



Product manual

Kitchen hoods

KHE, KHI, KHC

Kitchen ventilation

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BASIC PRINCIPLES IN KITCHEN VENTILATION

Ventilation and air conditioning systems are necessary in commercial kitchens because:

- the air is polluted by odors, particles of fat and gaseous products of combustion
- hygiene requirements must be met with regard to the quality of the room air
- heat is created to a considerable extent due to convection and radiation
- moisture is created by the preparation of meals and by washing
- It is necessary to renew the air in the rooms by an exchange with outside air and maintain comfortable or specified room air temperatures.

To meet this task, supply and exhaust air systems shall be installed in the kitchen areas so that deposits, air pollutants and moisture are drawn off, impairment of rooms not forming part of the kitchen area is avoided and no air which could be considered unhygienic is either supplied or can flow back. Particular attention is to be paid to separating fat from the exhaust air. To minimize the necessary airflows, it is useful to install heat-emitting appliances in continuous blocks or along surfaces forming room boundaries.

If the exhaust air comes into direct contact with the structure of the building, it should be ensured that this does not damage the building structure and that no persistent condensation occurs.

Calculation of required air volume rates

Quantity of air required for kitchen ventilation depends on size and type of kitchen, as well as on kitchen devices and food preparation appliances.

Table 1. presents approximate air volume flow rates (in m³/h per m² of kitchen area). Quantities refer to temperature difference of 8K between ambient air in the kitchen and supply air.

Kitchen type	Airflow per kitchen area [m ³ /h * m ²]	Referring to sections of the kitchen			
		Cooking [m ³ /h*m ²]	Baking and grilles [m ³ /h*m ²]	Dish washing [m ³ /h*m ²]	Ancillary rooms [m ³ /h*m ²]
Buffet	80	-	120	-	-
Inns, Cafeterias	60	105	120	120	45
Canteens Public houses	90	105	120	120	45
Hospital kitchens	90	105	120	150	45
Food preparation	80	105	120	120	60
Ship kitchens	90	120	120	-	60

Table 1. Exhaust volumes per kitchen area

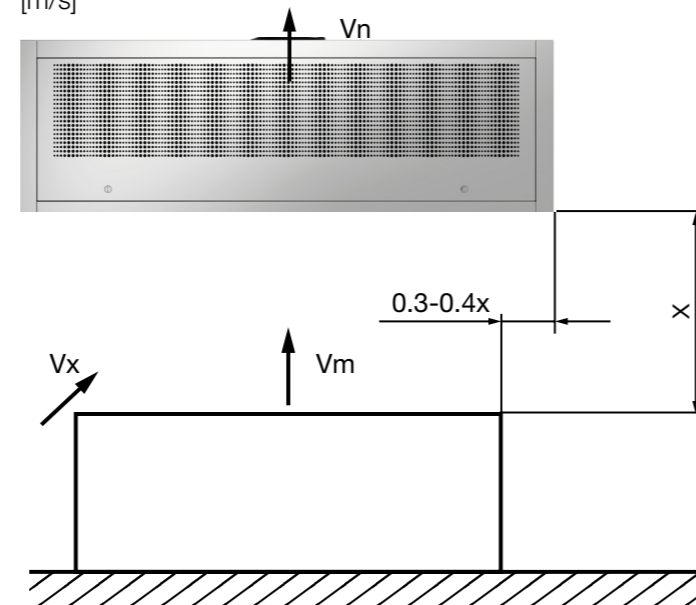
Design of the kitchen ventilation system should take into account:

- the quantity of exhaust air should be somewhat higher (5%) than the quantity of supply air in order to prevent kitchen odors from spreading into adjacent rooms
- opening of the cooking kettle lid may direct the steam plume in wrong direction; therefore it is recommended to increase hood dimension for a certain margin

For purely practical reasons, i.e., in order to achieve the required exhaust of air polluted by vapors, smoke or odors, it is recommended that kitchen ventilation design implements the air quantity values as given suggested in this manual. If considerably lower design air quantities were taken, the exhaust rate would not be sufficient, especially in case of stronger air cross-flow above the working surface of the kitchen. Required air flow rate can be calculated using two expressions (acc. to Recknagel/Sprenger):

$$V = 2 \cdot O \cdot x \cdot v_x \text{ [m}^3\text{/s]} \text{ or } V = 1.4 \cdot O \cdot x \cdot v_m \text{ [m}^3\text{/s]}$$

- O- Hood perimeter [m]
- v_x - Air velocity at the working surface outer edge [m/s]
- x - Distance between working surface and hood [m]
- v_N - Air velocity at hood inlet [m/s]
- v_m - Mean air velocity between hood and working surface [m/s]



Drawing 1. Physical quantities for airflow calculation

Velocity v_x and v_m [m/s] empirical values:

- In still air v_x = 0.10 - 0.15; v_m = 0.2 - 0.3
- With weak cross-flow v_x = 0.15 - 0.30; v_m = 0.3 - 0.4
- With strong cross-flow v_x = 0.20 - 0.40; v_m = 0.4 - 0.5

Velocity v_N [m/s] empirical values:

- For hoods with free air access from 4 sides v_N = 0.9 - 1.2
- For hoods with free air access from 3 sides v_N = 0.8 - 1.1
- For hoods with free air access from 2 sides v_N = 0.7 - 0.9
- For hoods with free air access from 4 side v_N = 0.5 - 0.8

Heat and humidity loads

Areas with different pollution loads occur within kitchens. The total heat emission takes place directly due to convection radiation and latently due to the generation of steam and other gaseous components. Radiation-intensive areas are characterized by high surface temperatures. These include preparation areas with grills and salamanders, grill plates, tipping frying pans, stoves etc.

Foreign substances in the air occur almost any time food is heated. The type and amount are influenced particularly by the amount of fat and the temperature, with the ensuing pyrolyzes being possibly damaging to health. These particularly include short-chain aldehyde's, such as formaldehyde, acetaldehyde, tr-2 hexenal and acrolein as well as highly-volatile nitrosamines and polycyclic aromatic hydrocarbons (e.g. benzo-a-pyrene). Calculation of the required air flow rate based on heat balance in the room/kitchen (acc. VDI 2052, E 3.81) referring to temperature difference of Δt= 8K (acc. to Recknagel/Sprenger):

$$\dot{V} = \frac{\sum (P_i \cdot \psi_i \cdot \eta_i) \cdot \varphi \cdot 3600}{\rho \cdot c_p \cdot (t_p - t_z)} \text{ [m}^3\text{/s]}$$

- v - required air flow rate [m³/h]
- P_i - Installed output of each individual kitchen device [kW]
- Ψ_i - Dissipated heat per 1 kW of installed device output [kJ/kW]
- η_i - Kitchen device efficiency, normally 0.8
- ρ - Air density 1.2 kg/m³
- c_p - Specific heat of air [kJ/kgK]
- Δt_z - Air Temperature difference (t_p-t_z) [K]
- t_p - Room air temperature
- t_z - Supply air temperature
- φ - Factor of simultaneous operation of devices:

- for small kitchens: 0.8 - 1.0
- for medium kitchens: 0.5 - 0.8
- for large kitchens: 0.5 - 0.8

Calculation of required air flow for removal of latent moisture:

$$\dot{V} = \frac{\sum (P_i \cdot D_i \cdot \eta_i)}{(X_p - X_z) \cdot \rho}$$

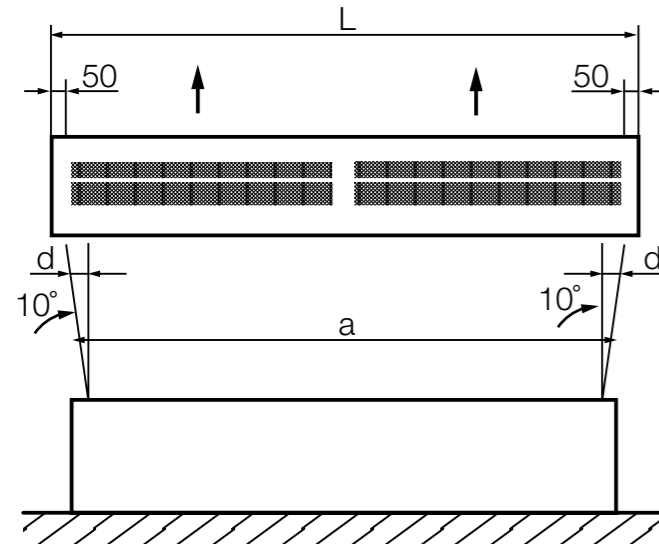
- D_i - Vapor (moisture) content per 1 kW of installed output of kitchen devices [g/h *kW]
- X_p - Vapor content of room air [g/kg]
- X_z - Vapor content of supply air [g/kg]

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Hood Size

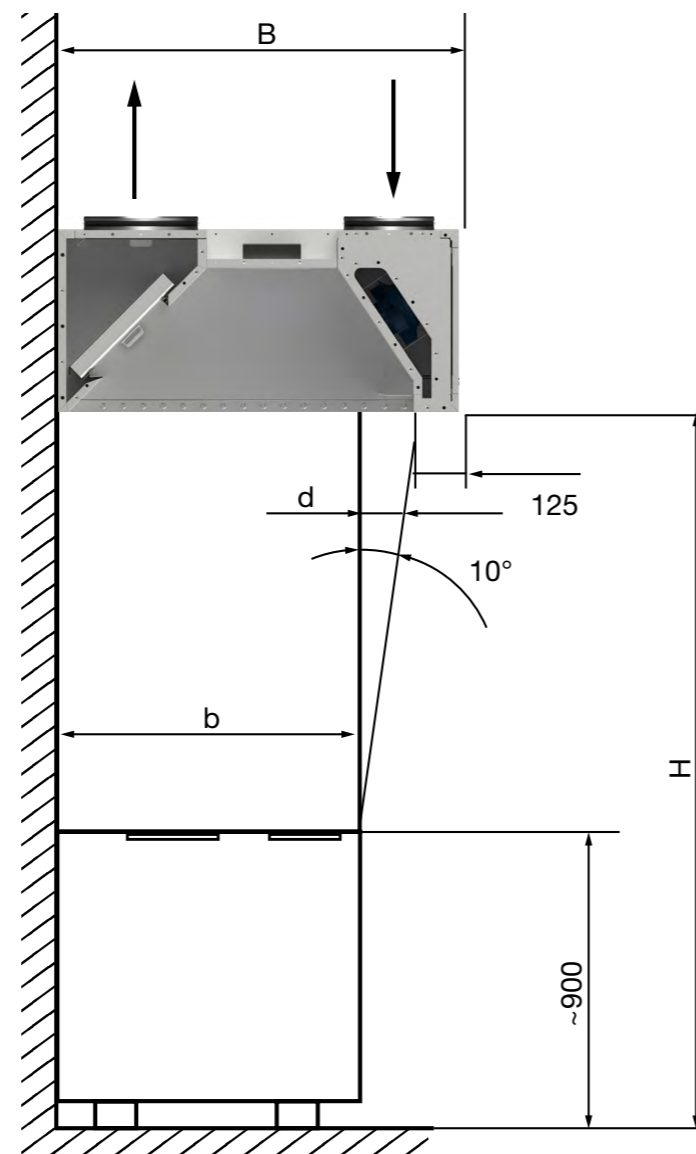
Hood size is defined by the size (dimensions) of kitchen devices from which polluted air is exhausted. For example, if a hood hangs above a drawer-type oven, dimensions of the hood are defined taking into account the ground plan of the oven with opened drawers. After dimensions of a certain hood type are defined or calculated, a typical size of the hood should be selected from technical data given in this manual. If the calculated value differs from typical dimensions given in the table, a higher value/dimension should be selected, especially when the hood width is concerned.



Hoods installed at height $H = 2.1$ m from floor, perimeter of a kitchen-hood edges should oversize the ground plan of the working surface for an excess of $d = 100$ mm. If the hood is at height $H = 2.1$ m, then the key parameter is an angle 10° which defines the appropriate value of the excess "d" (see figure below). When energy-saving hoods are concerned, the hood width should be additionally increased for the width of outer, inactive edge, i.e., for 125 mm by wall hoods and 250 mm by ceiling hoods. It should be taken into account that, when opened, lids of cooking kettles or washed pots can act as directing panels. Vapour clouds released from these devices may require higher than minimum excess value "d" in order to be exhausted.

Recommended Minimum Hood Dimensions

For $H = 2100\text{mm}$	For $H > 2100\text{mm}$
CONVENTIONAL WALL HOOD $W = b+d+50 = b+150$ $L = a+2d+100 = a+300$	CONVENTIONAL WALL HOOD $W = b+d+50$ $L = a+2d+100$
CEILING HOOD $W = b+2d+100 = b+300$ $L = a+2d+100 = a+300$	CEILING HOOD $W = b+2d+100$ $L = a+2d+100$
INDUCTION WALL HOOD $W = b+d+125 = b+225$ $L = a+2d+100 = a+300$	INDUCTION WALL HOOD $W = b+d+125$ $L = a+2d+100$
CEILING HOOD $W = b+2d+2 \cdot 125 = b+450$ $L = a+2d+100 = a+300$	CEILING HOOD $W = b+2d+2 \cdot 125$ $L = a+2d+100$



*Excess value "d" For $H > 2100$ mm

H [mm]	d [mm]
2150	220
2200	230
2250	240
2300	250
2350	260
2400	265

Example 1:

Given:

- dimension of the working surface $a \times b = 2100 \times 900$
- height to the lower edge of the hood $H = 2,1$ m

Required:

- size of the conventional wall hood
- size of the induction wall hood

Solution:

- **Conventional wall hood**

$$W = b+d+50 = 900+100+50=1050 \quad W=1100$$

$$L = a+2d+100 = 2100+2 \cdot 100+100=2400 \quad L=2500$$

Ordering data:

KHE-W-2500 x 1100 x 400

- **Induction wall hood**

$$W = b+d+125 = 900+100+125 = 1125 \quad W= 1300$$

$$L = a+2d+100 = 2100+2 \cdot 100+100= 2400 \quad L= 2500$$

Ordering data:

KHI-W-2500 x 1300 x 500

Example 2:

Given:

- dimensions of the working surface $a \times b = 2100 \times 900$
- height of the lower edge of the hood $H = 2,3$ m
- ($d = 1,4 \text{ m} \cdot \tan(10^\circ) = 1,4 \cdot 84 = 118$)

Required:

- size of the conventional wall hood
- size of the induction wall hood

Solution:

- **Conventional wall hood**

$$W = b+d+50 = 900+118+50=1068 \quad W=1100$$

$$L = a+2d = 2100+2 \cdot 118+100 = 2436 \quad L=2500$$

Ordering data:

KHE 2500 x 1100 x 400 - W

- **Induction wall hood**

$$W = b+d+125 = 900+118+125 = 1143 \quad W= 1300$$

$$L = a+2d+100 = 2100+2 \cdot 118+100 = 2436 \quad L= 2500$$

Ordering data:

KHI 2500 x 1300 x 550 - W

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SECTION OF THE KITCHEN	TYPES OF KITCHEN DEVICES	ELECTRICAL DEVICES				GAS DEVICES			
		Normal use ^a		Limited use ^b		Normal use ^a		Limited use ^b	
		Emission of heat	Moisture	Emission of heat	Moisture	Emission of heat	Moisture	Emission of heat	Moisture
		W/kW	g/(hkW)	W/kW	g/(hkW)	W/kW	g/(hkW)	W/kW	g/(hkW)
COOKING	- boiling pans and automatic boiling pans	35	441	25	118	100	441	75	118
	- pressure cookers	40	15	-	-	-	-	-	-
	- high pressure steamers, slide-in appliances	25	294	25	0	-	-	-	-
	- high pressure steamers Push-through appliances (appliance with a front and back door)	25	294	25	0	-	-	-	-
	- combination ovens	120	265	70	147	150	265	85	147
BAKING HOTPLATE FRYING	- tilting frying pans	450	588	250	220	450	630	450	368
	- roasting, grilling and griddle plates	330	588	200	175	350	588	250	220
	- grilling and salamander appliances	800	257	700	257	720	294	720	294
	- roasting and baking ovens	350	235	250	235	350	294	250	294
	- hot air appliances/thaving appliances	70	220	40	88	100	220	50	147
	- automatic roasting and grilling appliances for quick fried food	250	338	250	338	-	-	-	-
	- automatic sauce appliances	150	235	110	235	-	-	-	-
	- deep fryers	90	1030	-	-	90	1030	-	-
	- automatic tunnel deep fryers ^c	50	147	-	-	-	-	-	-
	- automatic tunnel deep fryers ^d	50	808	-	-	-	-	-	-
	- induction hob	70	41	35	74	-	-	-	-
	- ceramic cooker	200	118	100	74	200	118	1120	94
	- wok	70	41	-	-	450	630	-	-
Multi-purpose area for: -BAKING -THAWING -TEMPERATURE MAINTAINING -COOLING -MEAL PREPARATION -MEAL TRANSPORT	- cookers, cooking points ^e	200	118	100	74	250	147	150	118
	- stockpot cooker	200	220	150	147	250	265	200	176
	- microwawe appliances	50	15	-	-	-	-	-	-
	- waterbaths	125	194	-	-	195	323	-	-
	- warm cupboards	350	-	-	-	350	-	-	-
	- refrigerators	700	-	-	-	-	-	-	-
	- kitchen appliances	300	-	-	-	-	-	-	-
MEAL SERVING	- transportation devices ^f	1000	-	-	-	-	-	-	-
	- warm meals self-service	125	-	-	-	-	-	-	-
	- cold meals self-service	700	-	-	-	-	-	-	-
	- dish dispensing	300	-	-	-	-	-	-	-
	- serving beverages	100	-	-	-	-	-	-	-

^a Normal operation: simultaneous, correct use of several devices for frying, grilling, baking, cooking, annealing.

^b Limited operation: during periods of reduced activity with partial use of cooking appliances, steam cooking, defrosting, reheating, heat retention, low temperature cooking, and the like.

^c With built-in remover

^d Without built-in remover

^e Multiplied by factor for kitchen hobs: - Electric cooker factor (Solid kitchen hob: 1, Ceramic hob: 1, Induction hob: 0.35, Large surface steel plate: 1.3)

- Factor for gas hobs (Open cooking space: 1, Glossy hob: 1.2, Ceramic hob: 0.8)

^f Total output is emitted into space as heat.

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Notes for special devices

- K = hemispherical pot, calculated as cooking point (eg induction wok, nominal consumption x value from table x kitchen hob factor)
- Pasta cooker, counts as a boilie pan
- Pressure cooker (braiser), counts as a pressure boiling pan or where it is used constantly for fast frying, counts as a tilting frying pan
- Chicken grill, counted as salamander or combination ovens
- Rotary grill, counted as a frying pan or frying plate.
- Contact grill, counts as frying plate
- Roasting spit, open, is calculated as a combination of furnaces or in accordance with the manufacturer's data.

NOTE 1. To calculate the thermal airflow for cabinet devices, the average height of the device for determining hd will be used. (see Figure 3).

NOTE 2 Equipment with higher power consumption during start-up can be calculated with a value for normal operation.

Air velocity and sound proofing

The limits of the air velocity in the comfort area depend on the temperature of the room air, the turbulence of the flow, the degree of activity and the thermal resistance of the clothing (refer to DIN 1946-2). The limits shall be maintained up to a volume rate of flow relative to area of 35 m³/(m² h).

The pressure level emitted by a ventilation and air conditioning system shall be limited to 50 dB to 60 dB, according to requirements, measured at a height of 1.7 m above the floor (refer also to VDI 2080). Maximum pressure level of 50 dB is recommended where the meal delivery point is open. Value of 65 dB shall not be exceeded for sculleries. Sound levels and flows should be optimized when designing ventilation and air conditioning systems, particularly with a view to minimizing the use of sound absorbing measures in the exhaust air. This also means that the sound power level of the extraction fan will be minimized. Sound-absorbing surfaces can also be used in the room as additional sound insulation, but this must be consistent with the requirements of hygiene. The sound pressure levels permissible in other parts of the building shall not be exceeded by the ventilation and air nance.

If different levels of hygiene requirements are required for different areas of the kitchen, this can be aided by appropriate airflows in the room. The total of all airflows (supply air and exhaust air) should be balanced in the overall kitchen area. The recirculation of air from rooms where the hygiene is questionable shall be precluded.

The spread of odors within the building shall be prevented by additional exhaust air which is drawn off in suitable forward rooms. Ventilation and air conditioning systems may be operated using external air only. Recirculated air shall not be used. Hygiene requirements shall be jointly agreed with the kitchen designer, the operator and, where necessary, the supervisory authorities. conditioning system.

Kitchen area	Temperature
Meat preparation	15 - 18 °C
Vegetables, salad and potato preparation	18 - 20 °C
Cold kitchen	17 - 20 °C
Storeroom for cook & chill meals	0 - 3 °C
Distribution room for meals prepared by the cook & chill system	12 - 14 °C

Room air temperature in °C	Room humidity in %
20	80
22	70
24	62
26	55

Ergonomic and hygiene requirements

It is not always possible to maintain thermal comfort in kitchens. This applies particularly to work areas close to kitchen appliances which are strong heat emitters (latent and direct heat), e.g. within a distance of approximately 1 m of stoves with heat-radiating surfaces, tilting frying pans, large fryers or dishwashers.

In these areas, tolerable climatic conditions according to DIN 33403-3 should be guaranteed as a minimum. Taking account of the clothing normally worn in kitchens and the work energy expenditure of the personnel to be expected, the condition of the air should lie within tolerable climatic ranges.

Air temperature and humidity are measured at a height of 1.10 m above the floor at a distance of 0.50 m from the appliances. The temperature of the room air in kitchens and sculleries shall be at least 18 °C and shall not exceed 26 °C unless unavoidable due to the processes. This does not include brief, seasonal, excess temperatures or areas in which higher temperatures are unavoidable due to their function.

The temperature of the room air within the meaning the Factories Order is the temperature in degrees Celsius measured at a height of 0.75 m above the floor in the center of the closed room (or other comparable point). Cooling of the room air is normally not necessary unless required in certain areas due to foodstuffs regulations or for reasons of hygiene.

Guidelines on this are given in Table 1.

The relative humidity in the occupied zone shall not exceed the values given in Table 2

In comfort areas, the upper limit of the moisture content of the air is 11.5 g of water per kg of dry air and 65 % relative humidity. Because comfortable climatic conditions cannot always be achieved in kitchens, the design of a ventilation and air conditioning system may be based on a maximum moisture content x of the air of 16.5 g of water per kg of dry air. No reliable data is available regarding the lower limit of the relative humidity of the room air. 30 % relative humidity of the

room air can be taken as the comfort limit - as independent as possible from the temperature of the room air-with occasional undershoots being acceptable.

From the point of view of hygiene, the task of a ventilation and air conditioning system for kitchens is also to prevent the contamination of food by the airflow during preparation, storage and distribution and to prevent an undefined spread of odors, pollutants and other gaseous substances by the airflow. To meet these tasks, hygiene requirements must be set for individual components, system concepts and maintenance.

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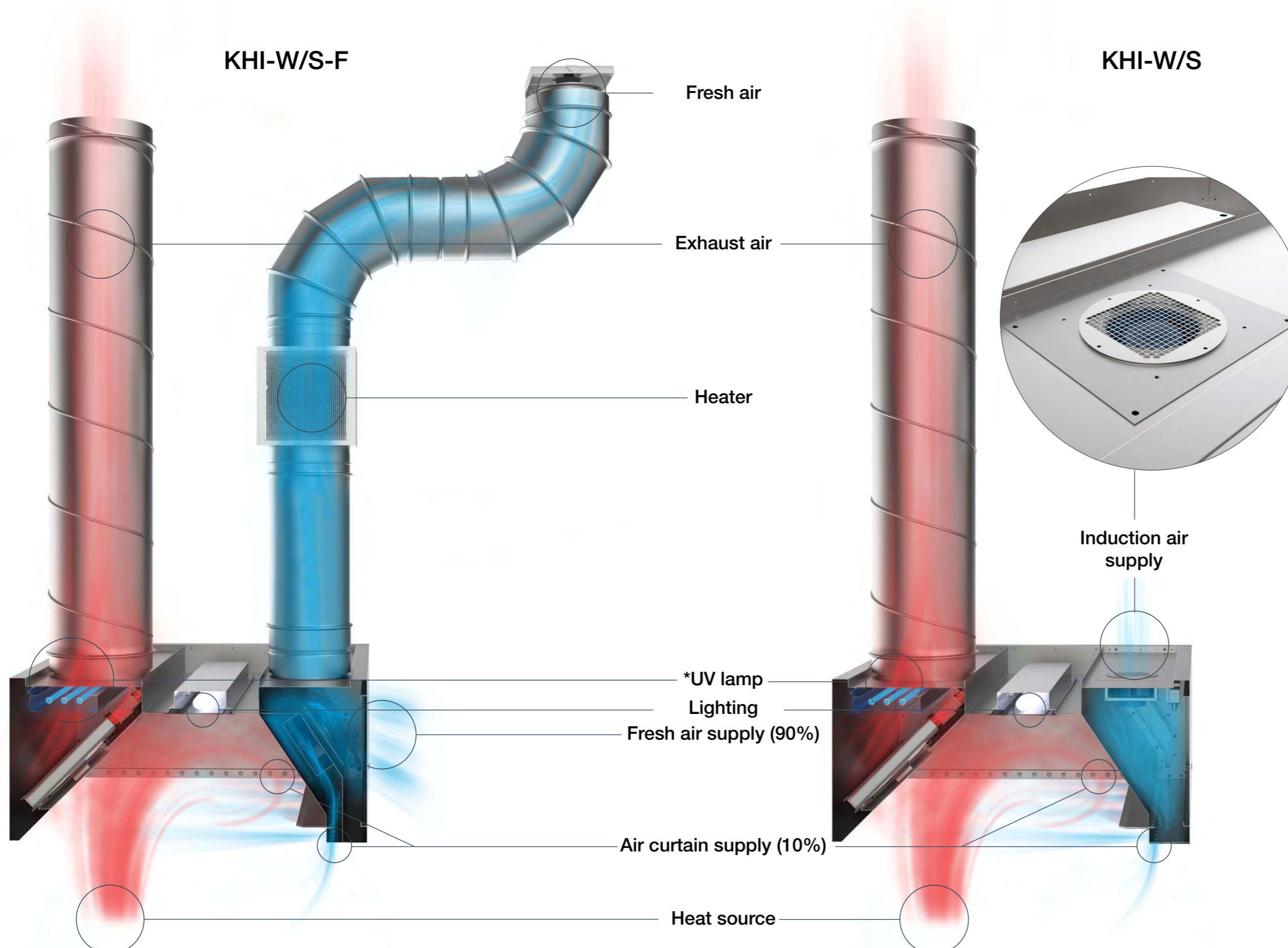
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System components

Air supply

When designing a kitchen it is necessary to provide a underpressure to ensure the supply of air (3-5%) from the surrounding rooms. This prevents the spread of unpleasant odors to the surrounding rooms. The recommended supply air temperature should be 18-20 ° C.



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Filters KCF

Cyclone filters use centrifugal force to extract grease particles with efficiency of up to 95%. When greasy air enters cyclonic filter, it is forced to transform its path into a series of spirals. The grease particles in the rotating streams have too much inertia to follow a spiral curve of the air stream. As a result, the particles collide with the inner walls of filter channels and permanently stick to it.

KCF filters are produced in single dimension 500x360, and are produced from AISI 304 or 316 on special request.

Cyclone filters have the highest extraction efficiency while maintaining the lowest pressure loss of any mechanical filtration device. The efficiency limits grease deposition inside the exhaust plenums of hood and ventilated ceilings and the ductwork. This in turn reduces the energy consumption and greatly reduces the cleaning costs.

- The efficiency of the KCF filters is up to 95% (measured for 10 µm particles and 130Pa pressure loss)
- Reduced cleaning and maintenance costs due to high efficiency grease extraction
- Lower noise and pressure drop levels
- Compatible to use in combination with UV Ozone system for high demand applications

KCF filters are tested and approved in EN12238 accredited laboratory. Tests were carried out for aerosol separation efficiency and flame penetration according to the EN 16282 "Equipment for commercial kitchens - Components for ventilation in commercial kitchens - Part 2: Kitchen ventilation hoods; design and safety requirements".

Benefits of using KCF filters with UV-C Ozone System

UV-C Ozone System is used in applications where there is a need for neutralization of medium and small sized grease particles. In combination with KCF filters the UV-C Ozone System provides a high efficiency filtration for the whole range of the particle sizes.

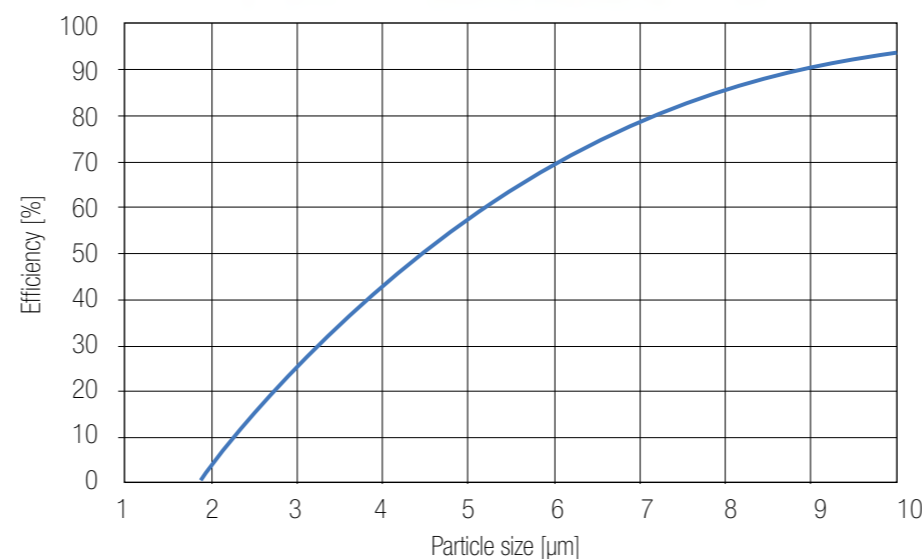
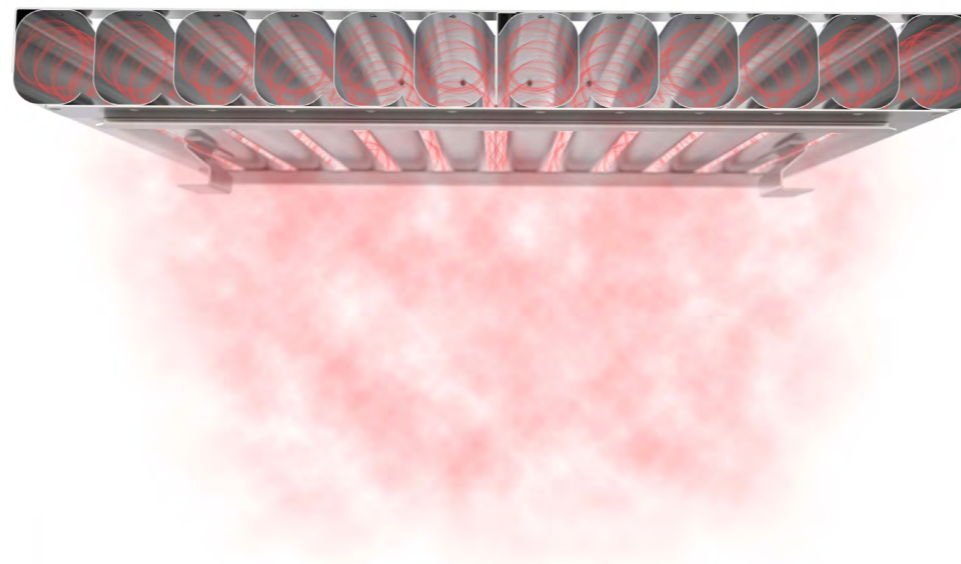


Diagram of particle separation efficiency per particle size. Tests are conducted at 130Pa filter pressure drop and 1500 [m³/h * m] of exhaust airflow.



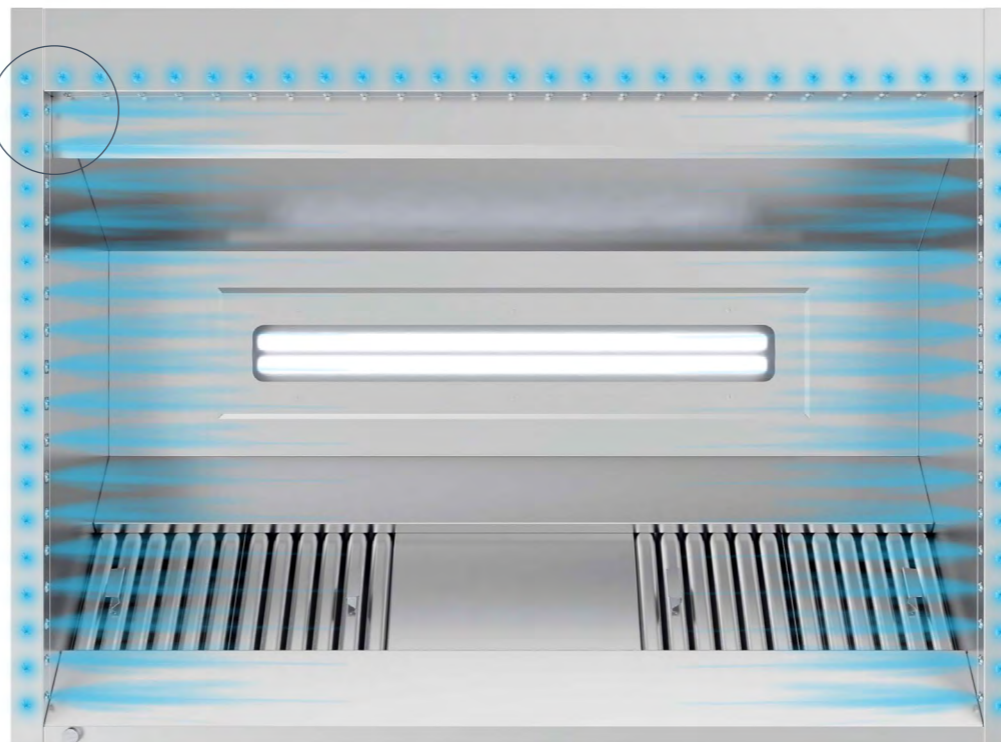
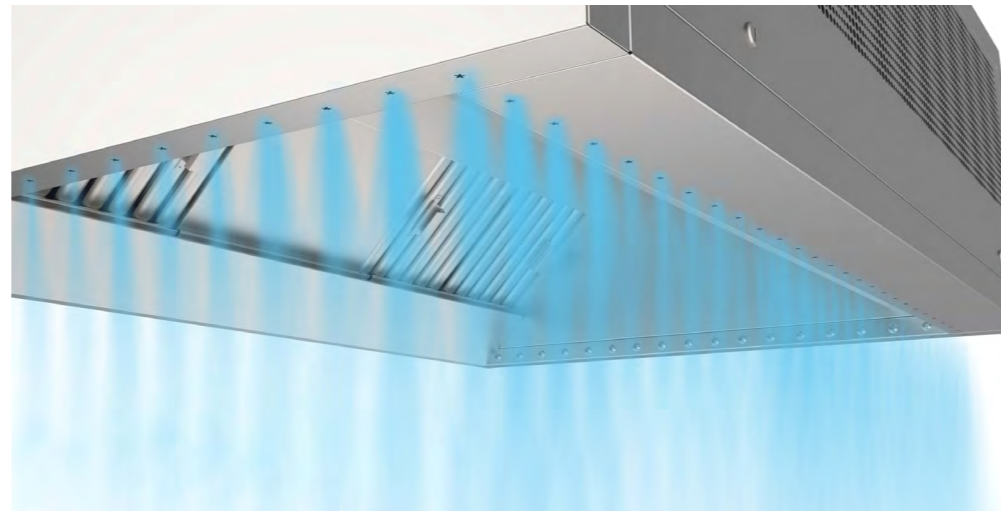
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Induction nozzles

Dadanco's breakthrough, patented induction nozzles address shortcomings in traditional induction systems relating to floor space, appearance, noise levels, cooling capacities and energy consumption. Patented star shaped design provides higher air entrainment ratios compared to the similar round shaped ones. Consequently lower air volumes can be used, creating less pressure drop and noise for the same effect. The nozzles design was performed using CFD optimization process and its benefits were confirmed in the testing laboratory.



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Induction supply fan

KHI range of kitchen hoods are equipped with patented Dadanco TM air supply jet nozzles. A constant pressure air fan is supplying the jet nozzles with the supply air. The fan is controlled via control unit that is installed in the supply chamber, and is measuring and controlling the static overpressure in the chamber. Set-point is calibrated and adjusted in the factory at 60Pa of overpressure in the air supply chamber. More information on the documentation of the presostat controller can be found here: www.hkinstruments.fi

Exhaust balancing damper

All exhaust kitchen hoods come equipped with a balancing exhaust damper as standard. The mechanism is designed as a sliding damper for reliable adjustment and easy cleaning. Each exhaust connection is equipped with its own damper for easy balancing of the exhaust.

Lighting fixtures

Lighting fixtures are part of the standard equipment of all kitchen hoods. Energy efficient LED T8 tubes, 4000K are mounted in all fixtures. Dimensions and number of fixtures vary on the size of the kitchen hood. Casings of the fixtures are watertight and made out of the same type stainless steel as the rest of the kitchen hood. The flush design is made for easy cleaning and maintenance.



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KHI Induction kitchen hood

W-Wall installation
S- Space installation
F- Fresh air supply

KHI induction kitchen hood is the most technologically advanced design from Klimaoprema kitchen hood range. It includes fresh air supply via patented Dadanco™ jet nozzles and perforated supply air diffusers. It can be produced in wall or space type installation. Standard equipment include LED lighting and regulation damper. On the exhaust side new cyclone effect grease filters provide high efficiency particle removal. For even higher standards of exhaust emissions, UV Ozone System is available as an accessory. It ensures almost no maintenance, fat-free ducts and deodorization of the exhaust fumes. Standard material is AISI 304/EN 1.4301, optional AISI 316/EN 1.4401. Front perforation is an option and it is used to release air into the room to avoid pressure. The hoods are developed in accordance with the standard EN 16282-2_2016, while the cyclone filter complies with the standard EN 16282-6_2020.



KHE Conventional kitchen hood

W-Wall installation
S- Space installation
A- Angled version

KHE is a convectional kitchen hood design. It can be produced in wall or space type configuration. Standard equipment include LED lighting and regulation damper. On the exhaust side new cyclone effect grease filters provide high efficiency particle removal. For even higher standards of exhaust emissions, UV Ozone System is available as an accessory. It ensures almost no maintenance, fat-free ducts and deodorization of the exhaust fumes. Standard material is AISI 304/EN 1.4301, optional AISI 316/EN 1.4401. The hoods are developed in accordance with the standard HRN EN 16282-2_2016, while the cyclone filter complies with the standard EN 16282-6_2020.



KHC Condensation exhaust hood

W-Wall installation

KHC are dedicated kitchen hoods specially designed for exhaust of water vapour and steam. Standard equipment include LED lighting and circular duct connections with regulation damper. On the exhaust side, water condensation baffles are installed. Standard material is AISI 304/EN 1.4301, optional AISI 316/EN 1.4401. The hoods are developed in accordance with the standard EN 16282-2_2016.



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KHI-W Induction kitchen hood

- Wall installation
- Dadanco™ nozzles
- LED lighting
- Circular duct connections with regulation damper
- KCF cyclone filter
- Standard material AISI 304/EN 1.4301

Optional

- UV Ozone System
- Optional material AISI 316/EN 1.4401
- Rectangular connection



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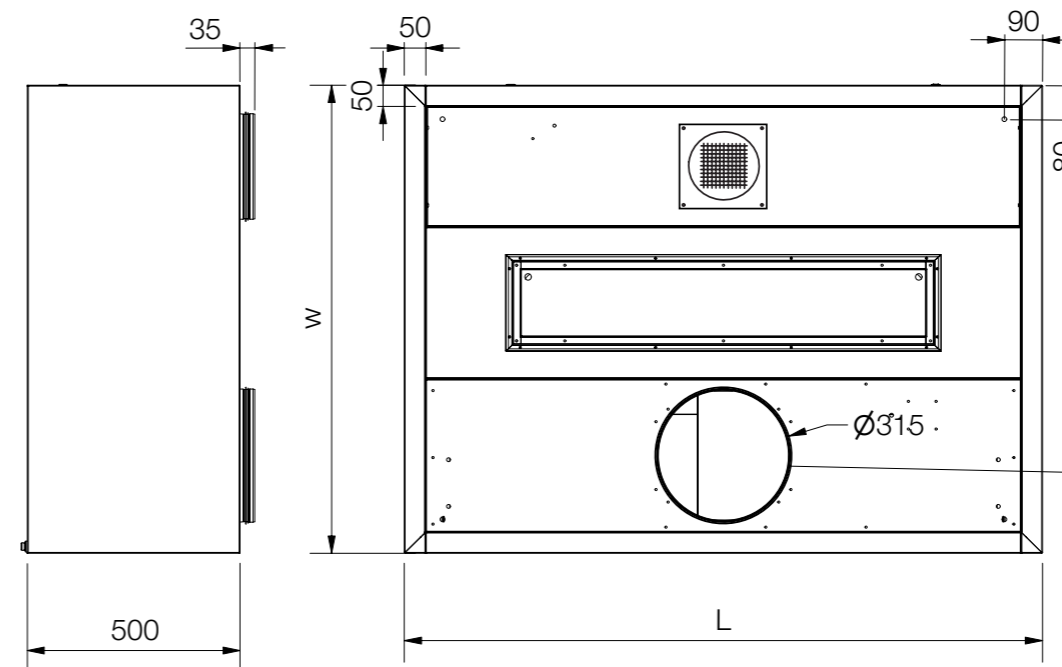
KHI

KITCHEN VENTILATION

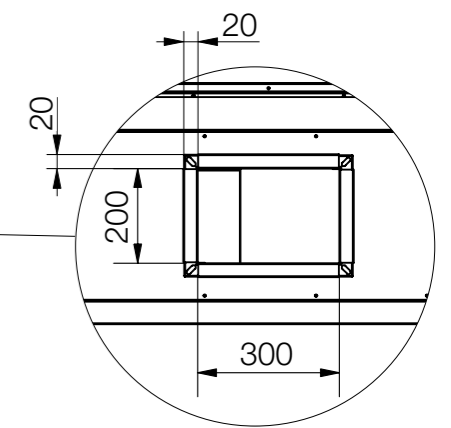
DIMENSIONS

KHI-W	Number of filters	Number of exhaust connections	Lighting LED 4000K			Suspension points
			Number of lighting fixtures	Power	Length	
L x W						
1100	2	1	1	2x10W	720	4
1300	2		1		720	4
1500	2		1	2x15W	1025	4
1700	2		1		1025	6
1900	3		1	2x20W	1330	6
2100	3	1	1330		6	
2300	3	2	1	2x25W	1630	6
2500	4		1		1630	8
2700	4		2	2	2x15W	1025
2900	4	2	2	1025		8

Circular connection details



Rectangular connection details



[More dimensions](#)

KHI-W-F Induction kitchen hood

- Wall installation
- Dadanco™ nozzles
- Fresh air supply
- LED lighting
- Circular duct connections with regulation damper
- KCF cyclone filter
- Standard material AISI 304/EN 1.4301

Optional

- UV Ozone System
- Optional material AISI 316/EN 1.4401
- Rectangular connection



- ▶ Design principles
- ▶ Product range
- ▶ Ordering key
- ▶ Installation
- ▶ Pressure tables
- ▶ Accessories
- ▶ Maintenance



KHI

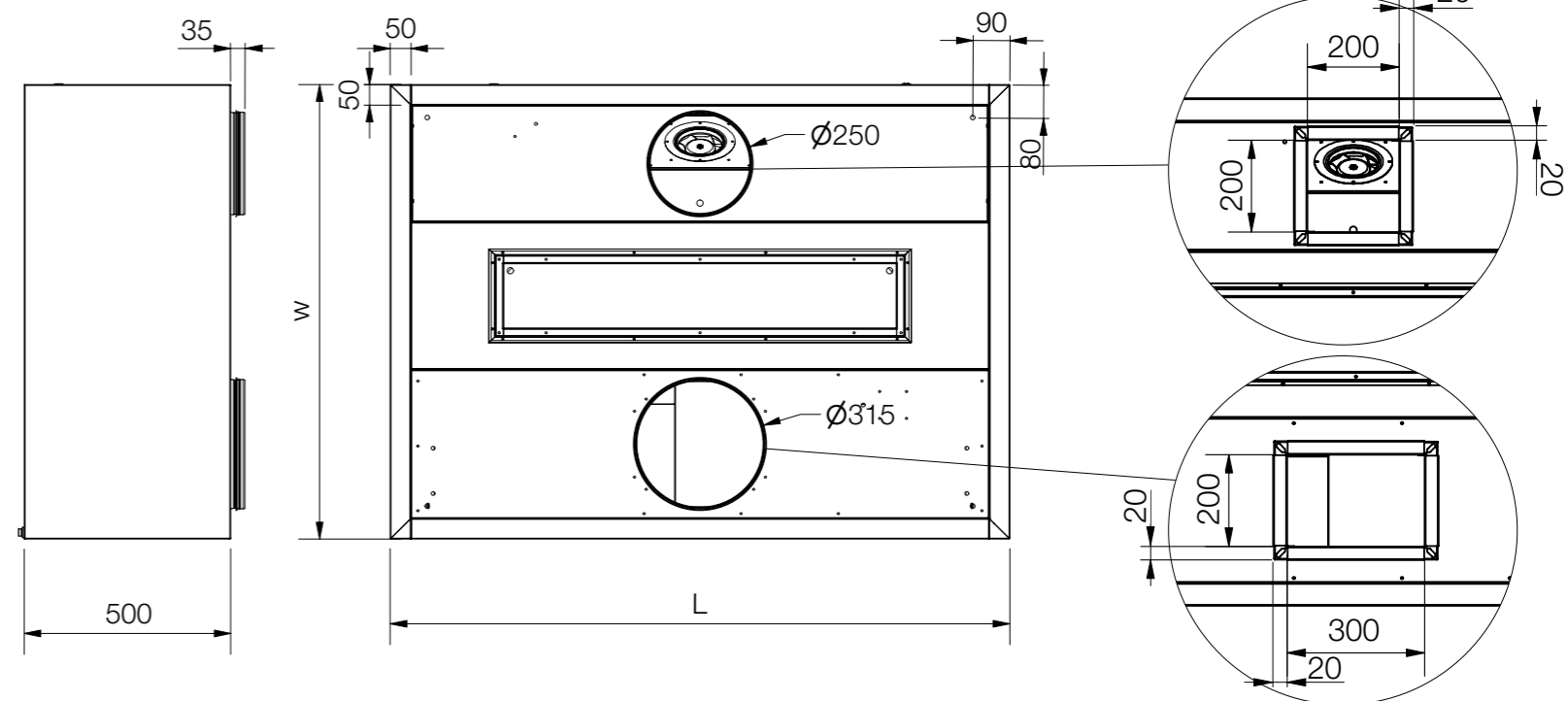
KITCHEN VENTILATION

DIMENSIONS

KHI-W-F		Number of filters	Number of exhaust connections	Number of supply connections	Lighting LED 4000K			Suspension points
L x W	Number of lighting fixtures				Power	Length		
1100		2			1	2x10W	720	4
1300		2			1	2x10W	720	4
1500		2	1	1	1	2x15W	1025	4
1700		2			1	2x15W	1025	6
1900	1100, 1300,	3			1	2x20W	1330	6
2100	1500, 1700	3			1	2x20W	1330	6
2300		3			1	2x25W	1630	6
2500		4	2	2	1	2x25W	1630	8
2700		4			2	2x15W	1025	8
2900		4			2	2x15W	1025	8

Circular connection details

Rectangular connection details



[More dimensions](#)

KHI-S Induction kitchen hood

- Space installation
- Dadanco™ nozzles
- LED lighting
- Circular duct connections with regulation damper
- KCF cyclone filter
- Standard material AISI 304/EN 1.4301

Optional

- UV Ozone System
- Optional material AISI 316/EN 1.4401
- Rectangular connection



- ▼ Design principles
- ▼ Product range
- ▼ Ordering key
- ▼ Installation
- ▼ Pressure tables
- ▼ Accessories
- ▼ Maintenance



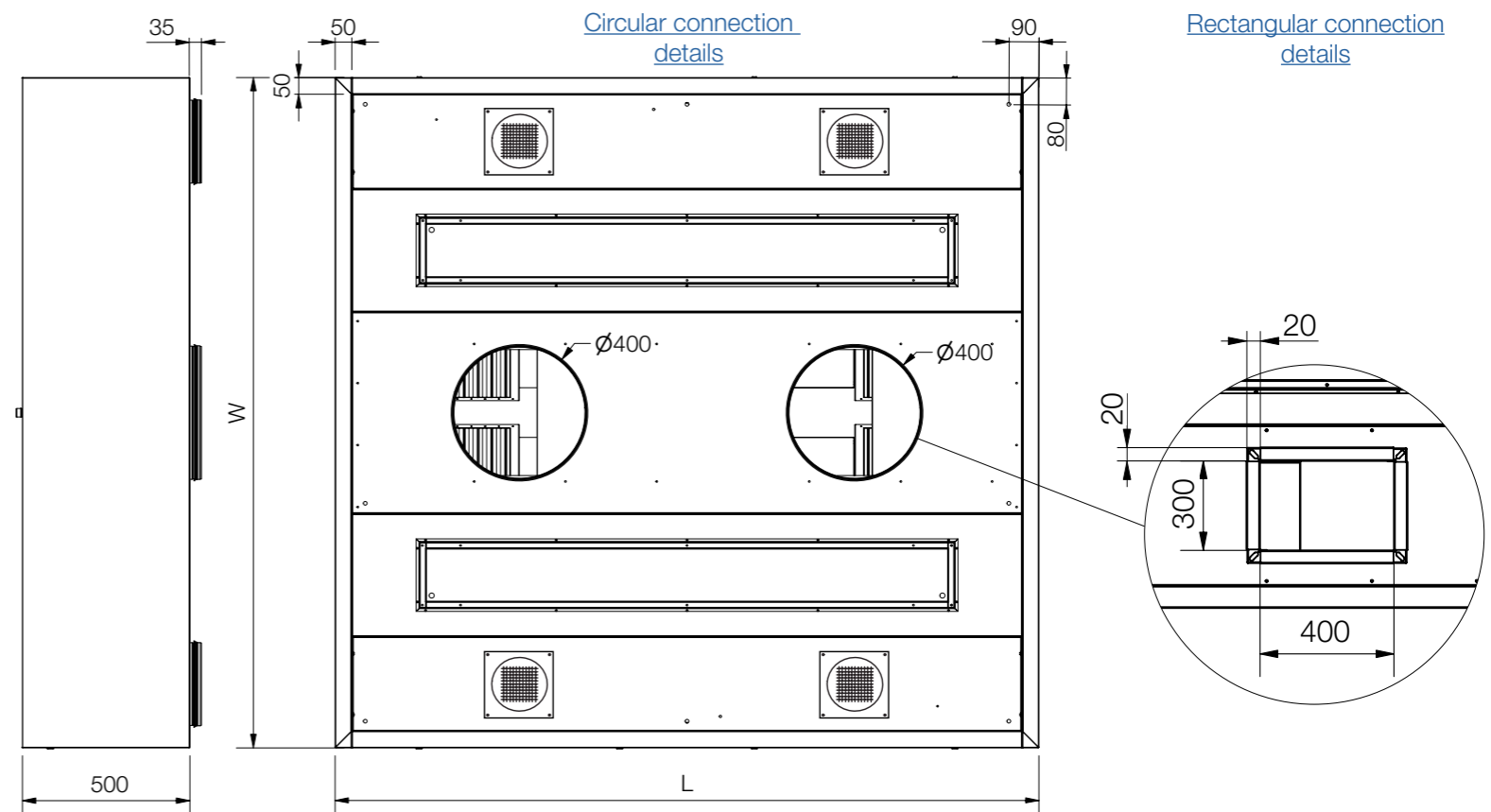
KHI

KITCHEN VENTILATION

DIMENSIONS

KHI-S	Number of filters	Number of exhaust connections	Lighting LED 4000K			Suspension points
			Number of lighting fixtures	Power	Length	
L x W						
1100	4	1	2	2x10W	720	6
1300	4		2		720	6
1500	4		2	2x15W	1025	6
1700	4		2		1025	8
1900	6	2	2	2x20W	1330	8
2100	6		2		1330	8
2300	6		2	2x25W	1630	8
2500	8		2		1630	10
2900	8		4		1025	10

[More dimensions](#)



KHI-S-F Induction kitchen hood

- Space installation
- Dadanco™ nozzles
- Fresh air supply
- LED lighting
- Circular duct connections with regulation damper
- KCF cyclone filter
- Standard material AISI 304/EN 1.4301

Optional

- UV Ozone System
- Optional material AISI 316/EN 1.4401
- Rectangular connection



- ▼ Design principles
- ▼ Product range
- ▼ Ordering key
- ▼ Installation
- ▼ Pressure tables
- ▼ Accessories
- ▼ Maintenance



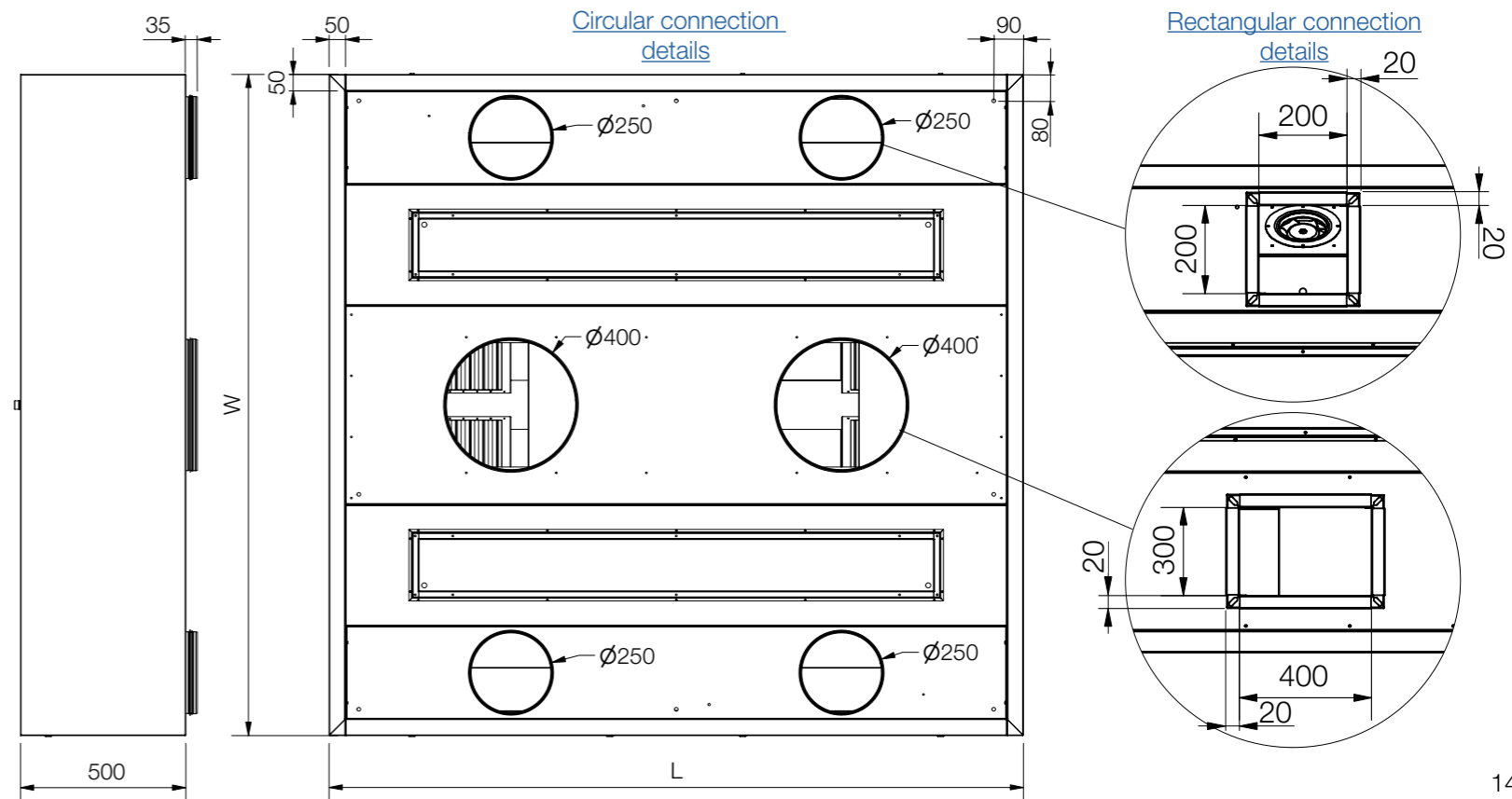
KHI

KITCHEN VENTILATION

DIMENSIONS

KHI-S-F		Number of filters	Number of exhaust connections	Number of supply connections	Lighting LED 4000K			Suspension points
L x W	Number of lighting fixtures				Power	Length		
1100		4			2	2x10W	720	6
1300		4			2	2x10W	720	6
1500	1800,	4	1	2	2	2x15W	1025	6
1700	2000,	4			2	2x15W	1025	8
1900	2200,	6			2	2x20W	1330	8
2100	2400,	6			2	2x20W	1330	8
2300	2600,	6			2	2x25W	1630	8
2500	2800	8	2	4	2	2x25W	1630	10
2900		8			4		1025	10

[More dimensions](#)



KHE-W Conventional kitchen hood

- Wall installation
- LED lighting
- Circular duct connections with regulation damper
- KCF cyclone filter
- Standard material AISI 304/EN 1.4301

Optional

- UV Ozone System
- Optional material AISI 316/EN 1.4401
- Rectangular connection



- ▼ Design principles
- ▼ Product range
- ▼ Ordering key
- ▼ Installation
- ▼ Pressure tables
- ▼ Accessories
- ▼ Maintenance



KHE

KITCHEN VENTILATION

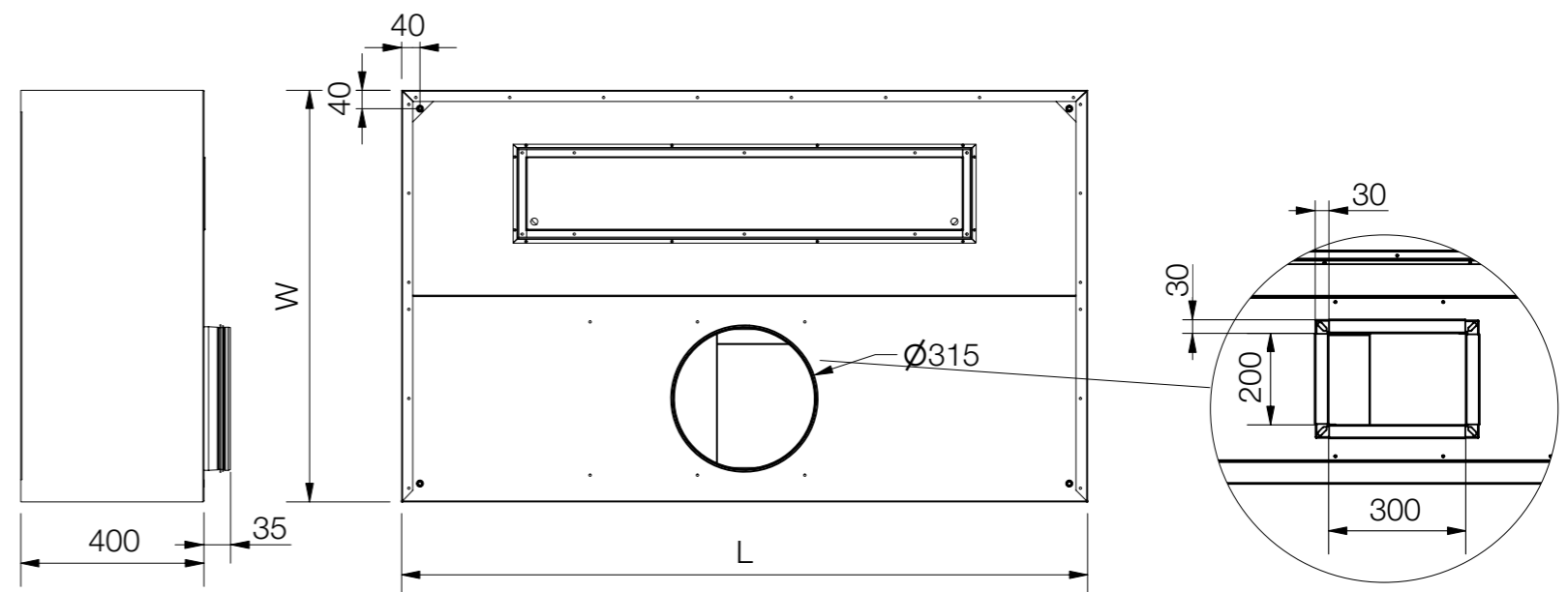
DIMENSIONS

KHE-W	Number of filters	Number of exhaust connections	Lighting LED 4000K			Suspension points
			Number of lighting fixtures	Power	Length	
900	1	1	1	2x10W	720	4
1100	2		1		720	
1300	2		1	2x15W	1025	4
1500	3		1		1025	
1700	3		2	1	2x20W	1330
1900	3	1		1330		
2100	4	1		2x25W	1630	8
2300	4	1	1630			
2500	5	2	1	2x15W	1025	8
2700	5		2		1025	
2900	5		2	2	1025	8

[More dimensions](#)

[Circular connection details](#)

[Rectangular connection details](#)



KHE-W-A Conventional kitchen hood

- Wall installation
- Angled version
- LED lighting
- Circular duct connections with regulation damper
- KCF cyclone filter
- Standard material AISI 304/EN 1.4301

Optional

- UV Ozone System
- Optional material AISI 316/EN 1.4401
- Rectangular connection



- ▼ Design principles
- ▼ Product range
- ▼ Ordering key
- ▼ Installation
- ▼ Pressure tables
- ▼ Accessories
- ▼ Maintenance



KHE

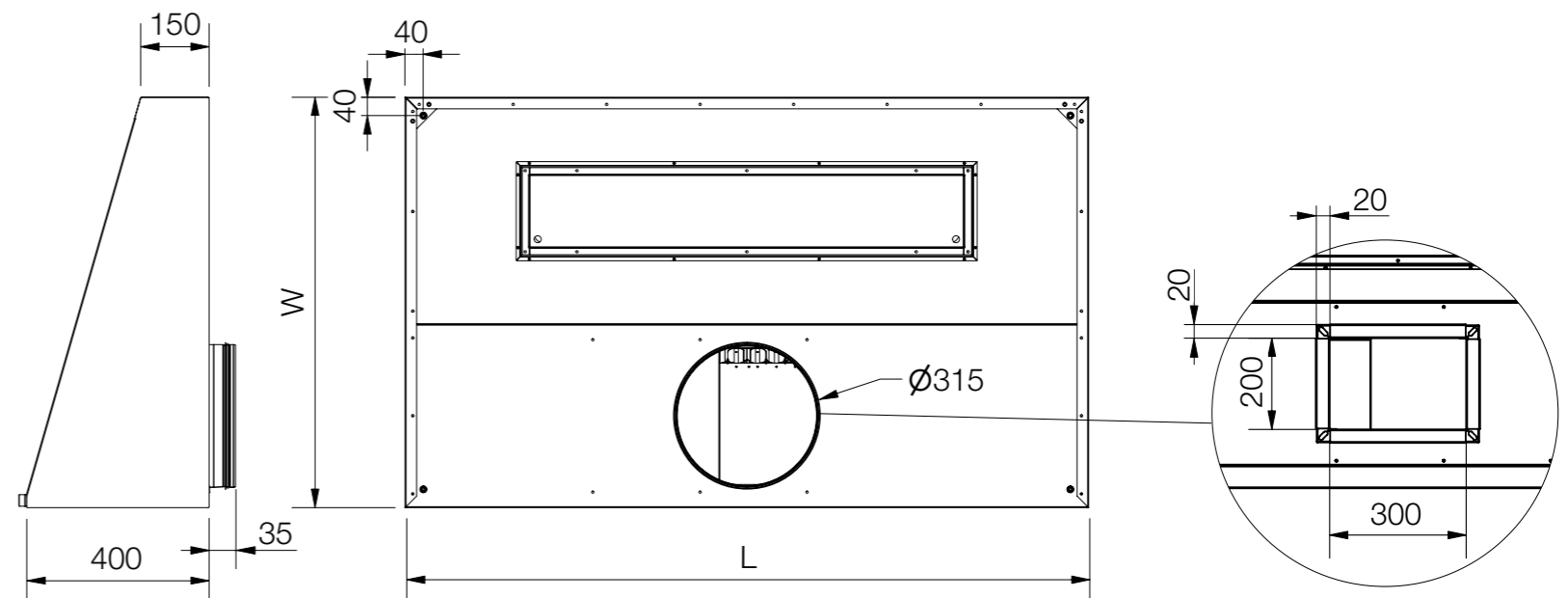
KITCHEN VENTILATION

DIMENSIONS

KHE-A	Number of filters	Number of exhaust connections	Lighting LED 4000K			Suspension points
			Number of lighting fixtures	Power	Length	
L x W						
900	1	1	1	2x10W	720	4
1100	2		1		720	4
1300	2		1	2x15W	1025	4
1500	3		1		1025	4
1700	3		2	1	2x20W	1330
1900	3	1		1330		6
2100	4	1		2x25W	1630	6
2300	4	1	1630		8	
2500	5	2	1	2x15W	1025	8
2700	5		2		1025	8
2900	5		2	2	1025	8

Circular connection details

Rectangular connection details



KHE-S Conventional kitchen hood

- Space installation
- LED lighting
- Circular duct connections with regulation damper
- KCF cyclone filter
- Standard material AISI 304/EN 1.4301

Optional

- UV Ozone System
- Optional material AISI 316/EN 1.4401
- Rectangular connection



- ▼ Design principles
- ▼ Product range
- ▼ Ordering key
- ▼ Installation
- ▼ Pressure tables
- ▼ Accessories
- ▼ Maintenance



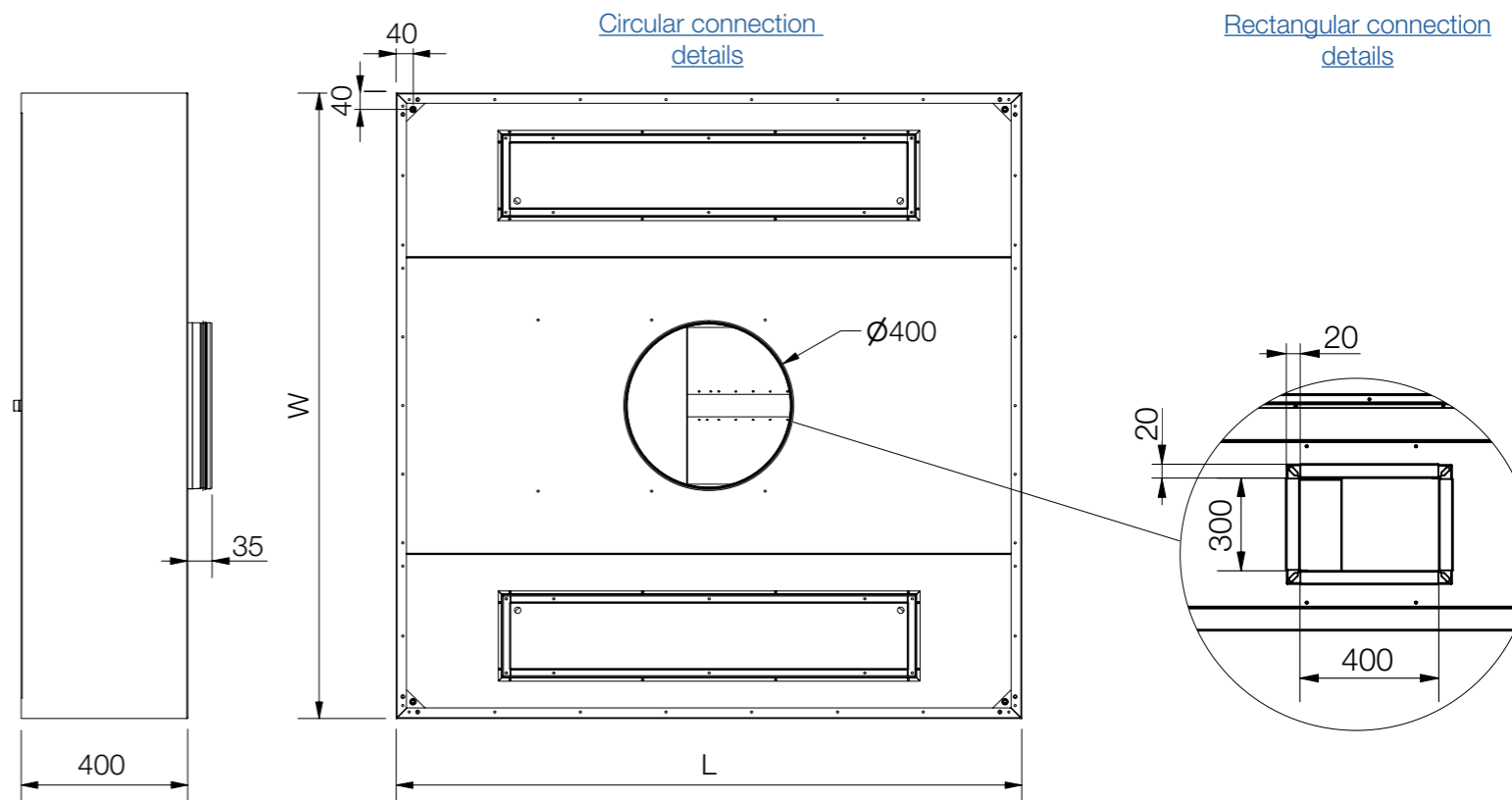
KHE

KITCHEN VENTILATION

DIMENSIONS

KHE-S	Number of filters	Number of exhaust connections	Lighting LED 4000K			Suspension points	
			Number of lighting fixtures	Power	Length		
L x W							
900	2	1	2	2x10W	720	6	
1100	4		2		720	6	
1300	4		2	2x15W	1025	6	
1500	6		2		1025	6	
1700	6	2	2	2x20W	1330	8	
1900	6				2	1330	8
2100	8		2	2	2x25W	1630	8
2300	8					2	1630
2500	8	2	4	2x15W	1025	10	
2700	10		4		1025	10	
2900	10		4		1025	10	

[More dimensions](#)



KHE-S-A Conventional kitchen hood

- Space installation
- Angled version
- LED lighting
- Circular duct connections with regulation damper
- KCF cyclone filter
- Standard material AISI 304/EN 1.4301

Optional

- UV Ozone System
- Optional material AISI 316/EN 1.4401
- Rectangular connection



- ▼ Design principles
- ▼ Product range
- ▼ Ordering key
- ▼ Installation
- ▼ Pressure tables
- ▼ Accessories
- ▼ Maintenance

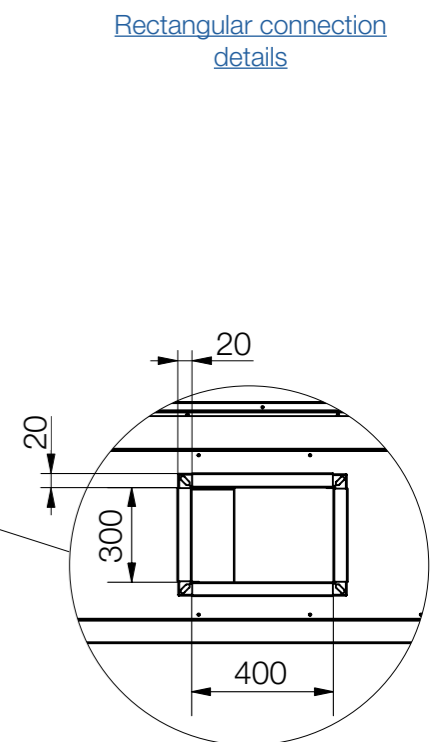
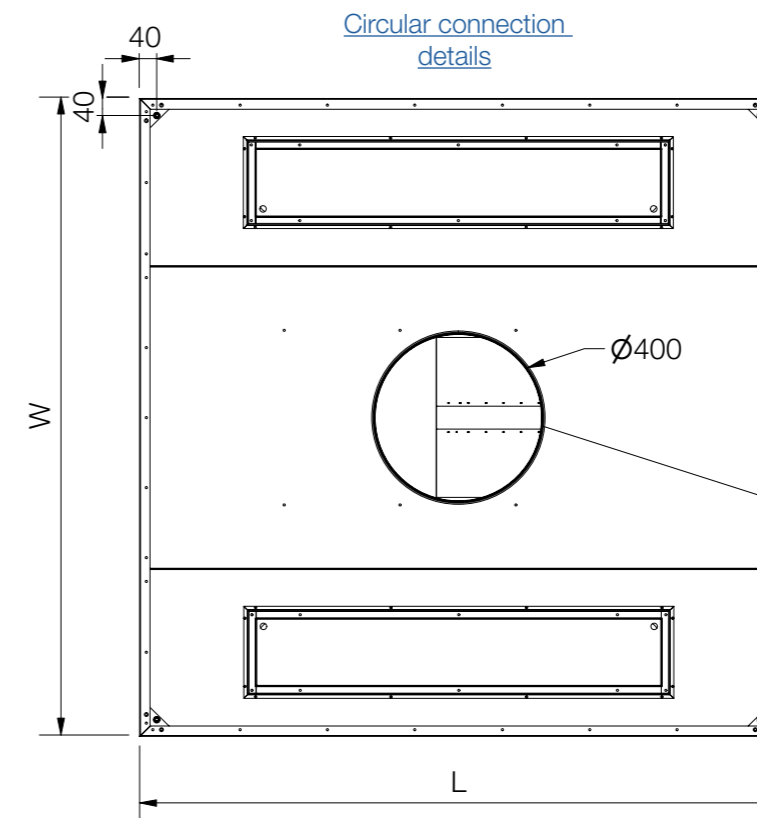
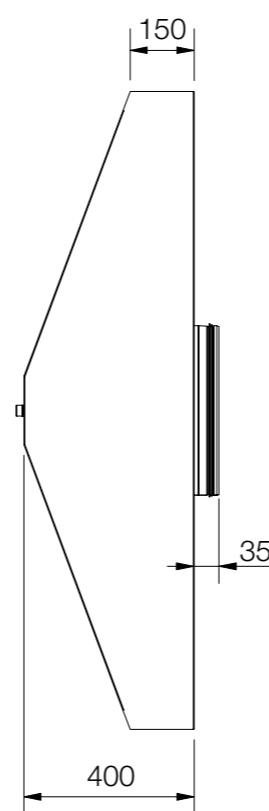


KHE

KITCHEN VENTILATION

DIMENSIONS

KHE-S-A	Number of filters	Number of exhaust connections	Lighting LED 4000K			Suspension points	
			Number of lighting fixtures	Power	Length		
L x W							
900	2	1	2	2x10W	720	6	
1100	4		2		720	6	
1300	4		2		1025	6	
1500	6		2		1025	6	
1700	6	2	2	2x20W	1330	8	
1400, 1600, 1800, 2000, 2200, 2400	6		2		1330	8	
1900	6		2		1630	8	
2100	8		2		1630	8	
2300	8	2	2	2x25W	1630	10	
2500	8		4		1025	10	
2700	10		4		2x15W	1025	10
2900	10		4		1025	10	



KHC-W Condensation exhaust hood

- Wall installation
- LED lighting
- Circular duct connections with regulation damper
- Standard material AISI 304/EN 1.4301

Optional

- Optional material AISI 316/EN 1.4401
- Rectangular connection



- ▼ Design principles
- ▼ Product range
- ▼ Ordering key
- ▼ Installation
- ▼ Pressure tables
- ▼ Accessories
- ▼ Maintenance

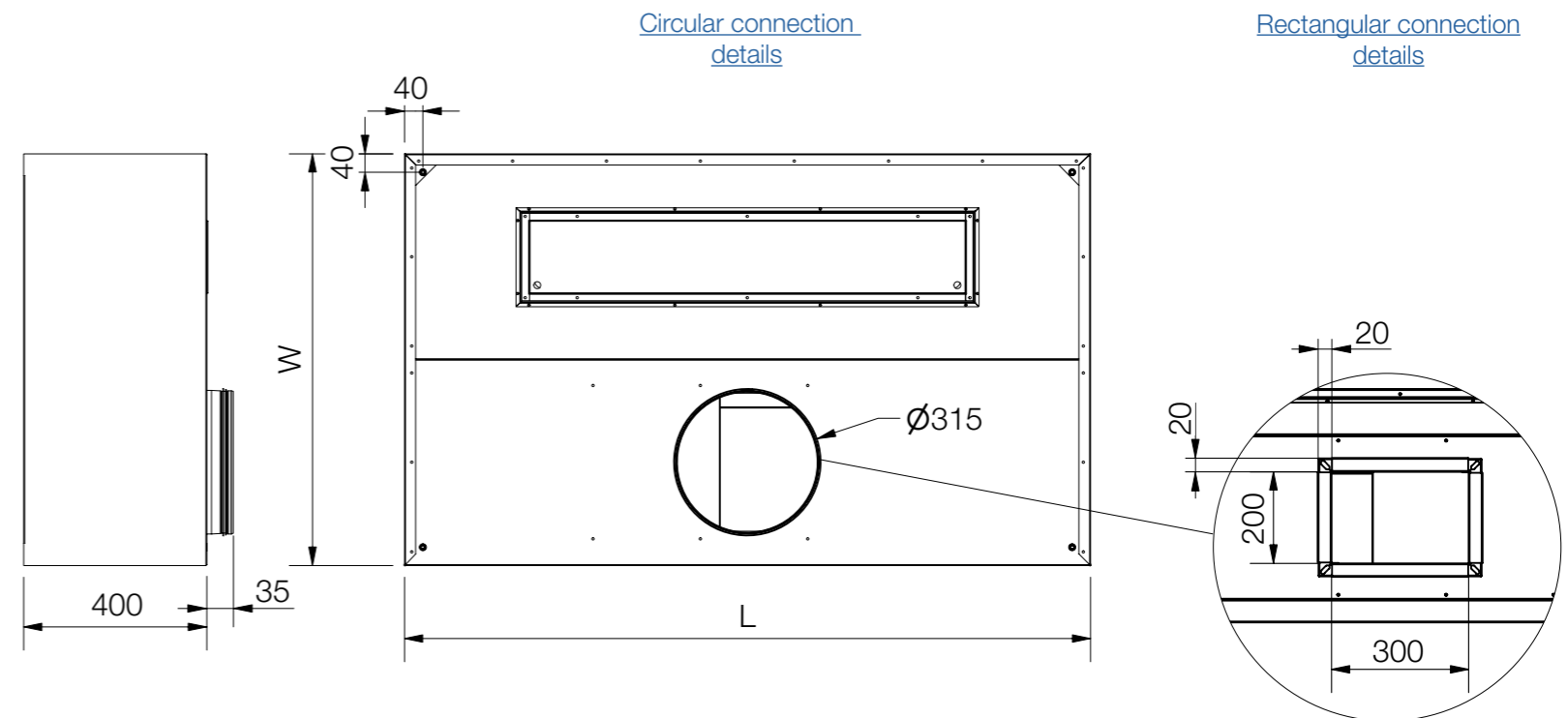


KHC

KITCHEN VENTILATION

DIMENSIONS

KHC-W	Number of exhaust connections	Lighting LED 4000K			Suspension points
		Number of lighting fixtures	Power	Length	
900	1	1	2x10W	720	4
1100		1		720	
1300		1	2x15W	1025	4
1500		1		1025	
1700		2	1	2x20W	1330
1900	1		1330		
2100	1		2x25W	1630	6
2300	1	1630		8	



Hood sections combinations

L x W	1100	1300	1500
1100			
1300			
1500			
1700			
1900			
2100			
2300			
2500			
2700			
2900			
3300	2 x 1700	2 x 1700	2 x 1700
3700	2 x 1900	2 x 1900	2 x 1900
4100	2 x 2100	2 x 2100	2 x 2100
4500	2 x 2300	2 x 2300	2 x 2300
4900	2 x 2500	2 x 2500	2 x 2500
5300	2 x 2700	2 x 2700	2 x 2700
5700	2 x 2900	2 x 2900	2 x 2900
6100	3 x 2100	3 x 2100	3 x 2100

KHI-W

- KHI-W x 1
- KHI-W x 2
- KHI-W x 3

L x W	1800	2000	2200	2400	2600	2800
1100						
1300						
1500						
1700						
1900						
2100		2x1100	2x1100	2x1100	2x1100	2x1100
2500		2x1300	2x1300	2x1300	2x1300	2x1300
2900		2x1500	2x1500	2x1500	2x1500	2x1500
3300	2x1700	2x1700	2x1700	2x1700	2x1700	2x1700
3700	2x1900	3x1300	3x1300	3x1300	3x1300	3x1300
4300	3x1500	3x1500	3x1500	3x1500	3x1500	3x1500
4900	2x2500	3x1700	3x1700	3x1700	3x1700	3x1700
5500	3x1900	3x1900	3x1900	3x1900	3x1900	3x1900
5700	2x2900	4x1500	4x1500	4x1500	4x1500	4x1500
6500	4x1700	4x1700	4x1700	4x1700	4x1700	4x1700

KHI-S

- KHI-S x 1
- KHI-S x 2
- KHI-S x 3
- KHI-S x 4




- Design principles
- Product range
- Ordering key
- Installation
- Pressure tables
- Accessories
- Maintenance

PRODUCT RANGE

Hood sections combinations





L x W	900	1100	1300	1500
900				
1100				
1300				
1500				
1700				
1900				
2100				
2300				
2500				
2700				
2900				
3400	2x1700	2x1700	2x1700	2x1700
3800	2x1900	2x1900	2x1900	2x1900
4200	2x2100	2x2100	2x2100	2x2100
4600	2x2300	2x2300	2x2300	2x2300
5000	2x2500	2x2500	2x2500	2x2500
5400	2x2700	2x2700	2x2700	2x2700
5800	2x2900	2x2900	2x2900	2x2900
6300	3x2100	3x2100	3x2100	3x2100








KHE-W

-  KHE-W x 1
-  KHE-W x 2
-  KHE-W x 3

L x W	1400	1600	1800	2000	2200	2400
900						
1100						
1300						
1500						
1700						
1900						
2100				2x 1050	2x 1050	2x 1050
2300				2x 1150	2x 1150	2x 1150
2500				2x 1250	2x 1250	2x 1250
2700				2x 1350	2x 1350	2x 1350
2900				2x 1450	2x 1450	2x 1450
3400	2x1700	2x1700	2x1700	2x1700	2x1700	2x1700
3900	3x1300	3x1300	3x1300	3x1300	3x1300	3x1300
4500	3x1500	3x1500	3x1500	3x1500	3x1500	3x1500
5100	3x1700	3x1700	3x1700	3x1700	3x1700	3x1700
5700	3x1900	3x1900	3x1900	3x1900	3x1900	3x1900
6000	4x1500	4x1500	4x1500	4x1500	4x1500	4x1500

KHE-S

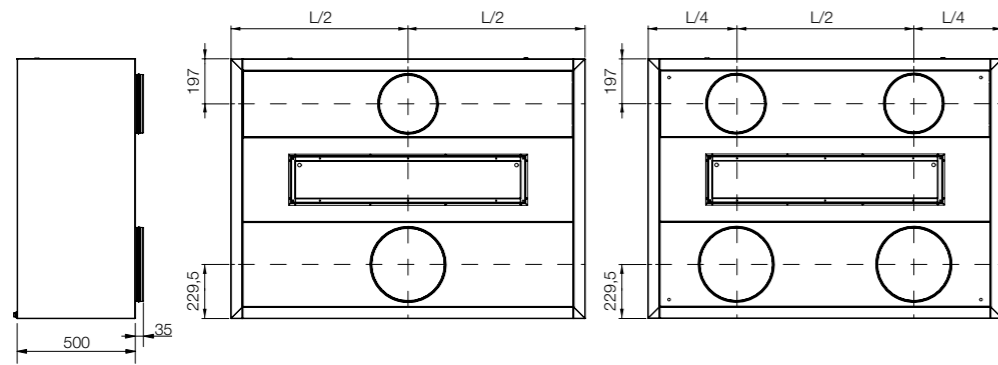
-  KHE-S x 1
-  KHE-S x 2
-  KHE-S x 3
-  KHI-S x 4

-  Design principles
-  Product range
-  Ordering key
-  Installation
-  Pressure tables
-  Accessories
-  Maintenance

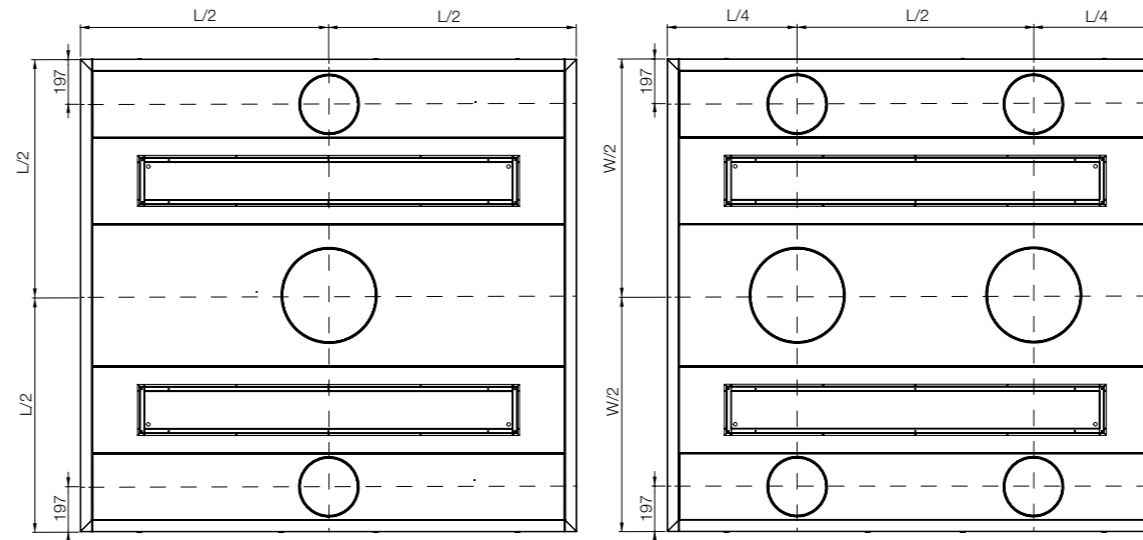
 **PRODUCT RANGE**

Air duct circular connection positions

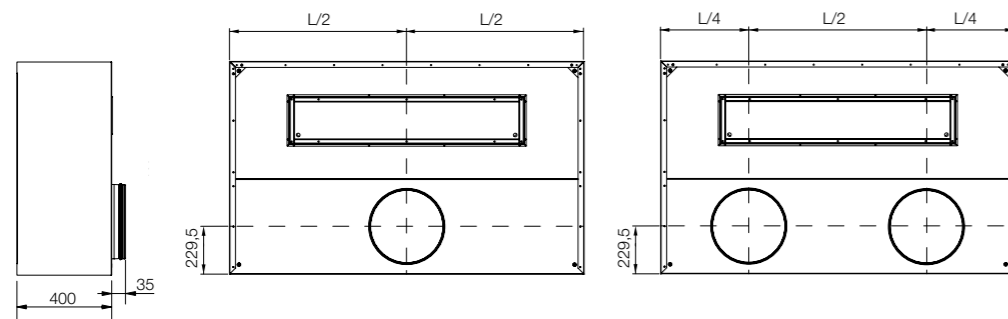
KHI



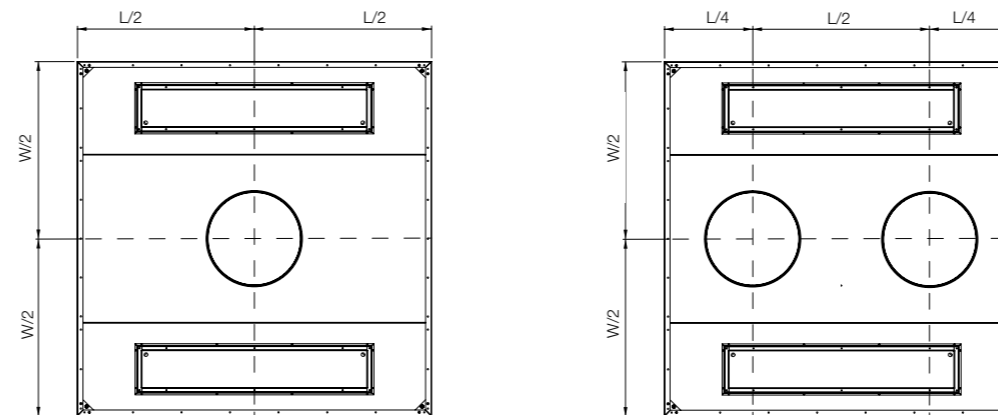
KHI-S



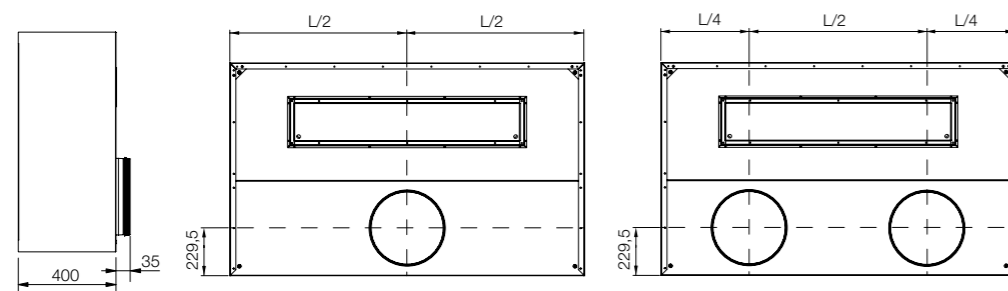
KHE



KHE-S



KHC

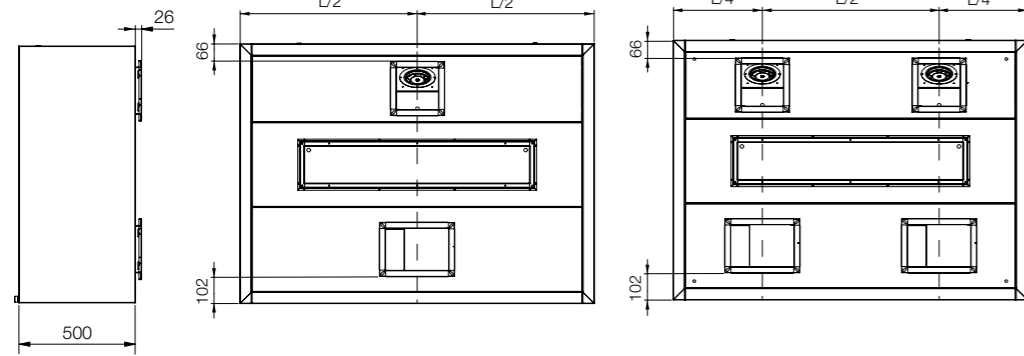


- ▼ Design principles
- ▼ Product range
- ▼ Ordering key
- ▼ Installation
- ▼ Pressure tables
- ▼ Accessories
- ▼ Maintenance

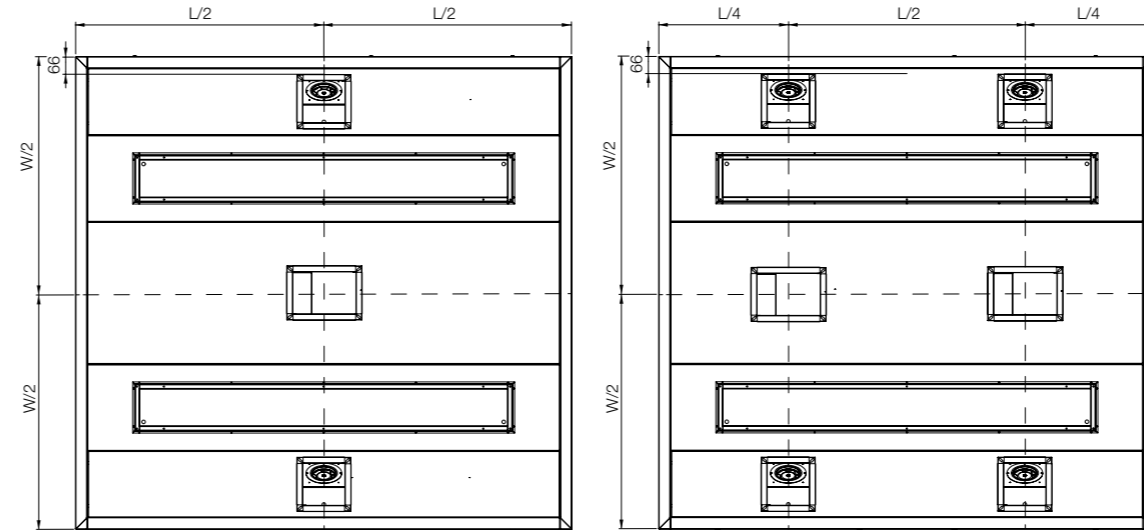
 **PRODUCT RANGE**

Air duct rectangular connection positions

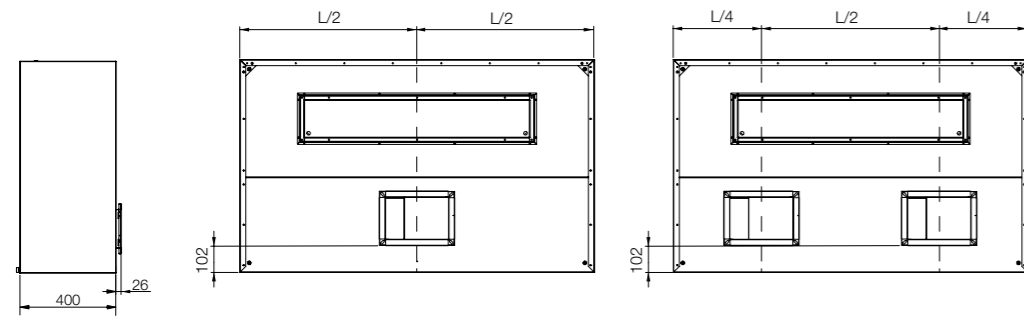
KHI



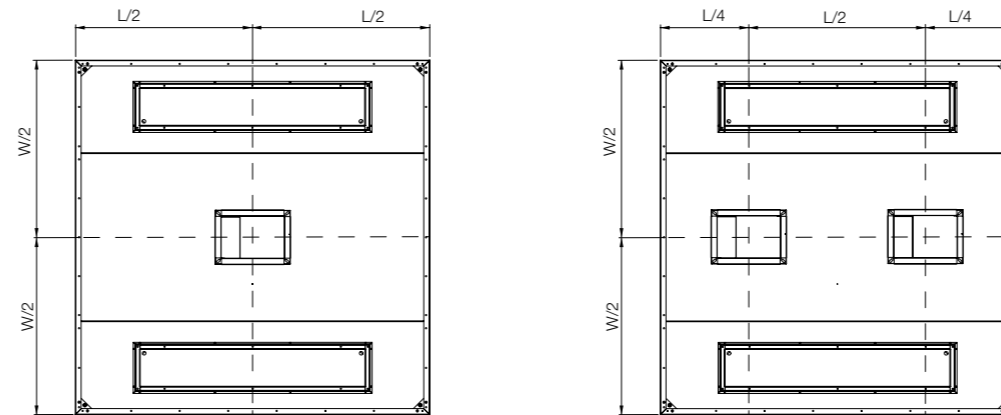
KHI-S



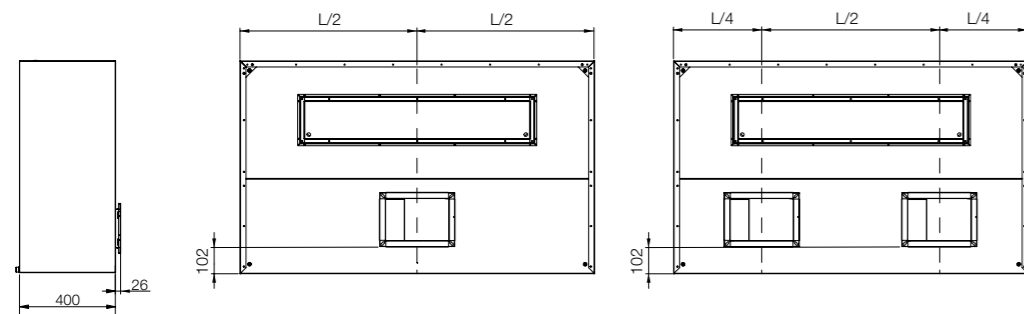
KHE



KHE-S

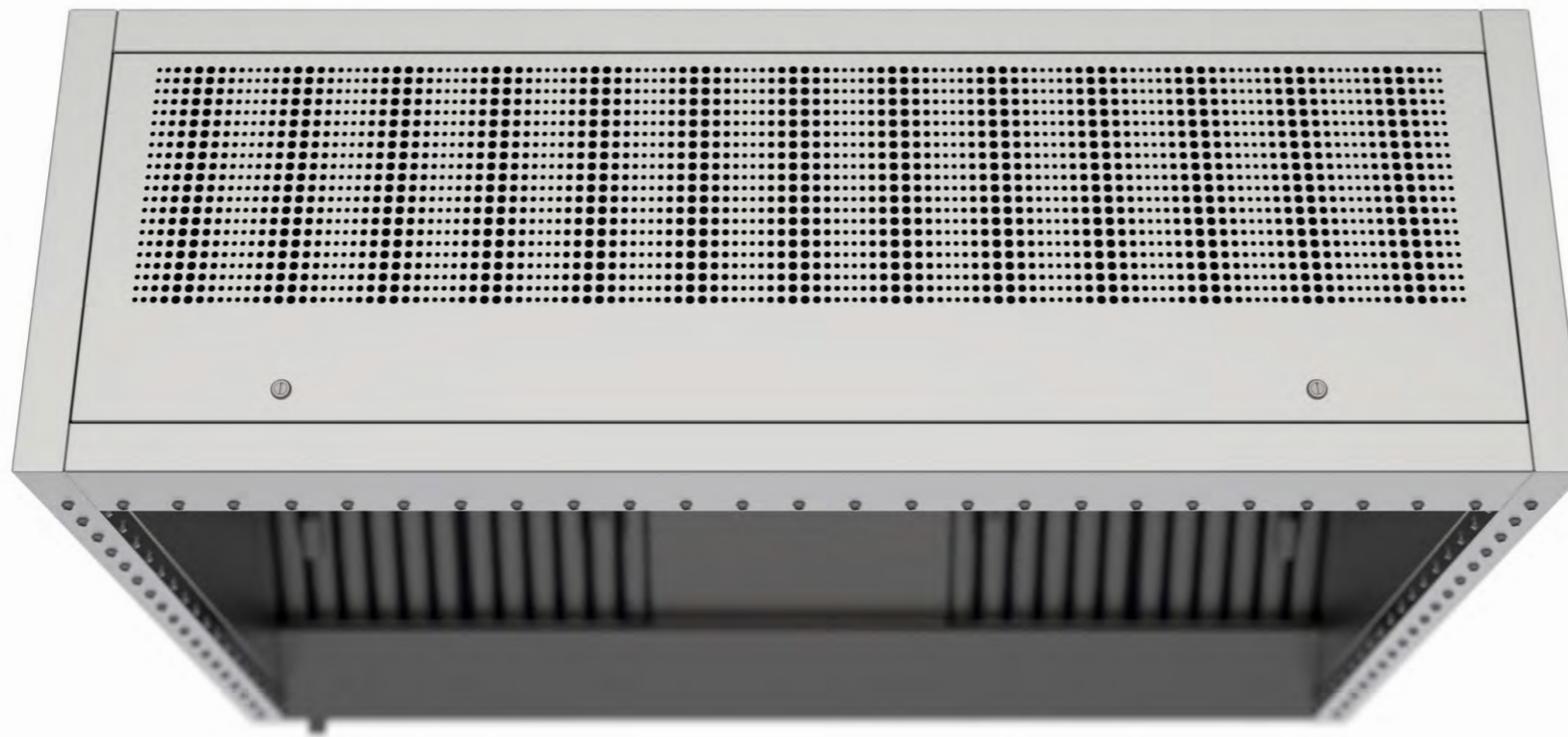


KHC



- ▼ Design principles
- ▼ Product range
- ▼ Ordering key
- ▼ Installation
- ▼ Pressure tables
- ▼ Accessories
- ▼ Maintenance

 PRODUCT RANGE



- ▼ Design principles
- ▼ Product range
- ▼ Ordering key
- ▼ Installation
- ▼ Pressure tables
- ▼ Accessories
- ▼ Maintenance



ORDERING KEY

KITCHEN VENTILATION

ORDERING KEY

(1) Hood (2) Installation (3) Options (4) Dimensions (5) Connection type (6) Material

KHI - W - F - 2500 x 1100 x 500 - P - 316

(1) **KHE**
KHI
KHC

(2) Installation
W- wall installation
S- Ceiling installation (optional on KHI/KHE)

(3) **F**- Fresh air supply (optional on KHI)
A- Angled version (optional on KHE)

(4) Dimensions **L x W x H**

(5) Connection type
P- Rectangular connection
C- Circular connection

(6) Material
Optional - **316** - AISI 316/EN 1.4401

* For more technical information visit www.klimaoprema.com

Installation

Suspension installation procedure

1. Drill holes in ceiling and put anchors in it
2. Place open hooks into ceiling anchors
3. Place hooks into riv-nuts in hood ceiling
4. Place hooks into tensioner
5. Place cable into the hook

Gripple suspension system

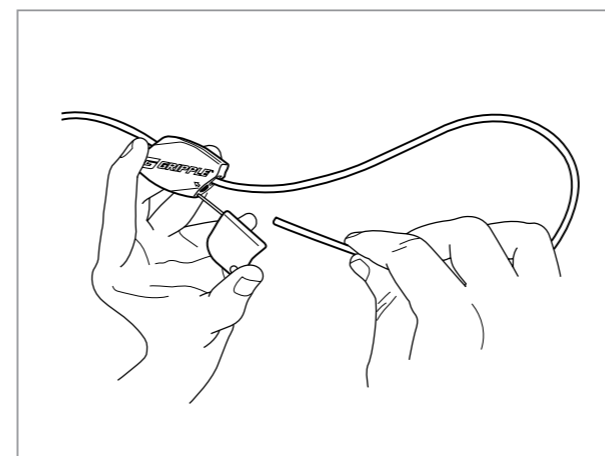
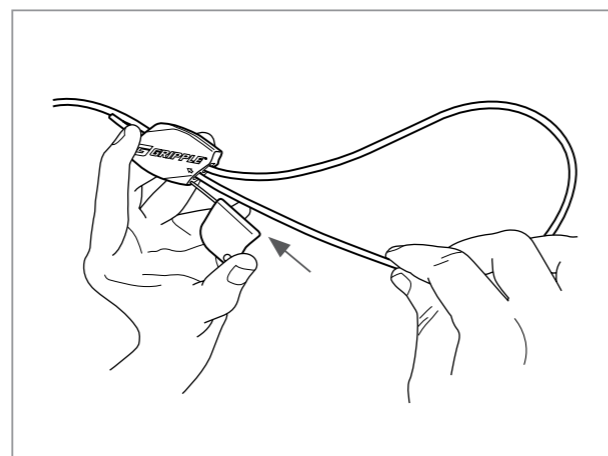
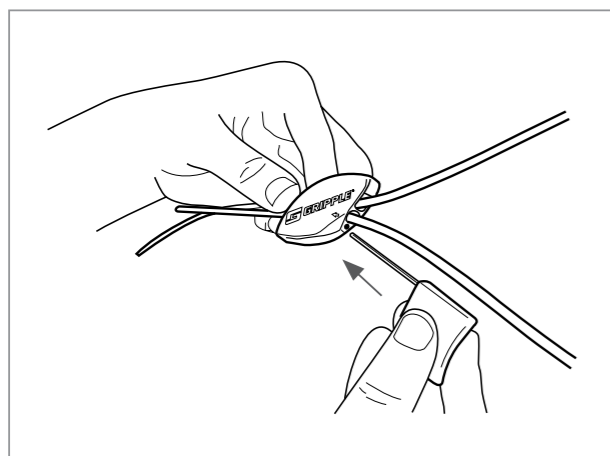
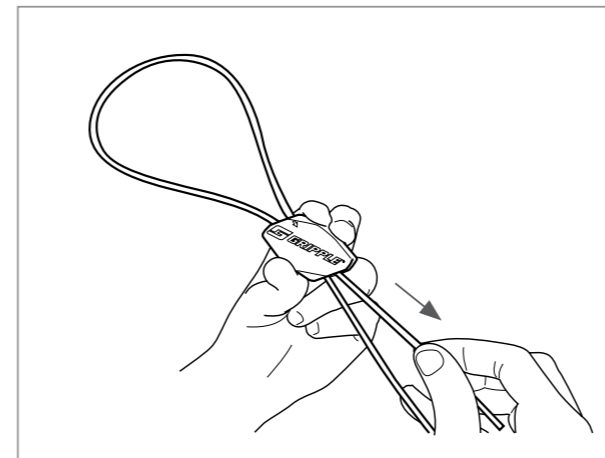
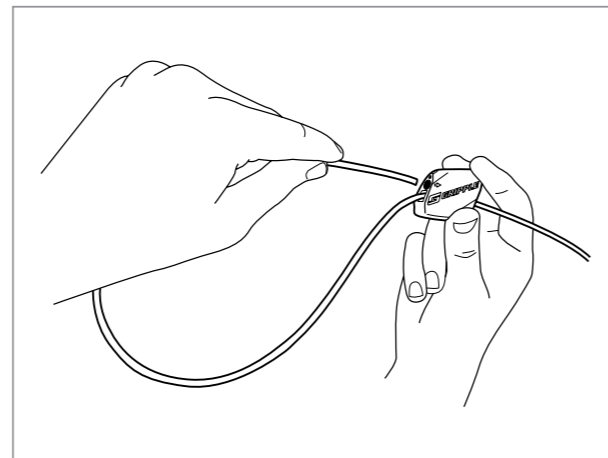
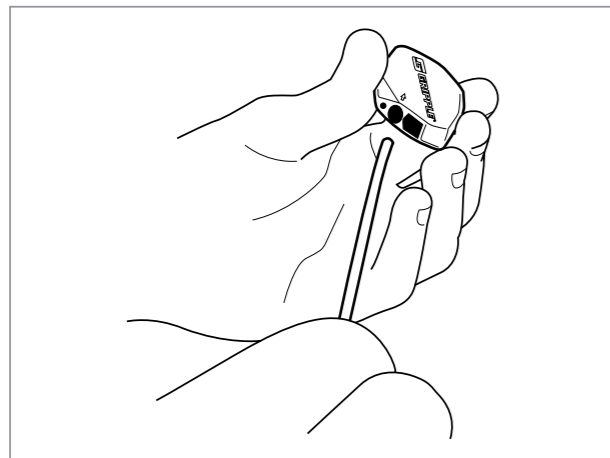
Used to suspend a variety of HVAC, mechanical and electrical services from different substrates. Ideal for fast suspension of cable containment, pipework, air conditioning

- Up to six times faster to install than traditional hanging systems
- Versatile and simple to use
- Strong, safe and industry approved
- Aesthetically discreet and lightweight
- Supplied in ready-to-use kits, comprising a length of wire, pre-crimped End Fixing, Gripple Hanger and Setting Key

For more information visit www.gripple.com



- ▼ Design principles
- ▼ Product range
- ▼ Ordering key
- ▼ Installation
- ▼ Pressure tables
- ▼ Accessories
- ▼ Maintenance



*Ensure a minimum 75 mm of tail wire exits the hanger.

INSTALLATION

* Kitchen hood weight can be up to 200kg. It is instructed to use lifting platform when installing the hood. Hood should be placed to a height of 2,1m from the floor.

Installation

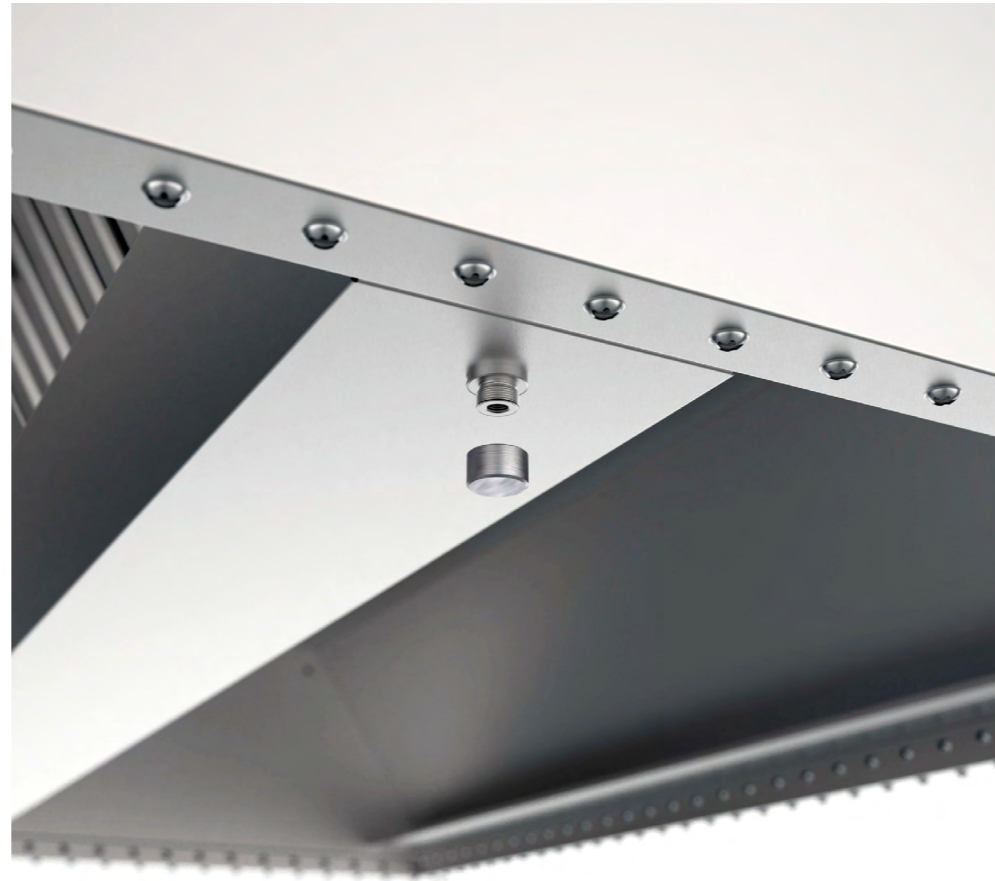
Condensate drain

Condensate draining is done by unscrewing the threaded cap on the bottom of the hood. First few weeks condensate should be checked on a daily basis to determine cleaning interval. If condensate is concentrated on the other side of the hood should be leveled accordingly. Thread on the cap is G3/8".

Connecting of multiple part hood

Multiple part hoods are delivered with a connecting angle. Adjust the hood so that holes are coincident with holes in the other half of the hood and fasten it with rivets.

If the hood is made out of multiple parts, every part has its own suspension anchors. After lifting all parts are fastened mutually with nuts and bolts M8. When parts are fastened, check that all joining edges are linear. If insulation in supply chamber is damaged during installation, seal the damage before starting to use the hood. Hood is standardly delivered with supply and exhaust connections. Dimensions depend on the size of the hood and can be found in technical catalogue (5/S1). Connection height is standard 100 mm or 125 mm if equipped with aluminium regulation louver. Sealing silicone should be placed on hood-connection-duct connections. Hood ceiling and duct connection can be fastened with sheet metal screws or nuts and bolts. Duct connection can be fastened with sheet metal screws, nuts and bolts, rivets or duct couplings. Check that mounting points and ductwork position is in accordance with expected position of the hood.



- ▼ Design principles
- ▼ Product range
- ▼ Ordering key
- ▼ Installation
- ▼ Pressure tables
- ▼ Accessories
- ▼ Maintenance

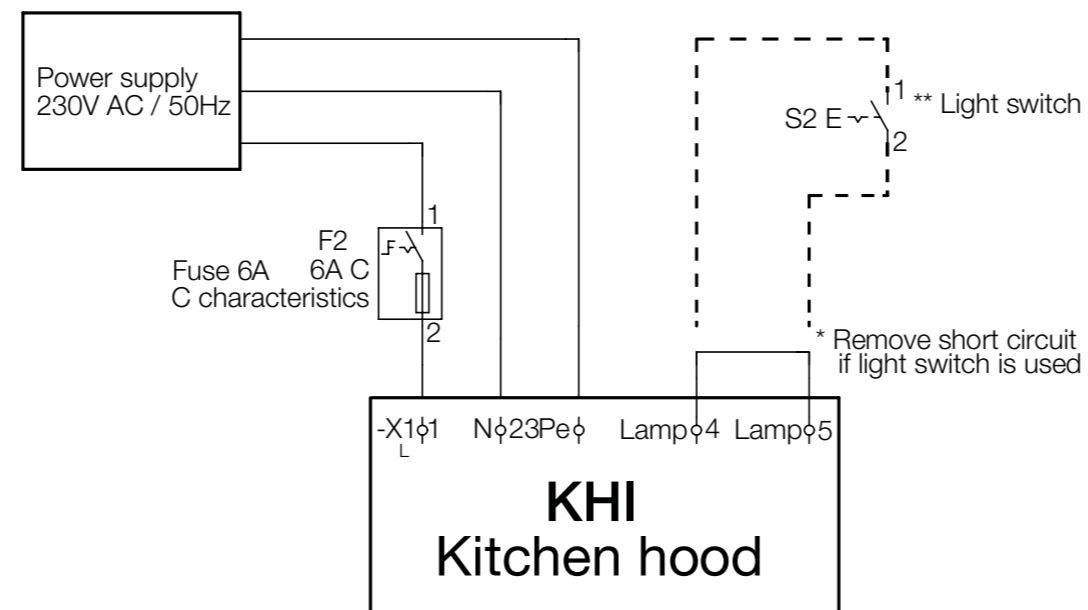
Installation

Wiring diagram - KHI

*Danger from electric current

In case of insulation damage, shut down the power supply immediately.

- Only qualified personnel can work on electrical system of the hood
- Before working on electrical system check that system is not under current
- Never disable or short circuit electric fuse.
- Check system current after changing the fuse.
- Electronics should not be working in damp conditions, it can cause short circuit.
- Current sum should not exceed 50 mA
- Install shortest possible cable route
- Prevent damage from sharp edges



- ▼ Design principles
- ▼ Product range
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- ▼ Installation
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Installation

Cyclone filters

Cleaning intervals is determined for each kitchen individually. Filter should be washed with hot water and detergent or washed in dishwashing machine. KCF filter can be disassembled in a manner showed on lower drawings. Manufacturer Klimaoprema d.d. doesn't take any responsibility for damage done by clogged or dirty filters.

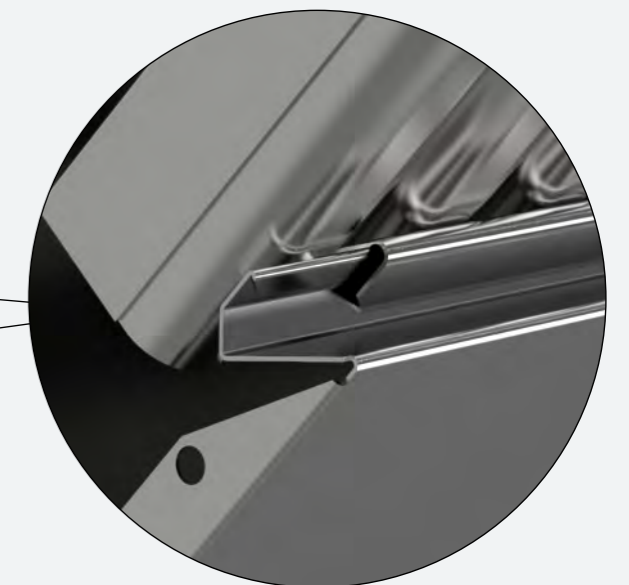
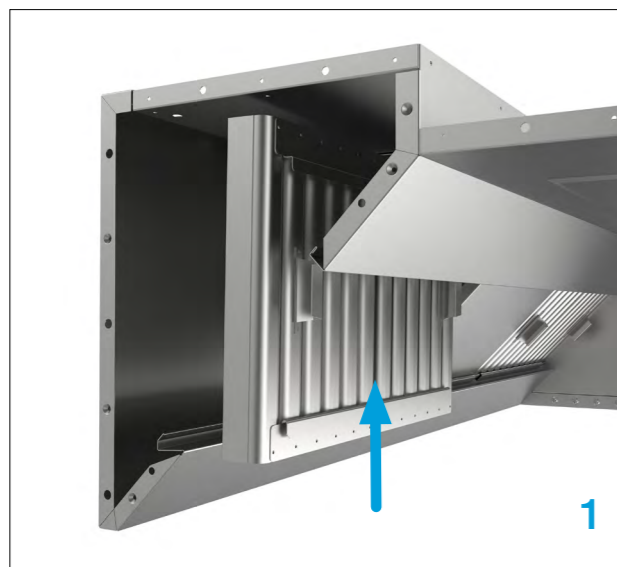
Inserting cyclone filter

1. Place filter to inner side of the hood
2. Place filter into upper rail
3. Lower the filter into lower rail



- ▼ Design principles
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- ▼ Maintenance

 INSTALLATION



Installation

Lighting

Body is electro-galvanized finished in RAL 9010 white paint with tempered glass, thickness 4 mm, IP55 ingress protection. Cover is AISI 304 SB stainless steel.

Features

- Anti-drop cable with clip and shackle
- Lighting assembly consisting of white painted sheet steel envelope, thickness 0.5 mm, 2 x SYLVANIA Luxline Plus lamps, A2 class power supply, HN H- 1x 220/240V reactor, G5 tube holder
- Power cord: cord with silicone sheath for resistance to high temperatures, length 1.5 m

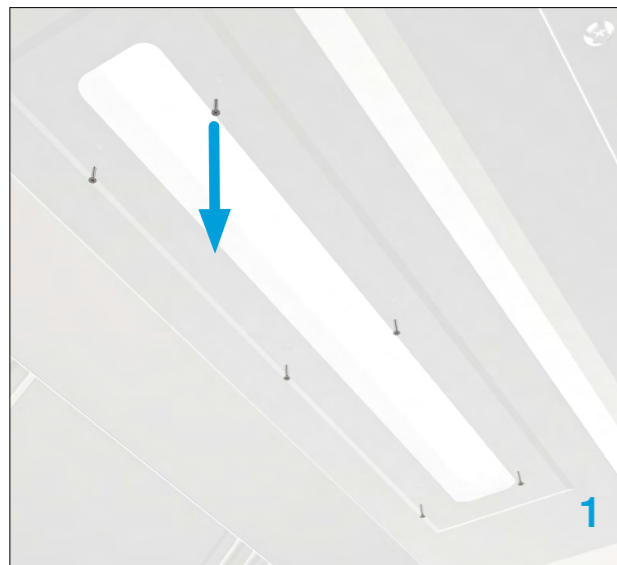
Changing LED tubes

1. Locate and remove 6 screws
2. Remove the cover and let it hang on the safety cable.
3. Disconnect LED tubes by rotating them



- ▼ Design principles
- ▼ Product range
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 INSTALLATION



KHI air volume and pressure drop tables

KHI-W-F

Exhaust air volume [m³/h]

Length/ Width	1100	1300	1500	1700
1100	800	815	846	892
1300	950	965	996	1042
1500	1100	1115	1146	1192
1700	1250	1265	1296	1342
1900	1400	1415	1446	1492
2100	1550	1565	1596	1642
2300	1690	1705	1736	1782
2500	1840	1855	1886	1932
2700	1980	1995	2026	2072
2900	2130	2145	2176	2222

Supply air volume [m³/h]

Length/ Width	1100	1300	1500	1700
1100	720	734	761	802
1300	855	869	896	937
1500	990	1004	1031	1072
1700	1125	1139	1166	1207
1900	1260	1274	1301	1342
2100	1395	1409	1436	1477
2300	1521	1535	1562	1603
2500	1656	1670	1697	1738
2700	1782	1796	1823	1864
2900	1917	1931	1958	1999

Air volume on nozzles [m³/h]

Length/ Width	1100	1300	1500	1700
1100	132	148	163	178
1300	141	156	172	187
1500	150	165	181	196
1700	159	174	189	205
1900	168	183	198	213
2100	176	192	207	222
2300	185	200	216	231
2500	194	209	225	240
2700	203	218	233	249
2900	212	227	242	257

Exhaust pressure drop [Pa]

Length/ Width	1100	1300	1500	1700
1100	24	25	27	29
1300	33	33	35	38
1500	42	43	45	48
1700	52	54	56	59
1900	32	32	33	35
2100	38	38	40	42
2300	44	44	46	48
2500	31	31	32	33
2700	35	35	36	38
2900	40	40	41	43

Supply pressure drop [Pa]

Length/ Width	1100	1300	1500	1700
1100	25	25	25	25
1300	25	25	25	25
1500	24	24	24	24
1700	24	24	24	24
1900	24	24	24	24
2100	24	24	24	24
2300	24	24	24	24
2500	23	23	23	23
2700	23	23	23	23
2900	23	23	23	23

- Design principles
- Product range
- Ordering key
- Installation
- Pressure tables
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- Maintenance

PRESSURE DROP

KHI air volume and pressure drop tables

KHI-S-F

Exhaust air volume [m³/h]

Length/ Width	1800	2000	2200	2400	2600	2800
1100	1920	1935	1966	2012	2073	2149
1300	2280	2295	2326	2372	2433	2509
1500	2640	2655	2686	2732	2793	2869
1700	3000	3015	3046	3092	3153	3229
1900	3360	3375	3406	3452	3513	3589
2100	3720	3735	3766	3812	3873	3949
2300	4056	4071	4102	4148	4209	4285
2500	4416	4431	4462	4508	4569	4645
2700	4752	4767	4798	4844	4905	4981
2900	5112	5127	5158	5204	5265	5341

Supply air volume[m³/h]

Length/ Width	1800	2000	2200	2400	2600	2800
1100	1728	1742	1769	1810	1865	1934
1300	2052	2066	2093	2134	2189	2258
1500	2376	2390	2417	2458	2513	2582
1700	2700	2714	2741	2782	2837	2906
1900	3024	3038	3065	3106	3161	3230
2100	3348	3362	3389	3430	3485	3554
2300	3650	3664	3692	3733	3788	3857
2500	3974	3988	4016	4057	4112	4181
2700	4277	4291	4318	4359	4414	4483
2900	4601	4615	4642	4683	4738	4807

Air volume on nozzles [m³/h]

Length/ Width	1800	2000	2200	2400	2600	2800
1100	186	201	216	232	247	262
1300	195	210	225	240	256	271
1500	203	219	234	249	265	280
1700	212	228	243	258	273	289
1900	221	236	252	267	282	297
2100	230	245	260	276	291	306
2300	239	254	269	284	300	315
2500	247	263	278	293	309	324
2700	256	272	287	302	317	333
2900	265	280	296	311	326	341

Exhaust pressure drop [Pa]

Length/ Width	1800	2000	2200	2400	2600	2800
1100	33	34	35	36	38	40
1300	45	45	46	48	50	53
1500	58	58	59	61	64	67
1700	72	73	74	76	79	82
1900	43	44	44	45	47	49
2100	52	52	53	54	55	57
2300	60	61	61	62	64	66
2500	42	43	43	44	45	46
2700	48	48	49	50	51	52
2900	55	55	55	56	57	59

Supply pressure drop [Pa]

Length/ Width	1800	2000	2200	2400	2600	2800
1100	30	30	30	30	30	30
1300	29	29	29	29	29	29
1500	28	28	28	28	28	28
1700	27	27	27	27	27	27
1900	27	27	27	27	27	27
2100	26	26	26	26	26	26
2300	26	26	26	26	26	26
2500	26	26	26	26	26	26
2700	25	25	25	25	25	25
2900	25	25	25	25	25	25

- Design principles
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PRESSURE DROP

KHE air volume and pressure drop tables

KHE-W

Exhaust air volume [m³/h]

Length/ Width	900	1100	1300	1500
900	656	802	948	1094
1100	802	980	1158	1337
1300	948	1158	1369	1580
1500	1094	1337	1580	1823
1700	1239	1515	1790	2066
1900	1385	1693	2001	2309
2100	1531	1871	2211	2552
2300	1677	2049	2422	2795
2500	1823	2228	2633	3038
2700	1968	2406	2843	3281
2900	2114	2584	3054	3524

Pressure drop [Pa]

Length/ Width	900	1100	1300	1500
900	57	81	108	139
1100	24	34	46	59
1300	32	46	61	79
1500	21	29	39	50
1700	26	36	48	62
1900	31	44	59	75
2100	22	32	42	54
2300	26	37	50	64
2500	21	29	39	50
2700	23	33	44	57
2900	27	38	50	65

KHE-S

Exhaust air volume [m³/h]

Length/ Width	1400	1600	1800	2000	2200	2400
900	1021	1166	1312	1458	1604	1750
1100	1247	1426	1604	1782	1960	2138
1300	1474	1685	1895	2106	2317	2527
1500	1701	1944	2187	2430	2673	2916
1700	1928	2203	2479	2754	3029	3305
1900	2155	2462	2770	3078	3386	3694
2100	2381	2722	3062	3402	3742	4082
2300	2608	2981	3353	3726	4099	4471
2500	2835	3240	3645	4050	4455	4860
2700	3062	3499	3937	4374	4811	5249
2900	3289	3758	4228	4698	5168	5638

Pressure drop [Pa]

Length/ Width	1400	1600	1800	2000	2200	2400
900	37	46	57	69	81	94
1100	16	20	24	29	34	40
1300	21	26	32	39	46	53
1500	13	17	21	25	29	34
1700	16	21	26	31	36	42
1900	20	25	31	37	44	51
2100	14	18	22	27	32	37
2300	17	21	26	31	37	43
2500	20	25	30	36	43	50
2700	15	19	23	28	33	39
2900	17	22	27	32	38	44

- Design principles
- Product range
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- Maintenance








PRESSURE DROP

KHC air volume and pressure drop tables

KHC-W

Exhaust air volume [m³/h]

Length/ Width	900	1100	1300	1500
900	656	802	948	1094
1100	802	980	1158	1337
1300	948	1158	1369	1580
1500	1094	1337	1580	1823
1700	1239	1515	1790	2066
1900	1385	1693	2001	2309
2100	1531	1871	2211	2552
2300	1677	2049	2422	2795

-  Design principles
-  Product range
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-  Installation
-  Pressure tables
-  Accessories
-  Maintenance

Accessories

UV ozone purification system

High performance vacuum UV lamps filled with amalgam remain extremely effective even at ambient temperatures up to 80 ° C. The long service life of one UV lamp, up to 10,000 operating hours, minimizes the number of services required, and the efficiency of the system reduces the need for dry cleaning of the exhaust system professional kitchens.

The most important advantages of installing the UVC Ozone system of the company Klimaoprema are:

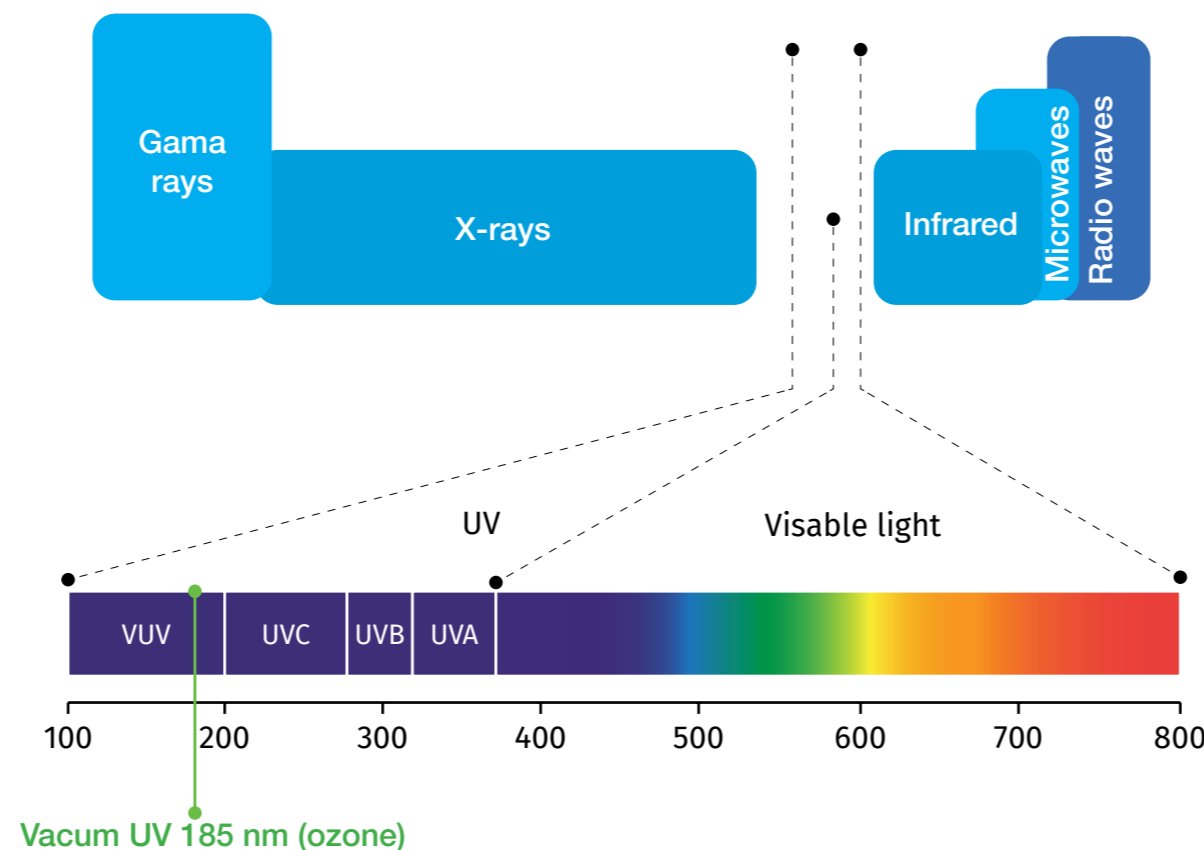
- Effective removal of unpleasant odors from waste air by decomposing odor molecules already in the stage of formation.
- Prevent the deposition of new grease and remove existing deposits in the exhaust system.
- There is no risk of fire due to burning of fat deposits - the best possible protection against fire in professional kitchens.
- Satisfaction of hygiene standards by eliminating a large number of microorganisms.
- Since the unpleasant odor and impurities have been removed it is possible to recirculate the warm air through the system.
- Easy installation, use and maintenance of the system with automated operation.
- Long lifespan of UV lamps - up to 10000 hours with occasional wiping of lamps with denatured alcohol and cloth.
- Quick and easy replacement of UV lamps during service.
- Significantly reduced need for dry cleaning of the exhaust system.
- Numerous security features and warning alarms enable safe operation of the system.
- Longer life of all elements of the exhaust ventilation system due to reduced contamination.

Since UV light radiation is not completely harmless, it is necessary to follow the safety measures listed in the instructions of the manufacturer Klimaoprema.

- The system has several safety elements (magnetic switches and pressure switch) that ensure automatic switching off of UV lamps when removing the grease filter or due to a fault in the exhaust ventilation system.
- In order to make the system as efficient as possible and to completely decompose the remaining ozone, a minimum length of the exhaust ventilation duct of 8m is recommended. It is also recommended to install an FKU filter with activated carbon at the end of the exhaust duct.
- The recommended speed of the exhaust air in the ventilation duct is 2-3m / s, max. 4m / s



- UV lamps are installed directly in the kitchen hood with the mandatory use of flame-retardant filter. On special request, UV lamps can be installed in the exhaust ventilation duct.
- Components of UV Ozone systems and UV lamps are installed exclusively by qualified and specialized personnel, authorized by the manufacturer Klimaoprema.
- Hoods or grease filters equipped with UV lamps must be specially marked. Warning symbol W 09 "Beware of optical beams" in accordance with BGV A8 must be displayed.
- Please read the installation instructions! Standard EN 16282-6 (Commercial kitchen equipment - Part 8: Aerosol treatment plants; Requirements and testing). Annex A 6.4 with notes on UV protection must be highlighted.
- It is advisable to change UV lamps after 10000 hours, since the effect of UV radiation emission decreases over time.
- Once a year, it is necessary to inspect the correct operation of the entire UVC Ozone system.



- ▼ Design principles
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+ ACCESSORIES

ORDERING KEY (1) UV Ozone system

UV-C-1

- (1) UV-C-1
- UV-C-2
- UV-C-3
- UV-C-4
- UV-C-6
- UV-C-8

* For more technical information visit www.klimaoprema.com



- ▼ Design principles
- ▼ Product range
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MAINTENANCE

KITCHEN VENTILATION

TRANSPORT

Upon arrival, check the kitchen hood for possible damage during the transport. In case of any damage or shortcomings, immediately contact your supplier.

STORAGE

If the product is not installed immediately:

- Remove any wrapping.
- Protect the product from dust and contamination.
- Do not expose the product to the effects of weather - store it in a dry place.
- Do not store the unit below -20 °C or above 50 °C.

Please properly dispose of packaging material!

MAINTENANCE AND OPERATION

For maintaining the hygiene and fire safety requirements, it is perform periodic cleaning of the kitchen equipment. Cleaning interval is dependent on the type and frequency of use. Soap and dish detergents can be used for cleaning of the surfaces of the hood. Cleaning agents containing chlorine and extremely alkaline solutions (pH>11) should be avoided. KCF filters can be cleaned in the dishwashing machine. UV Ozone system does not require cleaning, and the UV lamps should not be washed with cleaning agents. Supply air plenum can also be inspected by removing the front cover, and cleaned if necessary.

COMMISSIONING

1. Carefully unpack product - be careful of sharp edges and do not use excessive force for unpacking
2. Inspect the product for damage

*** All electric installations and commissioning should be done by a trained electrician!**

Commissioning procedure

1. Ensure that all filters are inserted and free from obstacles
2. Check duct connection
3. Ensure that regulation louvers are open
4. Turn on power supply
5. Turn on supply fans
6. Check device functions
7. Measure if exhaust volume flow is in the required interval
8. Measure if supply volume flow is in the required interval
9. Before commissioning: check the product functions



KITCHEN VENTILATION

Projektiranje, proizvodnja i održavanje opreme za klimatizaciju, ventilaciju i čiste prostore.
Design, production and service of Ventilation, Air-Conditioning and Cleanroom equipment.

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