

5 STEPS TO SPECIFYING A FILTER BAG

There are 5 primary steps you should go through when ordering a filter bag.

STEP 1 - MATERIAL SELECTION • STEP 2 - MEASUREMENTS STEP 3 & 4 - TOP & BOTTOM CONSTRUCTION • STEP 5 - ADDITIONAL OPTIONS

Step. 1 **MATERIAL SELECTION** *(choose the right filter media for your application)*



You should choose the media from which your filter bags will be constructed based on the type of application they will be used for. Take the following things into consideration prior to selecting your media:

- Temperature - do your bags need to withstand extreme temperatures
- Product - what are you filtering
- Chemistry - can your bags withstand the chemical make up of the dust particles
- Resistance- is the filter media able to resist the wear and tear of the dust particles

Choosing the correct filter media is an important and sometimes difficult process. To assist you in the identification of the right media for your bags, keep the following in mind:

Filter bag performance is directly related to how well it can tolerate the environment in which it is being used, how efficiently it can remove the dust particles and it's ability to clean and renew.

You must first learn to identify the type of filter media currently used in your application. Below you will find a list of typical construction methods:

- Woven felts
- Non-woven felts
- Natural fibers
- Synthetics
 - Thermoplastics
 - ♦ Polypropylene (PPRO)
 - ♦ Polyphenylene sulfide (PPS)
 - ♦ Polyester (PE)
 - Thermoset



For additional information on media types please examine our [sample chart](#)

A simple test to determine if a material is a thermoplastic is to take a small swatch and put a flame to it. A thermoplastic material will begin to melt when exposed to direct heat.

The selection criterion eliminates materials based on temperature and chemical characteristics. The first cut is usually made based on temperature. Then the chemical characteristics of the gas stream are considered to further refine the search. [Chemical Resistance](#) Next, the efficiency of the material further dictates the construction of the material i.e. – the weight – oz/sq. ft., fiber and surface treatments/membranes. Last but not least, if there are still two or more candidates it comes down to a price versus performance trade off.

Step. 2 **MEASUREMENTS** *(get accurate measurements for optimal performance)*



Most dust collectors have been upgraded over the years due to the need for new permits which called for reconfiguration of the bag house in which case OEM configurations will have changed. Because of this you will need to obtain accurate measurements for your filters before ordering replacement filter bags.



If you currently have filter bags installed that are functioning properly, you can pull out one of those bags to get the proper measurements for your replacement order. (spare bags not yet used can also be measured if available) If you are removing a used bag to measure, please be sure to use all necessary precautionary measures set in place prior to removal (i.e. – gloves, protective garments, & respiratory equipment if needed) It is best not to pull the numbers off the unit because of possible changes to the configurations. To see a simple video demonstration on how to measure a couple of types of filter bags, go to our [Downloads page](#) to choose which video you wish to see.

Step. 3 and 4

TOP & BOTTOM CONSTRUCTION - *(of the filter bag play can determine it's efficiency)*



The top and bottom construction of a filter bag involves a variety of possible configurations. The type of cleaning process used by the dust collector determines which configurations will be used in the design of the filter bag.

TOP CONSTRUCTION

- [Snap Band](#)
- [Raw Edge](#)
- [Compression Band](#)
- [Loop Top](#)
- [Grommet Top](#)

BOTTOM CONSTRUCTION

- [Snap Band](#)
- [Hem](#)
- [Beaded Cuff](#)
- [Overlock Disk](#)
- [Lockstitch Disk](#)

MECHANICAL CLEANING (SHAKER) BAG HOUSES - *usually found in critical applications*

TYPICAL TOP CONSTRUCTION

- [Loop Top](#)
- [Grommet Top](#)
- [Strap or Tail Top](#)
- [Metal Hanger or Cap](#)
- [Snap Ring](#)

TYPICAL BOTTOM CONSTRUCTION

- [Corded Cuff with Clamp](#)
- [Double-Beaded Snap Ring](#)
- [Compression Band](#)



REVERSE AIR BAGHOUSES - *usually found in large air handling environments such as power plants and cement plants although they do have uses in a variety of industries.*

TYPICAL TOP CONSTRUCTION

- [Cap Top with Hook](#)
- [Corded Cuff with Clamp](#)
- [Compression Band](#)

TYPICAL BOTTOM CONSTRUCTION

- [Compression Band](#)

Pulsejet (Reverse jet) Baghouses - *found in almost every industrial environment. They are by far the most popular design and are seen in nearly all industry segments. .*

TYPICAL TOP CONSTRUCTION

- [double-beaded snap ring](#)
- [compression band](#)

TYPICAL BOTTOM CONSTRUCTION

- [double-beaded snap ring](#)
- [compression band](#)

Step. 5 **ADDITIONAL OPTIONS** - (can improve filter bag performance)

- **GROUND WIRE**
 - Extended Top
 - Extended bottom
 - Extended top and bottom
 - Copper, Stainless Steel

- **WEAR CUFF**
- **SPECIAL FINISHES**

GROUNDWIRE – Use to comply with Factory Mutual requirements for static dissipation. Groundwire can be found in stainless steel and copper and actually only works in a localized area of the filter. For optimal static dissipation look at conductive fiber filter made with Eptropic or Stainless Steel fibers.

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WEAR CUFFS – Used to combat abrasion at the bottom of the bag either from “sandblasting” of the bags or bag-to-bag abrasion due to turbulence in the bag house. Usually 2 to 4 inches in length and made of a material similar to that of the body of the filter bag.

SPECIAL FINISHES – There are many finish options that can be added to the filter media at the time it is manufactured. Please refer to the materials selection area for further details. [Specialty Finishes](#)

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Loop top - Sizing up the loop is simply a matter of the width and the height of the loop. The height measurement should always be taken as an inside dimension, especially for felt loops.

Grommet Top - Look for a number stamped on the grommet. It denotes the size in eighths of an inch (e.g. #3 grommet has a 3/8” diameter hole. Most grommets are brass but not if other construction.

Strap/Tail Top -Measure the width of the tail. The length is from the end to the point where it is sewn onto the bag body. Also note the number of layers of material that make up the tail. Most woven filters have two or three layers.

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Metal Hanger - This is a variation on the loop with a metal hanger sewn into the loop. Be sure to measure the length to the center of the hanger. TIP: once you have the length, cut out the hanger and photocopy or make a digital photograph to then include with your RFQ.

Cap - Cap sizing with a measuring tap or calipers is very difficult. It is best to supply the cap if you intend to reuse them on the new bags, else request the bags and caps be supplied as a fitted pairing.

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Snap ring -The size of the snap ring (Snap Band) is really determined by the diameter and thickness of the hole it is placed into. Those measurements must be either taken from the bag house drawings or actually measured on the bag house [Tube Sheet](#) while it is offline. If this is not possible, send us a snap ring. We can size the snap ring to one of our hundreds of test jigs we have especially for this.

Plain hem w/ clamp - The material is simply folded back and sewn. The length of the cuff may be critical, as this inlet to the bag tends to see the greatest velocity and dust loading and consequently the greatest wear.

Cap Top with Hook - Cap sizing with a measuring tap or calipers is very difficult. It is best to supply the cap if you intend to reuse them on the new bags, otherwise request the bags and caps to be supplied as a fitted pairing.

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Corded cuff w/ clamp - Same as the plain hem but with the addition of a cord or rope inserted at the bottom. This reduces the likelihood of the bag pulling past the clamp and detaching from the tube sheet.

Compression Band - A Compression Band is similar to a Snap ring but rather than the gasket sealing to a Tube Sheet the compression band seals to a Metal Cap or a raised collar.

Raw edge/ Soft cuff - Raw edge bags have no measurement Do not if there is a "V" notch cut into the bag. Soft cuffs make for easier fold in of the bag. Measure the amount of the cuff outside and inside the main bag body.

Double beaded Snap ring - The size of the snap ring is really determined by the diameter and thickness of the hole it is placed into. Those measurements must be either taken from the bag house drawings or actually measured on the bag house while it is offline. If this is not possible we can size the snap ring to one of our hundreds of test jigs by having it sent in.

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