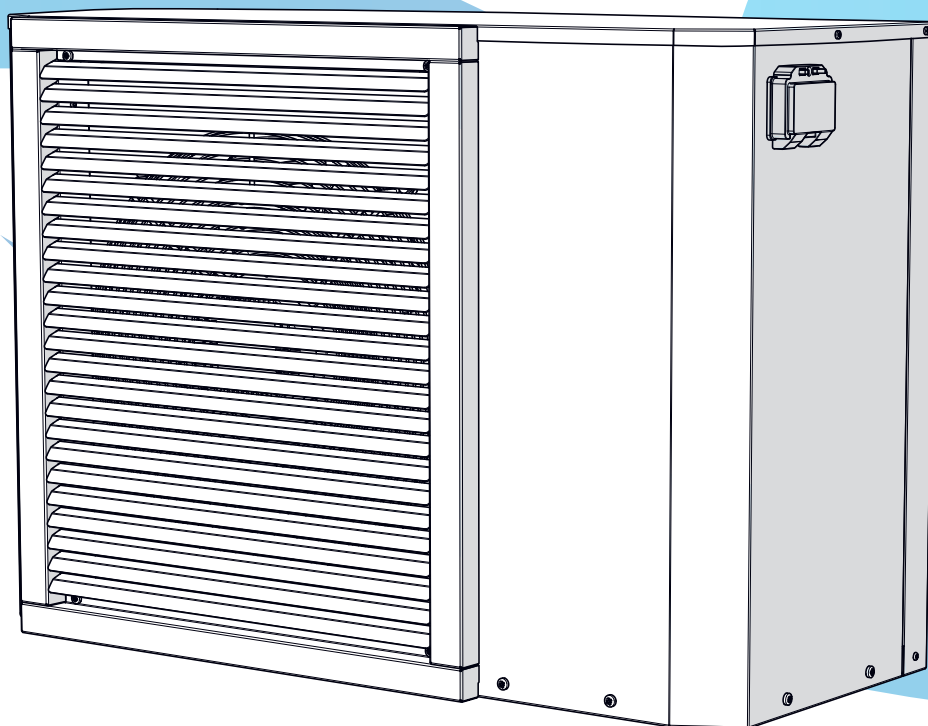


# **LYRA 2T**



*Reversible heat pump with inverter technology*

The page features several large, overlapping, wavy shapes in various shades of blue. One large shape starts from the left edge and curves downwards and to the right, partially enclosing the main text. Another shape is positioned below it, and a third, lighter blue shape is at the bottom. The background is plain white.

Dear Customer,

Thank you for choosing a Thermics energie machine, an innovative, modern and quality product that will ensure your well-being, silence operation and safety for a long time.

This instruction manual contains important indications and suggestions that must be observed in order to make the installation and use of the machine as easy as possible.

Thank you again.  
Thermics energie

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# 1 Introduction

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## 1.1 Purpose of the manual

The purpose of this manual is to provide the customer with all the information necessary to use and operate the machine correctly, independently and safely.

The manual contains information on the safety, technical aspects, operation, maintenance and transport of the following machines:

**LYRA 2T** - Reversible heat pump with inverter technology

Correct use and maintenance contribute to good operation and a longer life cycle of the machine. For any doubt or further information, please contact your nearest service centre or the manufacturer's after-sales service directly.

### 1.1.1 Storage

The manual must be kept with care and in the immediate vicinity of the machine, far from liquids and anything else that could compromise its readability, and must be available for consultation at any time. The manual and the Declaration of Conformity are an integral part of the machine and must therefore accompany it throughout its entire life cycle.

Parts of this documents must not be removed, torn or arbitrarily modified.

If the manual is lost or illegible, request a copy to the Manufacturer.

### 1.1.2 Updating the manual

The information, descriptions and illustrations contained in this manual reflect the state of the art at the time the machine was placed on the market.

The Manufacturer, in its constant commitment to improve its products and/or for market reasons, reserves the right to make, at any time, modifications to the machines for technical or commercial reasons without prior notice and without legitimising the Purchaser to terminate the contract.

In the event that, due to modifications to the machine installed at the Customer's facility, it is necessary to integrate, modify and/or update the contents of this manual, the Manufacturer shall provide the updated and revised chapters.

It is the responsibility of the user, following the instructions accompanying the updated documentation, to replace all copies held with the updated ones.



### 1.1.3 Confidentiality

The technical information (texts, drawings and illustrations) contained in this manual is the property of **THERMICS** and must be treated as confidential. It is strictly forbidden to disclose, reproduce or translate, even partially, this document without the written permission of **THERMICS**.

### 1.1.4 Recipients

This manual is intended for personnel who carry out the following operations on the machine:

- transport and handling;
- installation;
- use;
- adjustments;
- cleaning;
- maintenance and repair;
- demolition and disposal.



---

**WARNING!**

**Make sure that operators do not intervene outside their specific areas of competence and responsibility.**

---



---

**IMPORTANT**

**This manual shall not in any way replace the specific technical training that operators must have previously received on similar machines or that they may attend on this machine under the guidance of qualified personnel.**

---

## 1.2 Symbols

For the safety of persons and property, a special symbol has been used in this documentation to allow readers to focus on hazardous conditions, warnings or relevant information:



---

### **DANGER!**

**PAY UTMOST ATTENTION TO THE TEXT BLOCKS MARKED WITH THIS SYMBOL.**

**Danger with risk of injury or death.**

**Accident prevention regulations for the operator.**

---



---

### **WARNING!**

**Possibility of causing damage to the machine and/or its components.**

**Pay attention.**

---



---

### **IMPORTANT**

**Warning or note about key functions or useful information about the current operation.**

---

### 1.2.1 Illustrations

The illustrations in this publication are current as of the date of issue.

In light of continuous technical or commercial updates, components may be mounted on the machine described in this manual, whose external shape may be different from that illustrated. Nevertheless, this does not affect such components' functionality and possibility of adjustment.

In case of doubt, contact the manufacturer directly for any further information.





## 1.3 General warnings

### 1.3.1 Allowed use

- Please read this booklet carefully.
- The documentation supplied with the unit must be handed over to the owner who must keep it carefully for future maintenance or servicing.
- The company shall not be liable for any damage to persons, animals or property arising from installation, adjustment and maintenance mistakes, improper use or a partial or superficial reading of the information provided herein; moreover, in view of the constant improvement of the products, the company reserves the right to modify the specified data at any time and without notice and declines all responsibility for any inaccuracies in this booklet, if due to printing or transcription errors.
- The machines are designed for heating and/or cooling water. A different use, not expressly authorised by the manufacturer, is to be considered improper and therefore not allowed.
- The location, hydraulic, cooling and electrical systems must be determined by the system designer considering both the merely technical requirements and any local legislation in force and specific authorisations.
- All works must be carried out by qualified, experienced personnel aware of the relevant regulations in force in the various countries.
- Upon delivery of the goods by the carrier, check the integrity of both the packaging and the units. If there is any damage or missing components, indicate it on the delivery note and forward a formal complaint to the company by fax or registered mail within 8 days from the date of good reception.
- The warranty does not apply if:
  - the personnel authorised by the company does not attend the machine start-up;
  - the above indications are not respected.

### 1.3.2 Remarks

- Pay particular attention to the use instructions preceded by the words "danger", "warning" or "important" because failure to respect them may lead to damage to the machine and/or people and property.
- The manufacturer declines all responsibility for any damage due to improper use of the machine, partial or superficial reading of the information provided herein.
- The machine must be installed in such a way that maintenance and/or repair operations are possible.
- The machine warranty does not cover the costs for ladders, scaffolding or other lifting systems that may be necessary to carry out works under warranty.
- The manufacturer does not provide drawings or specifications of connection systems.
- Any deviation from the prescriptions contained in this manual must be validated in writing by the manufacturer's technical support.
- For any faults not mentioned in this manual, please contact the Customer Service immediately.



### 1.3.3 User information



- Keep this manual and the wiring diagram in a place accessible to the operator.
- Make a note of the unit's identification information so you can give it to the service centre if you have to request assistance (see the section "*Machine identification*" in the Technical and Maintenance Manual).
- It is recommended to keep track of the works carried out on the unit to make the troubleshooting activity easier.
- In case of failure or malfunction:
  - check the type of alarm to report it to the service centre;
  - switch off the unit immediately without resetting the alarm;
  - contact an authorised service centre;
  - require the use of original spare parts.
- Ask the installer to be trained on:
  - power on/off;
  - shutting down the machine for long periods;
  - maintenance;
  - what to do/not to do in case of failure.

### 1.3.4 Fluorinated greenhouse gases

The product contains fluorinated greenhouse gases.

### 1.3.5 Warning sticker

A self-adhesive safety warning label has been attached to the product. The warning label indicates the rules that should be followed regarding the R32 refrigerant. The warning sticker must not be removed.

Symbol	Meaning
	Warning of flammable substances in relation to R32 refrigerant.
	Read the instructions.

## 2 Safety regulations

---



### **DANGER!**

The machine has been designed and built according to appropriate safety standards. Before using the machine, carefully follow all the precautions and instructions provided in the manual to avoid accidents.

---

### 2.1 General safety rules

The use of products that use electricity and water involves compliance with certain basic safety rules such as the ones provided below:

- Children and unattended disabled persons are not allowed to use the machine.
- Do not touch the machine if you are barefoot and have wet or damp body parts.
- Any cleaning operation is prohibited without first disconnecting the power supply by turning the main switch of the system to "off".
- It is forbidden to modify the safety or adjustment devices without the authorisation and instructions of the machine manufacturer.
- It is forbidden to pull, disconnect or twist the electrical cables coming out of the machine, even if it is disconnected from the power supply.
- It is forbidden to open the access doors to the internal parts of the machine, if the system has not been switched off by means of the main switch.
- It is forbidden to climb on the machine with your feet, sit and/or lean against any type of object.
- It is forbidden to spray or throw water directly on the machine.
- The packaging material (cardboard, staples, plastic bags, etc.) may not be dispersed or left within the reach of children, as it may be a potential source of danger.
- Observe the safety distances between the machine and other equipment or structures to ensure sufficient access space to the unit for maintenance and/or servicing as indicated in this manual.
- Power supply of the machine: the machine must be powered by means of electrical cables with a section suitable for the power of the unit and the power supply voltage values must correspond to those indicated for the respective machines; all the machines must be connected to earth as per the regulations in force in the various countries.
- The hydraulic connection must be carried out according to the instructions in order to ensure the correct operation of the machine.
- During the cold season, if the machine is not working, empty all the hydraulic circuits of the machine to prevent them from freezing.
- Handle the machine with the utmost care and avoid damaging it.
- Glycol solution: the heat exchangers' antifreeze alarms are set based on the mixture declared at the start-up. Breakages due to inadequate mixing or mixture not maintained over time are not covered by the manufacturer's warranty.
- Installation room: some machine components generate heat during operation.
- The installation room must ensure adequate ventilation and proper dissipation of the heat produced.



## 2.2 Ensuring safety in the workplace

Validity: Wall mounting

- Make sure there is safe access to the wall mounting position.
- Fall protection equipment should be installed if work has to be carried out on the product at a height of more than 3 m.
- Comply with local laws and regulations.

Validity: Flat roof installation

- Ensure safe access to the flat roof.
- In addition to the distance necessary to work on the product, maintain a safety distance of 2 m from the fall-hazard zone. Do not enter the safety zone.
- Alternatively, install a technical fall protection device, such as a railing, in the area where there is a risk of falling.
- Alternatively, install a technical protection system, such as scaffolding or protective nets.
- Keep a safe distance from roof hatches or skylights on the flat roof.
- When carrying out work, make any roof hatches and the skylights on the flat roof safe so that they cannot be accessed or fallen into, e.g. with a bar.

## 2.3 Risks

The product contains R32 refrigerant, which should not be allowed to escape into the atmosphere. R32 is a fluorinated greenhouse gas covered by the Kyoto Protocol with a GWP of 675 (GWP = Global Warming Potential).

If it is released into the atmosphere, it has an effect that is 675 times greater than that of the natural greenhouse gas CO<sub>2</sub>.

Before disposing of the product, the refrigerant contained in it should be transferred to a suitable container and then recycled or disposed of in accordance with the regulations in force.

- Ensure that any installation, maintenance or other work on the refrigerant circuit is carried out exclusively by a qualified and certified technician wearing the appropriate personal protective equipment.
- Ensure that the refrigerant contained in the product is disposed of or in accordance with the regulations by a qualified and certified technician.



## **3 Declaration of conformity**

---

### **3.1 Standards**

The machine complies with the following standards:

- Low Voltage Directive: 2014/35/EU
- Electromagnetic Compatibility Directive EMCD: 2014/30/EU
- The Pressure Equipment Directive PED: 2014/68/EU (module A)
- The RoHS directive on the restriction of the use of certain hazardous substances in EEE: 2011/65/EU
- ErP ecodesign directive: 2009/125/EC




## 3.2 Declaration of conformity (FAC-Simile)

The EC declaration of conformity, supplied with the machine, is the document by which the Manufacturer certifies, under its own responsibility, to comply with the European Directives, standards and technical specifications (indicated in the declaration itself) necessary for the machine to comply with the essential requirements for marketing and use in the European Union.


The Declaration of Conformity must be considered an integral part of the machine and must accompany the machine until its demolition.

If this document is not delivered with the machine or is lost, request a copy to the Manufacturer.



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**DICHIARAZIONE CE DI CONFORMITA'**



DICHIARA CHE LA PROGETTAZIONE E LA COSTRUZIONE DELLE MACCHINE:

--	--	--


- Direttiva PED in materia di attrezzature a pressione: 2014/68/UE (modulo A)  
 - Direttiva RoHS sulla restrizione dell'uso di determinate sostanze pericolose nelle AEE: 2011/65/UE  
 - Direttiva ENEC per la progettazione ecocompatibile: 2009/125/CE

**ALLE FERTIMENTI NORMATIVE DI ARMONIZZAZIONE DELL'UNIONE:**

- EN 60335-1:2012 + A1:2019 + A2:2019 + A3:4:2019
- EN 60335-2-49:2003 + A13:2012/AC:2013
- EN 62213-2:2008/AC:2008
- EN 55014-1:2011/A11:2020
- EN 55014-2:2015
- EN 61000-3-3:2013 + A1:2019
- EN 61000-3-2:2011
- EN IEC 61000-3-2:2019
- EN IEC 61000-3-11:2019
- (EU) No. 813/2013
- EN 14825:2018
- EN 12102-1:2017
- EN 14511:2018

Il costruttore dichiara che le caratteristiche del prodotto soddisfano i requisiti fondamentali delle norme e dei sopra e che sono state adottate tutte le misure di sicurezza al fine di garantire la conformità con la documentazione tecnica.

La presente dichiarazione perde la sua validità nel caso venissero apportate modifiche al prodotto senza previa



LYRA 2T - R32 | DECLARATION OF CONFORMITY

13

### 3.2.1 Amount and type of refrigerant in hermetically and non-hermetically sealed equipment

The declaration regarding the amount and type of refrigerant (if present) provides essential information on the type and amount of refrigerant contained in most of the non-hermetically sealed equipment listed in the THERMICS catalogue.

This declaration provides all the information necessary for including the equipment in the fluorinated gases database.

**thermics energie s.r.l.**  
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info@thermics-energie.it - www.thermics-energie.it

**TIPOLOGIA E CONTENUTO DI REFRIGERANTE DELLE APPARECCHIATURE NON ERMETICAMENTE NON CONFIGURATE PRESENTI NEL CATALOGO THERMICS ENERGIE srl**

Tra gli obblighi introdotti ai sensi dell'art. 16 del D.P.R. 146 del 16/11/2018 (Regolamento di esecuzione del Regolamento UE 517/2016 sui gas fluorurati ad effetto serra) si è l'obbligo, per le imprese che forniscono tale contenuto gas fluorurati ad effetto serra agli utilizzatori finali, di comunicare all'atto della vendita e per via telematica alla banca dati sui gas fluorurati le seguenti informazioni:

dichiarazione dell'acquirente recante l'impegno che l'installazione sarà effettuata da un'impresa certificata  
il venditore offre all'utilizzatore finale il servizio di installazione dell'apparecchiatura venduta

Nel seguente documento si riportano le informazioni essenziali sulla tipologia e sul contenuto di refrigerante contenuti nella maggior parte delle apparecchiature non ermeticamente sigillate e non configurate presenti nel catalogo.

THERMICS ENERGIE non garantisce che il presente elenco sia esaustivo della totalità delle apparecchiature non configurate presenti a catalogo e soggette agli obblighi di cui sopra. Si raccomanda per ciascuna apparecchiatura contenente gas fluorurati e non contenuta nel presente documento, una verifica in merito all'assoggettabilità agli obblighi di comunicazione ai sensi dell'art. 16 del D.P.R. 146 del 16/11/2018.

Il presente elenco non comprende le unità configurate, per le quali i dati in oggetto sono riportati nell'etichetta della macchina.

Per le unità sigillate il contenuto di refrigerante indicato è quello contenuto nelle unità esterne fornite da THERMICS appropria con il contenuto di refrigerante complessivo del sistema a causa di possibili aggiunte di refrigerante da eseguire in fase di installazione a cura dell'installatore.

CE

MODELLO	TIPOLOGIA DI APPARECCHIATURA	REFRIGERANTE	GWP	%	CIRCUITI	ACQUA	ACQUA
HYDRAL 8 kW SPLIT 2T	POMPA DI CALORE	R-410A	2088	2,13	1		4,13
HYDRAL 8 kW SPLIT ACS 4T	POMPA DI CALORE	R-410A	2088	2,40	1		5,00
HYDRAL 12 kW 4T MS	POMPA DI CALORE	R-410A	2088	1,90	1		6,30
HYDRAL 20 kW 2T MS	POMPA DI CALORE	R-410A	2088	5,30	1		10,80
HYDRAL 20 kW 4T MS	POMPA DI CALORE	R-410A	2088	5,30	1		14,80
HYDRAL 30 kW 2T MS	POMPA DI CALORE	R-410A	2088	7,30	1		15,00
HYDRAL 30 kW 4T MS	POMPA DI CALORE	R-410A	2088	8,30	1		17,12
DUARAN 8 kW SPLIT 2T	POMPA DI CALORE	R-410A	2088	2,10	1		4,18
DUARAN 8 kW SPLIT ACS 4T	POMPA DI CALORE	R-410A	2088	2,40	1		5,05
DUARAN 8 kW 4T MS	POMPA DI CALORE	R-410A	2088	1,85	1		6,04
DUARAN 12 kW 4T MS	POMPA DI CALORE	R-410A	2088	1,90	1		6,26
DUARAN 12 kW 4T MS 400V	POMPA DI CALORE	R-410A	2088	1,90	1		6,31
DUARAN 15 kW 4T MS	POMPA DI CALORE	R-410A	2088	5,20	1		10,85
DUARAN 15 kW 4T MS 400V	POMPA DI CALORE	R-410A	2088	5,20	1		10,85
DUARAN 20 kW 2T MS	POMPA DI CALORE	R-410A	2088	7,20	1		15,03
DUARAN 20 kW 4T MS	POMPA DI CALORE	R-410A	2088	8,20	1		17,12
DUARAN 30 kW 2T MS	POMPA DI CALORE	R-410A	2088	7,20	1		15,03
DUARAN 30 kW 4T MS	POMPA DI CALORE	R-410A	2088	8,20	1		17,12
HYDRAL 8 kW SPLIT 2T	POMPA DI CALORE	R-410A	2088	2,10	1		5,22
HYDRAL 8 kW SPLIT 4T / ACS 4T	POMPA DI CALORE	R-410A	2088	2,10	1		5,22
HYDRAL 12 kW SPLIT 2T	POMPA DI CALORE	R-410A	2088	1,50	1		7,11
HYDRAL 12 kW SPLIT 4T / ACS 4T	POMPA DI CALORE	R-410A	2088	1,50	1		7,11
HYDRAL 15 kW 2T MS	POMPA DI CALORE	R-410A	2088	3,00	1		6,26
HYDRAL 15 kW 4T MS	POMPA DI CALORE	R-410A	2088	3,00	1		6,26
HYDRAL 15 kW SPLIT 2T	POMPA DI CALORE	R-410A	2088	3,00	1		7,11
HYDRAL 15 kW SPLIT 4T / ACS 4T	POMPA DI CALORE	R-410A	2088	3,00	1		7,11
HYDRAL 18 kW 2T MS	POMPA DI CALORE	R-410A	2088	3,80	1		7,11
HYDRAL 18 kW 4T MS	POMPA DI CALORE	R-410A	2088	3,80	1		7,11
HYDRAL 20 kW SPLIT 2T	POMPA DI CALORE	R-410A	2088	3,80	1		7,11
HYDRAL 20 kW SPLIT 4T / ACS 4T	POMPA DI CALORE	R-410A	2088	3,80	1		7,11
HYDRAL 25 kW 2T MS	POMPA DI CALORE	R-410A	2088	5,80	1		12,11
HYDRAL 25 kW 4T MS	POMPA DI CALORE	R-410A	2088	5,80	1		12,11
HYDRAL 30 kW 2T MS	POMPA DI CALORE	R-410A	2088	5,80	1		12,11
HYDRAL 30 kW 4T MS	POMPA DI CALORE	R-410A	2088	5,80	1		12,11
HYDRAL 32 kW	POMPA DI CALORE	R-410A	2088	3,00	1		6,26
HYDRAL 8 kW PRO	POMPA DI CALORE	R-410A	2088	2,10	1		4,18
FOSSIDION 8 kW 4T	POMPA DI CALORE	R-410A	2088	1,50	1		3,13
FOSSIDION 14 kW 4T	POMPA DI CALORE	R-410A	2088	1,50	1		3,13
FOSSIDION 18 kW 4T	POMPA DI CALORE	R-410A	2088	1,90	1		3,17
FOSSIDION 24 kW 4T	POMPA DI CALORE	R-410A	2088	1,90	1		3,17
FOSSIDION 30 kW 4T	POMPA DI CALORE	R-410A	2088	2,30	1		4,40
FOSSIDION 36 kW 4T	POMPA DI CALORE	R-410A	2088	2,30	1		4,40
FOSSIDION 36 kW 4T	POMPA DI CALORE	R-410A	2088	3,30	1		6,49
FOSSIDION 48 kW 4T	POMPA DI CALORE	R-410A	2088	3,30	1		7,11
FOSSIDION 60 kW 4T	POMPA DI CALORE	R-410A	2088	4,00	1		8,15
FOSSIDION 60 kW 4T	POMPA DI CALORE	R-410A	2088	4,50	1		8,40
LUNA 2T 08 MS	POMPA DI CALORE	R-410A	2088	1,70	1		3,15
LUNA 2T 08 MS	POMPA DI CALORE	R-410A	2088	1,70	1		3,15
LUNA 2T 08 SPLIT	POMPA DI CALORE	R-410A	2088	1,70	1		3,15
LUNA 2T 08 SPLIT	POMPA DI CALORE	R-410A	2088	2,00	1		4,18
LUNA 2T 10 SPLIT	POMPA DI CALORE	R-410A	2088	2,00	1		4,18
LUNA 2T 10 SPLIT	POMPA DI CALORE	R-410A	2088	2,00	1		4,18
INTERNA 08	POMPA DI CALORE	R-410A	2088	0,68	1		1,42

## 4 Machine features

---

### 4.1 Range

The LYRA 2T heat pump units are designed for applications using radiant panel heating systems or low temperature applications such as suitably dimensioned fan-coil, thermal ventilation and AHUs for delivery temperatures of 60°C.

All versions are equipped with extremely silent EC axial fans and Twin Rotary inverter compressors that allow the complete power management of each single component. In fact, the compressor, fan and circulators are continuously regulated by a programmed control unit with an internally developed control logic.

#### AVAILABLE VERSIONS

**LYRA 2T 06**

**LYRA 2T 08**

**LYRA 2T 12**

**LYRA 2T 14**



## 4.2 Machine identification

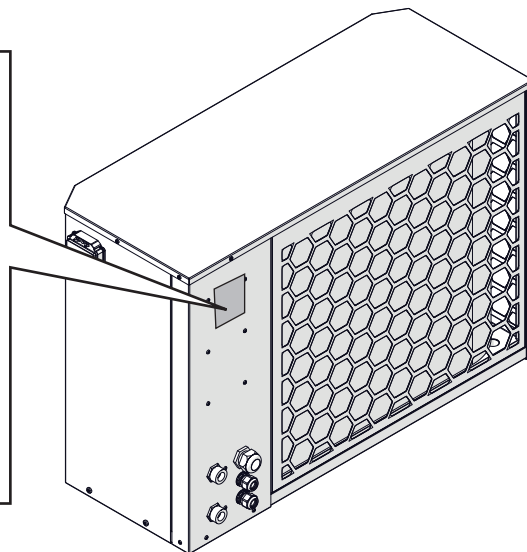
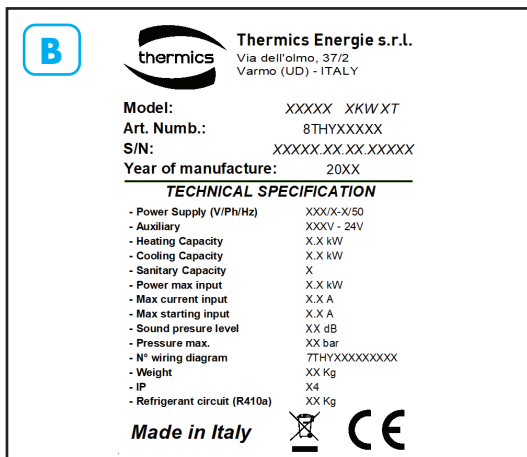
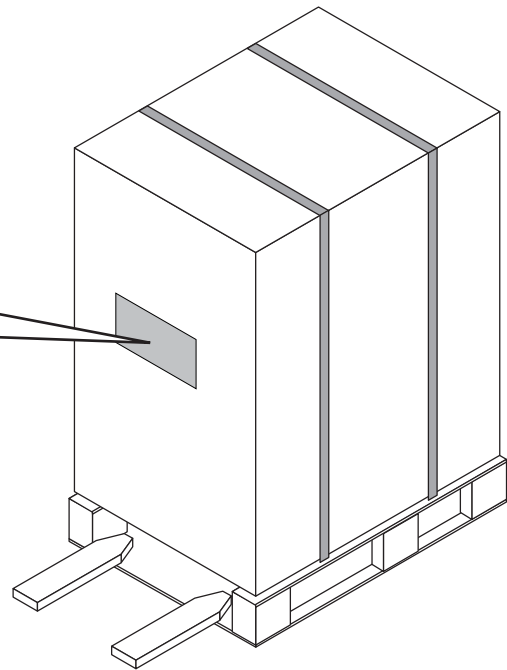
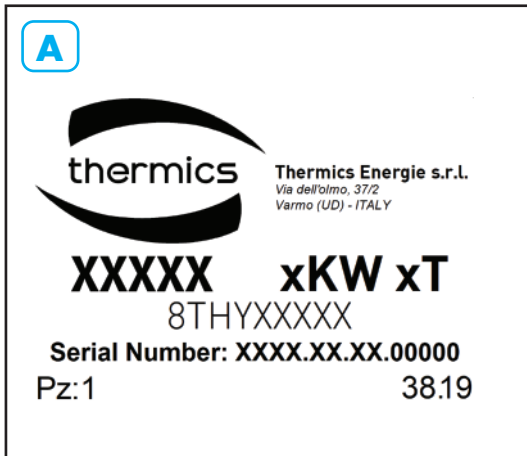
The equipment is identified by:

- Packing plate (A).  
It provides the equipment identification data.
- Nameplate (B).  
Applied to the machine, it shows the technical and performance data of the equipment. In case of loss or deterioration, request a duplicate to the Technical Customer Service.



### DANGER!

The tampering with, removal and deterioration of the identification plates make it difficult to install, maintain the system and request spare parts.





## 4.3 Machine description

### 4.3.1 Outdoor unit

- The structure is made of thick galvanised sheet metal painted with epoxy powders. The panels of the compressor compartment are totally soundproofed by means of a sheet with high soundproofing characteristics. The compressor compartment is accessible via removable front panels.
- All models are fitted with BLDC TWIN ROTARY INVERTER airtight compressors designed for use with R32 refrigerant. The compressors are mounted on rubber supports to eliminate vibrations transmitted to the frame and are positioned on a metal damping structure.
- The fans are of the axial type with 4-pole motors and wing profile blades.
- The heat pumps consist of a cooling circuit made entirely of copper and insulated with expanded closed-cell pipe; the joints are braze-welded with high strength alloy. The circuit is complete with: dehydrator filter, cycle reversing valve, liquid receiver, high pressure switch, high pressure transducer for condensation control and low pressure transducer used both as safety device and for electronic expansion valve control.
- The electronic expansion valve is made of high quality materials (AISI 316L and technopolymers). Thanks to its proportional modulation and its high reliability, it guarantees the ability to stabilise and maintain the operation of the heat pump in a very short time, allowing energy savings.
- The electrical panel is made of galvanised steel sheet and located in the compressor compartment with a support plate for components. The power circuit is separate from the control circuit and is designed in accordance with EN60204-1.
- **System:** It includes the inverter-controlled circulation pump, the maximum water pressure safety device, the air vent and the water flow safety device (differential pressure switch).

## 4.4 Operating principle

- In winter mode, the equipment draws heat from the outside air and makes it available for domestic hot water or heating.
- In summer mode, it extracts heat from the internal environment (conditioning).
- The hot water for the subsequent production of domestic hot water (DHW) must be stored in a storage tank of adequate capacity to meet the user's needs.



## 4.5 Accessories

- Heating cable - 3m - 60W - automatic heat pump management.
- Floor mounting Kit LYRA - 6/14.
- Y-strainer, brass DN25 for 10 kW heat pump.
- Wireless Modbus thermostat for Heat Pump.
- Wall-mounted 4.3" TFT display - Wi-Fi - TH - Modbus - EASYTOUCH.
- Anti-vibration hose for Heat Pump - ANTIV.A/CF TR/X - 1"FF mm 200.
- Magnetic dirt separator 90° 1" - COMPACT
- Magnetic dirt separator - 1 1/4" - inline - MAGNUM.
- Rear Grille 2 (AA3).
- Rear Grille (SNT.B).
- Power supply 12V 60W.
- Solar thermostatic mixing valve - anti-scald 3/4"M.
- Easy box - Electrical panel for cascaded heat pump control - up to 8 machines.
- Anti-freeze valve 1".
- HP1 - System expansion module.
- Belden RS485 cable.
- Diverter valve kit + DHW probe - DN25.

## 5 Technical specifications

SIZES LYRA 2T		6	8	12M	12T	14M	14T
Cooling A35/W7	Cooling Capacity	2.37 / 3.68 / 5.03	3.97 / 5.47 / 7.33	5.16 / 7.09 / 9.50	5.16 / 7.09 / 9.50	5.16 / 7.90 / 10.80	5.16 / 7.90 / 10.80
		Min. / Nom. / Max.					
		Power input	1.24	1.66	2.48	2.48	2.77
	E:E.R	2.96	3.3	2.85	2.85	2.85	2.85
	Water flow rate	0.6	0.94	1.22	1.22	1.36	1.36
	Useful head	6.2	5.9	5	5	6.6	6.6

SIZES LYRA 2T		6	8	12M	12T	14M	14T
Cooling A35/W18	Cooling Capacity	3.11 / 4.98 / 7.03	5.35 / 7.63 / 10.59	6.95 / 9.89 / 13.71	6.95 / 9.89 / 13.71	6.95 / 11.01 / 15.55	6.95 / 11.01 / 15.55
		Min. / Nom. / Max.					
		Power input	1.24	1.67	2.49	2.49	2.78
	E:E.R	4	4.58	3.97	3.97	3.95	3.95
	Water flow rate	0.86	1.31	1.7	1.7	1.89	1.89
	Useful head	6	4.9	3.5	3.5	6.1	6.1

SIZES LYRA 2T		6	8	12M	12T	14M	14T
Heating A7/W35	Heat output	2.72 / 4.33 / 5.81	4.50 / 6.41 / 8.97	6.00 / 8.51 / 11.58	6.00 / 8.51 / 11.58	6.00 / 9.47 / 13.41	6.00 / 9.47 / 13.41
		Min. / Nom. / Max.					
		Power input	0.93	1.24	1.87	1.87	2.09
	C.O.P.	4.64	5.18	4.54	4.54	4.53	4.53
	Water flow rate	1	1.54	1.99	1.99	2.31	2.31
	Useful head	5.7	4.5	3.3	3.3	5.5	5.5

SIZES LYRA 2T		6	8	12M	12T	14M	14T
Heating A7/W45	Heat output	2.59 / 4.14 / 5.58	4.21 / 6.02 / 8.47	5.67 / 8.04 / 10.99	5.67 / 8.04 / 10.99	5.67 / 8.96 / 12.80	5.67 / 8.96 / 12.80
		Min. / Nom. / Max.					
		Power input	1.13	1.51	2.29	2.29	2.56
	C.O.P.	3.67	3.97	3.51	3.51	3.5	3.5
	Water flow rate	0.71	1.03	1.38	1.38	1.54	1.54
	Useful head	6	5.7	4.8	4.8	6.5	6.5



SIZES LYRA 2T		6	8	12M	12T	14M	14T
ERP	Energy efficiency	A+++/ A++	A+++/ A++	A+++/ A++	A+++/ A++	A+++/ A++	A+++/ A++
	Water 35°C / 55°C						
Energy Efficiency	SCOP 35°C / 55°C	4.03 / 2.67	4.48 / 2.85	3.97 / 2.53	3.97 / 2.53	3.89 / 2.52	3.89 / 2.52
Compressor	Type	Twin Rotary					
	Number of compressors	1	1	1	1	1	1
	Refrigerating circuits	1	1	1	1	1	1
Refrigerant	Type	R32					
	Coolant load	1.08	1.08	2.3	2.3	2.3	2.3
Outdoor fan	Type	Brushless DC motor					
	Number	1	1	2	2	2	2
	Air flow rate	3579	3579	6781	6781	6781	6781
	Useful head	20	20	52	52	52	52
	Power input	0.05	0.05	0.08	0.08	0.08	0.08
Internal exchanger	Internal exchanger type	With braze-welded plates					
	Number of internal exchangers	1	1	1	1	1	1
	Water volume	0.7	0.7	1.06	1.06	1.06	1.06
Hydraulic circuit	Maximum water side pressure	3	3	3	3	3	3
	Water connections	1"	1"	1"	1"	1"	1"
	Maximum circulator power	0.06	0.06	0.06	0.06	0.06	0.06
Noise emissions	(1) Sound power	43	45	48	48	50	50
	(1) Sound power	58	60	62	62	64	64
	(1) Sound pressure at 10 m	27	29	31	31	33	33
Electrical data	Supply	230-1-50			400-3-50	230-1-50	400-3-50
	Maximum power input	2.3	3.1	4.59	4.59	5.67	5.67
	Maximum absorbed current	11.31	15.09	22.32	8.6	27.69	10.66

SIZES LYRA 2T		6	8	12M	12T	14M	14T
<b>Dimensions</b>	L	1000 x 735 x 443	1000 x 735 x 443	1000 x 1336 x 443	1000 x 1336 x 443	1000 x 1336 x 443	1000 x 1336 x 443
<b>Machine data</b>	Weight	85	86	141	142	142	143

OPERATING CONDITIONS ACCORDING TO EN 14511 **A7/W35**

<b>USER CIRCUIT: RADIANT SYSTEM</b>	°C	30/35	In-Out
<b>Outdoor circuit: outside air 7°C with 85% U.R.</b>	°C	7°C 85%	In-Out
<b>Operating conditions according to EN 14511</b>	A7/W45		
<b>User circuit: radiant system</b>	°C	40/45	In-Out
<b>Outdoor circuit: outside air 7°C with 85% U.R.</b>	°C	7°C 85%	In-Out
<b>Operating conditions according to EN 14511</b>	A35/18		
<b>User circuit: radiant system</b>	°C	23/18	In-Out
<b>Outdoor circuit: outside air 35°C 50% U.R.</b>	°C	35°C 50%	In-Out
<b>Operating conditions according to EN 14511</b>	A35/W7		
<b>User circuit: radiant system</b>	°C	12/7	In-Out
<b>Outdoor circuit: outside air 35°C 50% U.R.</b>	°C	35°C 50%	In-Out

(1) Sound power level according to EN 12102

## 5.1 Consumptions

### MAXIMUM VALUES

SIZES LYRA 2T		6	8	12		14	
Electrical power supply	V-Ph-Hz	230-1-50	230-1-50	230-1-50	400-3-50	230-1-50	400-3-50
	F.L.I. (kW)	2.13	2.92	4.30	4.30	5.34	5.34
Compressor	F.L.A. (A)	10.18	13.95	20.54	6.83	25.51	8.48
	L.R.A. (A)	16.00	16.00	28.00	12.00	28.00	12.00
	Cosfi	0.91	0.91	0.91	0.91	0.91	0.91
Pdc system pump	F.L.I. (kW)	0.06	0.06	0.06	0.06	0.10	0.10
	F.L.A. (A)	0.50	0.50	0.50	0.50	0.90	0.90
DHW pump	F.L.I. (kW)	0.00	0.00	0.00	0.00	0.00	0.00
	F.L.A. (A)	0.00	0.00	0.00	0.00	0.00	0.00
Fan	F.L.I. (kW)	0.12	0.12	0.23	0.23	0.23	0.23
	F.L.A. (A)	0.64	0.64	1.28	1.28	1.28	1.28
Total	F.L.I. (kW)	2.30	3.10	4.59	5.67	5.67	5.67
	F.L.A. (A)	11.31	15.09	22.32	10.66	27.69	10.66
	L.R.A. (A)	17.14	17.14	29.78	14.18	30.18	14.18



## 5.2 Performance under varying boundary conditions

The performance of the # ModelName # units in Heating (winter operation) and Cooling (summer operation) mode are shown below.

In the tables, the abbreviation **COP** (coefficient of performance) indicates the efficiency of the units during heating and the abbreviation **EER** (energy efficiency ratio) represents the performance of the air conditioners during cooling.

### LYRA 2T 6 in minimum Heating mode

Outside air T °C	DELIVERY WATER T 25 °C			DELIVERY WATER T 30 °C			DELIVERY WATER T 35 °C			DELIVERY WATER T 40 °C			DELIVERY WATER T 45 °C			DELIVERY WATER T 50 °C			DELIVERY WATER T 55 °C		
	kW heating	kW power input	COP	kW heating	kW power input	COP	kW heating	kW power input	COP	kW heating	kW power input	COP	kW heating	kW power input	COP	kW heating	kW power input	COP	kW heating	kW power input	COP
-22	1.08	0.41	2.60	1.05	0.44	2.38	1.02	0.47	2.18	0.98	0.49	2.00	0.95	0.52	1.84	0.91	0.54	1.69	0.87	0.56	1.56
-15	1.40	0.44	3.16	1.37	0.48	2.87	1.33	0.51	2.62	1.30	0.54	2.40	1.26	0.57	2.20	1.22	0.60	2.03	1.18	0.63	1.87
-10	1.66	0.46	3.64	1.63	0.50	3.28	1.59	0.53	2.98	1.55	0.57	2.71	1.51	0.61	2.48	1.46	0.64	2.27	1.42	0.68	2.09
-7	1.84	0.46	3.98	1.80	0.50	3.57	1.76	0.55	3.22	1.71	0.59	2.92	1.67	0.63	2.66	1.62	0.67	2.43	1.57	0.71	2.22
-5	1.96	0.46	4.24	1.92	0.51	3.78	1.88	0.55	3.40	1.83	0.60	3.07	1.78	0.64	2.79	1.73	0.68	2.54	1.68	0.72	2.32
-2	2.16	0.46	4.68	2.11	0.51	4.14	2.06	0.56	3.69	2.02	0.61	3.32	1.96	0.66	3.00	1.91	0.70	2.72	1.85	0.75	2.47
0	2.30	0.46	5.01	2.25	0.51	4.41	2.20	0.56	3.91	2.15	0.61	3.50	2.09	0.66	3.15	2.03	0.71	2.85	1.97	0.76	2.58
2	2.44	0.45	5.39	2.39	0.51	4.70	2.34	0.56	4.15	2.28	0.62	3.69	2.22	0.67	3.31	2.16	0.73	2.98	2.10	0.78	2.70
5	2.68	0.44	6.05	2.62	0.50	5.21	2.56	0.56	4.55	2.50	0.62	4.02	2.44	0.68	3.58	2.37	0.74	3.20	2.30	0.80	2.88
7	2.84	0.43	6.57	2.78	0.50	5.60	2.72	0.56	4.85	2.66	0.62	4.26	2.59	0.69	3.77	2.51	0.75	3.37	2.44	0.81	3.02
10	3.11	0.41	7.50	3.04	0.48	6.28	2.97	0.55	5.38	2.90	0.62	4.67	2.82	0.69	4.10	2.74	0.76	3.63	2.66	0.82	3.24
12	3.30	0.40	8.25	3.22	0.47	6.82	3.15	0.55	5.78	3.07	0.62	4.98	2.99	0.69	4.35	2.91	0.76	3.83	2.82	0.83	3.40
15	3.59	0.37	9.66	3.51	0.45	7.80	3.43	0.53	6.49	3.35	0.61	5.52	3.26	0.68	4.77	3.17	0.76	4.16	3.07	0.84	3.67
20	3.91	0.34	11.55	3.82	0.42	9.03	3.73	0.51	7.35	3.64	0.59	6.15	3.54	0.67	5.25	3.44	0.76	4.55	3.34	0.84	3.98

### LYRA 2T 8 in minimum Heating mode

Outside air T °C	DELIVERY WATER T 25 °C			DELIVERY WATER T 30 °C			DELIVERY WATER T 35 °C			DELIVERY WATER T 40 °C			DELIVERY WATER T 45 °C			DELIVERY WATER T 50 °C			DELIVERY WATER T 55 °C		
	kW heating	kW power input	COP	kW heating	kW power input	COP	kW heating	kW power input	COP	kW heating	kW power input	COP	kW heating	kW power input	COP	kW heating	kW power input	COP	kW heating	kW power input	COP
-22	1.59	0.52	3.08	1.53	0.55	2.75	1.49	0.60	2.47	1.47	0.66	2.23	1.48	0.72	2.04	1.51	0.80	1.89	1.56	0.88	1.78
-15	2.17	0.60	3.62	2.09	0.64	3.25	2.03	0.69	2.92	1.98	0.75	2.63	1.95	0.82	2.39	1.94	0.89	2.18	1.94	0.97	2.01
-10	2.64	0.64	4.13	2.55	0.69	3.70	2.47	0.75	3.31	2.40	0.81	2.97	2.35	0.88	2.68	2.31	0.95	2.43	2.28	1.03	2.21
-7	2.95	0.65	4.51	2.85	0.71	4.02	2.76	0.77	3.59	2.69	0.84	3.21	2.62	0.91	2.88	2.56	0.98	2.60	2.50	1.06	2.35
-5	3.17	0.66	4.80	3.07	0.72	4.26	2.97	0.78	3.79	2.89	0.85	3.38	2.81	0.93	3.03	2.73	1.01	2.72	2.67	1.09	2.46
-2	3.52	0.66	5.30	3.41	0.73	4.67	3.31	0.80	4.13	3.21	0.87	3.67	3.11	0.95	3.27	3.02	1.03	2.92	2.93	1.12	2.62
0	3.77	0.66	5.69	3.66	0.73	4.99	3.55	0.81	4.39	3.44	0.89	3.88	3.33	0.97	3.44	3.23	1.05	3.07	3.12	1.14	2.75
2	4.04	0.66	6.13	3.92	0.73	5.34	3.80	0.81	4.67	3.68	0.90	4.11	3.57	0.98	3.64	3.45	1.07	3.23	3.33	1.16	2.88
5	4.46	0.65	6.91	4.34	0.73	5.95	4.21	0.82	5.16	4.07	0.90	4.50	3.94	1.00	3.96	3.80	1.09	3.50	3.66	1.18	3.10
7	4.77	0.63	7.53	4.63	0.72	6.42	4.50	0.81	5.53	4.35	0.91	4.80	4.21	1.00	4.20	4.06	1.10	3.70	3.90	1.19	3.27
10	5.25	0.61	8.67	5.11	0.70	7.25	4.96	0.80	6.16	4.80	0.91	5.30	4.64	1.01	4.60	4.47	1.11	4.02	4.29	1.21	3.54
12	5.60	0.58	9.60	5.45	0.69	7.92	5.29	0.79	6.66	5.12	0.90	5.68	4.95	1.01	4.90	4.77	1.12	4.27	4.58	1.22	3.74
15	6.14	0.54	11.36	5.99	0.66	9.12	5.82	0.77	7.53	5.64	0.89	6.34	5.45	1.01	5.41	5.24	1.12	4.68	5.03	1.24	4.07
20	6.84	0.48	14.26	6.67	0.61	10.96	6.49	0.74	8.79	6.29	0.87	7.26	6.08	0.99	6.12	5.85	1.12	5.23	5.61	1.24	4.51



**LYRA 2T 12 in minimum Heating mode**

Outside air T °C	DELIVERY WATER T 25 °C		DELIVERY WATER T 30 °C		DELIVERY WATER T 35 °C		DELIVERY WATER T 40 °C		DELIVERY WATER T 45 °C		DELIVERY WATER T 50 °C		DELIVERY WATER T 55 °C	
	kW heating	COP	kW heating	COP	kW heating	COP	kW heating	COP	kW heating	COP	kW heating	COP	kW heating	COP
-22	2.16	0.81	2.09	0.87	2.05	0.95	2.04	1.04	2.06	1.14	2.11	1.25	2.19	1.38
-15	2.93	0.94	2.84	1.01	2.77	1.09	2.72	1.18	2.70	1.29	2.70	1.40	2.72	1.52
-10	3.55	1.00	3.44	1.08	3.35	1.17	3.28	1.27	3.23	1.38	3.19	1.49	3.16	1.62
-7	3.96	1.03	3.84	1.11	3.74	1.21	3.65	1.32	3.58	1.43	3.52	1.55	3.47	1.67
-5	4.24	1.04	4.09	1.13	4.02	1.23	3.92	1.34	3.83	1.46	3.75	1.58	3.68	1.71
-2	4.70	1.05	4.50	1.15	4.45	1.26	4.34	1.38	4.23	1.50	4.13	1.63	4.04	1.76
0	5.03	1.04	4.82	1.15	4.77	1.27	4.64	1.39	4.52	1.52	4.41	1.65	4.29	1.79
2	5.37	1.04	5.19	1.15	5.10	1.28	4.96	1.41	4.83	1.54	4.69	1.68	4.56	1.82
5	5.92	1.02	5.83	1.15	5.62	1.28	5.47	1.42	5.32	1.56	5.16	1.71	5.00	1.85
7	6.31	0.99	6.35	1.13	6.00	1.28	5.84	1.43	5.67	1.58	5.50	1.73	5.32	1.88
10	6.94	0.95	7.28	1.11	6.60	1.26	6.42	1.42	6.23	1.59	6.04	1.75	5.83	1.91
12	7.38	0.92	8.05	1.08	7.03	1.25	6.84	1.42	6.63	1.59	6.42	1.76	6.19	1.92
15	8.08	0.85	9.51	1.03	7.71	1.21	7.50	1.40	7.28	1.58	7.04	1.76	6.79	1.94
20	8.97	0.75	11.90	0.96	8.57	1.16	8.34	1.36	8.10	1.56	7.83	1.76	7.54	1.95

**LYRA 2T 14 in minimum Heating mode**

Outside air T °C	DELIVERY WATER T 25 °C		DELIVERY WATER T 30 °C		DELIVERY WATER T 35 °C		DELIVERY WATER T 40 °C		DELIVERY WATER T 45 °C		DELIVERY WATER T 50 °C		DELIVERY WATER T 55 °C	
	kW heating	COP	kW heating	COP	kW heating	COP	kW heating	COP	kW heating	COP	kW heating	COP	kW heating	COP
-22	2.16	0.83	2.09	0.89	2.05	0.96	2.04	1.05	2.06	1.15	2.11	1.27	2.19	1.39
-15	2.93	0.96	2.84	1.02	2.77	1.11	2.72	1.20	2.70	1.30	2.70	1.41	2.72	1.53
-10	3.55	1.02	3.44	1.10	3.35	1.19	3.28	1.29	3.23	1.39	3.19	1.51	3.16	1.63
-7	3.96	1.04	3.79	1.13	3.74	1.23	3.65	1.33	3.58	1.44	3.52	1.56	3.47	1.69
-5	4.24	1.05	4.03	1.15	4.02	1.25	3.92	1.36	3.83	1.47	3.75	1.60	3.68	1.72
-2	4.70	1.06	4.43	1.16	4.45	1.27	4.34	1.39	4.23	1.51	4.13	1.64	4.04	1.77
0	5.03	1.06	4.75	1.17	4.77	1.29	4.64	1.41	4.52	1.54	4.41	1.67	4.29	1.80
2	5.37	1.05	5.11	1.17	5.10	1.29	4.96	1.42	4.83	1.56	4.69	1.69	4.56	1.83
5	5.92	1.03	5.74	1.16	5.62	1.30	5.47	1.44	5.32	1.58	5.16	1.73	5.00	1.87
7	6.31	1.01	6.25	1.15	6.00	1.29	5.84	1.44	5.67	1.59	5.50	1.74	5.32	1.89
10	6.94	0.97	7.16	1.12	6.60	1.28	6.42	1.44	6.23	1.60	6.04	1.76	5.83	1.92
12	7.38	0.93	7.91	1.10	7.03	1.26	6.84	1.43	6.63	1.60	6.42	1.77	6.19	1.94
15	8.08	0.87	9.33	1.05	7.71	1.23	7.50	1.41	7.28	1.60	7.04	1.78	6.79	1.96
20	8.97	0.77	11.65	0.97	8.57	1.18	8.34	1.38	8.10	1.58	7.83	1.78	7.54	1.97



**LYRA 2T 6 in nominal Heating mode**

Outside air T °C	DELIVERY WATER T 25 °C		DELIVERY WATER T 30 °C		DELIVERY WATER T 35 °C		DELIVERY WATER T 40 °C		DELIVERY WATER T 45 °C		DELIVERY WATER T 50 °C		DELIVERY WATER T 55 °C		
	kW heating	kW power input	COP	kW heating	kW power input	COP	kW heating	kW power input	COP	kW heating	kW power input	COP	kW heating	kW power input	COP
-22	1.71	0.66	2.59	1.66	0.70	2.37	1.61	0.74	2.17	1.57	0.79	1.99	1.52	0.83	1.83
-15	2.22	0.71	3.11	2.17	0.76	2.84	2.12	0.82	2.60	2.07	0.87	2.39	2.02	0.92	2.20
-10	2.64	0.74	3.56	2.58	0.80	3.23	2.53	0.86	2.94	2.48	0.92	2.69	2.42	0.98	2.47
-7	2.91	0.75	3.86	2.86	0.82	3.49	2.80	0.88	3.17	2.74	0.95	2.89	2.68	1.02	2.64
-5	3.11	0.76	4.09	3.05	0.83	3.68	2.99	0.90	3.33	2.93	0.97	3.03	2.86	1.04	2.76
-2	3.42	0.76	4.48	3.35	0.84	4.00	3.29	0.91	3.60	3.22	0.99	3.26	3.15	1.06	2.96
0	3.64	0.76	4.77	3.57	0.84	4.24	3.50	0.92	3.80	3.43	1.00	3.42	3.35	1.08	3.10
2	3.88	0.76	5.09	3.80	0.84	4.50	3.72	0.93	4.01	3.64	1.01	3.60	3.56	1.10	3.25
5	4.25	0.75	5.65	4.16	0.84	4.94	4.08	0.93	4.37	3.99	1.02	3.89	3.90	1.12	3.49
7	4.51	0.74	6.08	4.42	0.84	5.28	4.33	0.93	4.64	4.23	1.03	4.11	4.14	1.13	3.67
10	4.93	0.72	6.84	4.83	0.82	5.86	4.73	0.93	5.09	4.62	1.03	4.48	4.51	1.14	3.97
12	5.23	0.70	7.44	5.12	0.81	6.31	5.01	0.92	5.44	4.90	1.03	4.75	4.78	1.14	4.19
15	5.70	0.67	8.52	5.58	0.79	7.10	5.45	0.90	6.04	5.33	1.02	5.21	5.20	1.14	4.56
20	6.56	0.59	11.09	6.42	0.72	8.86	6.27	0.86	7.31	6.12	0.99	6.17	5.97	1.13	5.31

**LYRA 2T 8 in nominal Heating mode**

Outside air T °C	DELIVERY WATER T 25 °C		DELIVERY WATER T 30 °C		DELIVERY WATER T 35 °C		DELIVERY WATER T 40 °C		DELIVERY WATER T 45 °C		DELIVERY WATER T 50 °C		DELIVERY WATER T 55 °C		
	kW heating	kW power input	COP	kW heating	kW power input	COP	kW heating	kW power input	COP	kW heating	kW power input	COP	kW heating	kW power input	COP
-22	2.30	0.82	2.83	2.23	0.88	2.54	2.18	0.94	2.31	2.17	1.02	2.13	2.18	1.09	2.00
-15	3.09	0.91	3.41	2.99	0.98	3.07	2.91	1.05	2.77	2.86	1.13	2.53	2.83	1.22	2.33
-10	3.75	0.95	3.93	3.63	1.03	3.51	3.53	1.12	3.15	3.45	1.21	2.85	3.38	1.30	2.60
-7	4.19	0.98	4.29	4.06	1.06	3.82	3.95	1.16	3.41	3.84	1.25	3.07	3.75	1.35	2.78
-5	4.51	0.99	4.57	4.37	1.08	4.05	4.24	1.18	3.61	4.13	1.28	3.23	4.02	1.38	2.91
-2	5.01	1.00	5.03	4.86	1.10	4.43	4.72	1.20	3.92	4.59	1.31	3.50	4.46	1.42	3.13
0	5.37	1.00	5.39	5.21	1.11	4.72	5.06	1.22	4.16	4.91	1.33	3.69	4.77	1.45	3.30
2	5.75	1.00	5.78	5.58	1.11	5.04	5.42	1.23	4.42	5.26	1.35	3.90	5.10	1.47	3.47
5	6.36	0.98	6.47	6.18	1.11	5.58	6.00	1.24	4.85	5.82	1.37	4.25	5.63	1.50	3.76
7	6.80	0.97	7.02	6.60	1.10	6.00	6.41	1.24	5.18	6.22	1.38	4.52	6.02	1.51	3.97
10	7.49	0.94	7.98	7.28	1.08	6.73	7.07	1.23	5.75	6.85	1.38	4.96	6.63	1.53	4.33
12	7.98	0.91	8.76	7.76	1.06	7.30	7.54	1.22	6.18	7.31	1.38	5.30	7.07	1.54	4.60
15	8.76	0.86	10.21	8.53	1.03	8.32	8.29	1.20	6.93	8.04	1.37	5.88	7.77	1.54	5.05
20	10.20	0.74	13.78	9.94	0.93	10.66	9.67	1.13	8.58	9.38	1.32	7.09	9.07	1.52	5.97



**LYRA 2T 12 in nominal Heating mode**

Outside air T °C	DELIVERY WATER T 25 °C		DELIVERY WATER T 30 °C		DELIVERY WATER T 35 °C		DELIVERY WATER T 40 °C		DELIVERY WATER T 45 °C		DELIVERY WATER T 50 °C		DELIVERY WATER T 55 °C	
	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input
-22	3.11	1.23	3.02	1.32	2.97	1.43	2.96	1.54	3.00	1.65	3.06	1.77	3.16	1.89
		2.52		2.28		2.08		1.93		1.81		1.73		1.67
-15	4.15	1.37	4.03	1.48	3.94	1.59	3.88	1.71	3.86	1.84	3.85	1.97	3.87	2.09
		3.03		2.73		2.48		2.27		2.10		1.96		1.85
-10	5.01	1.45	4.87	1.57	4.75	1.69	4.66	1.83	4.59	1.97	4.53	2.11	4.49	2.25
		3.47		3.11		2.80		2.55		2.33		2.15		2.00
-7	5.59	1.48	5.43	1.61	5.30	1.75	5.18	1.89	5.08	2.04	4.99	2.19	4.91	2.34
		3.78		3.37		3.03		2.74		2.49		2.28		2.10
-5	6.00	1.49	5.83	1.63	5.69	1.78	5.55	1.93	5.44	2.09	5.33	2.24	5.22	2.40
		4.01		3.57		3.19		2.87		2.60		2.37		2.18
-2	6.65	1.51	6.47	1.66	6.31	1.82	6.15	1.99	6.01	2.15	5.86	2.32	5.72	2.48
		4.41		3.90		3.46		3.10		2.79		2.53		2.31
0	7.12	1.51	6.93	1.67	6.75	1.84	6.58	2.02	6.42	2.19	6.25	2.37	6.09	2.54
		4.71		4.14		3.67		3.27		2.93		2.64		2.40
2	7.61	1.51	7.41	1.68	7.22	1.86	7.03	2.04	6.85	2.23	6.66	2.41	6.47	2.59
		5.05		4.42		3.89		3.45		3.08		2.77		2.50
5	8.40	1.49	8.18	1.68	7.97	1.87	7.76	2.07	7.55	2.27	7.33	2.47	7.10	2.66
		5.64		4.88		4.26		3.75		3.33		2.97		2.67
7	8.96	1.47	8.73	1.67	8.51	1.87	8.28	2.08	8.04	2.29	7.80	2.50	7.55	2.71
		6.11		5.24		4.54		3.98		3.51		3.12		2.79
10	9.85	1.42	9.61	1.64	9.36	1.86	9.11	2.09	8.84	2.32	8.56	2.54	8.27	2.76
		6.94		5.86		5.02		4.36		3.82		3.37		2.99
12	10.48	1.38	10.23	1.61	9.97	1.85	9.69	2.09	9.41	2.33	9.11	2.56	8.79	2.80
		7.60		6.35		5.39		4.65		4.04		3.55		3.14
15	11.49	1.30	11.22	1.55	10.93	1.81	10.64	2.07	10.32	2.33	9.98	2.58	9.62	2.84
		8.84		7.22		6.04		5.14		4.43		3.86		3.39
20	13.33	1.12	13.03	1.41	12.71	1.71	12.36	2.00	12.00	2.30	11.60	2.59	11.17	2.87
		11.89		9.23		7.45		6.18		5.22		4.48		3.89

**LYRA 2T 14 in nominal Heating mode**

Outside air T °C	DELIVERY WATER T 25 °C		DELIVERY WATER T 30 °C		DELIVERY WATER T 35 °C		DELIVERY WATER T 40 °C		DELIVERY WATER T 45 °C		DELIVERY WATER T 50 °C		DELIVERY WATER T 55 °C	
	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input
-22	3.50	1.41	3.40	1.51	3.34	1.62	3.33	1.74	3.36	1.86	3.43	1.98	3.52	2.09
		2.48		2.24		2.06		1.92		1.81		1.73		1.68
-15	4.63	1.55	4.50	1.67	4.41	1.79	4.34	1.93	4.31	2.06	4.29	2.19	4.30	2.32
		2.99		2.70		2.46		2.26		2.09		1.96		1.85
-10	5.59	1.62	5.43	1.76	5.30	1.90	5.20	2.05	5.11	2.20	5.05	2.35	4.99	2.49
		3.44		3.09		2.79		2.54		2.32		2.15		2.00
-7	6.23	1.66	6.06	1.80	5.91	1.96	5.78	2.12	5.66	2.28	5.56	2.44	5.46	2.59
		3.76		3.35		3.01		2.73		2.48		2.28		2.11
-5	6.68	1.67	6.50	1.83	6.34	1.99	6.19	2.16	6.06	2.33	5.93	2.50	5.81	2.66
		3.99		3.55		3.18		2.86		2.60		2.37		2.18
-2	7.41	1.69	7.21	1.86	7.03	2.04	6.86	2.22	6.69	2.40	6.53	2.58	6.37	2.76
		4.39		3.88		3.45		3.09		2.79		2.53		2.31
0	7.93	1.69	7.72	1.87	7.52	2.06	7.33	2.25	7.15	2.44	6.96	2.63	6.77	2.82
		4.70		4.13		3.65		3.26		2.93		2.64		2.40
2	8.48	1.68	8.26	1.88	8.04	2.08	7.84	2.28	7.63	2.48	7.42	2.68	7.20	2.88
		5.04		4.40		3.88		3.44		3.07		2.77		2.50
5	9.36	1.66	9.11	1.87	8.88	2.09	8.64	2.31	8.40	2.53	8.16	2.75	7.90	2.96
		5.63		4.87		4.25		3.74		3.32		2.97		2.67
7	9.98	1.64	9.72	1.86	9.47	2.09	9.22	2.32	8.96	2.56	8.69	2.79	8.40	3.01
		6.09		5.22		4.53		3.97		3.50		3.12		2.79
10	10.97	1.59	10.70	1.83	10.42	2.08	10.14	2.33	9.84	2.58	9.54	2.83	9.21	3.08
		6.91		5.84		5.01		4.35		3.81		3.37		2.99
12	11.67	1.54	11.39	1.80	11.09	2.06	10.79	2.33	10.48	2.59	10.14	2.86	9.78	3.11
		7.57		6.33		5.38		4.64		4.04		3.55		3.14
15	12.79	1.45	12.48	1.74	12.17	2.02	11.84	2.31	11.49	2.60	11.11	2.88	10.71	3.16
		8.79		7.19		6.02		5.13		4.42		3.86		3.39
20	14.83	1.26	14.49	1.58	14.13	1.90	13.75	2.23	13.34	2.56	12.90	2.88	12.43	3.20
		11.79		9.18		7.42		6.16		5.21		4.48		3.89

### LYRA 2T 6 in maximum Heating mode

Outside air T °C	DELIVERY WATER T 25 °C		DELIVERY WATER T 30 °C		DELIVERY WATER T 35 °C		DELIVERY WATER T 40 °C		DELIVERY WATER T 45 °C		DELIVERY WATER T 50 °C		DELIVERY WATER T 55 °C								
	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input							
-22	2.27	1.01	2.24	2.21	1.07	2.06	2.15	1.13	1.90	2.09	1.19	1.75	2.02	1.26	1.61	1.96	1.32	1.48	1.90	1.39	1.36
-15	2.97	1.10	2.69	2.90	1.17	2.48	2.84	1.24	2.29	2.78	1.32	2.11	2.72	1.39	1.95	2.66	1.47	1.81	2.59	1.55	1.68
-10	3.53	1.15	3.06	3.46	1.23	2.81	3.39	1.31	2.58	3.33	1.40	2.38	3.26	1.48	2.20	3.20	1.57	2.03	3.12	1.66	1.88
-7	3.90	1.18	3.31	3.82	1.26	3.03	3.75	1.35	2.78	3.69	1.44	2.55	3.61	1.54	2.35	3.54	1.63	2.17	3.46	1.72	2.01
-5	4.16	1.19	3.49	4.08	1.28	3.19	4.01	1.38	2.92	3.94	1.47	2.68	3.86	1.57	2.46	3.78	1.67	2.27	3.70	1.77	2.09
-2	4.58	1.21	3.79	4.49	1.30	3.44	4.41	1.41	3.14	4.33	1.51	2.87	4.25	1.62	2.63	4.16	1.72	2.42	4.07	1.83	2.23
0	4.87	1.21	4.02	4.78	1.32	3.64	4.70	1.42	3.30	4.61	1.53	3.01	4.52	1.64	2.75	4.43	1.76	2.52	4.33	1.87	2.32
2	5.18	1.22	4.27	5.09	1.32	3.84	5.00	1.44	3.48	4.90	1.55	3.16	4.81	1.67	2.88	4.71	1.79	2.63	4.61	1.91	2.41
5	5.68	1.21	4.69	5.57	1.33	4.19	5.47	1.45	3.76	5.37	1.58	3.40	5.26	1.70	3.09	5.15	1.83	2.81	5.03	1.96	2.57
7	6.03	1.21	5.00	5.92	1.33	4.45	5.81	1.46	3.98	5.69	1.59	3.58	5.58	1.72	3.23	5.46	1.86	2.94	5.33	1.99	2.68
10	6.59	1.19	5.55	6.47	1.32	4.88	6.34	1.46	4.33	6.21	1.60	3.87	6.08	1.75	3.48	5.95	1.89	3.14	5.81	2.04	2.85
12	6.99	1.17	5.97	6.85	1.31	5.22	6.72	1.46	4.60	6.58	1.61	4.09	6.44	1.76	3.66	6.30	1.91	3.29	6.15	2.06	2.98
15	7.62	1.14	6.71	7.47	1.29	5.79	7.31	1.45	5.05	7.16	1.61	4.45	7.01	1.77	3.96	6.85	1.93	3.54	6.68	2.10	3.18
20	8.77	1.05	8.34	8.59	1.23	7.00	8.41	1.41	5.98	8.23	1.59	5.19	8.04	1.77	4.55	7.85	1.95	4.02	7.65	2.14	3.58

### LYRA 2T 8 in maximum Heating mode

Outside air T °C	DELIVERY WATER T 25 °C		DELIVERY WATER T 30 °C		DELIVERY WATER T 35 °C		DELIVERY WATER T 40 °C		DELIVERY WATER T 45 °C		DELIVERY WATER T 50 °C		DELIVERY WATER T 55 °C								
	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input							
-22	3.20	1.32	2.42	3.12	1.32	2.21	3.07	1.51	2.04	3.06	1.61	1.91	3.09	1.71	1.81	3.14	1.81	1.74	3.23	1.91	1.69
-15	4.30	1.43	3.01	4.18	1.54	2.72	4.10	1.65	2.49	4.04	1.76	2.30	4.01	1.87	2.14	3.99	1.98	2.01	4.00	2.10	1.91
-10	5.22	1.50	3.49	5.08	1.62	3.14	4.96	1.74	2.85	4.86	1.86	2.61	4.78	1.99	2.40	4.72	2.12	2.23	4.67	2.24	2.08
-7	5.84	1.53	3.82	5.68	1.66	3.42	5.54	1.79	3.09	5.42	1.92	2.81	5.31	2.06	2.58	5.21	2.20	2.37	5.12	2.33	2.20
-5	6.28	1.55	4.06	6.10	1.68	3.63	5.95	1.82	3.27	5.81	1.96	2.96	5.68	2.10	2.70	5.57	2.25	2.48	5.45	2.39	2.28
-2	6.98	1.56	4.47	6.79	1.71	3.97	6.62	1.86	3.55	6.45	2.01	3.20	6.29	2.17	2.90	6.14	2.32	2.64	5.99	2.47	2.42
0	7.48	1.57	4.77	7.28	1.73	4.22	7.09	1.88	3.76	6.91	2.04	3.38	6.73	2.21	3.05	6.55	2.37	2.77	6.37	2.53	2.52
2	8.02	1.57	5.10	7.80	1.74	4.50	7.59	1.90	3.99	7.39	2.07	3.57	7.19	2.24	3.21	6.99	2.41	2.90	6.78	2.58	2.63
5	8.87	1.56	5.68	8.63	1.74	4.96	8.40	1.92	4.37	8.17	2.11	3.88	7.94	2.29	3.46	7.70	2.47	3.11	7.45	2.66	2.80
7	9.48	1.55	6.11	9.22	1.74	5.31	8.97	1.93	4.65	8.72	2.12	4.11	8.47	2.32	3.65	8.20	2.51	3.27	7.93	2.70	2.93
10	10.45	1.52	6.88	10.17	1.72	5.91	9.90	1.93	5.13	9.61	2.14	4.50	9.32	2.35	3.97	9.02	2.56	3.53	8.70	2.77	3.15
12	11.14	1.49	7.48	10.85	1.70	6.37	10.55	1.92	5.49	10.25	2.14	4.78	9.94	2.36	4.20	9.61	2.58	3.72	9.26	2.80	3.30
15	12.24	1.43	8.56	11.93	1.66	7.17	11.60	1.90	6.11	11.27	2.14	5.27	10.92	2.37	4.60	10.55	2.61	4.04	10.15	2.85	3.56
20	14.27	1.29	11.06	13.91	1.56	8.94	13.53	1.82	7.43	13.14	2.09	6.28	12.73	2.36	5.39	12.29	2.63	4.67	11.82	2.90	4.08



**LYRA 2T 12 in maximum Heating mode**

Outside air T °C	DELIVERY WATER T 25 °C		DELIVERY WATER T 30 °C		DELIVERY WATER T 35 °C		DELIVERY WATER T 40 °C		DELIVERY WATER T 45 °C		DELIVERY WATER T 50 °C		DELIVERY WATER T 55 °C								
	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input							
-22	4.23	1.91	2.22	4.13	2.04	2.02	4.09	2.18	1.87	4.10	2.32	1.76	4.15	2.47	1.68	4.24	2.61	1.62	4.36	2.75	1.59
-15	5.62	2.07	2.72	5.49	2.22	2.47	5.39	2.38	2.26	5.34	2.54	2.10	5.31	2.71	1.96	5.32	2.87	1.85	5.34	3.03	1.76
-10	6.79	2.17	3.13	6.62	2.34	2.83	6.49	2.52	2.58	6.38	2.70	2.36	6.30	2.89	2.18	6.24	3.07	2.03	6.20	3.25	1.91
-7	7.57	2.21	3.42	7.38	2.40	3.08	7.22	2.59	2.78	7.09	2.79	2.54	6.97	2.99	2.33	6.87	3.19	2.16	6.78	3.38	2.01
-5	8.12	2.24	3.63	7.92	2.44	3.25	7.75	2.64	2.94	7.59	2.85	2.67	7.45	3.06	2.44	7.32	3.26	2.25	7.20	3.47	2.08
-2	9.01	2.26	3.98	8.79	2.48	3.55	8.59	2.70	3.18	8.41	2.92	2.87	8.23	3.15	2.61	8.06	3.37	2.39	7.89	3.59	2.20
0	9.65	2.27	4.25	9.42	2.50	3.77	9.20	2.73	3.36	8.99	2.97	3.03	8.78	3.21	2.74	8.58	3.44	2.49	8.38	3.68	2.28
2	10.32	2.27	4.54	10.07	2.51	4.00	9.83	2.76	3.56	9.60	3.01	3.19	9.37	3.26	2.87	9.14	3.51	2.61	8.91	3.75	2.37
5	11.39	2.26	5.04	11.12	2.52	4.41	10.85	2.79	3.89	10.59	3.06	3.46	10.32	3.33	3.10	10.04	3.60	2.79	9.76	3.87	2.52
7	12.16	2.24	5.42	11.87	2.52	4.71	11.58	2.80	4.13	11.29	3.09	3.66	10.99	3.37	3.26	10.69	3.66	2.92	10.37	3.94	2.63
10	13.38	2.20	6.09	13.06	2.50	5.23	12.74	2.80	4.55	12.42	3.11	3.99	12.08	3.42	3.53	11.73	3.73	3.15	11.36	4.03	2.82
12	14.24	2.15	6.62	13.91	2.47	5.63	13.57	2.79	4.86	13.22	3.12	4.24	12.85	3.44	3.74	12.47	3.76	3.31	12.06	4.08	2.95
15	15.62	2.06	7.57	15.26	2.41	6.34	14.88	2.76	5.40	14.50	3.11	4.67	14.09	3.46	4.07	13.66	3.81	3.59	13.20	4.15	3.18
20	18.15	1.86	9.78	17.74	2.25	7.89	17.31	2.64	6.55	16.85	3.04	5.54	16.37	3.44	4.76	15.85	3.84	4.13	15.30	4.23	3.62

**LYRA 2T 14 in maximum Heating mode**

Outside air T °C	DELIVERY WATER T 25 °C		DELIVERY WATER T 30 °C		DELIVERY WATER T 35 °C		DELIVERY WATER T 40 °C		DELIVERY WATER T 45 °C		DELIVERY WATER T 50 °C		DELIVERY WATER T 55 °C								
	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input	kW heating	kW power input							
-22	4.85	2.22	2.18	4.76	2.38	2.00	4.72	2.55	1.85	4.73	2.73	1.73	4.78	2.92	1.64	4.87	3.12	1.56	5.00	3.33	1.50
-15	6.50	2.42	2.69	6.38	2.60	2.45	6.29	2.80	2.25	6.24	3.00	2.08	6.22	3.20	1.94	6.23	3.42	1.82	6.26	3.65	1.72
-10	7.86	2.53	3.10	7.70	2.74	2.81	7.58	2.96	2.56	7.47	3.18	2.35	7.40	3.40	2.17	7.34	3.64	2.02	7.30	3.89	1.88
-7	8.76	2.59	3.38	8.58	2.81	3.05	8.43	3.04	2.77	8.29	3.28	2.53	8.18	3.52	2.32	8.08	3.77	2.14	8.00	4.03	1.98
-5	9.39	2.62	3.59	9.20	2.85	3.23	9.03	3.09	2.92	8.88	3.34	2.66	8.74	3.59	2.43	8.61	3.85	2.24	8.49	4.12	2.06
-2	10.42	2.65	3.93	10.20	2.90	3.51	10.00	3.16	3.16	9.81	3.42	2.87	9.63	3.69	2.61	9.46	3.97	2.38	9.29	4.26	2.18
0	11.14	2.66	4.19	10.91	2.93	3.73	10.69	3.20	3.34	10.48	3.47	3.02	10.27	3.76	2.73	10.07	4.05	2.49	9.87	4.35	2.27
2	11.91	2.66	4.48	11.66	2.94	3.96	11.42	3.23	3.54	11.18	3.52	3.18	10.95	3.81	2.87	10.71	4.12	2.60	10.48	4.43	2.37
5	13.13	2.65	4.96	12.86	2.95	4.35	12.58	3.26	3.86	12.31	3.57	3.44	12.03	3.89	3.09	11.75	4.21	2.79	11.46	4.55	2.52
7	14.00	2.63	5.33	13.71	2.95	4.65	13.41	3.27	4.10	13.11	3.60	3.64	12.80	3.93	3.26	12.49	4.27	2.92	12.16	4.62	2.63
10	15.40	2.57	5.98	15.07	2.92	5.16	14.74	3.27	4.50	14.40	3.62	3.97	14.04	3.98	3.53	13.68	4.35	3.15	13.30	4.72	2.82
12	16.39	2.53	6.49	16.04	2.89	5.55	15.68	3.26	4.81	15.31	3.63	4.22	14.93	4.00	3.73	14.53	4.38	3.31	14.11	4.77	2.96
15	17.97	2.43	7.40	17.59	2.82	6.23	17.19	3.22	5.34	16.78	3.62	4.64	16.34	4.02	4.07	15.89	4.43	3.59	15.41	4.84	3.18
20	20.88	2.20	9.48	20.43	2.65	7.71	19.97	3.10	6.45	19.48	3.55	5.49	18.96	4.00	4.74	18.42	4.46	4.13	17.84	4.92	3.63

### LYRA 2T 6 in minimum Cooling mode

Outside air T °C	DELIVERY WATER T 20 °C		DELIVERY WATER T 18 °C		DELIVERY WATER T 15 °C		DELIVERY WATER T 12 °C		DELIVERY WATER T 10 °C		DELIVERY WATER T 7 °C		DELIVERY WATER T 5 °C	
	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input
<b>20</b>	3.59	0.33	3.59	0.33	3.59	0.33	3.25	0.36	3.04	0.37	2.75	0.39	2.57	0.40
<b>25</b>	3.43	0.41	3.43	0.41	3.43	0.41	3.11	0.43	2.91	0.45	2.62	0.46	2.45	0.47
<b>30</b>	3.27	0.50	3.27	0.50	3.27	0.50	2.96	0.51	2.77	0.52	2.50	0.53	2.33	0.53
<b>35</b>	3.11	0.58	3.11	0.58	3.11	0.58	2.81	0.59	2.63	0.59	2.37	0.60	2.21	0.60
<b>40</b>	2.94	0.66	2.94	0.66	2.94	0.66	2.66	0.67	2.48	0.67	2.24	0.66	2.08	0.66
<b>45</b>	2.77	0.74	2.77	0.74	2.77	0.74	2.50	0.74	2.34	0.74	2.10	0.73	1.96	0.72

### LYRA 2T 8 in minimum Cooling mode

Outside air T °C	DELIVERY WATER T 20 °C		DELIVERY WATER T 18 °C		DELIVERY WATER T 15 °C		DELIVERY WATER T 12 °C		DELIVERY WATER T 10 °C		DELIVERY WATER T 7 °C		DELIVERY WATER T 5 °C	
	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input
<b>20</b>	6.22	0.50	6.22	0.50	6.22	0.50	5.60	0.54	5.21	0.57	4.68	0.60	4.34	0.61
<b>25</b>	5.94	0.63	5.94	0.63	5.94	0.63	5.34	0.66	4.97	0.68	4.45	0.70	4.13	0.70
<b>30</b>	5.65	0.75	5.65	0.75	5.65	0.75	5.07	0.78	4.71	0.79	4.21	0.80	3.90	0.80
<b>35</b>	5.35	0.88	5.35	0.88	5.35	0.88	4.79	0.89	4.45	0.90	3.97	0.90	3.68	0.90
<b>40</b>	5.03	1.00	5.03	1.00	5.03	1.00	4.50	1.01	4.17	1.01	3.72	1.00	3.44	0.99
<b>45</b>	4.70	1.13	4.70	1.13	4.70	1.13	4.20	1.12	3.89	1.12	3.47	1.10	3.21	1.09

### LYRA 2T 12 in minimum Cooling mode

Outside air T °C	DELIVERY WATER T 20 °C		DELIVERY WATER T 18 °C		DELIVERY WATER T 15 °C		DELIVERY WATER T 12 °C		DELIVERY WATER T 10 °C		DELIVERY WATER T 7 °C		DELIVERY WATER T 5 °C	
	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input
<b>20</b>	8.08	0.78	8.08	0.78	8.08	0.78	7.28	0.85	6.77	0.89	6.07	0.94	5.64	0.96
<b>25</b>	7.72	0.98	7.72	0.98	7.72	0.98	6.94	1.04	6.45	1.06	5.78	1.09	5.36	1.11
<b>30</b>	7.34	1.18	7.34	1.18	7.34	1.18	6.59	1.22	6.12	1.24	5.47	1.25	5.07	1.26
<b>35</b>	6.95	1.38	6.95	1.38	6.95	1.38	6.23	1.40	5.78	1.41	5.16	1.41	4.78	1.41
<b>40</b>	6.53	1.58	6.53	1.58	6.53	1.58	5.85	1.59	5.42	1.58	4.84	1.57	4.47	1.56
<b>45</b>	6.10	1.77	6.10	1.77	6.10	1.77	5.45	1.76	5.05	1.76	4.50	1.74	4.16	1.72



**LYRA 2T 14 in minimum Cooling mode**

Outside air T °C	DELIVERY WATER T 20 °C		DELIVERY WATER T 18 °C		DELIVERY WATER T 15 °C		DELIVERY WATER T 12 °C		DELIVERY WATER T 10 °C		DELIVERY WATER T 7 °C		DELIVERY WATER T 5 °C	
	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input
<b>20</b>	8.08	0.78	8.08	0.78	8.08	0.78	7.28	0.85	6.77	0.89	6.07	0.94	5.64	0.96
<b>25</b>	7.72	0.98	7.72	0.98	7.72	0.98	6.94	1.04	6.45	1.06	5.78	1.09	5.36	1.11
<b>30</b>	7.34	1.18	7.34	1.18	7.34	1.18	6.59	1.22	6.12	1.24	5.47	1.25	5.07	1.26
<b>35</b>	6.95	1.38	6.95	1.38	6.95	1.38	6.23	1.40	5.78	1.41	5.16	1.41	4.78	1.41
<b>40</b>	6.53	1.58	6.53	1.58	6.53	1.58	5.85	1.59	5.42	1.58	4.84	1.57	4.47	1.56
<b>45</b>	6.10	1.77	6.10	1.77	6.10	1.77	5.45	1.76	5.05	1.76	4.50	1.74	4.16	1.72

**LYRA 2T 6 in nominal Cooling mode**

Outside air T °C	DELIVERY WATER T 20 °C		DELIVERY WATER T 18 °C		DELIVERY WATER T 15 °C		DELIVERY WATER T 12 °C		DELIVERY WATER T 10 °C		DELIVERY WATER T 7 °C		DELIVERY WATER T 5 °C	
	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input
<b>20</b>	5.75	0.84	5.75	0.84	5.57	0.86	5.04	0.89	4.72	0.90	4.26	0.92	3.98	0.93
<b>25</b>	5.49	0.98	5.49	0.98	5.32	0.99	4.82	1.01	4.51	1.02	4.07	1.03	3.80	1.03
<b>30</b>	5.24	1.11	5.24	1.11	5.07	1.12	4.59	1.13	4.29	1.13	3.88	1.14	3.61	1.13
<b>35</b>	4.98	1.24	4.98	1.24	4.82	1.25	4.36	1.25	4.08	1.25	3.68	1.24	3.43	1.23
<b>40</b>	4.71	1.38	4.71	1.38	4.56	1.38	4.12	1.37	3.85	1.37	3.47	1.35	3.24	1.34
<b>45</b>	4.44	1.51	4.44	1.51	4.29	1.51	3.88	1.49	3.62	1.48	3.26	1.45	3.04	1.44

**LYRA 2T 8 in nominal Cooling mode**

Outside air T °C	DELIVERY WATER T 20 °C		DELIVERY WATER T 18 °C		DELIVERY WATER T 15 °C		DELIVERY WATER T 12 °C		DELIVERY WATER T 10 °C		DELIVERY WATER T 7 °C		DELIVERY WATER T 5 °C	
	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input
<b>20</b>	9.01	1.08	9.01	1.08	8.70	1.10	7.83	1.15	7.29	1.17	6.53	1.20	6.06	1.21
<b>25</b>	8.57	1.28	8.57	1.28	8.27	1.29	7.43	1.32	6.91	1.34	6.18	1.35	5.73	1.35
<b>30</b>	8.11	1.47	8.11	1.47	7.83	1.48	7.02	1.50	6.53	1.50	5.83	1.51	5.40	1.50
<b>35</b>	7.63	1.67	7.63	1.67	7.36	1.67	6.60	1.67	6.13	1.67	5.47	1.66	5.06	1.65
<b>40</b>	7.13	1.86	7.13	1.86	6.88	1.85	6.16	1.85	5.71	1.83	5.10	1.81	4.72	1.79
<b>45</b>	6.62	2.04	6.62	2.04	6.38	2.04	5.70	2.01	5.29	1.99	4.71	1.96	4.36	1.93

### LYRA 2T 12 in nominal Cooling mode

Outside air T °C	DELIVERY WATER T 20 °C		DELIVERY WATER T 18 °C		DELIVERY WATER T 15 °C		DELIVERY WATER T 12 °C		DELIVERY WATER T 10 °C		DELIVERY WATER T 7 °C		DELIVERY WATER T 5 °C						
	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input					
20	11.67	1.61	7.25	1.61	7.25	1.64	6.88	10.15	1.71	5.93	9.44	1.75	5.41	8.46	1.79	4.74	7.85	1.80	4.35
25	11.10	1.91	5.82	1.10	1.91	5.82	1.93	9.63	1.98	4.88	8.96	2.00	4.48	8.01	2.02	3.97	7.43	2.02	3.67
30	10.51	2.20	4.77	10.51	2.20	4.77	2.21	9.10	2.24	4.06	8.46	2.25	3.76	7.56	2.25	3.36	7.00	2.24	3.12
35	9.89	2.49	3.97	9.89	2.49	3.97	2.50	8.55	2.51	3.41	7.94	2.50	3.17	7.09	2.48	2.85	6.56	2.46	2.66
40	9.25	2.78	3.32	9.25	2.78	3.32	2.78	7.98	2.77	2.89	7.41	2.75	2.69	6.61	2.71	2.44	6.12	2.68	2.28
45	8.57	3.06	2.80	8.57	3.06	2.80	3.05	7.39	3.02	2.45	6.85	2.99	2.29	6.11	2.93	2.08	5.65	2.89	1.95

### LYRA 2T 14 in nominal Cooling mode

Outside air T °C	DELIVERY WATER T 20 °C		DELIVERY WATER T 18 °C		DELIVERY WATER T 15 °C		DELIVERY WATER T 12 °C		DELIVERY WATER T 10 °C		DELIVERY WATER T 7 °C		DELIVERY WATER T 5 °C						
	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input					
20	12.99	1.80	7.20	12.99	1.80	7.20	1.84	11.30	1.92	5.90	10.52	1.96	5.38	9.42	2.00	4.71	8.75	2.02	4.33
25	12.36	2.13	5.80	12.36	2.13	5.80	2.16	10.73	2.21	4.85	9.98	2.24	4.46	8.93	2.26	3.95	8.28	2.26	3.66
30	11.70	2.46	4.76	11.70	2.46	4.76	2.47	10.14	2.51	4.05	9.42	2.52	3.74	8.42	2.52	3.35	7.80	2.51	3.11
35	11.01	2.78	3.95	11.01	2.78	3.95	2.79	9.53	2.80	3.40	8.85	2.79	3.17	7.90	2.77	2.85	7.32	2.75	2.66
40	10.30	3.10	3.32	10.30	3.10	3.32	3.10	8.89	3.09	2.88	8.25	3.07	2.69	7.37	3.03	2.43	6.82	2.99	2.28
45	9.55	3.41	2.80	9.55	3.41	2.80	3.40	8.23	3.37	2.45	7.64	3.33	2.29	6.81	3.27	2.08	6.31	3.22	1.96

### LYRA 2T 6 in maximum Cooling mode

Outside air T °C	DELIVERY WATER T 20 °C		DELIVERY WATER T 18 °C		DELIVERY WATER T 15 °C		DELIVERY WATER T 12 °C		DELIVERY WATER T 10 °C		DELIVERY WATER T 7 °C		DELIVERY WATER T 5 °C						
	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input					
20	8.08	1.12	7.20	8.08	1.12	7.20	1.15	6.87	1.19	5.78	6.43	1.21	5.33	5.81	1.22	4.75	5.42	1.23	4.41
25	7.74	1.31	5.90	7.74	1.31	5.90	1.33	6.57	1.36	4.85	6.15	1.36	4.50	5.55	1.37	4.05	5.18	1.37	3.78
30	7.39	1.50	4.92	7.39	1.50	4.92	1.51	6.27	1.52	4.11	5.86	1.53	3.84	5.29	1.52	3.48	4.94	1.51	3.26
35	7.03	1.69	4.15	7.03	1.69	4.15	1.70	5.96	1.70	3.52	5.58	1.69	3.30	5.03	1.67	3.01	4.69	1.66	2.83
40	6.67	1.89	3.54	6.67	1.89	3.54	1.88	5.65	1.87	3.03	5.28	1.85	2.85	4.76	1.82	2.61	4.44	1.80	2.46
45	6.30	2.08	3.03	6.30	2.08	3.03	2.06	5.33	2.04	2.62	4.98	2.02	2.47	4.49	1.98	2.27	4.18	1.95	2.15

**LYRA 2T 8 in maximum Cooling mode**

Outside air T °C	DELIVERY WATER T 20 °C		DELIVERY WATER T 18 °C		DELIVERY WATER T 15 °C		DELIVERY WATER T 12 °C		DELIVERY WATER T 10 °C		DELIVERY WATER T 7 °C		DELIVERY WATER T 5 °C	
	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input
<b>20</b>	12.46	1.34	9.31	1.34	8.38	1.39	7.24	1.45	6.60	1.48	5.79	1.51	8.09	1.52
<b>25</b>	11.86	1.61	7.38	1.61	6.73	1.64	5.90	1.68	5.43	1.70	4.82	1.71	7.67	1.72
<b>30</b>	11.23	1.88	5.99	1.88	5.51	1.90	4.89	1.92	4.53	1.93	4.06	1.92	7.23	1.91
<b>35</b>	10.59	2.15	4.93	2.15	4.57	2.16	4.10	2.16	3.82	2.15	3.44	2.13	6.79	2.11
<b>40</b>	9.91	2.41	4.11	2.41	3.83	2.41	3.46	2.39	3.23	2.37	2.93	2.33	6.34	2.30
<b>45</b>	9.20	2.67	3.45	2.67	3.23	2.65	2.93	2.62	2.75	2.59	2.50	2.53	5.87	2.49

**LYRA 2T 12 in maximum Cooling mode**

Outside air T °C	DELIVERY WATER T 20 °C		DELIVERY WATER T 18 °C		DELIVERY WATER T 15 °C		DELIVERY WATER T 12 °C		DELIVERY WATER T 10 °C		DELIVERY WATER T 7 °C		DELIVERY WATER T 5 °C	
	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input
<b>20</b>	16.14	2.00	8.08	2.00	7.27	2.07	6.27	2.16	5.72	2.20	5.02	2.25	10.48	2.27
<b>25</b>	15.36	2.40	6.40	2.40	5.84	2.45	5.12	2.51	4.71	2.54	4.18	2.56	9.93	2.56
<b>30</b>	14.55	2.80	5.19	2.80	4.78	2.84	4.24	2.87	3.93	2.88	3.52	2.87	9.37	2.86
<b>35</b>	13.71	3.20	4.28	3.20	3.97	3.22	3.55	3.22	3.31	3.21	2.98	3.18	8.80	3.15
<b>40</b>	12.84	3.60	3.57	3.60	3.32	3.59	3.00	3.57	2.80	3.54	2.54	3.49	8.21	3.44
<b>45</b>	11.92	3.99	2.99	3.99	2.80	3.96	2.54	3.91	2.38	3.86	2.17	3.78	7.60	3.72

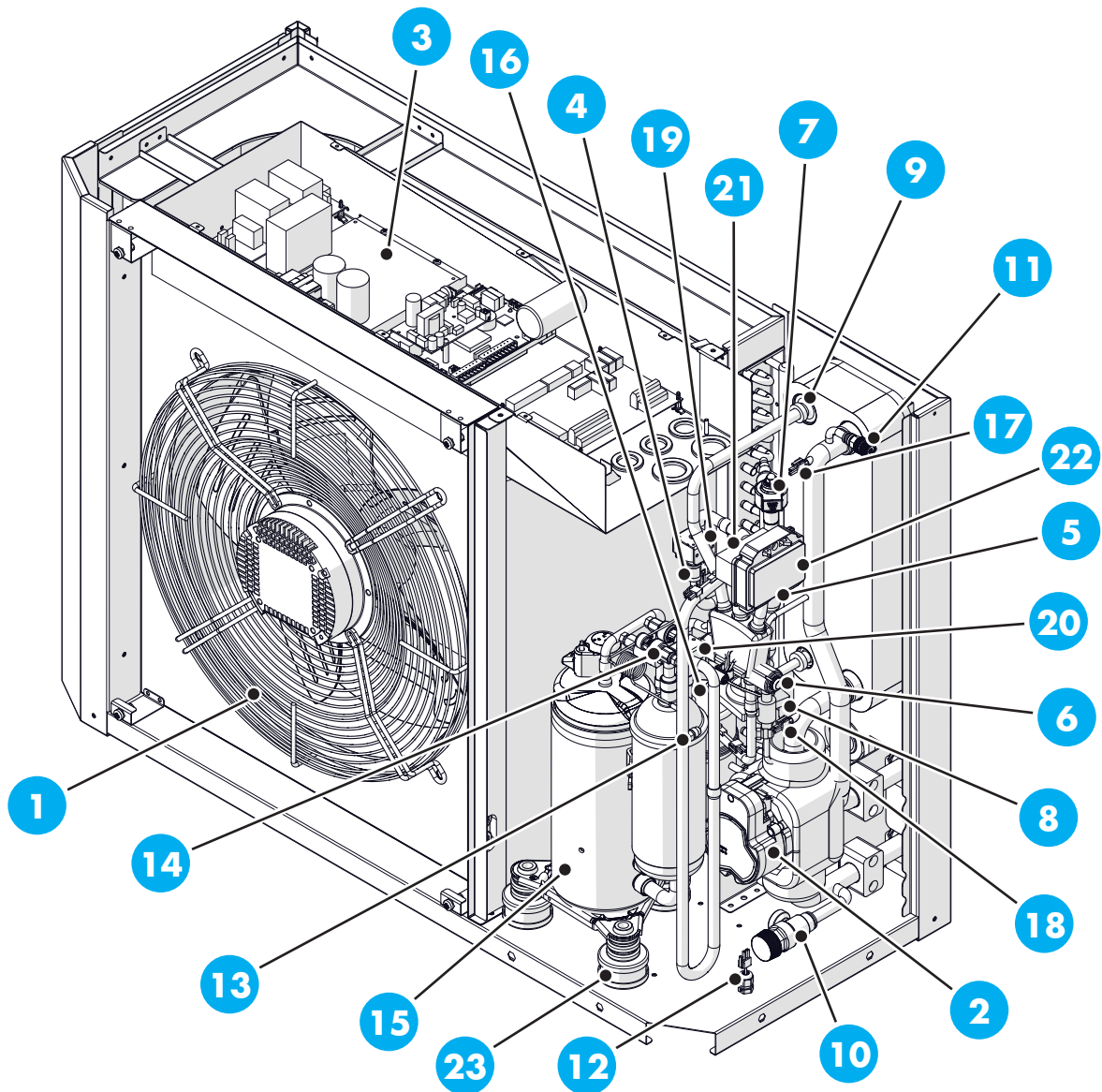
**LYRA 2T 14 in maximum Cooling mode**

Outside air T °C	DELIVERY WATER T 20 °C		DELIVERY WATER T 18 °C		DELIVERY WATER T 15 °C		DELIVERY WATER T 12 °C		DELIVERY WATER T 10 °C		DELIVERY WATER T 7 °C		DELIVERY WATER T 5 °C	
	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input	kW Cooling	kW power input
<b>20</b>	18.17	2.30	7.90	2.30	7.13	2.38	6.17	2.47	5.64	2.52	4.95	2.57	11.83	2.59
<b>25</b>	17.33	2.74	6.31	2.74	5.77	2.80	5.07	2.87	4.67	2.90	4.15	2.92	11.24	2.92
<b>30</b>	16.45	3.19	5.16	3.19	4.75	3.23	4.22	3.26	3.92	3.27	3.51	3.27	10.63	3.25
<b>35</b>	15.55	3.64	4.27	3.64	3.96	3.65	3.55	3.66	3.31	3.65	2.98	3.62	10.01	3.59
<b>40</b>	14.60	4.08	3.57	4.08	3.33	4.08	3.00	4.06	2.81	4.03	2.55	3.97	9.38	3.93
<b>45</b>	13.61	4.53	3.00	4.53	2.81	4.51	2.54	4.46	2.39	4.41	2.17	4.33	8.72	4.26

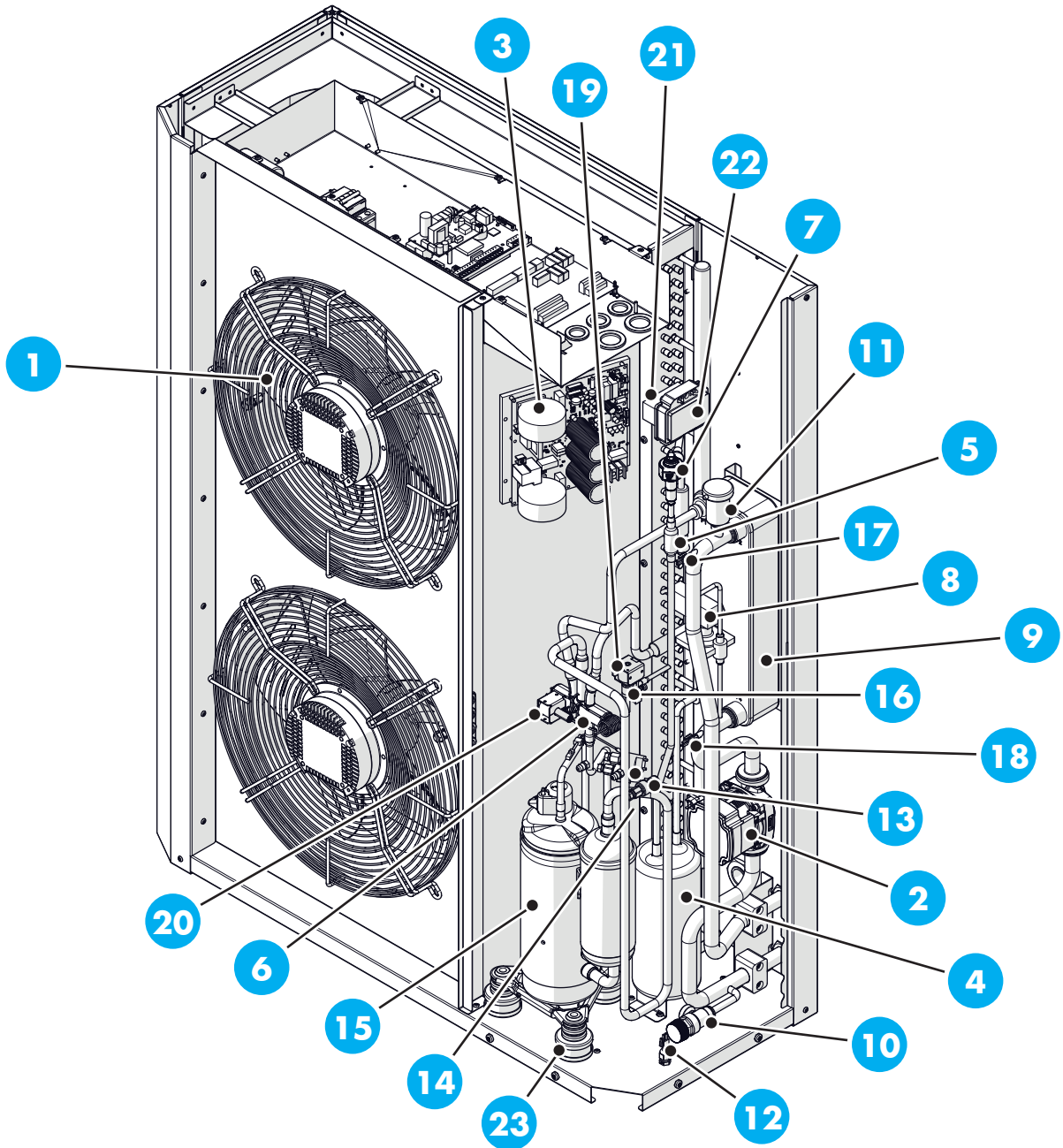


## 5.3 Machine components

LYRA 2T 06 - LYRA 2T 08

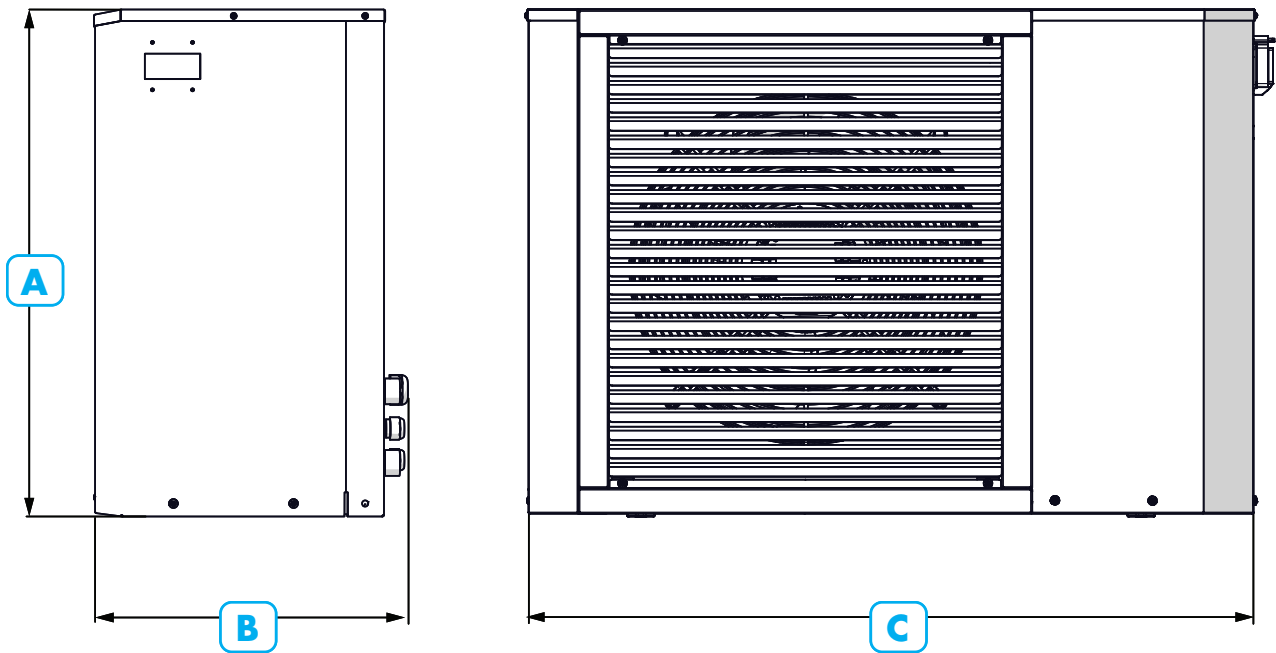


1	Fan	13	LP service outlet, HP transducer
2	System side circulator	14	HP transducer, HP service outlet, safety pressure switch
3	Inverter board	15	Compressor
4	Liquid receiver	16	Solenoid valve
5	Mechanical mesh filter	17	Plate out probe
6	Cycle reversing valve	18	Plate in probe
7	Electronic expansion valve	19	Solenoid valve coil
8	Differential pressure switch	20	Reverse cycle valve coil
9	System heat exchanger	21	Display
10	Safety valve	22	Hinged display cover
11	Air vent	23	Compressor anti-vibration mountings
12	External sensor		



1	Fan	13	LP service outlet, HP transducer
2	System side circulator	14	HP transducer, HP service outlet, safety pressure switch
3	Inverter board	15	Compressor
4	Liquid receiver	16	Liquid separator
5	Biflow filter	17	Plate out probe
6	Cycle reversing valve	18	Plate in probe
7	Electronic expansion valve	19	Solenoid valve coil
8	Differential pressure switch	20	Reverse cycle valve coil
9	System heat exchanger	21	Display
10	Safety valve	22	Hinged display cover
11	Air vent	23	Compressor anti-vibration mountings
12	External sensor		

## 5.4 Overall dimensions



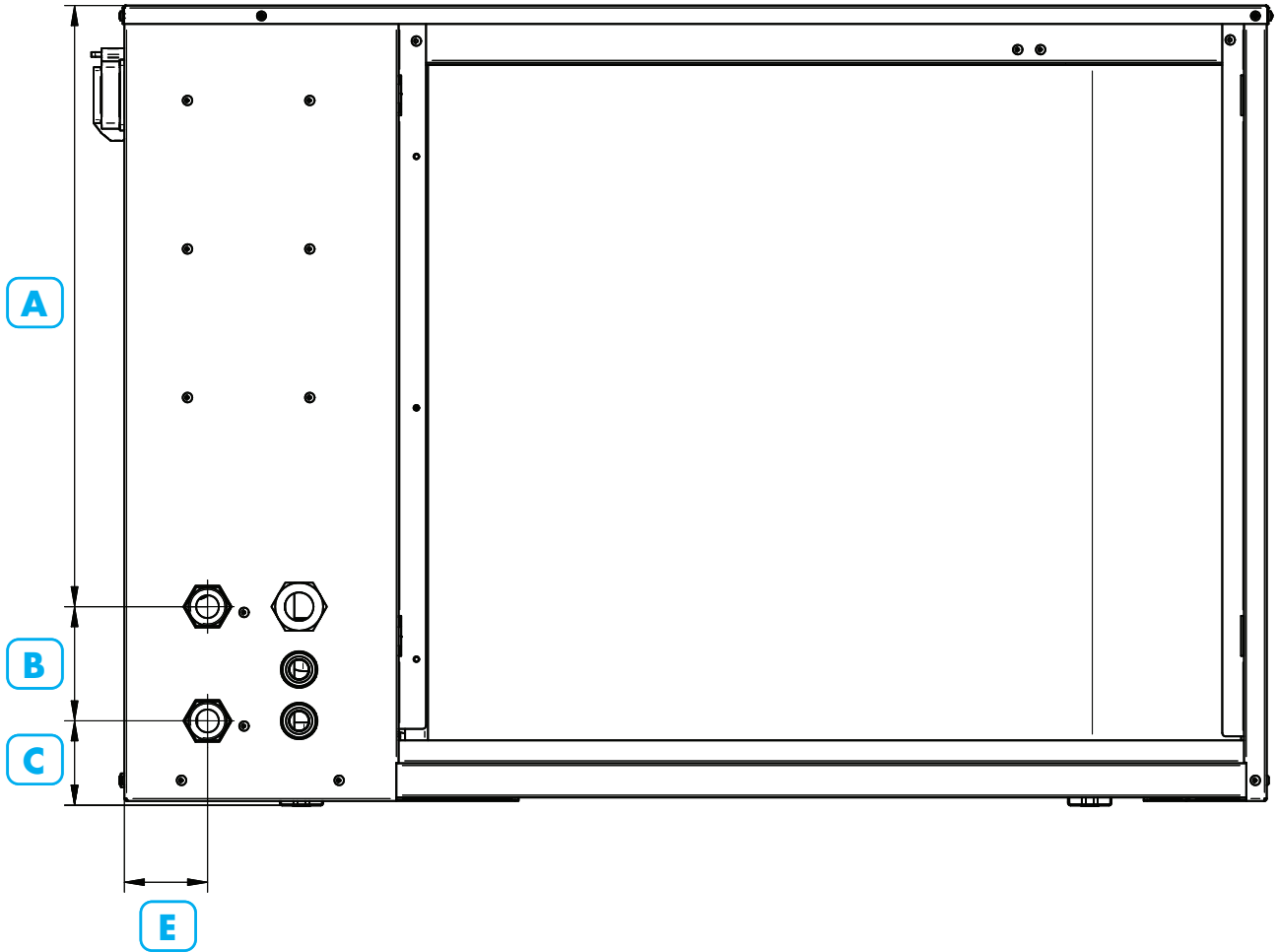
### OVERALL DIMENSIONS

	<b>A</b>	<b>B</b>	<b>C</b>
<b>LYRA 2T 06</b>	700	442.5	1003
<b>LYRA 2T 08</b>	700	442.5	1003
<b>LYRA 2T 12</b>	1336	443	1003
<b>LYRA 2T 14</b>	1336	443	1003



## 5.5 Dimensional data

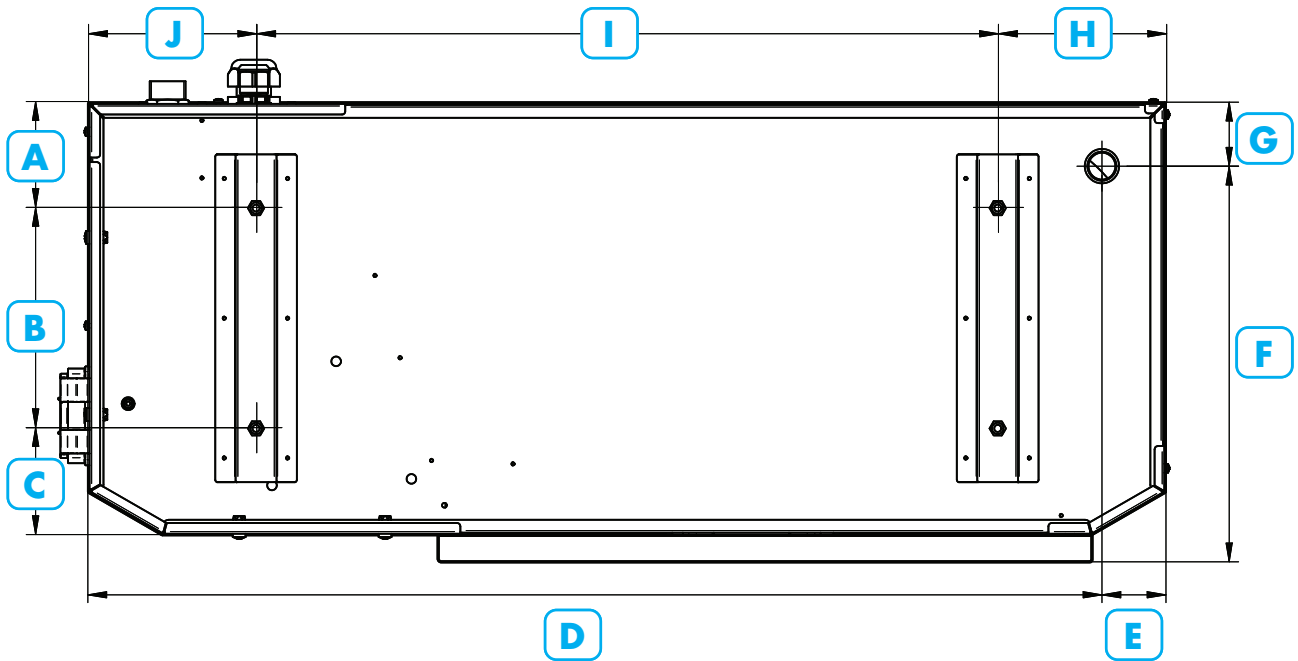
### 5.5.1 Centre distance between connections



#### *DIMENSIONAL DATA*

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
<b>LYRA 2T 06</b>	526	100	74	72.8
<b>LYRA 2T 08</b>	526	100	74	72.8
<b>LYRA 2T 12</b>	1127	100	74	72.8
<b>LYRA 2T 14</b>	1127	100	74	72.8

### 5.5.2 Condensate drain and mounting centre distance



*DIMENSIONAL DATA*

	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>	<b>E</b>
<b>LYRA 2T 06</b>	98.5	205	99.5	943.5	59.5
<b>LYRA 2T 08</b>	98.5	205	99.5	943.5	59.5
<b>LYRA 2T 12</b>	98.5	205	99.5	943.5	59.5
<b>LYRA 2T 14</b>	98.5	205	99.5	943.5	59.5

*DIMENSIONAL DATA*

	<b>F</b>	<b>G</b>	<b>H</b>	<b>I</b>	<b>J</b>
<b>LYRA 2T 06</b>	373	59.5	156.5	690	156.5
<b>LYRA 2T 08</b>	373	59.5	156.5	690	156.5
<b>LYRA 2T 12</b>	373	59.5	156.5	690	156.5
<b>LYRA 2T 14</b>	373	59.5	156.5	690	156.5

## 6 Maintenance

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### 6.1 Preliminary warnings



**WARNING!**

All ordinary and extraordinary maintenance operations must be carried out by qualified personnel.



**DANGER!**

It is recommended to disconnect the power supply before carrying out any work on the unit.



**WARNING!**

It is forbidden to fill the cooling circuits with a refrigerant other than that one specified on the identification plate. Using a different refrigerant can cause serious damage to the compressor.



**DANGER!**

It is forbidden to use oxygen, acetylene or other flammable or poisonous gases in the cooling circuit as they can cause explosions or intoxications.



**WARNING!**

It is forbidden to use oils other than those indicated. Using oils other than those indicated may cause serious damage to the compressor.



## 6.2 Routine maintenance

- Maintenance is essential to keep the unit in perfect working order and efficient in terms of energy saving.
- A maintenance plan is recommended, with annual frequency, including the following operations and checks:
  - Filling of water circuit.
  - Presence of air bubbles in the water circuit.
  - Safety device efficiency.
  - Power supply voltage.
  - Power consumption.
  - Tightness of electrical and hydraulic connections.
  - Condition of the thermal-magnetic switch for the protection of the inverter board.
  - Check operating pressures, overheating and undercooling.
  - Compressor coil efficiency (if present).
  - Glycol mixture chemical analysis.
  - Efficiency of circulation pumps.
  - Verification of expansion vessels.
  - Cleaning of water filters.
  - Check of the flow switch operation (if any).
  - Check the sacrificial anode every 6-12 months and replace every 2-3 years.
  - Check the pre-charge pressure of the expansion vessels every 6 months.
  - Check the condition of the heating element.



## 6.3 Faults, causes and solutions

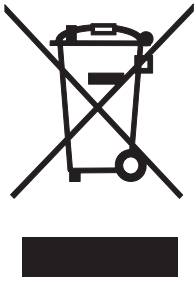
FAULT	CAUSE	SOLUTION	U/I/A
The heat pump does not start	Lack of voltage	Check for voltage	I
		Check upstream safety systems	U
	Main switch in pos. OFF	Set to ON	U
	Remote switch in OFF position	Set to ON	U
	Control panel in OFF position	Set to ON	U
	Main switch in OFF position	Set to ON	U
	Compressor thermal-magnetic circuit breaker to OFF	Set to ON	I
	Low supply voltage	Check the power supply line	I/A
	Faulty compressor	Replace the component	I/A
Insufficient performance	Lack of refrigerant	Check charge	I
	Incorrect sizing of the equipment	Check	I
	Operation outside the operating conditions recommended by the manufacturer	Check parameters	I
Compressor loud	Part of the cooling circuit in contact with the structure	Check	I
	Return of liquid to the compressor	Check	A
	Unsuitable unit fixing	Check	I
	Power cable with inverted phase	Reverse a phase	I
Noise and vibrations	Contacts with metal bodies	Check	I
	Loose or missing screws	Tighten the screws	I
High compression delivery pressure (over 35 bar)	Fan stopped in summer mode	Check	I
	High system water temperature in winter mode	Check	I
	High DHW circuit temperature	Check	I
	Air in the hydraulic system in winter operation	Vent the air from the circuit	I
	Thermostatic expansion valve failure in heating mode	Check and if necessary replace the component	A
	Insufficient flow to the system heat exchanger in winter operation	Check the pump	I
Low suction pressure (less than 3.5 bar)	Outside temperature below operating limits	Check	I
	Low system inlet water temperature in summer mode	Check	I
	Abnormal fan operation	Check and if necessary replace the component	I/A
	Drain cooling circuit	Check for leaks and refill	I
	Finned heat exchanger clogged or frozen	Check	I/A





<i>FAULT</i>	<i>CAUSE</i>	<i>SOLUTION</i>	<i>U/I/A</i>
High suction pressure (over 15 bar)	High outdoor air temperature	Check	I
	High system inlet water temperature in summer mode	Check	I
	Thermostatic expansion valve failure in cooling mode	Check and if necessary replace the component	A
The compressor stops due to protection device activation	Excessive delivery pressure	Check	A
	Low suction pressure	Check	A
	Low supply voltage	Check	I
	Electrical connections poorly tightened	Check	I
	Operation outside the allowed limits	Check	I
	Poor operation of probes and pressure switches	Replace the component	I/A
	Thermal cut-out tripping	Check supply voltage Check the electrical insulation of the windings	A A
High power consumption	Cooling circuit pressure too high compared to what recommended by the manufacturer	Check the max. absorption expected indicated on the nameplate	I
	Non-compliant voltage	Check supply voltage	I
	Operation outside the allowed limits	Check	I

## 7 Demolition and disposal



This mark indicates that the product must not be disposed of with other household waste throughout the EU. To avoid any damage to the environment or human health caused by incorrect disposal of electrical and electronic waste (WEEE), please return the device using the appropriate collection systems or by contacting the dealer from whom the product was purchased. For more information please contact your local authority. Illegal disposal of the product by the user entails the application of administrative sanctions provided for by current legislation.

### 7.1 Disposal of packaging materials

- Dispose of the packaging properly.
- Comply with all applicable regulations.

#### 7.1.1 Recycling or disposal of refrigerant



#### **DANGER!**

**Risk of death due to fire or explosion when transporting the refrigerant!**

If the R32 refrigerant leaks during transportation, it may cause a fire hazard if mixed with air. There is a risk of fire and explosion. Toxic or corrosive substances such as carbonyl fluoride, carbon monoxide or hydrogen fluoride may be produced in the event of a fire.

Ensure that the refrigerant is properly transported.



#### **WARNING!**

**Risk of damage to the environment!**

The product contains R32 refrigerant, which should not be allowed to escape into the atmosphere. R32 is a fluorinated greenhouse gas covered by the Kyoto Protocol with a GWP of 675 (GWP = Global Warming Potential).

Transfer all the refrigerant contained in the product to a suitable container and then recycle or dispose of it according to the instructions.

Always ensure that the container does not contain more than one type of refrigerant.

## 8 Attachments

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- Wiring diagram.
- Declaration of conformity.
- Energy label.





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