

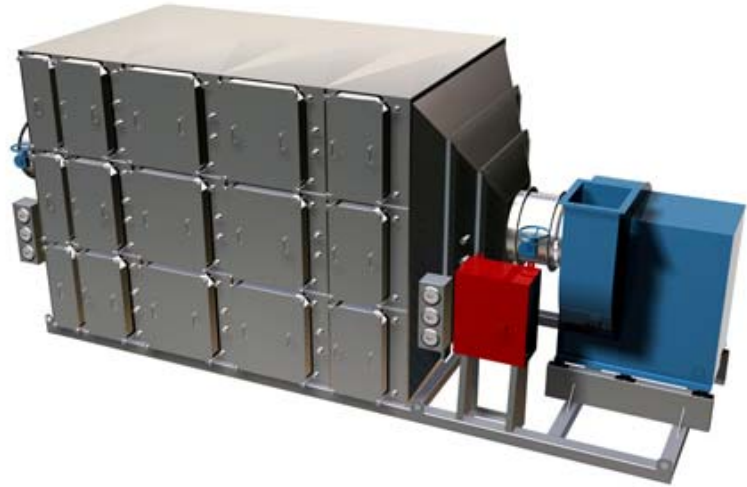


339 Old Bath Highway Washington, NC 27889



OVERVIEW

The Bag In/Bag Out side access high efficiency air filter housing is a permanent housing designed to hold either gasket or gel seal filters. It is an all welded product designed for critical clean air applications.



Inside each unit's door(s), a ribbed inlet collar provides for a PVC bag attachment. The PVC bag creates a barrier seal between service personnel and the contaminated filters. With this design, filter-servicing personnel are not in direct contact with any threatening particulate. An initial bag kit is included with each order.

Depending on end user requirements, a variety of prefilter, adsorber, and/or HEPA filter sections are incorporated into the unit. Housings may be joined in series or parallel. Test sections in series may also be incorporated with the housing. Specific fan filter combinations are also available for isolation room systems. These systems encompass blowers with inverters/starters and/or (PLC) programmable logic controller to provide constant system airflow as the filters load.

A removable access door for each type filter section allows for individual filter/adsorber change out. A locking mechanism is incorporated for each individual HEPA and or carbon adsorber section. Filter removal trays can be provided as an option. Each housing is custom manufactured to meet specific end user requirements.

The unit allows an unencumbered airflow through the upstream and downstream openings. All Bag In/Bag Out housings are factory pressure decay tested in accordance with ANSI/ASME-N510-1995 reaffirmed up to +/- 10" W.G. Further, all units are manufactured in accordance to the quality criteria listed in ASME AG-1. Complete component traceability is provided upon request.

APPLICATION

PGM's Bag In/Bag Out side access filter housing is designed for and not limited to the following applications:

- Radiological Contamination
- Pharmaceutical and Biotechnological Clean Rooms
- Medical Device Clean Rooms
- Microelectronics
- Nanotechnology
- Hospital Suites
- Isolation Areas
- CBR Applications

PERFORMANCE

The Bag In/Bag Out side access filter housing accommodates different HEPA and Ashrae filter efficiencies. Standard housings accommodate 24" X 24" X 11 ½" deep HEPA filters. Pre-filter sections are available in 2", 4" and/or 6" in depths. See filter manufacturer's individual filter efficiency requirements.

GASKET SEAL

The filter to housing gasket seal is effected by means of a continuous flat mounting surface on the interior of the housing, which mates to a perimeter gasket on the filter. To affect the seal, the bolt-activated top and bottom hand operated crank locking mechanisms secure the filter(s) against the housing's perimeter mounting surface, compressing the gasket.



FLUID SEAL

The filter to housing gel seal is effected by means of a continuous perimeter knife-edge on the interior of the housing, which mates into the gel filled perimeter channel on the face of the filter to. The hand operated locking mechanism guides and secures the filter into the knife-edge penetrating the gel and forming a positive seal on the filter face.

Hand torqued door latches provide a positive pressure door to housing seal as well as ease filter servicing. When the housing is fully loaded and the door sealed properly, the housing efficiency is equal to that of the filter rating.



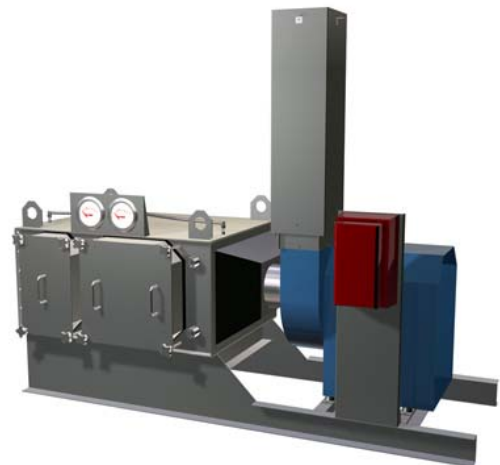
ROUND BAG IN/BAG OUT

PGM's round housing is specially designed for high pressure and low air volume applications. Connections to the unit are typically through a round-flanged inlet and outlet. Access to the filter is through the top of the unit. For further information, please contact the factory.



SELF CONTAINED ISOLATION UNITS

The fan powered filtration unit incorporates the filter housing and a blower for specific exhaust air applications. Multiple configurations can be incorporated using (VFD) variable frequency drives, starters, (PLC) programmable logic controllers and airflow monitoring devices. Please contact the factory for end user specific applications.



INSTALLATION

A factory installed flange is suitable for connection to either ductwork or air handling system.

CONSTRUCTION

- The housing is made from either T304 12 & 14-gauge stainless steel or – optional T316 12 & 14-gauge stainless steel. L grade is available as well.
- All stainless steel parts have a #2B finish.
- The locking trays are made from T304 12-gauge stainless steel or optional T316 12-gauge stainless steel.
- Retrieval rods ease the removal of filters.
- Seam welding reinforces strength and prevents leakage.
- Door(s) have perimeter gasket in order to ensure a positive seal.
- Door knobs are cast aluminum.

ADDERS

- Additional Bag Kits
- Vertical Flow
- Double Wall Insulation
- Static Port(s)
- Magnehelic Gage
- High Temperature Gasket
- Isolation Dampers
- Transitions
- Swivel Door Latches
- Custom and Drilled Flanges
- Weather Cover
- Bottom Access
- DOP Port
- Photohelic Gage
- Lifting Lugs
- Breather Filter Port
- Aluminized Steel Construction
- Nitronic 60 hex nuts
(Locking tray)

General Construction:

The basis of design shall be P&G series gasket seal bag-in / bag-out filter housing constructed by P&G Manufacturing Company. All housing components shall be factory assembled and tested in accordance with accepted requirements and approved by the Owner or its representative.

The housing shall be constructed from 14 gauge and 12-gauge type T-304 stainless steel (as standard) with a #2B finish. The P&G construction method shall provide adequate reinforcement to withstand a negative or positive pressure of at least 20" water gage (w.g.) or the owner's specified and scheduled operating system pressure, whichever is higher. The housing shall be side servicing for filter installation and removal. Housing design shall allow air to enter and exit the housing without changing direction. The housing shall accommodate standard sized filters that do not require any special attachments or devices to function properly during or after installation. Prior to leaving the factory, each filter housing module as well as the entire assembly shall be tested to insure its integrity in accordance with ERDA 76-21, paragraph 6.2.2 housing construction. "Nuclear Air Cleaning Handbook", Table 4-2 for filter fit, mechanical function, for filter sealing surface flatness, and tested under system operating pressure by means of pressure decay test.

Welding and Cleaning:

All pressure retaining welded joints and seams shall be continuously welded, (P&G standard). All manufacturing scratches and weld heat discoloration shall be removed by a wire brush. Housing shall be free of all burrs and sharp edges. All weld joints and any portion of any gasket setting surface shall be ground smooth and flush to base metals. All welding personnel are qualified in accordance with ASME Boiler and Pressure Vessel Code Section IX. All welds shall be visually inspected by qualified factory personal in accordance with the American Society of Mechanical Engineer (ASME) section V. As a minimum, all welded joints shall be visually inspected and be free of cracks, underfill, incomplete fusion, overlaps, surface porosity, crevices, crater pits and depression.

Housing Hardware:

All hardware used in the manufacture and assembly of the filter housing shall be a minimum of 300 series stainless steel (i.e. nuts, bolts, washers, springs, etc.), except for the brass nuts used for filter clamping device and the aluminum hand knobs used for filter access door retaining. (Aluminum hand knobs are used to protect against galling of stainless steel threaded parts)

Removable Gasket Seal Filter Clamping Mechanism:

The filter clamping device (locking tray) shall be operated by means of a standard wrench and from outside of the housing front and be an integral part of the filter housing. The filter clamping mechanism shall be located on the clean air side of the filter / adsorber (i.e. downstream side of the filter), leaving the filter sealing mechanism to be located in clean air. If isokinetic scan sections are incorporated in the system, the sealing mechanism may be located on the upstream side of the filter.

The sealing mechanism shall be self-aligning and adjustable by means of springs used in a dual compression bar assembly. The filter clamping device shall produce a minimum of fourteen hundred (1,400) pounds of pressure per filter element to insure a proper and uniform filter to frame seal along its gasketed surface. The filter-clamping device is driven by a type T-304 stainless steel (3) piece locking tray. The filter clamping device will seal each filter individually with maximum of ten (10) foot-pounds of torque. A single brass hex nut is incorporated into each individual locking tray to prevent the galling of the stainless steel drive components under pressure. To facilitate filter removal and installation, the filter clamping device must have a minimum of 5/8" from full open to full close position.

Filter Access Doors:

Each filtration element location shall be provided with an access door to remove the filtration element and replace it with another. Access doors are single-wall type. A minimum of one handle is provided per door. The filter access door is sealed to the housing front by means of a neoprene gasket (standard) or skinned silicone closed cell sponge gasket. Silicone gasketing shall not have a memory during prolonged compression, (i.e. it will never lose its shape or composition during compression) and is replaceable. Each access door is rigid and provided with at least four tie-down latches. The access door is designed such that, when removed, no sharp projections remain.

Filter Access Ports:

Each filter access port has a bag-clamping ring (also called a bagging ring). The bagging ring has a smooth hemmed edge to insure safe installation and removal of the filter change out bag. The bagging ring is seal welded to the housing front around the filter access port. It is designed with two (2) raised ridges to stretch the shock cord of the filter change out bag elastic mouth around the bagging ring. The bagging ring and filter change out bag is concealed behind the removable filter access door when in the installed position. The filter access door is clamped in place with the use of 2" aluminum hand (star shaped) knobs which do not require tools to furnish the necessary torque required to specified tightness.

Filter Removal Rod:

All filter housings is equipped with a filter removal rod assembly. The rod is operated by hand. The filter removal rod can be operated within the glove of the PVC filter bag.

Access Orientation:

Filter access handedness shall be by the side (right hand, left hand or both) of the housing where the filters are to be accessed. The filter access shall be determined as if a person were standing inside of the housing and is facing in the downstream direction of the air stream (i.e. the air is hitting the person in the back). From this position if the door is on the right, it is a right hand door. If it is on the person's left side, it is a left hand door. For vertical airflow applications, the filter-clamping device shall be located as so the filter is sealed in the vertical up position as to prevent damage to the gasket on the filter.

Filter Change-out Bag:

The filter change out bag shall be constructed of 8 mil thick LP-375C Class 2 PVC flexible material and shall be yellow in color. The filter bag shall be matted on one side to reduce static and shall be semi-transparent. The filter bag shall have a clear portion at the mouth for visual purposes and two (2) glove ports for filter manipulation and for the removal of the bag stub after the initial change out. The filter change out bag is retained to the bagging ring by means of a safety strap for an air tight and secure seal. (All system straps and change out bags shall be furnished by P&G Manufacturing and shipped boxed inside system). P&G Mfg also provides a (3) glove bag as an option.

Factory Testing and Quality Assurance:

The filter housing shall be manufactured under P&G Manufacturing's quality assurance program that addresses the workmanship requirements of ASME NQA-1 "Quality Assurance Program Requirements for Nuclear Facilities". All production welds shall be visually inspected per P&G standard procedure (PGM-1000 Rev. 1), which incorporates workmanship acceptance criteria. The filter housing shall be tested for filter fit, filter sealing, and surface flatness. Each housing module and the complete pressure boundary shall be leak pressure tested by the "Pressure Decay Method" in accordance with ASME N510-1998, "Testing of Nuclear Air Cleaning Systems," paragraphs 6 & 7 (both filter sealing surface and overall housing are tested). P&G Mfg provides systems that can operate at high temperature and high pressure (higher than 20"wg). Consult the sales department about this option / requirement.

Containment Filter Housings

Type	Style	Size	Mat.	
GB1	- 012P	- 10H20W	- 304	- (SP)

Housing Seal
G - Gasket Seal
F - Fluid Seal
Housing Type
B - Bag-In/Bag-Out
N - Non Bag-in/Bag-Out

Doors
1 - One Access Door
2 - Two Access Doors, One Per Side
3 - Two Access Doors on One Side
 (One for Prefilter, One for Primary Filter)
4 - Four Access Doors, Two on Each Side
 (One for Prefilter, One for Primary Filter)

Prefilter Size
0 - No Prefilter
2 - 2" Prefilter
4 - 4" Prefilter
6 - 6" Prefilter

Final Filter Size
12P - 11 1/2" HEPA
12C - 12" CARBON
16C - 16" CARBON
18C - 18" CARBON
19C - 19" CARBON
(X) - Special

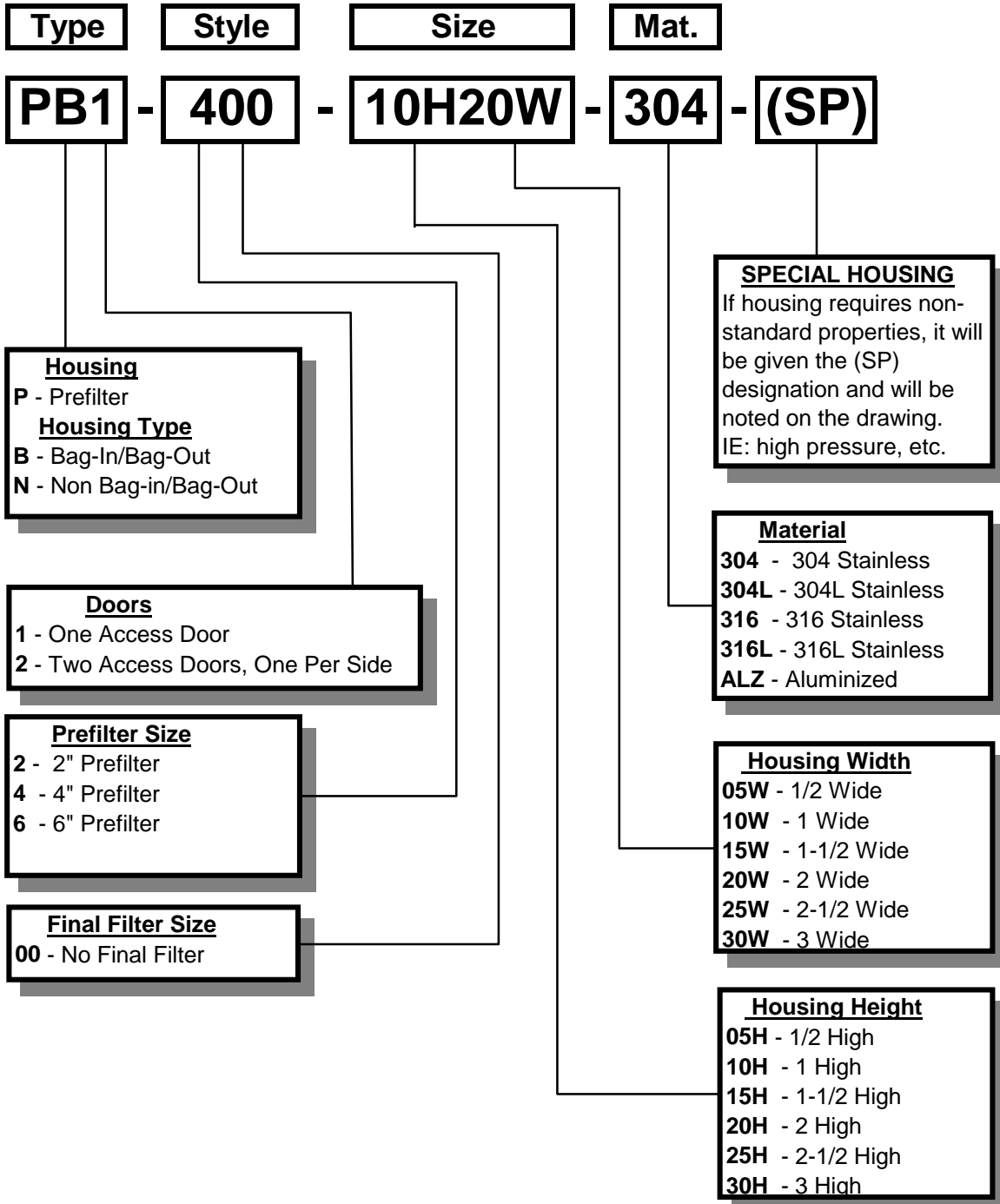
SPECIAL HOUSING
 If housing requires non-standard properties, it will be given the (SP) designation and will be noted on the drawing.
 IE: high pressure, etc.

Material
304 - 304 Stainless
304L - 304L Stainless
316 - 316 Stainless
316L - 316L Stainless
ALZ - Aluminized

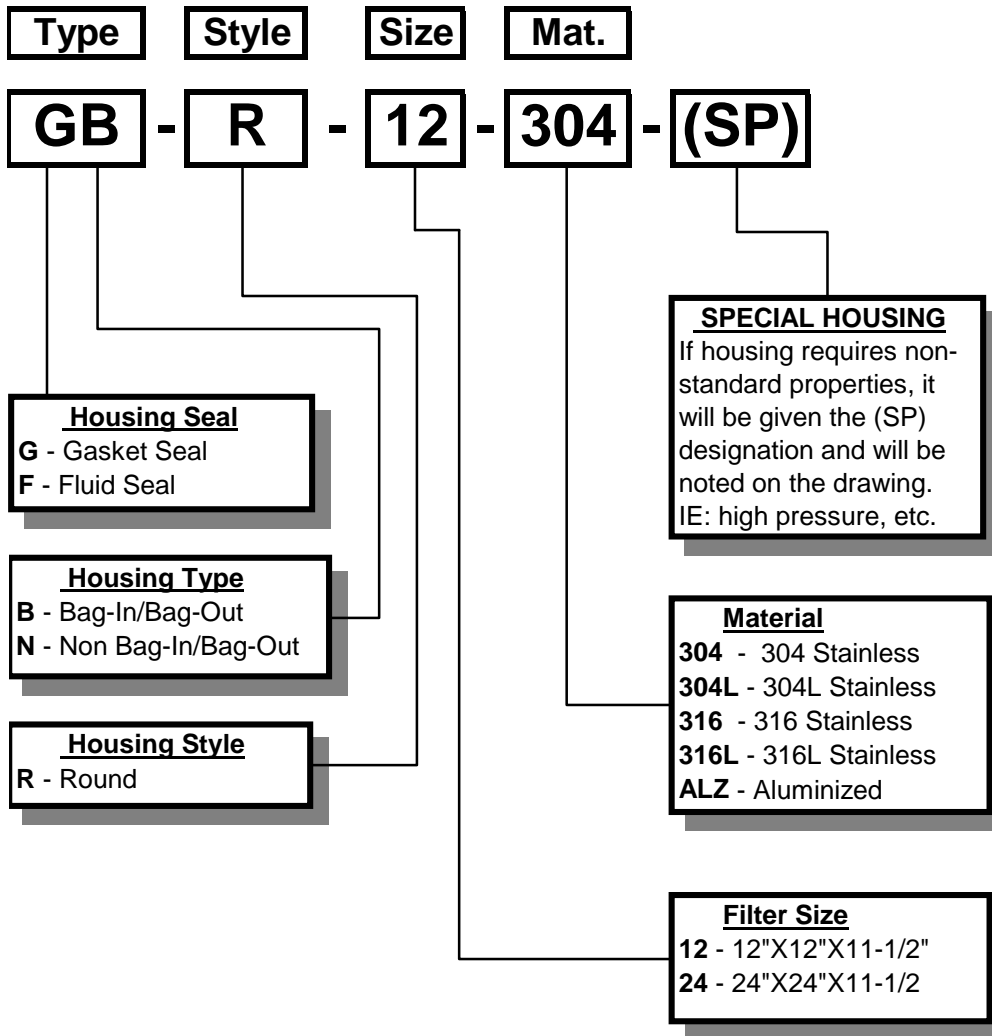
Housing Width
05W - 1/2 Wide
10W - 1 Wide
15W - 1-1/2 Wide
20W - 2 Wide
25W - 2-1/2 Wide
30W - 3 Wide

Housing Height
05H - 1/2 High
10H - 1 High
15H - 1-1/2 High
20H - 2 High
25H - 2-1/2 High
30H - 3 High

Prefilter Containment Housings



Round Containment Housings



BAG IN/BAG OUT HEPA FILTER SECTION ONLY

HEIGHT CODE	OVERALL HEIGHT (INCHES)	FILTERS WEIGHT LBS	WIDTH CODE							
			OVERALL WIDTH (INCHES)							
			15	27	39	51	63	75	87	102
			05W	10W	15W	20W	25W	30W	35W	40W
05H	17-3/4	Filters Weight	1D 176	1C 185	1C,1D	2C	2C,1D	3C	3C,1D	4C
10H	29-3/4	Filters Weight	1B 170	1A 204	1A,1B 257	2A 309	2A,1B 358	3A 407	3A,1B 566	4A 618
15H	47-1/2	Filters Weight	1B,1D	1A,1C 389	1A,1B,1C,1D 426	2A,2C 464	2A,1B,2C,1D 537	3A,3C 611	3A,1B,3C,1D 890	4A,4C 928
20H	59-1/2	Filters Weight	2B 362	2A 545	2A,2B 618	4A 716	4A,2B 814	6A 1,163	6A,2B 1,236	8A 1,236
25H	77-1/2	Filters Weight	2B,1D 487	2A,1C 630	2A,2B,1C,1D 773	4A,2C 896	4A,2B,2C,1D 1,018	6A,3C 1,403	6A,2B,3C,1D 1,403	8A,4C 1,546
30H	89-1/4	Filters Weight	3B 612	3A 770	3A,3B 927	6A 1,074	6A,3B 1,221	9A 1,697	9A,3B 1,854	12A 1,854
35H	107	Filters Weight	3B,1D 714	3A,1C 898	3A,3B,1C,1D 1,082	6A,2B 1,253	6A,3B,2C,1D 1,425	9A,3C 1,980	9A,3B,3C,1D 1,980	12A,4C 2,164
40H	119	Filters Weight	4B 816	4A 1,026	4A,4B 1,236	8A 1,432	8A,4B 1,628	12A 2,262	12A,4B 2,472	16A 2,472

A = 24 X 24" Actual Sized Filter
B = 24 X 12" Actual Sized Filter
C = 12 X 24" Actual Sized Filter
D = 12 X 12" Actual Sized Filter

BAG IN/BAG OUT PREFILTER & HEPA FILTER SECTION

HEIGHT CODE	OVERALL HEIGHT (INCHES)	FILTERS WEIGHT LBS	WIDTH CODE							
			OVERALL WIDTH (INCHES)							
			15	27	39	51	63	75	87	102
			05W	10W	15W	20W	25W	30W	35W	40W
05H	17-3/4	Filters Weight	1D 215	1C 248	1C,1D	2C	2C,1D	3C	3C,1D	4C
10H	29-3/4	Filters Weight	1B 248	1A 292	1A,1B 364	2A 436	2A,1B 504	3A 572	3A,1B 722	4A 872
15H	47-1/2	Filters Weight	1B,1D	1A,1C 338	1A,1B,1C,1D 496	2A,2C 654	2A,1B,2C,1D 756	3A,3C 858	3A,1B,3C,1D 1,083	4A,4C 1,308
20H	59-1/2	Filters Weight	2B 584	2A 728	2A,2B 872	4A 1,008	4A,2B 1,144	6A 1,444	6A,2B 1,744	8A 1,744
25H	77-1/2	Filters Weight	2B,1D 730	2A,1C 910	2A,2B,1C,1D 1,090	4A,2C 1,260	4A,2B,2C,1D 1,430	6A,3C 1,805	6A,2B,3C,1D 2,180	8A,4C 2,180
30H	89-1/4	Filters Weight	3B 876	3A 1,092	3A,3B 1,308	6A 1,512	6A,3B 1,716	9A 2,166	9A,3B 2,616	12A 2,616
35H	107	Filters Weight	3B,1D 1,022	3A,1C 1,274	3A,3B,1C,1D 1,526	6A,2B 1,764	6A,3B,2C,1D 2,002	9A,3C 2,527	9A,3B,3C,1D 3,052	12A,4C 3,052
40H	119	Filters Weight	4B 1,168	4A 1,456	4A,4B 1,744	8A 2,016	8A,4B 2,288	12A 2,888	12A,4B 3,488	16A 3,488

A = 24 X 24" Actual Sized Filter
B = 24 X 12" Actual Sized Filter
C = 12 X 24" Actual Sized Filter
D = 12 X 12" Actual Sized Filter

1. Units over 3H require flat bed trucking
2. Units over 3W may require flat bed trucking

OVERVIEW

The test section housings are permanent housings designed to work in conjunction with P&G Manufacturing's containment housings. These units are designed to validate individual filter efficiency. Test sections are an all welded product designed for critical clean air applications.



Depending on end user requirements, a variety of prefilter, test inlet/outlet and isokinetic scan sections are incorporated into the filter train. Housings may be joined in series or parallel. The all stainless steel units allow an unencumbered airflow through the upstream and downstream openings.

UPSTREAM TEST SECTION WITH AND WITHOUT SWING AWAY DIFFUSER

The upstream test section is used when individual filter efficiency testing is required versus the overall system. The upstream test section is used to inject an aerosol challenge via spider nozzles upstream of the specific HEPA filter and or carbon adsorber. The aerosol challenge is then uniformly dispersed through a diffuser, which is either fixed or swings away when not in use per the end user's operating criteria. Samples of the aerosol are taken upstream of the HEPA filter and penetration levels are determined. The test section can be incorporated with and without prefilter sections. Please contact the factory for any technical information required.

ISOKINETIC SCAN SECTION

The isokinetic scan section is used to scan HEPA filters and is located directly downstream of the HEPA filter. The in-place test is conducted by removing the door of the housing and manipulating the isokinetic probe through a clear PVC bag. The probe travels along a grid as so samples can be taken of each segment of the filter to pinpoint any filter leakage. Upon finding the precise location of the filter leak, the end user has the option of either repairing the filter or replacing it.



TEST OUTLET SECTION

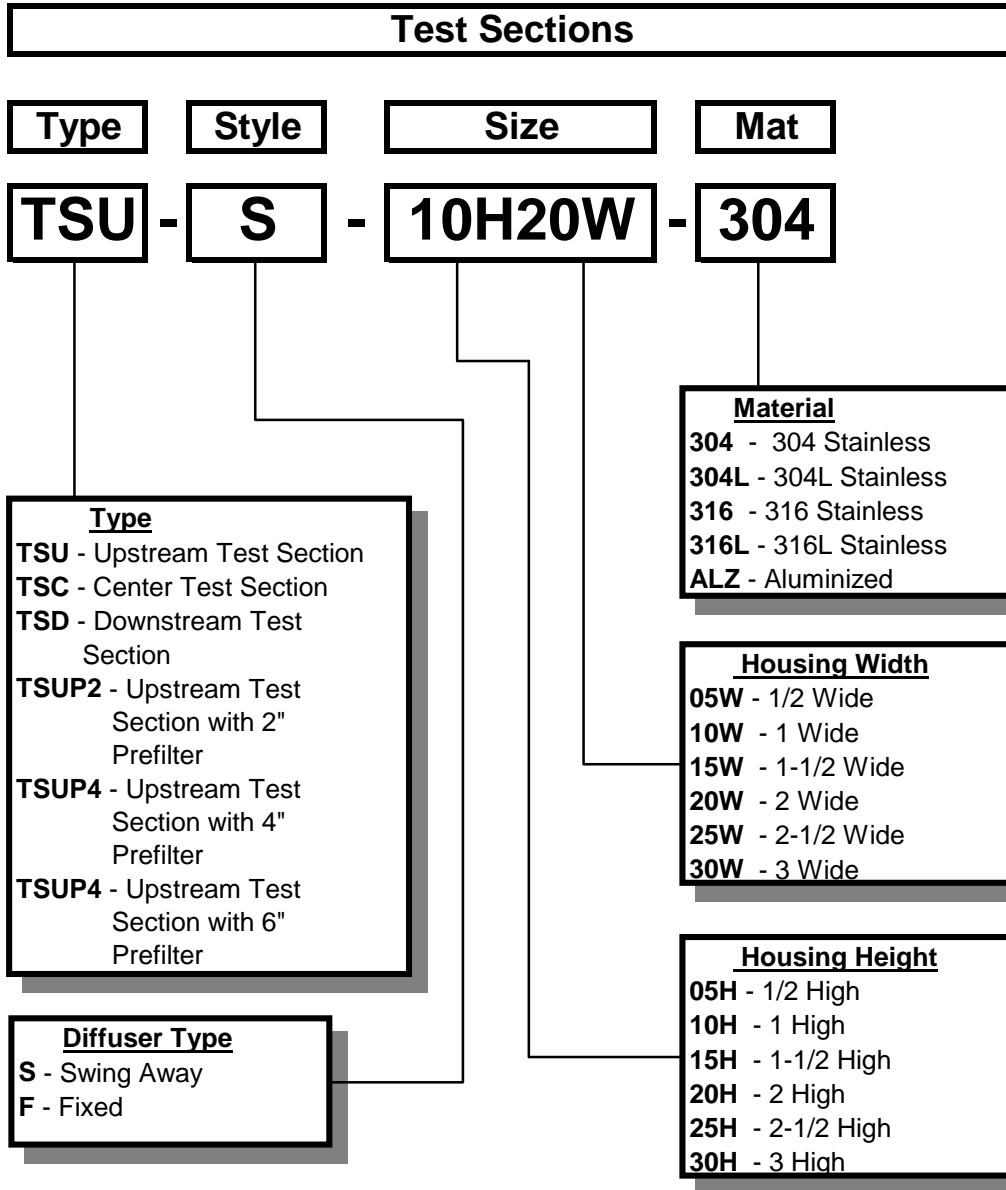
The test outlet section is located downstream of the HEPA filter or carbon adsorber. The test section samples the aerosol challenge injected upstream and is able to determine whether the filter passes the in-place efficiency test.

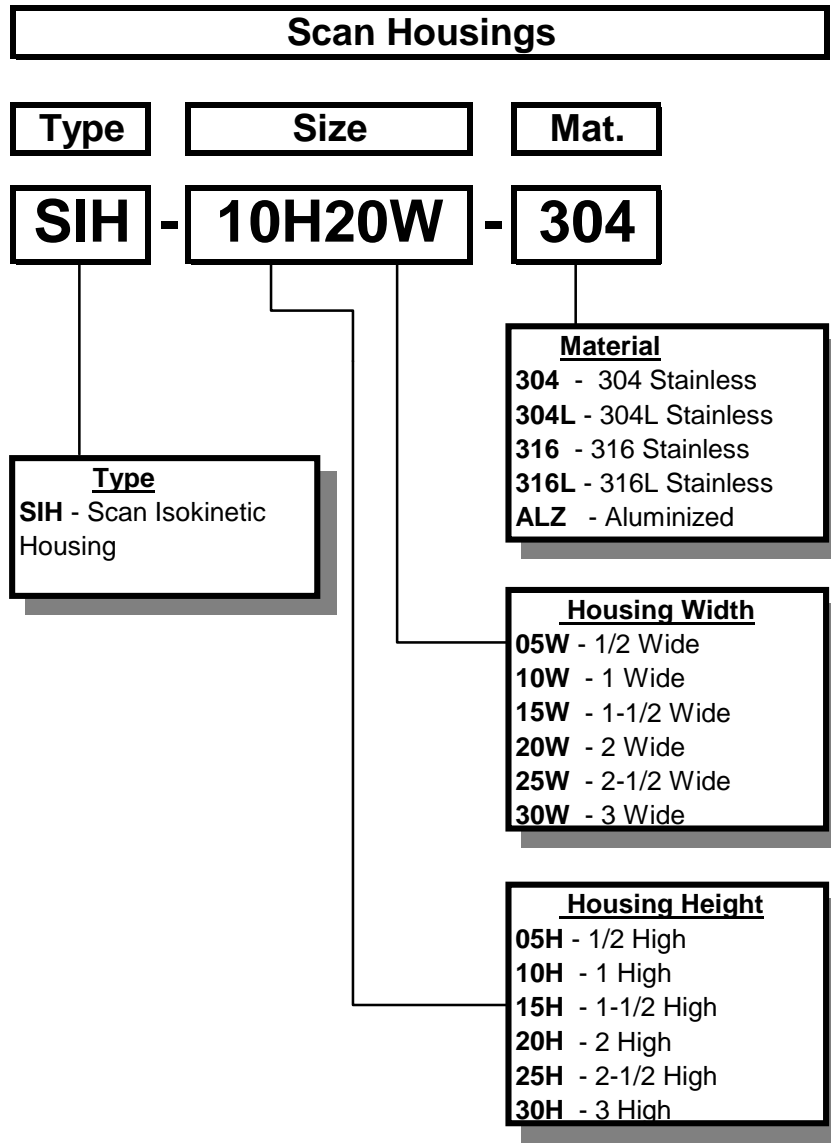
APPLICATION

PGM's test section filter housing is designed for and not limited to the following applications:

- Radiological Contamination
- Pharmaceutical and Biotechnological Clean Rooms
- Medical Device Clean Rooms
- Microelectronics
- Nanotechnology
- Hospital Suites
- Isolation Areas
- Nuclear







BAG IN / BAG OUT - SIDE LOAD ACCESS HOUSING

Submittal Data: <input type="checkbox"/> Request for Quote <input type="checkbox"/> Purchase Order P.O.# _____	Customer: _____	Requested Ship Date: _____
---	------------------------	-----------------------------------

P&G Model # _____	Height: _____	Width: _____	Qty: _____	Depth: <input type="checkbox"/> 24" Hepa only <input type="checkbox"/> 27" Single door <input type="checkbox"/> 29" Single door <input type="checkbox"/> 36-1/2" Standard 2 door
------------------------------	----------------------	---------------------	-------------------	--

12 & 14 Gauge Construction Material: Type: <input type="checkbox"/> Aluminized <input type="checkbox"/> 304 S.S. <input type="checkbox"/> 316 S.S. <input type="checkbox"/> L Grade	Door Location: <input type="checkbox"/> Right hand (Standard) <input type="checkbox"/> Left hand <input type="checkbox"/> Doors on both sides of unit
---	---

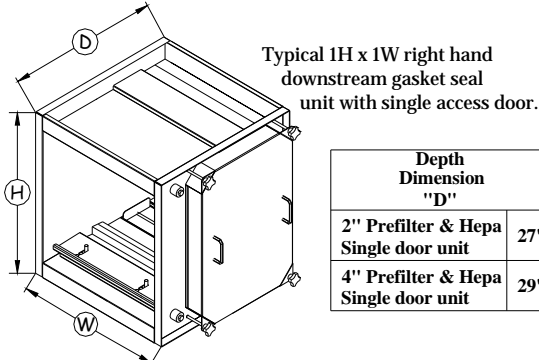
Filter Monitoring Pressure Ports: <input type="checkbox"/> No ports required <input type="checkbox"/> Overall System/Hepa only (2 ports) <input type="checkbox"/> Before, between and after all filters (3 ports)	Filter Requirements: <input type="checkbox"/> No prefilter required <input type="checkbox"/> 2" Prefilter <input type="checkbox"/> 4" Prefilter <input type="checkbox"/> 6" Prefilter (Standard 36-1/2" unit only)
--	--

Hepa Filter Seal: <input type="checkbox"/> Gasket seal <input type="checkbox"/> Fluid seal

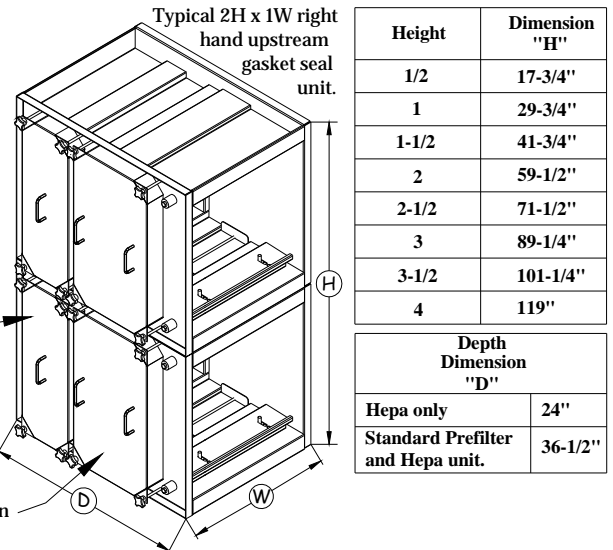
Filter Pressure Drop Surveillance Gages: Inch W.C. Prefilter: <input type="checkbox"/> Magnehelic 2002 <input type="checkbox"/> Photohelic 3002 Hepa Filter: <input type="checkbox"/> Magnehelic 2004 <input type="checkbox"/> Photohelic 3004 Overall System: <input type="checkbox"/> Magnehelic 2005 <input type="checkbox"/> Photohelic 3005 Other: <input type="checkbox"/> Gage type / Operating range: _____ / _____ <input type="checkbox"/> No gages required	Gage Installation / Location: <input type="checkbox"/> Field mount (Requires tubing kit and fittings) <input type="checkbox"/> Aluminum tubing kit with fittings <input type="checkbox"/> Tubing and fittings supplied by other <input type="checkbox"/> Factory mount (Copper tubing is standard) <input type="checkbox"/> Above right hand door <input type="checkbox"/> Above left hand door
--	---

Options and Adders: <input type="checkbox"/> Doublewall insulation <input type="checkbox"/> High temperature gasket (450F max) <input type="checkbox"/> Nema 4 gage box <input type="checkbox"/> Upward vertical air flow <input type="checkbox"/> Downward vertical air flow <input type="checkbox"/> Weather cover on topside of unit <input type="checkbox"/> Stainless steel gage tubing Aerosol Test Port 3/8"NPT: <input type="checkbox"/> 1 or <input type="checkbox"/> 2 <input type="checkbox"/> Upstream <input type="checkbox"/> Downstream <input type="checkbox"/> Weather Proof gage box Drilled Flanges: <input type="checkbox"/> Upstream <input type="checkbox"/> Downstream Lifting Lugs: <input type="checkbox"/> 2 or <input type="checkbox"/> 4 Transition: <input type="checkbox"/> Upstream <input type="checkbox"/> Downstream <input type="checkbox"/> Square collar: HxW _____x_____ <input type="checkbox"/> Round collar: ID _____ <input type="checkbox"/> Flange on collar

Housing dimensions are based upon 24" x 24" and 12" x 12" Actual Hepa Filter Sizes.
Contact Manufacturer for housing dimensions for different filter sizes.



Width	1/2	1	1-1/2	2	2-1/2	3	3-1/2	4
Dimension "W"	15"	27"	39"	51"	63"	75"	90"	102"



Approval Signature / Date: _____ / _____

P&G MANUFACTURING
 WASHINGTON N.C. 27889
 PHONE NO.: 252-946-9110
 FAX NO.: 252-946-4823
 www.pgmfg.com

1-1/2" Vertical flanges (upstream and downstream)
 4" Horizontal flanges upstream and 2-3/4" flanges downstream

2", 4", or 6" prefilter capability.

Notes and Special Instruction: _____

OVERVIEW

The Carbon filter/adsorber housing is a permanent multi stage unit designed to remove particulate and gas phase molecular contaminants. The molecular contamination unit accommodates either a 2" or 4" deep prefilter section as well as nominal ¾" carbon trays. Tray configuration is based on twelve trays per twenty-four inches of height. The air filter housing can accommodate multiple face style filters in a low-pressure drop.

This Carbon housing is fabricated out of galvanized steel-optional stainless steel. Corner gussets are added to strengthen the structure of the housing. Shelves within the unit are bolted in place in order to accommodate varying manufacturers filters. Each housing is custom made to meet specific end user requirements.

APPLICATION

P&G Manufacturing's Carbon side access filter housing is designed for and not limited to the following applications:

- Outside Air
- Industrial Plants- General Ventilation
- General Filtration Applications- Odor Removal

PERFORMANCE

The Carbon housing accommodates both different types and efficiencies of ASHRAE rated filters. See individual filter ASHRAE rating standards to determine specific efficiency. Particulate filters may range from 30-90%. See ASHRAE Standard 52.1 dust spot method.

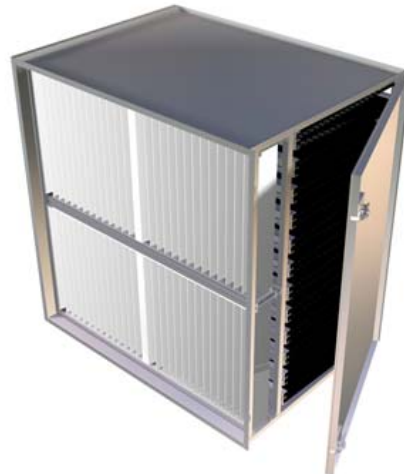
Positive tension door locks make filter servicing easy. Carbon trays are easily removable. Further, a gasketed door ensures positive sealing. When the housing is fully loaded and the door sealed properly, the housing efficiency is equal to that of the filters.

INSTALLATION

Factory installed flange is suitable for connection to either ductwork or air handling system. Housings are designed for both indoor and outdoor use. Per outdoor requirements, both stainless steel and weather covers are recommended.

CONSTRUCTION

- Housing is made from either G90 16 gauge galvanized steel or T304 stainless steel.
- Straight seams silicone caulked to prevent air leakage.
- Upstream corner gussets ensure rigidity of unit.
- Door(s) are filter angle gasketed in order ensure positive filter seal.
- Door latches and keepers are designed for field access and maintenance.



ADDERS

- Vertical Flow
- Double Wall Insulation
- Static Port(s)
- Custom and Drilled Flanges
- Photohelic Gauge
- Lifting Lugs
- Weather Cover
- Bottom Access
- DOP Port
- Magnehelic Gauge
- High Temperature Gasket
- Transitions

ASHRAE / CARBON SIDE ACCESS HOUSINGS

Type	Style	Size	Mat.
CSA1	- 401C	- 10H20W	- 304 - (SP)

Housing Type
CSA - Carbon Side Access

Doors
1 - One Access Door
2 - Two Access Doors, One Per Side

Note: Systems exceeding 3 1/2 filters wide will always have one door on each side of housing.

Prefilter Size
0 - No Prefilter
2 - 2" Prefilter
4 - 4" Prefilter

Final Filter Size
01C - 1" Deep Carbon Trays

12 Filters for every 1 High Section
X
of Filters Wide
=
Total # of Carbon Trays

SPECIAL HOUSING
If housing requires non-standard properties, it will be given the (SP) designation and will be noted on the drawing.
IE: Insulation, etc.

Material
304 - 304 Stainless
304L - 304L Stainless
316 - 316 Stainless
316L - 316L Stainless
ALZ - Aluminized
Galv - Galvanized

Housing Width
05W - 1/2 Wide
10W - 1 Wide
15W - 1-1/2 Wide
20W - 2 Wide
25W - 2-1/2 Wide
30W - 3 Wide

Housing Height
05H - 1/2 High
10H - 1 High
15H - 1-1/2 High
20H - 2 High
25H - 2-1/2 High
30H - 3 High

HEIGHT CODE	OVERALL HEIGHT (INCHES)	FILTERS WEIGHT LBS	WIDTH CODE							
			OVERALL WIDTH (INCHES)							
			14-1/4	26-1/8	37-1/2	49-1/2	60-7/8	72-7/8	84-1/4	96-1/4
			05W	10W	15W	20W	25W	30W	35W	40W
05H	14-7/8	Filters Weight	6D 65	6A 98	6A,6B 130	12A 163	12A,6B 195	18A 228	18A,6B 260	24A 293
10H	26-7/8	Filters Weight	12B 98	12A 130	12A,12B 163	24A 195	24A,12B 228	36A 260	36A,12B 293	48A 325
15H	39	Filters Weight	18B 130	18A 163	18A,18B 195	36A 228	36A,18B 260	54A 293	54A,18B 325	72A 357
20H	51	Filters Weight	24B 163	24A 195	24A,24B 228	48A 260	48A,24B 293	72A 325	72A,24B 358	96A 390
25H	63-1/8	Filters Weight	30B 195	30A 228	30A,30B 260	60A 293	60A,30B 325	90A 358	90A,30B 390	120A 423
30H	75-1/8	Filters Weight	36B 228	36A 260	36A,36B 293	72A 325	72A,36B 358	108A 390	108A,36B 423	144A 455
35H	87-1/4	Filters Weight	42B 260	42A 293	42A,42B 325	84A 358	84A,42B 390	126A 423	126A,42B 455	168A 488
40H	99-1/4	Filters Weight	48B 293	48A 325	48A,48B 358	96A 390	96A,48B 423	144A 455	144A,48B 488	192A 520

Weights are for galvanized steel

A = 24 X 24" Nominal Sized Filter

B = 24 X 12" Nominal Sized Filter

C = 12 X 24" Nominal Sized Filter

D = 12 X 12" Nominal Sized Filter

Carbon Side Access

General Notes:

1. Weight is approximate, does not include filters and may vary up to 25% due to crating materials or special features

CARBON - SIDE LOAD ACCESS HOUSING

Submittal Data: <input type="checkbox"/> Request for Quote <input type="checkbox"/> Purchase Order P.O.# _____	Customer: _____	Requested Ship Date: _____
---	------------------------	-----------------------------------

P&G Model # _____	Height: _____	Width: _____	Qty: _____	Depth: <input type="checkbox"/> 36" (Standard) <input type="checkbox"/> Special: _____
------------------------------	----------------------	---------------------	-------------------	--

16 Gauge Construction Material: Type: <input type="checkbox"/> Aluminized <input type="checkbox"/> Galvanized <input type="checkbox"/> 304 S.S. <input type="checkbox"/> 316 S.S. <input type="checkbox"/> L Grade	Door Location: <input type="checkbox"/> 2 Doors (Standard) <input type="checkbox"/> Right hand only <input type="checkbox"/> Left hand only
--	---

Filter Monitoring Pressure Ports: <input type="checkbox"/> No ports required <input type="checkbox"/> Overall System/Hepa only (2 ports) <input type="checkbox"/> Before, between and after all filters (3 ports)	Filter Requirements: <input type="checkbox"/> 2" Prefilter <input type="checkbox"/> 4" Prefilter <input type="checkbox"/> No prefilter required
--	---

Filter Pressure Drop Surveillance Gages: Inch W.C. Prefilter: <input type="checkbox"/> Magnehelic 2002 <input type="checkbox"/> Photohelic 3002 Final Filter:(Carbon) <input type="checkbox"/> Magnehelic 2004 <input type="checkbox"/> Photohelic 3004 Overall System: <input type="checkbox"/> Magnehelic 2005 <input type="checkbox"/> Photohelic 3005 Other: <input type="checkbox"/> Gage type / Operating range: _____ / _____ <input type="checkbox"/> No gages required	Gage Installation / Location: <input type="checkbox"/> Field mount (Requires tubing kit and fittings) <input type="checkbox"/> Aluminum tubing kit with fittings <input type="checkbox"/> Tubing and fittings supplied by other <input type="checkbox"/> Factory mount (Copper tubing is standard) <input type="checkbox"/> Above right hand door <input type="checkbox"/> Above left hand door
---	---

Options and Adders:	<input type="checkbox"/> Doublewall insulation	<input type="checkbox"/> High temperature gasket (450F max)	<input type="checkbox"/> Nema 4 gage box
<input type="checkbox"/> Upward vertical air flow	<input type="checkbox"/> Downward vertical air flow	<input type="checkbox"/> Weather cover on topside of unit	<input type="checkbox"/> Weather Proof gage box

Aerosol Test Port 3/8"NPT: <input type="checkbox"/> 1 or <input type="checkbox"/> 2 <input type="checkbox"/> Upstream <input type="checkbox"/> Downstream	Drilled Flanges: <input type="checkbox"/> Upstream <input type="checkbox"/> Downstream	Lifting Lugs: <input type="checkbox"/> 2 or <input type="checkbox"/> 4	Transition: <input type="checkbox"/> Upstream <input type="checkbox"/> Downstream <input type="checkbox"/> Square collar: HxW _____x_____ <input type="checkbox"/> Round collar: ID _____ <input type="checkbox"/> Flange on collar
--	---	---	--

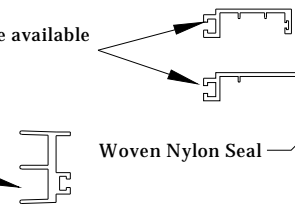
Housing dimensions are based upon 24" x 24" and 12" x 12" Nominal Filter Sizes.

Contact Manufacturer for housing dimensions for different filter sizes.

Aluminum Extrusion

Prefilter only tracks are available for 2" or 4" filters.

Carbon track is designed to hold 1" nominal deep filters.



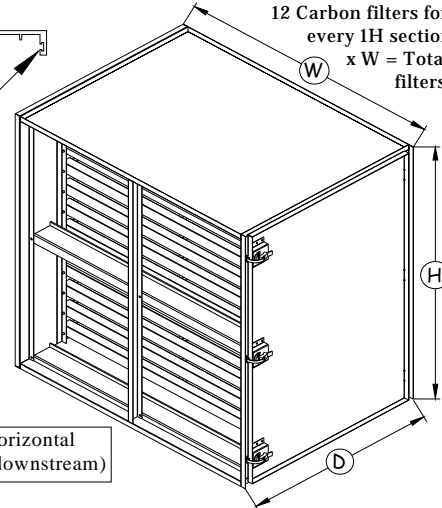
Woven Nylon Seal

Width	1/2	1	1-1/2	2	2-1/2	3	3-1/2	4
Dimension "W"	14-1/8"	26-1/8"	37-1/2"	49-1/2"	60-7/8"	72-7/8"	84-1/4"	96-1/4"

Height	Dimension "H"
1/2	14-7/8"
1	26-7/8"
1-1/2	39"
2	51"
2-1/2	63-1/8"
3	75-1/8"
3-1/2	87-1/4"
4	99-1/4"

Depth Dimension "D"	Maximum Prefilter Holding Capability
36"	2" or 4"
Special	Contact Manufacturer

12 Carbon filters for every 1H section x W = Total filters.



1-5/16" Vertical and Horizontal flanges (upstream and downstream)

Approval Signature / Date: _____ / _____

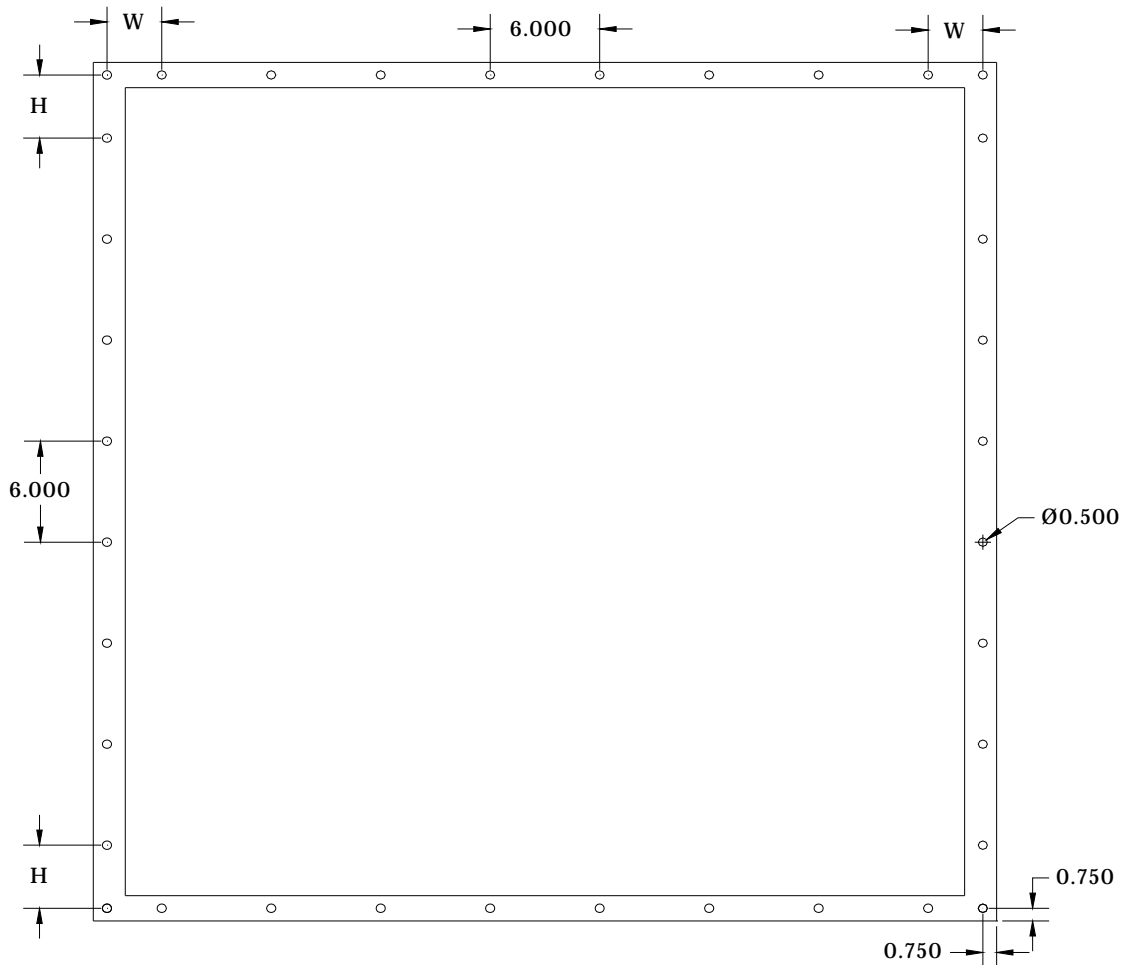
P&G MANUFACTURING
WASHINGTON N.C. 27889
 PHONE NO.: 252-946-9110
 FAX NO.: 252-946-4823
www.pgmgf.com

Notes and Special Instruction: _____

CARBON - SIDE LOAD ACCESS HOUSING

Bolt Hole Pattern		
Height or Width	Bolt Spacing "H"	Bolt Spacing "W"
1/2	3.687	3.313
1	3.687	3.313
1-1/2	3.748	3.000
2	3.748	3.000
2-1/2	3.801	2.688
3	3.801	2.688
3-1/2	3.863	2.375
4	3.863	2.375

All bolt hole spacings between points "H" and "W" are 6 inches on center.



Notes and Special Instruction: _____

FLAT BLADE ISOLATION DAMPERS

OVERVIEW

P&G Manufacturing's flat blade (isolation damper) creates a barrier between hazardous contaminants and the air filtration housing(s). It is cylindrical in shape and manufactured to withstand a minimum of 25" water gauge. The barrel of the damper has flanges seal welded to it at both the upstream and downstream ends. An actuator box is located on the middle exterior of the damper to facilitate opening and closing.

When the blade is in the horizontal position, the damper is open. Upon turning the actuator a quarter turn, the blade rotates 90 degrees and is perpendicular to the barrel of the damper. When the actuator is fully closed, a silicone gasket effects a positive seal with the barrel and shuts down the airflow.

Sizing is in two-inch increments starting with 6" and going to 50". Dampers above 36" in diameter require custom engineering. Standard dampers have a manual actuator with a ¼ turn worm gear. Output torque is contingent on damper size. Electric and pneumatic actuators are available as well as remote indicators; fail safe spring return and actuators having special contacts. Please contact factory with your specific end user requirements.

The damper shall not exceed a leakage rate of 0.029 cfm/inch of circumference of blade at 10" water gauge (low leak). A bubble tight option is also available. Testing is in accordance with ANSI/ASME-N510-1995 reaffirmed.

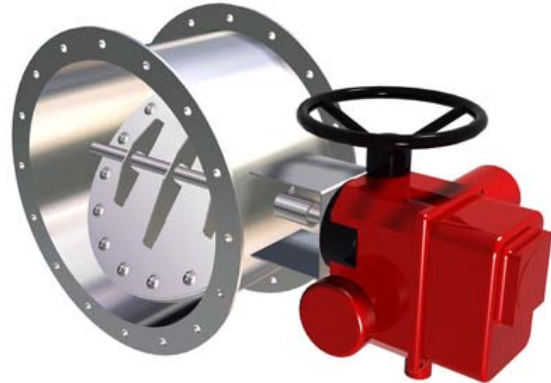
APPLICATION

P&G Manufacturing's low leak damper is designed as an airflow-balancing damper. Bubble tight dampers are designed for complete air system shutoff. Isolation dampers are not limited to the following applications:

- Radiological Contamination
- Pharmaceutical and Biotechnological Clean Rooms
- Medical Device Clean Rooms
- Microelectronics
- Nanotechnology
- Hospital Suites
- Isolation Areas

INSTALLATION

Factory installed flange is suitable for connection to either ductwork or transition. Bolt hole patterns are no more than 4" apart as recommended ERDA 76-21, "Nuclear Air Cleaning Handbook". Custom bolt hole patterns are also available per specific end user requirements.



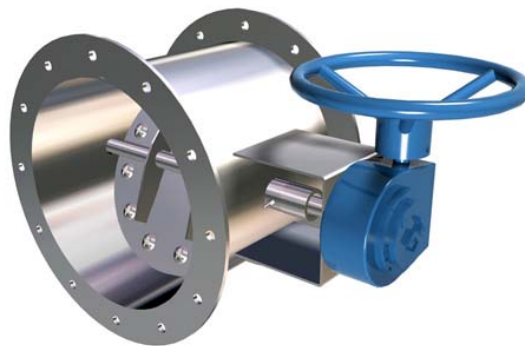
CONSTRUCTION

The barrel of the damper is constructed of 12 ga. T304 stainless steel and is seal welded in accordance with ASME Boiler and Pressure Vessel Code IX. All pressure retaining weld joints and seams are continuously welded. All welds and seams are wire brushed to remove heat discoloration, burrs and sharp edges.

The blade consists of two circular 16 ga. T304 stainless steel plates compressing a solid silicone gasket. The actuator bracket is either 12 ga or 1/4" T304 stainless steel depending on the actuator. Flanges are 3/16" thick and encompass standard bolt hole patterns. All components are 300 series stainless steel.

GASKET

As a standard 1/4" neoprene gasket is provided on the outer flanges. A 1/4" silicone can be provided as an option.



Flat Blade Dampers

Type

Style

Size

Mat.

DBT

M

12

304

(SP)

Damper Type

DBT - Bubble Tight Flat Blade
DLL - Low Leak Flat Blade

Actuator Type

M - Manual
P - Pneumatic
E - Electric

SPECIAL HOUSING

If housing requires non-standard properties, it will be given the (SP) designation and will be noted on the drawing.
IE: high pressure, square flanges, etc.

Material

304 - 304 Stainless
304L - 304L Stainless
316 - 316 Stainless
316L - 316L Stainless
ALZ - Aluminized

Damper Size

6 - 6"
8 - 8"
10 - 10"
12 - 12"
14 - 14"
16 - 16"
ETC.

FLAT BLADE DAMPER

Submittal Data: <input type="checkbox"/> Request for Quote <input type="checkbox"/> Purchase Order P.O.#	Customer:	Requested Ship Date:
---	------------------	-----------------------------

P&G Model #	Size:ID	Qty:	Actuator Requirements: <input type="checkbox"/> Manual (As shown) <input type="checkbox"/> Electric (Full open, Full close operation) <input type="checkbox"/> 1/60/110 VAC (Standard) <input type="checkbox"/> 1/60/220 VAC <input type="checkbox"/> 3/60/220-440 VAC <input type="checkbox"/> 1/60/24 VAC <input type="checkbox"/> 24 VDC Other Electric Requirements: _____ <input type="checkbox"/> Pneumatic (Full open, Full close operation) <input type="checkbox"/> 70 PSI <input type="checkbox"/> 80 PSI (Standard) <input type="checkbox"/> 90 PSI
7 & 12 Gauge Construction Material: Type: <input type="checkbox"/> 304 S.S. <input type="checkbox"/> 316 S.S. Stainless steel L-Grade: <input type="checkbox"/> No <input type="checkbox"/> Yes			
Leak Test Requirements: <input type="checkbox"/> Bubble tight <input type="checkbox"/> Low leak			

Testing Parameters Description: (Standard unless specified other)

Bubble tight: The damper blade shall be tested in the closed position at +10" w.g. and shall be tested to "Bubble tight" in accordance with ASME N510-1995 Reaffirmed, "Testing of Nuclear Air Cleaning Systems", (Visually inspected with no bubbles identified for 5 minutes). The complete damper pressure boundary shall be leak tested at +10" w.g. and have a maximum leak rate of .0005 cfm/ cubic foot of housing volume.

Low leak: The damper blade shall be tested in the closed position at +10" w.g. and shall be tested in accordance with ASME N510-1995 Reaffirmed, "Testing of Nuclear Air Cleaning Systems". The complete damper pressure boundary shall be leak tested at +10" w.g. and have a maximum leak rate of .0005 cfm/ cubic foot of housing volume.

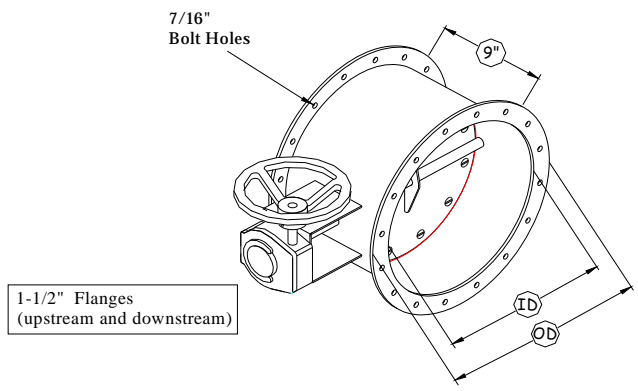
Other leak rate options (0.029 x blade circumference, or 0.2% of volume) and testing parameters are available upon request. Special leak rates should be discussed with the manufacturers sales rep.

Options and Adders :

Square Flange (Contact Manufacture for dimensions.)

Beacon Indicator (Visual display for open / closed readings.)

Spring Return Fail Open Fail Close



Inside Diameter	Outside Diameter	Bolt Hole Center	Number of Bolt Holes
6"	9"	7-1/2"	8
8"	11"	9-1/2"	8
10"	13"	11-1/2"	12
12"	15"	13-1/2"	12
14"	17"	15-1/2"	16
16"	19"	17-1/2"	16
18"	21"	19-1/2"	16
20"	23"	21-1/2"	20
22"	25"	23-1/2"	20
24"	27"	25-1/2"	20
26"	29"	27-1/2"	24
28"	31"	29-1/2"	24
30"	33"	31-1/2"	28
32"	35"	33-1/2"	28
34"	37"	35-1/2"	32
36"	39"	37-1/2"	32

Approval Signature / Date:
 _____ / _____

P&G MANUFACTURING
 WASHINGTON N.C. 27889
 PHONE NO.: 252-946-9110
 FAX NO.: 252-946-4823
 www.pgmg.com



Notes and Special Instruction: _____

DISH STYLE ISOLATION DAMPERS

OVERVIEW

P&G Manufacturing's dish style (isolation damper) creates a barrier between hazardous contaminants and the air filtration housing(s). It is rectangular in shape and manufactured to withstand a minimum of 10" water gauge. The dish on the damper has a knife-edge that seats against the sealing gasket. An actuator is located on the exterior of the damper to facilitate opening and closing.

When the dish is in the horizontal position, the damper is open. Upon turning the actuator a quarter turn, the dish rotates 90 degrees and is perpendicular to the opening of the damper. When the actuator is fully closed, the gasket effects a positive seal with the opening and shuts down the airflow.

Standard dampers have a manual actuator with a ¼ turn worm gear. Output torque is contingent on damper size. Electric and pneumatic actuators are available as well as remote indicators; fail safe spring return and actuators special contacts. Please contact factory with your specific end user requirements.

The damper shall not exceed a leakage rate of 0.029 cfm/inch of circumference of the dish at 10" water gauge (low leak). A bubble tight option is also available. Testing is in accordance with ANSI/ASME-N510-1995 reaffirmed.

APPLICATION

P&G Manufacturing's dish damper is designed as a shut off damper. Isolation dampers are not limited to the following applications:

- Radiological Contamination
- Pharmaceutical and Biotechnological Clean Rooms
- Medical Device Clean Rooms
- Microelectronics
- Nanotechnology
- Hospital Suites
- Isolation Areas

INSTALLATION

Factory installed flange is suitable for connection to either ductwork or transition. Bolt hole patterns are no more than 4" apart as recommended ERDA 76-21, "Nuclear Air Cleaning Handbook". Custom bolt hole patterns are also available per specific end user requirements.

CONSTRUCTION

The dish of the damper is constructed of 14 ga. T304 stainless steel and is seal welded in accordance with ASME Boiler and Pressure Vessel Code IX. All pressure retaining weld joints and seems are continuously welded. All welds and seems are wire brushed to remove heat discoloration, burrs and sharp edges.

The dish consists of one circular 14 ga spun dish. T304 stainless steel plates compressing a high-density closed cell neoprene gasket. The actuator bracket is either 12 ga or ¼" T304 stainless steel depending on the actuator. Flanges are 14 ga and encompass standard bolt hole patterns. All components are 300 series stainless steel.



Square Dish Dampers

Type	Style	Size	Mat.
DBTD	M	10H20W	304 - (SP)

Damper Type
DBTD - Bubble Tight Dish
DLLD - Low-Leak Dish

Actuator Type
M - Manual
P - Pneumatic
E - Electric

Damper Height
05H - 1/2 High
10H - 1 High
20H - 2 High
30H - 3 High

SPECIAL HOUSING
If housing requires non-standard properties, it will be given the (SP) designation and will be noted on the drawing. IE: high pressure, etc.

Material
304 - 304 Stainless
304L - 304L Stainless
316 - 316 Stainless
316L - 316L Stainless
ALZ - Aluminized

Damper Width
05W - 1/2 Wide
10W - 1 Wide
20W - 2 Wide
30W - 3 Wide

20" DISH ISOLATION DAMPER

Submittal Data: <input type="checkbox"/> Request for Quote <input type="checkbox"/> Purchase Order P.O.#	Customer:	Requested Ship Date:
--	-----------	----------------------

P&G Model #	Qty:	Actuator Requirements: <input type="checkbox"/> Manual (As shown) <input type="checkbox"/> Electric (Full open, Full close operation) <input type="checkbox"/> 1/60/110 VAC (Standard) <input type="checkbox"/> 1/60/220 VAC <input type="checkbox"/> 3/60/220-440 VAC <input type="checkbox"/> 1/60/24 VAC <input type="checkbox"/> 24 VDC Other Electric Requirements: _____ <input type="checkbox"/> Pneumatic (Full open, Full close operation) <input type="checkbox"/> 70 PSI <input type="checkbox"/> 80 PSI (Standard) <input type="checkbox"/> 90 PSI
12 & 14 Gauge Construction Material: Type: <input type="checkbox"/> 304 S.S. <input type="checkbox"/> 316 S.S. Stainless steel L-Grade: <input type="checkbox"/> No <input type="checkbox"/> Yes		
Actuator Location: <input type="checkbox"/> Right hand (Standard) <input type="checkbox"/> Left hand		

Testing Parameters Description: (Standard unless specified other)

Low leak: The damper blade shall be tested in the closed position at +10" w.g. and shall be tested in accordance with ASME N510-1995 Reaffirmed, "Testing of Nuclear Air Cleaning Systems". The complete damper pressure boundary shall be leak tested at +10" w.g. and have a maximum leak rate of .0005 cfm/ cubic foot of housing volume.

Other leak rate options and testing parameters are available upon request. Special leak rates should be discussed with the manufacturers sales rep.

Options and Adders :

Drilled flanges: Upstream Downstream
 Beacon indicator (Visual display for open / closed readings)
 Spring Return Fail Open Fail Close

Special drill patterns should be discussed with the manufacture.

1-1/2" Vertical flanges
2-3/4" Horizontal flanges
(upstream and downstream)

Width	1	2	3	4	5	6
Dimension "W"	27"	51"	75"	102"	126"	150"

Height	Dimension "H"
1	29-3/4"
2	59-1/2"
3	89-1/4"
4	119"

Depth Dimension "D"	
Standard	22"

Ø 20" Inlet

Approval Signature / Date:

_____ / _____

P&G MANUFACTURING
 WASHINGTON N.C. 27889
 PHONE NO.: 252-946-9110
 FAX NO.: 252-946-4823
 www.pgmfg.com

Notes and Special Instruction: _____

OVERVIEW

The Flat Bank air filter housing is a permanent housing designed to hold ASHRAE rated air filters. Standard filter sizes are 2" or 4" in depth. Housings are manufactured in 8-½" and 12" depths.

This housing is fabricated from galvanized steel or -optional T304 stainless steel and is welded together and or bolted together. The unit is one-piece construction with aluminum extrusion to hold the filters in place. Upstream corner gussets increase the rigidity of the unit. Each unit is manufactured to meet specific end user requirements.

An optional Demister configuration with pipes and drain assembly is also available.

APPLICATION

PGM's Flat Bank filter housing is designed for and not limited to the following applications:

- Air Handlers
- Industrial Plants
- HVAC Systems
- General Filtration Applications

PERFORMANCE

The Flat Bank housing accommodates different types and efficiencies of air filters. With 4" deep filters, the housing can operate at face velocities up to 625 FPM. See individual filter ASHRAE rating standards to determine filtration requirements.

Positive tension door locks make filter servicing easy. Further, a gasketed door ensures a positive seal. When the housing is fully loaded and the door sealed properly, the housing efficiency is equal to that of the filters. The unit is able to perform up to +/- 3" W.G.

INSTALLATION

Factory installed flange is suitable for connection to either ductwork or air handler system. The unit is perfect for installation where space limitations exist.

CONSTRUCTION

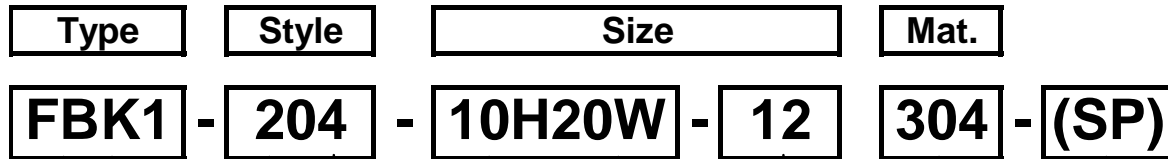
- Housing is constructed from either G90 16 gauge galvanized steel or - optional T304 stainless steel.
- Straight seams are silicone caulked to prevent air leakage.
- Upstream corner gussets ensure rigidity of unit.
- Door(s) are perimeter gasketed in order ensure a positive seal.
- Door latches and keepers are designed for simple access and maintenance.



ADDERS

- Vertical Flow Application
- Weather Cover
- Bottom Access
- Lifting Lugs
- Transitions
- Custom and Drilled Flanges
- Double Wall Insulation
- Static Port(s)
- Magnehelic Gauge

ASHRAE / FLAT BANK HOUSINGS



Housing Type
FBK - Flat Bank

Doors
1 - One Access Door
2 - Two Access Doors, One Per Side

Note: Systems exceeding 3 1/2 filters wide will always have one door on each side of housing.

First Stage Filter
2 - 2" Prefilter
4 - 4" Prefilter

Second Stage Filter
0 - No Filter
2 - 2" Prefilter
4 - 4" Prefilter

SPECIAL HOUSING
If housing requires non-standard properties, it will be given the (SP) designation and will be noted on the drawing. IE: Insulation, etc.

Material
304 - 304 Stainless
304L - 304L Stainless
316 - 316 Stainless
316L - 316L Stainless
ALZ - Aluminized
Galv - Galvanized

Housing Depth (In direction of airflow)
08 - 8-1/2"
12 - 12"

Housing Width
05W - 1/2 Wide
10W - 1 Wide
15W - 1-1/2 Wide
20W - 2 Wide
25W - 2-1/2 Wide
30W - 3 Wide

Housing Height
05H - 1/2 High
10H - 1 High
15H - 1-1/2 High
20H - 2 High
25H - 2-1/2 High
30H - 3 High

HEIGHT CODE	OVERALL HEIGHT (INCHES)	FILTERS WEIGHT LBS	WIDTH CODE							
			OVERALL WIDTH (INCHES)							
			14-1/4	26-1/8	37-1/2	49-1/2	60-7/8	72-7/8	84-1/4	96-1/4
			05W	10W	15W	20W	25W	30W	35W	40W
05H	14-7/8	Filters	1D	1C	1C,1D	2C	2C,1D	3C	3C,1D	4C
		Weight 8-1/2	18	27	36	50	67	85	107	115
		Weight 12	20	30	40	55	74	94	118	127
10H	26-7/8	Filters	1B	1A	1A,1B	2A	2A,1B	3A	3A,1B	4A
		Weight 8-1/2	29	38	45	51	70	72	78	86
		Weight 12	32	42	50	56	77	79	86	95
15H	39	Filters	1B,1D	1A,1C	1A,1B,1C,1D	2A,2C	2A,1B,2C,1D	3A,3C	3A,1B,3C,1D	4A,4C
		Weight 8-1/2	38	43	52	60	68	77	84	88
		Weight 12	42	47	57	66	75	85	92	97
20H	51	Filters	2B	2A	2A,2B	4A	4A,2B	6A	6A,2B	8A
		Weight 8-1/2	47	52	60	68	77	89	94	101
		Weight 12	52	57	66	75	85	98	103	111
25H	63-1/8	Filters	2B,1D	2A,1C	2A,2B,1C,1D	4A,2C	4A,2B,2C,1D	6A,3C	6A,2B,3C,1D	8A,4C
		Weight 8-1/2	54	59	69	76	83	93	100	109
		Weight 12	59	65	76	84	91	102	110	120
30H	75-1/8	Filters	3B	3A	3A,3B	6A	6A,3B	9A	9A,3B	12A
		Weight 8-1/2	61	69	77	85	92	100	109	117
		Weight 12	67	76	85	94	101	110	120	129
35H	87-1/4	Filters	3B,1D	3A,1C	3A,3B,1C,1D	6A,2B	6A,3B,2C,1D	9A,3C,1D	9A,3B,3C,1D	12A,4C
		Weight 8-1/2	69	77	86	94	102	111	122	130
		Weight 12	76	85	95	103	112	122	134	143
40H	99-1/4	Filters	4B	4A	4A,4B,1C,1D	8A	8A,4B	12A	12A,4B	16A
		Weight 8-1/2	79	88	94	101	112	121	134	142
		Weight 12	87	97	103	111	123	133	147	156

Weights are for galvanized steel

A = 24 X 24" Nominal Sized Filter

B = 24 X 12" Nominal Sized Filter

C = 12 X 24" Nominal Sized Filter

D = 12 X 12" Nominal Sized Filter

FLAT BANK

General Notes:

1. Weight is approximate, does not include filters and may vary up to 25% due to crating materials or special features

FLATBANK - SIDE LOAD ACCESS HOUSING

Submittal Data: <input type="checkbox"/> Request for Quote <input type="checkbox"/> Purchase Order P.O.# _____	Customer: _____	Requested Ship Date: _____
---	------------------------	-----------------------------------

P&G Model # _____	Height: _____	Width: _____	Qty: _____	Depth: <input type="checkbox"/> 8-1/2" <input type="checkbox"/> 12" <input type="checkbox"/> 16-1/2" <input type="checkbox"/> Special: _____
------------------------------	----------------------	---------------------	-------------------	--

16 Gauge Construction Material: Type: <input type="checkbox"/> Aluminized <input type="checkbox"/> Galvanized <input type="checkbox"/> 304 S.S. <input type="checkbox"/> 316 S.S. <input type="checkbox"/> L Grade	Door Location: <input type="checkbox"/> 2 Doors (Standard) <input type="checkbox"/> Right hand only <input type="checkbox"/> Left hand only <input type="checkbox"/> Bottom access
--	--

Filter Monitoring Pressure Ports: <input type="checkbox"/> No ports required <input type="checkbox"/> Overall System/Hepa only (2 ports) <input type="checkbox"/> Before, between and after all filters (3 ports)	Filter Requirements: Single-stage: <input type="checkbox"/> 2" Prefilter <input type="checkbox"/> 4" Prefilter Multi-stage: <input type="checkbox"/> 2" and 4"
--	---

Filter Pressure Drop Surveillance Gages: Inch W.C. Prefilter: <input type="checkbox"/> Magnehelic 2002 <input type="checkbox"/> Photohelic 3002 Final Filter:(multistage) <input type="checkbox"/> Magnehelic 2004 <input type="checkbox"/> Photohelic 3004 Overall System: <input type="checkbox"/> Magnehelic 2005 <input type="checkbox"/> Photohelic 3005 Other: <input type="checkbox"/> Gage type / Operating range: _____ / _____ <input type="checkbox"/> No gages required	Gage Installation / Location: <input type="checkbox"/> Field mount (Requires tubing kit and fittings) <input type="checkbox"/> Aluminum tubing kit with fittings <input type="checkbox"/> Tubing and fittings supplied by other <input type="checkbox"/> Factory mount (Copper tubing is standard) <input type="checkbox"/> Above right hand door <input type="checkbox"/> Above left hand door
---	--

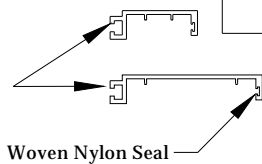
Options and Adders: <input type="checkbox"/> Doublewall insulation <input type="checkbox"/> High temperature gasket (450F max) <input type="checkbox"/> Nema 4 gage box <input type="checkbox"/> Upward vertical air flow <input type="checkbox"/> Downward vertical air flow <input type="checkbox"/> Weather cover on topside of unit <input type="checkbox"/> Weather Proof gage box Aerosol Test Port 3/8"NPT: <input type="checkbox"/> 1 or <input type="checkbox"/> 2 <input type="checkbox"/> Upstream <input type="checkbox"/> Downstream Drilled Flanges: <input type="checkbox"/> Upstream <input type="checkbox"/> Downstream Lifting Lugs: <input type="checkbox"/> 2 or <input type="checkbox"/> 4 Transition: <input type="checkbox"/> Upstream <input type="checkbox"/> Downstream <input type="checkbox"/> Square collar: HxW _____x_____ <input type="checkbox"/> Round collar: ID _____ <input type="checkbox"/> Flange on collar
--

Housing dimensions are based upon 24" x 24" and 12" x 12" Nominal Filter Sizes.

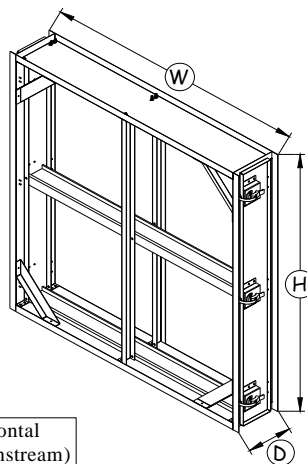
Contact Manufacturer for housing dimensions for different filter sizes.

Aluminum Extrusion

Aluminum prefilter only tracks are available for 2" or 4" filters.



Width	1/2	1	1-1/2	2	2-1/2	3	3-1/2	4
Dimension "W"	14-1/8"	26-1/8"	37-1/2"	49-1/2"	60-7/8"	72-7/8"	84-1/4"	96-1/4"



Height	Dimension "H"
1/2	14-7/8"
1	26-7/8"
1-1/2	39"
2	51"
2-1/2	63-1/8"
3	75-1/8"
3-1/2	87-1/4"
4	99-1/4"

Depth Dimension "D"	Maximum Prefilter Holding Capability
8-1/2"	2" or 4"
12"	2" & 4"
Special	Contact Manufacturer

1-5/16" Vertical and Horizontal flanges (upstream and downstream)

Approval Signature / Date: _____ / _____

P&G MANUFACTURING

WASHINGTON N.C. 27889
 PHONE NO.: 252-946-9110
 FAX NO.: 252-946-4823
www.pgmfg.com

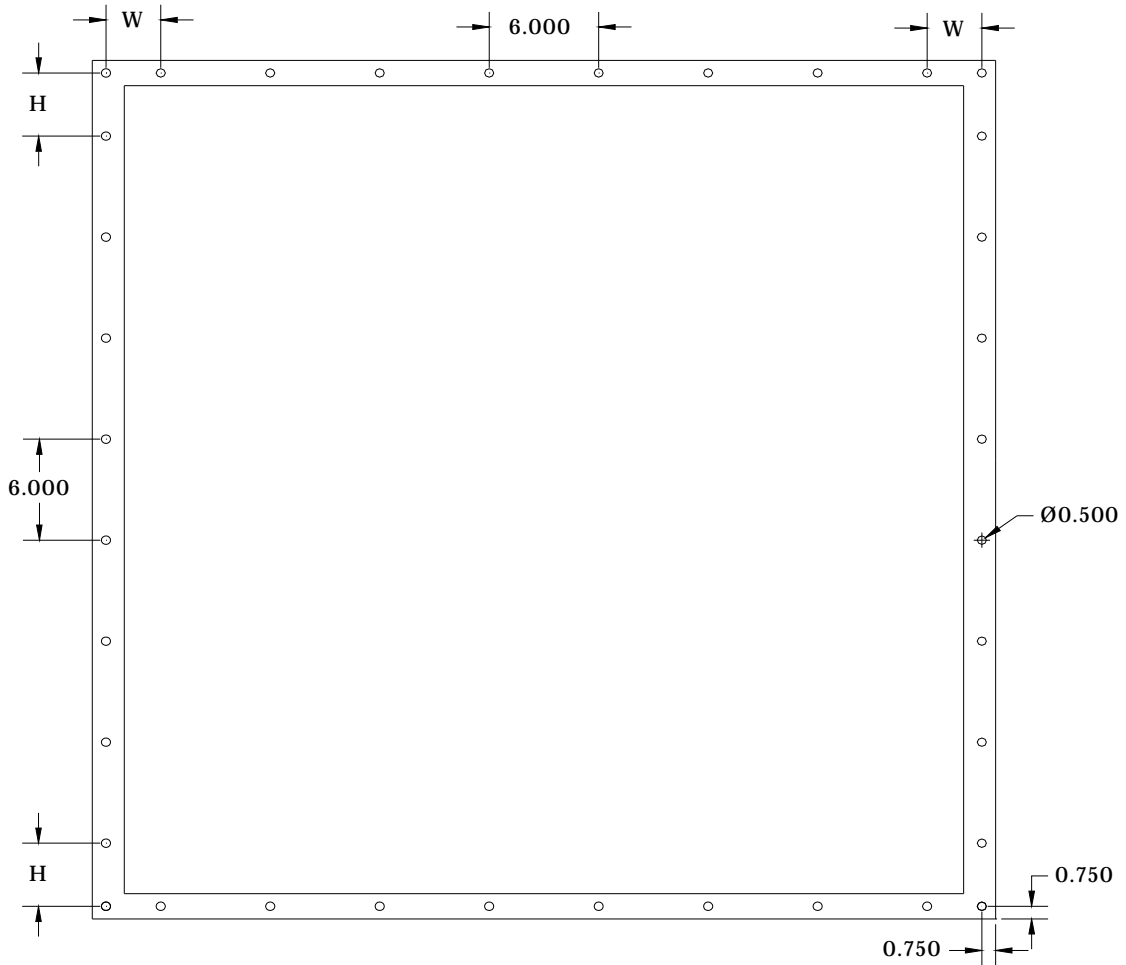


Notes and Special Instruction: _____

FLATBANK - SIDE LOAD ACCESS HOUSING

Bolt Hole Pattern		
Height or Width	Bolt Spacing "H"	Bolt Spacing "W"
1/2	3.687	3.313
1	3.687	3.313
1-1/2	3.748	3.000
2	3.748	3.000
2-1/2	3.801	2.688
3	3.801	2.688
3-1/2	3.863	2.375
4	3.863	2.375

All bolt hole spacings between points "H" and "W" are 6 inches on center.



Notes and Special Instruction: _____

OVERVIEW

The HEPA holding frame is a permanent holding frame for OEM assembly of built up HEPA/ULPA filter banks. Four individual holding arms lock the filter into place. Screw assemblies are included for the prefilter frame option. Frames are stacked into banks and held together with pop rivets or welded together. When properly assembled, the banks have the same efficiency as the filters installed in them.



The frames are constructed of either galvanized steel or -optional T304 stainless steel. All frames have the pressure boundary 100% seal welded. Depths vary from 3-3/4" to 15-3/8" deep depending on end user requirements.

APPLICATION

P&G Manufacturing's HEPA holding frame is designed for and not limited to the following applications:

- HVAC Systems
- Air Handlers
- Industrial Plants
- Food Industry
- Pharmaceutical
- Microelectronics
- Hospital
- Bio Medical



PERFORMANCE

The HEPA holding frame accommodates different HEPA and Ashrae filter efficiencies. Standard frames accommodate 24" X 24" X 11 1/2" deep HEPA filters with DOP efficiencies 95%, 99.97% or 99.99%/0.3 micron size particles. See filter manufacturer's individual filter efficiency requirements.

Gasket Seal

Gasket Seal holding frame is an all welded construction design with a sealing surface being part of the frame. The frame has lances that accommodate 4 (four) clips (one at each corner of the filter frame). The clips incorporate a bolt design. When the filter is installed, the clips are then attached via the lances on the frame and the bolts are then tightened. The filter is manipulated forward and is held in place. The ¼ inch gasket on the filter is mated to the sealing surface of the frame. This achieves 80% gasket compression and provides a dependable seal.



Fluid Seal

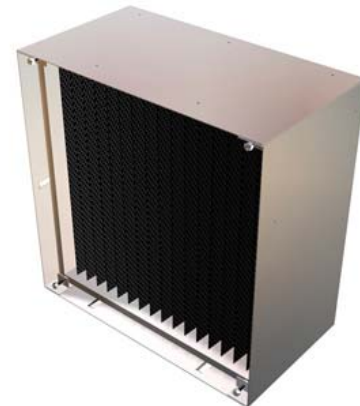
Fluid seal (as referred to as gel seal) is an all welded construction and incorporates a formed “knife-edge” as part of the frame. Each frame has lances for attaching 4 (four) clips at each corner of the filter frame and each clip incorporates a bolt design. With the fluid seal concept, there is a channel filled with gel, on the face of the filter. After the filter is installed inside the frame, the clips are then installed on the lances. The filter is manipulated forward and held in place by tightening the bolts that are part of the clips. The knife-edge is forced in the gel filled channel of the filter, providing a positive seal.

INSTALLATION

Each frame can be stacked on top of one another or side-by-side. Depending on the model of the frame, the units mate perfectly with one another due to the formed contours on the metal. Holes are provided in the frame as so they can be securely pop riveted together. For critical applications, it is recommended that the frames be seal welded in the factory to ensure that the seal is leak free.

CONSTRUCTION

- Housing is made from either G90 14-gauge galvanized steel or - optional T304 14-gauge stainless steel.
- Straight seams are seal welded.



OVERVIEW

The HEPA Side Access bolt lock air filter unit is a permanent housing designed to hold either gasket seal filters. It is an intermittently welded and caulked product designed for clean air applications.

The factory-assembled unit is of one-piece construction with a broken channel and no extrusion. Each housing is custom manufactured to meet specific end user requirements.

The unit is constructed of either galvanized steel or -optional T304 stainless steel and is welded together with no bolt connections. An optional pre-filter section is available to accommodate 2", 4" or 6" filters.

APPLICATION

P&G Manufacturing's HEPA Side Access bolt lock air filter housing is designed for and not limited to the following applications:

- HVAC Systems
- Air Handlers
- Industrial Plants
- Food Industry
- Pharmaceutical
- Microelectronics
- Hospital
- Bio Medical

PERFORMANCE

The HEPA Side Access air housing accommodates different HEPA and Ashrae filter efficiencies. Standard housings accommodate 24" X 24" X 11 ½" deep HEPA filters with DOP efficiencies 95%, 99.97% or 99.99%/0.3 micron size particles. See filter manufacturer's individual filter efficiency requirements.

Gasket Seal

The filter to housing gasket seal is effected by means of a continuous flat mounting surface on the downstream interior of the housing, which mates to a perimeter gasket on the filter. To affect the seal, four bolts are attached to each corner of the unit and tightened secure the filter(s) against the housing's perimeter mounting surface, compressing the gasket.

Door

Hand torqued doorknobs located on four stud bolts provide a positive pressure door-to-housing seal as well as ease filter servicing. The side access housing has doors on both ends. The doors are completely removable for ease of filter installation. When the housing is fully loaded and the door sealed properly, the housing efficiency is equal to that of the filter rating.

INSTALLATION

Factory installed flange is suitable for connection to either ductwork or air handler system.

CONSTRUCTION

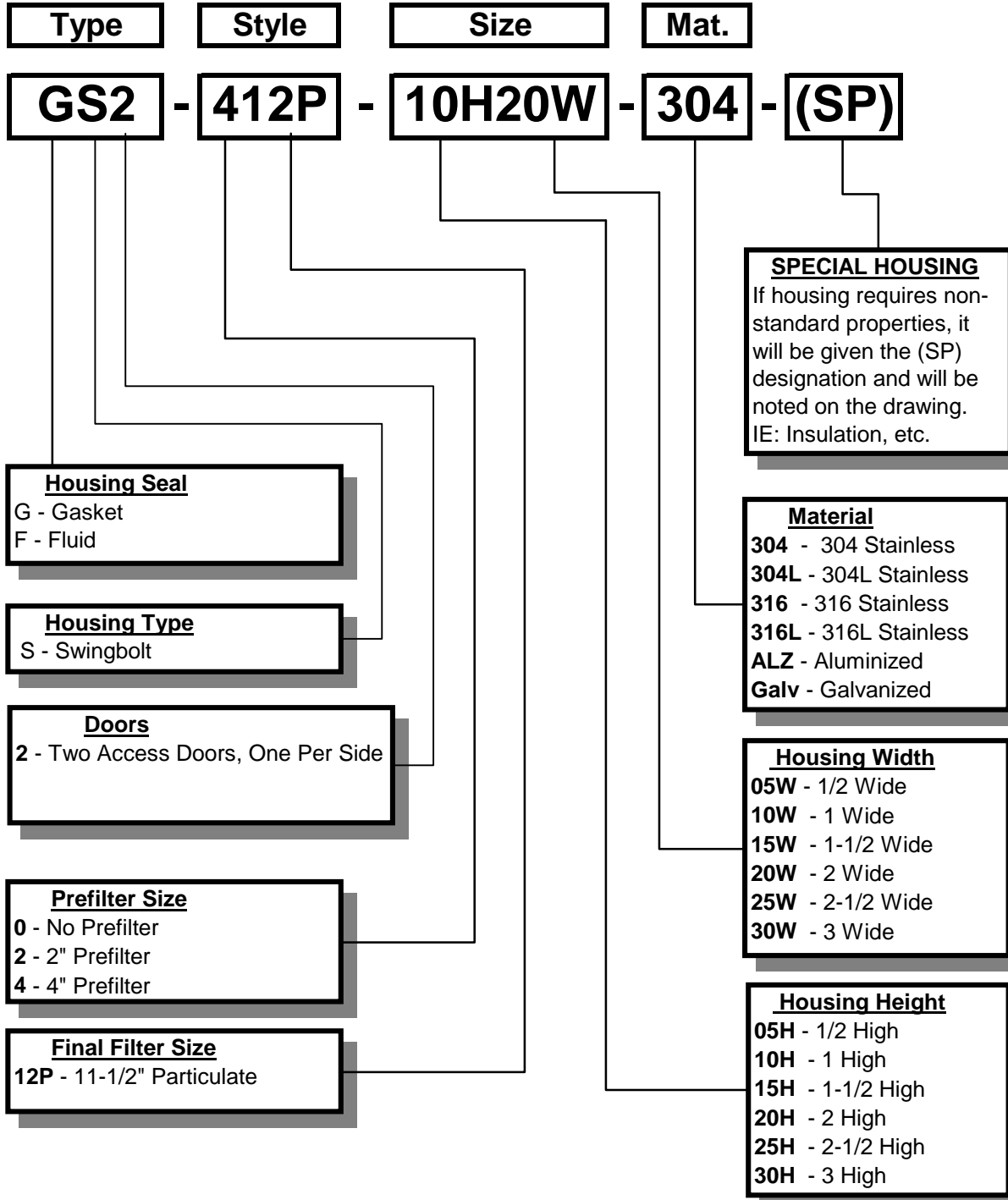
- Housing is made from either G90 14-gauge galvanized steel or -optional T304 14-gauge stainless steel.
- Door posts are made from either G90 12-gauge galvanized steel or optional T304 12-gauge stainless steel
- Straight seams are intermittently welded and silicone caulked to prevent air leakage.
- Door(s) are perimeter gasketed in order ensure positive filter seal.
- Doorknobs and keepers are designed for field access and maintenance.



ADDERS

- Vertical Flow
- Weather Cover
- Bottom Access
- DOP Port
- Photohelic Gauge
- Lifting Lugs
- Transitions
- Custom and Drilled Flanges
- Double Wall Insulation
- Static Port(s)
- Magnehelic Gauge
- High Temperature Gasket
- Seam Welding
- Special Sizes

HEPA SWINGBOLT HOUSINGS



HEIGHT CODE	OVERALL HEIGHT (INCHES)	FILTERS WEIGHT LBS	WIDTH CODE							
			OVERALL WIDTH (INCHES)							
			12-1/4	24-1/4	36-1/4	48-1/4	60-1/4	72-1/4	84-1/4	96-1/4
			05W	10W	15W	20W	25W	30W	35W	40W
05H	15-1/4	Filters Weight	1D 50	1C 75	100	125	150	175	200	225
10H	27-1/4	Filters Weight	1B 75	1A 100	1A,1B 125	2A 150	2A,1B 175	3A 200	3A,1B 225	4A 250
15H	39-3/4	Filters Weight	100	1A,1C 125	1A,1B,1C,1D 150	2A,2C 175	2A,1B,2C,1D 200	3A,3C 225	3A,1B,3C,1D 250	4A,4C 275
20H	51-3/4	Filters Weight	125	2A 150	2A,2B 175	4A 200	4A,2B 225	6A 250	6A,2B 275	8A 300
25H	64-1/4	Filters Weight	150	2A,1C 175	2A,2B,1C,1D 200	4A,2C 225	4A,2B,2C,1D 250	6A,3C 275	6A,2B,3C,1D 300	8A,4C 325
30H	76-1/4	Filters Weight	175	3A 200	3A,3B 225	6A 250	6A,3B 275	9A 300	9A,3B 325	12A 350
35H		Filters Weight	200	3A,1C 225	3A,3B,1C,1D 250	6A,2B 275	6A,3B,2C,1D 300	9A,3C,1D 325	9A,3B,3C,1D 350	12A,4C 375
40H		Filters Weight	225	4A 250	4A,4B,1C,1D 275	8A 300	8A,4B 325	12A 350	12A,4B 375	16A 400

Weights are for galvanized steel

A = 24 X 24" Nominal Sized Filter

B = 24 X 12" Nominal Sized Filter

C = 12 X 24" Nominal Sized Filter

D = 12 X 12" Nominal Sized Filter

HEPA Swing Bolt with and without Prefilter

General Notes:

1. Weight is approximate, does not include filters and may vary up to 25% due to crating materials or special features

BOLT LOCK HEPA - SIDE LOAD ACCESS HOUSING

Submittal Data: <input type="checkbox"/> Request for Quote <input type="checkbox"/> Purchase Order P.O.# _____	Customer: _____	Requested Ship Date: _____
---	------------------------	-----------------------------------

P&G Model # _____	Height: _____	Width: _____	Qty: _____	Depth: <input type="checkbox"/> 26-1/4" (Standard) <input type="checkbox"/> Special: _____
------------------------------	----------------------	---------------------	-------------------	--

14 Gauge Construction Material: Type: <input type="checkbox"/> Aluminized <input type="checkbox"/> Galvanized <input type="checkbox"/> 304 S.S. <input type="checkbox"/> 316 S.S. <input type="checkbox"/> L Grade	Door Location: <input type="checkbox"/> 2 Doors (Standard, required for filter change out)
Hepa Filter Seal: <input type="checkbox"/> Gasket seal <input type="checkbox"/> Fluid seal	

Filter Monitoring Pressure Ports: <input type="checkbox"/> No ports required <input type="checkbox"/> Overall System/Hepa only (2 ports) <input type="checkbox"/> Before, between and after all filters (3 ports)	Filter Requirements: <input type="checkbox"/> Hepa only <input type="checkbox"/> 2" Prefilter / Hepa <input type="checkbox"/> 4" Prefilter / Hepa
--	--

Filter Pressure Drop Surveillance Gages: Inch W.C. Prefilter: <input type="checkbox"/> Magnehelic 2002 <input type="checkbox"/> Photohelic 3002 Final Filter: <input type="checkbox"/> Magnehelic 2004 <input type="checkbox"/> Photohelic 3004 Overall System: <input type="checkbox"/> Magnehelic 2005 <input type="checkbox"/> Photohelic 3005 Other: <input type="checkbox"/> Gage type / Operating range: _____ / _____ <input type="checkbox"/> No gages required	Gage Installation / Location: <input type="checkbox"/> Field mount (Requires tubing kit and fittings) <input type="checkbox"/> Aluminum tubing kit with fittings <input type="checkbox"/> Tubing and fittings supplied by other <input type="checkbox"/> Factory mount (Copper tubing is standard) <input type="checkbox"/> Above right hand door <input type="checkbox"/> Above left hand door
---	---

Options and Adders: <input type="checkbox"/> Doublewall insulation <input type="checkbox"/> High temperature gasket (450F max) <input type="checkbox"/> Nema 4 gage box <input type="checkbox"/> Weather cover on topside of unit <input type="checkbox"/> Weather Proof gage box	Aerosol Test Port 3/8"NPT: <input type="checkbox"/> 1 or <input type="checkbox"/> 2 <input type="checkbox"/> Upstream <input type="checkbox"/> Downstream	Drilled Flanges: <input type="checkbox"/> Upstream <input type="checkbox"/> Downstream Lifting Lugs: <input type="checkbox"/> 2 or <input type="checkbox"/> 4
Transition: <input type="checkbox"/> Upstream <input type="checkbox"/> Downstream <input type="checkbox"/> Square collar: HxW _____x_____ <input type="checkbox"/> Round collar: ID _____ <input type="checkbox"/> Flange on collar		

Housing dimensions are based upon 24" x 24" and 12" x 12" Actual Hepa Filter Sizes.

Contact Manufacturer for housing dimensions for different filter sizes.

Formed 14ga. material

Prefilter only tracks are available for 2" or 4" filters.

Width	1/2	1	1-1/2	2	2-1/2	3	3-1/2	4
Dimension "W"	14-1/4"	26-1/4"	39-1/2"	51-1/2"	64-3/4"	76-3/4"	90"	102"

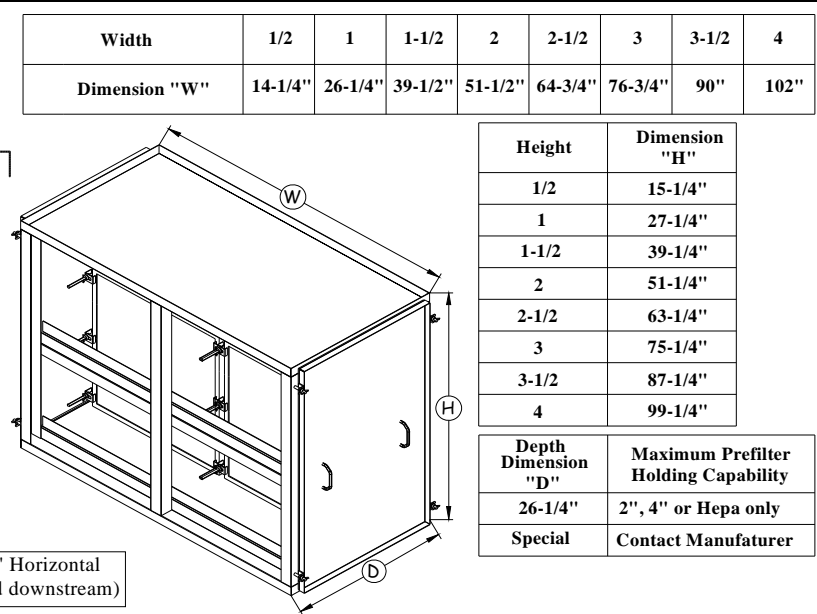
Height	Dimension "H"
1/2	15-1/4"
1	27-1/4"
1-1/2	39-1/4"
2	51-1/4"
2-1/2	63-1/4"
3	75-1/4"
3-1/2	87-1/4"
4	99-1/4"

Approval Signature / Date: _____ / _____

P&G MANUFACTURING
 WASHINGTON N.C. 27889
 PHONE NO.: 252-946-9110
 FAX NO.: 252-946-4823
 www.pgmfg.com

2" Vertical and 1-1/2" Horizontal flanges (upstream and downstream)

Notes and Special Instruction: _____



Height	Dimension "H"
1/2	15-1/4"
1	27-1/4"
1-1/2	39-1/4"
2	51-1/4"
2-1/2	63-1/4"
3	75-1/4"
3-1/2	87-1/4"
4	99-1/4"

Depth Dimension "D"	Maximum Prefilter Holding Capability
26-1/4"	2", 4" or Hepa only
Special	Contact Manufacturer

OVERVIEW

The replaceable terminal ceiling filter module (RTM) is a permanent high efficiency unit designed to accommodate gel seal HEPA or ULPA filters. Nominal unit sizes are 24"W X 24"L X 9"D and 24"W X 48"L X 9"D. The unit is manufactured using mill finish aluminum or -optional T304 stainless steel. Standard features are top inlet collar (10" or 12" diameter), diffuser/damper, stainless steel removable face grille and static pressure port. Each unit is subjected to a factory 4-inch positive pressure W.G. leak test. Custom designed units are available for specific requirements.

APPLICATION

PGM's replaceable terminal ceiling filter modules are designed for and not limited to the following applications:

- Laminar Flow and Clean Room Facilities
- Pharmaceutical and Biomedical Clean Rooms
- Medical Devices
- Microelectronics
- Nanotechnology
- Surgical Suites
- Neonatal Care
- Food Processing



PERFORMANCE

A butterfly damper is provided for room side adjustment of airflow into the plenum. The damper is manually adjusted with a flat head screwdriver from the clean room ceiling area.

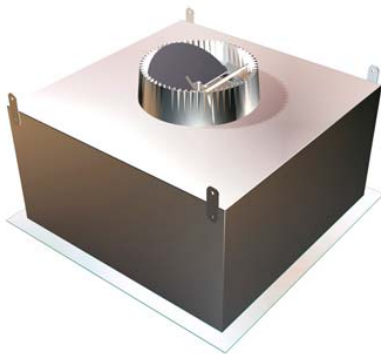
Airflow is distributed evenly over the face of the filter by a perforated diffuser plate located inside the module below the inlet/collar (units with the aerosol pipe option have a solid diffuser plate). Static pressure is measured through a separate static pressure port. An optional aerosol port can be provided for the injection of an aerosol agent to challenge the filter after installation in the RTM.

INSTALLATION

The RTM's are designed to fit into T-bar gasket ceiling grid system, gel-seal ceiling grid system or a solid ceiling system. A continuous perimeter knife-edge-inside the module allows a positive seal between the unit and the gel of the HEPA or ULPA filter. Room side access allows filters to be easily installed and sealed into place with aluminum or -optional T304 stainless steel retainer tabs. Retainer tabs are secured by four threaded stainless steel studs and capped with stainless steel acorn nuts. The stainless steel perforated grille protects the filter media and assists laminar air dispersal. Hand tightened acorn nuts hold the grille in place.

CONSTRUCTION

- Module is manufactured from either 0.063 aluminum-optional- 16 gauge T304 stainless steel.
- Collar is manufactured from 0.040 aluminum-optional- 20 gauge T304 stainless steel. In addition, the collar is both crimped and dimpled in order to easily connect to flex duct.
- Diffuser is manufactured out of perforated aluminum. A solid aluminum diffuser plate is used when the aerosol pipe option is requested.
- Butterfly damper comes in 8", 10" or 12" diameters.



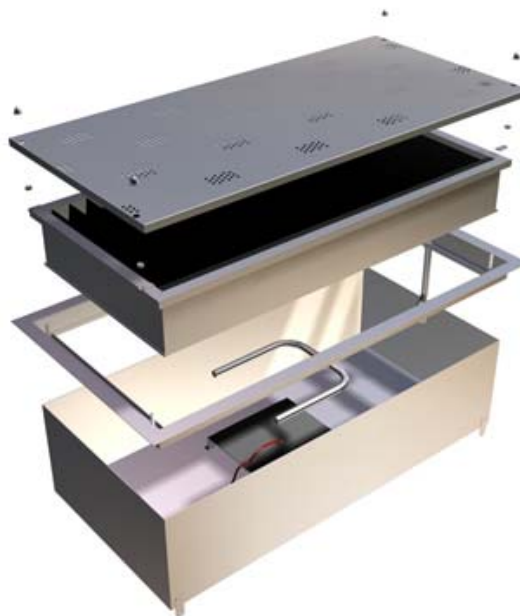
- Welding is performed on all seams in order to prevent air leakage. Silicone caulking is also applied to the seams.
- DOP Port is used inject upstream aerosol concentration during certification/ static pressure can also be measured.
- Perforated Stainless Steel Grille fits flush with housing and is removable. (22 gauge/40% open)

ADDERS

- Removable Stainless Steel Perimeter Trim
- Foil Back Insulation
- Hanging Tabs
- Horizontal Flow
- 2" Extended Stainless Steel Grille
- Aerosol Dispersion Quick Disconnect Coupling
- Aerosol Dispersion Nozzle
- Heavy Duty Butterfly Damper
- Side Inlet
- Non-standard Depth

PRODUCT SPECIFICATIONS

Model No.	Length	Width	Depth	Description
RTM1	23 5/8"	23 5/8"	9"	5/8" permanent perimeter flange
RTM2	23 5/8"	47 5/8"	9"	5/8" permanent perimeter flange
RTM3	25 3/8"	25 3/9"	9"	1 1/2 " removable trim or permanent
RTM4	25 3/8"	49 3/8"	9"	1 1/2 " removable trim or permanent



RTM MODULE

Type	Hood Dimensions (O.D. of Trim)		Depth	Trim	Inlet Location	Inlet Type	Damper	Insulation	Aerosol Dispersion	Filter Guides	Grille	Hanging Tabs	Mat.
RTM	23	47	12	1	TS	10R	B	2	1	1	1	1	304 - (SP)

Housing Type
RTM - Replaceable Terminal Module

Hood Dimensions (O.D. of Trim)
23 - 23 - 23 5/8" X 23 5/8" (5/8" Trim)
23 - 47 - 23 5/8" X 47 5/8" (5/8" Trim)
25 - 25 - 25 3/8" X 25 3/8" (1-1/2" Trim)
25 - 49 - 25 3/8" X 49 3/8" (1-1/2" Trim)

Hood Depth
9 - 9"
12 - 12"
14 - 14"

Trim Type
1 - 5/8" Permanent Trim (For T-Bar Grid)
2 - 5/8" Permanent Trim (Bolted in Place)
3 - 5/8" Removable Trim (Riveted in Place)
4 - 1-1/2" Permanent Trim (Bolted in Place)
5 - 1-1/2" Removable Trim (Riveted in Place)

Inlet Location
LS - Long Side
SS - Short Side
TS - Top Side

Damper Type
0 - None
B - Butterfly
D - Diffuser Plate Only
G - Guillotine

Inlet Connection
06R - 6" Ribbed
06S - 6" Swaged
08R - 8" Ribbed
08S - 8" Swaged
10R - 10" Ribbed
10S - 10" Swaged
12R - 12" Ribbed
12S - 12" Swaged
14R - 14" Ribbed
14S - 14" Swaged

Insulation
0 - None
1 - Top Only
2 - Top & Sides

Aerosol Dispersion
0 - No
1 - Yes (Plastic Standard Plug)
2 - Yes (Brass Plug)
3 - Yes (Quick Disconnect)

Filter Guide
0 - No
1 - Yes

Hanging Tabs
0 - No
1 - Yes

Grille
0 - None
1 - Flush SST w/ (4) Acorn Nuts
2 - 2" Extended SST w/ (4) Acorn Nuts
3 - Removable Hinged Grille w/ (2) Acorn Nuts on one side
4 - Permanent Hinged Grille w/ (2) Acorn Nuts on one side

Material
304 - 16GA 304 Stainless
304L - 16GA 304L Stainless
316 - 16GA 316 Stainless
316L - 16GA 316L Stainless
AL - .063 Aluminum

SPECIAL HOUSING
If housing requires non-standard properties, it will be given the (SP) designation and will be noted on the drawing.

RTM

Submittal Data: Request for Quote
 Purchase Order P.O.#

Customer:

Requested Ship Date:

P&G Model #

Size: 2 x 2 (Filter Dimension 21-3/4" x 20"OD)
 2 x 4 (Filter Dimension 21-3/4" x 44"OD)

Qty: _____

Qty: _____

Aluminum or Stainless Construction Material:

Type: 14ga Aluminum 16ga 304 S.S. 16ga 316 S.S.

Stainless steel L-Grade: No Yes

Depth: 9" (2" media pack)
 12" (2" or 4" media pack)
 14" (2", 4", or 6" media pack)

Insulation: None
 2" Foil Back

Damper / Inlet Size:

8" 10"
 12" 14"

Inlet Style:

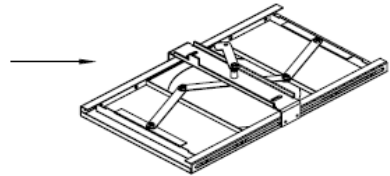
Ribbed 
 Swaged 

Aerosol Dispersion Pipe: (DOP)

Not required Yes Plastic (Standard) Brass Quick disconnect
If Yes type of plug:

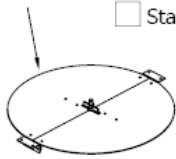
Damper Style:

Guillotine



Minimum 12" Depth

Butterfly



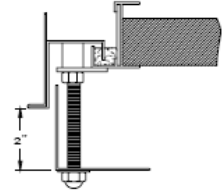
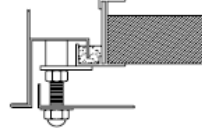
Standard duty (Aluminum construction)

Heavy duty (Stainless construction)

Face Guard / Grille Options:

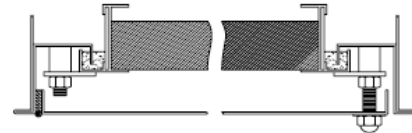
Flush with 4 Acorn nuts

2" Extended with 4 Acorn nuts



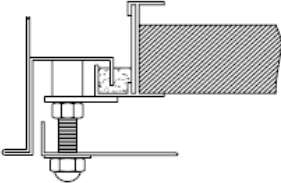
Permanent hinged grille with 2 Acorn nuts on one side.

Removable hinged grille with 2 Acorn nuts on one side.

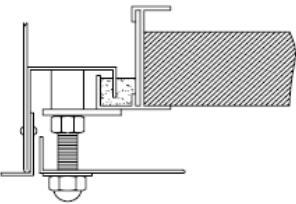


Trim Options:

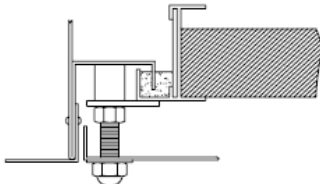
5/8" Trim for T-Bar grid (Trim is made in to hood body)



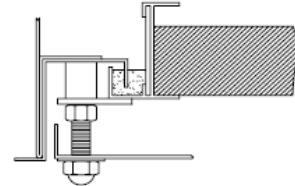
5/8" Removable trim (Trim is riveted by installer to body)



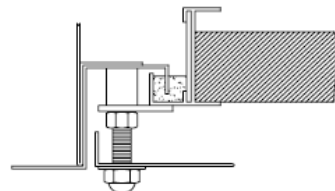
1-1/2" Removable trim (Trim is riveted by installer to body)



5/8" Permanent trim (Trim and knife edge is bolted to body by manufacturer)



1-1/2" Permanent trim (Trim and knife edge is bolted to body by manufacturer)

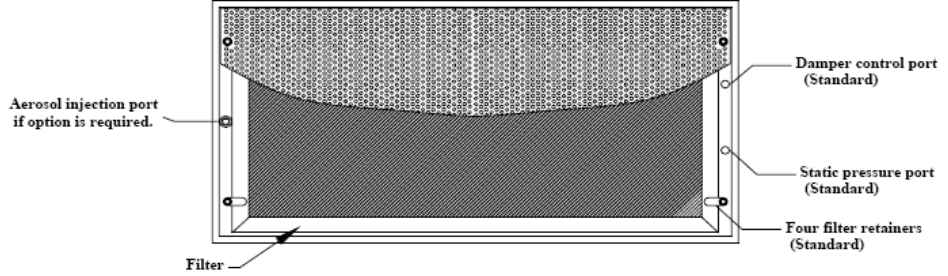
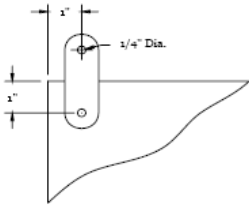


Notes and Special Instruction: _____

RTM

Hanging Tabs:

Not required Yes

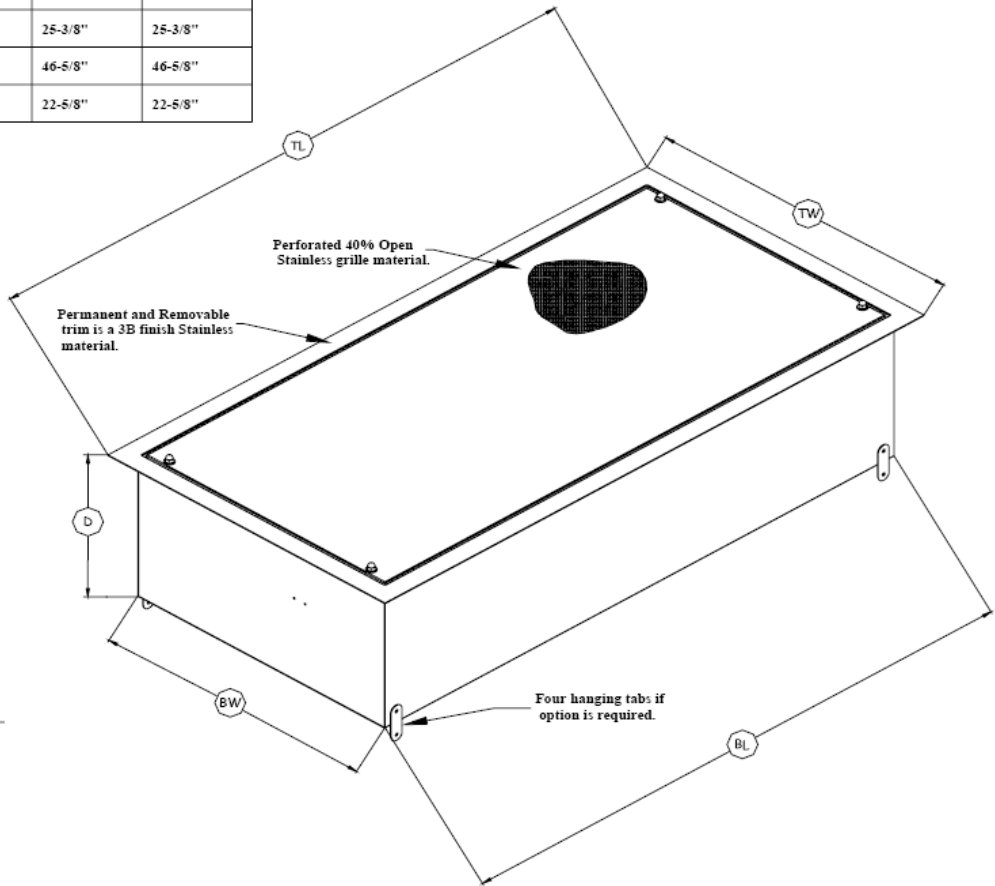


Room Side View and Port Location

The hood body shall be seal welded and caulked. The inlet shall be intermittently welded and caulked. The final assembly shall be tested per internal manufacturer procedure, PGM-502 Typical, assuring the unit assembly to be free of any leaks.

Item:	Units with 5/8" Trim		Units with 1-1/2" Trim	
	2 x 2	2 x 4	2 x 2	2 x 4
Trim Length (TL)	23-5/8"	47-5/8"	25-3/8"	49-3/8"
Trim Width (TW)	23-5/8"	23-5/8"	25-3/8"	25-3/8"
Body Length (BL)	46-5/8"	46-5/8"	46-5/8"	46-5/8"
Body Width (BW)	22-5/8"	22-5/8"	22-5/8"	22-5/8"

Depth Dimension "D"	
2" media pack	9"
2" or 4" media pack	12"
2", 4" or 6" media pack	14"



Approval Signature / Date: _____ / _____

P&G MANUFACTURING
 WASHINGTON N.C. 27889
 PHONE NO.: 252-946-9110
 FAX NO.: 252-946-4823
 www.pgmfg.com



Notes and Special Instruction: _____

OVERVIEW

The HEPA Side Access air filter unit is a permanent housing designed to hold either gasket or fluid seal filters. It is an all welded product designed for critical clean air applications.

The factory-assembled unit is of one-piece construction with a broken channel and no extrusion. Hat sections are located on the top, bottom and back of the unit for structural support. Each housing is custom manufactured to meet specific end user requirements.

The unit is constructed of either galvanized steel or -optional T304 stainless steel and is welded together with eliminating the need for bolted connections. An optional pre-filter section is available to accommodate 2" or 4" filters.

APPLICATION

P&G Manufacturing's HEPA Side Access air filter housing is designed for and not limited to the following applications:

- HVAC Systems
- Air Handlers
- Industrial Plants
- Food Industry
- Pharmaceutical
- Microelectronics
- Hospital
- Bio Medical

PERFORMANCE

The HEPA Side Access air housing accommodates different HEPA and Ashrae filter efficiencies. Standard housings accommodate 24" X 24" X 11 ½" deep HEPA filters with DOP efficiencies 95%, 99.97% or 99.99%/0.3 micron size particles. See filter manufacturer's individual filter efficiency requirements. Also, see manufacturer of in place testing validation and warranties.

Gasket Seal

The filter to housing gasket seal is effected by means of a continuous flat mounting surface on the interior of the housing, which mates to a perimeter gasket on the filter. To affect the seal, the bolt-activated top and bottom hand operated crank locking mechanisms secure the filter(s) against the housing's perimeter mounting surface, compressing the gasket.

Fluid Seal

The filter to housing gel seal is effected by means of a continuous perimeter knife-edge on the interior of the housing, which mates into the gel filled perimeter channel on the face of the filter to effect the seal. The hand operated locking mechanism guides and secures the filter into the knife-edge penetrating the gel and forming a positive seal on the filter face.

Door

Hand torqued door latches provide a positive pressure door to housing seal as well as ease filter servicing. A unique door hinge allows the door to either remain on its hinges or be completely removed when servicing filters. When the housing is fully loaded and the door sealed properly, the housing efficiency is equal to that of the filter rating.

INSTALLATION

Factory installed flange is suitable for connection to either ductwork or air handler system.

CONSTRUCTION

- Housing is made from either G90 14-gauge galvanized steel or -optional T304 14-gauge stainless steel.
- Locking trays are made from either G90 12-gauge galvanized steel or optional T304 12-gauge stainless steel
- Door posts are made from either G90 12-gauge galvanized steel or optional 304L 12-gauge stainless steel
- Straight seams are intermittently welded and silicone caulked to prevent air leakage.
- Door(s) are perimeter gasketed in order ensure positive filter seal.
- Doorknobs and keepers are designed for field access and maintenance.

ADDERS

- Vertical Flow
- Weather Cover
- Bottom Access
- DOP Port
- Photohelic Gauge
- Lifting Lugs
- Transitions
- Pressure testing via “lek tech”
- Custom and Drilled Flanges
- Double Wall Insulation
- Static Port(s)
- Magnehelic Gauge
- High Temperature Gasket
- Seam Welding
- Special Sizes
- Hinged door

HEPA SIDE ACCESS HOUSINGS

Type	Style	Size	Mat.
GH1	- 412P	- 10H20W	- 304 - (SP)

Housing Seal
G - Gasket
F - Fluid

Housing Type
H - Hepa Side Access

Doors
1 - One Access Door
2 - Two Access Doors, One Per Side

Note: Systems exceeding 3 1/2 filters wide will always have one door on each side of housing.

Prefilter Size
0 - No Prefilter
2 - 2" Prefilter
4 - 4" Prefilter

Final Filter Size
12P - 11-1/2" Particulate

SPECIAL HOUSING
If housing requires non-standard properties, it will be given the (SP) designation and will be noted on the drawing.
IE: Insulation, etc.

Material
304 - 304 Stainless
304L - 304L Stainless
316 - 316 Stainless
316L - 316L Stainless
ALZ - Aluminized
Galv - Galvanized

Housing Width
05W - 1/2 Wide
10W - 1 Wide
15W - 1-1/2 Wide
20W - 2 Wide
25W - 2-1/2 Wide
30W - 3 Wide

Housing Height
05H - 1/2 High
10H - 1 High
15H - 1-1/2 High
20H - 2 High
25H - 2-1/2 High
30H - 3 High

HEIGHT CODE	OVERALL HEIGHT (INCHES)	FILTERS WEIGHT LBS	WIDTH CODE							
			OVERALL WIDTH (INCHES)							
			12-1/4	24-1/4	36-1/4	48-1/4	60-1/4	72-1/4	84-1/4	96-1/4
			05W	10W	15W	20W	25W	30W	35W	40W
05H	15-1/4	Filters Weight	1D 38	1C 57	75	94	113	132	150	169
10H	27-1/4	Filters Weight	1B 56	1A 75	1A,1B 94	2A 113	2A,1B 132	3A 150	3A,1B 169	4A 188
15H	39-3/4	Filters Weight	75	1A,1C 94	1A,1B,1C,1D 113	2A,2C 132	2A,1B,2C,1D 150	3A,3C 169	3A,1B,3C,1D 188	4A,4C 206
20H	51-3/4	Filters Weight	94	2A 113	2A,2B 132	4A 150	4A,2B 169	6A 188	6A,2B 206	8A 225
25H	64-1/4	Filters Weight	113	2A,1C 132	2A,2B,1C,1D 150	4A,2C 169	4A,2B,2C,1D 189	6A,3C 206	6A,2B,3C,1D 225	8A,4C 244
30H	76-1/4	Filters Weight	136	3A 150	3A,3B 169	6A 188	6A,3B 206	9A 225	9A,3B 244	12A 263
35H		Filters Weight	150	3A,1C 169	3A,3B,1C,1D 188	6A,2B 206	6A,3B,2C,1D 225	9A,3C,1D 244	9A,3B,3C,1D 263	12A,4C 282
40H		Filters Weight	169	4A 188	4A,4B,1C,1D 206	8A 225	8A,4B 244	12A 263	12A,4B 281	16A 300

Weights are for galvanized steel

A = 24 X 24" Nominal Sized Filter

B = 24 X 12" Nominal Sized Filter

C = 12 X 24" Nominal Sized Filter

D = 12 X 12" Nominal Sized Filter

HEPA Side Access Without Prefilter

General Notes:

1. Weight is approximate, does not include filters and may vary up to 25% due to crating materials or special features

HEIGHT CODE	OVERALL HEIGHT (INCHES)	FILTERS WEIGHT LBS	WIDTH CODE							
			OVERALL WIDTH (INCHES)							
			12-1/4	24-1/4	36-1/4	48-1/4	60-1/4	72-1/4	84-1/4	96-1/4
			05W	10W	15W	20W	25W	30W	35W	40W
05H	15-1/4	Filters Weight	1D 60	1C 90	120	150	180	210	240	270
10H	27-1/4	Filters Weight	1B 90	1A 120	1A,1B 150	2A 180	2A,1B 210	3A 240	3A,1B 270	4A 300
15H	39-3/4	Filters Weight	120	1A,1C 150	1A,1B,1C,1D 180	2A,2C 210	2A,1B,2C,1D 240	3A,3C 270	3A,1B,3C,1D 300	4A,4C 330
20H	51-3/4	Filters Weight	150	2A 180	2A,2B 210	4A 240	4A,2B 270	6A 300	6A,2B 330	8A 360
25H	64-1/4	Filters Weight	180	2A,1C 210	2A,2B,1C,1D 240	4A,2C 270	4A,2B,2C,1D 300	6A,3C 330	6A,2B,3C,1D 360	8A,4C 390
30H	76-1/4	Filters Weight	210	3A 240	3A,3B 270	6A 300	6A,3B 330	9A 360	9A,3B 390	12A 420
35H		Filters Weight	240	3A,1C 270	3A,3B,1C,1D 300	6A,2B 330	6A,3B,2C,1D 360	9A,3C,1D 390	9A,3B,3C,1D 420	12A,4C 450
40H		Filters Weight	270	4A 300	4A,4B,1C,1D 330	8A 360	8A,4B 390	12A 420	12A,4B 450	16A 480

Weights are for galvanized steel

A = 24 X 24" Nominal Sized Filter

B = 24 X 12" Nominal Sized Filter

C = 12 X 24" Nominal Sized Filter

D = 12 X 12" Nominal Sized Filter

HEPA Side Access With Prefilter

General Notes:

1. Weight is approximate, does not include filters and may vary up to 25% due to crating materials or special features

HEPA SIDE ACCESS - SIDE LOAD ACCESS HOUSING

Submittal Data: <input type="checkbox"/> Request for Quote <input type="checkbox"/> Purchase Order P.O.#	Customer:	Requested Ship Date:
--	-----------	----------------------

P&G Model #	Height:	Width:	Qty:	Construction: <input type="checkbox"/> Seal welded <input type="checkbox"/> Intermittently welded and caulked
-------------	---------	--------	------	--

12 & 14 Gauge Construction Material: Type: <input type="checkbox"/> Aluminized <input type="checkbox"/> Galvanized <input type="checkbox"/> 304 S.S. <input type="checkbox"/> 316 S.S. <input type="checkbox"/> L Grade	Door Location: <input type="checkbox"/> Right hand (Standard) <input type="checkbox"/> Left hand <input type="checkbox"/> Doors on both sides of unit
---	--

Filter Monitoring Pressure Ports: <input type="checkbox"/> No ports required <input type="checkbox"/> Overall System/Hepa only (2 ports) <input type="checkbox"/> Before, between and after all filters (3 ports)	Filter Requirements: <input type="checkbox"/> No prefilter required <input type="checkbox"/> 2" Prefilter <input type="checkbox"/> 4" Prefilter
---	--

Hepa Filter Seal: <input type="checkbox"/> Gasket seal <input type="checkbox"/> Fluid seal

Filter Pressure Drop Surveillance Gages: Inch W.C. Prefilter: <input type="checkbox"/> Magnehelic 2002 <input type="checkbox"/> Photohelic 3002 Hepa Filter: <input type="checkbox"/> Magnehelic 2004 <input type="checkbox"/> Photohelic 3004 Overall System: <input type="checkbox"/> Magnehelic 2005 <input type="checkbox"/> Photohelic 3005 Other: <input type="checkbox"/> Gage type / Operating range: _____ / _____ <input type="checkbox"/> No gages required	Gage Installation / Location: <input type="checkbox"/> Field mount (Requires tubing kit and fittings) <input type="checkbox"/> Aluminum tubing kit with fittings <input type="checkbox"/> Tubing and fittings supplied by other <input type="checkbox"/> Factory mount (Copper tubing is standard) <input type="checkbox"/> Above right hand door <input type="checkbox"/> Above left hand door
---	--

Options and Adders: <input type="checkbox"/> Doublewall insulation <input type="checkbox"/> High temperature gasket (450F max) <input type="checkbox"/> Nema 4 gage box <input type="checkbox"/> Upward vertical air flow <input type="checkbox"/> Downward vertical air flow <input type="checkbox"/> Weather cover on topside of unit <input type="checkbox"/> Weather Proof gage box
--

Aerosol Test Port 3/8"NPT: <input type="checkbox"/> 1 or <input type="checkbox"/> 2 <input type="checkbox"/> Upstream <input type="checkbox"/> Downstream	<input type="checkbox"/> Door hinges
---	--------------------------------------

Drilled Flanges: <input type="checkbox"/> Upstream <input type="checkbox"/> Downstream	Lifting Lugs: <input type="checkbox"/> 2 or <input type="checkbox"/> 4
--	--

Transition: <input type="checkbox"/> Upstream <input type="checkbox"/> Downstream <input type="checkbox"/> Square collar: HxW _____x_____	<input type="checkbox"/> Round collar: ID_____ <input type="checkbox"/> Flange on collar
---	--

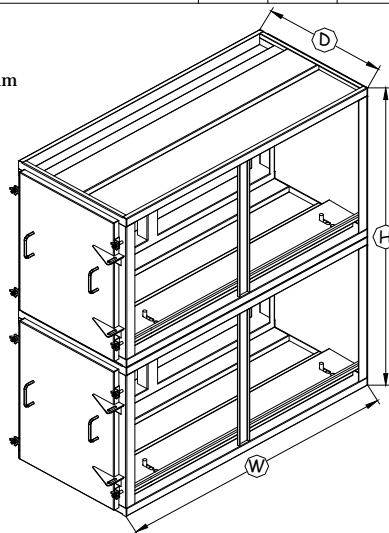
Housing dimensions are based upon 24" x 24" and 12" x 12" Actual Hepa Filter Sizes.

Contact Manufacturer for housing dimensions for different filter sizes.

Width	1/2	1	1-1/2	2	2-1/2	3	3-1/2	4
Dimension "W"	12-1/4"	24-1/4"	36-1/4"	48-1/4"	60-1/4"	72-1/4"	84-1/2"	96-1/2"

Typical 2H x 2W left hand downstream gasket seal unit. All hepa filters seal downstream of air flow.

1-3/4" Vertical flanges (upstream and downstream)
 1-1/2" Horizontal flanges upstream and 2-3/4" flanges downstream



Height	Dimension "H"
1/2	15-1/4"
1	27-1/4"
1-1/2	42-1/2"
2	54-1/2"
2-1/2	69-3/4"
3	81-3/4"
3-1/2	97"
4	109"

Depth Dimension "D"	
Hepa only	21-1/2"
2" Prefilter	25"
4" Prefilter	27"

Approval Signature / Date: _____ / _____

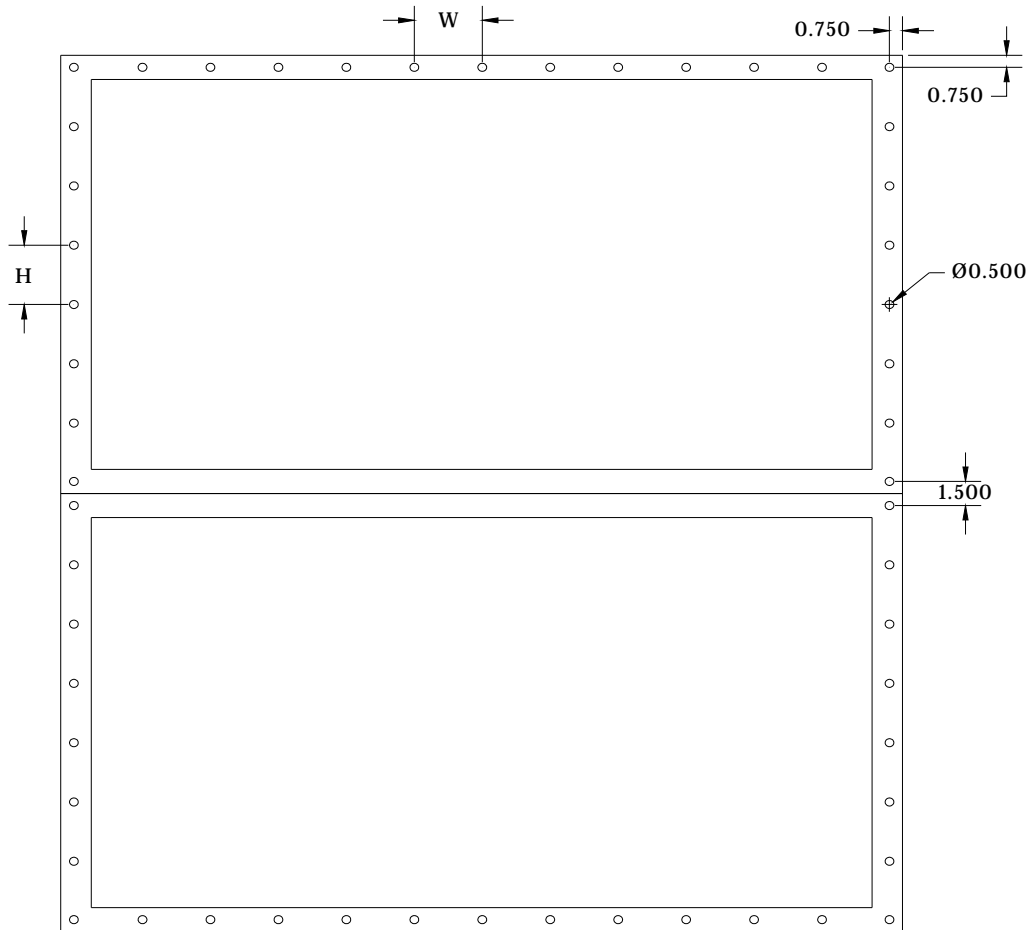
P&G MANUFACTURING
 WASHINGTON N.C. 27889
 PHONE NO.: 252-946-9110
 FAX NO.: 252-946-4823
www.pgmg.com

Notes and Special Instruction: _____

HEPA SIDE ACCESS - SIDE LOAD ACCESS HOUSING

Bolt Hole Pattern		
Height or Width	Bolt Spacing "H"	Bolt Spacing "W"
1/2	3.437	3.583
1	3.679	3.792
*1-1/2	3.679 / 3.437	3.861
*2	3.679	3.896
*2-1/2	3.679 / 3.437	3.917
*3	3.679	3.931

* = These units are comprised of 1 high and 1/2 high units stacked to meet these configurations as illustrated below.



Notes and Special Instruction: _____

OVERVIEW

The Leverlock Side Access air filter housing is a permanent housing designed to specifically accommodate medium to high efficiency ASHRAE rated air filters. Filter efficiencies range anywhere from 65-95% by the Ashrae test method.

This housing is manufactured with galvanized steel or optional T304 stainless steel and is intermittently welded together. All seams are silicone caulked for airtight seal.

The unit is a one-piece construction with a prefilter track permitting either a 2" or 4" filter and a 1" upstream gasketed final filter header track. Each housing is custom manufactured to meet specific end user requirements.

The unit is differentiated from other side access housings by the positive tension of the Leverlock sealing off the 1" final filter. The gasket on the filter coupled with the sealing mechanism effect an airtight seal that cannot be accomplished with a standard side access housing. The lever mechanism seals the filter at both the top and bottom. Moreover, a higher efficient filter can be used in the housing.

APPLICATION

P&G Manufacturing's Side Access filter housing is designed for and not limited to the following applications:

- Air Handlers
- Industrial Plants
- HVAC Systems
- Water Treatment Plants
- General Filtration Applications



PERFORMANCE

The Leverlock Side Access housing accommodates different types and efficiencies of air filters. See individual filter ASHRAE rating standards to determine specific efficiency. The recommended system static pressure range for the housing is +/- 5" W.G.

Positive tension door locks make filter servicing easy. Airtight gaskets properly located inside the door ensures a positive seal. When the housing is fully loaded and the door sealed properly, the housing efficiency is equal to that of the filters.

INSTALLATION

Factory installed flange is suitable for connection to either ductwork or air handling system. Variable depths make the unit particularly suitable for places with space limitations.

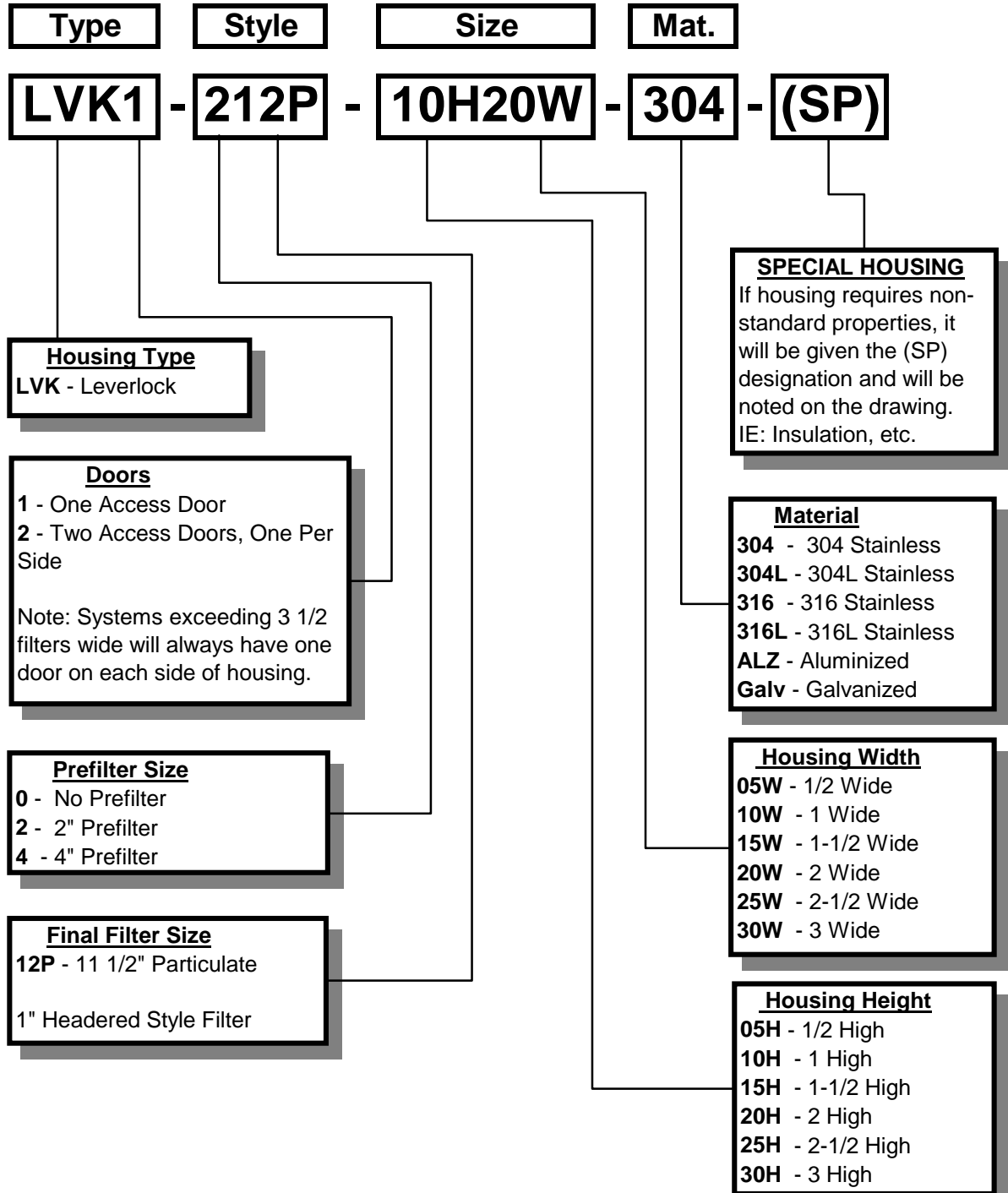
CONSTRUCTION

- Housing is constructed from either G90 16 gauge galvanized steel or optional T304 stainless steel.
- Straight seams are silicone caulked to prevent air leakage.
- Door(s) are perimeter gasketed in order ensure positive filter seal.
- Door latches and keepers are designed for simple access and maintenance.
- Corner gussets provided for unit rigidity.

ADDERS

- Vertical Flow Application
- Weather Cover
- Bottom Access
- DOP Port
- Photohelic Gauge
- Lifting Lugs
- Custom and Drilled Flanges
- Double Wall Insulation
- Static Port(s)
- Magnehelic Gauge
- High Temperature Gasket
- Transitions

ASHRAE / LEVERLOCK HOUSINGS



LEVERLOCK - SIDE LOAD ACCESS HOUSING

Submittal Data: <input type="checkbox"/> Request for Quote <input type="checkbox"/> Purchase Order P.O.# _____	Customer: _____	Requested Ship Date: _____
--	-----------------	----------------------------

P&G Model # _____	Height: _____	Width: _____	Qty: _____	Depth: _____
-------------------	---------------	--------------	------------	--------------

16 Gauge Construction Material: Type: <input type="checkbox"/> Aluminized <input type="checkbox"/> Galvanized <input type="checkbox"/> 304 S.S. <input type="checkbox"/> 316 S.S. <input type="checkbox"/> L Grade	Door Location: <input type="checkbox"/> Right hand (Standard) <input type="checkbox"/> Left hand <input type="checkbox"/> 2 Doors (Both sides)
--	---

Filter Monitoring Pressure Ports: <input type="checkbox"/> No ports required <input type="checkbox"/> Overall system/Hepa only (2 ports) <input type="checkbox"/> Before, between and after all filters (3 ports)	Filter Requirements: <input type="checkbox"/> No prefilter required <input type="checkbox"/> 2" prefilter
---	---

Filter Pressure Drop Surveillance Gages: Inch W.C. Prefilter: <input type="checkbox"/> Magnehelic 2002 <input type="checkbox"/> Photohelic 3002 Hepa: <input type="checkbox"/> Magnehelic 2004 <input type="checkbox"/> Photohelic 3004 Overall System: <input type="checkbox"/> Magnehelic 2005 <input type="checkbox"/> Photohelic 3005 Other: <input type="checkbox"/> Gage type / Operating range: _____ / _____ <input type="checkbox"/> No gages required	Gage Installation / Location: <input type="checkbox"/> Field mount (Requires tubing kit and fittings) <input type="checkbox"/> Aluminum tubing kit with fittings <input type="checkbox"/> Tubing and fittings supplied by other <input type="checkbox"/> Factory mount (Copper tubing is standard) <input type="checkbox"/> Above right hand door <input type="checkbox"/> Above left hand door
--	---

Options and Adders: Doublewall insulation High temperature gasket (450F max) Nema 4 gage box
 Upward vertical air flow Downward vertical air flow Weather cover on topside of unit Weather Proof gage box

Aerosol Test Port 3/8"NPT: 1 or 2 Upstream Downstream

Drilled Flanges: Upstream Downstream Lifting Lugs: 2 or 4

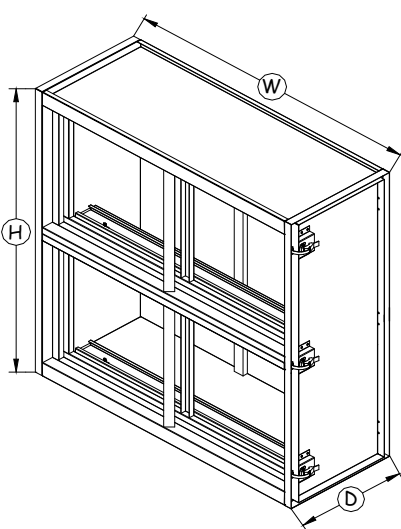
Transition: Upstream Downstream Square collar: HxW _____x_____ Round collar: ID_____ Flange on collar

Housing dimensions are based upon 24" x 24" and 12" x 12" Nominal Filter Sizes.

Contact Manufacturer for housing dimensions for different filter sizes.

Width	1/2	1	1-1/2	2	2-1/2	3	3-1/2	4
Dimension "W"	14-1/8"	26-1/8"	37-1/2"	49-1/2"	60-7/8"	72-7/8"	84-1/4"	96-1/4"

1-5/16" Vertical and Horizontal flanges (upstream and downstream)



Height	Dimension "H"
1/2	14-7/8"
1	26-7/8"
1-1/2	39"
2	51"
2-1/2	63-1/8"
3	75-1/8"
3-1/2	87-1/4"
4	99-1/4"

Depth Dimension "D"	Maximum Prefilter Holding Capacity
19"	Hepa Only or 2"
Special	Contact Manufacturer

Approval Signature / Date: _____ / _____

P&G MANUFACTURING
 WASHINGTON N.C. 27889
 PHONE NO.: 252-946-9110
 FAX NO.: 252-946-4823
 www.pgmfg.com

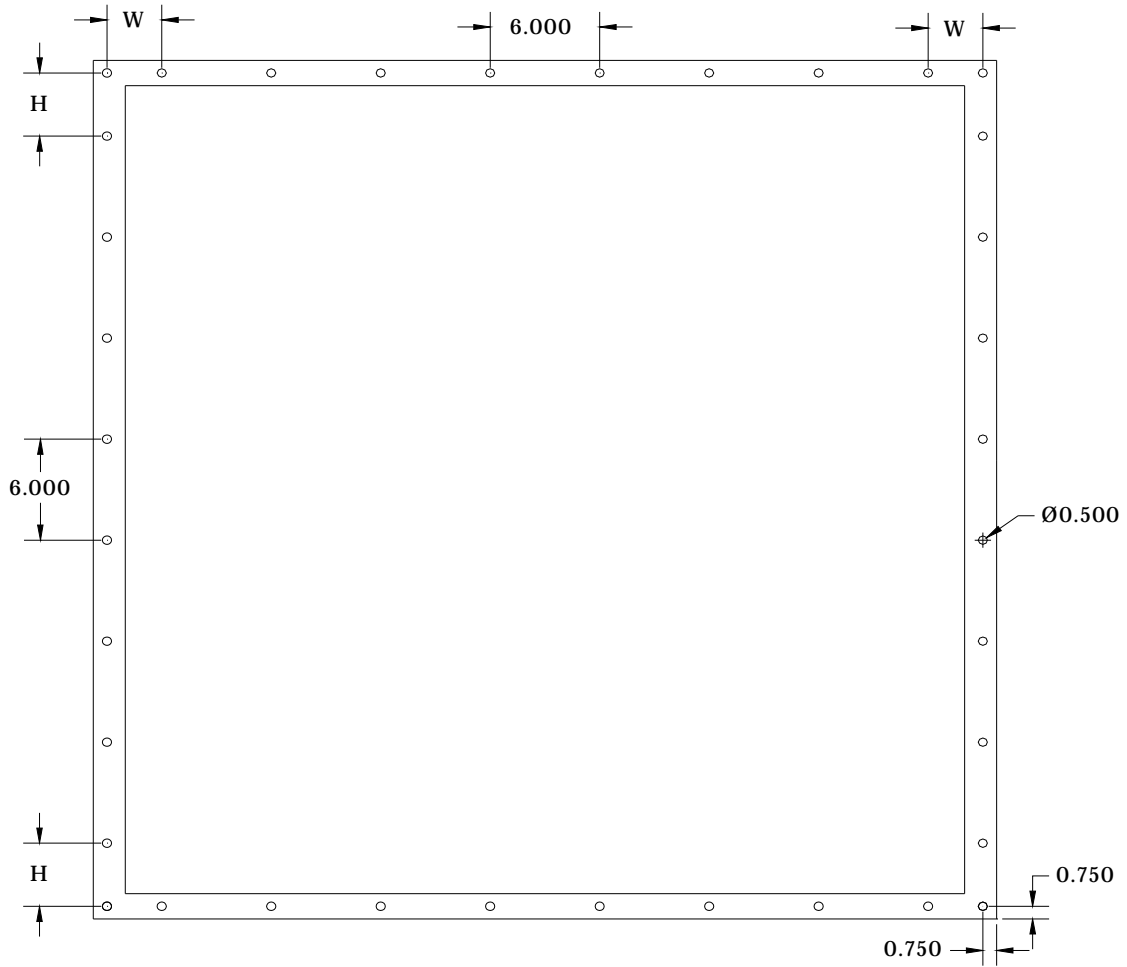


Notes and Special Instruction: _____

LEVERLOCK - SIDE LOAD ACCESS HOUSING

Bolt Hole Pattern		
Height or Width	Bolt Spacing "H"	Bolt Spacing "W"
1/2	3.687	3.313
1	3.687	3.313
1-1/2	3.748	3.000
2	3.748	3.000
2-1/2	3.801	2.688
3	3.801	2.688
3-1/2	3.863	2.375
4	3.863	2.375

All bolt hole spacings between points "H" and "W" are 6 inches on center.



Notes and Special Instruction: _____

OVERVIEW

The Side Access air filter housing is a permanent housing designed to specifically accommodate ASHRAE rated air filters. Filter efficiencies range anywhere from 30-90% by Ashrae test method.

This 22-¼, 34-¼, 42" or customized depth housing is manufactured with galvanized steel- optional T304 stainless steel and is intermittently welded and or bolted together. All seams are silicone caulked for airtight seal.

The unit is a one-piece construction with filter track extrusion permitting either a 2", 4" or 6" prefilter track and a 1" final filter header track. Each housing is custom manufactured to meet specific end user requirements.

APPLICATION

P&G Manufacturing's Side Access filter housing is designed for and not limited to the following applications:

- Air Handlers
- Industrial Plants
- HVAC Systems
- General Filtration Applications

PERFORMANCE

The Side Access housing accommodates different types and efficiencies of air filters. See individual filter ASHRAE rating standards to determine specific efficiency. The recommended system static pressure range for the housing is +/- 3" W.G.

Positive tension door locks make filter servicing easy. Airtight gaskets properly located inside the door ensures a positive seal. When the housing is fully loaded and the door sealed properly, the housing efficiency is equal to that of the filters.

INSTALLATION

Factory installed flange is suitable for connection to either ductwork or air handling system. Variable depths make the unit particularly suitable for places with space limitations.



CONSTRUCTION

- Housing is constructed from either G90 16 gauge galvanized steel or optional T304 stainless steel.
- Straight seams are silicone caulked to prevent air leakage.
- Door(s) are perimeter gasketed in order ensure positive filter seal.
- Door latches and keepers are designed for simple access and maintenance.
- Corner gussets provided for unit rigidity.

ADDERS

- Vertical Flow Application
- Weather Cover
- Bottom Access
- DOP Port
- Photohelic Gauge
- Lifting Lugs
- Custom and Drilled Flanges
- Double Wall Insulation
- Static Port(s)
- Magnehelic Gauge
- High Temperature Gasket
- Transitions

ASHRAE / POLYSEAL HOUSINGS

Type	Style	Size	Mat.
PS1	- 212P	- 10H20W	- 22
304	- (SP)		

Housing Type
PS - Polyseal

Doors
1 - One Access Door
2 - Two Access Doors, One Per Side

Note: Systems exceeding 3 1/2 filters wide will always have one door on each side of housing.

Prefilter Size
2 - 2" Prefilter
4 - 4" Prefilter

Final Filter Size
12P - 11-1/2" Particulate
1" Header Style Filter

SPECIAL HOUSING
If housing requires non-standard properties, it will be given the (SP) designation and will be noted on the drawing.
IE: Insulation, etc.

Material
304 - 304 Stainless
304L - 304L Stainless
316 - 316 Stainless
316L - 316L Stainless
ALZ - Aluminized
Galv - Galvanized

Depth
(In direction of airflow)
22 - 22-1/4"
32 - 34-1/4"
42 - 42"

Housing Width
05W - 1/2 Wide
10W - 1 Wide
15W - 1-1/2 Wide
20W - 2 Wide
25W - 2-1/2 Wide
30W - 3 Wide

Housing Height
05H - 1/2 High
10H - 1 High
15H - 1-1/2 High
20H - 2 High
25H - 2-1/2 High
30H - 3 High

HEIGHT CODE	OVERALL HEIGHT (INCHES)	FILTERS WEIGHT LBS	WIDTH CODE							
			OVERALL WIDTH (INCHES)							
			14-1/4	26-1/8	37-1/2	49-1/2	60-7/8	72-7/8	84-1/4	96-1/4
			05W	10W	15W	20W	25W	30W	35W	40W
05H	14-7/8	Filters	1D	1C	1C,1D	2C	2C,1D	3C	3C,1D	4C
		Weight 22-1/4	30	45	60	75	90	105	120	135
		Weight 34-1/4	36	54	72	90	108	126	144	162
		Weight 42	43	65	86	108	130	151	173	194
10H	26-7/8	Filters	1B	1A	1A,1B	2A	2A,1B	3A	3A,1B	4A
		Weight 22-1/4	45	60	75	80	105	120	135	150
		Weight 34-1/4	54	72	90	96	126	144	162	180
		Weight 42	65	86	108	115	151	173	194	216
15H	39	Filters	1B,1D	1A,1C	1A,1B,1C,1D	2A,2C	2A,1B,2C,1D	3A,3C	3A,1B,3C,1D	4A,4C
		Weight 22-1/4	60	75	90	105	120	135	150	165
		Weight 34-1/4	72	90	108	126	144	162	180	198
		Weight 42	86	108	130	151	173	194	216	238
20H	51	Filters	2B	2A	2A,2B	4A	4A,2B	6A	6A,2B	8A
		Weight 22-1/4	75	90	105	120	135	150	165	180
		Weight 34-1/4	90	108	126	144	162	180	198	216
		Weight 42	108	130	151	173	194	216	238	259
25H	63-1/8	Filters	2B,1D	2A,1C	2A,2B,1C,1D	4A,2C	4A,2B,2C,1D	6A,3C	6A,2B,3C,1D	8A,4C
		Weight 22-1/4	90	105	120	135	150	165	180	196
		Weight 34-1/4	108	126	144	162	180	198	216	235
		Weight 42	130	151	173	194	216	238	259	282
30H	75-1/8	Filters	3B	3A	3A,3B	6A	6A,3B	9A	9A,3B	12A
		Weight 22-1/4	105	120	135	150	165	180	195	210
		Weight 34-1/4	126	144	162	180	198	216	234	252
		Weight 42	151	173	194	216	238	259	281	302
35H	87-1/4	Filters	3B,1D	3A,1C	3A,3B,1C,1D	6A,2B	6A,3B,2C,1D	9A,3C,1D	9A,3B,3C,1D	12A,4C
		Weight 22-1/4	120	135	150	165	180	195	210	225
		Weight 34-1/4	144	162	180	198	216	234	252	270
		Weight 42	173	194	216	238	259	281	302	324
40H	99-1/4	Filters	4B	4A	4A,4B,1C,1D	8A	8A,4B	12A	12A,4B	16A
		Weight 22-1/4	135	150	165	180	195	210	225	240
		Weight 34-1/4	162	180	198	216	234	252	270	288
		Weight 42	194	216	238	259	281	302	324	346

Weights are for galvanized steel

A = 24 X 24" Nominal Sized Filter

B = 24 X 12" Nominal Sized Filter

C = 12 X 24" Nominal Sized Filter

D = 12 X 12" Nominal Sized Filter

General Notes:

1. Weight is approximate, does not include filters and may vary up to 25% due to crating materials or special features

POLYSEAL - SIDE LOAD ACCESS HOUSING

Submittal Data: <input type="checkbox"/> Request for Quote <input type="checkbox"/> Purchase Order P.O.# _____	Customer: _____	Requested Ship Date: _____
---	------------------------	-----------------------------------

P&G Model # _____	Height: _____	Width: _____	Qty: _____	Depth: <input type="checkbox"/> 22-1/4" (Standard) <input type="checkbox"/> 34-1/4" <input type="checkbox"/> 42" <input type="checkbox"/> Special: _____
------------------------------	----------------------	---------------------	-------------------	--

16 Gauge Construction Material:
Type: Aluminized Galvanized
 304 S.S. 316 S.S. L Grade

Door Location: 2 Doors (Standard)
 Right hand only Left hand only Bottom access

Filter Monitoring Pressure Ports:
 No ports required Overall System/Hepa only (2 ports)
 Before, between and after all filters (3 ports)

Filter Requirements:
 2" Prefilter, 1" Header final
 4" Prefilter, 1" Header final

Filter Pressure Drop Surveillance Gages: Inch W.C.
Prefilter: Magnehelic 2002 Photohelic 3002
Final Filter: Magnehelic 2004 Photohelic 3004
Overall System: Magnehelic 2005 Photohelic 3005
Other: Gage type / Operating range: _____ / _____
 No gages required

Gage Installation / Location:
 Field mount (Requires tubing kit and fittings)
 Aluminum tubing kit with fittings
 Tubing and fittings supplied by other
 Factory mount (Copper tubing is standard)
 Above right hand door
 Above left hand door

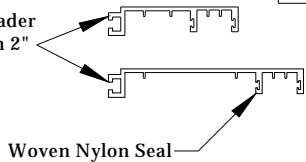
Options and Adders: Doublewall insulation High temperature gasket (450F max) Nema 4 gage box
 Upward vertical air flow Downward vertical air flow Weather cover on topside of unit Weather Proof gage box

Aerosol Test Port 3/8"NPT: 1 or 2 Upstream Downstream
Drilled Flanges: Upstream Downstream **Lifting Lugs:** 2 or 4
Transition: Upstream Downstream Square collar: HxW _____ x _____ Round collar: ID _____ Flange on collar

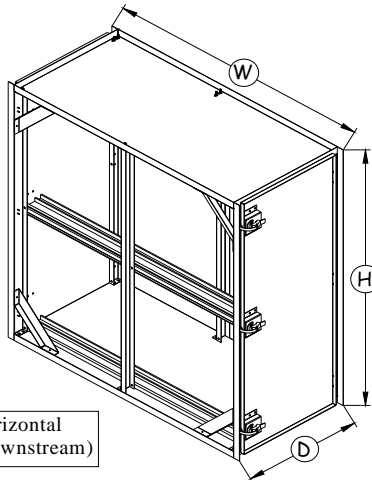
Housing dimensions are based upon 24" x 24" and 12" x 12" Nominal Filter Sizes.
 Contact Manufacturer for housing dimensions for different filter sizes.

Aluminum Extrusion

Prefilter and secondary 1" header filter tracks are available with 2" and 4" prefilters.



Width	1/2	1	1-1/2	2	2-1/2	3	3-1/2	4
Dimension "W"	14-1/8"	26-1/8"	37-1/2"	49-1/2"	60-7/8"	72-7/8"	84-1/4"	96-1/4"



Height	Dimension "H"
1/2	14-7/8"
1	26-7/8"
1-1/2	39"
2	51"
2-1/2	63-1/8"
3	75-1/8"
3-1/2	87-1/4"
4	99-1/4"

Depth Dimension "D"
22-1/4"
34-1/4"
42"
Special

1-5/16" Vertical and Horizontal flanges (upstream and downstream)

Approval Signature / Date: _____ / _____

P&G MANUFACTURING

WASHINGTON N.C. 27889
 PHONE NO.: 252-946-9110
 FAX NO.: 252-946-4823
www.pgmfg.com

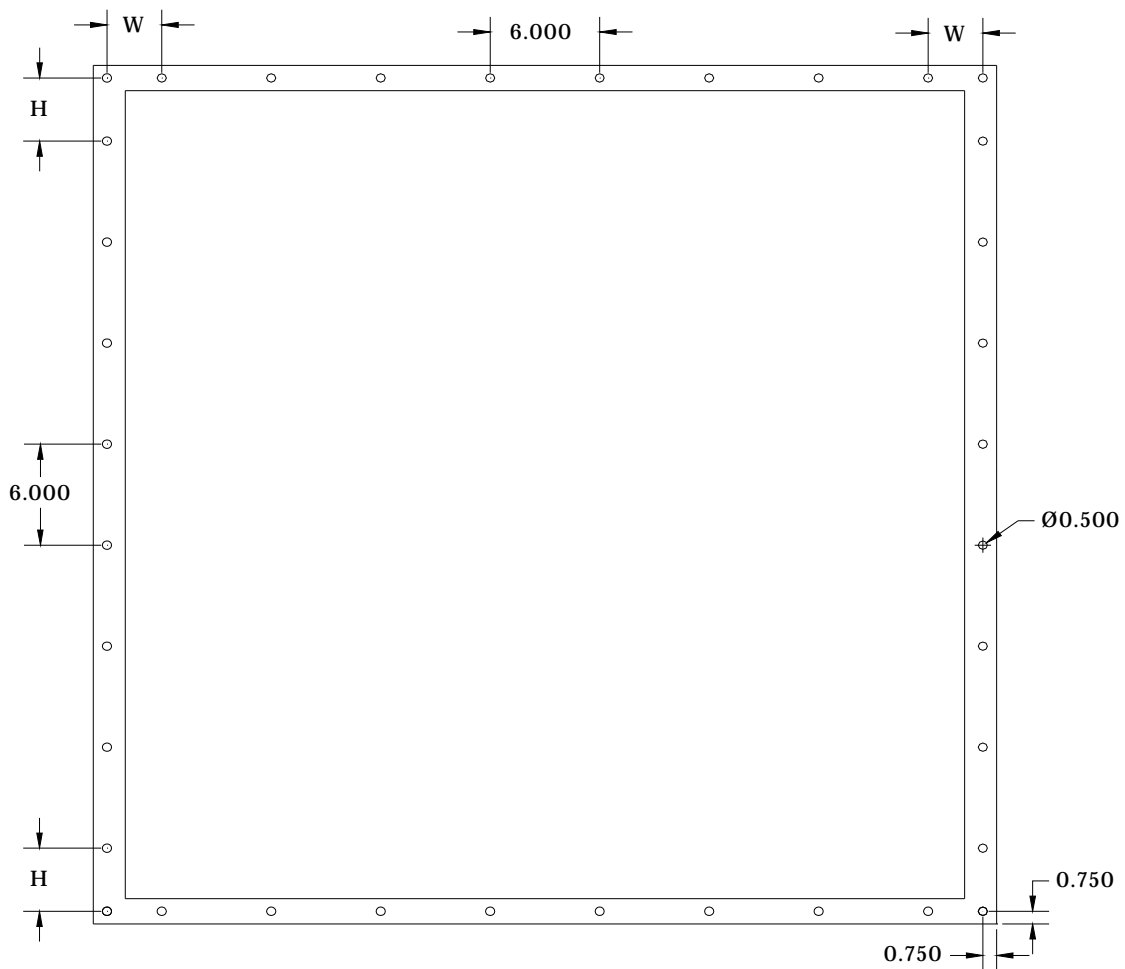


Notes and Special Instruction: _____

POLYSEAL - SIDE LOAD ACCESS HOUSING

Bolt Hole Pattern		
Height or Width	Bolt Spacing "H"	Bolt Spacing "W"
1/2	3.687	3.313
1	3.687	3.313
1-1/2	3.748	3.000
2	3.748	3.000
2-1/2	3.801	2.688
3	3.801	2.688
3-1/2	3.863	2.375
4	3.863	2.375

All bolt hole spacings between points "H" and "W" are 6 inches on center.



Notes and Special Instruction: _____

OVERVIEW

The V Bank filter housing is a permanent single stage unit designed to hold pleated ASHRAE rated filters. The unit can accommodate both 2" and 4" filters in a low-pressure drop configuration.

The V Bank unit is manufactured out of either galvanized steel or optional stainless steel and is welded and or bolted together. Each housing is custom manufactured to meet specific end user requirements.

APPLICATION

P&G Manufacturing's V Bank filter housing is designed for and not limited to the following applications:

- Air Handlers
- Industrial Plants
- General Filtration Applications

PERFORMANCE

The V Bank housing accommodates different types and efficiencies of ASHRAE rated filters. See individual filter ASHRAE rating standards to determine specific efficiency. The angled V design effectively doubles the filter face area. In turn, face velocity is halved.

Positive tension door locks make filter servicing easy. Gasketed door(s) ensure a positive seal for each V configuration. When the housing is fully loaded and the door sealed properly, the housing efficiency is equal to that of the filters.

INSTALLATION

Factory installed flange is suitable for connection to either ductwork or air handler system.

CONSTRUCTION

- Housing is made from either G90 16 gauge galvanized steel or -optional 304L stainless steel.
- Straight seams are silicone caulked to prevent air leakage.
- Upstream corner gussets ensure rigidity of unit.
- Door(s) are gasketed in order ensure positive filter seal.
- Door latches and keepers are designed for simple access and maintenance.



ADDERS

- Vertical Flow
- Weather Cover
- Bottom Access
- Lifting Lugs
- Seam Welding
- Custom and Drilled Flanges
- Double Wall Insulation
- Static Port(s)
- Magnehelic Gauge
- Transitions

ASHRAE / V-BANK HOUSINGS

Type	Style	Size	Mat.
VBK1	- 200	- 10H20W	- 304 - (SP)

Housing Type
VBK - V-Bank

Doors
1 - One Access Door
2 - Two Access Doors, One Per Side

Note: Systems exceeding 3 1/2 filters wide will always have one door on each side of housing.

Prefilter Size
200 - 2" Prefilter
400 - 4" Prefilter

SPECIAL HOUSING
If housing requires non-standard properties, it will be given the (SP) designation and will be noted on the drawing. IE: Insulation, etc.

Material
304 - 304 Stainless
304L - 304L Stainless
316 - 316 Stainless
316L - 316L Stainless
ALZ - Aluminized
Galv - Galvanized

Housing Width
05W - 1/2 Wide
10W - 1 Wide
15W - 1-1/2 Wide
20W - 2 Wide
25W - 2-1/2 Wide
30W - 3 Wide

Housing Height
05H - 1/2 High
10H - 1 High
15H - 1-1/2 High
20H - 2 High
25H - 2-1/2 High
30H - 3 High

HEIGHT CODE	OVERALL HEIGHT (INCHES)	FILTERS WEIGHT LBS	WIDTH CODE							
			OVERALL WIDTH (INCHES)							
			14-1/4	26-1/8	37-1/2	49-1/2	60-7/8	72-7/8	84-1/4	96-1/4
			05W	10W	15W	20W	25W	30W	35W	40W
05H	14-7/8	Filters Weight	1D 78	1A 100	1A,1C 118	2A 136	2A,1C 162	3A 187	3A,1C 207	4A 226
10H	26-7/8	Filters Weight	1B 100	2A 125	2A,1B 160	4A 167	4A,1B 205	6A 241	6A,1B 261	8A 290
15H	39	Filters Weight	3B 118	3A 154	3A,3B 186	6A 218	6A,3B 257	9A 296	9A,3B 320	12A 343
20H	51	Filters Weight	4B 136	4A 171	4A,4B 214	8A 220	8A,4B 300	12A 335	12A,4B 365	16A 393
25H	63-1/8	Filters Weight	5B 162	5A 213	5A,5B 251	10A 288	10A,5B 328	15A 368	15A,5B 394	20A 420
30H	75-1/8	Filters Weight	6B 187	6A 240	6A,6B 277	12A 316	12A,6B 364	18A 400	18A,6B 446	24A 486
35H	87-1/4	Filters Weight	7B 207	7A 270	7A,7B 315	14A 360	14A,7B 412	21A 463	21A,7B 504	28A 545
40H	99-1/4	Filters Weight	8B 226	8A 294	8A,8B 341	16A 387	16A,8B 448	24A 509	24A,8B 547	32A 586

Weights are for galvanized steel
A = 24 X 24" Nominal Sized Filter
B = 24 X 12" Nominal Sized Filter
C = 12 X 24" Nominal Sized Filter
D = 12 X 12" Nominal Sized Filter

VEE BANK

General Notes:

1. Weight is approximate, does not include filters and may vary up to 25% due to crating materials or special features

V-BANK - SIDE LOAD ACCESS HOUSING

Submittal Data: <input type="checkbox"/> Request for Quote <input type="checkbox"/> Purchase Order P.O.# _____	Customer: _____	Requested Ship Date: _____
--	-----------------	----------------------------

P&G Model # _____	Height: _____	Width: _____	Qty: _____	Depth: <input type="checkbox"/> 26-3/8" (Standard) <input type="checkbox"/> Special: _____
-------------------	---------------	--------------	------------	---

16 Gauge Construction Material: Type: <input type="checkbox"/> Aluminized <input type="checkbox"/> Galvanized <input type="checkbox"/> 304 S.S. <input type="checkbox"/> 316 S.S. <input type="checkbox"/> L Grade	Door Location: <input type="checkbox"/> Right hand (Standard) <input type="checkbox"/> Left hand <input type="checkbox"/> 2 Doors (Both sides)
--	---

Filter Monitoring Pressure Ports: <input type="checkbox"/> No ports required <input type="checkbox"/> Overall System (2 ports)	Filter Requirements: <input type="checkbox"/> 2" Prefilter (Aluminum Extrusion) <input type="checkbox"/> 4" Prefilter (Formed 16ga material)
---	--

Filter Pressure Drop Surveillance Gages: Inch W.C. Overall System: <input type="checkbox"/> Magnehelic 2004 <input type="checkbox"/> Photohelic 3004 Other: <input type="checkbox"/> Gage type / Operating range: _____ / _____ <input type="checkbox"/> No gages required	Gage Installation / Location: <input type="checkbox"/> Field mount (Requires tubing kit and fittings) <input type="checkbox"/> Aluminum tubing kit with fittings <input type="checkbox"/> Tubing and fittings supplied by other <input type="checkbox"/> Factory mount (Copper tubing is standard) <input type="checkbox"/> Above right hand door <input type="checkbox"/> Above left hand door
---	---

Options and Adders: Doublewall insulation High temperature gasket (450F max) Nema 4 gage box
 Upward vertical air flow Downward vertical air flow Weather cover on topside of unit Weather Proof gage box

Aerosol Test Port 3/8"NPT: 1 or 2 Upstream Downstream

Drilled Flanges: Upstream Downstream Lifting Lugs: 2 or 4

Transition: Upstream Downstream Square collar: HxW _____x_____ Round collar: ID_____ Flange on collar

Housing dimensions are based upon 24" x 24" and 12" x 12" Nominal Filter Sizes.

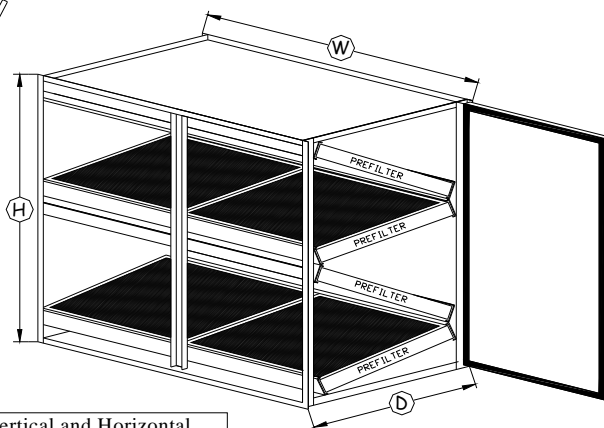
Contact Manufacturer for housing dimensions for different filter sizes.

Aluminum Extrusion

Extrusion for 2" filters and formed 16ga. tracks for 4" filters is available.

A woven nylon seal is installed to help prevent filter bypass.

Width	1/2	1	1-1/2	2	2-1/2	3	3-1/2	4
Dimension "W"	14-1/8"	26-1/8"	37-1/2"	49-1/2"	60-7/8"	72-7/8"	84-1/4"	96-1/4"



Height	Dimension "H"
1/2	14-7/8"
1	26-7/8"
1-1/2	39"
2	51"
2-1/2	63-1/8"
3	75-1/8"
3-1/2	87-1/4"
4	99-1/4"

Depth Dimension "D"
26-3/8"
Special

1-5/16" Vertical and Horizontal flanges (upstream and downstream)

Approval Signature / Date: _____ / _____

P&G MANUFACTURING

WASHINGTON N.C. 27889
 PHONE NO.: 252-946-9110
 FAX NO.: 252-946-4823
www.pgmfg.com

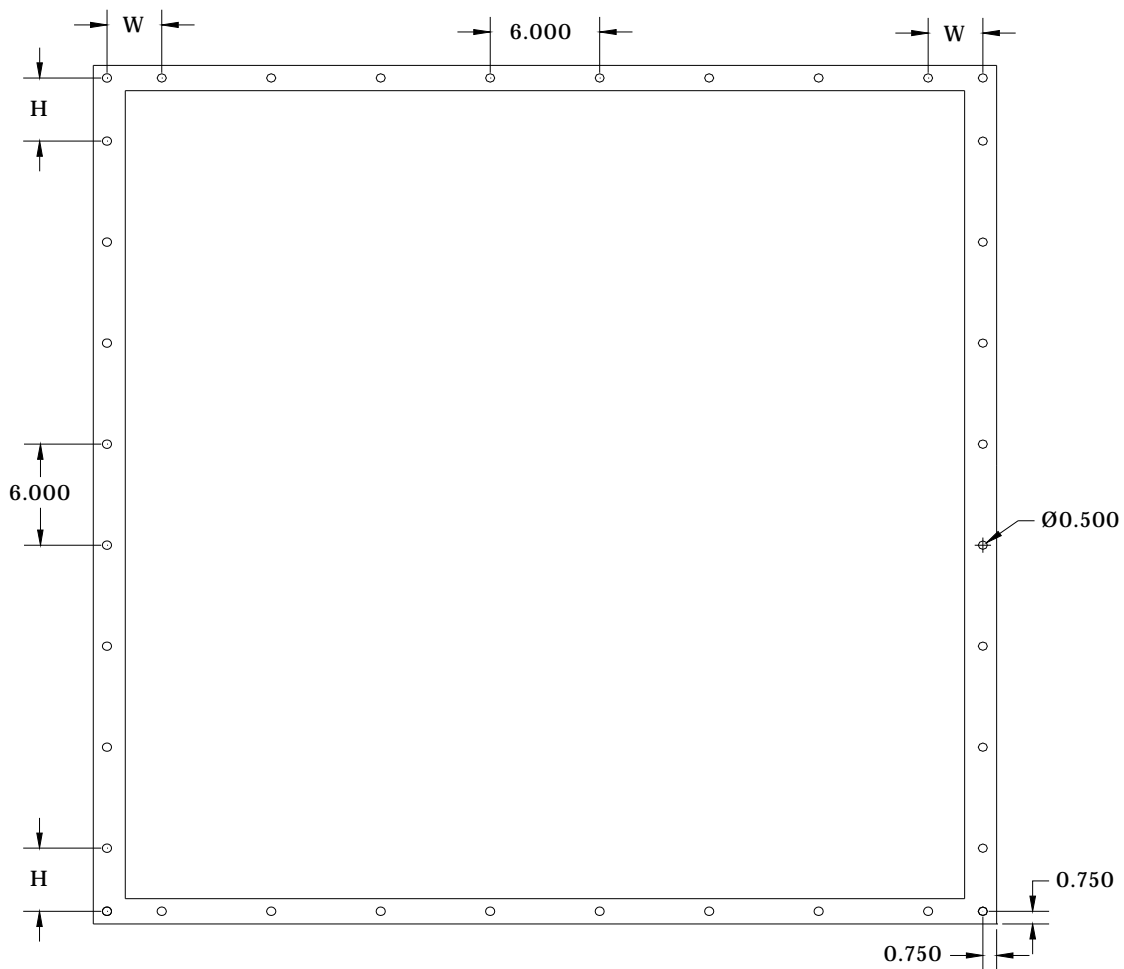


Notes and Special Instruction: _____

V-BANK - SIDE LOAD ACCESS HOUSING

Bolt Hole Pattern		
Height or Width	Bolt Spacing "H"	Bolt Spacing "W"
1/2	3.687	3.313
1	3.687	3.313
1-1/2	3.748	3.000
2	3.748	3.000
2-1/2	3.801	2.688
3	3.801	2.688
3-1/2	3.863	2.375
4	3.863	2.375

All bolt hole spacings between points "H" and "W" are 6 inches on center.



Notes and Special Instruction: _____