

Polex Environmental Engineering Pty Ltd
ACN 121 129 842

Polex™ Modular Shaker Bag Filter Dust Collectors

Description

The Polex Modular Shaker Dust Collector series is of a robust and efficient range of dust collectors. These units are ideally suited to intermittent operation as the filters are cleaned after the fan is stopped.

Operating Principle

Polluted air enters through the side panels (beneath the filters) and is directed upwards through the inside of an array of cylindrical bag filters. The larger dust particles drop out into the hopper while the lighter and finer particles continue into the array of filters. The cleaned air then enters the clean-air chamber where a shaker mechanism is located. The vibratory action of the shaker mechanism assists in the releasing the dust from within the filters. The cleaned air is then discharged to atmosphere or through discharge ductwork.

Modular Design

Polex dust collectors have been designed with common components in mind. The interchangeability of components for different sized dust collectors minimises stock levels required and allows for fast delivery of assembled dust collectors. Components are stocked for all models and assembled to order.

Each Polex dust collector module is 1090 mm deep x 1090 mm wide. Polex dust collectors are 100% modular and can therefore be easily extended as the airflow requirements through the system increase without having to replace the entire dust collector.

Capacity

Dust collector filter capacities vary from 15 m² to 1000 m². Airflow capacities vary from as low as 1000 m³/h for a single module up to 120,000 m³/h for a 40 module system.



Single Module Dust Collector Model 1-1

- **Modules can be added as airflow requirements increase**
- **Shaker cleaning mechanism**
- **Heavy duty support structures**
- **Standard modules with 15, 20 and 25 m² filter area**
- **Up to 120,000 m³/h airflow capacity**
- **From 15 m² to 1000 m² filter area**

Size Summary

Series	Depth (mm)	Length (mm)	Height (mm)	Filter area (m ²)	Airflow (m ³ /h) *
One Module	1090	1090 to 10900	4993 to 5543	15 to 250	1800 to 30000
Two Module	2180	2180 to 10900	7213 to 7763	60 to 500	7200 to 60000
Three Module	3270	3270 to 10900	7213 to 7763	135 to 750	16200 to 90000
Four Module	4360	4360 to 10900	7213 to 7763	240 to 1000	28800 to 120000

* Air to cloth ratio 2:1 m³/min/m² cloth area

Polex Environmental Engineering Pty Ltd
ACN 121 129 842

Polex™ Modular Shaker Bag Filter Dust Collectors

Construction

Polex modular dust collectors are constructed from bolt-together folded Galvanised sheetmetal panels and are available in 1.5 mm and 3 mm thickness as standard. The material thickness of Polex's dust collector panels has been optimised to minimise cost whilst maintaining strength. Painted 5 mm panels are also available on request. Panels can also be fabricated in Stainless Steel for highly corrosive environments. All panels are connected with high tensile fasteners for strength and corrosion protection.

Polex dust collector legs are fabricated from heavy Square Hollow Section (SHS) steel as standard, making them suitable for heavy duty industrial sites. All Polex dust collectors are structurally certified to withstand high wind loadings. The dust collector legs are hot dip Galvanised as standard for long lasting corrosion protection. Standard support structures accommodate hoppers with bins, rotary valves and screw feeders. The foot print for every leg is 100% symmetrical making it easy to mark out cast-in anchor positions in concrete and trouble free installation.

Filters

Polex bag filters are made from heavy duty Polyester Needlefelt (550 g/m² filter weight). Antistatic media is supplied as standard. The spacing between filters has been selected for effective and reliable dust release.

Cleaning System

A vibrator motor is fitted to each filter mounting frame which vibrates for a preset time when the system is stopped. This causes dust within the filters to release and drop through to the hopper.

Dust Inlets

Dust collector dust inlets are positioned either in the hopper(s) or through a 490 x 490 mm opening(s) in the filter chamber (beneath the level of the filters). Inlet plenums are also available for abrasive dusts. Inlet chambers can be incorporated into the filter chamber by leaving one module free of filters. Standard cut-outs in the panels can accommodate a standard 490 x 490 mm explosion vent. Welded studs are included on the panels with cut-outs to easily replace the explosive vents if they are ruptured. The panels with cut-outs can be used for either an explosion vent or a dust inlet.

Transportation

All Polex dust collector sub-assemblies fit within standard shipping containers and can be transported within road limits for trucks. Lifting lugs are supplied as standard where necessary for lifting sub assemblies. Polex dust collectors can be supplied as flat-pack or assembled. All flat-pack components are packed in wooden crates for international shipments.

Accessories

Various dust collector accessories are available from Polex such as screw feeders, ladders and access platforms, rotary valves, emission monitoring equipment, bin level sensors, explosion vents, fans, silencers, electrical control panels and ducting.