

# BOLLY® 2 HY AP

POLYWARM® COATED DOMESTIC HOT WATER CALORIFIER WITH 2 FIXED HEAT EXCHANGERS AND INTEGRATED BUFFER TANK SPECIFIC FOR HEAT PUMPS



## APPLICATION

Production and storage of domestic hot water (DHW). Heating/cooling buffer tank for heat pumps.

## MATERIAL

- **DHW STORAGE:** Mild steel Polywarm® coated (Attestation ACS - SSICA - EN 16421 - WRAS).

- **ENERGY BUFFER hot-cold:** Mild steel.

## HEAT EXCHANGER:

N° 2 mild steel Polywarm® coated heat exchangers.

## INSULATION

- **HARD:** High thermal insulation with ecological polyurethane hard foam.

- **HARD FOAM (CLASS "A" MODELS):** rigid polyurethane foam for high thermal insulation with a vacuum sheet of highly insulating material. Grey PVC external lining.

## GASKET- FLANGE PLATE

Silicone gaskets suitable for water intended for human consumption (tested according to 98/83/CE); max temperature up to 200°C. Mild steel inspection flange plate Polywarm® coated and connection for electric immersion heater

## CATHODE PROTECTION (DHW STORAGE)

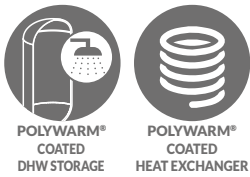
Magnesium anode.

## WARRANTY

5 years (See general sales conditions and warranty)

## ACCESSORIES AND SPARE PARTS

See Accessories section for the entire list.



## BOLLY® 2 HY AP WB

Model	HARD FOAM INSULATION Art. Nr.	Power of combinable heat pump [kWt]	HEAT EXCHANGER SURFACE		ENERGY EFFICIENCY CLASS 
			Upper	Lower	
<b>300</b>	3134162320010	7-12	0,9	1,4	<b>C</b>
<b>500</b>	3134162320011	12-16	1,3	2,2	<b>C</b>



## BOLLY® 2 HY AP WB CLASS A

Model	HARD FOAM INSULATION Art. Nr.	Power of combinable heat pump [kWt]	HEAT EXCHANGER SURFACE		ENERGY EFFICIENCY CLASS 
			Upper	Lower	
<b>300</b>	3134162320014	7-12	0,9	1,4	<b>A</b>
<b>500</b>	3134162320015	12-16	1,3	2,2	<b>A</b>

## ACCESSORIES

### ELECTRIC IMMERSION HEATERS

Mod.	Position electric immersion heater		Heated volume by electric immersion heater [lit]
	1	2	
<b>300</b>	1	235	
	2	112	
<b>500</b>	1	413	
	2	185	

MONOPHASE		
1,5 kW	2 kW	3 kW
5240000000051	5240000000052	5240000000053
Ignition time from 10 °C to 45 °C with electric immersion heaters [min]		
421	316	210
201	151	100
741	555	370
331	248	165

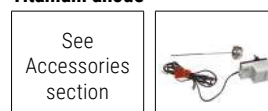
THREEPHASE		
4 kW	5 kW	6 kW
5240000000047	5240000000048	5240000000049
Ignition time from 10 °C to 45 °C with electric immersion heaters [min]		
158	//	//
75	60	//
278	222	//
124	99	83

### HEAT MANAGER + electric immersion heater 1,5 kW + probe +3m cable

Art. Nr.	ELECTRIC IMMERSION HEATER
5240000000074	1,5 kW
5240000000075	2 kW
5240000000076	3 kW



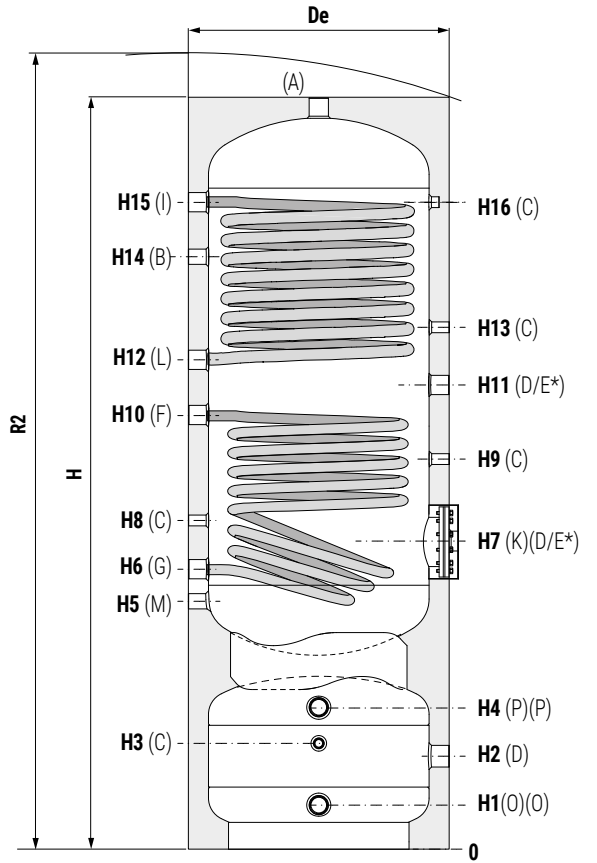
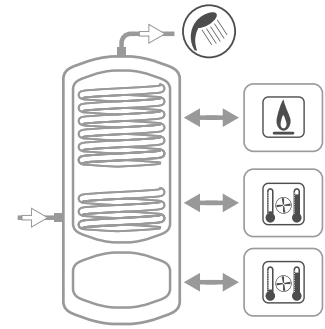
### Titanium anode



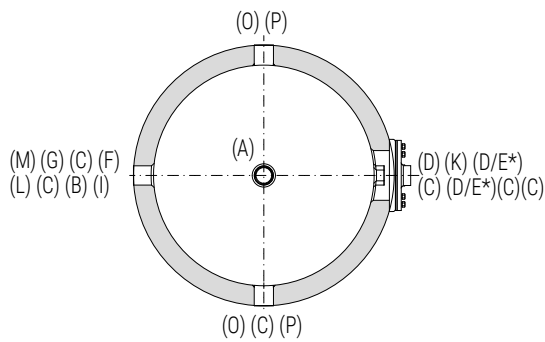
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STORAGE		HEAT EXCHANGER		BUFFER TANK	
Pmax	Tmax	Pmax	Tmax	Pmax	Tmax
10 bar	95 °C	12 bar	110 °C	4 bar	-10/+95 °C



<b>A</b>	Domestic hot water outlet
<b>B</b>	Recirculation / Domestic hot water outlet
<b>C</b>	Connection for instrumentation
<b>D</b>	Connection for electric immersion heater
<b>E*</b>	Connection for magnesium anode 1"1/4 G F- Use a reduction 1"1/2-1"1/4
<b>F</b>	Primary circuit inlet
<b>G</b>	Primary circuit outlet
<b>I</b>	Upper heat exchanger inlet
<b>L</b>	Upper heat exchanger outlet
<b>K</b>	Flange for inspection
<b>M</b>	Domestic cold water circuit inlet
<b>O</b>	Heating return/to generator
<b>P</b>	Heating delivery/from generator



Model	Volume ACS	Buffer tank volume [lt]	Weight [kg]	De	H	R2	H1	H2	H3	H4	H5	H6	H7	H8
<b>300</b>	291	81	103	650	1875	1990	110	232	264	354	628	698	738	818
<b>500</b>	498	108	168	750	2225	2360	125	230	245	335	649	729	794	849

Model	H9	H10	H11	H12	H13	H14	H15	H16	K	Connections F				
										[mm]				
<b>300</b>	948	1219	1318	1368	1463	1488	1608	1608	Ø120/Øe180	1"1/4	1"	1/2"	1"1/2	1"1/4
<b>500</b>	969	1419	1527	1569	1679	1714	1859	1859	Ø120/Øe180	1"1/4	1"	1/2"	1"1/2	1"1/4

P.E.D. product designed and produced in conformity to the article 4.3 of directive 2014/68/UE - ErP Ecodesign directive 2009/125/CE

# BOLLY® 2 HY AP

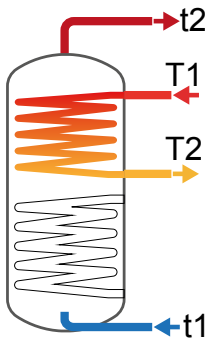
## HEAT EXCHANGERS TECHNICAL DATA



Data have been calculated on following basis:

- 1) Primary circuit at T1 and proper energy source;
- 2) Production of DHW in continuous from 10 °C to t2;
- 3) DHW that can be taken in the first 10' and in the first hour from storage at t2, input 10 °C and output 45 °C;
- 4) Non-scaling sanitary water

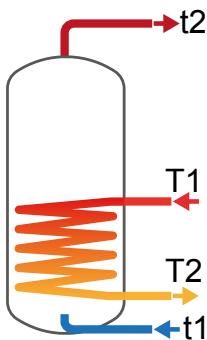
### UPPER HEAT EXCHANGER



Model	Primary flow rate [m³/h]	Ignition time (minutes) from 10 °C to t2 and primary at T1				Maximum power exchange (kW) with primary at T1, secondary within 10-45 °C and constant use of DHW production				DHW continuous production lt/h within 10-45 °C and primary at T1			
		T1/t2				T1				T1			
	55/50	65/60	70/60	80/60	55	65	70	80	55	65	70	80	
300	3	41	43	30	20	9,9	15	17,5	22,8	243	368	432	562
	1,5	47	48	34	22	9,1	13,6	15,8	20,4	223	333	389	503
500	3,5	49	51	35	23	14,4	22,5	25,9	32,8	353	532	623	809
	1,75	55	57	40	26	13,3	19,6	22,8	29,3	326	482	562	724

Model	Primary flow rate [m³/h]	DHW produced in the first 10 minutes in lt/10' input 10 °C output 45 °C, storage at t2 and primary at T1				DHW produced in the first hour in lt/60' input 10 °C output 45 °C, storage at t2 and primary at T1				Heat exchanger pressure drop	
		T1/t2				T1/t2				[mmH₂O]	[mbar]
	55/50	65/60	70/60	80/60	55/50	65/60	70/60	80/60			
300	3	149	197	208	229	303	430	481	585	194,65	19,09
	1,5	146	191	201	220	287	402	447	538	53,92	5,29
500	3,5	242	317	332	363	465	654	727	876	316,51	31,04
	1,75	237	309	322	349	444	614	678	808	87,68	8,60

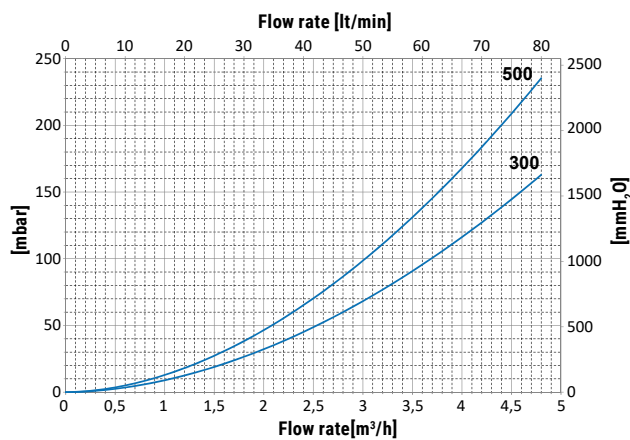
### LOWER HEAT EXCHANGER



Model	Primary flow rate [m³/h]	Ignition time (minutes) from 10 °C to t2 and primary at T1				Maximum power exchange (kW) with primary at T1, secondary within 10-45 °C and constant use of DHW production				DHW continuous production lt/h within 10-45 °C and primary at T1			
		T1/t2				T1				T1			
	55/50	65/60	70/60	80/60	55	65	70	80	55	65	70	80	
300	3	82	85	60	39	15,6	23,4	27,3	36,3	384	576	673	871
	1,5	94	98	69	45	14,6	21,2	24,6	31,6	354	522	607	778
500	3,5	100	104	73	48	22,3	33,2	38,7	49,9	549	820	956	1234
	1,75	115	120	85	56	20,6	30	34,7	44,3	506	741	858	1095

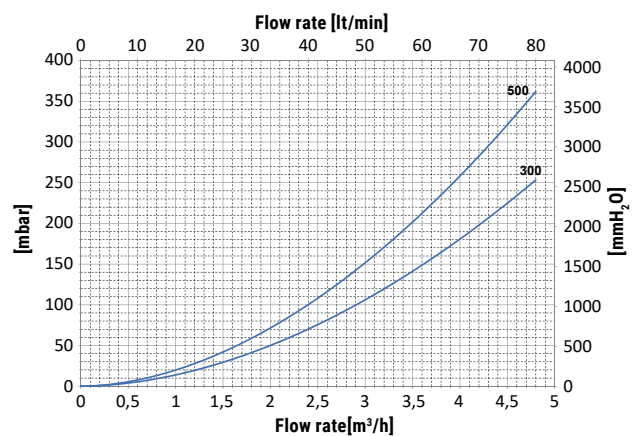
Model	Primary flow rate [m³/h]	DHW produced in the first 10 minutes in lt/10' input 10 °C output 45 °C, storage at t2 and primary at T1				DHW produced in the first hour in lt/60' input 10 °C output 45 °C, storage at t2 and primary at T1				Heat exchanger pressure drop	
		T1/t2				T1/t2				[mmH₂O]	[mbar]
	55/50	65/60	70/60	80/60	55/50	65/60	70/60	80/60			
300	3	397	512	528	561	640	877	954	1113	1082,03	106,11
	1,5	392	503	517	545	616	833	901	1038	299,73	29,39
500	3,5	660	847	869	916	1007	1366	1475	1697	2056,48	201,67
	1,75	652	834	853	893	973	1303	1396	1586	569,66	55,86

### HEAT EXCHANGERS PRESSURE DROP



#### UPPER

Heat exchangers surface [m²]	
300	0,9
500	1,3



#### LOWER

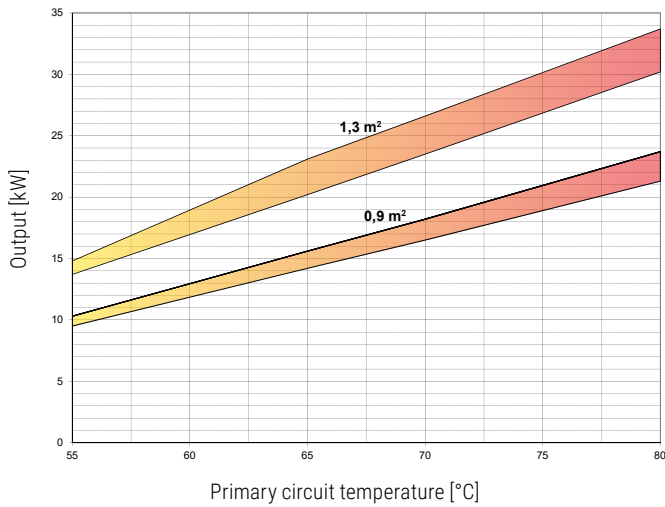
Heat exchangers surface [m²]	
300	1,4
500	2,2

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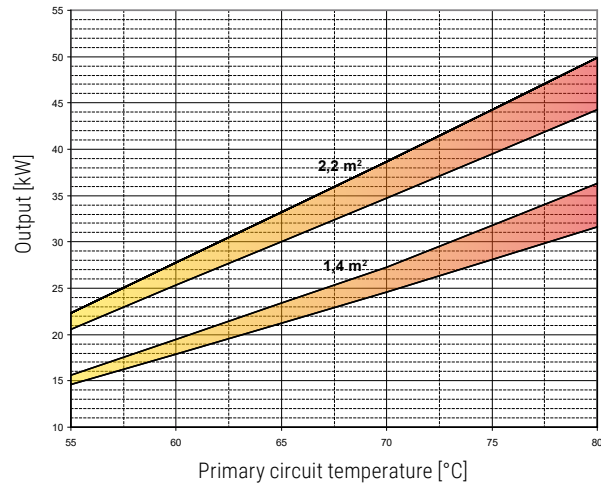
## HEAT EXCHANGERS TECHNICAL DATA



Heat Exchanger output referred to temperature and flow rate of primary circuit and with secondary at 10/45°C at maximum withdrawal of producible DHW (Upper limit of the curves referred to maximum primary flow rate in the heat exchanger, while the lower limit in the curves refer to the minimum primary flow rate)



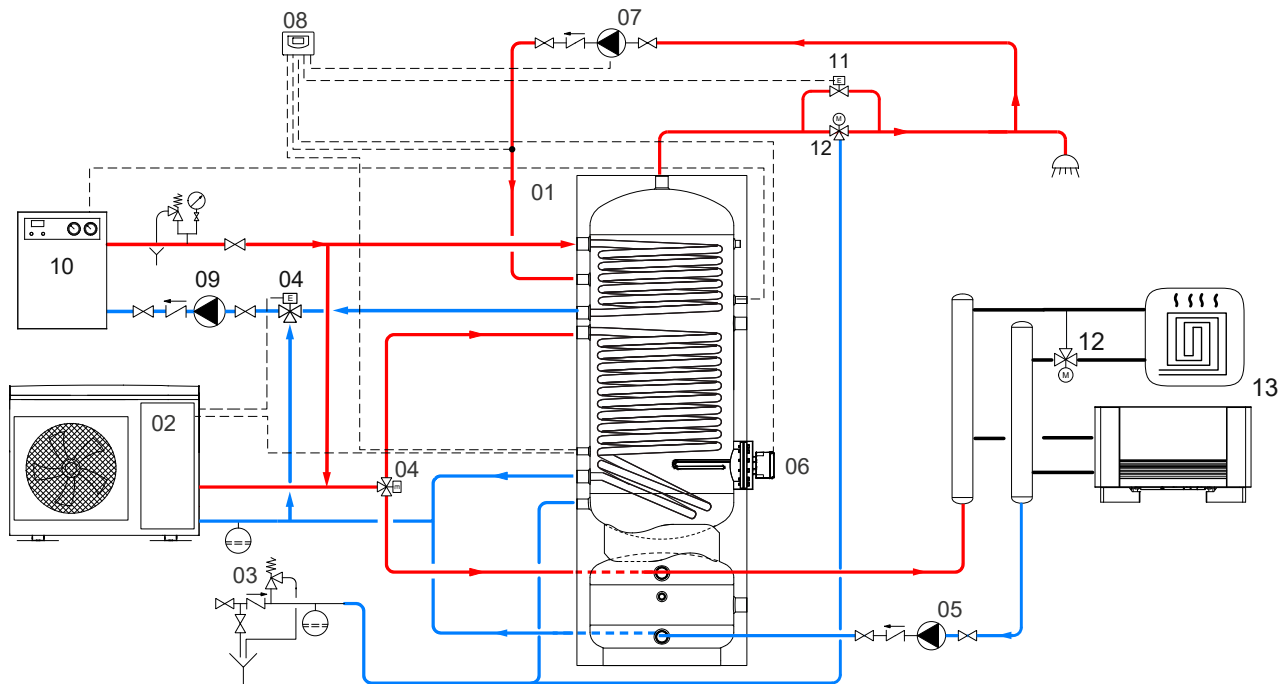
Heat exchanger surface	0,9 m <sup>2</sup>		1,3 m <sup>2</sup>	
	MAX	MIN	MAX	MIN
Flow rate [m <sup>3</sup> /h]	3	1,5	3,5	1,75



Heat exchanger surface	1,4 m <sup>2</sup>		2,2 m <sup>2</sup>	
	MAX	MIN	MAX	MIN
Flow rate [m <sup>3</sup> /h]	3	1,5	3,5	1,75



## EXAMPLE OF INSTALLATION WITH BOLLY® 2 HY AP



01 Bolly® 2 HY AP	05 Circulation group for heating/cooling system	09 Circulation group (boiler)	13 Heating units
02 Generator (Heat pump)	06 Electric immersion heater	10 Auxiliary generator (Boiler)	
03 Hydraulic safety group	07 D.H.W. recirculation group	11 By-pass solenoid valve	
04 Motorized 3-way valve	08 Electronic Control/thermostat	12 Thermostatic mixing valve	

The following schemes are purely illustrative. To realize the installation, always refer to a qualified technician.