

# Fan Pack Housing Unit

MODEL: FPHU

1, 2 OR 3 STAGE FILTRATION • FAN SECTION • SIDE ACCESS



## OVERVIEW:

Klean Aire Fan Pack Housing Unit are fully self contained, industrial grade cleaning systems. Each can be specifically designed for precise control of particulate, gas-phase, and bioaerosol contaminants (or any combination) from process or ambient air. These units feature a broad range of filtration component combinations that allow for exact controls to be selected and packaged to meet individual applications.

Klean Aire Fan Pack Housing Unit are available with the finest in medium, high, and HEPA efficiency filters, UVC lights, chemical media as well as Nailor's industry leading EC motor technology.

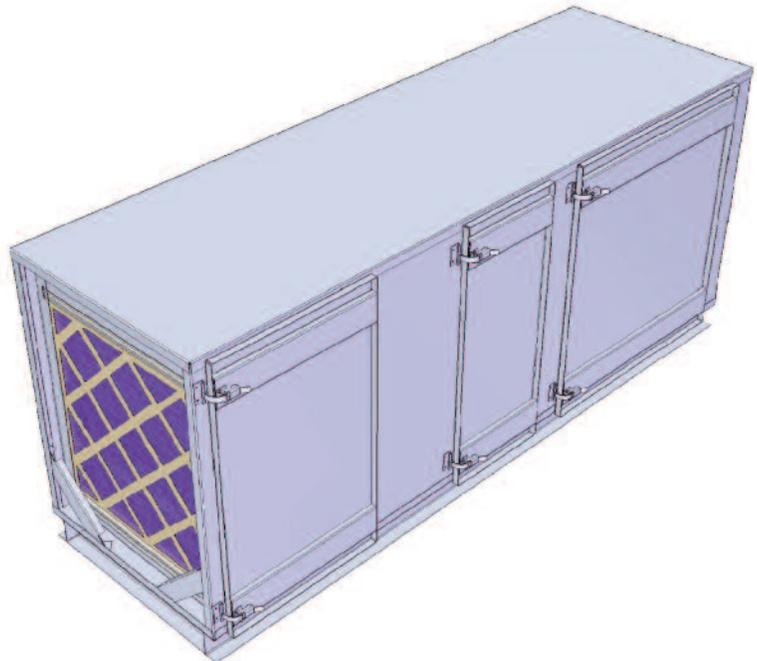
Klean Aire Fan Pack Housing Unit feature DWDI forward curved fans or SWSI backward inclined plenum fans to satisfy the specified demand and deliver the required air volume. All units are factory assembled in a "single piece" construction of 14 - 16 ga. (2.0 - 1.6) galvanized steel with a 3" (76) integral formed base. Each unit is also provided with internal fan and motor vibration isolation, and extruded aluminum filter tracks equipped with woven pile filter seals. All joints are coated with silicone compound and all access doors are equipped with neoprene gaskets and bolt-down, knurl-knob latches to provide the finest seal against ambient air.

Klean Aire Fan Pack Housing Unit can be installed as ducted systems to control particulate, gas phase and/or bioaerosol contaminants at the source or without ductwork to remove fugitive airborne contaminants.

## APPLICATION:

Klean Aire Fan Pack Housing Unit are available in many different multistage filtration configurations to solve a large variety of air contamination issues. They are used to remove nuisance or hazardous airborne contaminants in applications ranging from laboratory environments to manufacturing plants, including:

- Pharmaceutical compounding.
- Food Processing.
- Chemical Refining.
- Material machining, grinding, welding or soldering.
- Oil or particulate exhaust.
- General warehouse and storage applications.



Dimension are in inches (mm)

P. 1 of 4.

SCHEDULE TYPE  
PROJECT  
ENGINEER  
CONTRACTOR

# Submittal

FPHU

SUPERSEDES: 10 - 11 - 11

REV.: 3 - 11 - 15

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by Nalor Industries, Inc.

**Model "P" Single-Stage**

Model	CFM	TSP	Size	Length	Width	Height	HP
P-1	1,000	1.00"	1 x 1	34.00"	24.00"	26.25"	1
P-2	2,000	1.00"	1 x 1	34.00"	24.00"	26.25"	2
P-3	3,000	1.00"	1 x 1.5	42.00"	36.00"	26.25"	3
P-4	4,000	1.00"	1 x 2	42.00"	48.00"	26.25"	3
P-6	6,000	1.00"	1.5 x 2	46.00"	48.00"	38.50"	5
P-8	8,000	1.00"	2 x 2	54.00"	48.00"	50.50"	5
P-10	10,000	1.00"	2 x 2.5	58.00"	59.00"	50.50"	5

**Model "PC" 2-Stage**

Model	CFM	TSP	Size	Length	Width	Height	HP
PC-1	1,000	1.25"	1 x 1	68.00"	24.00"	26.25"	1
PC-2	2,000	1.25"	1 x 1	68.00"	24.00"	26.25"	1.5
PC-3	3,000	1.25"	1 x 1.5	73.00"	36.00"	26.25"	3
PC-4	4,000	1.25"	1 x 2	78.00"	48.00"	26.25"	3
PC-6	6,000	1.25"	1.5 x 2	82.00"	48.00"	38.50"	5
PC-8	8,000	1.25"	2 x 2	82.00"	48.00"	50.50"	7.5
PC-10	10,000	1.25"	2 x 2.5	85.00"	59.00"	50.50"	7.5

**Model "PR" 2-Stage**

Model	CFM	TSP	Size	Length	Width	Height	HP
PR-1	1,000	1.80"	1 x 1	50.00"	24.00"	26.25"	1
PR-2	2,000	1.80"	1 x 1	54.00"	24.00"	26.25"	3
PR-3	3,000	1.80"	1 x 1.5	56.00"	36.00"	26.25"	3
PR-4	4,000	1.80"	1 x 2	56.00"	48.00"	26.25"	5
PR-6	6,000	1.80"	1.5 x 2	62.00"	48.00"	38.50"	7.5
PR-8	8,000	1.80"	2 x 2	68.00"	48.00"	50.50"	7.5
PR-10	10,000	1.80"	2 x 2.5	68.00"	59.00"	50.50"	7.5

**Model "PRC" 3-Stage**

Model	CFM	TSP	Size	Length	Width	Height	HP
PRC-1	1,000	2.10"	1 x 1	80.00"	24.00"	26.25"	1
PRC-2	2,000	2.10"	1 x 1	82.00"	24.00"	26.25"	3
PRC-3	3,000	2.10"	1 x 1.5	83.00"	36.00"	26.25"	5
PRC-4	4,000	2.10"	1 x 2	85.00"	48.00"	26.25"	5
PRC-6	6,000	2.10"	1.5 x 2	92.00"	48.00"	38.50"	10
PRC-8	8,000	2.10"	2 x 2	96.00"	48.00"	50.50"	10
PRC-10	10,000	2.10"	2 x 2.5	100.00"	59.00"	50.50"	10

**Model "PB" 2-Stage**

Model	CFM	TSP	Size	Length	Width	Height	HP
PB-1	1,000	1.80"	1 x 1	64.00"	24.00"	26.25"	1
PB-2	2,000	1.80"	1 x 1	68.00"	24.00"	26.25"	3
PB-3	3,000	1.80"	1 x 1.5	70.00"	36.00"	26.25"	3
PB-4	4,000	1.80"	1 x 2	70.00"	48.00"	26.25"	5
PB-6	6,000	1.80"	1.5 x 2	76.00"	48.00"	38.50"	7.5
PB-8	8,000	1.80"	2 x 2	82.00"	48.00"	50.50"	7.5
PB-10	10,000	1.80"	2 x 2.5	88.00"	59.00"	50.50"	7.5

**Model "PBC" 3-Stage**

Model	CFM	TSP	Size	Length	Width	Height	HP
PBC-1	1,000	2.10"	1 x 1	94.00"	24.00"	26.25"	1
PBC-2	2,000	2.10"	1 x 1	98.00"	24.00"	26.25"	3
PBC-3	3,000	2.10"	1 x 1.5	98.00"	36.00"	26.25"	5
PBC-4	4,000	2.10"	1 x 2	98.00"	48.00"	26.25"	5
PBC-6	6,000	2.10"	1.5 x 2	107.00"	48.00"	38.50"	10
PBC-8	8,000	2.10"	2 x 2	112.00"	48.00"	50.50"	10
PBC-10	10,000	2.10"	2 x 2.5	116.00"	59.00"	50.50"	10

Dimension are in inches (mm)

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SCHEDULE TYPE  
PROJECT  
ENGINEER  
CONTRACTOR

# Submittal

FPHU

SUPERSEDES: 10 - 11 - 11

REV.: 3 - 11 - 15

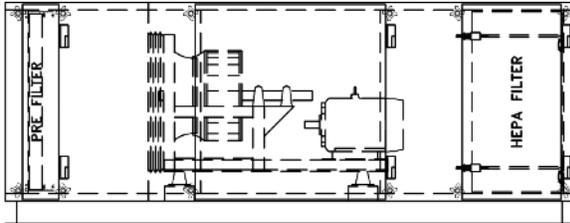
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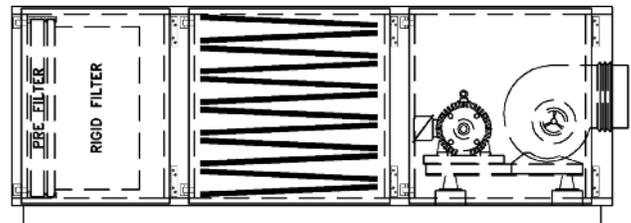


**Model "PH" 2-Stage**



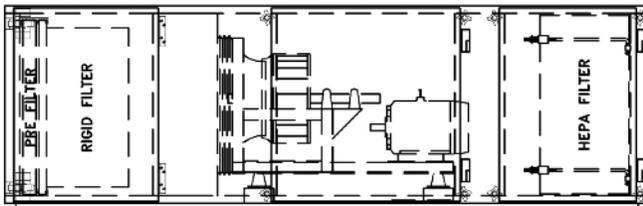
Model	CFM	TSP	Size	Length	Width	Height	HP
PH-1	1,000	2.50"	1 x 1	70.00"	24.00"	26.25"	1
PH-2	2,000	2.50"	1 x 1	70.00"	24.00"	26.25"	1.5
PH-3	3,000	2.50"	1 x 1.5	70.00"	36.00"	26.25"	3
PH-4	4,000	2.50"	1 x 2	70.00"	48.00"	26.25"	3
PH-6	6,000	2.50"	1.5 x 2	75.00"	48.00"	38.50"	5
PH-8	8,000	2.50"	2 x 2	87.00"	48.00"	50.50"	7.5
PH-10	10,000	2.50"	2 x 2.5	87.00"	59.00"	50.50"	7.5

**Model "PHC" 3-Stage**



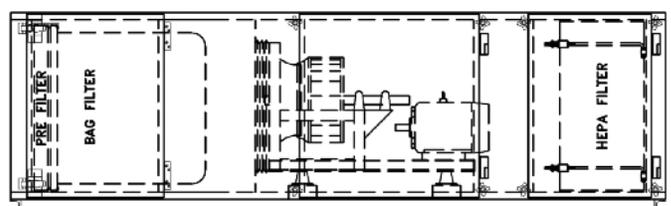
Model	CFM	TSP	Size	Length	Width	Height	HP
PHC-1	1,000	2.75"	1 x 1	102.00"	24.00"	26.25"	1
PHC-2	2,000	2.75"	1 x 1	102.00"	24.00"	26.25"	2
PHC-3	3,000	2.75"	1 x 1.5	100.00"	36.00"	26.25"	3
PHC-4	4,000	2.75"	1 x 2	107.00"	48.00"	26.25"	5
PHC-6	6,000	2.75"	1.5 x 2	112.00"	48.00"	38.50"	7.5
PHC-8	8,000	2.75"	2 x 2	123.00"	48.00"	50.50"	7.5
PHC-10	10,000	2.75"	2 x 2.5	124.00"	59.00"	50.50"	10

**Model "PRH" 3-Stage**



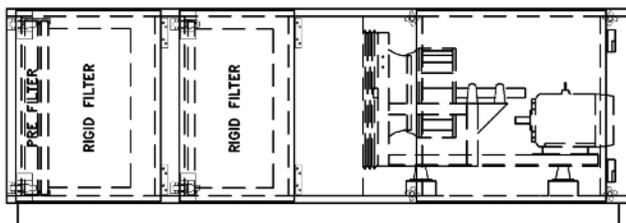
Model	CFM	TSP	Size	Length	Width	Height	HP
PRH-1	1,000	3.10"	1 x 1	93.00"	24.00"	26.25"	1
PRH-2	2,000	3.10"	1 x 1	93.00"	24.00"	26.25"	2
PRH-3	3,000	3.10"	1 x 1.5	98.00"	36.00"	26.25"	3
PRH-4	4,000	3.10"	1 x 2	98.00"	48.00"	26.25"	5
PRH-6	6,000	3.10"	1.5 x 2	105.00"	48.00"	38.50"	7.5
PRH-8	8,000	3.10"	2 x 2	113.00"	48.00"	50.50"	7.5
PRH-10	10,000	3.10"	2 x 2.5	118.00"	59.00"	50.50"	10

**Model "PBH" 3-Stage**



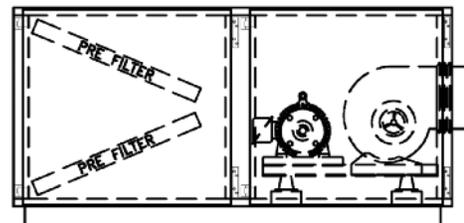
Model	CFM	TSP	Size	Length	Width	Height	HP
PBH-1	1,000	3.10"	1 x 1	93.00"	24.00"	26.25"	1
PBH-2	2,000	3.10"	1 x 1	93.00"	24.00"	26.25"	2
PBH-3	3,000	3.10"	1 x 1.5	98.00"	36.00"	26.25"	3
PBH-4	4,000	3.10"	1 x 2	98.00"	48.00"	26.25"	5
PBH-6	6,000	3.10"	1.5 x 2	105.00"	48.00"	38.50"	7.5
PBH-8	8,000	3.10"	2 x 2	113.00"	48.00"	50.50"	7.5
PBH-10	10,000	3.10"	2 x 2.5	118.00"	59.00"	50.50"	10

**Model "PRR" 3-Stage**



Model	CFM	TSP	Size	Length	Width	Height	HP
PRR-1	1,000	2.70"	1 x 1	84.00"	24.00"	26.25"	1
PRR-2	2,000	2.70"	1 x 1	84.00"	24.00"	26.25"	2
PRR-3	3,000	2.70"	1 x 1.5	87.00"	36.00"	26.25"	3
PRR-4	4,000	2.70"	1 x 2	89.00"	48.00"	26.25"	5
PRR-6	6,000	2.70"	1.5 x 2	102.00"	48.00"	38.50"	5
PRR-8	8,000	2.70"	2 x 2	104.00"	48.00"	50.50"	7.5
PRR-10	10,000	2.70"	2 x 2.5	108.00"	59.00"	50.50"	7.5

**Model "V" Single-Stage**



Model	CFM	TSP	Size	Length	Width	Height	HP
V-1	1,000	1.00"	1 x 1	58.00"	24.00"	26.25"	1
V-2	2,000	1.00"	1 x 1	60.00"	24.00"	26.25"	2
V-3	3,000	1.00"	1 x 1.5	64.00"	36.00"	26.25"	3
V-4	4,000	1.00"	1 x 2	64.00"	48.00"	26.25"	3
V-6	6,000	1.00"	1.5 x 2	74.00"	48.00"	38.50"	5
V-8	8,000	1.00"	2 x 2	76.00"	48.00"	50.50"	5
V-10	10,000	1.00"	2 x 2.5	80.00"	59.00"	50.50"	5

Dimension are in inches (mm)

P. 3 of 4.

SCHEDULE TYPE  
PROJECT  
ENGINEER  
CONTRACTOR

# Submittal

FPHU

SUPERSEDES: 10 - 11 - 11

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# Fan Pack Housing Unit

MODEL: FPHU

1, 2 OR 3 STAGE FILTRATION • FAN SECTION • SIDE ACCESS



## OPTIONS:

- ETL Test & Label.
- Double wall construction.
- Exterior seam welding.
- 304SS housing, frame, and track construction.
- 316SS housing, frame, and track construction.
- .080" (2.03) Type 3003 aluminum alloy housing construction.
- 14 ga. (2.0) casing construction.
- Backward inclined SWSI Plenum Fan.

### Motor Upgrade

- EC motor technology
  - Totally enclosed fan cooled Motor (TEFC)
  - Explosion Proof Motor (TEFC)
- Non-hinged access door applications. Contact factory for details.
- Air dried epoxy painted surfaces, gray as standard.  
Other Color: \_\_\_\_\_.
- Insulated housing. Standard insulation is 1" (25) thick, 4 lb./cu. ft. (64 kg/m<sup>3</sup>) density rigid fiberglass with a fire resistant reinforced aluminum foil-scrim-kraft (FSK) facing.
- Double wall insulated door. Includes 1" (25) 4 lb./cu. ft. (64 kg/m<sup>3</sup>) fiberglass insulation installed between door panels.
- High temperature construction. Contact factory for information.
- Custom sizes. Please contact factory to gather more detailed submittal information.
- Other: \_\_\_\_\_.

## ORDERING:

### STANDARD MODULES

Step 1: Select unit model

Step 2: Select unit airflow

Step 3: Select housing size based on unit airflow

FP<U- \_\_\_\_\_ - \_\_\_\_\_

(example: FPHU-PRC-4000)

### NOTES:

- Fan Pack Filter Housings are generally provided without filters, but they can be provided if necessary.
- Capacities are based on a filter airflow velocity of 500 fpm (2.54 m/s).
- Selecting the weatherproofing option changes the overall dimensions. Width is reduced by 2" (51) and 1" (25) is added to the height. All mounting flanges

are turned inward to prevent water penetration.

- Special blower/motor combinations are available.
- All filter mounting hardware, brackets will be supplied.
- All housing mounting hardware, clips, angles, etc. by others.
- All orders require approval of Engineered Submittal Drawings before manufacture.

## ENGINEERING SPECIFICATIONS:

### 1.0 General

The air cleaner shall be of the unitary industrial type, furnished in a side access housing, containing \_\_\_\_\_ stage(s) of particulate air filter and/or gas phase sorbent media. The air cleaner shall be complete with an internally isolated blower and motor sized to deliver the air volume as specified.

### 2.0 Construction

**2.1** Unit housing shall be constructed from 16 ga. (.06) [14 ga. (.078) for HEPA units] galvanized steel, welded, with all interior and exterior metal to metal joints sealed with silicone compound, all mounted on a painted, 3" (76) structural base.

**2.2** Access Doors shall be fully gasketed on the inside with high memory neoprene gasketing. Interior of access doors and cabinet shall be supplied with gasketing to seal against the vertical edges of filters. Filter tracks shall be fully gasketed and provide positive seal against filter media to prevent air bypass.

### 3.0 Blower/Motor

Blower/motor shall be mounted on a heavy duty, unitary frame and use rubber-in-shear vibration isolators and neoprene coated flexible fabric for blower/motor-to-cabinet connections. Blower with fixed sheave, motor with adjustable sheave, and drive belt shall be furnished.

**3.1** Blower shall be double width double inlet forward curved wheel or backward inclined plenum fan.

**3.2** Motor shall be Open Drip Proof, 208-230-460/3/60, rated for continuous duty.

### 4.0 Performance

The system shall deliver \_\_\_\_\_ (CFM or l/s) at \_\_\_\_\_ in (w.g. or Pa), based on the sum of the pressure drop through 30% loaded filters, plus 1" w.g. (249 Pa) external static pressure.

Dimension are in inches (mm)

P. 4 of 4.

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