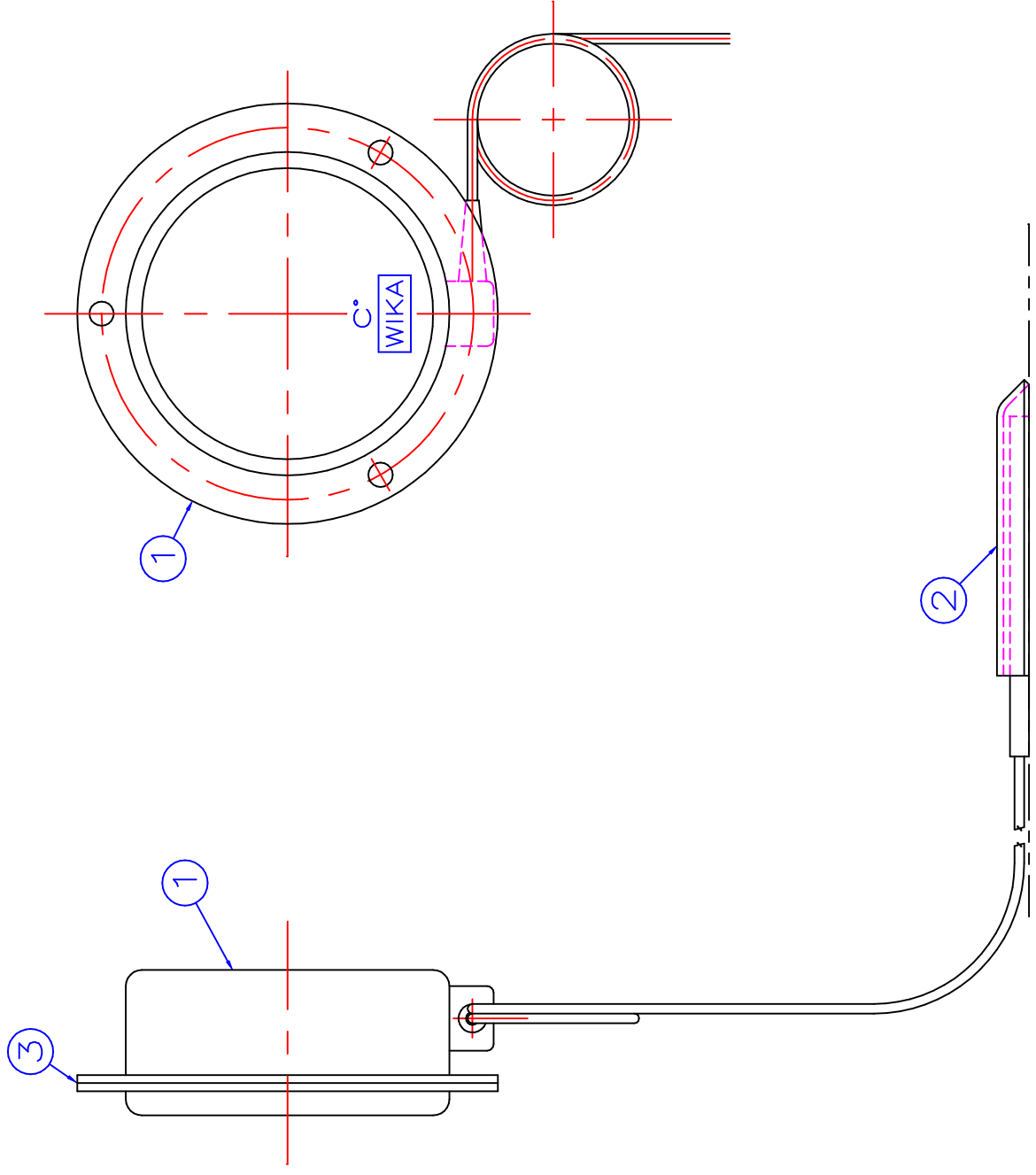
Bottom Discharge



TM – THERMOMETER

No	Description	Supplier	Part Number
1	Thermometer	Wika	CF 5279-01D
2	Pocket plate on dished end	-	TA-040-001
3	Gasket	Gasket & Shim Industries	TP 0622

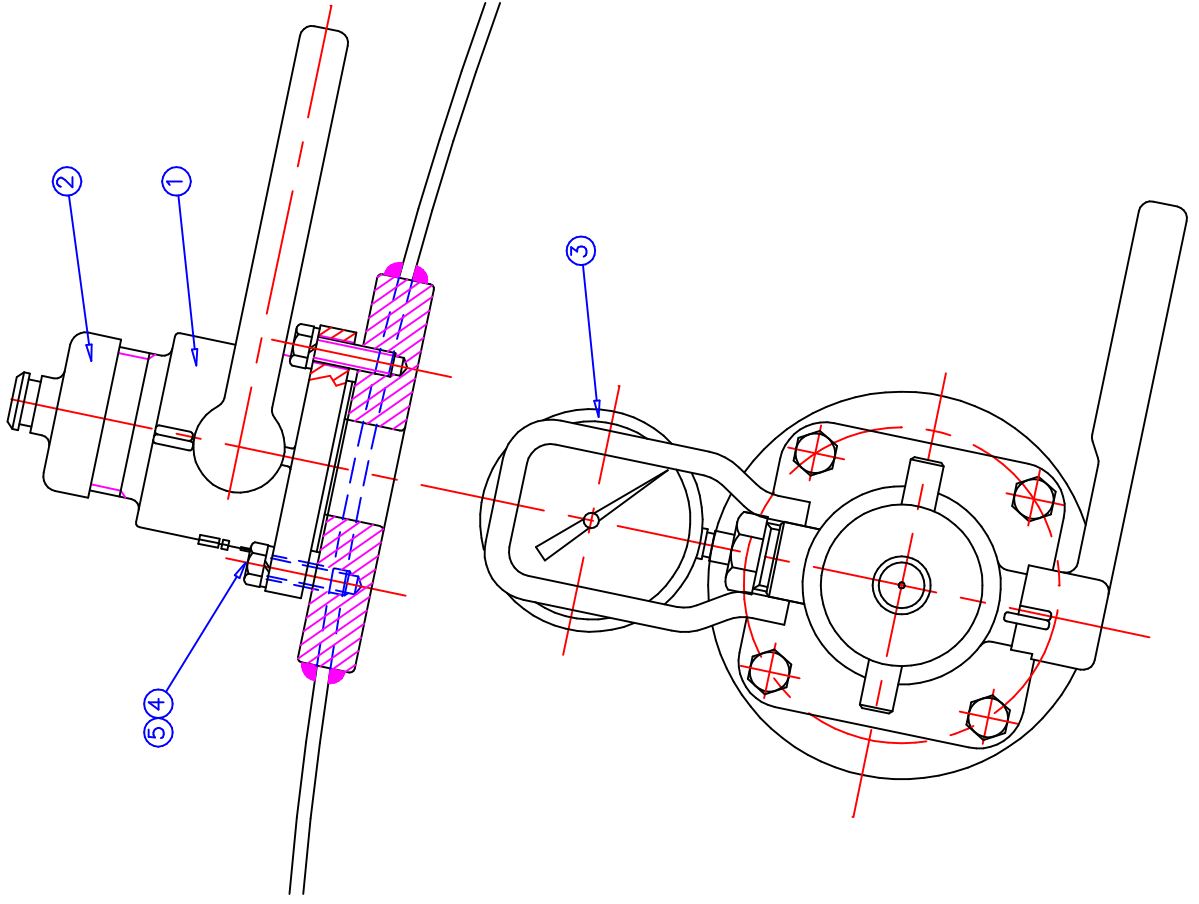
Wika Thermometer



AI – AIRLINE VALVE

No	Description	Supplier	Part Number
1	1.5" Ball Valve	Gestra	15VV10A66T11211
2	End Cap with Chain	Swift	CW 7004-03
3	Manometer	Wika	W123206TQ
4	Bolt St/St M10x25 lg.	-	-
5	Spring Washer St/St M10	-	-

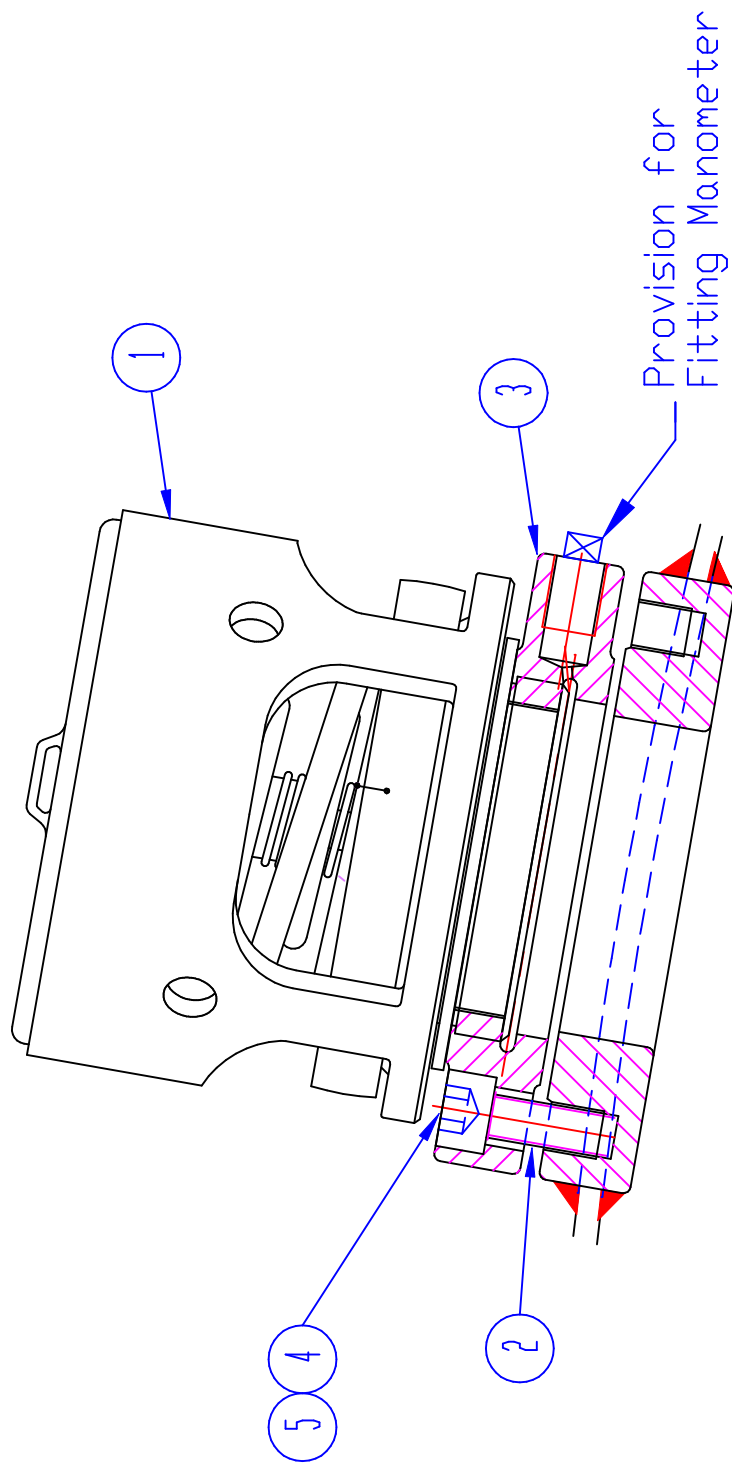
Airline Valve



SRV – SAFETY RELIEF VALVE

No.	Description	Supplier	Part Number
1	'Mega Super Ventix'	Perolo	MX65F44TSC
2	Gasket, solid PTFE	Gasket & Shim Industries	TP0621-01A
3	Adaptor Flange	Swift	STF 700801
4	Cap Screw St/St M10x20	-	-
5	Spring Washer St/St M10 (Square section)	-	-

Safety Relief Valve



SI/O – STEAM HEATING INLET AND OUTLET

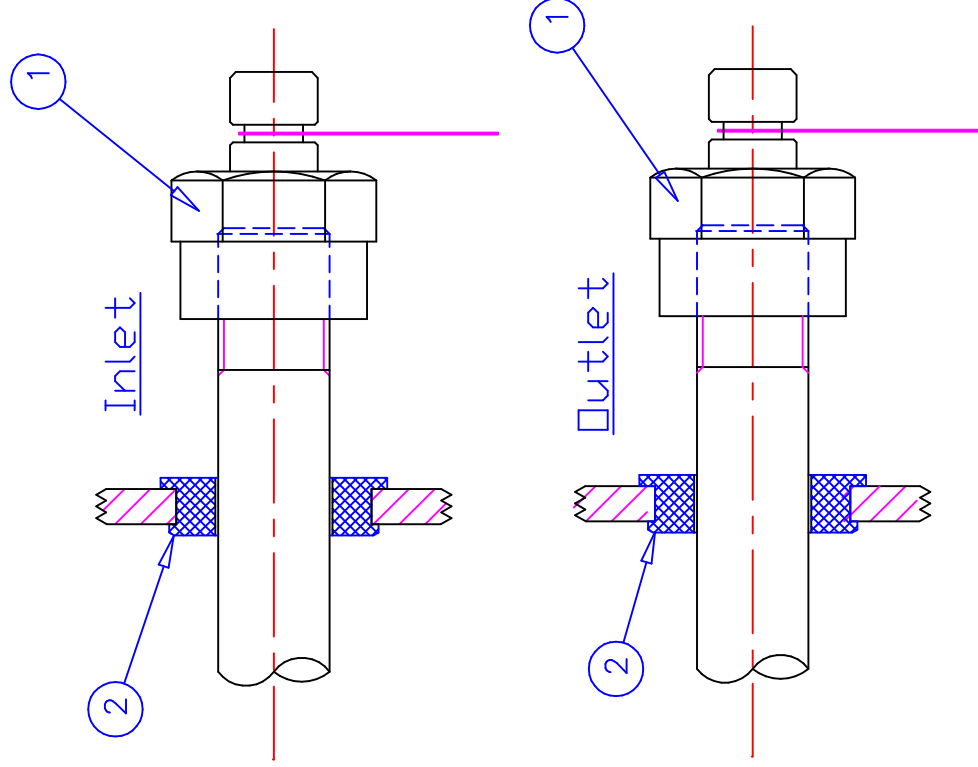
STEAM INLET 3/4 ”

No	Description	Supplier	Part Number
1	PVC End Cap	Faph Engineering	SH-080-005
2	Grommet Silicon	Rubber Products & Mouldings	DP-310-015

STEAM OUTLET 3/4 ”

No	Description	Supplier	Part Number
1	PVC End Cap	Faph Engineering	SH-080-005
2	Grommet Silicon	Rubber Products & Mouldings	DP-310-015

Steam In- and Outlet



TD - TOP DISCHARGE PROVISION

No	Description	Supplier	Part Number
1	Blank Flange	Swift	STF 701401
2	Gasket TDP Envelope	Gasket & Shim Industries	TD-210-001
3	Bolt St/St M16x30 lg.	-	-
4	Spring Washer St/St M16	-	-

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OWNER:
OCEAN CONTAINER INVESTMENTS
ST. JAMES HOUSE
20 GEORGIAN CRESCENT
BRYANSTON EAST 2152
REPUBLIC OF SOUTH AFRICA

OPERATOR:
TANKSPAN LEASING LIMITED
SUITE 6, 80 CHURCHILL SQUARE
KINGS HILL, WEST WALLING
KENT ME19 4YU
ENGLAND

TEL: +44 / 1732 / 229800
FAX: +44 / 1732 / 522992

**APPROVED FOR TRANSPORT
UNDER CUSTOMS SEAL**

GB/C 4201 BV/1999

MODEL CODE 21FSTD MANUFACTURERS NUMBER 20/

CSC SAFETY APPROVAL

F/BV/6853/98	
DATE MANUFACTURED	/2000
IDENTIFICATION NUMBER	20/
MAXIMUM GROSS WEIGHT	38 000 kg / 79 968 lb
ALLOWABLE STACKING WEIGHT 1.8g	192 000 kg / 423 283 lb
RACKING TEST VALUE	15 240 kg / 33 598 lb
NEXT EXAMINATION DATE	/2005

OPERATOR'S SERIAL NUMBER TASU 911
 MANUFACTURER'S SERIAL NUMBER 20/ MANUF. MODEL CODE: 21FSTD
 YEAR OF MANUFACTURE 2000
 DESIGN CODE ASME SECTION VIII, DIV. 1
 TANK TYPE IMDG: IM01 US / DOT: IM 101
 COUNTRY OF MANUFACTURE / APPROVAL SOUTH AFRICA / FRANCE
 CLASSIFICATION SOCIETY BUREAU VERITAS
 CLASS. SOCIETY TYPE APPROVAL NO. BVCT / 9870610 / G
 US / DOT APPROVAL NUMBER US / BV / 107 / 81 / 06
 IMO CERTIFICATION NUMBER BVCT 0070441 / J
 RID / ADR NUMBER F / 4832 / BV / 00
 UIC APPROVAL RAILWAYS CODE Ie / 70
 TRANSPORT CANADA APPROVAL TC IMPACT APPROVED
 OTHER APPROVALS AAR 600, CSC, TIR, US DOT
 TANK SHELL MATERIAL DIN 17441 W 1.4401; Cs0.03%; ASTM A240-93B, 316L
 TANK DISHED END MATERIAL DIN 17440 W 1.4401; Cs0.03%; ASTM A240-93B, 316L
 TANK M.A.W.P. 4 bar 58 p.s.i.
 TANK TEST PRESSURE 6 bar 87 p.s.i.
 STEAM CHANNEL M.A.W.P. 7 bar 101.5 p.s.i.
 STEAM CHANNEL TEST PRESSURE 10.5 bar 152.25 p.s.i.
 EFFECTIVE STEAM HEATING AREA 7.5 sq.m 81 sq.ft.
 TOTAL WATER CAPACITY AT 20°C / 68°F 21000 litre + 1% - 0% 5546 US gallon
 AMBIENT TEMPERATURE RANGE -40 °C TO + 65 °C -40 °F TO + 149 °F
 MAXIMUM LOADING TEMPERATURE 132 °C 270 °F
 APPROVED PRODUCTS OF CLASSES 3, 8.1, 8, AND 9
 OPERATORS RESPONSIBILITY TO CHECK BEFORE LOADING

MAXIMUM GROSS WEIGHT 38000 kg 79968 lb
 MAXIMUM PAYLOAD 32170 kg 70922 lb
 TARE WEIGHT 3630 kg 8444 lb
 EQUIVALENT THICKNESS IN MILD STEEL:
 US DOT [CFR 49] STANDARD: 6.35 mm PARAG. 178.270 - 5 [c]
 IMDG / RID / ADR 6.00 mm 0.236 in
 VESSEL MINIMUM DESIGN THICKNESS 4.405 mm / 4.964 mm 0.173 in / 0.195 in
 CORROSION ALLOWANCE NONE
 INSULATION MATERIAL OVER STEAM AREA 30 mm ROCKWOOL 70 mm POLYURETHANE
 INSULATION MATERIAL OVER BARREL 30 mm ROCKWOOL 70 mm POLYURETHANE
 DATE OF INITIAL HYDRAULIC TEST AND AUTHORITY /2000
 DATE OF LAST PERIODICAL INSPECTION AND AUTHORITY

DATE OF NEXT HYDRAULIC TEST AND AUTHORITY

/2005					
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THIS DATA PLATE IS THE PROPERTY OF TRENCO CONTAINERS
 IT IS TO BE KEPT WITH THE CONTAINER THROUGHOUT ITS LIFE
 IT IS TO BE DESTROYED OR RECYCLED BY THE USER PRIOR TO THE OFFICIAL REMOVAL OF TRENCO CONTAINERS

1	30-320-020	1	498-231x1.6	316	or Equ.
NO	Item No.	Qty	DESCRIPTION	UNIT	REMARKS
1	0001	1	Custom Seal for a 3000L Tanker Container	pc	
2	0002	1	Transport & Handling Label	pc	
3	0003	1	Printed Label	pc	
4	0004	1	Printed Label	pc	
Number	Date	Checked	Checked	Checked	Approved

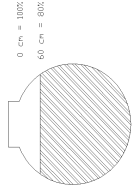
TRENCO CONTAINERS

Data Plate ITL007-21000/24FSTD

DA-320-020

CLIENT: ITL Drawing: DPL21FITL-007

SERIAL NUMBER:										ACTUAL CAPACITY:										LITRES										US GALLON																																																																																																																																																																																																																																																																																																																	
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0	21058	5563	18	20486	5412	32	19508	5153	46	18275	4828	60	16856	4453	74	15301	4042	93	13044	3446	189	2026	535	0	21030	5556	19	20426	5396	33	19428	5132	47	18179	4802	61	16749	4425	75	15186	4012	99	12063	3187	202	1001	264	0	21008	5550	20	20366	5380	34	19346	5111	48	18082	4777	62	16641	4396	76	15070	3981	101	12063	3187	202	1001	264	0	20982	5543	21	20303	5363	35	19263	5089	49	17985	4751	63	16533	4368	77	14954	3950	109	11072	2925	202	1001	264	0	20951	5535	22	20238	5346	36	19178	5066	50	17886	4725	64	16424	4339	78	14838	3920	117	10077	2862	202	1001	264	0	20917	5526	23	20172	5329	37	19093	5044	51	17787	4699	65	16314	4310	79	14721	3889	125	9086	2400	202	1001	264	0	20879	5516	24	20104	5311	38	19006	5021	52	17686	4672	66	16204	4281	80	14603	3858	134	7982	2109	202	1001	264	0	20839	5505	25	20035	5293	39	18919	4998	53	17585	4645	67	16093	4251	81	14485	3827	142	7016	1853	202	1001	264	0	20796	5494	26	19964	5274	40	18830	4974	54	17483	4619	68	15981	4222	82	14367	3795	150	6073	1604	202	1001	264	0	20750	5482	27	19892	5255	41	18740	4951	55	17381	4592	69	15869	4192	83	14248	3764	159	5046	1333	202	1001	264	0	20701	5469	28	19818	5235	42	18649	4927	56	17277	4564	70	15757	4163	84	14129	3732	168	4067	1074	202	1001	264	0	20651	5455	29	19743	5216	43	18557	4902	57	17173	4537	71	15644	4133	85	14010	3701	178	3045	804	202	1001	264	0	20598	5441	30	19666	5195	44	18464	4878	58	17068	4509	72	15530	4103	85	14010	3701	178	3045	804	202	1001	264	0	20543	5427	31	19588	5175	45	18370	4853	59	16963	4481	73	15416	4072	85	14010	3701	178	3045	804	202	1001	264



GENERIC CHART - FOR ACTUAL READING REFER TO THIS TANKS SPECIFIC CHART

1	1	Plate 1.6mm 90 x 360	316 or EQV
No	QTY	DESCRIPTION	MATERIAL
b	24/5/00	Plate was 2 mm thick now 1.6 mm	
a	7/4/99	First Issue	
Rev	Date	Revision Description	Drawn Approved
		DRG. NO.	
		VA21FSTD_104	



Calibration Plate

Friday, December 08, 2000

TO WHOM IT MAY CONCERN

Tank Container Contract:
ITL007

Compatibility Approval

This is to confirm that the materials used for the manufacture of all of the following items, i.e. piping, valves, gaskets and valve seats, incorporated in the above tank container are compatible with the products to be carried under normal operating conditions.

The products are listed on page one of the FT117 data sheet.

Yours Faithfully



ANDRÉ STEYN
DESIGN ENGINEER



PROPRIETOR: HENRED FRUEHAUF TRAILERS (PTY) LTD
REG. No. 65/00167/07
DIRECTORS: C JOWEL (CHAIRMAN), AM BROWN (BRITISH)
JA HOARE, NI JOWELL, JE McQUEEN

CENTRE TECHNIQUE TRANSPORT
TRANSPORT TECHNICAL CENTRE

RAPPORT D'EXAMEN DE DOCUMENTS TECHNIQUES CONCERNANT LE CONTROLE DE
CITERNES MOBILES

EXAMINATION REPORT OF TECHNICAL DOCUMENTS FOR INSPECTION OF PORTABLE
TANKS

TYPE : IMO 1 IM 101

Constructeur / Manufacturer	:	TRENCOR TANK CONTAINERS
	:	CAPE TOWN
	:	SOUTH AFRICA
Propriétaire / Owner	:	Ocean Container Investments LTD
	:	BRYANSTAN EAST 2021
	:	SOUTH AFRICA
Immatriculation / Registration Nr	:	TASU 911000 à/to TASU 911009
N° de série / Serial Nr	:	20-1385 à/to 20-1394
Quantité / Quantity	:	10
Modèle / Model	:	21F-STD
Dimensions / Dimensions	:	6058 mm x 2438 mm x 2591 mm
M.B.M.A. / M.A.G.W.	:	36000 kg « 79366 » lb
Capacité / Capacity	:	21000 l « 5544 » US gal
Tare / Tare weight	:	3850 kg « 8488 » lb

A la demande de / *At the request of* : TRENCOR TANK CONTAINERS
Par lettre/ *By letter* : du / *dated* 08/12/2000

Le dossier technique relatif à la fabrication des citernes mobiles en objet, présenté par les services concernés de cette Société et comprenant les documents cités en Annexe 1 a été examiné dans le cadre des conditions générales régissant les activités du BUREAU VERITAS, sur la base des indications figurant sur l'Instruction technique IND/IT 178.2 "Règlement pour la classification et l'inspection des conteneurs et caisses mobiles citernes" et des prescriptions réglementaires applicables et fait l'objet des observations mentionnées ci-après :

The technical file relating to the manufacture of the above portable tanks presented by the Company's relevant department and including the documents mentioned in Annex 1, has been examined within the general conditions governing the BUREAU VERITAS Technical Instruction IND/IT 178.2 "Rules for the classification and the survey of tank containers and swap bodies" and the applicable regulatory provisions and is subject to the following remarks :

Tout ce qui n'est pas prévu dans ces documents est supposé être conforme aux règles de construction et aux prescriptions des réglementations applicables.

All details not shown in these documents are assumed to be in compliance with the construction practices and within the provisions of the applicable regulations.

A - STRUCTURE

Les valeurs satisfaisantes des contraintes auxquelles sont soumises la structure extérieure, la citerne et leurs liaisons lors des opérations de transport et de manutention, ont été confirmées par les essais de prototype réalisés sur la citerne mobile :

- Classification / *Classification* : BVCT 9870610/G
- Modèle(s) / *Model(s)* : 26FSTD
- Rapport(s) d'essais / *Test report(s)* : BVCT 9870610/G
- Base des essais (R) / *Test basis (R)* : 36000 kg « 79366 » lb
- Charge admissible de gerbage pour 1,8 g / *Allowable stacking weight for 1.8 g* : 192000 kg « 423283 » lb testé à / *tested at*
: 86400 kg « 190477 » lb par montant / *per post*
- Rigidité transversale / *Racking test* : 15290 kg « 33708 » lb
- Levage par pinces / *Grappler lifting* : N.A.
- Essai dynamique / *Impact test* : 5.25 g / 36000 kg

B - CITERNE

Nous n'avons pas d'observation à formuler sur le dimensionnement de la citerne et des éléments constituant de l'enveloppe sous pression, lequel est conforme aux prescriptions du Code ASMEVIII-I par rapport aux valeurs suivantes :

- Pressions de calcul / *Design pressures*

4 bar	58 psig
-0.4 bar	-5.8 psig
- Température de calcul / *Design temperature*

180 °C	356 °F
--------	--------
- Pressions maxi et mini de service / *Maxi and mini allowable working pressures*

4 bar	58 psig
-0.4 bar	-5.8 psig
- Températures d'utilisation / *Temperature range*

132 °C	269.6 °F
-40 °C	-40° F
- Contrôle non destructif des soudures / *Examination of welded joints* :

Fonds/Heads	Radio 100 %
Virole/Shell	Spot Radio (0.85)

A - FRAME

The satisfactory stress values to which the framework, the tank and their mountings are submitted during transport and handling operations have been confirmed by the prototype tests carried out on the portable tank :

B - TANK

We have no comment to make about the dimensions of the tank pressure vessel components which conform with the provisions of the ASMEVIII-I Code with regard to the following values :

C - EQUIPEMENTS

La constitution, les protections, les valeurs de réglage et le dimensionnement des équipements de vidange et de sécurité sont conformes aux prescriptions des réglementations :

C - FITTINGS

The constitution, the location, the protections, the setting values and the dimensions of the discharge and relief devices conform with the regulatory provisions of :

IMO US DOT UK DOT RID / ADR

pour les citernes mobiles :

for the portable tanks :

- de type / *type*

: IMO 1 IM 101

- vidange / *discharge*

: Basse/*Bottom*

: 3 fermeture(s) / *closure(s)*

C.1. VARIANTE - A

C.1. ALTERNATIVE - A

- Dispositif(s) de sécurité / *Safety device(s)*

▪ composé(s) de / *composed of :*
 1 soupape(s) de sécurité à ressort
1 spring loaded safety valve(s)
 2 ½ in PEROLO (Model MX65F44TSC)
 Pression de tarage 4.4 bar
Setting pressure « 63.80 » psig
 Pare-flamme / *Fire-shield*

Indicateur de pression / *tell-tale indicator*

2 disque(s) de rupture, taré(s) à
2 rupture disk(s) bursting pressure
 4.84 bar « 70.18 » psig 20 °C
 4.4 bar « 63.80 » psig 60 °C

Bac à égouttures fermé / *Spillbox*

- Disposition / *Arrangement*

: En série/*In series*

- Débit total en air / *Total vent capacity*

: 12047 m3/h 3.35 m3/s

- Débit minimal réglementaire
Minimum required vent capacity

: 10889 m3/h 3.02 m3/s

- Surface extérieure exposée
Exposed external area

: 45.48 m² « 489.55 » sqft

- Protection calorifuge
Protective insulation

: Calorifuge/*Cladding*

C.2. VARIANTE - B

- Dispositifs de sécurité / *Safety devices*

C.2. ALTERNATIVE - B

: ■ composé(s) de / *composed of* :
1 soupape(s) de sécurité à ressort
1 *spring loaded safety valve(s)*
2 ½ in PEROLO (Model MX65F44TSC)
Pression de tarage 4.4 bar
Setting pressure « 63.80 » psig
Pare-flamme / *Fire-shield*

Bac à égouttures fermé / *Spillbox*

- Disposition / *Arrangement*

: N.A.

- Débit total en air / *Total vent capacity*

: 13385 m³/h 3.72 m³/s

- Débit minimal règlementaire
Minimum required vent capacity

: 10889 m³/h 3.02 m³/s

- Surface extérieure exposée
Exposed external area

: 45.48 m² « 489.55 » *sqft*

D. CONCLUSIONS

Après les modifications et les contrôles mentionnés au Chapitre B, les citernes mobiles citées en objet resteront conformes aux prescriptions générales applicables des réglementations suivantes

D. CONCLUSIONS

After modifications and controls mentioned in Chapter B, the portable tanks referred to will remain conform with the general prescriptions of the following regulations :

CSC N° : F/BV/6853/98

- Convention Internationale sur la sécurité des Conteneurs
- *Convention for Safe Containers*

UIC : IC 70

- Union Internationale des Chemins de Fer
- *International Union of Railways*

IMO 1

- Organisation Maritime Internationale Code IMDG - Amendement 29/98
- *International Maritime Organisation, IMDG Code – Amendment 29/98*

IND/IT 178.2

- Instruction Technique IND/IT 178.2, “Règlement pour la classification et l’inspection des conteneurs et caisses mobiles citernes”, du BUREAU VERITAS
- *BUREAU VERITAS Technical Instruction IND/IT 178.2 “Rules for the classification and the survey of tank containers and swap bodies”*

IM 101

- Département des transports des Etats Unis D'Amérique - CFR 49
- *Regulation of the United States Department of Transport - CFR 49*

AAR 600

- Association des Chemins de Fer Américains
- *American Association of Railroads*

TC IMPACT APPROVED

- Transport Canada
- *Canada Transport*

RID / ADR : F/4832/BV/00

- Règlement concernant le Transport international ferroviaire des Marchandises Dangereuses - Appendice X, édition 1999
- Accord Européen relatif au transport international des marchandises Dangereuses par Route - Appendice B1b, édition 1999
- *Regulation concerning the International transportation of Dangerous goods by Rail - Appendix X, 1999 edition*
- *European Agreement for the International transportation of Dangerous goods by Road - Appendix B1b, 1999 edition*

D'autre part, les citernes mobiles en question sont conformes aux prescriptions particulières des dernières réglementations susnommées pour le transport des produits listés en annexe.

Besides, the containers referred to are in accordance with the particular provisions of the last above mentioned regulations for the transportation of products listed in annex.


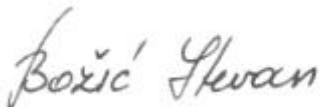
Cependant, la responsabilité de vérifier la compatibilité des produits avec les matériaux des conteneurs avant chargement incombe au chargeur.

However, this is the shipper's responsibility to check products compatibility with the containers materials before loading.

Emis à / Issued at Johannesburg, le/on 30 January 2001

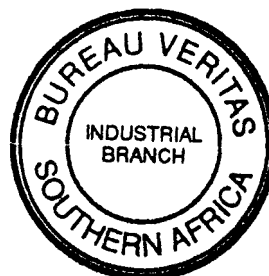
L'Ingénieur en charge
The Engineer in charge

Le Responsable du Centre Technique Transport
The Manager of the Transport Technical Centre



S BOZIC

G BIESSY



ANNEXE 1 / ANNEX 1

DOCUMENTS EXAMINES / EXAMINED DOCUMENTS

Type de document / <i>Type of document</i>	Référence / <i>Reference</i>
- Fiche technique FT 117 <i>FT 117 Technical data sheet</i>	ITL 007 du / <i>dated</i> 08.12.00
- Liste de produits <i>Products list</i>	ANNEXE 2 & ANNEXE 2 bis
- Certificat de compatibilité <i>Compatibility certificate</i>	YES
- Note(s) de calcul / <i>Calculation sheet(s)</i>	21FSTD2/ITL 007
- Plan d'ensemble / <i>General assembly drawing</i>	GA 21FITL Rev.A
- Plan de marquage / <i>Marking drawing</i>	MD21F ITL-007 Rev A
- Plan de plaque(s) / <i>Data plate(s) drawing</i>	DPL21F ITL-007 Rev C
- Plan d'ensemble de la structure <i>Frame assembly drawing</i>	FA24FSTD3[1-2] Rev.A
- Plan d'ensemble citerne <i>Tank assembly drawing</i>	VA21FSTD2 Rev.E

ANNEXE 2 / ANNEX 2

LISTE DE PRODUITS / PRODUCTS LIST

Selon FT 117 / A

According to FT 117 / A

DISPOSITIFS DE SECURITE

SAFETY DEVICES

1 Disque(s) de rupture + soupape(s) installés en serie

1 rupture disk(s) de rupture + safety valve(s) in series

1 - LIQUIDES INFLAMMABLES DE LA CLASSE 3

1 - FLAMMABLE LIQUIDS - CLASS 3

Suivant marginal(aux)
3.1.3. et 3.1.4. de l'appendice X du RID

Following marginal(s)
3.1.3. and 3.1.4. of appendix X of RID

212.310 c) et d) de l'appendice B1b de l'ADR

212.310 c) and d) of appendix B1b of ADR

2 - LIQUIDES TOXIQUES DE LA CLASSE 6.1.

2 - TOXIC LIQUIDS - CLASS 6.1.

Suivant marginal(aux)
6.1.4. de l'appendice X du RID

Following marginal(s)
6.1.4. of appendix X of RID

212.610 d) de l'appendice B1b de l'ADR

212.610 d) of appendix B1b of ADR

3 - LIQUIDES CORROSIFS DE LA CLASSE 8.

3 - CORROSIVE LIQUIDS - CLASS 8.

Suivant marginal(aux)
8.1.4. de l'appendice X du RID

Following marginal(s)
8.1.4. of appendix X of RID

212.810 d) de l'appendice B1b de l'ADR

212.810 d) of appendix B1b of ADR

4 - LIQUIDES LA CLASSE 9

4 - LIQUIDS - CLASS 9.

Suivant marginal(aux)
9.1. 2°, 11°c), 12°c), 31° à 35° de l'appendice X du RID

following marginal(s)
9.1. 2°, 11°c), 12°c), 31° to 35° of appendix X of RID

212.910. 2°, 11°c), 12°c), 31° à 35° de l'appendice B1b de l'ADR

212.910. 2°, 11°c), 12°c), 31° to 35° of appendix B1b of ADR

La responsabilité de vérifier la compatibilité des produits avec les matériaux des conteneurs avant chargement incombe au chargeur.
This is the shipper's responsibility to check products compatibility with the containers materials before loading

A N N E X E 2 bis / A N N E X 2 bis

LISTE DE PRODUITS / PRODUCTS LIST

DISPOSITIFS DE SECURITE

SAFETY DEVICES

Soupape(s) sans disque(s) de rupture

Safety valve(s) without bursting disk(s)

1 - LIQUIDES INFLAMMABLES DE LA CLASSE 3

1 - FLAMMABLE LIQUIDS - CLASS 3

Suivant marginal(aux)
3.1.4. de l'appendice X du RID
212.310 d) de l'appendice B1b de l'ADR

*Following marginal(s)
3.1.4. of appendix X of RID
212.310 d) of appendix B1b of ADR*

2 - LIQUIDES CORROSIFS DE LA CLASSE 8

2 - CORROSIVE LIQUIDS - CLASS 8

Suivant marginal(aux)
8.1.4. de l'appendice X du RID
212.810 d) de l'appendice B1b de l'ADR

*Following marginal(s)
8.1.4. of appendix X of RID
212.810 d) of appendix B1b of ADR*

4 - LIQUIDES DE LA CLASSE 9

4 - LIQUIDS OF CLASS 9

Suivant marginal(aux)
9.1. 2°, 11°C), 12°C), 31° à 35°
de l'appendice X du RID
212.910. 2°, 11°C), 12°C), 31° à 35°
de l'appendice B1b de l'ADR

*Following marginal(s)
9.1. 2°, 11°C), 12°C), 31° to 35°
of appendix X of RID
212.910. 2°, 11°C), 12°C), 31° to 35°
of appendix B1b of ADR*

<p>La responsabilité de vérifier la compatibilité des produits avec les matériaux des conteneurs avant chargement incombe au chargeur. <i>This is the shipper's responsibility to check products compatibility with the containers materials before loading</i></p>

TRANSPORT TECHNICAL CENTRE

AAR 600 CONFORMANCE - EXAMINATION REPORT OF TECHNICAL DOCUMENTS FOR INSPECTION OF PORTABLE TANKS

Type :IMO 1 IM 101

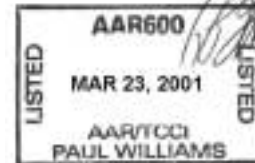
Manufacturer : TRENCOR TANK CONTAINERS
CAPE TOWN
SOUTH AFRICA

Owner : Ocean Container Investments LTD
BRYANSTAN EAST 2021
SOUTH AFRICA

Registration Nr : TASU 911000 to TASU 911009
Serial Nr : 20-1385 to 20-1394

Quantity : 10
Model : 21F-STD

Dimensions : 6058 mm x 2438 mm x 2591 mm
M.A.G.W. : 36000 kg 79366 lb.
Capacity : 21000 l 5544 US gal
Tare weight : 3850 kg 8488 lb.



At the request of : TRENCOR TANK CONTAINERS
By letter dated 08/12/2000

The technical file relating to the manufacture of the above portable tanks presented by the Company's relevant department and including the documents mentioned in Annex 1, has been examined within the general conditions governing the BUREAU VERITAS Technical Instruction IND/IT 178.2 « RULES FOR THE CLASSIFICATION AND THE SURVEY OF TANK CONTAINERS-AND SWAP BODIES » and the applicable regulatory provisions and is subject to the following remarks.

All details not shown in these documents are assumed to be in compliance with the construction practices and within the provisions of the applicable regulations.

1 - COMMENTS

The conformance of these units with the provisions of AAR 600 has been checked, namely :

AAR 600-1	Type	: IMO 1	IM 101
AAR 600-4	Design Pressure	: 58 psig	
AAR 600-5	Thickness of plates		
	Material	: GR1.4401	
	Standard	: DIN 17441	
	Shell thickness	: 4.4 mm	
	Heads thickness	: 5.43/ 4.49 mm (knuckle/ crown)	
AAR 600-11 § c	Gaging devices, top loading and unloading devices and air inlet devices	: Spillbox	
AAR 600-12	Bottom outlet devices	: 3 Closures	
AAR 600-13	Safety relief device(s)	: Alternative A: 1 composed of : One 2 ½ in PEROLO (Model MX65F44TSC) spring-loaded safety valvewith flamme trap Setting pressure « 63.80 » psig one bursting disk, bursting pressure 63.8 psig	
		Flow rate at 15°C, 1 atm : 12047 m ³ /h	
		: Alternative B: 1 composed of : One 2 ½ in PEROLO (Model MX65F44TSC) spring-loaded safety valvewith flamme trap Setting pressure « 63.80 » psig	
		Flow rate at 15°C, 1 atm : 13385 m ³ /h	
AAR 600-15 (d)	Impact test	: 5.25g / 36000 kg	



2 - CONCLUSION

The tank containers are in accordance with the requirements of the AAR 600 specifications (dated January 9th, 1996).

- ✍ The present Examination Report does not exempt the owner or the manufacturer from observing the relevant requirements of the AAR 600-17 prescription.

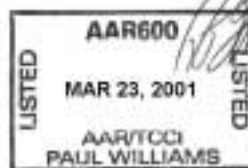
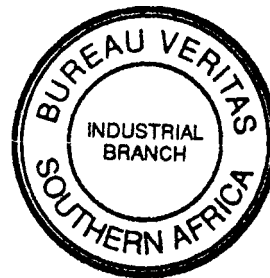
Issued at JOHANNESBURG, on 30 January 2001

The Engineer in charge

S. BOZIC

The Manager of Transport Technical Centre

G BIESSY



ANNEX 1

EXAMINED DOCUMENTS

Type de document / <i>Type of document</i>	Référence / <i>Reference</i>
- Fiche technique FT 117 <i>FT 117 Technical data sheet</i>	ITL 007 du / <i>dated</i> 08.12.00
- Liste de produits <i>Products list</i>	ANNEXE 2 & ANNEXE 2 bis
- Certificat de compatibilité <i>Compatibility certificate</i>	YES
- Note(s) de calcul / <i>Calculation sheet(s)</i>	21FSTD2/ITL 007
- Plan d'ensemble / <i>General assembly drawing</i>	GA 21FITL Rev.A
- Plan de marquage / <i>Marking drawing</i>	MD21F ITL-007 Rev A
- Plan de plaque(s) / <i>Data plate(s) drawing</i>	DPL21F ITL-007 Rev C
- Plan d'ensemble de la structure <i>Frame assembly drawing</i>	FA24FSTD3[1-2] Rev.A
- Plan d'ensemble citerne <i>Tank assembly drawing</i>	VA21FSTD2 Rev.E



CERTIFICAT DE CONFORMITE AU PROTOTYPE

**CONTENEUR CITERNE (X)
TANK CONTAINER**

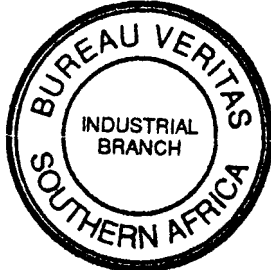
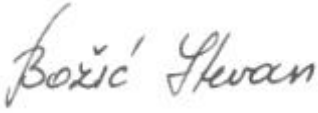
PROTOTYPE CONFORMITY CERTIFICATE

**CITERNE MOBILE ()
SWAP-BODY**

N° F/4832/BV/00

REGLEMENTS DE REFERENCE	REFERENCE REGULATIONS : ADR / RID
<u>Conditions générales</u>	<u>General characteristics</u>
N° certificat d'agrément du prototype	<i>Prototype approval number</i> : F/4832
N° BVCT d'agrément du prototype	<i>BVCT prototype approval number</i> : 9870610/G
Identification du prototype	<i>Identification of the prototype</i> : 26F-STD
N° d'identification du modèle en objet	<i>Subject Model id. number</i> : 21F-STD
N° BVCT de la série	<i>BVCT inspection number</i> : 0070441/J
N° d'immatriculation	<i>Registration number</i> : TASU 911000 à/to TASU 911009
Date de construction	<i>Date of manufacture</i> : 2000
Nom du constructeur	<i>Manufacturer's name</i> : TRENCOR TANK CONTAINERS
Adresse	<i>Address</i> : CAPE TOWN SOUTH AFRICA
Nom du propriétaire	<i>Owner's name</i> : Ocean Container Investments LTD
Adresse	<i>Address</i> : BRYANSTAN EAST 2021 SOUTH AFRICA
Masse brute maximale	<i>Maximum gross weight</i> : 36000 kg
Tare	<i>Tare weight</i> : 3850 kg
Plan d'ensemble	<i>General assembly</i> : GA 21FITL Rev.A
<u>Caractéristiques du cadre</u>	<u>Characteristics of the frame</u>
Dimensions hors tout :	<i>Overall dimensions :</i>
---> Longueur	<i>---> Length</i> : 6058 mm
---> Largeur	<i>---> Width</i> : 2438 mm
---> Hauteur	<i>---> Height</i> : 2591 mm
Matériau de construction	<i>Material of construction</i> : EN 10210-1 S355 J2H
<u>Caractéristiques du réservoir</u>	<u>Characteristics of the tank</u>
Capacité nominale	<i>Nominal capacity</i> : 21000 l
Diamètre intérieur	<i>Internal diameter</i> : 2200 mm
Nombre de compartiments	<i>Number of compartments</i> : 1
Matériau de construction	<i>Material of construction</i> : GR1.4401
Norme	<i>Standard</i> : DIN 17441 DIN 17440
Epaisseur minimale de calcul :	<i>Minimum design thickness :</i>
---> Virole	<i>---> Shell</i> : 4.4 mm
---> Fonds	<i>---> Heads</i> : 5.43 mm
Epaisseur minimale de construction :	<i>Minimum construction thickness :</i>
---> Virole	<i>---> Shell</i> : 4.4 mm
---> Fonds	<i>---> Heads</i> : 5.43/ 4.49 mm (knuckle/ crown)
Epaisseur équivalente d'acier doux	<i>Equivalent mild steel thickness</i> : - Virole / Shell : 6.39 mm : - Fonds / Heads : 7.73/ 6.47 mm (knuckle/ crown)

N° F/4832/BV/00

REGLEMENTS DE REFERENCE	REFERENCE REGULATIONS : ADR / RID
<u>Caractéristiques du réservoir (suite)</u>	<u>Characteristics of the tank (cont'd)</u>
Pression maximale de service	Maximum working pressure : 4 bar
Température maximale de service	Maximum working temperature : 132 °C
Température minimale de service	Minimum working temperature : -40 °C
Pression d'épreuve	Test pressure : 6 bar
Pression de calcul réglementaire	Regular design pressure : 6 bar
Code de calcul	Design code : ASMEVIII-I
Pression de calcul selon code	Design pressure according to code : 4 bar
Température de calcul	Design temperature : 180 °C
Règlement intérieur réglementaire	Regular internal lining : N.A.
<u>Equipements du réservoir</u>	<u>Equipment of the tank</u>
Fiche technique de référence	Reference technical data FT 117 : ITL 007
Organes de remplissage	Filling devices : Trou d'homme / Manhole (DN 500)
Organes de vidange	Discharge devices : Vidange basse 3 fermetures bottom discharge 3 closures
Ouvertures d'inspection	Inspection openings : Trou d'homme / Manhole
Nombre de soupapes	Relief valves number : 1
Tarage	Setting : 4.4 bar
Nombre de disques de rupture	Rupture discs number : 2
Pression d'éclatement	Bursting pressure : 4.84 bar (20 °C)
Montage :	Arrangement :
---> en série	---> in series : Oui/Yes
---> en parallèle	---> in parallel : Non/No
Autres organes de sécurité	Other safety devices : Non/No
Protection des organes de sécurité	Protection of safety devices : Bac à égouttures fermé/ Spillbox
Isolation thermique	Thermal insulation : Oui/Yes
Protection solaire	Sun shield : Non/No
Réchauffeur	Heater : Vapeur/Steam
Pression d'épreuve	Test pressure : 10.5 bar
<u>Essais</u>	<u>Tests</u>
N° du rapport d'essai	Test Report Nr : 9870610/G
Date de l'épreuve hydraulique initiale	Date of initial hydraulic test : 30/11/2000
Date de l'épreuve d'étanchéité initiale	Date of initial leakage test : 11/12/2000
<u>Produits transportables</u>	<u>Substances suitable for carriage</u>
Voir liste jointe / See the attached list	
<p>Etabli par le Bureau Veritas, agréé par le Ministère de l'Équipement, des Transports et du Tourisme à délivrer les certificats de conformité au prototype, conformément aux réglementations précitées.</p> <p>Issued by Bureau Veritas, approved by the French "Ministère de l'Équipement, des Transports et du Tourisme" to deliver the prototype conformity certificates, according to the hereabove regulations.</p> <p>Johannesburg, le / on 30/01/2001</p> <p>L'ingénieur en charge / The engineer in charge</p>	
	
	
S. BOZIC	

N° F/4832/BV/00

REGLEMENTS DE REFERENCE / REFERENCE REGULATIONS: ADR/RID**LISTE DE PRODUITS / PRODUCTS LIST**

Selon FT 117 / A

*According to FT 117 / A***DISPOSITIFS DE SECURITE****SAFETY DEVICES**

1 Disque(s) de rupture + soupape(s) installés en serie

*1 rupture disk(s) de rupture + safety valve(s) in series***1 - LIQUIDES INFLAMMABLES DE LA CLASSE 3****1 - FLAMMABLE LIQUIDS - CLASS 3**

Suivant marginal(aux)

Following marginal(s)

3.1.3. et 3.1.4. de l'appendice X du RID

3.1.3. and 3.1.4. of appendix X of RID

212.310 c) et d) de l'appendice B1b de l'ADR

*212.310 c) and d) of appendix B1b of ADR***2 - LIQUIDES TOXIQUES DE LA CLASSE 6.1.****2 - TOXIC LIQUIDS - CLASS 6.1.**

Suivant marginal(aux)

Following marginal(s)

6.1.4. de l'appendice X du RID

6.1.4. of appendix X of RID

212.610 d) de l'appendice B1b de l'ADR

*212.610 d) of appendix B1b of ADR***3 - LIQUIDES CORROSIFS DE LA CLASSE 8.****3 - CORROSIVE LIQUIDS - CLASS 8.**

Suivant marginal(aux)

Following marginal(s)

8.1.4. de l'appendice X du RID

8.1.4. of appendix X of RID

212.810 d) de l'appendice B1b de l'ADR

*212.810 d) of appendix B1b of ADR***4 - LIQUIDES LA CLASSE 9****4 - LIQUIDS - CLASS 9.**

Suivant marginal(aux)

following marginal(s)

9.1. 2°, 11°c), 12°c), 31° à 35° de l'appendice X du RID

9.1. 2°, 11°c), 12°c), 31° to 35° of appendix X of RID

212.910. 2°, 11°c), 12°c), 31° à 35° de l'appendice B1b de l'ADR

212.910. 2°, 11°c), 12°c), 31° to 35° of appendix B1b of ADR

La responsabilité de vérifier la compatibilité des produits avec les matériaux des conteneurs avant chargement incombe au chargeur.
This is the shipper's responsibility to check products compatibility with the containers materials before loading

N° F/4832/BV/00

REGLEMENTS DE REFERENCE / REFERENCE REGULATIONS: ADR/RID

LISTE DE PRODUITS / PRODUCTS LIST

DISPOSITIFS DE SECURITE

SAFETY DEVICES

Soupape(s) sans disque(s) de rupture

Safety valve(s) without bursting disk(s)

1 - LIQUIDES INFLAMMABLES DE LA CLASSE 3

1 - FLAMMABLE LIQUIDS - CLASS 3

Suivant marginal(aux)
3.1.4. de l'appendice X du RID
212.310 d) de l'appendice B1b de l'ADR

*Following marginal(s)
3.1.4. of appendix X of RID
212.310 d) of appendix B1b of ADR*

2 - LIQUIDES CORROSIFS DE LA CLASSE 8

2 - CORROSIVE LIQUIDS - CLASS 8

Suivant marginal(aux)
8.1.4. de l'appendice X du RID
212.810 d) de l'appendice B1b de l'ADR

*Following marginal(s)
8.1.4. of appendix X of RID
212.810 d) of appendix B1b of ADR*

4 - LIQUIDES DE LA CLASSE 9

4 - LIQUIDS OF CLASS 9

Suivant marginal(aux)
9.1. 2°, 11°C, 12°C, 31° à 35°
de l'appendice X du RID
212.910. 2°, 11°C, 12°C, 31° à 35°
de l'appendice B1b de l'ADR

*Following marginal(s)
9.1. 2°, 11°C, 12°C, 31° to 35°
of appendix X of RID
212.910. 2°, 11°C, 12°C, 31° to 35°
of appendix B1b of ADR*

<p>La responsabilité de vérifier la compatibilité des produits avec les matériaux des conteneurs avant chargement incombe au chargeur. <i>This is the shipper's responsibility to check products compatibility with the containers materials before loading</i></p>

CERTIFICAT D'AGREMENT C.S.C. / C.S.C. TYPE APPROVAL

C.S.C. N° F/BV/6853/98

Nom et adresse du propriétaire : Ocean Container Investments LTD
Name and address of the owner BRYANSTAN EAST 2021, SOUTH AFRICA

Nom et adresse de l'exploitant : TANKSPAN LEASING LTD.
Name and address of the operator Kings Hill. West Malling, Kent ME 19 4YU. ENGLAND

Nom du Constructeur : TRENCOR TANK CONTAINERS
Name of Manufacturer CAPE TOWN SOUTH AFRICA

CONTENEURS- CONTAINERS

Référence du prototype / Design type reference: 9870610/G

Type / Type : TANK - IMO 1 **Modèle / Model** : 21F-STD **Designation ISO** :22T6

Dimensions H.T. / Overall dimensions : 6058 mm x 2438 mm x 2591 mm

Masse brute maximale : 36000 kg **Tare** : 3850 kg **Capacité** : 21000 l
Maximum gross weight : « 79366 » lbs *Tare* : « 8488 » lbs *Capacity* : « 5544 » US Gal

Conditions d'essais / Testing conditions

- **Charge admissible de gerbage / Allowable stacking weight** : 192000 kg « 423283 » lbs
- **Rigidité transversale / Transverse racking test load** : 15290 kg « 33708 » lbs

SERIES / SERIES

Numéros de série de construction : 20-1385 à/to 20-1394
Serial numbers of manufacture

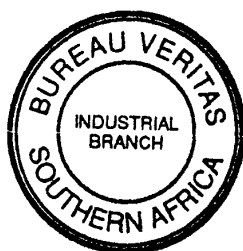
Numéros d'immatriculation : TASU 911000 à/to TASU 911009
Registration numbers

Année de construction : 2000
Year of construction

Par la présente et par délégation des Autorités Françaises, le BUREAU VERITAS autorise le Demandeur à apposer la plaque d'agrément aux fins de la sécurité sur tous les conteneurs de la série définie ci-dessus.
By the present, and by delegation of the French Authorities, BUREAU VERITAS authorises the Applicant to affix the Safety Approval Plate to each container of the hereabove defined series.

A / At : JOHANNESBURG
Le / On : 30/01/2001

Pour le BUREAU VERITAS,
la personne habilitée
FOR the BUREAU VERITAS
the person in charge



Božić Stvan

S. BOZIC

Réf: N° TLD/X-0441/00/LV

TRANSPORT CANADA
Transport Dangerous Goods Directorate
Canada Building
344 Slater Street
OTTAWA, ONTARIO K1A 0W5

Kind attention of M. K. GREEN
Senior Specialist Tanks

San Francisco, USA, 30/01/2001

Subject : PRENOTIFICATION OF INTENT TO MARK PORTABLE TANKS

Dear Sirs,

Would you please find herewith enclosed, original copy of our report concerning ISO tanks built by :

- Manufacturer : TRENCOR TANK CONTAINERS,
CAPE TOWN,
SOUTH AFRICA
- Owner : Ocean Container Investments LTD,
BRYANSTAN EAST 2021,
SOUTH AFRICA
- Model : 21F-STD
- BVCT : 0070441/J
- Registration number : TASU 911000 to TASU 911009

We wish you safe receipt of this document and remain at your disposal to provide you any further information.

Encl. : Prenotification of intent to mark

TRANSPORT CANADA REPORT
Yr REF. ASD4067-28-UNKNOWN

TRANSPORT TECHNICAL CENTRE
Report Nr BVCT 0070441/J Revision 0

PRENOTIFICATION OF INTENT TO MARK PORTABLE TANKS

We, the undersigned, Manager of Transport Technical Centre of BUREAU VERITAS ,

- acting at the request of TRENCOR TANK CONTAINERS,
- within the scope of the general conditions and practices of our Company,

hereby submit notification in respect of new tank containers to be marked « TC IMPACT APPROVED » which are now under construction to be undernoted design and which will be certified by BUREAU VERITAS on satisfactory completion under BUREAU VERITAS survey as complying with requirements and also Society's Container Certification Scheme, CSC, IMDG, IM 101 UK-DOT, RID / ADR and the conditions of Certificate of Registration n° 25-052.

Name of manufacturer	: TRENCOR TANK CONTAINERS, CAPE TOWN, SOUTH AFRICA
Name of owner	: Ocean Container Investments LTD, BRYANSTAN EAST 2021, SOUTH AFRICA
Quantity	: 10
Owner serial numbers	: TASU 911000 to TASU 911009
Manufacturer serial numbers	: 20-1385 to 20-1394
Model	: 21F-STD
Nominal capacity (liters)	: 21000 l
Maximum gross weight (R)	: 36000 kg « 79366 » lb
Tare weight	: 3850 kg « 8488 » lb
Dimensions	: 6058 mm x 2438 mm x 2591 mm
Design code	: ASMEVIII-I
Design pressure	: 4 bar 58 psig
Design temperature	: 180 °C 356 °F
Maxi allowable working pressure	: 4 bar 58 psig
Test pressure	: 6 bar 87 psig
Main frame drawing	: FA24FSTD3[1-2] Rev.A
Main general drawing	: GA 21FITL Rev.A
Impact test value	: 5.25 g / 36000 kg

Issued at SAN FRANCISCO, USA, on 30/01/2001



F MIDY

Manager, Corporate Technical Services

RAILTRACK

Freight Technical Services

Bureau Veritas
P.O. Box 652097,
Benmore 2010,
Johannesburg,
Republic of South Africa

Your Reference: BVCT 0070441/J
Our Reference: C2121/3

Date: 1 May 2001

Dear Sir/Madam,

UIC REGISTRATION - LETTER OF CONFORMITY

In connection with your recent application, I can confirm that the containers detailed below, complying with the design previously registered under Railtrack Registration Certificate No. **C2121** are hereby accepted for transit on **UIC** member railways.

Container Type:	20' ISO Tank Container
Manufacturer:	Trencor Containers
CSC Type Approval Number:	F/BV/6853/98
Model:	21F-STD
Manufacturer's Serial Numbers:	20-1385 - 20-1394
Lessor / Owner:	Ocean Container Investments
Lessor / Owner Serial Numbers:	TASU 911000 - TASU 911009

Yours faithfully,



Andy Hurst
Intermodal Engineer

Freight Technical Services Room 279 Derwent House RTC Business Park London Road Derby DE24 8UP
Tel 01332 263180 Fax 01332 263182 e-mail adamsam.railtrack@ems.rail.co.uk



**Customs Convention on the International
Transport of Goods under cover of TIR
Carnets (TIR Convention) 1975
Customs Convention on Containers 1972
Certificate of approval of containers by design type**

Unique
reference number

4201

1. Certificate number GB/C 4201 BV/1999
2. This is to certify that the container design type described below has been approved and that containers manufacture to this type can be accepted for the transport of goods under Customs Seal.
3. Kind of container IMO 1 TANK
4. Identification number or letters of the design type 21F(STD)
5. Identification number of the working drawings GA21FIPI-029
6. Identification number of the design specifications 21F(STD)
7. Tare weight 3850 kg
8. External dimensions in centimetres 605,8 X 243,8 X 260,0
9. Essential characteristics of structure (nature of materials, kind of construction, parts which are reinforced, whether bolts are riveted or welded etc.) TANK CONTAINER WELDED FRAME AND TANK INSULATED AND CLAD, FITTED IN DISMOUNTABLE FRAME FOR THE TRANSPORT OF DANGEROUS PRODUCTS
10. Details of any unusual features NONE
11. This certificate is valid for all containers manufactured in conformity with the drawings and specifications referred to above.
12. Issued to TRENCOR CONTAINERS
(manufacturer's name and address)

JUNCTION STREET, PARROW INDUSTRIA 7490, CAPE TOWN, SOUTH AFRICA
who is authorised to affix an approval plate to each container of the approved design type manufactured by him.

at LONDON
(place)

27th August 1999

by M. C. Stephens
Signature and stamp of issuing authority)



Note: If a container no longer complies with the technical conditions prescribed for approval it shall, before it can be used for the transport of goods under Customs Seal, be so repaired as to comply with the said technical conditions.

This certificate shall only apply to containers of the design type specified above. Any change to the approved design, however small, shall be treated as creating a new type which will require approval by the competent authorities before it can be used for the transport of goods under Customs Seal.