

# Combi Blueline



- Delivers fresh air and hot water for the whole family
- System delivers additional heating via supply air
- Comfort cooling via both bypass and heat pump



Combi Blueline is a ventilation heat pump consisting of a ventilation and tank section containing a high-performance counterflow heat exchanger with a heat recovery rate of up to 88 % and a 185 litre hot water tank.

Combi Blueline is used for domestic ventilation, supply air heating, active comfort cooling and domestic hot water heating. All this can be achieved with a compact footprint and with a 230-volt power supply.

The system includes highly efficient EC fans with low energy consumption. As standard, the system comes with a G4/coarse supply air filter and G4 coarse extract air filter, as well as an innovative Optima 314 controller with touch control.

Combi Blueline is used as a ventilation heat pump in homes where a high heat recovery rate and low energy consumption are emphasised, while the energy in the exhaust air is used to heat the supply air or domestic hot water.

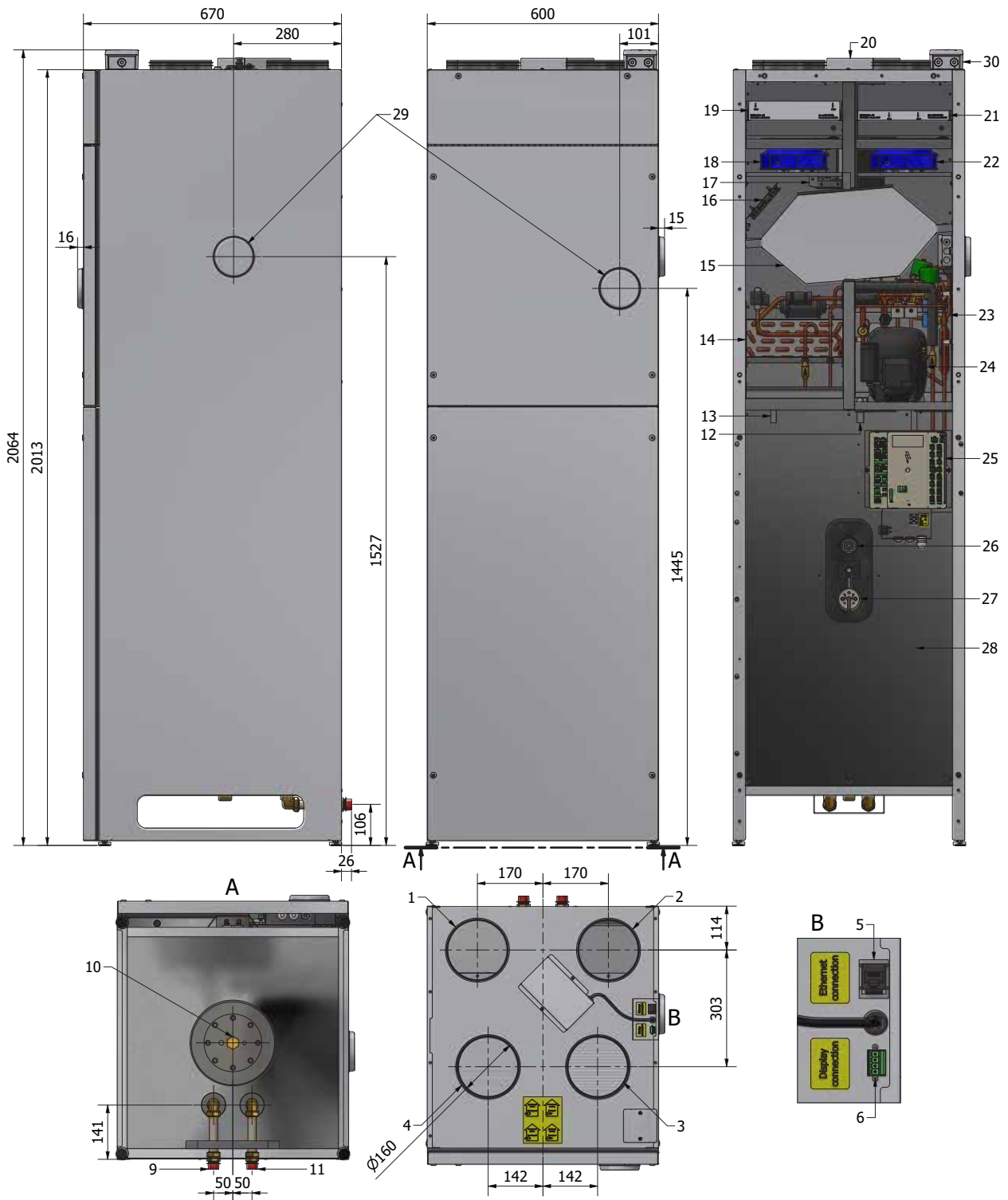
The energy is first recovered by the counterflow heat exchanger, and then the residual energy is recovered by the heat pump. The system effectively contributes to the reduction of excess temperature in the home as a result of both active and passive cooling.

As standard, Combi Blueline comes with a touch control panel and a built-in internet gateway that allows remote control and monitoring of the system via an app.

It is possible to order the Combi Blueline in a Z version with an extra 100 mm front- or side connection, which allows for regulation of 2 individual temperature zones. This feature is particularly useful in scenarios where the bedroom needs to be kept at a lower temperature than the rest of the house. The Z version can be combined with a zone control damper kit which enables automatic adaption of temperature in the bedroom according to the setpoint temperature.

# Dimensional sketch

Dimensions in mm



- |                                    |  |  |
|------------------------------------|--|--|
| 1. Discharge air                   | 14. Evaporator                           | 24. Compressor   |
| 2. Supply air                      | 15. Counterflow heat exchanger           | 25. Optima 314 controller  |
| 3. Extract air                     | 16. 1200W Electric preheater (option)    | 26. 5/4" anode   |
| 4. Incoming air                    | 17. Bypass                               | 27. 1 kW electric heating element  |
| 5. Internet connection             | 18. 90W Supply air fan                   | 28. 185 L. tank  |
| 6. Display connection              | 19. ePM1/F7 - Supply air filter (option) | 29. Ø100 mm connection for Zone control in front or side (only available for Z front and Z side version) |
| 9. Hot water outlet 3/4" RG        | 19. Coarse/G4 - Supply air filter        | 30. Electrical junction box for zone valve and reheater (only available for Z-version)                   |
| 10. 3/4" plugged drain connection  | 20. Bypass motor                         |  |
| 11. Cold water inlet 3/4" RG       | 21. Coarse/G4 - Extract air filter       |  |
| 12. Condensate drain - Supply air  | 22. 90W Extract air fan                  |  |
| 13. Condensate drain - Exhaust air | 23. Condenser                            |  |

## Technical data

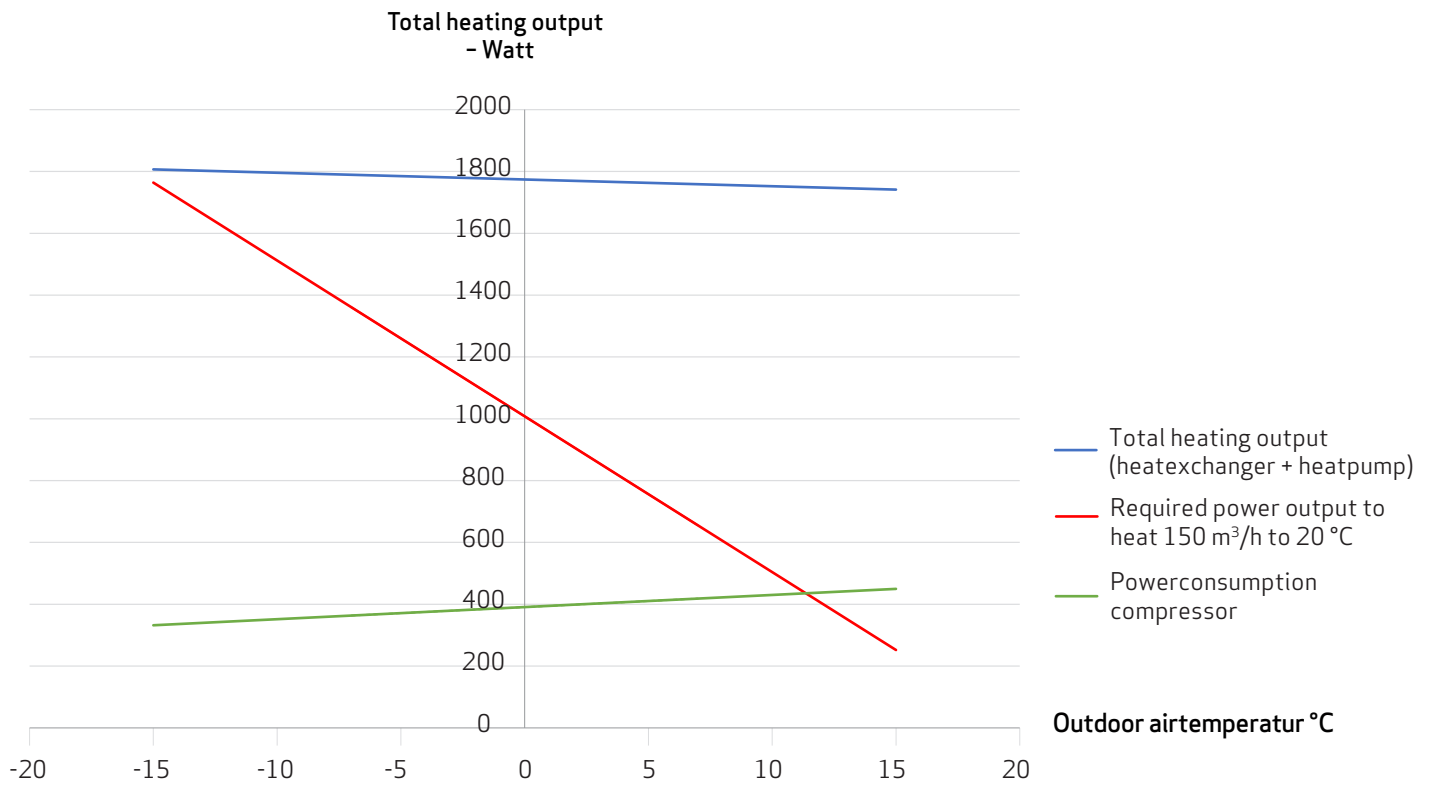
<b>Electrical connection</b>	
Without electric preheater	1 x 230VAC + PE + 10 A, 50 Hz
With electric preheater (max. 1.2 kW)	1 x 230VAC + PE + 16 A, 50 Hz
<b>Fans with direct coupled motor</b>	Ø180 mm backward curved blades
<b>Motor</b>	EC motor with integrated electronics
<b>Fan protection class</b>	B
<b>Protection class</b>	IP 54
<b>Fan speed</b>	4790 revolutions per minute
<b>Absorbed power (max. per motor)</b>	90 W
<b>Power consumption for fan</b>	0.9 A
<b>Speed control</b>	The fans can be individually and steplessly adjusted in all 4 speeds.
<b>Heat pump operation range</b>	-15°/+35°C
<b>Min. air volume for heat pump operation</b>	150 m <sup>3</sup> /h
<b>Absorbed power (max)</b>	585 W
<b>Power consumption (max)</b>	3.14 A
<b>Refrigerant</b>	R134a
<b>Refrigerant filling</b>	1000 g
<b>Main dimensions in mm: (h x l x d)</b>	2,062 x 600 x 664
<b>Cabinet construction</b>	Double-encapsulated hot-dip galvanised sheet with 30 mm insulation and tank with PU foam. Exterior powder coating white RAL 9010.
<b>Duct connection</b>	Ø160 mm (nipple dimensions) with rubber ring gasket
<b>Door</b>	6 mm screws (2 screws for the filter lid)
<b>Counterflow heat exchanger</b>	Seawater-resistant aluminium
<b>Condensation tray</b>	Stainless steel
<b>Condensate drain</b>	Synthetic hose Ø15 mm (internal)
<b>Tank protection</b>	Internally enamelled and with magnesium anode
<b>Filters</b>	Supply air: G4/coarse / Extract air: G4/coarse (option F7/ePM1)
<b>Weight without/with water</b>	210/395 kg

## Technical performance data

<b>Average net domestic heat output @7°C outdoor temperature and 150m<sup>3</sup>/h</b>	1100 watts
<b>Average COP for space heating and outdoor temperature 7°C</b>	3.0
<b>Average cooling capacity @ 35°C outdoor temperature and 250m<sup>3</sup>/h</b>	1200 watts
<b>Average heat recovery at 7°C outdoor temperature and 150m<sup>3</sup>/h</b>	84 %
<b>Ventilation workspace at SFP&lt;1000 j/m<sup>3</sup> and 100 Pa</b>	100–250 m <sup>3</sup> /h
<b>Domestic hot water heating load profile L at 190 m<sup>3</sup>/h COP according to 16147</b>	2.3
<b>Heating time for 185 litres of water from 10°C to 52°C at 7°C outdoor temperature and 20°C indoor temperature (via heat pump alone)</b>	Approx. 8 hours

## Air heating performance

Heat output as a function of outdoor air temperature. Extract air = 20°C, according to EN14511 at an airflow of 150m<sup>3</sup>/h.

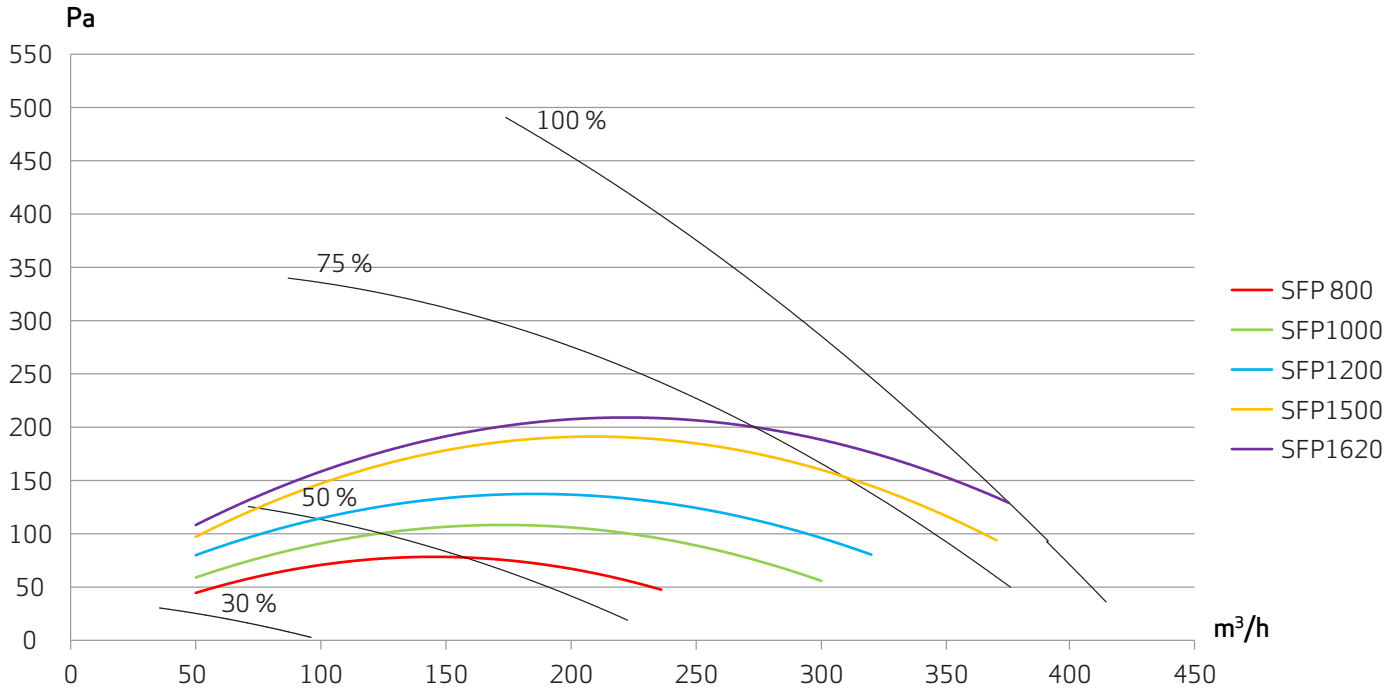


*The difference between the red and blue line is the net heat output for space heating.*

# Capacity - ventilation

The capacity lines are based on an average value of supply and exhaust air volume in a unit. The graphs indicate the average external pressure available at a given air volume. SFP curves are reduced by 10 Pa when using a PET exchanger.

SFP factors Combi Blueline - measured according to EN 13141-7 (Coarse/Coarse)

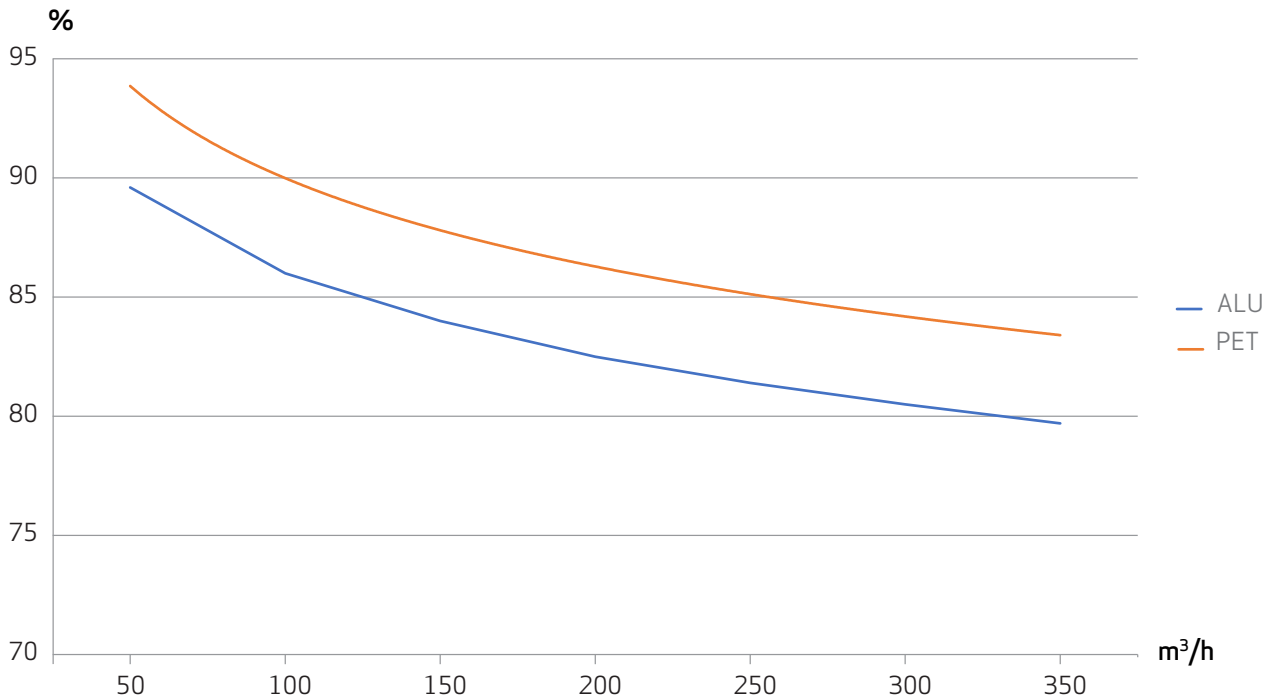


SFP 800 to w/m³ example:  
 $800/3600 = 0,22 \text{ w/m}^3$

# Temperature efficiency

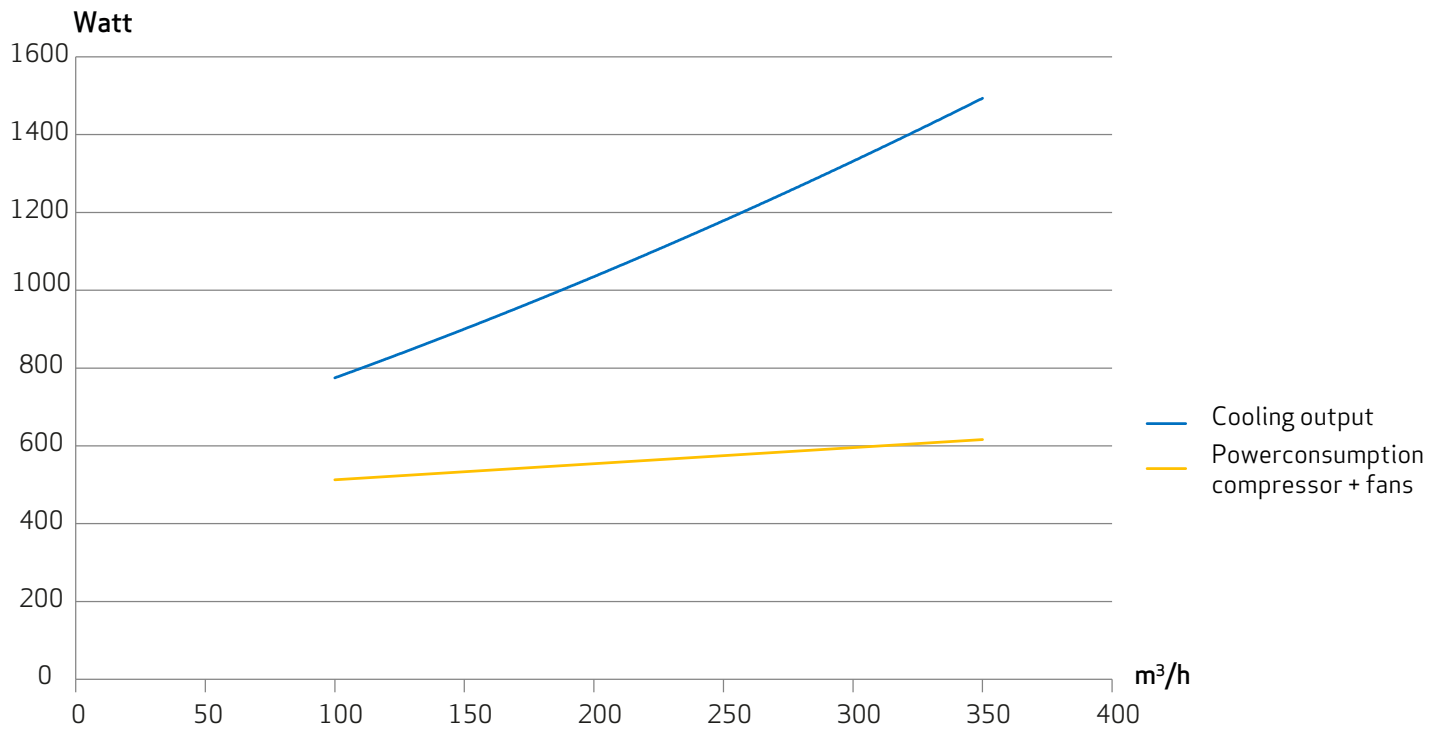
“Dry” temperature efficiency in accordance with EN 308 and identical air flow on the outdoor air and exhaust air side. Possible icing of the heat exchanger at low outside temperatures has not been accounted for.

Temperature efficiency according to EN 308



## Active cooling

Cooling performance measured according to EN14511 (35°C outdoor air and 27°C extract air temperature). The specified cooling capacity includes the contribution from cooling recovery via countercurrent exchanger.



# Noise data - Combi Blueline ventilation and heat pump operation

Air flow (m <sup>3</sup> /h)	Pressure (Pa)			Frequency/Hz									
				63	125	250	500	1000	2000	4000	8000	Total	
126	70	Sound power level Lw dB(A)	Supply air	30,43	39,68	44,78	49,53	44,99	47,49	49,78	37,78	55,06	
			Exhaust	41,49	49,99	54,55	49,54	55,27	50,68	39,28	26,46	59,78	
			Outdoor	41,43	51,14	55,38	49,88	54,15	49,29	41,83	47,00	60,01	
			Extract	31,57	39,73	44,61	49,23	45,14	48,56	50,97	38,56	55,59	
			Sound pressure level Lp dB(A)@ 1 m.	<b>Cabinet</b>	<b>21,67</b>	<b>29,75</b>	<b>29,35</b>	<b>28,80</b>	<b>30,28</b>	<b>30,75</b>	<b>25,26</b>	<b>22,31</b>	<b>37,46</b>
	100	Sound power level Lw dB(A)	Supply air	35,82	46,13	49,32	51,00	48,73	44,85	45,10	52,55	57,74	
			Exhaust	41,87	51,89	56,51	51,66	57,25	53,06	44,47	47,46	62,01	
			Outdoor	42,71	52,93	57,26	51,83	56,32	52,59	41,95	28,88	61,84	
			Extract	34,31	44,05	48,73	52,09	47,72	47,85	50,02	48,16	57,48	
			Sound pressure level Lp dB(A)@ 1 m.	<b>Cabinet</b>	<b>23,60</b>	<b>32,15</b>	<b>33,85</b>	<b>31,00</b>	<b>30,26</b>	<b>28,93</b>	<b>25,66</b>	<b>22,44</b>	<b>39,05</b>
162	70	Sound power level Lw dB(A)	Supply air	38,59	43,35	48,11	50,06	49,81	47,13	46,00	48,33	56,63	
			Exhaust	37,92	49,76	55,63	49,76	57,13	53,12	42,12	29,88	61,14	
			Outdoor	39,00	50,94	56,56	50,78	57,39	54,34	43,79	30,29	61,90	
			Extract	41,88	47,28	49,53	53,00	49,06	49,18	50,76	48,38	58,57	
			Sound pressure level Lp dB(A)@ 1 m.	<b>Cabinet</b>	<b>20,94</b>	<b>29,00</b>	<b>30,87</b>	<b>29,23</b>	<b>28,96</b>	<b>28,36</b>	<b>25,26</b>	<b>21,80</b>	<b>36,98</b>
	100	Sound power level Lw dB(A)	Supply air	36,96	45,85	51,69	52,95	51,33	47,97	52,63	61,05	63,41	
			Exhaust	42,15	52,95	59,42	53,50	59,37	55,18	45,09	31,50	64,05	
			Outdoor	43,20	54,45	60,25	53,35	58,73	54,80	44,73	30,96	64,24	
			Extract	32,70	44,81	52,32	54,03	48,67	48,55	50,28	48,78	59,00	
			Sound pressure level Lp dB(A)@ 1 m.	<b>Cabinet</b>	<b>21,28</b>	<b>30,23</b>	<b>32,84</b>	<b>29,59</b>	<b>28,73</b>	<b>28,14</b>	<b>24,87</b>	<b>21,54</b>	<b>37,73</b>
216	70	Sound power level Lw dB(A)	Supply air	42,83	44,78	50,79	52,26	52,72	50,42	53,09	61,21	63,65	
			Exhaust	37,99	48,17	58,84	52,00	61,80	58,24	49,14	36,34	65,14	
			Outdoor	38,38	48,59	57,75	51,87	60,26	57,17	48,17	33,79	63,94	
			Extract	46,37	52,21	53,96	54,25	51,06	50,99	57,96	64,92	67,08	
			Sound pressure level Lp dB(A)@ 1 m.	<b>Cabinet</b>	<b>21,33</b>	<b>29,95</b>	<b>31,75</b>	<b>30,09</b>	<b>30,36</b>	<b>29,16</b>	<b>25,95</b>	<b>22,84</b>	<b>37,96</b>
	100	Sound power level Lw dB(A)	Supply air	53,14	58,02	58,91	57,34	56,26	53,03	47,88	38,06	64,58	
			Exhaust	40,33	50,37	59,86	53,69	62,12	58,61	49,21	35,50	65,76	
			Outdoor	40,63	50,66	60,27	53,79	61,82	58,91	50,37	35,84	65,85	
			Extract	44,99	51,05	54,13	56,29	52,75	51,59	58,42	65,35	67,58	
			Sound pressure level Lp dB(A)@ 1 m.	<b>Cabinet</b>	<b>21,60</b>	<b>29,31</b>	<b>32,57</b>	<b>31,25</b>	<b>31,22</b>	<b>30,71</b>	<b>27,13</b>	<b>23,31</b>	<b>38,71</b>
200	150	Sound power level Lw dB(A)	Supply air	51,40	56,10	59,50	59,17	58,84	56,55	50,55	39,49	65,58	
			Exhaust	43,63	55,06	63,72	57,41	64,11	60,21	50,93	37,13	68,46	
			Outdoor	43,53	54,63	65,21	57,09	63,43	59,81	51,23	48,34	68,76	
			Extract	51,57	56,75	58,48	59,72	55,87	54,41	58,92	65,38	68,80	
			Sound pressure level Lp dB(A)@ 1 m.	<b>Cabinet</b>	<b>22,90</b>	<b>31,86</b>	<b>35,35</b>	<b>32,50</b>	<b>31,63</b>	<b>30,97</b>	<b>27,43</b>	<b>22,69</b>	<b>40,20</b>
	200	Sound power level Lw dB(A)	Supply air	51,67	57,97	61,17	60,66	60,34	58,41	52,83	47,06	67,23	
			Exhaust	44,61	57,42	65,55	59,33	65,54	61,78	52,52	38,68	70,13	
			Outdoor	45,37	57,71	66,20	59,39	65,67	61,86	52,96	38,77	70,45	
			Extract	50,43	55,26	59,42	62,00	58,22	55,73	56,68	61,73	67,85	
			Sound pressure level Lp dB(A)@ 1 m.	<b>Cabinet</b>	<b>24,64</b>	<b>34,03</b>	<b>36,40</b>	<b>33,53</b>	<b>33,06</b>	<b>31,85</b>	<b>27,91</b>	<b>22,89</b>	<b>41,42</b>
250	150	Sound power level Lw dB(A)	Supply air	56,68	64,57	66,42	61,78	59,69	57,07	51,39	50,59	70,40	
			Exhaust	42,46	51,96	62,64	57,38	65,40	62,23	53,22	39,82	68,99	
			Outdoor	43,25	52,69	63,31	57,46	64,92	62,31	54,22	39,54	69,02	
			Extract	56,12	62,11	63,01	60,54	56,82	54,86	51,11	50,97	67,97	
			Sound pressure level Lp dB(A)@ 1 m.	<b>Cabinet</b>	<b>24,25</b>	<b>31,43</b>	<b>34,76</b>	<b>33,08</b>	<b>33,25</b>	<b>32,72</b>	<b>29,81</b>	<b>25,64</b>	<b>40,82</b>
	200	Sound power level Lw dB(A)	Supply air	58,37	64,41	65,43	62,08	61,18	58,99	57,18	63,72	71,42	
			Exhaust	45,23	55,31	65,44	59,97	67,16	63,71	54,35	40,95	71,04	
			Outdoor	45,82	55,41	65,69	60,32	66,75	63,35	55,20	40,81	70,94	
			Extract	57,00	63,12	64,07	62,56	59,51	57,95	54,52	53,73	69,54	
			Sound pressure level Lp dB(A)@ 1 m.	<b>Cabinet</b>	<b>28,31</b>	<b>33,69</b>	<b>36,69</b>	<b>35,09</b>	<b>34,31</b>	<b>33,67</b>	<b>29,98</b>	<b>24,81</b>	<b>42,40</b>

## Control

Combi Blueline comes with Optima 314 control.

The Optima control comes with a factory default setting that allows operation of the system without first needing to configure the system's operating menu.

The factory setting is just a basic setting that can be changed to match the operational desires and requirements of your home.

### Combi Blueline is available with the following accessories:

- Genvex Automatic Fire Control.
- Integrated electric pre-heater or electric heater for installation in ventilation duct.
- Brine-based preheating/cooling surface.
- Combined CO<sub>2</sub>- and temperature sensors.

## Control panel - Optima Touch



### Speed

With this function, it is possible to set the fan speed in steps 0-1-2-3-4.



### Boost

Activating this button increases the airflow for a set period of time, e.g. 30 minutes.



### Filter/lock control panel

Here, you will see a shortcut to the filter menu, where you can read the status of the filter timer or reset it, or the lock control panel, which allows you to wipe the display without interacting with the display.



### Main menu

This function allows you to access the main menu, where you will find the sub-menus: calendar, user menu, control panel, information menu and service menu.



### Information

This function provides an overview of the current operating status of the system, e.g. temperature, fan setting, relay status/functions, alarm, timer, etc.



### Temperature

This function allows you to set the desired temperature.



### Electric heating element

Here, the electric heater in the hot water tank can be activated/deactivated as needed (used when there is an exceptionally high demand for hot water).



### Cooling

Here, active cooling via heat pump can be enabled/disabled as needed.

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