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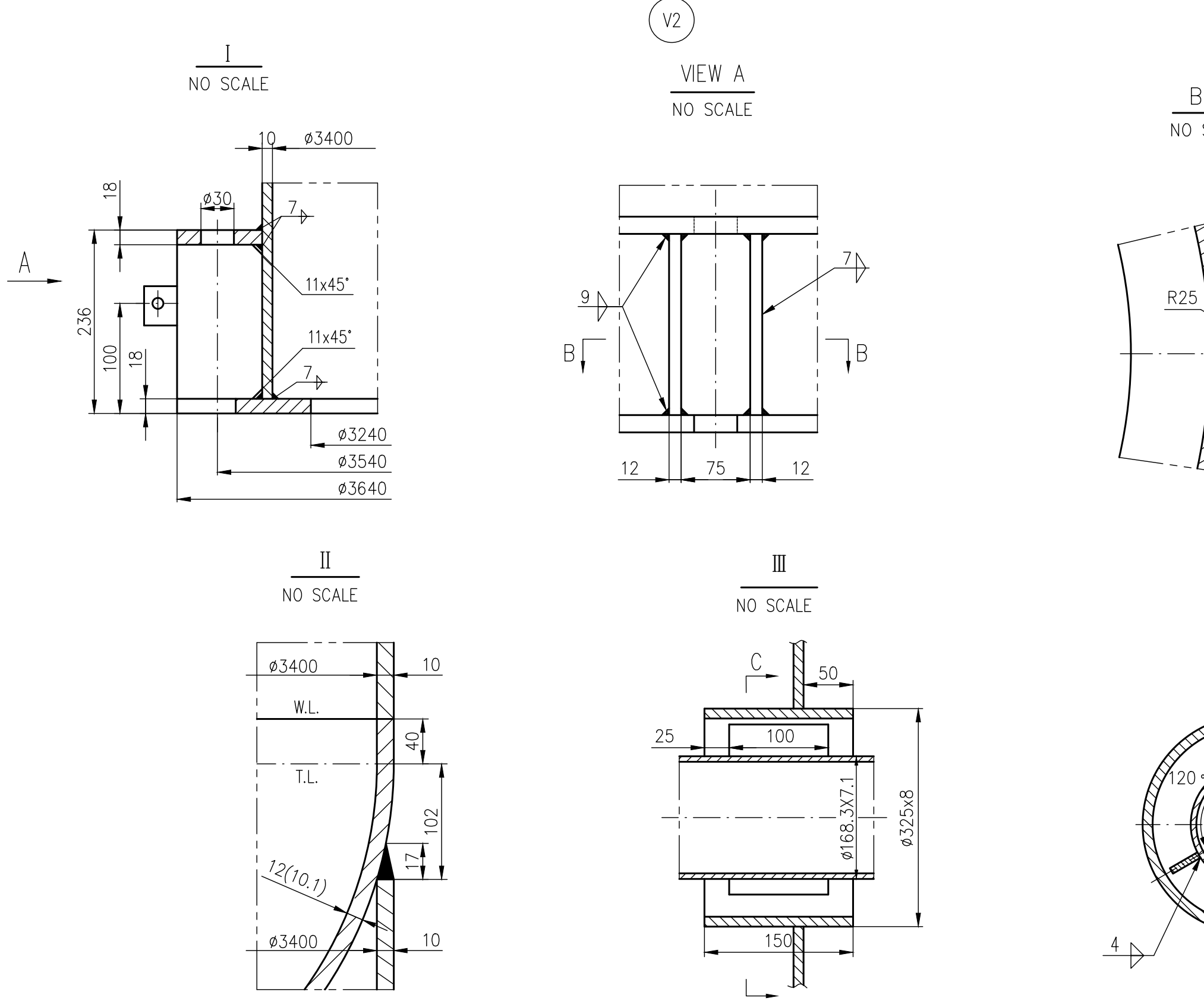
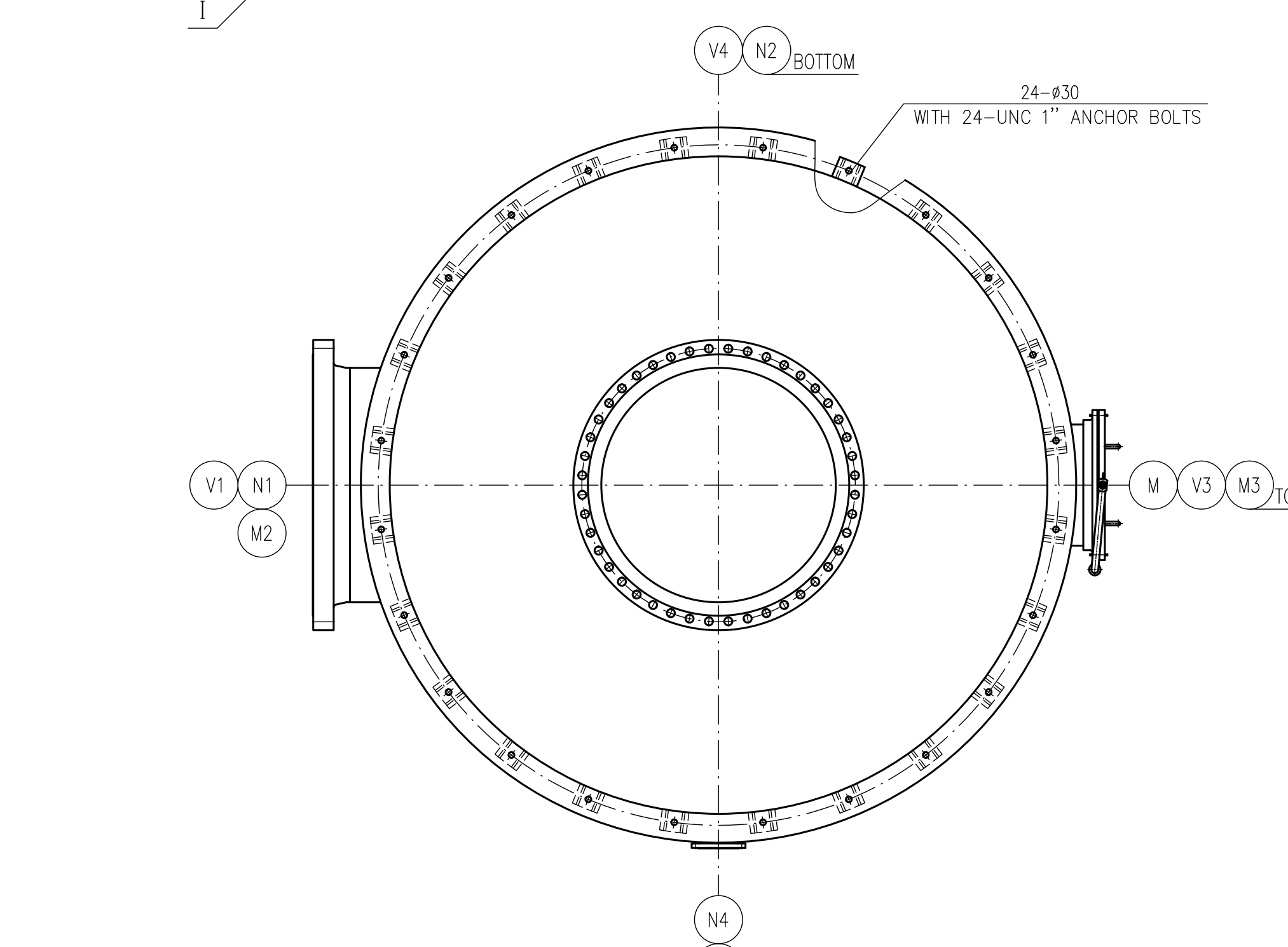
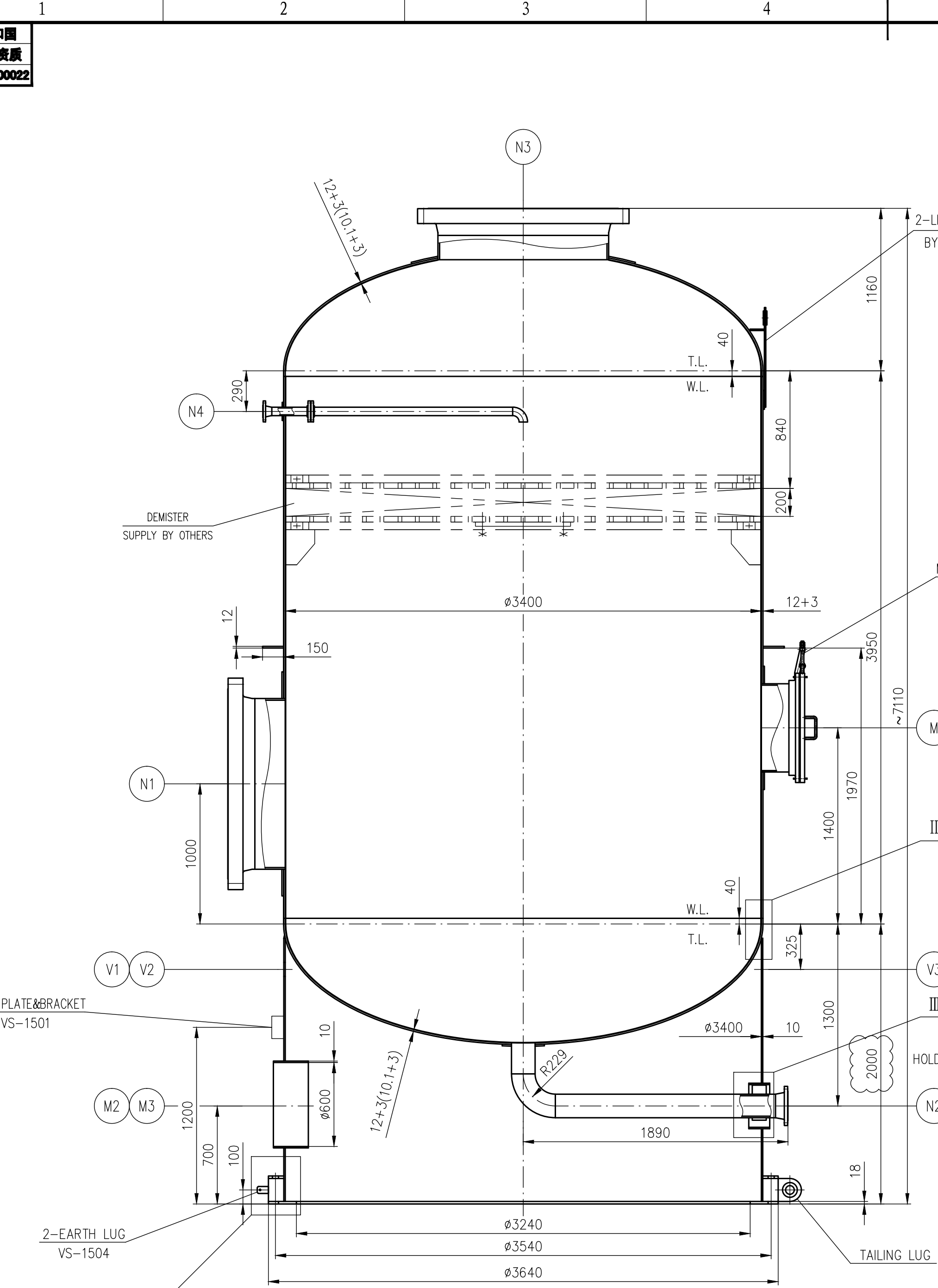
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Counter Signing	Sign	Date

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DESIGN DATA					
CODE & STD	ASME SEC. VIII.1 2023 ED.				
ASME U-STAMP	NO	SPECIAL SERVICES		☐ H2 SERVICE	
OPER. PRESSURE MPa(g)	-0.06			☐ WET H2S SERVICE	
DESIGN PRESSURE MPa(g)	FV/0.175			☐ AMMONIA SERVICE	
OPER. TEMP. °C	30-40	NDE	WELDDING JOINT CATEGORY	INSPECTION METHOD/RATIO	
DESIGN TEMP. °C	85		A	RT-SPOT	
MDMT °C	0		B	SHELL/HEAD/NOZZLE(DN>250)	RT-SPOT
MAWP MPa(g)	0.69@85℃			NOZZLE DN<=250	MT
MEDIUM	Filter tail gas(NOTE 3)		C	MT	
MEDIUM DENSITY kg/m³	0.57	PRESSURE TEST	D	MT	
LETHAL SERVICE	☐ YES ☒ NO		JOINT OF SKIRT to HEAD		MT
CORROSION ALLOWANCE mm	0		HYDRO. TEST PRESSURE MPa(g)	VERTICAL	0.91
JOINT EFFICIENCY	0.85	TEST		HORIZONTAL	0.91
WIND LOAD	NOTE 1		PNEUMATIC TEST PRESSURE MPa(g)	/	
SEISMIC LOAD	NOTE 2	LEAKAGE TEST	AIR-TIGHT TEST PRESSURE MPa	HELIUM LEAK TEST PRESSURE MPa	OTHER LEAK TEST MEDIUM/PRESSURE MPa
TOTAL VOLUME	46.2		-	-	-
FILLING COEFFICIENT	-	FABRICATION WEIGHT	kg		
INSULATION MATERIAL	-		13240		
INSULATION THK. mm	-	INSTALL WEIGHT	kg		
FIRE PROOFING THK. mm	/		/		
REQ. FOR PWHT	NO	OPERATING WEIGHT	kg		
DESIGN SERVICE LIFE YEAR	20		/		
		WEIGHT OF FULL WATER		kg	59440

SPECIFICATION					
1. SAPKT-EQ-SPE-0004 Rev.0 <SPECIFICATION FOR PRESSURE VESSEL>					
2. SAPKT-QC-BED-0002 Rev.0 <SPECIFICATION FOR GENERAL WELDING AND NDE REQUIREMENT FOR PRESSURIZED EQUIPMENT>					
3. APPENDIX 10.1.8 <SPECIFICATION FOR VESSELS, TANKS AND TOWERS>					
4. SAPKT-EQ-SPE-0045 Rev.0 <ENGINEERING SPECIFICATION OF MECHANICAL EQUIPMENT>					
5. SAPKT-EM-SPE-0050 Rev.0 <ENGINEERING SPECIFICATION OF MECHANICAL EQUIPMENT>					
6. T24B25-MC07-01 <SPECIFICATION FOR PAINTING>					

GENERAL REQUIREMENTS:					
1. THE BOLT SIZE ARE 1-1/8" AND OVER, THREADS PER INCH 8UN SHALL BE USED, THE BOLT SIZE ARE 1" AND LESS,THREADS PER INCH UNC SHALL BE USED.					
2. UNLESS OTHER CASE, NOZZLE REINFORCEMENT PAD SHALL BE CONSIDERED.					
3. UNLESS OTHERWISE SPECIFIED, THE NOZZLE GASKET SURFACE SHALL BE FLAT SMOOTH SURFACE AND SERRATION SPECIFIED IN ASME STANDARD IS NOT TO PROVIDE.					
4. ANY GASKETS WHICH CONTAIN ASBESTOS SHALL NOT BE USED.					
5. THE OPENING REINFORCEMENT SHALL BE SO DESIGNED AS NOT TO LIMIT THE MAXIMUM ALLOWABLE WORKING PRESSURE OF THE VESSEL.					
6. A FORMED HEAD SHALL GENERALLY BE MADE OF SINGLE PLATE. IN CASE THAT MULTIPLE PLATES ARE WELDED TOGETHER FOR LARGE FORMED HEAD, THE WELDING JOINTS SHALL BE EXAMINED BY 100% FULL RT BEFORE AND AFTER FORMING.					
7. THE HARDNESS TESTING OF THE PLATE AND WELD SEAM SHALL COMPLY WITH THE REQUIREMENTS OF B.3 IN SAPKT-EQ-SPE-0004 REV.0 SPECIFICATION FOR PRESSURE VESSEL.					
8. PLATE FABRICATED NOZZLE WELDS SHALL BE SUBJECT TO 100% RT.					
9. DURING HYDROSTATIC TEST, THE CHLORIDE ION CONTENT IN THE WATER SHALL BE STRICTLY CONTROLLED TO NOT EXCEED 25mg/L. AFTER THE TEST IS COMPLETED, THE WATER STAINS SHALL BE IMMEDIATELY REMOVED.					
10. AFTER THE HYDROSTATIC TEST HAS BEEN SUCCESSFULLY PASSED, THE INNER SURFACE OF THE STAINLESS STEEL SHALL UNDERGO ACID PICKLING AND PASSIVATION TREATMENT. THE PASSIVATION FILM FORMED SHALL BE INSPECTED USING THE BLUE DOT METHOD, AND THE ABSENCE OF BLUE DOTS SHALL BE DEEMED AS ACCEPTABLE.					
11. THICKNESS INDICATED ON DRAWING ARE PROPOSED VALUE, VENDOR SHALL CHECK AND GUARANTEE THEM ON STRENGTH.					

NOTE:					
1. WIND CONDITION: ASCE 7-2016(EXPOSURE CATEGORY:C,RISK CATEGORY:III), DESIGN WIND SPEED:120Km/Hr;					
2. SEISMIC CONDITION: ASCE 7-2016(CLASS E,IMPORTANT FACTOR 1.25,SS=0.198g,S1=0.1323g)					
3. MEDIUM COMPOSITION: PRIMARILY AIR, SMALL AMOUNTS OF NH3, H2O AND CO2.					

NOZZLE LIST								
MARK	SIZE NPS	SCH. OR THK.	CLASS	FLANGE STD	TYPE	FACE TYPE	SERVICE	NOZ. PROJ. FROM C.L
N1	48"	Thk.18	150#	ASME B16.47(A)-2020	WN	RF	Filterde exhaust gas inlet	2110
N2	6"	Sch80S	150#	ASME B16.5-2020	WN	RF	Mother Liquor I outlet	SEE DWG.
N3	48"	Thk.12	150#	ASME B16.47(A)-2020	WN	RF	Filterde exhaust gas outlet	SEE DWG.
N4	2"	Sch80S	150#	ASME B16.5-2020	WN	RF	Spare nozzle	1860
M1	24"	Thk.10	150#	ASME B16.5-2020	WN	RF	Manhole	/
M2	24"	Thk.10	/	/	/	/	Skirt manhole	/
M3	24"	Thk.10	/	/	/	/	Skirt manhole	/
V1-V4	4"	/	/	/	/	/	Skirt Vent	/

ALLOWABLE LOAD OF NOZZLES								
NOZZLE	FORCE (N)			FORCE MOMENT (N.m)				
	P	Vc	Vi	MT	ML	MC		
N1	23040	20880	23040	82944	71885	55269		
N2	3600	2700	3600	1620	1404	1080		
N3	20160	15120	20160	72576	62899	48384		
N4	1200	900	1200	120	156	180		

MATERIAL LIST							
SHELL/HEAD	SA-240 TYPE 316L+SA-516 Gr.70		SKIRT	SA-240 TYPE 316L/SA-516 Gr.70			
NOZZLE FLANGE	SA-182 Gr.F316L		STIFFENING RING	SA-516 Gr.70			
NOZZLE NECK	PIPE	SA-312 Gr.TP316L		TAILING LUG	/		
	FORGED	/		SUPPORT BEAM OF SKIRT	/		
	PLATE	SA-240 TYPE 316L		TRUNNION LUG/PAD			
NOZZLE GASKET	PTFE		TOP TOWER DAVIT	/			
BODY FLANGE	/		NAMEPLATE/BRACKET	SA-240 304/SA-516 Gr.70			
BODY GASKET	/		INSULATION/FIREPROOFING SUPPORT	/			
PIPE FITTING	SA-312 Gr.TP316L		ANCHOR BOLTS	SA-370 Gr.B			
TRAY	/		LIFTING LUG/PAD	SA-283 Gr.C/SA-516 Gr.70			
INTERNALS SUPPORT	SA-240 TYPE 316L		EARTH LUG	SA-240 TYPE 304			
STUDS/NUTS(INTERNAL)	SA-193 Gr.BB CL2/SA-194 Gr.8		TEMPLATE OF FOUNDATION	/			
STUDS/NUTS(EXTERNAL)	SA-193 Gr.B7/SA-194 Gr.2H						

NOZZLE	FORCE (N)			FORCE MOMENT (N.m)		
	P	Vc	Vi	MT	ML	MC
N1	23040	20880	23040	82944	71885	55269
N2	3600	2700	3600	1620	1404	1080
N3	20160	15120	20160	72576	62899	48384
N4	1200	900	1200	120	156	180

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△	IFD	11-03-2025	KSL		LZQ			
REV.	DESCRIPTION	DATE	DESIGN	DRAW	CHECK	REVIEW	APPROVE	
THIS DOCUMENT IS THE PROPERTY OF TCC. NO PART OF THIS DOCUMENT SHALL BE REPRODUCED OR DISCLOSED TO OTHERS OR USED FOR ANY PURPOSE WHATSOEVER EXCEPT WITH THE PRIOR WRITTEN PERMISSION OF TCC.								

TCC 中国天辰工程有限公司 CHINA TIANCHEN ENGINEERING CORPORATION			PROJECT	PKT 300KTA Soda Ash Project				
512-V-12 Filter Vacuum Separation Tank			UNIT	Filtration Section				
			PHASE	Detail Design				
SCALE 1:25	SHEET 1	TOT. 1	DWG NO.	T24B25-512-FE8D-1200				

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