



CHILLERS AND HEAT PUMPS - Technical manual

ANLI H



Dear Customer,

Thank you for choosing an AERMEC product. This product is the result of many years of experience and in-depth engineering research, and it is built using top quality materials and advanced technologies.

Moreover, the CE mark guarantees that our appliances fully comply with the requirements of the European Machinery Directive in terms of safety. We constantly monitor the quality level of our products, and as a result they are synonymous with Safety, Quality, and Reliability.

Product data may be subject to modifications deemed necessary for improving the product without the obligation to give prior notice.

Thank you again.
AERMEC S.p.A

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ANLI

SERIAL NUMBER

**CE DECLARATION
OF CONFORMITY**

We, the undersigned, hereby declare under our own responsibility that the assembly in question, defined as follows:

NAME ANLI 020H - 025H - 070H
TYPE WATER/AIR chiller, heat pump
MODEL

To which this declaration refers, complies with the following harmonised standards:

CEI EN 60335-2-40 Safety standard regarding electrical heat pumps, air conditioners and dehumidifiers
CEI EN 61000-6-1 Immunity and electromagnetic emission for class B residential environment for
CEI EN 61000-6-3 ANLI 020H, class A for ANLI 070H
CEI EN 61000-6-2 Immunity and electromagnetic emissions for industrial environments
CEI EN 61000-6-4
CEI EN 61000-3-2 (ANLI 020H) Limits for the emission of harmonic currents
CEI EN 61000-3-11 Limitation of voltage variations, the voltage fluctuations and the flicker in public low voltage power supply systems
CEI EN 61000-3-12 (ANLI 070H) Limits for the emission of harmonic currents

Therefore complying with the essential requirements of the following directives:

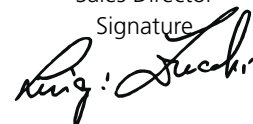
- LVD Directive: 2006/95/CE
- Directive for electromagnetic compatibility 2004/108/CE

La persona autorizzata a costruire il fascicolo tecnico è: Massimiliano Sfragara - 37040 Bevilacqua (VR) Italy - via Roma,996

Bevilacqua

28/12/2009

Sales Director
Signature



ANLI

SERIAL NUMBER	
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CE DECLARATION OF CONFORMITY

We, the undersigned, hereby declare under our own responsibility that the assembly in question, defined as follows:

NAME ANLI 100H
TYPE WATER/AIR chiller, heat pump
MODEL

To which this declaration refers, complies with the following harmonised standards:

CEI EN 60335-2-40	Safety standard regarding electrical heat pumps, air conditioners and dehumidifiers
CEI EN 61000-6-1 CEI EN 61000-6-3	Immunity and electromagnetic emissions for residential environments
CEI EN 61000-6-2 CEI EN 61000-6-4	Immunity and electromagnetic emissions for industrial environments
CEI EN 61000-3-11	Limitation of voltage variations, the voltage fluctuations and the flicker in public low voltage power supply systems
CEI EN 61000-3-12	Limits for the emission of harmonic currents
EN378	Refrigerating systems and heat pumps - Safety and environmental requirements
EN12735	Copper and copper alloys - Seamless, round copper tubes for air conditioning and refrigeration
UNI 12735	Seamless, round copper tubes for air conditioning and refrigeration
UNI 14276	Pressure equipment for cooling systems and heat pumps

Therefore complying with the essential requirements of the following directives:

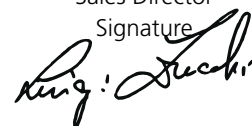
- LVD Directive: 2006/95/CE
- Directive for electromagnetic compatibility 2004/108/CE
- Machinery Directive 2006/42/CE
- PED Directive regarding pressurised devices 97/23/CE

The product, in agreement with Directive 97/23/CE, satisfies the Total quality Guarantee procedure (form H) with certificate n.06/270-QT3664 Rev.5 issued by the notified body n.1131 CEC via Pisacane 46 Legnano (MI) - Italy

La persona autorizzata a costruire il fascicolo tecnico è: Massimiliano Sfragara - 37040 Bevilacqua (VR) Italy - via Roma,996

Bevilacqua 28/12/2009

Sales Director
Signature



1. GENERAL WARNINGS

Standards and Directives respected on designing and constructing the unit:

Safety:

Machinery Directive

98/37/CE

Low Voltage Directive

LVD 2006/95/CE

Electromagnetic

Compatibility Directive

EMC 2004/108/CE

Pressure Equipment Directive

PED 97/23/CE EN 378,

UNI EN 14276

Electric part:

EN 60204-1

Protection rating

IP24

Acoustic part:

ISO DIS 9614/2

(intensimetric method)

Certifications:

Eurovent

NF x ANLI 020H

Performance data:

UNI EN 14511

Refrigerant GAS:

This unit contains fluoride gases with greenhouse effect covered by the Kyoto Protocol. Maintenance and disposal must only be performed by qualified staff. R410A GWP=1900

AERMEC ANLIs are constructed according to the recognised technical standards and safety regulations. They have been designed for air conditioning and the production of domestic hot water (DHW) and must be destined to this use compatibly with their performance features. Any contractual or extracontractual liability of the Company is excluded for injury/damage to persons, animals or objects owing to installation, regulation and maintenance errors or improper use. All uses not expressly indicated in this manual are prohibited.

1.1. PRESERVATION OF THE DOCUMENTATION

The instructions along with all the related documentation must be given to the user of the system, who assumes the responsibility to conserve the instructions so that they are always at hand in case of need.

Read this sheet carefully; the execution of all works must be performed by qualified staff, according to Standards in force on this subject in different countries. (Ministerial Decree 329/2004). The appliance must be installed in such a way as to enable maintenance and/or repairs to be carried out.

The appliance warranty does not cover the costs for ladder trucks, scaffolding, or other elevation systems that may become necessary for carrying out servicing under warranty.

Do not modify or tamper with the chiller as dangerous situations can be created and the manufacturer will not be liable for any damage caused. The

validity of the warranty shall be void in the event of failure to comply with the above-mentioned indications.

1.2. WARNINGS REGARDING SAFETY AND INSTALLATION STANDARDS

- The chiller must be installed by a qualified and suitably trained technician, in compliance with the national legislation in force in the country of destination (Ministerial Decree 329/2004).

AERMEC will not assume any responsibility for damage due to failure to follow these instructions.

- Before beginning any operation, READ THESE INSTRUCTIONS CAREFULLY AND CARRY OUT THE SAFETY CHECKS TO REDUCE ALL RISK OF DANGER TO A MINIMUM. All the staff involved must have thorough knowledge of the operations and any dangers that may arise at the moment in which the installation operations are carried out.



Danger!

The refrigerant circuit is under pressure. Moreover, very high temperatures can be reached. The appliance may only be opened by a SAT service technician or by a qualified technician. Work on the cooling circuit may only be carried out by a qualified refrigeration technician.



R410A REFRIGERANT GAS

The chiller is delivered complete with the correct refrigerant load. R410A does not contain chlorine, is not inflammable and does not damage the ozone layer. However, any interventions are always the competence of the technical after/sales service (SAT) or a qualified technician.

2. DESCRIPTION AND CHOICE OF UNIT

The INVERTER air cooled heat pumps from the ANLI range have been designed and realised to satisfy the heating and cooling requirements of medium and small utilities in residential and commercial buildings. It can be coupled with all terminals (radiating panels, fan coils and radiators) and can produce domestic hot water (D.H.W.). Thanks to INVERTER technology, the ANLIs can modulate the heating and cooling capacity continuously from 35% to 100% at the electric DC "brushless" motor with permanent magnets and at the electronic thermostatic valve. This allows to adapt the power distributed on request from the system

moment by moment. The result is energy saving during winter and summer air conditioning and in the production of domestic hot water (D.H.W.) of an average of 20% with respect to a traditional ON-OFF heat pump.

NOTE

Whenever the production of domestic hot water (D.H.W.) is envisioned FOR ANLI 020H ONLY the installation of the DCPX accessory is mandatory. (See accessories chapter).

1.3. CONFIGURATOR

1,2,3,4	5,6,7	8	9	10	11	12	13	14
ANLI	020	H	P	°	°	°	°	M

Field Code

1, 2, 3, 4 ANLI

5, 6, 7 Sizes 020 - 025 - 070 - 100

8 Model
H Heat Pump

9 Version
° Standard
P With ON/OFF pump
X With INVERTER pump

10 Heat recovery
° Without recuperators

11 Coils
° In aluminium
R In copper
S Tinned copper
V Painted aluminium

12 Field of use
° Version for low water temperature produced up to a -6 °C

13 Evaporator
° A PED standard

14 Power supply
M 1~230V-50Hz (020 - 070)
T 400V-3N-50Hz (100)

NOTES

Options not available:
With

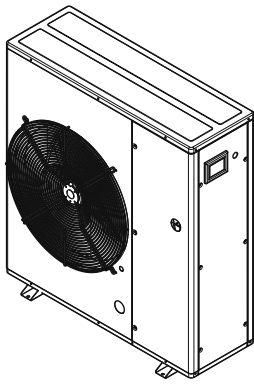
1-230V-50Hz power supply:

ANLI 100

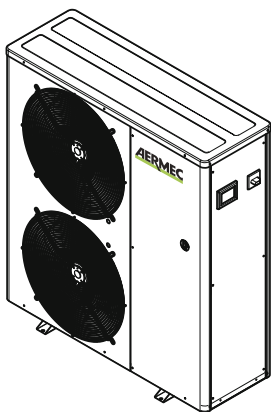
With

400V-3N-50Hz power supply:

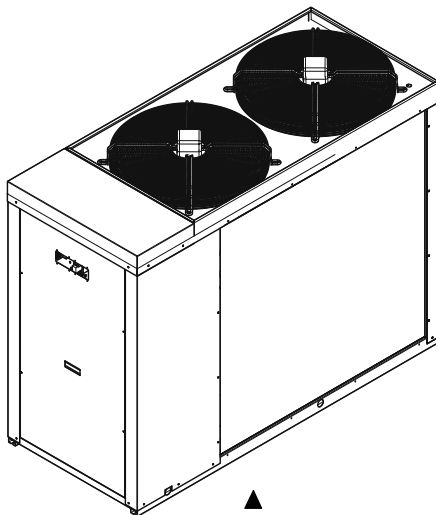
ANLI 020 - 025 - 070



▲
ANLI 020H - 025H



▲
ANLI 070H



▲
ANLI 100H

3. DESCRIPTION OF THE COMPONENTS

3.1. COOLING CIRCUIT

Compressor

High efficient DC "Brushless" on anti-vibration mounts, activated by a 2-pole electric motor with internal heat protection.

Air-side heat exchanger

Made with copper pipes and aluminium louvered fins blocked by mechanical expansion of the pipes. Provided with protective grid.

Water-side heat exchanger

Unit with heat plate, insulated externally with closed cell material to reduce heat loss.

Dehydrator filter

Mechanical type with cartridges realised in ceramics and hygroscopic material, able to withhold impurities and any traces of humidity present in the cooling circuit.

Electronic thermostatic valve

The electronic valve positioned at evaporator outlet, modulates the flow of gas to the evaporator, depending on the heat load, in order to ensure a correct heating level of the intake gas.

HOT GAS INJECTION solenoid valve

The valve positioned between the compressor flow and the outlet of the thermostatic valve allows to carry out defrosting cycles without reversing the cycle.

Cycle reversing valve

Reverses the flow of refrigerant on defrosting.

One-way valve

Allows one-way flow of the refrigerant.

Liquid storage

Compensates the difference in volume between louvered fin coil and plate exchanger, and during winter mode retains access liquid.

3.2. FRAME AND FANS

Ventilation Unit

Helical type, balanced statically and dynamically. Electric fans are electronically protected electrically by magnet-circuit breakers and mechanically by anti-intrusion metal grids, according to IEC EN 60335-2-40 Standard.

Support frame

Made in hot galvanised sheet steel with suitable thickness and painted with polyester powders able to resist atmospheric agents through time.

3.3. HYDRAULIC CIRCUIT

Circulation pump (circulator)

Version P – X.

Differential pressure switch

Positioned between entrance and exit of evaporator. It has the task of controlling that there is water circulation, if this is not the case it blocks the unit.

Water filter

This allows to block and eliminate any impurities present in the hydraulic circuits. It contains a filtering mesh with holes that do not exceed one millimetre.

It is indispensable in order to prevent serious damage to the plate exchanger.

Air vent valve

(only in versions with pump)

Manual type sees to discharge of eventual air pockets. It is interrupted by a tap to facilitate eventual replacement.

Expansion vessel

(only in versions with pump)

with nitrogen pre-load membrane.

ANLI020 and 025 1l - ANLI 070 5l - ANLI 100 8l.

Hydraulic circuit safety valve

(only in versions with pump)

Calibrated at 6 BAR and with piped discharger, dischargers if abnormal pressure occurs.

3.4. CONTROL AND SAFETY COMPONENTS

High pressure switch (AP)

With fixed calibration, placed on high pressure side of cooling circuit, inhibits functioning of compressor if abnormal work pressure occurs.

Low pressure transducer (TBP)

Placed on low pressure side of cooling circuit, signals the work pressure to control board, generating a pre-warning in case abnormal pressure occurs.

High pressure transducer (TAP)

Placed on high pressure side of cooling circuit, signals the work pressure to control board, generating a pre-warning in case abnormal pressure occurs.

- magnet circuit-breaker protection
- fans magnet-circuit breakers protection;
- auxiliary magnet circuit-breaker protection
- Inlet water temperature probes, Heat exchanger outlet
- Probes for pressing line and coil inlet/outlet gas temperature.
- external air temperature probe (WITH DCPX ACCESSORY)

3.5. ELECTRIC COMPONENTS

Electric Control Board

Contains the power section and the management of controls and safety devices. It is in compliance with IEC 60204-1 and the Directives regarding electromagnetic compatibility.

Door-lock isolating switch

The electric control board can be accessed by removing the voltage. Act on the opening lever of the control board itself. This lever can be locked using one or more padlocks during maintenance interventions to prevent the machine being powered up accidentally.

Control board

Allows the complete control of the appliance. For a more in-depth description please refer to the user manual.

3.6. ELECTRONIC MODU CONTROL ADJUSTMENT

MODU_CONTROL

Temperature control of the output water with proportional-integral algorithm: maintains average output temperature at value set

- Hot gas injection defrosting: In this way the machine consumes less energy, increases heating capacity, keeps efficiency high and prevents temperature drops at the terminals (very important in plants with low water content)
- Emergency defrosting by cooling cycle reversing: to overcome more serious conditions
- Set-point compensation with external temperature (with external air probe accessory): reduces energy consumption
- Condensation check based on the pressure rather than on temperature for absolute stability (with DCPX revs. adjuster accessory)
- Inverse condensation check for the heat pump functioning mode also in summer (with DCPX REVS. ADJUSTER ACCESSORY, ONLY ON ANLI 020H)
- Pre-alarms with automatic reset in the case of alarm, a certain number of re-starts are allowed before the definitive block
- Alarm on the ΔT : to identify wiring errors (reverse rotation) or blocked cycle reversing valve
- Compressor functioning hours count
- Compressor peak count
- Historical alarms
- Autostart after voltage drop
- Local or remote control

Display of the start of the unit:

- a. Voltage presence
- b. Compressor ON/OFF
- c. Functioning mode (hot/cold)
- d. Alarm active

Probes, transducers and parameters display

- a. Water outlet
- b. Water inlet
- c. Coil temperature
- d. Pressing gas temperature
- e. External air temperature
- f. Flow pressure
- g. Intake pressure
- h. Temperature error (sum of the proportional and integral error)
- i. Stand-by times for start-up/switch-off of the compressor
- l. Functioning frequency

Alarms management:

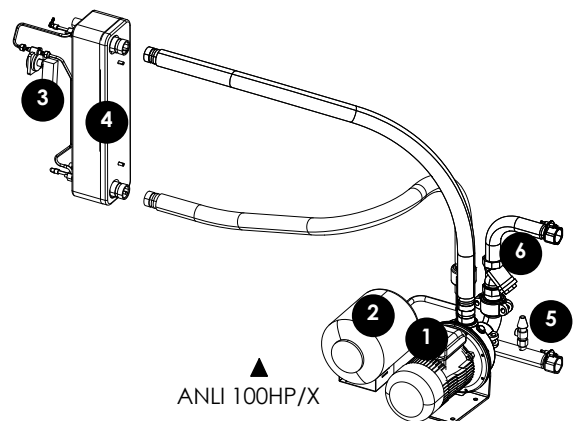
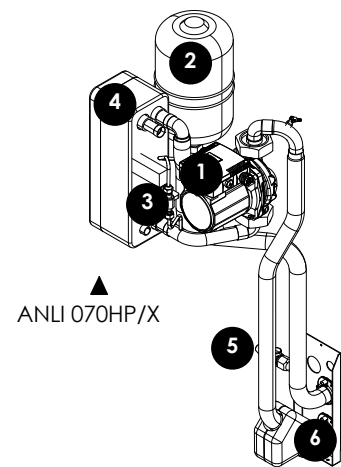
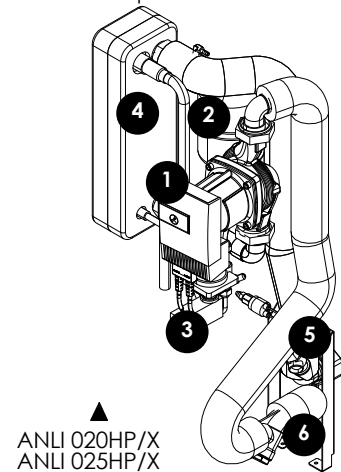
- a. Low pressure
 - b. High pressure (primary alarm: switch directly blocks supply to compressor)
 - c. High discharge temperature
 - d. Anti-freeze
 - e. Water differential pressure switch
 - f. Alarm on the ΔT
- Alarms with automatic reset with limited number of re-starts before blocking
 - ON/OFF external contact
 - Change season from external contact

For further information please refer to user manual.

EXAMPLES OF HYDRAULIC CIRCUITS

with pump

the diagrams shown here are an example





KEY

- 1 Circulator/pump (ON/OFF or INVERTER)
- 2 Expansion vessel
- 3 Differential pressure switch
- 4 Plate heat exchanger
- 5 Safety valve
- 6 Filter

4. ACCESSORIES COMPATIBILITY TABLE

		020	025	070	100	
SIMPLIFIED REMOTE PANEL		MODELS				
PR3	Allows basic control functioning of unit (start-up/switch-off, change function mode, alarm summary). Maximum installation space is of 150 m. with a 6 pole cable (cooling only versions) or 7 poles (heat pump) with minimum screening section of 0.5 mm ² .	•	•	•	•	
CONDENSATION CONTROL DEVICE						
DCPX	Allows correct functioning in cooling mode with external temperatures lower than 20°C and to -10°C, in heating mode from 20 °C to 42 °C. Accessory mandatory for the production of domestic hot water (DHW) in summer functioning mode for ANLI 020H only . THE USE OF THE DCPX ON ANLI 070 - 100H IS THEREFORE LIMITED IF FUNCTIONING IN COOLING MODE WITH EXTERNAL AIR TEMPERATURES LOWER THAN 20° C	51	51	51	53	
ANTI-VIBRATION						
VT	Group of four anti-vibration mounts to be installed under the sheet steel base in the prepared points. They serve to reduce vibrations produced by the compressor and fan whilst functioning.	ALL	9	9	9	15
CONDENSATE DRIP TRAY						
BDX		5	5	5	-	
ELECTRICAL EVAPORATOR RESISTOR						
KR	Electric resistance for heat plate exchanger. Avoids freezing of water stored in the tank during winter breaks.	ALL	2	2	2	2

5. TECHNICAL DATA

						Frequen- cy F1	Frequen- cy F2	Frequen- cy F3
ANLI		020H	025H	070H	100H	100H	100H	
HEATING: water 40°/45°C, external air 7°/6°C 								
Heating capacity	H	kW	6.18	7.31	14.04	31.70	24.95	20.08
	HP/HX	kW	6.10	7.21	13.81	31.00	24.30	19.54
Input power	H	kW	2.08	2.33	4.44	11.40	8.34	6.36
	HP/HX	kW	2.10	2.35	4.48	11.45	8.35	6.38
Total water flow rate	H	l/h	1063	1257	2415	5452	4291	3454
	HP/HX	l/h	1049	1241	2376	5332	4179	3362
Pressure drops	H	kPa	25	29	17	59	36	23
HEATING: water 30°/35°C, external air 7°/6°C 								
Heating capacity	H	kW	6.48	7.66	14.54	33.75	25.34	20.87
	HP/HX	kW	6.40	7.59	14.31	33.01	24.65	20.32
Total input power	H	kW	1.72	1.93	3.74	9.85	7.05	5.44
	HP/HX	kW	1.74	1.94	3.78	9.86	7.06	5.46
Total water flow rate	H	l/h	1114	1318	2502	5805	4359	3590
	HP/HX	l/h	1100	1306	2462	5678	4239	3494
Pressure drops	H	kPa	28	32	19	66	37	28
COOLING: water 12°/7°C, external air 35°C								
Cooling capacity	H	kW	5.88	6.42	14.56	28.77	23.95	20.03
	HP/HX	kW	5.95	6.50	14.79	29.43	24.53	20.23
Total input power	H	kW	2.12	2.42	4.44	11.73	8.14	6.00
	HP/HX	kW	2.14	2.44	4.48	11.82	8.31	5.80
Total water flow rate	H	l/h	1011	1104	2504	4948	4120	3445
	HP/HX	l/h	1023	1117	2544	5061	4219	3480
Pressure drops	H	kPa	23	29	19	50	30	24
ENERGY INDEX								
COP 40°/45°	H	W/W	2.97	3.14	3.16	2.78	2.99	3.16
	HP/HX	W/W	2.90	3.07	3.08	2.71	2.91	3.06
COP 30°/35°	H	W/W	3.77	3.98	3.88	3.43	3.59	3.84
	HP/HX	W/W	3.71	3.92	3.79	3.35	3.49	3.72
EER	H	W/W	2.77	2.66	3.28	2.45	2.94	3.34
	HP/HX	W/W	2.78	2.66	3.30	2.49	2.95	3.49
ESEER	H	W/W	3.82	3.82	4.60	4.33		
ELECTRICAL DATA								
Power supply	-	-	230V-1-50 Hz			400V-3N-50Hz		
Total input current 40°/45°	H	A	10.1	11.3	19.1	15.7	11.5	8.8
	HP/HX	A	10.6/10.6	11.8	20.5/19.8	17.1	12.9	10.2
Total input current 30°/35°	H	A	8.4	9.4	16.0	13.4	9.6	7.4
	HP/HX	A	8.9/8.9	9.9	17.4/16.7	14.8	11.0	8.8
Total input current 12°/7°	H	A	10.3	10.9	18.9	16.3	11.3	8.3
	HP/HX	A	10.8/10.8	11.4	20.3/19.6	17.7	12.7	9.7
Maximum current (FLA)	H	A	14.0	14.0	24.5	21.0		
	HP/HX	A	14.5/14.5	14.5	25.9/25.2	22.4		
Peak current (LRA)	H	A	20.0	20.0	25.0	30.0		
	HP/HX	A	20.5/20.5	20.5	26.4/25.7	31.4/30.7		

DATA DECLARED IN COMPLIANCE WITH THE UNI EN 14511 2004 STANDARD AS THE RANGE OF ADJUSTMENT OF THE COMPRESSOR WIDER THAN PREVIOUS MODELS, IN THE STATEMENT OF BENEFITS HAVE PROVIDED THE FOLLOWING DATA:
MAXIMUM FREQUENCY F1 - MAXIMUM PERFORMANCE

AVERAGE FREQUENCY F2 - BENEFITS UNDER THE FRENCH STANDARD NF 414
FREQUANZA MINIMUM F3 - BENEFITS UNDER THE ITALIAN FINANCIAL YEARS 2008-2009

FAN COILS HEATING

- Inlet water temp.40 °C
- Produced water temp.45 °C
- External air temp. 7 °C b.s./ 6 °C b.u.
- Δt5 °C

RADIANT PANELS HEATING

- Inlet water temp.30 °C
- Produced water temp.35 °C
- External air temp. 7 °C b.s./ 6 °C b.u.
- Δt5 °C

COOLING

- Inlet water temp.12 °C
- Produced water temp.7 °C
- External air temp.35 °C
- Δt5 °C

						Frequen- cy F1	Frequen- cy F2	Frequen- cy F3
ANLI			020H	025H	070H	100H	100H	100H
COMPRESSORS			type	scroll	scroll	rotary	scroll	
Number/circuit			N°	1/1	1/1	1/1	1/1	
Carter compressor resistance				1x	1x	1x	1x	
Partializations			%					
FANS (AXIAL)								
Number			N°	1	1	2	2	
Air flow rate			m ³ /h	2500	3500	7200	13200	
Input power			kW	0.085	0.14	0.14	0.6	
Input current			A	0.45	0.66	1.3	2.6	
EVAPORATOR (PLATES)								
Number			N°	1	1	1	1	
GAS REFRIGERANT LOAD								
R410A			H	kg	1770	1770	4450	12500
			HP/HX					
CIRCULATION PUMP ON/OFF								
Input power			kW	0,1	0,1	0,27	0,75	
Input current			A	0,5	0,5	1,4	1,4	
Pressure availability useful to the system			kPa	57	52	82	92	
INVERTER CIRCULATION PUMP								
Input power			kW	0,1	0,1	0,13	0,75	
Input current			A	0,5	0,5	0,7	1,4	
Pressure availability useful to the system			kPa	57	52	72	92	
HYDRAULIC CONNECTIONS								
Water inlet			dll	Ø	1" 1/4	1" 1/4	1" 1/4	1" 1/4
Water outlet			dll	Ø	1" 1/4	1" 1/4	1" 1/4	1" 1/4
SOUND DATA								
Sound power			dll	dB(A)	61	68	69	76
Sound pressure			dll	dB(A)	29	37	38	44
DIMENSIONS								
Height			mm	868	868	1281	1345	
Width			mm	900	900	1124	750	
Depth			mm	310	310	384	1750	
WEIGHT a vuoto			H	kg	70	70	134	293
			HP/HX	kg	72	72	141	308

DATA DECLARED IN COMPLIANCE WITH THE UNI EN 14511 2004 STANDARD AS THE RANGE OF ADJUSTMENT OF THE COMPRESSOR WIDER THAN PREVIOUS MODELS, IN THE STATEMENT OF BENEFITS HAVE PROVIDED THE FOLLOWING DATA:

MAXIMUM FREQUENCY F1 - MAXIMUM PERFORMANCE
 AVERAGE FREQUENCY F2 - BENEFITS UNDER THE FRENCH STANDARD NF 414
 FREQUANZA MINIMUM F3 - BENEFITS UNDER THE ITALIAN FINANCIAL YEARS 2008-2009

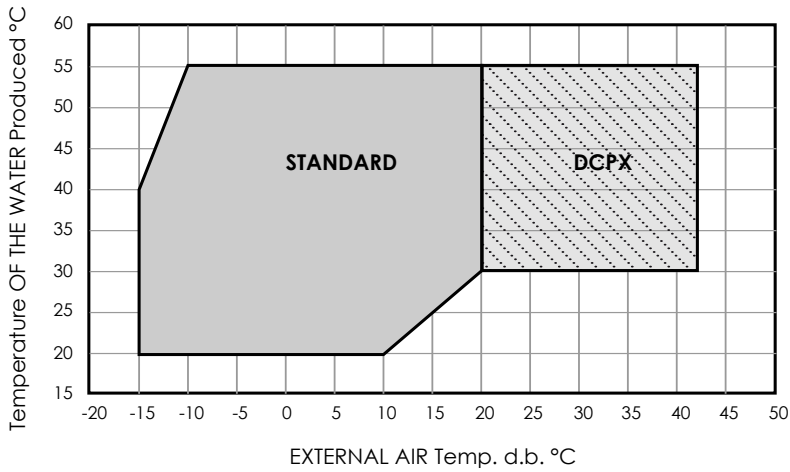
Sound power

Aermec determines sound power values in agreement with 9614 standard, in compliance with that requested by Eurovent certification.

Sound Pressure

Sound pressure measured in free field conditions with reflective surface (directivity factor Q=2) at 10mt distance from external surface of unit, in compliance with ISO 3744 regulations.

6.1. FUNCTIONING IN HEATING MODE AT MAXIMUM FREQUENCY

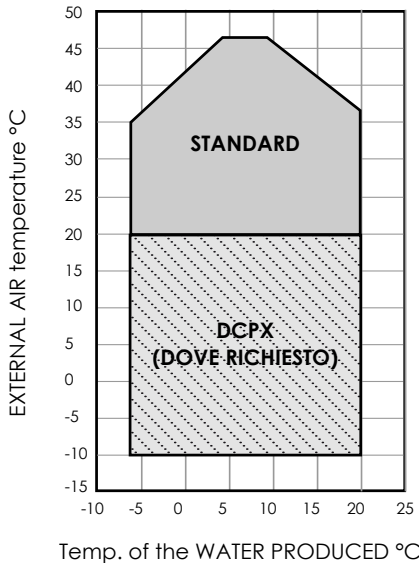


6. OPERATIONAL LIMITS

The units, in standard configuration, are not suitable for installation in salty environments. The maximum and minimum limits for water flow rate to the heat exchanger are indicated by the pressure drop diagram curves. For functioning limits, please refer to the diagrams, valid for $\Delta t = 5\text{ }^{\circ}\text{C}$.

If the machine is to be operated out the limits indicated in the diagram, please contact AERMEC technical-sales dept.

6.2. FUNCTIONING IN COOLING MODE AT MAXIMUM FREQUENCY



NOTE:

DCPX ACCESSORY

Allows correct machine functioning:

- In **HEATING MODE**: from **20 °C to 42 °C**. The accessory is mandatory for the production of domestic hot water (DHW) in summer functioning mode **for ANLI 020H only**.
- In **COOLING MODE** with external temperatures lower than 20 °C and to -10 °C. USE OF THE DCPX ON **ANLI 070 and 100 H** IS THEREFORE LIMITED TO FUNCTIONING IN COOLING MODE WITH EXTERNAL AIR TEMPERATURES LOWER THAN 20° C.

If it is installed in a particularly windy zone, a windbreak should be provided to avoid unstable operation of the DCPX device.

6.3. PROJECT DATA

		High pressure side	Low pressure side
Acceptable maximum pressure	bar	42	25
Acceptable maximum temperature	°C	120	52
Acceptable minimum temperature	°C	-10	-10

7. CORRECTIVE FACTORS

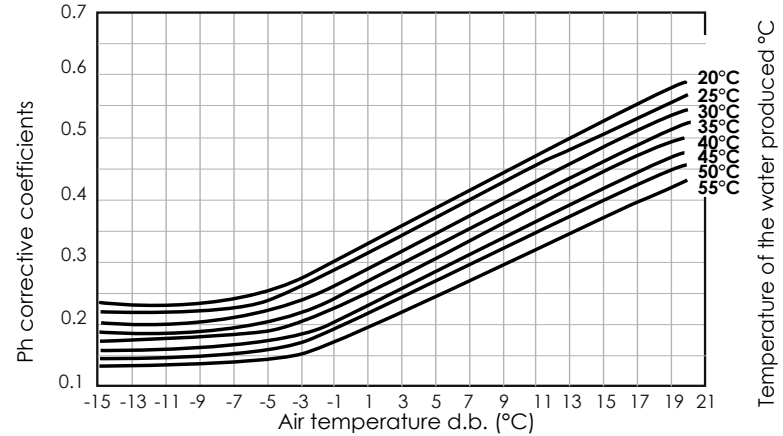
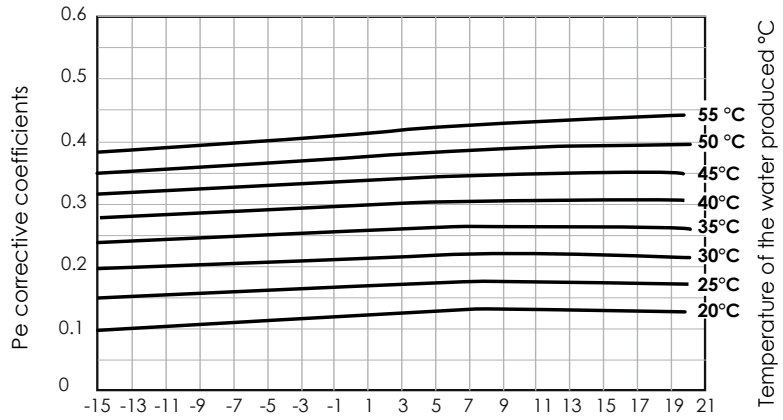
7.1. HEATING CAPACITY INPUT POWER ANLI 020 - 70H FREQUENCY EQUAL TO 33% OF THE MAXIMUM FREQUENCY

The heating capacity efficiency and electrical input power at frequencies differing from normal ones are obtained by multiplying the nominal values (Pt, Pa) by the respective coefficient correctives (Ct, Ca).

The following diagrams show how to obtain corrective coefficients; the produced hot water temperature, to which reference is made, is shown in correspondence to each curve, assuming water temperature difference is equal to 5°C in between the condenser inlet and outlet.

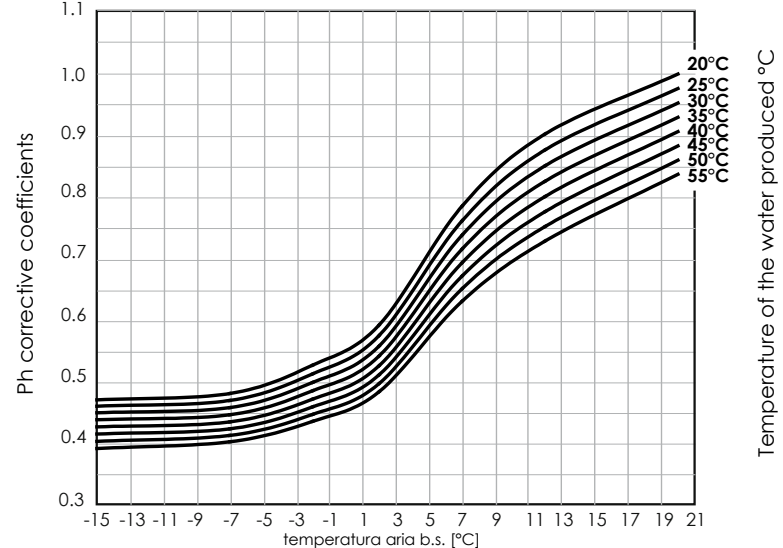
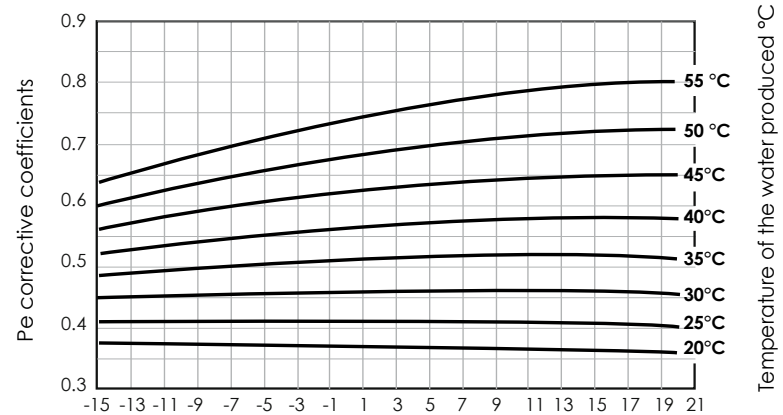
The yields are intended net of the defrosting cycles.

DATA according to UNI EN 14511:2004



7.2. HEATING CAPACITY INPUT POWER ANLI 020 - 70H FREQUENCY EQUAL TO 66% OF THE MAXIMUM FREQUENCY

DATA according to UNI EN 14511:2004



ANLI 020H

7.3. HEATING CAPACITY INPUT POWER ANLI 020H - AT MAXIMUM FREQUENCY

External air temperature (C°) D.B.	Temperature of the water produced °C															
	20		25		30		35		40		45		50		55	
	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe
-15	4.13	1.35	4.01	1.43	3.88	1.54	3.76	1.66	3.65	1.79	-	-	-	-	-	-
-14	4.16	1.35	4.04	1.44	3.91	1.54	3.79	1.67	3.67	1.80	3.54	-	-	-	-	-
-13	4.19	1.36	4.06	1.44	3.93	1.55	3.80	1.67	3.68	1.80	3.56	-	-	-	-	-
-12	4.21	1.36	4.07	1.44	3.94	1.55	3.82	1.67	3.69	1.80	3.56	1.94	3.44	2.08	-	-
-11	4.22	1.36	4.09	1.44	3.96	1.55	3.83	1.67	3.70	1.80	3.57	1.94	3.45	2.08	-	-
-10	4.24	1.36	4.10	1.44	3.97	1.55	3.84	1.67	3.71	1.80	3.58	1.94	3.45	2.08	3.32	2.21
-9	4.25	1.36	4.12	1.44	3.98	1.55	3.85	1.67	3.72	1.80	3.59	1.94	3.46	2.07	3.33	2.21
-8	4.27	1.36	4.13	1.44	4.00	1.55	3.87	1.67	3.74	1.80	3.61	1.94	3.48	2.07	3.35	2.21
-7	4.30	1.36	4.16	1.44	4.02	1.55	3.90	1.63	3.76	1.80	3.66	1.90	3.50	2.07	3.37	2.21
-6	4.33	1.35	4.19	1.44	4.05	1.54	3.92	1.66	3.79	1.80	3.66	1.93	3.53	2.07	3.40	2.21
-5	4.37	1.35	4.23	1.44	4.10	1.54	3.96	1.66	3.83	1.80	3.71	1.93	3.58	2.07	3.45	2.21
-4	4.42	1.35	4.29	1.44	4.15	1.54	4.02	1.66	3.89	1.80	3.76	1.94	3.63	2.08	3.51	2.21
-3	4.49	1.35	4.35	1.43	4.22	1.54	4.09	1.66	3.96	1.80	3.83	1.94	3.71	2.08	3.58	2.22
-2	4.57	1.35	4.43	1.43	4.30	1.54	4.17	1.66	4.05	1.80	3.92	1.94	3.80	2.08	3.67	2.22
-1	4.67	1.35	4.53	1.44	4.40	1.54	4.28	1.67	4.15	1.80	4.03	1.94	3.91	2.09	3.79	2.23
0	4.79	1.35	4.65	1.44	4.53	1.55	4.40	1.67	4.28	1.81	4.16	1.95	4.04	2.09	3.92	2.23
1	4.93	1.35	4.80	1.44	4.67	1.55	4.55	1.68	4.43	1.81	4.31	1.96	4.20	2.10	4.08	2.24
2	5.09	1.36	4.96	1.44	4.84	1.56	4.72	1.68	4.60	1.82	4.49	1.96	4.38	2.11	4.26	2.25
3	5.32	1.37	5.28	1.44	5.23	1.55	5.15	1.69	5.04	1.84	4.92	2.00	4.77	2.15	4.60	2.30
4	5.74	1.37	5.69	1.45	5.62	1.57	5.53	1.70	5.41	1.86	5.28	2.02	5.12	2.19	4.94	2.34
5	6.12	1.37	6.05	1.46	5.97	1.57	5.86	1.72	5.74	1.87	5.59	2.04	5.43	2.21	5.24	2.37
6	6.45	1.37	6.37	1.46	6.28	1.58	6.16	1.72	6.03	1.89	5.87	2.06	5.70	2.24	5.51	2.40
7	6.74	1.37	6.65	1.46	6.54	1.58	6.48	1.72	6.28	1.90	6.18	2.08	5.94	2.25	5.74	2.43
8	6.99	1.37	6.89	1.46	6.78	1.58	6.64	1.73	6.49	1.90	6.33	2.09	6.14	2.27	5.94	2.45
9	7.20	1.36	7.10	1.45	6.97	1.58	6.83	1.73	6.68	1.91	6.51	2.09	6.32	2.28	6.12	2.47
10	7.38	1.36	7.27	1.45	7.14	1.58	7.00	1.73	6.84	1.91	6.66	2.10	6.47	2.30	6.27	2.49
11	-	-	7.41	1.44	7.28	1.57	7.13	1.73	6.97	1.91	6.79	2.11	6.60	2.31	6.40	2.50
12	-	-	7.53	1.44	7.39	1.57	7.24	1.73	7.08	1.91	6.90	2.11	6.71	2.31	6.51	2.51
13	-	-	7.62	1.43	7.48	1.57	7.33	1.73	7.16	1.91	6.99	2.12	6.80	2.32	6.60	2.53
14	-	-	7.69	1.43	7.55	1.56	7.40	1.73	7.24	1.92	7.06	2.12	6.88	2.33	6.68	2.54
15	-	-	7.74	1.42	7.60	1.56	7.45	1.73	7.29	1.92	7.12	2.12	6.94	2.34	6.75	2.55
16	-	-	-	-	7.64	1.56	7.49	1.73	7.34	1.92	7.17	2.13	7.00	2.34	6.81	2.56
17	-	-	-	-	7.67	1.56	7.52	1.73	7.37	1.92	7.21	2.13	7.04	2.35	6.87	2.57
18	-	-	-	-	7.69	1.56	7.55	1.73	7.40	1.93	7.25	2.14	7.09	2.36	6.92	2.59
19	-	-	-	-	7.70	1.57	7.56	1.74	7.42	1.94	7.28	2.15	7.13	2.38	6.97	2.60
20	-	-	-	-	7.71	1.58	7.58	1.75	7.45	1.95	7.31	2.16	7.17	2.39	7.03	2.62

DATA according to UNI EN 14511:2004

Ph = Heating capacity in kW
Pe = Input power in kW

ANLI 020HP / HX

7.4. HEATING CAPACITY INPUT POWER ANLI 020 HP/HX AT MAXIMUM FREQUENCY

External air temperature (C°) D.B.	Temperature of the water produced °C															
	20		25		30		35		40		45		50		55	
	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe
-15	4.08	1.36	3.96	1.45	3.83	1.56	3.72	1.68	3.60	1.81	-	-	-	-	-	-
-14	4.11	1.37	3.98	1.45	3.86	1.56	3.74	1.68	3.62	1.81	3.50	1.95	-	-	-	-
-13	4.13	1.37	4.00	1.46	3.88	1.56	3.75	1.68	3.63	1.82	3.51	1.95	-	-	-	-
-12	4.15	1.37	4.02	1.46	3.89	1.56	3.77	1.68	3.64	1.82	3.52	1.96	3.40	2.09	-	-
-11	4.17	1.37	4.03	1.46	3.90	1.56	3.78	1.69	3.65	1.82	3.53	1.96	3.40	2.10	-	-
-10	4.18	1.37	4.05	1.46	3.92	1.56	3.79	1.68	3.66	1.82	3.53	1.96	3.41	2.10	3.28	2.23
-9	4.20	1.37	4.06	1.46	3.93	1.56	3.80	1.68	3.67	1.82	3.54	1.96	3.42	2.09	3.29	2.23
-8	4.22	1.37	4.08	1.46	3.95	1.56	3.82	1.68	3.69	1.82	3.56	1.95	3.43	2.09	3.31	2.23
-7	4.24	1.37	4.11	1.45	3.97	1.56	3.82	1.65	3.71	1.81	3.58	1.92	3.46	2.09	3.33	2.23
-6	4.27	1.37	4.14	1.45	4.00	1.56	3.87	1.68	3.74	1.81	3.61	1.95	3.49	2.09	3.36	2.23
-5	4.31	1.37	4.18	1.45	4.04	1.56	3.91	1.68	3.78	1.81	3.66	1.95	3.53	2.09	3.40	2.23
-4	4.37	1.36	4.23	1.45	4.10	1.56	3.97	1.68	3.84	1.81	3.71	1.95	3.59	2.10	3.46	2.24
-3	4.43	1.36	4.30	1.45	4.16	1.56	4.04	1.68	3.91	1.81	3.78	1.96	3.66	2.10	3.54	2.24
-2	4.51	1.36	4.38	1.45	4.25	1.56	4.12	1.68	3.99	1.82	3.87	1.96	3.75	2.10	3.63	2.24
-1	4.61	1.36	4.48	1.45	4.35	1.56	4.22	1.68	4.10	1.82	3.98	1.96	3.86	2.11	3.74	2.25
0	4.72	1.36	4.59	1.45	4.47	1.56	4.35	1.69	4.22	1.82	4.11	1.97	3.99	2.11	3.87	2.26
1	4.86	1.36	4.73	1.45	4.61	1.56	4.49	1.69	4.37	1.83	4.26	1.97	4.14	2.12	4.03	2.26
2	5.02	1.37	4.90	1.46	4.78	1.57	4.66	1.70	4.55	1.84	4.43	1.98	4.32	2.13	4.21	2.28
3	5.25	1.38	5.22	1.46	5.16	1.57	5.08	1.70	4.98	1.86	4.85	2.02	4.71	2.18	4.54	2.33
4	5.67	1.38	5.62	1.47	5.55	1.58	5.46	1.72	5.34	1.88	5.21	2.04	5.05	2.21	4.88	2.36
5	6.04	1.39	5.98	1.47	5.89	1.59	5.79	1.73	5.66	1.89	5.52	2.06	5.36	2.23	5.17	2.40
6	6.37	1.39	6.29	1.47	6.20	1.59	6.08	1.74	5.95	1.91	5.80	2.08	5.63	2.26	5.44	2.43
7	6.65	1.38	6.56	1.47	6.46	1.60	6.40	1.74	6.20	1.91	6.10	2.10	5.86	2.28	5.67	2.45
8	6.90	1.38	6.80	1.47	6.69	1.60	6.56	1.75	6.41	1.92	6.25	2.11	6.06	2.29	5.87	2.47
9	7.11	1.37	7.00	1.47	6.88	1.59	6.75	1.75	6.59	1.93	6.42	2.11	6.24	2.31	6.04	2.49
10	7.29	1.37	7.17	1.46	7.05	1.59	6.91	1.75	6.75	1.93	6.58	2.12	6.39	2.32	6.19	2.51
11	-	-	7.32	1.46	7.18	1.59	7.04	1.75	6.88	1.93	6.70	2.13	6.52	2.33	6.32	2.52
12	-	-	7.43	1.45	7.29	1.58	7.15	1.75	6.98	1.93	6.81	2.13	6.62	2.34	6.42	2.54
13	-	-	7.52	1.45	7.38	1.58	7.23	1.75	7.07	1.93	6.90	2.14	6.71	2.34	6.52	2.55
14	-	-	7.59	1.44	7.45	1.58	7.30	1.74	7.14	1.93	6.97	2.14	6.79	2.35	6.60	2.56
15	-	-	7.64	1.44	7.50	1.57	7.36	1.74	7.20	1.94	7.03	2.14	6.85	2.36	6.66	2.57
16	-	-	-	-	7.54	1.57	7.40	1.74	7.24	1.94	7.08	2.15	6.90	2.37	6.72	2.59
17	-	-	-	-	7.57	1.58	7.43	1.75	7.28	1.94	7.12	2.15	6.95	2.38	6.78	2.60
18	-	-	-	-	7.59	1.58	7.45	1.75	7.30	1.95	7.15	2.16	7.00	2.39	6.83	2.61
19	-	-	-	-	7.60	1.58	7.47	1.76	7.33	1.95	7.19	2.17	7.04	2.40	6.88	2.63
20	-	-	-	-	7.61	1.59	7.48	1.77	7.35	1.97	7.22	2.18	7.08	2.41	6.94	2.64

DATA according to UNI EN 14511:2004

Ph = Heating capacity in kW
Pe = Input power in kW

ANLI 025H

7.5. HEATING CAPACITY INPUT POWER ANLI 025 H - AT MAXIMUM FREQUENCY

External air temperature (C°) D.B.	Temperature of the water produced °C															
	20		25		30		35		40		45		50		55	
	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe
-15	4.88	1.51	4.74	1.61	4.59	1.72	4.45	1.86	4.31	2.01	-	-	-	-	-	-
-14	4.92	1.52	4.77	1.61	4.62	1.73	4.47	1.86	4.33	2.01	4.19	2.17	-	-	-	-
-13	4.95	1.52	4.79	1.61	4.64	1.73	4.49	1.87	4.35	2.01	4.20	2.17	-	-	-	-
-12	4.97	1.52	4.81	1.62	4.66	1.73	4.51	1.87	4.36	2.02	4.21	2.17	4.06	2.32	-	-
-11	4.99	1.52	4.83	1.62	4.67	1.73	4.52	1.87	4.37	2.02	4.22	2.17	4.07	2.32	-	-
-10	5.01	1.52	4.85	1.62	4.69	1.73	4.53	1.87	4.38	2.02	4.23	2.17	4.08	2.32	3.32	2.21
-9	5.03	1.52	4.86	1.62	4.71	1.73	4.55	1.87	4.40	2.01	4.24	2.17	4.09	2.32	3.33	2.21
-8	5.05	1.52	4.89	1.61	4.73	1.73	4.57	1.87	4.42	2.01	4.26	2.17	4.11	2.32	3.35	2.21
-7	5.08	1.52	4.91	1.61	4.75	1.73	4.60	1.86	4.44	2.01	4.29	2.17	4.14	2.32	3.37	2.21
-6	5.12	1.52	4.95	1.61	4.79	1.73	4.64	1.86	4.48	2.01	4.33	2.17	4.18	2.32	3.40	2.21
-5	5.17	1.51	5.00	1.61	4.84	1.73	4.69	1.86	4.53	2.01	4.38	2.17	4.23	2.32	3.45	2.21
-4	5.23	1.51	5.06	1.61	4.91	1.73	4.75	1.86	4.60	2.01	4.45	2.17	4.30	2.32	3.50	2.21
-3	5.31	1.51	5.14	1.61	4.99	1.73	4.83	1.86	4.68	2.01	4.53	2.17	4.38	2.33	3.58	2.22
-2	5.40	1.51	5.24	1.61	5.08	1.73	4.93	1.86	4.78	2.01	4.64	2.17	4.49	2.33	3.67	2.22
-1	5.52	1.51	5.36	1.61	5.21	1.73	5.06	1.87	4.91	2.02	4.76	2.18	4.62	2.34	3.78	2.23
0	5.66	1.51	5.50	1.61	5.35	1.73	5.20	1.87	5.06	2.02	4.92	2.18	4.78	2.34	3.92	2.23
1	5.82	1.51	5.67	1.61	5.52	1.73	5.38	1.88	5.24	2.03	5.10	2.19	4.96	2.35	4.08	2.24
2	6.02	1.52	5.87	1.62	5.72	1.74	5.58	1.88	5.44	2.04	5.31	2.20	5.17	2.36	4.26	2.25
3	6.49	1.53	6.36	1.62	6.23	1.75	6.10	1.90	5.95	2.06	5.80	2.24	5.63	2.41	4.63	2.30
4	6.95	1.53	6.81	1.63	6.68	1.76	6.54	1.92	6.39	2.09	6.22	2.26	6.05	2.44	4.96	2.34
5	7.36	1.54	7.22	1.63	7.07	1.77	6.93	1.93	6.77	2.10	6.60	2.29	6.42	2.47	5.25	2.37
6	7.72	1.53	7.57	1.64	7.42	1.77	7.27	1.94	7.11	2.12	6.94	2.31	6.75	2.50	5.51	2.40
7	8.03	1.53	7.88	1.63	7.73	1.77	7.66	1.93	7.41	2.13	7.31	2.33	7.04	2.52	5.74	2.43
8	8.31	1.53	8.15	1.63	8.00	1.77	7.84	1.94	7.67	2.13	7.49	2.34	7.29	2.54	5.94	2.45
9	8.54	1.52	8.38	1.63	8.23	1.77	8.06	1.94	7.89	2.14	7.71	2.35	7.50	2.56	6.11	2.47
10	8.74	1.51	8.58	1.62	8.42	1.77	8.26	1.94	8.08	2.14	7.89	2.35	7.69	2.57	6.26	2.49
11	-	-	8.74	1.61	8.58	1.76	8.42	1.94	8.24	2.14	8.05	2.36	7.84	2.58	6.39	2.50
12	-	-	8.88	1.61	8.72	1.76	8.55	1.94	8.37	2.14	8.18	2.37	7.97	2.59	6.50	2.51
13	-	-	8.99	1.60	8.82	1.75	8.66	1.94	8.48	2.15	8.29	2.37	8.08	2.60	6.60	2.52
14	-	-	9.07	1.60	8.91	1.75	8.74	1.94	8.57	2.15	8.38	2.37	8.17	2.61	6.68	2.54
15	-	-	9.13	1.59	8.98	1.75	8.81	1.93	8.64	2.15	8.45	2.38	8.24	2.62	6.75	2.55
16	-	-	-	-	9.03	1.75	8.86	1.93	8.69	2.15	8.50	2.38	8.30	2.63	6.81	2.56
17	-	-	-	-	9.06	1.75	8.90	1.94	8.73	2.15	8.55	2.39	8.34	2.64	6.87	2.57
18	-	-	-	-	9.09	1.75	8.93	1.94	8.77	2.16	8.59	2.40	8.38	2.65	6.92	2.58
19	-	-	-	-	9.10	1.76	8.96	1.95	8.79	2.17	8.62	2.41	8.42	2.66	6.97	2.60
20	-	-	-	-	9.12	1.77	8.97	1.96	8.82	2.18	8.65	2.42	8.45	2.68	7.03	2.62

DATA according to UNI EN 14511:2004

Ph = Heating capacity in kW
Pe = Input power in kW

ANLI 025HP / HX

7.6. HEATING CAPACITY INPUT POWER ANLI 025 HP/HX - AT MAXIMUM FREQUENCY

External air temperature (C°) D.B.	Temperature of the water produced °C															
	20		25		30		35		40		45		50		55	
	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe
-15	5.07	1.26	4.92	1.34	4.77	1.44	4.62	1.55	4.47	1.67	-	-	-	-	-	-
-14	5.11	1.26	4.95	1.34	4.80	1.44	4.65	1.55	4.50	1.67	4.35	1.80	-	-	-	-
-13	5.14	1.27	4.98	1.34	4.82	1.44	4.67	1.55	4.51	1.68	4.36	1.80	-	-	-	-
-12	5.16	1.27	5.00	1.35	4.84	1.44	4.68	1.56	4.53	1.68	4.37	1.81	4.22	1.93	-	-
-11	5.18	1.27	5.02	1.35	4.85	1.44	4.69	1.56	4.54	1.68	4.38	1.81	4.23	1.93	-	-
-10	5.20	1.27	5.03	1.35	4.87	1.44	4.71	1.56	4.55	1.68	4.39	1.81	4.23	1.93	3.45	1.84
-9	5.22	1.27	5.05	1.35	4.89	1.44	4.72	1.56	4.56	1.68	4.41	1.81	4.25	1.93	3.46	1.84
-8	5.24	1.27	5.07	1.34	4.91	1.44	4.74	1.55	4.58	1.68	4.43	1.80	4.27	1.93	3.47	1.84
-7	5.27	1.26	5.10	1.34	4.94	1.44	4.77	1.55	4.61	1.68	4.45	1.80	4.30	1.93	3.50	1.84
-6	5.31	1.26	5.14	1.34	4.98	1.44	4.81	1.55	4.65	1.67	4.49	1.80	4.34	1.93	3.53	1.84
-5	5.36	1.26	5.19	1.34	5.03	1.44	4.86	1.55	4.70	1.67	4.55	1.80	4.39	1.93	3.58	1.84
-4	5.43	1.26	5.26	1.34	5.09	1.44	4.93	1.55	4.77	1.67	4.62	1.80	4.46	1.94	3.64	1.84
-3	5.51	1.26	5.34	1.34	5.18	1.44	5.02	1.55	4.86	1.68	4.70	1.81	4.55	1.94	3.72	1.85
-2	5.61	1.26	5.44	1.34	5.28	1.44	5.12	1.55	4.97	1.68	4.81	1.81	4.66	1.94	3.81	1.85
-1	5.73	1.26	5.56	1.34	5.41	1.44	5.25	1.55	5.10	1.68	4.95	1.81	4.80	1.94	3.93	1.85
0	5.87	1.26	5.71	1.34	5.56	1.44	5.40	1.56	5.25	1.68	5.11	1.82	4.96	1.95	4.07	1.86
1	6.05	1.26	5.89	1.34	5.73	1.44	5.58	1.56	5.44	1.69	5.29	1.82	5.15	1.96	4.23	1.87
2	6.25	1.26	6.09	1.35	5.94	1.45	5.79	1.57	5.65	1.70	5.51	1.83	5.37	1.97	4.42	1.88
3	6.74	1.27	6.60	1.35	6.47	1.46	6.33	1.58	6.18	1.72	6.02	1.86	5.84	2.00	4.81	1.91
4	7.22	1.28	7.07	1.36	6.93	1.47	6.79	1.59	6.63	1.74	6.46	1.88	6.28	2.03	5.15	1.95
5	7.64	1.28	7.49	1.36	7.35	1.47	7.19	1.60	7.03	1.75	6.86	1.90	6.66	2.06	5.45	1.97
6	8.02	1.28	7.86	1.36	7.71	1.48	7.55	1.61	7.38	1.76	7.20	1.92	7.01	2.08	5.72	2.00
7	8.34	1.27	8.19	1.36	8.03	1.48	7.21	2.35	7.69	1.77	7.59	1.94	7.30	2.10	5.96	2.02
8	8.63	1.27	8.47	1.36	8.30	1.48	8.14	1.62	7.96	1.78	7.77	1.94	7.57	2.11	6.17	2.04
9	8.87	1.26	8.71	1.35	8.54	1.47	8.37	1.62	8.19	1.78	8.00	1.95	7.79	2.13	6.35	2.06
10	9.07	1.26	8.91	1.35	8.74	1.47	8.57	1.62	8.39	1.78	8.20	1.96	7.98	2.14	6.50	2.07
11	-	-	9.08	1.34	8.91	1.47	8.74	1.62	8.56	1.78	8.36	1.96	8.14	2.15	6.64	2.08
12	-	-	9.22	1.34	9.05	1.46	8.88	1.61	8.69	1.79	8.50	1.97	8.28	2.16	6.75	2.09
13	-	-	9.33	1.33	9.16	1.46	8.99	1.61	8.81	1.79	8.61	1.97	8.39	2.17	6.85	2.10
14	-	-	9.42	1.33	9.25	1.46	9.08	1.61	8.90	1.79	8.70	1.98	8.48	2.17	6.93	2.11
15	-	-	9.48	1.33	9.32	1.45	9.15	1.61	8.97	1.79	8.77	1.98	8.55	2.18	7.01	2.12
16	-	-	-	-	9.37	1.45	9.20	1.61	9.02	1.79	8.83	1.98	8.61	2.19	7.07	2.13
17	-	-	-	-	9.41	1.45	9.24	1.61	9.07	1.79	8.88	1.99	8.66	2.20	7.13	2.14
18	-	-	-	-	9.44	1.46	9.27	1.62	9.10	1.80	8.91	2.00	8.71	2.21	7.19	2.15
19	-	-	-	-	9.45	1.46	9.30	1.62	9.13	1.80	8.95	2.00	8.74	2.22	7.24	2.16
20	-	-	-	-	9.47	1.47	9.32	1.63	9.16	1.81	8.98	2.02	8.78	2.23	7.30	2.18

DATA according to UNI EN 14511:2004

Ph = Heating capacity in kW
Pe = Input power in kW

ANLI 070H

7.7. HEATING CAPACITY INPUT POWER ANLI 070H - AT MAXIMUM FREQUENCY

External air temperature (C°) D.B.	Temperature of the water produced °C															
	20		25		30		35		40		45		50		55	
	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe
-15	9.39	2.88	9.10	3.06	8.83	3.29	8.55	3.55	8.28	3.83	-	-	-	-	-	-
-14	9.46	2.89	9.17	3.07	8.88	3.30	8.60	3.55	8.33	3.84	8.05	4.13	-	-	-	-
-13	9.52	2.90	9.22	3.08	8.92	3.30	8.64	3.56	8.36	3.84	8.08	4.13	-	-	-	-
-12	9.56	2.90	9.25	3.08	8.96	3.31	8.67	3.56	8.38	3.84	8.10	4.13	7.81	4.43	-	-
-11	9.59	2.90	9.29	3.08	8.99	3.31	8.69	3.56	8.40	3.84	8.11	4.14	7.83	4.43	-	-
-10	9.63	2.90	9.32	3.08	9.01	3.31	8.72	3.56	8.42	3.84	8.13	4.13	7.84	4.43	7.55	4.72
-9	9.67	2.90	9.35	3.08	9.04	3.30	8.74	3.56	8.45	3.84	8.16	4.13	7.87	4.43	7.57	4.72
-8	9.71	2.90	9.39	3.08	9.09	3.30	8.78	3.56	8.49	3.84	8.19	4.13	7.90	4.43	7.61	4.72
-7	9.77	2.90	9.45	3.07	9.14	3.30	8.14	3.49	8.54	3.84	9.53	4.21	7.95	4.43	7.47	4.71
-6	9.84	2.89	9.52	3.07	9.21	3.30	8.91	3.55	8.61	3.83	8.32	4.13	8.03	4.43	7.73	4.72
-5	9.93	2.89	9.62	3.07	9.31	3.29	9.01	3.55	8.71	3.83	8.42	4.13	8.13	4.43	7.84	4.72
-4	10.05	2.88	9.74	3.06	9.43	3.29	9.13	3.55	8.84	3.83	8.55	4.13	8.26	4.43	7.97	4.73
-3	10.20	2.88	9.89	3.06	9.58	3.29	9.29	3.55	9.00	3.84	8.71	4.13	8.42	4.44	8.14	4.73
-2	10.38	2.88	10.07	3.06	9.77	3.29	9.48	3.55	9.19	3.84	8.91	4.14	8.63	4.44	8.35	4.74
-1	10.61	2.88	10.30	3.06	10.01	3.29	9.72	3.56	9.44	3.85	9.16	4.15	8.88	4.45	8.60	4.75
0	10.87	2.88	10.58	3.07	10.28	3.30	10.00	3.57	9.72	3.86	9.45	4.16	9.18	4.47	8.91	4.77
1	11.19	2.89	10.90	3.07	10.61	3.31	10.34	3.58	10.06	3.87	9.80	4.17	9.53	4.48	9.27	4.79
2	11.56	2.89	11.27	3.08	11.00	3.32	10.73	3.59	10.46	3.88	10.20	4.19	9.94	4.51	9.69	4.81
3	12.09	2.91	12.00	3.08	11.87	3.32	11.69	3.60	11.46	3.93	11.17	4.26	10.84	4.60	10.45	4.92
4	13.05	2.93	12.93	3.10	12.77	3.34	12.56	3.64	12.30	3.97	11.99	4.32	11.63	4.67	11.22	5.00
5	13.90	2.93	13.75	3.11	13.56	3.36	13.32	3.66	13.04	4.00	12.71	4.36	12.33	4.72	11.91	5.07
6	14.65	2.93	14.48	3.11	14.26	3.37	14.00	3.68	13.69	4.03	13.34	4.40	12.95	4.77	12.51	5.13
7	15.31	2.93	15.11	3.11	14.87	3.37	14.54	3.74	14.26	4.05	14.04	4.44	13.49	4.81	13.73	5.27
8	15.88	2.92	15.65	3.11	15.39	3.37	15.09	3.70	14.75	4.06	14.38	4.45	13.96	4.85	13.50	5.23
9	16.36	2.91	16.12	3.10	15.84	3.37	15.53	3.70	15.18	4.07	14.79	4.47	14.36	4.88	13.90	5.27
10	16.77	2.89	16.51	3.09	16.22	3.36	15.89	3.70	15.53	4.08	15.14	4.49	14.71	4.90	14.24	5.31
11	-	-	16.84	3.08	16.53	3.36	16.20	3.70	15.83	4.08	15.43	4.50	15.00	4.92	14.54	5.34
12	-	-	17.10	3.07	16.79	3.35	16.45	3.69	16.08	4.09	15.68	4.51	15.25	4.94	14.79	5.37
13	-	-	17.31	3.06	16.99	3.34	16.65	3.69	16.28	4.09	15.88	4.51	15.45	4.96	15.00	5.39
14	-	-	17.47	3.05	17.15	3.33	16.81	3.69	16.44	4.09	16.04	4.52	15.62	4.97	15.18	5.42
15	-	-	17.59	3.04	17.27	3.33	16.93	3.69	16.57	4.09	16.18	4.53	15.77	4.99	15.34	5.44
16	-	-	-	-	17.36	3.33	17.02	3.69	16.67	4.10	16.29	4.54	15.89	5.00	15.48	5.47
17	-	-	-	-	17.42	3.33	17.09	3.69	16.75	4.10	16.38	4.55	16.00	5.02	15.60	5.49
18	-	-	-	-	17.46	3.34	17.14	3.70	16.81	4.12	16.46	4.57	16.10	5.04	15.72	5.52
19	-	-	-	-	17.49	3.35	17.18	3.71	16.87	4.13	16.54	4.59	16.20	5.07	15.84	5.55
20	-	-	-	-	17.51	3.37	17.22	3.74	16.92	4.16	16.62	4.62	16.30	5.10	15.97	5.59

DATA according to UNI EN 14511:2004

Ph = Heating capacity in kW
Pe = Input power in kW

ANLI 070HP / HX

7.8. HEATING CAPACITY INPUT POWER ANLI 070 HP/HX AT MAXIMUM FREQUENCY

External air temperature (C°) D.B.	Temperature of the water produced °C															
	20		25		30		35		40		45		50		55	
	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe
-15	9.24	2.91	8.96	3.09	8.68	3.32	8.41	3.58	8.15	3.86	-	-	-	-	-	-
-14	9.31	2.92	9.02	3.10	8.74	3.33	8.46	3.59	8.19	3.87	7.92	4.17	-	-	-	-
-13	9.36	2.92	9.07	3.11	8.78	3.33	8.50	3.59	8.22	3.87	7.95	4.17	-	-	-	-
-12	9.40	2.93	9.10	3.11	8.81	3.34	8.53	3.59	8.24	3.88	7.96	4.17	7.69	4.47	-	-
-11	9.44	2.93	9.13	3.11	8.84	3.34	8.55	3.60	8.26	3.88	7.98	4.17	7.70	4.47	-	-
-10	9.47	2.93	9.16	3.11	8.87	3.34	8.57	3.59	8.28	3.88	8.00	4.17	7.71	4.47	7.43	4.76
-9	9.51	2.93	9.20	3.11	8.90	3.33	8.60	3.59	8.31	3.88	8.02	4.17	7.74	4.47	7.45	4.76
-8	9.55	2.93	9.24	3.11	8.94	3.33	8.64	3.59	8.35	3.87	8.06	4.17	7.77	4.47	7.48	4.76
-7	9.61	2.92	9.29	3.10	8.99	3.33	7.91	3.53	8.40	3.87	9.34	4.28	7.82	4.47	7.34	4.86
-6	9.68	2.92	9.36	3.10	9.06	3.32	8.76	3.59	8.47	3.87	8.18	4.17	7.90	4.47	7.61	4.76
-5	9.77	2.91	9.46	3.10	9.15	3.32	8.86	3.58	8.57	3.87	8.28	4.17	7.99	4.47	7.71	4.76
-4	9.89	2.91	9.58	3.09	9.28	3.32	8.98	3.58	8.69	3.87	8.41	4.17	8.12	4.47	7.84	4.77
-3	10.03	2.91	9.73	3.09	9.43	3.32	9.14	3.58	8.85	3.87	8.57	4.17	8.28	4.48	8.00	4.77
-2	10.21	2.90	9.91	3.09	9.61	3.32	9.33	3.59	9.04	3.87	8.76	4.18	8.49	4.48	8.21	4.78
-1	10.43	2.90	10.13	3.09	9.84	3.32	9.56	3.59	9.28	3.88	9.01	4.19	8.73	4.49	8.46	4.80
0	10.70	2.91	10.40	3.10	10.12	3.33	9.84	3.60	9.56	3.89	9.30	4.20	9.03	4.51	8.76	4.81
1	11.01	2.91	10.72	3.10	10.44	3.34	10.17	3.61	9.90	3.90	9.64	4.21	9.38	4.53	9.12	4.83
2	11.37	2.92	11.09	3.11	10.82	3.35	10.55	3.62	10.29	3.92	10.03	4.23	9.78	4.55	9.53	4.86
3	11.89	2.94	11.81	3.11	11.68	3.35	11.50	3.64	11.27	3.96	10.99	4.30	10.66	4.64	10.28	4.96
4	12.83	2.95	12.72	3.13	12.56	3.37	12.35	3.67	12.09	4.00	11.79	4.36	11.44	4.71	11.04	5.04
5	13.67	2.96	13.53	3.14	13.34	3.39	13.10	3.69	12.82	4.04	12.50	4.40	12.13	4.77	11.71	5.11
6	14.41	2.96	14.24	3.14	14.03	3.40	13.77	3.71	13.47	4.06	13.12	4.44	12.74	4.81	12.31	5.18
7	15.06	2.95	14.86	3.14	14.62	3.40	14.31	3.78	14.03	4.09	13.81	4.48	13.27	4.86	12.83	5.23
8	15.62	2.94	15.40	3.14	15.14	3.40	14.85	3.73	14.51	4.10	14.14	4.49	13.73	4.89	13.28	5.28
9	16.09	2.93	15.86	3.13	15.58	3.40	15.27	3.73	14.93	4.11	14.54	4.51	14.13	4.92	13.67	5.32
10	16.50	2.92	16.24	3.12	15.95	3.40	15.63	3.73	15.28	4.12	14.89	4.53	14.47	4.94	14.01	5.35
11	-	-	16.56	3.11	16.26	3.39	15.93	3.73	15.57	4.12	15.18	4.54	14.75	4.97	14.30	5.39
12	-	-	16.82	3.09	16.51	3.38	16.18	3.73	15.81	4.12	15.42	4.55	15.00	4.98	14.54	5.41
13	-	-	17.03	3.08	16.72	3.37	16.38	3.72	16.01	4.12	15.62	4.56	15.20	5.00	14.75	5.44
14	-	-	17.19	3.07	16.87	3.36	16.53	3.72	16.17	4.13	15.78	4.56	15.37	5.02	14.93	5.47
15	-	-	17.31	3.07	16.99	3.36	16.65	3.72	16.29	4.13	15.91	4.57	15.51	5.03	15.09	5.49
16	-	-	-	-	17.08	3.36	16.74	3.72	16.39	4.13	16.02	4.58	15.63	5.05	15.22	5.52
17	-	-	-	-	17.14	3.36	16.81	3.72	16.47	4.14	16.11	4.59	15.74	5.07	15.35	5.54
18	-	-	-	-	17.17	3.37	16.86	3.73	16.54	4.15	16.19	4.61	15.84	5.09	15.47	5.57
19	-	-	-	-	17.20	3.38	16.90	3.75	16.59	4.17	16.27	4.63	15.93	5.12	15.58	5.60
20	-	-	-	-	17.22	3.40	16.94	3.77	16.65	4.19	16.34	4.66	16.03	5.15	15.71	5.64

DATA according to UNI EN 14511:2004

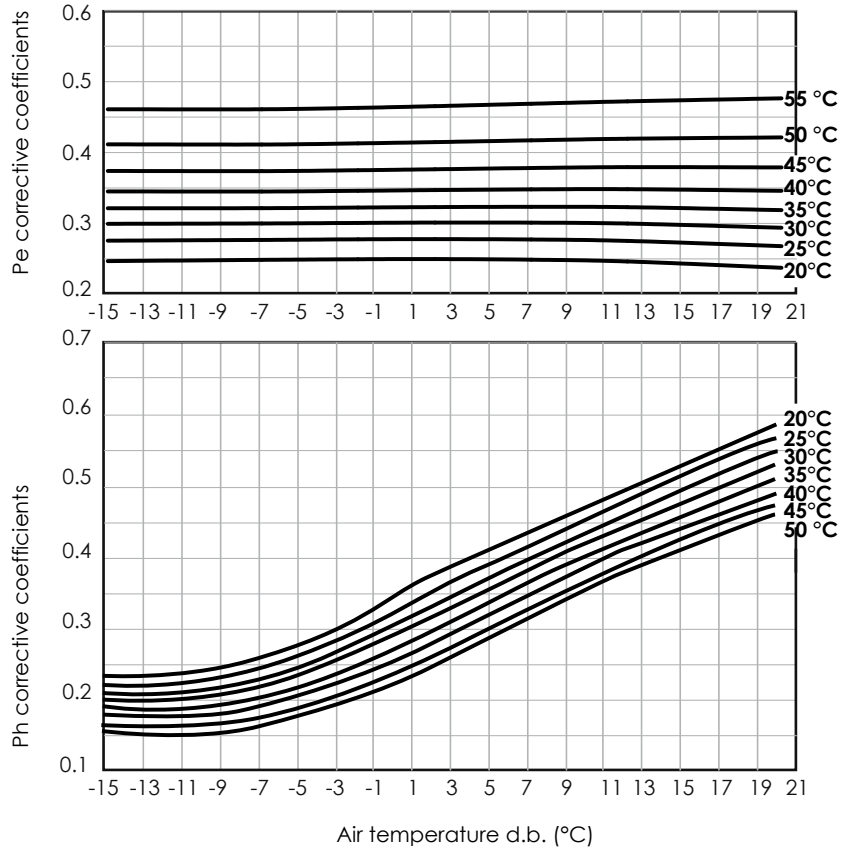
Ph = Heating capacity in kW
Pe = Input power in kW

**7.9. HEATING CAPACITY
INPUT POWER
ANLI 100H
FREQUENCY EQUAL TO 33% OF
THE MAXIMUM FREQUENCY**

The heating capacity efficiency and electrical input power at frequencies differing from normal ones are obtained by multiplying the nominal values (Pt, Pa) by the respective coefficient correctives (Ct, Ca).
The following diagrams show how to obtain corrective coefficients; the produced hot water temperature, to which reference is made, is shown in correspondence to each curve, assuming water temperature difference is equal to 5°C in between the condenser inlet and outlet.

The yields are intended net of the defrosting cycles.

DATA according to UNI EN 14511:2004

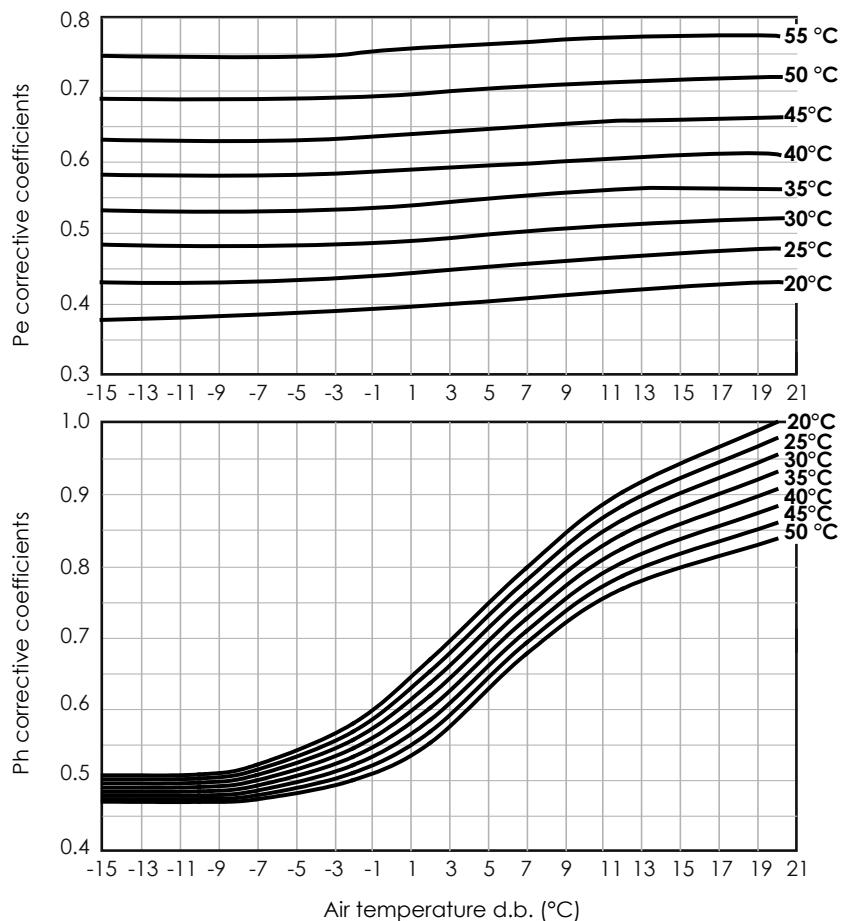


Temperature of the water produced °C

Temperature of the water produced °C

**7.10. HEATING CAPACITY
INPUT POWER
ANLI 100H
FREQUENCY EQUAL TO 66% OF
THE MAXIMUM FREQUENCY**

DATA according to UNI EN 14511:2004



Temperature of the water produced °C

Temperature of the water produced °C

ANLI 100H

7.11. HEATING CAPACITY INPUT POWER ANLI 100H AT MAXIMUM FREQUENCY

External air temperature (C°) D.B.	Temperature of the water produced °C															
	20		25		30		35		40		45		50		55	
	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe
-15	20.00	6.73	19.81	7.48	19.59	8.26	19.36	9.06	19.11	9.85	-	-	-	-	-	-
-14	20.07	6.70	19.91	7.46	19.71	8.25	19.50	9.06	19.29	9.86	19.07	10.64	-	-	-	-
-13	20.11	6.66	19.96	7.44	19.79	8.24	19.59	9.06	19.39	9.87	19.20	10.65	-	-	-	-
-12	20.14	6.63	19.99	7.42	19.82	8.23	19.64	9.05	19.45	9.87	19.27	10.66	19.10	11.42	-	-
-11	20.17	6.61	20.02	7.40	19.85	8.22	19.67	9.05	19.48	9.87	19.30	10.67	19.14	11.43	-	-
-10	20.21	6.59	20.05	7.39	19.87	8.21	19.68	9.04	19.49	9.87	19.31	10.68	19.14	11.44	19.00	12.14
-9	20.29	6.57	20.11	7.37	19.92	8.20	19.71	9.04	19.50	9.87	19.30	10.68	19.12	11.44	18.98	12.15
-8	20.42	6.56	20.21	7.37	19.99	8.20	19.76	9.04	19.53	9.88	19.31	10.68	19.11	11.45	18.94	12.15
-7	20.62	6.56	20.37	7.37	20.12	8.20	19.85	9.05	19.59	9.88	19.34	10.69	19.11	11.45	18.91	12.15
-6	20.90	6.56	20.61	7.37	20.31	8.21	20.00	9.05	19.70	9.89	19.41	10.69	19.14	11.45	18.91	12.15
-5	21.28	6.57	20.93	7.38	20.58	8.22	20.22	9.06	19.87	9.89	19.53	10.70	19.22	11.45	18.95	12.15
-4	21.77	6.59	21.37	7.40	20.95	8.24	20.53	9.08	20.12	9.91	19.73	10.70	19.37	11.46	19.04	12.15
-3	23.17	6.62	22.62	7.43	22.06	8.26	21.50	9.10	20.95	9.92	20.42	10.72	19.92	11.46	19.46	12.15
-2	23.17	6.66	22.62	7.46	22.06	8.29	21.50	9.12	20.95	9.94	20.42	10.73	19.92	11.47	19.46	12.14
-1	24.11	6.71	23.47	7.51	22.82	8.33	22.18	9.16	21.54	9.97	20.93	10.75	20.35	11.48	19.82	12.15
0	25.23	6.77	24.49	7.56	23.75	8.38	23.01	9.20	22.29	10.00	21.59	10.77	20.92	11.49	20.30	12.15
1	26.55	6.84	25.71	7.63	24.86	8.43	24.02	9.24	23.20	10.04	22.40	10.80	21.63	11.51	20.91	12.15
2	28.08	6.92	27.13	7.70	26.17	8.50	25.22	9.30	24.28	10.08	23.38	10.83	22.51	11.53	21.69	12.16
3	30.36	7.04	29.32	7.80	28.31	8.59	27.35	9.40	26.42	10.19	25.54	10.96	24.71	11.67	23.93	12.31
4	32.17	7.12	31.17	7.89	30.20	8.69	29.26	9.50	28.36	10.31	27.50	11.08	26.68	11.80	25.90	12.44
5	33.74	7.18	32.77	7.96	31.83	8.77	30.93	9.59	30.05	10.40	29.21	11.18	28.40	11.91	27.63	12.56
6	35.07	7.23	34.15	8.02	33.24	8.84	32.36	9.67	31.51	10.49	30.68	11.27	29.89	12.01	29.12	12.66
7	36.20	7.28	35.32	8.07	34.45	8.90	33.75	9.85	32.76	10.56	31.70	11.40	31.16	12.09	30.40	12.75
8	37.15	7.31	36.30	8.11	35.46	8.95	34.63	9.79	33.82	10.62	33.02	11.42	32.24	12.16	31.48	12.83
9	37.92	7.33	37.11	8.14	36.30	8.98	35.50	9.83	34.70	10.67	33.92	11.48	33.15	12.22	32.39	12.89
10	38.54	7.35	37.77	8.17	36.99	9.02	36.21	9.87	35.43	10.72	34.66	11.52	33.90	12.28	33.14	12.95
11	-	-	38.29	8.19	37.54	9.04	36.79	9.90	36.03	10.75	35.27	11.57	34.51	12.32	33.75	13.00
12	-	-	38.70	8.20	37.98	9.06	37.25	9.93	36.51	10.78	35.76	11.60	35.01	12.36	34.25	13.04
13	-	-	39.02	8.21	38.33	9.07	37.62	9.95	36.89	10.81	36.15	11.63	35.40	12.39	34.64	13.07
14	-	-	39.26	8.21	38.60	9.09	37.91	9.96	37.20	10.83	36.47	11.65	35.72	12.42	34.96	13.10
15	-	-	39.45	8.22	38.81	9.09	38.14	9.98	37.44	10.84	36.72	11.67	35.97	12.44	35.21	13.13
16	-	-	-	-	38.98	9.10	38.33	9.99	37.64	10.86	36.93	11.69	36.19	12.46	35.42	13.15
17	-	-	-	-	39.13	9.11	38.49	10.00	37.82	10.87	37.12	11.71	36.37	12.48	35.60	13.17
18	-	-	-	-	39.28	9.12	38.66	10.01	38.00	10.89	37.30	11.72	36.56	12.50	35.78	13.19
19	-	-	-	-	39.44	9.13	38.84	10.02	38.19	10.90	37.50	11.74	36.75	12.51	35.97	13.20
20	-	-	-	-	39.65	9.14	39.06	10.04	38.42	10.92	37.73	11.76	36.98	12.53	36.19	13.22

DATA according to UNI EN 14511:2004

Ph = Heating capacity in kW
Pe = Input power in kW

ANLI 100HP / HX

7.12. HEATING CAPACITY INPUT POWER ANLI 100HP/HX AT MAXIMUM FREQUENCY

External air temperature (C°) D.B.	Temperature of the water produced °C															
	20		25		30		35		40		45		50		55	
	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe	Ph	Pe
-15	20.73	7.43	20.10	7.90	19.49	8.48	18.88	9.15	18.29	9.87	-	-	-	-	-	-
-14	20.89	7.45	20.24	7.92	19.61	8.50	18.99	9.17	18.39	9.89	17.78	10.65	-	-	-	-
-13	21.01	7.47	20.35	7.94	19.71	8.52	19.08	9.18	18.45	9.90	17.84	10.66	-	-	-	-
-12	21.10	7.48	20.43	7.95	19.78	8.52	19.14	9.19	18.51	9.91	17.88	10.66	17.25	11.42	-	-
-11	21.18	7.49	20.50	7.95	19.84	8.53	19.19	9.19	18.55	9.91	17.91	10.66	17.28	11.42	-	-
-10	21.26	7.49	20.57	7.95	19.90	8.53	19.24	9.19	18.60	9.91	17.95	10.66	17.32	11.42	16.67	12.17
-9	21.34	7.48	20.65	7.95	19.97	8.52	19.31	9.18	18.66	9.90	18.01	10.66	17.37	11.42	16.72	12.16
-8	21.44	7.48	20.74	7.94	20.06	8.51	19.39	9.18	18.74	9.90	18.09	10.66	17.44	11.42	16.80	12.16
-7	21.56	7.47	20.86	7.93	20.18	8.51	19.51	9.17	18.86	9.89	18.21	10.65	17.56	11.42	16.91	12.17
-6	21.72	7.46	21.02	7.92	20.34	8.50	19.67	9.16	19.02	9.89	18.37	10.65	17.72	11.42	17.08	12.17
-5	21.93	7.44	21.23	7.91	20.55	8.49	19.89	9.16	19.23	9.89	18.59	10.65	17.94	11.42	17.30	12.18
-4	22.19	7.43	21.50	7.90	20.82	8.49	20.16	9.16	19.51	9.89	18.87	10.65	18.23	11.43	17.59	12.19
-3	22.52	7.43	21.83	7.90	21.16	8.48	20.51	9.16	19.86	9.89	19.23	10.66	18.60	11.44	17.97	12.20
-2	22.93	7.42	22.24	7.90	21.58	8.49	20.94	9.16	20.30	9.90	19.67	10.68	19.05	11.46	18.43	12.23
-1	23.42	7.42	22.75	7.90	22.09	8.49	21.46	9.18	20.83	9.92	20.22	10.70	19.61	11.49	18.99	12.26
0	24.01	7.43	23.35	7.91	22.71	8.51	22.08	9.20	21.47	9.94	20.87	10.73	20.27	11.52	19.67	12.30
1	24.71	7.44	24.06	7.93	23.43	8.53	22.82	9.22	22.22	9.98	21.63	10.77	21.05	11.57	20.46	12.35
2	25.53	7.46	24.89	7.95	24.28	8.56	23.68	9.26	23.10	10.02	22.53	10.81	21.96	11.62	21.39	12.41
3	26.68	7.52	26.51	7.95	26.21	8.56	25.81	9.30	25.30	10.12	24.67	10.99	23.93	11.86	23.07	12.68
4	28.81	7.55	28.55	7.99	28.19	8.62	27.72	9.38	27.15	10.23	26.47	11.13	25.68	12.03	24.78	12.89
5	30.69	7.56	30.37	8.02	29.94	8.66	29.42	9.44	28.79	10.32	28.06	11.25	27.23	12.18	26.29	13.07
6	32.35	7.56	31.97	8.03	31.48	8.69	30.91	9.49	30.23	10.39	29.46	11.34	28.59	12.30	27.63	13.23
7	33.80	7.54	33.36	8.03	32.83	8.70	33.01	9.86	31.49	10.44	31.00	11.45	29.78	12.41	28.79	13.37
8	35.06	7.52	34.57	8.01	33.99	8.70	33.33	9.54	32.58	10.48	31.74	11.48	30.82	12.50	29.81	13.49
9	36.13	7.49	35.59	7.99	34.98	8.69	34.28	9.54	33.51	10.51	32.65	11.53	31.71	12.57	30.69	13.59
10	37.03	7.46	36.46	7.97	35.81	8.68	35.09	9.54	34.29	10.52	33.42	11.57	32.47	12.64	31.45	13.69
11	-	-	37.18	7.94	36.51	8.66	35.76	9.54	34.95	10.53	34.07	11.60	33.12	12.69	32.10	13.77
12	-	-	37.76	7.91	37.07	8.64	36.32	9.53	35.50	10.54	34.61	11.62	33.66	12.74	32.65	13.84
13	-	-	38.23	7.88	37.52	8.62	36.76	9.52	35.94	10.54	35.06	11.64	34.12	12.78	33.12	13.91
14	-	-	38.58	7.86	37.87	8.60	37.11	9.51	36.29	10.54	35.42	11.66	34.50	12.82	33.52	13.97
15	-	-	38.85	7.84	38.14	8.59	37.38	9.50	36.58	10.55	35.72	11.69	34.82	12.86	33.86	14.03
16	-	-	-	-	38.33	8.58	37.59	9.51	36.80	10.56	35.96	11.71	35.09	12.90	34.17	14.10
17	-	-	-	-	38.46	8.59	37.74	9.52	36.97	10.58	36.17	11.74	35.33	12.95	34.45	14.16
18	-	-	-	-	38.55	8.61	37.85	9.54	37.12	10.61	36.35	11.79	35.55	13.01	34.72	14.24
19	-	-	-	-	38.61	8.64	37.94	9.58	37.24	10.66	36.52	11.84	35.77	13.07	34.98	14.32
20	-	-	-	-	38.65	8.69	38.02	9.63	37.37	10.72	36.69	11.91	35.99	13.15	35.27	14.42

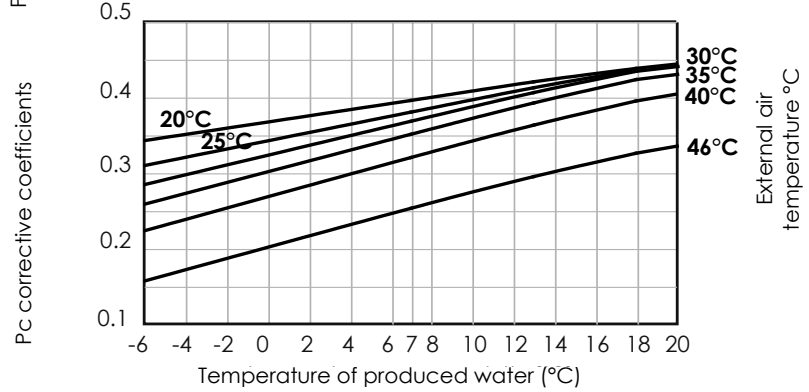
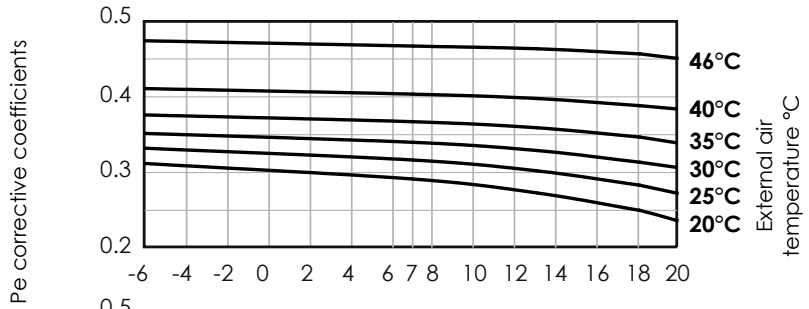
DATA according to UNI EN 14511:2004

Ph = Heating capacity in kW
Pe = Input power in kW

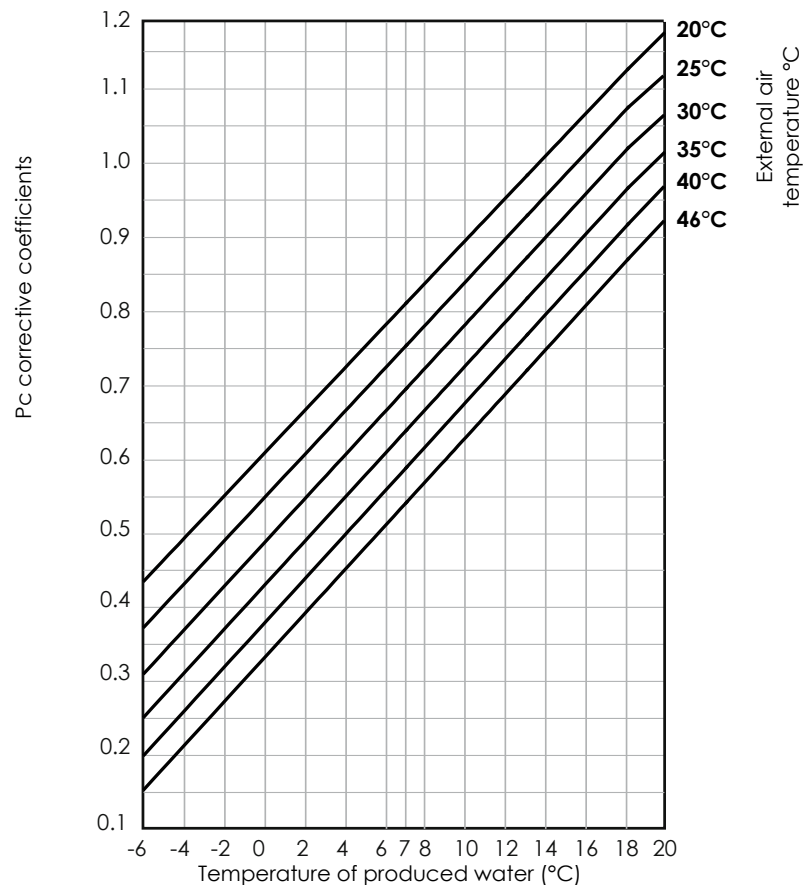
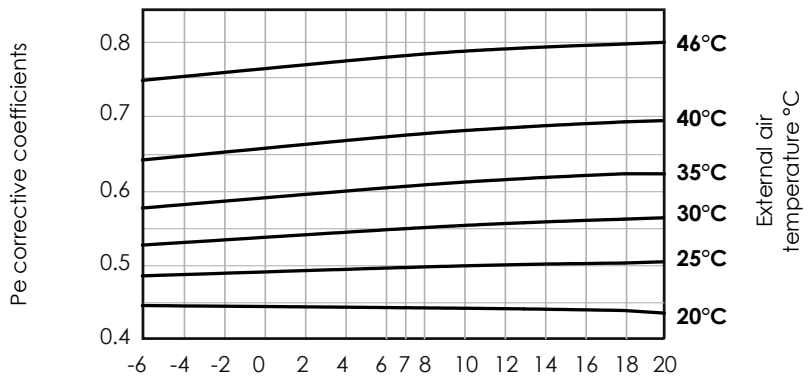
**7.13. COOLING CAPACITY
INPUT POWER
FREQUENCY EQUAL TO 33% OF
THE MAXIMUM FREQUENCY FOR
ALL SIZES**

The cooling capacity efficiency and electrical input power at frequencies differing from normal ones are obtained by multiplying the nominal values (P_c , P_a) by the respective coefficient correctives (P_c , P_a).

The following diagrams show how to obtain corrective coefficients; the produced hot water temperature, to which reference is made, is shown in correspondence to each curve, assuming water temperature difference is equal to 5°C in between the condenser inlet and outlet.



**7.14. COOLING CAPACITY
INPUT POWER
FREQUENCY EQUAL TO 66% OF
THE MAXIMUM FREQUENCY FOR
ALL SIZES**



**7.15. COOLING CAPACITY
INPUT POWER
ANLI 020HM AT MAXIMUM FREQUENCY**

Temperature of the water produced °C	External air temperature °C											
	20		25		30		35		40		46	
	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe
-6	3.96	1.45	3.58	1.52	3.19	1.63	2.81	1.76	-	-	-	-
-4	4.46	1.47	4.08	1.56	3.69	1.68	3.31	1.82	-	-	-	-
-2	4.95	1.49	4.57	1.60	4.18	1.73	3.79	1.87	3.41	2.04	-	-
0	5.42	1.51	5.04	1.63	4.65	1.77	4.27	1.93	3.88	2.10	-	-
2	5.89	1.53	5.50	1.67	5.12	1.82	4.73	1.98	4.34	2.15	-	-
4	6.35	1.55	5.96	1.71	5.58	1.87	5.19	2.04	4.80	2.21	-	-
6	6.80	1.57	6.42	1.74	6.04	1.92	5.65	2.09	5.26	2.27	4.80	2.48
7	7.03	1.58	6.65	1.76	6.27	1.94	5.88	2.12	5.49	2.30	5.03	2.51
8	7.26	1.59	6.88	1.78	6.50	1.96	6.11	2.15	5.72	2.33	5.26	2.54
10	7.73	1.61	7.35	1.81	6.96	2.01	6.58	2.20	6.19	2.39	-	-
12	8.21	1.63	7.82	1.85	7.44	2.06	7.05	2.26	6.67	2.45	-	-
14	8.70	1.65	8.31	1.88	7.93	2.11	7.54	2.32	7.16	2.51	-	-
16	9.20	1.67	8.82	1.92	8.44	2.15	8.05	2.37	7.66	2.57	-	-
18	9.73	1.69	9.35	1.95	8.97	2.20	8.58	2.43	8.19	2.63	-	-
20	10.28	1.70	9.90	1.99	9.52	2.25	9.13	2.48	8.74	2.69	-	-

**7.16. COOLING CAPACITY
INPUT POWER
ANLI 020HPM/HXM AT MAXIMUM FREQUENCY**

Temperature of the water produced °C	External air temperature °C													
	20		25		30		35		40		45		46	
	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe
-6	5.49	0.91	4.71	1.19	3.93	1.47	3.15	1.76	-	-	-	-	-	-
-4	5.92	0.97	5.14	1.25	4.36	1.53	3.58	1.82	-	-	-	-	-	-
-2	6.36	1.03	5.57	1.31	4.79	1.59	4.01	1.87	3.23	2.16	-	-	-	-
0	6.79	1.08	6.01	1.37	5.22	1.65	4.44	1.93	3.66	2.22	-	-	-	-
2	7.22	1.14	6.44	1.43	5.65	1.71	4.87	1.99	4.09	2.27	-	-	-	-
4	7.65	1.20	6.87	1.48	6.08	1.77	5.30	2.05	4.52	2.33	-	-	-	-
6	8.08	1.26	7.30	1.54	6.51	1.83	5.73	2.11	4.95	2.39	4.17	2.67	4.01	2.73
7	8.29	1.29	7.51	1.57	6.73	1.86	5.95	2.14	5.17	2.42	4.38	2.70	4.23	2.76
8	8.51	1.32	7.73	1.60	6.94	1.89	6.16	2.17	5.38	2.45	4.60	2.73	4.44	2.79
10	8.94	1.38	8.16	1.66	7.37	1.94	6.59	2.23	5.81	2.51	5.03	2.79	-	-
12	9.37	1.44	8.59	1.72	7.80	2.00	7.02	2.29	6.24	2.57	-	-	-	-
14	9.80	1.50	9.02	1.78	8.23	2.06	7.45	2.35	6.67	2.63	-	-	-	-
16	10.23	1.56	9.45	1.84	8.66	2.12	7.88	2.40	7.10	2.69	-	-	-	-
18	10.66	1.61	9.88	1.90	9.10	2.18	8.31	2.46	-	-	-	-	-	-
20	11.09	1.67	10.31	1.95	9.53	2.24	8.74	2.52	-	-	-	-	-	-

IN COOLING MODE:

- Water input temperature 12 °C
- Outlet water temperature 7 °C
- External air temperature 35 °C
- Δt 5 °C

Pc = Cooling capacity in kW
Pe = Input power in kW

7.17. CORRECTIVE FACTORS AT ΔT DIFFERENT FROM NOMINAL CHILLER

	3	5	8	10
Cooling capacity correction factors	0,99	1	1,02	1,03
Input power correction factors	0,99	1	1,01	1,02

7.18. DEPOSIT FACTORS

	[K ² m ²]/[W]	0,00005	0,0001	0,0002
Cooling capacity correction factors		1	0,98	0,94
Input power correction factors		1	0,98	0,95

**7.19. COOLING CAPACITY
INPUT POWER
ANLI 025H AT MAXIMUM FREQUENCY**

Temperature of the water produced °C	External air temperature °C											
	20		25		30		35		40		46	
	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe
-6	4.33	1.65	3.90	1.74	3.48	1.86	3.06	2.01	-	-	-	-
-4	5.11	2.57	4.69	2.67	4.27	2.81	3.85	2.97	-	-	-	-
-2	5.73	2.94	5.31	3.06	4.89	3.21	4.47	3.37	4.04	3.56	-	-
0	6.24	2.90	5.81	3.04	5.39	3.20	4.97	3.38	4.54	3.57	-	-
2	6.66	2.62	6.24	2.78	5.82	2.95	5.40	3.14	4.97	3.33	-	-
4	7.06	2.24	6.64	2.41	6.21	2.60	5.79	2.79	5.36	2.99	4.34	2.42
6	7.46	1.90	7.04	2.10	6.62	2.30	6.20	2.50	5.77	2.70	4.80	2.48
7	7.68	1.80	7.26	2.01	6.84	2.21	6.42	2.42	5.99	2.62	5.03	2.51
8	7.92	1.77	7.50	1.98	7.08	2.20	6.66	2.41	6.23	2.61	5.26	2.54
10	5.43	1.51	5.04	1.63	4.65	1.77	4.26	1.93	3.88	2.09	-	-
12	5.89	1.53	5.50	1.67	5.12	1.82	4.73	1.98	4.34	2.15	-	-
14	6.35	1.55	5.96	1.70	5.58	1.87	5.19	2.04	4.80	2.21	-	-
16	6.80	1.57	6.42	1.74	6.03	1.92	5.65	2.09	5.26	2.27	-	-
18	7.03	1.58	6.65	1.76	6.26	1.94	5.88	2.12	5.49	2.30	-	-
20	7.26	1.59	6.88	1.78	6.49	1.96	6.11	2.15	5.72	2.33	-	-

**7.20. COOLING CAPACITY
INPUT POWER
ANLI 025HP/HX**

Temperature of the water produced °C	External air temperature °C											
	20		25		30		35		40		46	
	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe
-6	4.38	1.66	3.95	1.75	3.53	1.87	3.10	2.03	-	-	-	-
-4	5.18	2.59	4.75	2.70	4.32	2.83	3.89	2.99	-	-	-	-
-2	5.81	2.96	5.38	3.08	4.95	3.23	4.52	3.40	4.09	3.59	-	-
0	6.31	2.93	5.89	3.07	5.46	3.23	5.03	3.41	4.60	3.60	-	-
2	6.75	2.64	6.32	2.80	5.89	2.98	5.46	3.16	5.03	3.36	-	-
4	7.14	2.26	6.72	2.43	6.29	2.62	5.86	2.82	5.43	3.02	4.39	2.44
6	7.55	1.92	7.13	2.12	6.70	2.32	6.27	2.52	5.84	2.72	4.86	2.50
7	7.77	1.82	7.35	2.02	6.93	2.23	6.50	2.44	6.07	2.65	5.09	2.53
8	8.02	1.78	7.59	2.00	7.17	2.22	6.74	2.43	6.31	2.63	5.32	2.56
10	5.49	1.52	5.10	1.65	4.71	1.79	4.32	1.94	3.93	2.11	-	-
12	5.96	1.54	5.57	1.68	5.18	1.84	4.79	2.00	4.40	2.17	-	-
14	6.43	1.56	6.04	1.72	5.65	1.88	5.25	2.05	4.86	2.23	-	-
16	6.89	1.58	6.50	1.75	6.11	1.93	5.72	2.11	5.33	2.29	-	-
18	7.12	1.59	6.73	1.77	6.34	1.95	5.95	2.14	5.56	2.32	-	-
20	7.35	1.60	6.97	1.79	6.57	1.98	6.18	2.17	5.79	2.35	-	-

IN COOLING MODE:

- Water input temperature 12 °C
 - Outlet water temperature 7 °C
 - External air temperature 35 °C
 - Δt 5°C

Pc = Cooling capacity in kW
 Pe = Input power in kW

7.21. CORRECTIVE FACTORS FOR ΔT DIFFERENT FROM NOMINAL CHILLER

	3	5	8	10
Cooling capacity correction factors	0,99	1	1,02	1,03
Input power correction factors	0,99	1	1,01	1,02

7.22. DEPOSIT FACTORS

	[K*m ²]/[W]	0,00005	0,0001	0,0002
Cooling capacity correction factors		1	0,98	0,94
Input power correction factors		1	0,98	0,95

**7.23. COOLING CAPACITY
INPUT POWER
ANLI 070HM AT MAXIMUM FREQUENCY**

Temperature of the water produced °C	External air temperature °C											
	20		25		30		35		40		46	
	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe
-6	9.81	3.03	8.86	3.19	7.91	3.41	6.95	3.69	-	-	-	-
-4	11.05	3.08	10.10	3.27	9.15	3.51	8.19	3.81	-	-	-	-
-2	12.26	3.12	11.31	3.35	10.35	3.61	9.39	3.92	8.43	4.27	-	-
0	13.43	3.16	12.48	3.42	11.52	3.71	10.56	4.04	9.61	4.39	-	-
2	14.58	3.21	13.63	3.50	12.67	3.81	11.71	4.15	10.76	4.51	-	-
4	15.71	3.25	14.76	3.57	13.81	3.91	12.85	4.27	11.89	4.63	10.75	5.07
6	16.85	3.29	15.90	3.65	14.95	4.01	13.99	4.38	13.03	4.76	11.88	5.19
7	17.41	3.31	16.47	3.68	15.51	4.06	14.56	4.44	13.60	4.82	12.45	5.25
8	17.99	3.33	17.04	3.72	16.09	4.11	15.13	4.50	14.17	4.88	13.02	5.31
10	19.14	3.37	18.20	3.80	17.24	4.21	16.29	4.62	15.33	5.00	-	-
12	20.32	3.41	19.38	3.87	18.42	4.31	17.47	4.73	16.51	5.13	-	-
14	21.53	3.45	20.59	3.94	19.64	4.41	18.68	4.85	17.72	5.25	-	-
16	22.79	3.49	21.84	4.02	20.89	4.51	19.94	4.97	18.98	5.38	-	-
18	24.10	3.53	23.15	4.09	22.20	4.61	21.24	5.08	20.28	5.50	-	-
20	25.46	3.57	24.52	4.17	23.57	4.71	22.61	5.20	21.65	5.63	-	-

**7.24. COOLING CAPACITY
INPUT POWER
ANLI 070HPM/HXM**

Temperature of the water produced °C	External air temperature °C											
	20		25		30		35		40		46	
	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe
-6	9.97	3.06	9.00	3.22	8.03	3.44	7.06	3.73	-	-	-	-
-4	11.23	3.11	10.26	3.30	9.29	3.55	8.32	3.84	-	-	-	-
-2	12.45	3.15	11.48	3.38	10.51	3.65	9.54	3.96	8.57	4.30	-	-
0	13.64	3.19	12.67	3.45	11.70	3.75	10.73	4.08	9.76	4.43	-	-
2	14.81	3.24	13.84	3.53	12.87	3.85	11.90	4.19	10.93	4.55	-	-
4	15.96	3.28	15.00	3.60	14.03	3.95	13.06	4.31	12.08	4.67	10.92	5.12
6	17.11	3.32	16.15	3.68	15.18	4.05	14.21	4.42	13.24	4.80	12.07	5.24
7	17.69	3.34	16.73	3.72	15.76	4.10	14.79	4.48	13.81	4.86	12.65	5.30
8	18.27	3.36	17.31	3.75	16.34	4.15	15.37	4.54	14.39	4.92	13.23	5.36
10	19.44	3.40	18.48	3.83	17.51	4.25	16.54	4.66	15.57	5.05	-	-
12	20.64	3.44	19.68	3.90	18.71	4.35	17.74	4.78	16.77	5.17	-	-
14	21.87	3.48	20.91	3.98	19.95	4.45	18.97	4.89	18.00	5.30	-	-
16	23.15	3.52	22.19	4.05	21.22	4.55	20.25	5.01	19.28	5.42	-	-
18	24.48	3.56	23.52	4.13	22.55	4.65	21.58	5.13	20.60	5.55	-	-
20	25.86	3.60	24.91	4.20	23.94	4.75	22.97	5.25	21.99	5.68	-	-

IN COOLING MODE:

- Water input temperature
- Outlet water temperature
- External air temperature
- Δt

12 °C
7 °C
35 °C
5 °C

Pc = Cooling capacity in kW
Pe = Input power in kW

7.25. CORRECTIVE FACTORS FOR ΔT DIFFERENT FROM NOMINAL CHILLER

	3	5	8	10
Cooling capacity correction factors	0,99	1	1,02	1,03
Input power correction factors	0,99	1	1,01	1,02

7.26. DEPOSIT FACTORS

	[K*m ²]/[W]	0,00005	0,0001	0,0002
Cooling capacity correction factors		1	0,98	0,94
Input power correction factors		1	0,98	0,95

**7.27. COOLING CAPACITY
INPUT POWER
ANLI 100H AT MAXIMUM FREQUENCY**

Temperature of the water produced °C	External air temperature °C											
	20		25		30		35		40		46	
	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe
-6	19.39	8.01	17.51	8.43	15.62	9.02	13.73	9.75	-	-	-	-
-4	21.84	8.13	19.97	8.64	18.08	9.28	16.18	10.06	-	-	-	-
-2	24.22	8.25	22.34	8.84	20.45	9.55	18.56	10.36	16.67	11.27	-	-
0	26.53	8.36	24.65	9.04	22.77	9.81	20.87	10.67	18.98	11.59	-	-
2	28.80	8.47	26.93	9.24	25.04	10.08	23.15	10.97	21.25	11.92	-	-
4	31.05	8.58	29.17	9.44	27.29	10.34	25.40	11.28	23.50	12.24	21.24	13.40
6	33.29	8.69	31.42	9.63	29.53	10.60	27.64	11.58	25.75	12.56	23.48	13.72
7	34.41	8.75	32.54	9.73	30.66	10.73	28.77	11.73	26.87	12.73	24.60	13.88
8	35.54	8.80	33.67	9.83	31.79	10.87	29.89	11.89	28.00	12.89	25.73	14.04
10	37.82	8.91	35.95	10.03	34.07	11.13	32.18	12.20	30.28	13.22	-	-
12	40.15	9.01	38.29	10.22	36.40	11.39	34.51	12.50	32.62	13.54	-	-
14	42.55	9.12	40.68	10.42	38.80	11.65	36.91	12.81	35.01	13.87	-	-
16	45.03	9.22	43.16	10.61	41.28	11.92	39.39	13.12	37.50	14.20	-	-
18	47.61	9.33	45.75	10.81	43.87	12.18	41.98	13.43	40.08	14.54	-	-
20	50.31	9.43	48.45	11.01	46.57	12.45	44.68	13.74	42.78	14.87	-	-

**7.28. COOLING CAPACITY
INPUT POWER
ANLI 100HP/HX AT MAXIMUM FREQUENCY**

Temperature of the water produced °C	External air temperature °C											
	20		25		30		35		40		46	
	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe	Pc	Pe
-6	19.84	8.07	17.92	8.50	15.98	9.09	14.05	9.83	-	-	-	-
-4	22.35	8.19	20.42	8.70	18.49	9.35	16.55	10.14	-	-	-	-
-2	24.77	8.31	22.85	8.91	20.92	9.62	18.98	10.44	17.05	11.36	-	-
0	27.14	8.43	25.22	9.11	23.29	9.89	21.35	10.75	19.42	11.68	-	-
2	29.46	8.54	27.54	9.31	25.61	10.15	23.68	11.06	21.74	12.01	-	-
4	31.76	8.65	29.84	9.51	27.91	10.42	25.98	11.37	24.04	12.33	21.72	13.50
6	34.05	8.76	32.14	9.71	30.21	10.68	28.27	11.67	26.34	12.66	24.02	13.82
7	35.20	8.81	33.29	9.81	31.36	10.82	29.43	11.82	27.49	12.82	25.17	13.98
8	36.35	8.87	34.44	9.91	32.52	10.95	30.58	11.98	28.64	12.99	26.32	14.14
10	38.69	8.98	36.78	10.10	34.85	11.21	32.92	12.29	30.98	13.32	-	-
12	41.07	9.08	39.16	10.30	37.24	11.48	35.30	12.60	33.36	13.65	-	-
14	43.52	9.19	41.62	10.50	39.69	11.74	37.76	12.91	35.82	13.98	-	-
16	46.06	9.29	44.15	10.70	42.23	12.01	40.30	13.22	38.36	14.31	-	-
18	48.70	9.40	46.80	10.89	44.87	12.28	42.94	13.53	41.00	14.65	-	-
20	51.47	9.51	49.56	11.09	47.64	12.54	45.71	13.85	43.76	14.99	-	-

IN COOLING MODE

- Water input temperature 12 °C
 - Outlet water temperature 7 °C
 - External air temperature 35 °C
 - Δt 5°C

Pc = Cooling capacity in kW
 Pe = Input power in kW

7.29. CORRECTIVE FACTORS AT ΔT DIFFERENT FROM NOMINAL CHILLER

	3	5	8	10
Cooling capacity correction factors	0,99	1	1,02	1,03
Input power correction factors	0,99	1	1,01	1,02

7.30. DEPOSIT FACTORS

	[K*m ²]/[W]	0,00005	0,0001	0,0002
Cooling capacity correction factors		1	0,98	0,94
Input power correction factors		1	0,98	0,95

8. ETHYLENE GLYCOL SOLUTIONS

- The correction factors of cooling power and input power take into account the presence of glycol and diverse evaporation temperatures.
- The pressure drop correction factor considers the different flow rate resulting from the application of the water flow rate correction factor.
- The water flow rate correction factor is calculated to keep the same Δt that would be present with the absence of glycol.

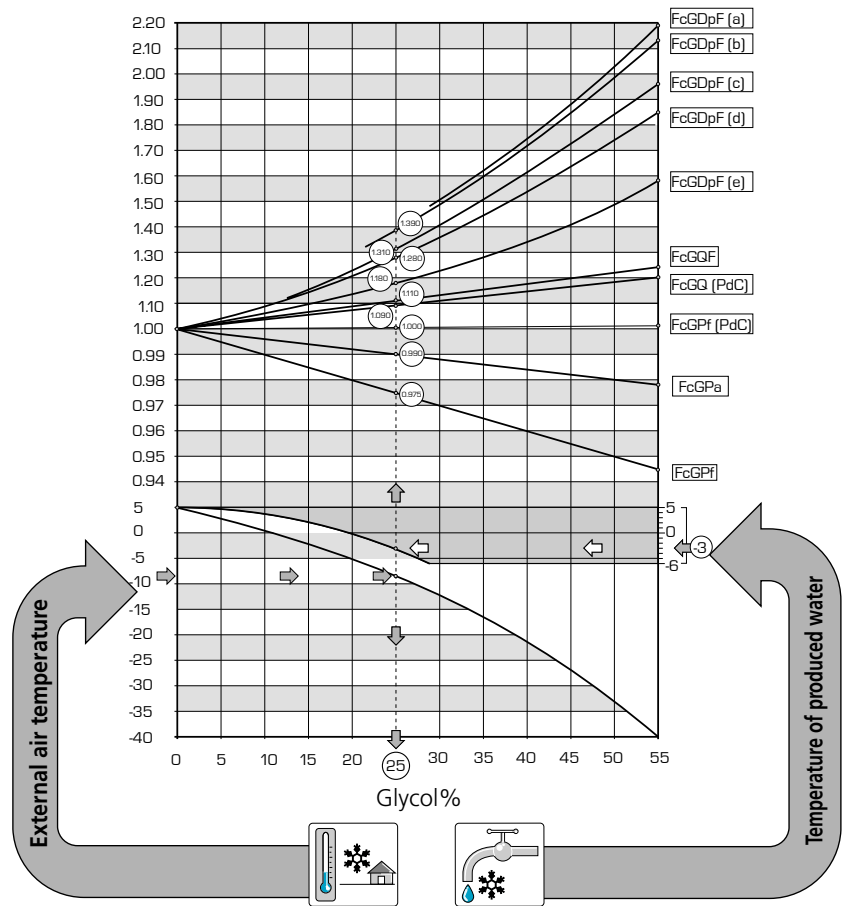
NOTE

On the following page an example is given to help graph reading. to determine the percentage of glycol required, see below diagram; this percentage calculation can take into consideration one of the following factors:
Depending on which fluid is considered (water or air), the graph is interpreted by the right or left side at the crossing point on the curves with the external temperature line or the water produced line. A point from which the vertical line will pass is obtained and this will distinguish both glycol percentage and relative correction coefficients.

8.1. HOW TO INTERPRET GLYCOL CURVES

The curves shown in the diagram summarise a significant number of data, each of which is represented by a specific curve. In order to use these curves correctly it is first necessary to make some initial reflections.

- If you wish to calculate the percentage of glycol on the basis of the external air temperature, enter from the left axis and on reaching the curve draw a vertical line, which in turn will intercept all the other curves; the points obtained from the upper curves represent the coefficients for the correction of the cooling capacity and input power, the flow rates and the pressure drops (remember that these coefficients must be multiplied by the nominal value of the size in question); while the glycol percentage value recommended to produce desired water temperature is on the lower axis.
- If you wish to calculate the percentage of glycol on the basis of the temperature of the water produced, enter from the right axis and on reaching the curve draw a vertical line, which in turn will intercept all the other curves; the points obtained from the upper curves



KEY:

FcGPF	Corrective factors for cooling capacity
FcGPa	Corrective factors of the input power
FcGDpF (a)	Correction factors for pressure drop (evaporator) (av. temp. = -3,5 °C)
FcGDpF (b)	Correction factors for pressure drops (av. temp. = 0,5 °C)
FcGDpF (c)	Correction factors for pressure drops (av. temp. = 5,5 °C)
FcGDpF (d)	Correction factors for pressure drops (av. temp. = 9,5 °C)
FcGDpF (e)	Correction factors for pressure drops (av. temp. = 47,5 °C)
FcGQF	Correction factor of flow rates (evap.) (av. temp. = 9,5 °C)
FcGQC	Correction factors of flow rates (condenser) (av. temp. = 47,5 °C)

NOTE

Although graph arrives at external air temperatures of -40°C, unit operational limits must be considered.

represent the coefficients for the correction of the cooling capacity and input power, the flow rates and the pressure drops (remember that these coefficients must be multiplied by the nominal value of the size in question); while the lower axis recommends the glycol percentage value necessary to produce water at the desired temperature.

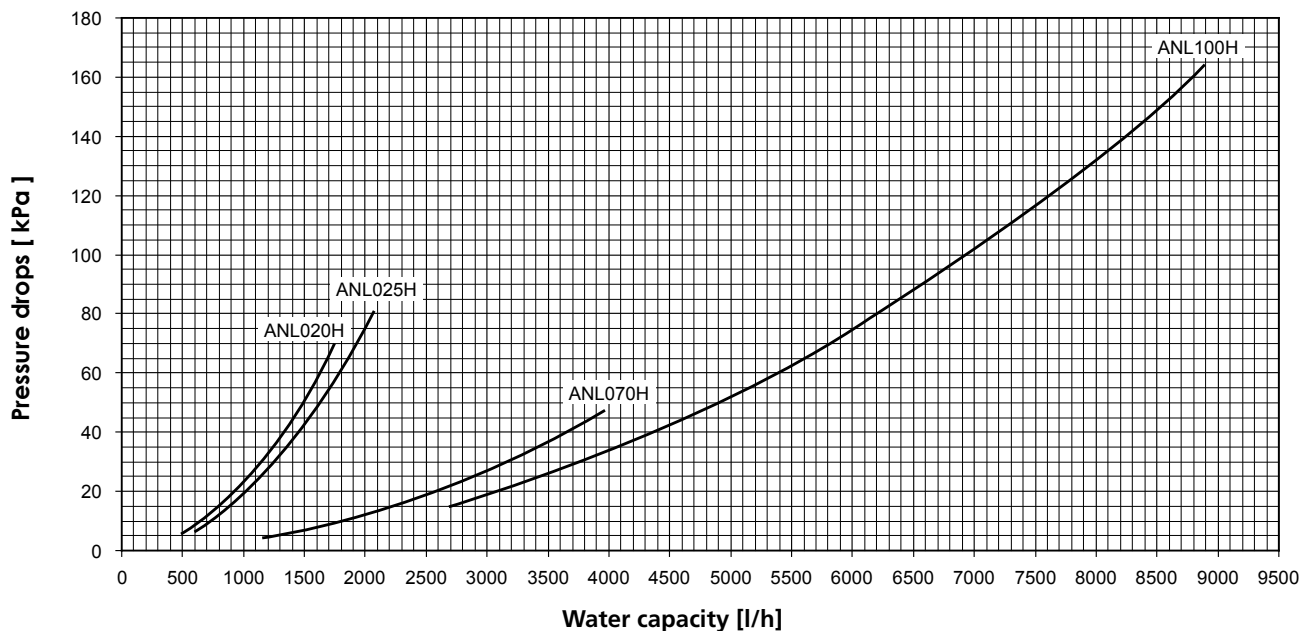
Initial rates for "EXTERNAL AIR TEMPERATURE" and "TEMPERATURE OF PRODUCED WATER", are not directly related, therefore it is not possible to refer to the curve of one of these rates to obtain corresponding point on the curve of the other rate.

9. EVAPORATOR PRESSURE DROPS AND USEFUL STATIC PRESSURES

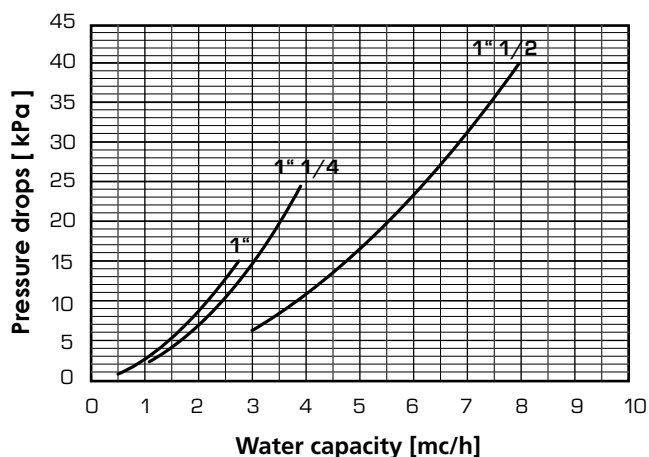
The pressure drops and the static pressures are calculated in cooling mode with 10°C water.

The Average water temperature table states the correction to apply to the pressure drops on variation of the average water temperature.

9.1.1. Standard versions pressure drops



9.1.2. Filters pressure drops



The ANLs are supplied as per Standard with water filter already mounted:

ANLI	020H	025H	070H	100H
Ø filter	1"	1"	1" ¼	1" ½

Average water temperature °C	5	10	15	20	30	40	50
Multiplicative coefficients	1,02	1	0,985	0,97	0,95	0,93	0,91

10. STATIC PRESSURES USEFUL TO THE SYSTEM

For the "P/X" versions (with pump).
The static pressures stated here are at net of the pressure drops of the heat exchanger and filter. Therefore are to be considered USEFUL TO SYSTEM.

The INVERTER PUMP (X) is a circulator/variable speed pump with water side pressure transducer incorporated and microprocessor on board, able to manage different regulation modes:

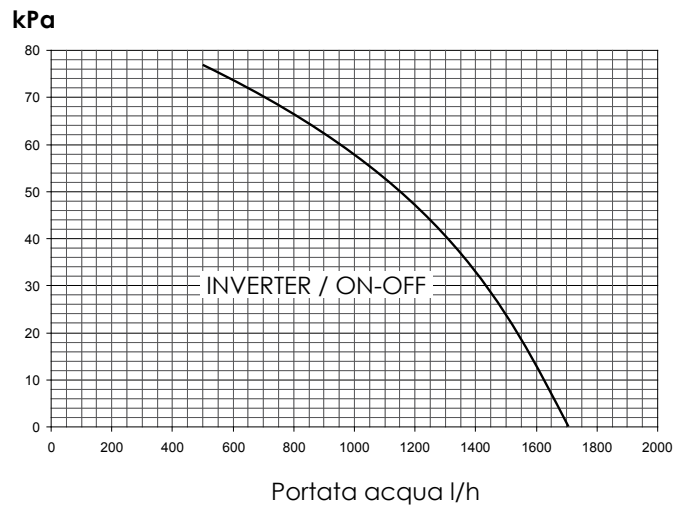
ΔP CONSTANT: The pressure differential between pump inlet and outlet is kept constant, the number of revs. reduces with the progressive closure of the terminals.

ΔP VARIABLE: The pressure differential reduces on decrease of the flow rate in order to consider the smaller pressure drops along the supply pipes and at the terminals (recommended if the development of these pipes is high).

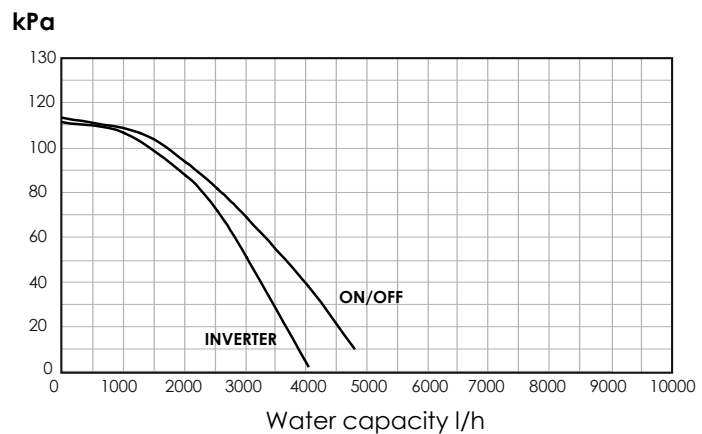
NOTE

- The static pressures are calculated in cooling mode, with Δt 5 °C for lower Δt please contact company.
- With presence of glycol for static pressures useful to system please contact company.

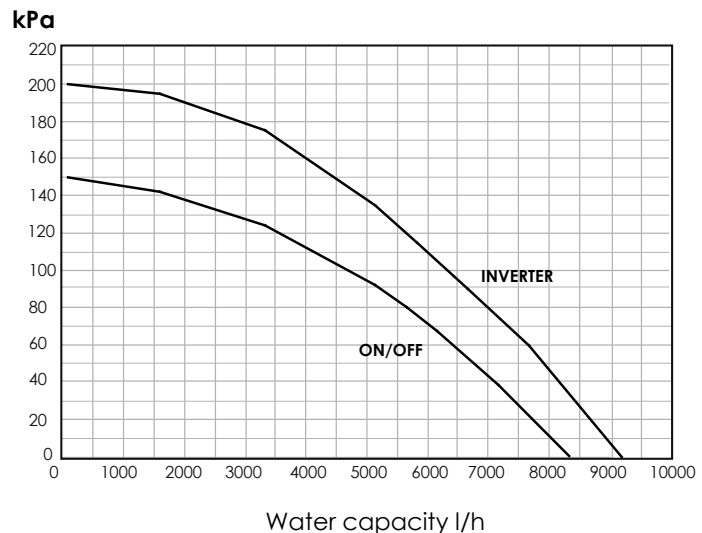
10.1.1. ANLI 020 - 025HP/HX useful static head



10.1.2. ANLI 070HP/HX useful static head



10.1.3. ANLI 100HP/HX useful static head



11. MINIMUM/MAXIMUM WATER CONTENT IN THE SYSTEM

The minimum water content in the system recommended is 2.5 l/kw. Solution shows minimum water content necessary for correct function of system.

11.1. MAXIMUM WATER CONTENT IN THE SYSTEM

The table below indicates maximum water capacity in litres of hydraulic plant, compatible with expansion vessel capacity supplied as standard (IN THE VERSIONS WITH PUMP). The values shown in the table refer to three maximum and minimum water temperatures. If the effective water content of the hydraulic plant is greater than that given in the table at operational conditions, another dimensioned expansion vessel must be installed, using the normal criteria, with reference to the additional volume of water.

On the following tables it is possible to work out the maximum values of the system also for glycolated water function.

Values are worked out by multiplying the referred value by the corrective coefficient.

11.2. EXPANSION VESSEL CALIBRATION

Standard pressure value of expansion vessel when empty is 1.5 bar, maximum value is 6 bar.

Calibration of the vessel must be regulated using the maximum level difference (H) of the user (see diagram) by using the following formula:

$$p \text{ (calibration) [bar]} = H \text{ [m]} / 10.2 + 0.3.$$

For example: if level difference (H) is equal to 20m, the calibration value of the vessel will be 2.3 bar.

If calibration value obtained from formula is less than 1.5 bar (that is for $H < 12.25$), keep calibration as standard.

ANLI 020H - 025H						
Hydraulic height	H m	30	25	20	15	≥ 12.25
Calibration of expansion vessel	bar	3.2	2.8	2.3	1.8	1.5
Recommended values of water content	l ⁽¹⁾	103	121	139	158	168
Recommended values of water content	l ⁽²⁾	46	55	63	71	76

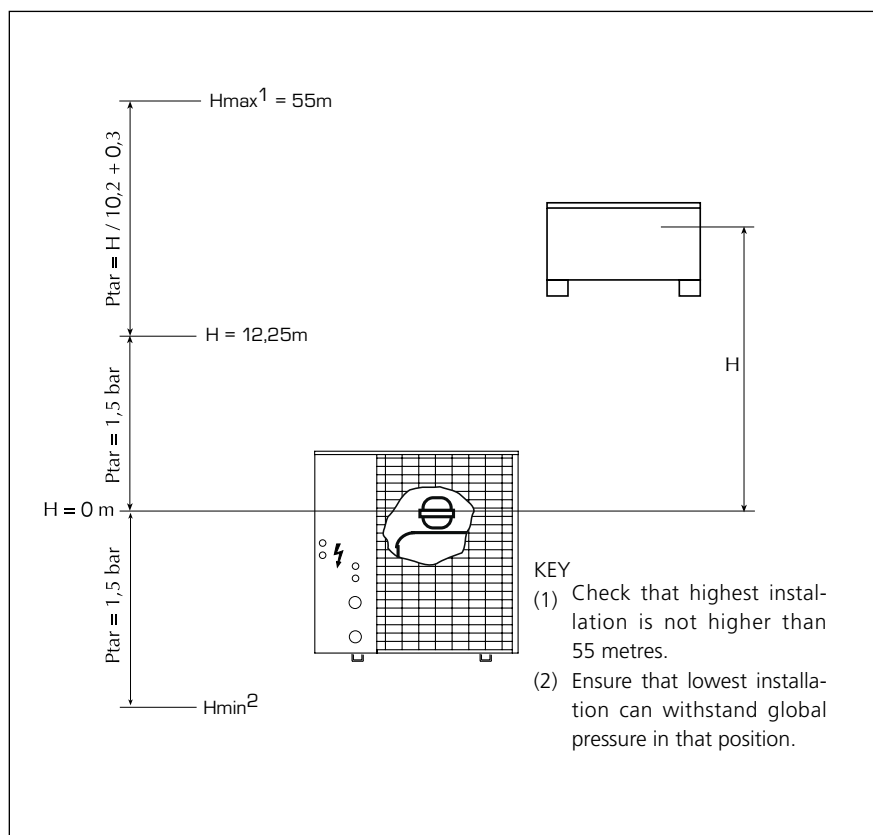
ANLI 070 - 100H						
Hydraulic height	H m	30	25	20	15	≥ 12.25
Calibration of expansion vessel	bar	3.2	2.8	2.3	1.8	1.5
Recommended values of water content	l ⁽¹⁾	257	303	348	394	419
Recommended values of water content	l ⁽²⁾	116	136	157	177	189

Glycolated water	Water temp. °C		Corrective coefficients	Recommended conditions
	max.	min.		
10%	40	-2	0,507	(1)
10%	60	-2	0,686	(2)
20%	40	-6	0,434	(1)
20%	60	-6	0,604	(2)
35%	40	-6	0,393	(1)
35%	60	-6	0,555	(2)

Recommended operational conditions:

(1) Cooling: Max water temp. = 40 °C, min water temp. = 4 °C.

(2) Heating (hot air pump): Max water temp. = 60 °C, min water temp. = 4 °C.



12. SOUND DATA

Sound power

Aermec determines sound power values in agreement with 9614 standard, in compliance with that requested by Eurovent certification.

COOLING- HEATING	Total sound levels			Octave band [Hz]						
	Pow. dB(A)	Pressione.		125	250	500	1000	2000	4000	8000
		dB(A) 10 m	dB(A) 1 m							
ANLI020	61	29	43	55.9	52.3	54.1	54.4	52.0	43.9	35.1
ANLI025	68	37	50	59.3	61.0	60.8	63.5	57.9	52.2	43.5
ANLI070	69	38	51	60.4	60.6	61.6	64.6	60.1	54.7	45.0
ANLI100	76	44	58	59.4	63.7	68.0	71.0	72.5	60.2	49.3

Sound Pressure

Sound pressure measured in free field conditions with reflective surface (directivity factor Q=2) at 10mt distance from external surface of unit, in compliance with ISO 744 regulations.

KEY

- Water input temperature 12 °C
- Temperature of produced water 7 °C
- External air temperature 35 °C

13. PARAMETER CALIBRATION OF SAFETY AND CONTROL

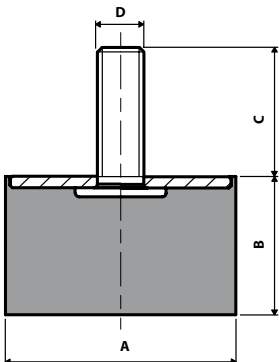
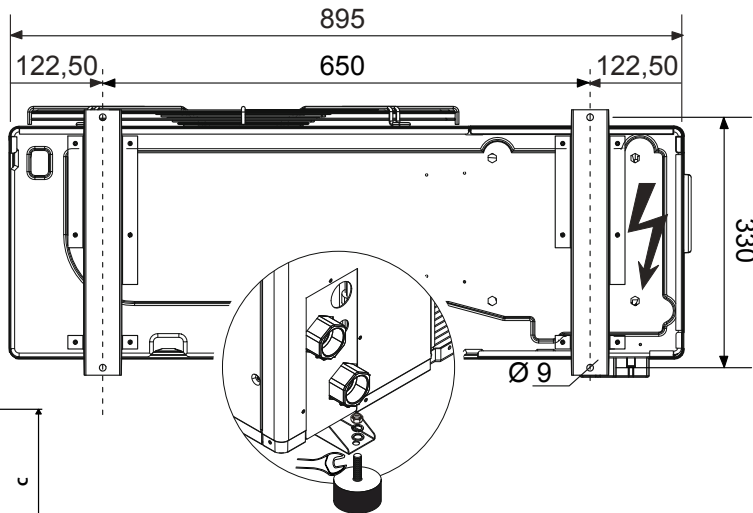
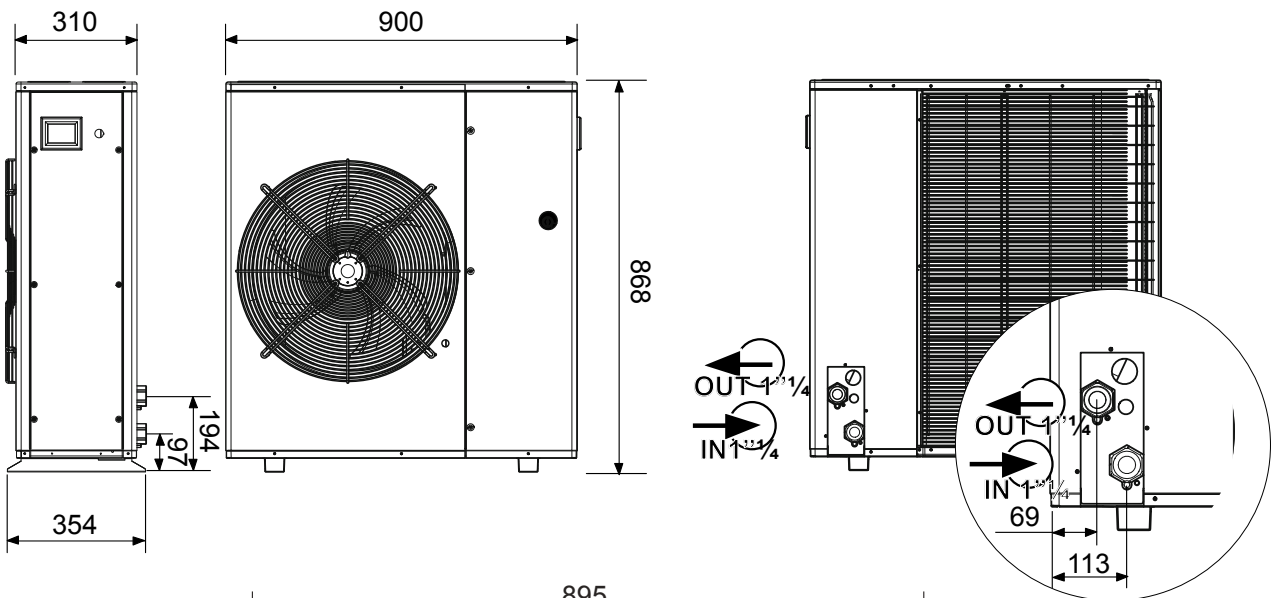
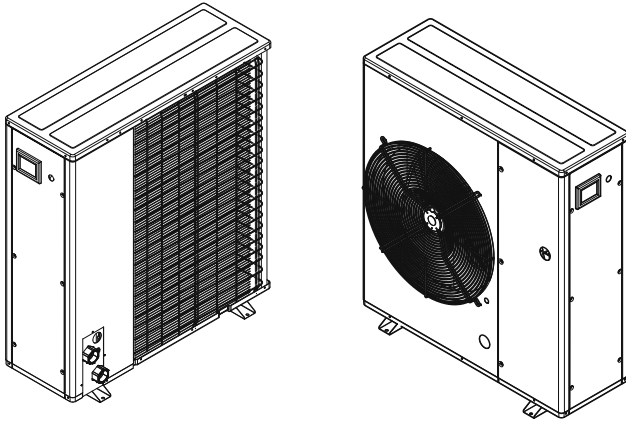
CONTROL PARAMETERS

ANLI		min	standard	max
Cooling set point	°C	-6	7	18
Heating set point	°C	35	48	55
Defrosting mode	°C	-9	3	4
Total differential	°C	3	5	10
Autostart		auto		

SAFETY AND CONTROL COMPONENTS ELECTRIC DATA				020H	025H	070H	100H
Fan magnet circuit breakers MTV1			A	2	2	2	2
Fan magnet circuit breakers MTV2			A	-	-	2	2
Compressors magnet circuit breakers MTC1		230V	A	16	16	21	-
Compressors magnet circuit breakers MTC1		400V	A	-	-	-	10/10
High pressure pressure switch			bar	42	42	42	42
Low pressure transducer	cold		bar	4	4	4	4
	hot		bar	2	2	2	2
High pressure transducer			bar	40,5	40,5	40,5	40,5

14. DIMENSION TABLES AND HYDRAULIC FITTING POSITIONS

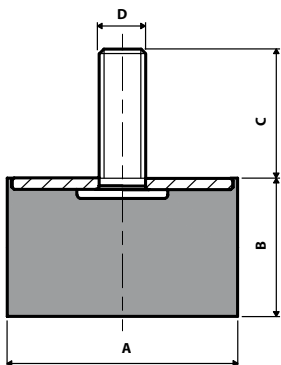
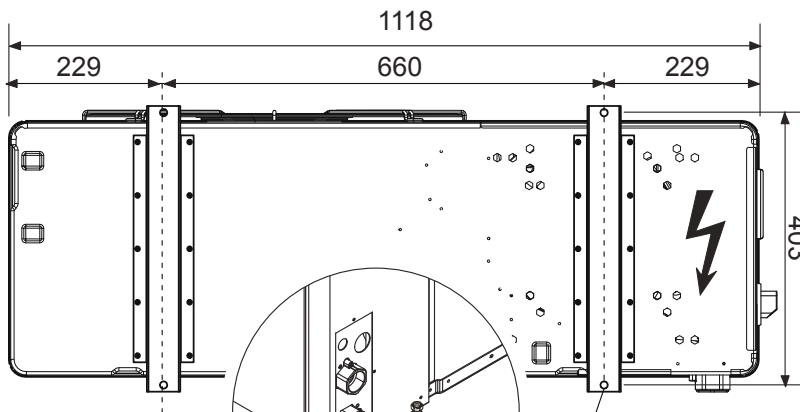
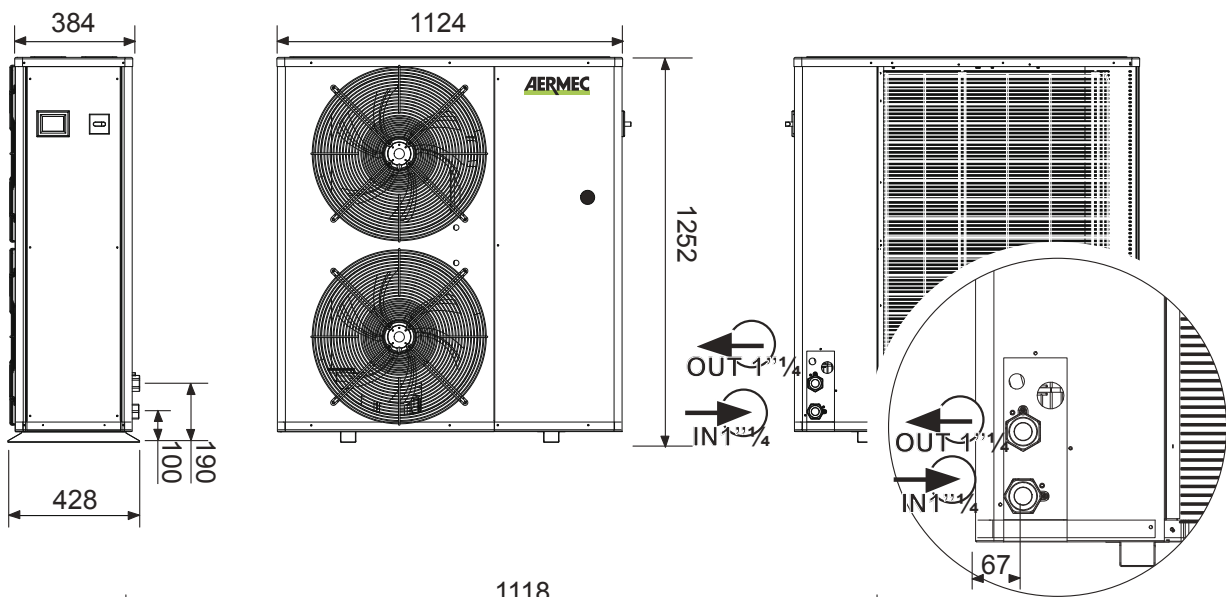
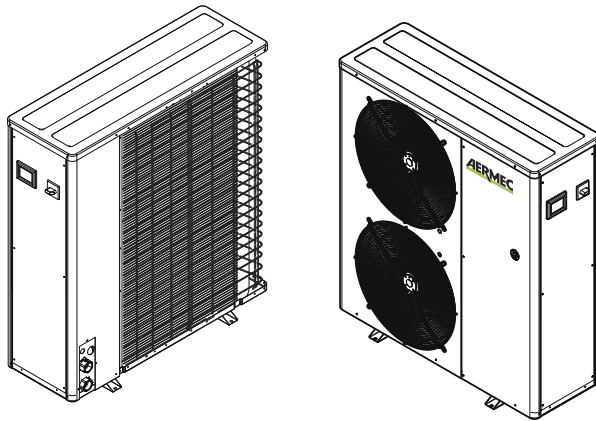
14.2.1. ANLI 020/025H - HP - HX



Mod.	A	B	C	D
VT9	40	30	23	M8

ANLI	MOD.	VERS.	WEIGHT	KIT
020	H	°	70	VT
020	H	P/X	72	9

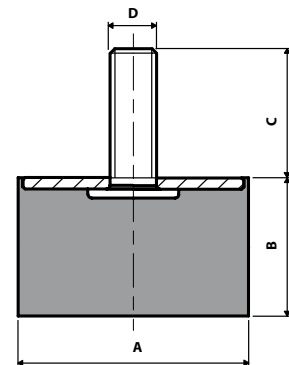
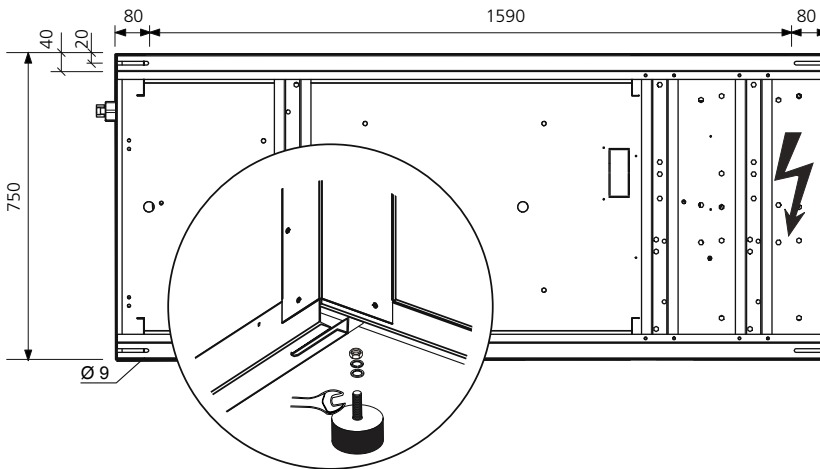
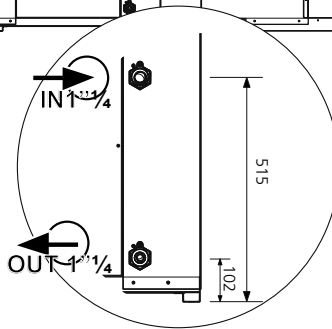
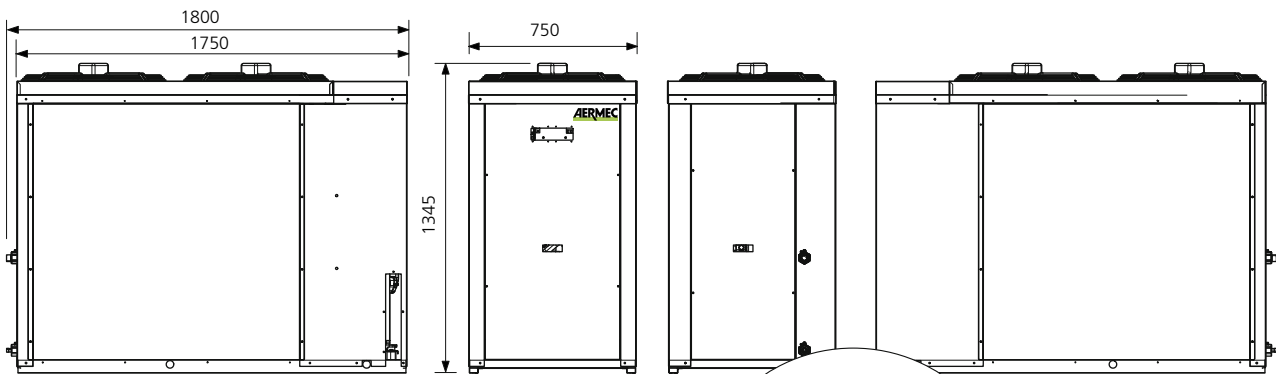
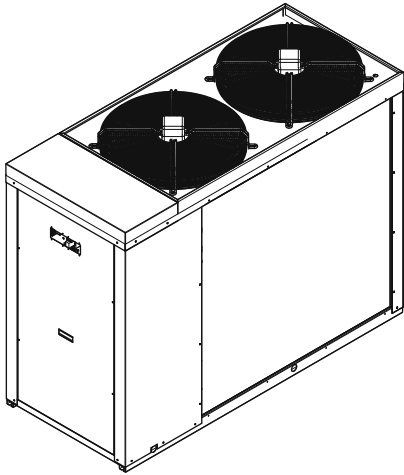
14.2.2. ANLI 070 H - HP - HX



Mod.	A	B	C	D
VT9	40	30	23	M8

ANLI	MOD.	VERS.	WEIGHT	KIT
070	H	°	134	9
070	H	P/X	141	9

14.2.3. ANLI 100 H - HP



Mod.	A	B	C	D
VT15	50	30	28,5	10

ANLI	MOD.	VERS.	WEIGHT	KIT VT
100	H	°	293	15
100	H	P/X	308	15



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