

## The Problem

The requirement for 100% Sterile-Bacteria free compressed air in industries such as pharmaceuticals, breweries, dairies, and food processing plants is uncompromising.

All bacteria and viruses, as well as other organisms, must be securely filtered out and retained. Problems can also arise when filter elements contain binder materials which provide a nutrient beading ground for organisms, thereby encouraging "grow through".

## The Solution

Microdyne Sterile Filters "SF" with our highly polished, anti-magnetic stainless steel housings, ensure 100% sterile filtration of air and gases. Because the Microair Filter Media is 100% binder-free, it eliminates the possibility of "grow through" of microorganisms. Stainless steel support sleeves, which have the ability to repeatedly withstand surging in the air or gas supply.

Constant efficiency is ensured under the most arduous application conditions, even with 100% excess loading, due to the extra binder-free support fiber web which holds the actual Microdyne submicro-fiber web rigidly in place. Zero Migration is our standard.

Sterilization can also be achieved with Hydrogen Peroxide which presents no problems to the filter element. Upon sterilization, H<sub>2</sub>O<sub>2</sub> deposits must be drained from the housing.

## Application

### Breweries:

- Mash Mixes
- Sugar Farm
- Wort Cooling
- Main Fermentation
- Secondary Fermentation
- Storage Tank
- Bottling
- Barrel Filling

### Canning:

- Filling Bulk Transporters
- Container air pressure and in conveying.
- Container venting and conveying.
- Venting of beer wert.
- Sterile air/oxygen infection.
- Transport, prevention of fret and CO<sub>2</sub> depletion.

### Food Industries:

Wherever easily spoiled products need to be conveyed, mixed, packed or processed with oxygen, compressed air or gases.



### Pharmaceutical Industry:

Inoculants are cultivated in fermenting vats, into which sterile air is introduced to provide oxygen for the nutrient solutions necessary for the metabolism of bacteria cultures.

Needless to say, all other bacteria types must not be introduced into the nutrient solution from the compressed air supply, since there is then the danger of adverse interaction.

When compressed air is used for packaging tablets or other medicines, it is important that the air is sterile.

In clean rooms, sterile filters are applied to provide sterile air within the room at a slight increase of pressure to ensure that dust, bacteria and other contaminants cannot penetrate the area.

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### Performance Data

All Microdyne Sterile Filters "SF" are manufactured with Stainless Steel inner and outer support sleeves, stainless steel end caps, three dimensional layered, 100% binder-free Microdyne submicrofiber web with a 90% void volume and a two-stage depth filtration principle. The filter elements are chemically, biochemically and biologically neutral and inert and are resistant against chemicals and high temperatures and can be steam or H2O2 sterilized. The element media are characterized by having Zero Migration and Zero Extractables. The Microdyne modular construction system permits optimum adaptability of other elements to suit special and/or particular requirements.

**Efficiency:** 100% Sterile

**Differential Pressure:** .6 to 1.0 psi (.04 to .07 Bar)

**Pore Sizes:** .01 micron

**Pressure Rating:** 235 psi (16 Bar) maximum

**Flow Volumes:** 20 to 17,700 scfm as standard flow

**Operating Temperature:** 392 F (200 C)

**Operating Pressure:** 100 psi (7 Bar) as standard pressure

**Pipe Connections:** 1/2" NPT to 12" Flange

### Technical Data — Non-Flanged Housings

Non-flanged, single-element housings are fabricated in stainless steel and are rated at 250 psi. Connection types include stub-end, NPT and sanitary.

Size	Nominal flow (SCFM)	NPT Size Connections	Elements Per Filter
3	20-30	1/2"	1
5	30-41	1/2"	1
7	47-51	1/2"	1
9	97-144	3/4"	1
10	130-170	1"	1
11	159-218	1"	1
12	239-327	1 1/2"	1
13	325-413	1 1/2"	1
14	435-554	2"	1
17	679-885	2"	1

### Technical Data — Flanged Housings

Filters with flange-type connections, both single- and multiple-element housings, are fabricated in stainless steel and are rated at 250 psi.

Size	Nominal flow (SCFM)	NPT Size Connections	Elements Per Filter
14	436-554	2"	1
17	679-885	2"	1
20	1385-1770	3"	2
30	2037-2655	4"	3
40	2716-3540	6"	4
60	4074-5310	6"	6
80	5432-7080	8"	8
100	6790-8850	8"	10
120	8148-10620	10"	12
160	10865-14160	10"	16
200	13580-17700	12"	20

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