## **Unical**

# **HP 300S**

#### HEAT PUMP FOR D.H.W. PRODUCTION

- **D.H.W. production** up to 75°C
- 278 litres storage tank with double anticorrosion enamelling, "made in Italy"
- Magnesium anode
- Total insulation in PU foam, 50 mm thick
- Large exchange surface heating coil of 1.2 m<sup>2</sup> for auxiliary source
- Anti-contamination and anti-encrustation aluminium coil heat exchanger outside the storage tank
- Operational temperature range: -10 / +43 °C
- Integrated touch screen control
- Integrated anti-legionella function
- Integrated electric heater 1.2 kW
- Rotary compressor for maximum efficiency and quietness of the unit

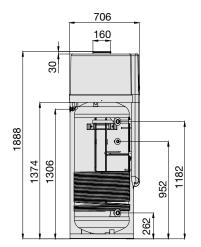
- ON-OFF contact to start the unit from external switch
- Management of the D.H.W. recirculation pump and solar system integration
- Dedicated contact for photovoltaic energy optimization with automatic set-point temperature raising of the D.H.W. production
- Easy maintenance thanks to the possibility to cut off the refrigerant circuit independently from the water circuit
- Electronic expansion valve
- Timer
- Auto-restart with automatic restart in case of electrical blackout
- Self-diagnosis
- Antifreeze function
- Optimum solution for installation in laundries or in storerooms for foodstuffs, as it dehumidifies and cools down the environment

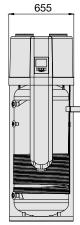


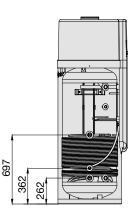
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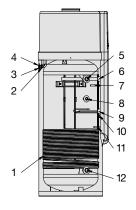
# Dimensions and technical data

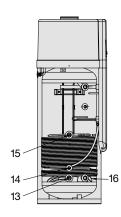












- Aluminium heat exchanger 3/8"
- Hole for auxiliary cables ø 17 mm
- Hole for power supply ø 17 mm
- Condensate drain ø 22 x 0.3 mm
- Hot water outlet Rp 1" f.
- Anti-corrosion magnesium anode 1"1/4 f.
- 7 Upper tank temperature (T3)
- + thermostat T85°C ø 12 x L 120 mm
- Connection for re-circulated water Rp 1/2" f.
- 1200 W auxiliary electric heater with integrated thermostat 1"1/4 f.
- 10 Grounding M6

- Lower tank temperature (T2) ø 12 x L 90 mm
- Cold water inlet Rp 1" f.
- Solar water outlet Rp 1" f.
- Auxiliary tank temperature ø 12 x L 90 mm
- 15 Solar water inlet Rp 1" f.
- 16 Solar exchanger coil 1.2 m<sup>2</sup>

		HP 300S
EFFICIENCY CLASS		A
POWER SUPPLY	V/Ph/Hz	230V/1/50Hz
WATER TANK ACTUAL CAPACITY	1	278
NOMINAL OUTPUT / NOMINAL INPUT	W	2060* (+1200**) / 700* (+1200**)
NOMINAL CURRENT	Α	2.21* (+5.2**)
COP <sub>DHW</sub> (1)	W/W	2.85
COP <sub>DHW</sub> (2)	W/W	3.03
MAX. ABSORBTION	W	765 (+1200**)
MAX. CURRENT	Α	3.2 (+5.2**)
MAX. OUTLET WATER TEMPERATURE (without using E-heater)	°C	65
MAX. WATER TEMPERATURE	°C	75**
AMBIENT WORKING TEMPERATURE	°C	-10 / +43
HEATING TIME STARTING FROM COLD TANK (3)	h:min	6:57
R134a REFRIGERANT CHARGE	g	920
FAN MOTOR POWER	W	80
FAN AIR FLOW	m³/h	350
STATIC PRESSURE	Pa	60
DUCTS DIAMETER	mm	160
MAX ALLOWED TANK PRESSURE	bar	10
MATERIALS OF INSIDE TANK SURFACE		S235JR with double vitrified layer
TANK TRANSMITTANCE (kboll) (******)	W/K	2.00
AUXILIARY ELECTRICAL HEATER	kW	1.2
HEAT EXCHANGER MATERIAL OF HEAT PUMP (CONDENSER)		Aluminium alloy
SOLAR EXCHANGER COIL SURFACE / AUXILIARY	m <sup>2</sup>	1.2
SOLAR EXCHANGER COIL FLOW RATE / AUXILIARY (***)	m³/h	1.2
OUTPUT EXCHANGED BY THE SOLAR/AUXILIARY COIL (***)	kW	30
EXCHANGER COIL MAX. PRESSURE	bar	6
IP PROTECTION CLASS		IPX1
DRY WEIGHT / WEIGHT WITH FULL WATER	kg	121.5 / 399.5
ACOUSTIC POWER (****)	dB (A)	58.2
ACOUSTIC PRESSURE (*****)	dB (A)	42.8

Capacity and power input based on the following conditions: ambient temperature 20°C, water temperature from 15°C to 55°C

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<sup>(</sup>these data are obtained by internal laboratory tests based on the uniform reintegration of the tank temperature).

\* Related to the supplementary e-heater. During disinfection, the water temp could be up to 70°C by electrical hear

<sup>\*\*\*</sup> Values referring to integration with boiler in accordance with DIN 4708 norms (80/60°C on primary circuit, 10/45°C on secondary circuit).

\*\*\*\* measured according to the EN 12102 standard under the conditions set out in the EN 16147 standard.

<sup>\*\*\*\*\*</sup> alculated according to the ISO 3744:2010 algorithm at 1 m from the unit.

\*\*\*\*\* referred to storage tank with ambient temperature of 20°C and with water in the tank at 65°C.

<sup>(1)</sup> Energetic efficiency of water heating, based on ErP Directive (EN 16147) - profile XL - Room temperature 7°C / 6°C - Water temperature from 10°C to 55°C. (2) Energetic efficiency of water heating, based on ErP Directive (EN 16147) - profile XL - Room temperature 14°C / 12°C - Water temperature from 10°C to 55°C.

<sup>(3)</sup> Uniform reinstatement of tank temperature according to EN16147, with ambient temperature 20°C and water temperature from 10°C to 55°C.