

# ECO COMBI 1 PDC

## MULTI-HEAT ENERGY BUFFER FOR HEAT PUMP WITH STAINLESS STEEL 316L DHW CORRUGATED COIL



### APPLICATION

Technical hot water storage and D.H.W. production.

### MATERIAL

Mild steel painted on the outside. Buffer intended for closed circuit installation, so no anti-corrosion treatment is provided. Stainless steel 316L corrugated coil, suitable for D.H.W.

### TECHNICAL DESCRIPTION

Designed for systems powered by heat pump heat source. ECO COMBI 1 PDC, at the typical temperatures of heat pumps, guarantees excellent DHW production thanks to the specially designed and dimensioned corrugated stainless steel 316L heat exchanger.

### INSULATION

- HARD: High thermal insulation with ecological polyurethane hard foam. Model 800 available with di Dismountable hard foam insulation.  
- SOFT: NOFIRE® polyester fleece 100% made of recyclable material, with high thermal insulation. Fire resistance class B-s2d0 according to EN 13501. Grey PVC external lining.

### WARRANTY

5 years (See general sales conditions and warranty)

### ACCESSORIES AND SPARE PARTS


See Accessories section for the entire list.




316L STAINLESS STEEL DHW CORRUGATED COIL



### ECO COMBI 1 PDC VB


Model	HARD FOAM INSULATION Art. Nr.	Heat pump max output [kW]	316L STAINLESS STEEL CORRUGATED COIL FOR D.H.W. PRODUCTION		ENERGY EFFICIENCY CLASS 
			Volume [lt]	Surface [m <sup>2</sup> ]	
<b>300</b>	3270162310002	26	26,6	4,5	<b>B</b>
<b>500</b>	3270162310003	26	31	5,3	<b>C</b>



Model	DISMOUNTABLE HARD FOAM INSULATION Art. Nr.	Heat pump max output [kW]	316L STAINLESS STEEL CORRUGATED COIL FOR D.H.W. PRODUCTION		ENERGY EFFICIENCY CLASS 
			Volume [lt]	Surface [m <sup>2</sup> ]	
<b>800</b>	3270162282267	35	45	7,7	<b>B</b>




### ECO COMBI 1 PDC VC


Model	DISMOUNTABLE SOFT FLEECE INSULATION Art. Nr.	Heat pump max output [kW]	316L STAINLESS STEEL CORRUGATED COIL FOR D.H.W. PRODUCTION		ENERGY EFFICIENCY CLASS 
			Volume [lt]	Surface [m <sup>2</sup> ]	
<b>800</b>	3270162282268	35	45	7,7	<b>B</b>

## ACCESSORIES

### Thermometer

Art. Nr.	
5032240000107	
5 units box	

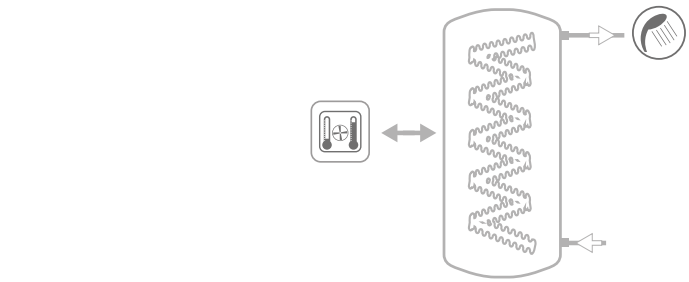
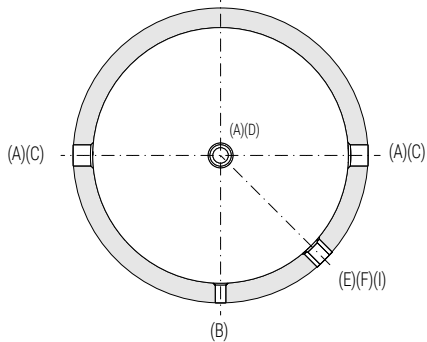
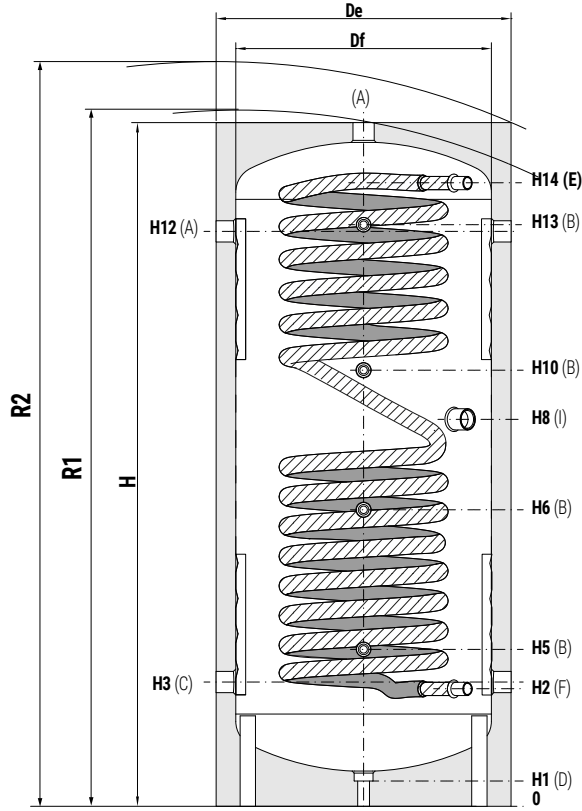
### Recirculation kit (only for models ≥ 500)

Art. Nr.	
5221000000019	
Connection 3/4"	

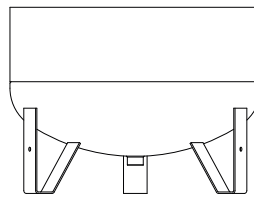
# ECO COMBI 1 PDC

MULTI-HEAT ENERGY BUFFER FOR HEAT PUMP  
WITH STAINLESS STEEL 316L DHW CORRUGATED COIL

STORAGE		CORRUGATED DHW STAINLESS STEEL 316L COIL
P <sub>max</sub>	T <sub>max</sub>	P <sub>max</sub>
3 bar	99 °C	6 bar



<b>A</b>	From the generator - Heating delivery 1"1/2 G F
<b>B</b>	Probe 1/2" G F
<b>C</b>	Heating return/to generator 1"1/2 G F
<b>D</b>	Drain 1"1/4 G F
<b>E</b>	Domestic hot water circuit outlet
<b>F</b>	Domestic water inlet
<b>I</b>	Electric immersion heater 1"1/2 G F



Only for model 800



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

## ECO COMBI 1 PDC VB - HARD FOAM INSULATION

Model	Volume [lt]	Df	De	H	R1	R2	H1	H2	H3	H5	H6	H8	H10	H12	H13	H14	E-F
		[mm]															Connections
<b>300</b>	291	-	650	1585	-	1713	70	297	330	390	745	970	1100	1280	1315	1415	1/2" F
<b>500</b>	454	-	750	1745	-	1899	70	305	322	405	760	990	1115	1468	1485	1585	1" M
<b>800</b>	748	790	940	1940	2030	2156	70	325	342	425	780	935	1135	1618	1635	1735	1" M

## ECO COMBI 1 PDC VC - DISMOUNTABLE SOFT FLEECE INSULATION

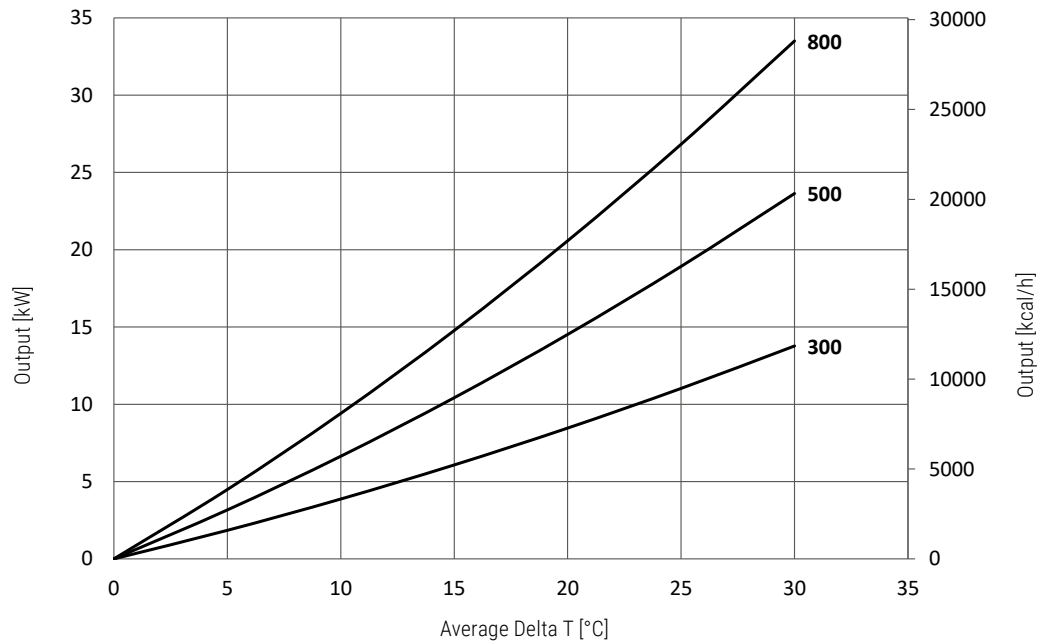
Model	Volume [lt]	De	Df	H	R1	R2	H1	H2	H3	H5	H6	H8	H10	H12	H13	H14	E-F
		[mm]															Connections
<b>800</b>	748	1010	790	1940	2030	2190	70	325	342	425	780	935	1135	1618	1635	1735	1" M



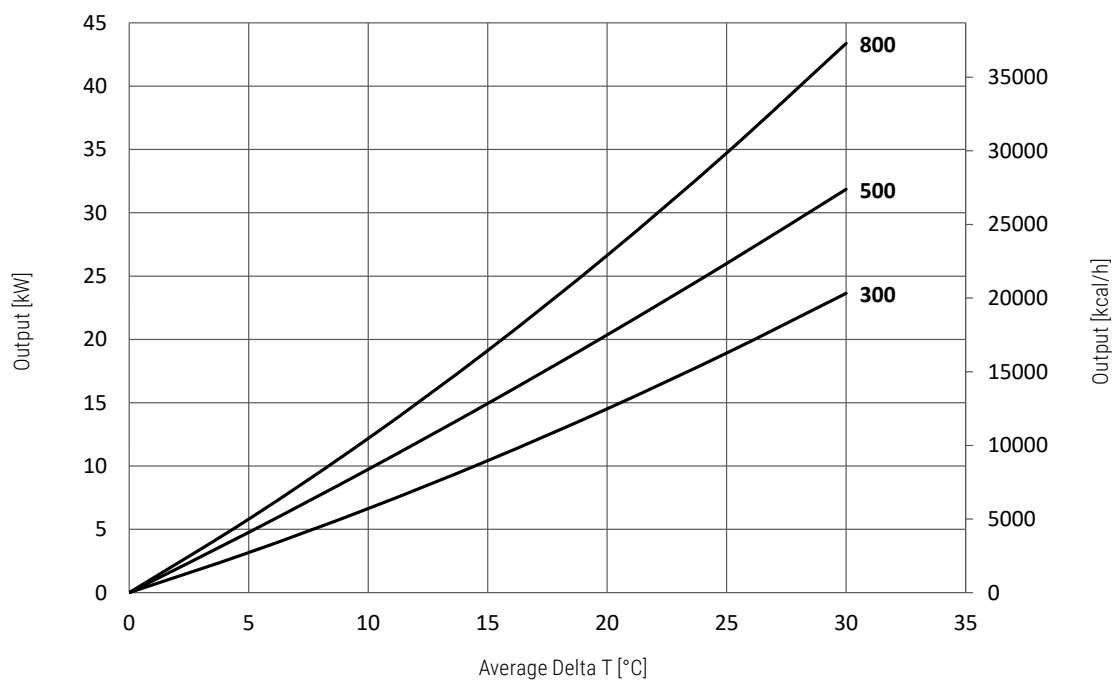
EcoCombi PDC exchanged power according to average Delta T between primary and storage (flow rate of 3 m<sup>3</sup>/h circulating in the exchanger)

Exchangeable thermal powers are expressed both in kW and Kcal/h according to the average temperature difference between primary and secondary, having a primary flow rate of 3 m<sup>3</sup>/h.

### UPPER HEAT EXCHANGER



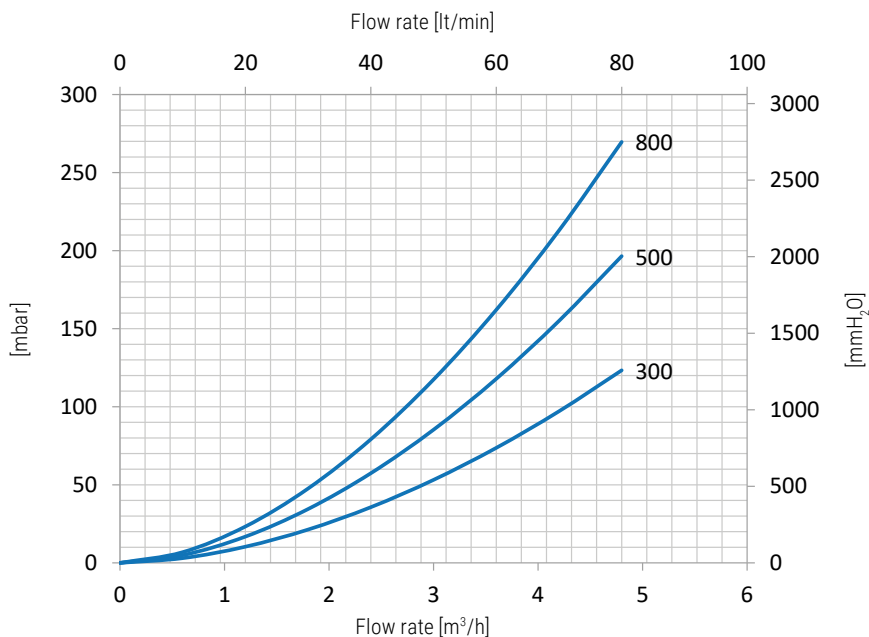
### LOWER HEAT EXCHANGER





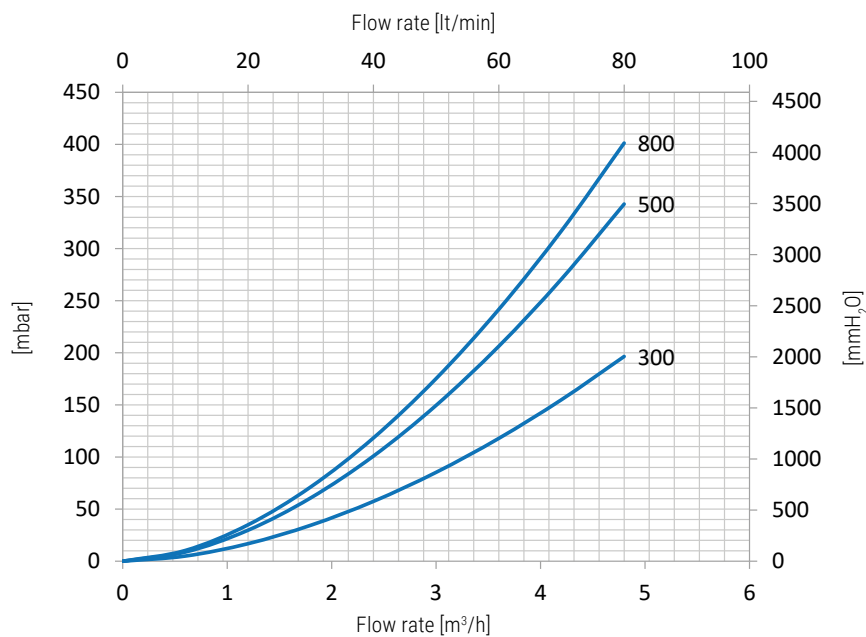
### UPPER HEAT EXCHANGER

Upper heat exchangers surface [m <sup>2</sup> ]	
<b>300</b>	0,7
<b>500</b>	1,2
<b>800</b>	1,7



### LOWER HEAT EXCHANGER

Lower heat exchangers surface [m <sup>2</sup> ]	
<b>300</b>	1,2
<b>500</b>	2,2
<b>800</b>	2,6



# ECO COMBI PDC

## PERFORMANCES DURING DHW PRODUCTION PHASE



**DHW IN LITERS, WHICH CAN BE WITHDRAWN STARTING FROM HOT ACCUMULATION AT THE TEMPERATURE AND FLOW RATES CONDITIONS INDICATED BELOW**

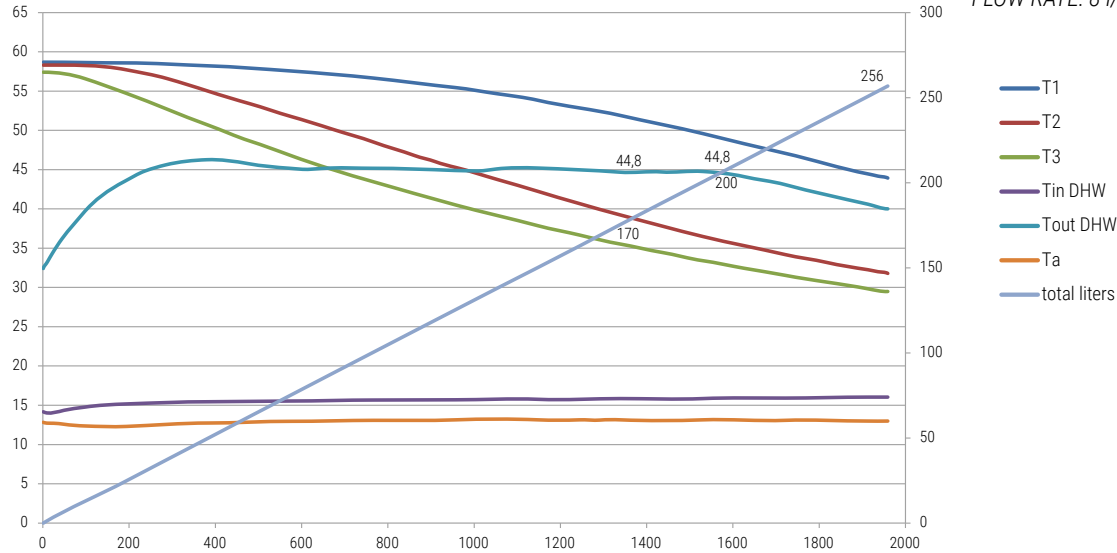
Model	Buffer storage 55 °C - DHW 10/45°C			Buffer storage 55 °C - Acs 15/42°C		
	DHW withdrawal flow rate [lt/min]			DHW withdrawal flow rate [lt/min]		
	8	16	24	8	16	24
<b>300</b>	125	77	//	193	131	//
<b>500</b>	216	151	128	331	246	217
<b>800</b>	357	249	212	546	405	358

**BELOW charts refer to the model  
ECO COMBI 1 PDC - 300**

**DHW WITHDRAWAL 256 lt T > 40 °C**

**58% of the accumulated energy**

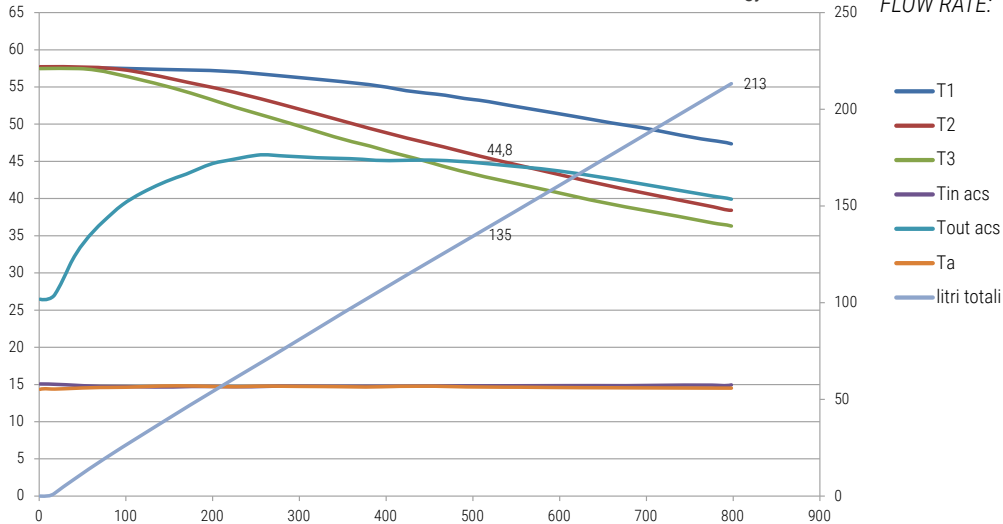
STORAGE: 58 °C  
WITHDRAWAL: 45-40 °C  
FLOW RATE: 8 l/min



**DHW WITHDRAWAL 213 lt T > 40 °C**

**47% of the accumulated energy**

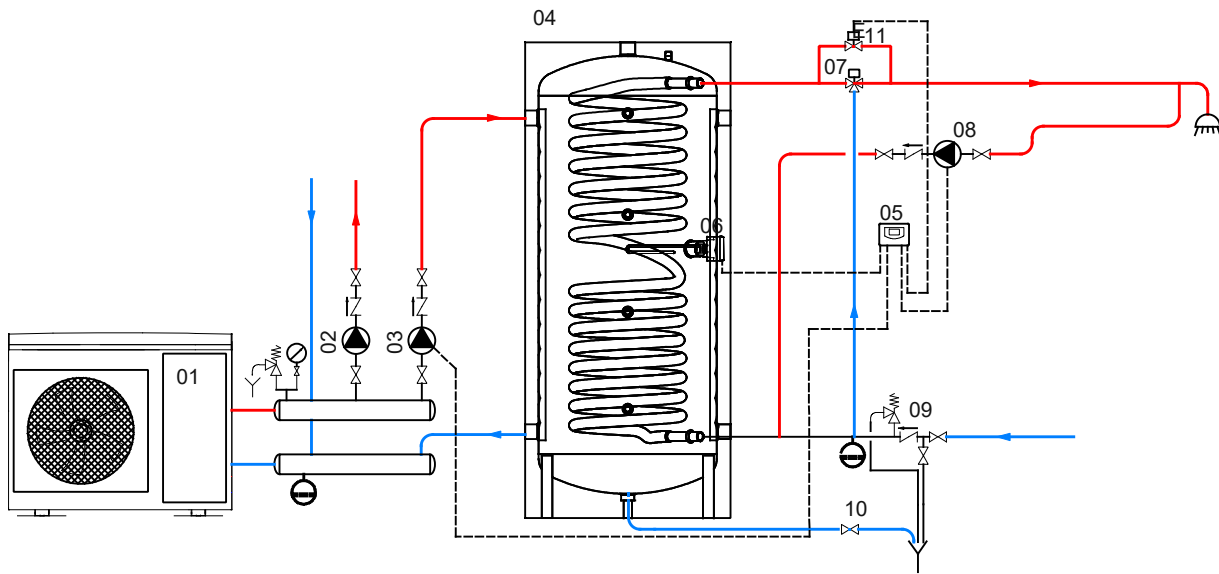
STORAGE: 57,5 °C  
WITHDRAWAL: 45-40 °C  
FLOW RATE: 16 l/min



# ECO COMBI PDC

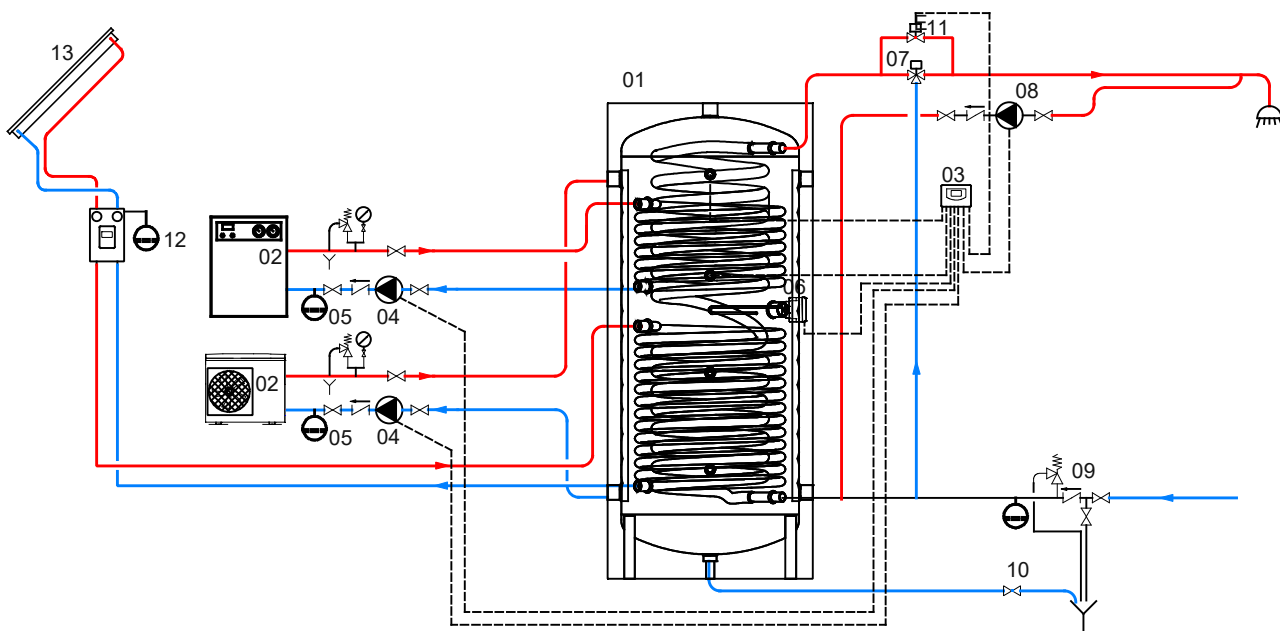


## EXAMPLE OF INSTALLATION WITH ECO-COMBI 1 PDC



01 Generator (Heat pump)	04 Eco Combi 1 PDC	07 Thermostatic mixing valve	10 Blowdown valve
02 Heating system circulation group	05 Electronic Control/thermostat	08 D.H.W. recirculation group	11 By-pass solenoid valve
03 D.H.W. circulation group	06 Electric immersion heater (optional)	09 Hydraulic safety group	

## EXAMPLE OF INSTALLATION WITH ECO-COMBI 3 PDC



01 Eco Combi 3 PDC	05 Expansion vessel	09 Hydraulic safety group	13 Solar panels
02 Generator	06 Electric immersion heater (optional)	10 Blowdown valve	
03 Electronic Control/thermostat	07 Thermostatic mixing valve	11 By-pass solenoid valve	
04 Circulation group	08 D.H.W. recirculation group	12 Solar system circulation group	

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