

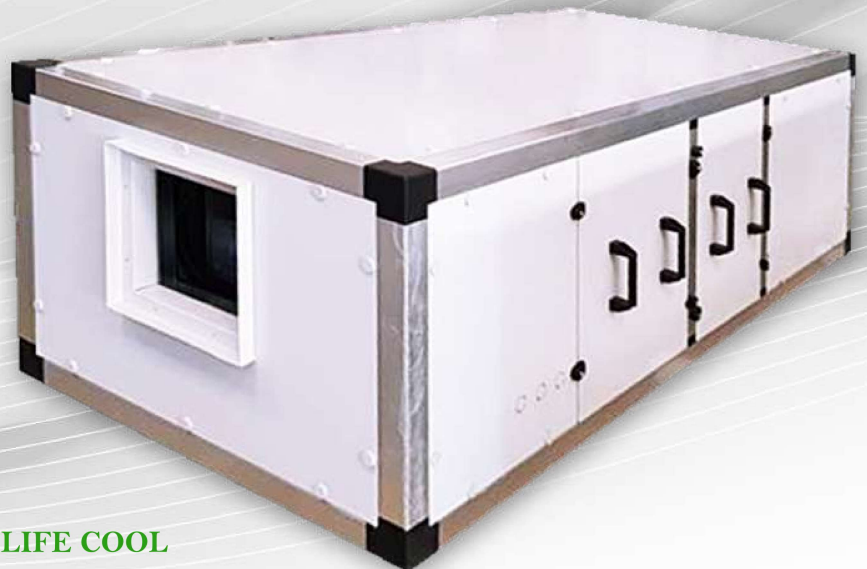


 **MARSHAL**<sup>®</sup>

# VENTILATION UNIT

Capacity 500 - 4,600CFM

AGFHFN4 - 50Hz/60Hz



## INTRODUCTION

Ventilation units have been developed & produced to provide not only the ultimate indoor comfort, but also to guarantee long & trouble free operations.

Here lies the reason for the choice of only the highest quality components and design strategist to meet the most important objective such as:

- EFFICIENCY
- RELIABILITY
- FLEXIBILITY
- EASY INSTALLABILITY
- SERVICEABILITY
- AFFORDABILITY

AGFHFN4



## FEATURES

### Salient Features

- Contaminated air that is being exhausted from various types of buildings has become a major concern these days.
- Instead of exhausting such air to the surroundings, this air can be cleaned and purified using ventilation units.
- Ventilation unit is a new generation unit used to clean the un-clean air that is being exhausted from the commercial buildings, exhaust, etc. and thus help in protecting the environment. It is a reliable solution for minimizing the impact of the exhaust of such contaminated air on the surrounding environment.
- Using a multi-stage filtration system to filter particulates and gases, commercial buildings get the protection they need.
- It is an Efficient & Economical solution to exhaust contaminated air.
- The units are manufactured at an ISO 9001 certified facility center ensuring quality standards for the components used in the construction of the units.
- All the units are factory assembled, piped, internally wired.

The Ventilation unit accomplishes the following

- It eliminates odor
- Better removal efficiency
- Custom designs and modular construction
- It is easy maintain and install
- Suitable for exhausting in the car parks and other non-critical zones

## FEATURES

### Unit Construction

#### Unit Casings

- Unit casings are double skinned panels. Casing panels are 25mm thick with foam insulation.
- Casing is assembled with self-supporting modular panel elements with an integrated base frame made of zinc coated steel and sections along upper sides of the units.

#### Sheet Metal

The Sheet Metal is provided with Powder Coated panels having:

- Sheet metal thickness for all units is 0.8mm for Inner skin and 0.8mm for Outer skin.
- Inner skin is mist coated.
- Outer skin powder coated with a thickness of 40-60µm.
- Inside and outside of the panel walls are completely smooth.
- Salt spray test in accordance with ASTM B117 standard.

#### Acoustical Insulation through the Panel

- Foam insulation used is as insulation.
- The foam insulation is a poly blend with HCFC 141b
- Physical Performances

Properties	Performances
Core density	32-8~34 kg/m <sup>3</sup>
Thermal conductivity @10°C	19.7 mW/mK (initial)
Moulding density	38~40 kg/m <sup>3</sup>

#### Filters

- Carbon filter (Class G4) – Activated Carbon filter disposable type
- Electrostatic permanent washable Air-filter
- Filters are provided with suitable gaskets to prevent air by pass.
- UL certified filters can be provided as an optional feature.

#### Pre-Filter 1

- Corrosion resistant & light weight and robust construction.
- Permanent washable type.
- Class G2 as per EN779 and MERV 4 as per ASHRAE 52.2.
- UL certified.

#### Pre-Filter 2

- Disposable pleated type.
- Class G4 as per EN779 and MERV 6 as per ASHRAE 52.2
- UL certified.

## FEATURES

### Unit Construction

#### Bag Filter:

- Provides higher degree of air cleanliness.
- Micro fine fiberglass media.
- Low-pressure drop.
- Class F8 as per EN779.
- UL certified filters can be provided as an optional feature.

#### Carbon Filter:

- Effective cleaning of undesirable vapors, toxic gases.
- Combination of odor control with particulate filtration for improved indoor air quality.
- Filter is with non-woven polyester base media, impregnated with activated charcoal.
- Class G3 as per EN779 and MERV 4 as per ASHRAE 52.2

#### Electrostatic Filter:

- Gives higher efficiency and more dust holding capacity.
- Can remove up to 85% by weight of pollen, dust, mold and other indoor pollutants.
- Easy to clean.
- Class G3 as per EN779 and MERV 5 as per ASHRAE 52.2.

#### Blowers and Motors

- Fans are double inlet, double width, Backward curve.
- Tested and certified in accordance with AMCA standards.
- Every individual fan is run and tested before dispatching.
- Fan outlet velocity is not more than 15m/sec.
- The bearing shall be selected for life of 100,000 Hours operation.
- The fan motor is suitable for operating 50Hz and 60Hz electrical power supply.
- The motor is mounted on a common, torsionally rigid, galvanized steel base frame.

#### Optional Features

- 25mm thermal profile construction.
- Differential pressure switch.
- Inspection window for the filter section and blowers section
- Weather proof canopy
- Bulkhead light of 60DB maximum wattage and with IP54 construction provided. The bulb is having a luminosity of 1055LM or equivalent.
- Corrozinc coating for the panels having an SST = 2,000 hours.
- Variable frequency drive for the blower.

## ENGINEERING SPECIFICATIONS

### Quick Selection Table

Sr. No	Unit	Model	Face Velocity	Airflow range (CFM)		Blower	Outlet velocity	Motor		Dimensions (mm)
			m/s	Min	Max	Type	m/s	kW	Pole	LxHxW
1	Unit - 01	AGFHFN4-12	1.91	500	900	SYQ200R	6.48	1.10	2	2630 x 765 x 760
2	Unit - 02	AGFHFN4-15	1.86	900	1,100	SYQ200R	7.92	1.10	2	2630 x 805 x 810
3	Unit - 03	AGFHFN4-20	1.91	1,100	1,500	SYQ225R	8.54	1.50	2	2730 x 835 x 910
4	Unit - 04	AGFHFN4-25	1.92	1,500	1,900	SYQ225R	10.81	2.20	2	2730 x 885 x 1000
5	Unit - 05	AGFHFN4-30	1.94	1,900	2,300	SYQ280R	8.33	2.20	2	2830 X 885 X 1140
6	Unit - 06	AGFHFN4-35	1.95	2,300	2,700	SYQ280R	9.78	4.00	2	2880 X 1135 X 1060
7	Unit - 07	AGFHFN4-40	1.91	2,700	3,000	SYQ315R	8.67	4.00	2	2930 X 1135 X 1210
8	Unit - 08	AGFHFN4-50	1.92	3,000	3,800	SYQ355R	8.74	4.00	2	2980 X 1135 X 1310
9	Unit - 09	AGFHFN4-60	1.94	3,800	4,600	SYQ400R	8.45	4.00	4	3080 x 1235 x 1450

### Technical Specifications

- 1 25mm profile construction (Thermal profile - Optional)
- 2 ESP = 150Pa
- 3 Face velocity  $\leq$  2m/s
- 4 No cooling coil
- 5 Pre filter (Class G2) - Aluminium mesh type or Synthetic type
- 6 Pre filter (Class G4, MERV-8) - Disposable pleated type
- 7 Bag filter (Class F8, MERV-14) - Bag filter with Glass fibre media
- 8 Carbon filter can be given optional (Class G4) - Activated Carbon disposable type
- 9 Backward curve blower
- 10 Magnehelic gauges for bag filter and Carbon filter
- 11 75mm base frame provided
- 12 UV lamp for air sterilization can be given as optional

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