

FOUR KITCHEN

Ecology Unit

Catalogue



**FOUR
SEASONS**[®]

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Venues Breathe with DOGU HVAC Systems!

DOGU HVAC founded in 1999, and ever since has been manufacturing Energy- and Cost-Efficient products as Air Handling Units, Air Distribution & Management & Movement Systems [HVAC Components] and constantly enhancing to provide an integrated solution for well-being. DOGU HVAC's core business products which are subsumed under 4 major groups as Air Handling Units, Heat/Energy Recovery Units, Air Distribution & Management Products and Kitchen Ventilation Equipment are all produced under the compliance with EU standards. Particularly AHU and HRU-ER units are entitled under the "FOUR SEASONS" brand name for domestic and foreign markets. DOGU HVAC's, headquarter in Izmir/Turkey, operates in a large-sized plant spread over 2 factories, in total area of 45.000 sqm in which 25.000 sqm indoor space that enables DOGU HVAC manufactures 140 various type of products. Additionally, DOGU HVAC has a powerful sales network with 3 sales offices located in Istanbul, Ankara and Antalya in Turkey as well as authorized dealers in many other countries for sales and after sales operations. DOGU HVAC has been exporting to more than 50 countries.

Thanks to our "Customer Satisfaction", "Zero-Defect Policy" motto and reinforced by complete certified products, more than 250 employees. DOGU HVAC R&D center developed exclusive products, such as Double Skin Make-Up Kitchen Hood, Recirculated Laminar Airflow Unit, Single Piece Square Ceiling Diffuser and Ecology Units, for the first time have brought to the sector. DOGU HVAC R&D has the ability to make customized production which can meet the requirement of the customers by means of special software such as "ANSYS FLUENT". DOGU HVAC guaranteed its quality of management by having advantages of ISO 9001, ISO 14001, ISO 18001 certifications. Air Handling Units have EUROVENT, TUV Hygiene [in accordance with DIN1946-4, VDI 6022-1, DIN EN 13053 standards], CE, TSEK, GOST-R certifications; Fire Dampers have EN 1366-2 and EN 13501-3 CE certifications; Smoke Control Dampers have EN 1366-10 and 12101-8 CE certifications; Kitchen Ventilation Products have TSE, CE and GOST-R quality certifications.



GENERAL SPECIFICATIONS

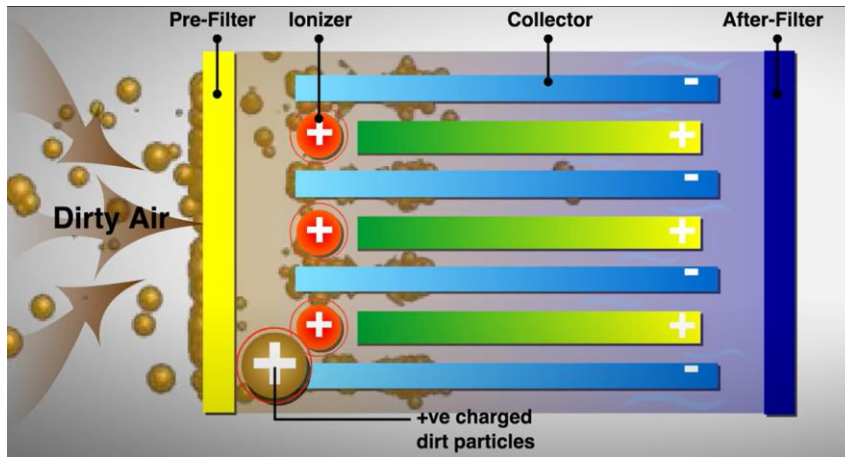
Ideally manufactured for the kitchens with chimney problems. It is environmentally friendly. Principally it is ideally used in kitchens, hotels, hospitals, industrial facilities, business centers and offices.

- ⌘ Economical and environmentally friendly solution
- ⌘ Filter selection according to kitchen preference
- ⌘ Up to 99% oil and smoke retention
- ⌘ Optional galvanized and stainless steel
- ⌘ Control accessibility through automation Long life expectancy
- ⌘ Inside sheet metal is galvanized steel, optional stainless steel.
- ⌘ 50 mm aluminum profile and 50 mm rock wool [density:52 kg/m³]
- ⌘ Design outside the electrical motor airflow
- ⌘ Ac plug fan
- ⌘ High efficiency electrostatic filter[%95],Carbon Cartridge Filter
- ⌘ Optional bag, activated v carbon filte, -v-uv filter
- ⌘ Integrated automation system,
- ⌘ Compatible operation with other kitchen exhaust units and BMS, Easy of maintenance and servicing



INTRODUCTION

FOUR KITCHEN Ecology units are ventilation equipment whose use is recommended in kitchen exhaust systems, which serve to clean greasy and dirty exhaust air. With the increase of environmental consequences in the 21st century, severe restrictions have been imposed on the release of industrial wastes to the environment, and particularly on the release of flue gas and kitchen exhaust systems to the atmosphere. With the introduction of the new residential concept in big cities, the rise in so-called “all-in-one” projects has led to some problems with air quality. This is because the concentrated kitchen exhausts from the large restaurants and dining areas in these projects have a negative impact on the daily functioning of people occupying the residential, office, and hotel areas that are in close proximity to these areas. In the absence of measures, the accumulation in ducts exhaust equipment of substances such as grease, soot and smut that are released during cooking raises fire risk to high levels later on. In addition to fire risk, the accumulation of these substances causes the intake fans and filters to be quickly clogged, the ducts to be quickly contaminated and consequently lead to a rapid rise in expenses.

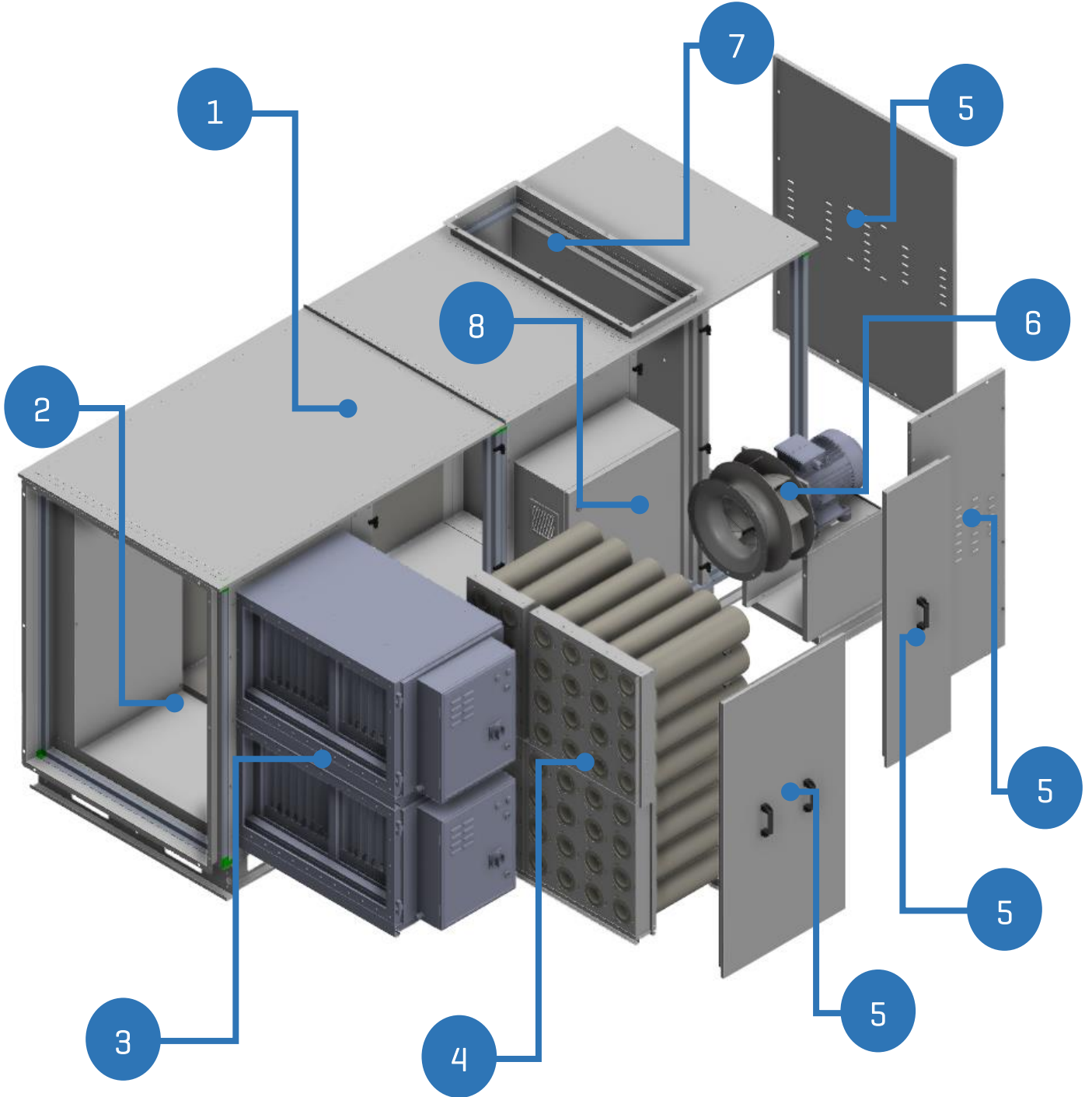


Model No	Model Name	Ahu Model	Max Airflow Rate[m ³ /h]	Electrostatic Filter Model and Number
1	FK-35	077-077	3500	FND-300 1 pcs
2	FK-50	093-077	5000	FND-500 1 pcs
3	FK-70	139-077	7500	FND 700 1 pcs
4	FK-100	093-124	10000	FND-500 XX 1 pcs
5	FK-150	139-124	15000	FND-700 XX 1 pcs
6	FK-225	139-186	22500	FND-700 XXX 1 pcs
7	FK-300	186-186	30000	FND-500 XXX 2 pcs

COMPONENTS

- 1-Casing
- 2-Air Inlet Duct Connection
- 3-Electrostatic Filter
- 4-Carbon Cartridge Filter

- 5-Service Doors
- 6-Exhaust Fan
- 7-Air Outlet Duct Connection
- 8-Control & Electric Panel



DESIGN CRITERIA

The most significant design criterion in the selection of ecology units is the type of catering establishment. Since the amount of grease, steam, and particles in the exhaust air will vary according to the type of food cooked, different models should be selected for various kitchens.

Thus, we can divide common catering establishment types under four main headings according to the density of odour and grease. This classification as low, medium, high, and very high density kitchen types can be seen in the following table.

Room Type	Odour Density				Grease Density			
	Low	Medium	High	Very High	Low	Medium	High	Very High
Café	✓				✓			
Pizza		✓				✓		
Steakhouse		✓				✓		
Pub/Bistro		✓				✓		
Restaurant		✓				✓		
Far Eastern Cuisine			✓				✓	
Indian			✓				✓	
Thai			✓				✓	
Vietnamese			✓				✓	
Turkish Cuisine			✓				✓	
Fast Food				✓				✓

In the light of these information; different levels of control are being applied for different concentrations of odour and grease. Despite there are other evaluation criteria, these control methods of odour and grease can simply be listed as:

Low Concentration: Standard kitchen exhaust fans suitable for continuous high temperature operation would be sufficient.

Medium Concentration: Electrostatic precipitator followed by carbon filtration with 0.1 second contact period.

High Concentration: Two stage electrostatic precipitator followed by carbon filtration with minimum 0.2 second contact period.

Very High Concentration: Two stage electrostatic precipitator followed by carbon filtration with minimum 0.2 second contact period and UV ozone system or carbon filtration with minimum 0.4 second contact period.

NOTES



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in the process of product improvement."*

