

# COMBI 3

MULTI-HEAT ENERGY BUFFER WITH POLYWARM® COATED TANK IN TANK CALORIFIER FOR D.H.W. AND 2 FIXED HEAT EXCHANGERS



## APPLICATION

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

## MATERIAL

**Buffer tank:** Mild steel construction with exterior paint. No anti-corrosion treatment required due to the buffer's closed circuit system.

**D.H.W. storage:** Mild steel Polywarm® coated (Attestation ACS - SSICA - DVGW - W270 - UBA - WRAS)

## HEAT EXCHANGERS

2 fixed heat exchangers

## TECHNICAL DESCRIPTION

Multi-Heat Energy tanks Combi3 are used in units with a typically discontinuous energy source for double use: heating systems and domestic hot water systems.

## INSULATION

- HARD: High thermal insulation with ecological polyurethane hard foam.
- 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 complete with top cover

## CATHODE PROTECTION

Chain magnesium anode

## WARRANTY

5 years - See general sales conditions and warranty

## ACCESSORIES AND SPARE PARTS

See Accessories section for the entire list.

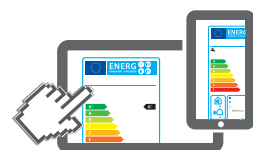


HARD FOAM INSULATION



## COMBI 3 WB

Model	HARD FOAM insulation Art. Nr.	D.H.W. STORAGE		UPPER HEAT EXCHANGER		LOWER HEAT EXCHANGER		ENERGY EFFICIENCY CLASS ErP
		Volume [lt]	Surface [m²]	Volume [lt]	Surface [m²]	Volume [lt]	Surface [m²]	
500	3270162314201	99	1,1	8	1,3	11,5	1,9	C
600	3270162314202	146	1,3	12	1,9	18	2,8	C
800	3270162314203	191	1,6	16	2,4	20	3,1	C
1000	3270162314204	226	1,8	20	3,1	24	3,7	C
1500	3270162314205	412	2,5	23	3,5	32	4,9	C
2000	3270162314206	566	3,1	27	4,1	35	5,4	C



[www.cordivari.com/erp](http://www.cordivari.com/erp)

On line ErP label tool

SOFT FLEECE INSULATION



## COMBI 3 WC

Model	DISMOUNTABLE SOFT FLEECE insulation Art. Nr.	D.H.W. STORAGE		UPPER HEAT EXCHANGER		LOWER HEAT EXCHANGER		ENERGY EFFICIENCY CLASS ErP
		Volume [lt]	Surface [m²]	Volume [lt]	Surface [m²]	Volume [lt]	Surface [m²]	
800	3270162284212	191	1,6	16	2,4	20	3,1	C
1000	3270162284213	226	1,8	20	3,1	24	3,7	C
1500	3270162284214	412	2,5	23	3,5	32	4,9	C
2000	3270162284215	566	3,1	27	4,1	35	5,4	C

FOR 316L STAINLESS STEEL MODELS - SEE PAGE 138

Accessories on request

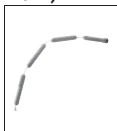
### Thermometer

Art. Nr.
5032240000107
5 units box



### Chain magnesium anode (connection 3/4")

Art. Nr.	For models
5200000041007	800÷2000
5200000041016	500,600
N° 2 chain anodes + insulated cap + gasket	



### Buffer tanks connecting kit

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



# COMBI 3

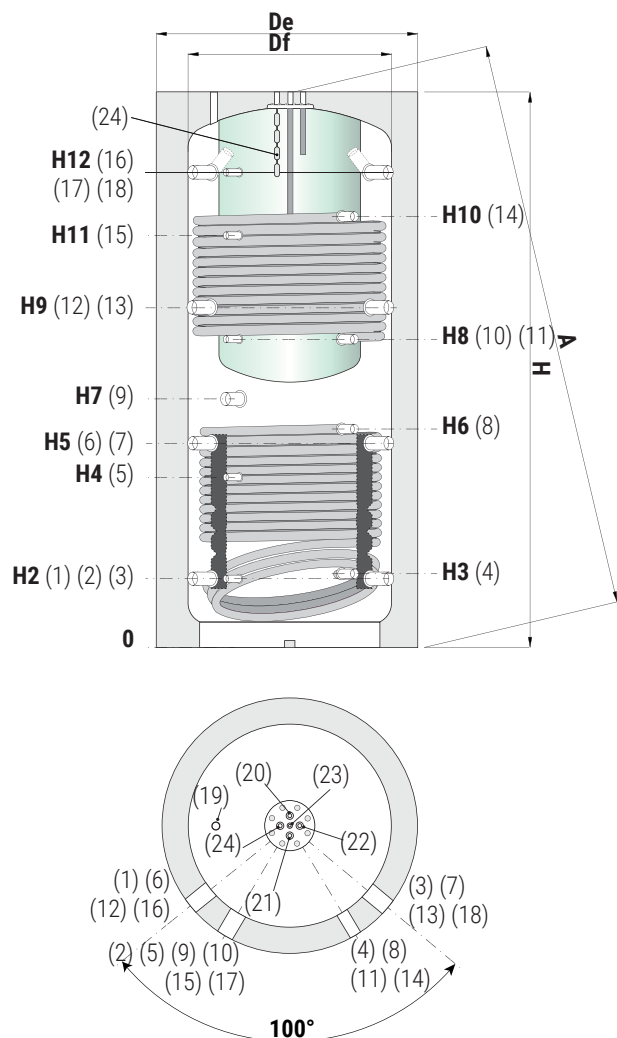
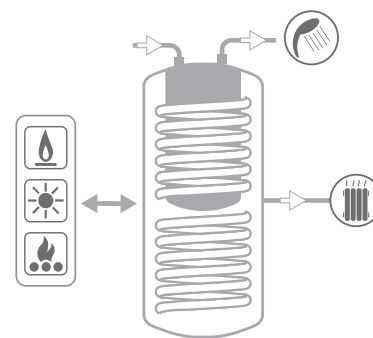
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AND 2 FIXED HEAT EXCHANGERS

TECHNICAL STORAGE		D.H.W. STORAGE		FIXED HEAT EXCHANGER	
Pmax	Tmax	Pmax	Tmax	Pmax	Tmax
3 bar	99 °C	6 bar	90 °C	12 bar	110 °C

**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 ErP Directive.



ASK ALWAYS FOR  
CERTIFIED LABORATORIES  
DATA RESULTS



- 1-3** Heating return/To Generator 1"1/2 Gas F
- 2** Connection for instrumentation 1/2" Gas F
- 4** Lower fixed heat exchanger outlet 1" Gas F
- 5** Connection for instrumentation 1/2" Gas F
- 6-7** Heating return/To Generator 1"1/2 Gas F
- 8** Lower fixed heat exchanger inlet 1" Gas F
- 9** Electrical immersion 1"1/2 Gas F
- 10** Connection for instrumentation 1/2" Gas F
- 11** Upper fixed heat exchanger outlet 1" Gas F
- 12-13** Heating return/To additional generator/Heating delivery 1"1/2 Gas F
- 14** Upper fixed heat exchanger inlet 1" Gas F
- 15** Connection for instrumentation 1/2" Gas F
- 16-18** Heating return/Heating delivery 1"1/2 Gas F
- 17** Connection for instrumentation 1/2" Gas F
- 19** Air purge 1/2" Gas F
- 20** Domestic hot water inlet 3/4" Gas F
- 21** Domestic hot water outlet 3/4" Gas F
- 22** Recirculation 3/4" Gas F
- 23** Connection for instrumentation 1/2" Gas F
- 24** Chain magnesium anode 3/4" Gas F



Model	Volume [lt]	Df (vers. WC) [mm]	De (vers. WC) [mm]	De (vers. WB) [mm]	H	A	H2	H3	H4	H5	H6	H7	H8	H9	H10	H11	H12
<b>500</b>	478	//	//	750	1670	2108	247	260	533	629	744	841	930	1011	1231	1231	1343
<b>600</b>	560	//	//	750	1920	2061	247	260	582	695	855	915	1060	1144	1500	1382	1593
<b>800</b>	803	790	1010	950	1890	2111	265	278	584	690	762	823	988	1115	1428	1332	1541
<b>1000</b>	944	790	1010	950	2180	2374	265	284	656	787	953	998	1188	1309	1748	1588	1831
<b>1500</b>	1431	950	1210	1100	2300	2550	313	336	736	845	1006	1061	1286	1377	1805	1653	1909
<b>2000</b>	1961	1100	1360	1300	2370	2703	347	370	770	879	1001	1060	1300	1411	1820	1687	1943

## D.H.W. STORAGE PERFORMANCES

Model	COMPLETE HEATED STORAGE VOLUME				UPPER PART HEATED STORAGE VOLUME	
	DHW Volume	DHW exchanger 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
	[litres]	[m <sup>2</sup> ]	[lt/min]	[litres]	[lt/min]	[litres]
500	99	1,1	2,5	10 lt/min: 198 lt	1,57	10 lt/min: 148 lt
				25 lt/min: 176 lt		25 lt/min: 132 lt
600	146	1,3	3,0	10 lt/min: 239 lt	1,86	10 lt/min: 179 lt
				25 lt/min: 213 lt		25 lt/min: 160 lt
800	191	1,6	3,5	10 lt/min: 320 lt	2,17	10 lt/min: 240 lt
				25 lt/min: 280 lt		25 lt/min: 210 lt

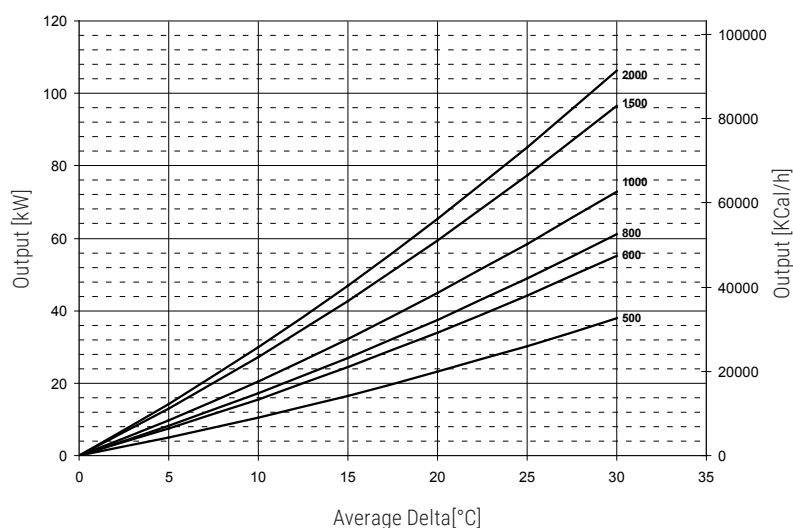
## COMBI 2 - COMBI 3 - LOWER FIXED HEAT EXCHANGERS POWERS CHART

Output of the Combi 2 - Combi 3 lower heat exchangers depending on the average DeltaT between primary and accumulation considering flow rate 3 m<sup>3</sup>/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 m<sup>3</sup>/h.

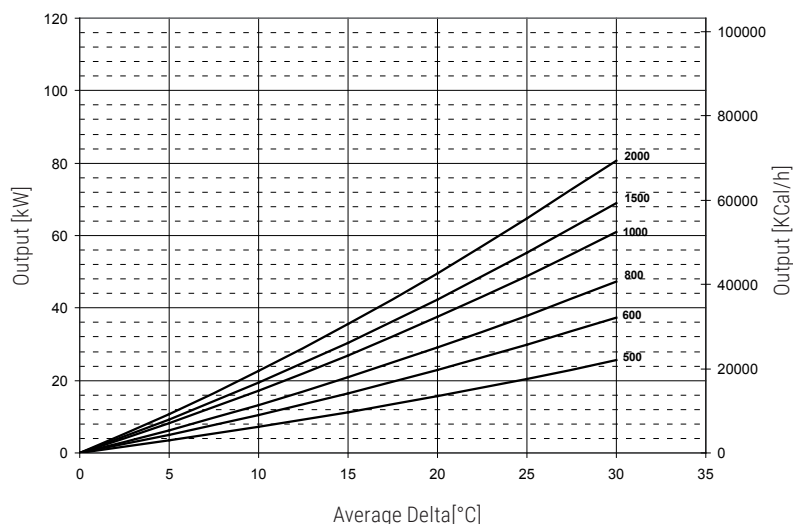
For example, a 1000 liters COMBI 2 with a water flow of 3 m<sup>3</sup>/h at 80 °C inlet and outlet at 70 °C, has on the storage of water an average temperature of 60 °C, the mean difference of temperature will be:

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



## COMBI 3 - UPPER FIXED HEAT EXCHANGERS POWERS CHART

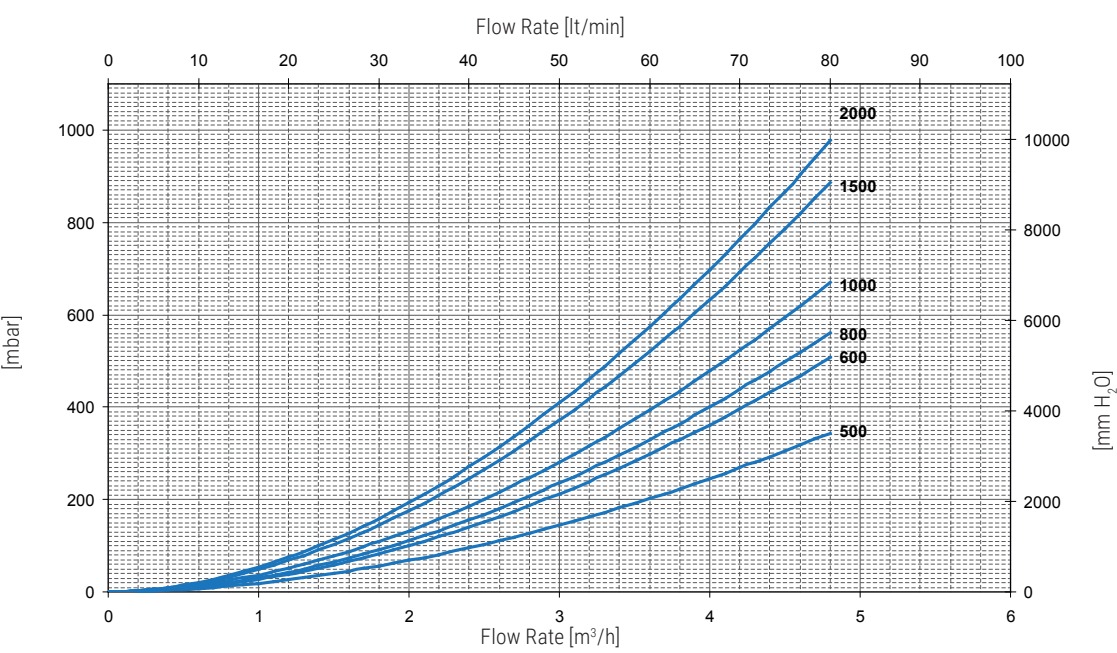
Output of the Combi 3 upper heat exchangers depending on the average DeltaT between primary and accumulation considering flow rate 3 m<sup>3</sup>/h



D.H.W. STORAGE PERFORMANCES

Model	COMPLETE HEATED STORAGE VOLUME				UPPER PART HEATED STORAGE VOLUME	
	DHW Volume	DHW exchanger 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
	[litres]	[m²]	[lt/min]	[litres]	[lt/min]	[litres]
1000	226	1,8	4,1	10 lt/min: 389 lt	2,26	10 lt/min: 291 lt
				25 lt/min: 330 lt		25 lt/min: 250 lt
1500	412	2,5	5,6	10 lt/min: 753 lt	3,36	10 lt/min: 565 lt
				25 lt/min: 614 lt		25 lt/min: 461 lt
2000	566	3,1	6,8	10 lt/min: 1083 lt	4,08	10 lt/min: 812 lt
				25 lt/min: 852 lt		25 lt/min: 639 lt

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



PRESSURE LOSS - UPPER FIXED HEAT EXCHANGER COMBI 3

