

Plant CA	Client PCC Rokita	Code Rokita VI	Doc ID Code PDEL-EQS-G000-EC-00003	Project No. 05-1864
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**Cover Sheet
Analyte Drain Tank**

TON	07D005B		
Item			
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TECHNICAL SPECIFICATION

Page	Description	Revision
1	Cover Sheet	
2	Vessel Design Data Sheet	
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4	Detail	
5	Applicable Codes & Standards	
6	General Requirements	
7	Inspection Data, Class: GRP2	
8	Documentation	

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00	IFI	Issue for Inquiry	04-Mar-24	Langner	19-Mar-24				
Rev.	Status	Description	Date	Prepared	Date	Checked	Date	Approved	AC



Customer Document ID:

Category Code:

Shown on PID: 0767

F 05-1864-20197172 EC 000 00 IA 12.04.2024

Plant CA	Client PCC Rokita	Code Rokita VI	Doc ID Code PDEL-EQS-G000-EC-00003	Project No. 05-1864				
	Vessel Design Data Sheet Anolyte Drain Tank			TON 07D005B				
				Item				
				Rev. 00	Page 2 of 8			
Line	Process Requirements I	1	0	IDX	Process Requirements II	5	IDX	Rev.
2	Quantity Operat. / Stand-by				Nominal Volume m ³			
3	Position (Horiz/Vertical)	Horizontal			Shell Diameter, Outside mm			
4	Process Fluid	Anolyte, 215 g/l NaCl, Cl ₂ saturated		6)	Shell Diameter, Inside mm			
5					Height (TL-TL) of Shell mm			
6	Physical Condition	LG			Width mm			
7	Class of Hazard			5)	Max.Fill.Lev.In Oper.Cond. %/mm	90		
8	Density Solid/Bulk kg/m ³				Material Process Side	GRP-HT		
9	Density Liquid kg/m ³	1110			Surface Treatment/Coating	chemical protection layer, min. 2,5 mm		
10	Density Vapour/Gas kg/m ³				(Process Side)			
11	pH-Value	2.0-11			Insulation Type			
12	H2-Partial Press. In/Out bara				Internals			
13	Max Operating Temp. °C	90						
14	Max Operating Pressure barg	0.00			Heating / Cooling Device			
15	Operating Pressure bara		0.974		Overall length, Vessel mm	2500		
16	Operating Temperature °C		80		Shell Diameter, inside mm	1800		
17	Allowable Pressure barg	-0.05	0.4					
18	Allowable Temperature °C	3	95					
19								
20	Abbreviations for Physical Condition: (S)olid, (L)iquid, (G)as, (V)apour, (IDX) Index for Remarks							
21	Mechanical Requirements			IDX	MATERIAL			
22	Design Code	EN 13121-2016			Part	Materials	Remarks	
23					Shell	GRP-HT		
24	Corros. Allow., for Calc. mm	0.0			Heads	GRP-HT		
25	Joint Efficiency				Shell Flange			
26	Seismic Loads				Supports	CS		
27	Wind Loads				Clips	SS / GFK		
28	Inspection by	Rokita			Nozzle Pipes	PP-R / GFK		
29	Test Pressure barg	Acc. to Code			Nozzle Flange	GFK / CS galv.	3)	
30	Heat Treatment				Internals Welded			
31	Non-Destructive Test	Acc. to Code			Internals Removable			
32	Painting	ES-Y1			Bolts / Nuts Inside			
33	Pickling and Passivation	For SS Parts			Bolts / Nuts Outside	SS		
34	Insulation mm				Gaskets Inside			
35	Weight, delivery kg			1)	Gaskets Outside	EPDM W. St Ins.		
36	Weight, w. process fluid kg			1)	Gaskets Shell Flange			
37	Weight, water-filled kg			1)	Davit			
38					Footring			
39					Lifting Lugs / Trunnions			
40					Anchor Bolts	SS (chemical anchor bolts)		
41					Demister			
42					Ladders/Platforms	CS painted		
43								
44	Remarks :							
45	1) To be given by manufacturer 2) All materials shall be supplied with test certificates. 3) Loose flanges for NPS <= 150 - Prestressed GRP; for NPS > 150 - CS Hot dip galvanised. 4) According to painting specification for saddles (ES-Y1) 5) Line 7 Class of hazard: GHS Hazard Statement H290, H302, H314, H315, H319, H331, H335, H400, H411 6) NaCl 215 gpl, NaClO ₃ <8 gpl, Na ₂ SO ₄ <13 gpl Note the addition for GRP-Vessels on page 6							

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	Nozzle Sheet			TON	07D005B
	Anolyte Drain Tank			Item	
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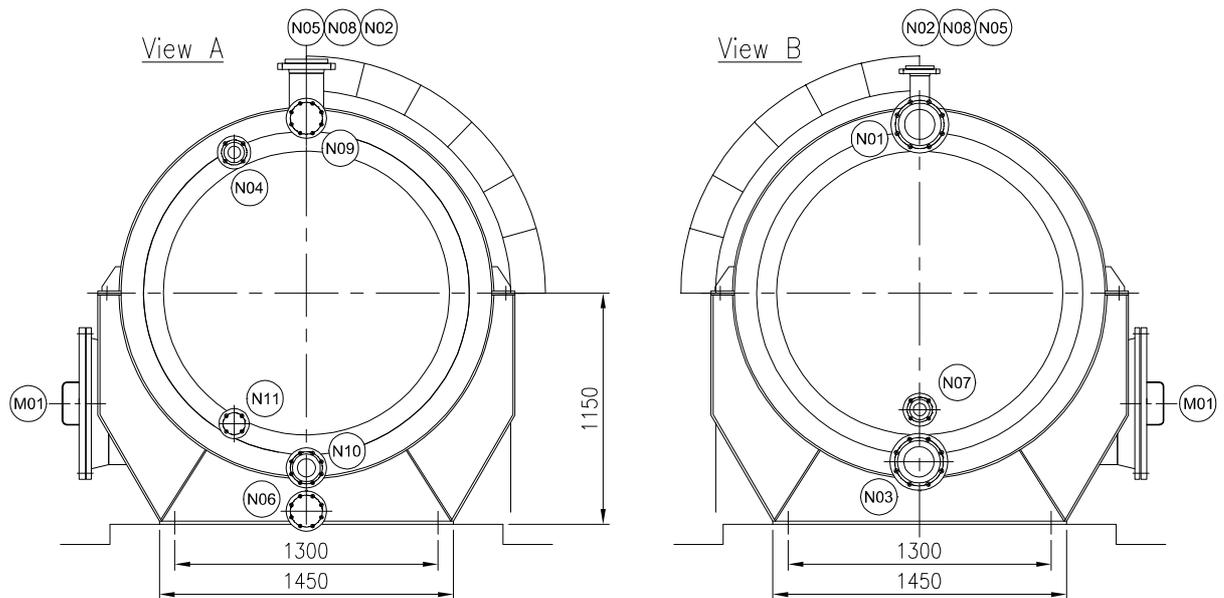
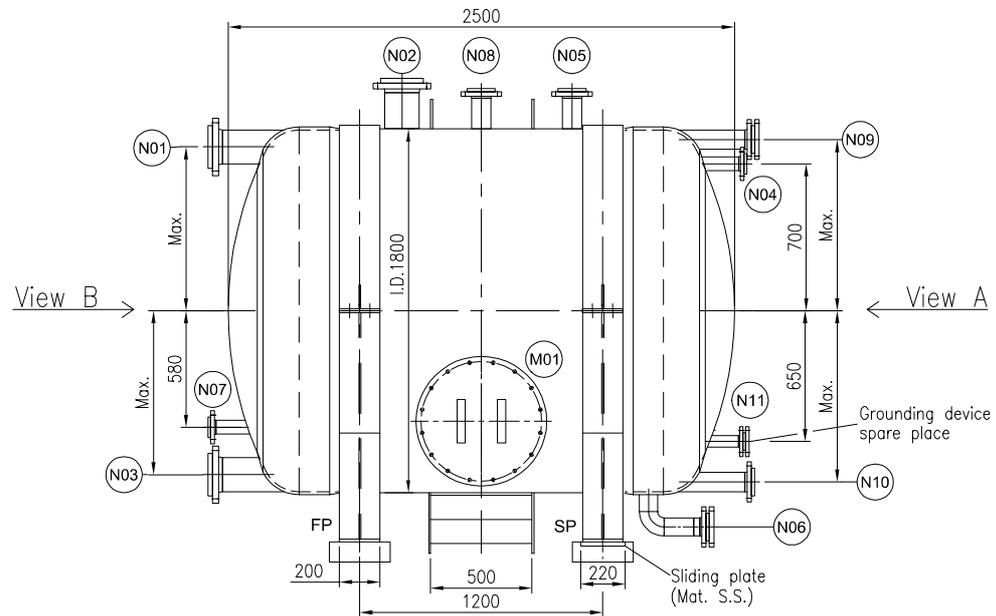
Nozzle Symbol	Designation	DN mm	PN	Standard DIN	Flange Type	Flange Facing	Pipe Dimensions mm	Remarks	Rev.
N01	Anolyte Inlet	150	10	16966	F1,B2	Plain			
N02	Anolyte Inlet	150	10	16966	F1,B2	Plain			
N03	Anolyte Outlet	150	10	16966	F1,B2	Plain			
N04	Level switch	50	10	16966	F1,B2	Plain			
N05	Vent	80	10	16966	F1,B2	Plain			
N06	Drain	80	10	16966	F1,B2	Plain		with Blind Flange	
N07	Level switch	50	10	16966	F1,B2	Plain			
N08	Level transmitter	80	10	16966	F1,B2	Plain			
N09	Spare	80	10	16966	F1,B2	Plain		with Blind Flange	
N10	Level transmitter	80	10	16966	F1,B2	Plain			
N11	Spare	40	10	16966	F1,B2	Plain		with Blind Flange	
M01	Manhole	600	10	UN2002-03	C	Plain		with Cover and Handle	

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Remark:	
N11 -> Grounding device spare place	
1) Nozzle length: 200 mm for DN<= 100, 250 mm for DN > 100	
2) For nozzle <= DN 80 the conical reinforcement shall be provided	

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Design features:

- 1) Heads: torispherical heads in acc. with DIN 28011;
- 2) Support saddles:
 - based on DIN 28080, clammed at shell with upper strip, neopren inlet between saddle and vessel and 1x earthin lug per saddle.;
 - lifting lugs fastened at saddles;
 - sliding point with sliding plate (Material S.S.)
 - anchor bolts (chemical anchors);
 - name plate
- 3) Technological steel constructions:
 - ladder (material C.S. painted) with railing;

Notes:

- anchor bolts calculation and supply by vendor;
- final nozzle location acc. to nozzle orientation sheet;
- all dimensions in mm
- sketch is not to scale

Plant CA		Client PCC Rokita		Code Rokita VI		Doc ID Code PDEL-EQS-G000-EC-00003		Project No. 05-1864	
		Applicable Codes & Standards Anolyte Drain Tank						TON 07D005B	
								Item	
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1	Info	Type	Description				Issue Date	Rev.	
2		Global Codes & Standards							
3		<input type="checkbox"/> PED 2014/68/EU	Pressure Equipment Directive				latest issue		
4		<input type="checkbox"/> EN 13445	Unfired pressure vessel				latest issue		
5		<input checked="" type="checkbox"/> EN 13121	GRP tanks and vessels for used above ground				latest issue		
6		<input type="checkbox"/> Manufacturer Standard							
7									
8		Company Standards: tk Uhde Project Engineering Specifications							
9		<input checked="" type="checkbox"/> PDEL-EQS-G000-EC-0001	ES Vessels and Equipment of GRP						
10		<input type="checkbox"/> PDEL-EQS-G000-EC-0002	ES for Plate Heat Exchanger						
11		<input type="checkbox"/> PDEL-EQS-G000-EC-0003	Process vessel and equipment>0.5bar(g) (based on PED)						
12									
13		Company Standards: UN							
14		<input checked="" type="checkbox"/> UN 2000-06 Part 2	Clips for ladders and platforms						
15		<input type="checkbox"/> UN 2000-09 Part 1	Name plate for vessel						
16		<input type="checkbox"/> UN 2000-10 Part 1	Title blocks for manufactures drawing						
17		<input checked="" type="checkbox"/> UN 2002-05 Part 1	Manufacturing defects at glass reinforced thermosetting plastics vessel and equipment						
18		<input checked="" type="checkbox"/> UN 2002-03 Part 1	Vessel and equip. of glass-fibre-reinforced plastics; Typical configuration						
19		<input checked="" type="checkbox"/> UN 2002-04	Transport and erection for vessel and tanks of GRP						
20		<input checked="" type="checkbox"/> UN 2003-01	Earthing connections for vessels and equipment						
21		<input checked="" type="checkbox"/> UN V416-04	Water quality for pressure tests and flushing of equipment and other components						
22		<input checked="" type="checkbox"/> UN 8281-02 Part 7	Foundation and anchoring, type F						
23		<input checked="" type="checkbox"/> ES-Y1	Painting						
24									
25		Remarks :							
26									

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	General Requirements Analyte Drain Tank			TON	07D005B	
				Item		
				Rev.	00	Page
1	Info	Description			Rev.	
2		General				
3	<input checked="" type="checkbox"/>	Stress analysis shall be performed by the manufacturer in accordance with design specifications				
4	<input checked="" type="checkbox"/>	Specified wall thicknesses are minimum values and shall be increased if required by stress calculation				
5	<input checked="" type="checkbox"/>	Nozzle necks shall be least DN 50/ 2". They shall be reduced to the required nominal flange size if necessary.				
6	<input checked="" type="checkbox"/>	Bolts, nuts and gaskets for joints with tapped holes have to be supplied by the vessel manufacturer.				
7						
8		Supplies Shall include the following Items				
9	<input checked="" type="checkbox"/>	Clips, pads and ladders for vessel				
10	<input checked="" type="checkbox"/>	Additional 2 sets gaskets for flanges with cover and blind flanges				
11	<input checked="" type="checkbox"/>	Additional 10% of bolts and nuts, as spare				
12	<input checked="" type="checkbox"/>	Lifting lugs for erection				
13	<input checked="" type="checkbox"/>	2 separate earthing connections to be provided 180 degree apart resp. 1 per saddle, if not otherwise specified				
14	<input type="checkbox"/>	All internals				
15	<input checked="" type="checkbox"/>	Spare parts for 2 years to be quoted separately				
16	<input checked="" type="checkbox"/>	Anchor Bolts				
17	<input checked="" type="checkbox"/>	For applicable standards see page ' Index of Applicable Codes and Standards'				
18						
19		Remarks :				
20		<p>1) Materials:</p> <p>Structure of chemical protection layer:</p> <ul style="list-style-type: none"> - Min. thickness 2.5 mm. - One C-glass fibre tissue 30-50g/m², residual structure with E-glass mats 250-450g/m². - Textileglass tissue is not allowed. <p>Structure of carrying laminate:</p> <ul style="list-style-type: none"> - Only polyester powder bonded textileglass- mats. -tissues and roving of E-glass shall be used. <p>Resin:</p> <p>GRP-HT (Tdesign > 80°C)</p> <ul style="list-style-type: none"> - Special Blend DERAKANE MOMENTUM™ 470-300, - Final resin coat: shall include an UV- stabilizator. <p>2) Stress calculation:</p> <ul style="list-style-type: none"> - Thickness of chemical protection layer is not allowed to be considered at calculations. <p>3) Manufacturing:</p> <ul style="list-style-type: none"> - Vessels shall be post-cured by heating (tempering). <p>4) Tests:</p> <ul style="list-style-type: none"> - Cut-out for nozzles are to be marked with item-no., nozzle-no. and kept minimum 2 years for tests 				

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<p>The tests indicated are min. requirements. They have to be performed in addition to the tests specified in the codes and standards. In case of discrepancies between the inspection data sheet (IDS) and the workshop documents approved by tk Uhde the latter shall apply. The manufacturer shall be responsible that the required tests are performed and that the inspector is invited in due time to witness the tests. The manufacturer shall try to perform as many individual tests as possible on the same day, provided that the fabrication process permits such a procedure.</p>																																																																																																										
Line				<table border="1"> <thead> <tr> <th colspan="2">Inspection by</th> <th rowspan="2">IDX</th> <th rowspan="2">Rev</th> </tr> <tr> <th>Manuf.</th> <th>NCA</th> </tr> </thead> <tbody> <tr> <td colspan="4">1 Examination before manufacturing</td> </tr> <tr> <td>2</td> <td>Checking of "Quality Control" of manufacturer (audit)</td> <td>-</td> <td>◇</td> </tr> <tr> <td>3</td> <td>Checking of laminator's qualification (DVS 2220)</td> <td>△</td> <td>X</td> </tr> <tr> <td colspan="4">4 Examination during manufacturing (consider duty class acc. 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 thyssenkrupp	Documentation Anolyte Drain Tank						TON 07D005B			
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	For Information		For Review		For Approval		Erection Doc.		Final Doc.	
	Dispatch of Documents	No. of copies	Dispatch of Documents	No. of copies	Dispatch of Documents	No. of copies	Dispatch of Documents	No. of copies	Dispatch of Documents	No. of copies
Priced spare parts list	2 weeks after order	e								
Fabrication schedule	4 weeks after order/each month	e								
Material status report	8 weeks after order/each month	e								
Stress calculation			6 weeks after order	e					with delivery	4
Foundation loads Foundation drawing 1)	3 weeks after order	e								
General arrangement drawing (1st issue)					4 weeks after order	e	2 months before delivery	e	with delivery	4
General arrangement drawing (rev. issue)					2 week after receipt of comments	e				
Detail drawing with part list (1st issue)					4 weeks after order	e	2 months before delivery	e	with delivery	4
Detail drawing with part list (rev. issue)					2 weeks after receipt of comments	e				
Welding procedure specification (WPS) and qualification record (PQR)			8 weeks after order	e					with delivery	4
Quality plan and testing schedule			4 weeks after order	e			2 months before delivery	e	with delivery	4
Transportation sketch			8 weeks after order	e			2 months before delivery	e	with delivery	4
Operation and maintenance instruction 2)			8 weeks after order	e			2 months before delivery	e	with delivery	4
Storage instruction			8 weeks after order	e			2 months before delivery	e		
Certificates (material test, test/inspection, quality, welder/laminator qualification, etc.)									with delivery	4
1) penalized data 2) in English and Polish language e-> electronic format										