Pharmaseal® Ducted Ceiling Module

Room Side Replaceable Ducted Ceiling Module

The only fully-welded HEPA filter terminal housing.

The Pharmaseal is available with an isolation damper (left) or a guillotine damper (right).

The Camfil Farr Pharmaseal provides cleanroom 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:

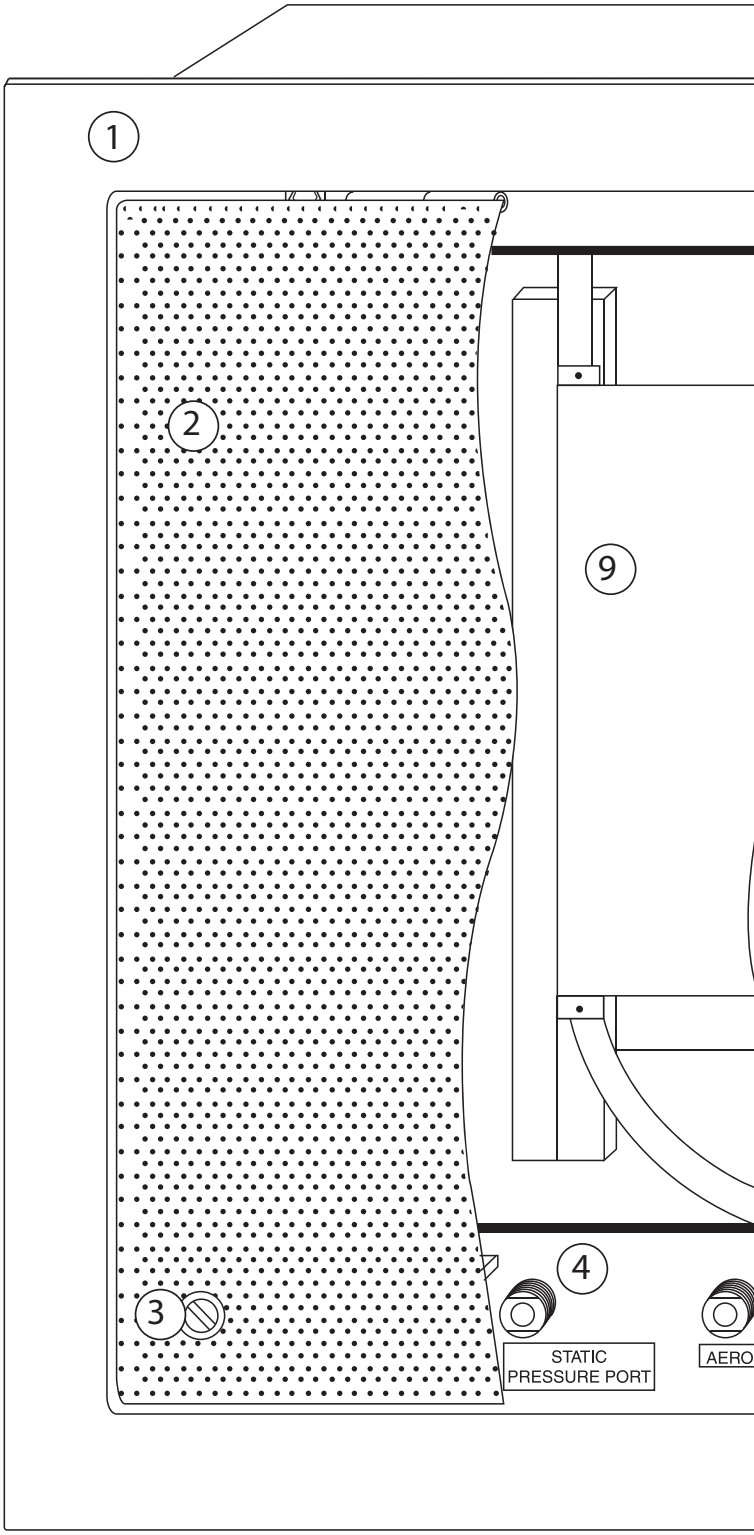
- Has joints and penetrations in the filter-to-module interface that are of welded component construction. Leaks into the cleanroom are eliminated.
- Housing is leak tested at 3.0" w.g. to ensure the housing will not leak under normal operating conditions. The housing is also visually inspected and tested for filter fit.
- Is manufactured in various configurations from 0.063 aluminum or 16-gauge stainless steel.
- May be installed in a T-bar ceiling or flush mounted in a solid ceiling.
- May be ordered with a guillotine or isolation damper.
- The isolation damper allows for 100% shut-off for decontamination.
- 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 or air duct supply.
- Includes a flush-mounted face grille for unit service. The grille is optimized to promote uniform airflow and is available with a full-edge hinge.
- Accepts gel seal filters that are available in efficiencies from 99.99% at 0.3 micron to 99.9995% at most penetrating particle size.

Camfil Farr's flexible fabrication capabilities can supply a Pharmaseal for virtually any cleanroom requirement. Designed with the pharmaceutical industry in mind, the Pharmaseal may also be applied in medical, food processing, photographic and microelectronics facilities or any process where ultra clean air is a requirement.

Camfil Farr	Product sheet
Pharmaseal®	3420 - 0209
Camfil Farr - clean air solutions	

1 Removable or Permanent Trim

Stainless steel room side trim is available. The trim may be removable or permanent as required. For negative pressure rooms please contact factory.



2 Quick-Access Removable Hinged Grille

The grille may be completely removed during service through the use of a unique removable hinge grille assembly. Constructed of stainless steel, the grille ensures protection of the filter and internal housing components and has a 40% open area.

External Insulation (not shown)

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

3 Fasteners

Grille fasteners are available with acorn nuts or quarter-turn fasteners.

Acorn Nut

¼- Turn Fastener

4 Static Pressure Port

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

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
Phone: 252-975-1141
Fax 252-975-1041

Pharmaseal Hood

MODEL NO.: PH25D49D12DDF12RTSSCXXXA2
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

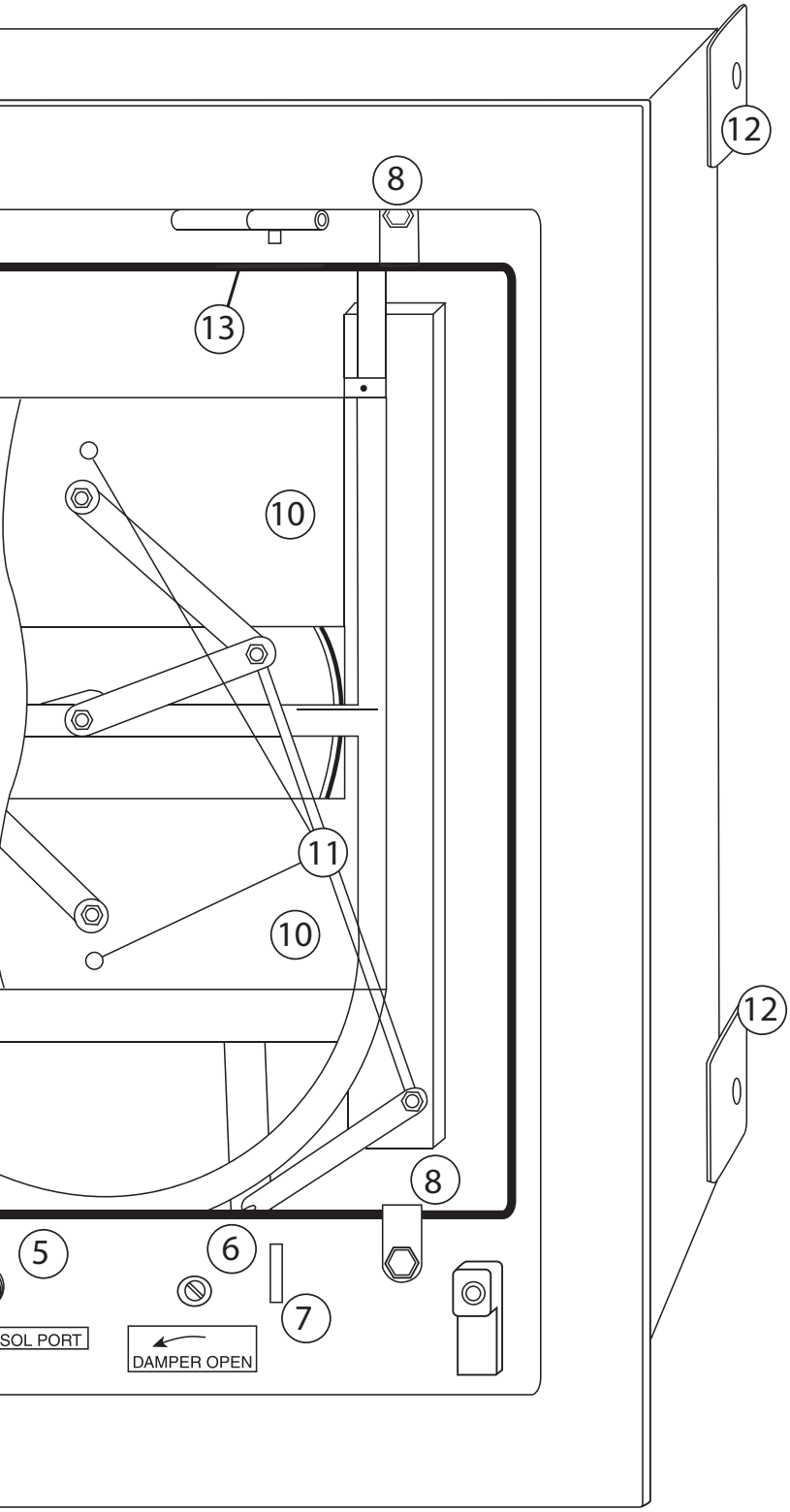
(MADE IN THE U.S.A.)

5 Aerosol Injection Port

A quick-disconnect aerosol injection port is standard (shown to right).

13 Gel-Penetrating Knife Edge

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



12 Hanging Support Tabs

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

11 Guillotine Damper Mechanism

Heavy-duty linkage for guillotine dampers.

10 Damper Options

The Camfil Farr Pharmaseal incorporates a guillotine damper as standard. Airflow can be regulated between 10% and 98%. An isolation damper or stand-alone air diffuser plate is also available.

9 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.

8 Filter Retention Tabs

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

7 Filter Guides

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

6 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.

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

Isolation Damper

- Enables complete isolation of Pharmaseal allowing for changeout of filters without risk of contamination to the cleanroom
- May eliminate the need for full room decontamination during filter replacement depending on the application
- Designed to reduce production downtime during filter changeout and room decontamination

Guillotine Damper

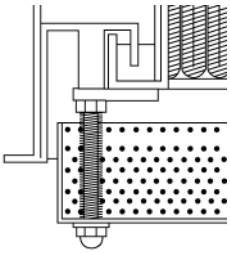
- Room balancing and airflow control are easily adjusted using the ¼-turn rotary mechanism attached to a robust mechanical linkage and heavy-duty blades.
- Damper assembly is welded to hood body to increase rigidity and eliminates “binding” of damper blades common in pop-riveted units
- Damper position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

Isolation & guillotine damper Pharmaseals include a fully welded inlet collar.

[1] Certificates of Compliance may be provided upon customer request.

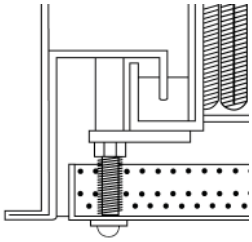
Trim Options

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



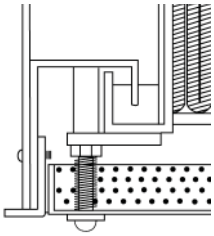
Extended grille/permanent trim

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



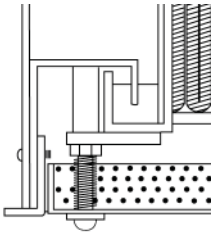
Flush grille/permanent trim

Flush stainless steel grille with ¼-turn fasteners on a hinged grille with 5/8” permanent trim.



Flush grille/permanent trim

Flush stainless steel grille with ¼-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 ¼-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 cleanrooms 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) cleanroom 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	0.68
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	0.48
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	0.29
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	0.42
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 Module Model Number Selection

PH - 23J47J - 12D - D - G - 12 - R - TS - A - A - 0 - C - 1 - A - 1

Product

Pharmaseal hood

Hood size

23J23J -23 5/8" X 23 5/8" for 1 1/2" T-Bar
23J47J -23 5/8" X 47 5/8" for 1 1/2" T-Bar
23B23B -23 1/8" X 23 1/8" for 2" T-Bar
23B47B -23 1/8" X 47 1/8" for 2" T-Bar
25D25D = 25 1/4" X 25 1/4" with 1 1/2 " Trim
25D49D = 25 1/4" X 49 1/4" with 1 1/2 " Trim
26D26D = 26 1/4" X 26 1/4" with 2 " Trim
26D50D = 26 1/4" X 50 1/4" with 2 " Trim

Hood depth

09Z = 9" Hood (limited to 53mm filter pack selection)
12D = 12 1/4" Hood
18Z = 18" Hood with side inlet
18D = 18 1/4" hood with side inlet

Filter configuration

F = Full size with quick disconnect
D = Under size filter for hood with quick disconnect

Damper Style

G = Guillotine
D = Diffuser plate only
F = Isolation damper (12" only)
H = Guillotine - exhaust unit
0 = None

Inlet size (round or square)

06 = 6"
08 = 8"
10 = 10"
12 = 12"
14 = 14"
XX = Special Size

Inlet type

R = Round
S = Square

Inlet location

LS = Long side
SS = Short side
TS = Top side

Hood body construction

A = 0.063 Aluminum
S = 16 GA T-304/L SST
T = 16 GA T-316/L SST
X = Other

Trim

A = 5/8" PT (formed in body)
B = 5/8" 304 SST SRT (removable)
C = 1 1/2" 304 SST SRT (removable)
D = 1 1/2" 304 SST SPT (permanent)
E = 2" 304 SST SRT (removable)
F = 2" 304 SST SPT (permanent)
G = 1 1/2" 316/L SST SRT (removable)
H = No Trim, Fluid Seal Channel
J = 2" 316/L SST SPT (permanent)
K = 5/8" 316/L SST SPT (permanent)
L = 1 1/2" 316/L SST SPT (permanent)
M = 5/8" 304/L SST SPT (permanent)
N = 5/8" 304/L SST SPT (permanet)
P = 2" 316/L SST SPT (removable)

See detail page 5.

Insulation

0 = None
1 = Top only
2 = Top & sides
A = 1/2" Elastomeric
B = 3/4" Elatomeric
C = 1" Elastomeric

Aerosol dispersion

0 = None
A = Aerosol dispersion with plug
B = Quick-disconnect aerosol only
C = Quick-disconnect aerosol & static
D = Quick-disconnect static only
F = Quick disconnect & overall efficiency

Hanging support

0 = None
1 = Hanging tabs
2 = External hanging pads
3 = Internal hanging pads

Filter guides

A = Yes (standard)
B = Yes for side horizontal flow
C = Yes, with grille safety chain

Grille

0 = None
1 = Flush 304 SST with acorn nuts
2 = Flush 304 SST with lift-off hinge with 1/4 turn fasteners
3 = 2" Extended 304 SST with acorn nuts
4 = 2" Extended 304 SST with lift-off hinge
5 = Flush 304 SST with lift-off hinge and acorn nuts
6 = Flush 316/L SST with acorn nuts
7 = Flush 316/L SST with lift-off hinge and 1/4 turn fasteners

For negative pressure rooms please contact factory for assistance.

Pharmaseal Hood Selection Procedure

As diverse as the applications where it may be applied, the Pharmaseal offers various construction options to ensure that the assembled product addresses the intricacies of the application. This page is offered as a guideline to assembling a module.

PH -
PH - designates the Camfil Farr Pharmaseal product line
PH - **23J47J**
designates the overall hood size and the desired trim component.
PH - 23J47J - **12D**
designates the hood depth, with four selections available. For additional options, contact factory
PH - 23J47J - 12D - **D**
designates the filter configuration; either full size filter, or filter for hood with quick disconnects
PH - 23J47J - 12D - D - **G**
Designates the damper style, with selections of isolation, guillotine, diffuser plate only
PH - 23J47J - 12D - D - G - **12**
Designates the inlet size which may be round in 6”, 8”, 10”, 12”, or 14” sizes, or square
PH - 23J47J - 12D - D - G - 12 - **R**
Designates the inlet type, round or square
PH - 23J47J - 12D - D - G - 12 - R - **TS**
Designates the inlet location, either long side, short side or top side
PH - 23J47J - 12D - D - G - 12 - R - TS - **A**
Designates the hood construction of either aluminum, stainless steel, or other with factory consultation
PH - 23J47J - 12D - D - G - 12 - R - TS - A - **A**
Designates the required trim
PH - 23J47J - 12D - D - G - 12 - R - TS - A - A - **0**
Designates whether the unit requires insulation and where the insulation is to be applied
PH - 23J47J - 12D - D - G - 12 - R - TS - A - A - 0 - **C**
Designates the aerosol dispersion design for in-place filter evaluation
PH - 23J47J - 12D - D - G - 12 - R - TS - A - A - 0 - C - **1**
Designates the type of required supports; none, hanging tabs, or hanging pads
PH - 23J47J - 12D - D - G - 12 - R - TS - A - A - 0 - C - 1 - **A**
Designates filter guides which are standard on every Pharmaseal
PH - 23J47J - 12D - D - G - 12 - R - TS - A - A - 0 - C - 1 - A - **1**
Designates the grille type

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.
Final step: Select appropriate filter on page 6 to match hood configuration.

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

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