

Kelvion



凯络文热能技术（江苏）有限公司

Kelvion Thermal Solutions (Jiangsu) Co.,Ltd

江苏省常熟市高新技术工业开发区新安江路 66 号

No.66, Xin'anjiang Road New & Hi-tech Industrial Development Zone Changshu Jiangsu Province China

PART 7.2

Drawings

图纸

CONNECTION FOR ONE BAY 单塔冷器管口表

Table with 5 columns: No., Service Item, Size, Unit, Description, Note. It lists items for inlet/outlet flanges, nozzle, motor, and terminal box.

NOTES:
1. FLANGE ACCORDING TO ASME B16.5...
2. NOZZLE AND MAIN FRAME BEARING VALUES EQUALLY AND STABLE EQUIDISTANT...
3. WITH REINFORCEMENT... 附加加强圈...

GENERAL NOTES 备注:
1. REFERENCE DRAWING 参考图...
2. GENERAL ARRANGEMENT DRAWING 总体布置图...
3. MECHANICAL CALCULATION NOTE 机械计算书...
4. PAN AND DRIVE ASSEMBLY 电动机及传动装置装配图...

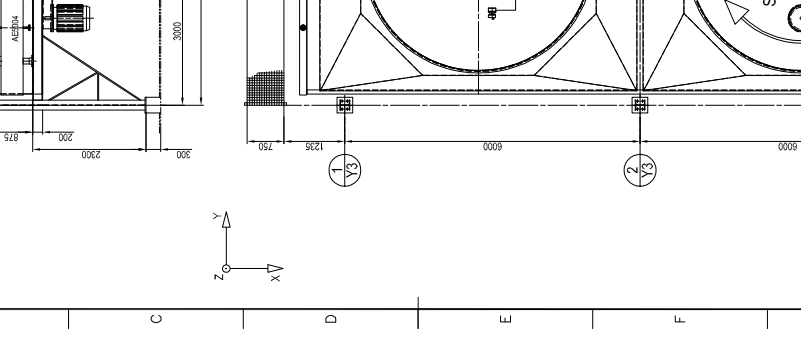
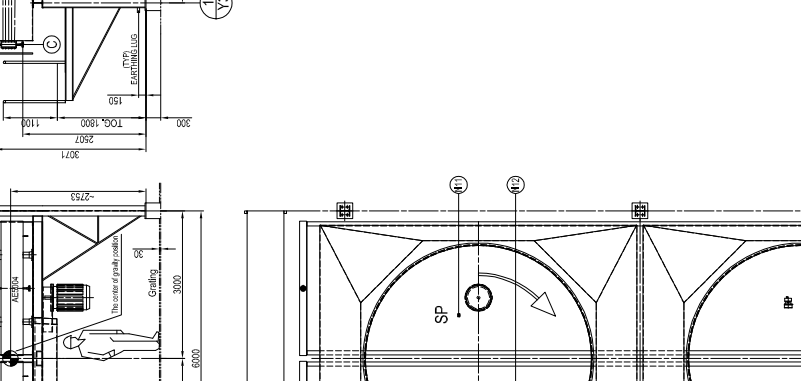
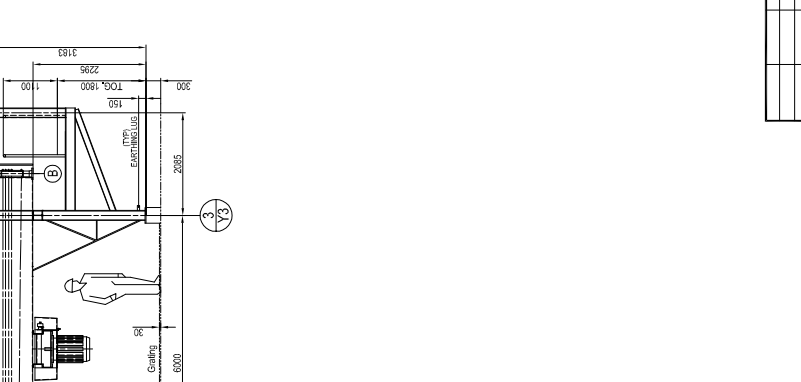
SYMBOLS AND LEGENDS:
Table mapping drawing symbols (circles with letters) to their respective components like nozzle, motor, and flange.

KEY PLAN:
Table with columns for No., Date, Design, Draw, Check, Review, and Approval. Shows a series of approvals for the drawing.

Middle East Kimiyae Pars Company
CONTRACTOR DRAWING NO.
SUB-CONTRACTOR DRAWING NO.

PROJECT: MIP Method Project
UNIT: DISTILLATION UNIT
PHASE: Detail Engineering
ITEM NO. AES004

Scale: 1:50
SHEET 01 OF 01
Total: 01 OF 01



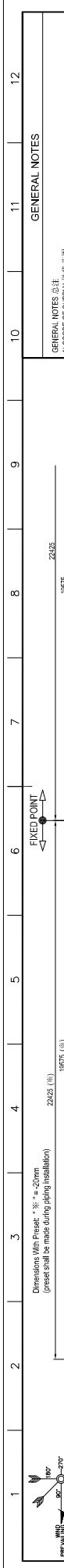
MINIMUM ALLOWABLE NOZZLE LOADS
FORWIND AND MOVENENT IN Xc

Table showing minimum allowable nozzle loads for various nozzle sizes (NPS 6 to NPS 14) under different wind directions (W, NW, N, NE, E, SE, S, SW, W).

DISPLACEMENT OF HEADERS IN DIRECTION INDETERMINATE
VALUES IN RELATION WITH MAXIMUM ALLOWABLE FORCES

Table showing allowable displacement for header inlet/outlet and inlet/outlet under different wind directions.

Scale: 1:50
SHEET 01 OF 01
Total: 01 OF 01



GENERAL NOTES

GENERAL NOTES 备注

1) SCOPE OF SUPPLY 供货范围

1.1) SCOPE OF SUPPLY INCLUDES ALL INSTRUMENTATION & CONTROL SYSTEMS. ALL INSTRUMENTATION & CONTROL SYSTEMS ARE TO BE PROVIDED BY THE SUPPLIER.

1.2) SCOPE OF SUPPLY INCLUDES ALL INSTRUMENTATION & CONTROL SYSTEMS. ALL INSTRUMENTATION & CONTROL SYSTEMS ARE TO BE PROVIDED BY THE SUPPLIER.

1.3) SCOPE OF SUPPLY INCLUDES ALL INSTRUMENTATION & CONTROL SYSTEMS. ALL INSTRUMENTATION & CONTROL SYSTEMS ARE TO BE PROVIDED BY THE SUPPLIER.

1.4) SCOPE OF SUPPLY INCLUDES ALL INSTRUMENTATION & CONTROL SYSTEMS. ALL INSTRUMENTATION & CONTROL SYSTEMS ARE TO BE PROVIDED BY THE SUPPLIER.

2) PROTECTION 表面保护: SEE PAINTING & GALVANIZING SHEET 见文件 21C165869A000000

3) LOADING DATA 负荷数据

3.1) WIND VELOCITY 风速: 20.0 km/h (up to 10m elevation) Code: ASCE-2010 ASD Basis

3.2) TERRAIN SURFACE ROUGHNESS 地形表面粗糙度: D

3.3) EXPOSURE CATEGORY 暴露类别: II

3.4) GENERAL CODE: ASCE-2010 ASD BASIS

3.5) WIND DESIGN BASIS: 按照设计基本参数:

IMPORTANCE FACTOR 重要性系数: 1.25

SITE CLASS 场地类别: B

Age-BASED FACTOR 场地系数 F_a : 1

Age-BASED FACTOR 场地系数 F_w : 1

Age-BASED FACTOR 场地系数 F_t : 3.0

MAX. WAPPED RES. ACC. ST. 1: 0.795

MAX. WAPPED RES. ACC. ST. 2: 0.795

• SNOW LOAD 雪荷载: 25 kg/m² Code: ASCE-2010

• OVERLOADING OF HEADER WALKWAYS 管廊过道超载: 500kg/m²

• OVERLOADING OF CONNECTION WALKWAYS 连接过道超载: 250kg/m²

4) FANS 风机

4.1) MANUALLY ADJUSTABLE FAN PITCH (SP) 手动可调变频

5) MISCELLANEOUS 其他

5.1) ALL FANS OF BANDS ARE FITTED WITH STAINLESS STEEL + PTFE SLIDING PAIDS 所有带轮的电机均配装不锈钢+PTFE滑动副

5.2) 所有带轮的电机均配装不锈钢+PTFE滑动副

6) INLET HEADERS ARE FIXED IN X DIRECTION 进口集管固定在 X 方向

6.1) EARTHING LUGS PER BAY DIAGONALLY OPPOSED 每间管架的对角线接地

6.2) EARTHING LUGS PER BAY DIAGONALLY OPPOSED 每间管架的对角线接地

6.3) EARTHING LUGS PER BAY DIAGONALLY OPPOSED 每间管架的对角线接地

6.4) EARTHING LUGS PER BAY DIAGONALLY OPPOSED 每间管架的对角线接地

6.5) EARTHING LUGS PER BAY DIAGONALLY OPPOSED 每间管架的对角线接地

6.6) EARTHING LUGS PER BAY DIAGONALLY OPPOSED 每间管架的对角线接地

6.7) EARTHING LUGS PER BAY DIAGONALLY OPPOSED 每间管架的对角线接地

6.8) EARTHING LUGS PER BAY DIAGONALLY OPPOSED 每间管架的对角线接地

6.9) EARTHING LUGS PER BAY DIAGONALLY OPPOSED 每间管架的对角线接地

6.10) EARTHING LUGS PER BAY DIAGONALLY OPPOSED 每间管架的对角线接地

7) TEG TOP OF GRATING 格栅顶面

7.1) TEG TOP OF GRATING 格栅顶面

7.2) TEG TOP OF GRATING 格栅顶面

7.3) TEG TOP OF GRATING 格栅顶面

7.4) TEG TOP OF GRATING 格栅顶面

7.5) TEG TOP OF GRATING 格栅顶面

7.6) TEG TOP OF GRATING 格栅顶面

7.7) TEG TOP OF GRATING 格栅顶面

8) REFERENCE DRAWING 参考图

8.1) LAYOUT PLAN 平面布置图

8.2) GENERAL ARRANGEMENT DRAWING 总体装置图 20

9) GENERAL ARRANGEMENT DRAWING 总体装置图 20

10) GENERAL ARRANGEMENT DRAWING 总体装置图 20

11) TEG TOP OF GRATING 格栅顶面

12) TEG TOP OF GRATING 格栅顶面

KEY PLAN

KEY PLAN 平面布置图

KEY PLAN 平面布置图

KEY PLAN 平面布置图

SYMBOLS AND LEGENDS

SYMBOLS AND LEGENDS 图例和图例

SYMBOLS AND LEGENDS 图例和图例

SYMBOLS AND LEGENDS 图例和图例

ONE UNIT PROVIDED 一个单元

REV. PURPOSE OF ISSUE DATE DESIGN DRAWN CHECK REVISION APPROVE

REV.	PURPOSE OF ISSUE	DATE	DESIGN	DRAWN	CHECK	REVISION	APPROVE
1	Issue for construction	04.01.2021	XI.SHI	M.TANG	XI.SHI	M.TANG	ZHAKANG
2	Update according to the comments	03.03.2021	XI.SHI	M.TANG	XI.SHI	M.TANG	ZHAKANG
3	Update according to the comments	22.02.2016	XI.SHI	M.TANG	XI.SHI	M.TANG	ZHAKANG
4	Update according to the comments	10.09.2016	XI.SHI	M.TANG	XI.SHI	M.TANG	ZHAKANG
5	Update according to the comments	09.03.2016	XI.SHI	M.TANG	XI.SHI	M.TANG	ZHAKANG
6	Update according to the comments	09.03.2016	XI.SHI	M.TANG	XI.SHI	M.TANG	ZHAKANG
7	Update according to the comments	10.09.2016	XI.SHI	M.TANG	XI.SHI	M.TANG	ZHAKANG
8	Update according to the comments	10.09.2016	XI.SHI	M.TANG	XI.SHI	M.TANG	ZHAKANG
9	Update according to the comments	10.09.2016	XI.SHI	M.TANG	XI.SHI	M.TANG	ZHAKANG
10	Update according to the comments	10.09.2016	XI.SHI	M.TANG	XI.SHI	M.TANG	ZHAKANG

Middle East

Kimiye Pars Company

TCC 中國天辰工程有限公司

CONTRACTOR DRAWING NO.

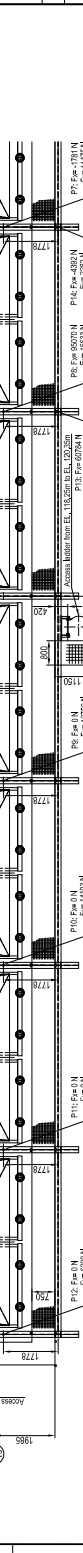
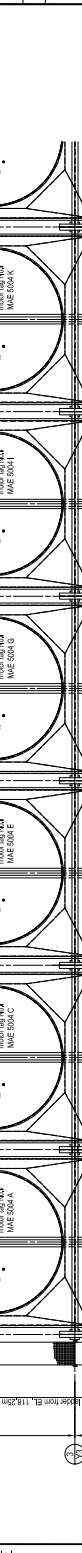
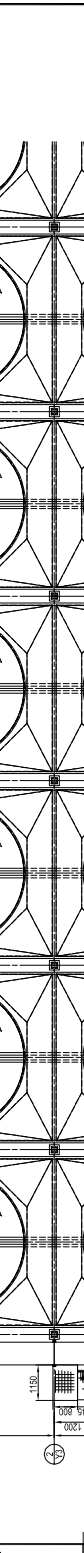
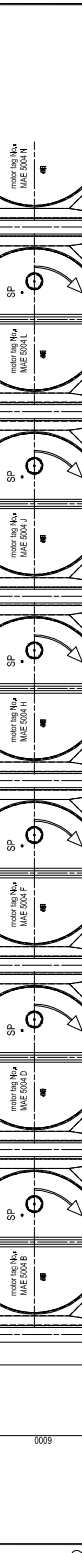
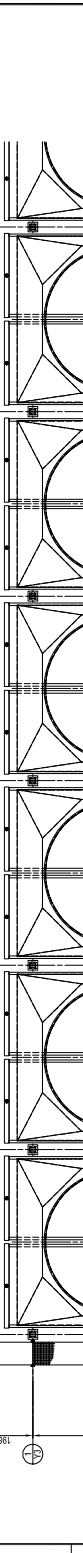
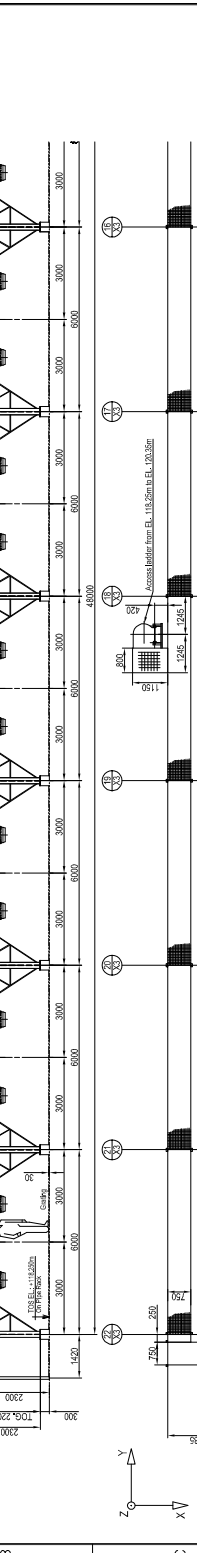
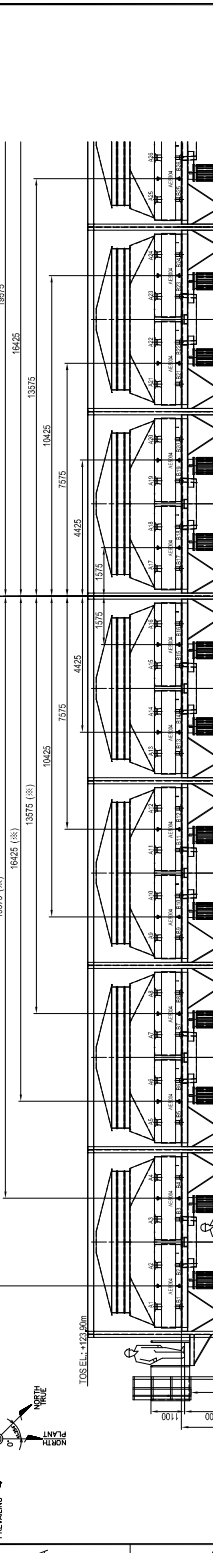
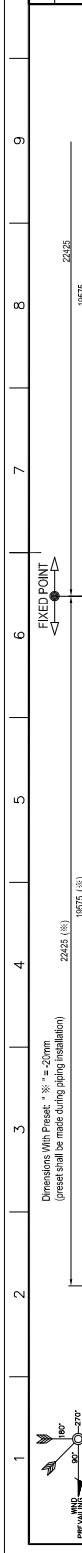
SHEET 01 TOTAL 01

PROJECT WIP Method Project

UNIT DISTILLATION UNIT

PHASE Detail Engineering

SCALE 1:80 SHEET 01 TOT. 01 SIZE AT DWG NO. WIP-VO-5000-23-00-01



LOADING CHART 荷载表

LOADING CHART 荷载表

LOADING CHART 荷载表

LOADING CHART 荷载表

LOADING CHART 荷载表

Notes

1. Pipeline installation, should be installed in the cold state of the pipeline reverse pre-displacement 20mm, in connection with the tube header after the release tube fastening bolts.

2. Tube bundles when installation, four east side tube headers are offset westward by 20 mm, the west side tube headers is not offset.

3. Even load (evenly) equipment (equal load) on both ends of the pipe, + self-weight

4. Hydraulic test (equipment empty load) full weight during loading

5. Nuts (nuts) the normal condition of the bolt

6. Displacement (equal to hydraulic test) Nuts (nuts) + piping load

7. Displacement (equal to hydraulic test) Nuts (nuts) + piping load

8. Displacement (equal to hydraulic test) Nuts (nuts) + piping load

9. Displacement (equal to hydraulic test) Nuts (nuts) + piping load

LOAD DESCRIPTION OF LOADING CHART

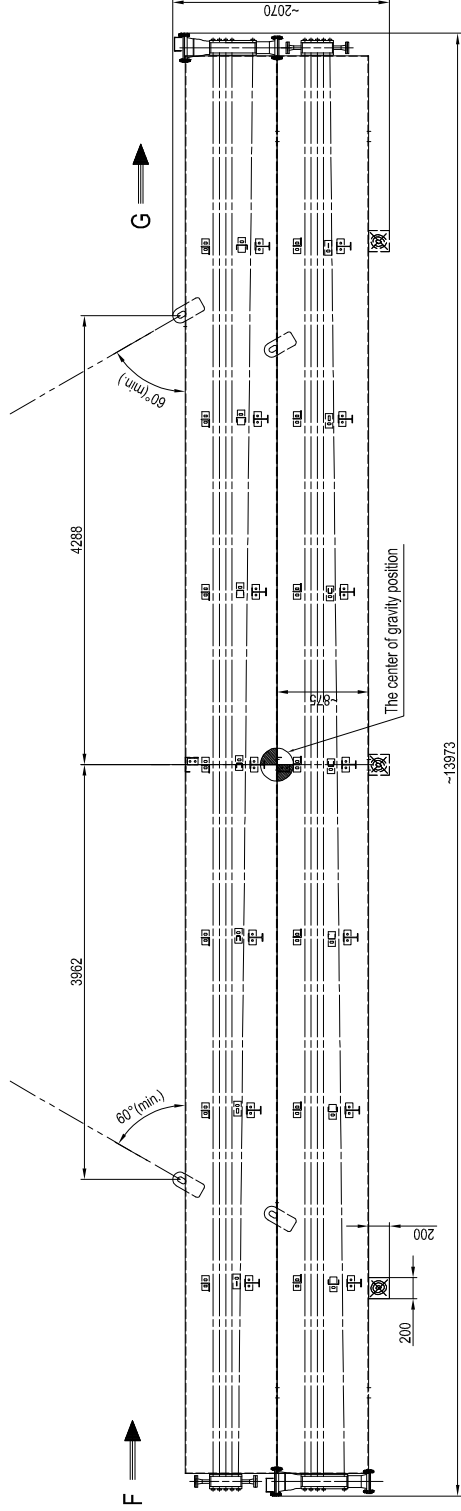
LOAD DESCRIPTION OF LOADING CHART

LOAD DESCRIPTION OF LOADING CHART

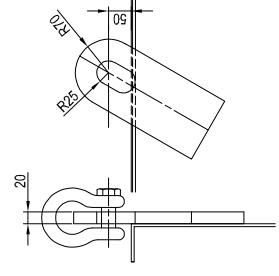
LOAD DESCRIPTION OF LOADING CHART

LOAD DESCRIPTION OF LOADING CHART

C01 - 21C16569

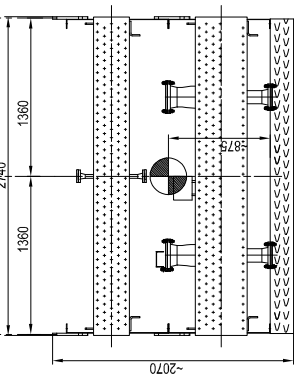
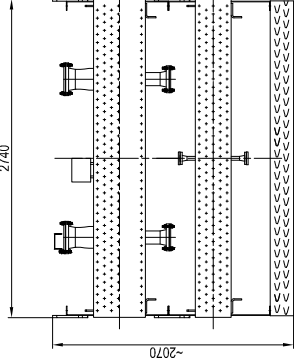



LIFTING LUG DETAIL



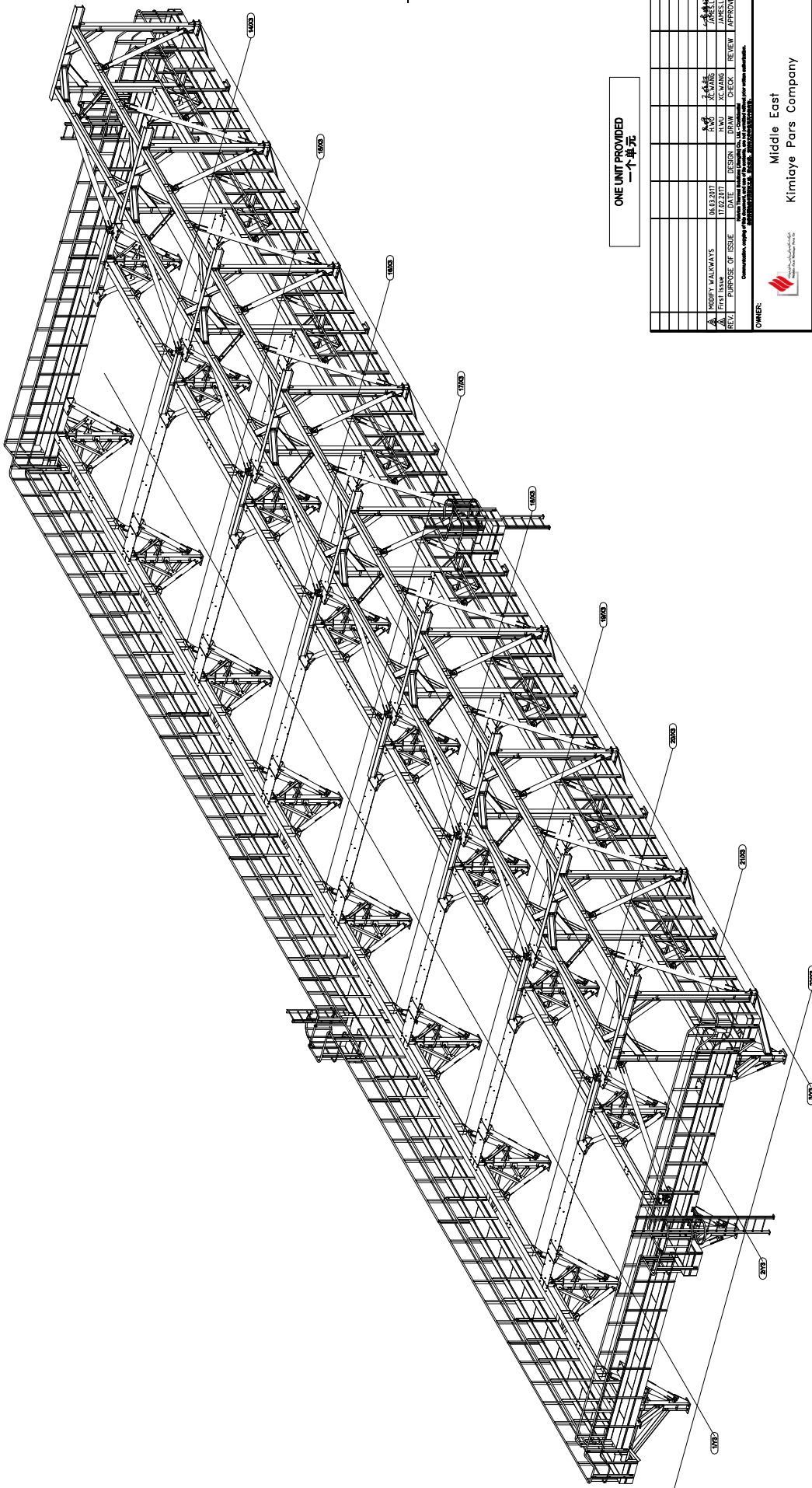
NOTE: 1. WEIGHT OF 2 BUNDLES: ~ 15.2 T (WITHOUT PAKING)
2. TOTAL QUANTITY OF PACKAGE: 8

CLIENT 用户: China Tianchen Engineering Corporation
PURCHASE ORDER NUMBER 定单号: BP-B11004-EQU-16001
PROJECT TITLE 项目名称: MKP Methanol Project
PROJECT NUMBER 项目编号: -
PLANT LOCATION 装置地点: Middle East



1	APC - Approved for Construction	2017/08/01	2017/08/01	2017/08/01
0	ORIGINAL ISSUE 初版	XC.S.H	M.T.J.A.N.G	2017/03/10
REVISION 版本	DESCRIPTION 描述	DRAWN BY 制图	CHECKED BY 校核	DATE 日期
SCALE 比例	SIZE 规格	A2	STATUT. S.P.A. DATE	
EQUIPMENT 设备名称 AIR COOLED HEAT EXCHANGER 空冷式换热器				
TITLE 标题 TRANSPORT PACKING OF BUNDLE 管束运输包装示意图				
ITEM 位号 - AE6004				
N°21C16569C010049				
 <p>Kelvion Thermal Solutions (Jiangsu) Co., Ltd. 江苏艾热德技术(江苏)有限公司 No.68, Xinyang Road, Heng & Hai-Tech Industrial Development Zone Changshu, Jiangsu Province, 215000, China</p> <p>Bt - Batirolles Technologies Thermiques A product brand of Kelvion</p>				

Communication, copying of this document, and use of its contents, are not permitted without prior written authorization.
在未取得许可的情况下,复制或在本文件中包含的任何内容进行传播。



ONE UNIT PROVIDED
一个单元

3D ISOMETRIC VIEW



Middle East
Kimloye Pars Company

TCC 中国天辰工程有限公司
TCC CHINA TIANCHEN ENGINEERING CONSULTANTS CO., LTD.
No. 100, Zhonghua Road, Beijing 100020, P.R. China
Tel: 8610 5936 3000 Fax: 8610 5936 3001
www.tcc.com.cn

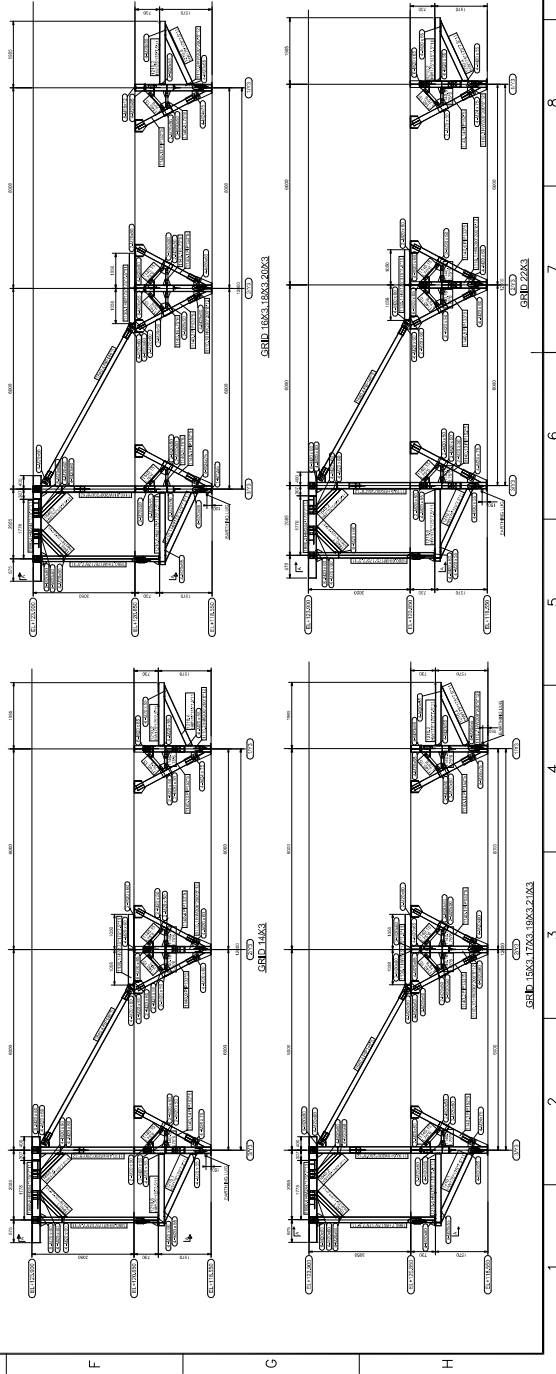
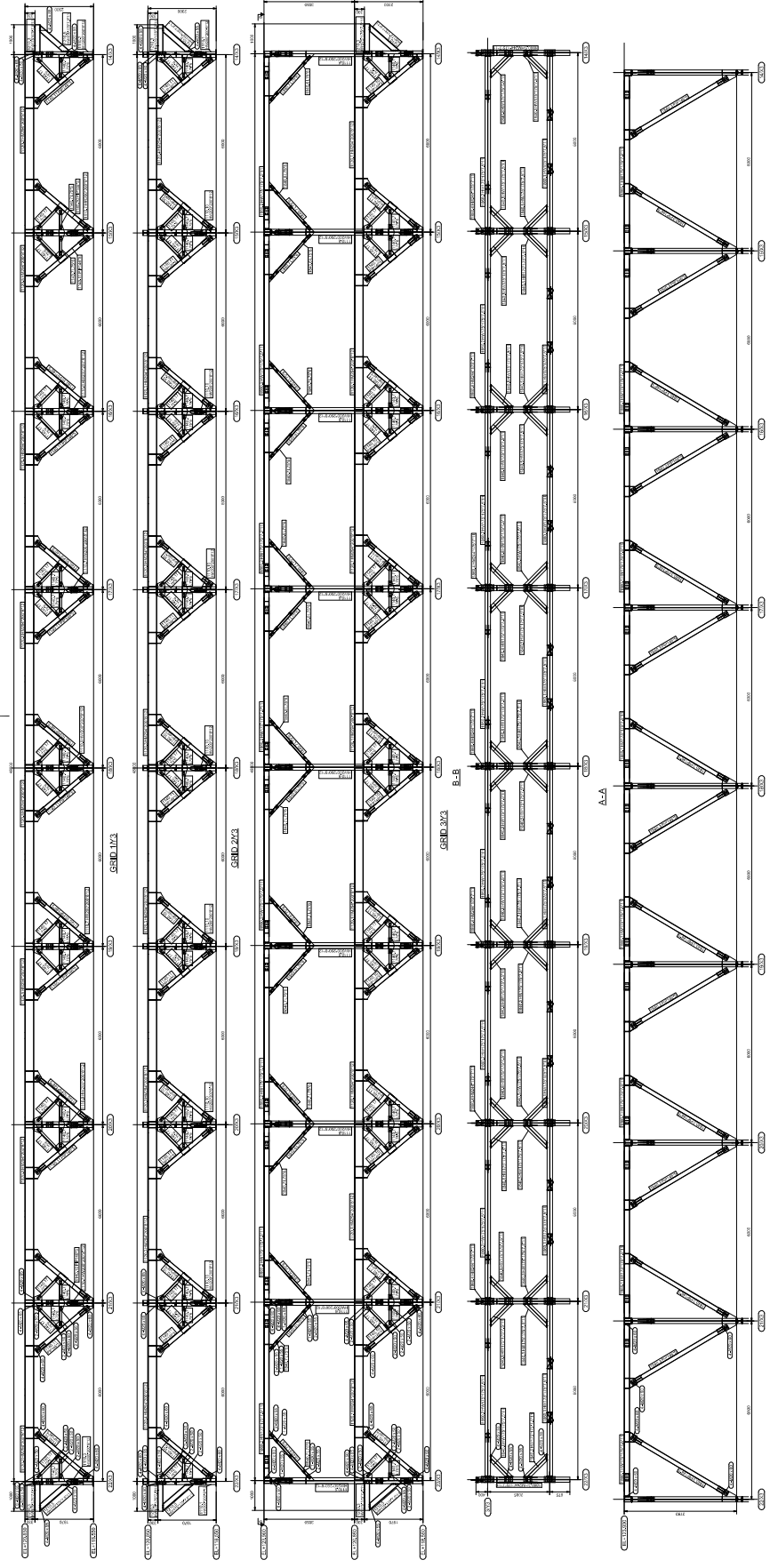
OWNER: Middle East Kimloye Pars Company
PROJECT: MIP Method Project
UNIT: DISTILLATION UNIT
PHASE: Detail Engineering
ITEM NO. A65004
OWNER NO. MIP-10-500-221-004-A1

NO.	REVISION	DATE	DESIGN	DRAW	CHECK	REVIEW	APPROVE
1	ISSUE	17.02.2017	HAU	XLWANG			
2	REVISED						
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							

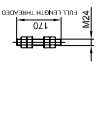
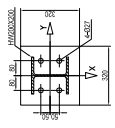
CONTRACTOR DRAWING NO.		SHEET	OF	TOTAL	OF
SUB-CONTRACTOR DRAWING NO.		Z010500-00-110			
SHEET		01			
TOTAL					

SCALE	1:1	SHEET	OF	TOT.	OF	SIZE	AT	OWNER	DWG. NO.
									MIP-10-500-221-004-A1

A B C D E F G H



COLUMN BASE PLATE
THICK. 20MM



BOLTS (WITH NUTS & WASHERS)
TYPE: 8.8, 10.9
SPEC: Q191, 188

ONE UNIT PROVIDED
一个单元

NOTE: THE COMPLETE MARKING OF PARTS
INCLUDES "169.C01" DIGITS BEFORE
ASSEMBLY NAMES MARKED ON DWGS.

REV.	PURPOSE OF ISSUE	DATE	DESIGN	DRAW	CHECK	REVIEW	APPROVE
A	Approved for Construction	01/09/2017	Y. WANG	Y. WANG	Y. WANG	Y. WANG	Y. WANG
B	FOR CONSTRUCTION	01/09/2017	Y. WANG	Y. WANG	Y. WANG	Y. WANG	Y. WANG

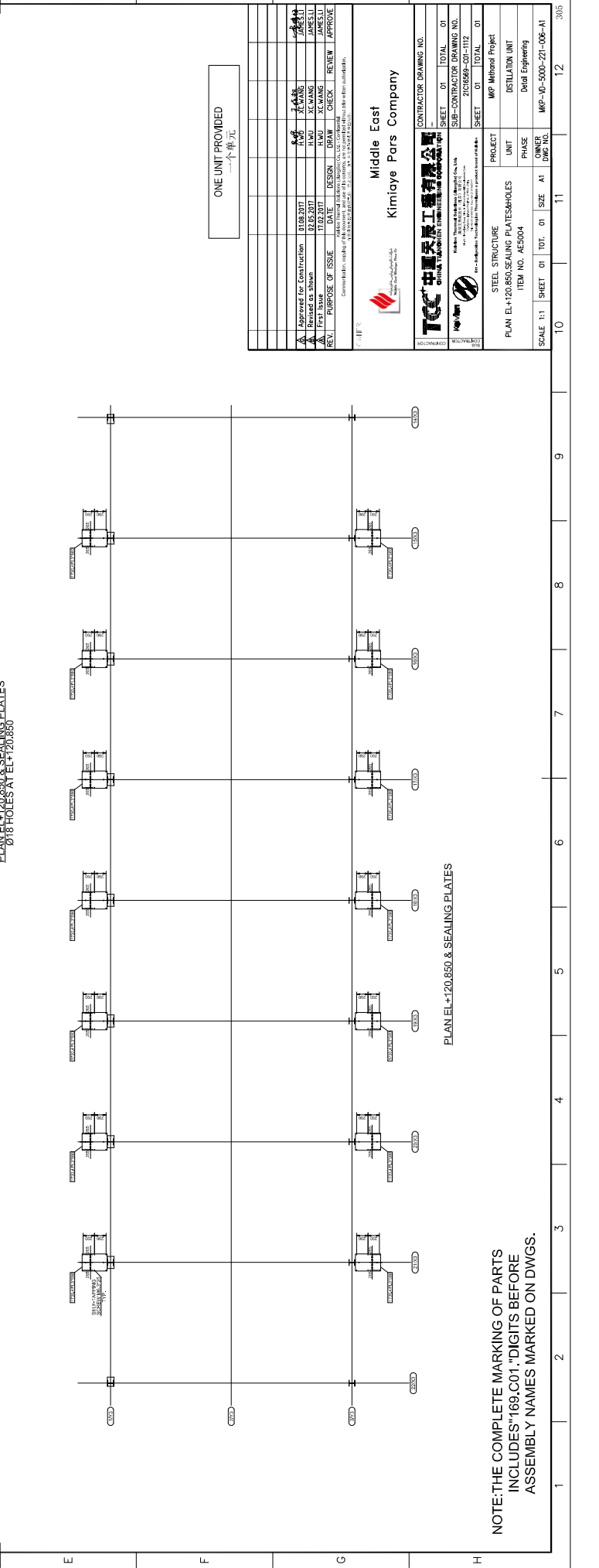
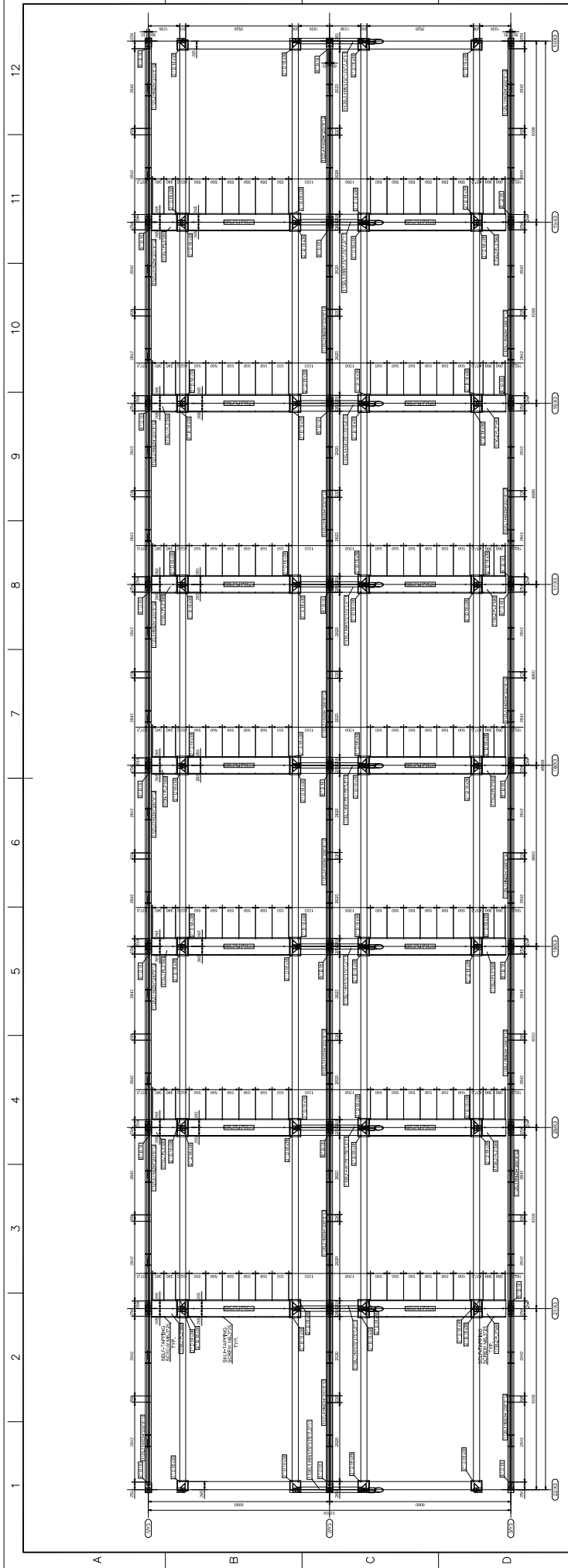
**Middle East
Kimiyae Pars Company**

TCC 中國天辰工程有限
TIANCHEN CONSULTING GROUP CO., LTD.

CONTRACTOR DRAWING NO.
SHEET 01 TOTAL 01
SUB-CONTRACTOR DRAWING NO.
21026269-001-111
SHEET 01 TOTAL 01

STEEL STRUCTURE
GRID 1/13-3/13&4/13-22/13
ITEM NO. A5304
SCALE 1:1
SHEET 01
TOT. 01
SIZE A1

PROJECT: MIP Midtown Project
UNIT: Detail Engineering
PHASE: Distillation Unit
OWNER: MIP-05-500-221-005-A1



ONE UNIT PROVIDED
一个单元

Approved for Construction	DATE	DESIGN	DRAW	CHECK	REVIEW	APPROVE
Checked & shown	DATE	DESIGN	DRAW	CHECK	REVIEW	APPROVE
PURPOSE OF ISSUE	DATE	DESIGN	DRAW	CHECK	REVIEW	APPROVE
REV.	DATE	REASON	BY	CHKD	APPV	

CONTRACTOR DRAWING NO.	CONTRACTOR DRAWING NO.
SHEET 01	TOTAL 01
SUB-CONTRACTOR DRAWING NO.	SUB-CONTRACTOR DRAWING NO.
21026589-001-112	21026589-001-112
SHEET 01	TOTAL 01

PROJECT	MIP Methanol Project
UNIT	DISTILLATION UNIT
ITEM NO.	AC5004
PHASE	Detail Engineering
OWNER	MIP-00-5000-221-009-A1
SCALE 1:1	SHEET 01
TOT. 01	SIZE A1
DWG. NO.	

STEEL STRUCTURE	
PLAN EL+20.950 SEALING PLATES/HOLES	
ITEM NO. AC5004	
SCALE 1:1	

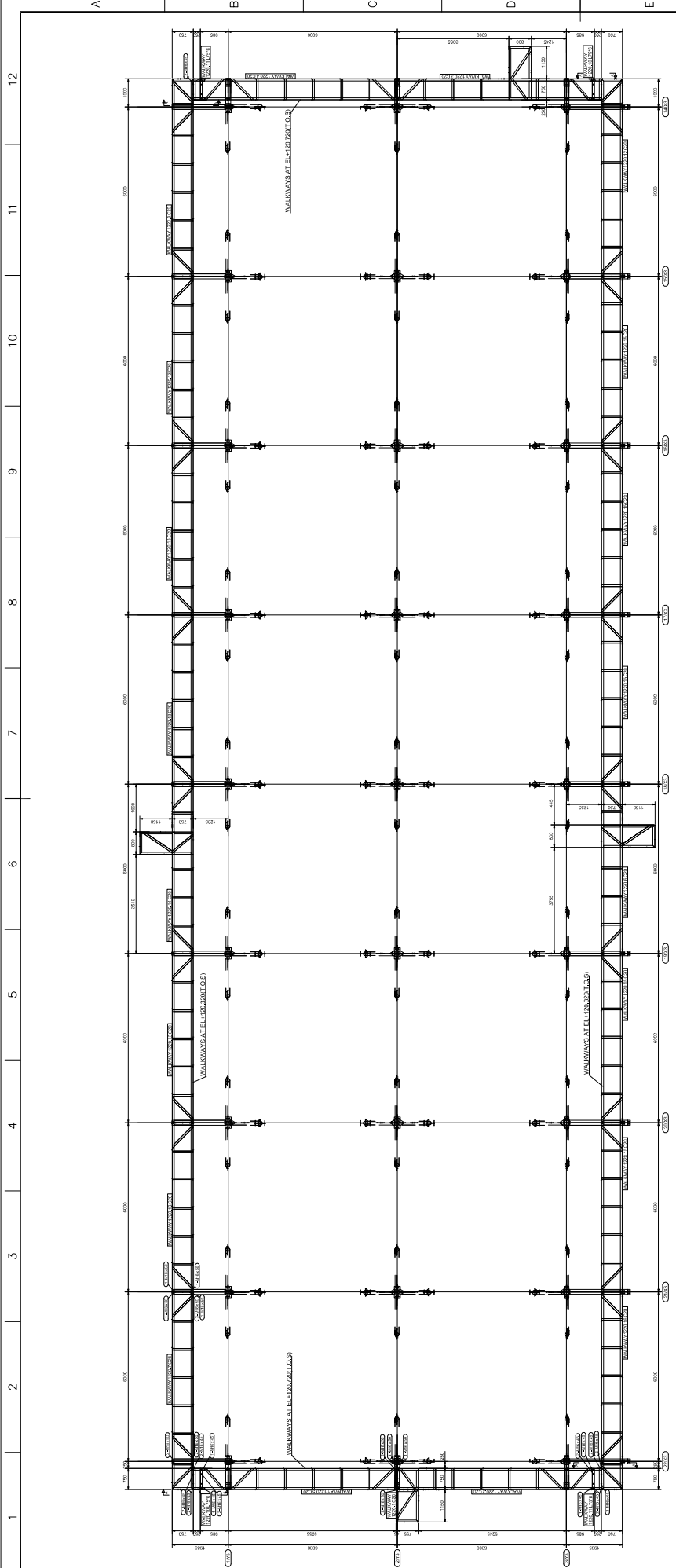
CONTRACTOR DRAWING NO.	
SHEET 01	TOTAL 01
SUB-CONTRACTOR DRAWING NO.	
21026589-001-112	
SHEET 01	TOTAL 01

Middle East
Kimiyae Pars Company

CONTRACTOR DRAWING NO.
SHEET 01 TOTAL 01
SUB-CONTRACTOR DRAWING NO.
21026589-001-112
SHEET 01 TOTAL 01

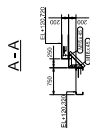
STEEL STRUCTURE
PLAN EL+20.950 SEALING PLATES/HOLES
ITEM NO. AC5004
SCALE 1:1
SHEET 01
TOT. 01
SIZE A1
DWG. NO.

NOTE: THE COMPLETE MARKING OF PARTS
INCLUDES "169.C01." DIGITS BEFORE
ASSEMBLY NAMES MARKED ON DWGS.



WALKWAYS AT EL+120.320 & EL+120.720(I.O.S)

ONE UNIT PROVIDED
一个单元

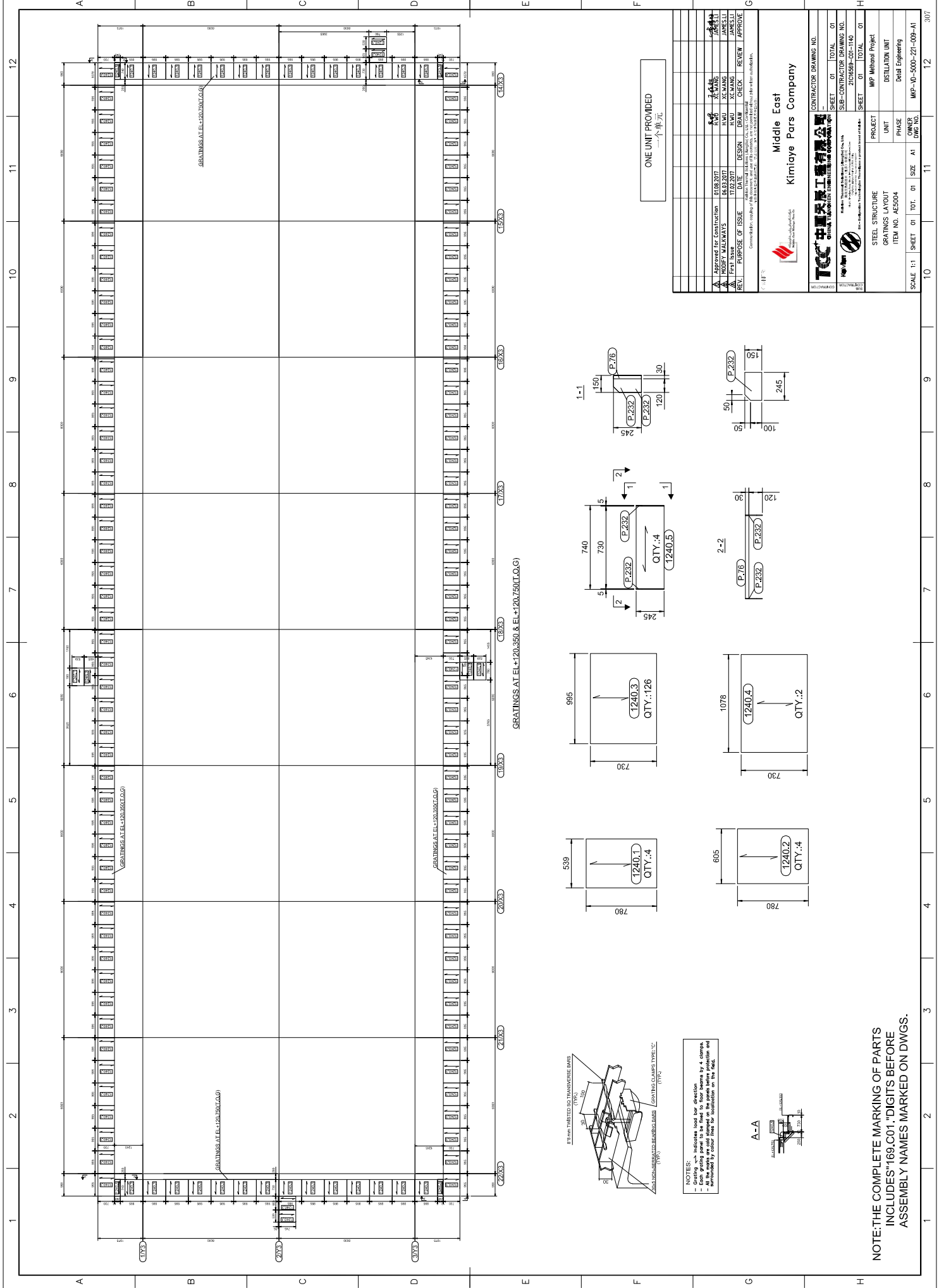


A-A

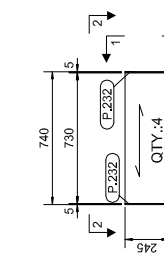
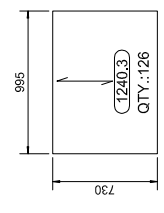
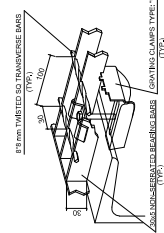
REV.	PURPOSE OF ISSUE	DATE	DESIGN	DRAW	CHECK	REVIEW	APPROVE
1	ISSUED FOR CONSTRUCTION	01/09/2017	Y. WANG	Y. WANG	Y. WANG	Y. WANG	Y. WANG
2	FOR WALKWAYS	01/09/2017	Y. WANG	Y. WANG	Y. WANG	Y. WANG	Y. WANG
3	FOR WALKWAYS	01/09/2017	Y. WANG	Y. WANG	Y. WANG	Y. WANG	Y. WANG
4	FOR WALKWAYS	01/09/2017	Y. WANG	Y. WANG	Y. WANG	Y. WANG	Y. WANG

 TCC 中国天辰工程技术有限公司		Middle East Kimiaye Pars Company	
CONTRACTOR DRAWING NO.			
SHEET 01	TOTAL 01		
SUB-CONTRACTOR DRAWING NO.			
SHEET 01	TOTAL 01		
PROJECT: MIP Midtown Project			
UNIT: DISTILLATION UNIT			
PHASE: Detail Engineering			
OWNER: MIP-03-5000-221-009-A1			

NOTE: THE COMPLETE MARKING OF PARTS INCLUDES "169.C01." DIGITS BEFORE ASSEMBLY NAMES MARKED ON DWGS.



NOTES:
 - Gratings shall indicate their direction
 - Gratings shall be indicated by 4 corners.
 - All the work are cold stamped on the plate before production and approved by owner prior to installation on the field.



REV.	PURPOSE OF ISSUE	DATE	DESIGN	DRAW	CHECK	REVIEW	APPROVE
1	APPROVED FOR CONSTRUCTION	01/08/2017	M.P.P.	X.C.W.	X.C.W.	X.C.W.	X.C.W.
2	REVISION	01/08/2017	M.P.P.	X.C.W.	X.C.W.	X.C.W.	X.C.W.
3	REVISION	01/08/2017	M.P.P.	X.C.W.	X.C.W.	X.C.W.	X.C.W.
4	REVISION	01/08/2017	M.P.P.	X.C.W.	X.C.W.	X.C.W.	X.C.W.
5	REVISION	01/08/2017	M.P.P.	X.C.W.	X.C.W.	X.C.W.	X.C.W.
6	REVISION	01/08/2017	M.P.P.	X.C.W.	X.C.W.	X.C.W.	X.C.W.
7	REVISION	01/08/2017	M.P.P.	X.C.W.	X.C.W.	X.C.W.	X.C.W.
8	REVISION	01/08/2017	M.P.P.	X.C.W.	X.C.W.	X.C.W.	X.C.W.
9	REVISION	01/08/2017	M.P.P.	X.C.W.	X.C.W.	X.C.W.	X.C.W.
10	REVISION	01/08/2017	M.P.P.	X.C.W.	X.C.W.	X.C.W.	X.C.W.
11	REVISION	01/08/2017	M.P.P.	X.C.W.	X.C.W.	X.C.W.	X.C.W.
12	REVISION	01/08/2017	M.P.P.	X.C.W.	X.C.W.	X.C.W.	X.C.W.

ONE UNIT PROVIDED
 一个单元

Middle East
 Kimiaye Pars Company

CONTRACTOR DRAWING NO.
 SHEET 01 TOTAL 01

SUB-CONTRACTOR DRAWING NO.
 21C16569-201-1140

PROJECT
 MIP Midtown Project

UNIT
 DISTILLATION UNIT

PHASE
 Detail Engineering

OWNER
 MIP-03-500-221-009-A1

SCALE 1:1
 SHEET 01 TOTAL 01

TCC 中國天辰工程有限有限公司
 CHINA TIANCHEN ENGINEERING CONSULTANTS GROUP CO., LTD.

Scale: 1:1

DATE: 01/08/2017

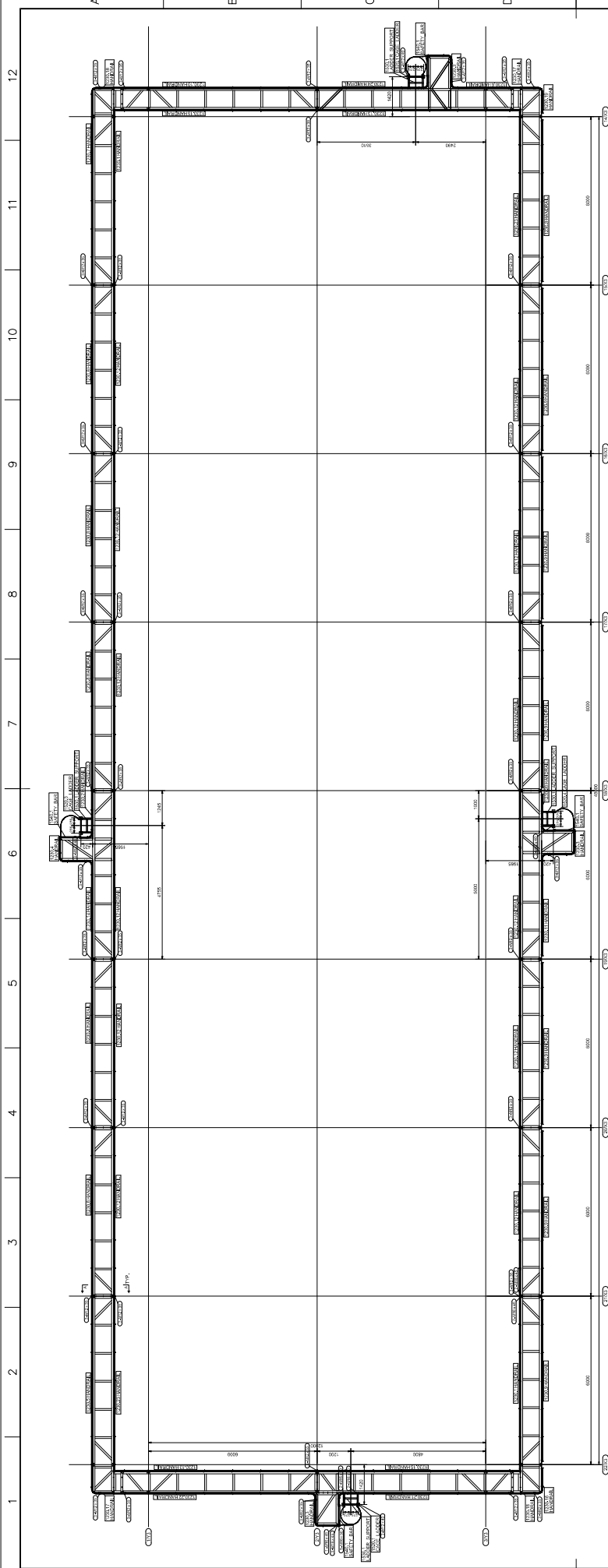
PROJECT: MIP Midtown Project

UNIT: DISTILLATION UNIT

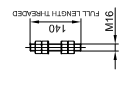
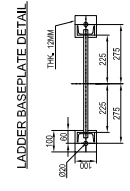
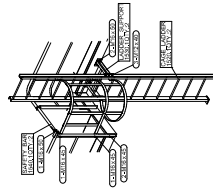
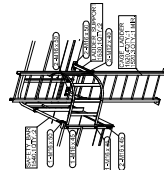
PHASE: Detail Engineering

OWNER: MIP-03-500-221-009-A1

NOTE: THE COMPLETE MARKING OF PARTS
 INCLUDES "169.C01." DIGITS BEFORE
 ASSEMBLY NAMES MARKED ON DWGS.



HANDRAILS & LADDERS LAYOUT



ONE UNIT PROVIDED
一个单元

REV.	PURPOSE OF ISSUE	DATE	DESIGN	DRAW	CHECK	REVIEW	APPROVE
A	Approved for Construction	0108/2017	Y. WANG	Y. WANG	Y. WANG	Y. WANG	Y. WANG
B	FOR QUANTITIES	18/02/2017	Y. WANG	Y. WANG	Y. WANG	Y. WANG	Y. WANG
C	FOR QUANTITIES	18/02/2017	Y. WANG	Y. WANG	Y. WANG	Y. WANG	Y. WANG
D	FOR QUANTITIES	18/02/2017	Y. WANG	Y. WANG	Y. WANG	Y. WANG	Y. WANG
E	FOR QUANTITIES	18/02/2017	Y. WANG	Y. WANG	Y. WANG	Y. WANG	Y. WANG
F	FOR QUANTITIES	18/02/2017	Y. WANG	Y. WANG	Y. WANG	Y. WANG	Y. WANG
G	FOR QUANTITIES	18/02/2017	Y. WANG	Y. WANG	Y. WANG	Y. WANG	Y. WANG
H	FOR QUANTITIES	18/02/2017	Y. WANG	Y. WANG	Y. WANG	Y. WANG	Y. WANG

Middle East
Kimiyae Pars Company

TCC 中建天辰工程有限公司

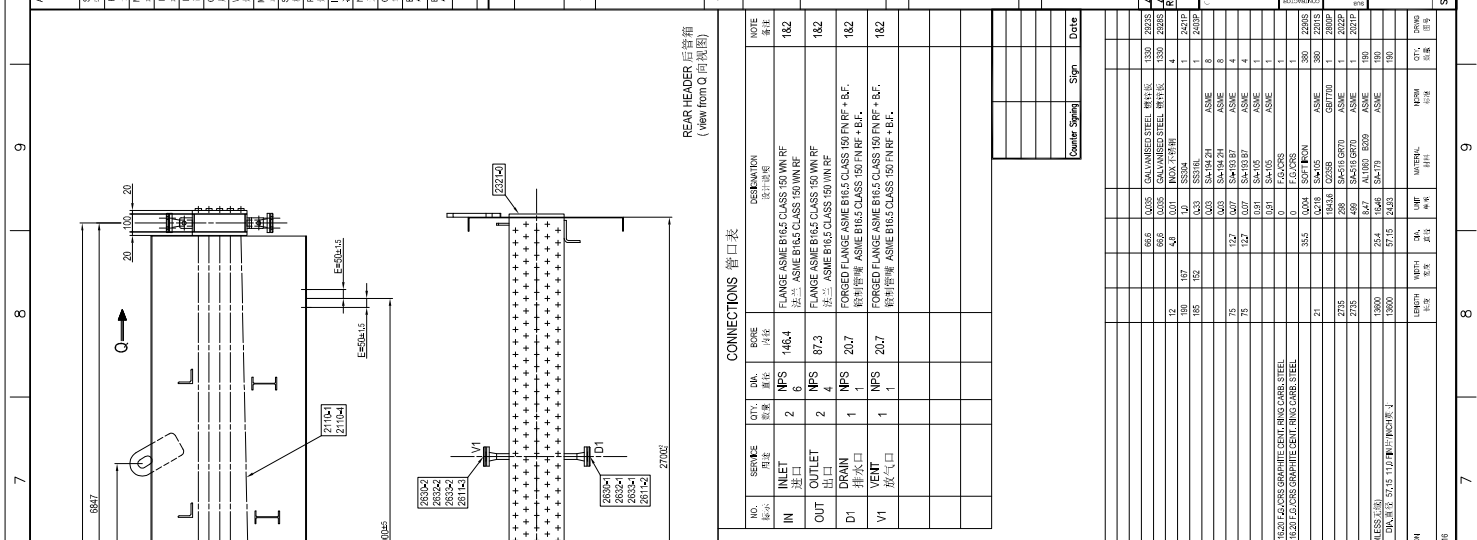
CONTRACTOR DRAWING NO.
SHEET 01 TOTAL 01
SUB-CONTRACTOR DRAWING NO.
21C16569-01-180
SHEET 01 TOTAL 01

PROJECT: MFP Melioram Project
UNIT: DISTILLATION UNIT
PHASE: Detail Engineering
OWNER: MFP-06-5000-271-010-41

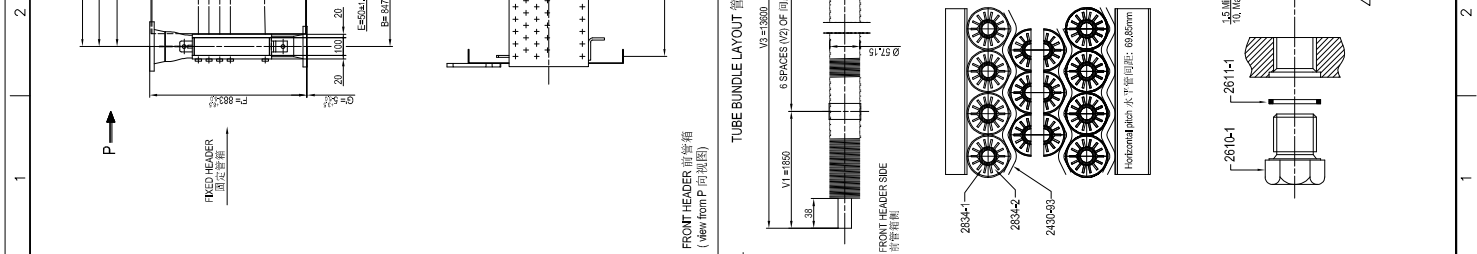
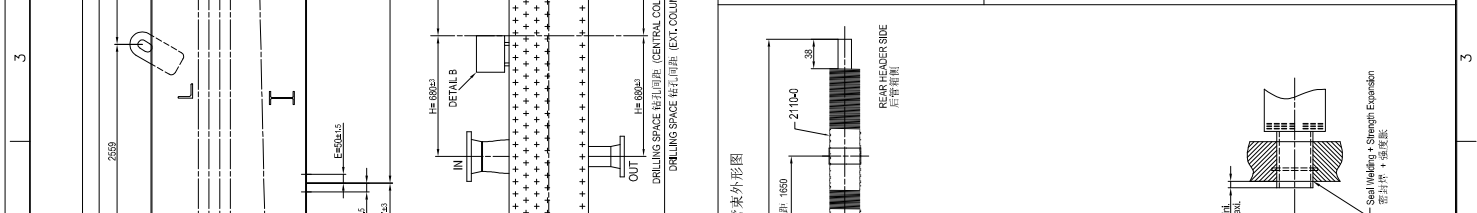
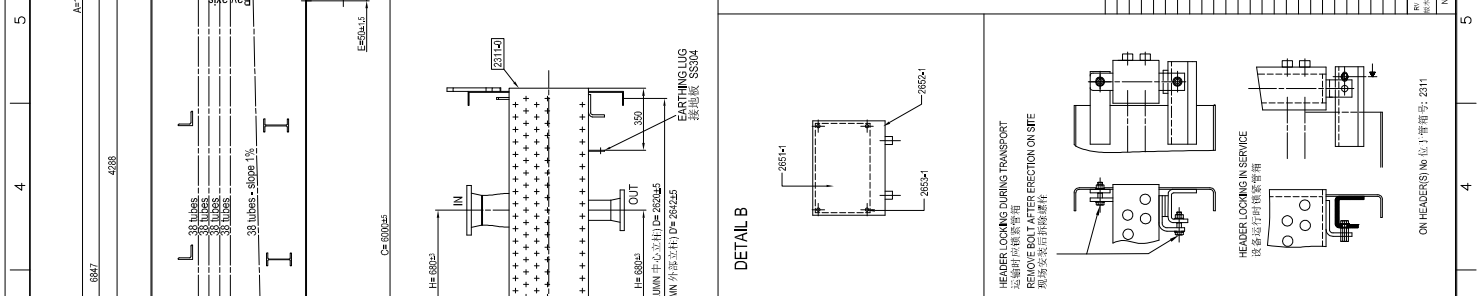
STEEL STRUCTURE
HANDRAILS & LADDERS LAYOUT
ITEM NO. A65004
SCALE 1:1 SHEET 01 TOT. 01 SIZE A1
OWNER MFP-06-5000-271-010-41
DWG. NO.

NOTE: THE COMPLETE MARKING OF PARTS
INCLUDES "169,C01," DIGITS BEFORE
ASSEMBLY NAMES MARKED ON DWGS.

10	11	12
APPLICABLE CODES AND STANDARDS 适用标准:		
ASME B16.21-2014, API 601 (7th Ed.), ASME B16.2 2013 Rev. UNIT 单位		
SPECIAL SERVICE 特殊用途: NA		
FLUID 介质: Methanol Vapor		
MAXIMUM DESIGN TEMPERATURE 最大设计温度: 150 °C		
MINIMUM DESIGN METAL TEMPERATURE 最低设计金属温度: -10 °C		
DESIGN PRESSURE 设计压力: 0.35 MPa		
CORROSION ALLOWANCE (ENGLISH UNIT) 腐蚀裕量 (英制单位): 3 mm		
WELD JOINT EFFICIENCY 焊接接头效率: SEE CALC. NOTE		
MAXIMUM ALLOWABLE WORKING PRESSURE 最大允许工作压力: 0.425 MPa (60.8 PSI)		
STANDARD HYDROSTATIC TEST PRESSURE (ENGLISH UNIT) 标准静水压试验压力 (英制单位): 0.425 MPa (60.8 PSI)		
POSITIVE LOCKING TREATMENT 锁定处理: YES 是		
IMPACT TEST 冲击试验: SEE CALC. NOTE		
CAPACITY 容量: 1,116 m ³		
WEIGHT EMPTY 空重: 7800 kg		
BRACKET OVERALL DIMENSIONS 附件整体尺寸: 6750 X 1580 X 800 mm		
GENERAL NOTES - 总注:		
1. ALL DIMENSIONS SHALL BE TO UNLESS OTHERWISE SPECIFIED. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY. DIMENSIONS IN BRACKETS ARE FOR INFORMATION ONLY. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY. DIMENSIONS IN BRACKETS ARE FOR INFORMATION ONLY.		
2. FLANGE FACE FINISH SHALL BE AS TO ASME B16.5.		
3. ALL ENGINEERING AND MANUFACTURING INFORMATION SHALL BE IN ACCORDANCE WITH THE FOLLOWING DOCUMENTS: - WPS & PQR: 21C1668601.0005 - PROTECTION SHEET: 21C1668601.0000 - HEADERS DIMS: 21C1668601.0001 - WELDING PROCEDURE: 21C1668601.0002		
4. SPECIAL WORKING DRAWING ASME B16.21 (a) & (b) SHALL BE USED FOR FABRICATION.		
5. THE TOLERANCES FOR DIMENSIONS NOT INDICATED ON THE DRAWING AND NOT COVERED BY PART/COLOR SHALL BE IN ACCORD WITH ISO 2868 CLASS E.		



NO.	QTY.	UNIT	DESCRIPTION	REMARKS
182	2	NPS	FLANGE ASME B16.5 CLASS 150 WN RF	
182	4	NPS	FLANGE ASME B16.5 CLASS 150 WN RF	
182	1	NPS	FORGED FLANGE ASME B16.5 CLASS 150 FN RF + BF	
182	1	NPS	FORGED FLANGE ASME B16.5 CLASS 150 FN RF + BF	



10	11	12
APPLICABLE CODES AND STANDARDS 适用标准:		
ASME B16.21-2014, API 601 (7th Ed.), ASME B16.2 2013 Rev. UNIT 单位		
SPECIAL SERVICE 特殊用途: NA		
FLUID 介质: Methanol Vapor		
MAXIMUM DESIGN TEMPERATURE 最大设计温度: 150 °C		
MINIMUM DESIGN METAL TEMPERATURE 最低设计金属温度: -10 °C		
DESIGN PRESSURE 设计压力: 0.35 MPa		
CORROSION ALLOWANCE (ENGLISH UNIT) 腐蚀裕量 (英制单位): 3 mm		
WELD JOINT EFFICIENCY 焊接接头效率: SEE CALC. NOTE		
MAXIMUM ALLOWABLE WORKING PRESSURE 最大允许工作压力: 0.425 MPa (60.8 PSI)		
STANDARD HYDROSTATIC TEST PRESSURE (ENGLISH UNIT) 标准静水压试验压力 (英制单位): 0.425 MPa (60.8 PSI)		
POSITIVE LOCKING TREATMENT 锁定处理: YES 是		
IMPACT TEST 冲击试验: SEE CALC. NOTE		
CAPACITY 容量: 1,116 m ³		
WEIGHT EMPTY 空重: 7800 kg		
BRACKET OVERALL DIMENSIONS 附件整体尺寸: 6750 X 1580 X 800 mm		
GENERAL NOTES - 总注:		
1. ALL DIMENSIONS SHALL BE TO UNLESS OTHERWISE SPECIFIED. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY. DIMENSIONS IN BRACKETS ARE FOR INFORMATION ONLY. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY. DIMENSIONS IN BRACKETS ARE FOR INFORMATION ONLY.		
2. FLANGE FACE FINISH SHALL BE AS TO ASME B16.5.		
3. ALL ENGINEERING AND MANUFACTURING INFORMATION SHALL BE IN ACCORDANCE WITH THE FOLLOWING DOCUMENTS: - WPS & PQR: 21C1668601.0005 - PROTECTION SHEET: 21C1668601.0000 - HEADERS DIMS: 21C1668601.0001 - WELDING PROCEDURE: 21C1668601.0002		
4. SPECIAL WORKING DRAWING ASME B16.21 (a) & (b) SHALL BE USED FOR FABRICATION.		
5. THE TOLERANCES FOR DIMENSIONS NOT INDICATED ON THE DRAWING AND NOT COVERED BY PART/COLOR SHALL BE IN ACCORD WITH ISO 2868 CLASS E.		

Middle East Kimiye Pars Company

 CONTRACTOR DRAWING NO.

 SHEET 01 TOTAL 01

 SUB-CONTRACTOR DRAWING NO.

 SHEET 01 TOTAL 01

 PROJECT: MIP Methanol Project

 UNIT: Distillation unit

 PHASE: Detail Engineering

 OWNER: MIP-UC-5000-221-01-A1

 SCALE: 1:14 SHEET 01 TOT. 01 SIZE A1

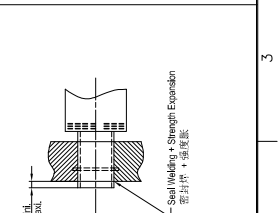
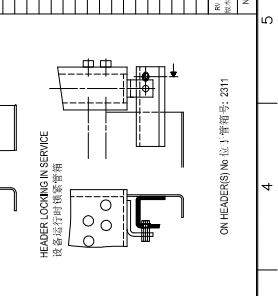
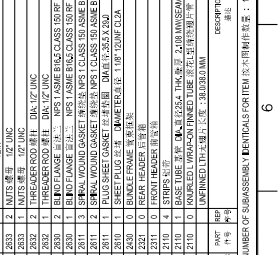
 DRAWN: [Signature]

 CHECK: [Signature]

 REVIEW: [Signature]

 APPROVE: [Signature]

NO.	QTY.	UNIT	DESCRIPTION	REMARKS
289	2	NPS	FLANGE ASME B16.5 CLASS 150 WN RF	
289	4	NPS	FLANGE ASME B16.5 CLASS 150 WN RF	
289	1	NPS	FORGED FLANGE ASME B16.5 CLASS 150 FN RF + BF	
289	1	NPS	FORGED FLANGE ASME B16.5 CLASS 150 FN RF + BF	



10	11	12
APPLICABLE CODES AND STANDARDS 适用标准:		
ASME B16.21-2014, API 601 (7th Ed.), ASME B16.2 2013 Rev. UNIT 单位		
SPECIAL SERVICE 特殊用途: NA		
FLUID 介质: Methanol Vapor		
MAXIMUM DESIGN TEMPERATURE 最大设计温度: 150 °C		
MINIMUM DESIGN METAL TEMPERATURE 最低设计金属温度: -10 °C		
DESIGN PRESSURE 设计压力: 0.35 MPa		
CORROSION ALLOWANCE (ENGLISH UNIT) 腐蚀裕量 (英制单位): 3 mm		
WELD JOINT EFFICIENCY 焊接接头效率: SEE CALC. NOTE		
MAXIMUM ALLOWABLE WORKING PRESSURE 最大允许工作压力: 0.425 MPa (60.8 PSI)		
STANDARD HYDROSTATIC TEST PRESSURE (ENGLISH UNIT) 标准静水压试验压力 (英制单位): 0.425 MPa (60.8 PSI)		
POSITIVE LOCKING TREATMENT 锁定处理: YES 是		
IMPACT TEST 冲击试验: SEE CALC. NOTE		
CAPACITY 容量: 1,116 m ³		
WEIGHT EMPTY 空重: 7800 kg		
BRACKET OVERALL DIMENSIONS 附件整体尺寸: 6750 X 1580 X 800 mm		
GENERAL NOTES - 总注:		
1. ALL DIMENSIONS SHALL BE TO UNLESS OTHERWISE SPECIFIED. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY. DIMENSIONS IN BRACKETS ARE FOR INFORMATION ONLY. DIMENSIONS IN PARENTHESES ARE FOR INFORMATION ONLY. DIMENSIONS IN BRACKETS ARE FOR INFORMATION ONLY.		
2. FLANGE FACE FINISH SHALL BE AS TO ASME B16.5.		
3. ALL ENGINEERING AND MANUFACTURING INFORMATION SHALL BE IN ACCORDANCE WITH THE FOLLOWING DOCUMENTS: - WPS & PQR: 21C1668601.0005 - PROTECTION SHEET: 21C1668601.0000 - HEADERS DIMS: 21C1668601.0001 - WELDING PROCEDURE: 21C1668601.0002		
4. SPECIAL WORKING DRAWING ASME B16.21 (a) & (b) SHALL BE USED FOR FABRICATION.		
5. THE TOLERANCES FOR DIMENSIONS NOT INDICATED ON THE DRAWING AND NOT COVERED BY PART/COLOR SHALL BE IN ACCORD WITH ISO 2868 CLASS E.		

Middle East Kimiye Pars Company

 CONTRACTOR DRAWING NO.

 SHEET 01 TOTAL 01

 SUB-CONTRACTOR DRAWING NO.

 SHEET 01 TOTAL 01

 PROJECT: MIP Methanol Project

 UNIT: Distillation unit

 PHASE: Detail Engineering

 OWNER: MIP-UC-5000-221-01-A1

 SCALE: 1:14 SHEET 01 TOT. 01 SIZE A1

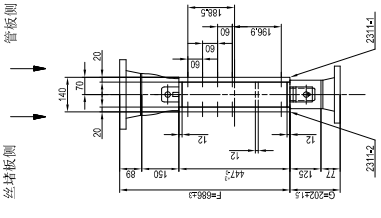
 DRAWN: [Signature]

 CHECK: [Signature]

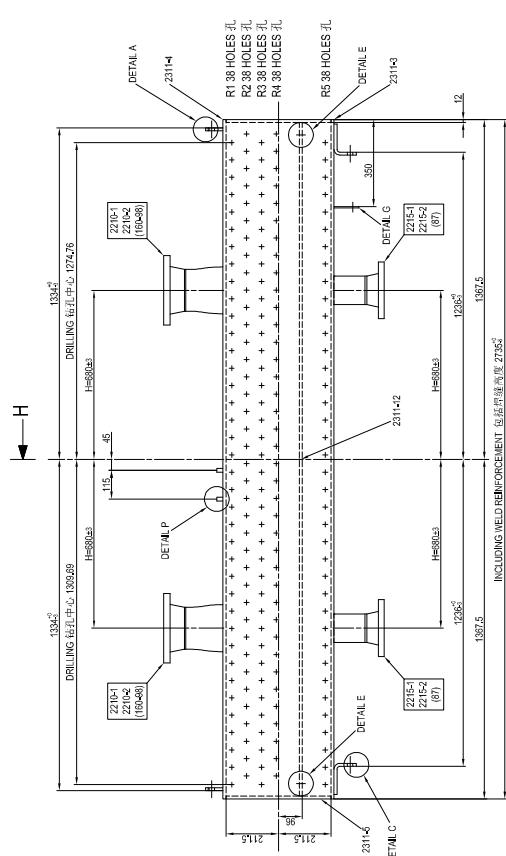
 REVIEW: [Signature]

 APPROVE: [Signature]

VIEW FROM Q 向视图
TUBE SHEET SIDE
管板侧



← Q



→ H

→ H

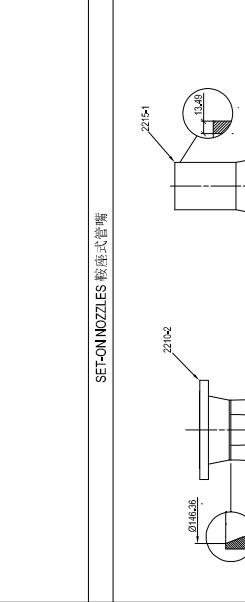
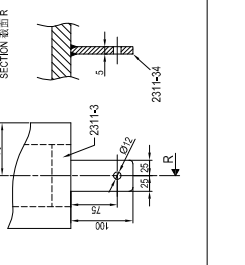
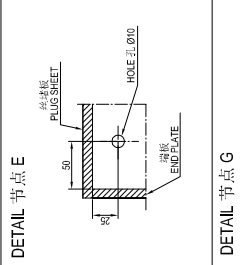
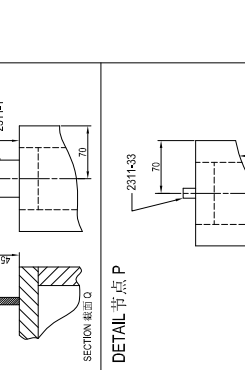
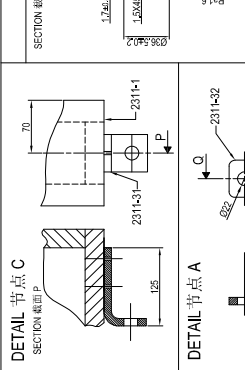
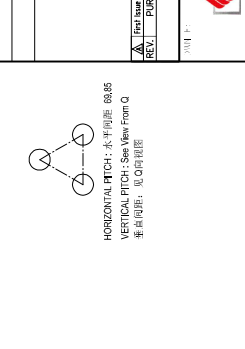
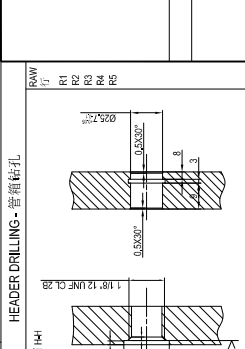
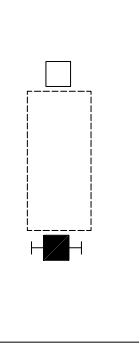
DESIGN DATA - 设计参数

CODES & STANDARD	ASME VIII DIV 2, API 610, ASME B31.3
STAMP/UP	NO. 01
POSTWELD HEAT TREATMENT	YES
WELD EFFICIENCY	SEE CALC. NOTE
HEADER WEIGHT	499.06

NUMBER OF SUBASSEMBLY DETAILS FOR THIS DRAWING: 18

GENERAL NOTES - 备注

- NOZZLES AND MAIN FLANGES HOLES TO BE EQUALLY SPACED IN STRADDLE OF HEADER MAIN AXIS WITH A TOLERANCE OF ±4° FOR PROCESSING AND ±0.5° FOR ASSEMBLY CONNECTIONS. 喷嘴、中心孔及管法兰孔在管板中心轴上应等间距分布，加工公差为±4°，装配公差为±0.5°。
- FLANGE FINISH SHALL BE: ASME B31.3. 法兰应进行ASME B31.3规定的表面处理。
- ALL ENGINEERING AND MANUFACTURING CHARACTERISTICS NOT MENTIONED ON THIS DRAWING SHALL BE IN ACCORDANCE WITH THE ASME B31.3 CODE. 所有未在图样中提及的工程及制造特性应符合ASME B31.3规范。CALCULATION NOTE: 计算书: 21066601.0005, 21066601.0006, 21066601.0007, 21066601.0008, 21066601.0009, 21066601.0010, 21066601.0011, 21066601.0012, 21066601.0013, 21066601.0014, 21066601.0015, 21066601.0016, 21066601.0017, 21066601.0018, 21066601.0019, 21066601.0020. INSPECTION SHEET: 检验单: 21066601.0005, 21066601.0006, 21066601.0007, 21066601.0008, 21066601.0009, 21066601.0010, 21066601.0011, 21066601.0012, 21066601.0013, 21066601.0014, 21066601.0015, 21066601.0016, 21066601.0017, 21066601.0018, 21066601.0019, 21066601.0020. INSPECTION ACCORDING TO APPLICABLE INSPECTION AND TEST PLAN 按适用的检验和试验计划进行检验。
- THE DIMENSIONS WITHOUT TOLERANCES INDICATED ON THIS DRAWING ARE TO BE COVERED BY PARTICULAR REQUIREMENT OF APPLICABLE CODES AND SHALL BE IN ACCORDANCE WITH ISO 1300 CLASS B FOR WELDED PARTS AND ISO 2768 MS FOR CASTING PARTS. DIMENSIONS AND TOLERANCES SHALL BE IN ACCORDANCE WITH ISO 1300 CLASS B FOR WELDED PARTS AND ISO 2768 MS FOR CASTING PARTS. 图样中未标注公差的尺寸应符合适用的规范的要求，且应符合ISO 1300 B类公差要求，焊接部分应符合ISO 2768 MS类公差要求，铸件部分应符合ISO 2768 MS类公差要求。



CONTRACTOR DRAWING NO. 21066601.0001
SHEET 01 TOTAL 01
SUB-CONTRACTOR DRAWING NO. 21066601-001-2021
SHEET 01 TOTAL 01

PROJECT: MIP Methanol Project
UNIT: Distillation unit
PHASE: Detail Engineering
ITEM NO. 453004
OWNER: MIP-10-5000-221-013-A1

SCALE: 1:10
SHEET 01
TOT. 01
SIZE: A1

CONTRACTOR DRAWING NO. 21066601.0001
SHEET 01 TOTAL 01
SUB-CONTRACTOR DRAWING NO. 21066601-001-2021
SHEET 01 TOTAL 01

PROJECT: MIP Methanol Project
UNIT: Distillation unit
PHASE: Detail Engineering
ITEM NO. 453004
OWNER: MIP-10-5000-221-013-A1

SCALE: 1:10
SHEET 01
TOT. 01
SIZE: A1

CONTRACTOR DRAWING NO. 21066601.0001
SHEET 01 TOTAL 01
SUB-CONTRACTOR DRAWING NO. 21066601-001-2021
SHEET 01 TOTAL 01

PROJECT: MIP Methanol Project
UNIT: Distillation unit
PHASE: Detail Engineering
ITEM NO. 453004
OWNER: MIP-10-5000-221-013-A1

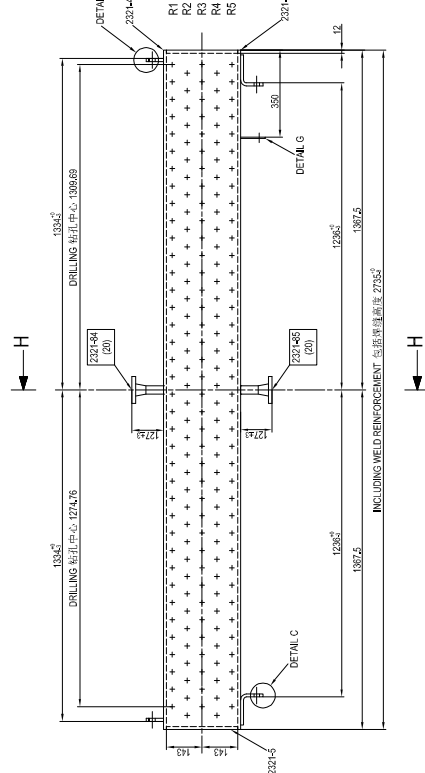
SCALE: 1:10
SHEET 01
TOT. 01
SIZE: A1

CONTRACTOR DRAWING NO. 21066601.0001
SHEET 01 TOTAL 01
SUB-CONTRACTOR DRAWING NO. 21066601-001-2021
SHEET 01 TOTAL 01

PROJECT: MIP Methanol Project
UNIT: Distillation unit
PHASE: Detail Engineering
ITEM NO. 453004
OWNER: MIP-10-5000-221-013-A1

SCALE: 1:10
SHEET 01
TOT. 01
SIZE: A1

VIEW FROM Q 向视图
PLUG SHEET SIDE 管板侧
TUBE SHEET SIDE 管侧



ITEM NO.	DESCRIPTION	UNIT	QTY	REMARKS
2201	FORGED FLANGE 锻钢法兰	ASME	1	2201P
2202	FORGED FLANGE 锻钢法兰	ASME	1	2202P
2203	FORGED FLANGE 锻钢法兰	ASME	1	2203P
2204	FORGED FLANGE 锻钢法兰	ASME	1	2204P
2205	FORGED FLANGE 锻钢法兰	ASME	1	2205P
2206	FORGED FLANGE 锻钢法兰	ASME	1	2206P
2207	FORGED FLANGE 锻钢法兰	ASME	1	2207P
2208	FORGED FLANGE 锻钢法兰	ASME	1	2208P
2209	FORGED FLANGE 锻钢法兰	ASME	1	2209P
2210	FORGED FLANGE 锻钢法兰	ASME	1	2210P
2211	FORGED FLANGE 锻钢法兰	ASME	1	2211P
2212	FORGED FLANGE 锻钢法兰	ASME	1	2212P
2213	FORGED FLANGE 锻钢法兰	ASME	1	2213P
2214	FORGED FLANGE 锻钢法兰	ASME	1	2214P
2215	FORGED FLANGE 锻钢法兰	ASME	1	2215P
2216	FORGED FLANGE 锻钢法兰	ASME	1	2216P
2217	FORGED FLANGE 锻钢法兰	ASME	1	2217P
2218	FORGED FLANGE 锻钢法兰	ASME	1	2218P
2219	FORGED FLANGE 锻钢法兰	ASME	1	2219P
2220	FORGED FLANGE 锻钢法兰	ASME	1	2220P

DESIGN DATA - 设计参数

ASME CODE: ASME B31.3

DESIGN PRESSURE: 1.0 MPa

TEMPERATURE: 350 °C

WELD EFFICIENCY: 1.0

WELD TYPE: BUTT WELD

WELD PROCESS: SMAW

WELD METAL: E6010

PREHEAT: 150 °C

POST WELD HEAT TREATMENT: NONE

INSPECTION: 100% UT

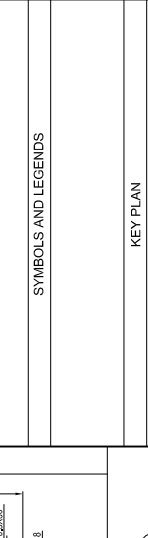
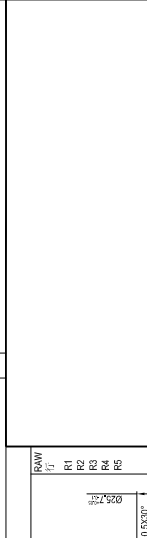
GENERAL NOTES - 备注

1. NOZZLES AND MAIN FLANGES SHALL BE TO QUALITY SPACED IN STRADDLE OF HEAD MAIN AXIS WITH A TOLERANCE OF ±1% FOR PROCESS SIZE AND ±0.5% FOR ASSEMBLY CONNECTIONS.

2. FLANGE FINISH SHALL BE AS PER ASME B31.3.

3. ALL ENGINEERING AND MANUFACTURING CHARACTERISTICS NOT MENTIONED ON THIS DRAWING SHALL BE AS PER ASME B31.3.

4. THE DIMENSIONS WITHOUT TOLERANCES INDICATED ON THE DRAWING ARE TO BE TAKEN AS SHOWN UNLESS OTHERWISE SPECIFIED.



CONTRACTOR DRAWING NO. 1000000000

SHEET 01 TOTAL 01

SUB-CONTRACTOR DRAWING NO. 21015669-001-2022

SHEET 01 TOTAL 01

PROJECT: MIP Methanol Project

UNIT: Distillation unit

PHASE: Detail Engineering

OWNER: MIP-UD-5000-221-014-A1

SCALE: 1:10 SHEET 01 TOT. 01 SIZE: A1

CONTRACTOR DRAWING NO. 1000000000

SHEET 01 TOTAL 01

SUB-CONTRACTOR DRAWING NO. 21015669-001-2022

SHEET 01 TOTAL 01

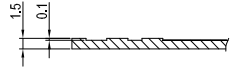
PROJECT: MIP Methanol Project

UNIT: Distillation unit

PHASE: Detail Engineering

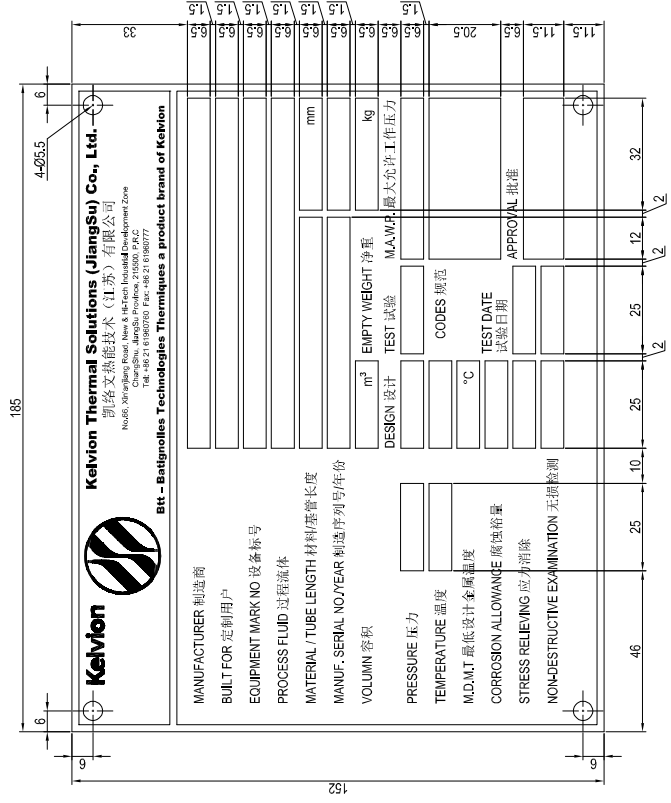
OWNER: MIP-UD-5000-221-014-A1

SCALE: 1:10 SHEET 01 TOT. 01 SIZE: A1



- FRAMES, LETTERS AND NUMBERS 框架、文字及数字: CHEMICAL HOLLOW PRINT, BLACK, 化学腐蚀印刷, 黑色
- BACKGROUND 背景: METAL, 金属本色
- TYPE HEIGHT 文字高度: 5 MM, DEPTH 最小深度: 0.1 MM MINIMUM.
- THICKNESS 厚度: 1.5 MM.
- MATERIAL 材料: 316L.
- WEIGHT 重量: 0.33 KG

ITEM 位号	BUNDLE 捆装 QTY. 数量	MANUF. SERIAL NO 制造序列号
C01	16	21C16569-3-01 ~ 21C16569-3-16



MANUFACTURER 制造商	Kelvion Thermal Solutions (Jiangsu) Co., Ltd.	
BUILT FOR 定制用户	凯络文热能技术(江苏)有限公司	
EQUIPMENT MARK NO 设备标号	No.66, Xinyi Jiang Road, New & Hi-Tech Industrial Development Zone, Chengde City, Jiangsu Province, 215000, P.R.C	
PROCESS FLUID 过程流体	Methanol	
MATERIAL / TUBE LENGTH 材料/管长	33	
MANUF. SERIAL NO/YEAR 制造序列号/年份	15	
VOLUME 容积	1.18 m³	
PRESSURE 压力	20.5 kg	
TEMPERATURE 温度	11.5 °C	
M.D.M.T 最低设计金属温度	11.5 °C	
CORROSION ALLOWANCE 腐蚀裕量	3 mm	
STRESS RELIEVING 应力消除	YES	
NON-DESTRUCTIVE EXAMINATION 无损检测	SPOT	

MANUFACTURER 制造商	Kelvion Thermal Solutions (Jiangsu) Co., Ltd.	
BUILT FOR 定制用户	凯络文热能技术(江苏)有限公司	
EQUIPMENT MARK NO 设备标号	No.66, Xinyi Jiang Road, New & Hi-Tech Industrial Development Zone, Chengde City, Jiangsu Province, 215000, P.R.C	
PROCESS FLUID 过程流体	Methanol Vapor	
MATERIAL / TUBE LENGTH 材料/管长	SA-516 GR70(HEADER) / SA-179(TUBE) 1980 mm	
MANUF. SERIAL NO/YEAR 制造序列号/年份	15	
VOLUME 容积	1.118 m³	
PRESSURE 压力	0.35 / FV	
TEMPERATURE 温度	-10 °C	
M.D.M.T 最低设计金属温度	3 mm	
CORROSION ALLOWANCE 腐蚀裕量	YES	
STRESS RELIEVING 应力消除	SPOT	
NON-DESTRUCTIVE EXAMINATION 无损检测	SPOT	

CLIENT 用户: China Tianchen Engineering Corporation
 PURCHASE ORDER NUMBER 定单号: BP-B11004-EQU-16001
 PROJECT TITLE 项目名称: MKP Methanol Project
 PROJECT NUMBER 项目编号: -
 PLANT LOCATION 装置地点: Middle East

GENERAL NOTES

SYMBOLS AND LEGENDS

KEY PLAN

REV.	PURPOSE OF ISSUE	DATE	DESIGN	DRAW	CHECK	REVIEW	APPROVE
1	First Issue	12.12.2016	效	SHI	效	LI	效

OWNER: Middle East
 Kimiaye Pars Company



CONTRACTOR DRAWING NO.		-	
SHEET	01	TOTAL	01
SUB-CONTRACTOR DRAWING NO.		21C16569-3-01-2403	
SHEET	01	TOTAL	01

PROJECT		MKP Methanol Project	
UNIT		Distillation unit	
PHASE		Detail Engineering	
ITEM NO. AE5004			
OWNER		MKP-YD-5000-221-046-A2	
DWG NO.			

SCALE 1:2	SHEET 01	TOT. 01	SIZE A2
-----------	----------	---------	---------

Counter Signing	Sign	Date