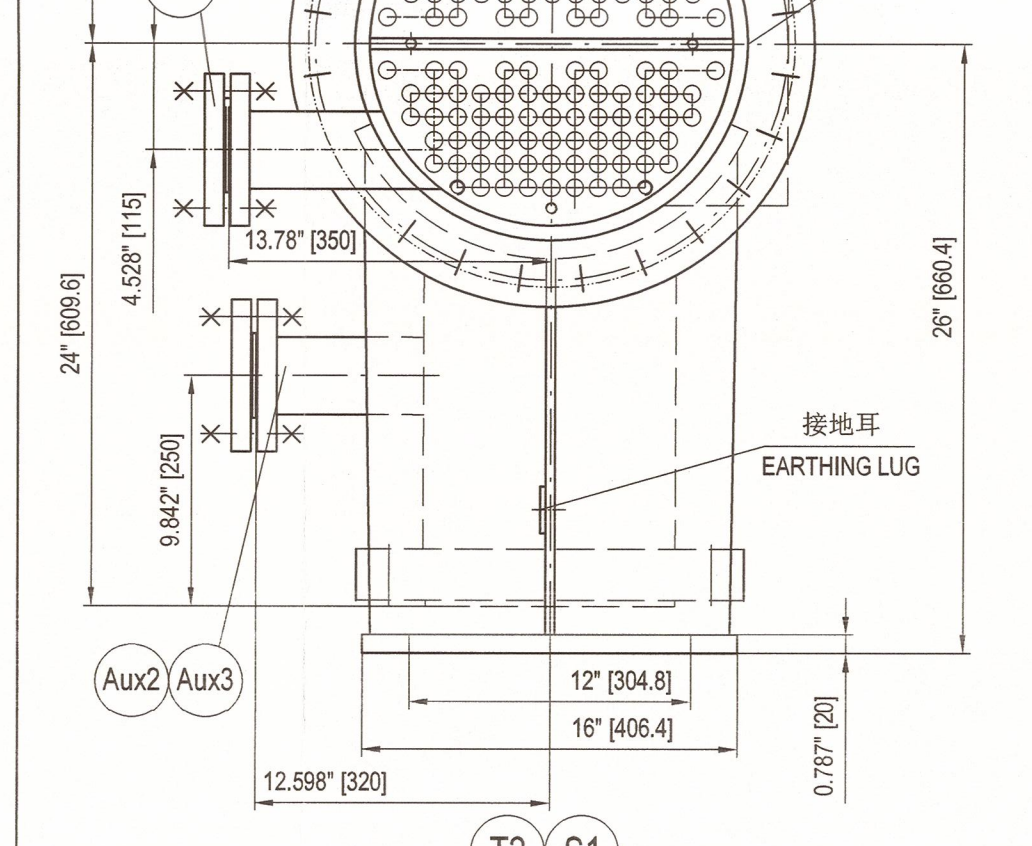
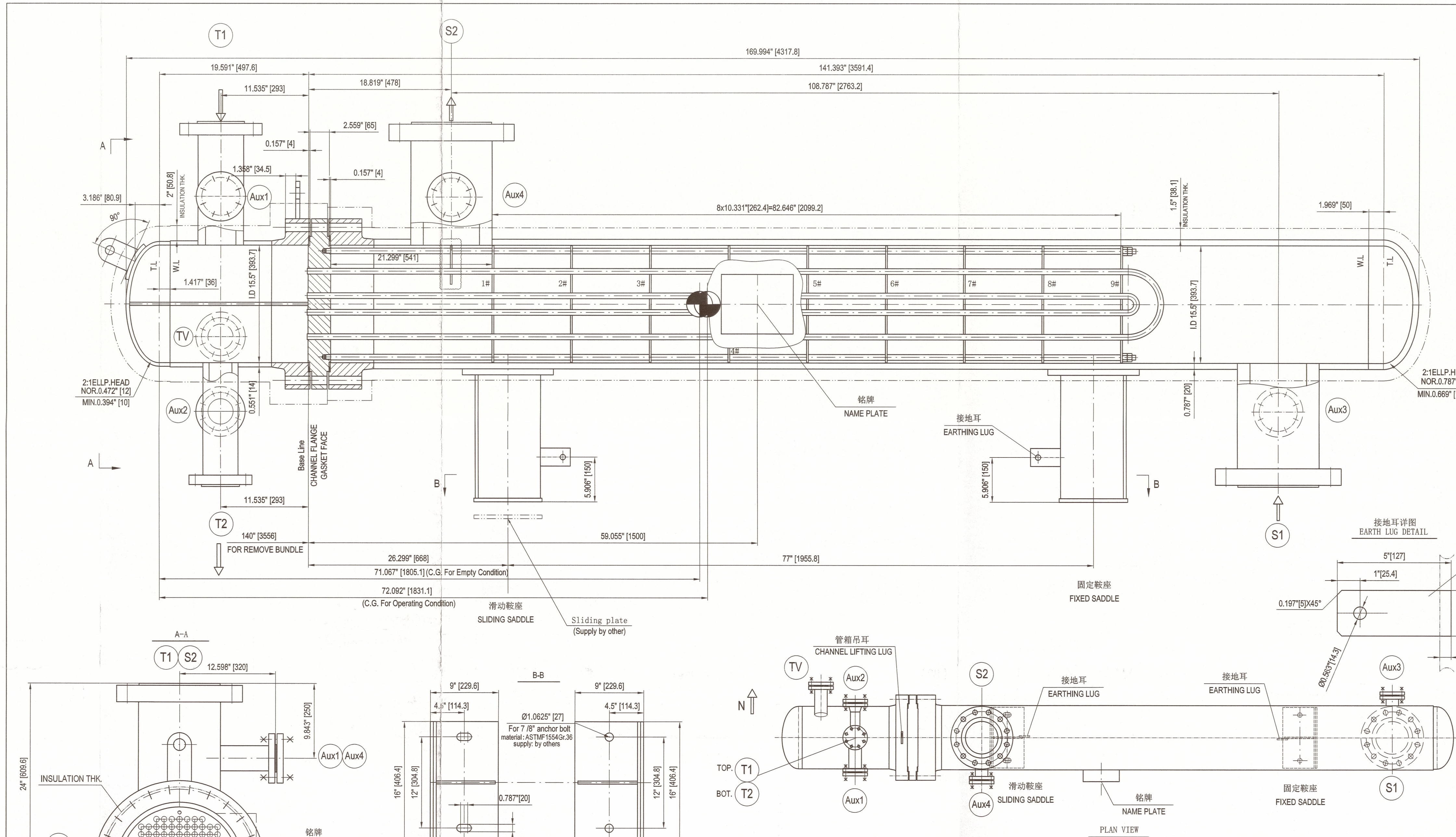




SADDLE			
	SLIDING	FIXED	TOTAL
EMPTY WEIGHT (lb)	3131.5	1521.5	4653
OPERATING WEIGHT (lb) (CORRODED)	3589.5	1851.5	5441
OPERATING WEIGHT (lb) (UNCORRODED)	3704	1911	5615
TEST WEIGHT (FIELD) (lb)	3758	1954	5712
TEST WEIGHT (SHOP) (lb)	3697	1922	5619

PROJECT SPECIFICATION			
NO.	DOC. NO.	DESCRIPTIONS	Rev
1	ABKM-PP-000-200001-A	Plant Site Data Sheet	06
2	ABKM-PP-000-400002-A	Structural Data for Mechanical Equipment General	0
3	ABKM-PP-000-500005-A	Design of Lifting Component for Mechanical Equipment	0
4	ABKM-PP-000-500010-A	Hot Insulation	0C
5	ABKM-PP-000-500020-A	Painting	0D
6	ABKM-PP-000-500012-A	Positive Material Identification - PMI	0
7	ABKM-PP-000-500030-A	Materials and Fabrication Requirements for Duplex Stainless Steel	0
8	ABKM-PP-000-500050-A	Welding-NDE Requirements for Equipment	0C
9	ABKM-PP-000-500720-A	Shell and Tube Heat Exchangers	0
10	DELETE		
11	SPEC-MED-DOC001	Design Basis for Mechanical Equipment	0
12	4WPH-670210	Boil-Up Procedures for Flanged Connections	5
13	Form 8232	Flanged Joint Assembly Record and Tightening Sequence	
14	SPEC-ENG-DOC001	Supplier-Designed, Shop-Fabricated Pressure Equipment	0
15	SPEC-ENG-DOC002	Shell & Tube Heat Exchanger	0
16	SPEC-ENG-AQ0057	Mechanical Equipment Gaskets	1
17	4WGN-10001	Shipment and Packing Specification for Equipment and Materials being Exported Directly by Vendors	6
18	4WEQ-1051	Welding of H/C O Plant Equipment	0
19	SPEC-ENG-AQ0042	Material Certification and Retesting Requirements	0

扭矩表 TORQUE TABLE			
部件 PART	螺栓规格 BOLT SIZE	扭矩 (lb-ft) TORQUE	
CHANNEL FLANGE AND SHELL FLANGE TO TUBESHEET	1"	675	
NOZZLE Aux1-4, TV	5/8"	90	

		MAXIMUM FOUNDATION LOADING DATA(ASD)		
		TOTAL		
		EMPTY	OPERATING	SHUTD
WIND LOAD	TRANSVERSE SHEAR (Lbf)	235.7	235.7	235.7
	TRANSVERSE BENDING (Lbf-in)	6128.2	6128.2	6128.2
	LONGITUDINAL SHEAR (Lbf)	72.27	72.27	72.27
	LONGITUDINAL BENDING(Lbf-in)	1879	1879	1879
EARTHQUAKE	TRANSVERSE SHEAR (Lbf)	2540	3063	-
	TRANSVERSE BENDING (Lbf-in)	66040	79638	-
	LONGITUDINAL SHEAR (Lbf)	2540	3063	-
	LONGITUDINAL BENDING (Lbf-in)	66040	79638	-
Bundle pull out: @150% bundle weight		1586 lbf		

CHANNEL		SKID BARS/RAILS	SA-240 316L
CHANNEL HEAD (INTEGRAL)	SA-516 Gr. 70N	IMPINGEMENT PLATE	-
CHANNEL FLANGE	SA-266 Gr. 2N	SPACERS	SA-213 TP316L
CHANNEL SHELL	SA-516 Gr. 70N	EXTERNAL ATTACHMENTS FOR CHANNEL	SA-240 316L
NOZZLE NECK	SA-106 Gr. B	EXTERNAL ATTACHMENTS FOR SHELL	SA-516 Gr.70N
NOZZLE FLANGE	SA-105N	EXTERNAL BOLTING/ NUT	SA-193 B7 / SA-194 2H
PASS PARTITION	SA-516 Gr.70N	INTERNAL BOLTING/ NUT	-
SHELL		SUPPORTS	SA-516 Gr.70N/SA-240 316
SHELL AND SHELL COVER	SA-240 316L	SLIDING PLATE	BY OTHERS
SHELL FLANGE	SA-182 F316L	ANCHOR BOLTS	ASTM F1554 Grades 36
NOZZLE NECK	SA-312 TP316L	GIRTH FLAGE GASKET	GMGC-316L+graphite filler
NOZZLE FLANGE	SA-182 F316L	NOZZLE FLAGE GASKET	SPIRAL WOUND-316L+graphite filler INNER & OUTER RING.316L
TUBE BUNDLE		EARTHING LUG	SS.304
TUBES	SA-789 S32205 (Seamless)	NAMEPLATE	SS.304
TUBESHEETS	SA-182 P60	NAMEPLATE BRACKET	SA-240 316L
BAFFLES	SA-240 316L	COLLAR BOLTS (INTEGRAL);	SA-193 B7
TIE / SEAL RODS:	SA-479 316L	JACK SCREW / DOWEL PIN	SS.304

管口表 NOZZLE SCHEDULE											
符号	数量	公称尺寸	壁厚等级	管嘴外形/厚度	管嘴内径/厚度	公称压力	连接标准	法兰型式	法兰密封面	用途或名称	备注
MARK	QTY.	NPS	SCH / THK	REIN. PAD	O.D. X THK	RATING	CONNECTING STD.	TYPE	CLASS OF ACC.	SERVICE	REMARKS
T1	1	4"	0.992" [25.2]	-	-	CL600	ASME B16.5-2017	LWNRF	24" [609.6]	TS INLET	
T2	1	3"	0.803" [20.4]	-	-	CL600	ASME B16.5-2017	LWNRF	24" [609.6]	TS OUTLET	
S1	1	8"	1.374" [34.9]	-	-	CL600	ASME B16.5-2017	LWNRF	24" [609.6]	SS INLET	
S2	1	8"	1.374" [34.9]	-	-	CL600	ASME B16.5-2017	LWNRF	24" [609.6]	SS OUTLET	
TV	1	2"	0.653" [16.5]	-	-	CL300	ASME B16.5-2017	LWNRF	见图/SEE DWG	TS VENT	WITH BL.
Aux1,2,4	3	2"	0.653" [16.5]	-	-	CL300	ASME B16.5-2017	LWNRF	见图/SEE DWG	AUXILIARY	WITH BL.
Aux2	1	2"	5.54	-	-	CL300	ASME B16.5-2017	WNRF	见图/SEE DWG	AUXILIARY	WITH BL.

设计制造检验与验收数据表			
设计制造检验与验收标准		设计数据	
1. ASME SECTION VIII DIV.1 2021 ED. 2. TEMA Tenth Edition CLASS R 3. API660-2020.		名称 DESIGNATION	壳程 SHELL SIDE
		换热型式 EXCHANGER TYPE (TEMA)	管程 TUBE SIDE
		传热面积 HEAT TRANSFER SURFACE AREA	234.09 [21.76]
		设计压力 DESIGN DUTY	3.6
		设计压力(内压/外压) DESIGN PRESSURE (INT/EXT)	180/15 [12.41/1.03]
		工作压力(NORMAL) OPERATING PRESSURE	50 [3.45]
		最大允许工作压力 MAWP (INTERNAL)	186.7 [12.87]
		最大允许工作压力 MAWP (EXTERNAL)	532 [36.88]
		最大允许压力 MAP	FV @300 [148.9]
		设计温度 DESIGN TEMPERATURE	430 [221.1300] [148.89]
		工作温度 OPERATING TEMPERATURE	NOTE.1
		最低设计金属温度 MDMT	32 @186.7 PSIG
		工作介质 OPERATING FLUID	RAW Feed
		介质特性 VESSEL SERVICE	Steam
		管程 SHELL SIDE	NO
		壳程 TUBE SIDE	NO
		工厂水压试验 SHOP HYDROSTATIC TEST	779.5 [53.8]
		现场水压试验 FIELD HYDROSTATIC TEST	262.8 [18.2]
		气密试验 PNEUMATIC TEST	691.7 [47.7]
		制造重量 FABRICATED WEIGHT	4560 [2073]
		空重 EMPTY WEIGHT	4653 [2115]
		安装重量 ERECTED WEIGHT	5441 [2473]
		操作重量(腐蚀) OPERATING WEIGHT (CORRODED)	5615 [2553]
		操作重量(不腐蚀) OPERATING WEIGHT (UNCORRODED)	5712 [2596]
		水压试验(现场) TEST WEIGHT (FIELD)	5619 [2554]
		水压试验(工厂) TEST WEIGHT (SHOP)	5619 [2554]
		管束重量 TUBE BUNDLE WEIGHT	1057 [480.5]
		管箱重量 CHANNEL WEIGHT	634 [288]
		地震设计规范 SEISMIC DESIGN CODE	ASCE 7-2016, S1+0.579g, S1+1.616g, SDE=1.077g, SD1+0.999g, Site Class=I, IMP. FACTOR=1.5, DESIGN CATEGORY=I
		风载设计规范 WIND DESIGN CODE	ASCE 7-2016
		基本风速 BASIC WIND VELOCITY	101 [45.2]
		管口方位 NOZZLE ORIENTATION	AS PER THIS DWG

管口载荷表 NOZZLES LOADS LIST						
NOZZLE	NPS	FORCES (UNIT: Lbf)			MOMENTS (UNIT: Lbf-ft)	
		Fy	Fx	Fz	Mx	My
T1	4" (2X300#)	1360	1700	1700	1760	2840
T2	3" (2X300#)	1060	1340	1340	1080	1360
S1	8" (2X300#)	3640	4560	4560	9020	11460
S2	8" (2X300#)	3640	4560	4560	9020	11460

设计 DESIGN	校核 CHECK	审核 REVIEW	批准 APPROVE	设计阶段 DESIGN PHASE	设计项目 DESIGN ITEM	设计日期 DATE	设计人 DESIGNER	校核人 CHECKER	审核人 REVIEWER	批准人 APPROVER
2023.4.3	2023.4.3	2023.4.3	2023.4.3	T-125001 Recirculating Exchanger	GENERAL ASSEMBLY DRAWING I	18-X-1807	WUXI	WUXI	WUXI	WUXI

