

NRL 028 - 075 F

Air-water chiller with free-cooling

Cooling capacity 13 ÷ 46 ton

- High efficiency also at partial loads
- Compact dimensions
- Quick & easy installation



DESCRIPTION

Air-cooled outdoor chiller designed to meet air conditioning needs in residential/commercial complexes or industrial applications. Outdoor units with scroll compressors, axial fans and plate heat exchangers. The base, the structure and the panels are made of galvanized steel treated with polyester paint RAL 9003.

VERSIONS

A High efficiency
E Silenced high efficiency

FEATURES

Operating field

Operation at full load up to 111.2 °F external air temperature depending on the size and version. For more information refer to the dedicated documentations or the selection program Magellano.

Dual-circuit unit

Unit with 2 refrigerant circuits designed to provide maximum efficiency at full load, ensuring high efficiency at partial loads also and ensuring continuity in case one of the circuits stops.

Condensation control temperature

Fitted as standard with a device for electronic condensation control so that the unit can work even with low temperatures, adapting the air flow rate to the actual system request in order to reduce consumption.

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.

Electronic expansion valve

The possibility to use electronic expansion valve, offers significant benefits, especially when the chiller is working with partial loads, increasing the energy efficiency of the unit.

Integrated hydronic kit

To obtain a solution that allows you to save money and to facilitate installation. These units can be configured with an integrated hydronic system.

The kit contains the main hydraulic components, and is available in various configurations with a single pump or a standby pump too, so the customer can choose the right useful head.

CONTROL

Microprocessor adjustment, with keyboard and LCD display, for easy access on the unit is a menu available in several languages.

- 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.
- **Night Mode:** it is possible to set a silenced operation profile. Perfect for night operation since it guarantees greater acoustic comfort in the evenings, and a high efficiency in the time of greater load.

ACCESSORIES

AER485P1: 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.

GP: Anti-intrusion grid.
VT: Antivibration supports
CRATE: Special crate for transport

FACTORY FITTED ACCESSORIES

DRE: Electronic device for peak current reduction.

PRM1: It is a manual pressure switch electrically wired in series with the existing automatic high pressure switch on the compressor discharge pipe.

ACCESSORIES COMPATIBILITY

Model	Ver	028	030	033	035	050	055	060	065	070	075
AER485P1	A,E	•	•	•	•	•	•	•	•	•	•
AERNET	A,E	•	•	•	•	•	•	•	•	•	•
MULTICHLILLER_EVO	A,E	•	•	•	•	•	•	•	•	•	•

Anti-intrusion grid

Ver	028	030	033	035	050	055	060	065	070	075
A	-	-	-	-	GP2 x 2 (1)	GP2 x 2 (1)	GP2 x 3 (1)	GP2 x 3 (1)	GP2 x 3 (1)	GP10 x 3 (1)
E	GP4	GP4	GP4	GP4	-	-	-	-	-	-

(1) x _ indicates the quantity to buy
The accessory cannot be fitted on the configurations indicated with -

Antivibration - model F

Ver	028	030	033	035	050	055	060	065	070	075
Integrated hydronic kit: 00, P3, P4										
A	-	-	-	-	VT13	VT13	VT22	VT22	VT22	VT23
E	VT17	VT17	VT17	VT17	-	-	-	-	-	-
Integrated hydronic kit: 03, 04										
A	-	-	-	-	VT10	VT10	VT22	VT22	VT22	VT23
E	VT13	VT13	VT13	VT13	-	-	-	-	-	-

Heater exchangers

Ver	028	030	033	035	050	055	060	065	070	075
A,E	DRE (1)									

(1) Contact the factory

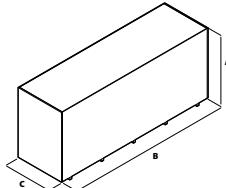
A grey background indicates the accessory must be assembled in the factory

Manually reset pressure switch

Ver	028	030	033	035	050	055	060	065	070	075
A,E	PRM1									

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

CRATE



CRATE	A (in)	B (in)	C (in)
CRATE02	87.9	138.7	50.4
CRATE03	87.9	180.1	50.4
CRATE04	95.7	184.0	66.2

CONFIGURATOR

Field	Description
1,2,3	NRL
4,5,6	Size 028, 030, 033, 035, 050, 055, 060, 065, 070, 075
7	Operating field <ul style="list-style-type: none"> ◦ Standard mechanic thermostatic valve (1) X Electronic thermostatic expansion valve (2) Y Low temperature mechanic thermostatic valve (3)
8	Model F Free-cooling
9	Heat recovery <ul style="list-style-type: none"> ◦ Without heat recovery
10	Version A High efficiency E Silenced high efficiency
11	Coils / free-cooling coils <ul style="list-style-type: none"> ◦ Copper-aluminium / Copper-aluminium R Copper-copper/Copper-copper S Copper-Tinned copper / Copper -Tinned copper V Copper-painted aluminium / Copper-painted aluminium
12	Fans I Inverter
13	Power supply <ul style="list-style-type: none"> 6 220V 3 ~ 60Hz 7 460V 3 ~ 60Hz 8 575V 3 ~ 60Hz 9 208V 3 ~ 60Hz
14,15	Integrated hydronic kit <ul style="list-style-type: none"> 00 Without hydronic kit Kit with storage tank and pump/s <ul style="list-style-type: none"> 03 Storage tank with high head pump 04 Storage tank with high head pump + stand-by pump Kit with pump/s <ul style="list-style-type: none"> P3 Single pump high head P4 Pump high head + stand-by pump

(1) Water produced from 39,2 °F ÷ 4 °C

(2) Water produced from 39,2 °F ÷ 4 °C; Options D, T, C are not compatible with thermostatic valve Y, X.

(3) Water produced from (21,2 ; 14 °F) ÷ (-6 ; 4 °C)

PERFORMANCE SPECIFICATIONS

CHILLER OPERATION

Size		028	030	033	035	050	055	060	065	070	075
Cooling performance chiller operation (1)											
Cooling capacity	A	ton	-	-	-	-	23.84	27.23	34.06	37.91	41.17
	E	ton	13.16	15.18	17.44	21.39	-	-	-	-	-
Input power	A	kW	-	-	-	-	33.30	40.02	48.02	56.23	64.65
	E	kW	16.38	19.52	22.32	29.95	-	-	-	-	65.05
Cooling total input current	A	A	-	-	-	-	52.0	61.0	76.0	85.0	95.0
	E	A	31.0	35.0	41.0	50.0	-	-	-	-	99.0
EER	A	BTU/(Wh)	-	-	-	-	8.59	8.16	8.51	8.09	7.64
	E	BTU/(Wh)	9.64	9.33	9.38	8.57	-	-	-	-	-
IPLV	A	BTU/(Wh)	-	-	-	-	12.01	11.91	12.56	12.18	11.87
	E	BTU/(Wh)	11.84	11.81	11.87	11.46	-	-	-	-	11.50
Water flow rate system side	A	gpm	-	-	-	-	57.03	65.14	81.48	90.69	98.50
	E	gpm	31.48	36.31	41.73	51.17	-	-	-	-	-
Pressure drop system side	A	ftH ₂ O	-	-	-	-	15.72	20.07	23.42	23.08	27.43
	E	ftH ₂ O	14.05	12.38	16.06	17.73	-	-	-	-	28.10

(1) System side water heat exchanger 53.6 °F / 44.6 °F; External air 95 °F; Chiller operation 100%; Free-cooling 0%

FREECOOLING START-UP

Size		028	030	033	035	050	055	060	065	070	075
Cooling performances with free-cooling (1)											
Cooling capacity	A	ton	-	-	-	-	14.44	15.15	19.68	23.30	23.97
	E	ton	7.99	10.33	12.09	12.94	-	-	-	-	-
Input power	A	kW	-	-	-	-	4.67	4.67	6.59	6.66	6.66
	E	kW	2.06	2.06	2.58	2.58	-	-	-	-	-
Free cooling total input current	A	A	-	-	-	-	7.3	7.1	10.0	10.0	9.8
	E	A	3.9	3.7	4.7	4.3	-	-	-	-	-
EER	A	BTU/(Wh)	-	-	-	-	37.11	38.93	35.84	41.98	43.20
	E	BTU/(Wh)	46.52	60.15	56.22	60.16	-	-	-	-	-
Water flow rate system side	A	gpm	-	-	-	-	53.61	61.23	76.59	85.25	92.58
	E	gpm	29.59	34.14	39.22	48.10	-	-	-	-	-
Pressure drop system side	A	ftH ₂ O	-	-	-	-	18.73	23.75	29.11	29.44	34.46
	E	ftH ₂ O	19.07	14.72	19.07	22.42	-	-	-	-	-

(1) System side water heat exchanger 53.6 °F / * °C; External air 35.6 °F

ELECTRIC DATA

Power supply 208/3/60Hz

Size		028	030	033	035	050	055	060	065	070	075
Integrated hydronic kit: 00											
Power supply: 208V											
Peak current (LRA)	A	A	-	-	-	-	385.0	407.0	398.0	469.0	489.0
	E	A	243.0	291.0	307.0	378.0	-	-	-	-	-
Minimum circuit amperage (MCA)	A	A	-	-	-	-	150.0	150.0	175.0	225.0	250.0
	E	A	90.0	90.0	100.0	150.0	-	-	-	-	300.0
Maximum overcurrent permitted by the protection device (MOP)	A	A	-	-	-	-	175.0	200.0	200.0	250.0	250.0
	E	A	100.0	110.0	125.0	175.0	-	-	-	-	300.0

Integrated hydronic kit: 03, 04, P3, P4

Power supply: 208V		028	030	033	035	050	055	060	065	070	075
Peak current (LRA)	A	A	-	-	-	-	393.0	415.0	406.0	483.0	503.0
	E	A	251.0	299.0	315.0	386.0	-	-	-	-	-
Minimum circuit amperage (MCA)	A	A	-	-	-	-	150.0	175.0	200.0	225.0	300.0
	E	A	90.0	100.0	110.0	150.0	-	-	-	-	-
Maximum overcurrent permitted by the protection device (MOP)	A	A	-	-	-	-	175.0	200.0	200.0	250.0	300.0
	E	A	110.0	125.0	125.0	175.0	-	-	-	-	-

Power supply 230/3/60Hz

Size		028	030	033	035	050	055	060	065	070	075
Integrated hydronic kit: 00											
Power supply: 230V											
Peak current (LRA)	A	A	-	-	-	-	374.0	394.0	380.0	450.0	468.0
	E	A	234.0	282.0	296.0	366.0	-	-	-	-	-
Minimum circuit amperage (MCA)	A	A	-	-	-	-	150.0	150.0	175.0	225.0	250.0
	E	A	75.0	90.0	100.0	150.0	-	-	-	-	300.0
Maximum overcurrent permitted by the protection device (MOP)	A	A	-	-	-	-	175.0	175.0	175.0	250.0	300.0
	E	A	100.0	110.0	125.0	175.0	-	-	-	-	-

Integrated hydronic kit: 03, 04, P3, P4

Power supply: 230V		028	030	033	035	050	055	060	065	070	075
Peak current (LRA)	A	A	-	-	-	-	382.0	402.0	388.0	463.0	481.0
	E	A	242.0	290.0	304.0	374.0	-	-	-	-	-

Size		028	030	033	035	050	055	060	065	070	075
Minimum circuit amperage (MCA)	A	A	-	-	-	150.0	175.0	175.0	225.0	300.0	300.0
E	A	90.0	90.0	110.0	150.0	-	-	-	-	-	-
Maximum overcurrent permitted by the protection device (MOP)	A	A	-	-	-	175.0	200.0	200.0	250.0	300.0	300.0
E	A	110.0	110.0	125.0	175.0	-	-	-	-	-	-

Power supply 460/3/60Hz

Size		028	030	033	035	050	055	060	065	070	075	
Integrated hydronic kit: 00												
Power supply: 460V												
Peak current (LRA)	A	A	-	-	-	-	186.0	195.0	192.0	221.0	229.0	265.0
E	A	127.0	156.0	163.0	192.0	-	-	-	-	-	-	
Minimum circuit amperage (MCA)	A	A	-	-	-	-	70.0	75.0	90.0	100.0	110.0	125.0
E	A	45.0	60.0	60.0	70.0	-	-	-	-	-	-	
Maximum overcurrent permitted by the protection device (MOP)	A	A	-	-	-	-	80.0	90.0	100.0	110.0	125.0	125.0
E	A	50.0	70.0	75.0	90.0	-	-	-	-	-	-	

Integrated hydronic kit: 03, 04, P3, P4

Size		028	030	033	035	050	055	060	065	070	075	
Power supply: 460V												
Peak current (LRA)												
E	A	131.0	160.0	167.0	196.0	-	-	-	-	-	-	
Minimum circuit amperage (MCA)	A	A	-	-	-	-	70.0	80.0	100.0	110.0	125.0	125.0
E	A	50.0	60.0	70.0	75.0	-	-	-	-	-	-	
Maximum overcurrent permitted by the protection device (MOP)	A	A	-	-	-	-	80.0	100.0	110.0	125.0	125.0	150.0
E	A	50.0	75.0	80.0	90.0	-	-	-	-	-	-	

Power supply 575/3/60Hz

Size		028	030	033	035	050	055	060	065	070	075	
Integrated hydronic kit: 00												
Power supply: 575V												
Peak current (LRA)	A	A	-	-	-	-	137.0	144.0	132.0	164.0	170.0	199.0
E	A	99.0	104.0	109.0	142.0	-	-	-	-	-	-	
Minimum circuit amperage (MCA)	A	A	-	-	-	-	60.0	60.0	70.0	90.0	100.0	110.0
E	A	35.0	40.0	45.0	60.0	-	-	-	-	-	-	
Maximum overcurrent permitted by the protection device (MOP)	A	A	-	-	-	-	70.0	75.0	75.0	100.0	110.0	125.0
E	A	40.0	50.0	50.0	80.0	-	-	-	-	-	-	

Integrated hydronic kit: 03

Size		028	030	033	035	050	055	060	065	070	075	
Power supply: 575V												
Peak current (LRA)												
E	A	102.0	107.0	113.0	145.0	-	-	-	-	-	-	
Minimum circuit amperage (MCA)	A	A	-	-	-	-	60.0	70.0	70.0	90.0	100.0	110.0
E	A	40.0	45.0	50.0	70.0	-	-	-	-	-	-	
Maximum overcurrent permitted by the protection device (MOP)	A	A	-	-	-	-	70.0	80.0	80.0	100.0	110.0	125.0
E	A	45.0	50.0	60.0	80.0	-	-	-	-	-	-	

Integrated hydronic kit: 04

Size		028	030	033	035	050	055	060	065	070	075	
Power supply: 575V												
Peak current (LRA)												
E	A	102.0	107.0	113.0	145.0	-	-	-	-	-	-	
Minimum circuit amperage (MCA)	A	A	-	-	-	-	60.0	70.0	70.0	90.0	100.0	110.0
E	A	40.0	45.0	50.0	70.0	-	-	-	-	-	-	
Maximum overcurrent permitted by the protection device (MOP)	A	A	-	-	-	-	70.0	80.0	80.0	100.0	110.0	125.0
E	A	45.0	50.0	60.0	80.0	-	-	-	-	-	-	

Integrated hydronic kit: P3

Size		028	030	033	035	050	055	060	065	070	075	
Power supply: 575V												
Peak current (LRA)												
E	A	102.0	107.0	113.0	145.0	-	-	-	-	-	-	
Minimum circuit amperage (MCA)	A	A	-	-	-	-	60.0	70.0	70.0	90.0	100.0	110.0
E	A	40.0	45.0	50.0	70.0	-	-	-	-	-	-	
Maximum overcurrent permitted by the protection device (MOP)	A	A	-	-	-	-	70.0	80.0	80.0	100.0	110.0	125.0
E	A	45.0	50.0	60.0	80.0	-	-	-	-	-	-	

Integrated hydronic kit: P4

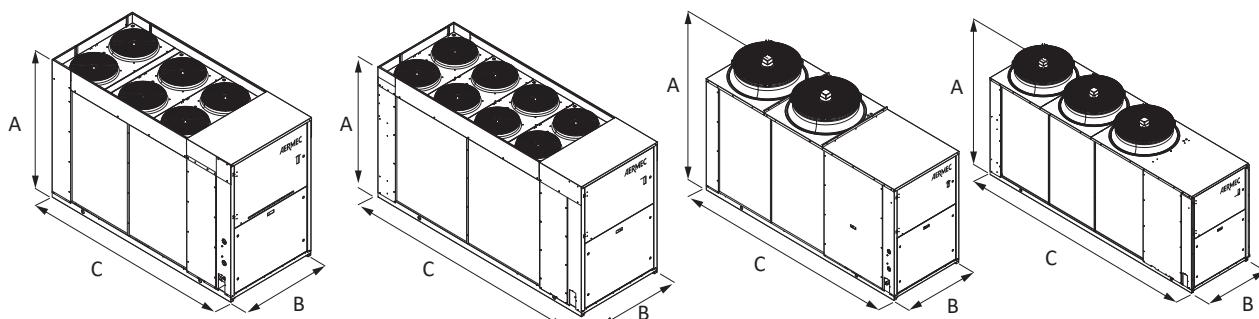
Size		028	030	033	035	050	055	060	065	070	075	
Power supply: 575V												
Peak current (LRA)												
E	A	102.0	107.0	113.0	145.0	-	-	-	-	-	-	
Minimum circuit amperage (MCA)	A	A	-	-	-	-	60.0	70.0	70.0	90.0	100.0	110.0
E	A	40.0	45.0	50.0	70.0	-	-	-	-	-	-	
Maximum overcurrent permitted by the protection device (MOP)	A	A	-	-	-	-	70.0	80.0	80.0	100.0	110.0	125.0
E	A	45.0	50.0	60.0	80.0	-	-	-	-	-	-	

GENERAL TECHNICAL DATA

Size		028	030	033	035	050	055	060	065	070	075
Compressor											
Type	A	type	-	-	-	-	Scroll	Scroll	Scroll	Scroll	Scroll
	E	type	Scroll	Scroll	Scroll	Scroll	-	-	-	-	-
Compressor regulation	A,E	Type									
Number	A	no.	-	-	-	-	3	3	4	4	4
	E	no.	2	2	2	2	-	-	-	-	-
Circuits	A	no.	-	-	-	-	2	2	2	2	2
	E	no.	2	2	2	2	-	-	-	-	-
Refrigerant	A,E	type					R410A				
System side heat exchanger											
Type	A,E	type					Brazed plate				
Number	A	no.	-	-	-	-	1	1	1	1	1
	E	no.	1	1	1	1	-	-	-	-	-
System side hydraulic connections											
Connections (in/out)	A,E	Type					Grooved joints				
Sizes (in/out)	A,E	Ø					2½"				
Fan											
Type	A	type	-	-	-	-	Axial	Axial	Axial	Axial	Axial
	E	type	Axial	Axial	Axial	Axial	-	-	-	-	-
Fan motor	A	type	-	-	-	-	Inverter	Inverter	Inverter	Inverter	Inverter
	E	type	Inverter	Inverter	Inverter	Inverter	-	-	-	-	-
Number	A	no.	-	-	-	-	2	2	3	3	3
	E	no.	6	6	8	8	-	-	-	-	-
Air flow rate	A	cfm	-	-	-	-	23836	23836	37170	36580	36580
	E	cfm	14750	14514	18172	18172	-	-	-	-	-
Sound data calculated in cooling mode (1)											
Sound power level	A	dB(A)	-	-	-	-	83	83	84	85	86
	E	dB(A)	74	75	77	78	77	77	77	78	81
Sound pressure level (10 m / 33 ft)	A	dB(A)	-	-	-	-	51	51	52	53	55
	E	dB(A)	42	43	45	46	45	45	45	46	49

(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



Size		028	030	033	035	050	055	060	065	070	075
Dimensions and weights											
A	A	in	-	-	-	-	73.8	73.8	73.8	73.8	77.0
	E	in	63.2	63.2	63.2	63.2	-	-	-	-	-
B	A	in	-	-	-	-	43.3	43.3	43.3	43.3	59.1
	E	in	43.3	43.3	43.3	43.3	-	-	-	-	-
C	A	in	-	-	-	-	128.3	128.3	157.9	157.9	171.5
	E	in	116.1	116.1	116.1	116.1	-	-	-	-	-
Weights											
Empty weight	A	lbs	-	-	-	-	2,449	2,467	3,018	3,197	3,241
	E	lbs	1,847	2,002	2,037	2,066	-	-	-	-	-

The weight of the unit does not include the hydronic kit and accessories.

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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