

ECO-COMBI 1

MULTI-HEAT ENERGY BUFFER WITH 316L STAINLESS STEEL D.H.W. CORRUGATED PIPE



APPLICATION

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

MATERIAL

- **BUFFER TANK:** made in mild steel outside painted. There is no need of any anti-corrosion treatment due to the fact that the buffer is in a closed circuit without any adding air.
- **D.H.W. STORAGE :** 316L stainless steel corrugated pipe, suitable drinkable water according to D. M. n. 174 dated 06.04.04

TECHNICAL DESCRIPTIONS

Multi-Heat Energy tanks EcoCombi 1 are used in units with a typically discontinuous energy source for double use: heating system and sanitary hot water system .

- Heating system with a biomass generator as energy source , combining the possibility to produce hot water for sanitary use. In such case , storage heating volume allows the generator to regularly work , limiting number of stops due to the inadequate energy request of the heating system. Moreover, it limits the emission of smoke and the creation of corrosive condensate (smokes side).

- Sanitary hot water production systems for domestic and sanitary use where heating water is stored. In this system , the high potentiality of the Eco Combi allows to obtain a good production of hot sanitary water even if temperatures of the primary system are not so high (i.e using heating pumps as primary source and solar source as support)

The particular shape of the corrugated pipe is avoiding any problem relating to the storage of sanitary hot water (less, stagnation, bacterium etc) and ensure high heating exchange performances.

INSULATION

NOFIRE® 100 mm soft polyester fibre 100% made of recyclable material, with high Thermal insulation and Thermal conductivity: **0,039 W/mK**. Fire resistance class **B-s2d0** according to **EN 13501**. PVC external lining complete with top cover

WARRANTY

- Buffer tank: 2 years
- 316L stainless steel corrugated pipe for D.H.W. production: 5 years

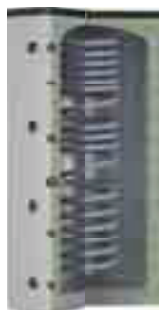
See general sales conditions and warranty

ACCESSORIES AND SPARE PARTS : See page 216



PROMPT DELIVERY

1-5 days to dispatch
(delivery time excluded)



ECO COMBI 1 VC

316L STAINLESS STEEL CORRUGATED PIPE FOR D.H.W. PRODUCTION

Model	D.H.W. production: 316L STAINLESS STEEL Storage:mild steel		Volume [liters]	Surface [m ²]
	Art. Nr.	Price €		
500	3270162286051	1.800,00	26,6	4,5
600	3270162286001	1.900,00	31,0	5,3
800	3270162286002	2.058,00	33,4	5,8
1000	3270162286003	2.386,00	45,5	7,8
1250	3270162286004	3.267,00	45,5	7,8
1500	3270162286005	3.686,00	55,3	9,5
2000	3270162286006	4.570,00	72,2	12,3

— Accessories on request —

Electrical immersions kit

Available kit:		
[Kw]	Tension [V]	
from 1,5 to 3	220 - MONOPHASE	
from 4 to 12	400 - THREEPHASE	
See page 220		

Thermometer

Art. Nr.	€
5032240000107	80,00
5 units box	



Buffer tanks connecting kit

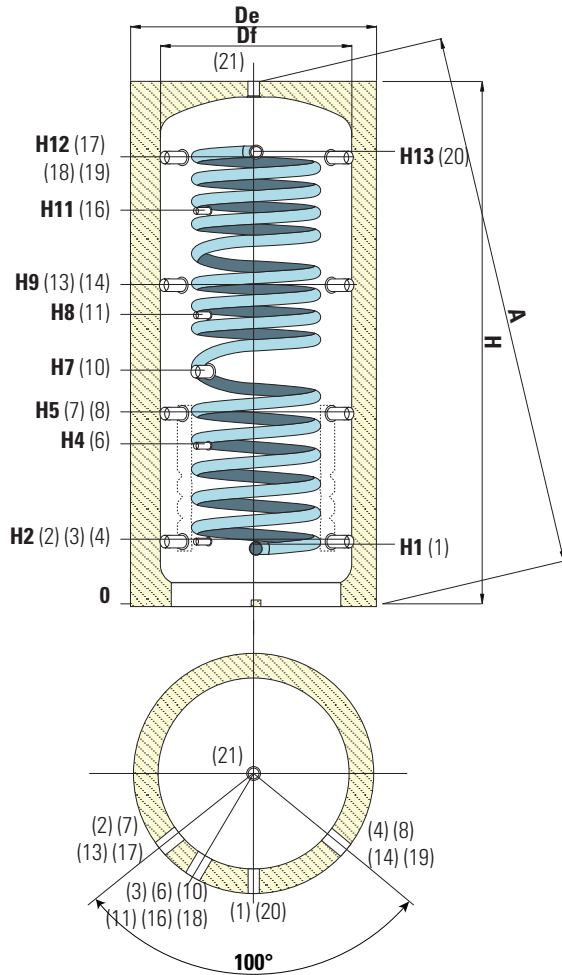
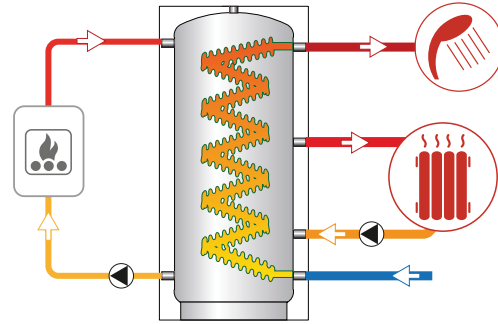
Art. Nr.	€	Connection
5006170001001	110,00	1" 1/2
Stainless steel extensible connecting kit - (200 ÷ 400 mm)		



ECO-COMBI 1

MULTI-HEAT ENERGY BUFFER WITH 316L STAINLESS STEEL D.H.W. CORRUGATED PIPE

STORAGE		CORRUGATED DHW STAINLESS STEEL PIPE
Pmax	Tmax	Pmax
3 bar	99 °C	6 bar



1	Domestic cold water circuit inlet 1" Gas M
2 - 4	Heating return/To Generator 1"1/2 Gas F
3	Connection for instrumentation 1/2" Gas F
6	Connection for instrumentation 1/2" Gas F
7 - 8	Heating return/To Generator 1"1/2 Gas F
10	Electrical immersion resistance 1" 1/2 Gas F
11	Connection for instrumentation 1/2" Gas F
13 - 14	Heating return/To additional generator/Heating delivery 1"1/2 Gas F
16	Connection for instrumentation 1/2" Gas F
17 - 19 21	From Generator/ Heating delivery 1"1/2 Gas F
18	Connection for instrumentation 1/2" Gas F
20	Domestic hot water outlet 1" Gas M

MULTIFUEL ENERGY

P.E.D. product planned and produced in conformity to the article 3.3 of directive 92/23/CE

Model	Net Volume	Df	De	H	A	H1	H2	H4	H5	H7	H9	H11	H12	H13
	[liters]													
500	421	650	850	1620	1665	230	247	533	629	841	1011	1231	1343	1360
600	503	650	850	1870	1915	230	247	582	695	915	1144	1382	1593	1610
800	738	790	990	1840	1895	248	265	584	690	823	1115	1332	1541	1558
1000	855	790	990	2130	2180	248	265	656	787	998	1309	1588	1831	1843
1250	1131	900	1100	2202	2262	296	313	705	835	986	1357	1586	1879	1896
1500	1324	950	1150	2250	2315	296	313	736	845	1061	1377	1653	1909	1921
2000	1829	1100	1300	2320	2400	330	347	770	879	1060	1411	1687	1943	1955

ECO-COMBI 2

MULTI-HEAT ENERGY BUFFER WITH 316L STAINLESS STEEL D.H.W. CORRUGATED PIPE AND 1 FIXED HEAT EXCHANGER



APPLICATION

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

MATERIAL

- **BUFFER TANK:** made in mild steel outside painted. There is no need of any anti-corrosion treatment due to the fact that the buffer is in a closed circuit without any adding air.
- **D.H.W. STORAGE :** 316L stainless steel corrugated pipe, suitable drinkable water according to D. M. n. 174 dated 06.04.04

TECHNICAL DESCRIPTIONS

Multi-Heat Energy tanks EcoCombi 2 are used in units with a typically discontinuous energy source for double use: heating system and sanitary hot water system .

- Heating system with a biomass generator as energy source , combining the possibility to produce hot water for sanitary use. In such case , storage heating volume allows the generator to regularly work , limiting number of stops due to the inadequate energy request of the heating system. Moreover, it limits the emission of smoke and the creation of corrosive condensate (smokes side).
- Sanitary hot water production systems for domestic and sanitary use

where heating water is stored. In this system , the high potentiality of the Eco Combi allows to obtain a good production of hot sanitary water even if temperatures of the primary system are not so high (i.e using heating pumps as primary source and solar source as support)

The particular shape of the corrugated pipe is avoiding any problem relating to the storage of sanitary hot water (less, stagnation, bacterium etc) and ensure high heating exchange performances.

HEAT EXCHANGER

1 fixed heat exchanger

INSULATION

NOFIRE® 100 mm soft polyester fibre 100% made of recyclable material, with high Thermal insulation and Thermal conductivity: **0,039 W/mK**. Fire resistance class **B-s2d0** according to **EN 13501**. PVC external lining complete with top cover

WARRANTY

- Buffer tank: 2 years
 - 316L stainless steel corrugated pipe for D.H.W. production: 5 years
- See general sales conditions and warranty

ACCESSORIES AND SPARE PARTS : See page 216



PROMPT DELIVERY
1-5 days to dispatch
(delivery time excluded)



ECO COMBI 2 VC

Model	D.H.W. production: 316L STAINLESS STEEL	
	Storage:mild steel	
	Art. Nr.	Price €
500	3270162286131	2.003,00
600	3270162286101	2.060,00
800	3270162286102	2.346,00
1000	3270162286103	2.682,00
1250	3270162286104	3.452,00
1500	3270162286105	3.913,00
2000	3270162286106	4.741,00

316L STAINLESS STEEL CORRUGATED PIPE FOR D.H.W. PRODUCTION

HEAT EXCHANGER

Volume	Surface	Volume	Surface
[liters]	[m ²]	[liters]	[m ²]
26,6	4,5	11,5	1,9
31,0	5,3	13	2,1
33,4	5,8	16,3	2,5
45,5	7,8	20,7	3,1
45,5	7,8	22,3	3,4
55,3	9,5	25,3	3,8
72,2	12,3	29,6	4,6

— Accessories on request —

Electrical immersions kit

Available kit:		
[Kw]	Tension [V]	
from 1,5 to 3	220 - MONOPHASE	
from 4 to 12	400 - THREEPHASE	
See page 220		

Thermometer

Art. Nr.	€
5032240000107	80,00
5 units box	



Buffer tanks connecting kit

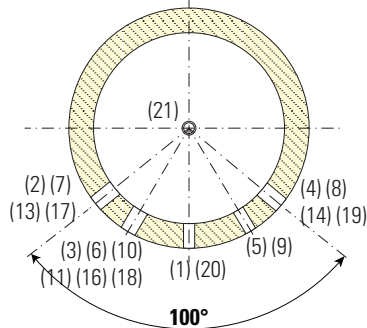
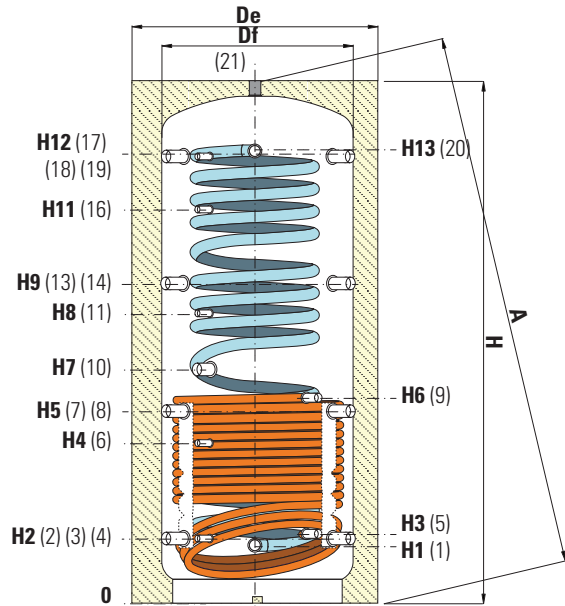
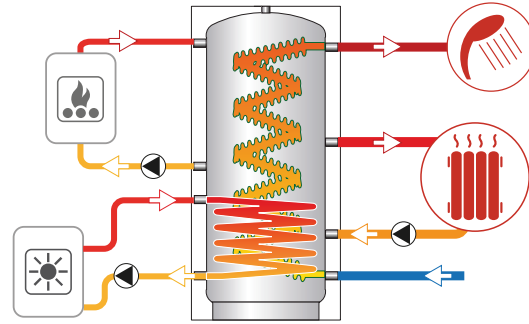
Art. Nr.	€	Connection
5006170001001	110,00	1" 1/2
Stainless steel extensible connecting kit - (200 ÷ 400 mm)		



ECO-COMBI 2

MULTI-HEAT ENERGY BUFFER WITH 316L STAINLESS STEEL D.H.W. CORRUGATED PIPE AND 1 FIXED HEAT EXCHANGER

STORAGE		CORRUGATED DHW STAINLESS STEEL PIPE		HEAT EXCHANGER	
Pmax	Tmax	Pmax	Pmax	Pmax	Tmax
3 bar	99 °C	6 bar	12 bar	12 bar	110 °C



1	Domestic cold water circuit inlet 1" Gas M
2-4	Heating return/To Generator 1"1/2 Gas F
3	Connection for instrumentation 1/2" Gas F
5	Lower fixed heat exchanger outlet 1" Gas F
6	Connection for instrumentation 1/2" Gas F
7-8	Heating return/To Generator 1"1/2 Gas F
9	Lower fixed heat exchanger inlet 1" Gas F
10	Electrical immersion resistance 1"1/2 Gas F
11	Connection for instrumentation 1/2" Gas F
13-14	Heating return/To additional generator/Heating delivery 1"1/2 Gas F
16	Connection for instrumentation 1/2" Gas F
17-19-21	From Generator/ Heating delivery 1"1/2 Gas F
18	Connection for instrumentation 1/2" Gas F
20	Domestic hot water outlet 1" Gas M

MULTIFUEL ENERGY

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P.E.D. product planned and produced in conformity to the article 3.3 of directive 92/73/CE

Model	Net Volume	Df	De	H	A	H1	H2	H3	H4	H5	H6	H7	H9	H11	H12	H13
	[liters]															
500	421	650	850	1620	1665	230	247	260	533	629	744	841	1011	1231	1343	1360
600	503	650	850	1870	1915	230	247	260	582	695	855	915	1144	1382	1593	1610
800	738	790	990	1840	1895	248	265	278	584	690	762	823	1115	1332	1541	1558
1000	855	790	990	2130	2180	248	265	284	656	787	953	998	1309	1588	1831	1843
1250	1131	900	1100	2202	2262	296	313	326	705	835	884	986	1357	1586	1879	1896
1500	1324	950	1150	2250	2315	296	313	336	736	845	1006	1061	1377	1653	1909	1921
2000	1829	1100	1300	2320	2400	330	347	370	770	879	1001	1060	1411	1687	1943	1955

ECO-COMBI 3

MULTI-HEAT ENERGY BUFFER WITH 316L STAINLESS STEEL D.H.W. CORRUGATED PIPE AND 2 FIXED HEAT EXCHANGERS



APPLICATION

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

MATERIAL

- **BUFFER TANK:** made in mild steel outside painted. There is no need of any anti-corrosion treatment due to the fact that the buffer is in a closed circuit without any adding air.
- **D.H.W. STORAGE :** 316L stainless steel corrugated pipe, suitable drinkable water according to D. M. n. 174 dated 06.04.04

TECHNICAL DESCRIPTIONS

Multi-Heat Energy tanks EcoCombi 3 are used in units with a typically discontinuous energy source for double use: heating system and sanitary hot water system .

- Heating system with a biomass generator as energy source , combining the possibility to produce hot water for sanitary use. In such case , storage heating volume allows the generator to regularly work , limiting number of stops due to the inadequate energy request of the heating system. Moreover, it limits the emission of smoke and the creation of corrosive condensate (smokes side).
- Sanitary hot water production systems for domestic and sanitary use

where heating water is stored. In this system , the high potentiality of the Eco Combi allows to obtain a good production of hot sanitary water even if temperatures of the primary system are not so high (i.e using heating pumps as primary source and solar source as support)

The particular shape of the corrugated pipe is avoiding any problem relating to the storage of sanitary hot water (less, stagnation, bacterium etc) and ensure high heating exchange performances.

HEAT EXCHANGER

2 fixed heat exchangers

INSULATION

NOFIRE® 100 mm soft polyester fibre 100% made of recyclable material, with high Thermal insulation and Thermal conductivity: **0,039 W/mK**. Fire resistance class **B-s2d0** according to **EN 13501**. PVC external lining complete with top cover

WARRANTY

- Buffer tank: 2 years
 - 316L stainless steel corrugated pipe for D.H.W. production: 5 years
- See general sales conditions and warranty

ACCESSORIES AND SPARE PARTS : See page 216



PROMPT DELIVERY
1-5 days to dispatch
(delivery time excluded)



ECO COMBI 3 VC

Model	D.H.W. production: 316L STAINLESS STEEL Storage:mild steel		316L STAINLESS STEEL CORRUGATED PIPE FOR D.H.W. PRODUCTION		UPPER HEAT EXCHANGER		LOWER HEAT EXCHANGER	
	Art. Nr.	Price €	Volume	Surface	Volume	Surface	Volume	Surface
			[liters]	[m ²]	[liters]	[m ²]	[liters]	[m ²]
500	3270162286251	2.159,00	26,6	4,5	8	1,3	11,5	1,9
600	3270162286201	2.199,00	31,0	5,3	8	1,3	13	2,1
800	3270162286202	2.465,00	33,4	5,8	11,8	1,8	16,3	2,5
1000	3270162286203	2.865,00	45,5	7,8	16,3	2,5	20,7	3,1
1250	3270162286204	3.611,00	45,5	7,8	16,3	2,5	22,3	3,4
1500	3270162286205	4.022,00	55,3	9,5	16,8	2,8	25,3	3,8
2000	3270162286206	4.973,00	72,2	12,3	19,1	2,8	29,6	4,6

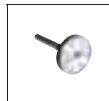
— Accessories on request —

Electrical immersions kit

		
Available kit:		
[Kw]	Tension [V]	
from 1,5 to 3	220 - MONOPHASE	
from 4 to 12	400 - THREEPHASE	
See page 220		

Thermometer

Art. Nr.	€
5032240000107	80,00
5 units box	



Buffer tanks connecting kit

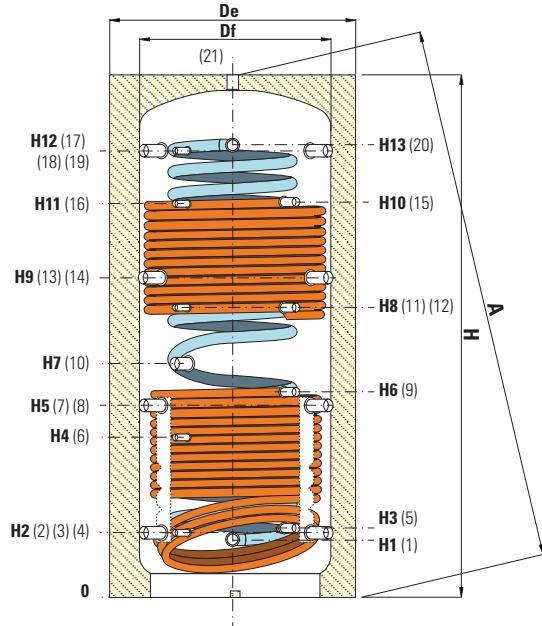
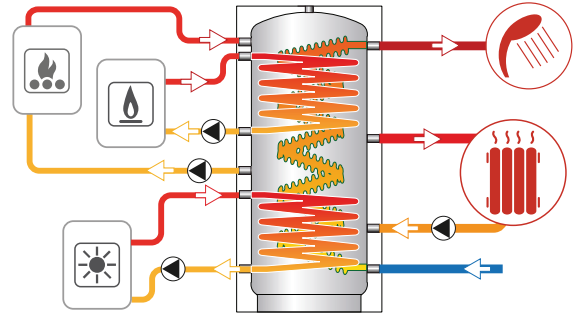
Art. Nr.	€	Connection
5006170001001	110,00	1" 1/2
Stainless steel extensible connecting kit - (200 ÷ 400 mm)		



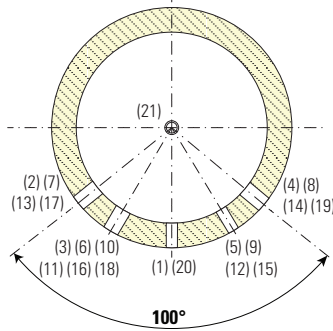
ECO-COMBI 3

MULTI-HEAT ENERGY BUFFER WITH 316L STAINLESS STEEL D.H.W. CORRUGATED PIPE AND 2 FIXED HEAT EXCHANGERS

STORAGE		CORRUGATED DHW STAINLESS STEEL PIPE		HEAT EXCHANGER	
Pmax	Tmax	Pmax	Pmax	Pmax	Tmax
3 bar	99 °C	6 bar	12 bar	12 bar	110 °C



1	Domestic cold water circuit inlet 1" Gas M
2-4	Heating return / To generator 1"1/2 Gas F
3	Connection for instrumentation 1/2" Gas F
5	Lower fixed heat exchanger outlet 1" Gas F
6	Connection for instrumentation 1/2" Gas F
7-8	Heating return / To generator 1"1/2 Gas F
9	Lower fixed heat exchanger inlet 1" Gas F
10	Electrical immersion resistance 1"1/2 Gas F
11	Connection for instrumentation 1/2" Gas F
12	Upper fixed heat exchanger outlet 1" Gas F
13-14	Heating return/To additional generator/Heating delivery 1"1/2 Gas F
15	Upper fixed heat exchanger inlet 1" Gas F
16	Connection for instrumentation 1/2" Gas F
17-19-21	From generator / Heating delivery 1"1/2 Gas F
18	Connection for instrumentation 1/2" Gas F
20	Domestic hot water outlet 1" Gas M



Model	Net Volume [liters]	Df	De	H	A	H1	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12	H13
500	421	650	850	1620	1665	230	247	260	533	629	744	841	930	1011	1231	1231	1343	1360
600	503	650	850	1870	1915	230	247	260	582	695	855	915	1060	1144	1361	1382	1593	1610
800	738	790	990	1840	1895	248	265	278	584	690	762	823	988	1115	1332	1332	1541	1558
1000	855	790	990	2130	2180	248	265	284	656	787	953	998	1188	1309	1661	1588	1831	1843
1250	1131	900	1100	2202	2262	296	313	326	705	835	884	986	1068	1357	1641	1586	1879	1896
1500	1324	950	1150	2250	2315	296	313	336	736	845	1006	1061	1286	1377	1673	1653	1909	1921
2000	1829	1100	1300	2320	2400	330	347	370	770	879	1001	1060	1300	1411	1687	1687	1943	1955

P.E.D. product planned and produced in conformity to the article 3.3 of directive 92/23/CE

MULTIFUEL ENERGY

Model	DHW exchanger		COMPLETE HEATED STORAGE VOLUME		UPPER PART HEATED STORAGE VOLUME	
	DHW Volume	surface	Max sanitary water produced from 10°C to 45°C with storage at 65°C and boiler on	Max sanitary water produced from 10°C to 45°C with storage at 65°C and boiler off	Max sanitary water produced from 10°C to 45°C with storage at 65°C and boiler on	Max sanitary water produced from 10°C to 45°C with storage at 65°C and boiler off
	[liters]	[m ²]	[lt/min]	[liters]	[lt/min]	[liters]
500	26,6	4,5	29	10 lt/min: 354 lt	15	10 lt/min: 102 lt
				25 lt/min: 227 lt		25 lt/min: 75 lt
600	31	5,3	34	10 lt/min: 400 lt	18	10 lt/min: 115 lt
				25 lt/min: 257 lt		25 lt/min: 85 lt
800	33,4	5,8	37	10 lt/min: 587 lt	23	10 lt/min: 218 lt
				25 lt/min: 377 lt		25 lt/min: 160 lt

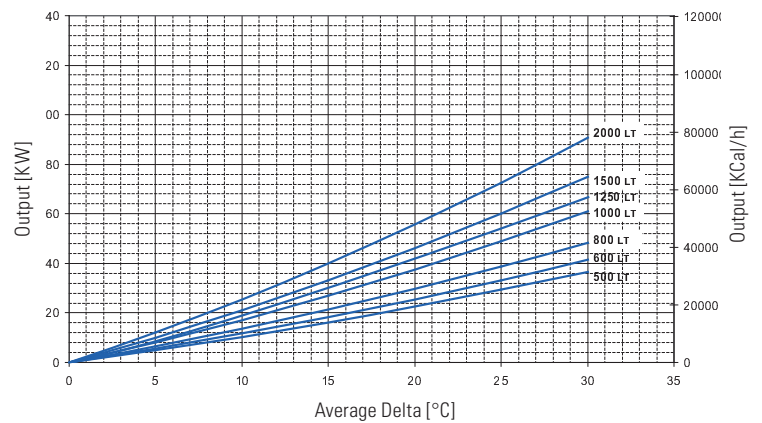
ECO COMBI 2 - ECO COMBI 3 LOWER FIXED HEAT EXCHANGERS POWERS CHART

Output of the EcoCombi 2 - EcoCombi 3 lower heat exchangers depending on the average DeltaT between primary and accumulation considering flow rate 3 m³/h.

Thermal output is given in both KW or kcal/h in terms of average temperature difference between primary and secondary circuit, all for a range of primary 3 m³/h.

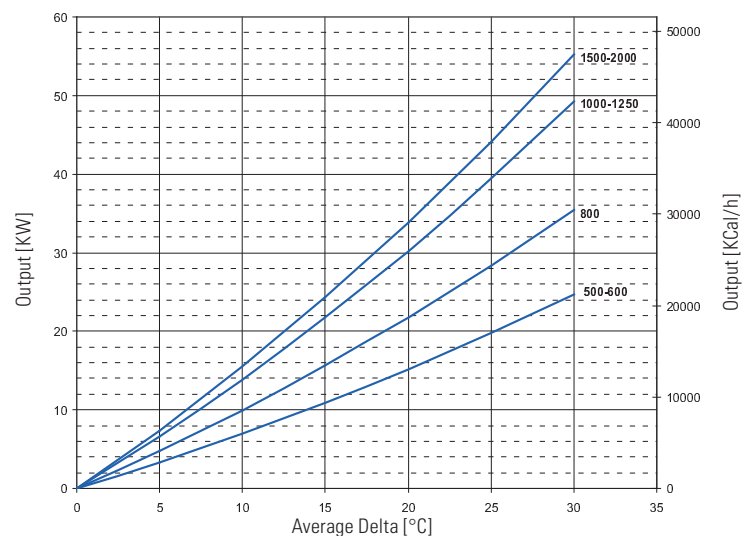
For example, a 1000 liters ECOCOMBI 2 with a water flow of 3 m³/h at 80 °C inlet and outlet at 70 °C, has on the storage of water an average temperature of 60 °C, the mean difference of temperature will be:

$(80 + 70) / 20 - 60 = 15$ °C and therefore you can exchange up to approximately 32 KW.



ECO COMBI 3 UPPER FIXED HEAT EXCHANGERS POWERS CHART

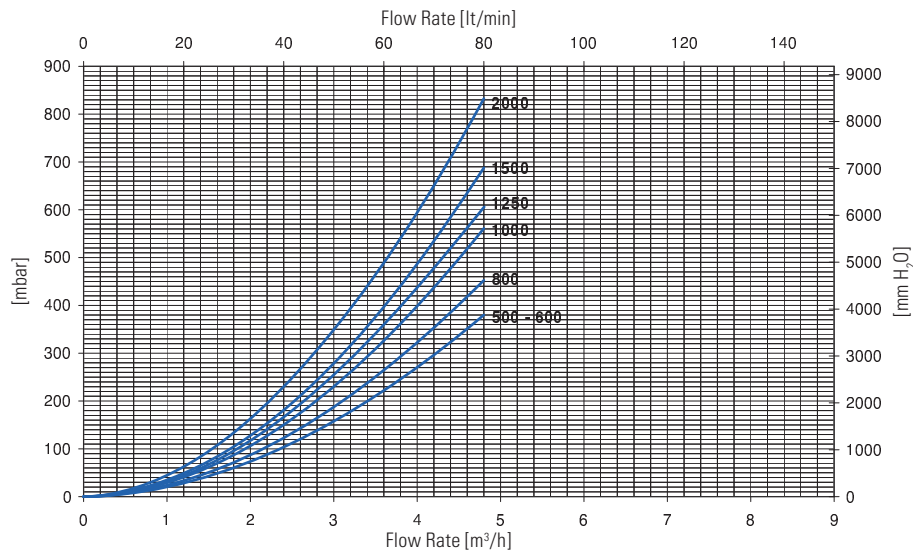
Output of the EcoCombi 3 upper heat exchangers depending on the average DeltaT between primary and accumulation considering flow rate 3 m³/h.



D.H.W. STORAGE PERFORMANCES

Model	DHW exchanger surface		COMPLETE HEATED STORAGE VOLUME		UPPER PART HEATED STORAGE VOLUME	
	DHW Volume V		Max sanitary water produced from 10°C to 45°C with storage at 65°C and boiler on	Max sanitary water produced from 10°C to 45°C with storage at 65°C and boiler off	Max sanitary water produced from 10°C to 45°C with storage at 65°C and boiler on	Max sanitary water produced from 10°C to 45°C with storage at 65°C and boiler off
	[liters]	[m²]	[lt/min]	[liters]	[lt/min]	[liters]
1000	45,5	7,8	50	10 lt/min: 800 lt	27	10 lt/min: 294 lt
				25 lt/min: 541 lt		25 lt/min: 216 lt
1250	45,5	7,8	50	10 lt/min: 922 lt	27	10 lt/min: 310 lt
				25 lt/min: 592 lt		25 lt/min: 230 lt
1500	55,3	9,5	57	10 lt/min: 1144 lt	34	10 lt/min: 345 lt
				25 lt/min: 735 lt		25 lt/min: 258 lt
2000	72,2	12,3	74	10 lt/min: 1657 lt	44	10 lt/min: 463 lt
				25 lt/min: 1142 lt		25 lt/min: 340 lt

PRESSURE LOSS - LOWER FIXED HEAT EXCHANGER ECO COMBI 2 - ECO COMBI 3



MULTIFUEL ENERGY

PRESSURE LOSS - UPPER FIXED HEAT EXCHANGER ECO COMBI 3

