

Pharmaseal® Ducted Ceiling Module

All-Welded Room Side Replaceable Ducted Ceiling Module



Maintain critical room side clean space with a leak free welded terminal filter housing.



The Pharmaseal includes a guillotine damper and is available with a radial bow tie damper or 100% shut-off isolation damper.

The Camfil Farr Pharmaseal ceiling module provides clean room level air filtration for pharmaceutical or biotechnology facilities as well as any other facility where clean space is a manufacturing or health-related requirement. Its unique room side replaceable filter design minimizes downtime and ensures repeatable room air cleanliness following filter service. The Camfil Farr Pharmaseal:

- Is constructed of 0.063 aluminum with welded seams on the room side to eliminate leak paths and ensure structural rigidity. It is also available constructed of fully-welded 16-gauge stainless steel.
- Is designed to be installed into a T-bar ceiling. A flush mounted model is available for installation into a solid ceiling.
- May be ordered with a guillotine, radial bow tie, or 100% shut-off isolation damper for decontamination applications.
- Includes an aerosol distribution system for uniform dispersion across the entire face of the filter.
- Includes a raised-rib inlet collar for easy connection to a flexible HVAC air duct supply. It includes a 12" round inlet for connection to air supply on full size modules and a 10" round inlet connection on half size modules.
- Includes a flush-mounted face grille with four acorn nuts for unit service. The grille is optimized to promote uniform airflow and is also available with a full-edge hinge with ¼-turn fasteners..
- Includes a static pressure port for evaluating filter pressure drop or sampling of the upstream aerosol concentration during filter scan testing. This allows easy service from the room side for filter change, airflow adjustment and filter scan testing.
- Accepts gel seal filters that are available in efficiencies from 95% at 0.3 micron to 99.9995% at most penetrating particle size.

Camfil Farr's flexible fabrication capabilities can supply the Pharmaseal with virtually any option to address any clean room requirement.



Camfil Farr	Product sheet
Pharmaseal®	3420 - 1110
Camfil Farr - clean air solutions	

1 Permanent Trim

Designed for application in to a T-bar ceiling the Pharmaseal may be also be ordered with removable trim. For negative pressure rooms please contact factory.

2 Removable Grille

The Pharmaseal comes with a removable grille constructed of stainless steel, the grille ensures protection of the filter and internal housing components and has a 40% open area.

It may also be ordered with a grille that is completely removed during service through the use of a unique removable hinged grille assembly.

Fasteners

Acorn nut grille fasteners are standard.

Quick access quarter-turn fasteners are also available.



Acorn Nut

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¼ - Turn Fastener

Optional External Insulation

Pharmaseal modules are available with either external foil-back insulation or closed-cell elastomer insulation. Unit may be insulated on the top, sides, or both.

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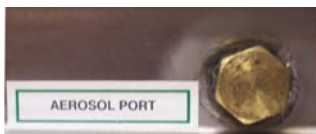


Static Pressure Port

A static pressure port for measuring the pressure drop across the installed filter is standard.

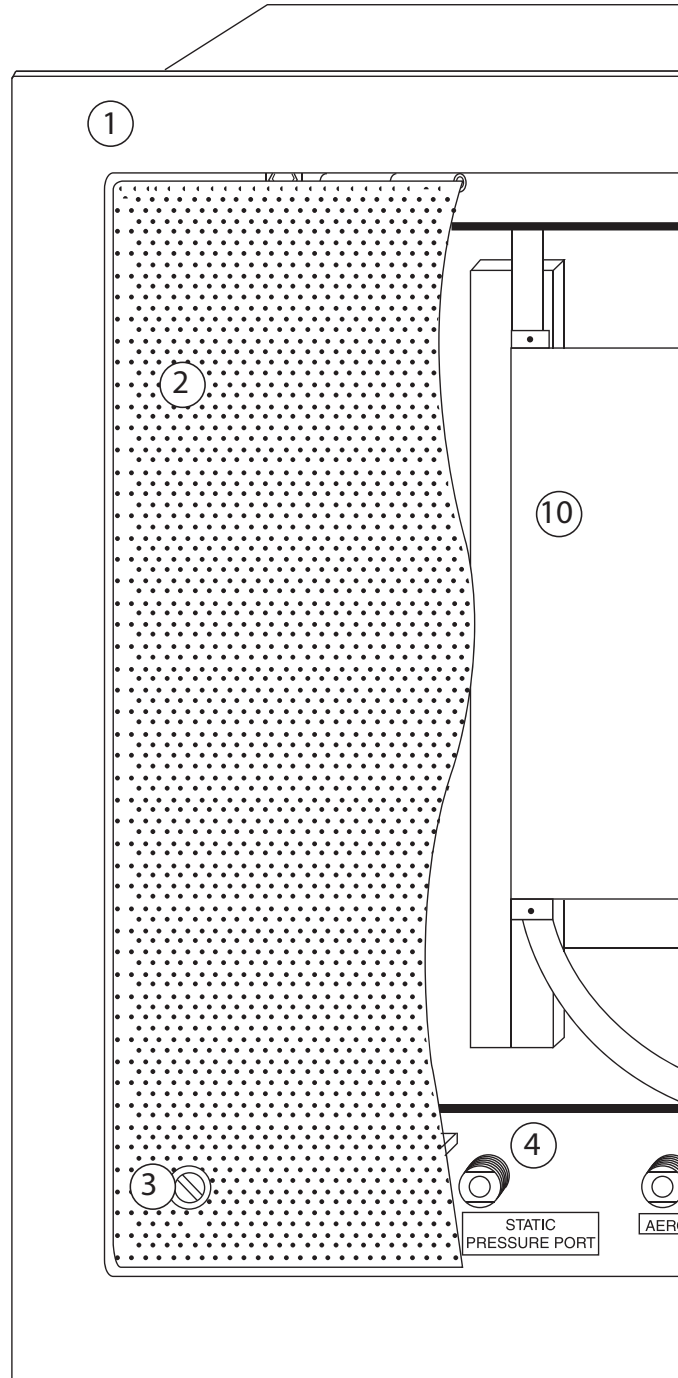
Standard connection is machine screw, quick disconnect is available.

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Aerosol Injection Port

A 3/8 IPS connection aerosol injection port is standard, quick disconnect option also available.



Full Product Detail on Unit Labels

Serial numbers are assigned to each hood after leak testing. This allows testing traceability.

camfil FARR
 200 Creekside Dr.
 Washington, NC 27889
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 Fax: 252-975-1041

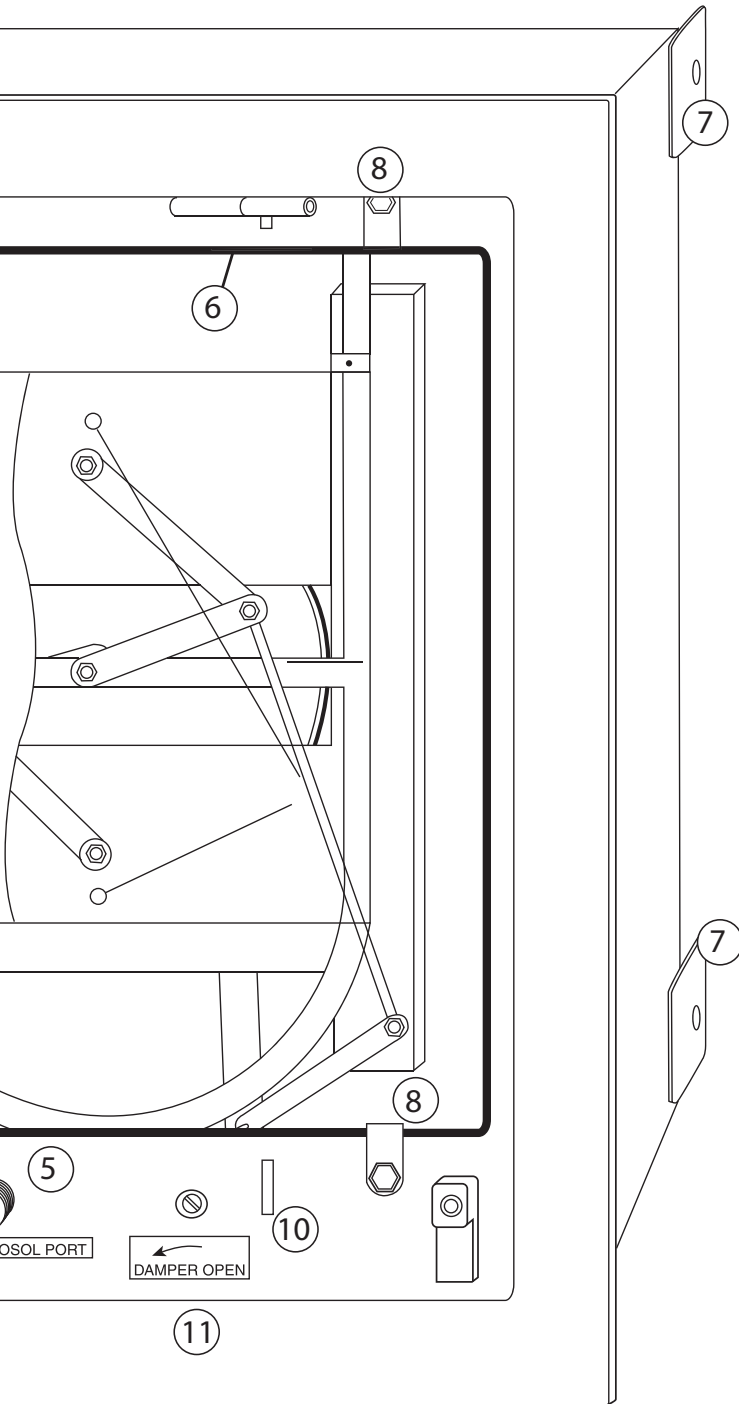
Pharmaseal Hood
 MODEL NO.: PH25D49D12DDF12RTSSCXXA2
 PART NO.: TBD
 FILTER SIZE: 21 3/4" X 42 3/4"
 MAX. FILTER PACK DEPTH: 100mm
 CUSTOMER PO. NO.: N/A
 CAMFIL FARR ORDER NO.: N/A

S/N:
 TM-0001
 (MADE IN THE U.S.A.)

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Gel-Penetrating Knife-Edge

The Camfil Farr Pharmaseal includes a gel-penetrating knife-edge that affects a positive seal.



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Optional Hanging Support Tabs

The Pharmaseal is available with hanging tabs or mounting pads for connection to an external support system.



Damper Options

The Camfil Farr Pharmaseal incorporates a guillotine damper as standard. Airflow can be regulated between 10% and 98%.

A radial blade bow tie damper or a 100% shut-off isolation damper are also available.

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Filter Retention Tabs

Filter retention tabs secure the filter on the gel track and within the assembly.

9

Optional Filter Guides

Filter guides assist in centering and ensure proper filter placement during filter service. Filter guides are standard on all Pharmaseal hoods.



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Solid Air/Aerosol Diffuser Plate

The air/aerosol diffuser plate ensures adequate dispersion of filter challenge for filter testing and/or room certification. The challenge is spread evenly across the face of the filter so that filters can be scan tested. It also ensures uniformity of airflow through the filter.

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External Damper Adjustment

In the service area of the housing, a damper position adjustment mechanism allows airflow regulation from the room side of the hood. The dampers have position indicators to assist with room rebalancing. Percentage of isolation damper open position is shown on an easy to read gauge from the room side.



Guillotine Damper

- Room balancing and airflow control are easily adjusted using the ¼-turn rotary mechanism attached to a robust mechanical linkage and heavy-duty blades.
- Damper assembly is welded to hood body to increase rigidity and eliminates “binding” of damper blades common in pop-riveted units
- Damper position indicator included.



Radial Bow tie Damper

- Accurate airflow modulation and control.
- Linkage is tight and vibration free.
- Low torque operation through the entire range of adjustment
- Radial bow tie damper is riveted to the Pharmaseal housing.



Isolation Damper

- Enables complete isolation of Pharmaseal allowing for change out of filters without risk of contamination to the clean room
- May eliminate the need for full room decontamination during filter replacement depending on the application
- Designed to reduce production downtime during filter change out and room decontamination
- Damper includes a fully-welded inlet collar.



Damper Control - Damper is adjustable from fully open to fully closed in 15 revolutions (approximate.).

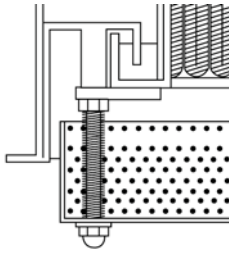
Aerosol Injection Ring – Integrated aerosol injection ring and distribution plate for in-place testing.

Proven Design - Damper has fluid seal channel that mates with a knife edge in the hood. This is the same technology that has been used for years to seal HEPA and ULPA filters in hoods.

High Cycle Life - Positive stops on the damper adjustment mechanism eliminate twisting of the stainless steel flexible cable, providing high-cycle life. Cable failure is greatly reduced.

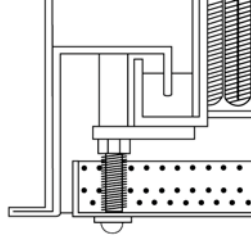
Trim Options

Other options are available, such as negative pressure room applications. For further information please contact factory for assistance. Drawings are not to scale.



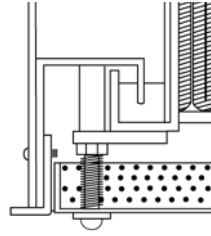
Extended grille/permanent trim

2" extended stainless steel grille with acorn nuts and 5/8" permanent trim.



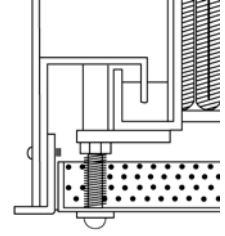
Flush grille/permanent trim

Flush stainless steel grille with 1/4-turn fasteners on a hinged grille with 5/8" permanent trim.



Flush grille/permanent trim

Flush stainless steel grille with 1/4-turn fasteners on a hinged grille with 5/8" permanent SST trim on an aluminum hood body.



Flush grille/removable trim

Flush stainless steel grille with 1/4-turn fasteners on a hinged grille with 1-1/2" removable SST trim on an aluminum hood body.

Camfil Farr Pharmaseal® Filters (ordered separately)

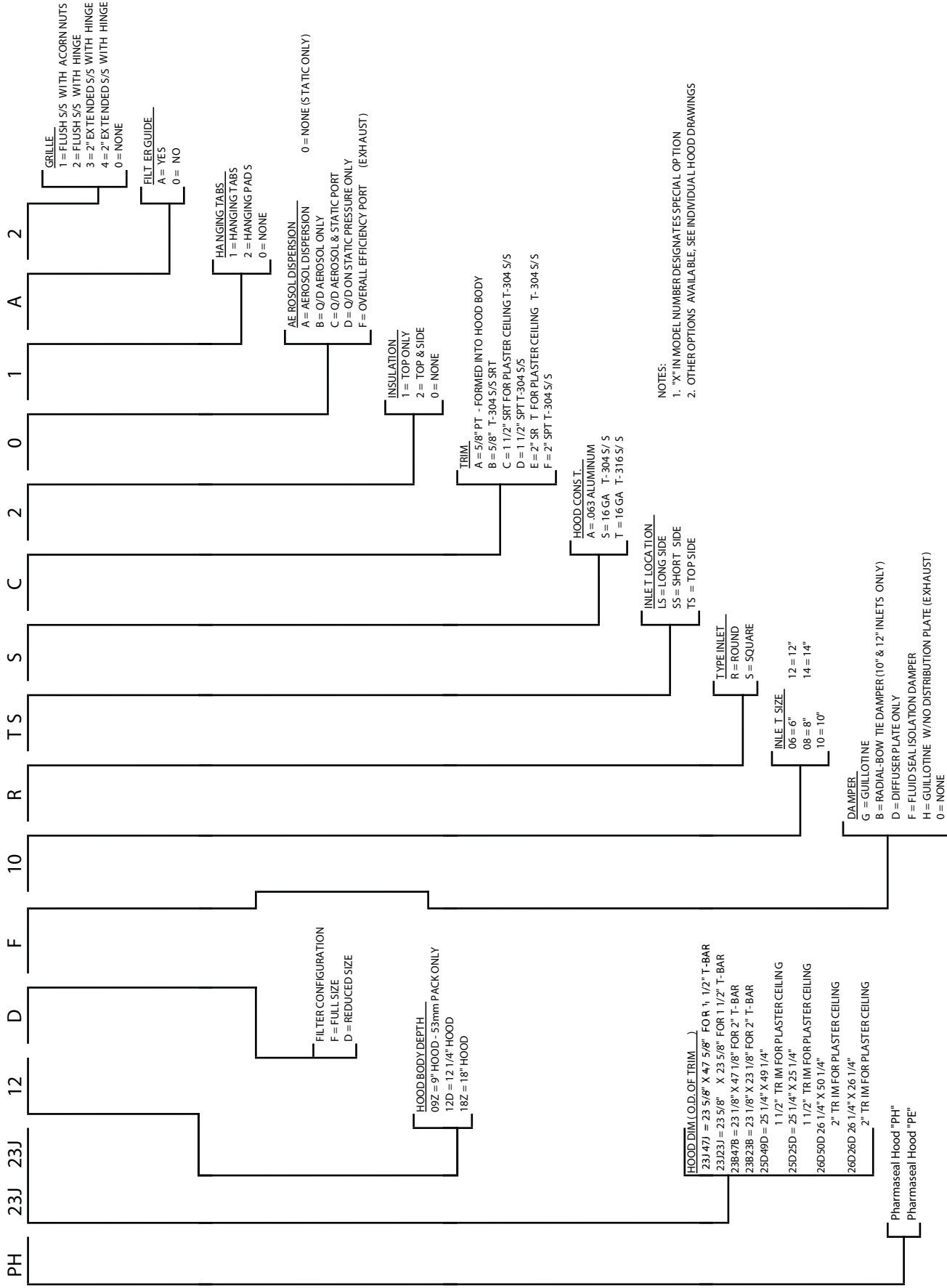
Camfil Farr Pharmaseal Filters provide fine particulate control to meet the requirements of today's high technology clean rooms and clean areas. Offering configuration and performance flexibility, the Pharmaseal filter will provide the highest level of protection for product processes and personnel. Standard gel seal filters contain polyurethane gel for knife edge seal. Silicone gel is recommended when a high degree of cleaning and sterilization agents are used or in a high temperature application. Each Camfil Farr Pharmaseal filter includes:



- Micro glass fiber media in efficiencies of 99.99% @ 0.3 micron to 99.9995% at most penetrating particle size (MPPS). The media is pleated using Camfil Farr's Controlled Media Spacing™ technology. CMS™ ensures optimized filter element depth and pleat spacing, resulting in minimized configuration losses and low resistance to airflow.
- Continuous glass filament or thermoplastic separators to ensure uniform pleat spacing and form a rigid self supported media pack. Media-to-media contact, and associated fiber break-off, are eliminated.
- A heavy-duty, lightweight anodized aluminum frame for high strength and ease of installation.
- The frame corners are secured with Camfil Farr's exclusive Klip-Lok™ mechanism for module durability and long-term integrity.
- A media pack is sealed on all four sides using Camfil Farr's CamPure™ polyurethane sealant.
- CamPure is a fire-retardant, thermally/chemically stable, shock-adsorbing polyurethane elastomer sealant assuring leak-free integrity and low-out gassing.
- Is manufactured in an ISO Class 7 (M 5.5, Class 10,000) clean room and tested in an ISO Class 5 (M 3.5, Class 100) clean space.
- Is tested using Camfil Farr's AUTO-SCAN™ automated leak detection system. Filters are serialized, bar coded, and all data is provided on a label on the filter. This allows for filter traceability back to the raw goods of unit construction.

Pharmaseal Filters	Actual Size		Rated Airflow (cfm)	Initial Resistance (inches w.g.) (tolerance ± 20%)
	Width	Length		
53 MM HEPA (99.99% @ 0.3 micron)				
QX-21.75-18.75-5-41-FU-00-00-0	21.75	18.75	217	0.52
QX-21.75-20.00-5-41-FU-00-00-0		20.0	233	
QX-21.75-42.75-5-41-FU-00-00-0		42.75	538	
QX-21.75-44.00-5-41-FU-00-00-0		44.0	554	
53 MM H14 (99.995% @ MPPS)				
HX-21.75-18.75-5-41-FU-00-00-0	21.75	18.75	217	0.52
HX-21.75-20.00-5-41-FU-00-00-0		20.0	233	
HX-21.75-42.75-5-41-FU-00-00-0		42.75	538	
HX-21.75-44.00-5-41-FU-00-00-0		44.0	554	
53 MM ULPA (99.9995% @ MPPS)				
P7-21.75-18.75-5-41-FU-00-00-0	21.75	18.75	217	0.52
P7-21.75-20.00-5-41-FU-00-00-0		20.0	233	
P7-21.75-42.75-5-41-FU-00-00-0		42.75	538	
P7-21.75-44.00-5-41-FU-00-00-0		44.0	554	
70 mm HEPA (99.99% @ 0.3 micron)				
QX-21.75-18.75-7-40-FU-00-00-0	21.75	18.75	217	0.44
QX-21.75-20.00-7-40-FU-00-00-0		20.0	233	
QX-21.75-42.75-7-40-FU-00-00-0		42.75	538	
QX-21.75-44.00-7-40-FU-00-00-0		44.0	554	
70 mm H14 (99.995% @ MPPS)				
HX-21.75-18.75-7-40-FU-00-00-0	21.75	18.75	217	0.44
HX-21.75-20.00-7-40-FU-00-00-0		20.0	233	
HX-21.75-42.75-7-40-FU-00-00-0		42.75	538	
HX-21.75-44.00-7-40-FU-00-00-0		44.0	554	
70 mm ULPA (99.9995% @ MPPS)				
PX-21.75-18.75-8-40-FU-00-00-0	21.75	18.75	217	0.44
PX-21.75-20.00-8-40-FU-00-00-0		20.0	233	
PX-21.75-42.75-8-40-FU-00-00-0		42.75	538	
PX-21.75-44.00-8-40-FU-00-00-0		44.0	554	
100 mm HEPA (99.99% @ 0.3 micron)				
QX-21.75-18.75-B-39-FU-00-00-0	21.75	18.75	217	0.36
QX-21.75-20.00-B-39-FU-00-00-0		20.0	233	
QX-21.75-42.75-B-39-FU-00-00-0		42.75	538	
QX-21.75-44.00-B-39-FU-00-00-0		44.0	554	
100 MM H14 (99.995% @ MPPS)				
HX-21.75-18.75-B-39-FU-00-00-0	21.75	18.75	217	0.36
HX-21.75-20.00-B-39-FU-00-00-0		20.0	233	
HX-21.75-42.75-B-39-FU-00-00-0		42.75	538	
HX-21.75-44.00-B-39-FU-00-00-0		44.0	554	
100 MM ULPA (99.9995% @ MPPS)				
PX-21.75-18.75-B-39-FU-00-00-0	21.75	18.75	217	0.36
PX-21.75-20.00-B-39-FU-00-00-0		20.0	233	
PX-21.75-42.75-B-39-FU-00-00-0		42.75	538	
PX-21.75-44.00-B-39-FU-00-00-0		44.0	554	

Pharmaseal Model Selection Guide



NOTES:
1. "X" IN MODEL NUMBER DESIGNATES SPECIAL OPTION
2. OTHER OPTIONS AVAILABLE, SEE INDIVIDUAL HOOD DRAWINGS

For negative pressure rooms please contact factory for assistance.

Pharmaseal Hood Selection Procedure

Standard Pharmaseal

All room side seams are welded to eliminate any contaminating leak paths.

Collar is ribbed to ensure secure duct connection.

Solid air distribution plate spreads incoming air uniformly across the face of the filter.

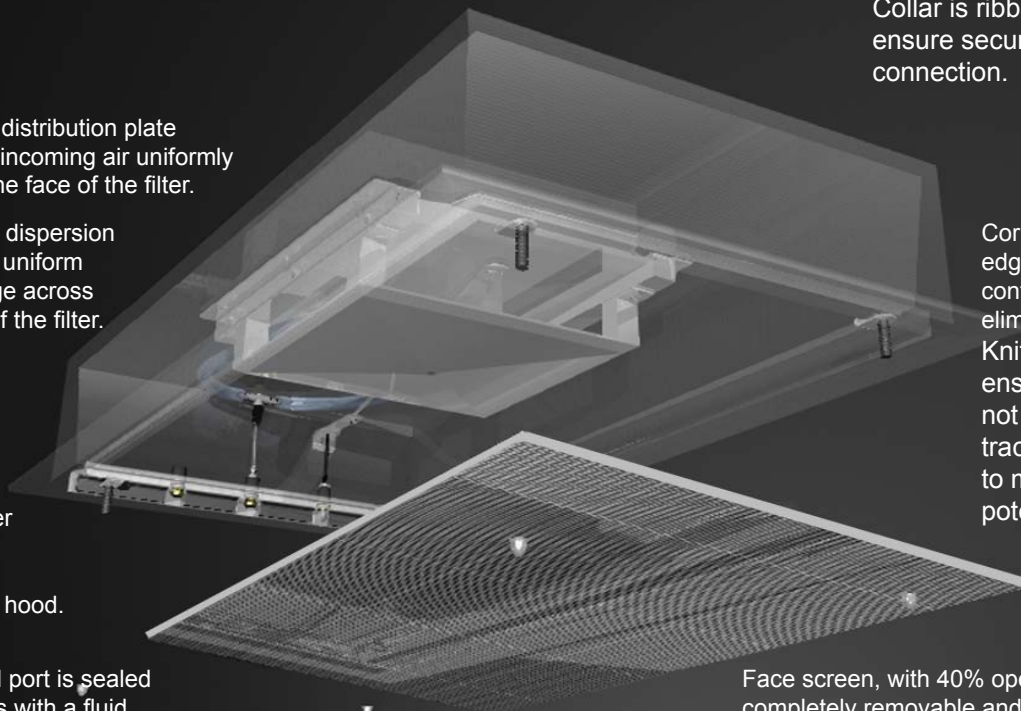
Labeled aerosol dispersion system ensures uniform aerosol challenge across the entire face of the filter.

Corner joint of knife-edge junctures are continuously welded to eliminate leak paths. Knife-edge design ensures that filter will not bottom out in the track eliminating metal to metal contact and potential bypass.

Labeled damper mechanism is mechanically fastened to the hood.

Damper control port is sealed to prevent leaks with a fluid seal assembly.

Face screen, with 40% open area, is completely removable and easily attached with four acorn nuts. Grille has solid border, no sharp edges.



Artistic representation, see sales drawing from Camfil Farr for complete detail.

Sample Standard Hood Selection

- PE - Pharmaseal Hood
- PE - 23J47J - 23.58" x 47-5/8" for 1-1/2 T-Bar
- PE - 23J47J - 09Z - 9" hood, 53mm pack
- PE - 23J47J - 09Z - F - Full size filter
- PE - 23J47J - 09Z - F - B - Radial bow tie damper
- PE - 23J47J - 09Z - F - B - 12 - 12" inlet size
- PE - 23J47J - 09Z - F - B - 12 - R - Round inlet
- PE - 23J47J - 09Z - F - B - 12 - R - TS - Topside inlet location
- PE - 23J47J - 09Z - F - B - 12 - R - TS - A - 0.63 aluminum construction
- PE - 23J47J - 09Z - F - B - 12 - R - TS - A - A - 5/8" PT formed into hood body
- PE - 23J47J - 09Z - F - B - 12 - R - TS - A - A - 0 - No insulation
- PE - 23J47J - 09Z - F - B - 12 - R - TS - A - A - 0 - A - Aerosol dispersion
- PE - 23J47J - 09Z - F - B - 12 - R - TS - A - A - 0 - A - 0 - Hanging tabs - none
- PE - 23J47J - 09Z - F - B - 12 - R - TS - A - A - 0 - A - 0 - 0 - Filter guides - none
- PE - 23J47J - 09Z - F - B - 12 - R - TS - A - A - 0 - A - 0 - 0 - 1 - Flush grille with acorn nuts

The final model number would designate a Pharmaseal Hood, 23 5/8" by 47 5/8" for 1 1/2" T-bar, with a 9" hood depth, full size filter, a bow tie damper, a 12" inlet, round inlet, located on the top side, constructed of aluminum, with 5/8" trim, no insulation, aerosol dispersion and static ports, no hanging tabs, no filter guides and a flush stainless steel grille with acorn nuts.

Sample Enhanced Hood Selection

- PH - designates the Camfil Farr Pharmaseal product line
- PH - 23J47J - 23.58" x 47-5/8" for 1-1/2 T-Bar
- PH - 23J47J - 12D - 12-1/4" Hood
- PH - 23J47J - 12D - D - Reduced filter configuration to accommodate quick-disconnects
- PH - 23J47J - 12D - D - G - Guillotine damper
- PH - 23J47J - 12D - D - G - 12 - 12" Inlet size
- PH - 23J47J - 12D - D - G - 12 - R - Round inlet
- PH - 23J47J - 12D - D - G - 12 - R - TS - Top side inlet location
- PH - 23J47J - 12D - D - G - 12 - R - TS - A - Aluminum hood construction
- PH - 23J47J - 12D - D - G - 12 - R - TS - A - A - Aluminum trim
- PH - 23J47J - 12D - D - G - 12 - R - TS - A - A - 0 - No insulation
- PH - 23J47J - 12D - D - G - 12 - R - TS - A - A - 0 - C - Quick disconnects for testing
- PH - 23J47J - 12D - D - G - 12 - R - TS - A - A - 0 - C - 1 - Hanging tabs
- PH - 23J47J - 12D - D - G - 12 - R - TS - A - A - 0 - C - 1 - A - Includes filter guides
- PH - 23J47J - 12D - D - G - 12 - R - TS - A - A - 0 - C - 1 - A - 2 - Flush S/S grille with hinge

The final model number would designate a Pharmaseal Hood, 23 5/8" by 47 5/8" for 1 1/2" T-bar, with a 12 1/4" hood depth, a filter for hood with quick-disconnect, a guillotine damper, a 12" inlet (round), located on the top side, constructed of aluminum, with 5/8" trim, no insulation, a quick-disconnect with aerosol and static ports, hanging tabs, filter guides and a flush stainless steel grille with acorn nuts.



Please contact your local Camfil Farr Representative or Camfil Farr for:

- Pharmaseal A & E Guide.
- Pharmaseal Installation & Operation Manual.
- Pharmaseal Specifications.

Camfil Farr

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North American Manufacturing Locations

Concord, Ontario Conover, North Carolina Corcoran, California Crystal Lake, Illinois
Laval, Quebec Riverdale, New Jersey Washington, North Carolina

Worldwide Manufacturing Locations

China France Germany Ireland Malaysia Slovakia Sweden Switzerland United Kingdom

Camfil Farr has a policy of uninterrupted research, development and product improvement. We reserve the right to change designs and specifications without notice.

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