komfovent

KOMBI

Hybrid heating and ventilation unit

KOMBI – Your comfort and perfect well-being, all in one unit

Comfort at home is not only about its interior, but also about the whole atmosphere. Fresh air, pleasant warmth or coolness, and hot water play a significant role in the comfort at home concept.

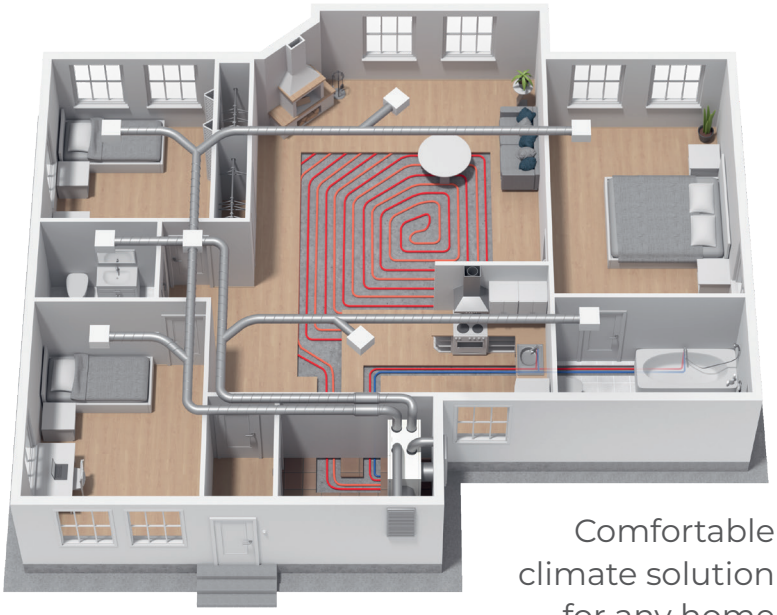
Discover KOMFOVENT KOMBI

KOMBI addresses every one of these facets to attain complete indoor climate control. It is a stand-alone hybrid unit that combines all HVAC systems: air-to-water heat pump, ventilation and domestic hot water. Such solution not only saves time, needed for planning, but also installation space and investment costs when compared to multiple systems.

- Air-to-water heating
- Air-to-Air heating
- Domestic hot water
- Cooling
- Ventilation with heat recovery
- Humidity recovery
- Air filtration

Why KOMBI is worth it

- Comfortable temperature at home, even when it is -25 °C outside.
- Ventilation unit with high efficiency sorption-enthalpy rotary heat exchanger.
- Restoring air humidity in winter, optimal humidity level in summer.
- Living space cooling through the underfloor or ventilation system.
- User-friendly and intuitive access to all functions via a single control panel.
- Fresh and filtered air every day.
- Quick and easy installation that does not require a refrigeration technician, and the entire system can be adjusted by one person.
- Integrated main heating system components: circulation pumps, valves, and expansion vessels.
- There are no outdoor units that require maintenance and cause noise.
- Large hot water tank for family needs.
- Aesthetic design
- Simple periodic maintenance – all KOMBI systems are accessible in one place, inside the premises.



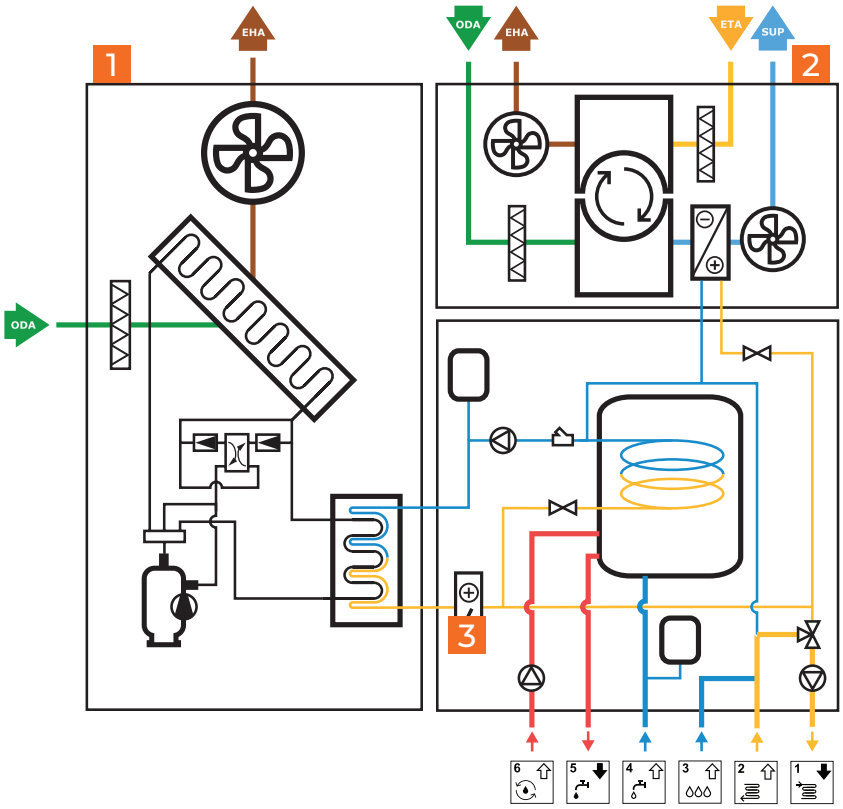
Comfortable climate solution for any home 80 – 200 m^2

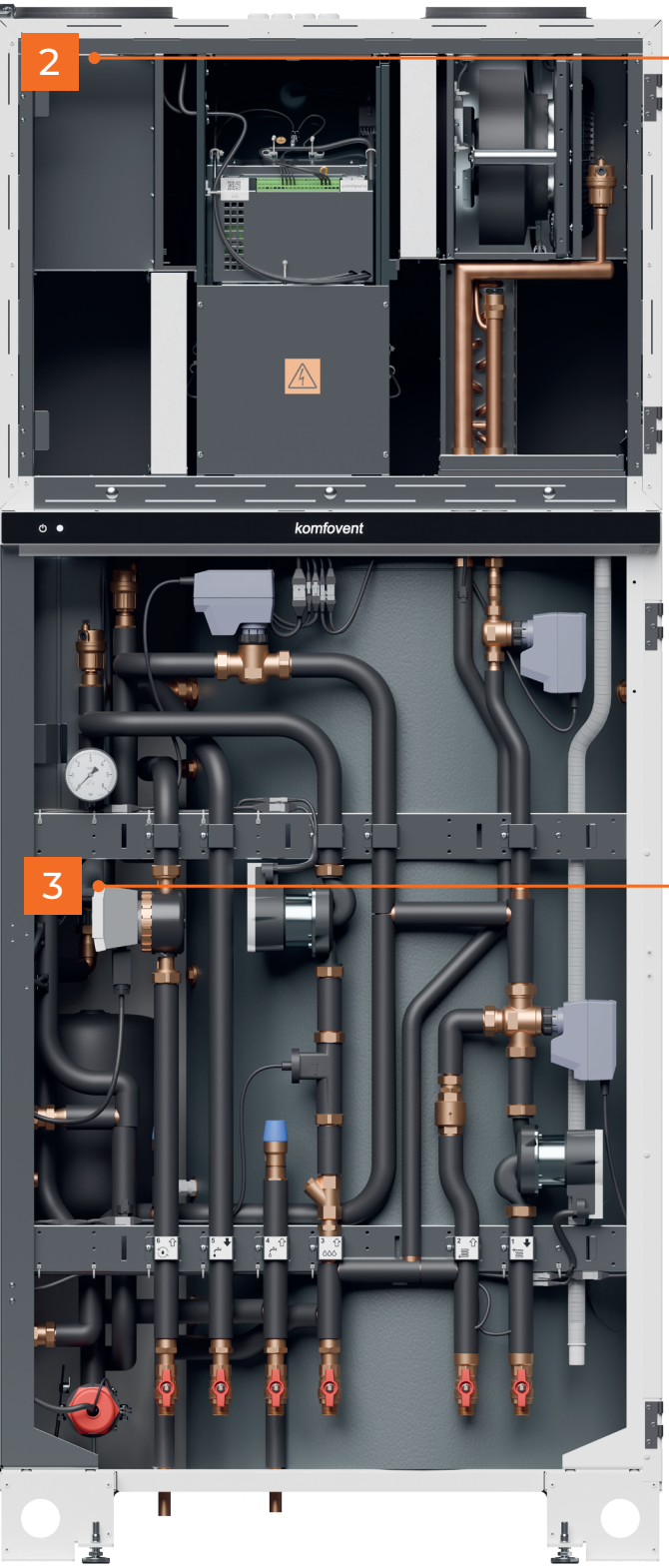
KOMBI features and components

The heat pump module:

- Air-to-water heat pump, capable of maintaining 9 kW of heating power throughout the whole range of outdoor temperatures.
- Twin rotor, premium class inverter compressor, ensures quiet and economical operation, as well as maximum reliability and durability.
- Pre-filled with R410A refrigerant in the factory, thus cooling specialists are not needed for installation or start-up
- High energy and cost savings lead to high COP and EER coefficients (detailed information on page 7).
- 6 kW backup electric heater grants stable operation even at -30 °C outdoor temperature or during evaporator defrosting.
- Quiet heat pump fan does not generate lots of noise even at maximum speeds.

Basic diagram of the KOMBI unit





The ventilation unit:

- High airflow of 517 m^3/h.
- Zeolite-coated sorption-enthalpy rotary heat exchanger – high thermal efficiency (up to 86 %) and humidity recovery throughout the year.
- Dust, allergens, and fungal spores are removed from ventilated premises by ePM1 60 % class filter that come as standard equipment.
- Energy-efficient fans and control system components grant a low SPI of 0.31 $W/(m^3/h)$.
- Additional air-to-air heating/cooling power of 3.4/2.2 kW ensures that user-desired supply air temperature will be maintained under extreme outdoor conditions.
- Ventilation on demand, possibility to connect various air quality sensors and other useful functions to further increase comfort and reduce power consumption.

The domestic hot water (DHW) module:

- Built-in insulated 186-litre water tank keeps hot water temperature stable for longer, reducing energy losses.
- Fast heat up of hot water in case of high usage demand.
- Automatic periodic disinfection for Legionella prevention ensures hygienic and clean domestic hot water.
- Complete hot water supply system with factory-fitted valves, expansion vessel, mechanical filter and prepared connections.
- Available option with integrated DHW circulation pump.

KOMBI A9

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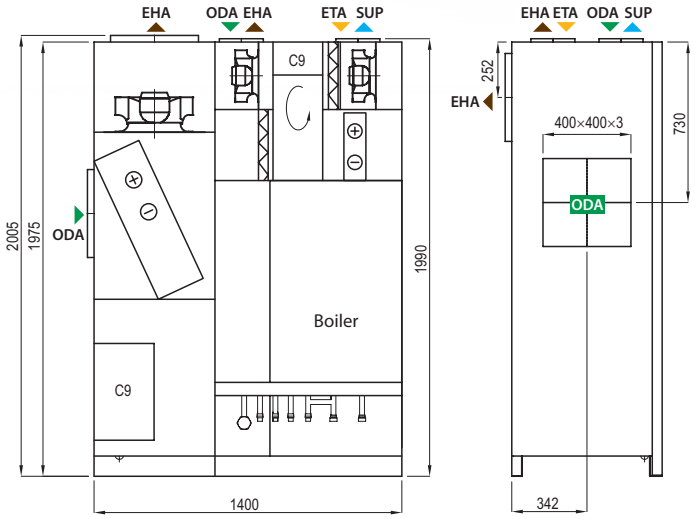

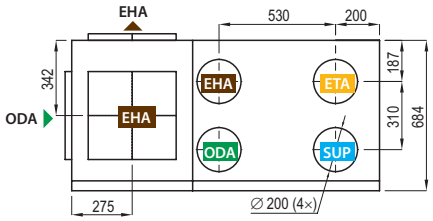

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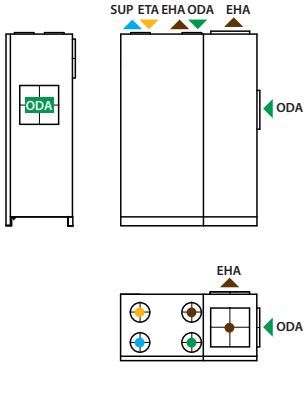


General data

Voltage, V	3~400
Nominal current, A	27,7
Power cable, mm²	5x4
IP protection class	IP 40
Heat pump section weight, kg	180
Boiler and AHU section weight, kg	238
Unit weight, kg	418
Heat pump section dimensions BxHxL, mm	550×2005×684
Boiler and AHU section dimensions BxHxL, mm	850×2005×684
Maintenance space, mm	900

Connections

Water supplied to the heating system	1"
Water returning from the heating system	1"
Heating system refill	½"
Domestic cold water inlet	½"
Domestic hot water supplied to the system	½"
Domestic hot water recirculation	½"
Ducts, heat pump section, mm	2 (3) × 400 × 400
Ducts, air handling unit, mm	4 × 200

Noise power level, L_{WA}

Casing in heating mode (A7/W35), dB(A)	48
Casing in heating mode (A7/W45), dB(A)	49,5
Casing in heating mode (A7/W55), dB(A)	49
Casing max., dB(A)	53,6
Outdoor in heating mode (A7/W35), dB(A)	50,4
Outdoor in heating mode (A7/W45), dB(A)	50,5
Outdoor in heating mode (A7/W55), dB(A)	51,1
Outdoor max, dB(A)	58,1

Accessories

Closing damper		AGUJ-M-200 + TF230/CM230
Silencer	ODA/EHA	AGS-200-50-600-M
	SUP/ETA	AGS-200-50-900-M
Noise damping / connection boxes		KSD-700×700
Flexible duct connection, mm		JLSF-400×400

ODA – outdoor intake **SUP** – supply air **ETA** – extract indoor **EHA** – exhaust air

Air handling unit data

Maximal air flow, m^3/h	517
Maximal air flow, l/s	144
Reference flow rate, m^3/s	0,101
Reference pressure difference, Pa	50
SPI, $W/(m^3/h)$	0,31
Thermal efficiency of heat recovery, %	86
Air heater capacity at nominal airflow, W45, kW	3,4
Air cooler capacity at nominal airflow, W7, kW	2,2
Electric power input of the fan drive at maximum flow rate, W	137
Electric power input of the fan drive at reference flow rate, W	59
Noise power level, Supply intlet, L_{WA}, dB(A)	55
Noise power level, Supply outlet, L_{WA}, dB(A)	67
Noise power level, Exhaust inlet, L_{WA}, dB(A)	57
Noise power level, Exhaust outlet, L_{WA}, dB(A)	68
Air filters dimensions B×H×L, mm	585×258×46
Air filters class according to ISO 16890, Supply/Extract	ePM1 60 % / ePM10 50 %

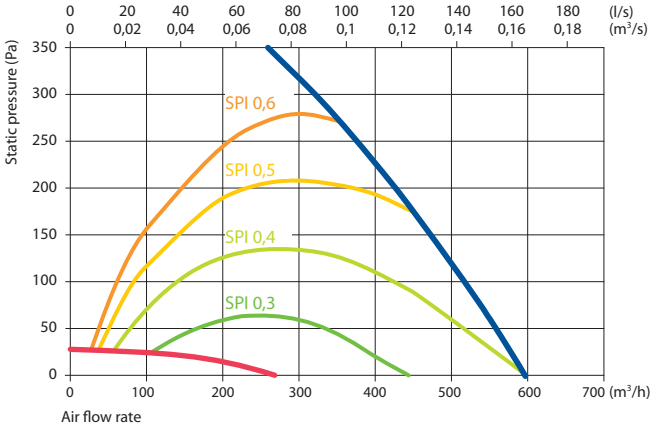
Heat pump data

Compressor type	Twin rotor
Refrigerant type	R410A
Refrigerant charge, kg	4,5
Nominal heating capacity, kW	9
Nominal cooling capacity (floor+AHU), kW	7
Back-up electrical heater, kW	6
Number of integrated water pumps	2
Max. water pump power consumption, W	75
Integrated expansion vessel for heating system, l	12
Internal water valume for heating system, l	13,6
Heating circuit water flow min., m^3/h	0,34
Heating circuit water flow at nominal capacity, m^3/h	1,54
Operating water pressure min., bar	0,5
Operating water pressure max., bar	3
Operating outdoor temperature min. (heat pump only), °C	-25
Operating outdoor temperature max. (heating), °C	17
Operating outdoor temperature min. (cooling), °C	15
Operating outdoor temperature max. (cooling), °C	30
Air filter dimensions B×H, mm	585×505
Filter class according to ISO 16890	*coarse* 65%
Heat pump seasonal energy efficiency to EN 14825	
Heating average climate (+2 °C), SCOP W 35 °C	4,86
Heating warm climate (+7 °C), SCOP W 35 °C	6,53
Heating cold climate (-7 °C), SCOP W 35 °C	4,03
Cooling (35 °C), SEER W 18 °C	5,11

Domestic hot water (DHW) data

Hot water tank volume, l	186
Hot water tank material	Steel, enamel
Hot water tank corrosion protection	Magnesium anode
Integrated expansion vessel for DHW, l	8
Operating water pressure max., bar	10
Water heating time from 10 °C to 45 °C, min.	25
Tap profile according to DIN EN 16147	XL
Number of water circulation pumps (optional)	1
Max. water pump power consumption, W	5
Tank disinfection water temperature max., °C	70

AHU perfomance



Air heat recovery

	Winter					Summer		
Outside air temperature, °C	-23	-15	-10	-5	0	25	30	35
After heat exchanger, °C	15,7	16,8	17,5	18,2	18,9	22,4	23,1	23,8

indoor +22 °C, 20 % RH

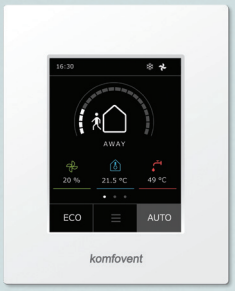
Heating/cooling performance data according to EN 14511

	Capacity, kW	Power consumption, kW	COP	EER
A2/W35	9	2,14	4,21	–
A7/W35	9	2,01	4,47	–
A2/W45	9	2,80	3,21	–
A7/W45	9	2,47	3,65	–
A2/W55	9	3,17	2,84	–
A7/W55	9	2,90	3,1	–
A35/W18	7	1,38	–	5,07
A35/W7*	3,3	1,24	–	2,67

* AHU only

Unified control system

- Easy to navigate control panel with intuitive and user-friendly interface.
- Temperature and humidity sensors integrated in the control panel can be used to maintain specific room conditions.
- 8 pre-programmed operation modes that automatically maintain all three comfort parameters (ventilation intensity, indoor temperature, and DHW temperature).
- Integrated energy-saving functions like air quality control, heating/cooling power adjustment according to outdoor temperature curve, and others.
- Detailed weekly schedules for heating and cooling seasons.
- Full manual control of individual comfort parameters for additional energy saving.
- Efficiency and consumption monitoring in real-time.
- Air filter impurity indication.
- Automatic periodical domestic water system disinfection function.
- Integrated and factory configured safety functions for troubleless operation.



A single control system is responsible for all the algorithms and processes needed for optimal comfort. Forget about a bunch of remote controllers and thermostats. Now every function is accessible at your fingertips with a single colour screen control panel. Water, air, and temperature parameters of the KOMBI unit are already pre-programmed and maintained automatically, but users can also easily adjust them with the control panel.

All KOMBI functions can be managed with the "Komfovent Control" app, enabling remote setting adjustments from anywhere. The app offers intuitive, detailed, and mobile control options.

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