

Combi 166 BP MAX



- Stainless steel container – quality product from Høiax Systems.
- Supplies both fresh air and domestic hot water to the entire family
- The unit delivers a supplement to heating via the supply air
- Low energy consumption and highly efficient heat pump



Combi 166 BP MAX is a complete unit, comprising: a ventilation and container section with a highly efficient counter+current heat exchanger that has a heat recovery efficiency of up to 95%; a 166 litre hot water container with built-in heating element for coupling to solar panel/central heating; combination heat pump for heating up the supply air and domestic hot water; and energy-saving supply and extraction fans with backward curved blades and EC motors. As standard, the unit is supplied with a F7 supply air filter and G4 extraction air filter, plus a complete OPT312 control unit incl. an attractively designed control panel.

Combi 166 BP MAX is used as a ventilation heat pump in houses where priority is placed on a high degree of heat recovery efficiency and low energy consumption, while also using the energy in the exhaust air for heating the supply air and domestic hot water.

The energy is first recovered by the counter+current heat exchanger, after which the remaining energy is recovered by the heat pump.

If compliance with a specific electricity consumption of 1000 J/m² (BR 2015) is required, the unit can provide a max. air flow of approx. 220 m³/h, with an external pressure loss of approx. 80 Pa (F7/G4) and 95 Pa (G4/G4) respectively.

Combi 166 BP MAX can provide a max. air flow of approx. 500 m³/h, if a maximum specific electricity consumption of 1,800/2,100 J/m³ is required.

Combi 166 BP MAX can be used in houses up to approx. 500 m², with an air exchange of 0.30 l/s per m² heated floor area, provided that there are no requirements for compliance with a maximum power consumption level.

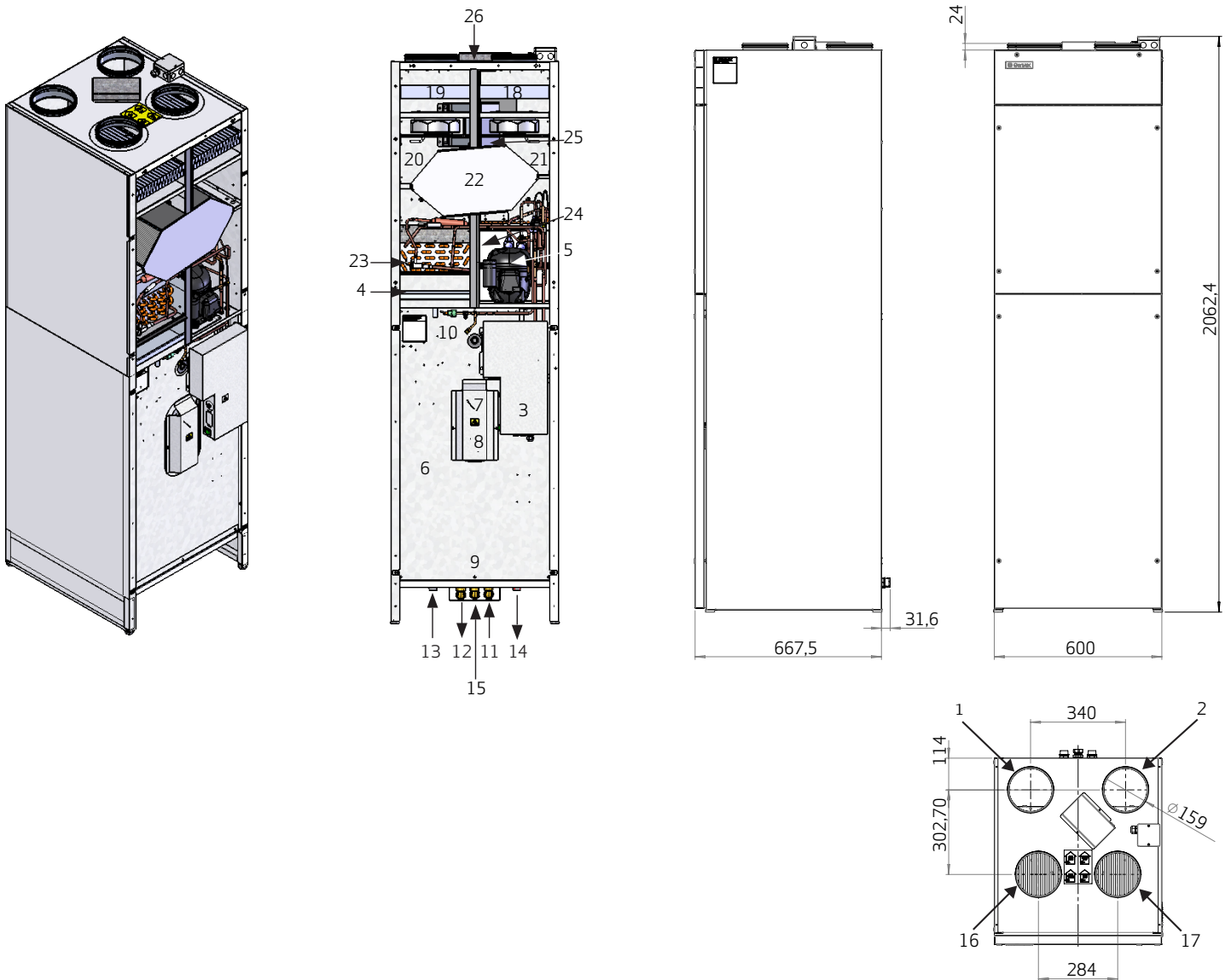
Types

- Combi 166 BP MAX LS: Large capacitor and solar heat element

Dimensional drawing

Measured in mm:

- | | | |
|---|---|----------------------------|
| 1. Return | 12. Hot water connection 3/4" RG | 23. Evaporator |
| 2. Supply air | 13. Connection to heating element 3/4" RG | 24. Capacitor (supply air) |
| 3. Electrical connection | 14. Connection to heating element 3/4" RG | 25. Bypass |
| 4. Condensate pan | 15. Hot water circulation | 26. Bypass motor |
| 5. Capacitor | 16. Fresh air | |
| 6. 185 litre container | 17. Exhaust | |
| 7. 5/4" anode | 18. Exhaust filter | |
| 8. 1 kW immersion heater | 19. Supply air filter | |
| 9. Evaporator coil | 20. Supply air fan | |
| 10. High-pressure pressure switch w. manual reset | 21. Exhaust fan | |
| 11. Cold water connection 3/4" RG | 22. Countercurrent heat exchanger | |



Technical data

COMBI 166 BP MAX

Electrical connection	
Without electrical heating surface	1 x 230VAC + PE + 10 A, 50 Hz
With electrical heating surface (max. 1.2 kW)	1 x 230VAC + PE + 16 A, 50 Hz
Fans with motor directly coupled	R3G 190
Motor	EC motor with integrated electronics
Insulation class	B
Protection class	IP 21
Motor data (max. per motor)	4,120 rev/min.
Power absorbed (max. per motor)	169 W
Power consumption (max. per motor)	1.35 A
Speed control	The fans can be set individually and steplessly on all 3 speeds
Work area of the heat pump	-15°/+35°C
Capacitor	NE 6210Z
Min. air flow	150 m ³ /h
Power absorbed (max.)	585W
Power consumption (max.)	3.14 A
Average return	1365 W
Average power absorbed	425W
Cooling media	R134a
Filling	1100 g.
Principal measurements: (h x l x d)	2,062 x 600 x 664 mm.
Cabinet design	Double encapsulated, hot galvanised plate with 30 mm insulation and container with PU foam. External powder-coated white RAL 9010.
Duct connection	Ø160 mm (nipple measurement) with rubber ring seal
Door	6 mm screws
Countercurrent heat exchanger	Saltwater-resistant aluminium
Condensate pan	Stainless steel
Condensate outlet	Synthetic fibre hose Ø15 mm (internal)
Hot water container	166 litre capacity - stainless steel
Protection of heating element	stainless steel
Filters	Supply air flow: F7 filter / Extract air flow G4 filter (optional G4 filters)
Weight with/without water	210/376 kg

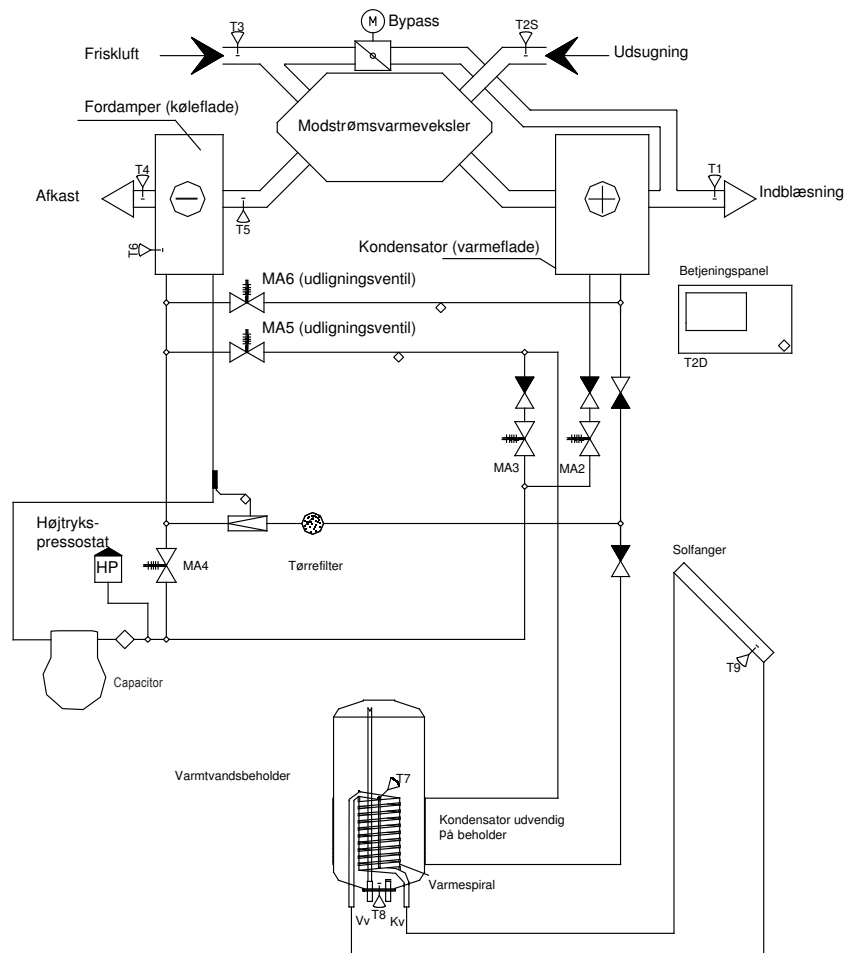
Functional diagram

Sensors

- T1: Supply air
- T2D: Room
- T2S: Exhaust air
- T3: Fresh air
- T4: Return
- T5: Before the cooling plate
- T6: Cooling plate
- T7: Tank sensor top (immersion heater)
- T8: Tank sensor bottom (VP)
- T9: External sensor (optional)

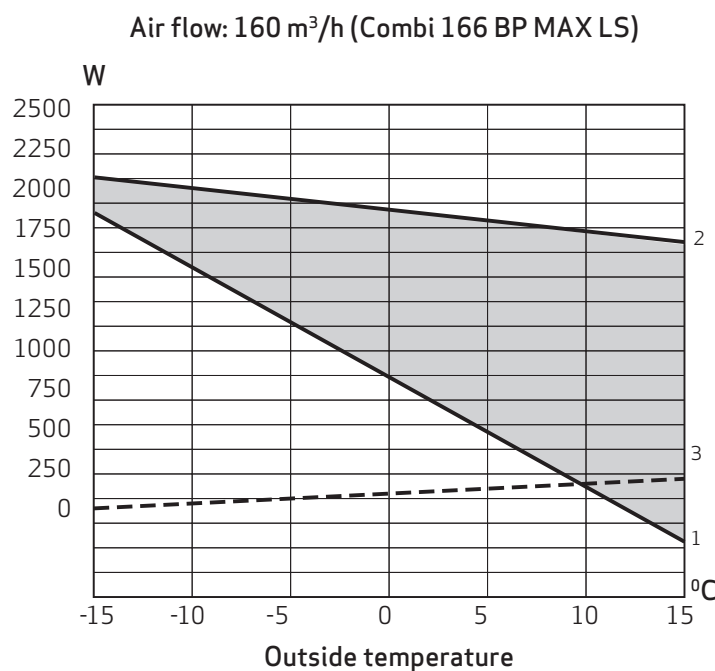
Solenoid valves

- MA2: Room heating
- MA3: Heating of domestic hot water
- MA4: De-icing
- MA5: Release valve (operation, space heaters)
- MA6: Release valve (operation, domestic hot water)
- MA7: Heating/cooling



Capacity - heat pump

COMBI 166 BP MAX capacity without domestic hot water heating.

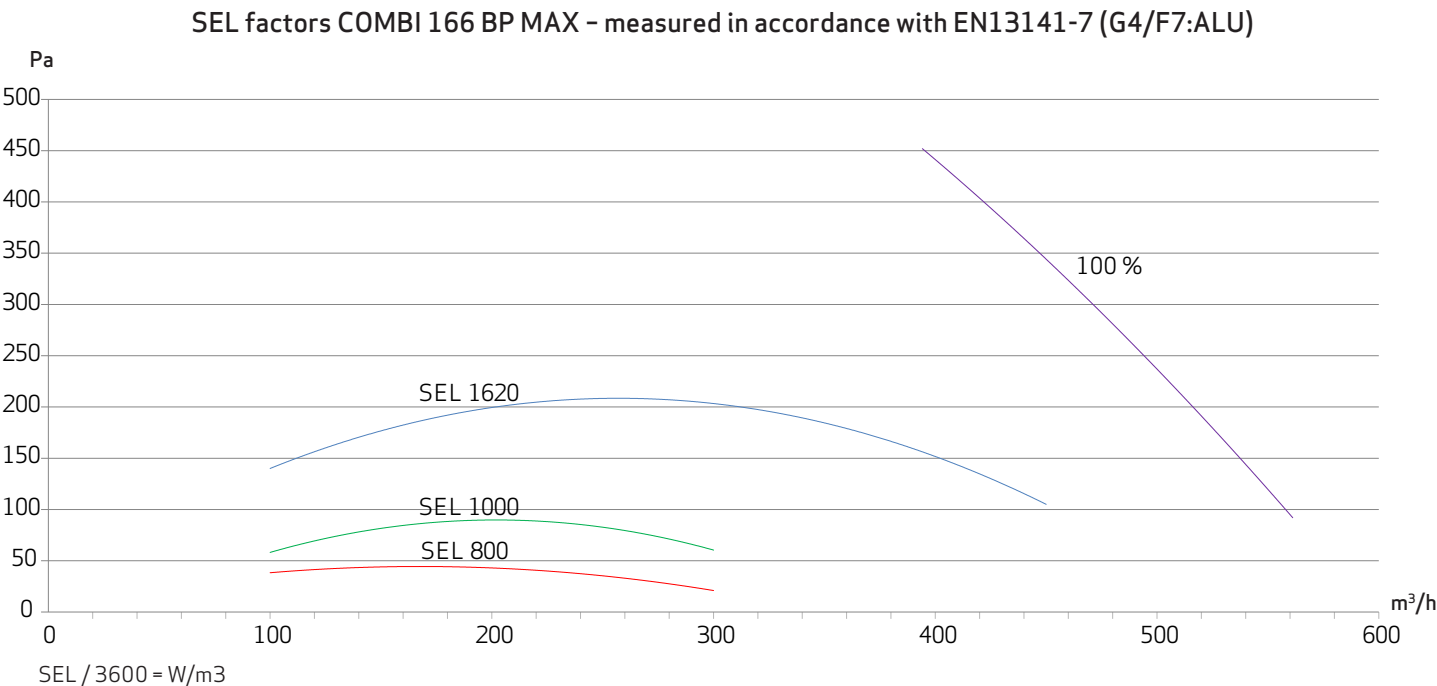


1. Energy consumption for heating of outside air to room temperature at 20°C.
2. The unit's total capacity.
3. Power absorbed with capacitor.

The shaded area is Combi 166 BP MAX's contribution to heating the room.

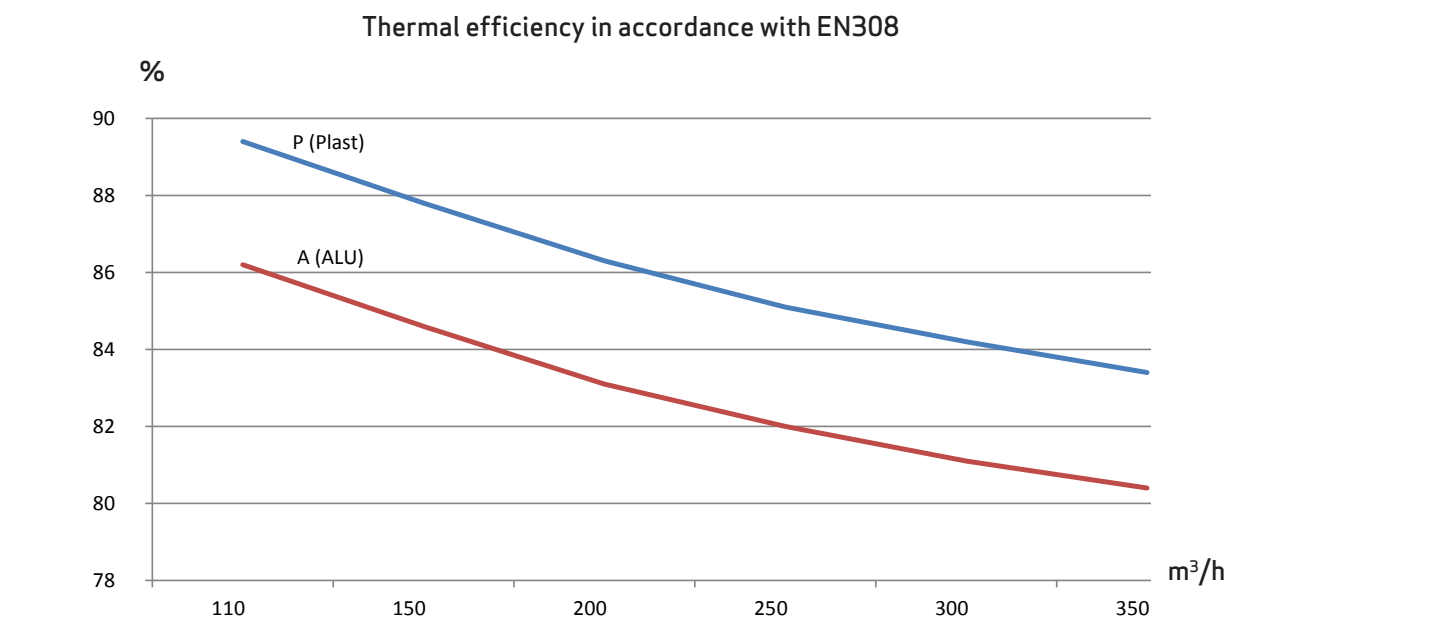
Capacity - ventilation

The capacity lines are based on an average value of supply and return air flow in a unit. The curve indicates the average external pressure that is available for a specific air flow with idle solenoid valves. The SEL curves are reduced by 10 Pa through the use of a PET exchanger. SEL is measured, including pressure loss, in the capacitor and evaporator plate.



Thermal efficiency

"Dry" thermal efficiency in accordance with EN 308, and given consistent air flow on the fresh air and exhaust air side. Provision has not been made for possible icing of heat exchanger when outside temperatures are low.



Acoustic data

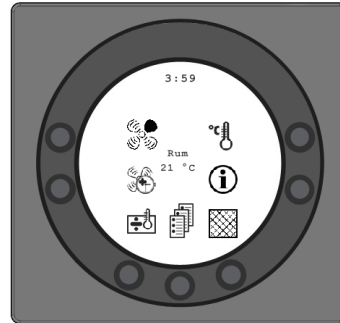
1. Measured as 40% of max. speed with capacitor running
2. Measured as 70 % of max. speed with capacitor running
3. Measured as 100 % of max. speed with capacitor running

Measuring point	1 m in front of the unit			Exhaust duct			Supply air duct		
Air flow	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 (A-weighted)	Lo dB(A)			Lwu dB(A)			Lwi dB(A)		
	36	37	38	67	75	77	63	68	70

Automation

Combi 166 BP MAX is supplied with complete Optima 312 automation. Optima 312 design is supplied with a factory setting that allows the unit to be put into operation without the need to set the unit's operating menu first. The factory setting is a default setting only, and should be changed according to the wishes and requirements you have for operation in your own home.

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.

Contact us

