AIR COOLED CHILLER - HTS Series

# AGHERE AGGERIA AGGERIA





# Introduction





### Compressor

Combination of BITZER compact screw Type

With highly efficient performance

Anti Vibration Joint

Oil heater System

Dehumidifier filter dryer with replaceable cartridge Safety valve for protect compressor at high Pressure

Liquid Line Solenoid Valve

Liquid Line Pressure Switch and Pressure Transmitter

Soft start to prevent current spikes (optional)

### Refrigerant

R134a

The most efficient and useful

R407C

We do not offer because of the limitations on operating in different ambient temperatures compared to R134a refrigerant type

R22

Harmful to environment and it is outdated. So, we do not offer

### **Evaporator**

Shell and tube type including steel pipe for shell and copper tubes with 3/8 inch internal groove and compressive strength of 300 PSI

Tested in accordance ASME section VIII standard Special design for low pressure drop and optimized heat transfer

Water Strainer

Anti Freeze System

### Liquid Line Equipment

DANFOSS EEV

CASTEL trademark solenoid valve and sight glass Liquid receiver with Rotalock valve CASTEL trademark filter dryer for dehumidification refrigerant



### Condenser

Our new U shaped style that bring more heat exchange surface compared conventional flat heat exchanger

Fin and Tube series

Thanks to this technology, the dimensions of the device have been reduced

With high efficiency and low pressure drop 3/8" copper tube with up to 450 PSI compressive strength

12FPI number of Fin per Inch

### Fan

Axial low noise model Variable frequency drive for saving energy and reducing sound level Sound Reduction diffuser (optional) EUROVENT trademark with "IP54" grading for

difference models by the default

### **Electrical and Safety Equipment**

DANFOSS PLC

Ability to synchronize with BMS

Compatible with network connection protocols

DANFOSS trademark high pressure and low pressure sensor

Switch cabinet with IP54

Switch cabinet with SIEMENS trademark;

Main switching, phase control, Contactor, MSPS

Multi-device module capability

UPS buffered controller to prevent damage during operating (optional)

Light and socket in the switch cabinet

Alarm system for faults

### **PLC Programming**

Automatic troubleshooting

Display the performance status of all control

parameters

Display operating hours

Display number of start times of compressors

separately

Complete observance of the operation schedule of the

compressors

Recording of the latest errors that have occurred

# AIR COOLED CHILLER

HTS Series



# Body

Galvanized steel sheet with electrostatic paint coated Sound insulation for reducing sound level Manufactured with NC & CNC machines Air arteries on the columns of body to allow more air to pass through the U section of condenser



Nomenclature



HTS Series <u>60</u> <u>S</u> <u>E</u> <u>B</u>  $\underline{\mathsf{X}} \ \underline{\mathsf{X}} \ \underline{\mathsf{X}} \ \underline{\mathsf{X}} \ \underline{\mathsf{X}} \ \underline{\mathsf{X}}$ \* Option codes will be added to the end of the nomenclature respectively. Compressor Manufacturer B = BITZERD = DANFOSS F = FRASCOLDN = HANBELLEvaporator B = Brazed Heat Exchanger S = Shell and Tube Heat Exchanger **Number of Compressor** 6 2 4 Number of Circuit A = 1 B = 2 C = 3 Capacity (HP) 60 70 360 420 Refrigerant C=R22 D=R407C E = R134a **Manufacturing Series** Ν R G S Α Model Q = Quantum P = Pro T = Typhon (Compact Screw Compressor Series) TL = Tesla C = Cruise Unit Type H = Air Cooled W = Water Cooled A = AbsorptionM = Micro



### **Standard Features**

- This table contains a complete explanation of each parts used in units.

Item	Description	Product's Brand
VFD Controller	<ul> <li>Controlling the fan speed.</li> <li>Reducing the fan sound level.</li> <li>Balancing the refrigerant pressure in the condenser.</li> <li>Increasing the compressor's life span.</li> <li>Preventing the frequent start / stops that damage the equipment.</li> </ul>	
Control Panel	<ul> <li>Controlling the unit circuit for the required closed loop.</li> <li>Providing the preview and the configuration of controlling system parameters to the user.</li> <li>Equipped with the advanced communication interfaces.</li> <li>Compatible with grid connection protocols.</li> <li>Displaying errors.</li> </ul>	DANFOSS
Phase Control	Phase sequence and phase loss sensors are designed for the following measures:  Protecting three-phase electric motors.  Controlling the phase sequence, zero control in zero-based series, controlling each single phase with adjacent phase, and controlling each phase and zero to provide standard electricity input.  Detecting the defections leading motor damages such as voltage failure in one or more phases or voltage imbalance between them.  Preventing rotation of the motor the wrong way.	SIEMENS
Terminals	<ul> <li>Acting as a connector or separator between electrical panel tray and other components of the device (in terms of electrical performance).</li> </ul>	KLEMSAN
Contactor	Connecting and disconnecting the electric current of the circuit.	SIEMENS
MSPS	Motor Start Protection System to performs an electric motor:  Isolation.  Motor protection against overload and short circuit.  Control of the motor.	SIEMENS
Liquid Line	Includes: Sight Glass, Filter Dryer, Safety Valve, Solenoid Valve, Bulb Valve.	CASTEL

<sup>-</sup> All models are supplied with BITZER screw compressor trademark. Contact us for more data about other brands.

<sup>-</sup> Compressors are equipped with Oil Pressure Safety Control and Oil Heater by the default.



### **Standard Features**

Item	Description	Product's Brand
Sensors	Includes:  • Pressure Switch, Pressure Transmitter, Temperature Sensor.	DANFOSS
EEV	Electronic Expansion Valve:  • Ensuring accurate control of refrigerant injection into the evaporator.	DANFOSS
Main Switch	<ul><li>Power Switch (On/Off).</li><li>Controlling the input current to the device.</li></ul>	SIEMENS
Condenser <sup>1</sup>	■ Fin and tube "U" shaped series with 12FPI number of Fin per Inch including 3/8" copper tube and compressive strength of 450 PSI.	AFRA
Evaporator <sup>1</sup>	<ul> <li>Shell and tube type including steel pipe for shell and copper tubes with 3/8-inch internal groove and compressive strength of 300 PSI.</li> <li>Equipped with water flow switch, water strainer, Anti Freeze System.</li> <li>Tested in Accordance "ASME Section VIII" Standard.</li> <li>IT Trademark Insulator.</li> </ul>	REFKAR
Liquid Receiver	<ul> <li>Eliminating gas refrigerant.</li> <li>Ensuring that pure liquid refrigerant enters the expansion valve.</li> <li>Equipped with Rotalock Valve for easier operation and maintenance.</li> </ul>	AFRA

<sup>1.</sup> Powered by <u>UNILAB.</u>

 $<sup>\</sup>hbox{- All models are supplied with BITZER screw compressor trademark. Contact us for more data about other brands.}\\$ 

<sup>-</sup> Compressors are equipped with Oil Pressure Safety Control and Oil Heater by the default.



# **Options**

- This table includes information of equipment that their installation enhances the unit's efficiency.

Item	Description	Product's Brand
1. Soft Starter <sup>1</sup>	<ul> <li>Reducing the mechanical stress and shocks caused by starts and stops to the compressor</li> <li>Controlling the consuming current of compressors and protecting them from the electrical overload</li> <li>Having the minimum amount of reactive power</li> <li>To perform a safe boot, three asynchronous phases are used</li> <li>Consistently controlling of the compressor voltage source in the operating stage</li> <li>The compressor is aligned with load behavior to accelerate the mechanical equipment's operation</li> <li>Increasing the life span</li> </ul>	SIEMENS
2. Oil Separator	<ul> <li>Preventing the compressor oil discharge.</li> <li>Returning the oil to the compressor leading an automatic lubrication for the compressor's parts.</li> <li>Preventing the mix of the oil and the refrigerant which makes acid in the system.</li> <li>Protecting from corrosion.</li> <li>Protecting the compressor from damage.</li> </ul>	CASTEL
3. Accumulator	<ul> <li>Preventing the liquid refrigerant to enter the compressor.</li> <li>Reevaporating of collected refrigerant in Accumulator to enhance the compressor's efficiency.</li> <li>Protecting the compressor from damage.</li> </ul>	CASTEL
4. Economizer	<ul> <li>Increasing the efficiency by creating a sub-circuit.</li> <li>Improving the system performance.</li> <li>Energy saving.</li> <li>Utilizing brazed plate heat exchanger.</li> </ul>	KELVION (Heat Exchanger)
5. Switch Cabinet	<ul><li>A. UPS buffered controller to prevent damage during operating.</li><li>B. Cooling system specially for switch cabinet.</li></ul>	-
6. Fan	<ul> <li>A. ROSENBERG trademark.</li> <li>B. ZIEHL-ABEGG trademark.</li> <li>C. EBMPAPST trademark.</li> <li>D. Sound reduction diffuser. (Executable only for EUROVENT fans)</li> </ul>	-

<sup>1.</sup> Soft Starter is for units model no. HTSE60A1SB to HTSE180B2SB.

<sup>-</sup> All models are supplied with EUROVENT fan trademark.

<sup>-</sup> Option codes must be added to the end of the nomenclature and it is mandatory in the registration process.





	Model No.		HTSE60A1SB	HTSE70A1SB	HTSE80A1SI
Cooling capacity		KW	114.3	134.0	165.0
		RT	32.5	38.1	46.9
Total input power		KW	42.7	51.2	60.9
Total rated current		А	78	91	100
EER		-	2.68	2.62	2.71
Cooling capacity		KW	105.4	122.8	153.2
Cooling capacity		RT	30	34.9	43.6
Total input power		KW	46.2	55.8	66.5
Total rated current		А	83	97	108
EER		-	2.28	2.20	2.30
ESEER		-	3.75	3.75	3.76
	Туре	-		Shell and tube	
	Brand	-		REFKAR	
F	Material and mate	gpm	79	93	114
Evaporator	Water flow rate	m <sup>3</sup> /h	17.9	21.1	25.9
	Water pressure drop	kPa	14.4	23.6	13.6
	Max design pressure	Мра		0.8	
	Туре	-	U Shape		
	Brand	-	AFRA GOSTAR		
Condenser	Heat exchanger	-	Aluminium fin		
	Number of rows	-	2 3		3
	Fins per inch	FPI		12	
	Туре	-	Axial fan		
	Brand	-	EUROVENT		
	Number	_	4		
Fan	Speed	rpm	900		
Tan	Diameter	mm		800	
	Air flow rate	m <sup>3</sup> /h		22000	
	-	Side/Top		Top	
	Discharge	- 3ide/10p		Compact Screw	
	Type Brand	-		BITZER	
		-	CCLICEO2 COV	CSH7573-70Y	CC110EE3 00V
	Model	- Pieces	CSH6593-60Y	l .	CSH8553-80\
Compressor	Combination		<u></u>	70	00
	Capacity	hp	60		80
	Oil type	-	0.5	BSE170	22
	Oil charge amount	L	9.5	15	22
= 61	Oil heater	-	P424		
Refrigerant	Туре	-	R134a		
Ambient temp. range		°C	21 ~ 46		
Command control system	Туре	-	DANFOSS PLC		
Sound pressure level		dB(A)	~ 86		
Power supply		Ø , V , Hz	3 , 400 , 50		
Dimension	WxHxD	mm	2060x2580x2090		
Net weight		kg		~ 2200	

1 : Chilled water inlet / outlet : 12  $^{\circ}\text{C}$  / 7  $^{\circ}\text{C}$ 

Outdoor ambient temp. : 35 °C DB

Sea level: 4000 ft
Fan input power included
Pump input power not included

2 : Chilled water inlet / outlet : 12 °C / 7 °C

Outdoor ambient temp. : 40 °C DB

Sea level: 4000 ft Fan input power included Pump input power not included

- Evaporating SST : 2 °C
- Water side fouling factor : 0.000043 m^2 .  $^{\circ}$ C / KW
- $\ensuremath{\mathsf{ESEER}}$  calculations is based on European standard.
- Measuring sound pressure level at 3m away and ±3dB tolerance.
- The characteristics of water flow rate and water pressure drop are given based on case "1".

 $\label{prop:condition} \mbox{According to our innovation policy , some specifications may be change without prior notification.}$ 



	Model No.		HTSE90A1SB	HTSE110A1SB	HTSE120B2SB
Carlinanaai		KW	190.1	222.4	228.5
Cooling capacity		RT	54.1	63.2	65.0
1 Total input power		KW	68.1	80.3	85.6
Total rated current		А	114	140	156
EER		-	2.79	2.77	2.67
		KW	176.6	205.8	210.8
Cooling capacity		RT	50.2	58.5	59.9
2 Total input power		KW	75.0	87.8	92.6
Total rated current			124	152	166
EER		A			
		-	2.35	2.34	2.28
ESEER		-	3.95	3.95	3.75
	Type	-		Shell and tube	
	Brand	-	132	REFKAR 154	157
Evaporator	Water flow rate	gpm m ³/h	30	35	35.7
	Water pressure drop	kPa	25.3	22	16.5
	Max design pressure	Мра	25.5	0.8	10.5
	Type	ivipa -		U Shape	
	Brand	_	AFRA GOSTAR		
Condenser	Heat exchanger	_	Aluminium fin		
<u>-</u>	Number of rows	-		3	2
	Fins per inch	FPI	12		
	Туре	-	Axial fan		
	Brand	-	EUROVENT		
	Number	-	4	6	8
Fan	Speed	rpm		900	
	Diameter	mm		800	
	Air flow rate	m <sup>3</sup> /h		22000	
	Discharge	Side/Top		Тор	
	Туре	-		Compact Screw	
	Brand	-		BITZER	ı
	Model	-	CSH8563-90Y	CSH8573-110Y	CSH6593-60Y
Compressor	Combination	Pieces		1	2
compressor	Capacity	hp	90	110	120
	Oil type	-		BSE170	T
	Oil charge amount	L	22	22	2 x 9.5
	Oil heater	-		•	
Refrigerant	Туре	-	R134a		
Ambient temp. range	_	°C	21 ~ 46		
Command control system	Туре	-	25	DANFOSS PLC	
Sound pressure level		dB(A)	~ 85	~ 86	~ 87
Power supply	WILD	Ø , V , Hz	2050 31	3 , 400 , 50	2000 2500 4470
Dimension	WxHxD	mm		580x3130	2060x2580x4170
Net weight		kg	~ 2200	~ 4	1000

1 : Chilled water inlet / outlet : 12 °C / 7 °C Outdoor ambient temp. : 35 °C DB

Sea level : 4000 ft Fan input power included Pump input power not included 2 : Chilled water inlet / outlet : 12 °C / 7 °C Outdoor ambient temp. : 40 °C DB

Sea level: 4000 ft
Fan input power included
Pump input power not included

- Evaporating SST : 2 °C
- Water side fouling factor : 0.000043 m^2 . °C / KW
- $\ensuremath{\mathsf{ESEER}}$  calculations is based on European standard.
- Measuring sound pressure level at 3m away and  $\pm 3 dB$  tolerance.
- The characteristics of water flow rate and water pressure drop are given based on case "1".

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	Model No.		HTSE140B2SB	HTSE160B2SB	HTSE180B2SB	
Cooling capacity		KW	268.0	329.9	380.2	
		RT	76.2	93.8	108.1	
1 Total input power		KW	102.2	121.6	136.0	
Total rated current		А	182	200	228	
EER		-	2.62	2.71	2.80	
Cooling capacity		KW	245.7	306.4	353.2	
ecoming capacity		RT	69.9	87.1	100.4	
2 Total input power		KW	111.4	132.8	149.8	
Total rated current		Α	194	216	248	
EER		-	2.21	2.31	2.36	
ESEER		-	3.76	3.84	3.96	
	Туре	-		Shell and tube		
	Brand	=		REFKAR		
Evaporator	Matau flammata	gpm	185	228	263	
Evaporator	Water flow rate	m <sup>3</sup> /h	42	51.7	59.7	
	Water pressure drop	kPa	33	36.3	43.5	
	Max design pressure	Мра		0.8		
	Туре	-		U Shape		
	Brand	-	AFRA GOSTAR			
Condenser	Heat exchanger	-	Aluminium fin			
	Number of rows	-	2 3		3	
	Fins per inch	FPI	12			
	Туре	=	Axial fan			
	Brand	-	EUROVENT			
	Number	-		8		
Fan	Speed	rpm		900		
	Diameter	mm		800		
	Air flow rate	m <sup>3</sup> /h		22000		
	Discharge	Side/Top		Тор		
	Туре	-		Compact Screw		
	Brand			BITZER		
	Model		CSH7573-70Y	CSH8553-80Y	CSH8563-90Y	
	Combination	Pieces		2	00.10000 00.	
Compressor	Capacity	hp	140	160	180	
	Oil type	- -	110	BSE170	100	
	Oil charge amount	1	2 x 15	2 x 22	2 x 15	
	Oil heater	-	2 X 13	•	L X 13	
Refrigerant	Туре	-	R134a			
Ambient temp. range	.71.~	°C		21 ~ 46		
Command control system	Туре	-		DANFOSS PLC		
Sound pressure level	.,,,,,	dB(A)	~ 85	~ 86	~ 85	
Power supply		Ø,V,Hz	3 , 400 , 50			
Dimension	WxHxD	mm	2060x2580x4170			
Net weight	TATIAD			~ 4200		
ivet weight	/ 7 °C 2 · Chilled water inle	kg		~ 42UU		

1 : Chilled water inlet / outlet : 12 °C / 7 °C Outdoor ambient temp. : 35 °C DB

Sea level: 4000 ft Fan input power included Pump input power not included 2 : Chilled water inlet / outlet : 12 °C / 7 °C Outdoor ambient temp. : 40 °C DB

Sea level : 4000 ft Fan input power included Pump input power not included

- Evaporating SST : 2 °C
- Water side fouling factor : 0.000043 m^2 . °C / KW
- ESEER calculations is based on European standard.
- Measuring sound pressure level at 3m away and  $\pm 3 \text{dB}$  tolerance.
- The characteristics of water flow rate and water pressure drop are given based on case "1".



	Model No.		HTSE220B2SB	HTSE250B2SB	HTSE280B2S
Cooling capacity		KW	444.7	493.9	561.1
		RT	126.4	140.4	159.5
Total input power		KW	160.4	177.7	206.6
Total rated current		А	280	311	361
EER		-	2.77	2.78	2.72
Cooling capacity		KW	411.7	458.0	519.4
cooming capacity		RT	117.1	130.2	147.7
Total input power		KW	175.7	194.9	226.2
Total rated current		Α	304	336	390
EER		-	2.34	2.35	2.30
ESEER		-	3.95	3.95	3.85
	Туре	-		Shell and tube	
	Brand	=		REFKAR	
Evaporator	Mateu flaurusta	gpm	308	341	388
Evaporator	Water flow rate	m <sup>3</sup> /h	69.9	77.4	88.1
	Water pressure drop	kPa	42	49	51
	Max design pressure	Мра	0.8		
	Туре	-	U Shape		
	Brand	-	AFRA GOSTAR		
Condenser	Heat exchanger	-	Aluminium fin		
	Number of rows	=	3		
	Fins per inch	FPI	12		
	Туре	-	Axial fan		
	Brand	-	EUROVENT		
	Number	-	12 16		
Fan	Speed	rpm		900	
	Diameter	mm		800	
	Air flow rate	m <sup>3</sup> /h		22000	
	Discharge	Side/Top		Тор	
	Туре	- -		Compact Screw	
	Brand	=		BITZER	
	Model	=	CSH8573-110Y	CSH8583-125Y	CSH8593-140
	Combination	Pieces	C5110575 1101	2	C5110555 140
Compressor	Capacity	hp	220	250	280
	Oil type	- IIP	220	BSE170	200
	Oil charge amount		2 x 22	2 x 19	2 x 19
	Oil heater	L L	2 X 22	1	2 X 13
Pofrigorant		<del>-</del>	• R134a		
Refrigerant	Туре	- °C		21 ~ 46	
Ambient temp. range	Tura				
Command control system	Туре	- dP(A)	0.0	DANFOSS PLC	0.0
Sound pressure level		dB(A)			~ 86
Power supply	Walled	Ø , V , Hz	2000 25	3 , 400 , 50	2000-2500 02
Dimension	WxHxD	mm		80x6250	2060x2580x834
Net weight		kg	~ 6	000	~ 8000

1 : Chilled water inlet / outlet : 12 °C / 7 °C Outdoor ambient temp. : 35 °C DB

Sea level : 4000 ft Fan input power included Pump input power not included 2 : Chilled water inlet / outlet : 12 °C / 7 °C Outdoor ambient temp. : 40 °C DB

Sea level: 4000 ft Fan input power included Pump input power not included

- Evaporating SST : 2 °C
- Water side fouling factor : 0.000043 m^2 . °C / KW
- ESEER calculations is based on European standard.
- Measuring sound pressure level at 3m away and  $\pm 3 \text{dB}$  tolerance.
- The characteristics of water flow rate and water pressure drop are given based on case "1".



	Model No.		HTSE320B2SB	HTSE360B2SB	HTSE420B2SB
Cooling capacity		KW	665.6	776.8	897.9
<u> </u>		RT	189.3	220.9	255.3
1 Total input power		KW	236.9	263.5	305.5
Total rated current		А	403	442	524
EER		=	2.81	2.95	2.94
Cooling capacity		KW	613.7	717.9	835.9
		RT KW	174.5	204.1	237.7
2 Total input power			258.9	285.7	333.3
Total rated current		А	435	476	566
EER		=	2.37	2.51	2.51
ESEER	ESEER		4.01	4.11	4.12
	Type	-		Shell and tube	
	Brand	-	460	REFKAR	620
Evaporator	Water flow rate	gpm	460	537	620
·		m <sup>3</sup> /h	104.5	122	141
	Water pressure drop	kPa	22.3	24	38
	Max design pressure	Мра	0.8		
	Type	-	U Shape		
	Brand	-	AFRA GOSTAR		
Condenser	Heat exchanger	-		Aluminium fin	
	Number of rows	-		3	
	Fins per inch	FPI	12 Axial fan		
	Type	=			
	Brand	-	EUROVENT		
_	Number	=	16	18	20
Fan	Speed	rpm		900	
	Diameter	mm		800	
	Air flow rate	m <sup>3</sup> /h		22000	
	Discharge	Side/Top	Тор		
	Type	-		Compact Screw	
	Brand	-	66110562 4607	BITZER	66110503 3401/
	Model	- D'	CSH9563-160Y	CSH9573-180Y	CSH9583-210Y
Compressor	Combination	Pieces	220	2	420
•	Capacity	hp	320	360	420
	Oil type	-	2 20	BSE170	2 20
	Oil charge amount	<u> </u>	2 x 30	2 x 30	2 x 30
D. C	Oil heater	-		D124-	
Refrigerant	Туре	- °C		R134a	
Ambient temp. range	т	°C		21 ~ 46	
Command control system	Туре	- -ID/A)	07	DANFOSS PLC	00
Sound pressure level		dB(A)	~ 87	~ 87	~ 89
Power supply	WILD	Ø,V,Hz	2000 2500 2241	3 , 400 , 50	2000 2500 12122
Dimension	WxHxD	mm	2060x2580x8344	2060x2580x9386	2060x2580x10428
Net weight		kg	~ 8000	~ 9000	~ 10000

1 : Chilled water inlet / outlet : 12 °C / 7 °C Outdoor ambient temp. : 35 °C DB

Sea level : 4000 ft Fan input power included Pump input power not included 2 : Chilled water inlet / outlet : 12  $^{\circ}$ C / 7  $^{\circ}$ C Outdoor ambient temp. : 40  $^{\circ}$ C DB

Sea level : 4000 ft Fan input power included Pump input power not included

- Evaporating SST : 2 °C
- Water side fouling factor : 0.000043 m^2 . °C / KW
- ESEER calculations is based on European standard.
- Measuring sound pressure level at 3m away and  $\pm 3 \text{dB}$  tolerance.
- The characteristics of water flow rate and water pressure drop are given based on case "1".



# Performance Data



Model No.	Ambient Temp.	Cooling Capacity (KW)	Power Input (KW)	Rated Current (A)	СОР
	30	122.8	39.5	74	3.11
	35	114.3	42.7	78	2.68
LITCECOA1CD	37	110.7	44.0	80	2.52
HTSE60A1SB	40	105.4	46.2	83	2.28
	42	101.8	47.8	85	2.13
	46	94.5	51.2	90	1.85
	30	144.9	47.1	85	3.08
	35	134.0	51.2	91	2.62
LITCE70A1CD	37	129.6	52.9	93	2.45
HTSE70A1SB	40	122.8	55.8	97	2.20
	42	118.4	57.8	100	2.05
	46	109.2	62.2	106	1.76
	30	176.2	55.9	93	3.15
	35	165.0	60.9	100	2.71
LITCEOOA1CD	37	160.3	63.2	103	2.54
HTSE80A1SB	40	153.2	66.5	108	2.30
	42	148.4	69.5	112	2.13
	46	138.7	75.2	120	1.84
	30	203.0	62.5	106	3.25
	35	190.1	68.1	114	2.79
LITCEOO A 1CD	37	184.8	70.8	118	2.61
HTSE90A1SB	40	176.6	75.0	124	2.35
	42	171.1	77.9	129	2.20
	46	159.8	84.5	139	1.89
	30	240.0	73.7	131	3.26
	35	222.4	80.3	140	2.77
HTSE110A1SB	37	216.1	83.2	145	2.60
HISCHINAISE	40	205.8	87.8	152	2.34
	42	198.2	91.3	157	2.17
	46	184.9	98.7	168	1.87

<sup>-</sup> Chilled water inlet / outlet : 12  $^{\circ}\text{C}$  / 7  $^{\circ}\text{C}$ 



Model No.	Ambient Temp.	Cooling Capacity (KW)	Power Input (KW)	Rated Current (A)	СОР
	30	245.7	79.2	148	3.10
	35	228.5	85.6	156	2.67
HTSE120B2SB	37	221.5	88.2	160	2.51
HISEIZUBZSB	40	210.8	92.6	166	2.28
	42	203.6	95.8	170	2.12
	46	189.1	102.6	180	1.84
	30	289.7	94.0	170	3.08
	35	268.0	102.2	182	2.62
LITCE140D2CD	37	259.2	105.6	186	2.45
HTSE140B2SB	40	245.7	111.4	194	2.21
	42	236.7	115.4	200	2.05
	46	218.4	124.2	212	1.76
	30	352.4	111.2	186	3.17
	35	329.9	121.6	200	2.71
LITCE1CODOCD	37	320.6	126.2	206	2.54
HTSE160B2SB	40	306.4	132.8	216	2.31
	42	296.8	138.8	224	2.14
	46	277.3	150.2	240	1.85
	30	406.0	124.8	212	3.25
	35	380.2	136.0	228	2.80
LITCE100D3CD	37	369.6	141.4	236	2.61
HTSE180B2SB	40	353.2	149.8	248	2.36
	42	342.1	155.6	258	2.20
	46	319.6	168.8	278	1.89
	30	479.9	147.3	262	3.26
	35	444.7	160.4	280	2.77
LITCESSORSER	37	432.1	166.3	290	2.60
HTSE220B2SB	40	411.7	175.7	304	2.34
	42	396.4	182.5	314	2.17
	46	369.8	197.3	336	1.87

<sup>-</sup> Chilled water inlet / outlet : 12 °C / 7 °C



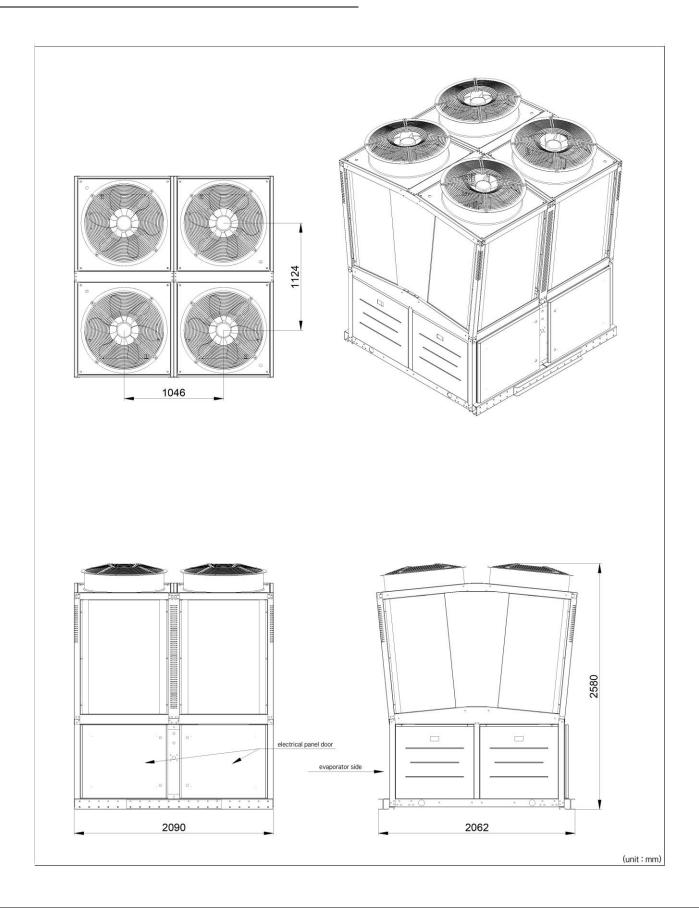
Model No.	Ambient Temp. (°C)	Cooling Capacity (KW)	Power Input (KW)	Rated Current (A)	СОР
	30	529.4	162.9	290	3.25
	35	493.9	177.7	311	2.78
HTSE250B2SB	37	479.1	184.3	320	2.60
H13E23UB23B	40	458.0	194.9	336	2.35
	42	443.3	202.5	347	2.19
	46	412.2	219.1	372	1.88
	30	600.4	189.8	337	3.16
	35	561.1	206.6	361	2.72
LITCE200D2CD	37	544.2	214.0	372	2.54
HTSE280B2SB	40	519.4	226.2	390	2.30
	42	503.2	234.8	403	2.14
	46	467.9	253.8	431	1.84
	30	714.3	217.3	374	3.29
	35	665.6	236.9	403	2.81
LITCESSORSCR	37	645.6	245.9	415	2.63
HTSE320B2SB	40	613.7	258.9	435	2.37
	42	592.7	267.9	450	2.21
	46	549.8	287.9	481	1.91
	30	831.7	244.2	412	3.41
	35	776.8	263.5	442	2.95
HTSE360B2SB	37	753.0	272.6	455	2.76
HI3E300B23B	40	717.9	285.7	476	2.51
	42	693.9	295.4	492	2.35
	46	646.0	316.5	524	2.04
	30	957.6	280.7	488	3.41
	35	897.9	305.5	524	2.94
HTSE420B2SB	37	875.8	316.4	541	2.77
HISE42UDZSD	40	835.9	333.3	566	2.51
	42	810.9	345.2	583	2.35
	46	760.4	370.0	621	2.06

<sup>-</sup> Chilled water inlet / outlet : 12 °C / 7 °C



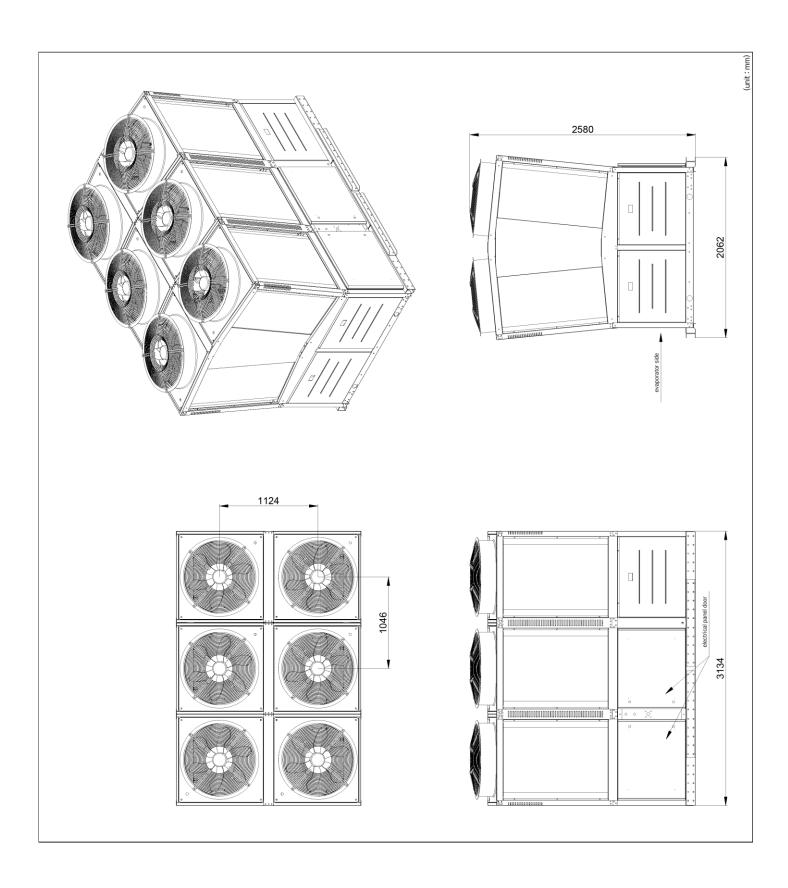
# Dimensions

### HTSE60A1SB - HTSE70A1SB - HTSE80A1SB - HTSE90A1SB



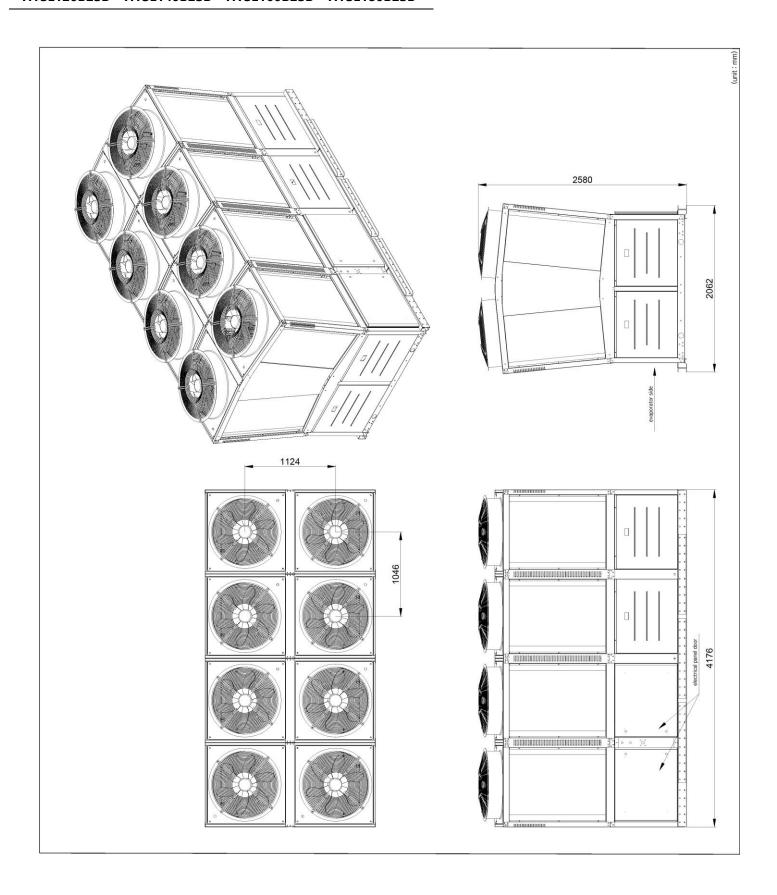
HTS Series

### HTSE110A1SB



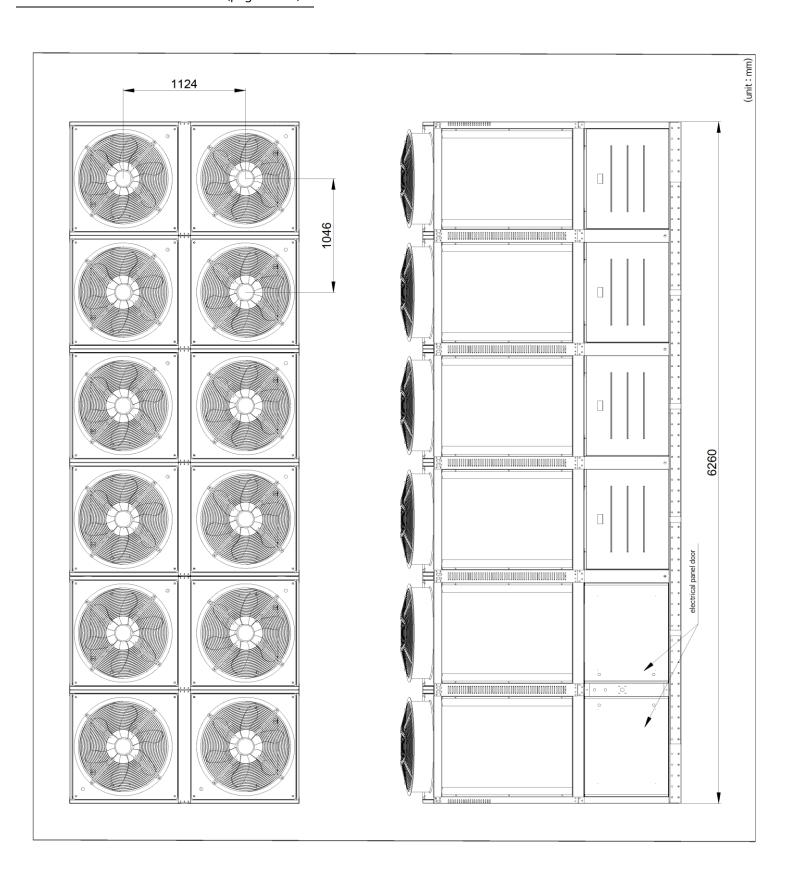
HTS Series

### HTSE120B2SB - HTSE140B2SB - HTSE160B2SB - HTSE180B2SB

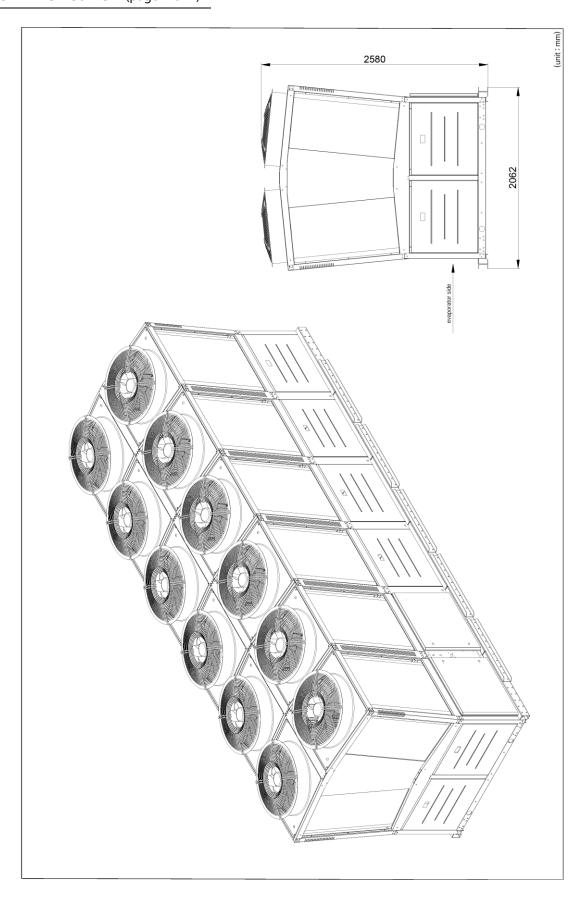




# HTSE220B2SB - HTSE250B2SB (page 1 of 2)

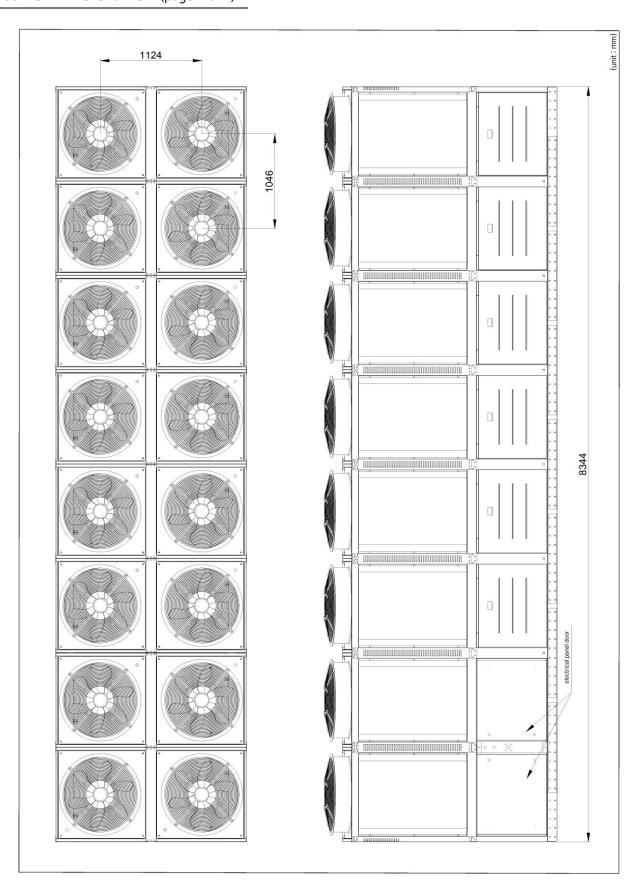


# **HTSE220B2SB – HTSE250B2SB** (page 2 of 2)

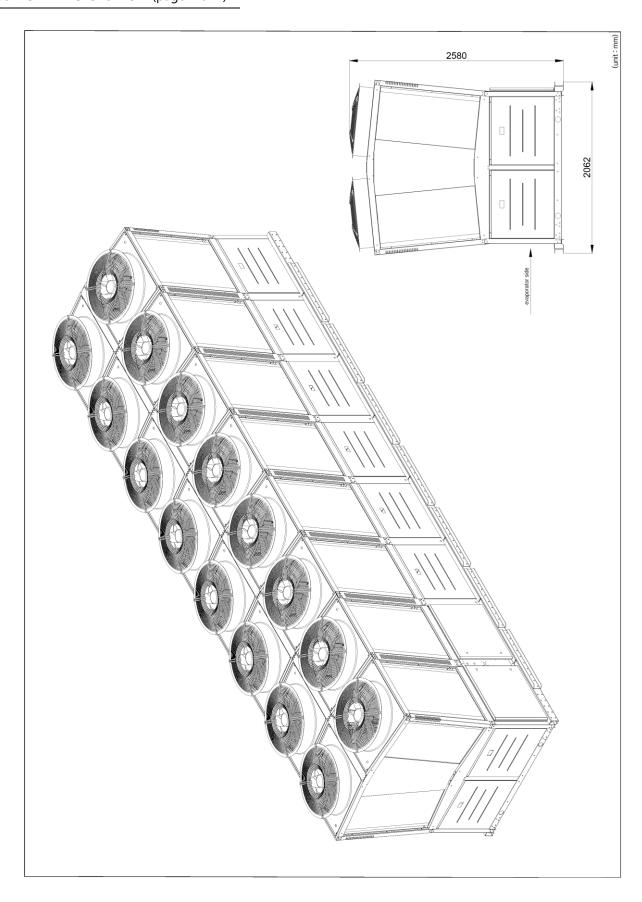


HTS Series

# **HTSE280B2SB – HTSE320B2SB** (page 1 of 2)

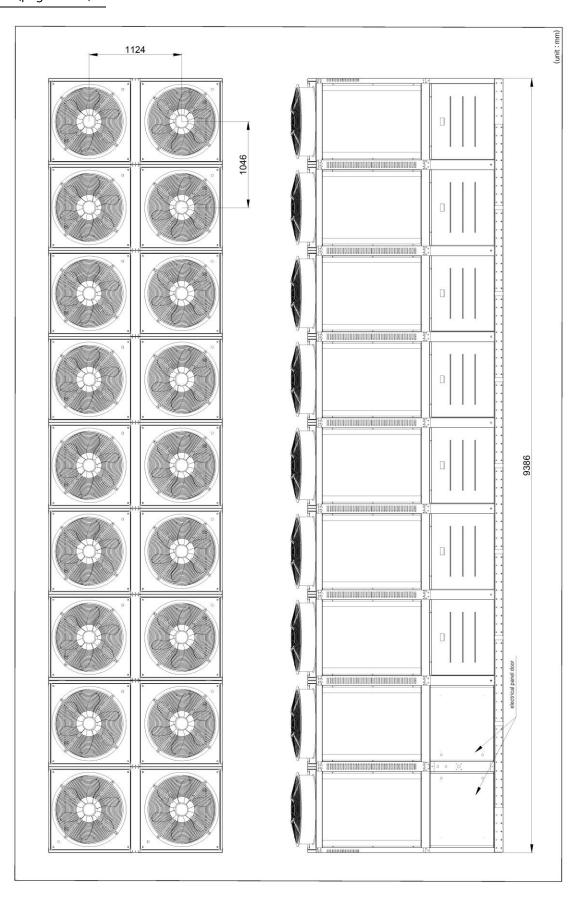


# **HTSE280B2SB – HTSE320B2SB** (page 2 of 2)



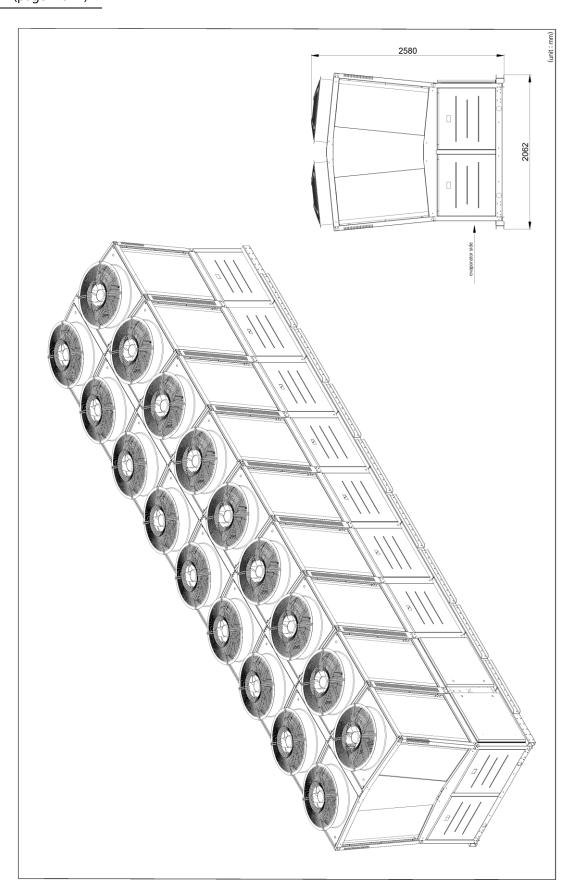
HTS Series

### **HTSE360B2SB** (page 1 of 2)



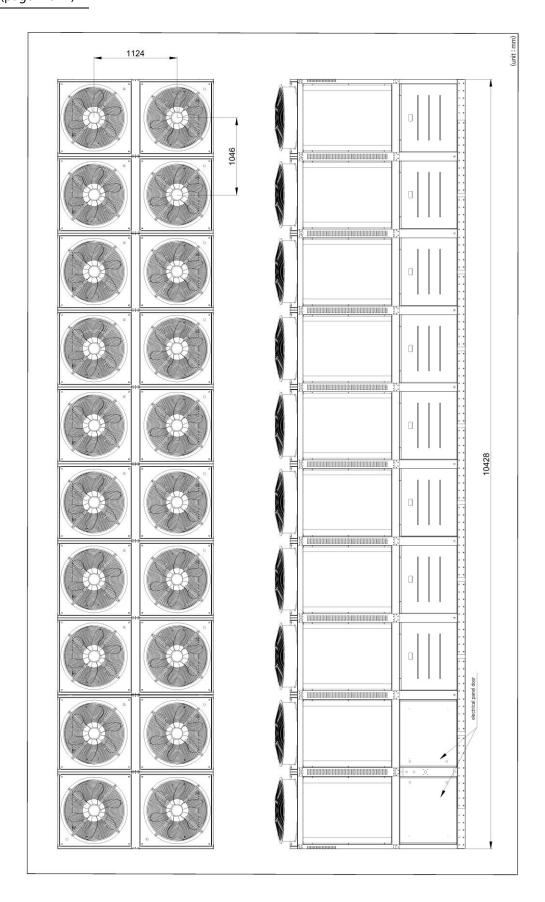
HTS Series

# **HTSE360B2SB** (page 2 of 2)



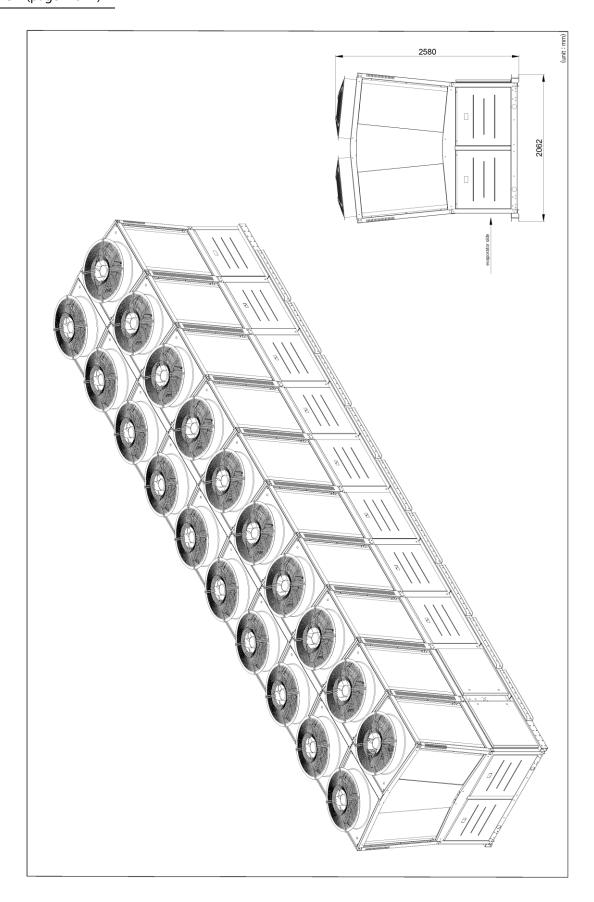
HTS Series

# **HTSE420B2SB** (page 1 of 2)





# **HTSE420B2SB** (page 2 of 2)



AIR COOLED CHILLER	AFRA
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