

USERS GUIDE

Handling / Unpacking

Storage

Operating Conditions



Flanders 
FOREMOST IN AIR FILTRATION

Flanders Corporation

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Background:

Flanders Filters, Inc. HEPA (High Efficiency Particulate Air) and ULPA (Ultra-Low Penetration Air) filters are sensitive high purity elements and should be handled and installed using proper and attentive techniques. Special care must be taken in the selection of a carrier for transport, and in the training of installation and facilities personnel.

Flanders Filters, Inc. recommends the use of faceguards for your HEPA and ULPA filter selections when possible. Faceguards are an inexpensive way to significantly reduce the risk of damage during transport, handling, and installation. Filter damage can be reduced and/or eliminated by following the below simple procedures.

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USERS GUIDE

Handling / Unpacking
Storage
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Receiving/Handling Procedures:

1. Carefully check each pallet of filters before accepting shipment from the carrier. Pallets of filters that have been damaged or broken down should not be accepted without a thorough inspection and appropriate comments noted on the shipping documentation.
2. Pallets of filters or individual filters should never be subjected to excessive shock, vibration or extreme temperatures. The shock caused by dropping a filter can cause serious damage to the filter media.
3. Pallets of filters should **not** be stacked.

To remove a filter(s) from a carton, follow these steps:

IF INDIVIDUALLY PACKAGED:

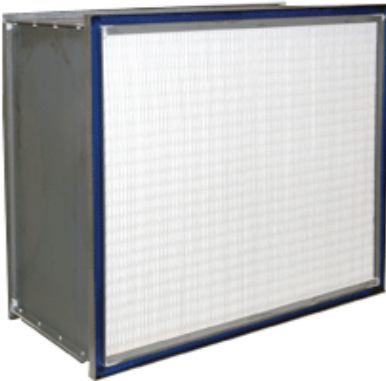
1. Carefully open top of box.
2. Flanders Cleanroom filters will come packaged in suitcase style cardboard sleeves. Simply reach into the box and grab the handles pre punched within the insert. If the filter is in a cardboard liner, the filter must be oriented so the open ends of the liner are facing outward (i.e. to your left and right rather than upward). Carefully cut the packing tape that holds the filter in the liner. Always check for torn or deflected liner edges. If any are found, straighten or flatten such edges prior to liner removal in order to prevent media damage. One person should carefully hold the plastic bag(s) while the other person carefully pulls the liner, sliding it away from the filter. Panel filters will be single or double bagged (depending on customer requirements) with snug fitting cardboard liners. Ducted filters will be single or double bagged and packed in reinforced cartons.





USERS GUIDE

Handling / Unpacking
Storage
Operating Conditions



3. The filter should now be handled with extreme care to avoid contact with the media and/or face screen. While the bag is still present, carry the filter by grabbing the bag. Be careful to keep the filter away from your body and any objects in your path. If the bag is not present, always handle filter from the frame, avoiding contact with the media and/or the face screen. Filters should always be transported vertically (face perpendicular to the floor), never horizontally.

4. Additional precautions for gel seal filters: Care is taken at the factory to prevent the bag from contacting the gel. Be very careful when unpacking gel seal filters by removing the bag slowly and carefully. If the bag comes in contact with the gel, pull the bag off the gel slowly. Quick removal of the bag may cause damage to the gel and possible separation of gel from the gel channel.

It is recommended that filter handling be carried out by two persons.

IF BULK PACKAGED (multiple filters in a single carton):

1. Carefully lift and remove top of the carton

2. To remove filters from the carton:

- Each person should carefully insert one hand into the top of the protective liner.
- Gently lift the filter out of the carton by the liner.
- Care must be taken during this process since the remaining filters in the carton will have a tendency to tip within the carton. Position the remaining filters to prevent tipping.



3. After the filter has been removed from the carton, the filter must be oriented so the open ends of the liner are pointing upward. Carefully cut the packing tape that holds the filter in the liner. Always check for torn or dented liner edges. If any are found, straighten or flatten such edges prior to liner removal to prevent media damage. One person should carefully hold the plastic bag(s) while the other person carefully pulls the liner, sliding it away from the filter.



USERS GUIDE

Handling / Unpacking
Storage
Operating Conditions

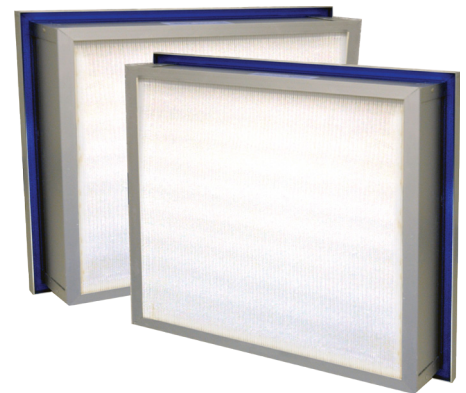
4. The filter should now be handled with extreme care to avoid contact with the media and/or face screen. While the bag is still present, carry the filter by grabbing the bag. Be careful to keep the filter away from your body and any objects in your path. If the bag is not present, always handle filter from the frame, avoiding contact with the media and/or face screen. Filters should always be transported vertically (face perpendicular to the floor), never horizontally.
5. Remove the bag carefully. Avoid contacting hand and finger contact with the filter media.
6. Additional precautions for gel seal filters:
Care is taken at the factory to prevent the bag from contacting the gel. Be very careful when unpacking gel seal filters by removing the bag slowly and carefully. If the bag comes in contact with the gel, pull the bag off the gel slowly. Quick removal of the bag may cause damage to the gel and possible separation of gel from the gel channel.

It is recommended that filter handling be carried out by two persons.

GUIDELINES FOR USING FLANDERS FILTERS, INC. DIMPLE PLEAT OR DUCTED CEILING MODULES:

1. STORAGE:

- a) Location: Storage should be indoors, (under roof and enclosed) and absolutely protected from moisture. It is strongly recommended that the storage space be climate controlled.
- b) Temperature Limits: Maximum temperatures of 250°F (121°C) intermittent, and 100°F (38°C) steady state. Minimum temperature is 32°F (0°C)



2. OPERATING CONDITIONS:

- a) Temperature: The maximum operating temperature is determined by the filter configuration. Consult the filter submittal drawing for the specific maximum operating temperature.
- b) Humidity: 100% relative humidity is acceptable. However, condensation must be avoided to prevent degradation of performance and potential filter failure.
- c) Filters should not be operated in caustic or acidic environments.
- d) Filters should not be operated in excess of twice the rated performance for flow rate or pressure drop.