

# AQUA F

DSDH-P AQ 1 S 100

Packaged monoblock heat pump for domestic hot water production



COMFORT FOR THE  
PLANET & PEOPLE



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Clivet, in compliance with Regulation 517/2014, informs that its products contain or operate with the use of fluorinated greenhouse gases

# NATURAL COMFORT

## Reasons to believe in a more comfortable future, thanks to Clivet

### **More than 35 years of experience**

Clivet has been leading the way in heat pump innovation since 1989. We were among the first to recognise the technology's potential for efficient and sustainable comfort – and our dedication to innovation hasn't wavered since.

### **Purpose-built solutions.**

Clivet engineer its solutions from the ground up to offer specialised systems designed for a diverse range of applications and environments. Boasting the widest range of heat-pump solutions, our flexible, adaptable approach ensures a perfect fit for your specific requirements.

### **Crafted in Europe.**

As a European company from the start, we understand the unique needs and demands of this market. Our heat pump solutions are designed with your comfort in mind, considering everything from climate variations to specific building requirements.

### **A simplified product experience.**

Clivet systems streamline every step, from simplified design and installation to effortless operation and control. Engineered for efficiency from the ground up, Clivet delivers unparalleled ease of use, lower operating costs, and a lasting commitment to sustainability.



COMFORT FOR THE  
PLANET & PEOPLE

# OUR NUMBERS

More than **1000 employees** in Italy and abroad

**53.500m<sup>2</sup>** of plants in Feltre - (Belluno) and Verona

**8 branches:** UK, Germany, India, Russia, UAE, China, Balkans and France

More than **100 countries** we export

to More than **700 professionals** worldwide

- Sales network
- Distributors and wholesalers
- Installers
- Service Centres

**MideaGroup**  
*humanizing technology*

**2016:** strategic alliance with Midea Group

**277°** of the fortune global 500 in 2024

**51.9 BN \$** of Midea Turnover

**2023:** Clivet first sustainability report



# The heat pump

The heat pump is a unique system for heating, cooling and domestic hot water production.

## How does it work?

It transfers thermal energy from the external environment to the internal environment and vice versa.

Its operation is similar to a refrigerator, but reversed: as the refrigerator subtracts heat from food keeping it cool and disperses it in the room where it is located, in the same way the heat pump draws heat energy from outside and transfers it to the indoor environment to heat or cool or produce domestic hot water.

To distribute the heat or cold inside a building, the heat pump normally uses water, as a boiler, and flows it through radiators, terminal units or radiant floors.

There are various types of heat pumps. They can exchange the thermal energy with the outside in different ways:

- AIR - called Air-Water: they exchange heat with outside air and are the most common;
- WATER - called Water-Water: they exchange heat with groundwater, a well or a water loop specifically realized;
- GROUND - called Geothermal: they exchange heat with the ground through geothermal probes.

## Why is it a good solution for you and the planet?

The heat pump saves energy, reduces carbon dioxide emissions and respects the environment. During its operation uses about 75% of renewable energy from the external environment: unlimited energy and always available energy. For the remaining 25% of energy requirements, photovoltaic panels can be combined, for a 100% ecological solution.

## Where is it installed?

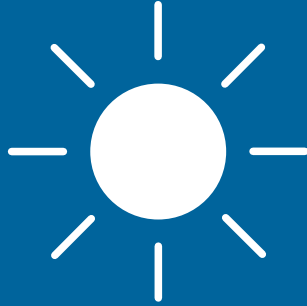
Depending on the type, the heat pump can be installed in a technical room inside the house, in the understairs, on the hallway, outside the house, on the balcony,...

## How to size the heat pump?

The heat pump suitable for a system must be selected by a specialist.

The main parameters normally are: insulation and climatic zone of the building, volume and rooms to be air conditioned, number of inhabitants, type of heating (radiators, radiant floor, ...).

THE SUN  
Primary energy source



solar energy  
indirect

solar energy  
direct



power from the  
grid

25%



renewal



water



ground

75%

100%



PUMP  
HEAT



Heating  
cooling

Domestic hot water

# Why choose a Clivet heat pump?

## Annual Savings

- Savings on heating, reducing energy consumption and hence bill costs by up to 50% compared to a traditional condensing boiler.
- Heating and cooling with a single system: so there is no need to install two systems.

## Environmental Impact

- In 2009, with the European RES Directive (Renewable Energy Sources), heat pumps were recognized as technologies that use renewable energy. Therefore the heat pump systems contribute to increase energy efficiency and the use of thermal renewables, improves the energy class of the building, the quality of the air and contributes to the achievement of the share of renewable energy assigned to each country
- It does not use fossil fuels or release emissions from combustion into the environment.

## Flexibility and quietness

The heat pump is **suitable for every situation**:

- New buildings or retrofit: it can be integrated into an existing system or in a new one;
- All residential areas: maximum quietness both outside and inside the dwellings;
- Hot or cold climates, even with an integrated additional boiler to operate in extreme environmental conditions.



## More than 35 years of experience

For more than 35 years Clivet has been successfully supplying heat pump systems for the commercial sector, a segment that in recent years has been able to identify the heat pump as an efficient system that allows considerable savings.

The experience gained in this sector allowed Clivet to have a revolutionary approach also in the residential sector, offering innovative air conditioning systems that take advantage of the heat pump technology and guarantee year-round well-being for all the types of houses with a single system.



# AQUA F

## DSDH-P AQ 1 S 100



AQUA F is the specialised heat pump system for the production of domestic hot water.

- Advanced connectivity: management via the App or via the Modbus port with CONTROL4 NRG included as standard
- Equipped as standard with electronic anode, photovoltaic contacts
- Operation with heat pump only with the outdoor air between  $-7^{\circ}\text{C}$  and  $43^{\circ}\text{C}$
- Market-leading A+ efficiency class

### Description of the system

With AQUA F, domestic hot water is produced in a much more cost-effective manner. AQUA F heat pump technology transforms renewable energy in the air into heat that can be used to raise the temperature of the water contained in the storage tank. All this happens with minimal use of electricity. AQUA F is four times more efficient than a conventional electric boiler: in economic terms, this means a 75 per cent reduction in electricity costs for the same amount of heat supplied.

The unit is designed and built to be installed indoors, with only the power supply and water pipes needing to be connected.

### TOP efficiency

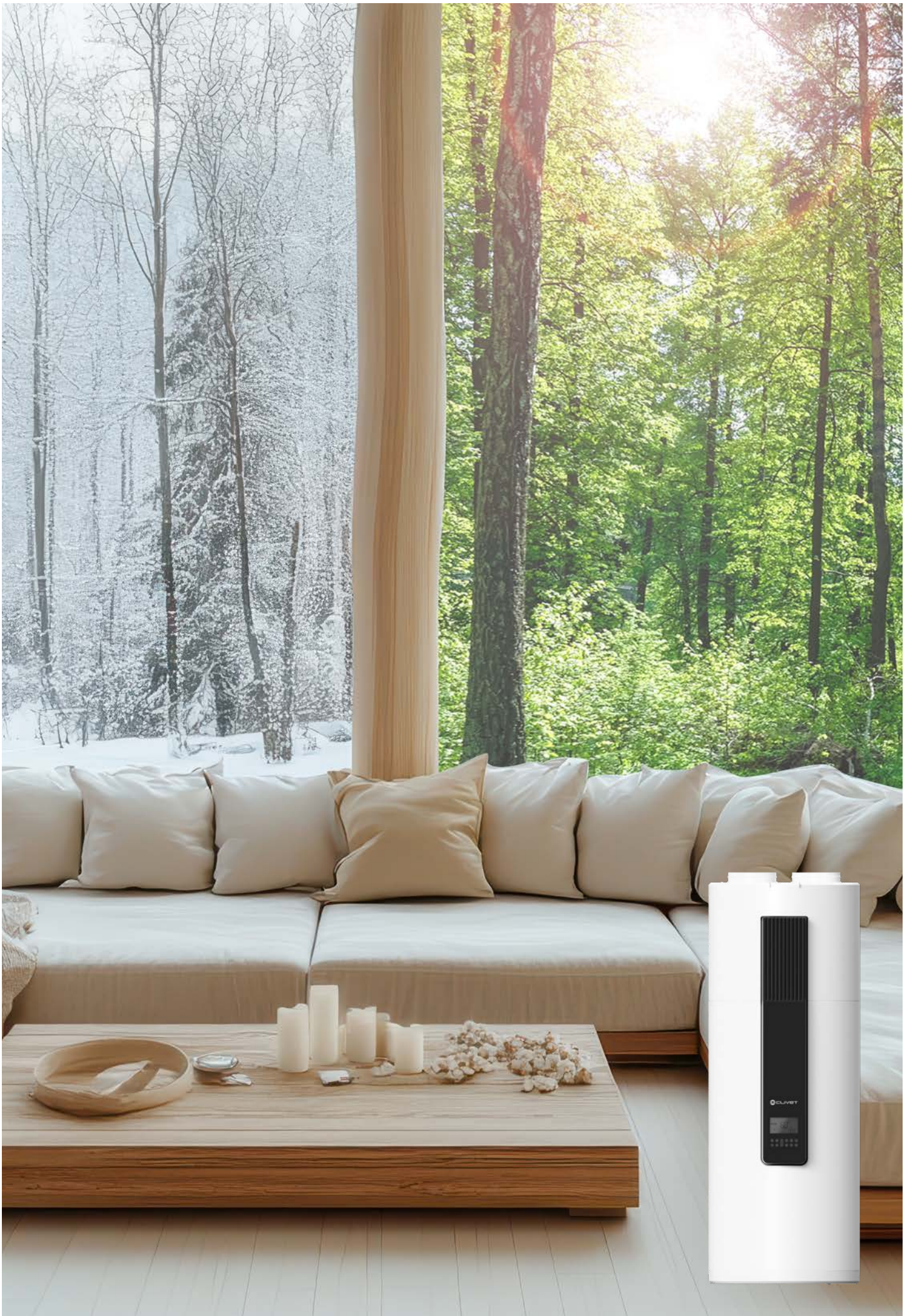
AQUA F attains the highest levels of efficiency on the market today. Thanks to the careful design of the refrigerant circuit, it achieves class A+ according to the ErP directive.

The high COP values allow great savings in terms of energy and operating costs, in addition to an increase in the use of renewable energy.

### Low maintenance

Thanks to the electronic anode and the automatic malfunction detection system, there is no need to periodically empty the water in the heat pump to check the condition of the anode.

Maintenance of the product is therefore limited to checking the filters, thus facilitating a rapid, inexpensive and non-invasive response.



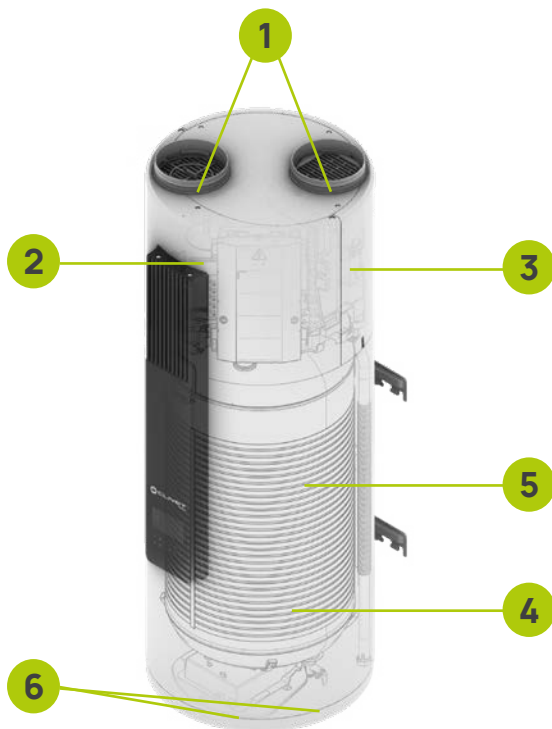
# General technical data

Size			100L
<b>Capacity and efficiency</b>			
Tout 15/12 °C ( DB/WB), Tw,in 15 °C Tw,out 45°C	Heating capacity	kW	0,98
	Total power input	kW	0,26
	COP		3,80
Tout 43/26 °C ( DB/WB), Tw,in 15 °C Tw,out 65°C	Heating capacity	kW	1,444
	Total power input	kW	0,396
	COP		3,65
Electric heater		kW	1,5
Standard power supply		V	1-220 240-50
DHW reheating time	(1)	h/min	3hrs29.5mins
DHW maximum temperature		°C	65 (70)
Sound pressure level (1m)	(5)	dB(A)	/
Sound power level (L <sub>WA</sub> )i		dB(A)	54
<b>ErP</b>			
Clima Average (2)	Generator energy class		A+
	Domestic hot water profile		M
	n <sub>wh</sub>	%	111
	AEC annual consumption	kWh	463
	Daily consumption	kWh	2,435
Climate Warmer (3)	COP EN 16147		2,61
	Domestic hot water profile		M
	n <sub>wh</sub>	%	114
	AEC annual consumption	kWh	451
	Daily consumption	kWh	2,133
Clima Colder (4)	COP EN 16147		2,74
	Domestic hot water profile		M
	n <sub>wh</sub>	%	92
	AEC annual consumption	kWh	558
	Daily consumption	kWh	2,631
COP EN 16147		2,22	
<b>Storage tank</b>			
Domestic hot water storage volume		l	98
Storage tank material			Enamel
Insulating material			Cyclopentane
Heat loss		W/K	18,2
Maximum operating pressure		bar	8
Insulation thickness		mm	42
<b>Refrigerant circuit</b>			
Type of compressor			Rotary
Refrigerant gas			R290
Quantity of refrigerant		kg	0,15
GWP		t	3
Tons of equivalent CO <sub>2</sub> *		t <sub>CO2</sub>	0,00045
Oil quantity		ml	140
Expansion valve type			Electric expansion valve

Fan		
Type of fan		Centrifugal Fan
Airflow	m <sup>3</sup> /h	200
Available pressure	Pa	0-60
Integration		
Integration coil surface	m <sup>2</sup>	N/A
Integration coil material		-
Maximum operating pressure	bar	-

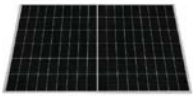
1. Inlet water temperature 15°C, storage set 45°C, source air 15°C D.B/12°C W.B.
2. The product conforms with the European ErP Directives, which include Commission Delegated Regulation (EU) no. 812/2013, Commission Delegated Regulation no. 814/2013, Clima Average, Heat Pump Water Heater
3. The product conforms with the European ErP Directives, which include Commission Delegated Regulation (EU) no. 812/2013, Commission Delegated Regulation no. 814/2013, Clima Warmer, Heat Pump Water Heater
4. The product conforms with the European ErP Directives, which include Commission Delegated Regulation (EU) no. 812/2013, Commission Delegated Regulation no. 814/2013, Clima Colder, Heat Pump Water Heater
5. Data for fully ducted unit.  
\*Contains fluorinated greenhouse gases

## View and functional diagram



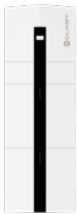
1. AC fan
2. Rotary compressor
3. Air-gas finned exchanger
4. 98-litre DHW tank
5. Microchannel exchanger (wound around the tank)
6. Electronic anode kit + 1.5 kW safety/auxiliary heater

# Clivet Smart Living



## PHOTOVOLTAIC PANELS\*

Energy production through a photovoltaic system.



## ENERGY STORAGE

Electrical energy storage, to ensure maximum efficiency of independent supply during evening hours.



## HEAT PUMP

Heat pump for air conditioning. Maximises savings by optimising its operation based on the energy available from the photovoltaic system.



## DHW HEAT PUMP

Heat pump for domestic hot water. Maximises savings by optimising its operation based on the energy available from the photovoltaic system.



## AIR RENEWAL UNIT

Active thermodynamic recovery ventilation system to ensure the maximum level of indoor air quality.

## CONTROL4 NRG

System energy assistant with electricity and thermal storage management. Remote automatic software updates to keep the system in line with new available functions.



## CLIVET EYE

Cloud solution for remote system control and management from a single App with display of energy levels produced and consumed by the home.



## SMART THERMOSTATS

These provide simple, intuitive and immediate access to the home system's main operating parameters (temperature and humidity, air quality, battery charge level, electric energy produced by the photovoltaic system).



## AIR QUALITY SENSOR

Acquisition of temperature, humidity, noise, VOC, carbon monoxide, carbon dioxide and methane values.



## FAN COILS, RADIANT PANEL\*, RADIATORS\*

Silent, efficient fan coils with slimline design.



\*not supplied by Clivet

# For 35 years we have been offering solutions to ensure sustainable comfort and the well-being of people and the environment

**CLIVET S.p.A.**

Via Camp Lonc 25, Z.I. Villapaiera 32032  
Feltre (BL) - Italy  
Tel. +39 0439 3131 - info@clivet.it

**CLIVET LLC**

Office 508-511, Elektrozavodskaya st. 24,  
Moscow, Russian Federation, 107023  
Tel. +7495 6462009 - info.ru@clivet.com

**CLIVET GROUP UK LTD**

Units F5 & F6 Railway Triangle,  
Portsmouth, Hampshire PO6 1TG  
Tel. +44 02392 381235 - Enquiries@Clivetgroup.co.uk

**CLIVET GMBH**

Hummelsbütteler Steindamm 84,  
22851 Norderstedt, Germany  
Tel. +49 40 325957-0 - info.de@clivet.com

**CLIVET MIDEAST FZCO**

Dubai Silicon Oasis (DSO) Headquarter Building,  
Office EG04-05, P.O Box-342009, Dubai, UAE  
Tel. +9714 5015840 - info@clivet.ae

**CLIVET SOUTH EAST EUROPE**

Jaruščica 9b  
10000, Zagreb, Croatia  
Tel. +3851 222 8784 - info.see@clivet.com

**CLIVET FRANCE**

6 Allée Kepler,  
77420 Champs-sur-Marne - France  
Tel: +33 1 88 60 99 40 - info.fr@clivet.com

**CLIVET AIRCONDITIONING SYSTEMS PVT LTD**

Office No.501 & 502,5th Floor, Commercial -I,  
Kohinoor City, Old Premier Compound, Off LBS Marg, Kurla West, Mumbai  
Maharashtra 400070, India  
Tel. +91 22 30930200 - sales.india@clivet.com

clivet.com

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