



## **NORD**canopy HG Grill Canopy

"AirGrip" air intake system

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Laser welded structure

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Efficient HFK cyclone filters protected as an utility model

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Energy efficient LED lights

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HACCP certified (no. I-PE-106-ETS-R4-01)

[www.nordcooking.com](http://www.nordcooking.com)

**HG Grill Canopy**

HG Grill canopy combines effective grease removal with stylish design to thoroughly clean your kitchen exhaust airstream and remove excess heat from the kitchen. In addition to mechanically separating grease with our highly efficient HFK grease filters, this canopy can also include ozone cleaning and smart control system to further reduce grease and odor. Ozone treatment is simply chemical oxidation, whereby grease and odor are broken down to water vapor and dry minerals.



**Function**

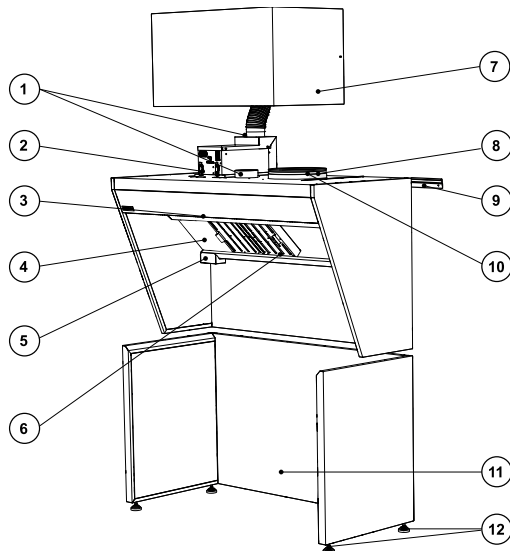
- HG Grill canopy removes excess heat, grease and other particles from your commercial kitchen operation.
- Air supplied by the "AirGrip" air intake system along the front side of the canopy, helps routing kitchen effluent into the grease filters to remove grease and other pollutants. The grease then drains from the filter down into the grease collection channel of the canopy, which leads to a grease collection container.



**Recommended Data**

Length L	Exhaust airflow l/s	"AirGrip" air nozzle system l/s
1000	200-260	15
1500	300-390	20
2000	400-520	25
2500	500-650	30

**Construction**



- 1 - Supply air connection
- 2 - Ozone cleaning (option)
- 3 - AirGrip air intake system
- 4 - Blind plates for grease filter rail
- 5 - Grease collection container
- 6 - HFK grease filter
- 7 - Cover plate
- 8 - Exhaust air connection
- 9 - Mounting bracket
- 10 - Exhaust air adjustment plate
- 11 - Canopy frame
- 12 - Adjustable feet

- The canopy is made from stainless steel (AISI 304, surface 2K).
- The laser welded end walls of the exhaust chamber prevent the possible spillage of grease from the inside of the chamber, thereby reducing the possibility of bacteria forming in the joints of the parts.
- The front side of the hood is a closed structure and air tight, allowing the use of "AirGrip" air capture, contributing thereby to more efficient removal of pollution.
- Easy-to-clean surfaces
- HG Grill canopy can be installed by hanging on a wall, or self suspended on its optional frame with adjustable feet.

### Lighting

Professional kitchens require functional lighting to ensure that employees have a safe and effective work environment. ETS NORD professional kitchen canopies use the next generation of energy-efficient recessed LED-Spot luminaires, which can save as much as 50% more energy compared to old technologies.

Grease removal canopies include light fixtures integrated into their ceilings, protected by an aluminum and glass casing. The size and number of light fixtures are determined by the size of the canopy, to ensure there is enough light output for the entire workspace.

#### Spot LED lighting fixtures (IP65)

Light colour: 4000 K (colder), 3000K (warmer)

Housing material: Aluminium

Colour separation index: > 80 (Ra)

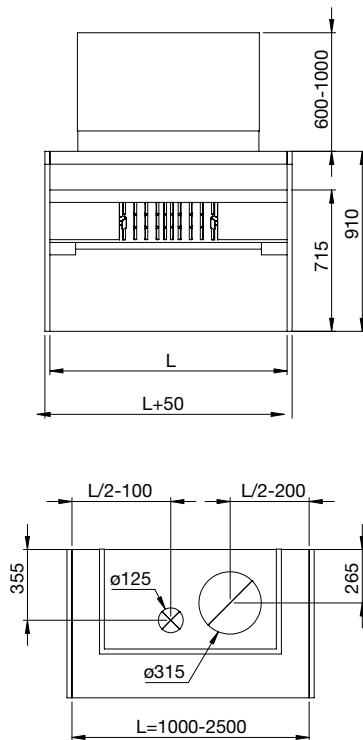


Canopy length (mm)	Spot LED Quantity	Energy use (W)	Flux 4000K (lm)	Flux 3000K (lm)	Radiation angle
$1000 \leq L < 1500$	2	16	1340	1240	36°
$1500 \leq L < 2000$	3	24	2010	1860	36°
$L \geq 2000$	4	32	2680	2480	36°

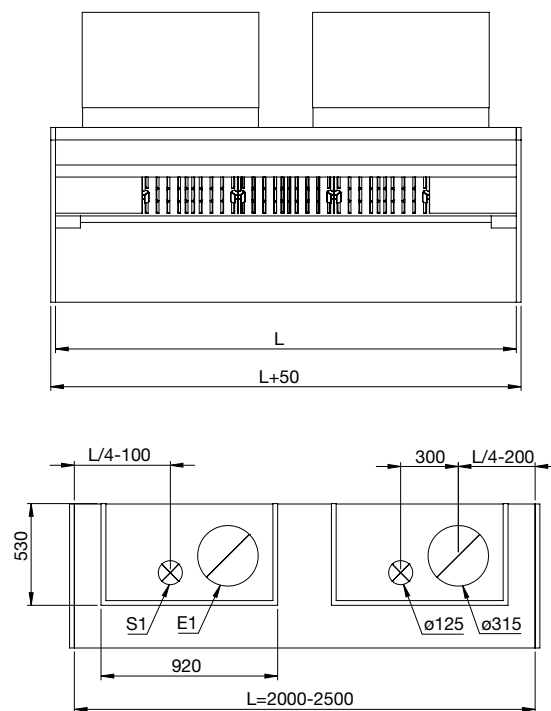
### Dimensions

#### HG-R-1 Wall installation grill canopy

L=1000-2500



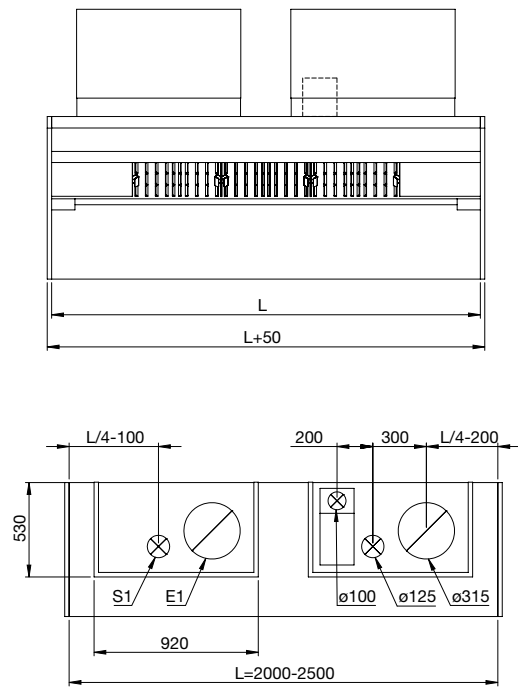
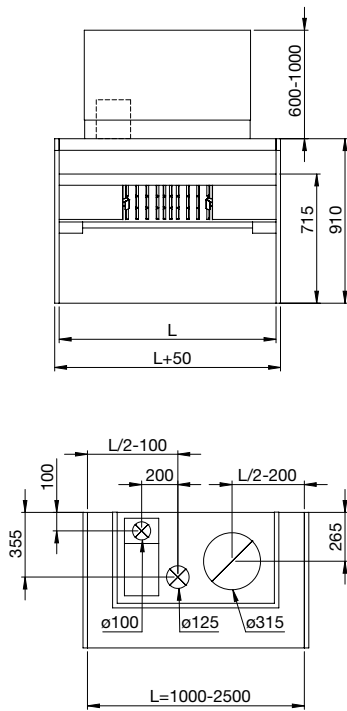
L=2000-2500



HG-Z-1 Wall installation grill canopy with ozone cleaning

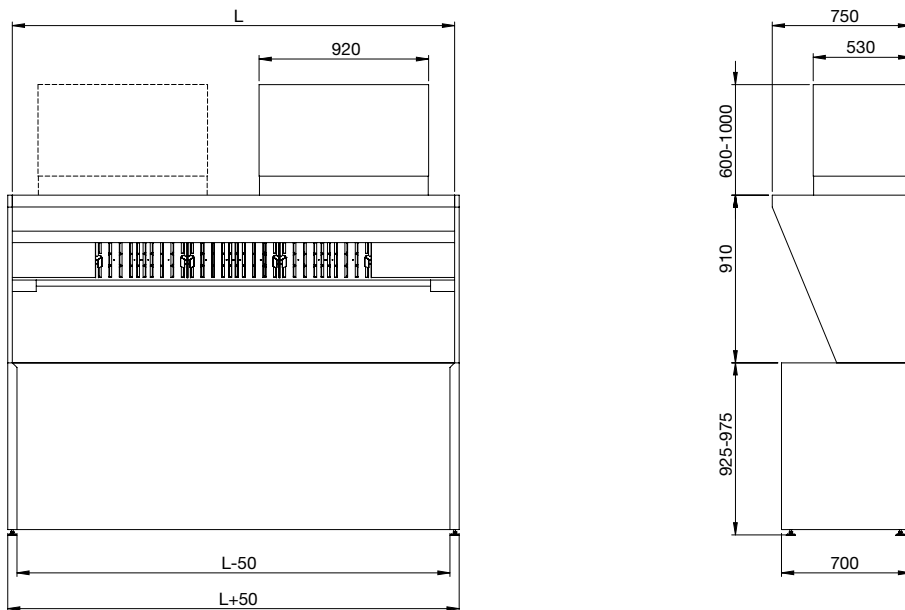
L=1000-2500

L=2000-2500



Side view is shown below.

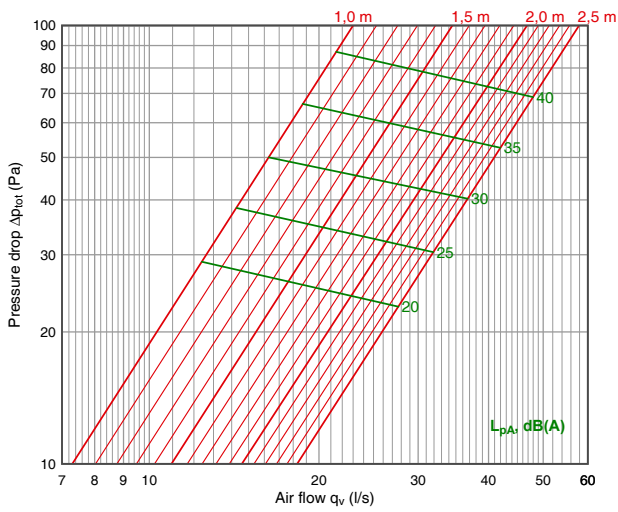
HG-R-2/HG-Z-2 Frame installation grill canopy, L=1000-2500



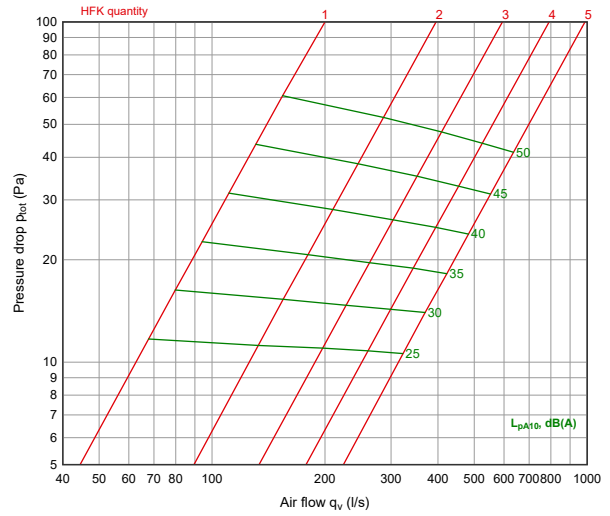
For other dimensions look HG-1.

Technical Data

Supply air: "AirGrip"



HFK filter



Correction of sound level

Supply air	$K_{okt}$ [dB] (Hz)							
	63	125	250	500	1000	2000	4000	8000
"AirGrip"	-6	-8	-5	-3	0	-1	-7	-20
	± 4 dB	± 4 dB	± 4 dB	± 2 dB	± 2 dB	± 2 dB	± 2 dB	± 2 dB

Sound attenuation of HFK

$L_{w_{okt}} = L_{pA} + K_{okt}$

HFK	Sound level correction factor $K_{okt}$ (dB) Mean frequency of octave band (Hz)							
	63	125	250	500	1000	2000	4000	8000
K	4	3	0	1	0	-4	-15	-21

**Product Marking**

HG-R - 1 - L - S1=dxn - E1=dxn - HFKxn - XXXxn

Marking

- HG-R - Grill canopy
- HG-Z - Grill canopy with ozone cleaning

Type

- 1 - Wall hung
- 2 - Self-standing

Length

- L - Length

Supply air S1

- Ød, n - Diameter and quantity of supply air connections

Exhaust air E1

- Ød, n - Diameter and quantity of supply air connections

Grease filters

- HFK
- n - Grease filter quantity

Lighting

- SpotLED-4000 - 8W, 4000K
- SpotLED-3000 - 8W, 3000K
- n - Quantity of lighting fixtures

**Example:**      HG-Z - 2 - 2000 - S1=125x2 - E1=315x2 - HFKx4 - SpotLED-4000x4

## Ozone Cleaning System

ETS NORDs ozone cleaning technology is specifically designed for restaurants and industrial kitchens where the requirements for minimizing grease and odor within the exhaust system are high.

### Function

Ozone (O<sub>3</sub>) is a very effective oxidant, and when mixed into a kitchen exhaust airstream it breaks down grease and odor particles to water vapor, carbon dioxide and dry minerals, all natural products of oxidation which exit the exhaust system.

Created by the process of electrical discharge, the ozone starts doing its work in the canopy exhaust chamber and thereafter throughout the greater exhaust system.

For best results with odor reduction, the reaction time for ozone within a kitchen exhaust system should be at least two seconds. However, longer exposure can further improve results. This time should be taken into account during the design phase of the kitchen exhaust system.

### Benefits obtained with ozone cleaning:

-  Effective grease reduction
-  Significantly improved fire safety
-  Enables the use of heat recovery
-  Effectively reduces odors
-  Effective at killing bacteria
-  Low maintenance costs



Without ozone cleaning system



With ozone cleaning system

**OZ Ozone Unit**

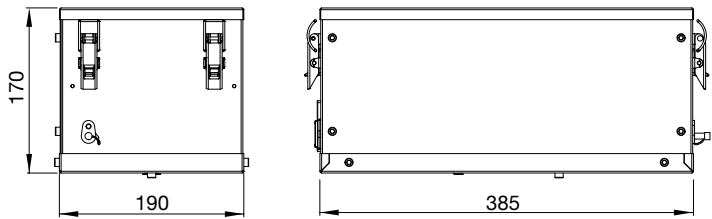
Ozone units can be installed into supply air modules or above the exhaust chamber.



OZ 3.x - Ozone unit

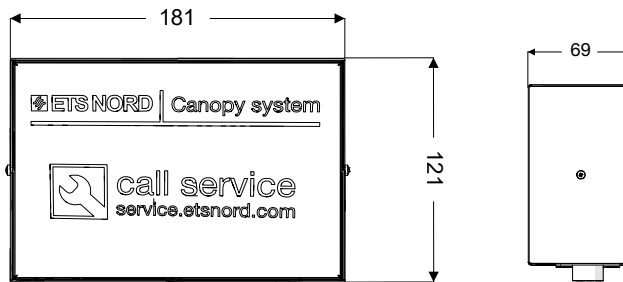
**Material:** AISI 316L stainless steel  
**Working temperature:** -25 to +40°C  
**Dimensions:** 385x170x190 mm

Each ozone unit is equipped with a pressure safety switch which only allows the unit to start when the required negative pressure is ensured. Its main switch has a 3.15 A thermal fuse.



**Control Panel**

All ozone units, whether they are installed within kitchen canopies or EOZ ozone generators, are managed by an intelligent central control panel. The control panel monitors the operation of each ozone unit and will trigger an alarm in case of any failure or the need for maintenance. Compared with ozone and UV solutions from other manufacturers, only one control panel is needed per kitchen, regardless of the number of ozone units installed.



The control panel monitors all ozone units on the premises with an advanced control and reporting technology and can be connected to either BACnet or Modbus-driven systems, enabling remote management via either the local network or Internet.

**Advantages:**

- Compatibility with building automation
- Remote monitoring (IoT - Internet of Things)
- Data visualization and history
- Easy and safe to use



This symbol indicates that when the end-user wishes to discard the device, it must be taken to a proper waste station for recycling.

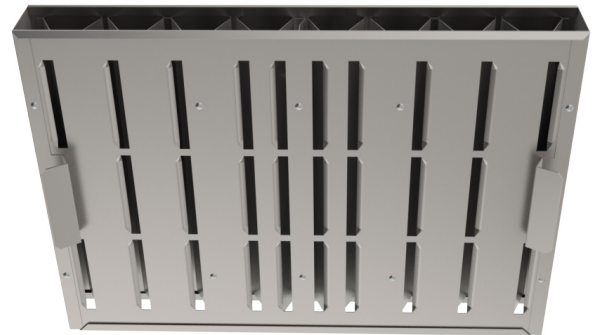
**For further technical information and installation, please find detailed information from the Ozone documentation on our website or contact your ETS NORD representative.**



## HFK Grease Filter

HFK is a high efficiency grease filter designed for use in ventilation hoods of commercial kitchens or other food production facilities. They are positioned in the hood exhaust plenum above cooking appliances (stoves, grills, etc.) and separate grease and other particles out from the exhaust air stream.

The ETS NORD HFK grease filter is protected by utility patent no. 01310.



- High efficiency captures 97% of 10 micron particles
- Functions well even with variable air volume systems
- Low pressure drop provides energy-efficient operation
- Flame resistance class A according to DIN 18869-5
- Easy to maintain
- Grease particle separation is measured according to VDI 2052 standard.

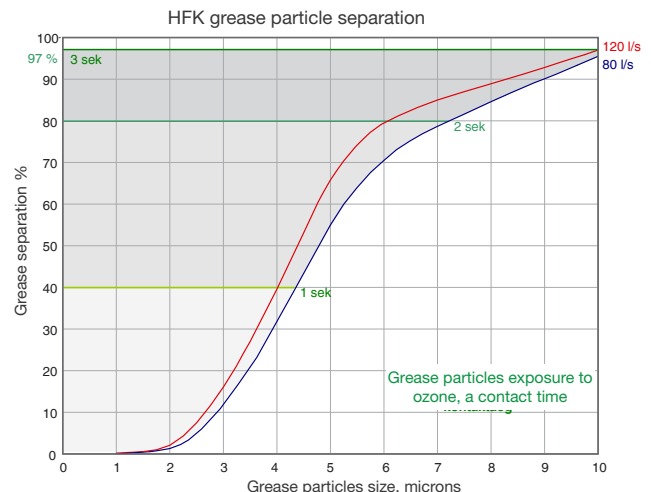
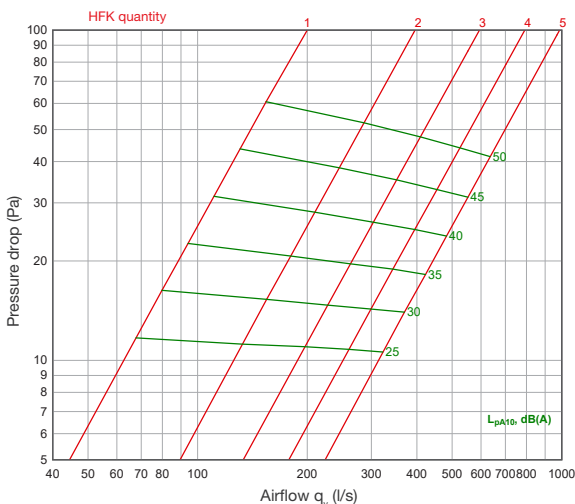
### Material and Design

HFK filters are manufactured from AISI 304 stainless steel. They are assembled with rivets to ensure their durability through many years of use in challenging kitchen environments.

### Operation

The greasy effluent from cooking appliances is pulled through the openings in the front panel of the filter. Our patented double-triangular cross-section within the chamber causes a high speed centrifugal swirling of the air. The rapid change of trajectory of the grease particles causes them to collide with the filter surfaces, resulting in their effective separation from the air stream. The grease then drains from the filter down and into the grease collection channel of the hood. The filtered air continues on into the kitchen exhaust system through the top and bottom orifices of the filter.

The optimal operating conditions of the HFK Grease Filter are under a pressure drop from 12-48 Pa with an airflow through each filter from 70-130 l/s, ensuring an energy efficient operation.



### Sound Attenuation of HFK

$$L_{w\text{okt}} = L_{pA} + K_{\text{okt}}$$

HFK	Sound level correction factor $K_{\text{okt}}$ (dB)							
	Mean frequency of octave band (Hz)							
	63	125	250	500	1000	2000	4000	8000
K	4	3	0	1	0	-4	-15	-21



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*Let's move the air together!*