BSK GREEN POZITRON ECOLOGY UNIT

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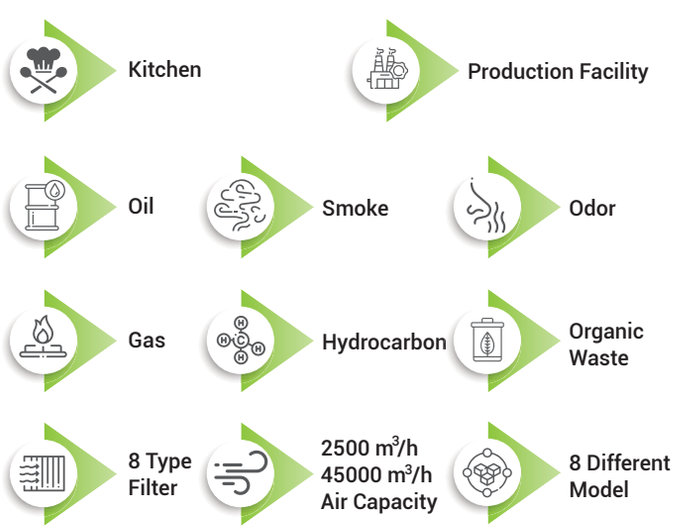
KITCHEN AND INDUSTRIAL FIELD USAGE AREAS

BSK ECOLOGY

Devices designed for separating oil, smoke, odor, harmful gases, hydrocarbon group and organic compound wastes from the air and releasing clean air to the atmosphere in kitchen applications and production facilities.
In some applications, they are ideal devices that will save energy by reusing the conditioned air instead of throwing it into the atmosphere.
Depending on the size and chemical properties of the particles in the air to be cleaned, 8 types of filter design and unit combinations are provided.
With standardized filter cell modules, our customers will get rid of unnecessary costs by choosing the necessary filter groups.
Our Ecology devices can be produced in 8 different models with 8 types of filter alternatives in the air flow range of 2500 m^3/h - 45000 m^3/h.



MODELS	AIR CAPACITY/PRESSSURE		MOTOR ALTERNATIVE 1			MOTOR ALTERNATIVE 2		
	Capacity m^3/h	External Pressure Pa	Power	Nominal Rev.	Max. Total Pressure	Power	Nominal Rev.	Max. Total Pressure
ECU-25	2500	400	1,1	3000	837	1,5	3000	1234
ECU-50	5000	400	3	3000	1299	4	3000	1456
ECU-75	7500	400	4	3000	937	5,5	3000	1419
ECU-100	10000	400	5,5	1500	1213	7,5	1500	1395
ECU-150	15000	400	7,5	1500	1157	11	1500	1419
ECU-200	20000	400	11	1500	1282	15	1500	1385
ECU-300	30000	400	15	1000	1126	18,5	1000	1414
ECU-450	45000	400	22	1000	1152	30	1000	1410

Thanks to the air washing unit we have included in the filter group, the life of other filter groups has been extended and the air has been cleaned by 99%.

GENERAL PROPERTIES

The main frame of our Ecology units is made of anodized 25+25 specially formed Aluminum profiles. Panels with a thickness of 50 mm are outer wall galv. Electrostatic powder painted on sheet metal, 0.8 mm galv inner wall and electrostatic powder painted on sheet metal (optional AISI 304 quality stainless steel sheet can be used) and ecology unit consists of 70 kg/m3 density rock wool insulation. Two different power motor and statically and dynamically balanced vibrationless, quiet and efficient fans are used. The purpose of these motors is to balance the pressure losses to be created by the filter groups in our devices. In order to isolate the engine from the heat that may occur, the engines are left out of the air flow. Desired flow control can be achieved with the automation panel with inverter on the device. Optionally, constant flow application can be made. Filter change times can be determined with the differential pressure switch included in the device filter groups. There is a remote control panel for device control.

MODELS	AIR WASHING UNIT			ENTERING EMPTY CELL WITH WASHER			ENTERING EMPTY CELL WITHOUT WASHER			ESP FILTER %95 EFFICIENCY			ESP FILTER %99 EFFICIENCY			G2 FILTER		
	W	H	L	W	H	L	W	H	L	W	H	L	W	H	L	W	H	L
ECU-25	690	1550	1030	1018	862	1018	1018	862	559	1018	862	1018	1018	862	1018	1018	862	712
ECU-50	995	1550	1030	1324	862	1018	1324	862	559	1324	862	1018	1324	862	1018	1324	862	712
ECU-75	1300	1550	1130	1630	1015	1018	1630	1015	559	1630	1015	1018	1630	1015	1018	1630	1015	712
ECU-100	1300	1550	1435	1324	1474	1324	1324	1474	559	1324	1474	1018	1324	1474	1018	1324	1474	712
ECU-150	1605	1550	1840	1630	1474	1630	1630	1474	559	1630	1474	1018	1630	1474	1018	1630	1474	712
ECU-200	1605	1550	1840	1630	2086	1630	1630	2086	559	1630	2086	1018	1630	2086	1018	1630	2086	712
ECU-300	2528	1550	1840	2548	2086	1630	2548	2086	559	2548	2086	1018	2548	2086	1018	2548	2086	712
ECU-450	3140	1550	2040	3160	2086	1630	3160	2086	559	3160	2086	1018	3160	2086	1018	3160	2086	712

MODELS	G4 FILTER			F8 BAG FILTER			ACTIVE CARBON FILTER			F 9 COMPACT FILTER			UV FILTER			VANTILATOR CELL		
	W	H	L	W	H	L	W	H	L	W	H	L	W	H	L	W	H	L
ECU-25	1018	862	712	1018	862	1324	1018	862	1018	1018	862	712	1018	862	712	1018	862	1018
ECU-50	1324	862	712	1324	862	1324	1324	862	1018	1324	862	712	1324	862	712	1324	862	1018
ECU-75	1630	1015	712	1630	1015	1324	1630	1015	1018	1630	1015	712	1630	1015	712	1630	1015	1324
ECU-100	1324	1474	712	1324	1474	1324	1324	1474	1018	1324	1474	712	1324	1474	712	1324	1474	1477
ECU-150	1630	1474	712	1630	1474	1324	1630	1474	1018	1630	1474	712	1630	1474	712	1630	1474	1630
ECU-200	1630	2086	712	1630	2086	1324	1630	2086	1018	1630	2086	712	1630	2086	712	1630	2086	1783
ECU-300	2548	2086	712	2548	2086	1324	2548	2086	1018	2548	2086	712	2548	2086	712	2548	2086	1936
ECU-450	3160	2086	712	3160	2086	1324	3160	2086	1018	3160	2086	712	3160	2086	712	3160	2086	2242

Our Ecology units are created by combining different filter modules. Therefore, ecology unit alternatives that can address different purposes can be created by combining different modules according to system needs.

MODELS	AIR WASHING UNIT PRESSURE LOSS Pa		G2 METAL FILTER PRESSURE LOSS Pa		ESP FILTER PRESSURE LOSS Pa		G4 FILTER PRESSURE LOSS Pa		F8 BAG FILTER PRESSURE LOSS Pa		ACTIVE CARBON FILTER PRESSURE LOSS Pa		F 9 COMPAKT FILTER PRESSURE LOSS Pa	
	MIN. IMPURITY	MAX. IMPURITY	MIN. IMPURITY	MAX. IMPURITY	MIN. IMPURITY	MAX. IMPURITY	MIN. IMPURITY	MAX. IMPURITY	MIN. IMPURITY	MAX. IMPURITY	MIN. IMPURITY	MAX. IMPURITY	MIN. IMPURITY	MAX. IMPURITY
ECU-25	150	200	24	36	146	200	55	80	82	123	240	300	84	126
ECU-50	150	200	64	96	181	200	108	133	139	189	240	300	121	171
ECU-75	150	200	48	72	186	200	97	122	129	179	240	300	116	166
ECU-100	150	200	40	60	181	200	92	117	125	175	240	300	114	164
ECU-150	150	200	48	72	186	200	97	122	129	179	240	300	116	166
ECU-200	150	200	40	60	171	200	92	117	125	175	240	300	114	164
ECU-300	150	200	48	72	181	200	97	122	129	179	240	300	116	166
ECU-450	150	200	46	69	186	200	96	121	123	178	240	300	116	166

In order for the Ecology unit to work in ideal conditions, it is important to replace or clean the filters on each filter module when they reach the required pollution values.

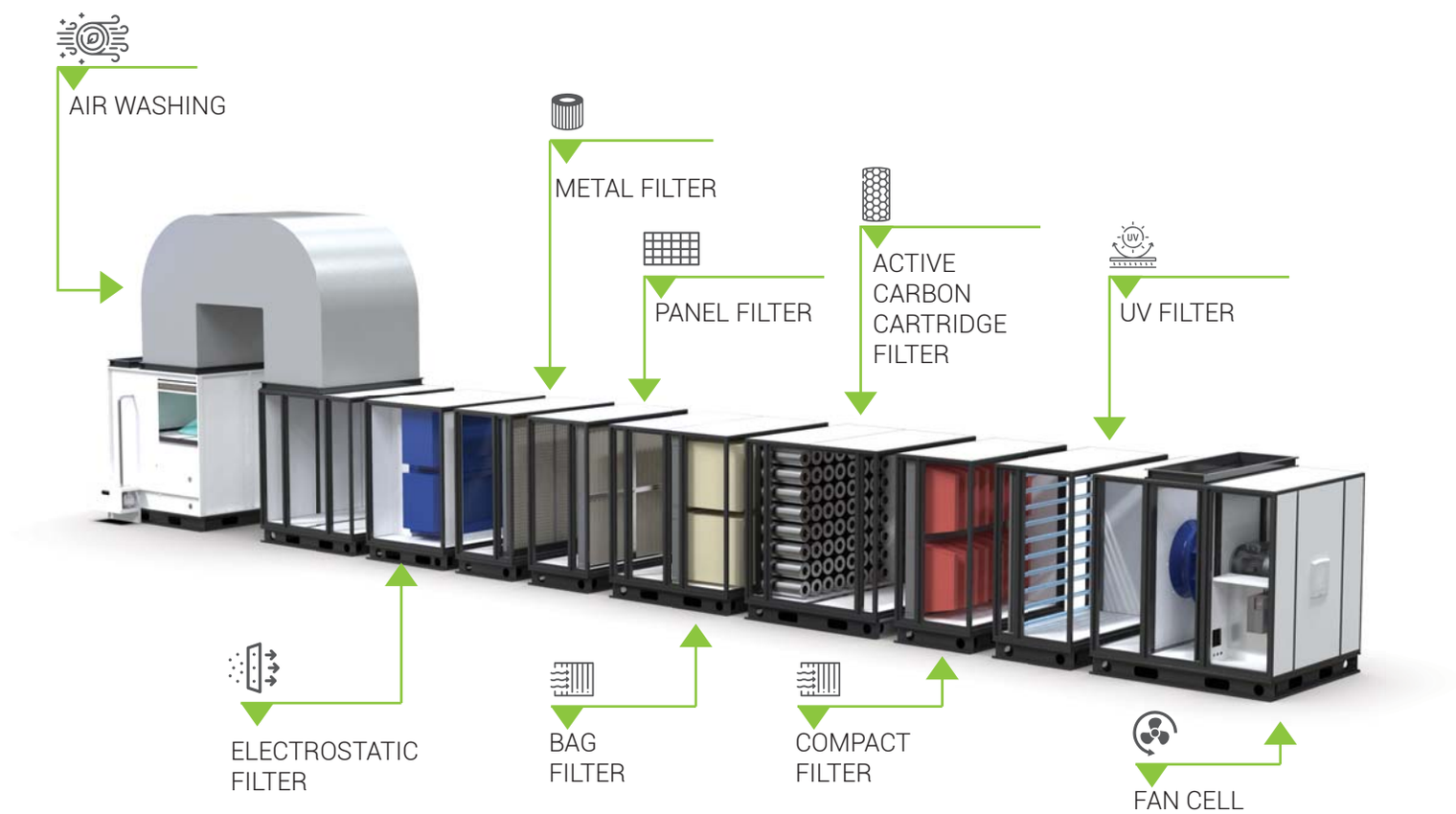
Filtering the air filtered in Ecology units within ideal limits depends on the size and chemical properties of the particles in the air. For this reason, ideal filters should be selected according to the characteristics of the air to be filtered in kitchen or industrial production areas.

MODULES

	ECU-25/ AW-G2-ESP-G4-F7-CF-F8-UV				
00	ECU	ECOLOGY UNIT	06	G4	PANEL FILTER
01	AW	AIR WASHING	07	F8	BAG FILTER
02	ECW	ENTRY CELL WITH WASHER*	08	CF	ACTIVE CARBON FILTER
03	EC	ENTRY CELL WITHOUT WASHER**	09	F9	COMPACT FILTER
04	G2	METAL FILTER	10	UV	UV FILTER
05	ESP	ELECTROSTATIC FILTER	11	V	FAN CELL

* If air washing module is selected in the system, inlet module with washer must be selected.
** If the air washing module is not selected in the system, the entry module without washer must be selected.

ECU ECOLOGY UNIT



Ecology Unit

ECU - 25
ECU-25
ECU-50
ECU-75
ECU-100
ECU-150
ECU-200
ECU-300
ECU-450

AW	ECW	EC	G2	EPS	G4	F8	AC	F9	UV	V
Air Washing	Washing Unit Entering	Washing Unit	Metal Filter	Electrostatic Filter	Panel Filter	Bag Filter	Active Carbon Filter	Compact Filter	UV Filter	Fan Cell

Example Ecology Unit Selection

ECU-50/AW-ESP-G4-F8-AC-F9-V
The ecology unit with 5000 m3/h flow rate, air washing unit, ESP Filter, G4 panel filter, F8 Bag filter, Active Carbon filter and F9 Compact filter was chosen.

AIR WASHING MODULE

Pre-filtering of oil, smoke, dust, etc. particles in the air aspirated by air washing units used in Ecology units. In addition, it is aimed to increase the life of other filter modules in the system. Polution air is washed in the washing unit at ideal speeds and with specially angled spiral nozzles to cover all air passage surfaces. Thanks to the stainless metal filters and spiral fountains in the washing unit, the particles in the polluted air are precipitated and cleaned by the sprinkler method.
The washing unit operates as a closed circuit with the pumps selected at the ideal water flow and pressure. Therefore, water consumption is at minimum level. System water requirement is provided automatically by floater. Washing units can be produced with internal-external galvanized electrostatic powder paint or optionally with a stainless steel body. Aluminum drop holders are used to prevent water from being dragged into the air duct during sprinkling. After use, the impurities in the water are easily cleaned by removing the dirty water from the drain valve and washing the metal filters. After discharge, the floater connected to the water supply network will automatically fill the system up to the ideal amount of water.

%95 Oil and coarse particles

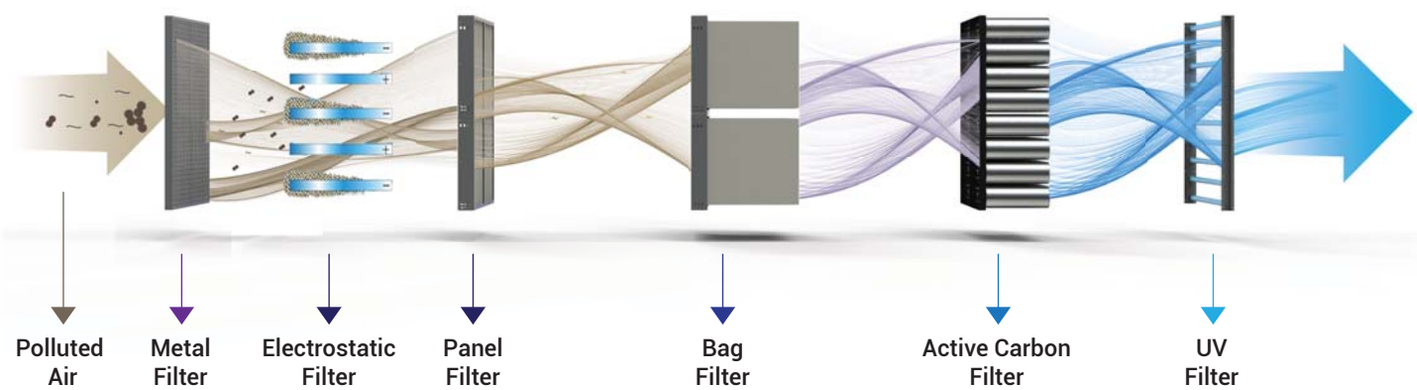
%50 Odors

G2 METAL FILTER MODULE

In ventilation systems and especially in kitchen hoods, washable dust, oil and spark arrester, metal filters are used before the electrostatic filter. In our ecology units, metal filters using fine-pored metal mesh wire are used in a Galvanized filter case in accordance with EN 779 (ISO 16890) Standard. When metal filters reach their final pressure, they can be easily washed and reused.

ESP ELECTROSTATIC FILTER MODUL

The ESP filters used in the Ecology unit work on the principle of separating particles such as oil, smoke and water vapor in the polluted air into + and - ions and sticking them to metal plates. In this way, it has the ability to clean the smoke and oil particles in the flue gas. With the ESP filter groups selected and constructed at ideal speeds, the air can be cleaned up to 95%. Optionally, a second ESP module can be included in the system to achieve 99% filtration. Particles up to 0.001 µ can be filtered in the ESP filter module. In order for the ESP filter to have a long life, the filter should be cleaned when it reaches maximum pollution. The precipitates formed during filtration can be easily cleaned by removing the pan under the ESP filter and washing it. Again, the inner filter group consisting of collector plates in each ESP filter can be easily cleaned with water by removing it thanks to the sliding system.



G4 PANEL FILTER MODULE

It is used in Ecology units to filter pollutants with a particle diameter of 10 µm and above. They are filters in EN 779 (ISO 16890) Standard.
These filters can be used up to a temperature of 75 °C.

F8 BAG FILTER MODULE

It is used in Ecology units to filter pollutants with a particle diameter of 10 µm and above. The use of filters in EN 779 (ISO 16890) Standard is important as it prolongs the life of the filters to be used after this filter group.
These filters can be used up to a temperature of 75 °C.

ACTIVE CARBON FILTER MODULE

The Active Carbon Filters used in the Ecology unit are used to separate the odor, toxic gases, hydrocarbon and other compounds in the polluted air from the air. Active carbon filters work according to the principle of trapping odors in carbon beds by creating maximum filter surface area in the existing air section. AG type carbon granules are used for filtering. It is important to use a filter of min F6 quality in order to protect the carbon filters from dust and to use them in the most ideal conditions. Odor molecules up to 0.001 µ can be captured by this filter. Each filter cartridge can be easily disassembled and replaced.

F9 COMPACT FILTER MODULE

Rigid bag filters are used to separate fine particles. They are ISO 16890 (e PM, 80 %) filters with extended surface area. These filters can be used up to 70 °C . F9 Compact filter is the last filter before UV used in ecology unit.

UV FILTER MODULE

UV-C light with a wavelength of 254 nanometers has the energy to disrupt DNA and RNA molecules, which are the building blocks of living things. It kills fungi, bacteria and viruses in the air directly by disrupting their molecular structures. While disinfecting the air, it prevents such organisms from adhering and multiplying on the surfaces inside the device. Thus, it prevents the accumulation of mold and microfilm on the surfaces of the device and ensures the continuity of the hygiene performance and efficiency of the device. Thanks to the special glasses of the UV Lamps, ozone producing wavelengths are filtered. In this way, ozone formation is prevented. UV lamps provide the necessary disinfection on the surface of the filter groups in front or at the end, depending on the purpose of use in the ecology unit. The UV lamps used are cold type lamps whose temperature does not exceed 60 °C and do not generate heat. In our Ecology units, UV lamp application is carried out in such a way that the entire air section is scanned with 55Watt (18 Watt) 220 Volt lamps.

ASPIRATOR MODULE (MCC DDC PANEL)

High Efficiency Plug Fans are used in Ecology Units. These fans, which have a highly efficient aerodynamic structure, have very low energy consumption and sound emission levels. Fan flow control is provided by frequency inverter. If desired, constant flow control can also be done. Back curved fans with rare blades and high pressure are used. Fan motors are excluded from the air flow. In this way, they are isolated from the heat that may occur. The Ecology unit control panel is located outside the airflow and on the aspirator module. Since the panel is out of the air flow, control can be achieved even when the device is running. Apart from the panel control, there is also a remote control panel.

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