

Polex Environmental Engineering Pty Ltd
ACN 121 129 842

Polex™ PARTICULATE SCRUBBERS

Description

The Polex range of particulate scrubbers is designed for the filtering of contaminated air.

Operating Principle

The polluted air first enters the scrubber through a 90° bend and is intercepted by an array of water droplets. The air is accelerated as it enters the scrubber by a venturi plate to increase the number of collisions with the water droplets. Water is recirculated from the water tank to the spray jets. Some of the particles drop out into the water tank below at this stage. The remainder of the combined air-water mixture travels through to the perforated baffle. The water that passes through here produces a dam of water which acts as another stage of filtration. Finally, the air-water mixture enters a mist eliminator to remove any moisture present in the air stream. Sludge forms in the collection tank below.

Construction

Fully welded Stainless steel sheetmetal construction. The standard grade of Stainless steel used is 304.2B. Depending on the dust type, Stainless steel 316.2B is used for additional corrosion protection.

Applications

Food powders, Brick dust
Metal grinding, Explosive dusts

Particulate scrubbers are particularly suited to displaced food powder filtration. When food powders are manually added to mixers and blenders, air in the tanks is displaced causing the powder to escape at the opening. For companies that have existing water treatment facilities, a wet scrubber system can often be the best solution for on-going maintenance. Conventional dry-type filters can be a difficult for maintenance due to the hygroscopic nature of food powder, meaning that filters regularly block and must be cleaned. A wet scrubber system however can run continuously without blocking. They can then simply be cleaned by hosing out through the access doors. It must be noted however that the company must have an existing water treatment facility in place otherwise removal of sludge and contaminated water becomes an expensive exercise.



Models

Model	Fan size (kW)	Airflow (m ³ /h)	Pressure (Pa)
PS1500	2.2	1,500	2,600
PS3000	4	3,000	2,600
PS5000	7.5	5,000	2,600

Options

Sludge Conveyors	Fans	Ducting
Silencers	Pneumatic slide gates	Flexible ducting
Vacuum gauges	Electric controls	Emission monitoring equipment
Maintenance	Installation	Commissioning

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