

P-SLF Sterile Air Unit

In the processing of perishable or sensitive products the demands for hygiene are usually very high. The ambient air is polluted and can ruin even the cleanest production process if it comes in contact with the end product without being purified. Bacteria, viruses, phages, oil mist, water and dust in the ambient air are the main reasons for the microbiological spoilage of the products. Sterile air creates aseptic conditions in pressurized and in open storage or mixing tanks and in filling machines. A continuous exchange of the air cushion and a slight overpressure in this critical area reduces the risk of a secondary contamination with ambient air.

Specially for these production processes where bacteria and phage free air is required Donaldson Ultrafilter developed the autarkic sterile air unit P-SLF. With eight different sizes from 30 m³/h to 900 m³/h it is possible to produce sterile air in the most cost efficient way. The P-SLF sterile air unit is available in a mobile and a stationary version and can be sanitized with saturated steam. The P-SLF sterile air unit is used in applications within the food and beverage, the chemical, the pharmaceutical and the cosmetic industry.

Product description:

The filtration system is a compact unit consisting of a pre- and sterile filter with a low pressure blower. With a very low overpressure the sterile air is transported into the storage tank. This constant air exchange prevents the growth of bacteria, viruses and phages which the ambient air contains.

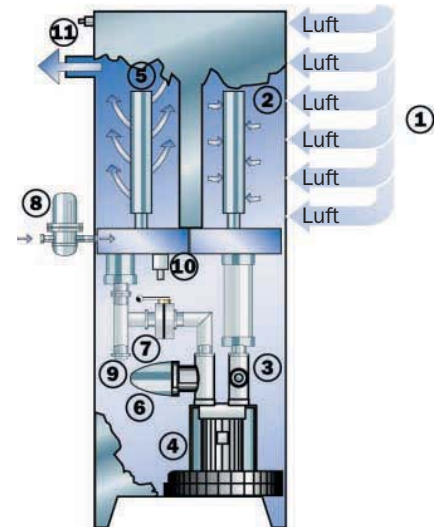


P-SLF Sterile Air Unit

Function:

The blower sucks the dry polluted ambient air (r.H. < 95%) via the air intake (1) into the chamber (2). The air is cleaned with the prefilter at the upstream side of the blower. The retained particles cause an increase in the differential pressure. To maintain to protect the blower (4) a vacuum relieve valve (3) is installed. The blower (4) "compresses" the air at about 0.1 bar. The compressed air is fed into the sterile chamber (5). The sterile filter retains micro-organisms and all kinds of bacteria and/or other contaminants. To protect the blower there is also a pressure relief valve which opens if the sterile filter is blocked. At the outlet (11) the sterile air is fed to the tank or an other point of use.

During sterilization of the sterile chamber and the sterile filter elements, the disc valve (7) needs to be closed to prevent steam entering the blower. To maintain a good steam quality the steam filter (8) is standard on the P-SLF sterile air unit. After sterilization the condensate can be drained out the discharge valve (9 + 10). (also see sterilisation instructions).



Technical data

Donaldson Ultrafilter Sterile Air Systems:					
Type P-SLF	Flow rate in m ³ /h at		Power consumption in kW*	Filter elements	
	Δp= 100 mbar	Δp= 200 mbar		Size	Type
0288-0	75	35**	0.85	2x20/30 2x20/30 1x05/20	FF BE P-GS
0432-0	130	65	1.6	3x20/30 3x20/30 1x05/20	FF BE P-GS
0576-0	210	110	2.2	3x30/30 3x30/30 1x05/25	FF BE P-GS
0768-0	260	210	2.2	4x20/30 4x20/30 1x05/25	FF BE P-GS
1152-0	410	300	4.0	6x30/30 6x30/30 1x05/25	FF BE P-GS
1536-0	450	390	7.5	8x30/30 8x30/30 1x07/30	FF BE P-GS
2304-0	800	620	11	12x30/30 12x30/30 1x07/30	FF BE P-GS
3072-0	900	790	13	16x30/30 16x30/30 1x10/30	FF BE P-GS

* Standard:

220 V/ 380 V $\sqrt{3}$, 50 Hz
(P-SLF 0288-0 to 1152-0)

380 V/ 660 V $\sqrt{3}$, 50 Hz
(P-SLF 1536-0 to 3072-0)

Also other voltage or frequencies available on request.

Note:

All P-SLF sterile air units are also available in PN 4 version. This means it can be sterilized with saturated steam up to 4 bar or a steam temperature of 140°C.

The name of such a sterile air unit would e.g. be P-SLF 0576-4.

** max 0.17 bar total difference of the blower