



NMPP Alliance

Transnet Limited

**New Multi Product Pipeline (NMPP)
Project**

50-A03 – 93 ULP ACCUMULATOR
DATASHEET

2684358-U-TM1-ME-DS-083

Revision 5 – Issued for Construction



NMPP Alliance

Transnet Limited

New Multi Product Pipeline (NMPP) Project

**50-A03 – 93 ULP ACCUMULATOR
DATASHEET**

February 2011

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Job number 2684358

Job title	New Multi Product Pipeline (NMPP) Project	Job number
		2684358

Document title	50-A03 – 93 ULP ACCUMULATOR DATASHEET	File reference
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Document ref 2684358-U-TM1-ME-DS-083

Revision	Date	Filename			
A	14 April 08	Revision Description	Issued for Enquiry		
			Prepared by	Checked by	Approved by
		Name	C Wray	M Hanrahan	F Du-Plessis
		Signature	CW	MH	FdP
B	16 May 08	Filename			
		Description	Issued for Enquiry		
			Prepared by	Checked by	Approved by
		Name	H Montgomery	M Hanrahan	F Du-Plessis
1	01 Nov 08	Filename			
		Description	Issued for Construction		
			Prepared by	Checked by	Approved by
		Name	H Montgomery	D Admony	F Du-Plessis
2	05 Mar. 09	Filename			
		Revision Description	Issued for Tender		
			Prepared by	Checked by	Approved by
		Name	D Govender	D Admony	F Du-Plessis
		Signature			


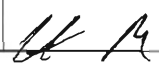
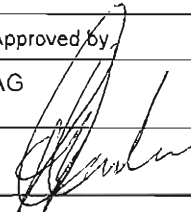
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		2684358

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Document ref 2684358-U-TM1-ME-DS-083

Revision	Date	Filename			
3	22/10/20009	Revision Description	Issued for Order		
			Prepared by	Checked by	Approved by
		Name	SVT	HM	FDP
		Signature			
4	7/4/10	Filename			
		Description	Approved		
			Prepared by	Checked by	Approved by
		Name	SVT	HM	FDP
		Signature			
5	15/02/11	Filename			
		Description	Issued for Construction		
			Prepared by	Checked by	Approved by
		Name	RD	HM	AG
		Signature			
		Filename			
		Revision Description			
			Prepared by	Checked by	Approved by
		Name			
		Signature			

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DATASHEET**

2684358-U-TM1-ME-DS-083

Revision 5 – Issued for Construction

Sign-Off

Organisation	Name	Signature	Date
NMPP Alliance Approved	S. PATERSON ^{MECH} ENG.	<i>[Signature]</i>	18-FEB-11
	S. DALZIEL	<i>[Signature]</i>	21/02/11
Transnet Capital Projects Accepted	JACK DAVIES	<i>[Signature]</i>	2011/03/03

Revision Description Sheet

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INDEX OF REFERENCE SHEETS & REVISIONS

Item Number :	Technical Specifications
Item Description :	50-A03 93 ULP ACCUMULATOR

PROJECT

NMPP

NMPP Document No.
2684358-U-TM1-ME-DS-083

Rev
5

Client Document No.
2684358-U-TM1-ME-DS-083




Rev
5

1. Status of Revision

Rev No.	Date	Prepared By	Revised Sheet	Revision	Approvals (Signatures)	
					Checked By	Approved By
A	14.04.08	C Wray	All	Issued for Enquiry	MH	FdP
B	16-May-08	H Montgomery	1-7 & 9	Issued for Enquiry	MH	FdP
1	01-Nov-08	H Montgomery	All	Issued for Construction	DA	FdP
2	04-Mar-09	D Govender	All	Issued for Tender	DA	FdP
3	16-Oct-09	SVT	1...5,7-9	Issued for Order	HM	FdP
4	07/04/2010	SVT	All	Approved	HM	FdP
5	15-Feb-11	R Davies	All	Issued for Construction		

2. Reference Sheets

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 				CLIENT: 		Page 2	
						NMPP DOCUMENT No: 2684358-U-TM1-ME-DS-083	
Equipment Data Sheet DESIGN DATA SHEET FOR TANKS						Tank No. 50-A03	
Equipment Description: 93 ULP ACCUMULATOR				Ref. P&ID: 2684358-U-TM1-PR-PD-123			
1	Rev	Info	Customer / User	Transnet	62	Rev	Info
2			Erection Site: Name of Plant / Location	Coastal Terminal	63	05	Max fill rate m³/h
3			Quantity required	1	64		Max withdrawal rate m³/h
4			Design code	API 650	65		Gas evolution rate m³/h
5	05		Inspection by	NMPP Alliance / AIA	66	05	Breathing gas rate In/Out Nm³/h
6	05		Wind pressure	2684358-U-A00-ME-SP-007	67		Max fill level oper. Cond mm
7			MDMT °C	0	68		Heat radiation kJ/h
8			Atmospheric pressure kPa a	101.3	69		Rad. Heat absorption kJ/h
9			Design temperature °C	65	70		Derusting Outer Shell
10	05		Design pressure kPa g	ATM+FW (Note 5)	71	05	Pickling / Passivating
11	05		Maximum Operating temperature °C	35 (Note 7)	72	05	Painting
12			Operating pressure kPa g	Atmospheric	73		Insulation hot mm
13	05		Vapour Pressure kPa a	73.6	74	05	Venting
14			Test pressure kPa g	Per Code & Specation	75		Lightning Protection
15			Roof Uniform Live Load kN/m²	1	76		
16			Corrosion allowance mm	Note 1	77		
17	05		Joint efficiency	Refer to Code Section 8	78		Delivery weight kg
18			Radlographic examination	Per Code & Spec	79		Filled weight (water) kg
19			Ultrasonic Test	Where RT is not possible	80		Filled weight (proc. fluid) kg
20			Vacuum Box Test	Yes (Bottom Only)	81	NOTES:	
21			Surface treatment	2684358-U-A00-ME-SP-009	82	1) Bottom and first 1000 mm of shell: 3.0 mm	
22			Heat treatment	To Code	83	Remaining shell, roof nozzles: 1.5 mm	
23			Test Fluid	Water	84	2) Geodesic type	
24	05		Maximum Capacity (API 650 5.2.6 Figure 5-4)	22 393	85		
25			Net Working Capacity m³	20 000	86	3) TANK SIZE :	
26			Overfill protection (API 2350) mm	22 000	87	Shell height (m) : Contractor to advise (X)	
27	05		Process fluid	93 ULP (Note 8)	88	DIAMETER : 36 m	
28	05		Density kg/m³	724	89		
29			Lethal / Toxic / Flammable	No / No / Yes	90	4) LEVELS:	
30			Corrosive / Concentration / pH	No / n.a / n.a	91	LLLL = 1 480 mm	
31	05		Test Fluid	Water	92	LLL = 1 750 mm	
32			Part	Material	93	NL = 21 400 mm	
33			Shell	SABS 1431 Gr. 300 WC	94	HLL = 21 600 mm	
34			Floor	SABS 1431 Gr. 300 WC	95	HHLL = 21 800 mm	
35			Roof Plates	Aluminium	96	5) FW = Water fill to underside of overfill slot	
36			Internals	Carbon Steel	97	6) Venting rate for fire case is 43633 Nm³/h of air	
37			Inner Manway Necks	N/A	98	7) When storing Diesel the storage temperature is 40°C	
38	05		Shell Nozzle Flgs	SA-105 N (Note 10)	99	8) Possibility to change duty to Diesel in the future	
39	05			SA-105 N (Note 10)	100	9) Venting during tank equalistion = 24008 Nm³/h	
40	05			SA-106 Gr.B (Note 10)	101	10) All internal piping attached to nozzles 3"NB & smaller	
41	05			SA-106 Gr.B (Note 10)	102	to be ASTM A312 TP316L, flanges to be ASTM A182 F316L	
42					103	11) Refer to Additional Requirements on Page 3	
43			Shell Nozzle Pipes		104		
44					105		
45					106	Shell Design Details:	
46					107		
47			Bolts / Nuts	SA 193-B7 / SA 194-2H	108	X	Basic Standard 650
48				SA 193-B7 / SA 194-2H	109		Appendix A
49			Gaskets	GRAPHITE ENCAPSULATED	110	X	Appendix F
50				GRAPHITE ENCAPSULATED	111		
51			Bottom Plates	SABS 1431 Gr. 300 WC	112	Tank Roof Design Details:	
52			Shell Canopy		113		
53			Manway Necks	SABS 1431 Gr. 300 WC	114	X	Basic Standard 650
54			Floating roof	Aluminium	115		Appendix C (External Floating Roof)
55			Dome (Note 2)	Aluminium	116	X	Appendix H (Internal Floating Roof)
56	05		Fire Protection Piping - Cooling Water / Foam	SAF2205	117	X	Appendix G (Aluminium Dome)
57					118		
58					119	Frangible Roof Joint:	
59					120		Yes
60					121	X	No
61					122		

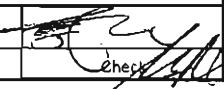
X = Information required from Vendor

5 15-Feb-11 R Davies

Rev

Date

Name




Rev	GENERAL					
	1) Stress analysis shall be performed by the manufacturer in accordance with design specifications.					
	2) Nozzle necks shall be at least DN 50. They shall be reduced to the required nominal flange size if necessary, or use L.W.N. flanges for nozzles less than DN50.					
	NOTE: Vendor TO COMPLETE ALL DETAIL BELOW FOR APPROVAL BY PROJECT MANAGER. Vendor TO SELECT SUITABLE PLATE SIZES AND TANK HEIGHT TO ENSURE WASTAGE OF MATERIAL IS KEPT TO A MINIMUM.					
	Supplies shall include the following items:					
	Number of Shell Courses	:	Course Number:	Plate Widths:	Plate Lengths:	Plate Thickness:
				m	m	m
				m	m	m
				m	m	m
				m	m	m
				m	m	m
				m	m	m
				m	m	m
				m	m	m
				m	m	m
				m	m	m
	Tank Bottom:		Plate thickness:	m		
			Slope:	1:60 towards center of tank (refer to sketch - Page 5)		
	Minimum Width and Thickness of Bottom Annular Plates (API 650; 3.5):			m		
	Additional Requirements:					
	Intermediate Wind Girder (if required)		X	Yes		No
	Top Wind Girder for use of Walkway c/w handrailing		X	Yes		No
05	Paint Shell Exterior	2684358-U-A00-ME-SP-009	System 12	X	Yes	No
05	Paint Shell Interior	2684358-U-A00-ME-SP-009	System 3	X	Yes	No
05	Paint Bottom Underside	2684358-U-A00-ME-SP-009	System 13	X	Yes	No
05	Paint Bottom Interior	2684358-U-A00-ME-SP-009	System 3	X	Yes	No
05	Paint Structural Steel	2684358-U-A00-ME-SP-009	System 1	X	Yes	No
05	Tank internal lining/ coatings	2684358-U-A00-ME-SP-009	System 3	X	Yes	No
	Landings, maximum every 3m vertical			X	Yes	No
	Gauging platform			X	Yes	No
	Platform to centre vent			X	Yes	No
	Appurtenances:					
	Stairway Style (with intermediate platforms, refer to Spec. 2684358-U-A00-ME-SP-007)		X	Circular		Straight
	Platforms, steps, handrails, etc, to gain access to all Tank Instruments		X	Yes		No
	Walkway		X	Yes		No
	Walkway width:	m	Refer to Spec. 2684358-U-A00-ME-SP-007			
	Walkway length:	m	Refer to Spec. 2684358-U-A00-ME-SP-007			
	Other / Notes:					
	10 % Spare Bolting		X	Yes		No
	5 Spare Caskets		X	Yes		No
05	General and Emergency Venting (API 2000)	Vendor to Confirm	X	Yes		No
05	Vacuum and Pressure Relief Valves			Yes	X	No
05	Flame Arrestor Integral with Relief Valves			Yes	X	No
	Earthing Connections		X	Yes		No
05	Aluminator RC Internal Floating Roof - Pontoon type mounted on adjustable leg supports		X	Yes		
5	15-Feb-11	R Davies	Issued for Construction			
Rev.	Date	Name	Checked	Description		

93 ULP ACCUMULATOR

Item no: 50-A03

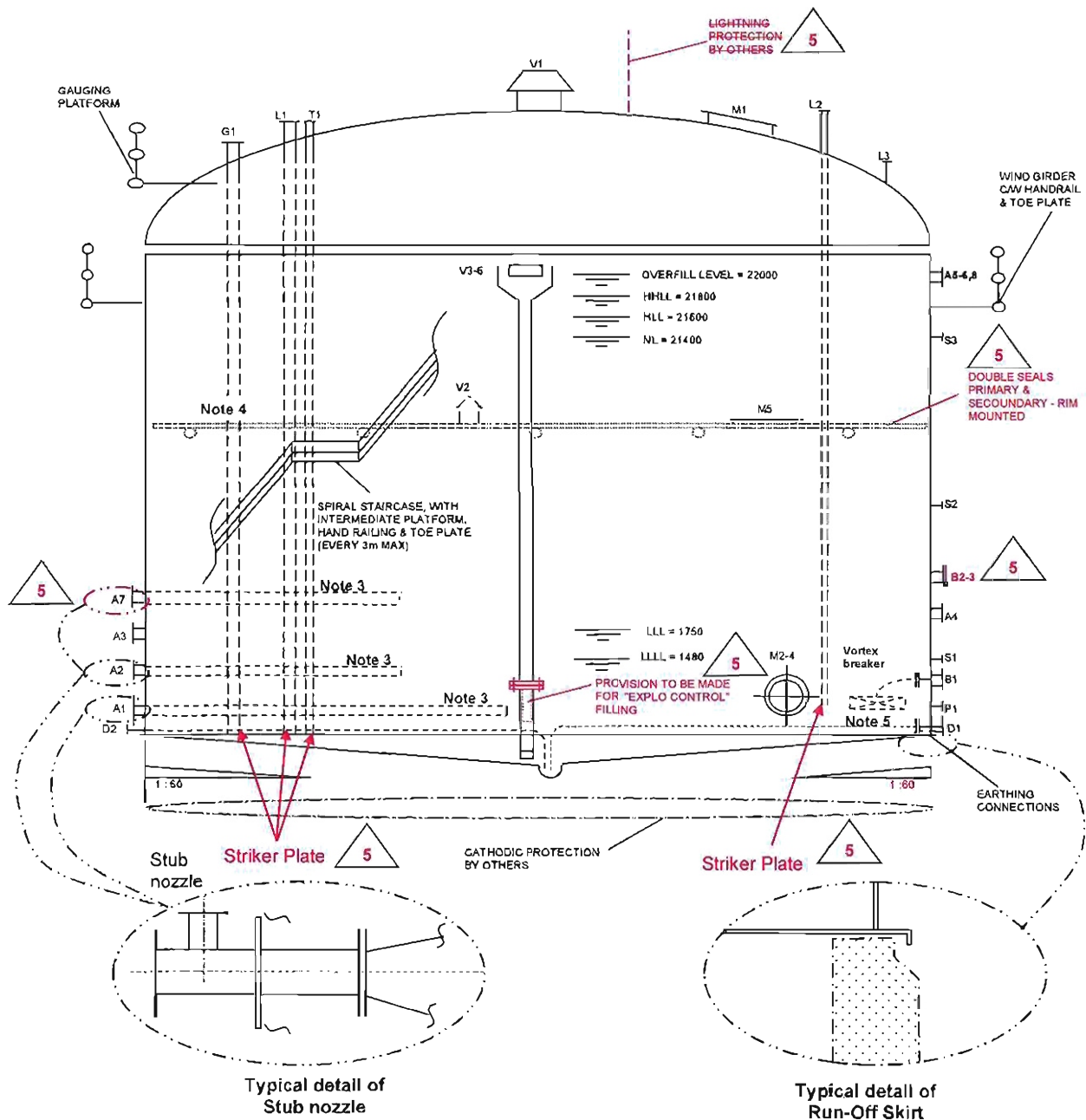
NOZZLE INDEX AND ORIENTATION

1	2	Nozzle Symbol	Designation	NPS Note 1	Class	ASME Standard	Flange Type	Flange Facing	Pipe dimen. mm	Nozzle s / out mm	Dist. from ref.-level mm	Orientatn on Circ	Notes	Rev
3	4													
5	A1	Inlet nozzle	16	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc	Note 5	
6	A1 - Stub	Inlet nozzle Stub	2	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc		
7	A2	Spillback and flush nozzle	16	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc	Note 5	
8	A2 - Stub	Spillback and Flush Nozzle Stub	2	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc		
9	A3	Flush tank return	2	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc		
10	A4	Spare nozzle (Future Spillback)	16	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc	Note 9	05
11	A5	Fixed foam chamber inlet nozzles	8	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc	Note 7	
12	A6	Fixed foam chamber inlet nozzles	8	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc	Note 7	
13	A7	Inlet nozzle	16	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc	Note 5	
14	A7 - Stub	Inlet nozzle Stub	2	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc		05
15	A8	Fixed foam chamber inlet nozzles	8	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc		
16	B1	Outlet nozzle	24	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc	Vortex breaker	
17	B2	Spare nozzle	24	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc	Note 9	05
18	B3	Spare nozzle	24	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc	Note 9	05
19	B4	Spare nozzle (Blanked)	24	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc		05
20	D1	Tank drain nozzle	6	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc		
21	D2	Tank flush nozzle	2	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc	Note 8	
22	G1	Gauge hatch	8	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc		
23	L1	Level transmitter	12	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc		
24	L2	Level switch (LL/HH)	4	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc		
25	L3	Mechanical gulded float level Indicator	2"								tbc		Note 2	05
26	M1	Manway - Top Entry	24	VTA	VTA	VTA	VTA	VTA	VTA	VTA	tbc		Note 2	
27	M2	Manway - Side Entry	24	160#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc	Note 4	
28	M3	Manway - Side Entry	24	160#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc	Note 4	
29	M4	Manway - Side Entry	24	160#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc	Note 4	
30	M5	Manway - IFR Entry	24								tbc		Note 2	05
31	P1	Pressure transmitter	3	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc		
32	S1	Sample line nozzle	2	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc		
33	S2	Sample line nozzle	2	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc		
34	S3	Sample line nozzle	2	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc		
35	T1	Temperature transmitter	2	150#	B16.5	WN	RF	tbc	tbc	tbc	tbc	tbc	Note 8	
36	V1	Centre vent	VTA								tbc		Note 2	
37	V2	Vacuum breaker / Bleeder vents	VTA								tbc		Note 6	
38	V3	Overflow slot/s	VTA								tbc		Note 3	
39	V4	Overflow slot/s	VTA								tbc		Note 3	
40	V5	Overflow slot/s	VTA								tbc		Note 3	
41	V6	Overflow slot/s	VTA								tbc		Note 3	
42														
43	NOTES :													
44	1) All nozzle sizes as per P&ID's													
45	2) Vendor to confirm size													
46	3) Vendor to size for maximum inflow													
47	4) Vendor to confirm quantity of shell manholes and confirm that the floating blanket components can pass through a 24" nozzle.													
48	5) Dispersion nozzle to be sized for maximum velocity of 1 m/s. Maximum rate for Spillback 1500m³/h													
49	6) Vendor to advise on size and quantity required, Vendor to size at least one for manway access.													
50	7) Angus TPS 100 Foam Pourer													
51	8) Nozzle material: 304 stainless steel.													
52	9) Blanked C/W stud bolts, hex nuts (2-off) & gaskets													05
53														
54	A) The above nozzle index shall be reproduced on the manufacturer's drawing.													
55	B) Flange bolt holes to straddle vessel centerlines.													
56	C) Reference level = Inside of Vessel 0.00													
57	D) The reference level must be shown on the drawing.													
58	E) Orientation of nozzle on circumference: 0° = north for vertical vessels; 0° = top for horizontal vessels;													
59	indicate direction of view, degrees to be shown for clockwise reading.													
60														
61														
5	15-Feb-11	R Davies		Issued for Construction										
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Sketch 1 - General Layout

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X = Information required from Vendor

Notes:

- 1) All Dimensions in mm.
- 2) Horizontal (Side Entry) Manways to be 120° apart
- 3) Vendor to provide dispersion nozzle to limit the liquid inlet velocity to 1 m/s
- 4) IFR to be earthed and connected to fixed roof with a static cable.
- 5) Vendor to supply vortex breaker (Short radius Elbow)

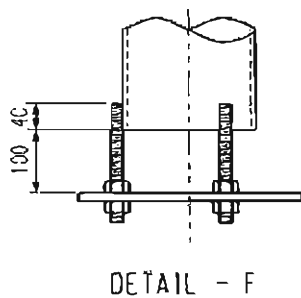
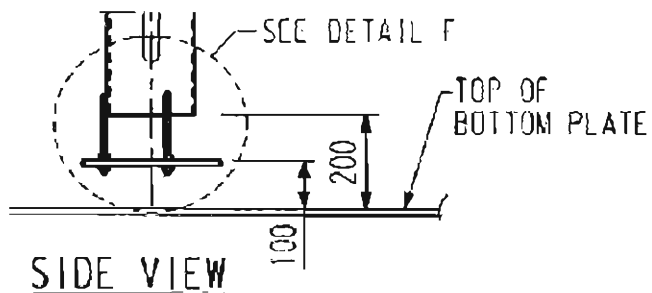
5	15-Feb-11	R Davies	Issued for Construction
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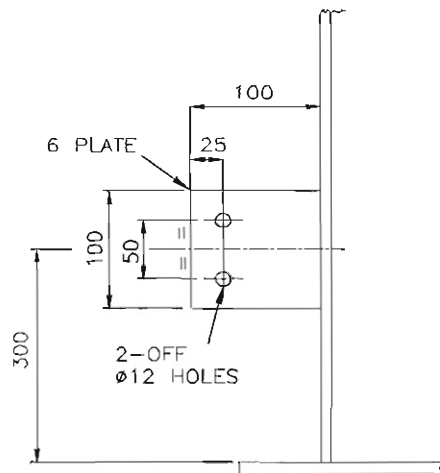
Sketch 2 - General Layout

NMPP Alliance

50-A03



TYPICAL STRIKER PLATE DETAIL



CATHODIC PROTECTION PLATE

5	15-Feb-11	R Davies	<i>[Signature]</i>	Issued for Construction
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TRANSNET		Page 7	NMPP Alliance	
			Uhde	
		GENERAL NOTES		
1			50-A03	Rev
2	1) All Dimensions in mm.			
3	2) Manways to be 120° apart.			
4	3) Vendor to provide size and quantity of automatic bleeder vents required on IFR			05
5	4) Vendor to provide dispersion nozzle to limit the liquid inlet velocity to 1 m/s.			
6	5) Vendor to confirm location, size and quantity of circulation vents (Overflow slot area not to be considered in venting calculation)			05
7	6) Nozzles L1, T1, L2 and G1 require stilling-wells.			
8	7) Tank sump to be fabricated from a 600mm pipe end-cap.			
9	8) The following items fitted by others:			
10	a) Shell valves.			
11	b) ATG Instruments, P1, T1, L1, L2 and lights (Contractor to Supply & Fit Mechanical Level Gauge)			05
12	9) Cables, conduits, cable ladders, lights are supplied and fitted by others on cleats provided by tank vendor.			
13	10) Deleted			05
14	11) Deleted			05
15	12) Deleted			
16	13) Vendor to provide guarantee of emission levels.			
17	14) Deleted			05
18	15) Vendor to design, supply and install interconnecting walkways as shown on the tank layout drawings.			
19	16) Vendor to verify compliance with API 650 for floating roof seals.			
20	17) Vendor to provide an external mechanical level gauge.			
21	18) Vendor to provide a striker plate on all stilling wells. Refer to Sketch 2			05
22	19) Vendor to provide overflow outlets in compliance with API 650, complete with trunking down to the bottom of the tank.			
23	Provision to made for "Explo Control" . Refer to Sketch on page 6 for details			05
24	20) Blind flanges, fasteners and gaskets to be supplied for all manways, drains and side sampling nozzles			
25	21) All nozzles and overflow slots to be accessible from either ground level, spiral stairway, or platforms.			
26	22) Vendor to provide foam dam on floating blanket (internal floating roof).			
27	23) The Vendor shall provide lifting davit at the highest stairway platform. Davit shall be designed for live load of 15 kN			
28	(1630 kgf / 3375 lbf) in accordance with Section 3.10.8 of Specification 2684358-U-A00-ME-SP-007			
29	24) The Vendor to incorporate following items in their scope of supply			05
30	i) Supply & installation of tank cooling ring deluge system, spray nozzles and foam pourer to battery limit			
31	- Design and supply calculations verifying that the selected foam pourers and spray rings are suitable for the application			
32	- Cooling rings are to be designed in accordance with ASME B31.3 & fabricated in accordance with line class SA (Refer to piping			
33	specification 2684358-U-A00-PI-SP-011 Rev 03). Process design by Kantey & Templer (K&T)			
34	- The roof & shell cooling rings must slope towards the riser pipe to ensure adequate draining of the rings			
35	- The battery limit of the cooling rings & foam pourer lines will be 3m aboveground on the riser pipe			
36	- All lines must be flanged			
37	ii) Fire detection for Floating Roof			
38	- Provide Fitting/Clips to install heat detection cables (Type: Kidde Alarmline Digital Sensor Cable Model H9650)			
39	The cable is installed above the secondary seal using mounting clips every 1m, mounted on the foam dam.			
40	- Provide Fitting/Clips for the junction box to be fitted on floating blanket			
41	- Provide Support on tank roof for the retractable reeler			
42	- Modification to the dome roof to allow for the retractable cable to run from the dome to the junction box on the floating roof			
43	iii) Earthing of Internal Floating Roof			
44	- Provide a suitable grounding of the internal floating roof to meet the requirements of API 545			
46	- Provide a reliable retractable reel grounding system having a very low impedance, direct connection between the tank roof &			
47	shell , using a wide thick-braided wire cable, spring-loaded on a heavy stainless reel to provide retraction as the roof rises,			
48	so the line remains taut at the minimal distance need for grounding (Impedance:1 ohm or Less)			
50	- Two straps are required for tanks between 20m & 50m			
51	iv) Supply & install 1-off 100x100x6mm plate with 2- Ø10 Holes welded to the tank shell for Cathodic Protection			
52	25) The Vendor to supply removable backing strips on annular-bottom welds			05
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5	15-Feb-11	R Davies	Issued for Construction	
Rev.	Date	Name	Checked	Description

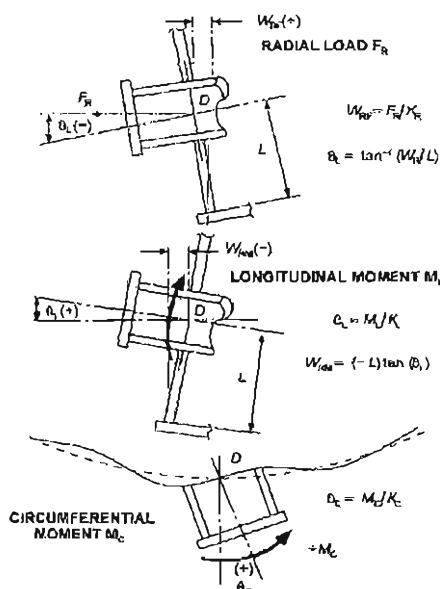
Technical Specification TANKS NOZZLE LOADS

Preliminary nozzle forces and moments, from external process piping, which must be allowed for in the tank design, where no other values are given in the tank design data sheets, are tabulated below.



Origin: API 650, 11th Edition

Nominal Nozzle Diameter (")	Radial Force FR (N)	Longitudinal Moment ML (Nm)	Circumferential Moment MC (Nm)	Negative Longitudinal Moment ML (Nm)
2	1750	590	550	-
3	2080	800	700	-
6	7000	3000	4000	-
8	-	-	-	-
16	95000	99000	170000	-100000
18	-	-	-	-
20	43000	100000	130000	-100000
24	38000	110000	92000	-90000

Forces & moments shall be assumed to act simultaneously at the junction of nozzle & shell in each of the possible axes. A schematic sketch for forces & moments is given below. The stress analysis shall be undertaken by the tank manufacturer, at the manufacturer's expense, in accordance with a recognised method, (preferably WRC 297). The above nozzle loads are preliminary. Vendor must submit design values (unrestrained tank movement, stiffness coefficient, etc.) to the NMPP Alliance for acceptance in order to finalise actual tank nozzle loads.



5	15-Feb-11	R Davies	Checked	Issued for Construction
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GENERAL	1	Tag Number	See Note								
	2	Service	Temperature Switch								
	3	Line Number	P&ID No	n/a	2684358-J-TM1-FP-PD-07003 to 07006						
	4	Equipment Number									
	5	Haz Area Classification	Zone 0								
	6	Function	Fire detector inside tank								
ENVIRONMENTAL DATA	7	Ambient Temperature	Humidity	-10 to 50 °C	10 to 85 RH						
	8	Vibration	-0.5 to 0.5								
SPECIFICATION	9	Supply Voltage	IS								
	10	Hazard Rating	Ex'ia' T4								
	11	Sensing cable type	Suitable for 36m diameter tank / 10m diameter tank (see note)								
	12	Sensing cable length	Suitable for 36m diameter tank / 10m diameter tank (see note)								
	13	Mounting	To be supplied for mounting on internal floating roof / blanket foam dam.								
	14	Sensing cable type	Digital linear heat detection cable								
	15	Sensing cable length	Suitable for 36m diameter tank / 10m diameter tank (see note)								
	16	Sensing cable alarm temperature setting	240 deg C nominal								
	17	Sensing cable outer sheath material	Fluoropolymer								
	18	Sensing cable time to respond to flame	20 seconds (flame touching)								
	19	Sensing cable life expectancy	20 years								
	20										
	21										
	22										
	23										
	24										
	25										
JUNCTION BOX	26	Location	One inside the tank, one mounted on tank roof, including SC/ OC resistors								
	27	Cable Entry	M20 x 3								
	28	IP Rating	IP 65								
	29	Haz Area Rating	Ex'ia' T4								
	30										
	31										
FLEXIBLE CABLE	32	Type	Retractable cable; suitable for Internal Floating Roof / Blanket tank								
	33	Length	up to 20m								
	34										
	35										
	36										
	37										
	38										
OPTIONS	39	IS Barrier	To be provided with matched IS barrier included in fire control panel.								
	40										
	41										
	42										
CERTIFICATES REQUIRED	43	Haz Area Certificate	Yes, including local Independent Authority Certification								
	44	Intrinsic Safe Loop Certification	Yes, certified by local Independent Authority								
	45										
	46										
PURCHASE	47	Manufacturer	Kidde								
	48	Model	Cable: H9650								
	49	Supplier	Alpret								
<p>Notes:</p> <p>For Tag 50TS187A; 50TS187B; 50TS187C; 50TS187E; 50TS187F; 50TS188B; 50TS188C; 50TS188D; 50TS188E; 50TS188F (36m diameter tank)</p> <p>For Tag 50TS189A; 50TS189B (10m diameter tank)</p>											
<table border="1"> <tr> <td>PROJECT</td> <td>TRANSNET</td> </tr> <tr> <td>PROJ No</td> <td>2684358</td> </tr> <tr> <td>Instrument Specification</td> <td>Temperature Switch</td> </tr> </table>				PROJECT	TRANSNET	PROJ No	2684358	Instrument Specification	Temperature Switch	<p>NMPP Alliance Arup - WorleyParsons JV</p> <p>TRANSNET</p>  	
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REV	DATE	BY	REMARKS	CHKD:	APRVD:	CODE No :	REV : 00				