

Combi 185 BP



- **Supplies fresh air and domestic hot water for the entire family**
- **Contributes to the heating of the home through the supply air**
- **Low energy consumption combined with a high-performance heat pump**



Combi 185 BP is a complete unit that consists of a ventilation and a tank segment containing a high-performance counterflow heat exchanger with a heat recovery factor of up to 95%, a hot-water tank with a capacity of 185 litres and a built-in heating coil designed for connection to a solar collector or central heating, a combination heat pump for simultaneous heating of supply air and domestic hot water, as well as energy-efficient supply air and extract air fans with backwards-curved blades and EC motors. The standard unit includes an G4 supply air and a G4 extract air filter and a complete OPT312 control unit with a stylishly designed control panel.

Combi 185 BP is used as a ventilation heat pump in dwellings that require a high heat recovery factor and low energy consumption, while using the recovered energy from the exhaust air for heating the home's supply air and domestic hot water.

Energy is first recovered by the counterflow heat exchanger, upon which residual energy is recovered by the heat pump.

Combi 185 BP can produce a max. air volume of approx. 320 m³/h at 100 Pa.

The unit can be used for homes with an area of up to approx. 300 m² with an air change of 0.30 l/s per m² of heated floor area assuming there are no requirements for max. power consumption.

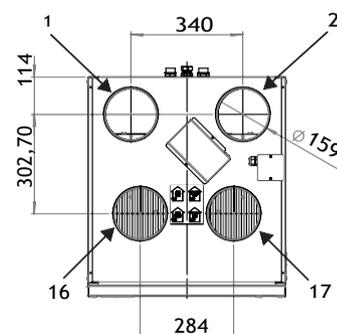
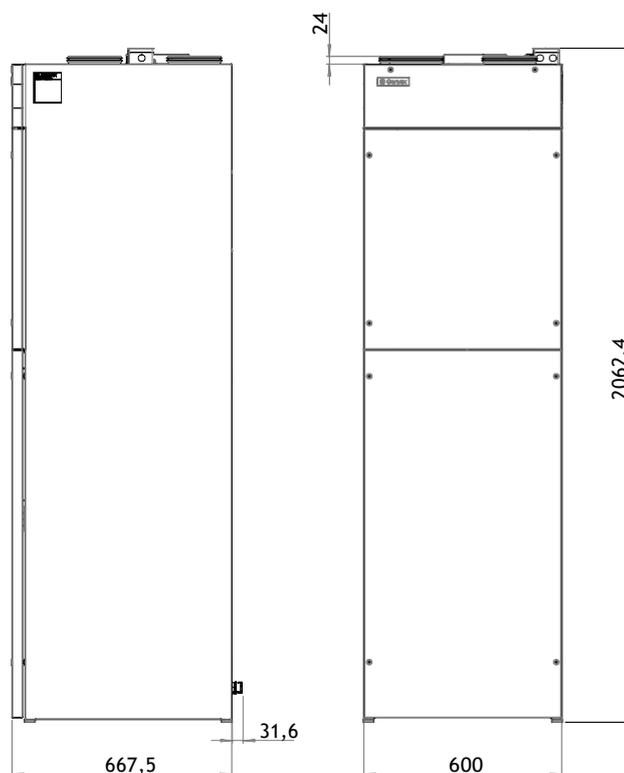
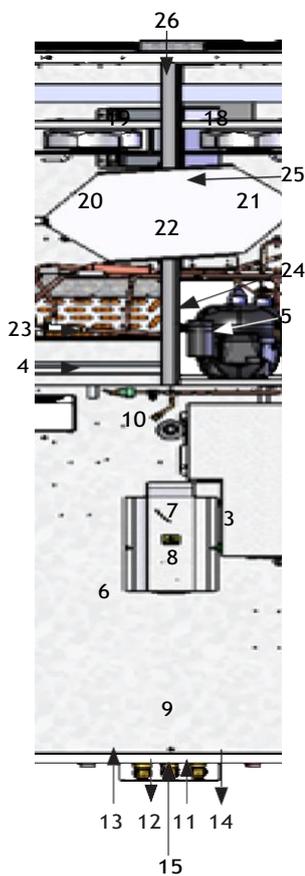
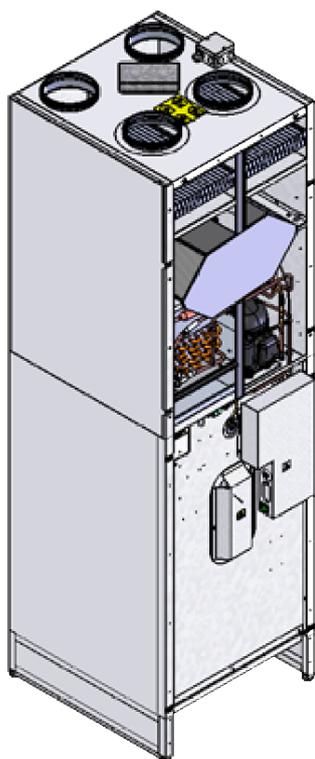
Types

- **Combi 185 BP S: Small compressor**
- **Combi 185 BP LS: Large compressor**

Dimensions

Dimensions in mm:

- | | | |
|---|--|--------------------------------|
| 1. Discharge air | 11. Cold water inlet 3/4" RG | 22. Counterflow heat exchanger |
| 2. Supply air | 12. Hot water inlet 3/4" RG | 23. Evaporator |
| 3. Electrical connection | 13. Connection to heating coil 3/4" RG | 24. Condenser (supply air) |
| 4. Condensation tray | 14. Connection to heating coil 3/4" RG | 25. Bypass |
| 5. Compressor | 15. Hot water circulation | 26. Bypass motor |
| 6. 185-litre tank | 16. Fresh air | |
| 7. 5/4" anode | 17. Extract air | |
| 8. 1 kW electric heating element | 18. Extract air filter | |
| 9. Condenser coil | 19. Supply air filter | |
| 10. High-pressure pressure switch w/ manual reset | 20. Supply air fan | |
| | 21. Extract air fan | |



Technical data

COMBI 185 BP

Electrical connection	
Without electric heating coil	1 x 230VAC + PE + 10 A, 50 Hz
With electric heating coil (max. 1.2 kW)	1 x 230VAC + PE + 16 A, 50 Hz
Fans with directly coupled motor	R3G 190
Motor	EC motor with integrated electronics
Insulation class	B
Protection class	IP 21
Motor data (max. per motor)	3320 rpm
Power input (max. per motor)	71W
Power consumption (max. per motor)	0.50A
Speed control	Each of the fans can be set steplessly to all 3 speeds individually.
Heating pump's working range	-15°/+35°C
Compressor	NE 6170Z / NE 6210Z
Min. air volume	100 m ³ /h / 150 m ³ /h (S/LS)
Input power (max)	331W / 585W (S/LS)
Power consumption (max)	1.9A / 3.14 A (S/LS)
Average output	895 W / 1365 W (S/LS)
Average input power	292W / 425W (S/LS)
Refrigerant	R134a
Filling	1,000 g
Overall dimensions: (h x l x d)	2,062 x 600 x 664 mm.
Cabinet design	Double-plated hot-dip galvanised plate with 30 mm insulation and tank with PU foam. Powder-coated externally in white RAL 9010.
Duct connection	Ø160 mm (nipple dimensions) with rubber ring gasket
Door	6-mm screws
Counterflow heat exchanger	Seawater-resistant aluminium
Condensation tray	Stainless steel
Condensation drain	Synthetic hose Ø15 mm (internal)
Tank protection	Enamelled and with magnesium anode on the inside
Heating coil protection	Enamelled on the outside
Filters	Supply air: G4 filter Extract air: G4 filter (F7 filters optional)
Weight without / with water	210/395 kg

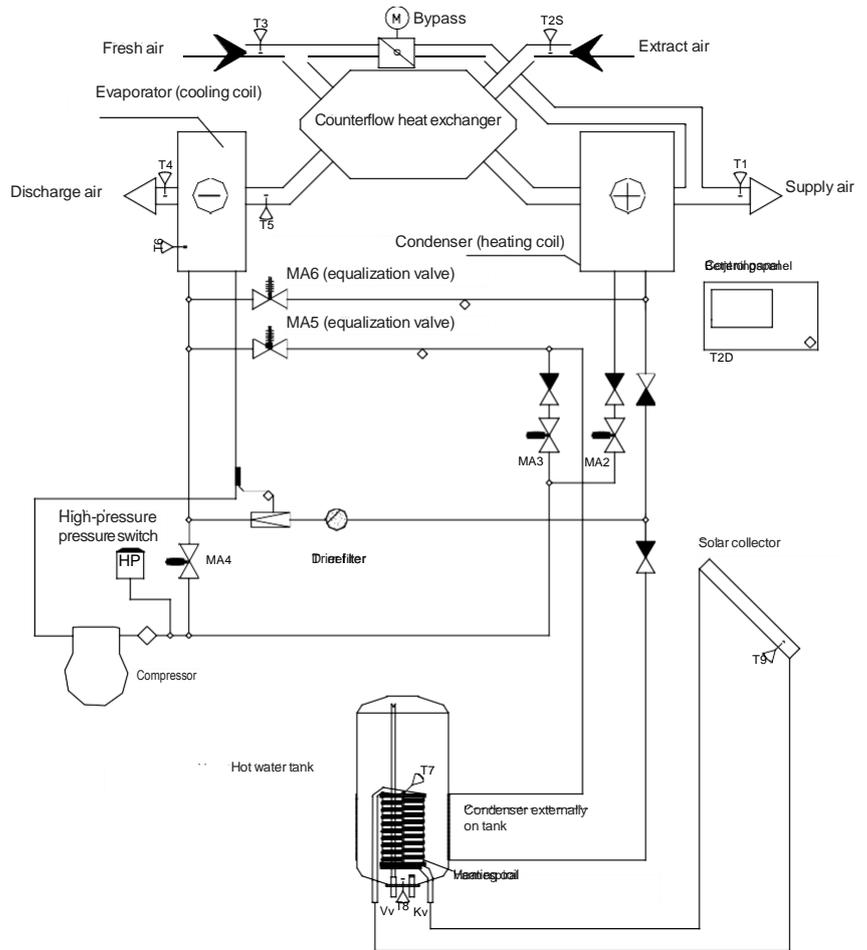
Functional diagram

Temperature sensors

- T1: Supply air**
- T2D: Room**
- T2S: Extract air**
- T3: Fresh air**
- T4: Discharge air**
- T5: Before evaporator**
- T6: Evaporator**
- T7: Hotwatertank top (electrical heating element)**
- T8: Hotwatertank bottom (compressor)**
- T9: External temperature sensor (option)**

Solenoid valves

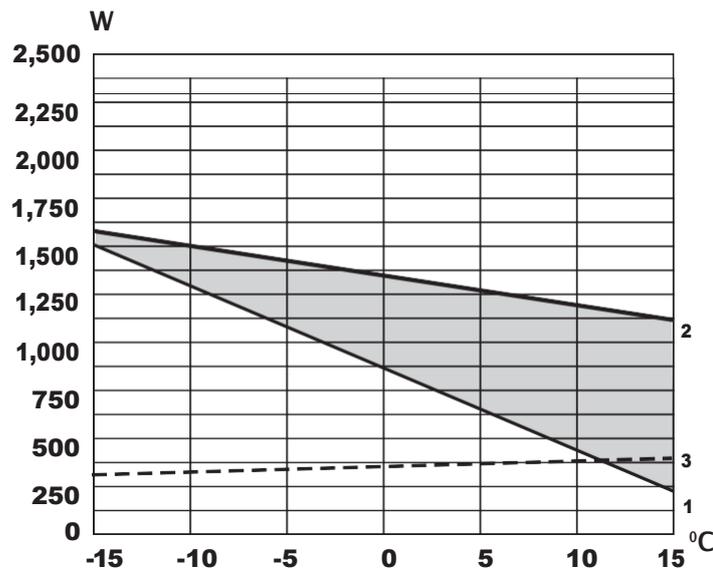
- MA2: Roomheating**
- MA3: Hotwater heating**
- MA4: Defrosting**
- MA5: Equalizationvalve (roomheating)**
- MA6: Equalizationvalve (hotwater heating)**



Capacity

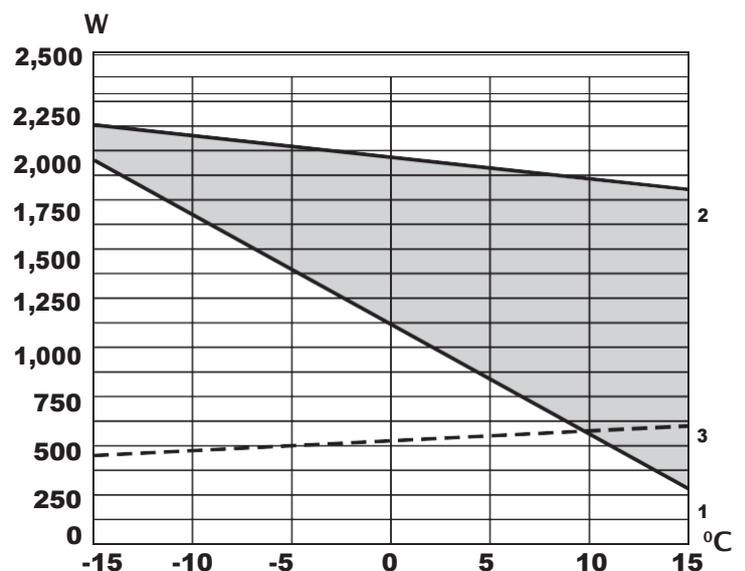
COMBI 185 capacity without DHW heating

Air volume: 150 m³/h (Combi 185 S)



Outdoor temperature

Air volume: 160 m³/h (Combi 185 LS)



Outdoor temperature

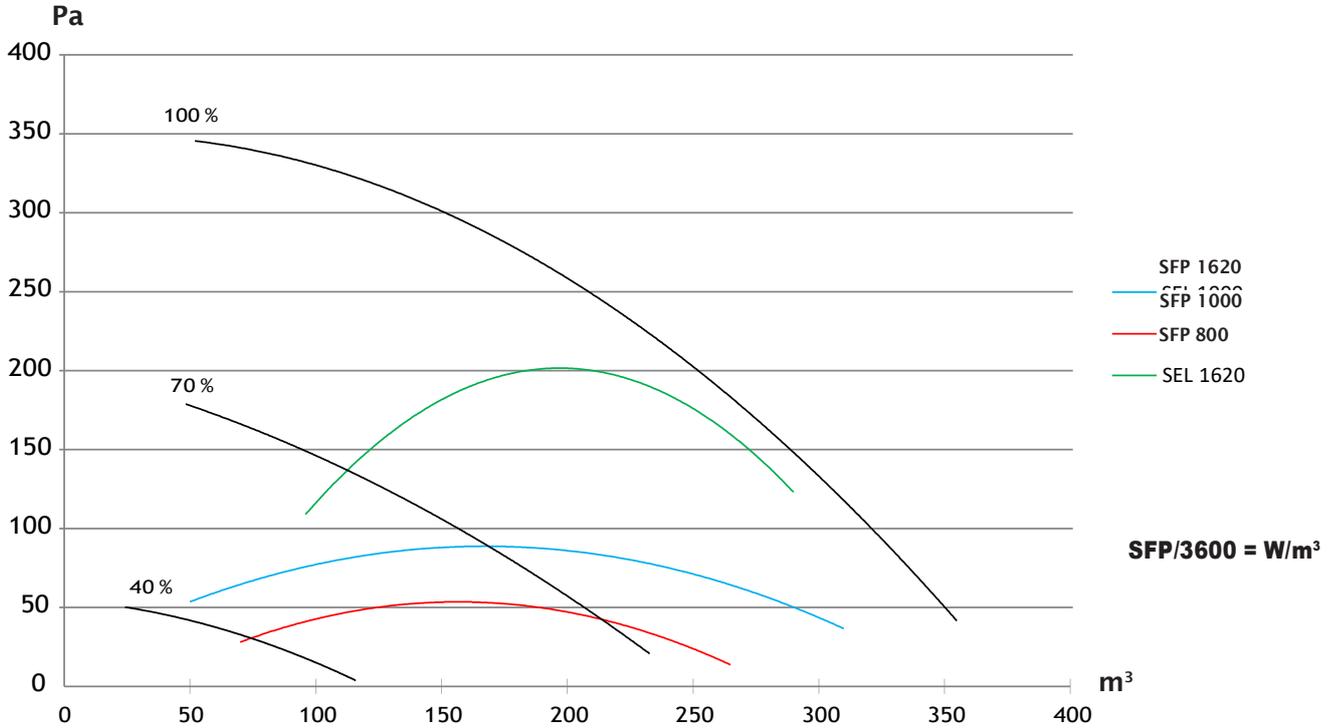
1. Energy consumption for heating of outdoor air to room temperature of 20°C.
2. Unit's overall capacity.
3. Input power with compressor.

The shaded area is the Combi 185's contribution to space heating.

Capacity

Capacity lines are based on the average of supply air and discharge air volumes in a unit. The curves indicate the average external pressure available at a given air volume. SFP-curves are reduced by 10 Pa using PET exchanger and 15 Pa using F7 filter at the fresh air intake.

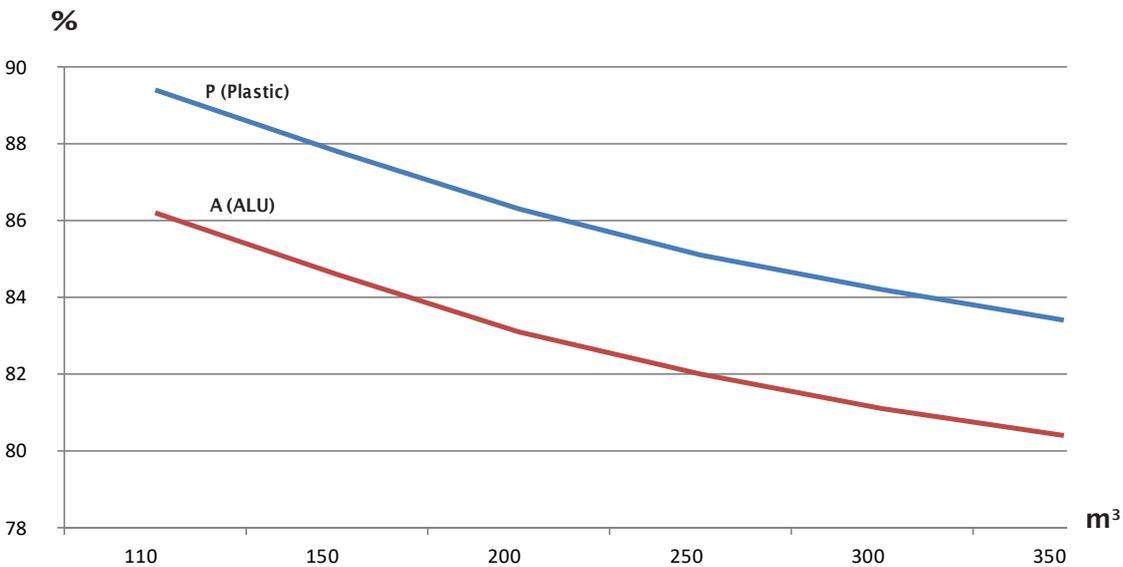
SFP factors COMBI 185 BP - measured pursuant to EN13141-7 (G4/G4:ALU)



Temperature efficiency

"Dry" temperature efficiency pursuant to EN 308 and in the event of identical air flow on the fresh air and discharge air side. The icing of the heat exchanger at low outdoor temperatures has not been taken into consideration.

Temperature efficiency pursuant to EN308



Acoustic data

1. Measured at 40% of max. speed, with compressor in operation
2. Measured at 70% of max. speed, with compressor in operation
3. Measured at 100% of max. speed, with compressor in operation

Measuring point	1 m in front of unit			Extract air duct			Supply air duct			
	Air volume	1	2	3	1	2	3	1	2	3
		Lo dB			Lwu dB			Lwi dB		
63 Hz	48	48	48	81	88	89	73	78	79	
125 Hz	49	50	51	84	85	86	75	79	79	
250 Hz	43	43	43	72	82	82	66	76	76	
500 Hz	32	32	36	60	70	73	62	66	66	
1000 Hz	23	24	25	55	63	65	51	55	57	
2000 Hz	21	21	23	52	61	62	43	51	53	
4000 Hz	-	-	-	40	54	58	43	44	46	
8000 Hz	-	-	-	29	44	46	41	42	42	
Sum total (Average)		Lo dB(A)			Lwu dB(A)			Lwi dB(A)		
	36	37	38	67	75	77	63	68	70	

Automatic control unit

Combi 185 is shipped with a complete Optima 312 automatic control unit. Optima 312 is set to factory setting, which means that the installation is ready to run without setting up the operating menu. The factory setting is only a basic setting which should be changed to the individual operational needs and requirements of each individual dwelling.

Control panel



Speed (1)

This feature makes it possible to set the fan speed to levels 0 - 1 - 2 - 3 - 4.



Extended operation (2)

This feature makes it possible to set the timer for forced operation from 0 to 9 hours.



Immersion heater (3)

This feature makes it possible to turn the additional immersion heater in the hot water tank on and off.



Main menu (4)

This feature makes it possible to enter the main menu and to access the subheadings available there.



Filter (5)

This feature makes it possible to reset the litre alarm.



Information (6)

This feature makes it possible to get a good overview of the installation's current operating condition.



Temperature (7)

This feature makes it possible to set the temperature.