

CamHosp ISO

Bag-in/Bag-out Air Filtration Housing for Airborne Infection Isolation Rooms (AIIR) in Medical Facilities



Protection of isolation room environments and service safety for facility personnel.



Shown here with a Camfil Farr 30/30® prefilter and Filtra 2000 Absolute® filter, a combination that offers lower energy usage and more air changes to the conditioned space.

The Camfil Farr CamHosp ISO air filtration system provides HEPA grade air filtration in an air filter housing that ensures hazardous contaminants are captured in the air filters. The bag-in/bag-out filter change ensures that service personnel and the surrounding areas are protected from contamination.

Customized for airborne infection isolation rooms (AIIR), the CamHosp ISO meets all the requirements as published by cognizant authorities including Environmental Infection Control in Healthcare Facilities and the Guidelines for Preventing the Transmission of Mycobacterium tuberculosis in Health-Care Settings as published by the Centers for Disease Control and Prevention. The Guidelines are specific as to the protection of employees and visitors. For a copy of these guidelines, please contact Camfil Farr.

The CamHosp ISO may be applied with various HEPA and prefilter selections to customize the unit to facility-specific requirements.

Standard features include:

- The Filtra 2000 HEPA filter uses 30% less energy at equal airflow when compared to standard HEPA filters.
- The 30/30 MERV 8 prefilter has a one year service life lowering total cost of ownership, including material, labor and disposal costs. The prefilter track also facilitates the application of a MERV 11, MERV 13 or MERV 14 prefilter.
- A tool free, stainless steel HEPA filter locking mechanism applies 1400 pounds of force to the HEPA gasket sealing surface to ensure all contaminated air moves through the filter media. The locking mechanism allows filter service without a requirement for special tools and allows prefilter removal without compromising the sealing integrity of the HEPA filter.
- A 30% smaller footprint than traditional containment housings saving space and reducing installation cost.
- A bag-in/bag-out service door ensures no worker is exposed to contamination during filter change. The CamHosp ISO may be supplied for either right hand or left hand service. The door is designed to store the current filter change-out bag.
- 14-gauge galvanized steel construction. All air barriers are welded to prevent air bypass or leakage. Every unit is pressure tested to 5.0" w.g. using the procedure as prescribed in ASME N510-1995 Reaffirmed.
- Weatherproof construction for interior or exterior installation without requirement for unit modification.
- Size availability of ½ by 1, 1 by 1, 1 by 2, and 2 by 1.

Camfil Farr	Product sheet
CamHosp ISO	3441 - 0910
Camfil Farr - clean air solutions	



Contaminants of Concern

The resurgence of *Mycobacterium tuberculosis* (TB) in the 1990's and increased concerns over the airborne transmission of other viable contaminants has highlighted the value of HEPA-level air filtration, the integrity of the air filter housing, and the protection of the facility personnel that service or may be exposed to captured contaminants. Concerns have also heightened as unacceptable levels of nosocomial transmissions reduce the facility stipends from Medicaid/Medicare, or even stop the flow of funds completely.

Other applications, in addition to airborne infection isolation rooms (AIIR) or wards, intensive care units, burn units or centers, or any other location where the control of airborne pathogens, viral contaminants or infectious organisms should be controlled.



The CamHosp ISO's unique filter sealing methodology allows filter installation and ensures sealing integrity without the use of special tools. The HEPA filter is sealed in place with 1400 pounds of force and the prefilter is sealed to prevent air bypass through a unique system that seals both filters through the motion of two stainless steel cam-locking mechanisms. The procedure includes installing filters in their respective tracks and moving the cam-locking mechanism in the direction of the filters. The HEPA filter is sealed in place with 1400 pounds of force for proper gasket compression and the prefilter is sealed into its track, eliminating air bypass. The prefilter can also be removed and replaced without disengaging the HEPA filter seal.

The compact design of the CamHosp ISO air filter housing assumes a small footprint within the application area, increasing the working area for employees or allowing more room for the application of revenue-producing medical-related equipment.

With a lower housing weight than comparable housings, the CamHosp ISO reduces the weight-bearing installation or construction requirements.

Each unit is reviewed by our engineering team and tested as a complete system to ensure suitability to the application. Mechanical components, including optional fans and controls are matched to the filtration stages for consistent delivery of required airflow.

Camfil Farr has the ability to supply the system as a single source manufacturer ensuring component compatibility and manufacturing quality control from an ISO 9001-2008 certified facility.

Service Components

Camfil Farr offers a variety of service components for CamHosp ISO housings. Replacement bags, tie straps and bag-cutters are available to service standard bag-in/bag-out applications. A filter support shelf is also available for elevated housing installations or the convenience of service personnel. These items are detailed in Camfil Farr Product Sheet 3410 and 3402.

CamHosp ISO Options

Camfil Farr offers a variety of optional components to integrate the CamHosp ISO with control systems.

Test Ports

The CamHosp ISO may be ordered with an upstream test port for challenge aerosol introduction to facilitate on-site filter performance verification.

Pressure Differential Gauges

CamHosp ISO housings are available with differential pressure gauges to obtain pressure drop readings

across the HEPA filter (without a prefilter installed), or across both prefilters and HEPA filters. The ports may also be used for connection to a preventative maintenance monitoring or building automated control systems.

CamHosp ISO Construction

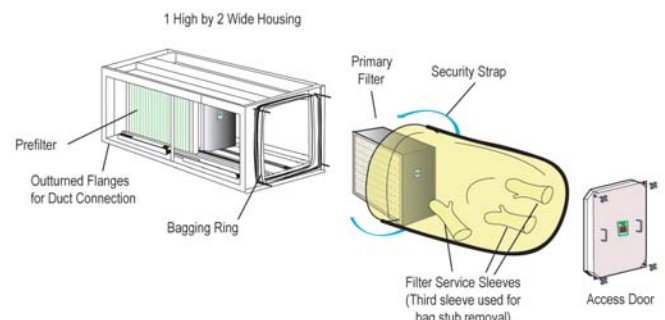
Housings may be ordered with a variety of options to meet facility requirements.

Insulated top, bottom, non-door sides and insulated doors are available. Skin-welded, with internal R- 4.3 fiberglass insulation.

The CamHosp ISO is available with a primer, a powder coat, or other finish options.

Lifting lugs are available to facilitate rooftop installation or placement by equipment moving machinery. Lugs are welded directly to the housing with placement specific to housing balance and protection during the installation process.

Camfil Farr also offers flat-plate transitions for mating to common HVAC air handlers or existing HVAC equipment. Drilled flanges are also available for connection to existing HVAC equipment. Pricing is provided following receipt of drawings from the design firm or the building owner.



Filters are serviced using a bag-in/bag-out process that protects workers by isolating the contaminated filters during filter change.



Absolute® Filters

To reduce energy expenditures and ensure the highest number of air changes (directly related to an increase in contaminant control), Camfil Farr recommends the application of the Camfil Farr Filtra 2000 Model FA-1560-01-01.

The unique V-style design increases the media area to over 430 square feet, more than double the media area of standard HEPA filters, resulting in a pressure drop of only 0.83" w.g. at 2000 cfm. Selecting this HEPA filter can maximize space air changes decreasing the concentration of viable contaminants. In addition, the lowest possible life-cycle cost of operation will be achieved.

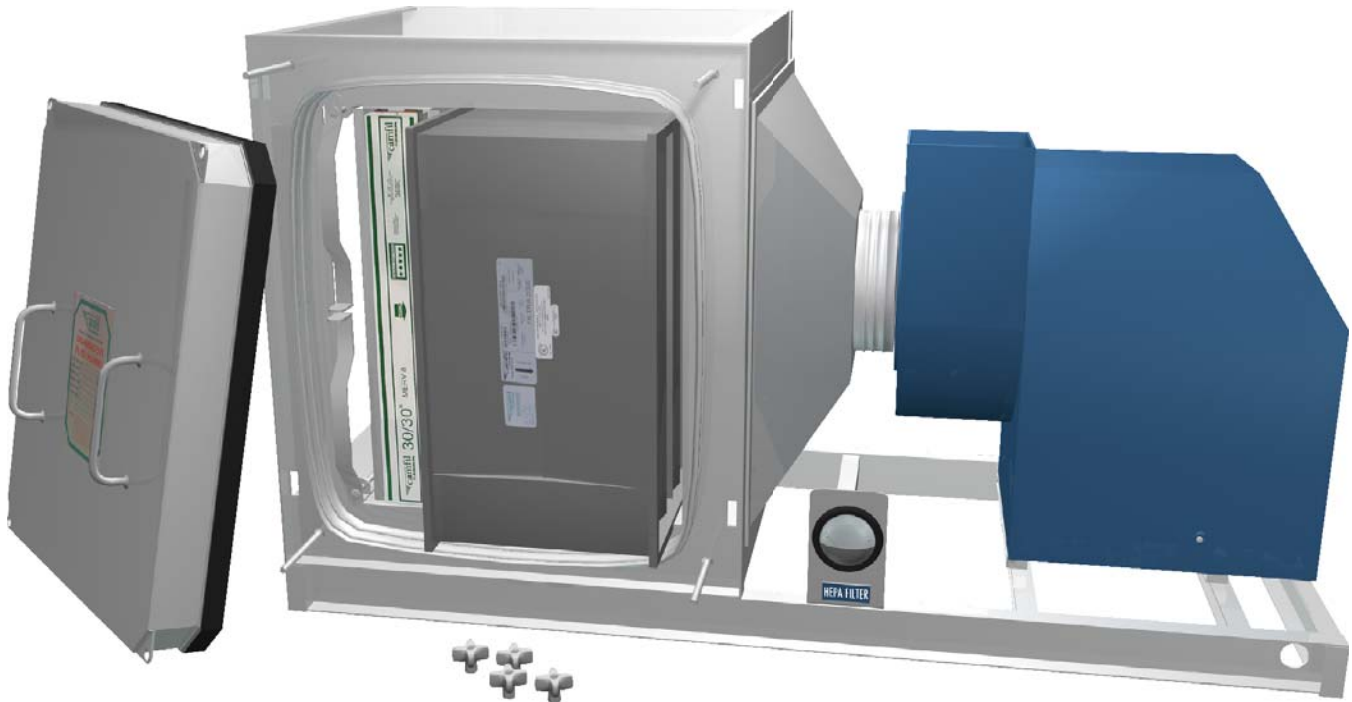
The CamHosp ISO system is universal, accepting HEPA filters in a variety of 12" deep configurations.

Prefilters

The CamHosp ISO prefilter track will accept a 4" deep prefilter to extend the life of the HEPA filter and reduce the overall contaminant load. Prefilters are designed to last one year for most applications.

The Camfil Farr 30/30® MERV 8 prefilter will protect the HEPA filter from large contaminants, increasing HEPA filter life and maintaining system resistance to minimum levels.

The Camfil Farr Opti-Pac® can provide prefilter efficiencies of MERV 11 to MERV 14 for applications in clean environments, extending the life of the HEPA filter protecting it from sub-micron particle size loading. The Opti-Pac also incorporates fine fiber media ensuring that filter performance will be maintained throughout the life of the filter.



Modular Options

Camfil Farr CamHosp ISO housings are also available as self-contained systems.

Mounting Base

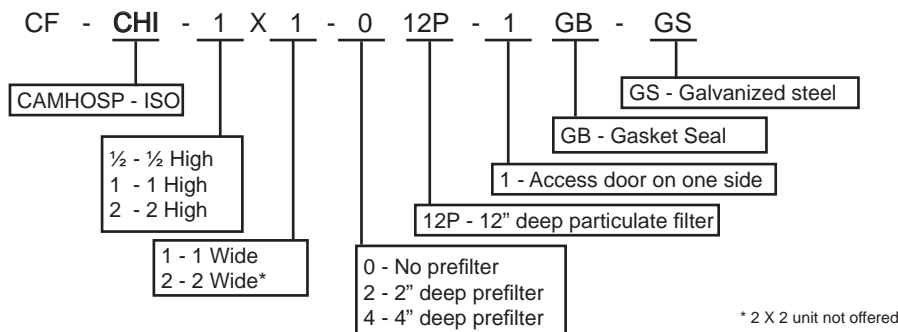
Integral Fan

Camfil Farr will mount a fan assembly, either belt drive or direct drive, directly to the CamHosp ISO unit, ensuring proper airflow and balanced to the static requirements of the system. The CamHosp ISO unit is tested and factory shipped to the facility with Camfil Farr's stamp of quality construction and guaranteed performance.

Housing Size	Rated Airflow (cfm)	Overall Housing Dimensions H X W X L (inches)	Resistance 30/30® Prefilter & Filtra 2000 Model FA 1560-01-01 (inches w.g.)	Resistance Filtra 2000 Only Model FA 1560-01-01 (inches w.g.)	Resistance 30/30® Prefilter & Absolute® XH (inches w.g.)	Resistance Absolute® XH Only (inches w.g.)	Housing Weight Without Filters (lbs)
½ x 1	900	18 X 27 X 26	1.24	1.00	1.55	1.31	85
1 x 1	2000	30 X 27 X 26	1.10	0.83	1.62	1.35	115
1 x 2	4000	30 X 51 X 26	1.10	0.83	1.62	1.35	175
2 x 1	4000	60 X 27 X 26	1.10	0.83	1.62	1.35	230

Data Notes
 Filtra 2000 Absolute (2400 CFM Model FA-1560-01-01), Absolute XH Series HEPA - Gasket Seal Models Only
 1 = one full size 24" by 24" filter

Model Number Information



SPECIFICATIONS

1.0 General

1.1 – Housing shall be Camfil Farr CamHosp ISO side-access bag-in/ bag-out, gasket seal housing. The housing shall be adequately reinforced to withstand a negative or positive pressure of 5.0" water gage. Housing design and filter arrangement shall allow air to enter and exit housing without changing direction. The housing shall accommodate standard size filters that do not require any special attachments or devices to function properly in the housing.

1.2 – Sizes shall be noted on enclosed drawings or other supporting materials.

2.0 Construction

2.1 – Housing shall be constructed of 14-gauge galvanized steel. All pressure retaining joints and seams shall be continuously welded with no porosities. Joints and seams requiring intermittent welds, such as reinforcement members, shall be intermittently welded. Housing shall be free of burrs and sharp edges. All weld joints and seams that are a portion of any gasket setting surface (duct connection flanges and filter sealing surfaces), shall be ground smooth and flush with adjacent base metals where all joints shall be painted and primed. All welded joints and seams shall be wire brushed to remove heat discoloration.

2.2 – The housing shall have a bagging ring around each filter access port that is sealed by a gasketed filter access door. The filter access door gasket shall be silicone and shall be replaceable, if necessary. The bagging ring shall have two (2) continuous formed raised ridges to secure the PVC change-out bag. The bagging ring shall be hemmed on the outer edge to prevent the change-out bag from tearing.

2.3 – Ancillary hardware including filter clamping mechanism, door handles, door studs and labels shall be 300 series stainless steel. Filter access door knobs shall be cast aluminum and designed to prevent galling of threads.

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

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2.4 – A stainless steel filter clamping mechanism that does not require additional tools shall secure both prefilter and HEPA filter. The clamping mechanism shall include two pressure channel assemblies to exert a minimum uniform filter sealing force of 1400 pounds per full size filter.

2.5 – One (1) Camfil Farr manufactured PVC change-out bag shall be furnished with each filter access port. Change-out bags shall be 8-mil. thick with a translucent, non-sticking, matte finish. It shall include a 1/4" diameter elastic shock cord hemmed into the opening of the bag so when stretched around the housing bagging ring flange, a secure fit is created. The bag shall include three (3) integral glove ports to assist in filter change-out. One (1) nylon security strap shall be included per filter access port to prevent the bag from sliding off the bagging flange during the change-out process. Change-out operations shall be within the bag so there is a barrier between the worker and the filter at all times.

3.0 Performance

3.1 – The filter housing shall be manufactured under a Camfil Farr Quality Assurance Program. All welding procedures, welders, and welder operators shall be qualified in accordance with ASME Boiler and Pressure Vessel Code, Section IX. All production welds shall be visually inspected by qualified personnel, per Camfil Farr standard procedure number CFW-10001, Visual Inspection of Welds, which incorporates the workmanship acceptance criteria described in Section 5 & 6 of AWS D9.1-1990, Specification for Welding of Sheet Metal.

3.2 – The filter housing shall be manufactured under a Camfil Farr Quality Assurance Program. The filter housing shall be factory tested for filter fit and operation of filter clamping mechanism. The filter sealing surface and overall system pressure boundary shall be leak tested at +5" water gauge under the method as defined in ASME N510-1995 Reaffirmed, Testing of Nuclear Air Cleaning Systems, paragraphs 6 & 7. The maximum leak rate shall be 0.0005 cfm per cubic foot of housing volume.

3.3 – Filter bags shall be capable of continuous operating to temperature extremes of 0° F to 150° F.

Camfil Farr products meet the stringent requirements of ASME NQA-1, Quality Assurance for Nuclear Facility Applications.

