



# LUNA

2-PIPE HEAT PUMPS



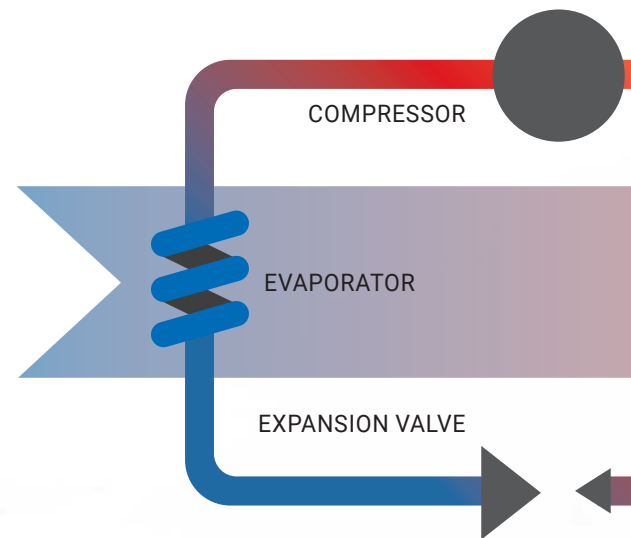
# Two-pipe inverter air-water heat pumps

LUNA heat pump units are ideal for use with radiant panel heating systems or low temperature applications such as suitably sized fan-coil, thermal ventilation and AHUs for maximum delivery temperatures of 55°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. The compressor, fan and circulators are continuously regulated by a control unit programmed with an internally developed control logic. It has been designed to be intuitive immediately usable; this allows the unit to be inserted into a large number of system configurations.

The system switches between the various operating modes (within a season) automatically by reading the temperature probes and the programmed set points. Switching times and logics are designed to ensure maximum system efficiency and reliability.

The configuration with domestic hot water production with a diverter valve must be associated with a suitably sized boiler in which to store the high temperature water. The upper part of the boiler must be fitted with a thermowell in which to insert the hot water probe, through which the unit controller monitors whether hot water has to be produced.



## Technical specifications

Compact air-water inverter heat pump for outdoor installation with an EC brushless axial fan and a BLDC Twin Rotary Inverter compressor. It has a cutting-edge design, with an oven cured RAL 7016 powder coated structure. The structure is self-supporting with removable panels to make inspection and maintenance easier.

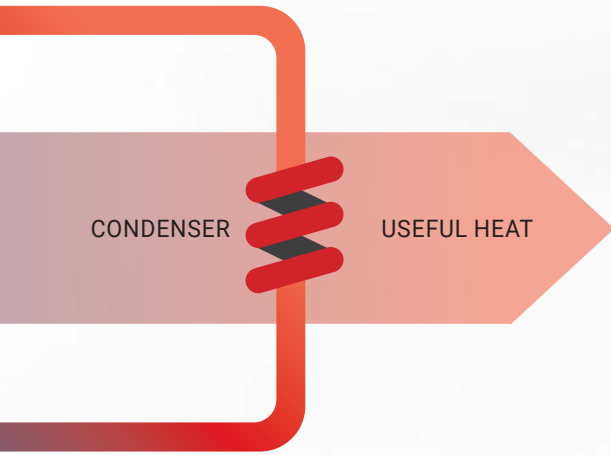
The heat source is the outside air down to a minimum of -20°C. Low noise is guaranteed by an intelligent control system that regulates the speed of the compressor and fan according to actual requirements. In addition, the use of anti-vibration mountings for the compressor and multi-layer noise insulation on the casing reduces noise to a minimum.

The control logic allows:

- Fan and compressor regulation for special installation environments.
- Electronically controlled delivery temperature regulation via heating or cooling curves.

## Operation

Heat pumps absorb heat from an outdoor environment to transfer it to an indoor environment, in order to heat it. Reverse cycle heat pumps allow the indoor rooms to be cooled during the summer.



# Two-pipe inverter air-water heat pumps

## Refrigeration circuit

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The refrigerant gas used is R410a. Cooling circuit with very high efficiency twin rotary inverter compressor. Pressure transducers and safety pressure switch. Stainless steel plate desuperheating exchanger and plate heat exchanger for evaporation / condensation. Copper-aluminium finned pack evaporator with special hydrophilic treated finning. Dual defrost system by way of hot gas injection and/or reverse cycle.

## Heat exchangers

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The source side heat exchangers are made of copper pipes and aluminium fins coated with hydrophilic paint that encourages water run-off. The user side braze-welded stainless steel plate exchanger allows the amount of refrigerant gas to be reduced to the minimum and maximise the efficiency due to the large heat exchange surface.

## Fan

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The brushless EC axial fan has been designed to reduce noise to a minimum and to maximise efficiency. The speed of rotation is continuously regulated by the control unit.

## Control and protection

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Carel electronic control with integrated inverter compressor control, pump and fan modulation. Climate logic management. Standard ModBUS communication protocol. The unit is equipped with a series of alarms designed to protect it from faults. These are managed entirely by the control unit that makes them available and accessible. It is also possible to access the controller via the control unit if you need to make any adjustments.

## Remote PGD display (optional)

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The control unit is based on Carel hardware and is combined with a highly intuitive remote controller to adjust all the operating parameters, set points and usage settings. The controller allows direct connection to the heating system, both without a storage tank, or more commonly, by a two or four point connection to the same. The storage tank is charged at a set point for DHW and with a heating or cooling curve for heating / cooling circuit.

## “Twin Rotary Inverter” technology

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### Power adjustment

The “Twin Rotary Inverter” technology is able to regulate power to meet the actual requirements. This regulation is also used on the fan and circulators to achieve maximum efficiency.

# LUNA

2-PIPE HEAT PUMP



# Luna Monobloc 2T



COP 4.81



POWER OUTPUT 6.38 kW T  
POWER INPUT 1.33 kW E



DHW 55°C



HEATING WATER



OPERATING RANGE -22°C /  
+45°C



ENERGY EFFICIENCY CLASS  
A++

(refers to 8 kW version)

Available power outputs: 6, 8, 10, 12, 14, 16 kW



**1st Startup included!**

For heat pumps  
from 6 to 16 kW

## Luna Monobloc 2T

Available in 6 kW, 8 kW, 10 kW, 12 kW, 14 kW, 16 kW versions. Two-pipe heat pump with system-side heat exchanger, able to produce hot or cold water to meet the building's heating or cooling requirements, depending on the season, and DHW.

## Advantages

- Electronic expansion valve (suitable for all operating situations)
- Units with modular power output, thanks to inverter technology
- Climate control included with outdoor temperature sensor
- Larger heat-exchange surface

## Where can it be installed?

- Suitable for new buildings with high levels of energy efficiency
- Suitable for cold climates such as mountain areas and high T production up to 50°
- Ideal where no mains GAS supply is available
- Suitable for applications with radiant systems, fan coils, thermal ventilation and AHUs

**110%**

SUPER  
BONUS  
(primary)

**65%**

ECO  
BONUS

**50%**

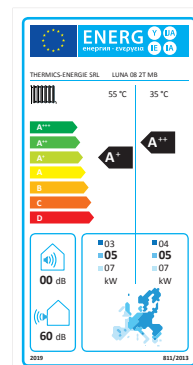
BONUS  
CASA (HOME  
BONUS)



CONTO  
TERMICO

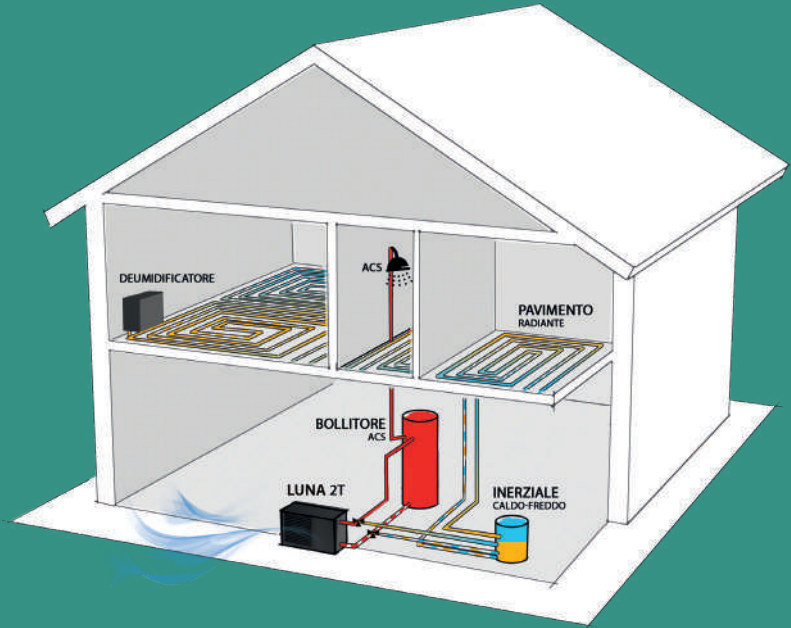
## Tax deduction

All versions of Luna Monobloc 2T are energy class A++ and therefore benefit from tax deductions in accordance with applicable legislation.





1. EC fan
2. Twin Rotary Compressor
3. Finned pack with hydrophilic treatment
4. Heat exchanger with larger rows, large heat-exchange surface



## Summer operation

The summer operating modes are:

1. Chiller mode: the unit produces only chilled water for the system.
2. Heat pump mode for the production of domestic hot water: if there is no cold load and on request by the domestic hot water probe, the unit heats the water in the domestic hot water storage tank using the finned pack coil as an evaporator. The use of warm outside air as a heat source guarantees extremely high COP levels.

## Automatic seasonal regulation

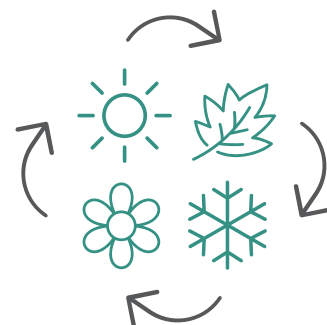
The system switches automatically between the various operating modes according to a priority logic for the production of domestic hot water.



## Winter operation

The winter operating modes are:

1. Heat pump mode for heating: the unit produces hot water at the system side heat exchanger for heating.
2. Heat pump mode for domestic hot water: high temperature hot water is produced at the heat exchanger connected to the domestic hot water storage tank.



# Technical specifications

## Luna 2T Monobloc

2-PIPE HEAT PUMP



COP 4.81



POWER OUTPUT 6.38 kW  
POWER INPUT 1.33 kW



DHW 55°C



HEATING WATER



OPERATING RANGE -22°C / +45°C



ENERGY EFFICIENCY CLASS A++

(refers to 8 kW version)

**Available power outputs: 6, 8, 10, 12, 14, 16 kW**

### Technical specifications

#### Luna

Luna 2T		6 kW	8 kW	10 kW	12 / 12T kW	14 / 14T kW	16 / 16T kW
Winter operation A7/W35							
Heat output	100% kW	6.16	8.41	9.94	12.08	13.18	15.05
Heat output	66% kW	4.21	5.23	7.26	7.56	8.51	10.48
Heat output	33% kW	2.75	2.45	3.33	3.67	4.08	4.92
Compressor power input	100% kW	1.18	1.63	2.16	2.51	2.74	3.20
Overall power input	100% kW	1.34	1.82	2.35	2.75	3.02	3.50
COP		4.59	4.62	4.22	4.39	4.36	4.30
System side							
Water flow rate (system)	m3/h	1.06	1.45	1.71	2.08	2.27	2.59
Useful head	mca	5.20	4.80	5.50	3.00	5.00	4.20
Pump power input	kW	0.06	0.06	0.06	0.06	0.09	0.09
Fan side							
Air flow rate	m3/h	4000	4200	5000	5600	5600	6000
Useful head	Pa	24.00	40.00	54.00	20.00	20.00	22.00
Power input	kW	0.10	0.14	0.14	0.18	0.19	0.21
Winter operation A7/W45							
Heat output	100% kW	5.99	8.19	9.76	11.68	12.74	14.52
Heat output	66% kW	4.08	5.07	7.06	7.28	8.20	10.13
Heat output	33% kW	2.66	2.37	3.22	3.52	3.92	4.73
Compressor power input	100% kW	1.50	2.04	2.75	3.06	3.35	3.90
Overall power input	100% kW	1.65	2.23	2.95	3.30	3.62	4.20
COP		3.62	3.67	3.31	3.54	3.52	3.46
System side							
Water flow rate (system)	m3/h	1.03	1.41	1.68	2.01	2.19	2.50
Useful head	mca	6.50	4.70	4.50	3.40	4.90	3.80
Fan side							
Air flow rate	m3/h	4000	4200	5000	5600	5600	6000
Useful head	Pa	24.0	40.0	54.0	20.0	20.0	22.0
Power input	kW	0.10	0.14	0.14	0.18	0.19	0.21
Summer operation A35/W18							
Cooling Capacity	100% kW	8.05	10.65	12.59	15.48	16.83	19.27
Cooling Capacity	66% kW	5.58	6.54	9.44	9.77	10.92	13.44
Cooling Capacity	33% kW	3.70	3.12	4.45	4.78	5.29	6.38
















## Technical specifications

Luna 2T			Luna					
			6 kW	8 kW	10 kW	12 / 12T kW	14 / 14T kW	16 / 16T kW
Compressor power input	100%	kW	1.36	1.88	2.56	2.67	3.04	3.76
Overall power input	100%	kW	1.52	2.07	2.76	2.91	3.32	4.06
EER			5.29	5.15	4.57	5.32	5.07	4.75
System side								
Water flow rate (system)		m3/h	1.39	1.83	2.17	2.66	2.90	3.31
Useful head		mca	5.60	4.00	3.40	1.90	3.60	2.70
Fan side								
Air flow rate		m3/h	4000	4200	5000	5600	5600	6000
Useful head		Pa	24.0	40.0	54.0	20.0	20.0	22.0
Power input		kW	0.10	0.14	0.14	0.18	0.19	0.21
Summer operation A35/W7								
Cooling Capacity	100%	kW	5.62	7.47	8.77	10.79	11.72	13.36
Cooling Capacity	66%	kW	3.87	4.39	6.61	6.78	7.59	9.35
Cooling Capacity	66%	kW	2.55	2.06	3.08	3.29	3.64	4.40
Compressor power input	33%	kW	1.39	1.89	2.62	2.87	3.17	3.74
Overall power input	100%	kW	1.54	2.09	2.81	3.11	3.45	4.04
EER	100%	kW	3.64	3.58	3.11	3.47	3.40	3.31
System side								
Water flow rate (system)		m3/h	1.0	1.28	1.51	1.86	2.02	2.30
Useful head		mca	6.5	5.1	4.9	3.6	5.1	4.5
Fan side								
Air flow rate		m3/h	4000	4200	5000	5600	5600	6000
Useful head		Pa	24.0	40.0	54.0	20.0	20.0	22.0
Dimensions								
Dimensions		L x H x P	1000x735x443 mm			1000x1336x443 mm		
Weight		kg	83	85	87	140	142	142
Refrigerant			R410a					
Compressor type			Twin Rotary					
Number of compressors			1	1	1	1	1	1
Number of fans			1	1	1	1	1	1
Electrical power supply		V/Ph/Hz	230-1-50	230-1-50	230-1-50	230-1-50/ 400-3-50	230-1-50/ 400-3-50	230-1-50/ 400-3-50
Water connection diameter			1"	1"	1"	1"	1"	1"
Sound power		dB(A)	57	60	63	61	61	64
Sound pressure at 1 m		dB(A)	55	57	61	59	59	61

Pn	COP	Model	Climate zone					
			A	B	C	D	E	F
6.18	4.59	LUNA 2T 06	638.03 €	903.88 €	1,169.73 €	1,488.75 €	1,807.76 €	1,914.10 €
8.41	4.62	LUNA 2T 08	869.83 €	1,232.27 €	1,594.70 €	2,029.61 €	2,464.53 €	2,609.50 €
9.94	4.22	LUNA 2T 10	1,001.16 €	1,418.31 €	1,835.46 €	2,336.04 €	2,836.62 €	3,003.48 €
12.08	4.39	LUNA 2T 12	1,231.33 €	1,744.39 €	2,257.45 €	2,873.11 €	3,488.78 €	3,694.00 €
13.18	4.36	LUNA 2T 14	1,340.73 €	1,899.37 €	2,458.01 €	3,128.38 €	3,798.74 €	4,022.20 €
15.05	4.30	LUNA 2T 16	1,524.60 €	2,159.85 €	2,795.10 €	3,557.40 €	4,319.70 €	4,573.80 €

\* WARNING: these calculations are indicative only and are not intended to replace the actual value assessed by GSE (energy services operator) when the paperwork is submitted.

# Accessories

Product	Description	Code	Product	Description	Code
	Heating cable - 3m - 60W - AUTOMATIC HEAT PUMP MANAGEMENT	6TTS0008		Anti-vibration hose for Heat Pump - ANTIV.A/CF TR/X - 1"FF mm 200	8TFL00110
	Vulcanised rubber floor mounting blocks EXTREME 100-8" 600	6TTS02050		Motorised diverter valve - TMOXL25ESP-STM1S230V - KVS 15	8TMU00110
	Y-strainer, brass DN20 for DURAN 8	8TCM00110		Magnetic dirt separator - 1" - inline - COMPACT	8TMU00205
	Y-strainer, brass DN25 for 10 kW heat pump	8TCM00120		Magnetic dirt separator - 1 1/4" - inline - MAGNUM	8TMU00210
	Wall-mounted 4.3" TFT display - Wi-Fi - TH - Modbus - EASY-TOUCH	8TEU00019		Rear Grille 2 (AA3) - RAL7016	6TLMR2010.R00.02
	Wireless Modbus thermostat for Heat Pump.	8TSDT0110		Rear Grille (SNT.B) - RAL7016	6TLMR2102.R00.02



Notes

Lined area for notes, consisting of numerous horizontal lines.



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cod. 0CAT00161.R00  
Depliant LUNA 2T - ENG - REV00 del 25/06/23

Code 0CAT00161.R00 Luna 2T