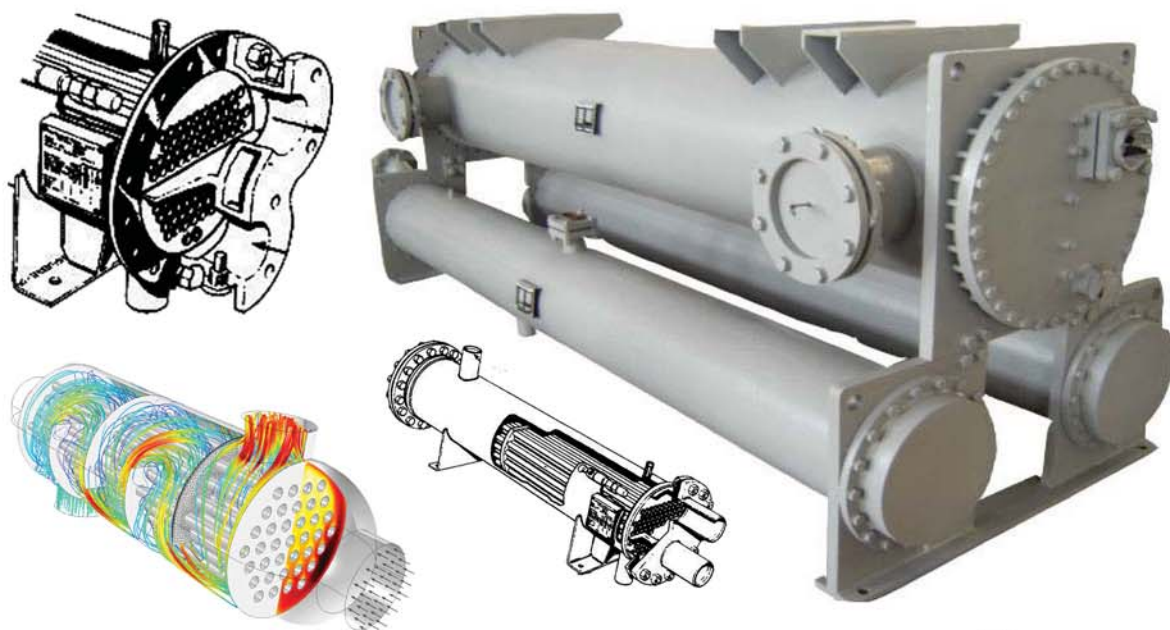




型号命名规则 Model designation

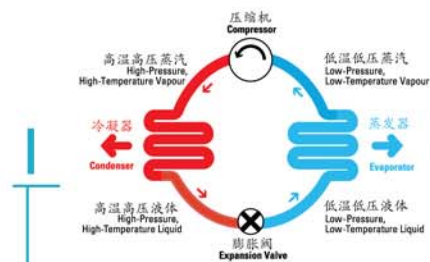
CON

-

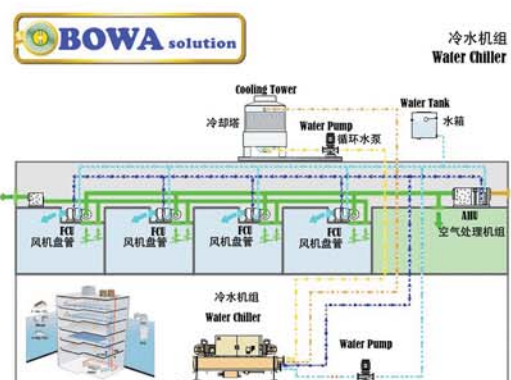
XXX

换热量代码
Heat Transfer
Capacity Code

- CON - Shell & Tube Condenser 壳管式冷凝器
- EVA - Shell & Tube Condenser 壳管式蒸发器
- WHE - Water Heat Exchanger 壳管式水换热器
- SCON - Sea Water Condenser 壳管式海水冷凝器
- UEVA - U type Evaporator U型干式蒸发器
- FEVA - Flooded Evaporator 满液式蒸发器



- A - Single Circuit 单回路
- B - Dual Circuits 双回路
- C - Three Circuits 叁回路



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T_e : Evaporating temperature, T_c : Condensing temperature, T_{suc} : Super heating temperature,

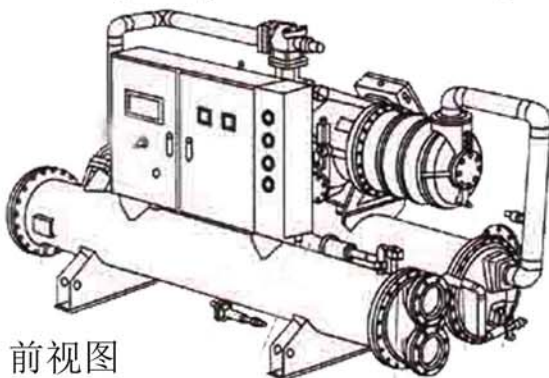
T_i : water inlet temperature, T_o : water outlet temperature,

Cap. A: means the heat exchange capacity when units equipped with normal chiller units / (标准工况);

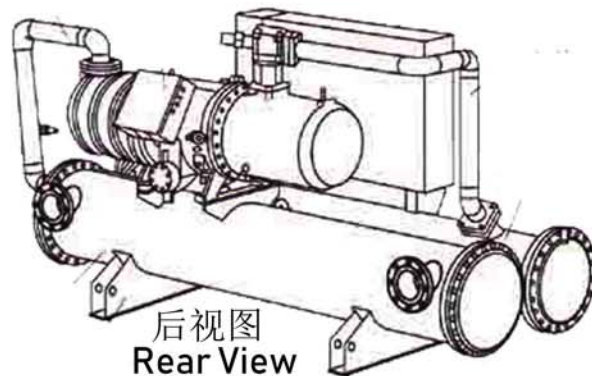
Cap. B: means the heat exchange capacity when units equipped with ground source heat pump / (水源热泵工况);

安装与维护建议 / Installation & Maintenance Suggestions

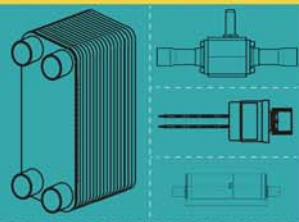
- ◆ 换热器进出口温度的变化直接反映出换热器换热能力的变化。定期测量换热器进出口流量、温度、当传热能力低到不能满足工艺要求时，则应通过机械清洗或化学清洗提高换热能力，满足和维持工艺运行的需要。用水作冷却介质时，水的出口温度最好控制在 50℃ 左右以下，否则会造成换热管腐蚀、换热器结垢严重，影响换热能力；警告：出口水温绝不能超过 65℃。
The heat exchange cap. will vary while inlet/outlet liquid temperature change accordingly; the fouling effect will affect the heat exchange cap., thus flow rate, temperature of liquid measurement before heat exchange tubes cleaning will be done during the maintenance; the media water working temperature should control below 50℃, otherwise, heat exchange tubes will be rusted or deposited easily; Warning: temperature of working water must be lower than 65℃;
- ◆ 通过压力差的检查，可判断换热器是否结垢，是否存在堵塞引起的节流以及泄漏。在工艺操作中，若发现压力骤变，无论升高降低，除检查换热器本身外，还应检查系统内其它管道、法兰以及输送流体介质的机械，从其它因素的影响系统考虑，尽快查出聚变原因。
Checking pressure drop in order to know if any fouling effect increase and any leakage; during the working, any large pressure change in the system detected will take all the piping system checking into an action;
- ◆ 水质也是决定热交换器寿命长短的重要因素。大型昂贵设备必须装配水质净化处理辅助设备，含有较多矿物质的井水及被污染的水源均不能使用。对于循环冷却水，应定期检测水质，使水质符合 GB50050-1995《循环冷却水的水质标准》，当水质不能达到标准时，应按国家标准 GBJ50-1995《工业循环冷却水处理设计规范》中的方法对水质进行处理。
Clean water application in the heat exchangers is an issue, while dirty water will largely damage the heat exchangers; China GB50050-1995, water cycling standard is accordingly applied in the system working;
- ◆ 换热器工作温度高于或低于环境温度较高，壳体表面须包保温材料，保温层的完好状态直接影响换热器传热性能。当保温层遭到破坏，同时在壳体外部积附水份，即会使壳体局部腐蚀；因此如发现此破损时，应及时修补。
Heat exchangers should keep its body temperature when it is big difference with ambient temperature; insulations are important using and protection outside of shells;
- ◆ 压力容器带有“安全易熔塞”或安全阀，壳程里的液体温度达到一定时，将自动融化、降压，确保安全；冷凝器的端盖和蒸发器的筒身皆设有排水装置，以免冬天由于环境温度低而造成管程内的积水结冰冻破换热管；蒸发器的进、出水口都设有温度控制点，防止冷冻水的温度过低导致换热管的破裂。
Easy melt plug or safety valve will act to release the vessel pressure while the working temperature or pressure is very high (over the design working conditions); Condenser and Evaporator will be all designed with water releasing devices in order for living water frozen protection inside of heat exchangers during the cold seasons; Inlet/outlet point of Evaporators equipped with temperature detecting devices for heat exchange copper tubes frozen protection;
- ◆ 清洗热交换器的方法/Heat exchangers cleaning:
 - ◇ 机械清理：将两端盖板拆除，选用专用的铜清洁刷在铜管中来回推动清洁管壁污垢，可多次清理，但不可对管壁造成损坏。
Brush cleaning: using soft brush to clean inside of copper tubes;
 - ◇ 高压水冲洗清理：使用高压水冲洗管内时，水压不可超过 40Mpa，对致密的垢，此法不可取。在清洗时，严禁水枪口对人。
High pressure water to clean the dirties inside of copper tubes; water pressure should be lower than 40MPa; any wrong pressure gun using will bring dangers to the humans;
 - ◇ 化学清洗：如两端盖板不易或不能拆除，则必须使用酸性化学液体达到清洗作用。由于各种化学液体成分不同，所以必须使用生产厂家专用产品。使用化学液体之后应用大量清水进行反复清洗，并添加相配套的化学液体进行中和作用。此方法讲究一定的技术性并具有一定的危险性，必须由专业技术人员进行操作。
Mixing chemical washing will also bring the good results for cleaning, however, any wrong using will bring big mistakes;
- ◆ 垫片更换的方法：更换垫片时，保证将原法兰接合面之残余物清除干净，尽量使用与原垫片同质的垫片，如使用金属石墨垫片和聚四氟垫片替换时，应查明工艺流体是否适用。
Cleaning the flanges and other with its connection parts before gaskets change, ask us for the same materials applications;



前视图
Front view



后视图
Rear View



壳管式冷凝器性能参数 / Condenser Specifications

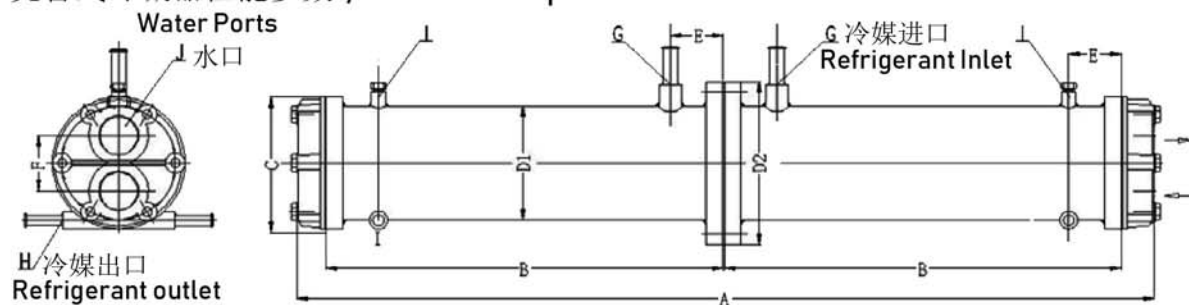


◆ 单机冷凝器 / Single Circuit (13.2kw ~ 967.2kw) , R22 (R134a, R407c others on request)														
序号 Item	型号 Model	Cap. A/ KW	Cap. B/ KW	外形尺寸 / Dimensions (mm)						进出口直径 Connection Dia. (inch)				重量(kg) Weight
				A	B	C	D	E	F	G	H	I	J	
1	CON003A	13.2	15.5	733	639	140	114	75	60	5/8"	1/2"	1/4"	1"	22
2	CON004A	17.6	20.7	737	639	165	140	75	75	5/8"	1/2"	1/4"	1-1/2"	29
3	CON005A	22.0	25.9	865	767	165	140	75	75	5/8"	1/2"	1/4"	1-1/2"	33
4	CON006A	26.4	31.0	925	824	165	140	75	75	7/8"	5/8"	1/4"	1-1/2"	34
5	CON008A	35.2	41.4	1023	914	165	140	75	75	7/8"	5/8"	1/4"	1-1/2"	38
6	CON010A	44.0	51.7	1160	1069	190	165	75	80	7/8"	5/8"	1/4"	2"	55
7	CON012A	52.8	62.1	1315	1224	190	165	75	80	7/8"	5/8"	1/4"	2"	61
8	CON015A	65.9	77.6	1315	1224	190	165	75	80	1-1/8"	7/8"	1/4"	2"	65
9	CON018A	79.1	93.1	1315	1224	190	165	75	80	1-1/8"	7/8"	1/4"	2"	68
10	CON020A	87.9	103.4	1350	1224	235	219	100	100	1-1/8"	7/8"	1/4"	2-1/2"	102
11	CON025A	109.9	129.3	1621	1500	235	219	100	100	1-3/8"	7/8"	3/8"	2-1/2"	126
12	CON028A	123.1	144.8	1871	1750	235	219	100	100	1-3/8"	7/8"	3/8"	2-1/2"	135
13	CON030A	131.9	155.2	1871	1750	235	219	100	100	1-3/8"	7/8"	3/8"	2-1/2"	141
14	CON040A	175.8	206.9	1871	1750	235	219	100	100	1-5/8"	1-1/8"	3/8"	2-1/2"	153
15	CON045A	197.8	232.7	1871	1750	295	273	150	120	2-1/8"	1-3/8"	3/8"	3"	198
16	CON050A	219.8	258.6	1871	1750	295	273	150	120	2-1/8"	1-3/8"	3/8"	3"	203
17	CON060A	263.8	310.3	2535	2404	295	273	150	120	2-1/8"	1-3/8"	3/8"	3"	245
18	CON070A	307.7	362.0	2535	2404	295	273	150	120	2-5/8"	1-5/8"	3/8"	3"	262
19	CON080A	351.7	413.8	2535	2404	295	273	150	120	2-5/8"	1-5/8"	3/8"	3"	339
20	CON090A	395.7	465.5	2623	2404	340	325	150	140	2-5/8"	1-5/8"	3/8"	4"	352
21	CON095A	417.6	491.3	2623	2404	340	325	150	140	2-5/8"	1-5/8"	3/8"	4"	358
22	CON100A	439.6	517.2	2623	2404	340	325	150	140	2-5/8"	1-5/8"	3/8"	4"	365
23	CON105A	461.6	543.1	2623	2404	340	325	150	140	2-5/8"	1-5/8"	3/8"	4"	369
24	CON110A	483.6	568.9	2625	2404	375	351	150	175	2-5/8"	1-5/8"	3/8"	5"	374
25	CON120A	527.5	620.6	2625	2404	375	351	150	175	2-5/8"	1-5/8"	3/8"	5"	433
26	CON125A	549.5	646.5	2625	2404	375	351	150	175	2-5/8"	1-5/8"	3/8"	5"	437
27	CON130A	571.5	672.4	2625	2404	375	351	150	175	2-5/8"	1-5/8"	3/8"	5"	437
28	CON135A	593.5	698.2	2625	2404	375	351	150	175	2-5/8"	1-5/8"	3/8"	5"	464
29	CON140A	615.5	724.1	2625	2404	375	351	150	175	2-5/8"	1-5/8"	3/8"	5"	471
30	CON145A	637.4	749.9	2625	2404	375	351	150	175	2-5/8"	1-5/8"	3/8"	5"	479
31	CON150A	659.4	775.8	2680	2404	425	402	150	240	2-5/8"	1-5/8"	3/8"	5"	486
32	CON170A	747.3	879.2	3235	3004	375	351	150	240	2-5/8"	1-5/8"	3/8"	5"	528
33	CON180A	791.3	930.9	3235	3004	375	351	150	240	2-5/8"	1-5/8"	3/8"	5"	539
34	CON190A	835.3	982.7	3240	3004	425	402	150	240	2-5/8"	1-5/8"	3/8"	5"	540
35	CON200A	879.2	1034.4	3240	3004	425	402	150	240	2-5/8"	1-5/8"	3/8"	5"	559
36	CON210A	923.2	1086.1	3240	3004	425	402	150	240	2-5/8"	1-5/8"	3/8"	5"	565
37	CON220A	967.2	1137.8	3240	3004	425	402	150	240	2-5/8"	1-5/8"	3/8"	5"	588

Note (D) :

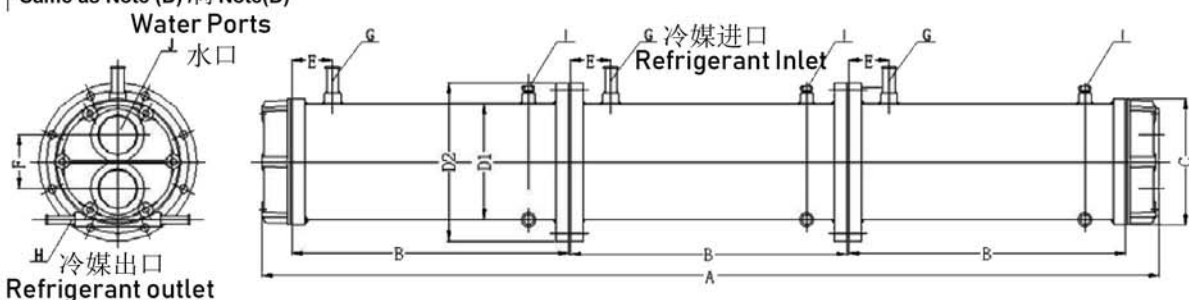
- Working conditions (Cap. A) : $T_e=2^{\circ}\text{C}$, $T_c=40^{\circ}\text{C}$, $T_{suc}=5^{\circ}\text{C}$, $T_i=30^{\circ}\text{C}$, $T_o=35^{\circ}\text{C}$
- Working conditions (Cap. B) : $T_e=2^{\circ}\text{C}$, $T_c=35^{\circ}\text{C}$, $T_{suc}=5^{\circ}\text{C}$, $T_i=18^{\circ}\text{C}$, $T_o=29^{\circ}\text{C}$

壳管式冷凝器性能参数 / Condenser Specifications



◆ 双机冷凝器 / Double Circuits				(44KW ~ 1318.8KW)				R22 (R134a, R407c others on request)								
序号 Item	型号 Model	Cap. A/ KW	Cap. B/ KW	外形尺寸 External Dimensions (mm)								进出口直径 Connection Dia. (inch)				重量(kg) Weight
				A	B	C	D1	D2	E	F	G	H	I	J		
1	CON010B	44.0	51.7	136	639	16	14	19	75	75	7/8"	5/8"	1/4"	2"	58	
2	CON013B	57.1	67.2	136	639	19	16	23	75	80	7/8"	5/8"	1/4"	2"	78	
3	CON016B	70.3	82.8	162	767	19	16	23	75	80	7/8"	5/8"	1/4"	2"	87	
4	CON020B	87.9	103.4	162	767	19	16	23	75	80	7/8"	5/8"	1/4"	2"	91	
5	CON024B	105.5	124.1	165	767	23	21	28	75	10	7/8"	5/8"	1/4"	2-1/2"	96	
6	CON028B	123.1	144.8	165	767	23	21	28	75	10	1-1/8"	7/8"	1/4"	2-1/2"	137	
7	CON030B	131.9	155.2	196	918	23	21	28	75	10	1-1/8"	7/8"	1/4"	2-1/2"	160	
8	CON040B	175.8	206.9	196	918	23	21	28	75	10	1-1/8"	7/8"	1/4"	2-1/2"	177	
9	CON050B	219.8	258.6	197	918	29	27	34	10	12	1-3/8"	7/8"	3/8"	3"	243	
10	CON060B	263.8	310.3	227	106	29	27	34	10	12	1-3/8"	7/8"	3/8"	3"	265	
11	CON070B	307.7	362.0	258	122	29	27	34	10	12	1-3/8"	7/8"	3/8"	3"	291	
12	CON080B	351.7	413.8	258	122	29	27	34	10	12	1-5/8"	1-1/8"	3/8"	3"	303	
13	CON100B	439.6	517.2	263	122	34	32	37	15	14	2-1/8"	1-3/8"	3/8"	4"	401	
14	CON130B	571.5	672.4	262	122	37	35	44	15	17	2-1/8"	1-3/8"	3/8"	4"	431	
15	CON160B	703.4	827.5	262	122	37	35	44	15	17	2-5/8"	1-5/8"	3/8"	4"	448	
16	CON170B	747.3	879.2	268	122	42	40	49	15	24	2-5/8"	1-5/8"	1/2"	5"	495	
17	CON200B	879.2	1034.4	268	122	42	40	49	15	24	2-5/8"	1-5/8"	1/2"	5"	555	
18	CON210B	923.2	1086.1	268	122	42	40	49	15	24	2-5/8"	1-5/8"	1/2"	5"	566	
19	CON0240	1055.1	1241.3	278	122	54	45	54	15	25	2-5/8"	1-5/8"	1/2"	6"	795	
20	CON0300	1318.8	1551.6	333	150	54	45	54	15	25	2-5/8"	1-5/8"	1/2"	6"	919	

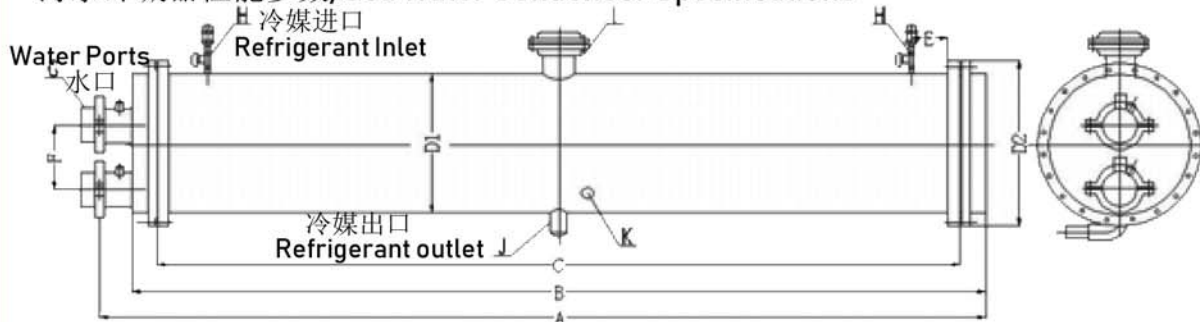
Same as Note (D) / 同 Note(D)



◆ 三机冷凝器 /Triple Circuits				(65.9kw～395.7kw)						R22 (R134a, R407c others on request)						
序号 Item	型号 Model	Cap. A/ KW	Cap. B/ KW	外形尺寸 External Dimensions (mm)								进出口直径 Connection Dia. (inch)				重量(kg) Weight
				A	B	C	D1	D2	E	F	G	H	I	J		
1	CON015C	65.9	77.6	1545	484	190	168	235	75	80	7/8"	5/8"	1/4"	2"	100.7	
2	CON024C	105.5	124.1	1575	484	235	219	295	75	100	7/8"	5/8"	1/4"	2-1/2"	146.6	
3	CON030C	131.9	155.2	2040	639	190	168	235	75	100	7/8"	5/8"	1/4"	2"	170.9	
4	CON036C	158.3	186.2	2040	639	235	219	295	75	100	7/8"	5/8"	1/4"	2-1/2"	176.8	
5	CON042C	184.6	217.2	2040	639	235	219	295	75	120	1-1/8"	7/8"	1/4"	2-1/2"	164.9	
6	CON045C	197.8	232.7	2040	639	235	219	295	75	120	1-1/8"	7/8"	1/4"	2-1/2"	169.4	
7	CON060C	263.8	310.3	2054	639	295	273	340	75	120	1-1/8"	7/8"	1/4"	3"	282.3	
8	CON090C	395.7	465.5	2061	639	340	325	375	75	140	1-3/8"	7/8"	3/8"	4"	382.3	
Same as Note (D) / 同 Note(D)																

Same as Note (D) / 同 Note(D)

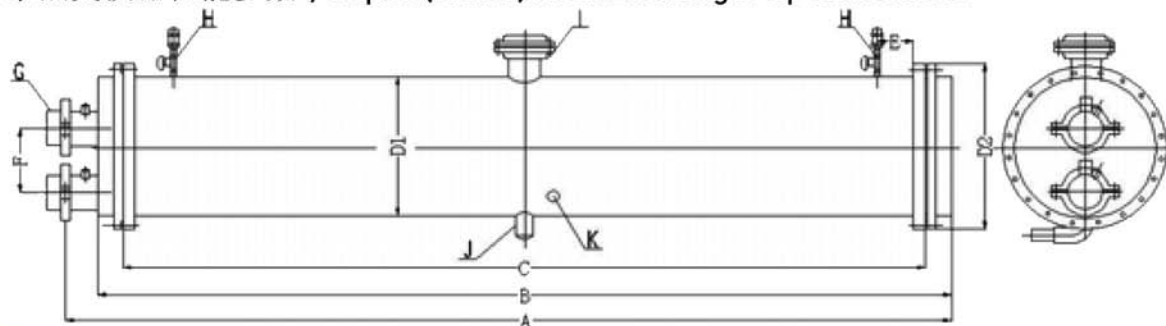
海水冷凝器性能参数/Sea Water Condenser Specifications



◆ 单机海水冷凝器 / Single Circuit			(13.2KW ~ 263.8KW)						R22				重量(kg) Weight
序号 Item	型号 Model	换热量 Cap.A KW	外形尺寸 External Dimensions (mm)						进出口直径 Connection Dia. (inch)				
			A	B	C	D	E	F	G	H	I	J	
1	SCON003A	13.2	847	767	140	114	75	60	5/8"	1/2"	1/4"	1"	29
2	SCON004A	17.6	851	767	165	140	75	75	5/8"	1/2"	1/4"	1-1/2"	37
3	SCON005A	22.0	851	767	165	140	75	75	5/8"	1/2"	1/4"	1-1/2"	38
4	SCON006A	26.4	856	767	190	165	75	80	7/8"	5/8"	1/4"	2"	50
5	SCON008A	35.2	856	767	190	165	75	80	7/8"	5/8"	1/4"	2"	56
6	SCON010A	44.0	1158	1069	190	165	75	80	7/8"	5/8"	1/4"	2"	63
7	SCON012A	52.8	1158	1069	190	165	75	80	7/8"	5/8"	1/4"	2"	68
8	SCON015A	65.9	1190	1069	235	220	75	100	1-1/8"	7/8"	1/4"	2-1/2"	95
9	SCON020A	87.9	1350	1224	235	219	100	100	1-1/8"	7/8"	1/4"	2-1/2"	108
10	SCON025A	109.9	1621	1500	235	219	100	100	1-3/8"	7/8"	3/8"	2-1/2"	134
11	SCON030A	131.9	1871	1750	235	219	100	100	1-3/8"	7/8"	3/8"	2-1/2"	151
12	SCON040A	175.8	1871	1750	235	219	100	100	1-5/8"	1-1/8"	3/8"	2-1/2"	166
13	SCON060A	263.8	2535	2404	295	273	150	120	2-1/8"	1-3/8"	3/8"	3"	267

Note (F): 1. Working conditions (Cap. A) $T_e=2^{\circ}\text{C}$, $T_c=40^{\circ}\text{C}$, $T_{suc}=5^{\circ}\text{C}$, $T_i=12^{\circ}\text{C}$, $T_o=7^{\circ}\text{C}$;

水热交换器性能参数 / Liquid (Water) Heat Exchanger Specifications



◆ WHE			外形尺寸 External Dimensions (mm)						进出口直径 Connection Dia.			重量/kg Weight
序号 Item	型号 Model	传热面积 m^2	A	B	C	D	E	F	G	H	I	
1	WHE003A	0.52	568	500	340	165	140	75	1"	1-1/2"	3/4"	30
2	WHE004A	0.6	568	500	340	165	140	75	1"	1-1/2"	3/4"	35
3	WHE005A	0.88	709	600	440	190	165	80	1"	1-1/2"	3/4"	42
4	WHE008A	1.16	1109	1000	722	190	165	80	1-1/2"	1-1/2"	3/4"	63
5	WHE010A	1.93	1309	1200	1010	190	165	80	2"	2"	3/4"	74
6	WHE020A	3.62	1330	1200	1000	235	220	100	2-1/2"	2-1/2"	3/4"	117
7	WHE030A	7.54	1641	1500	1270	295	273	120	3"	3"	3/4"	198
8	WHE040A	10.05	2141	1500	1770	295	273	120	3"	3"	3/4"	244
9	WHE060A	12.57	2641	2500	2270	295	273	120	3"	3"	3/4"	290
10	WHE080A	15.48	2109	2000	1740	340	325	140	4"	4"	3/4"	332
11	WHE100A	19.35	2609	2500	2240	340	325	140	4"	4"	3/4"	394
12	WHE120A	23.72	2676	2504	2200	425	402	240	4"	4"	3/4"	450
13	WHE200A	36.2	2764	2504	2100	540	450	250	6"	6"	3/4"	800
14	WHE250A	49.32	2770	2504	2170	610	510	250	6"	6"	3/4"	1000

Note: m^2 : Heat exchange areas