

TBA-1300-3350-F

Air-water chiller with free-cooling

Cooling capacity 90.7 ÷ 345.9 ton

- High efficiency also at partial loads
- Microchannel coil
- Low peak current (only 6 Amps!)
- Evaporator with low refrigerant charge
- Available also with R513A (XP10) refrigerant



DESCRIPTION

Air-cooled chiller designed to meet air conditioning needs in residential / commercial complexes or industrial applications.

These are outdoor units with oil free centrifugal compressor, axial fans, micro-channel coils, and shell and tube heat exchangers.

The base, the structure and the panels are made of steel treated with polyester paint RAL 9003.

VERSIONS

- A** High efficiency
- E** Silenced high efficiency

FEATURES

Operating field

Operation at full load up to 109.4 °F external air temperature depending on size and version. For further details refer to the selection software/technical documentation.

Units mono or dual-circuit

The units according to the size are mono or dual-circuit, to ensure maximum efficiency both at full load and at partial load.

Oil free centrifugal compressor

Two-stage oil-free centrifugal compressor with magnetic levitation and inverter.

Compressor features:

- Operates without oil as bearings are magnetic levitation type
- Continuous load modulation by varying rpm (from 30% to 100%)
- Low peak currents (only 6 Amps!)

Aluminium microchannel coils

The whole range uses microchannel condenser coils allowing reduction of refrigerant charge but keeping the same high efficiency.

Free-cooling water coils

These units also have a water coil dedicated to free-cooling mode.

Free-cooling offers significant energy saving in applications that require cooling all year round.

As soon as the outside air temperature allows, a valve makes the water flow towards the free-cooling battery which is cooled directly by the air. The compressors are completely shut down, if possible, leading to considerable electrical savings.

Integrated hydronic kit

Integrated hydronic kit containing the main hydraulic components; available with various configurations, to obtain a solution that allows you to save money and to facilitate installation.

CONTROL PCO⁵

Units include 1 control board for each circuit.

Microprocessor adjustment, with 7", touch screen keyboard, which allows to navigate intuitively among the various screens, allowing to modify the operating parameters and graphically view the progress of some variables in real time and the adjustment includes complete management of the alarms and their log.

Further features:

- Possibility to control two units in a Master-Slave configuration
- The presence of a programmable timer allows functioning time periods and a possible second set-point to be set.
- The temperature control takes place with the integral proportional logic, based on the water output temperature.

ACCESSORIES

AER485P1: RS-485 interface for supervising systems with MODBUS protocol. 1 accessory is provided for each unit control board.

AERNET: The device remotely controls, manages and remotely monitors a chiller/heat pump using a PC, smartphone or table via a Cloud connection. AERNET acts as Master while each connected unit is configured as Slave up to a maximum of 6 control cards. The connection is made via cable and/or USB key. Wi-Fi connectivity is not available. It is also possible to save a log file with all the data from the connected units to your terminal with a simple click for possible post-analysis. With the purchase of the Router, the Customer benefits from a 24-month free period during which he can use the Aernet Service at no additional cost. At the end of this initial period, the Service

may be renewed by subscribing to a 1, 2 or 3 year subscription. For further details on costs and renewal methods, please contact our office or consult the technical documentation available on our website. www.aermec.com.

FL-UL: Flow switch.

MULTICHILLER-EVO: Control, switch-on and switch-off system of the single chillers where multiple units are installed in parallel (max. no. 9), always ensuring constant flow rate to the evaporators.

PGD1: Allows you to control the unit at a distance.

AVX: Spring anti-vibration supports.

FACTORY FITTED ACCESSORIES

GP_T: Anti-intrusion grid kit

ACCESSORIES COMPATIBILITY

Model	Ver	1300	1350	2300	2325	2350	3300	3350
AER485P1	A,E	*	*	*		*	*	*
AER485P1 x no. 2	A,E				*			
AERNET	A,E	*	*	*	*	*	*	*
FL-UL (1)	A,E	*	*	*	*	*	*	*
MULTICHILLER-EVO	A,E	*	*	*	*	*	*	*
PGD1	A,E	*	*	*	*	*	*	*

(1) Compliant with UL regulation

Anti-intrusion grid

Ver	1300	1350	2300	2325	2350	3300	3350
A, E	GP3T_60HZ	GP4T_60HZ	GP5T_60HZ	GP7T_60HZ	GP8T_60HZ	GP9T_60HZ	GP10T_60HZ

A grey background indicates the accessory must be assembled in the factory

CONFIGURATOR

Configuration options

Field	Description
1,2,3	TBA
4,5,6,7	Size 1300, 1350, 2300, 2325, 2350, 3300, 3350
8	Model
F	Free-cooling
9	Heat recovery
°	Without heat recovery
10	Version
A	High efficiency
E	Silenced high efficiency
11	Coils / free-cooling coils
O	Painted aluminium microchannel / Copper painted aluminium
R	Copper-copper/Copper-copper
S	Copper-Tinned copper / Copper -Tinned copper
°	Aluminium microchannel / Copper - aluminium
12	Fans
J	Inverter
13	Power supply
7	460V ~ 3 60Hz
8	575V ~ 3 60Hz
14,15	Integrated hydronic kit
00	Without hydronic kit
P1	Single pump low head
P2	Single low-head pump + stand-by pump
P3	Single pump high head
P4	Single high-head pump + stand-by pump
J1	Single low head pump + fixed speed inverter
J2	Single low head pump with fixed speed inverter + stand-by pump
J3	Single high head pump + fixed speed inverter
J4	Single high head pump with fixed speed inverter + stand-by pump
16	Refrigerant gas
G	R513A (XP10)

PERFORMANCE SPECIFICATIONS

TBA - (A/E)

Size			1300	1350	2300	2325	2350	3300	3350
Cooling performance chiller operation (1)									
Cooling capacity	A,E	ton	90.7	119.9	173.9	203.0	233.7	267.5	346.0
Input power	A,E	kW	93.5	124.	181.6	206.2	239.9	275.8	364.2
EER	A,E	BTU/(Wh)	11.64	11.52	11.49	11.81	11.69	11.64	11.4
IPLV	A,E	BTU/(Wh)	20.66	20.04	20.68	20.72	21.16	21.05	21.42
Water flow rate system side	A,E	gpm	241.3	319.1	462.5	540	621.8	711.8	920.4
Pressure drop system side	A,E	ft H ₂ O	22.75	21.34	21.44	20.74	22.76	29.81	23.12
Cooling performances with free-cooling (2)									
Cooling capacity	A,E	ton	82.86	112.50	145.42	191.16	218.92	247.45	291.12
Input power	A,E	kW	11.10	16.34	20.43	25.91	29.61	33.31	40.86
EER	A,E	BTU/(Wh)	89.54	82.59	85.41	88.53	88.71	89.14	85.49
Water flow rate system side	A,E	gpm	217.7	287.8	417.1	487.0	560.8	641.9	830.1
Pressure drop system side	A,E	ftH ₂ O	35.13	31.78	38.14	31.45	34.46	42.15	44.50

(1) Reference conditions: AHRI std 550/590 I-P; Service side water 54.01°F / 44.01°F; Outside air 95°F

(2) System side water heat exchanger 54.01°F / * °F; External air 35.6 °F

ELECTRIC DATA

Size			1300	1350	2300	2325	2350	3300	3350
Integrated hydronic kit: 00									
Power supply: 460V									
Peak current (LRA)	A,E	A	49.0	61.0	209.0	279.0	291.0	393.0	495.0
Minimum circuit amperage (MCA)	A,E	A	225.00	300.00	400.00	500.00	600.00	600.00	800.00
Maximum overcurrent permitted by the protection device (MOP)	A,E	A	300.00	450.00	500.00	600.00	600.00	600.00	800.00
Nominal Short-Circuit Current (SCCR)	A,E	kA	10	10	10	10	10	10	10
Power supply: 575V									
Peak current (LRA)	A,E	A	40.0	50.0	171.0	224.0	234.0	320.0	398.0
Minimum circuit amperage (MCA)	A,E	A	175.00	225.00	350.00	400.00	450.00	500.00	600.00
Maximum overcurrent permitted by the protection device (MOP)	A,E	A	250.00	350.00	400.00	500.00	500.00	500.00	700.00
Nominal Short-Circuit Current (SCCR)	A,E	kA	10	10	10	10	10	10	10
Size			1300	1350	2300	2325	2350	3300	3350
Integrated hydronic kit: J1, J2, P1, P2									
Power supply: 460V									
Peak current (LRA)	A,E	A	61.0	73.0	227.0	302.0	314.0	421.0	523.0
Minimum circuit amperage (MCA)	A,E	A	225.00	300.00	400.00	500.00	600.00	600.00	800.00
Maximum overcurrent permitted by the protection device (MOP)	A,E	A	350.00	450.00	500.00	600.00	700.00	700.00	800.00
Nominal Short-Circuit Current (SCCR)	A,E	kA	10	10	10	10	10	10	10
Power supply: 575V									
Peak current (LRA)	A,E	A	50.0	60.0	185.0	243.0	253.0	343.0	421.0
Minimum circuit amperage (MCA)	A,E	A	200.00	250.00	350.00	400.00	450.00	500.00	600.00
Maximum overcurrent permitted by the protection device (MOP)	A,E	A	250.00	350.00	400.00	500.00	500.00	500.00	700.00
Nominal Short-Circuit Current (SCCR)	A,E	kA	10	10	10	10	10	10	10
Size			1300	1350	2300	2325	2350	3300	3350
Integrated hydronic kit: J3, J4, P3, P4									
Power supply: 460V									
Peak current (LRA)	A,E	A	66.0	78.0	232.0	307.0	319.0	430.0	532.0
Minimum circuit amperage (MCA)	A,E	A	250.00	300.00	400.00	500.00	600.00	600.00	800.00
Maximum overcurrent permitted by the protection device (MOP)	A,E	A	350.00	450.00	500.00	600.00	700.00	700.00	800.00
Nominal Short-Circuit Current (SCCR)	A,E	kA	10	10	10	10	10	10	10
Power supply: 575V									
Peak current (LRA)	A,E	A	54.0	64.0	190.0	247.0	257.0	348.0	426.0
Minimum circuit amperage (MCA)	A,E	A	200.00	250.00	350.00	400.00	450.00	500.00	600.00
Maximum overcurrent permitted by the protection device (MOP)	A,E	A	250.00	350.00	400.00	500.00	500.00	500.00	700.00
Nominal Short-Circuit Current (SCCR)	A,E	kA	10	10	10	10	10	10	10

GENERAL TECHNICAL DATA

Size			1300	1350	2300	2325	2350	3300	3350
Compressor									
Type	A,E	type				Centrifugal			
Compressor regulation	A,E	Type				Inverter			
Number	A,E	no.	1	1	2	2	2	3	3
Circuits	A,E	no.	1	1	1	2	1	1	1

(1) The load indicated in the table is an estimated and preliminary value. The final value of the refrigerant load is indicated on the unit's technical label. For further information contact the office.

Size			1300	1350	2300	2325	2350	3300	3350
Refrigerant	A,E	type				R513A			
Total refrigerant charge (1)	A,E	lbs	178.6	366.0	335.1	535.7	628.3	582.0	853.2
System side heat exchanger									
Type	A,E	type				Shell and tube			
Number	A,E	no.	1	1	1	1	1	1	1
Hydraulic connections									
Connections (in/out)	A,E	Type				Grooved joints			
Sizes (in/out)	A,E	Ø	3"	4"	6"	6"	6"	6"	8"

(1) The load indicated in the table is an estimated and preliminary value. The final value of the refrigerant load is indicated on the unit's technical label. For further information contact the office.

Fans data

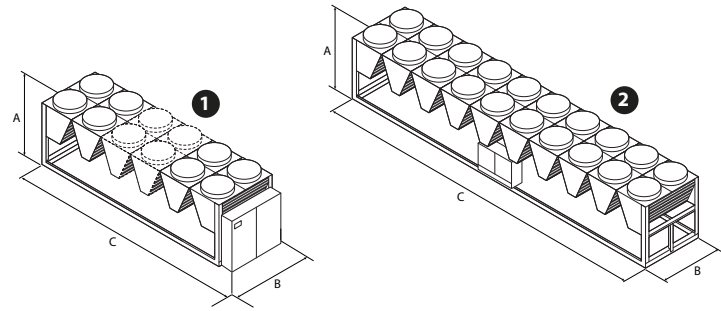
Size			1300	1350	2300	2325	2350	3300	3350
Power supply: 7									
Fan									
Type	A,E	type	axials	axials	axials	axials	axials	axials	axials
Fan motor	A,E	type	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
Number	A,E	no.	6	8	10	12	14	16	20
Air flow rate	A,E	cfm	63,048	87,333	109,164	147,103	168,115	189,145	218,321
Power supply: 8									
Fan									
Type	A,E	type	axials	axials	axials	axials	axials	axials	axials
Fan motor	A,E	type	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
Number	A,E	no.	6	8	10	12	14	16	20
Air flow rate	A,E	cfm	63,048	87,333	109,164	147,103	168,115	189,145	218,321

SOUND DATA

Size			1300	1350	2300	2325	2350	3300	3350
Sound data calculated in cooling mode (1)									
Sound power level	A	dB(A)	88,3	89,9	90,8	92,5	93	92,8	95,3
	E	dB(A)	82,3	83,9	84,8	86,5	87,0	86,8	89,3
Sound power by centre octave band dB(A)									
125 Hz	A	dB(A)	83,1	84,7	85,7	87,4	87,9	87,7	90,2
	E	dB(A)	77,1	78,7	79,7	81,4	81,9	81,7	84,2
250 Hz	A	dB(A)	77,7	79,2	80,1	81,7	82,2	82,0	84,4
	E	dB(A)	71,7	73,2	74,1	75,8	76,2	76,0	78,4
500 Hz	A	dB(A)	79,4	81,0	81,9	83,5	84,0	83,8	86,3
	E	dB(A)	73,4	75,0	75,9	77,6	78,0	77,8	80,3
1000 Hz	A	dB(A)	83,1	84,7	85,7	87,4	87,9	87,7	90,3
	E	dB(A)	77,1	78,7	79,7	81,4	81,9	81,7	84,3
2000 Hz	A	dB(A)	79,2	80,8	81,7	83,3	83,8	83,6	86,0
	E	dB(A)	73,2	74,8	75,7	77,3	77,8	77,6	80,0
4000 Hz	A	dB(A)	75,1	76,6	77,4	79,0	79,4	79,3	81,6
	E	dB(A)	69,1	70,6	71,4	73,0	73,4	73,3	75,6
8000 Hz	A	dB(A)	69,3	70,6	71,4	72,9	73,3	73,1	75,2
	E	dB(A)	63,3	64,6	65,4	66,9	67,3	67,1	69,3

(1) Sound power calculated on the basis of measurements made in accordance with UNI EN ISO 9614-2. Sound pressure (cold functioning) measured in free field, 10 m / 33 ft away from the unit external surface (in compliance with UNI EN ISO 3744).

DIMENSIONS



Key:

- 1 1300-1350-2300-2325-2350-3300
- 2 3350

Size			1300	1350	2300	2325	2350	3300	3350
Dimensions and weights									
A	A,E	in	100.4	100.4	100.4	100.4	100.4	100.4	100.4
B	A,E	in	86.6	86.6	86.6	86.6	86.6	86.6	86.6
C	A,E	in	156.3	203.1	250.0	343.7	390.6	437.4	468.5

Aermec reserves the right to make any modifications deemed necessary.
All data is subject to change without notice. Aermec does not assume
responsibility or liability for errors or omissions.

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