HenRy®

SMART

灵　　动　　系　　列

定制化 + 模块化 + 高效 + 节能

Customized Modular high efficient energy saving

RADIATOR

散热器

www.henryref.com

The Heat transfer innovators

The perfect combination of German fans and Italian design software

传热的创新者

德国与意大利技术的完美结合

目录 Directory

散热量的命名规则
Radiator
Nomenclature

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H C 3 4 5 6 7 — 8 9 10 11 12 13

H 洪瑞制冷

C
干冷器 Dry Cooler
冷凝器 Air Condenser
气冷器 Gas Cooler
油冷器 Oil Cooler

3 形状/Shape
F= 平板型 Flat bed
V= V型 V-bank

4 风机数量/No. of the fan

5 风机排数/Fan Rows:S/1排和D/2排

6-7:风机直径/Diameter

8-11:制冷量/Capacity
(w)=型号×1000

12:风机优选/Fan Select
L= 中国风机/Local Fan
G= 德国风机/Germany Fan

13
E= EC电机
Normal= 普通电机
Silent= 低噪音电机

散热器选择项目
Radiator Optional

外壳 Frame	翅片 Fin	换热管 Heat-exchange Tube	风机 Fan	电气控制 Electric Control	其他 Other
热浸锌钢板 Hot dip galvanized steel	亲水铝翅片 Hydrophilic Fin	不锈钢304 Stainless steel 304	EC 风机 EC Fan	接线盒 Junction Box	高、低温双换热器 HT/LT Double-Bank Heat-exchange
不锈钢304 Stainless steel 304	铝镁翅片 Almg 25	不锈钢316 Stainless steel 316	防爆风机 Explosion-proof fan motors	控制箱 Control Box	等焓喷水系统 Adiabatic Water spraying system
不锈钢316 Stainless steel 316	铜翅片 Copper Fin	铜镍合金 B10	船用风机 Marine Fan Motor	变频控制箱 VFD Control Box	钢结构和维修附件 Steel Structure and safe access for service
铝 Aluminum	环氧树脂预涂层翅片 Pre-coated Epoxy Fin	铜镍合金 B30	不锈钢网罩 Stainless Steel Guards	温度/压力控制箱 Temperature/Pressure Control Box	空气过滤网 Air filter
	镀锡铜翅片 Copper Tinned Fin	钛 Titanium			
	喷涂翅片 Heresite/Blygold/Epxoy Coated Fin				

干冷器的优势
The advantage of dry cooler

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ADVANTAGE

设计软件 Design software	引进欧洲成熟的设计软件，根据**EN1048**和实际需求精确设计换热器，可以满足特殊的低湿载冷剂等产品的设计需求。	Using the mature European design software, according to the **EN1048** and actual demand accurate design of heat exchanger, can design the special low temperature cold agent etc.
换热器结构 Heat exchange structure	采用“平板支撑”浮动盘管系统,避免接触换热管和支持端板接触,确保换热器的寿命长,无泄漏。 每个风机的腔体是分离和独立。 标准翅片间距是2.1毫米,片距可大到12mm。	Supported to the casing by means of a "flating-bed" system that avoids any kind of contact between the heat-exchange tubes and the supporting end plates,assuring a long life for the heat-exchange without leaks. Heat-exchange sections separated and independent for each fan. The standard fin spacing is 2.1mm,Fin pitch up to 12mm for low air pressure drop.
干冷器结构 Condenser structure	干冷器形状有平板、W形、V形结构，风机气流方向有吹风和吸风等； 换热器长度到12米，宽度到2.7米。	Shape with flexible and changeable,--Flat-bed、W-Bank、V-Bank; Fan direction--blowing and sucking. Finned length up to 12m, Finned height up to 2.7m.
换热管 Heat Exchange Tube	采用含铜率超过99.9%的铜管，可以选择9.52、12.7、15.88等直径的铜管。提高效率和降低压力损失。	Using copper content more than 99.9% pipe,using three type copper tube 3/8",1/2",5/8" Increased the thermal efficiency and low fluid pressure drop.
外壳 Casing	采用电镀锌板外壳，喷涂户外型粉体涂料，并经过高温固化，强度高耐腐蚀性强，标准色为RAL9003；	Using galvanized sheet case, spraying outdoor powder coatings, and after high temperature curing, high strength of corrosion resistance is strong, the standard color for RAL9003.
风扇 Fans	低噪音风扇，免维护轴流风机，防护等级为IP54，内部电动机热保护。结合精确设计，成型模具加工的导风圈，风量更大，效率更高。	Low noise axial fans,with maintenance free motors in protection class IP 54,Internal motor protection with thermo contacts. With precise design, forming mould processing, air volume is larger and more efficient.

平板干冷器选型参数
(片距2.11mm)
Flat-bed Dry Cooler selection data
(2.11mm Fin Spacing)

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型号 Model	散热量 Capacity	流量 Flowrate	压力降 Pressure Drop	换热面积 Exchange Surface	管内容积 Internal Volume	风量 Air Flow	噪音 Sound Pressure Level	风机参数 Fan Data		风扇数量 No. of fans	连接管 Connection	重量 Weight
	kW*1	m3/h	kPa	m2	L	m3/h	dB(A)10m	3~400/50		mm	mm	kg
	乙二醇 Glycol 34%							W	A	N×D	IN/OUT DN	
HDFS135-0006	6	1.1	36	19	2.4	2204	31	140	0.6	1x350	Dn20	38
HDFS135-0007	7	1.3	44	25	3.2	2066	31	140	0.6	1x350	DN20	42
HDFS135-0008	8	1.4	74	37	4.9	1823	31	140	0.6	1x350	DN20	48
HDFS145-0014	14	2.6	123	27	3.6	5733	43	540	1.1	1x450	DN25	55
HDFS145-0016	16	0.0	95	37	4.8	5315	43	540	1.1	1x450	DN25	60
HDFS145-0018	18	3.3	133	55	7.2	4681	43	540	1.1	1x450	DN25	69
HDFS150-0020	20	3.8	59	46	6.0	8236	49	830	1.45	1x500	DN32	84
HDFS150-0023	23	4.4	44	61	8.0	7873	49	830	1.45	1x500	DN32	93
HDFS150-0026	26	4.8	66	76	10.0	7510	49	830	1.45	1x500	DN32	109
HDFS163-0039	39	7.3	64	74	9.7	17375	59	1600	3.2	1x630	DN40	255
HDFS163-0047	47	8.8	120	99	13.0	16556	59	1600	3.2	1x630	DN40	268
HDFS163-0055	55	10.3	147	148	19.5	15037	59	1600	3.2	1x630	DN40	294
HDFS263-0081	81	15.2	147	148	19.5	34729	61	3200	6.4	2x630	DN50	397
HDFS263-0094	94	17.6	114	198	26.0	33113	61	3200	6.4	2x630	DN50	422
HDFS263-0109	109	20.5	132	297	39.0	30074	61	3200	6.4	2x630	DN50	471
HDFS363-0142	142	26.7	154	296	38.8	49653	63	4800	9.6	3x630	DN65	575
HDFS363-0163	163	30.5	93	445	58.5	45111	63	4800	9.6	3x630	DN65	647
HDFD463-0215	215	40.2	71	593	78.0	60191	64	6400	12.8	4x630	DN65	708
HDFD463-0188	188	35.2	111	395	52.0	66225	64	6400	12.8	4x630	DN80	806
HDFD663-0285	284	53.3	155	593	77.5	99306	66	9600	19.2	6x630	DN80	978
HDFD663-0325	325	60.9	96	889.67	117.0	90222	66	9600	19.2	6x630	DN80	1122
HDFD863-0375	375	70.3	109	791	104	132451	67	12800	25.6	8x630	DN100	1275
HDFD863-0429	429	80.4	67	1186	156.0	120382	67	12800	25.6	8x630	DN100	1467
HDFD1063-0499	499	93.6	67	1229	203.9	161253	68	16000	32	10x630	DN100	1921
HDFD1063-0572	572	107.1	126	1843	305.8	145197	68	16000	32	10x630	DN125	2324
HDFD1263-0675	675	126.4	65	2212	367.0	174366	68	19200	38.4	12x630	DN125	2714
HDFD1463-0805	805	150.8	158	2958	545.5	196035	69	22400	44.8	14x630	2XDN125	2627
HDFD1663-0904	904	169.3	71	3380	623.4	224212	69	25600	51.2	16x630	2XDN125	2951

*1、散热量基于25℃环境温度，40℃进液温度，35℃出液温度。
Capacity based on ambient temp of 25℃, Liquid In Temp of 40℃, Liquid Out Temp of 35℃.
*2、噪声值为距离叶片10米反射平面测得的平均值，实际现场情况变化，数值可能有所不同；
The sound pressure level data are average tested at the intersection of fan plane and reflection plane 10meters from axis.
the value may according to site sound reflection.

干冷器选型参数
(片距2.11mm)
Dry Cooler selection data
(2.11mm Fin Spacing)

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型号 Model	散热量 Capacity	流量 Flowrate	压力降 Pressure Drop	换热面积 Exchange Surface	管内容积 Internal Volume	风量 Air Flow	噪音 Sound Pressure Level	风机参数 Fan Data		风扇数量 No. of fans	连接管 Connection	重量 Weight
	kW*1	m3/h	kPa	m2	L	m3/h	dB(A)10m	3~400/50		mm	mm	kg
	乙二醇 Glycol 34%							W	A	N×D	IN/OUT DN	
HDFS180-0057	57	10.6	61	137	18.0	19395	50	1800	3.8	1*800	Dn50	313
HDFS180-0061	61	11.4	47	171	22.5	18235	50	1800	3.8	1*800	DN50	330
HDFS180-0065	65	12.1	84	205	27	17159	50	1800	3.8	1*800	DN50	348
HDFS280-0117	117	21.8	130	274	35.8	38747	51	3600	7.6	2*800	DN65	513
HDFS280-0125	125	23.4	100	342	45.0	36427	51	3600	7.6	2*800	DN65	546
HDFS280-0129	129	24.1	76	411	54.0	34318	51	3600	7.6	2*800	DN65	580
HDFS380-0170	170	31.8	54	411	54.0	58184	53	5400	11.4	3*800	DN80	711
HDFS380-0189	189	35.4	136	513	67.5	54641	53	5400	11.4	3*800	DN80	762
HDFS380-0195	195	36.5	104	616	81.0	51445	53	5400	11.4	3*800	DN80	811
HDFD480-0219	219	41	142	490	64.5	73951	54	7200	15.4	4*800	DN100	867
HDFD480-0233	233	43.7	117	613	80.2	68720	54	7200	15.4	4*800	DN100	934
HDFD480-0240	240	45	82	736	96.7	64585	54	7200	15.4	4*800	DN100	1001
HDFD680-0318	318	59.7	58	736	96.7	111053	56	10800	22.8	6*800	DN125	1216
HDFD680-0352	352	66	147	919	120.6	103079	56	10800	22.8	6*800	DN125	1315
HDFD680-0363	363	68.1	112	1104	145.1	96878	56	10800	22.8	6*800	DN125	1415
HDFD880-0473	437	81.9	135	981	129	147902	58	14400	30.4	8*800	DN125	1603
HDFD880-0486	486	91	104	1506	249.2	131027	58	14400	30.4	8*800	2XDN100	2196
HDFD880-0493	493	92.3	77	1808	300	122589	58	14400	30.4	8*800	2XDN100	2419
HDFD1080-0556	556	104	257	1226	161	184877	60	18000	38	10*800	2XDN100	1984
HDFD1080-0599	599	112.2	64	1883	312	163889	60	18000	38	10*800	2XDN125	2723
HDFD1080-0624	624	117	145	2259	375	153131	60	18000	38	10*800	2XDN125	3000
HDFD1280-0817	817	153	151	3570	658.4	191224	62	21600	45.6	12*800	2XDN125	2911
HDVS163-0054	54	10.2	103	142	23.5	18356	61	1600	3.2	1*630	2XDN40	300
HDVS163-0062	62	11.5	81	189	31.4	17828	61	1600	3.2	1*630	2XDN40	325
HDVS263-0108	108	20.3	114	284	47.0	36712	62	3200	6.4	2*630	2XDN40	455
HDVS263-0123	123	23.0	88	378	62.7	35656	62	3200	6.4	2*630	2XDN40	502
HDVS363-0164	164	30.7	156	425	70.6	55035	63	4800	9.6	3*630	2XDN50	610
HDVS363-0184	184	34.5	82	567	94.1	53484	63	4800	9.6	3*630	2XDN50	679
HDVS463-0216	216	40.5	106	567	94.1	73424	64	6400	12.8	4*630	2XDN50	729
HDVS463-0245	245	46.0	82	756	125.5	71312	64	6400	12.8	4*630	2XDN65	820
HDVS563-0268	268	50.3	89	709	117.6	91780	65	8000	16.0	5*630	2XDN65	860
HDVS563-0312	312	58.5	153	945	156.8	89086	65	8000	16.0	5*630	2XDN65	980

*1、散热量基于25℃环境温度，40℃进液温度，35℃出液温度。
Capacity based on ambient temp of 25℃, Liquid In Temp of 40℃, Liquid Out Temp of 35℃.
*2、噪声值为距离叶片10米反射平面测得的平均值，实际现场情况变化，数值可能有所不同；
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the value may according to site sound reflection.

V形干冷器选型参数
(片距2.11mm)
V-Bank Dry Cooler selection data
(2.11mm Fin Spacing)

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型号 Model	散热量 Capacity	流量 Flowrate	压力降 Pressure Drop	换热面积 Exchange Surface	管内容积 Internal Volume	风量 Air Flow	噪音 Sound Pressure Level	风机参数 Fan Data		风扇数量 No. of fans	连接管 Connection	重量 Weight
	kW*1	m3/h	kPa	m2	L	m3/h	dB(A)10m	3~400/50		mm	mm	kg
	乙二醇 Glycol 34%							W	A	N×D	IN/OUT DN	
HDVD463-0197	197	36.9	45	470	60.0	69243	64	6400	12.8	4x630	2XDN50	825
HDVD463-0221	221	41.5	71	588	75.0	66743	64	6400	12.8	4x630	2XDN65	872
HDVD463-0238	238	44.6	97	706	90.5	64372	64	6400	12.8	4x630	2XDN65	920
HDVD663-0309	309	57.9	147	706	90.0	103735	66	9600	19.2	6x630	2XDN65	1171
HDVD663-0338	338	63.3	116	882	112.5	100049	66	9600	19.2	6x630	2XDN80	1242
HDVD663-0361	361	67.6	156	1059	135.0	96493	66	9600	19.2	6x630	2XDN80	1313
HDVD863-0412	412	77.1	143	941	120.0	138313	67	12800	25.6	8x630	2XDN80	1520
HDVD863-0450	450	84.3	113	1176	150.0	133399	67	12800	25.6	8x630	2XDN80	1613
HDVD863-0475	475	89.0	90	1411	180.0	128744	67	12800	25.6	8x630	2XDN100	1707
HDVD1063-0505	505	94.7	82	1176	150.0	172945	68	16000	32.0	10x630	2XDN100	1863
HDVD1063-0717	717	134.3	95	3036	494.0	171544	68	16000	32.0	10x630	2XDN100	2339
HDVD1263-0617	617	115.7	140	1411	180.0	207469	69	19200	38.4	12x630	2XDN100	2205
HDVD1263-0743	743	139.3	87	2603	423.4	186780	69	19200	38.4	12x630	2XDN100	2773
HDVD1463-0729	729	136.6	217	1647	210.0	241897	70	22400	44.8	14x630	2XDN100	2550
HDVD1463-0885	885	165.7	151	3496	629.4	211950	70	22400	44.8	14x630	2XDN125	3296
HDVD1663-0881	881	165.2	103	2313	376.4	270419	71	25600	51.2	16x630	2XDN125	3158
HDVD1663-1002	1002	187.7	96	3995	719.3	242315	71	25600	51.2	16x630	2XDN125	3742
HDVD1863-1001	1001	187.7	145	2603	423.4	304124	72	28800	57.6	18x630	2XDN125	3531
HDVD1863-1106	1106	207.2	177	3746	674.3	284825	72	28800	57.6	18x630	2XDN125	3893
HDVD2063-1268	1268	237.4	180	4994	899.1	302678	73	32000	64.0	20x630	4xDN100	4640
HDVD480-0232	232	43.5	71	565	72.0	79591	54	7200	15.2	4x800	2XDN65	929
HDVD480-0255	255	47.7	106	706	90.0	74120	54	7200	15.2	4x800	2XDN65	986
HDVD480-0266	266	49.9	138	847	108.6	69816	54	7200	15.2	4x800	2XDN65	1042
HDVD680-0352	352	66.0	97	847	108.0	117761	56	10800	22.8	6x800	2XDN80	1290
HDVD680-0387	387	72.5	173	1059	135.0	111116	56	10800	22.8	6x800	2XDN80	1364
HDVD680-0399	399	74.8	132	1270	162.0	104725	56	10800	22.8	6x800	2XDN80	1438
HDVD880-0464	464	87.0	67	1129	144.0	157183	58	14400	30.4	8x800	2XDN100	1728
HDVD880-0516	516	96.7	169	1411	180.0	148155	58	14400	30.4	8x800	2XDN100	1838
HDVD880-0532	532	99.7	130	1694	216.0	139633	58	14400	30.4	8x800	2XDN100	1949
HDVD1080-0593	593	111.1	128	1411	180.0	196268	60	18000	38.0	10x800	2XDN100	2123
HDVD1080-0665	665	124.5	98	2169	352.9	176861	60	18000	38.0	10x800	2XDN125	2475
HDVD1080-0687	687	128.7	167	2603	423.4	166420	60	18000	38.0	10x800	2XDN125	2655
HDVD1280-0721	721	135.2	217	1694	216.0	235521	62	21600	45.6	12x800	2XDN125	2518
HDVD1280-0808	808	151.3	164	2603	423.4	212234	62	21600	45.6	12x800	2XDN125	2940
HDVD1280-0821	821	153.7	123	3124	509.9	199831	62	21600	45.6	12x800	2XDN125	3155
HDVD1480-0897	897	168.0	82	4195	755.2	206665	64	25200	53.2	14x800	2XDN125	3815
HDVD1680-1096	1096	205.2	133	4795	863.1	252941	66	28800	60.8	16x800	2XDN125	4336

*1、散热量基于25℃环境温度，40℃进液温度，35℃出液温度。
Capacity based on ambient temp of 25℃, Liquid In Temp of 40℃, Liquid Out Temp of 35℃.
*2、噪声值为距离叶片10米反射平面测得的平均值，实际现场情况变化，数值可能有所不同；
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the value may according to site sound reflection.

海拔高度修正系数（F1）The altitude correction factors										
海拔(m)Altitude	0	250	500	750	1000	1500	2000	2500	3000	3500
系数 Factor	1	1.03	1.05	10.7	1.09	1.14	1.20	1.26	1.34	1.41

温度修正系数（F2） Temperature correction factors									
ΔTw/ΔT	0.15	0.2	0.25	0.3	0.33	0.35	0.4	0.45	0.5
	0.90	0.92	0.94	0.97	1.0	1.01	1.05	1.10	1.15

*ΔTw=流体的进出口温度差/difference between inlet fluid temperature and outlet fluid temperature
*ΔT=流体进口温度和环境温度差/difference between ambient temperature and fluid inlet temperature

翅片类型修正系数（F3）Fin correction factors					
翅片类型Fin Material	Al	Al Hydrophlic	Al Epxoy	Cu	Cu Tinned
系数 Factor	1.0	1.03	1.08	0.93	0.98

翅片距离修正系数（F4）Fin spacing factor				
翅片距离FPI	12	10	9	8
系数 Factor	1.00	1.14	1.26	1.42

选型示例 Selection Example

1、实际散热量=标准散热量*F1*F2*F3*F4

Dry Cooler Selection Example
已知/Known:

散热量/ Capacity_____500kW
环境温度/ Ambient temperature_____40℃
海拔/ Altitude_____1000m
进液温度/ inlet fluid temperature_____60℃
出液温度/ outlet fluid temperature_____50℃
翅片片距/ Fin spacing_____10FPI（Al Epoxy）

计算：

Calculation:
F1=1.09
F2=1.15((60-50)/(60-40)=0.5)
F3=1.08
F4=1.14
实际制冷量=500*1.09*1.15*1.08*1.14=771.6kW
Actual Capacity
可选系列干冷器型号: HDFD1463-0805 HDFD1280-0817 HDVD1463-0885 HDVD1280-0808
Accordingly choose Dry Cooler Model: HDFD1463-0805 HDFD1280-0817 HDVD1463-0885 HDVD1280-0808

冷凝器的优势
The advantage of Air-Cooler Condenser

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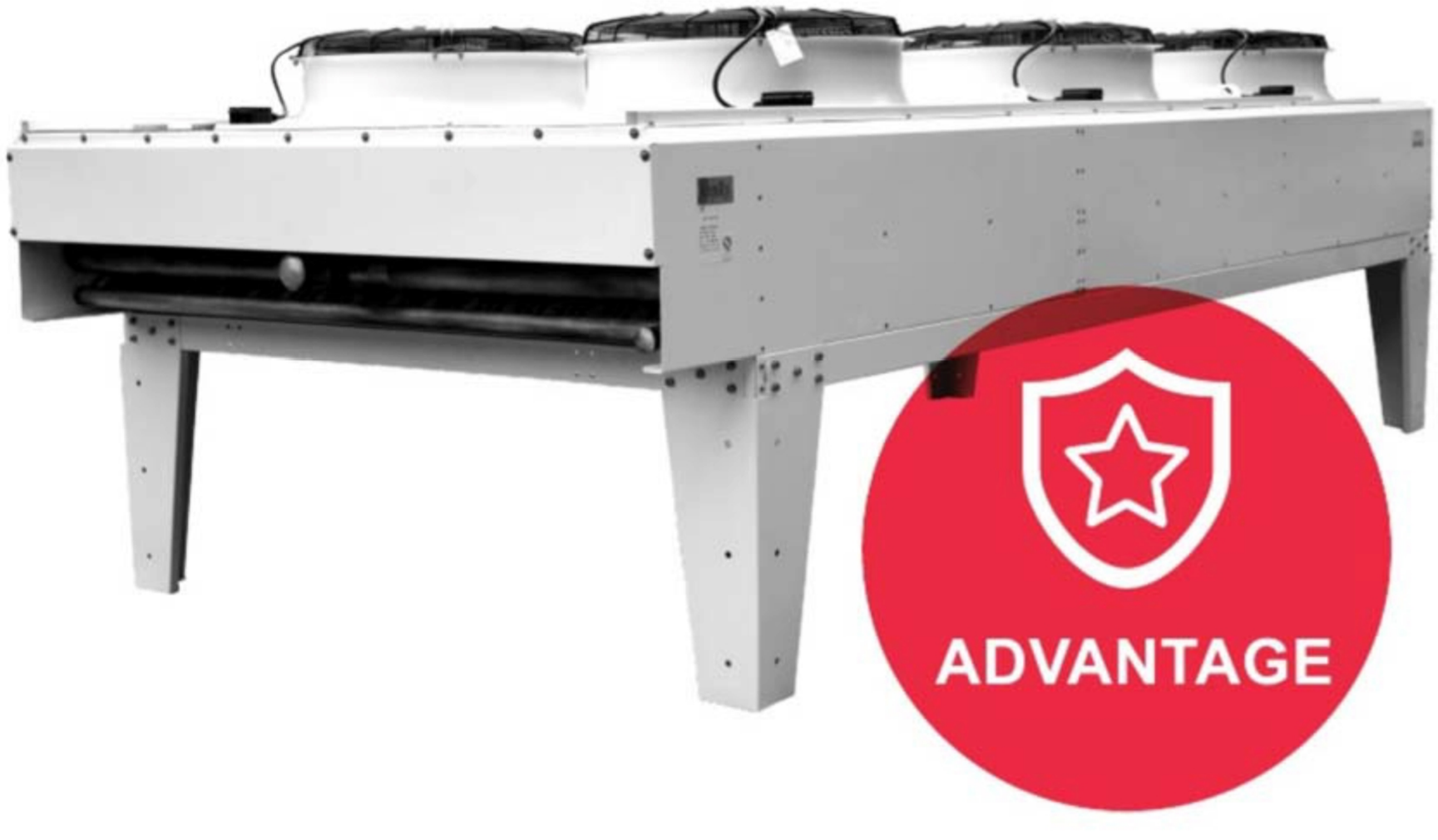

设计软件 Design software	引进欧洲成熟的设计软件，根据实际需求精确设计换热器，可以满足最新制冷剂R410A、 CO_2、 R507A以及特殊的低温载冷剂等产品的设计需求。	Using the mature European design software, according to the actual demand accurate design of heat exchanger, can design the latest refrigerant Co_2, R410A, R507A and special low temperature cold agent etc.
换热器结构 Heat exchange structure	采用“平板支撑”浮动盘管系统,避免接触换热管和支持端板接触,确保换热器的寿命长,无泄漏。 每个风机的腔体是分离和独立。 标准翅片间距是2.1毫米,片距可大到12mm。	Supported to the casing by means of a "flating-bed" system that avoids any kind of contact between the heat-exchange tubes and the supporting end plates,assuring a long life for the heat-exchange without leaks. Heat-exchange sections separated and independent for each fan. The standard fin spacing is 2.1mm,Fin pitch up to 12mm for low air pressure drop.
冷凝器结构 air cooled condensers structure	冷凝器形状有平板、W形、V形结构，风机气流方向有吹风和吸风等; 换热器长度到12米，宽度到2.7米。	Shape with flexible and changeable,--Flat-bed、W-Bank、V-Bank; Fan direction--blowing and sucking. Finned length up to 12m, Finned height up to 2.7m.
换热管 Heat Exchange Tube	采用含铜率超过99.9%的特别高效多齿内螺纹管 ，增加了管内表面积，提高换热效率。	Using copper content more than 99.9% of special effective teeth threaded pipe, increase the surface area of the tube, improve the thermal efficiency.
外壳 Casing	采用电镀锌板外壳，喷涂户外型粉体涂料，并经过高温固化，强度高耐腐蚀性强，标准色为RAL9003;	Using galvanized sheet case, spraying outdoor powder coatings, and after high temperature curing, high strength of corrosion resistance is strong, the standard color for RAL9003.
风扇 Fans	低噪音风扇，免维护轴流风机，防护等级为IP54，内部电动机热保护。结合精确设计，一次成型模具加工的导风圈，风量更大，效率更高。	Low noise axial fans,with maintenance free motors in protection class IP 54,Internal motor protection with thermo contacts. With precise design, a leading solar or lunar halo forming mould processing, air volume is larger and more efficient.

平板风冷冷凝器
(片距2.11mm)
Flat-bed Air-Cooler Condenser selection data
(2.11mm Fin Spacing)

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型号 Model	散热量 Capacity		换热面积 Exchange Surface	管内容积 Internal Volume	风量 Air Flow		转速/声压级 Speed/Lp				风机参数 Fan Data				风扇数量 No. of fans	连接管 Connection		重量 Weight
	kW*1		m2	L	m3/h		RPM/dB(A)*2				3~400/50				mm	mm		kg
							△				W/△	A/△			N×D	IN/OUT DN		
HCFS163-0053	53		104	17.0	17440		1400	59			1600	3.2			1×630	28.6	22.23	127
HCFS163-0063	61		138	22.7	16653		1400	59			1600	3.2			1×630	34.9	22.23	134
HCFS263-0107	107		207	34.1	34880		1400	61			3200	6.4			2×630	41.3	28.6	260
HCFS263-0122	122		277	45.4	33306		1400	61			3200	6.4			2×630	41.3	28.6	280
HCFS363-0166	166		311	51.0	52255		1400	63			4800	9.6			3×630	54	34.9	365
HCFS363-0187	187		414	68.1	49959		1400	63			4800	9.6			3×630	54	34.9	398
HCFD463-0252	252		588	96.5	73445		1400	64			6400	12.8			4×630	54	34.9	428
HCFD463-0282	282		783	128.7	71398		1400	64			6400	12.8			4×630	67	41.3	476
HCFD663-0378	378		882	144.8	110168		1400	66			9600	19.2			6×630	67	41.3	524
HCFD663-0423	423		1175	193.1	107097		1400	66			9600	19.2			6×630	67	41.3	572
HCFD863-0504	504		1176	193.0	146890		1400	67			12800	25.6			8×630	79.4	54	616
HCFD863-0564	564		1566	257.4	142796		1400	67			12800	25.6			8*630	79.4	54	716
HCFD1063-0630	630		1470	241.3	183613		1400	68			16000	32.0			10*630	89	54	756
HCFD1063-0705	705		1958	321.8	178495		1400	68			16000	32.0			10*630	89	54	796
HCFD1263-0846	846		2349	386.1	214194		1400	68			19200	38.4			12*630	2*67	2*41.3	1420
HCFD1463-0987	987		2741	450.5	249893		1400	69			22400	44.8			14*630	2*79.4	2*54	1625
HCFD1663-1128	1128		3132	514.8	285592		1400	69			25600	51.2			16*630	2*79.4	2*54	1832
HCFS180-0061	61	49	120	19.7	19626	14651	800	50	670	49	1800	3.8	1210	2.2	1×800	28.6	22.23	233
HCFS180-0066	66	52	159	26.2	18150	13379	880	50	670	49	1800	3.8	1210	2.2	1×800	28.6	34.9	241
HCFS280-0122	122	98	240	39.4	39252	29302	960	51	670	50	3600	7.6	2420	4.4	2×800	41.3	28.6	373
HCFS280-0132	132	104	318	52.4	36300	26758	1040	51	670	50	3600	7.6	2420	4.4	2×800	41.3	28.6	392
HCFS380-0183	183	147	360	59.1	58878	43953	1120	53	670	51	5400	11.4	3630	6.6	3×800	54	34.9	527
HCFS380-0198	198	156	477	78.6	54450	40137	1200	53	670	51	5400	11.4	3630	6.6	3×800	54	34.9	749
HCFD480-0201	201	168	454	74.3	60436	47456	880	54	670	52	7200	15.2	4840	8.8	4×800	54	34.9	812
HCFD480-0216	216	175	604	96.1	55932	43198	880	54	670	52	7200	15.2	4840	8.8	4×800	67	34.9	1062
HCFD680-0302	302	253	681	111.4	90654	71184	880	56	670	54	10800	22.8	7260	13.2	6×800	67	41.3	1373
HCFD680-0324	324	263	908	148.5	83898	64797	880	56	670	54	10800	22.8	7260	13.2	6×800	67	41.3	1462
HCFD880-0398	398	333	908	148.5	120872	94912	880	58	670	55	14400	30.4	9680	17.6	8×800	79.4	54	1584
HCFD880-0427	427	349	1211	198.0	111864	86396	880	58	670	55	14400	30.4	9680	17.6	8×800	79.4	54	1704
HCFD1080-0503	503	421	1135	185.7	151090	118640	880	60	670	56	18000	38.0	12100	22.0	10×800	79.4	54	1745
HCFD1080-0539	539	438	1513	247.5	139830	107995	880	60	670	56	18000	38.0	12100	22.0	10×800	79.4	54	1785
HCFD1280-0604	604	506	1362	222.8	181308	142368	880	62	670	56	21600	45.6	14520	26.4	12×800	89	54	1801
HCFD1280-0648	648	527	1816	297.0	167796	129594	880	62	670	56	21600	45.6	14520	26.4	12×800	89	54	1816

*1、散热量基于0K过冷，35℃环境温度，50℃冷凝温度，100℃进气温度，R404A。
Capacity based on sub-cooling 0K, ambient temp of 35℃, condensing temp of 50℃, suctio temp of 100℃, R404A.

*2、噪声值为距离叶片10米反射平面测得的平均值，实际现场情况变化，数值可能有所不同；
The sound pressure level data are average tested at the intersection of fan plane and reflection plane 10meters from axis.
the value may according to site sound reflection.

V形风冷冷凝器选型参数
(片距2.11mm)
V-Bank Air-Cooler Condenser selection data
(2.11mm Fin Spacing)

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型号 Model	散热量 Capacity	换热面积 Exchange Surface	管内容积 Internal Volume	风量 Air Flow	噪音 Sound Pressure Level	风机参数 Fan Data		风扇数量 No. of fans	连接管 Connection		重量 Weight
	kW*1	m2	L	m3/h	dB(A)10m	3~400/50		mm	mm		kg
						W	A	N×D	IN/OUT DN		
HCVS163-0062	62	142	23.3	18281	61	1600	3.2	1x630	2x34.9	2x22.23	300
HCVS163-0067	67	189	31.1	17779	61	1600	3.2	1x630	2x34.9	2x22.23	325
HCVS263-0127	126	284	46.6	36539	62	3200	6.4	2x630	2x34.9	2x22.23	455
HCVS263-0140	140	378	62.1	35505	62	3200	6.4	2x630	2x34.9	2x22.23	502
HCVS363-0187	187	425	69.9	54841	63	4800	9.6	3x630	2x41.3	2x28.6	610
HCVS363-0207	207	567	93.2	53290	63	4800	9.6	3x630	2x41.3	2x28.6	679
HCVS463-0253	253	567	93.2	73079	64	6400	12.8	4x630	2x41.3	2x28.6	729
HCVS463-0280	280	756	124.3	71010	64	6400	12.8	4x630	2x41.3	2x28.6	820
HCVS563-0315	315	709	116.5	91376	65	8000	16.0	5x630	2x54	2x35	860
HCVS563-0353	353	945	155.3	88735	65	8000	16.0	5x630	2x54	2x35	980
HCVD463-0218	218	434	69.9	70363	64	6400	12.8	4x630	2x41.3	2x28.6	533
HCVD463-0250	250	578	93.2	67346	64	6400	12.8	4x630	2x41.3	2x28.6	641
HCVD663-0338	338	651	104.8	105416	66	9600	19.2	6x630	2x54	2x35	765
HCVD663-0375	375	868	139.8	101019	66	9600	19.2	6x630	2x54	2x35	873
HCVD863-0451	451	868	139.8	140554	67	12800	25.6	8x630	2x54	2x35	1025
HCVD863-0500	500	1157	186.4	134692	67	12800	25.6	8x630	2x67	2x41.3	1133
HCVD1063-0561	561	1084	174.7	175747	68	16000	32.0	10x630	2x67	2x41.3	1275
HCVD1063-0633	633	1446	233.0	168365	68	16000	32.0	10x630	2x67	2x41.3	1385
HCVD1263-0681	681	1301	209.7	210831	69	19200	38.4	12x630	2x67	2x41.3	1420
HCVD1263-0750	750	1735	279.6	202038	69	19200	38.4	12x630	2x67	2x41.3	1636
HCVD1463-0796	796	1518	244.6	245970	70	22400	44.8	14x630	2x76.3	2x54	1650
HCVD1463-0883	883	2024	326.2	235711	70	22400	44.8	14x630	2x76.3	2x54	1883
HCVD1663-0917	917	1735	279.6	281022	71	25600	51.2	16x630	2x76.3	2x54	1840
HCVD1663-1016	1016	2313	372.8	269298	71	25600	51.2	16x630	2x76.3	2x54	2135
HCVD1863-1022	1021	1952	314.5	316247	72	28800	57.6	18x630	2x76.3	2x54	2050
HCVD1863-1149	1149	2603	419.4	302863	72	28800	57.6	18x630	2x76.3	2x54	2385
HCVD2063-1282	1282	2892	466.0	336514.8	73	32000	64.0	20x630	2x89	2x54	2633
HCVD480-0251	251	510	83.9	80279	54	7200	15.2	4x800	2x41.3	2x35	735
HCVD480-0276	276	681	111.8	74879	54	7200	15.2	4x800	2x54	2x41.3	835
HCVD680-0381	381	766	125.8	120418	56	10800	22.8	6x800	2x54	2x41.3	1135
HCVD680-0413	413	1021	167.8	112318	56	10800	22.8	6x800	2x67	2x41.3	1225
HCVD880-0411	411	1021	167.8	120430	58	14400	30.4	8x800	2x67	2x41.3	1617
HCVD880-0552	552	1361	223.7	149758	58	14400	30.4	8x800	2x67	2x41.3	1753
HCVD1080-0634	634	1276	209.7	200697	60	18000	38.0	10x800	2x76.3	2x54	1894
HCVD1080-0693	693	1702	279.6	187197	60	18000	38.0	10x800	2x76.3	2x54	2042
HCVD1280-0827	827	2042	335.5	224637	62	21600	45.6	12x800	2x76.3	2x54	2327
HCVD1480-0954	954	2382	391.4	262076	64	25200	53.2	14x800	2x89	2x54	2741
HCVD1680-1104	1104	2723	447.3	299516	66	28800	60.8	16x800	2x89	2x54	2947
HCVD1880-1286	1286	3063	503.3	336576	66	32400	68.4	18x800	2x89	2x54	3342

*1、散热量基于0K过冷，35℃环境温度，50℃冷凝温度，100℃进气温度，R404A。
Capacity based on sub-cooling 0K, ambient temp of 35℃, condensing temp of 50℃, suctio temp of 100℃, R404A.

*2、噪声值为距离叶片10米反射平面测得的平均值，实际现场情况变化，数值可能有所不同；
The sound pressure level data are average tested at the intersection of fan plane and reflection plane 10meters from axis.
the value may according to site sound reflection.

环境稳定修正系数（F1）Ambient correction factor							
环境温度℃ Ambient temperature	15	20	25	30	35	40	45
系数 Factor	0.979	0.986	0.992	0.998	1.000	1.008	1.013

海拔高度修正系数（F2）The altitude correction factors										
海拔（m）Altitude	0	250	500	750	1000	1500	2000	2500	3000	3500
系数 Factor	1	1.03	1.05	10.7	1.09	1.14	1.20	1.26	1.34	1.41

过冷修正系数（F3） Sub-cooling correction factors					
过冷度 KSubcooling	冷凝温差KTD Condensing temperature difference KTD				
2	3	5	10	15	20
4	0.966	0.976	0.989	0.994	0.996
6	–	0.934	0.975	0.986	0.990
8	–	–	0.946	0.972	0.980
	–	–	0.898	0.960	0.966

制冷剂类型修正系数（F4）Refrigerant correction factors					
制冷剂 Refrigerant	R404A	R507	R22	R134a	R407C
系数 Factor	1	1.0	1.06	1.08	1.13

翅片类型修正系数（F5）Fin correction factors					
翅片类型 Fin Material	Al	Al Hydrophlic	Al Epxoy	Cu	Cu Tinned
系数 Factor	1.0	1.03	1.08	0.93	0.98

翅片距离修正系数（F6）Fin spacing factor				
翅片距离 FPI	12	10	9	8
系数 Factor	1.00	1.14	1.26	1.42

关于修正系数表：Notes:Capacity factors tables
1、实际制冷量=标准制冷量*F1*F2*F3*F4*F5*F6*15/△T
1、Actual Capacity =capacity *F1*F2*F3*F4*F5*F6*15/△T

选型示例 Condenser Selection Example

已知Known：

散热量----------50.5kW
Capacity

环境温度---------- 40℃
Ambient temperature

海拔----------1000m
Altitude

饱和冷凝温度----------50℃
SCT

过冷度----------4K
Sub-cooling

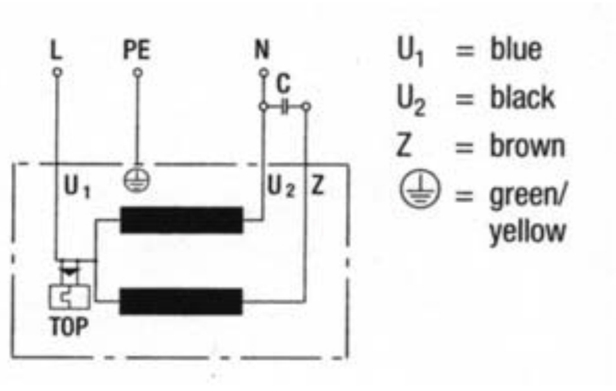
制冷剂----------R22
Refrigerant

翅片片距----------10FPI
Fin spacing

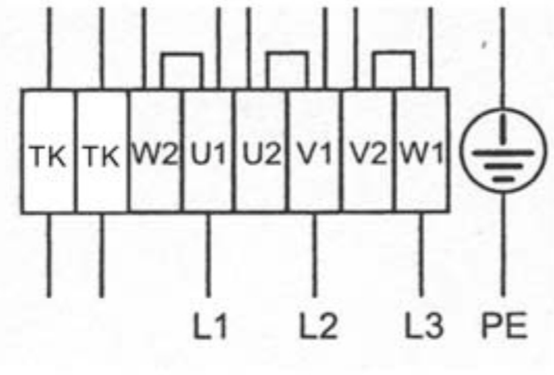
计算Calculation:

F1=1.008
F2=1.09
F3=0.989
F4=1.06
F5=1
F6=1.14
实际散热量=50.5*1.008*1.09*0.989*1.06*1*1.14*15/10=98.4kW
Actual Capacity
可用风冷冷凝器，型号为HCFS263-0107 HCFS280-0122 HCVS263-0127.
Accordingly we choose Air Condenser HCFS263-0107 HCFS280-0122 HCVS263-0127.

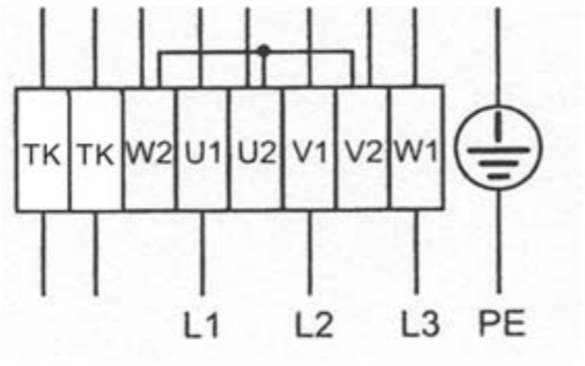
单相风机接线
Single Phase Fan Wiring



三相风机接线
Three Phase Fan Wiring

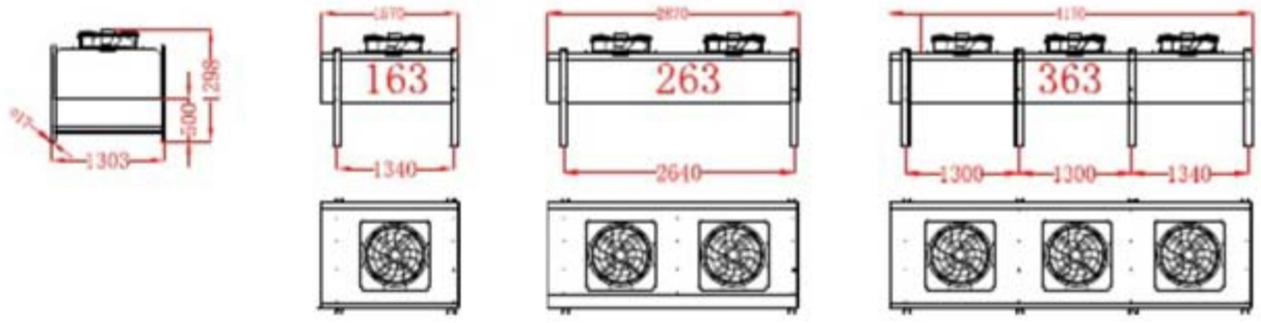


HS高速 /Δ-连接



Ls低速/ Y-连接

HCFS-*63 HDFS-*63



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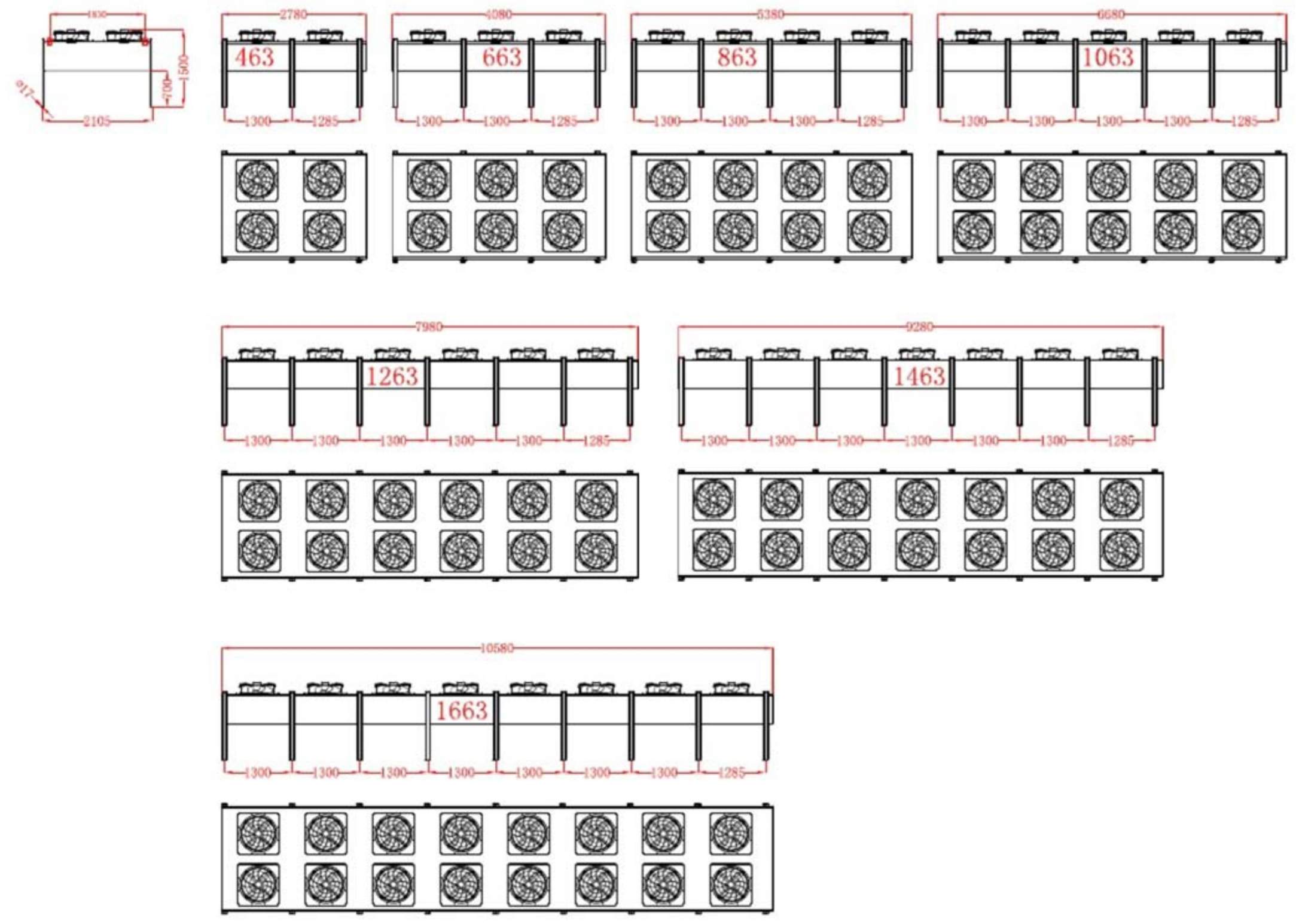
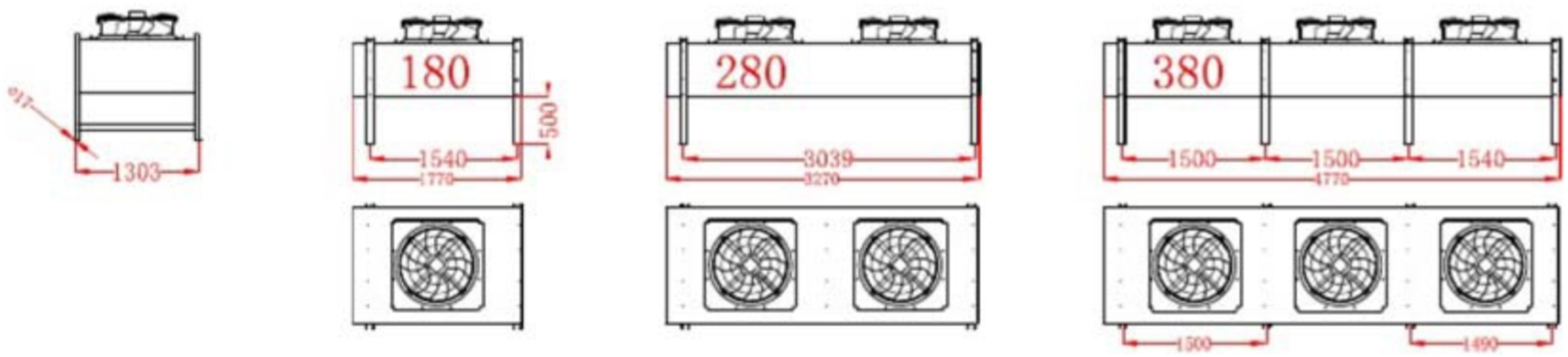
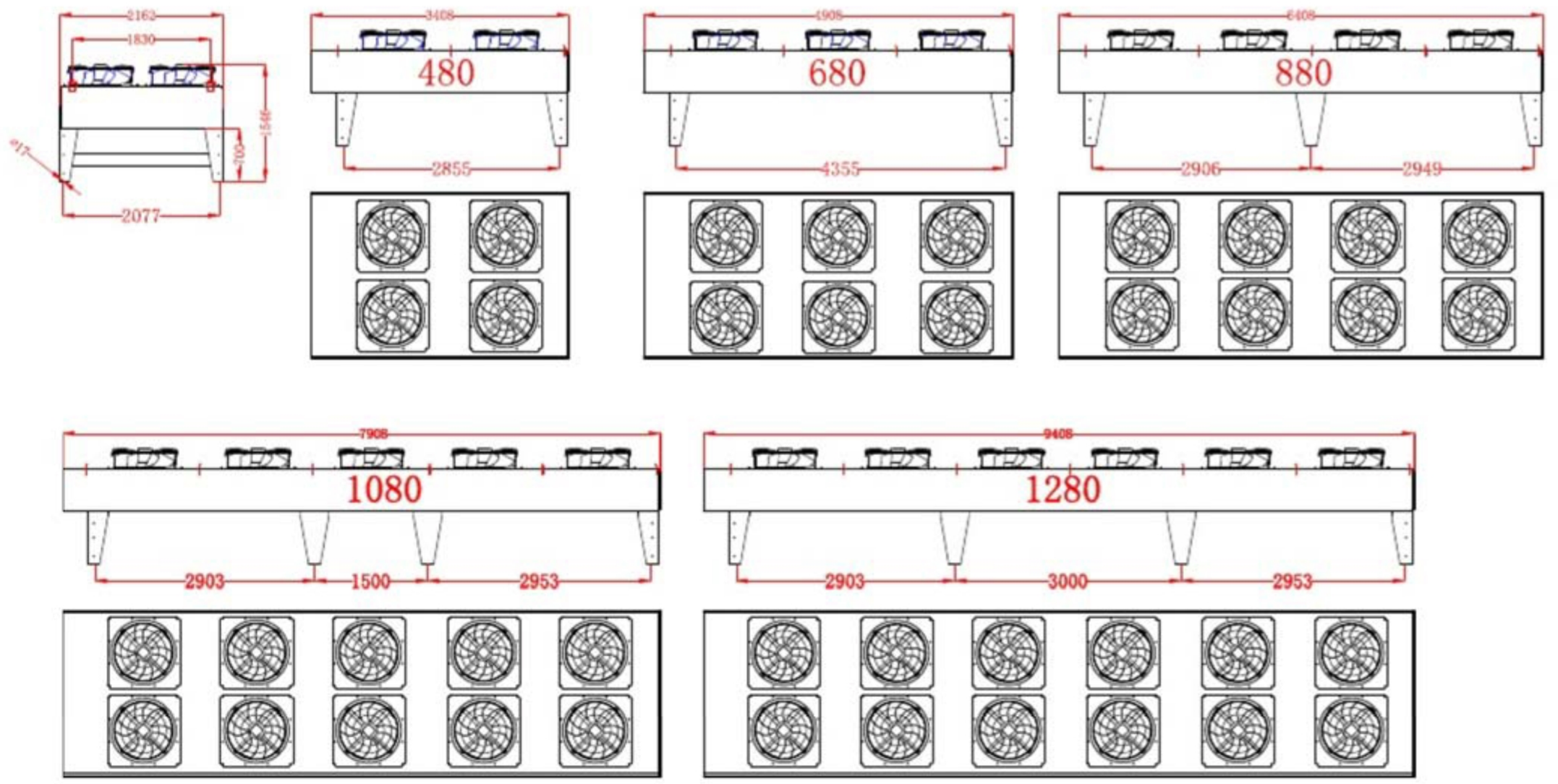


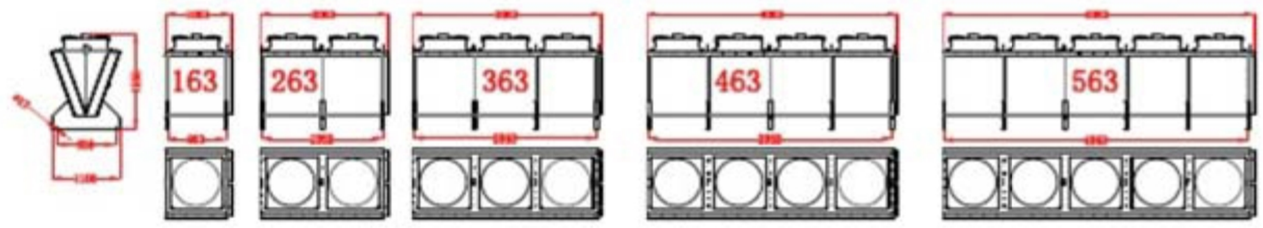
HCFS-*80 HDFS-*80



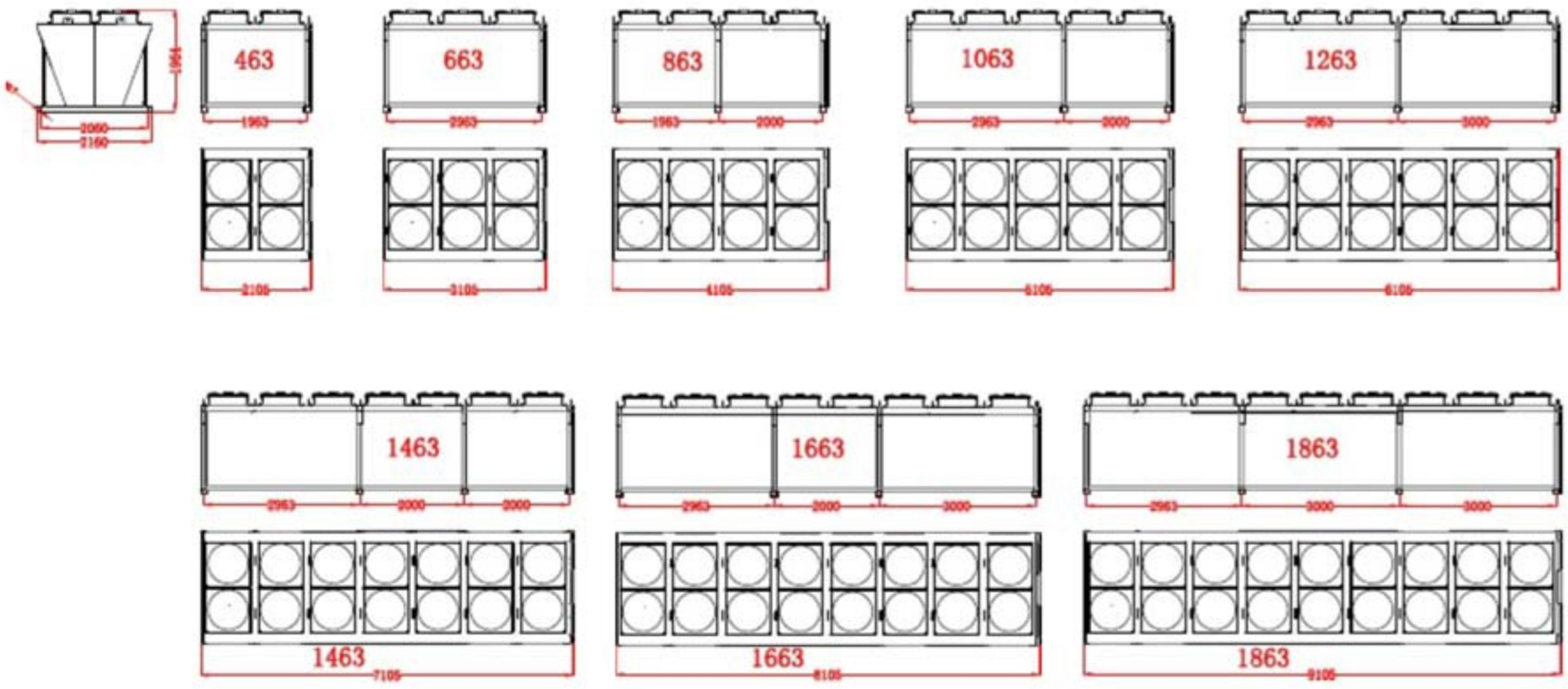
HCFD-*80 HDFD-*80



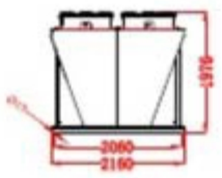
HCVS-*63　HDVS-*63

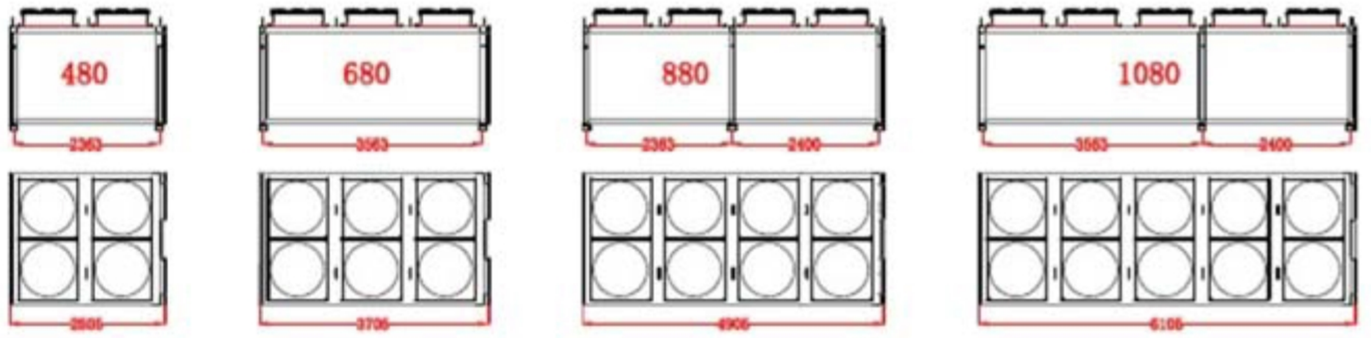


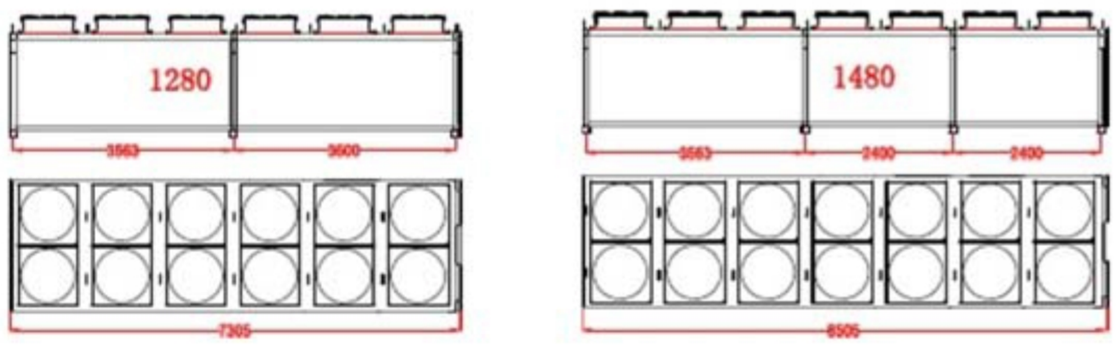
HCVD-*63　HDVD-*63

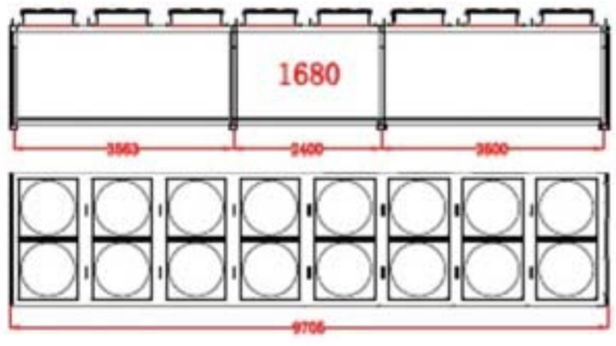


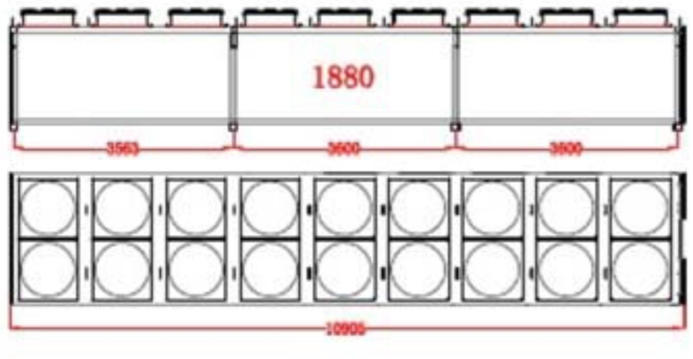
HCVD-*80 HDVD-*80









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