

## ANL 290/650 heat pump

### R410A



#### Aermec

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the products are present on the site  
[www.eurovent-certification.com](http://www.eurovent-certification.com)

**Reversible Heat Pumps**  
**Air/Water for outdoor installation**  
**Axial fan and scroll compressor:**  
**Cooling capacity 53 ÷ 128kW**  
**Heating capacity 61 ÷ 142kW**

**Variable Multi Flow**

**VMF**



## • STANDARD VERSION • LOW NOISE VERSION • VERSION WITH BUILT-IN HYDRONIC KIT

### Features

Reversible heat pumps for external installation for the production of chilled/ heated water with high performance and low electric absorption scroll compressors, axial fans, external copper coils with aluminium fins, system-side plate heat exchanger.

In the units with desuperheater, but in cooling-only operation, it is possible to produce free hot water.

The basement, the structure and the panelling are in steel treated with polyester anti-corrosion paint.

#### Versions

**ANL\_H:** Heat pump

**ANL\_HL:** Heat pump low noise

#### Range of operations

Work up to 44°C of outdoor air temperature at full load, depending on size.

For further details refer to the selection software/technical documentation.

- High efficiency scroll compressors
- Flow switch as standard supply.
- Low and high pressure transducers as standard supply.
- High efficiency exchangers.
- Electronic controller (Modu\_control).
- Possibility of integrated hydronic kit that encloses the main hydraulic components; it is

available in different configurations with one or two pumps, with different static pressures available

- Microprocessor control system
  - Control from the entering water temperature, with the possibility of selecting control of the leaving water temperature
  - Summer condensation control with 0-10V modulating signal depending on pressure, compensated according to the outside air temperature (with DCPX accessory)
  - Intelligent defrosting to decay of pressure.
  - Automatic rotation of compressors.
  - Load limiting safety control.
  - Automatic reset of alarms before total block.
  - Alarm history.

### Accessories

- **MODU-485BL:** RS-485 interface for supervision systems with MODBUS protocol.
- **AERSET:** accessory allows the automatic compensation of the operating setpoint of the unit to which it is connected, based on a 0-10V MODBUS input signal.

#### Mandatory accessory:

- **AER485 or MODU-485A**

- **AERWEB300:** The AERWEB option allows remote control of a chiller through a standard PC and an ethernet connection with a standard browser; 4 versions available:

**AERWEB300-6:** Web server to monitor and remote control maximum 6 units on RS485 network;

**AERWEB300-18:** Web server to monitor and remote control maximum 18 units on RS485 network;

**AERWEB300-6G:** Web server to monitor and remote control maximum 6 units on RS485 network with integrated GPRS modem;

**AERWEB300-18G:** Web server to monitor and remote control maximum 18 units on RS485 network with integrated GPRS modem.

- **MULTICONTROL:** Allows the simultaneous control of several chillers or heat pumps (up to 4) fitted with our MODUCONTROL controller and installed in the same hydraulic system.

For complete control the following accessories are available:

- **SPLW:** System water temperature sensor. In most cases the loose supplied sensors for each chiller/heat pump are sufficient. In cases of a common flow/return header this sensor can be used to control the common system supply water temperature for the chillers connected to the header, or it can be used for temperature monitoring.
- **DCPX:** Low temperature device for correct cooling mode operation with ambient temperatures from less than 10 °C down to - 10 °C.

- **PR3:** Simplified remote panel. Permits control of the basic unit functions (on/off and change of operating mode, diagnostics and alarm reset). Maximum distance permitted is 150 m with screened cable.
- **GP:** Protects the external coil from blows.
- **VT:** Anti-vibration mounts.

#### Accessories can only be applied in the factory

- **RIF:** Current rephaser. Connected in parallel to the motor, it allows a reduction of the absorbed current about 10%.
- **DRE:** Current soft starter device (about 26% for two-circuit-units). Available only with power supply 400V/3N.

#### COMPATIBILITY WITH THE VMF SYSTEM.

For further system information please refer to the specific documentation.

## Accessory compatibility

ANL_H		290	300	340	400	580	620	650
MODU-485BL	all	•	•	•	•	•	•	•
AERWEB-300	all	•	•	•	•	•	•	•
MULTICONTROL	all	•	•	•	•	•	•	•
SPLW	all	•	•	•	•	•	•	•
AERSET	all	•	•	•	•	•	•	•
PR3	all	•	•	•	•	•	•	•
DCPX (version with standard fan "O")	(1) H	-	-	-	83	83	83	83
	HL	inverter fans			standard	standard	standard	standard
DCPX (version increased fan "M")	H	-	-	-	-	-	-	-
	HL	62	62	63	-	-	-	-
GP	all	GP3	GP3	GP3	GP2 (x2)	GP2 (x2)	GP2 (x2)	GP2 (x2)
VT (00)	all	17	17	17	11	11	11	11
VT (P1-P2-P3-P4)	all	13	13	13	11	11	11	11
VT (01-02-03-04)	all	13	13	13	11	11	11	11
<b>Accessories can only be applied in the factory</b>								
RIF	all	32	32	42	42	50	72	51

(1) Standard with desuperheater

(1) Standard for the size up 400HL to 650HL

(x2) indicates the quantity to order

## Unit Configurator

By suitably combining the numerous options available it is possible to configure each model in such a way as to meet the most particular of system requirements.

Campo	Description
1,2,3	<b>ANL</b>
4,5,6	<b>Size</b> 290-300-340-400-580-620-650 (2)
7	<b>Field of use</b> ° Standard with produced water down to +4 °C <b>X</b> Electronic thermostatic valve temperature of water produced up to +4°C (for different temperatures please contact us)
8	<b>Model</b> <b>H</b> Heat pump
9	<b>Heat recovery</b> ° Without heat recovery <b>D</b> desuperheater (3)
10	<b>Versions</b> ° Standard <b>L</b> Low noise
11	<b>Coil</b> ° Aluminium <b>R</b> Copper <b>S</b> Tinned copper <b>V</b> Coated
12	<b>Fans (4)</b> ° Standard <b>M</b> Increased <b>J</b> Inverter
13	<b>Power supply</b> ° 400V/3N/50 Hz
14	<b>Soft-start</b> ° Without Soft Start <b>S</b> With Soft Start
15-16	<b>Integrated hydronic kit</b> <b>00</b> Without pump or storage tank <b>01</b> Low head pump and buffer tank <b>02</b> Single and standby low head pump and buffer tank <b>03</b> Single high head pump and buffer tank <b>04</b> Single and standby high head pump and buffer tank <b>P1</b> Low head pump <b>P2</b> Single and standby low head pump <b>P3</b> Single high head pump <b>P4</b> Single and standby high head pump

(2) Sizes up 290 to 340 are available only in the Low noise mode "L".

(3) The desuperheater can be used exclusively in the cold operation

(4) **On / off fan Standard**, standard sizes up 400 to 650

**Fans on/off Increased, options only for size up ANL290HL to 340HL**  
**Fans Inverter, standard sizes from 290 to 340, with no static pressure**  
**Fans Inverter, option for sizes from 400 to 650 with static pressure**

## Technical data

ANL - H			290	300	340	400	580	620	650	
V/ph/Hz			400V	400V	400V	400V	400V	400V	400V	
12°C / 7°C	Cooling capacity	(1)	kW	/	/	/	82,5	105,8	121,9	128,8
	Total input power	(1)	kW	/	/	/	28,98	41,54	43,29	48,42
	EER	(1)		/	/	/	2,85	2,55	2,82	2,66
	ESEER	(1)		/	/	/	4,06	3,74	4,06	3,93
	Cooling Energy Class Eurovent	(1)		/	/	/	C	D	C	D
	Water flow rate	(1)	l/h	/	/	/	14226	21125	21055	22257
40°C / 45°C	Pressure drop	(1)	kPa	/	/	/	29	55	53	61
	Heating capacity	(2)	kW	/	/	/	90,02	122,24	133,56	141,49
	Total input power	(2)	kW	/	/	/	28,45	38,74	42,08	46,01
	COP	(2)		/	/	/	3,16	3,16	3,17	3,08
	Heating Energy Class Eurovent	(2)		/	/	/	B	B	B	B
	Water flow rate	(2)	l/h	/	/	/	15577	21125	23077	24433
23°C / 18°C	Pressure drop	(2)	kPa	/	/	/	33	55	61	70
	Cooling capacity	(3)	kW	/	/	/	111,72	143,26	165	174,25
	Total input power	(3)	kW	/	/	/	32,14	46,11	48,21	53,98
	EER	(3)		/	/	/	3,48	3,11	3,42	3,23
	Cooling Energy Class Eurovent	(3)		/	/	/	D	F	D	E
	Water flow rate	(3)	l/h	/	/	/	16121	24879	28682	30319
30°C / 35°C	Pressure drop	(3)	kPa	/	/	/	36	80	96	110
	Heating capacity	(4)	kW	/	/	/	93,52	127	138,77	147
	Total input power	(4)	kW	/	/	/	23,67	32,28	35,06	38,34
	COP	(4)		/	/	/	3,95	3,93	3,96	3,83
	Heating Energy Class Eurovent	(4)		/	/	/	B	B	B	C
	Water flow rate	(4)	l/h	/	/	/	16121	21862	23883	25286
	Pressure drop	(4)	kPa	/	/	/	36	60	66	77
	Performance under average climatic conditions (Average)									
	Pdesignh	(5)		/	/	/	76	103	113	119
	SCOP	(5)		/	/	/	3,53	3,53	3,55	3,48
	ns	(5)		/	/	/	138	138	139	136

ANL - HL				290	300	340	400	580	620	650
V/ph/Hz				400V	400V	400V	400V	400V	400V	400V
12°C / 7°C	Cooling capacity	(1)	kW	52,97	57,25	65,66	77,98	100,73	116,16	122,25
	Total input power	(1)	kW	20,91	23,86	24,52	30,58	44,6	46,47	51,87
	EER	(1)		2,53	2,40	2,68	2,55	2,26	2,50	2,36
	ESEER	(1)		3,50	3,54	3,55	3,48	3,37	3,97	3,8
	Cooling Energy Class Eurovent	(1)		D	E	D	D	F	E	E
	Water flow rate	(1)	l/h	9138	9873	11331	13446	17385	20058	21118
40°C / 45°C	Pressure drop	(1)	kPa	26	24	31	26	40	48	55
	Heating capacity	(2)	kW	60,81	66,42	72,64	90,02	122,24	133,56	141,49
	Total input power	(2)	kW	18,82	20,61	22,37	28,45	38,74	42,08	46,01
	COP	(2)		3,23	3,22	3,25	3,16	3,16	3,17	3,08
	Heating Energy Class Eurovent	(2)		A	A	A	B	B	B	B
	Water flow rate	(2)	l/h	10518	11493	12564	15577	21125	23077	2443
23°C / 18°C	Pressure drop	(2)	kPa	32	29	35	33	55	61	70
	Cooling capacity	(3)	kW	71,74	77,56	88,93	109,05	140,83	162,32	170,74
	Total input power	(3)	kW	23,18	26,43	27,21	32,61	47,59	49,74	55,58
	EER	(3)		3,09	2,93	3,27	3,34	2,96	3,26	3,07
	Cooling Energy Class Eurovent	(3)		F	G	E	E	G	E	F
	Water flow rate	(3)	l/h	12448	13450	15435	18911	24452	28211	29701
30°C / 35°C	Pressure drop	(3)	kPa	47	42	56	51	77	93	106
	Heating capacity	(4)	kW	63,18	69,01	75,47	93,52	127	138,77	147
	Total input power	(4)	kW	15,67	17,15	118,62	23,67	32,28	35,06	38,34
	COP	(4)		4,03	4,02	0,64	3,95	3,93	3,96	3,83
	Heating Energy Class Eurovent	(4)		B	B	G	B	B	B	C
	Water flow rate	(4)	l/h	10885	11895	13002	16121	21862	23883	25286
	Pressure drop	(4)	kPa	35	32	38	36	60	66	77
	Prestazioni in condizioni climatiche medie (Average)									
	Pdesignh	(5)		51	56	61	76	103	113	119
	SCOP	(5)		3,58	3,60	3,60	3,53	3,53	3,55	3,48
	ηs	(5)		140	141	141	138	138	139	136
	Efficiency Energy Class	(6)		A+	A+	A+	/	/	/	/

### Date (14511:2013)

- (1) Water evaporator 12°C/7°C, External air 35°C
- (2) Water condenser 40°C/45°C, External air 7°C b.s./6°C b.u.
- (3) Water evaporator 23°C/18°C, External air 35°C
- (4) Water condenser 30°C/35°C, External air 7°C b.s./6°C b.u.
- (5) Efficiencies for low temperature Applications (35°C)
- (6) Efficiency Energy Class in according to regulation n°811/2013 Pdesignh ≤ 70kW

ANL - H				290	300	340	400	580	620	650
Electrical data										
Total input currente (cooling)	H	(7)	A	/	/	/	52	68	70	77
Total input currente (heating)	H	(7)	A	/	/	/	51	63	68	74
Maximum current (FLA)	H	(7)	A	/	/	/	65	98	107	116
Starting current (LRA)	H	(7)	A	/	/	/	181	264	264	273
Total input currente (cooling)	HL	(7)	A	37	41	45	54	72	75	83
Total input currente (heating)	HL	(7)	A	34	36	42	51	63	68	74
Maximum current (FLA)	HL	(7)	A	44	47	54	65	98	107	116
Starting current (LRA)	HL	(7)	A	126	128	160	181	264	264	273
Scroll Compressor										
Compressors / Circuit	n°			2/1	2/1	2/1	2/1	2/1	2/1	2/1
Refrigerant	Type			R410A						
Heat exchanger system side										
Exchanger	Type/n°			Plate/1						
hydraulic connections (In/Out)	Ø			2"½						
Axial fans										
Fan	Type/n°			Inverter/4	Inverter/4	Inverter/6	std/2	std/2	std/2	std/2
Air flow rate (cooling)	H	m³/h		/	/	/	45800	45800	44600	44600
	HL	m³/h		17600	17600	17200	32060	32060	31220	31220
Sound data (cooling mode)										
Sound power level	H	dB(A)		/	/	/	89.4	89.4	89.4	89.4
Sound pressure level	H	dB(A)		/	/	/	57.6	67.6	57.6	57.6
Sound power level	HL	dB(A)		73.4	74.1	74.3	83.4	84.0	84.6	85.2
Sound pressure level	HL	dB(A)		41.7	42.4	42.6	51.5	52.1	52.7	53.4

(7) Unit standar configuration without hydronic kit

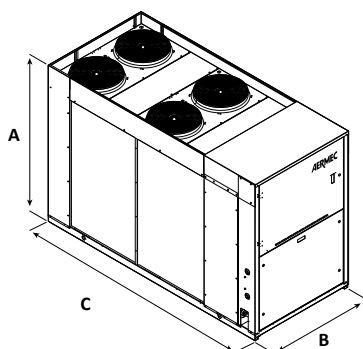
**Sound power** Aermec determines sound power values on the basis of measurements made in accordance with UNI EN ISO 9614-2, as required for Eurovent certification.

**Sound pressure** Sound pressure in free field, at 10 m distance from the external surface of the unit (in accordance with UNI EN ISO 3744).

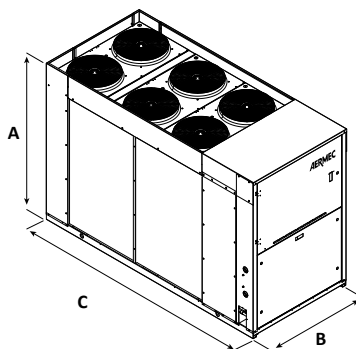
**Note:** For more information, refer to the selection program or the technical documentation available on the website [www.aermec.com](http://www.aermec.com)

## Dimensions (mm)

ANL-H 290-300



ANL-H 340



Mod. ANL_H			290	300	340	400	580	620	650
Height	A	mm	1605	1605	1605	1875	1875	1875	1875
Width	B	mm	1100	1100	1100	1100	1100	1100	1100
Length	C	mm	2450	2450	2450	2950	3200	3200	3200
Weight "00"		Kg	655	660	684	808	902	1008	1053
Weight operation "00"		Kg	673	679	703	832	926	1033	1078

Aermec reserves the right to make all modification deemed necessary for improving the product at any time with any modification of technical data.

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