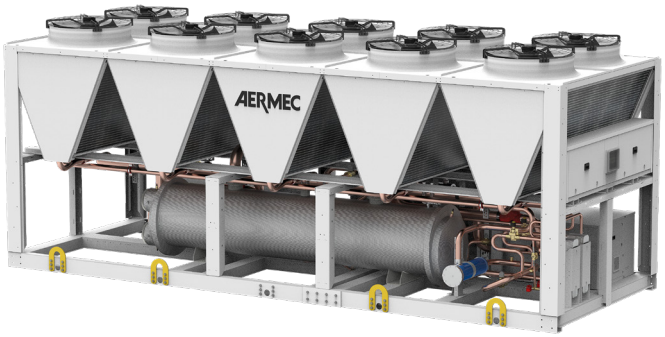
TBA 1300-3350 F

Air-water chiller with free-cooling

Cooling capacity 317,2 ÷ 1223,6 kW

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



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 43°C external air temperature depending on size and version. For further details refer to the selection software/ technical documentation.

Units mono or dual-circui

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.

■ *A "P" free-cooling plus model with the oversized water battery can be chosen for applications in which a higher free-cooling performance is required.*

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 PCO[5]

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 ad 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 supervision systems with MODBUS protocol.
AER485P1 x n° 2: RS-485 interface for supervision systems with MODBUS protocol.
AERNET: The device allows the control, the management and the remote monitoring of a Chiller with a PC, smartphone or tablet using Cloud connection. AERNET works as Master while every unit connected is configured as Slave (max. 6 unit); also, with a simple click is possible to save a log file with all the connected unit datas in the personal terminal for post analysis.

MULTICHILLER_EVO: Control, switch-on and switch-off system of the single chillers where multiple units are installed in parallel, 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	3320	3340	3350
AER485P1	A,E	•	•	•		•	•		•	•
AER485P1 x n° 2 (1)	A,E				•			•		
AERNET	A,E	•	•	•	•	•	•	•	•	•
MULTICHILLER_EVO	A,E	•	•	•	•	•	•	•	•	•
PGD1	A,E	•	•	•	•	•	•	•	•	•

(1) x Indicates the quantity of accessories to match.

Ver	1300	1350	2300	2325	2350	3300	3320	3340	3350
A,E	GP3T	GP4T	GP6T	GP7T	GP8T	GP9T	GP10T	GP11T	GP11T

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

Ver	1300	1350	2300	2325	2350	3300	3320	3340	3350
A,E	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)	AVX (1)

(1) Contact us.

CONFIGURATOR

Field	Description
1,2,3	**TBA**
4,5,6,7	**Size** 1300, 1350, 2300, 2325, 2350, 3300, 3320, 3340, 3350
8	**Model**
F	Free-cooling
P	Free-cooling plus (1)
9	**Heat recovery**
°	Without heat recovery
10	**Version**
A	High efficiency
E	Silenced high efficiency
11	**Coils / free-cooling coils**
°	Alluminium microchannel / Copper - aluminium
O	Painted alliminium microchannel / Copper painted aluminium
R	Copper-copper/Copper-copper
S	Copper-Tinned copper / Copper -Tinned copper
V	Copper-painted alumimium / Copper-painted alumimium
12	**Fans**
J	Inverter
13	**Power supply**
°	400V ~ 3 50Hz with magnet circuit breakers
14,15	**Integrated hydronic kit**
00	Without hydronic kit
	Kit with n° 1 pump
PA	Pump A
PB	Pump B
PC	Pump C
PD	Pump D
PE	Pump E
PF	Pump F
PG	Pump G
PH	Pump H
PI	Pump I
PJ	Pump J
	Pump n° 1 pump + stand-by pump
DA	Pump A + stand-by pump
DB	Pump B + stand-by pump
DC	Pump C + stand-by pump
DD	Pump D + stand-by pump
DE	Pump E + stand-by pump
DF	Pump F + stand-by pump
DG	Pump G + stand-by pump
DH	Pump H + stand-by pump
DI	Pump I + stand-by pump
DJ	Pump J + stand-by pump
	Kit with inverter pump to fixed speed
IA	Pump A equipped with inverter device to work at fixed speed
IB	Pump B equipped with inverter device to work at fixed speed

Field	Description
IC	Pump C equipped with inverter device to work at fixed speedr
ID	Pump D equipped with inverter device to work at fixed speed
IE	Pump E equipped with inverter device to work at fixed speed
IF	Pump F equipped with inverter device to work at fixed speed
IG	Pump G equipped with inverter device to work at fixed speed
IH	Pump H equipped with inverter device to work at fixed speed
II	Pump I equipped with inverter device to work at fixed speed
IJ	Pump J equipped with inverter device to work at fixed speed
	Kit with n°1 pump + stand-by pump both equipped wih inverter device to work at fixed speed
JA	Pump A + stand-by pump, both equipped with inverter device to work at fixed speed
JB	Pump B + stand-by pump, both equipped with inverter device to work at fixed speed
JC	Pump C + stand-by pump, both equipped with inverter device to work at fixed speed
JD	Pump D + stand-by pump, both equipped with inverter device to work at fixed speed
JE	Pump E + stand-by pump, both equipped with inverter device to work at fixed speed
JF	Pump F + stand-by pump, both equipped with inverter device to work at fixed speed
JG	Pump G + stand-by pump, both equipped with inverter device to work at fixed speed
JH	Pump H + stand-by pump, both equipped with inverter device to work at fixed speed
JI	Pump I + stand-by pump, both equipped with inverter device to work at fixed speed
JJ	Pump J + stand-by pump, both equipped with inverter device to work at fixed speed
	Kit with double pump both equipped with inverter device to work at fixed speed
KF	Doble pump F with inverter device to work at fixed speed
KG	Doble pump G with inverter device to work at fixed speed
KH	Doble pump H with inverter device to work at fixed speed
KI	Doble pump I with inverter device to work at fixed speed
KJ	Doble pump J with inverter device to work at fixed speed
	Kit with double pumps (2)
TF	Double pump F
TG	Double pump G
TH	Double pump H
TI	Double pump I
TJ	Double pump J
16	**Refrigerant gas**
°	R134a
G	R513A (XP10)

(1) The Free-Cooling Plus "P" models are only compatible with"°" ed "0"
(2) For all configurations including pump J please contact the factory.

PERFORMANCE SPECIFICATIONS

Size			1300	1350	2300	2325	2350	3300	3320	3340	3350
Free-cooling											
Cooling performance chiller operation (1)											
Cooling capacity	A,E	kW	317,2	419,2	634,5	736,4	838,4	934,7	1065,0	1149,0	1223,6
Input power	A,E	kW	91,6	121,8	182,8	214,3	244,4	267,3	311,2	337,8	365,9
Cooling total input current	A,E	A	147,5	198,3	295,0	345,8	396,7	427,5	498,3	559,2	604,2
EER	A,E	W/W	3,46	3,44	3,47	3,44	3,43	3,50	3,42	3,40	3,34
Water flow rate system side	A,E	l/h	54505	72025	109011	126530	144050	160596	182983	197414	210235
Pressure drop system side	A,E	kPa	65	32	70	54	45	69	72	66	52
Cooling performances with free-cooling (2)											
Cooling capacity	A,E	kW	297,2	395,5	594,4	692,7	791,1	888,3	994,1	1085,0	1100,1
Input power	A,E	kW	11,3	15,0	22,5	26,3	30,0	33,8	37,5	41,3	41,3
Free cooling total input current	A,E	A	17,5	23,3	35,0	40,8	46,7	52,5	58,3	64,2	64,2
EER	A,E	W/W	26,41	26,36	26,41	26,38	26,36	26,31	26,50	26,30	26,66
Water flow rate system side	A,E	l/h	54505	72025	109011	126530	144050	160596	182983	197414	210235
Pressure drop system side	A,E	kPa	118	78	130	103	99	127	138	117	109
Free-cooling plus											
Cooling performance chiller operation (1)											
Cooling capacity	A,E	kW	317,2	419,2	634,5	736,4	838,4	934,7	1065,0	1149,0	1206,6
Input power	A,E	kW	93,1	123,9	185,8	217,9	248,6	271,6	316,4	343,6	366,0
Cooling total input current	A,E	A	147,9	198,8	295,7	346,7	397,6	428,6	499,6	560,5	605,5
EER	A,E	W/W	3,41	3,38	3,42	3,38	3,37	3,44	3,37	3,34	3,30
Water flow rate system side	A,E	l/h	54505	72025	109011	126530	144050	160596	182983	197414	207315
Pressure drop system side	A,E	kPa	65	32	70	54	45	69	72	66	50
Cooling performances with free-cooling (2)											
Cooling capacity	A,E	kW	319,4	425,1	638,8	744,5	850,2	954,8	1068,2	1166,2	1181,8
Input power	A,E	kW	11,5	15,3	23,0	26,8	30,7	34,5	38,4	42,2	42,2
Free cooling total input current	A,E	A	17,9	18,8	35,7	36,7	37,6	53,6	44,6	65,5	80,5
EER	A,E	W/W	27,76	27,71	27,76	27,73	27,71	27,66	27,85	27,64	28,01
Water flow rate system side	A,E	l/h	54505	72025	109011	126530	144050	160596	182983	197414	207315
Pressure drop system side	A,E	kPa	114	74	126	99	95	123	134	113	102

(1) System side water heat exchanger 12 °C/7 °C; External air 35 °C; Chiller operation 100%; Free-cooling 0%
(2) System side water heat exchanger 12 °C / 8,7 °C; External air 2°C

ENERGY DATA

Size			1300	1350	2300	2325	2350	3300	3320	3340	3350
Free-cooling											
Cooling capacity with low leaving water temp (UE n° 2016/2281)											
SEER	A,E	W/W	5,06	5,14	5,21	5,17	5,30	5,40	5,32	5,26	5,23
ηsc	A,E	%	199,30	202,70	205,50	203,60	208,80	212,80	209,60	207,20	206,10
Free-cooling plus											
Cooling capacity with low leaving water temp (UE n° 2016/2281)											
SEER	A,E	W/W	4,98	5,06	5,14	5,09	5,21	5,32	5,11	5,18	5,17
ηsc	A,E	%	196,30	199,40	202,50	200,40	205,50	209,70	201,20	204,00	203,70

ELECTRIC DATA

Size			1300	1350	2300	2325	2350	3300	3320	3340	3350
Electric data											
Maximum current (FLA)	A,E	A	165,0	249,0	329,0	413,0	498,0	493,0	577,0	737,0	737,0
Peak current (LRA)	A,E	A	36,0	45,0	210,0	305,0	315,0	384,0	479,0	575,0	575,0

GENERAL TECHNICAL DATA

Size			1300	1350	2300	2325	2350	3300	3320	3340	3350
Compressor											
Type	A,E	type	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Compressor regulation	A,E	Type	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
Number	A,E	no.	1	1	2	2	2	3	3	3	3
Circuits	A,E	no.	1	1	1	2	1	1	2	1	1
Refrigerant	A,E	type	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a	R134a
Refrigerant charge	A,E	kg	81,5	165,7	163,0	253,8	295,8	275,2	317,2	327,9	397,9
System side heat exchanger											
Type	A,E	type	Shell and tube	Shell and tube	Shell and tube	Shell and tube	Shell and tube	Shell and tube	Shell and tube	Shell and tube	Shell and tube
Number	A,E	no.	1	1	1	1	1	1	1	1	1
Hydraulic connections											
Connections (in/out)	A,E	Type	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints	Grooved joints
Size (in)	A,E	Ø	3″	4″	4″	5″	5″	5″	5″	6″	6″
Size (out)	A,E	Ø	3″	4″	4″	5″	5″	5″	5″	6″	6″
Sound data calculated in cooling mode (1)											
Sound power level	A	dB(A)	88,3	90,0	91,3	92,8	93,1	93,1	94,1	95,5	95,5
	E	dB(A)	82,3	84,0	85,3	86,8	87,1	87,1	88,1	89,5	89,5
Sound pressure level (10 m)	A	dB(A)	56,1	57,6	58,7	60,0	60,2	60,1	61,0	62,3	62,3
	E	dB(A)	50,1	51,6	52,7	54,0	54,2	54,1	55,0	56,3	56,3

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

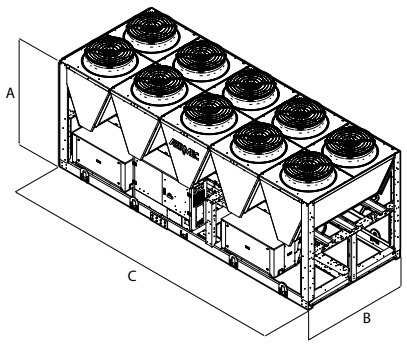
General data - fans (F model)

Size			1300	1350	2300	2325	2350	3300	3320	3340	3350
Fan											
Type	A,E	type	Axial	Axial	Axial	Axial	Axial	Axial	Axial	Axial	Axial
Fan motor	A,E	type	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
Number	A,E	no.	6	8	12	14	16	18	20	22	22
Air flow rate	A,E	m^3/h	93180	124240	186360	217420	248480	279540	310600	341660	341660

General data - fans (P model)

Size			1300	1350	2300	2325	2350	3300	3320	3340	3350
Fan											
Type	A,E	type	Axial	Axial	Axial	Axial	Axial	Axial	Axial	Axial	Axial
Fan motor	A,E	type	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter	Inverter
Number	A,E	no.	6	8	12	14	16	18	20	22	22
Air flow rate	A,E	m^3/h	88680	118240	177360	206920	236480	266040	295600	325160	325160

DIMENSIONS



Size			1300	1350	2300	2325	2350	3300	3320	3340	3350
Dimensions and weights											
A	A,E	mm	2450	2450	2450	2450	2450	2450	2450	2450	2450
B	A,E	mm	2200	2200	2200	2200	2200	2200	2200	2200	2200
C	A,E	mm	3570	4760	7140	8330	9520	10710	11900	13090	13090

Aermec S.p.A.
Via Roma, 996 - 37040 Bevilacqua (VR) - Italia
Tel. 0442633111 - Telefax 044293577
www.aermec.com