

BOLLY® PDC

DHW PRODUCTION TANK FOR HEAT PUMP



CHOOSE THE FUTURE

the best solution

for your heat pump



+30% increased performance compared with traditional tank-in-tank or fixed coil calorifiers

-15% of power consumption on heat pump devices

Extended **productlife** of your heat pump

Stratifying **patented** heat exchange module

Percorso
Efficienza  Innovazione
MCE - EXPOCOMFORT

GOING NEXT INTO THE FUTURE

Heat pumps installations are the most advanced solution in terms of efficiency, savings and sustainability. The domestic hot water production is playing a crucial role on it.

For this reason, the **BOLLY® PDC**, specifically designed for heat pump systems, is maximizing the efficiency of the installations, by maximizing the performance and the productlife of the heat pump.

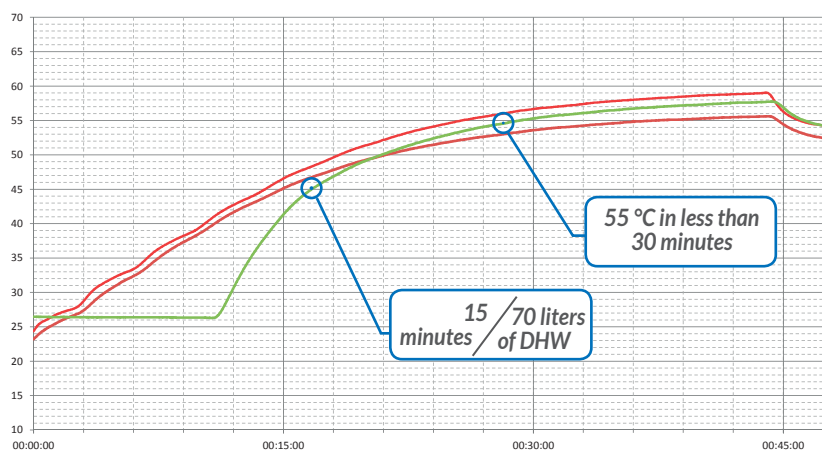
The innovative **BOLLY® PDC**, combined with a heat pump and thanks to the stratifying patented Heat Exchanger Group guarantees performances up to 30% higher compared to a traditional calorifier in terms of ignition time and heat exchanging efficiency.

All this means a greater comfort, a significantly reduction of power consumption of the heat pump up to 15%, as well as a reduction of start-up cycles of the devices, for the benefit of all installation..

The new BOLLY® PDC is the only one that loves your heat pump.

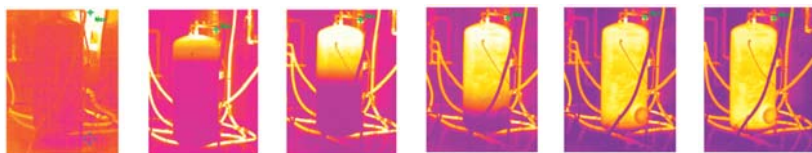
better performance
greater efficiency

500 l. Bolly PDC tank heating, connected to 12kw heat pump



T1 HEAT PUMP T2 HEAT PUMP D.H.W. TEMPERATURE

- 😊 -30% ignition time and consequent better efficiency of HP in heating/cooling phase.
- 😊 70 L. of DHW at 45° in just 15 minutes, with possibility to heat only the necessary required water volume.
- 😊 Optimizing the time necessary for the HP for heating and cooling the room.
- 😊 Energy produced by the HP will be concentrated in the upper part of the storage volume.

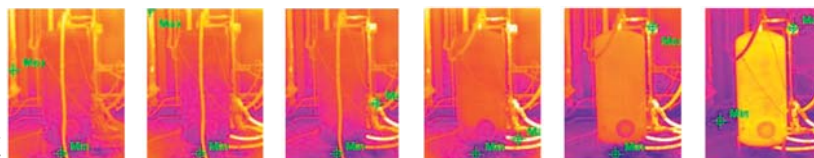
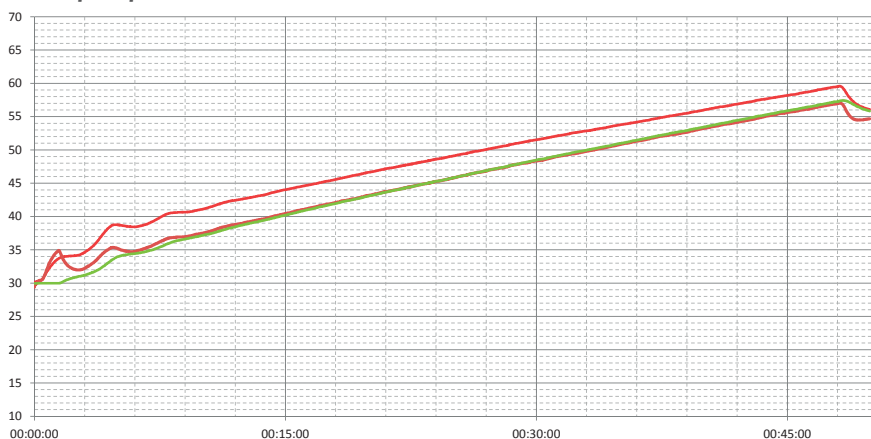


BOLLY® PDC
Upper loading and improved thermal stratification thanks to the patented heat exchanger group.

500 l. standard tank heating connected to a 12kw heat pump

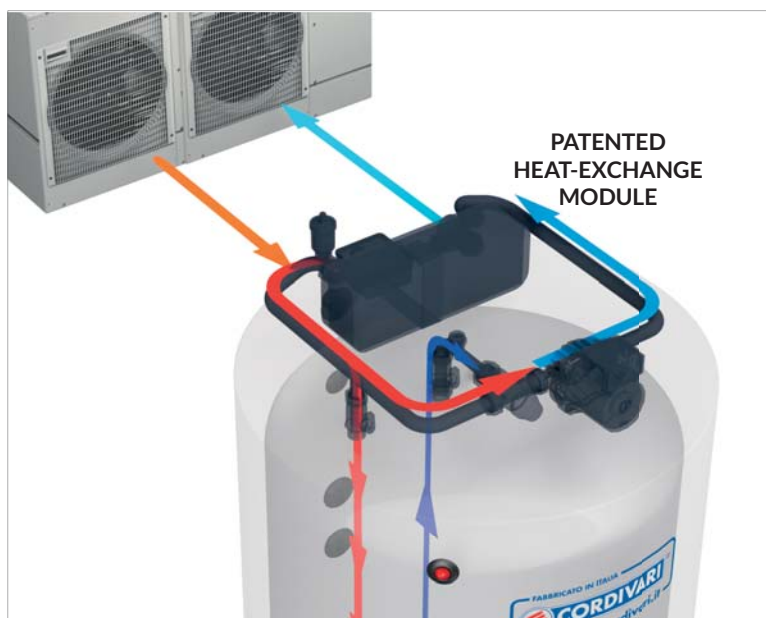
T1 HEAT PUMP T2 HEAT PUMP D.H.W. TEMPERATURE

- 😞 Significantly longer ignition time.
- 😞 Lower DeltaT between primary circuit and storage temperature, with relevant efficiency decrease.
- 😞 General lower comfort on installation.
- 😞 Necessity to heat the complete volume of storage tank



Standard Calorifiers with no thermal stratification device
needs always to be heated completely

innovation for energy efficiency



BOLLY® PDC is the result of a research & development project aimed to design an unique tank.

Thus the patent was released for a unique in market existing heat exchanging system, designed for the latest generation of heat pumps.

The heat exchange and stratification on BOLLY® PDC is a self-balancing process: only a part of the heated water, which corresponds to the temperature set on the heat exchange module, is loaded inside the tank from above.

The loaded water has thus exactly the same temperature set on the exchanger module, while fresh cold water is coming from the lower part of the accumulation and sent to the heat exchanger module to repeat progressively the process and to guarantee the best thermal stratification.

Several benefits will occur, such as improved c.o.p. efficiency of the heat pump, and a perfect thermal

stratification for a prompt availability of DHW.

Moreover you can limit the energy consumption by storing DHW partially.

Designed for heat pump stations

Erp 2017 ready

Combining up to 3 different energy sources

Ideal for a Solar thermal system in A+++ energy class level



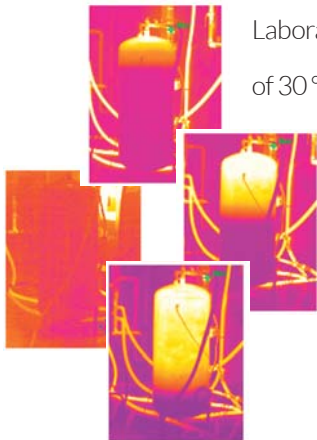
technology, wellness and savings for your future

Patented upper loading and stratifying system, for a rapid availability of DHW.

Reduced ignition time for DHW production.

Optimizing the turning on and off cycles of the heat pump.

Decreasing power consumption.



Laboratory tests on the stratification of accumulations were detected inside BOLLY® PDC a temperature difference of 30 °C between the hot upper part and the cold bottom one.. The importance of an improved thermal stratification, especially by using heat pumps, was highlighted also by the scientific study called Storex (theoretical and experimental study on the efficiency of the thermal stratification on accumulations published on 09.07.2015 by the Institute for Solar Technology SPF- Swiss University of applied sciences HSR), which concludes that **“for the power consumption of the heat pump ... the thermal stratification efficiency has an higher impact on the general performance of the system then the heat losses of the accumulations”**.

BOLLY® 1 PDC

Calorifiers for the production and storage of DHW, specific designed for HP.
BOLLY® 1 PDC is producing DHW using a Heat Pump as primary energy source.
The heating transfer is realized through an external heat exchanger module including a properly dimensioned plate exchanger.

MATERIAL

Material and finishing, suitable for drinkable water according to D.M. n.174 dated 06.04.04:
- Mild steel Polywarm coated (certifications ACS - SSICA - DVGW - W270 - UBA WRAS)

HEAT PUMP EXCHANGE MODULE

Patented counter-flow heat-exchange made in Stainless Steel AISI 316L with thermal upper loading system
INSULATION

High thermal insulation with ecological hard polyurethane foam. PVC external lining with top and flange cover.

CATHODE PROTECTION

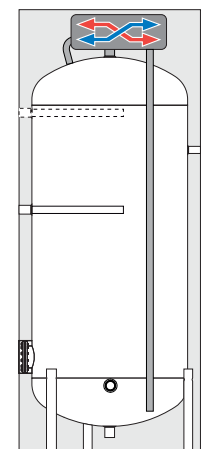
Magnesium anode.

DRAIN - GASKET- FLANGE PLATE

External confluence through drain connection.

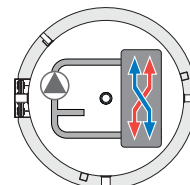
Silicone gaskets suitable for alimentary use for max temperature up to 200°C.

Mild steel inspection flange plate with Polywarm® treatment.




CORDIVARI®Lab

TÜV Rheinland Energie und Umwelt GmbH states that test procedures and Cordivari LAB are certified conforming to European standard EN 15332, as indicated by Ecodesign Directive.



PATENTED

MODEL	ENERGY EFFICIENCY CLASS 	HEAT PUMP MAXIMUM POWER	NET VOLUME	DIAMETER	HEIGHT	INCLINATION HEIGHT	MAX TEMPERATURE		MAX PRESSURE	
							STORAGE	EXCHANGER	STORAGE	EXCHANGER
							[°C]		[bar]	
300	C	26	291	650	1650	1727	90	110	10	12
500	C	26	497	750	1995	2043	90	110	10	12
800	C	35	789	900	2320	2450	90	110	10	12

BOLLY® 2 PDC

Calorifiers for the production and storage of DHW, specific designed for HP.
BOLLY® 2 PDC is producing DHW using a Heat Pump as primary energy source and the solar thermal energy as additional source.
The heating transfer is realized through an external heat exchanger group including a properly dimensioned plate exchanger.

MATERIAL

Material and finishing, suitable for drinkable water according to D.M. n.174 dated 06.04.04:
- Mild steel Polywarm coated (certifications ACS - SSICA - DVGW - W270 - UBA WRAS)

HEAT PUMP EXCHANGE MODULE

Patented counter-flow heat-exchanger made in Stainless Steel AISI 316L with thermal upper loading

system

ADDITIONAL HEAT EXCHANGER

1 Polywarm® coated fixed mild steel heat exchanger

INSULATION

High thermal insulation with ecological hard polyurethane foam. PVC external lining with top and flange cover.

CATHODE PROTECTION

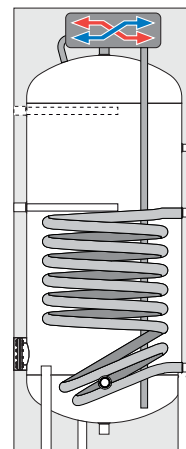
Magnesium anode.

DRAIN - GASKET- FLANGE PLATE

External confluence through drain connection.

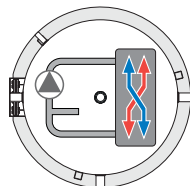
Silicone gaskets suitable for alimentary use for max temperature up to 200°C.

Mild steel inspection flange plate with Polywarm® treatment.




CORDIVARI®Lab

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PATENTED

MODEL	ENERGY EFFICIENCY CLASS 	HEAT PUMP MAXIMUM POWER	NET VOLUME	DIAMETER	HEIGHT	INCLINATION HEIGHT	HEAT EXCHANGER SURFACE	MAX TEMPERATURE		MAX PRESSURE	
								STORAGE	EXCHANGER	STORAGE	EXCHANGER
								[°C]		[bar]	
300	C	26	291	650	1650	1727	1,2	90	110	10	12
500	C	26	497	750	1995	2043	1,8	90	110	10	12
800	C	35	789	900	2320	2450	2,7	90	110	10	12

BOLLY® 3 PDC

Calorifiers for the production and storage of DHW, specific designed for HP.
BOLLY® 3 PDC is producing DHW using a Heat Pump as primary energy source and two additional sources, such the solar thermal and the traditional gas boiler.
The heating transfer is realized through an external heat exchanger group including a properly dimensioned plate exchanger.

MATERIAL

Material and finishing, suitable for drinkable water according to D.M. n.174 dated 06.04.04:
- Mild steel Polywarm coated (certifications ACS - SSICA - DVGW - W270 - UBA WRAS)

HEAT PUMP EXCHANGE MODULE

Patented counter-flow heat-exchanger made in

Stainless Steel AISI 316L with thermal upper loading system

ADDITIONAL HEAT EXCHANGERS

2 Polywarm® coated fixed mild steel heat exchangers

INSULATION

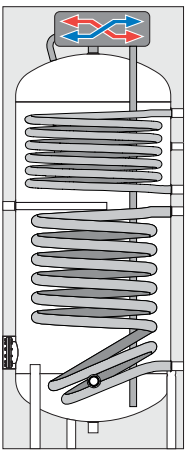
High thermal insulation with ecological hard polyurethane foam. PVC external lining with top and flange cover.

CATHODE PROTECTION

Magnesium anode.

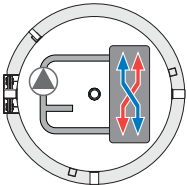
DRAIN - GASKET- FLANGE PLATE

External confluence through drain connection.
Silicone gaskets suitable for alimentary use for max temperature up to 200°C.
Mild steel inspection flange plate with Polywarm® treatment.




CORDIVARI®Lab

TÜV Rheinland Energie und Umwelt GmbH states that test procedures and Cordivari LAB are certified conforming to European standard EN 15332, as indicated by Ecodesign Directive.



PATENTED

MODEL		ENERGY EFFICIENCY CLASS					HEAT EXCHANGERS SURFACE		MAX TEMPERATURE		MAX PRESSURE	
		HEAT PUMP MAXIMUM POWER	NET VOLUME	DIAMETER	HEIGHT	INCLINATION HEIGHT	LOWER	UPPER	STORAGE	EXCHANGER	STORAGE	EXCHANGER
		[kW]	[lt]	[mm]	[mm]	[mm]	[m²]		[°C]		[bar]	
500	C	26	497	750	1995	2043	1,8	1,2	90	110	10	12

FOR ALL BOLLY® PDC, MODELS IS AVAILABLE ON DEMAND THE ANTILEGIONELLA KIT WITH CPU UNIT



Example of installation with Bolly® 3 PDC

- 1 Bolly® 3 PDC
 - 2 Heat pump
 - 3 Biomass Boiler
 - 4 Expansion vessel
 - 5 Circulation
 - 6 Hydraulic safety group
 - 7 Solar panels
 - 8 Separatore idraulico / collettore
 - 9 By-pass valve
 - 10 Thermostat mixer
 - 11 Solar system circulation group
 - 12 Motorized 3-way valve
 - 13 Heat pump air spurge circuit
- A Domestic cold water circuit inlet
B Sanitary water outlet
C Heating delivery
D Recirculation
E Drain

