GENERA 2.0 R

R290 monobloc
heat pump

argo
improve your life

ARGO
IMPROVE YOUR LIFE

OUR HISTORY

Founded in 1929 in Gallarate, near Varese, Argo is an Italian company focused on the production and marketing of solutions for heating and air conditioning. Still today, on an area of 42,000 m^2, the facility includes the manufacturing area, consisting of 6 production lines, research and development and quality control. This location is joined by the Alfianello headquarters in the Brescia area which, with its 32,000 m^2, houses a logistics center and management offices.

The know-how acquired and developed over the years has allowed us to offer on the international market a wide range of products that includes air-to-air and air-to-water heat pumps for heating, cooling, domestic hot water production and air treatment.

Argo - Alfianello headquarters, logistics center and management offices

RESEARCH, DEVELOPMENT AND PRODUCTION

INDUSTRIAL AND ENGINEERING SELF-RELIANCE, A HERITAGE THAT WE HAVE BEEN PURSUING FOR OVER 90 YEARS

A research and development team of specialized engineers and technicians and the production site with cutting-edge technologies and equipment, allow us to propose systems based on quality, reliability and high-performances.
The skills developed within the company guarantee the total control over the product design, development and manufacturing process of the products.

OUR TEAM

COMMERCIAL AND TECHNICAL ASSISTANCE, VALUES AT THE CUSTOMERS' SERVICE

The sales network is distributed throughout the national and foreign territory and allows us to be easily reachable and updated with the needs of local supplies which, also because of different climatic conditions, require specific know-how.
A dedicated team answers to all the needs both in the evaluation phases and for after-sales inquiries.

ARGO ACADEMY

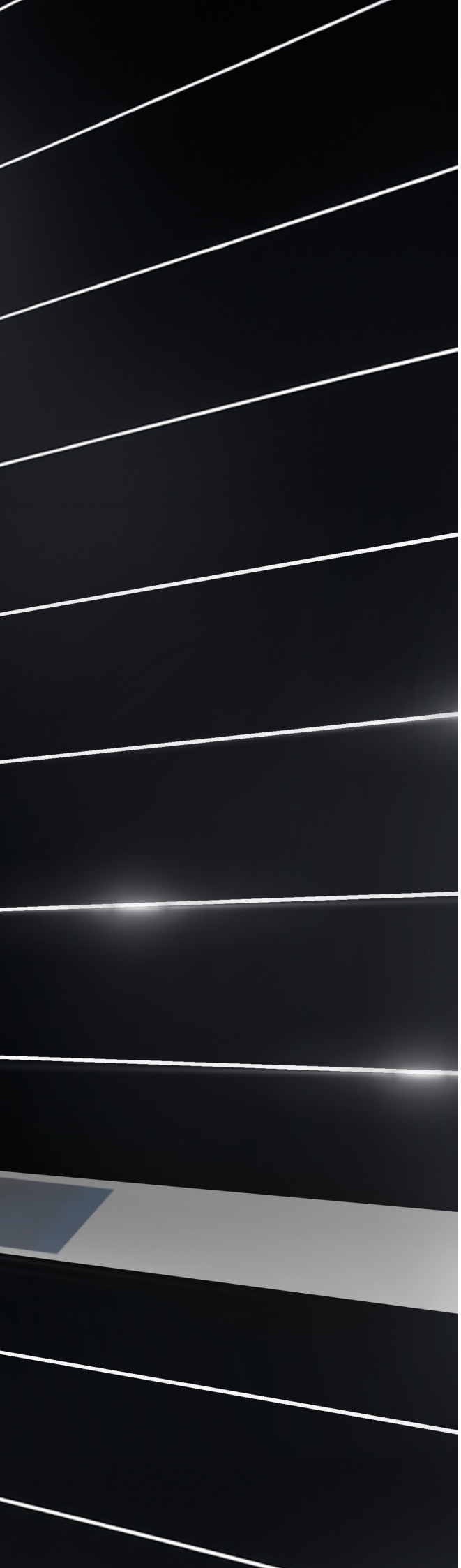
A SPACE DEDICATED TO TECHNICAL SPECIALIZATION

Argo Academy welcomes customers and collaborators for training sessions tailored on the specific needs of the interlocutors. To ensure high standards, the training combines theoretical modules with practical sessions, also carried out with the means of the working systems installed in the training room.

GENERA 290

THE NEW R290 HEAT PUMP RANGE
GENERATED IN ITALY

MADE IN ITALY



The new range of R290 air-to-water monobloc heat pumps is entirely designed and developed in Italy and it is produced in the Gallarate factory.

QUALITY, RELIABILITY, EFFICIENCY

Argo – improve your life

THE RANGE

The range of R290 air-to-water monobloc heat pumps, full DC Inverter, offers a complete comfort system capable of heating, cooling and domestic hot water production. The system uses the natural refrigerant R290, which guarantees almost zero impact on global warming and excellent performance in terms of energy efficiency. All products in the GENERA range are classified A+++ (35 °C). The technical characteristics of these systems ensure maximum versatility of application, both within new constructions and as replacements in traditional heating systems.

MODELS

ANGHP06S

ANGHP08S/08T

ANGHP12S/12T

Code	Model			**Rated capacity EN14511 (kW)	
		1PH	3PH	Heating (1)	Cooling (2)
387032090	ANGHP06S	●		6,2	5,9
387032091	ANGHP08S	●		8,2	9,0
387032092	ANGHP08T		●	8,2	9,0
387032093	ANGHP12S	●		12,5	12,3
387032094	ANGHP12T		●	12,5	12,3
387032095	ANGHP16S	●		*16*	*15*
387032096	ANGHP16T		●	*16*	*15*

(1) Water temperature 30 °C/35 °C, outdoor air temperature 7 °C D.B./6 °C W.B.
(2) Water temperature 23 °C/18 °C, outdoor air temperature 35 °C

MADE IN ARGO

Design, performance and sustainability are just some of the distinctive features of the GENERA heat pump range. The black finish, embossed with a matt effect, was designed for optimal integration with the external environments of the house. All the screws have been eliminated from the frontal part of the monobloc unit and are used only on the back to improve aesthetics. The cladding is coated with a special layer of epoxy paint, with high resistance. Thanks to the know-how of the R&D department, the project was generated to bring to the market a product accurate in every detail.

Our know-how for sustainable comfort

R290 REFRIGERANT

R290 refrigerant has a GWP (global warming potential) of 3 and an ODP (ozone depletion potential) of 0, which reduces the impact on the greenhouse effect and the ozone layer to almost zero. R290 meets today's maximum performance requirements both in terms of maximum deliverable water temperature and external temperature operating range. It also effectively reduces energy consumption, thanks to the high efficiency achievable and for this reason it is currently considered the best refrigerant to be used in air-to-water heat pumps.

HIGH TEMPERATURE CONSTANT DELIVERY EVEN WITH EXTREME COLD

The system is suitable for both new structures and renovations: it can replace traditional boilers combined with radiators. From -10 °C to +38 °C the outlet water temperature can reach 75 °C. Even at the lower operating limit of -25 °C the water temperature can still reach 65 °C. In addition to the high capacities always available throughout the external temperature range, these products are excellent for ensuring complete heating, often without the need for installing additional electrical resistances and/or oversizing the unit. This will ensure optimal operation performances of the unit, using the minimum space during installation and keeping low the cost of the system.

MAXIMUM SILENCE

Achieving a low sound level is a goal for any modern heat pump. Argo's research and development department has dedicated great efforts to optimize this characteristic, selecting and isolating with great care the compressor. Furthermore, an in-depth aerodynamic analysis was carried out to minimize the sound of the fan's airflow. A very large fan allows noise to be minimized by reducing the rotation speed. The overall structure has also been developed and insulated to optimize silence, making the product ideal even in residential areas.
The machine is also equipped with SILENT and SUPER-SILENT modes which further reduces the sound level when necessary.

VERSATILE AND EFFICIENT

Each element was designed and developed evaluating maximum versatility during the installation phase without compromizing performances. The outdoor unit stands out for its small size and low weight, which also makes it suitable for installation in limited spaces. Research into components has made it possible to guarantee optimal performance even in any climatic condition.

Heating | Cooling | DHW | SILENT mode | SUPER SILENT mode | A+++ Heating (35 °C) | A++ Heating (55 °C) | A+ DHW | EC PUMP | A2W

RELIABILITY AND SAFETY

Genera is equipped with refrigerant pressure and water flow control systems, in order to protect the system in all working conditions. The safety gas-liquid separator is incorporated into the unit, for ensuring no-worries when using the R290 refrigerant.

COMPACT DIMENSIONS

Thanks to the reduced size and low weight obtained by optimizing the components and their arrangement, the units can be easily installed even in narrow spaces or on surfaces with low load capacity. Even the more powerful 16 kW version is characterized by a reduced footprint.

SINGLE OR GROUP MANAGEMENT

The control panel can control a single unit or, if the installation includes a group of units, it can control up to 4 at the same time.

MAIN COMPONENTS

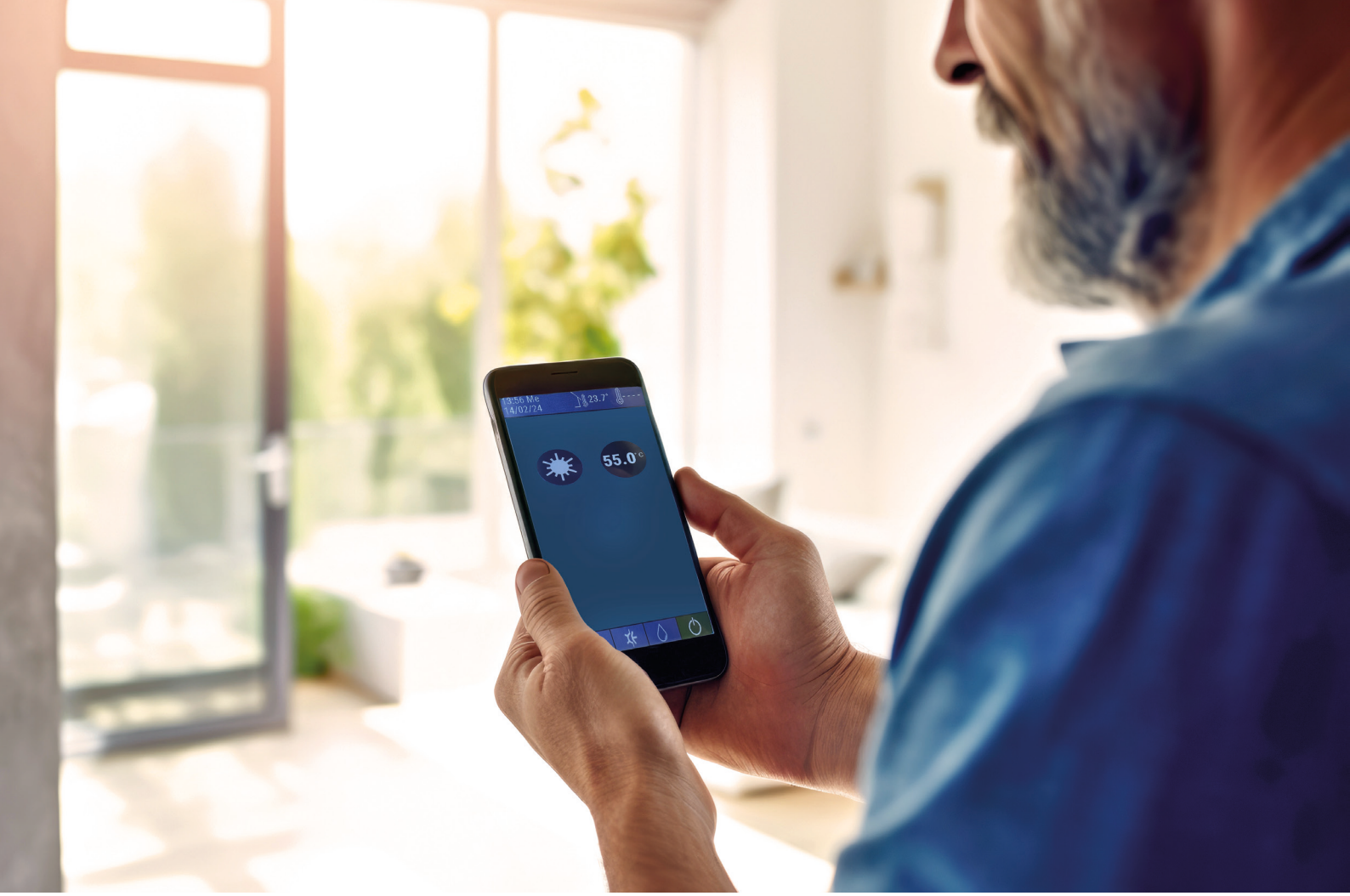
The main components have been selected from the most reliable and cutting-edge suppliers:

- The latest generation Twin-rotary compressor, optimized for the use of R290, can guarantee excellent performance in a wide range of action.
- DC-brushless axial fans are designed for aerodynamic optimization: they guarantee a low noise level, but high efficiency and powerful airflow.
- Finned heat exchangers have a special superficial treatment: the fins are coated to ensure corrosion resistance and hydrophilic reaction.

HYDRAULIC COMPONENTS

Installation is simplified as the unit is already internally equipped with most of the necessary hydraulic components:

- Inverter circulator
- Plate heat exchanger
- Flowmeter
- Safety valve
- Safety Gas-liquid separator



CONNECTED

All models in the R290 air-to-water monobloc heat pump range can be managed remotely thanks to the connection systems provided as standard. The control panel has been designed to be positioned inside the technical room so as to optimize the connections with the external unit and the other system components.

Code	Description
387030740*	Controller ANGHP (two probes included)
T9900027	Outdoor probe

*Not included, mandatory accessory, one for each system

INNOVATIVE INTERFACE

The control panel is equipped with a color LCD touch emergency display, while the main interface can be managed from a dedicated App, available on smartphone, tablet or PC. The controller is separate from the monobloc unit and requires internal installation. It incorporates all the electrical connections of the system accessories, so the connection to the unit is made with a simple communication cable which, in addition to the power supply, is the only electrical wiring needed for the external unit.

DYNAMIC SET-POINTS

Two input dry-contacts allow to interface with smart electrical grids or other systems for optimizing consumption. Depending on the system complexity, two or four cases are available, providing for differentiated operations and/or set-points for DHW and system, depending on the cost and availability of electrical energy.

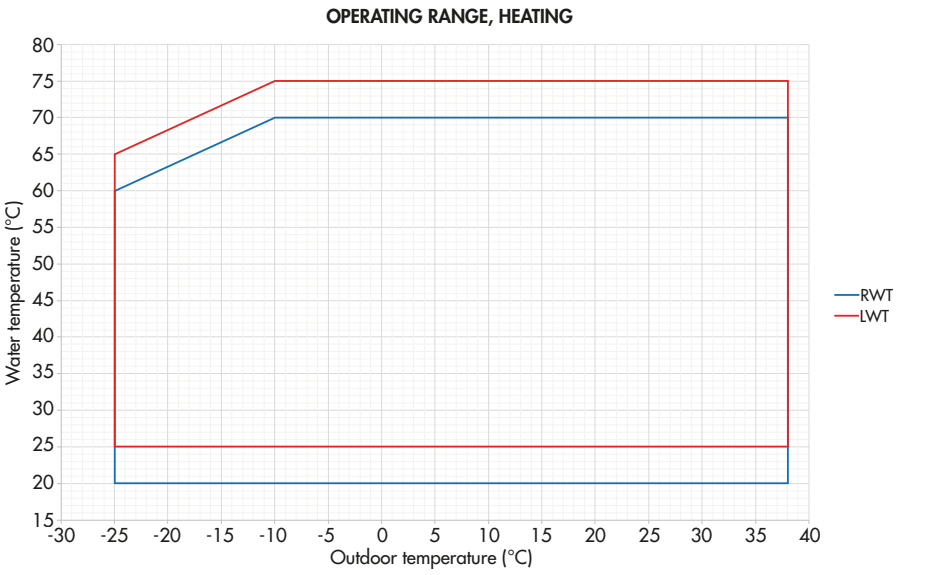
CONSUMPTION ACCOUNTING

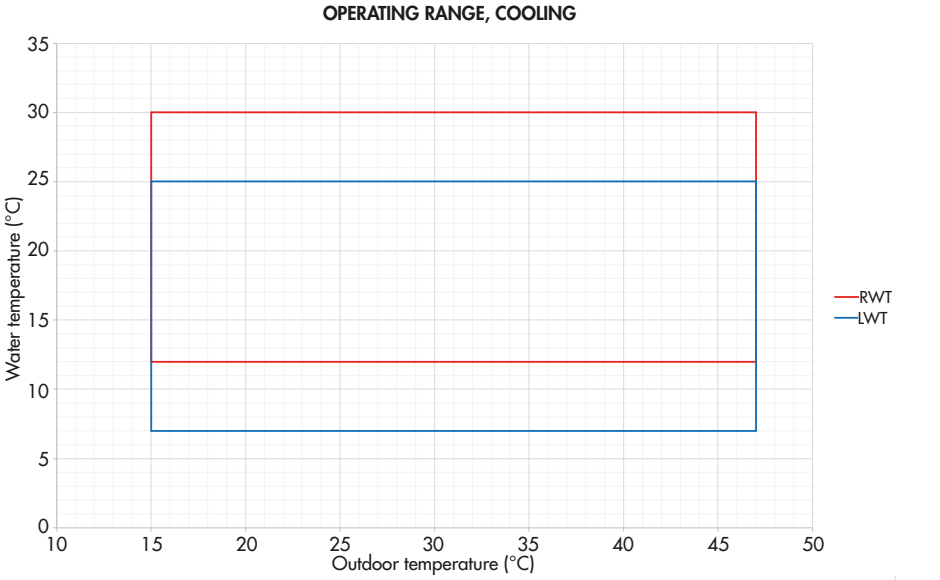
The consumption and efficiency of the system are always available via the App. The actual performance data can be viewed at any time and it is possible to recall the archived data for constant improvement in use and performance optimization.

INTEGRATED WI-FI, BLUETOOTH AND MODBUS

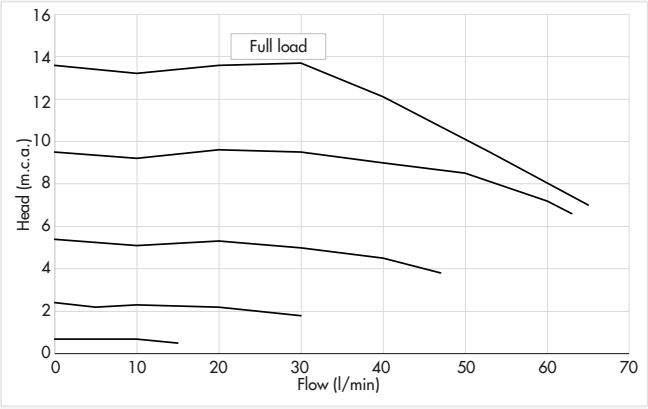
For easy remote management, the controller is equipped with a built-in WiFi module which also includes the possibility of Bluetooth connection. For more advanced management, Modbus connectivity is available as standard, which allows to monitor all the necessary parameters.

OPERATING CURVE

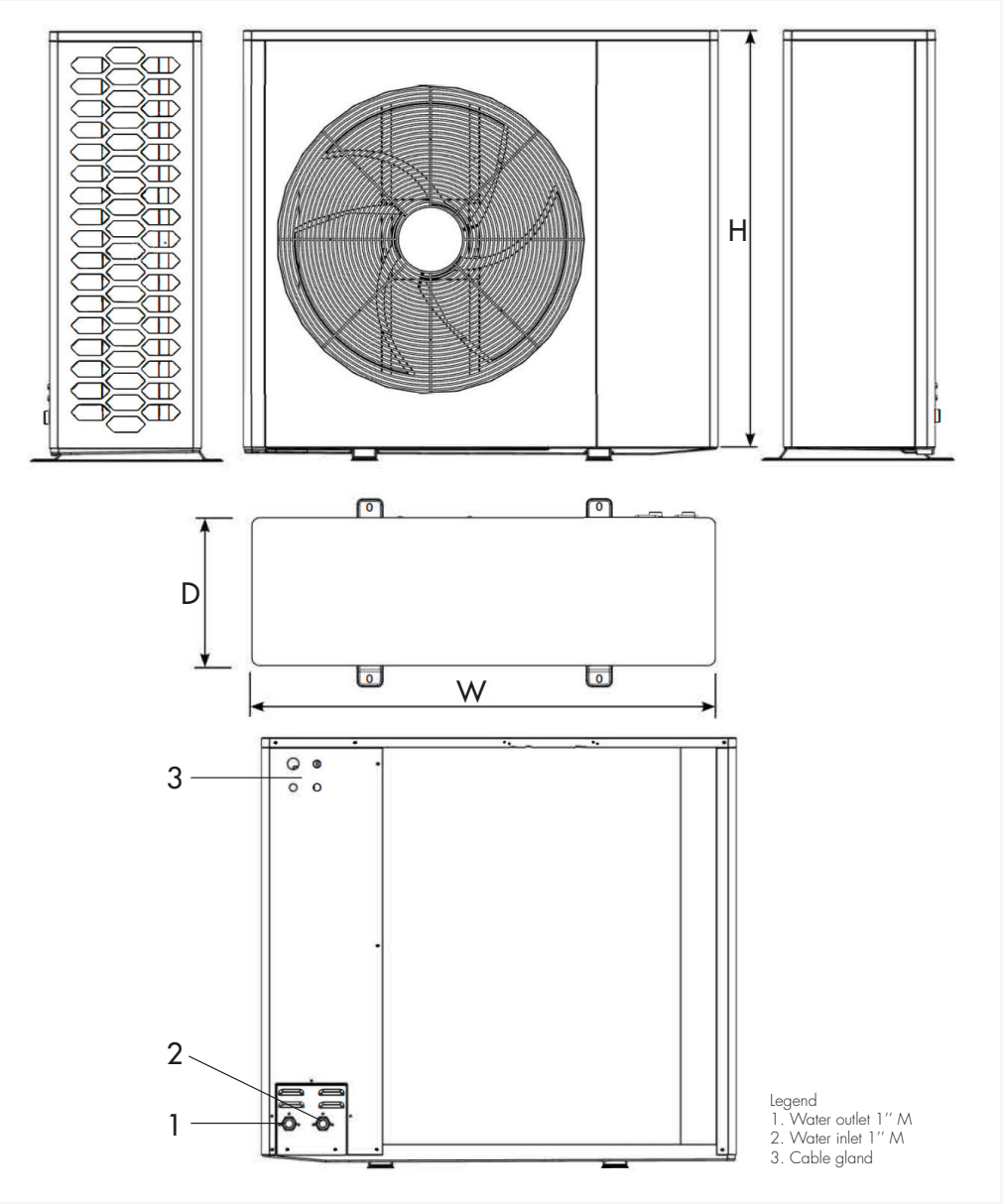




CHARACTERISTICS CIRCULATOR CURVE



DIMENSIONAL DATA



Model	W (mm)	D (mm)	H (mm)	Weight (kg)
ANGHP06S	914	355	708	68
ANGHP08S	1204	385	880	92
ANGHP08T	1204	385	880	100
ANGHP12S	1204	385	1090	108
ANGHP12T	1204	385	1090	116

TECHNICAL DATA

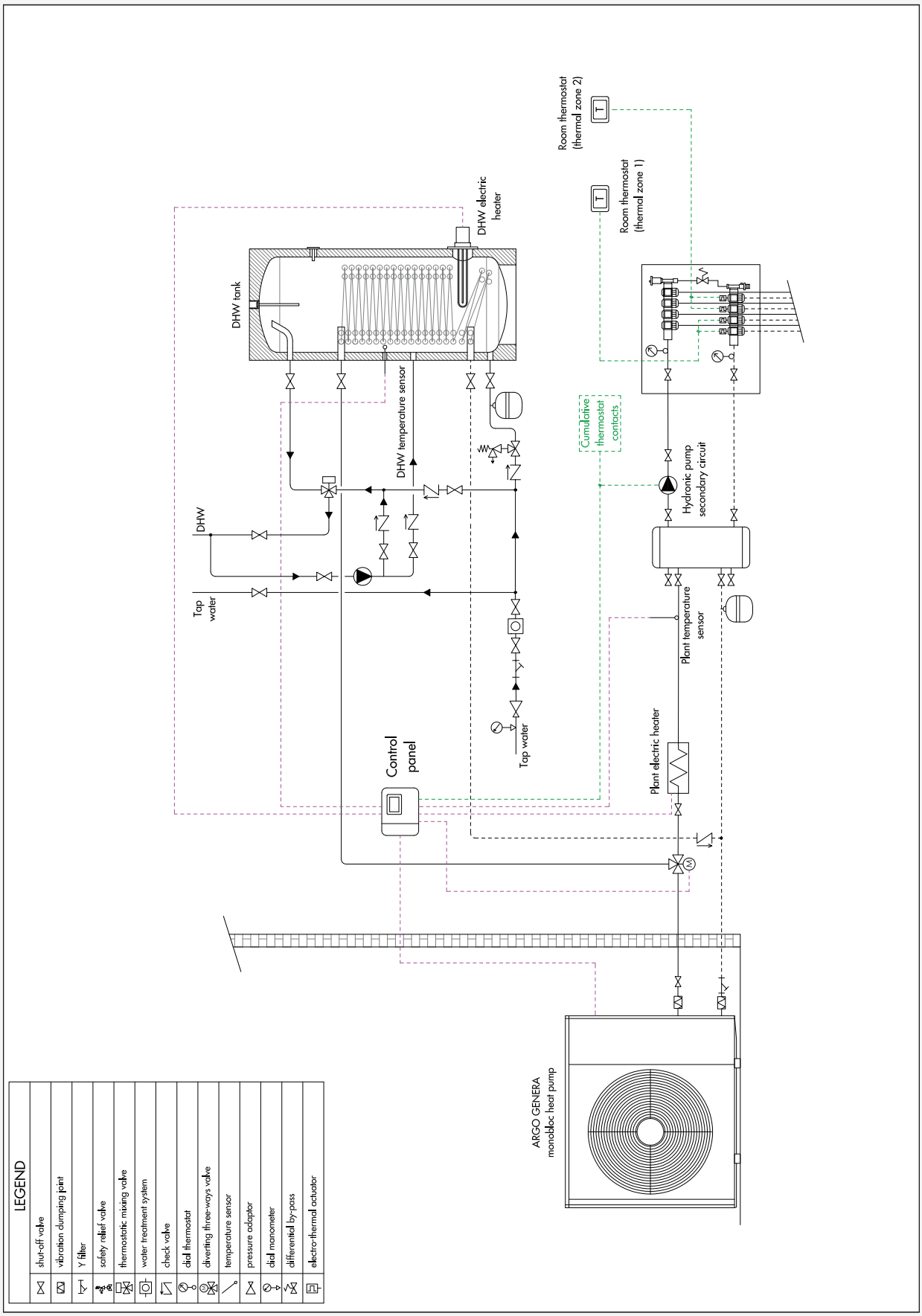
MODEL				**ANGHP06S**		**ANGHP08S/08T**	
Matchable units for domestic hot water production (DHW)				**200/300 liters external tank with diverting valve**		**200/300 liters external tank with diverting valve**	
				Cooling	**Heating**	**Cooling**	**Heating**
Performance according to EN 14511	Air +35 °C - Water 23/18 °C Air +7 °C - Water 30/35 °C	Rated capacity	kW	5,95	6,23	9,08	8,25
		Rated electrical power input	kW_{el}	1,34	1,37	2,31	1,73
		EER/COP		4,42	4,54	3,93	4,77
	Air +35 °C - Water 12/7 °C Air -7 °C - Water 30/35 °C	Rated capacity	kW	4,44	4,38	7,07	7,27
		Rated electrical power input	kW_{el}	1,30	1,68	2,23	2,59
		EER/COP		3,41	2,61	3,16	2,8
Performance according to Ecodesign (ERP) EN 14825	LOW TEMPERATURE (35 °C) AVERAGE climate	Design thermal load ($Pdesign_h$)	kW	5		7,2	
		Energy efficiency class		A+++		A+++	
		SCOP		4,8		4,71	
	MEDIUM TEMPERATURE (55 °C) AVERAGE climate	Design thermal load ($Pdesign_h$)	kW	4,55		6,2	
		Energy efficiency class		A++		A++	
		SCOP		3,43		3,55	
DHW production	With 300 liters tank and diverting valve AVERAGE climate	Load profile		XL		XL	
		Energy efficiency class		A+		A+	
Unit operation data		Maximum delivery water temperature	°C	75		75	
		Outdoor temperature range (heating)	°C	-25/+38		-25/+38	
		Outdoor temperature range (cooling)	°C	+15/+47		+15/+47	
		Power supply (Voltage/Phases/Frequency)	V/Ph/Hz	230/1/50		230/1/50 o 400/3/50	
		Rated power input	kW	2,3		3	
		Sound power	dB(A)	56		58	
		Sound power (super silent)	dB(A)	49		51	
Components and dimensions		Circulator pump head	mH_2O	12		12	
		Hydraulic connections	inches	G1"		G1"	
		Safety valve	bar	2,5		2,5	
		Weight	kg	68		92/100	
		Dimensions (W./D./H.)	mm	914/355/708		1204/385/880	
		Compressor type		Twin-rotary		Twin-rotary	
Refrigerant		Refrigerant type e GWP		R290/3 kg CO_2eq		R290/3 kg CO_2eq	
		Quantity	kg	0,5		0,8	

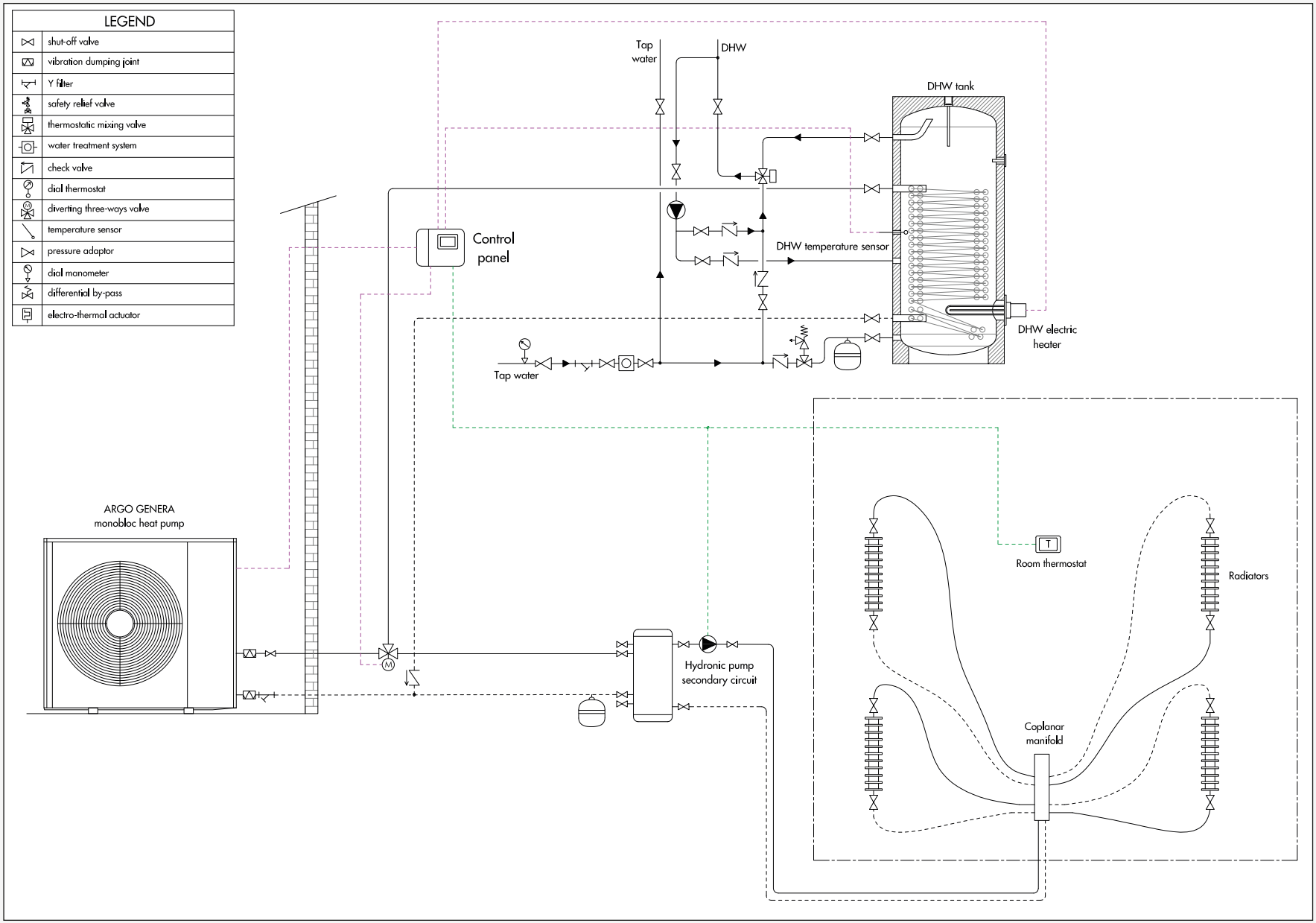
Data declared in accordance with REGULATION no. 811/2013/EU regarding the labeling indicating the energy consumption of space and combination heating appliances and the (EU) REGULATION No. 813/2013/EU containing methods of application of Directive 2009/125/EC regarding the specifications for the eco-design of space and combination heating appliances.

MODEL				ANGHP12S/12T	
Matchable units for domestic hot water production (DHW)				200/300 liters external tank with diverting valve	
				Cooling	Heating
Performance according to EN 14511	Air +35 °C - Water 23/18 °C Air +7 °C - Water 30/35 °C	Rated capacity	kW	12,32	12,52
		Rated electrical power input	kW_{el}	2,88	2,71
		EER/COP		4,28	4,62
	Air +35 °C - Water 12/7 °C Air -7 °C - Water 30/35 °C	Rated capacity	kW	10,63	9,94
		Rated electrical power input	kW_{el}	3,37	3,52
		EER/COP		3,15	2,82
Performance according to Ecodesign (ERP) EN 14825	LOW TEMPERATURE (35 °C) AVERAGE climate	Design thermal load ($Pdesign_h$)	kW	10,4	
		Energy efficiency class		A+++	
		SCOP		4,83	
	MEDIUM TEMPERATURE (55 °C) AVERAGE climate	Design thermal load ($Pdesign_h$)	kW	8,51	
		Energy efficiency class		A++	
		SCOP		3,67	
DHW production	With 300 liters tank and diverting valve AVERAGE climate	Load profile		XL	
		Energy efficiency class		A+	
Unit operation data		Maximum delivery water temperature	°C	75	
		Outdoor temperature range (heating)	°C	-25/+38	
		Outdoor temperature range (cooling)	°C	+15/+47	
		Power supply (Voltage/Phases/Frequency)	V/Ph/Hz	230/1/50 o 400/3/50	
		Rated power input	kW	4	
		Sound power	dB(A)	59	
		Sound power (super silent)	dB(A)	53	
Components and dimensions		Circulator pump head	mH_2O	12	
		Hydraulic connections	inches	G1"	
		Safety valve	bar	2,5	
		Weight	kg	108/116	
		Dimensions (W./D./H.)	mm	1204/385/1090	
		Compressor type		Twin-rotary	
Refrigerant		Refrigerant type e GWP		R290/3 kg CO_2eq	
		Quantity	kg	1,1	

Data declared in accordance with REGULATION no. 811/2013/EU regarding the labeling indicating the energy consumption of space and combination heating appliances and the (EU) REGULATION No. 813/2013/EU containing methods of application of Directive 2009/125/EC regarding the specifications for the eco-design of space and combination heating appliances.

INSTALLATION DIAGRAM EXAMPLES




LEGEND
shut-off valve
vibration dumping joint
Y filter
safety relief valve
thermostatic mixing valve
water treatment system
check valve
dial thermostat
diverting three-ways valve
temperature sensor
pressure adaptor
dial manometer
differential by-pass
electro-thermal actuator
Tap water
DHW
DHW tank
Control panel
DHW temperature sensor
DHW electric heater
Tap water
ARGO GENERA
monobloc heat pump
Hydronic pump
secondary circuit
Room thermostat
Radiators
Coplanar
manifold

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