



## **NORD**canopy HM Watermist Canopy

Designed for kitchens with charcoal grills and open flames

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Protects ventilation system from sparkles and ash

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Laser welded structure

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“AirGrip” air intake system

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Energy efficient LED lights

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Registered design no. 007972823-0001

## HM Watermist Canopy



ETS NORD's Watermist canopies are suitable for professional kitchens where open flames and charcoal grills are being used. These appliances generate heat, soot and sparkles which pose a threat to ventilation system. Watermist canopies have a built-in cold water system. Water is sprayed through special nozzles which create fine water mist to stop sparkles and soot spreading into ventilation ducts. Therefore, the fire hazard is decreased. The food safety of ETS NORD's canopies has been verified with the HACCP international certificate. The system consists of different selection of exhaust and supply modules and lighting options.

NORDcanopy products are manufactured from stainless steel according to standards EN 10088- 2:2014, EN 1.4301 or AISI 304 (AISI 304, surface 2K).

HM kitchen canopy ensures a clean, hygienic and comfortable work environment by removing pollutants, excessive heat and grease from your commercial kitchen operation. The same unit can also supply fresh replacement air to provide ultimate comfort for the kitchen staff.

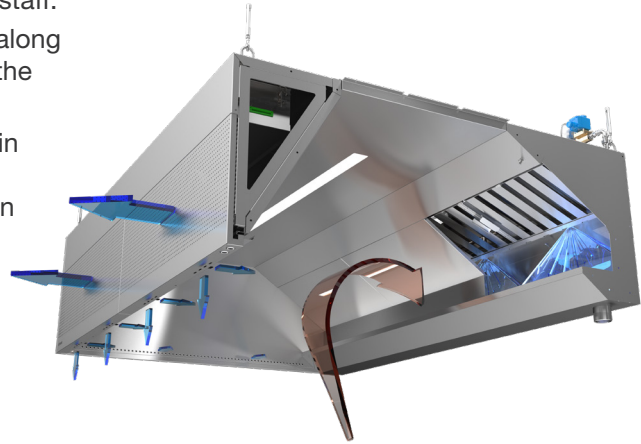
### Advantages of Canopies with Watermist Feature

- Can be used with open flames and charcoal grilles
- Effective removal of sparkles and soot
- Improved fire safety

Canopy construction complies with the standard EN 16282-2 Equipment for commercial kitchens – Kitchen ventilation hoods; design and safety requirements.

### Function

- Supply air is supplied into the room through the front panel of the kitchen canopy (also through its side panels if desired) providing fresh air in the vicinity of the kitchen staff.
- Air supplied by the "AirGrip" air intake system along the lower perimeter of the canopy helps route the kitchen effluent into the extract area.
- Exhaust air is directed into the fine water curtain generated from nozzles. The fine water mist captures soot, coal and grease from the kitchen appliances.
- Exhaust air then moves through labyrinth filters to capture water drops.
- Water is drained through 2" pipe.
- Watermist canopy is controllable with 2 buttons, located on the bottom of the front panel. One button is light switch and the other is for the water system.



### Water System

The water system for Watermist Canopy consists of stainless steel pressfitting tube system. Water is sprayed into the chamber through water nozzles. Water consumption for 1 m canopy length is 0,9 L/min (at water pressure 2 MPa). Water is drained through 2" pipe, which has to be connected to grease drainage.

Suitable water pressure is set by the pressure reducer valve with a size 1/2" connection. Water flow is controlled by a solenoid valve (on-off).

### HM Electrical Box

Current	Voltage	Frequency	Power	Circuit breaker
3.15 A	230 V	50 Hz	98 W	C10A

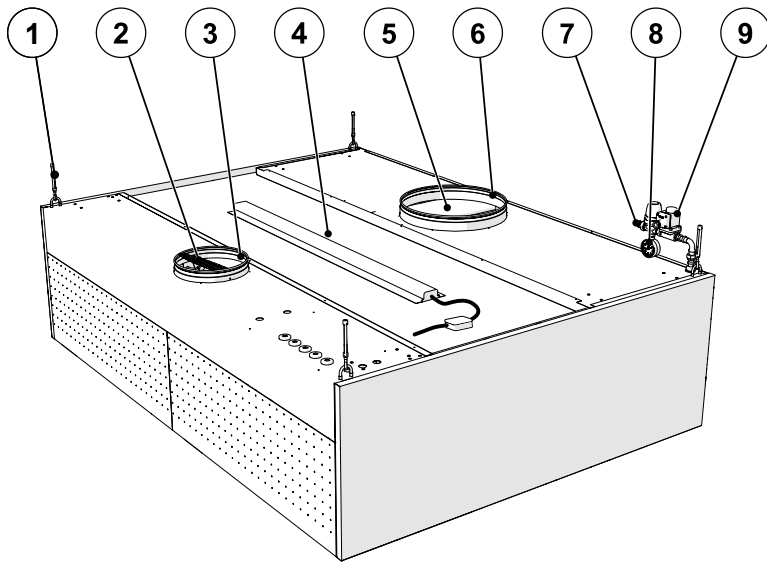
Residual current circuit breaker is strongly recommended to use in electrical connection. Kitchen canopy and the water piping system should be connected to electrical earthing system, according to IEC 60364.

There is one electrical box for each section of the canopy.

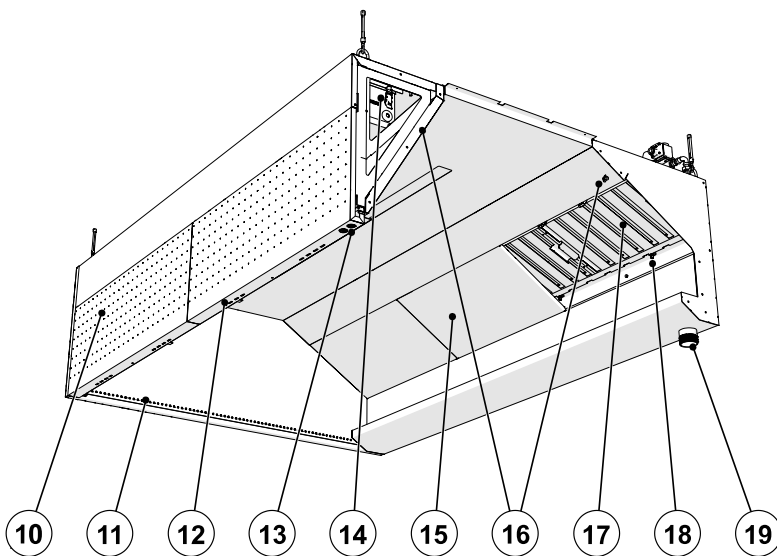
### Recommended Data

Section length L	Extraction airflow (l/s) ( $\Delta p_{tot}$ 20-50 Pa)	Supply airflow (with "AirGrip" air nozzle system) per linear meter of panel (l/s)			
		SPx1	SPx2	SPx3	Side panel
1000	210-360				
1500	315-540	10-61 Pa	10-40 Pa	10-28 Pa	10-40 Pa
2000	420-720	71-175 l/s	110-220 l/s	165-275 l/s	22-40 l/s
2500	525-900				

**Construction**



- 1 - Suspension points
- 2 - Supply air adjustment plate
- 3 - Supply air connection
- 4 - Lighting
- 5 - Exhaust air adjustment plate
- 6 - Exhaust air connection
- 7 - Water connection ½"
- 8 - Pressure reducer valve
- 9 - Solenoid valve
- 10 - Front panel
- 11 - "AirGrip" air nozzle system
- 12 - Auxiliary air supply
- 13 - Control buttons
- 14 - Control box
- 15 - Access hatch
- 16 - Airflow measuring nipples
- 17 - HFM filters
- 18 - Water nozzles
- 19 - Water drainage 2"



- The canopy is made from stainless steel (AISI 304, surface 2K).
- Duct connections are equipped with rubber gaskets.
- Supply air chambers are heat insulated to prevent condensation of steam on the inner surface of the canopy.
- The laser welded end walls of the exhaust chamber prevent possible spillage of grease and water from the inside of the chamber, thereby reducing the possibility of bacteria forming in the joints of the modules.
- The side walls of the canopy are a closed structure and airtight allowing for routing supply air and the use of the “AirGrip” air capture on the sides, contributing thereby to more efficient removal of pollution.
- Easy-to-clean surfaces.
- Access to the chambers and the possibility to clean the supply ducts is ensured through the easy-to-remove front panel of the canopy. Exhaust ducts can be connected and insulated via the removable ceiling panel.
- A sectioned canopy is supplied without partition walls.
- Adjustable suspension hooks are included.



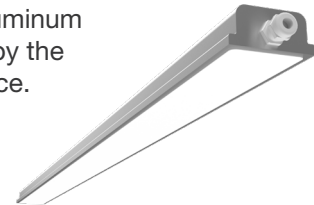
### Lighting

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 LED luminaries, which can save as much as 50% more energy compared to old technologies.

Canopies include LED luminaries integrated into their ceilings, protected by an aluminum and plastic 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.

LED luminaries have two color temperature options - colder 4000K and warmer 3000K.



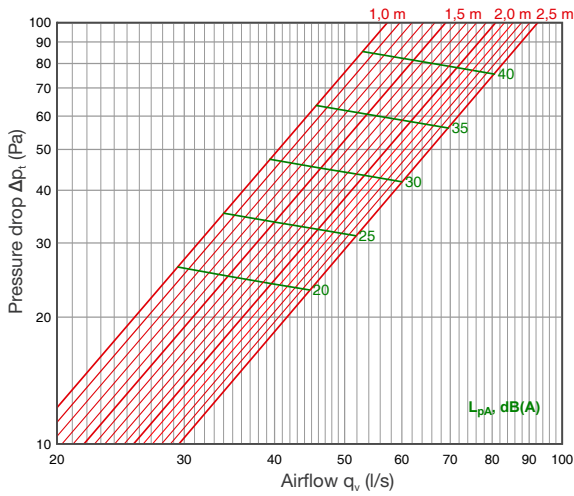
#### LED luminaries (standard), IP66

Canopy section length (mm)	Luminaries	Lighting length (mm)	Energy use (W)	Color temperature (K)	Color rendering index (Ra)	Flux (lm)
1000 ≤ L <1300	LED-4000-600	600	17	4000	90	2907
1000 ≤ L <1300	LED-3000-600	600	17	3000	90	2907
1400 ≤ L <2900	LED-4000-1200	1200	34	4000	90	6498
1400 ≤ L <2900	LED-3000-1200	1200	34	3000	90	6498

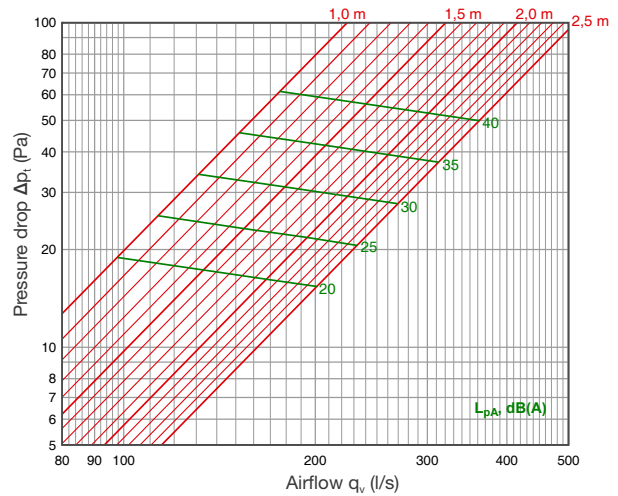
Technical Data

The supply panels always contain the "AirGrip" air capture system.

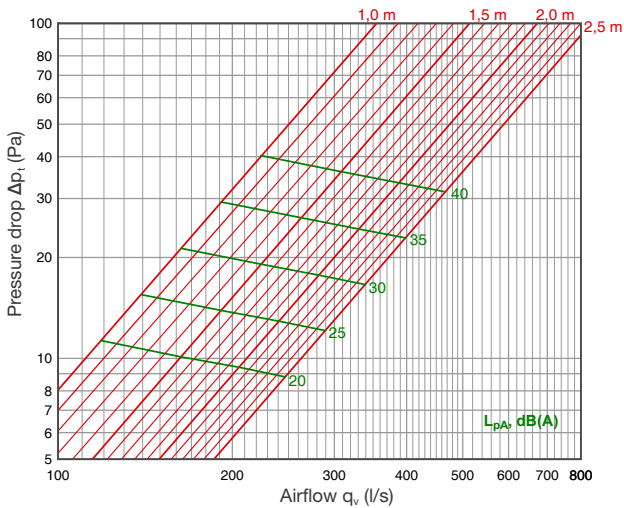
Supply air: "AirGrip"



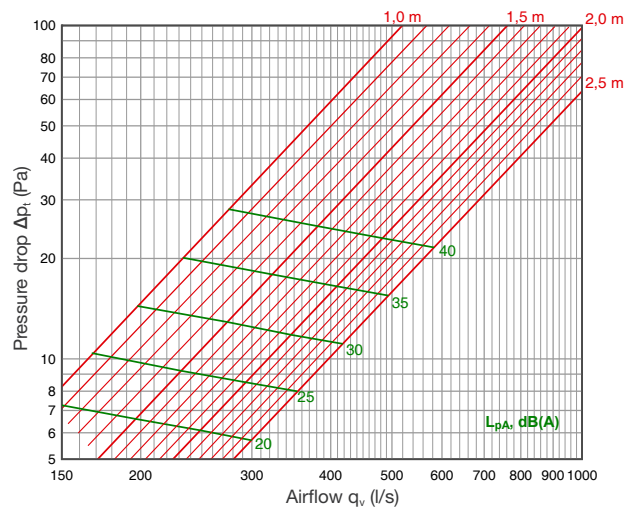
Supply air: SPx1



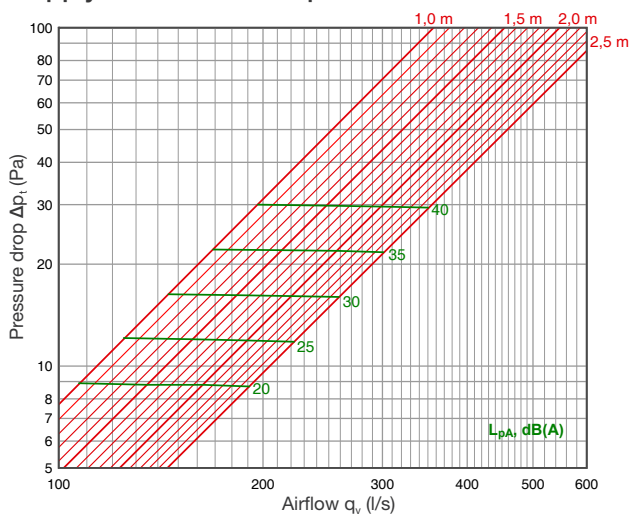
Supply air: SPx2



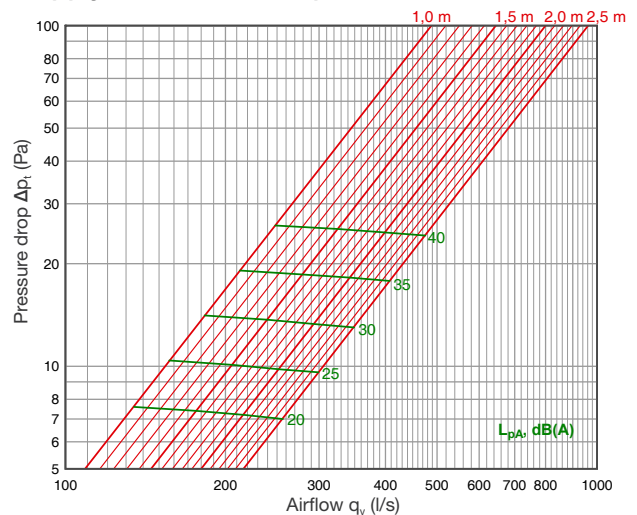
Supply air: SPx3



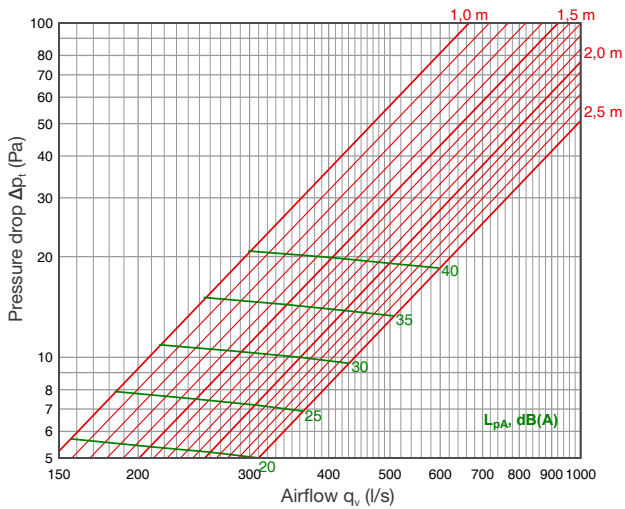
Supply air: SPx1 + side panels



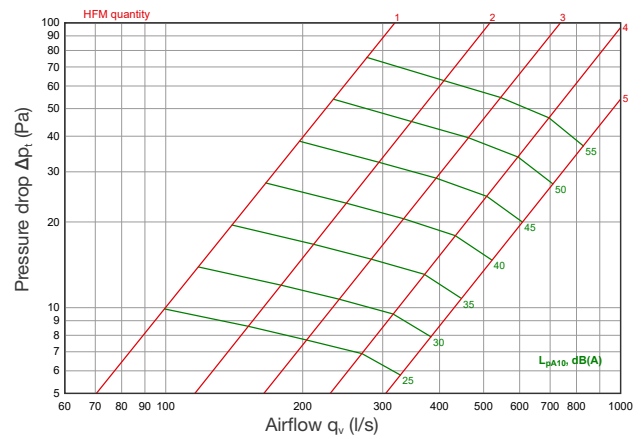
Supply air: SPx2 + side panels



Supply air: SP×3 + side panels



Extract air with HFM labyrinth filters\*



\*Technical data applies to whole extract side.

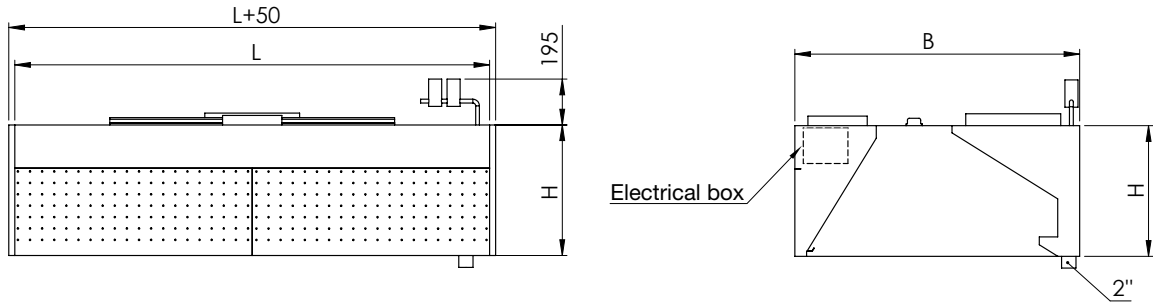
Acoustic Data

Supply air	Correction of sound level $K_{okt}$ (dB)							
	(Hz)							
	63	125	250	500	1000	2000	4000	8000
"AirGrip"	-6	-8	-5	-3	0	-1	-7	-20
SP×1	-1	0	3	2	-1	-3	-11	-23
SP×2	0	1	5	4	-1	-8	-20	-27
SP×3	7	5	6	4	-2	-13	-21	-30
SP×1 + side panels	-1	-1	2	2	0	-5	-15	-28
SP×2 + side panels	3	1	5	4	-1	-9	-21	-27
SP×3 + side panels	8	5	6	4	-3	-13	-22	-30
	± 4 dB	± 4 dB	± 4 dB	± 2 dB	± 2 dB	± 2 dB	± 2 dB	± 2 dB



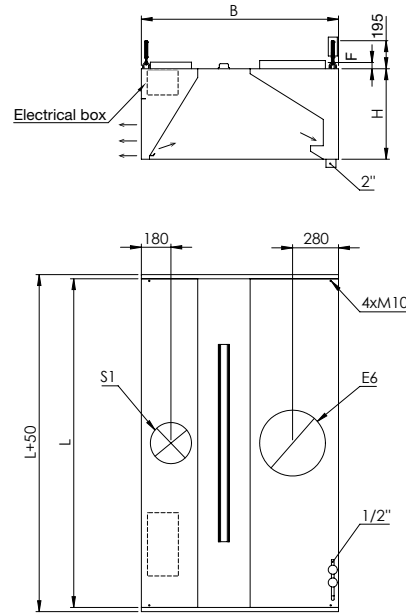
**Section Dimensions**

Dimensions (mm)	
L Length	1000, 1100, ..., 2400, 2500
B Width	1100, ..., 1900, 2000
H Height	550





HM wall installation, 1-part



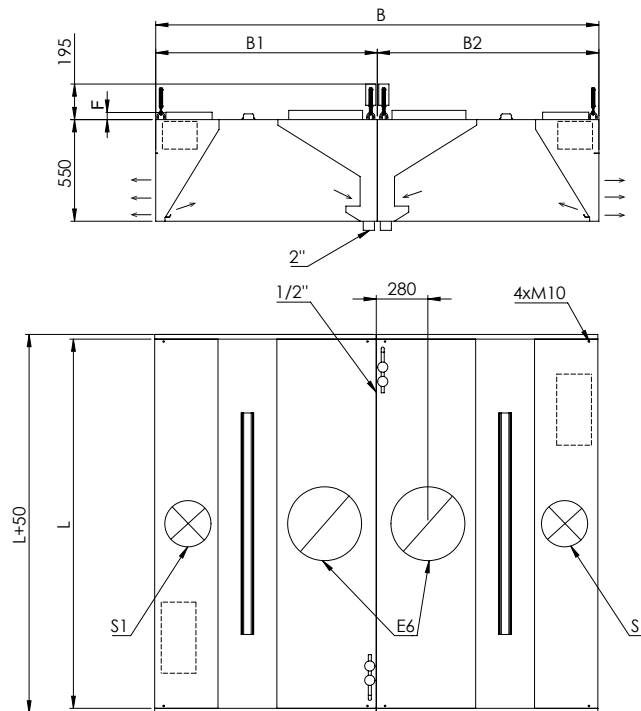
Dimensions (mm)

L Length	1000, 1100, ..., 2400, 2500
B Width	1100, 1200, ..., 1900, 2000
H Height	550
S1, Ød	200 (F=40), 250 (F=43)
E6, Ød	315 (F=43), 400 (F=55)

HM-2 island installation, 2-part

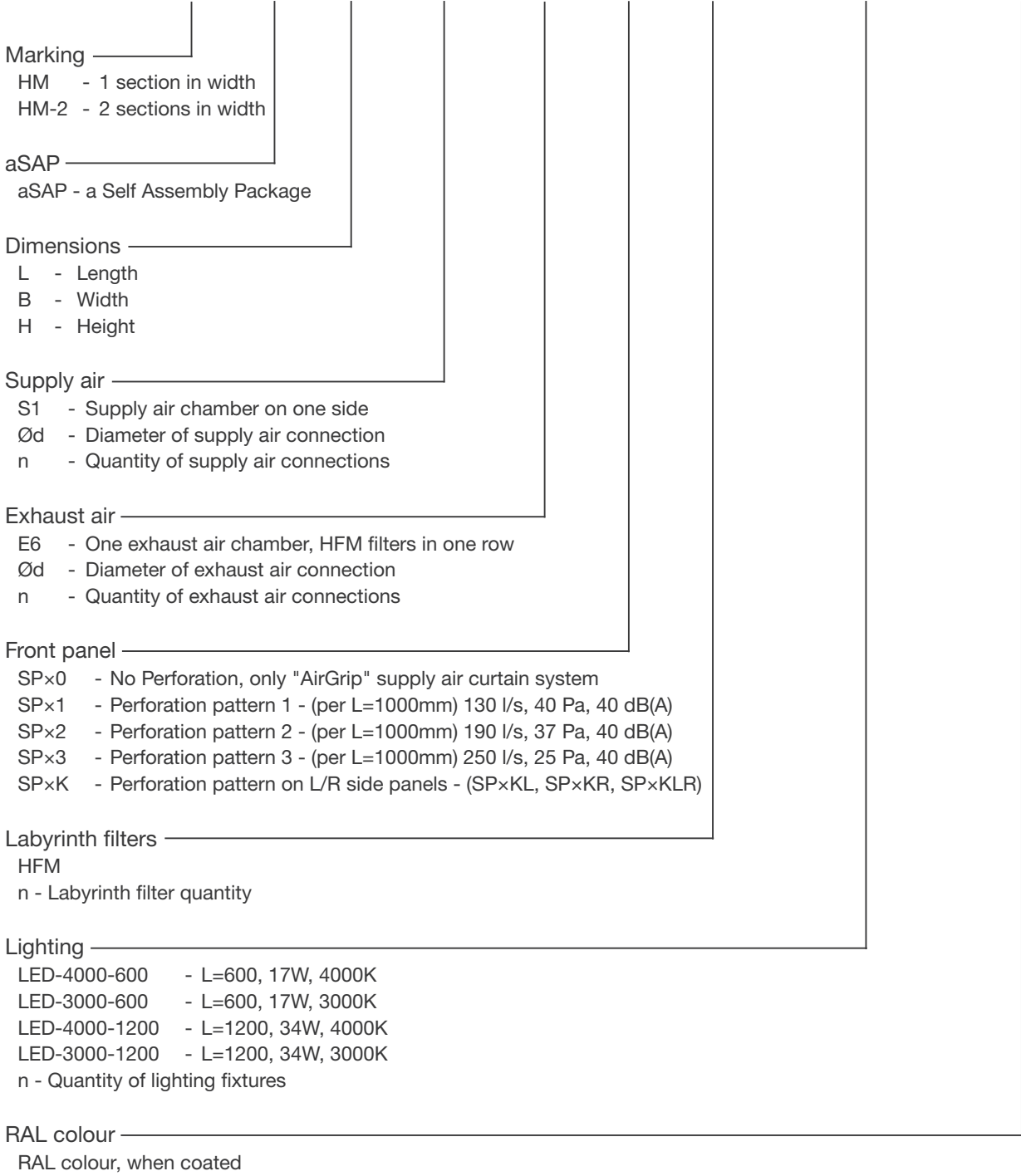
Dimensions (mm)

L Length	1000, 1100, ..., 2400, 2500
B Width	2200, 2400, ..., 3800, 4000
B1/B2 Width	1100, 1200, ..., 2000
H Height	550
S1, Ød	200 (F=40), 250 (F=43)
E6, Ød	315 (F=43), 400 (F=55)



**Product Marking**

**HM - aSAP - LxBxH - S1=dxn - E6=dxn - SPx0 - HFMxn - LED-4000-600xn - RAL 9005**



**Example:**

**HM 4000x1500x550 - S1=250x4 - E6=400x2 - SPx1 - HFMx8 - LED-4000-1200x2**

**HM-aSAP 4000x1500x550 - S1=250x4 - E6=400x2 - SPx1 - HFMx8 - LED-3000-1200x2 - RAL9005**

## EOZ Ozone Generator




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 ( $O_3$ ) 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. Ozone is generated by the process of electrical discharge.

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

**EOZ Ozone Generator**

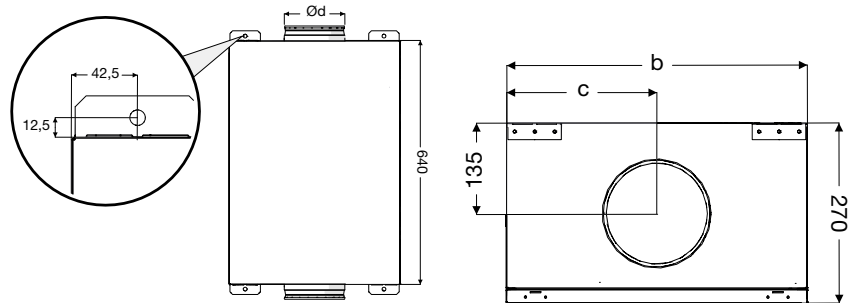
The EOZ ozone generator is designed for direct connection to a kitchen exhaust duct system. Its chassis contains one or more ozone modules and may be installed in any convenient location and orientation in your kitchen’s mechanical space, as long as easy access for service is ensured.



EOZ - Ozone Generator

Model	Modules quantity	b (mm)	c (mm)	Ød (mm)	Weight (kg)	Voltage (V, Hz)	Max power (W)
EOZ-1	1	250	125	125	13	230/50	300
EOZ-2	2	450	225	160	20	230/50	600

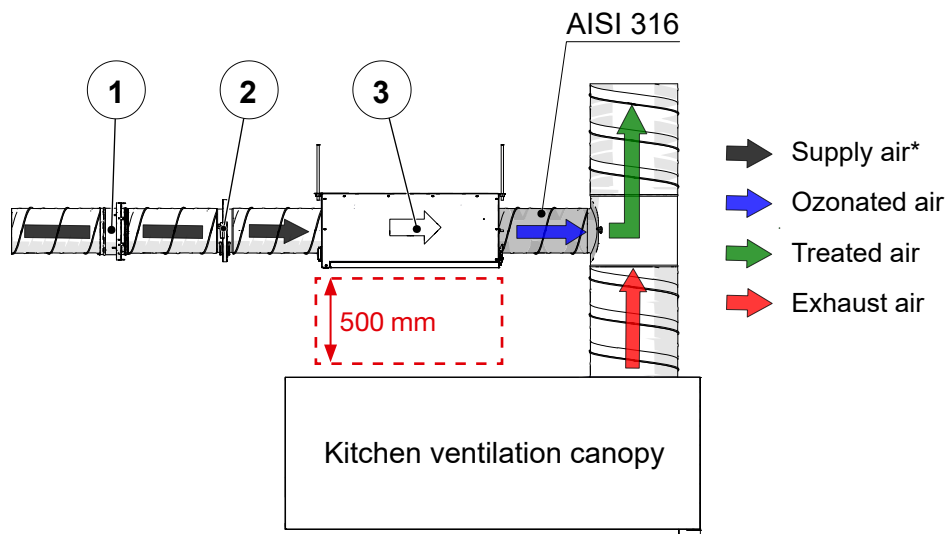
**Material:** AISI 316L stainless steel  
**Working temperature:** -25 to +40°C  
**Dimensions:**  
 See diagram and table above



**Installation**

An EOZ Ozone Generator may be installed in any convenient location in your kitchen’s mechanical space, ideally within reach of both supply and exhaust air ducts. When installing, note the direction of airflow and install the EOZ unit accordingly. Ensure no other equipment will block access to its service hatch once installed.

Note: All ducts, fittings, screws or rivets from the exhaust connection of the generator to the exhaust duct must be manufactured from at least AISI 316 stainless steel.



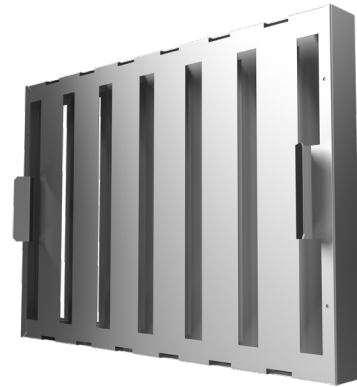
- 1 - FDMS fire damper (for installation refer to the FDMS manual) installed before ozone generator if needed by local fire safety regulations.
- 2 - KRI Regulating damper (for installation refer to the KRI manual)
- 3 - EOZ Ozone Generator unit

\* Supply air from AHU

## HFM Labyrinth Filter

HFM is a labyrinth filter which is designed for use in ventilation canopies of commercial kitchens or other food production facilities. This type of filter is specifically designed for catching small water droplets on mist canopies.

Filters are positioned in the canopy exhaust chamber above cooking appliances (stoves, grills, etc.) in order to separate grease and water droplets from the exhaust air stream.



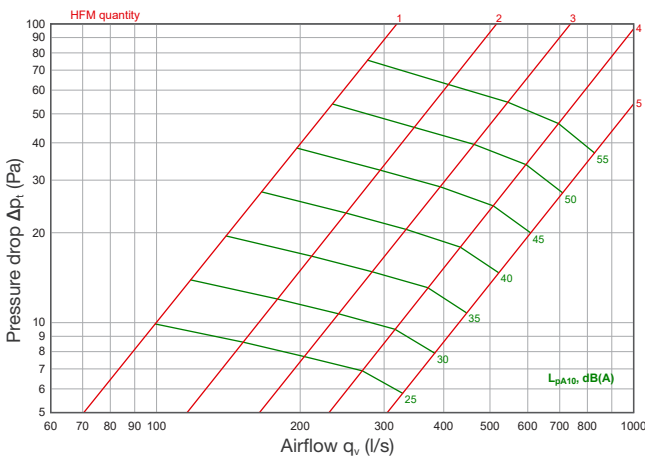
### Material and Design

HFM 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

Polluted air from cooking appliances is extracted through the canopy's exhaust chamber, where a misting process is conducted. Moist air is then directed through the labyrinth filter, forcing water particles to condense on the inner surface of the filter and drain into water collection channel. Filtered air continues into kitchen exhaust system through the orifices of the filter.

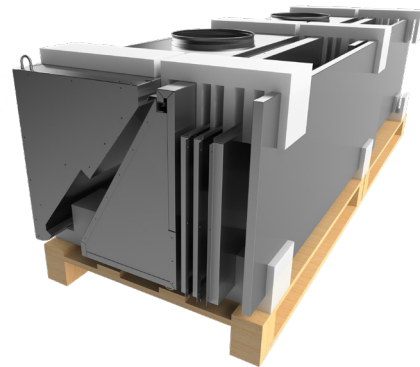
### Extract air with HFM labyrinth filters\*



\*Technical data applies to whole extract side.

**aSAP Solution - a Self Assembly Package**

- When access to the job site or kitchen space is limited, an ETS NORD aSAP self-assembly package can be the perfect solution.
- Narrow passageways and complex floor plans no longer get in the way!
- This is a compact, easy to ship, 5-step assembly version of our canopies to be put together at the job site.
- The canopy is delivered as ready-made modules with installation instructions.



**CP Cover Plates**

Cover plates are made of stainless steel (AISI 304, surface 2K). Cover plates are mounted in the area between the canopy and ceiling, when conduits and other components are to be concealed.

- CP-F – Front plate
- CP-B – Back plate
- CP-L – Left plate
- CP-R – Right plate





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*Let's move the air together!*