

Pharmaseal[®] Hygienic Change Wall Mount Exhaust Housing

Wall Mount Exhaust with a HEPA Hygienic Change, and Prefilter Option



Hygienic change HEPA exhaust module offering the convenience of room side service.



Top photo: Pharmaseal Exhaust Housing installed in a cleanroom wall offers an aesthetically pleasing room side appearance.
Bottom photo: Same unit with testing shroud mounted on the Pharmaseal frame for overall filter efficiency testing from within the room.

The Pharmaseal exhaust housing is a simple, yet highly effective solution for exhaust and recirculation applications in pharmaceutical and biotechnology facilities, hospitals, surgical suites, neonatal care units, animal labs, sterile manufacturing areas and the food service processing and packaging areas. The Camfil Farr Pharmaseal room side replaceable exhaust housing:

- Allows a maintenance-friendly filter change from within the room, through a removable stainless steel filter face grille.
- Hygienic change allows filter removal through a bag so service personnel do not have direct contact with contaminated HEPA filter.
- Enclosure is manufactured from 0.063 aluminum or 304/304L stainless steel. All units include 304 stainless steel grille and trim. Bodies and trim/grilles are also available in 316 stainless steel.
- Is bubble leak tested to 3.0" w.g. to ensure that the housing will not leak under normal operating conditions. The housing is also visually inspected at the factory and tested for filter fit before shipment.
- Mounting hardware is available, as are the choices of an inward-turned flange, an outward-turned flange or an integral plenum with a round flex duct connection. Outlet may also be a round bolt flange connection.
- The unit includes integral flush perimeter trim. Unit may be mounted in sheet rock walls, plaster, conventional aluminum or stainless steel honeycomb panels.
- Is available in four standard filter configurations, a 100mm filter with 30/30[®] prefilter, a 100 mm filter without prefilter, a Filtra 2000[®] filter with prefilter and a Filtra 2000 filter without a prefilter.
- Includes integral filter guides that ensure proper filter fit within the gel to knife-edge alignment with the filter.
- Includes a static pressure port with quick-disconnect fitting for convenient room side filter evaluation.
- Optional test shroud and sampling ports allow all efficiency measurements from the room side.



Bagging ring allows contaminated filters to be totally enclosed during filter service.



Camfil Farr	Product sheet
Pharmaseal [®] Hygienic Change Wall Mount Exhaust	3421 - 0711
Camfil Farr - clean air solutions	

Dimensions & Capacities

Pharmaseal® Wall Mount Exhaust

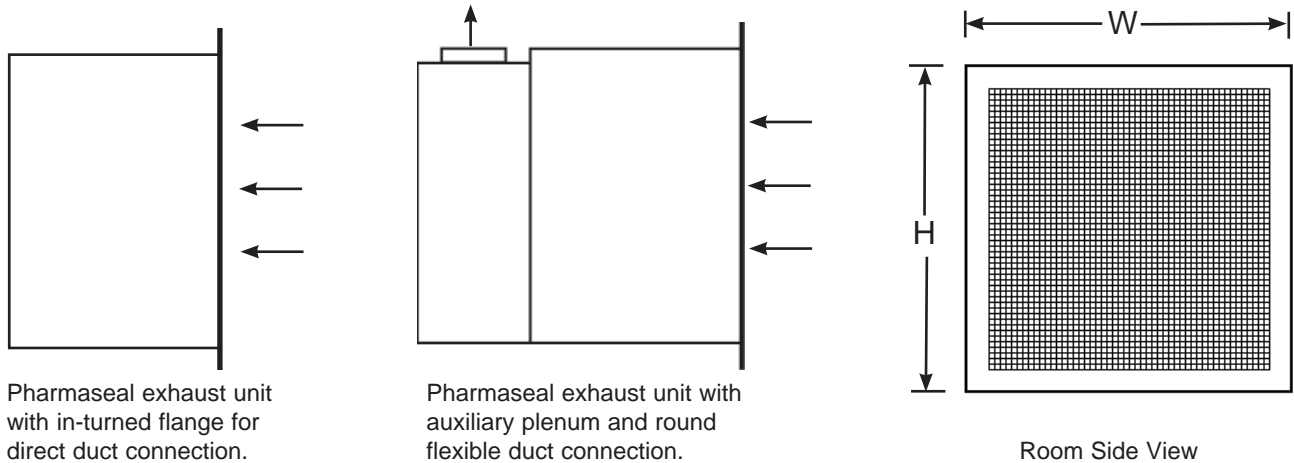
Filter Application	Size H x W	Perimeter Trim H x W (inches)	Hygienic Change Housing Depth ² (inches)	Resistance (inches w.g.)	Rated Airflow (cfm) (tolerance ± 20%)
4" deep Megalam® with 2" deep prefilter	½ x 1	28 x 40	10-½	0.40	200
	1 x 1	40 x 40			400
4" deep Megalam®	½ x 1	28 x 40	10-½	0.30	200
	1 x 1	40 x 40			400
Filtra 2000® ¹ with 2" deep prefilter	½ x 1	28 x 40	16-½	1.05	1000
	1 x 1	40 x 40			2000
Filtra 2000® ¹	½ x 1	28 x 40	16-½	0.85	1000
	1 x 1	40 x 40			2000

DATA NOTES:

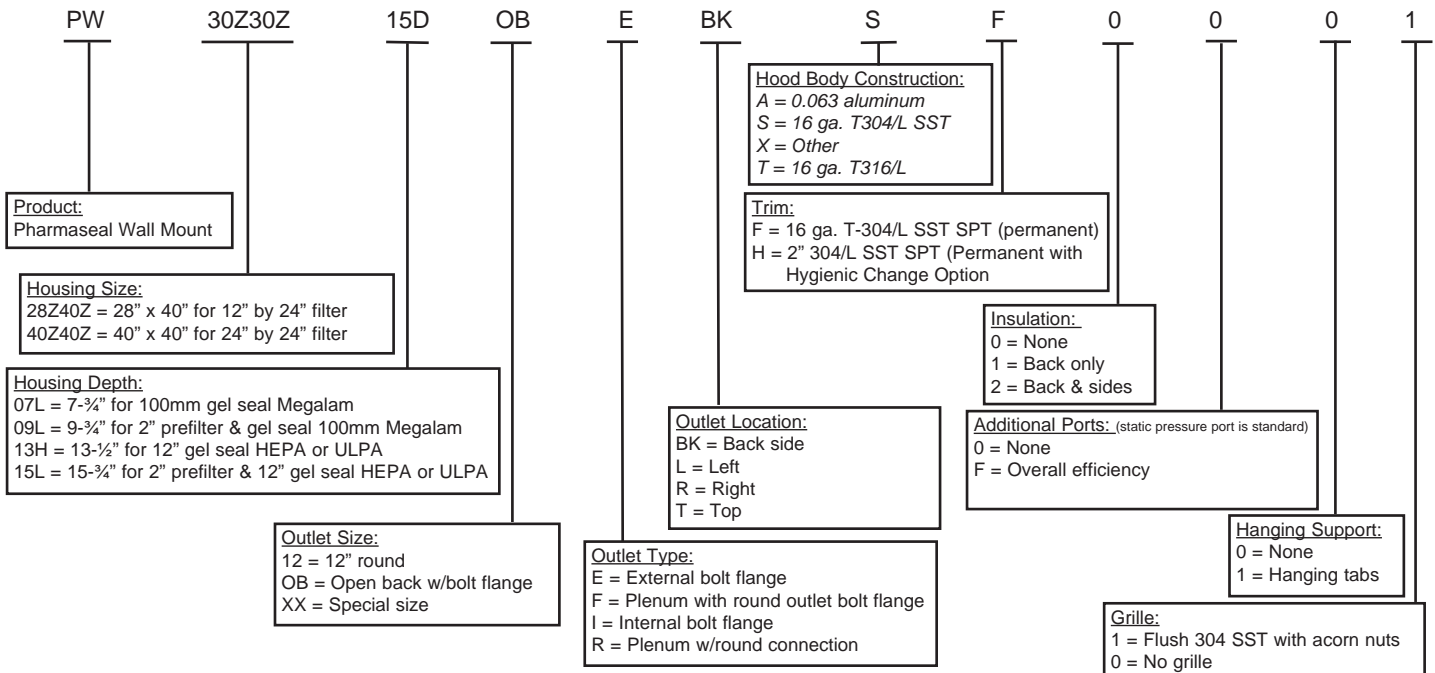
¹Airflow and resistance shown for Filtra 2000 model 1563-0101 for ½ x 1 and model 1563-01-01 for 1 x 1 housings.

² Does not include plenum.

For additional configurations see Product Sheets 1002 and 1523Gel for prefilter and final filters ratings respectively.



Model Designator



The Camfil Farr Pharmaseal Exhaust Housing is designed to accommodate a 2" 30/30 prefilter and a high-capacity HEPA filter. HEPA filter model selection should be based upon the desired system resistance or matched to the fan moving the air through the system. The housing includes a knife-edge seal and accepts any full size 24" by 24" gel seal type HEPA filter. Convenient HEPA filter guides ensure proper filter alignment and ensure a proper edge to filter seal.

Pharmaseal® Wall Mount Exhaust



Pharmaseal shown from wall side with 30/30[®] MERV 8 prefilter installed.



In this photo, the shroud is shown adjacent to an installed Pharmaseal Exhaust.



Filter change bag

The HEPA filter may be removed within an enclosed bag for the protection of service personnel and convenient removal of contaminated filter.

Downstream Sample Test Kit Installation

1. Downstream Test Kit Contents.

1. (1) ea. DynAir instruments test port model PTP-1. The port includes a sponge neoprene gasket to seal to customer duct and a red molded high density plug, fitted with a neoprene O-ring.
2. (1) ea. TyLok male elbow SST fitting SS-4-2ME-8 with downstream sample probe.
3. (1) ea. TyLok male connector SST fitting SS-4-1MC-6.
4. (25) ft. 1/4" OD Vinyl tubing.
5. (2) ea. Hex head tek screw #10x3/4" long.
6. (1) copy of this drawing.

2. Test Port Installation. (See Detail "A")

2.1 Find the proper location for the test port. The port should be located at least 10 duct diameters (or two 90° bends) downstream of the filter. Do not locate the port in the main ductwork (see Pharmatain and Pharmaseal details).

2.2 Place test port in desired location on ductwork. Mark location of access hole and the mounting holes. Drill the access hole 3/4" diameter max. Drill the two (2) mounting holes using a #30 drill bit.

2.3 Caulk the under side of the assembly between the gasket and the ductwork using customer 100% approved RTV silicone rubber.

2.4 Place test port and flat neoprene mounting gasket over the hole.

2.5 Fasten the test port to the duct using two (2) #10 tek screws. After installation is complete, caulk over the heads of the screws.

3. Connection Between the Test Port and Exhaust Hood/Housing. (See Detail "A" & "B")

3.1 Remove and discard red plug from test port. Replace the red plug with the Tylok SST elbow SS-4-2ME-8 with downstream sample probe.

3.2 Remove and discard 3/8" brass plug from the 3/8" coupling located on top of the exhaust Pharmaseal Hood/Housing. Replace the plug with the Tylok SST male connector S-4-1MC-6.

3.3 Cut the 1/4" OD Vinyl tubing to desire length and connect the two Tylok fittings together. Properly secure the tubing to the ductwork between the fittings.

Specifications for Pharmaseal Hood (Exhaust) and Test Fixture

4.0 Test Fixture

4.1 Test fixture shall be constructed from 0.063" thick aluminum and shall weigh approximately 18 lbs. [8.2kg].

4.2 Test fixture shall have a flange around the large end with a soft gasket and fasteners for connection to the hood during testing.

4.3 Test fixture shall have an inlet collar.

4.4 Features of the test fixture shall include an aerosol dispersion system, aerosol upstream sample port, and aerosol downstream sample port. These ports shall include 3/8" NPT chrome-plated brass quick disconnects or 3/8" NPT brass plugs. The aerosol downstream sample port shall have Vinyl tubing that allows connection to the hood before actually attaching the test fixture.

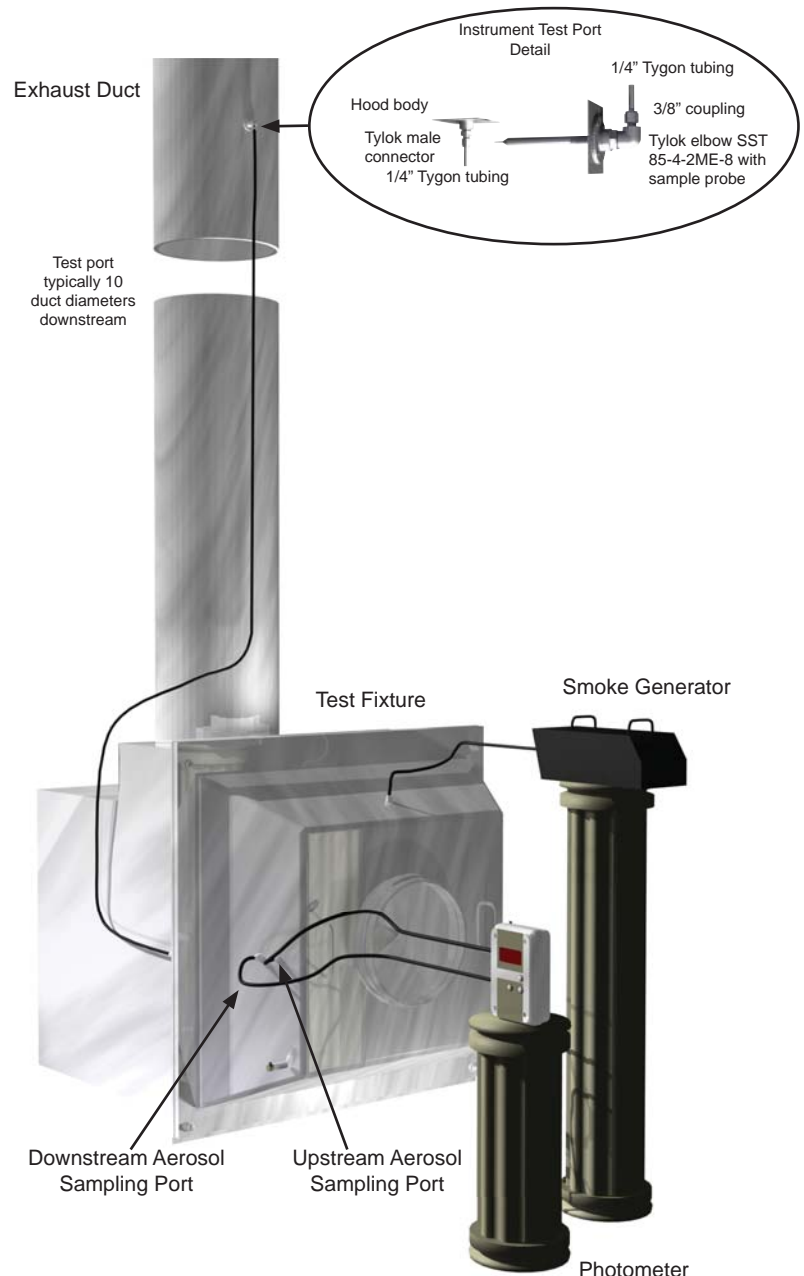
Testing Steps (Overall Penetration Method)

1. Remove grille from Pharmatain/Pharmaseal.
2. Install test fixture to system.

Note: The flexible hose of the downstream aerosol sample port in the test fixture must be attached to the quick disconnect fitting in the hood just before actually attaching test fixture to hood.

3. Connect photometer to test fixture upstream aerosol sample port and the downstream aerosol sample port.
4. Connect smoke generator to aerosol dispersion port.
5. Conduct test of filter.
6. If result is acceptable, remove test instruments and test fixture.
7. Replace grille on Pharmatain/Pharmaseal.

Pharmaseal Wall Mount with Test Fixture Detail



SPECIFICATIONS

This specification covers most options for the Pharmaseal Wall Mount Exhaust. Please. **Reference to selectable items are in italic bold.**

1 - Wall & Knife-Edge Construction for PT and SRT Trim

1.1 - Unit shall be constructed from *[0.063" aluminum, 16ga 304/L or 16ga 316/L]* with all pressure boundary joints and seams continuously welded and sealed airtight, including the knife-edge. The use of silastic sealants, RTVS, or other such materials is prohibited for sealing the pressure boundary.

1.2 - Unit shall include an integral knife-edge on the inside perimeter for a downstream filter-to-housing seal. A fluid gel in the filter shall seal against the knife edge. The unit shall include four (4) filter guides to self-center the filter on the knife-edge during filter installation. The filter shall be secured by four (4) captive retainers.

1.3 - Housing shall include a hygienic change bagging ring for the application of a translucent 8-mil thick poly vinyl chloride bag that allows service personnel to view progress as filters are changed.

Each bag shall include an elastic shock cord hemmed into the mouth of the bag to seal contaminated filter for disposal.

[Trim (2) options available (PICK 1)]

2 - SPT-Type Perimeter Trim for 304/L or 316/L SST Body Material

2.1 - Permanent perimeter trim shall be formed into the Pharmaseal Wall body. The perimeter trim shall be 2" [50.8mm] wide and sharp edges shall be removed from the corners. Finish shall be #3.

2.2 - Perimeter trim shall be suitable for mounting into a wall. The flatness of the horizontal perimeter flange of the permanent stainless steel trim must be within 1/16" (0.062") [1.6mm].

2 - SPT-Type Perimeter Trim for Aluminum Body Material

2.1 - Permanent perimeter trim shall be fabricated from 14-gauge, *[304/L or 316/L]* stainless steel. Interfaces between adjacent side and end pieces shall be continuously welded to create a single, leak-tight assembly. The perimeter trim shall be 2" [50.8mm] wide and the corners shall be radiused in order to eliminate sharp edges. Finish shall be #3.

2.2 - Perimeter trim shall be suitable for mounting into a wall. The flatness of the horizontal perimeter flange of the permanent stainless steel trim must be within 1/16" (0.062") [1.6mm].

2.3 - The trim assembly shall be permanently attached to the aluminum wall with solid stainless steel rivets that are seal welded to prevent leakage. A continuous bead of Dow Corning 732 or equivalent sealant shall be applied between the seam between the trim assembly and hood body to ensure a leak-tight seal.

3 - Duct Connection

The wall shall have an integral duct connection collar for slip joint connection that extends a minimum of 3" [76.2mm] above the top surface. The collar shall have a raised rib to prevent flexible duct blow-off. The collar shall be continuously welded to the top of the unit.

5 - Test Port

A labeled test port shall be provided through the knife-edge, which is accessible from the room side of the wall while the filter is installed and the grille removed. The test port is designed to measure the static pressure in the wall and to test the aerosol concentration in the hood upstream of the filter. The test port shall be sealed using a 3/8" NPT chrome-plated brass Quick Disconnect with a snap-in barbed connector (see spec. 10).

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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6 - Flush Acorn Nut Grille

The grille shall be the flush-mounted type, manufactured from 20-gauge, perforated *[304 or 316L]* stainless steel, 2B finish, with a minimum of 40% open area. The perimeter flange of the grille shall be solid, unperforated and shall not be hemmed for standard 18" x 30" and 30" x 30" walls. For all other sizes the grille perimeter flange shall be perforated and hemmed. The grille shall utilize stainless steel threaded studs, and stainless steel acorn nuts and washers to secure the grille in place without the use of tools.

7 - Hanging Tabs

Hanging tabs shall be fabricated from *[0.063" aluminum or 16ga 304/L]* and permanently welded to the Pharmaseal.

8 - Aerosol Downstream Sample Port - Exhaust Units

8.1 - The knife-edge assembly shall include a port connected to a sample test probe located downstream in the duct, providing the capability of performing overall efficiency test from the room side. An "Installation Kit" consisting of the PVC tubing and fittings to connect the port on the hood to the probe port in the duct work shall be furnished with each unit (installation by others). Downstream sample probe to be inserted into duct work approximately ten duct diameters downstream of unit and penetration must be sealed with included bulkhead fittings. The sample port shall be permanently attached to the knife-edge assembly by continuously welding and sealed using a 3/8" NPT chrome-plated brass Quick Disconnect with a snap-in barbed connector (see spec. 10).

8.2 - Camfil Farr Overall Efficiency Test Shroud required.

Shroud body/plenum and dispersion plate shall be fabricated of 0.063 aluminum. Shroud shall be equipped with ports/tubing enabling personnel to inject, mix, and obtain upstream/downstream samples of challenge agent from the room side. Shroud to be validated and proven capable of testing for efficiency in accordance with IEST-RP-CC-007, ensuring filter meet IEST-RP-CC-001 Type A performance level.

10 - Snap-in Barbed Connector for Quick Disconnects

The following quantity of snap-in barbed connectors will be shipped loose with order.

- 1 set of 2 barbed connectors for orders up to 50 units.
- 2 sets of 2 barbed connectors for orders 51 to 150 units.
- 3 sets of 2 barbed connectors for orders 151 units and above.

11 - Foil Back Insulation

Wall shall be insulated externally; both top and sides, with 2" [50.8mm] thick foiled back insulation held in place with 3" [76.2mm] aluminum foil tape and Tac-Toos.

12 - Quality Assurance & Factory Testing

12.1 - Pharmaseal shall be manufactured under a quality program that has been assessed and independently certified to meet the requirements of ISO 9001:2000 for the design, manufacture and distribution of containment and HVAC air filtration products. The certification shall be valid during the time frame in which the hoods are manufactured.

12.2 - All hoods shall be visually inspected for: pinholes, porosity, excessive indentations, inclusions, or weld build-up.

12.3 - Each Pharmaseal shall be leak tested per Camfil Farr Work Instruction CFWSP-5001. The knife-edge shall be sealed off with a jig and the wall plenum area pressurized to 3" w.g. [0.75kPa]. All welds in the knife-edge area and all penetrations such as the damper control rod, static and aerosol ports will be bubble-tested for leaks. The exterior wall body welds will also be bubble-tested for leaks. Each Pharmaseal must meet Camfil Farr's zero leak policy before shipping from the factory. Each Pharmaseal shall be serialized, and a Certificate of Conformance shall be provided to show that each hood meets these requirements.

