

PROGUARD FILTRATION SYSTEMS



1000 & 2000 SERIES

Manual Filter Vessels

Duplexed Filters

When your process flow requires continual operation, it can often be a problem to change or clean a dirty filter element. A good option to by-passing the filter is to duplex two single filter tubes into one filtration system. The creation of a duplexed system allows one filter tube to be on-line and one filter tube to be off-line in a standby mode. When the on-line filter tube becomes dirty, the operator can simply open the valves to the clean standby filter tube and close the valves to the dirty filter tube. This design eliminates any interruption of the process or by-pass of a critical filter system.



**Standard Duplex
and Single Filter Units**

1000 & 2000 Series General Information

ProGuard tubular filters provide a reusable permanent filter element, which eliminates the need to replace dirty, expended filters, as well as eliminating the need to dispose of dirty cartridges or bags. These filters are used in a variety of pulp & paper and other industrial applications.

In certain batch operations, or in low flow continuous operations, manually cleaned filters may be the most economical filter solutions.

Reusable elements become important when considering EPA issues and the cost of disposing of dirty disposable media. Another important benefit of tubular filters is that they can be backflushed and drained, thus helping operators avoid contact with hot or caustic fluids.

The 1000 Series filter designates the 3-1/2" O.D. filter with either 1" or 1-1/2" connections. The Series 2000 filter is 4-1/2" O.D. with 2" connections. Both are 316 Stainless Steel construction and have safe, self-venting, quick-operating vessel closures.

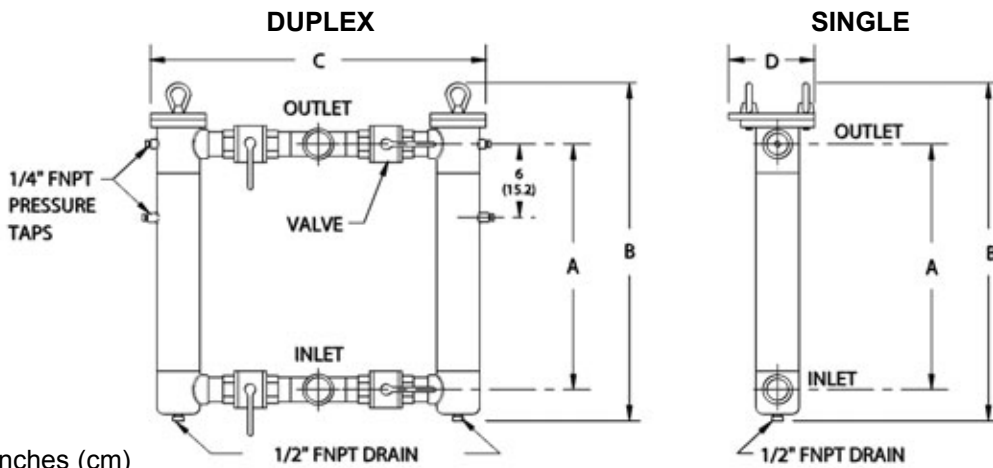
Standard Features

- **Single Filter or Duplexed Assembly**
- **Operating Pressures to 350 psi**
- **316 Stainless Steel Construction**
- **Quick Opening, Self Venting Vessel Closure (fast & safe)**
- **Fast Removal of Filter Elements**
- **Reusable Filter Media, from 10 Mesh to One Micron**
- **Built to ASME Code Design Standards**



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1000 & 2000 Series Dimensional Information



DIMENSIONS: Inches (cm)

MODEL NUMBER		DIMENSIONS				HSD OD	INLET OUTLET	ELEMENT DATA	Surface Area	
Single	Duplex	A	B	C	D				Size	Single
1001MS1NA0NN	1002MS1NA1NN	15 (38.1)	22 (55.9)	26.5 (67.3)	7 (17.8)	3-1/2	1" FNPT	2-1/4 x 12	85 IN ² .0548 M ²	170 IN ² .1097 M ²
1001MS1NB0NN	1002MS1NB1NN	21 (53.3)	28 (71.1)	32.5 (82.6)	7 (17.8)	3-1/2	1" FNPT	2-1/4 x 18	127 IN ² .0819 M ²	254 IN ² .1639 M ²
1001MS1NC0NN	1002MS1NC1NN	27 (68.6)	34 (86.4)	38.5 (97.8)	7 (17.8)	3-1/2	1" FNPT	2-1/4 x 24	170 IN ² .1097 M ²	340 IN ² .2193 M ²
1001MSDNA0NN	1002MSDNA15NN	15 (38.1)	22 (55.9)	26.5 (67.3)	7 (17.8)	3-1/2	1-1/2" FNPT	2-1/4 x 12	85 IN ² .0548 M ²	170 IN ² .1097 M ²
1001MSDNB0NN	1002MSDNB15NN	21 (53.3)	28 (71.1)	32.5 (82.6)	7 (17.8)	3-1/2	1-1/2" FNPT	2-1/4 x 18	127 IN ² .0819 M ²	254 IN ² .1639 M ²
1001MSDNC0NN	1002MSDNC15NN	27 (68.6)	34 (86.4)	38.5 (97.8)	7 (17.8)	3-1/2	1-1/2" FNPT	2-1/4 x 24	170 IN ² .1097 M ²	340 IN ² .2193 M ²
2001MS2MD0NN	2002MS2MD2NN	28 (71.1)	37 (94)	42.5 (108)	7-1/2 (19.1)	4-1/2	2" FNPT	3-1/4 x 24	245 IN ² .1580 M ²	490 IN ² .3161 M ²
2001MS2MF0NN	2002MS2MF2NN	44 (111.8)	53 (134.6)	58.5 (148.6)	7-1/2 (19.1)	4-1/2	2" FNPT	3-1/4 x 40	409 IN ² .2638 M ²	818 IN ² .5277 M ²

Typical Applications

Pulp & Paper Applications

There are many applications for single and duplexed manual tubular filters in the paper mill. Some examples include:

Retention Aids - This is usually a polymeric compound, added to the pulp stock as a bonding agent. It can agglomerate and cause a quality problem in the paper sheet during the forming process. A duplexed ProGuard 2000 Series filter with 100 mesh wire screen elements is a great solution in these applications.

Sizing Starch - Wet end sizing starch is also a pulp stock additive, used to make the sheet stronger during forming. Dirty starch, poorly cooked starch, or agglomerations can cause a quality problem on the sheet. Depending on the flow, a 60-100 mesh wire or slotted media in a duplexed filter is the best solution here.

Alum - This additive is primarily for PH control. Because Alum can precipitate or crystallize during flow through piping, it is best to filter this additive with a tubular filter. Alum is normally very low flow, so the 1000 Series unit, with a 100 mesh screen works best.

Trim Squirt - Due to critical nozzle size and relatively high pressures, trim squirt nozzles are often fed by fresh water. In this application, a .003" profile wire, single filter provides the best filtration solution.

There are many other applications, such as D1 water, boiler feed water, dye, and shower nozzle protection on the paper machine where manual ProGuard filters can be used to raise the quality of the paper product or to prevent the fouling of equipment.

Other Industrial Applications

Anytime liquid is treated, heated, refrigerated, or simply under pressure in the industrial process, there may be the need for a tubular filter to remove suspended solids. Solids can build cake on the inside of pipes, on the outside of coils and heat exchangers. Solids can also contaminate liquids used to make chemicals, products for human consumption, or just plain wash water.

ProGuard filters do a very effective job taking solids out of liquids in a variety of industrial applications. Call us to discuss your specific situation.