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 with built-in heating coil for connection to solar panel/central heating.

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.

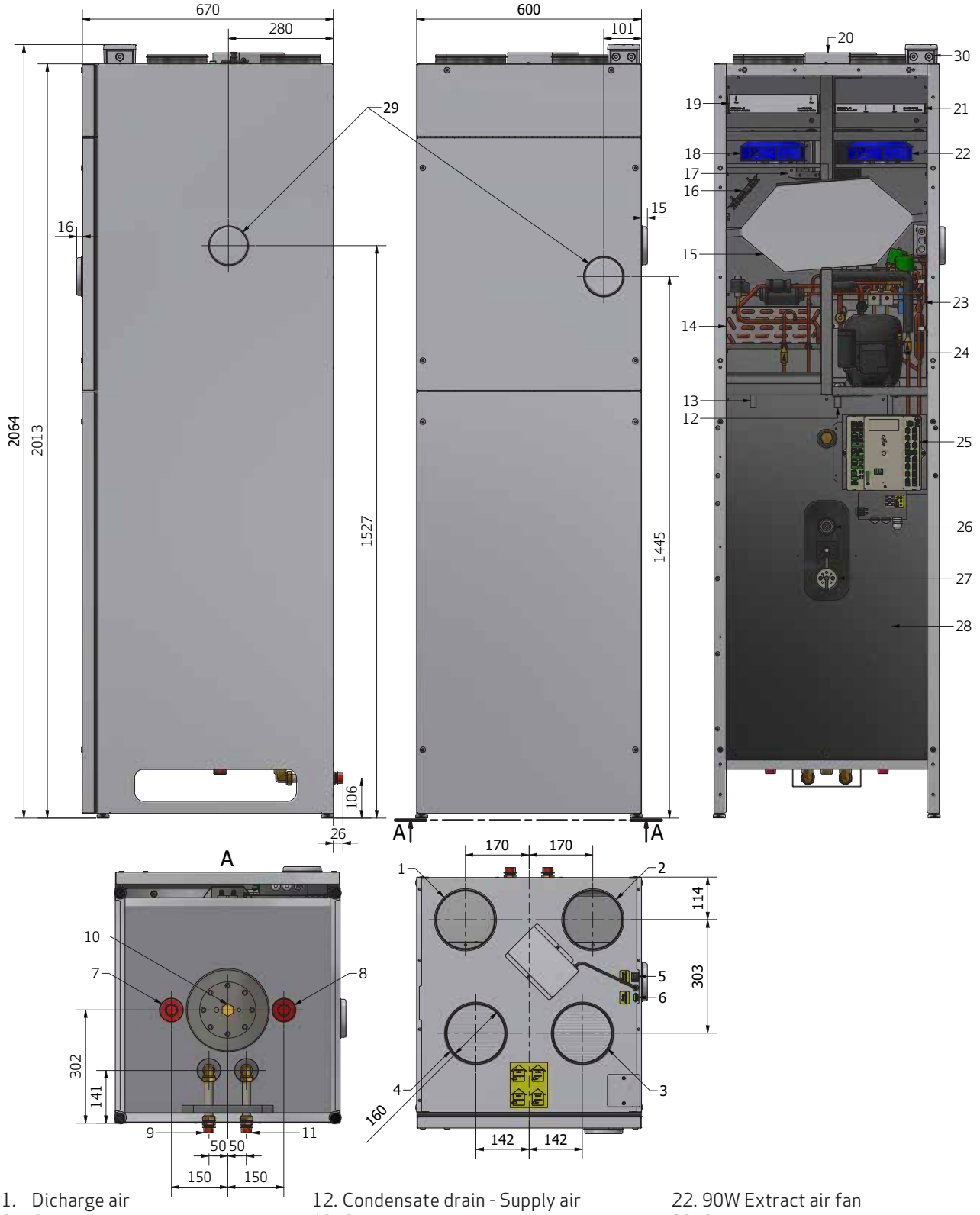
The energy is first recovered by the counterflow heat exchanger, and then the residual energy is recovered by the heat pump.The system effectively contributes to the reduction of excess temperature in the home as a result of both active and passive cooling.

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

Technical data

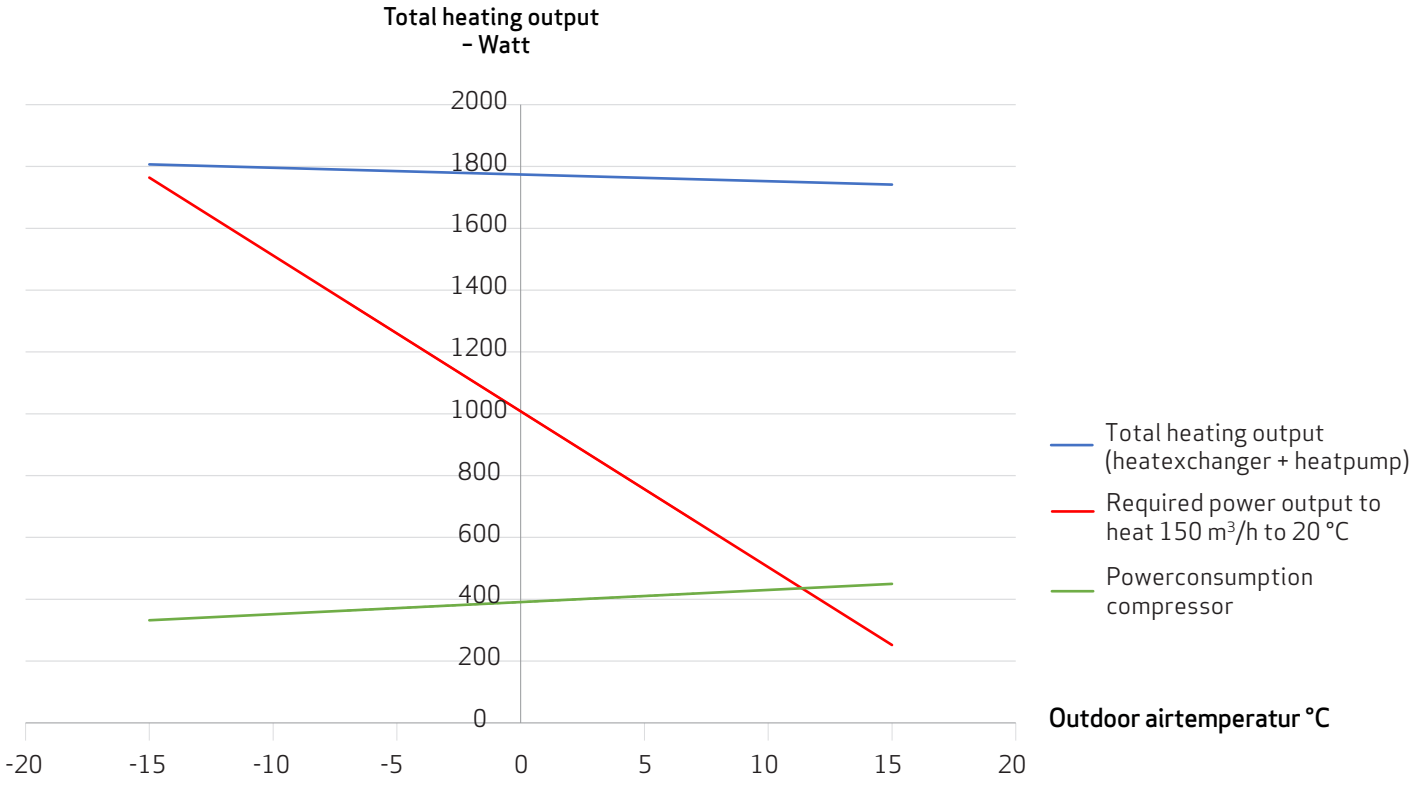
Electrical connection	
Without electric preheater	1 x 230VAC + PE + 10 A, 50 Hz
With electric preheater (max. 1.2 kW)	1 x 230VAC + PE + 16 A, 50 Hz
Fans with direct coupled motor	Ø180 mm backward curved blades
Motor	EC motor with integrated electronics
Fan protection class	B
Protection class	IP 54
Fan speed	4790 revolutions per minute
Absorbed power (max. per motor)	90 W
Power consumption for fan	0.9 A
Speed control	The fans can be individually and steplessly adjusted in all 4 speeds.
Heat pump operation range	-15°/+35°C
Min. air volume for heat pump operation	150 m3/h
Absorbed power (max)	585 W
Power consumption (max)	3.14 A
Refrigerant	R134a
Refrigerant filling	1000 g
Main dimensions in mm: (h x l x d)	2,062 x 600 x 664
Cabinet construction	Double-encapsulated hot-dip galvanised sheet with 30 mm insulation and tank with PU foam. Exterior powder coating white RAL 9010.
Duct connection	Ø160 mm (nipple dimensions) with rubber ring gasket
Door	6 mm screws (2 screws for the filter lid)
Counterflow heat exchanger	Seawater-resistant aluminium
Condensation tray	Stainless steel
Condensate drain	Synthetic hose Ø15 mm (internal)
Tank protection	Internally enamelled and with magnesium anode
Heating coil protection	Enamelled exterior
Filters	Supply air: G4/coarse / Extract air: G4/coarse (option F7/ePM1)
Weight without/with water	210/395 kg

Technical performance data

Average net domestic heat output @7°C outdoor temperature and 150m³/h	1100 watts
Average COP for space heating and outdoor temperature 7°C	3.0
Average cooling capacity @ 35°C outdoor temperature and 250m³/h	1200 watts
Average heat recovery at 7°C outdoor temperature and 150m³/h	84 %
Ventilation workspace at SFP<1000 j/m³ and 100 Pa	100–250 m³/h
Domestic hot water heating load profile L at 190 m³/h COP according to 16147	2.3
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)	Approx. 8 hours

Air heating performance

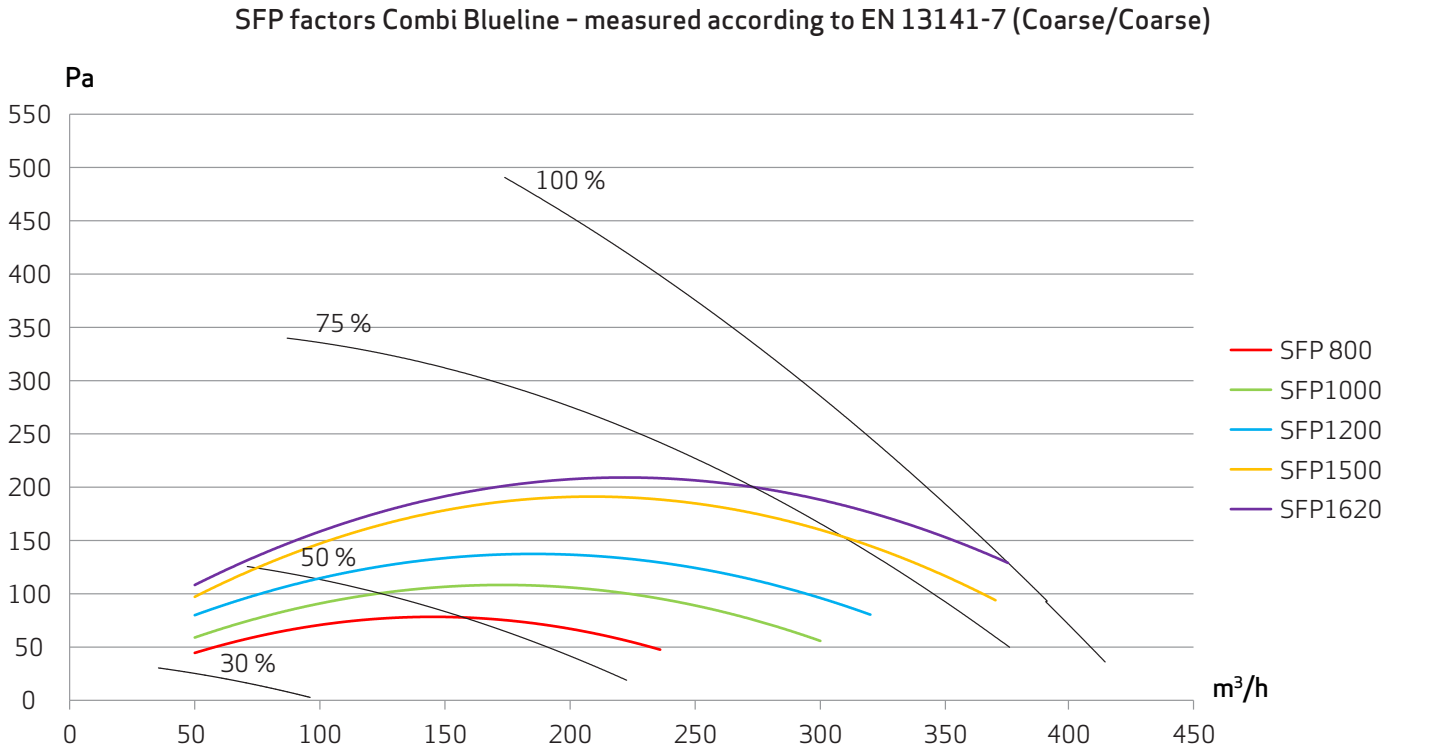
Heat output as a function of outdoor air temperature. Extract air = 20°C, according to EN14511 at an airflow of 150m³/h.



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

Capacity – ventilation

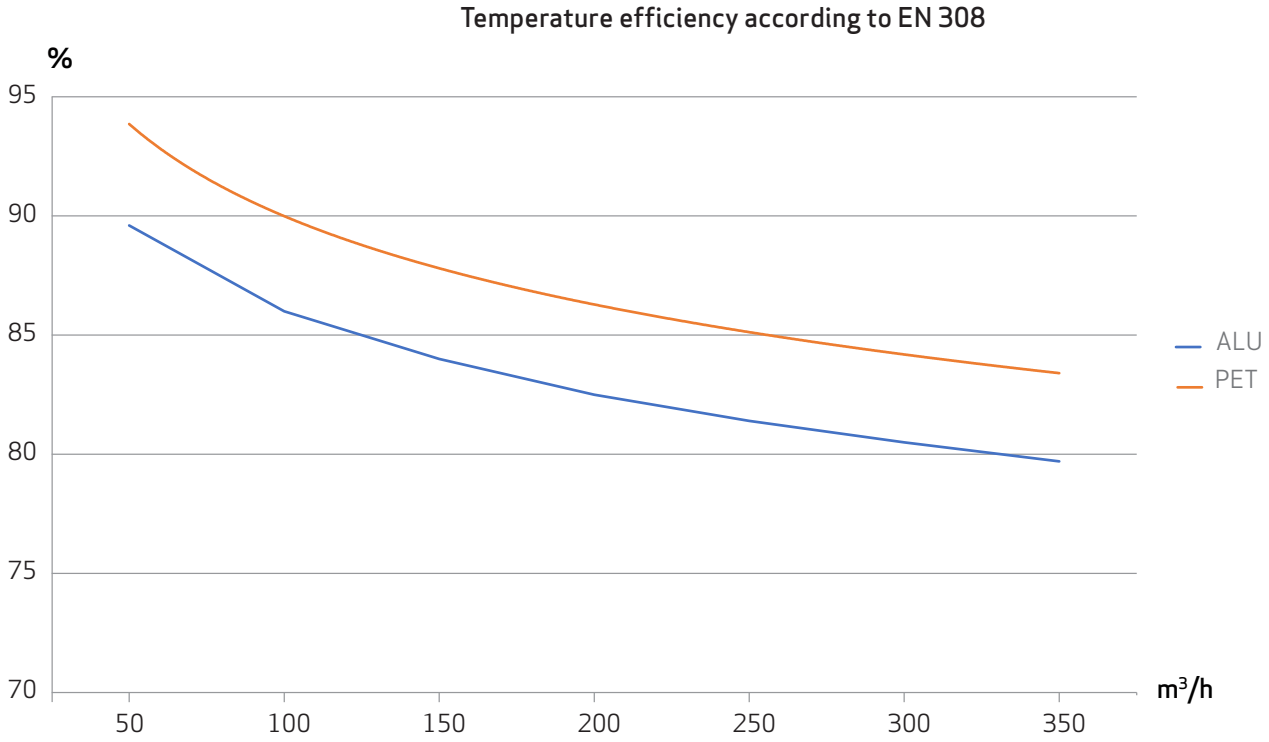
The capacity lines are based on an average value of supply and exhaust air volume in a unit. The graphs indicate the average external pressure available at a given air volume. SFP curves are reduced by 10 Pa when using a PET exchanger.



SFP 800 to w/m³ example:
800/3600 = 0,22 w/m³

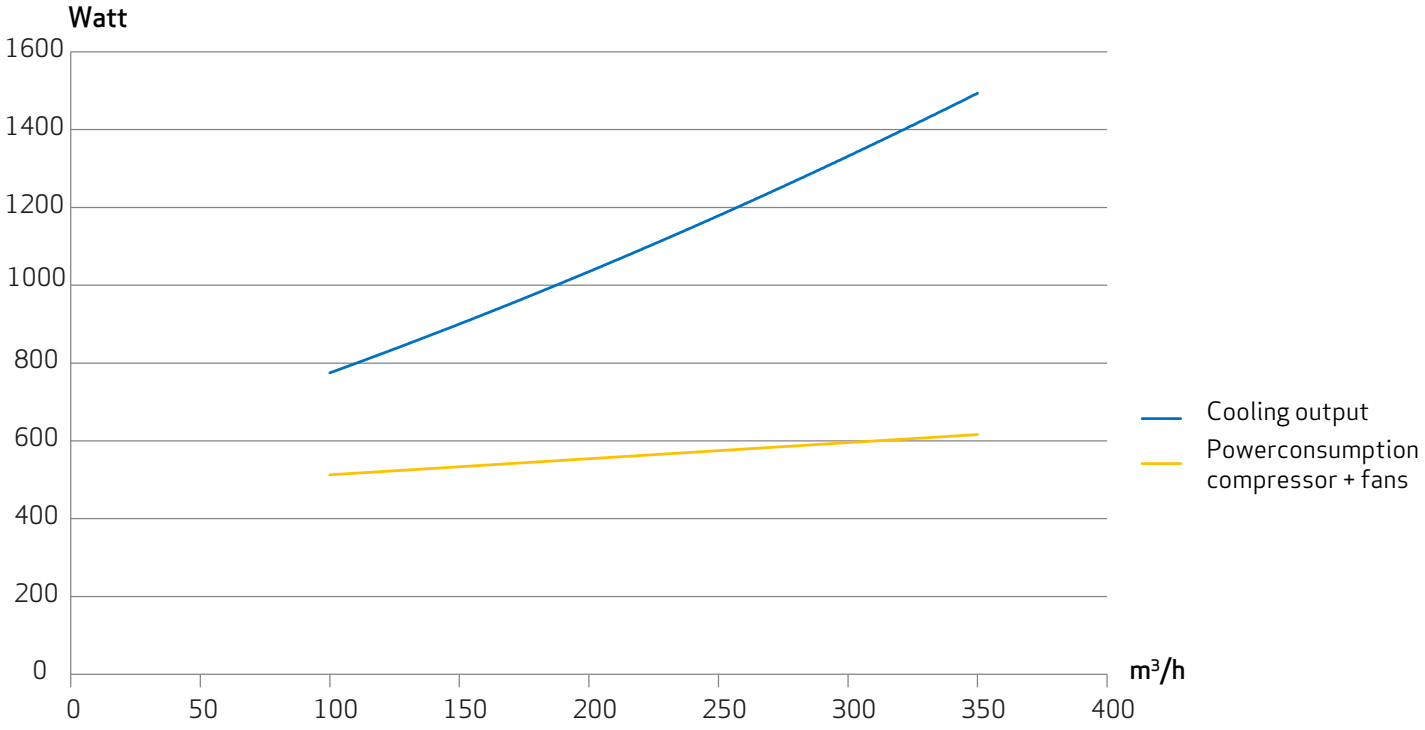
Temperature efficiency

"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.



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 (m3/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.**	**Cabinet**	**21,67**	**29,75**	**29,35**	**28,80**	**30,28**	**30,75**	**25,26**	**22,31**	**37,46**
	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.**	**Cabinet**	**23,60**	**32,15**	**33,85**	**31,00**	**30,26**	**28,93**	**25,66**	**22,44**	**39,05**
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.**	**Cabinet**	**20,94**	**29,00**	**30,87**	**29,23**	**28,96**	**28,36**	**25,26**	**21,80**	**36,98**
	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.**	**Cabinet**	**21,28**	**30,23**	**32,84**	**29,59**	**28,73**	**28,14**	**24,87**	**21,54**	**37,73**
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.**	**Cabinet**	**21,33**	**29,95**	**31,75**	**30,09**	**30,36**	**29,16**	**25,95**	**22,84**	**37,96**
	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.**	**Cabinet**	**21,60**	**29,31**	**32,57**	**31,25**	**31,22**	**30,71**	**27,13**	**23,31**	**38,71**
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.**	**Cabinet**	**22,90**	**31,86**	**35,35**	**32,50**	**31,63**	**30,97**	**27,43**	**22,69**	**40,20**
	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.**	**Cabinet**	**24,64**	**34,03**	**36,40**	**33,53**	**33,06**	**31,85**	**27,91**	**22,89**	**41,42**
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.**	**Cabinet**	**24,25**	**31,43**	**34,76**	**33,08**	**33,25**	**32,72**	**29,81**	**25,64**	**40,82**
	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.**	**Cabinet**	**28,31**	**33,69**	**36,69**	**35,09**	**34,31**	**33,67**	**29,98**	**24,81**	**42,40**

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_2- 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.

Contact us

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