

VINACOMIN Mao Khe 2 × 220MW
Thermal Power Plant Project
越南冒溪 2 × 220MW 火力发电厂项目

Technical Document

技术资料文件

Jiangsu Seagull Cooling Tower Co., Ltd

江苏海鸥冷却塔股份有限公司

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CF-P20 V6.07 16 Jun 2010

http://www.howdencoolingfans.com

Input data

Application	: Cooling tower	Installation type	: Induced Draught
Air flow	: 852.8 [m3/s]	Mounting orientation	: vertical shaft; hub at inlet
Fan Static Pressure	: 95.4 [Pa]	Fan inlet shape	: Bell, L/D = 0.15
Inlet temperature	: 37.0 [°C]	No diffusor present	
Air density	: 1.200 [kg/m3]		
Fan diameter	: 32 [ft]	No extra obstacles calculated	
Fan blade type	: ENF		
Blade number	: 6		
Fan speed	: 122 [R/min]		
Fan clearance	: 0.01 (2S/FanDia)		
Crosswind	: 0.0 [m/s]		

Selection result: 32 ENF 6 fan model

Blade tip speed	: 62.3 [m/s]	Static efficiency	: 51.4 [%]
Fan speed	: 122.0 [R/min]	Total efficiency	: 91.9 [%]
Blade tip angle	: 9.9 [°]	Fan shaft power	: 158.2 [kW]
		Pressure margin [%]	: 101.9/ 135.32
		Air flow margin [%]	: 42.11/ -57.82
		1 according to API	2 at selected blade angle

Fan must be operated at specified fan speed and blade angle! Adjusting these variables after installation requires running a new selection.

Impeller Sound Power Level	: 107.0 [dB(A)]	Sound power spectrum			
Sound due to inlet shape	: 0.0 [dB(A)]	Octave	PWL	PWL(A)	Tolerance
Sound due to inlet obstacles	: 0.0 [dB(A)]	[Hz]	[dB]	[dB(A)]	[dB]
Sound due to outlet obstacles	: 0.0 [dB(A)]	63	112.1	85.9	5
Total Sound Power Level	: 107.0 [dB(A)]	125	112.1	96.0	3
		250	108.1	99.5	2
SPL 1m beside outlet	: 79.7 [dB(A)]	500	105.1	101.9	2
SPL 1m above outlet at 45°	: 82.5 [dB(A)]	1000	102.1	102.1	2
SPL 1m above outlet	: 86.7 [dB(A)]	2000	94.1	95.3	2
SPL 1m below cooler unit	: 83.4 [dB(A)]	4000	90.1	91.1	2
		8000	86.1	85.0	2

Tolerance on sound level values ± 2 [dB].
 Reflections not considered!

SPL levels for guidance only! See Howden Cooling Fans Manual for explanation of SPL calculations; standard 03-07.334.

Inlet pressure loss	: 0.0 [Pa]	Impeller mass	: 1209 [kg]
Inlet obstacle pressure loss	: 0.0 [Pa]	Impeller moment of inertia	: 4402 [kg.m2]
Fan clearance pressure loss	: 0.0 [Pa]	Axial thrust	: 12944 [N]
Outlet obstacle pressure loss	: 0.0 [Pa]	Force due to loss of 1 blade(s)	: 36555 [N]
Crosswind pressure loss	: 0.0 [Pa]	Residual imbalance force (G6.3)	: 97 [N]
Corrected Fan Static Pressure:	95.4 [Pa]	Fan rotating frequency	: 2.0 [Hz]
Dynamical pressure	: 75.1 [Pa]	Blade operating natural frequency:	5.0 [Hz]
Dimensionless flow Cf	: 0.183 [-]	Blade passing frequency	: 12.2 [Hz]
Dimensionless pressure Cp	: 0.041 [-]		

To avoid the risk of frequency interference, check construction dynamics!

Customer : JiangSu Seagull CT Co.,Ltd.
 Project : Vietnam Mao Khe Power CT
 Project ref. : 10P01094
 Item no. :

Howden ref. : HHELWXQ0485
 User name : howden
 Date/Time : 18 Aug 2010, 12:00
 File : C:\CF-P20\CFP20607\SI-Def.HCF

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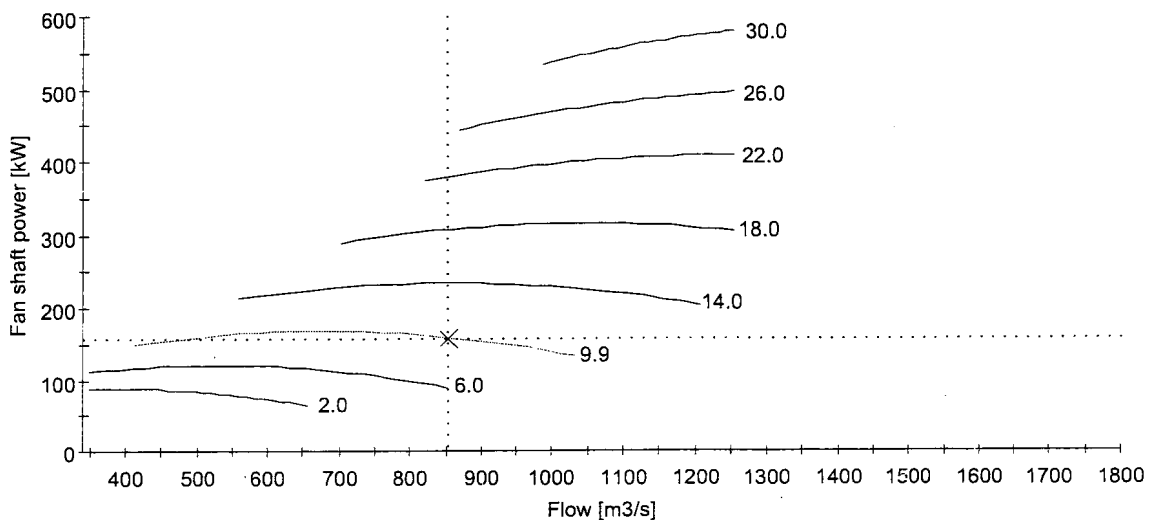
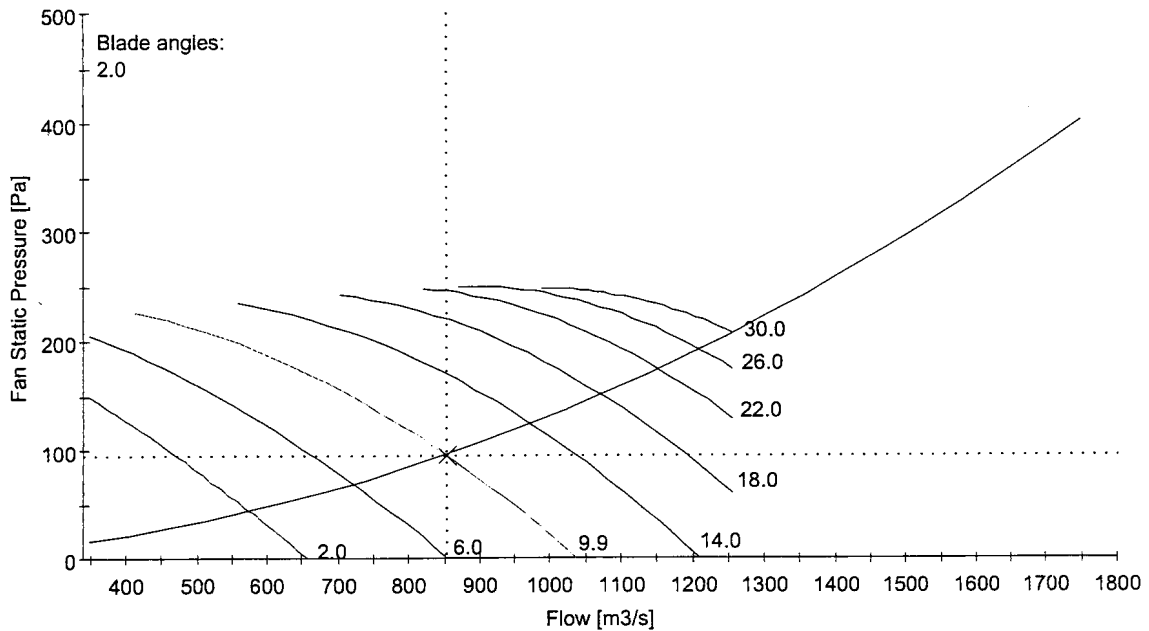
CF-P20 V6.07 16 Jun 2010

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Selection graph for 32 ENF 6 fan model



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 Project : Vietnam Mao Khe Power CT
 Project ref. : 10P01094
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Howden

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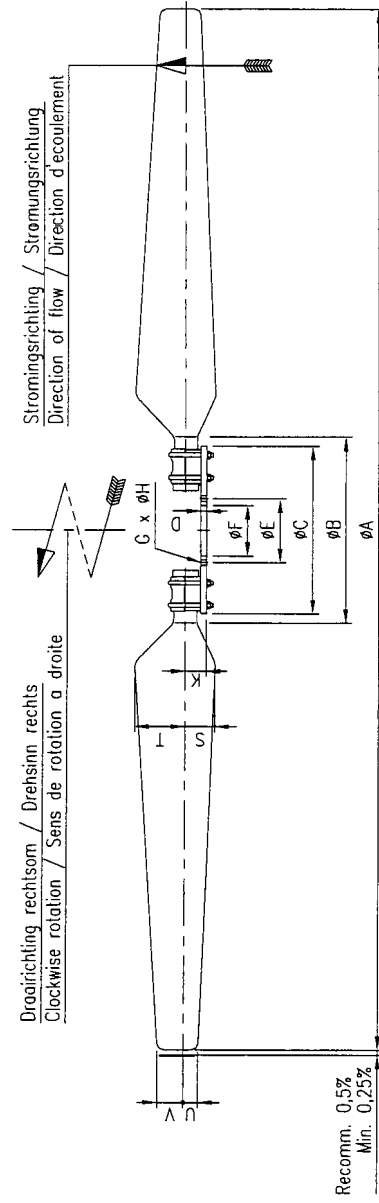
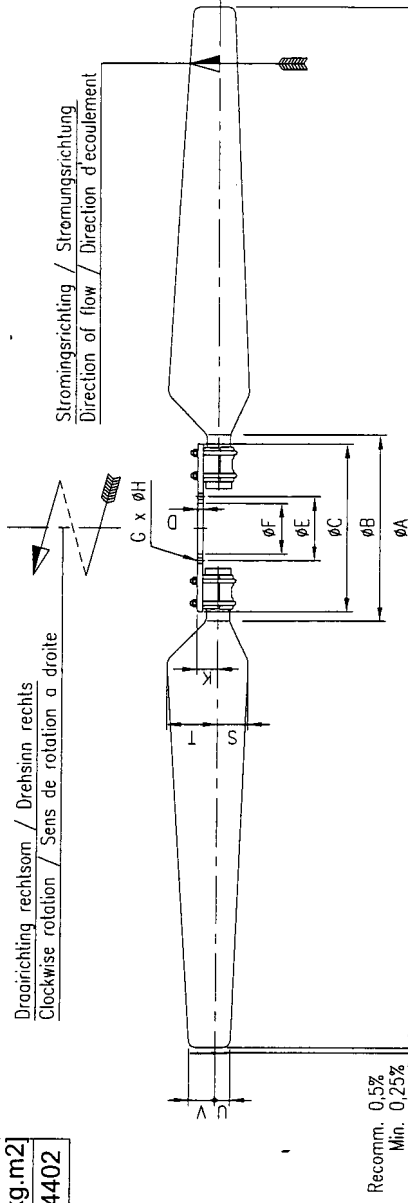
Dimension sheet for 32 ENF 6 fan model

all sizes in mm

A	B	C	E	F	G*H	K	D	m	I
9754	1540	1400	400	335	8*33	155.0	45	1209	4402

Coupling flange type	Split taper bushing(s)
335	U1

Blade angle data			
α [°]	S	T	V
9.9	173	266	118



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江苏海鸥冷却塔股份有限公司

Jiangsu seagull cooling tower Co., Ltd.

冷却塔产品的贮存要求

Storage requirement of CT product

1. 主题内容与适用范围 Subject content and scope of application

本文件规定了冷却塔产品及配件的贮存。

CT products and fittings storage are stipulated in this file.

2. 目的 Purpose

为了确保产品在贮存过程中得到有效控制，满足客户的使用要求，使产品质量在本程序中得到充分保证。

In order to control the products effectively, meeting client's usage requirement, and ensure the products quality sufficiently in this program.

3. 要求 Requirement

3.1 冷却塔配用电机、减速机包装应牢固，产品平放，不可倒置侧放；立式货物的应作定位固定。应室内存放，并防撞击，防潮。

3.1 Motor and reducer of cooling tower should be packed firmly, the products should be layed flat, prevent it from turning upside down; the packing of vertical goods should be fastness. Stored indoor, and prevent it from hitting and wetting.

3.2 风机叶片采用大木箱或铁皮箱包装，防碰撞损伤。传动轴、联轴器端应有润滑油及软物防护，摆放平整，防止异物碰伤，变形，包装箱应牢固可靠。应室内存放，并防撞击，防潮。

3.2 Fan blade should be packed in big wooden case or sheet iron case, in order to prevent it from damaging. Transmission shaft and coupling should be defend by lubricant and soft, these things should be layed flat, and to avoid damage and distortion, packing should be firmed. Stored indoor, and prevent it from hitting and wetting.

3.3 钢构件及钢制配水管道堆放要规则，有序，稳固可靠。建议室内存放或室外油布遮挡存放。小型钢构件为便于管理，防止丢失应室内存放。

3.3 Steel parts and steeliness pipes should be stored in order. Stored indoor or covered by oilcloth when stored outdoor. Minitype steel parts should be stored indoor in order to convenient for management, and prevent it from losing.

3.4 玻璃钢构件（风筒、面板等）、淋水填料、收水器、喷头等，堆放时不能重压，存放处应防火，无腐蚀介质，不许曝晒，格栅填料每5件组捆扎，堆放高度不大于3m。有关塑料连接件，小型零星工件，可采用纸箱，蛇皮袋等包装。包装后应注意防潮、防火。上述货物均应室内阴凉存放，特别是淋水填料不能在高温、日晒环境中存放，以免老化、变形，直接影响日后粘接和使用寿命（不能集装箱室外存放），室内存放期限为10个月。

3.4 FRP parts (fan, casing), filling, drift eliminator, nozzles can't be press, keep away from the fire, no corrosive medium, and can't be insulating, gridiron filling should be packed each 5pcs, the height should be less than 3m. Plastic linker and minitype workpiece should be packed in paper case or bags. Do moisture resistant and fireproofing after packing. The goods described above should be stored indoor, especially is the filling can not stored under high temperature for fear of aging, distortion, and then affect gluing and useful time (can not stored outdoor), indoor storage time is 10 months.

3.5 PVC 粘接剂（填料用）为易燃挥发性液体，属危险品，其储存较为严格。

3.5 PVC adhesive (for filling) is flammability and volatility liquid, it is dangerous goods, and the storage condition is strict.

3.5.1 储存于阴凉通风的库房，远离火种、热源。

3.5.1 Stored in shady and ventilated storeroom, keep away from fire

and heat.

3.5.2 室内仓储条件：温度低于 30°C（理想仓储条件温度为：25°C 以下）

3.5.2 Storage condition: the temperature $< 30^{\circ}\text{C}$ (perfect temperature is $\leq 25^{\circ}\text{C}$)

3.5.3 室内温度在 25°C 以上至 30°C 时需用冷水喷淋降温。

3.5.3 Cooling down the temperature with cold water when the temperature is between 25°C and 30°C .

3.5.4 在正常仓储条件下，粘接剂质保期为 6 个月。

3.5.4 Adhesive guarantee time is 6 months under normal condition.

3.6 树脂、配剂、油漆等危险品采用桶装，防碰撞、防火、防曝晒等，堆放在室内通风干燥处。在正常仓储条件下，质保期为 6 个月。

3.6 Resin, dispensing, paint are packed in barrel, prevent it from hitting, firing and insulating, stored indoor and ventilated. guarantee time is 6 months under normal condition.

3.7 标准件、紧固件、专用工具采用小木箱包装，各件应分类，防止混装。

3.7 Packed the standard parts, fasteners and special tools in small wooden case, pack these parts separately.

3.8 产品搬运、装箱时应做到轻装、轻卸、防压、防撞击、跌落。

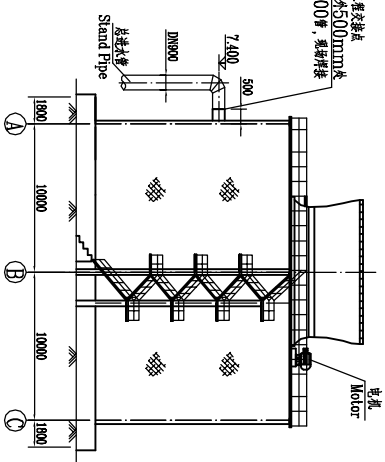
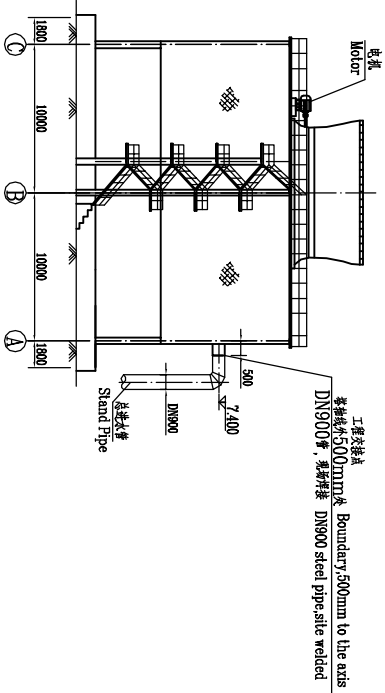
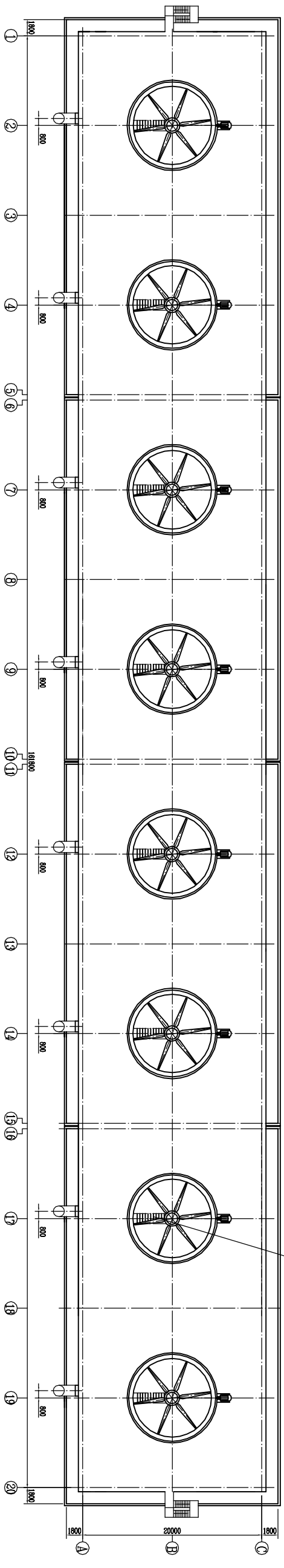
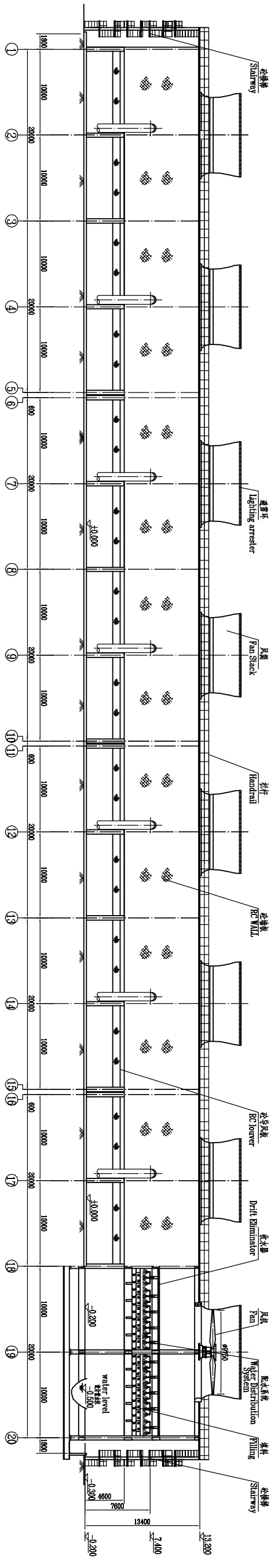
3.8 Handle with care in transportation and incasement process. Precious and fragile things need special handling.

冷却塔设计、制造遵循规范、标准及规定清单

SPECIFICATION LIST

序号 NO.	标准号 STANDARD AND CODE	标准名称 DESCRIPTION
1	Q/HO.J01.03-98	收水器片 Drift eliminator sheet
2	Q/HO.J01.04-98	聚氯乙烯淋水填料 PVC filling
3	Q/HO.J01.09-99	塑料格栅填料与连接件 Plastic grating filling and connectors
4	Q/HO.J03.00-98	产品加工工艺流程图 Process road map of production processing
5	Q/HO.J03.01-98	焊接工艺守则 Welding process rules
6	Q/HO.J03.02-98	玻璃钢制品成型工艺守则 FRP molding process rules
7	Q/HO.J03.03-98	防腐工艺守则 Anticorrosion process rules
8	Q/HO.J03.04-98	塑料成型工艺守则 Plastic molding process rules
9	Q/HO.J03.05-98	金属加工工艺守则 Metal processing rules
10	Q/HO.J03.06-98	玻璃钢冷却塔模具工艺守则 FRP cooling tower molding process rules
11	Q/HO.J03.07-98	安装调试工艺守则 Installation and commission process rules
12	GB7190.2-1997	玻璃纤维增强塑料冷却塔 FRP cooling tower criterion
13	GB/T 50102-2003	工业循环水冷却设计规范 Industry circulating water cooling design criterion
14	GBJ17-88	钢结构设计规范 Steel structural design criterion
15	GB 50010-2002	混凝土结构设计规范 Concrete structural design criterion
16	GB 50007-2002	建筑地基基础设计规范 Groundwork foundation design criterion
17	GBJ9-87	建筑结构荷载规范 Structural load criterion
18	GBJ11-89	建筑抗震设计规范 Anti-seismic design criterion
19	Q/HO.J02.01-98	冷却塔设计 Cooling tower design

10-8×0054-HN



Technical Data

Description	Unit	Data
Total Cap.	Q	36000m ³ /h
Cell Cap.	q	4500m ³ /h
Inlet Temp.	T1	38.0°C
Outlet Temp.	T2	30.0°C
Dry bulb Temp.	θ	29°C
Wet bulb Temp.	T	27.25°C
Kelvin Temp.	θ	275.0mm
Air Pressure	P	100kPa
Design Airflow Rate	G	317.0t/h
Water Power	N	200kW

技术特性表

项目名称	特性
总装机容量	Q 36000m ³ /h
单塔装机容量	q 4500m ³ /h
进口水温	T1 38.0°C
出口水温	T2 30.0°C
干球温度	θ 29°C
湿球温度	T 27.25°C
风筒直径	φ 275.0mm
大气压力	P 100kPa
设计风量	G 317.0t/h
电机功率	N 200kW

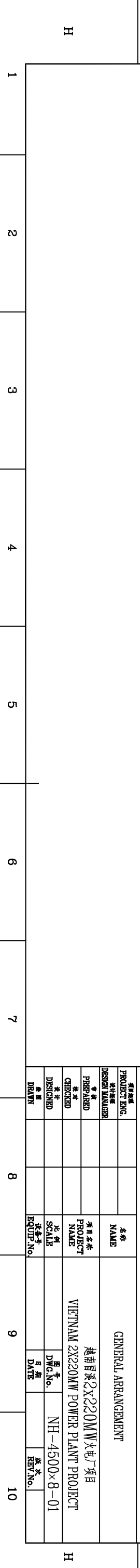
说明:本项目共2组塔,另外一组与本图对称布置。
Notice: there are two group of towers in this project, the other is the symmetrical with this group.

海陵 soc JIANGSU SEAGULL COOLING TOWER CO.,LTD.

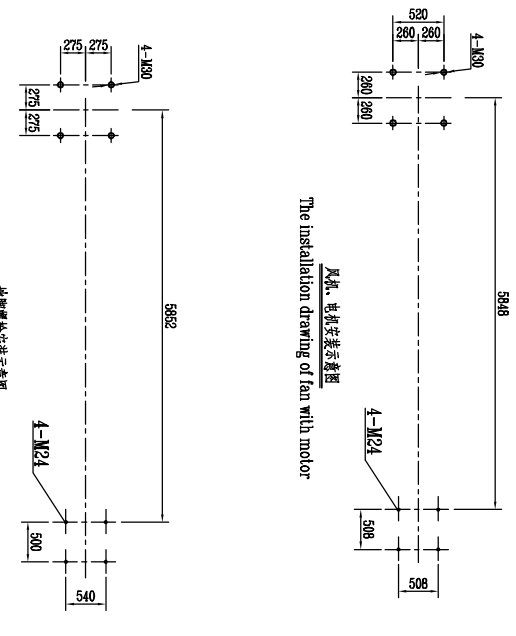
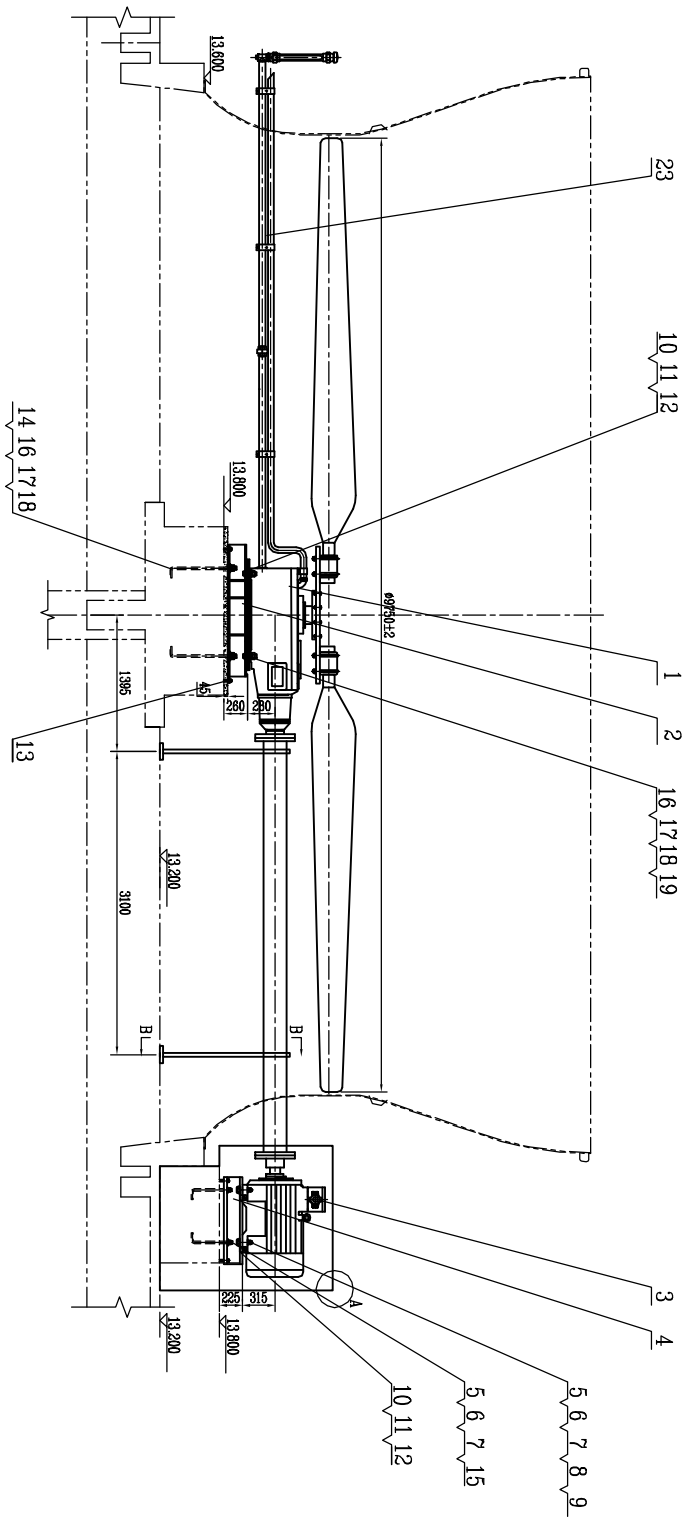
GENERAL ARRANGEMENT

越南晋永2x220MW火电厂项目
VIETNAM 2X220MW POWER PLANT PROJECT

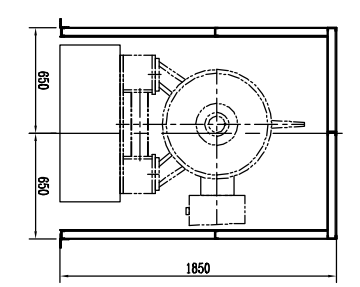
PROJECT ENG.	名称	NAME
DESIGN MANAGER	设计经理	
PREPARED	编制	
CHECKED	审核	
DESIGNED	设计	
DRAWN	绘图	
	项目名称	越南晋永2x220MW火电厂项目
	PROJECT NAME	VIETNAM 2X220MW POWER PLANT PROJECT
	比例	SCALE
	设备号	EQUIP.No
	图号	DWG.No.
	日期	DATES
	版本	REV.No.



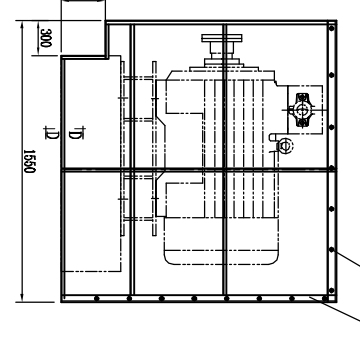
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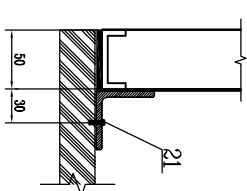
塔架安装示意图
The installation drawing of barb bolt



A-A
DETAILS



B-B
DETAILS



D-D
DETAILS

技术统计表

项目/规格	数量
电机 QNRE-20M12.5	160 44KW
叶片数: 6	166 8Pa
叶片安装角: 10°	叶片转速: 122 r/min
风量: 307x10³ m³/h	风量: 307x10³ m³/h
电机: 110Q317-4AB70	电机功率: 200 Kw
电机绝缘等级: IP56	电机转速: 1480 r/min
电机电压: 400V	电机绝缘等级: 400V
其他:	其他:

Technical Data

DESCRIPTION	Technical Data
Type: QNRE-CUM12.5	shaft power: 60.4KW
fan vane qty.: 6	total pressure: 166.8Pa
fan vane angle: 10°	speed: 122 r/min
fan flow: 307x10³ m³/h	others:
Type: 110Q317-4AB70	motor power: 200 Kw
motor	speed: 1480 r/min
insulation class: F	voltage: 400V
others:	others:

- 说明:
1. 风机传动轴为碳纤维材质。
 2. 整机安装完毕后用手转动传动轴 转动应轻重均匀。
 3. 风机安装调试说明详见冷却塔风机使用说明书。
 4. 减速箱的润滑油的更换, 风机叶片角度的测量, 详见《安装、操作及维护手册》。
 5. 表中数量为单塔用量。实际发货数量为8台塔。

Note:

1. The material of Transmission Shaft is carbon fibre.
2. Manually rotate the fan to assure that the mechanical equipment turns freely.
3. The installation and commissioning of fan refer to specification of cooling tower fan.
4. The method of lubricant oil replacement, blade angle measurement refer to installation, operation and maintenance manual.
5. The quantity in the list is for one cell. Total is eight cells.

- 说明: 电机消音罩现场拼装, 用FRP包角通过钻尾自钻螺栓与分共连接从而连接成一体
- Note: motor silencer is assembled at site, and connected with stack with FRP wrapped angle by self-drilling bolts

编号 NO.	图号 DRAWING NO.	名称 NAME	材料与规格 MATERIAL CLASS	数量 QUANTITY	备注 REMARK
1	QNRE-CUM12.5	风机调速机	组合件 Combined Parts	1	
2	NH-4500×8-2-1	减速机调速座	组合件 Combined Parts	1	N=200KW
3	110Q317-4AB70	电动机	组合件 Combined Parts	1	
4	NH-4500×8-2-2	电机调整座	组合件 Combined Parts	1	
5	GB41-86-M24	螺母	组合件 Combined Parts	8	
6	GB95-85-24-100HV	垫圈	组合件 Combined Parts	8	
7	GB93-87 24	弹簧垫圈	组合件 Combined Parts	8	
8	GB5780-86-M24×110	螺栓	组合件 Combined Parts	4	
9	Normative Drawing DQ-1	大垫圈 (三)	组合件 Combined Parts	4	φ25
10	Normative Drawing DK-1	顶块 (一)	组合件 Combined Parts	8	
11	GB5781-86-M20×80	螺栓	组合件 Combined Parts	8	
12	GB41-86-M20	螺母	组合件 Combined Parts	8	
13	GB5781-86-M16×120	调节螺栓	组合件 Combined Parts	8	
14	NH-4500×8-2-4	直地脚螺栓 (一)	组合件 Combined Parts	4	M30
15	NH-4500×8-2-5	直地脚螺栓 (二)	组合件 Combined Parts	4	M24
16	GB41-86-M30	螺母	组合件 Combined Parts	8	
17	GB95-85-30	垫圈	组合件 Combined Parts	8	
18	GB93-87 30	弹簧垫圈	组合件 Combined Parts	8	
19	GB5780-86-M30×120	螺栓	组合件 Combined Parts	4	
20	NH-4500×8-2-3	保护轴套	组合件 Combined Parts	2	
21	M8×90	飞轴固定装置	组合件 Combined Parts	10	
22	NH-4500×8-2-6	电机消音罩	组合件 Combined Parts	1	
23	NH-4500×8-2-7	油管安装布置图	组合件 Combined Parts	1	
24	5.5×38	钻尾自钻螺栓	组合件 Combined Parts	65	

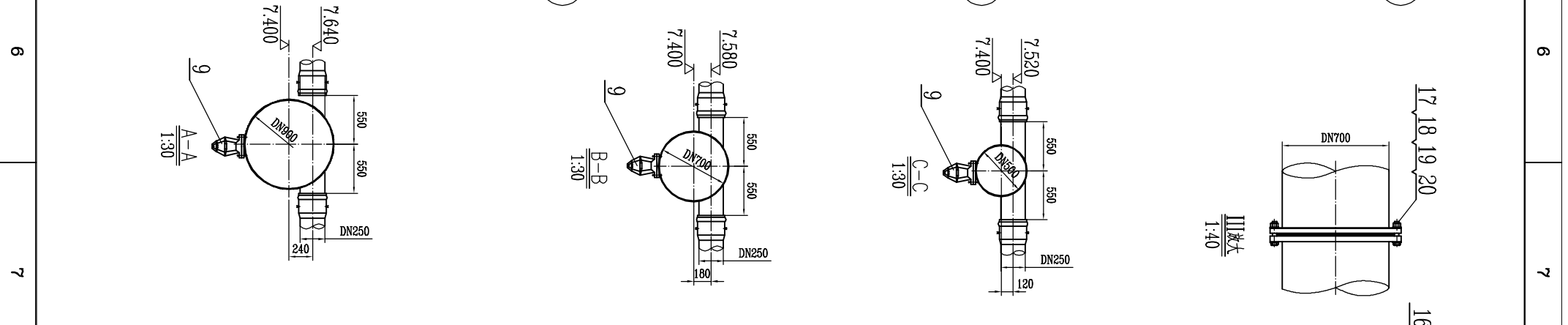
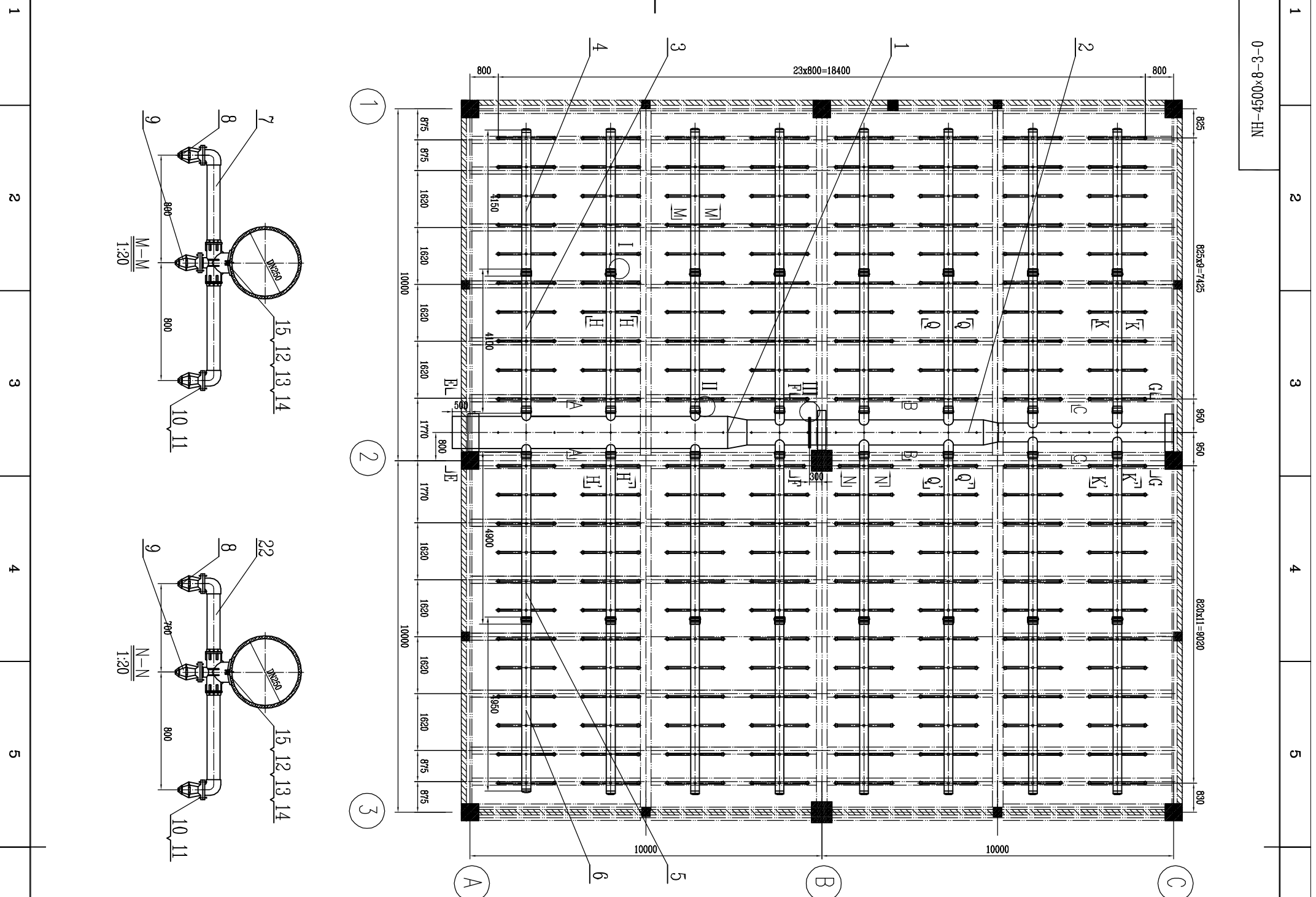


江苏海鸥冷却塔股份有限公司
JIANGSU SEAGULL COOLING TOWER CO., LTD.

风机安装图
FAN OUTLINE AND ASSEMBLING DRAWING WITH MOTOR

越南项目 2X220MW 火电厂项目
VIETNAM 2X220MW POWER PLANT PROJECT

图号: NH-4500×8-2-0
日期: 2011.11.10
设计: 张永刚



序号 No.	图号 Drawing No.	名称 Name	材料规格 Material	数量 Qty.	单重 S.W.	总重 T.W.	备注 Remark
1	NH-4500x8-3-1	配管(一) Pipe one	Q235	1			
2	NH-4500x8-3-2	配管(二) Pipe two	Q235	1			
3	NH-4500x8-3-3	配管(三) Pipe three	U-PVC	8			
4	NH-4500x8-3-4	配管(四) Pipe four	U-PVC	8			
5	NH-4500x8-3-5	配管(五) Pipe five	U-PVC	8			
6	NH-4500x8-3-6	配管(六) Pipe six	U-PVC	8			
7	NH-4500x8-3-7	喷头连接件(一) Pipe screen	ABS	174套 174sets			
8	标准图 Normative Drawing	NS-1# 喷头 NS-1# Nozzle	A.B.S	352			喷头连接件 Attached clip-Ring and Pin
9	标准图 Normative Drawing	NS-2# 喷头 NS-2# Nozzle	A.B.S	200			喷头连接件 Attached clip-Ring and Pin
10	GB5782-86-M6x40	六角螺栓 Hexagon screw	SS304	1104			
11	GB6170-86-M6	六角螺母 Hexagon nut	SS304	1104			
12	GB5782-86-M6x40	六角螺栓 Hexagon screw	SS304	352			
13	GB6172-86-M8	六角螺母 Hexagon nut	SS304	704			
14	GB971-85-8	垫圈 Washer	SS304	352			
15	规范图 Normative Drawing	橡胶垫 Rubber mat	橡胶板 rubber	176			
16	5.5x38	自攻丝螺钉 Self drill screw	Q235	96			
17	规范图 Normative Drawing	橡胶垫 Rubber mat	橡胶板 rubber	1			DN700
18	GB5780-86-M22x90	六角螺栓 Hexagon screw	Q235	24			
19	GB41-86-M22	六角螺母 Hexagon nut	Q235	24			
20	GB95-85-22-100HV	垫圈 Washer	Q235	48			
21	GB846-85-ST6.3x32-C	十字槽钻头 Self drill screw	SS304	96			
22	NH-4500x8-3-8	喷头连接件(二) Pipe eight	ABS	2套 2sets			

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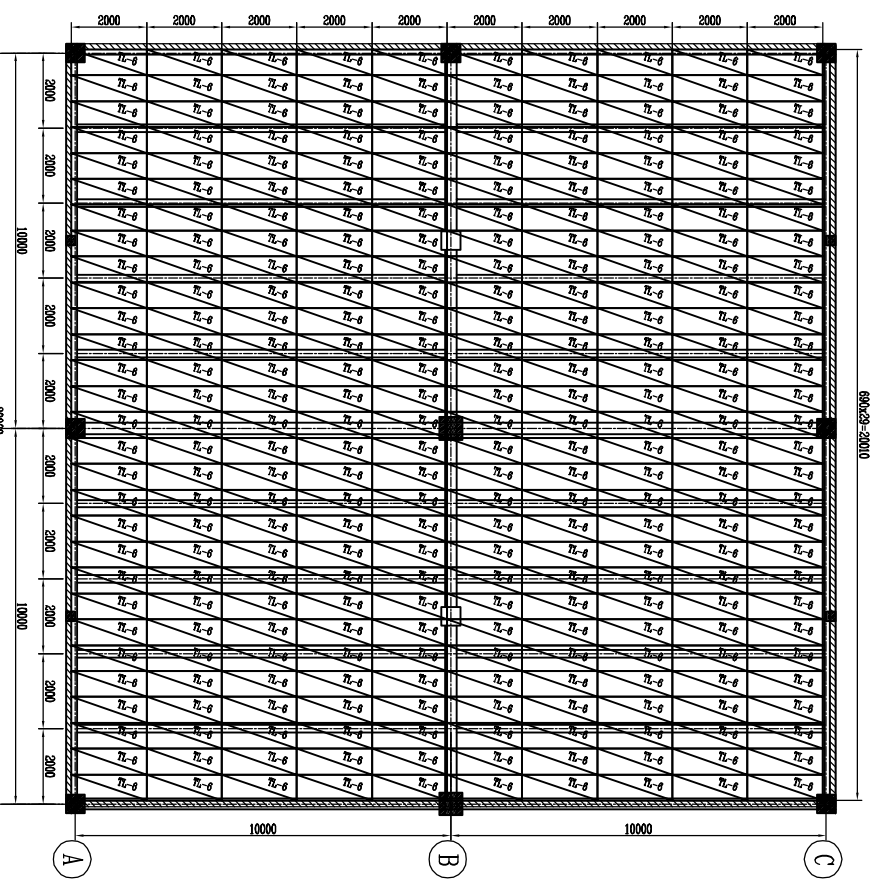
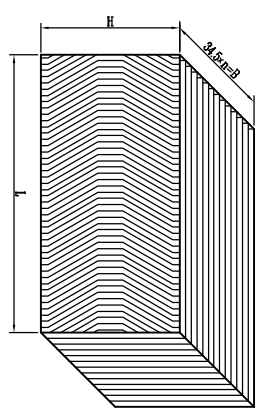
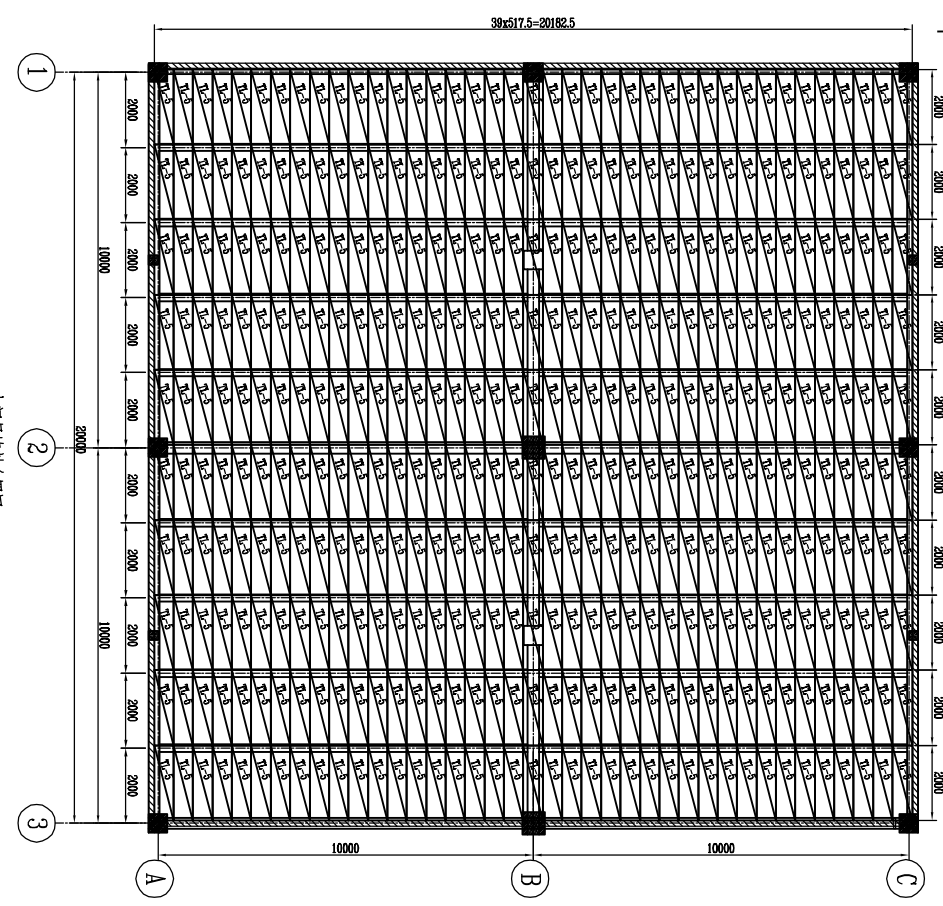
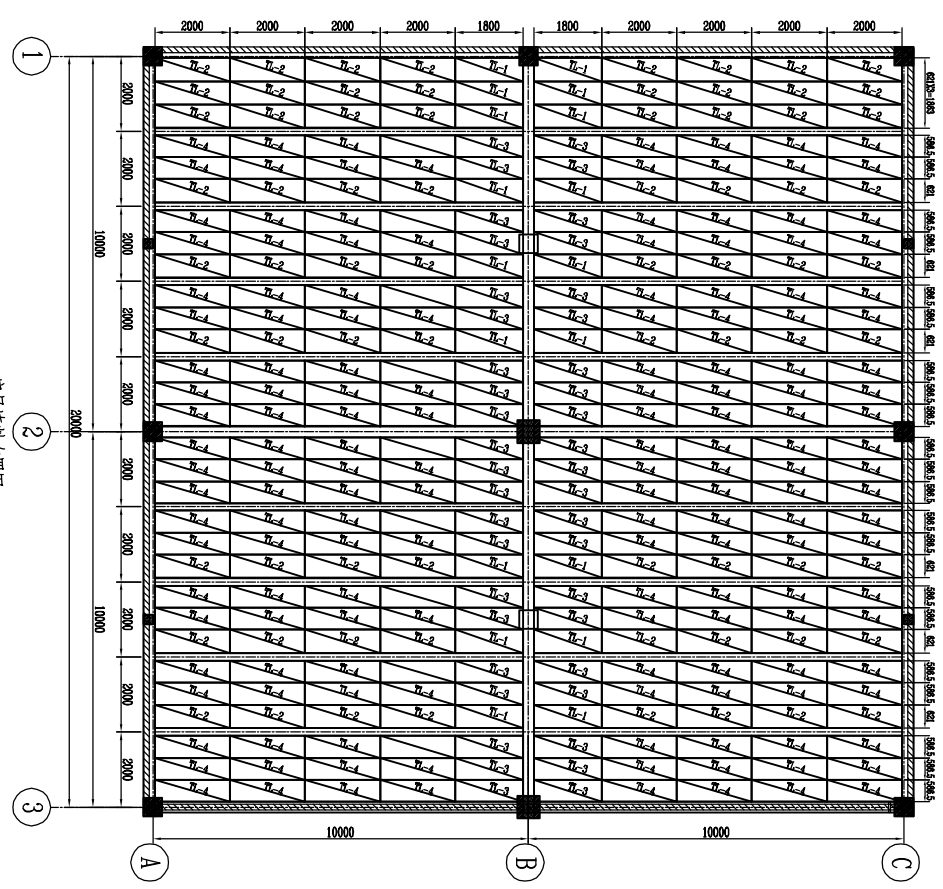
项目名称: 越南晋永2x220MW火电厂项目
PROJECT NAME: VIETNAM 2X220MW POWER PLANT PROJECT

图号: NH-4500x8-3-0
DWG.No.

日期: 2014年11月
DATE

1	2	3	4	5	6	7	8	9	10
0-4-8×0094-HN									
A									
B									
C									
D									
E									
F									
G									
H	<p>NOTE:</p> <ol style="list-style-type: none"> Welding type is hand arc welding and welding rod type is 1422. The weld is comply with GB986-88. The quantity in the list is for one cell. Total is 8 cells. <p>说明:</p> <ol style="list-style-type: none"> 焊接采用电弧焊,焊条型号为1422. 角焊缝按GB986-88中规定. 表中数量为单塔用量,实际发货数量为8台塔. 								
1	2	3	4	5	6	7	8	9	10

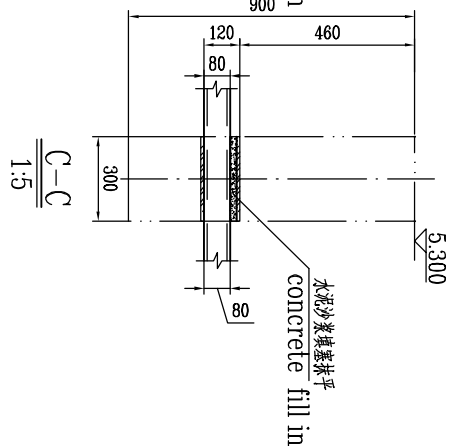
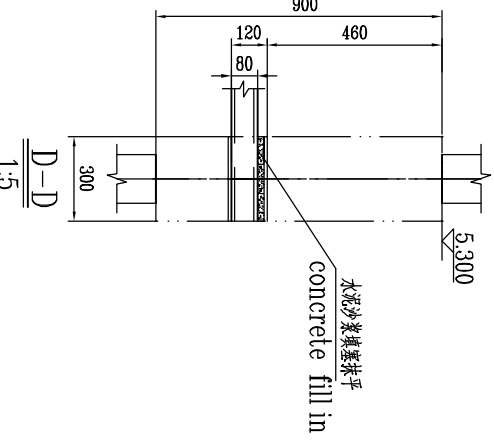
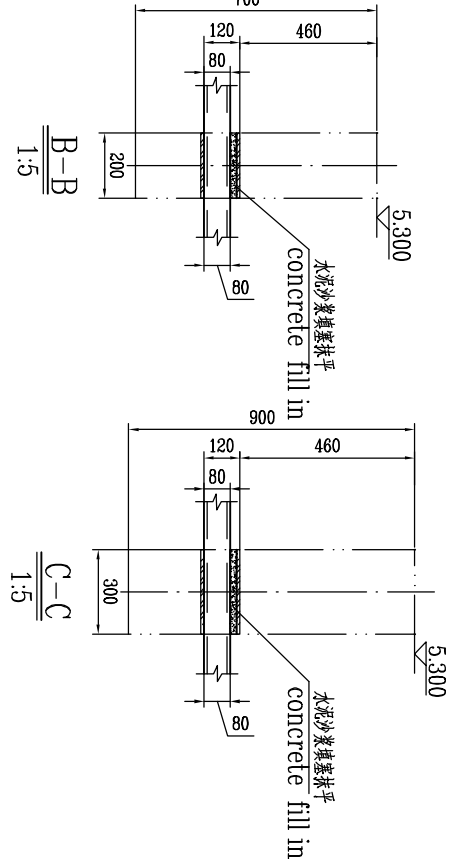
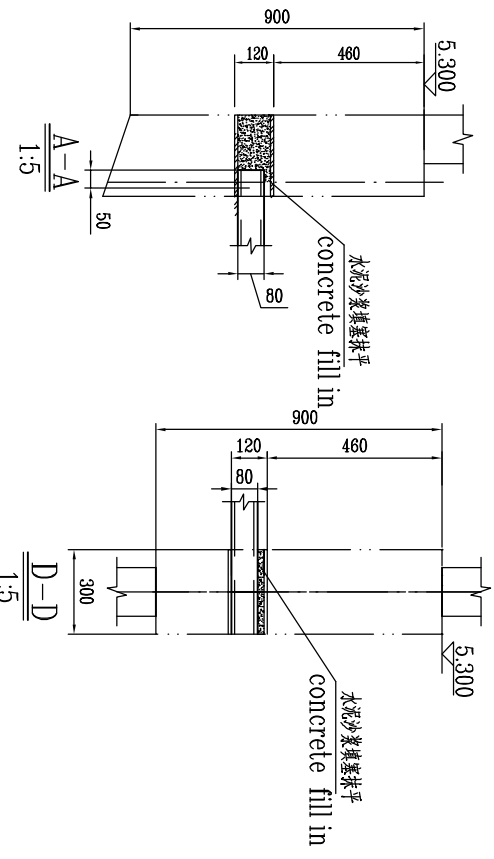
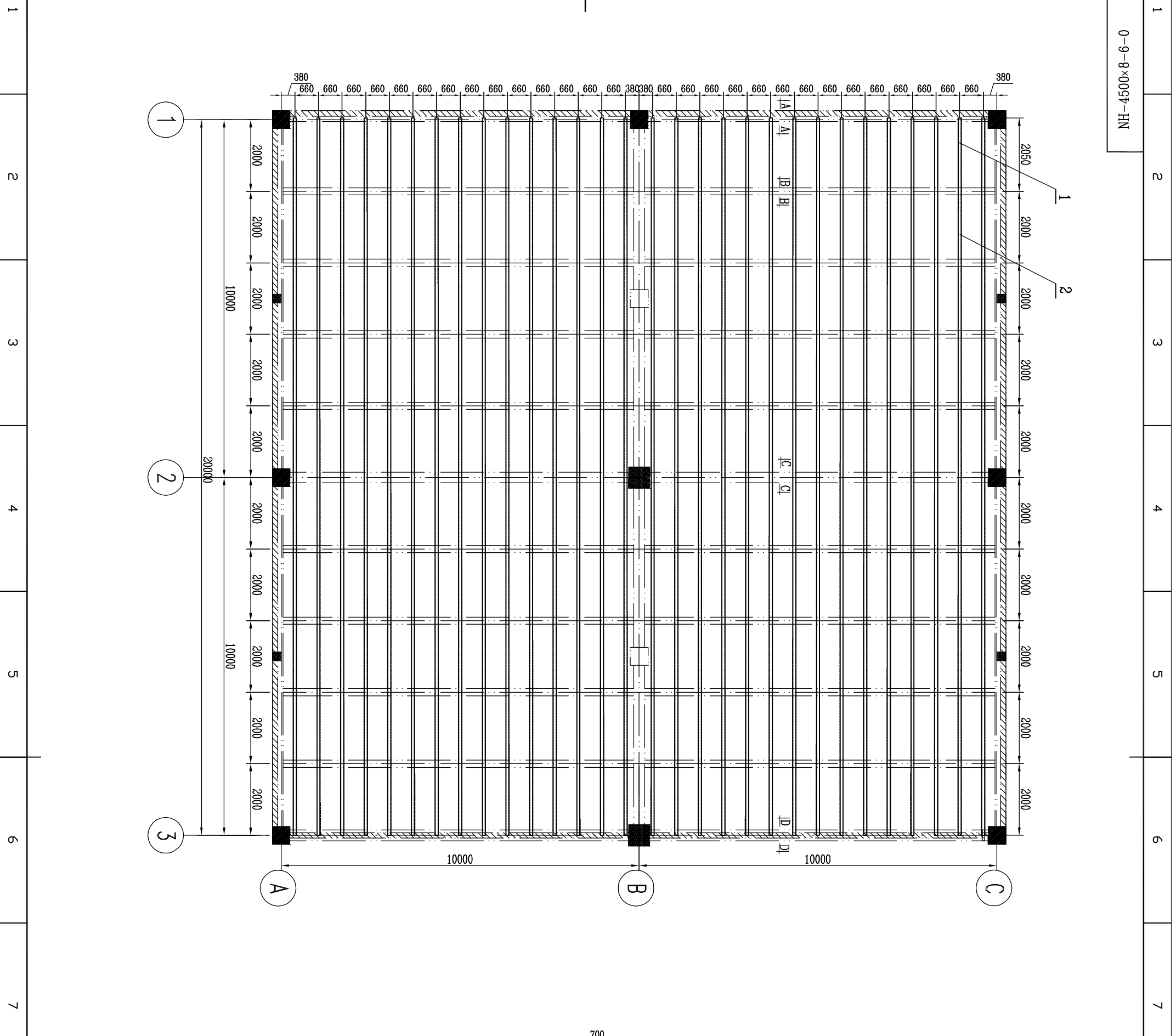
0-9-8x009F-HN



- 说明:
1. 填料材料为改性P.V.C.
 2. 按图中所示, 将PVC填料片用镀锌铁丝捆扎成块后安装。
 3. 填料分块安装时, 若遇难以允许在现场作纵向切割。
 4. 填料安装时, 填料块与塔壁之间的空隙应用填料片充填, 不能有空隙。
 5. 表中数量为8合数用量。
- NOTE:
1. The material of the filling is PVC.
 2. Every fifteen or sixteen filling flakes would be felted into one stack in according to the drawing.
 3. It could be cut when the filling stack being assembled.
 4. Filling flakes would be filled into the clearance fully between filling stacks and the outer-wall of the cooling tower.
 5. The quantity in the sheet is for 8 cells.

编号 NO.	名称 NAME	L	B	H	n (每块填料片数)	填充片 片数	总片数 Qty.	总片数 N
TL-6	填料分块 (六) Filling stack six	2000	690	500	20	480	2320	46880
TL-5	填料分块 (五) Filling stack five	2000	517.5	500	15	3120	3120	46800
TL-4	填料分块 (四) Filling stack four	2000	586.5	500	17	1344	1344	22848
TL-3	填料分块 (三) Filling stack three	1800	586.5	500	17	336	336	5712
TL-2	填料分块 (二) Filling stack two	2000	621	500	18	576	576	10368
TL-1	填料分块 (一) Filling stack one	1800	621	500	18	144	144	2592

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PROJECT ENG.	设计人	SCALE	比例尺
DESIGN MANAGER	设计负责人	PROJECT NAME	项目名称
PREPARED	编制人	VIETNAM 2X220MW POWER PLANT PROJECT	
CHECKED	审核人	DWG. No.	NH-4500-8-5-0
DESIGNED	设计人	DATE	
DRAWN	制图人	REV. No.	



说明：表中数量为8台用量

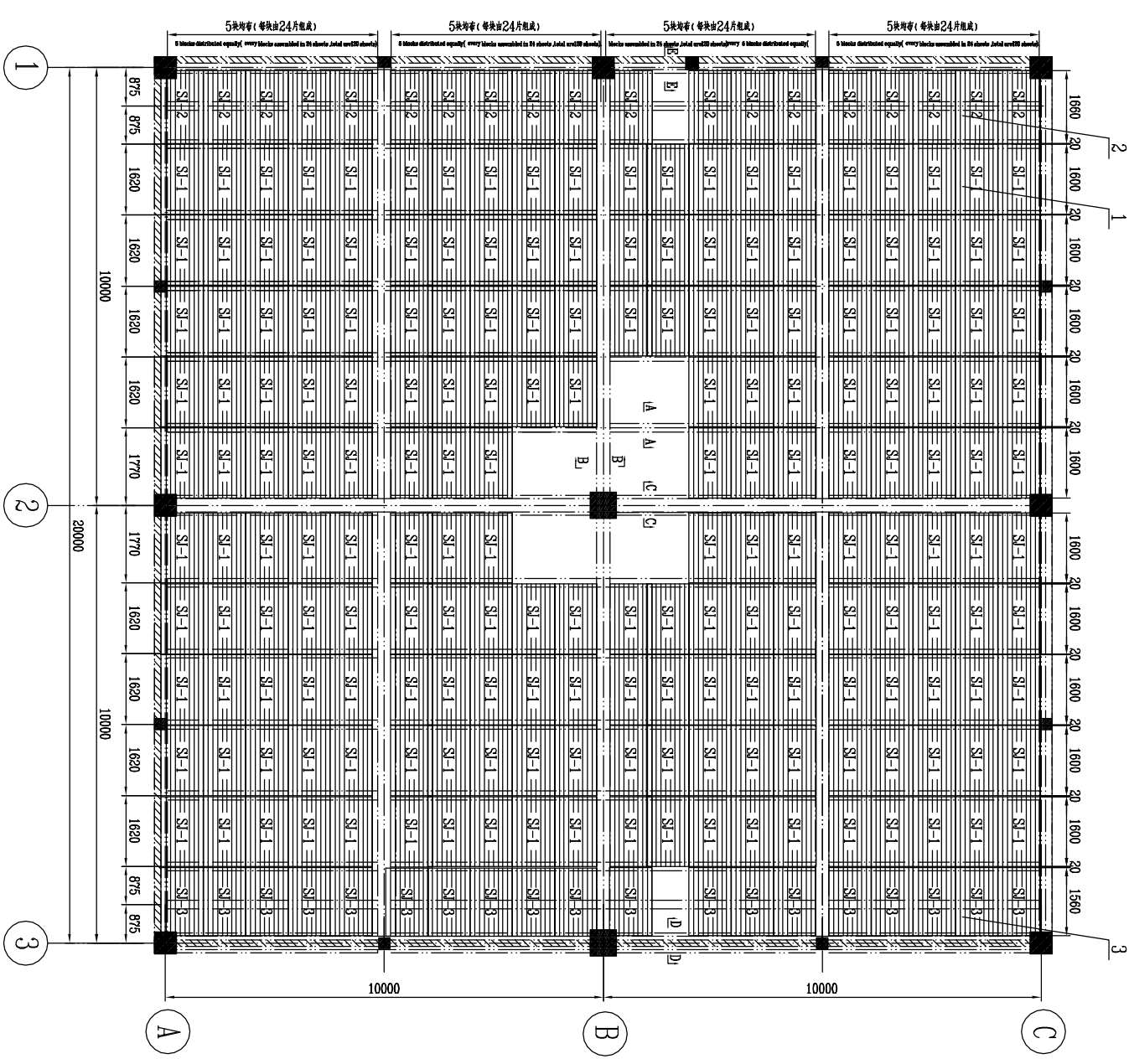
NOTE:
1.The quantity in the sheet is for 8 cells.

序号 No.	图号 DWG.No.	名称 Name	材料与规格 Material	数量 Qty.	单重 (kg) S.W. (kg)	总重 (kg) T.W. (kg)	备注 Remark
2	□80x35	支撑杆(二) Filling Support Two	F.R.P	2160			L=2000
1	□80x35	支撑杆(一) Filling Support One	F.R.P	240			L=2050

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PROJECT ENG. 设计工程师 DESIGN MANAGER		NAME 名称 PROJECT NAME 项目名称 VIETNAM 2X220MW POWER PLANT PROJECT	
PROJECT NAME 项目名称 VIETNAM 2X220MW POWER PLANT PROJECT		FILLING SUPPORT LAYOUT AND ASSEMBLY DRAWING 填料支撑布置图	
CHECKED 审核 DESIGNED 设计 DRAWN 制图		SCALE 比例 EQUIP.No 设备号	
DATE 日期		NH-4500x8-6-0 图号 DWG.No. REV.No. 版本	

1	2	3	4	5	6	7	8	9	10
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0-2-8×0094-HN

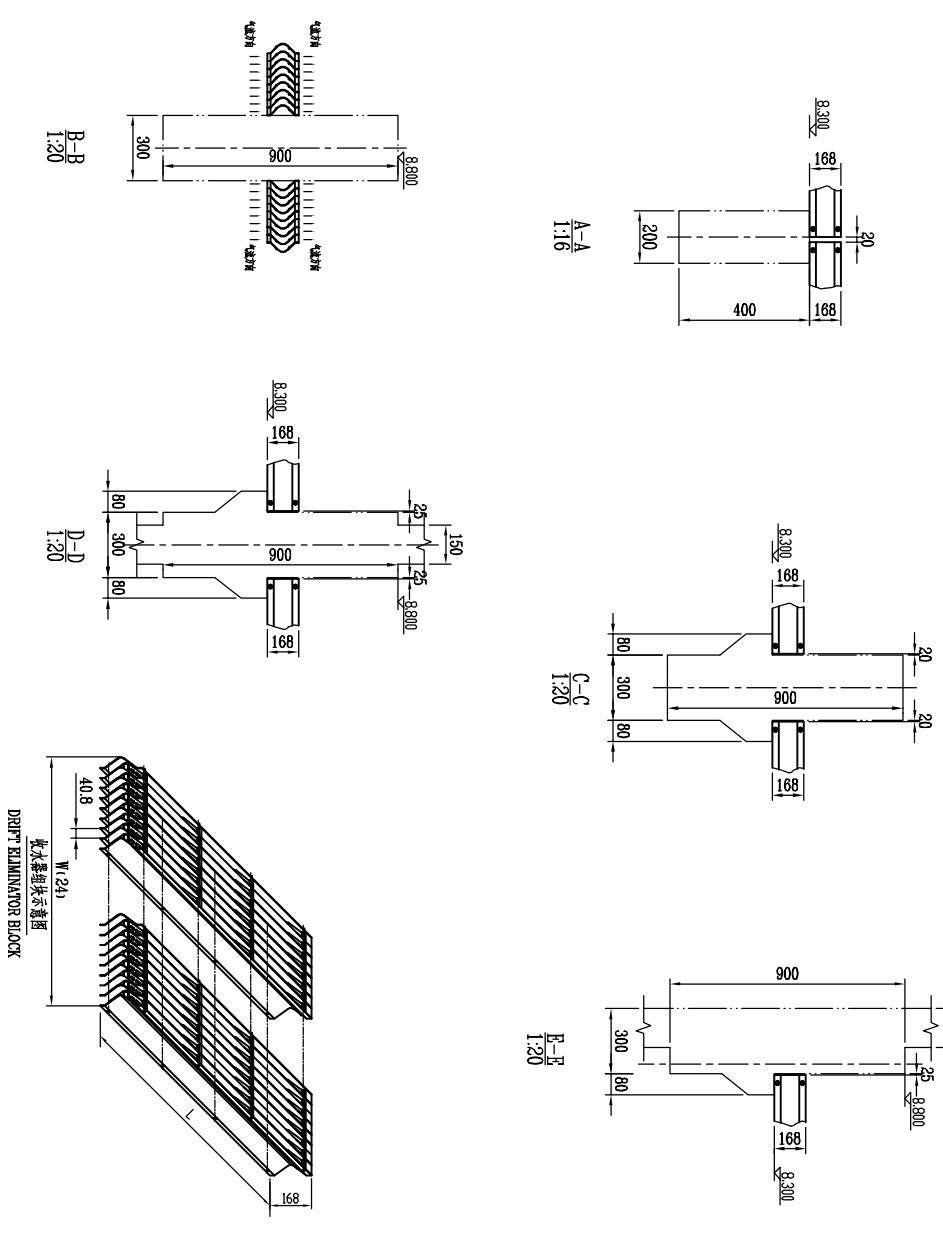


说明:

1. 收水器安装结束后, 应保证其上平面平整.
2. 收水器分块均匀布置, 不应有明显缝隙, 间隙小于30mm.
3. 收水器分块安装时, 若遇梁柱允许在现场作局部切割.
4. 收水器型号为: SJ-160.
5. 表中数量为8台塔用量.

NOTE:

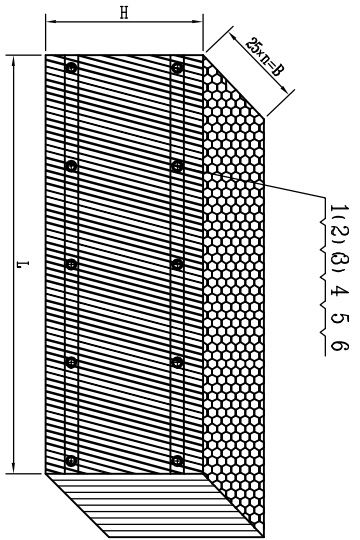
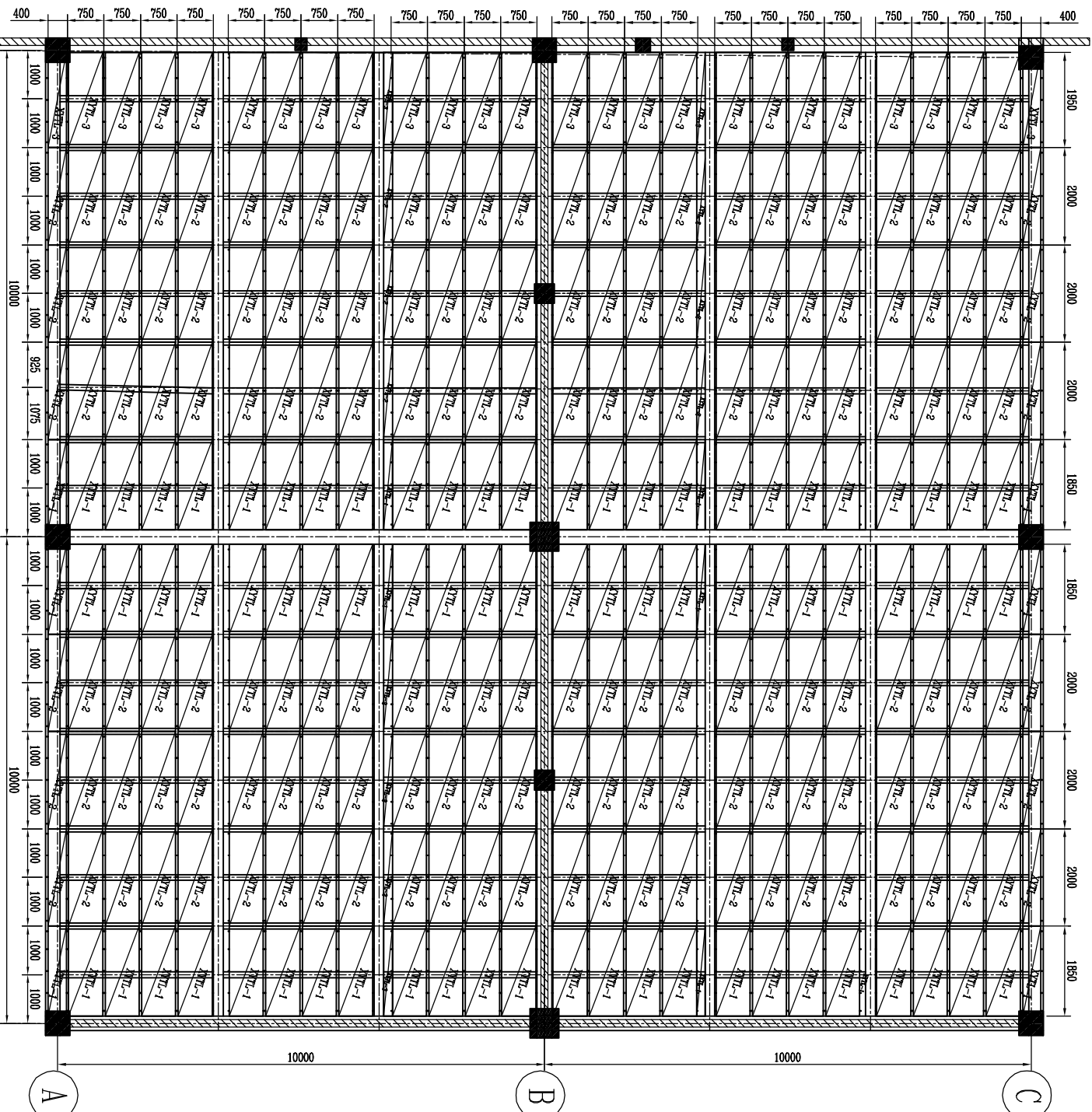
1. Keep the drift eliminator modules on the same plane after installation.
2. Keep the drift eliminator modules at a uniform space. The space is less than 30mm.
3. The drift eliminator modules is cut when it is installed at site.
4. The type of the drift eliminator is: SJ-160.
5. The quantity in the list is for 8 cells.



序号	名称	材料与规格	单块片数	块数	总数量	备注
1	SJ-1	P.V.C	24	1600	38400	L=1600
2	SJ-2	P.V.C	24	160	3840	L=1660
3	SJ-3	P.V.C	24	160	3840	L=1560
	盖帽	P.E			15360	
	箱	P.E			15360	
	无栏杆收水器支架	P.E			176640	

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PROJECT ENG.	NAME	收水器布置图	
DESIGN MANAGER	NAME	DRIFT ELIMINATOR LAYOUT AND ASSEMBLY DRAWING	
PREPARED	PROJECT NAME	越南晋源2X220MW火电厂项目	
CHECKED	PROJECT NAME	VIETNAM 2X220MW POWER PLANT PROJECT	
DESIGNED	SCALE	NH-4500×8-7-0	
DRAWN	EQUIP.No	图号: NH-4500×8-7-0	
		日期: _____	
		设计: _____	
		审核: _____	

0-01-8x0094-HN



- 说明: 1. 采用改性PVC填料, 小片距设计, 六角形钢管通
 2. 现场安装如遇梁柱作局部加割,
 3. 填料安装时, 填料块与管壁之间的间隙应用材料片充满, 不能有空隙。
 4. 表中数量为8台塔数量。

- NOTE:
 1. The material of the filling is PVC.
 2. It could be cut when the filling stack being assembled.
 3. Filling flakes would be filled into the clearance fully between filling stacks and the outer-wall of the cooling tower.
 4. The quantity in the sheet is for 8 cells.

编号 NO.	名称 NAME	材料与规格 MATERIAL CLASS	数量 QTY.	备注 REMARK
6	垫圈 washer	PVC	41600	
5	螺母 nut	PVC	41600	
4	拉杆 pole	PVC	20800	L=800
3	夹板 (三) plywood (three)	PVC	832	L=1950
2	夹板 (二) plywood (two)	PVC	4992	L=2000
1	夹板 (一) plywood (one)	PVC	2496	L=1850
XYTL-3	斜管消音填料块 (三) Filling stack three		28/15	208
XYTL-2	斜管消音填料块 (二) Filling stack two		28/15	1248
XYTL-1	斜管消音填料块 (一) Filling stack one		28/15	624



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 JIANGSU SEAGULL COOLING TOWER CO.,LTD.

PROJECT ENG. NAME	消音填料布置图
DESIGN MANAGER	FILLING LAYOUT AND ASSEMBLY DRAWING
DESIGNED	越南晋美2x220MW火电厂项目
CHECKED	VIETNAM 2x220MW POWER PLANT PROJECT
DESIGNED	SCALE
DRAWN	DATE

