Donaldson
Filtration Solutions

PROCESS FILTERS

P-SLF Box

Sterile Air Box for Process Environments

In the processing of perishable or sensitive product, the demands for hygiene are usually very high. Ambient air is polluted and can ruin even the cleanest production process if it comes into contact with the end product without being purified. Bacteria, oil mist, water and dust in ambient air are the main reasons for spoilage of products. Sterile air creates aseptic conditions in pressurized and 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 contamination with unfiltered ambient air.

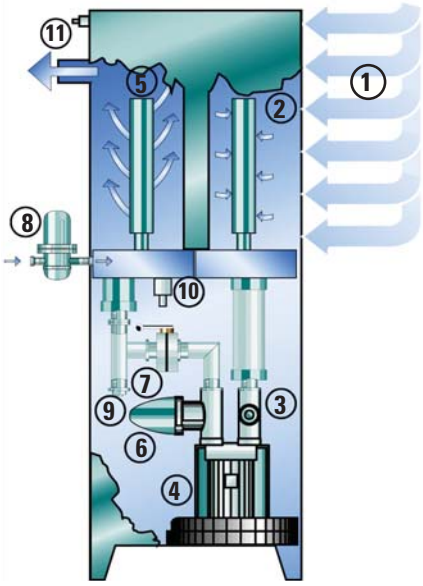
For production processes where bacteria and particle-free air is required, Donaldson Process Filtration developed the P-SLF Sterile Air Box. With eight Box sizes from 18 to 529 cfm, sterile air can be produced in the most cost efficient way. The P-SLF Box is available in mobile and stationary versions and can be sanitized with saturated steam. The P-SLF Box is used in applications within the food and beverage, chemical, pharmaceutical, cosmetic and other industries.

P-SLF Sterile Air Box
for Process production environments

The filtration system is a compact unit consisting of a pre-filter 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 contamination by bacteria and particles found in ambient air.

How It Works

The blower draws ambient air **(1)** into the filtration chamber **(2)**. The air is cleaned with a prefilter on the upstream side of the blower. The retained particles will cause an increase in differential pressure over time. To protect the blower **(4)** a vacuum relief valve **(3)** is installed. The blower **(4)** compresses the air to about 1.5 psi. The compressed air is fed into the sterile chamber **(5)** where a sterile filter retains bacteria and other contaminants. To protect the blower, a pressure relief valve will open if the sterile filter is blocked. At the outlet **(11)** the sterile air is fed to the tank or other point of use.



D f the upper chamber and filter elements, be closed to prevent steam from ntain a good steam quality steam SLF Box. After sterilization the t the discharge valve nstructions.

FPC
Filter Products Company
Richmond, VA
http://fpcfilters.com
(804) 231-4646

P-SLF Box

Donaldson Ultrafilter Sterile Air Systems					
Type P-SLF	Flow rate in cfm at...		Power consumption in kW (HP)*	Filter elements	
	Δp = 1.5 psid	Δp = 3 psid		Size	Type
0288-0	44	21**	0.85 (1.2)	2x20/30 2x20/30 1x05/20	FF BE P-GS
0432-0	83	38	1.6 (2.2)	3x20/30 3x20/30 1x05/20	FF BE P-GS
0576-0	124	65	2.2 (3.0)	3x30/30 3x30/30 1x05/25	FF BE P-GS
0768-0	153	124	2.2 (3.0)	4x20/30 4x20/30 1x05/25	FF BE P-GS
1152-0	224	153	4.0 (4.0)	6x30/30 6x30/30 1x05/25	FF BE P-GS
1536-0	260	229	7.5 (10.1)	8x30/30 8x30/30 1x07/30	FF BE P-GS
2304-0	390	295	11 (14.8)	12x30/30 12x30/30 1x07/30	FF BE P-GS
3072-0	529	472	13 (17.4)	16x30/30 16x30/30 1x10/30	FF BE P-GS

*Standard: 220 V / 380 V⅄, 60 Hz (P-SLF 0288-0 to 1152-0)
380 V / 660 V⅄, 60 Hz (P-SLF 1536-0 to 3072-0)

Also other voltage or frequencies available on request.

**Max 2.5 psi total difference of the blower

Note:
All P-SLF boxes are also available in PN 4 version. This means it can be sterilized with saturated steam up to 58 psi or a steam temperature of 284°F. The name of such a box would e.g. be P-SLF 0576-4.

Filter Products Company
Richmond, VA
http://fpcfilters.com
(804) 231-4646

on Company, Inc.
Filtration
Box 1299
inneapolis, MN
55440-1299 U.S.A.

Tel 800.543.3634 (USA)
Tel 800.343.3639 (within Mexico)
processfilters@mail.donaldson.com
www.donaldson.com

Information in this document is subject to change without notice.
© 2006 Donaldson Company, Inc.
Printed in U.S.A. on recycled paper

Bulletin No. PRO-215