

## General

Flanders' Model 39 AIRVELOPE® Fan/Filter Module is energy efficient, self-powered HEPA filter module, with replaceable HEPA filter, that delivers ISO Class 5 or better airflow into VLSI Cleanrooms or clean process areas. Since they require no ductwork or external air handling equipment, they can be placed in almost any location.

Model 39 AIRVELOPE® Modules are designed for placement in standard 1½" T-Bar ceiling grids. Whether used individually or in groups, AIRVELOPE® Fan/Filter Modules offer a ready and economical solution for:

- New Cleanroom facilities
- Cleanroom facility upgrades
- Isolated or 'spot' process areas

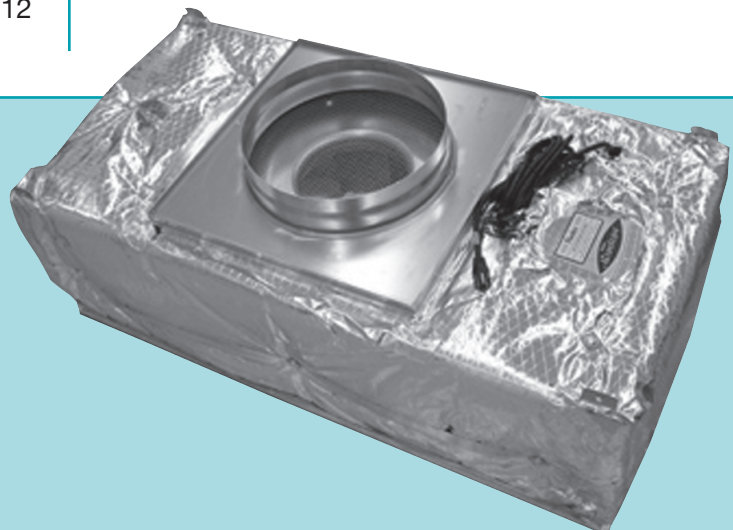
## Construction

- Each model is offered in nominal sizes of 24" x 24" or 24" x 48" for placement into standard 1½" T-bar ceiling grids.
- Choose from two performance levels:
  - HEPA (99.99% minimum efficiency on 0.3 µm particle size)
  - VLSI® (99.9995% minimum efficiency on 0.12 µm particle size)

- Quiet operation: only 64 dBA at 90 FPM as measured 30" from the filter.
- Solid state speed control permits adjustment of airflow from 50% to 100% of maximum.
- Low height allows installation with minimum overhead space.
- Roomside replaceable HEPA filter.
- Washable foam prefilter.
- All-aluminum housing is lightweight and resistant to corrosion.
- Motor/blower assembly is easily removable from roomside for service.
- Protective grille protects the filter media while providing a finished appearance to the installed unit.
- One year warranty on parts and labor.
- DC units are available upon request.
- Stainless steel available upon request.

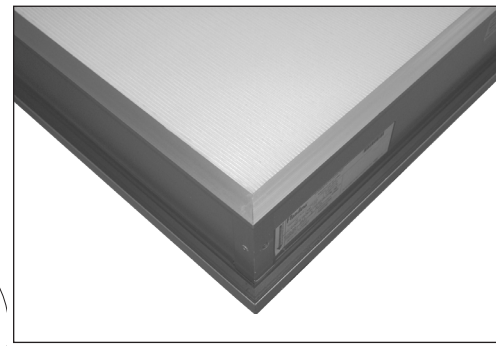
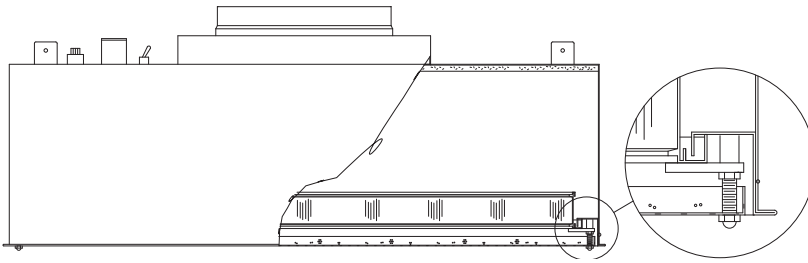
## Important Features

- *Self-Powered Cleanroom Ceiling Modules*
- *Independent Source of HEPA Filtration*
- *High-efficiency air filtration without ductwork or air handling equipment.*



# AIRVELOPE® Model 39

Featuring a roomside replaceable filter

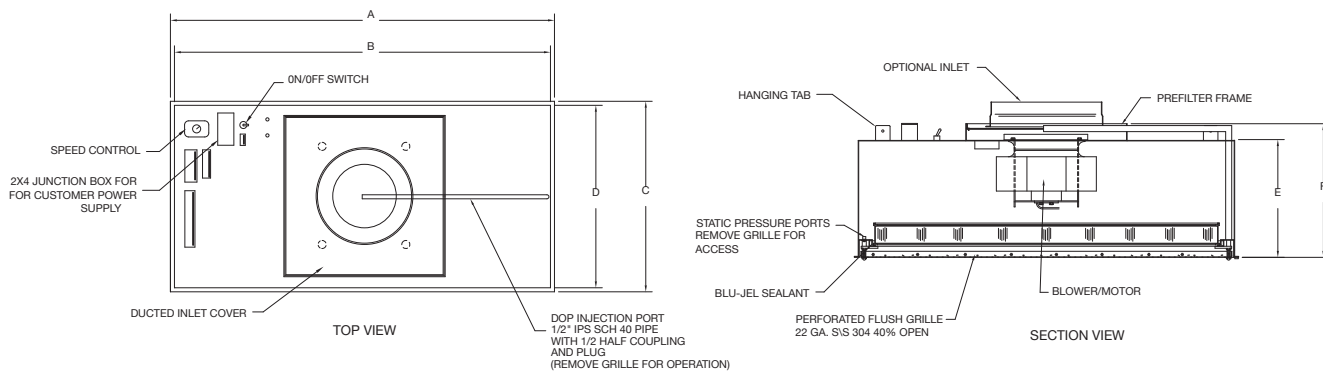


DIMPLE-PLEAT® Filter with BLU-JEL®

The AIRVELOPE Model 39 accepts Flanders low-profile DIMPLE-PLEAT® FILTER, a unique separatorless design featuring the gel seal technique developed by Flanders to eliminate the problems of bypass leakage between the filter and the module. (Filters are ordered separately.) The filter is easily and

quickly replaced from roomside after removing the protective grille. This allows the filter to be changed without taking the unit from the ceiling or disturbing other installed components.

## Model 39 Options



NOMINAL SIZE	EXACT DIMENSIONS						WEIGHT (lbs)	
	A	B	C	D	E	F	AL	SS
24" X 48"	47-11/16"	46-11/16"	23-11/16"	22-11/16"	14-1/2"	16-5/8"	60	75
24" X 24"	23-11/16"	22-11/16"	23-11/16"	22-11/16"	14-1/2"	16-5/8"	40	50

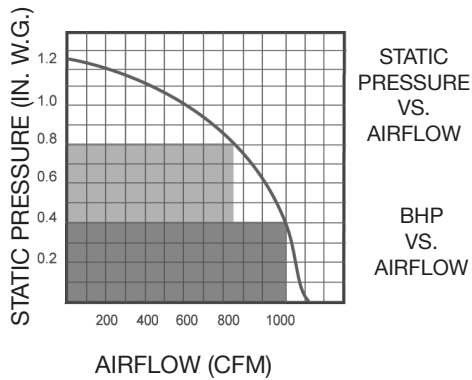
Contact the factory for details on these AIRVELOPE® construction and equipment options.

- Choice of HEPA (99.99% efficiency on .3 μm particle size) or VLSI® (99.9995% efficiency on 0.12 μm particle size) DIMPLE-PLEAT® filters.
- Stainless steel grille for applications where it is the only material acceptable at roomside.
- 10-foot power cord allows the unit to be moved without rewiring to the power source.
- 10", 12" and 14" duct collar for direct connection to the HVAC system. (Remote fans

are required to overcome static loss of the air return.) Adding a duct collar negates the UL listing on the electrical assembly.

- Insulation of the exterior surfaces of the unit for temperature/humidity control.
- White, gray or black gaskets located on the downstream perimeter of the unit.
- Stainless steel construction.

## Performance Data - Model 39



NOMINAL SIZE		
	24" x 48"	24" x 24"
Capacity - CFM (Max/Min)	800/415	400/225
Motor Size	1/3 HP	
Run Amps @ 115 Volts (Low/High)	1.9 - 2.3	
Noise Level	64dBA As measured 30" from the filter @ 90 FPM	

### DIMPLE-PLEAT® Filter Part Numbers

Nominal Size	99.99% Efficiency
E1386 = 24" x 48"	0-007-2-19-06-SU-52-00-E1386
E1286 = 24" x 24"	0-007-2-19-06-SU-52-00-E1286
Nominal Size	99.9995% Efficiency
E1386 = 24" x 48"	0-009-2-19-06-SU-52-00-E1386
E1286 = 24" x 24"	0-009-2-19-06-SU-52-00-E1286

AIRVELOPE® Model 39: Select the appropriate style codes from the matrix below. Order filters separately – see below.

Example:

**A39 - E1286 - A SFW2 R P F D0 J 00**

AIRVELOPE MODEL 39

**FILTER SIZE**

E1096 2 X 4 NOM (FABRICATED HOUSING FOR CHANNEL-CEIL)  
E1386 2 X 4 NOM (FABRICATED HOUSING)  
E1286 2 X 2 NOM (FABRICATED HOUSING)

**HOUSING MATERIAL:**

A = ALUMINUM (EXTRUDED OR FABRICATED)  
S = STAINLESS STEEL (FABRICATED ONLY)

**GRILLE:**

00 = NONE  
SF = 304 S/S 40% OPEN FLUSH GRILLE  
SE = 304 S/S 40% OPEN EXTENDED GRILLE  
CF = COLD ROLLED STEEL 40% OPEN FLUSH GRILLE  
CE = COLD ROLLED STEEL 40% OPEN EXTENDED GRILLE

**GASKET:**

0 = NONE  
W = GRAY POLY B GASKET  
B = BLACK POLY B GASKET

**FLANGE STYLE:**

00 = NO TRIM (FLANGE FORMED IN BODY)  
C2 = 1/2" PERMANENT STAINLESS STEEL TRIM  
C3 = 1/2" REMOVABLE STAINLESS STEEL TRIM  
C4 = 1-1/2" PERMANENT STAINLESS STEEL TRIM  
C5 = 1-1/2" REMOVABLE STAINLESS STEEL TRIM

**DOP PORT:**

0 = NO DOP  
J = DOP INJECTION PORT

**DUCT CONNECTION:**

D0 = STANDARD PREFILTER  
D1 = 14" DUCT INLET  
D2 = 12" DUCT INLET  
D3 = 10" DUCT INLET  
D4 = 8" DUCT INLET

**FINISH:**

0 = BARE ALUMINUM  
F = PAINTED WHITE FINISH

**POWER CORD:**

0 = WIRE TO JUNCTION BOX ON TOP OF A39  
P = POWER CORD

**CONTROLS:**

0 = STANDARD TOP MOUNTED  
R = REMOTE SWITCH/SPEED CONTROL

**INSULATION:**

0 = NONE  
1 = TOP  
2 = TOP AND SIDES

Images and illustrations as shown in this product bulletin are for illustrative purposes only, final products are fabricated to customer's requirements.

## Guide Specifications

### 1.0 General

- 1.1 The (AIRVELOPE® Model 39) filter module shall be a self-contained fan-powered unit of modular design sized to fit into a (24" x 48") (24" x 24") 1.5" T-bar ceiling grid system.
- 1.2 The overall height of the unit shall not exceed 14.375", including the top-mounted prefilter frame. Standard module weight with filter shall be (60 lbs. For a 24" x 48" unit) (40 lbs. for a 24" x 24" unit).

### 2.0 Filter Construction

- 2.1 A protective grille made of perforated cold rolled steel shall be provided with the module to protect the filter media. It shall be mounted with four acorn nuts and washers and shall be easily removable from roomside.
- 2.2 The lower perimeter of the plenum housing shall incorporate an internal knife-edge flange.
- 2.3 A removable filter with a gel-filled perimeter channel shall be sized to mate with the knife-edge flange to affect a leak tight seal between the filter and the module.
- 2.4 The filter shall be replaceable from roomside after removing the protective grille and releasing four retainers' tabs that are adjustable by hand.

### 3.0 Performance

- 3.1 Airflow shall be delivered by an energy-efficient 1/3 h.p. motor/blower unit featuring an enclosed design.
- 3.2 The unit shall be precision balanced as an assembly for quiet, vibration-free operation. Power requirements shall be standard 115-volt, single phase, 60 Hz.
- 3.3 Rated amps shall be 1.9 (minimum) through 2.3 (maximum).
- 3.4 The fan unit design shall be UL listed.
- 3.5 The module shall meet or exceed ISO Class 5 (M3.5) airflow per Fed. Std 209 (latest issue) and shall meet or exceed the requirement of IES "RP-2" (Laminar Flow Clean Air Devices).
- 3.6 The average air velocity shall be 90FPM when measured 6" below the filter surface, with all measured values falling within ±20%.
- 3.7 The module shall operate at a noise level not exceeding 64dBA as measured 30" below the filter.



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