

Filtoroll™ Roll media air filter

Standard media specifications

Media Type Code	Nominal Roll Size L x W x T	Part Number
P	3 ft x 20 mt	1516-1209/1
Email	4 ft x 20 mt	1516-1209/2
Auto-roll	5 ft x 20 mt	1516-1209/3
Disposable	6 ft x 20 mt	1516-1209/4

Performance: P Media

Velocity m/s	2.5	
No. 1 Test Dust		
Res. Pa.	Min. Efficiency	Peak Efficiency
72	24%	25%
No. 2 Test Dust		
Res. Pa.	Dust Held per M2	Average Efficiency
72	1457 g	98%
No. 4 Test Dust		
Res. Pa.	Dust Held per M2	Average Efficiency
72	372 g	90%

P Media is the typical media type used in Filtoroll units, however other media grades can be supplied to suit various filtration environments.

Applications

The AES Environmental Filtoroll units are designed for use in limited operating period or low occupancy establishments such as small offices, clubs, hotels, shops and function rooms.

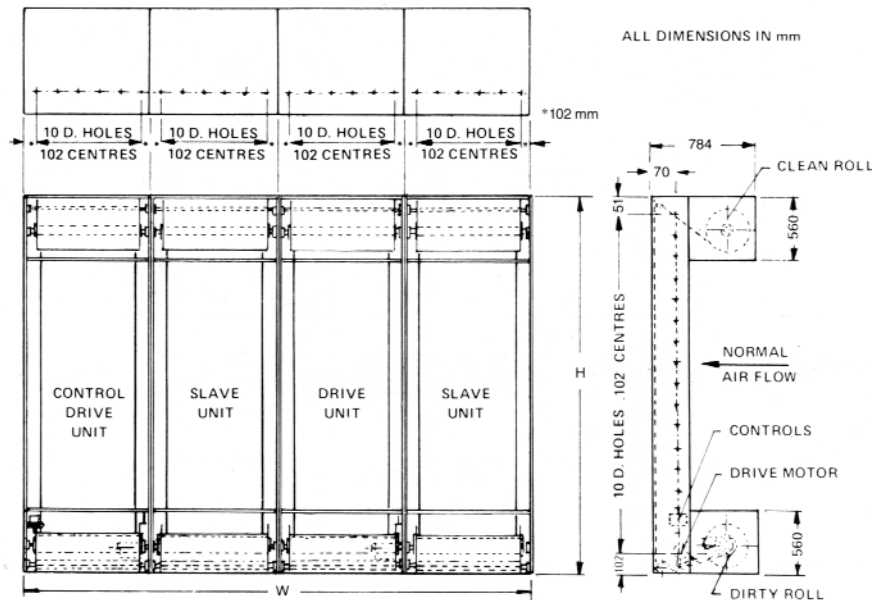
The efficiency and dust-holding capacity of the non-shredding, non-irritant polyester based filter medium have proven it superior to other roll type units. The units can be mounted in a number of ways to meet a wide variety of application requirements, and airflow can either be horizontal or vertical.

In horizontal airflow applications the filters are normally mounted so that the media moves in a vertical direction. However, where the available installation height is limited, the filters can be mounted with the media moving horizontally. For vertical up-flow applications the filter is mounted on its back with the media rolls underneath.

In down-flow vertical applications the converse applies, with the media rolls mounted on top.

Principle of operation

In the AES Environmental Filtoroll unit the media drive motor is a 62 watt integral gear motor directly coupled by chain and/or gear drives to the dirty media spool. The in-built pressure differential switch ensures a constant resistance and therefore a constant airflow despite particulate build-up. The edges of the media are securely located in edge-sealing channels of generous depth to prevent any leakage of air around the edges of the media.



Performance

The normal operating resistance of a Filtoroll unit is 100 Pa at rated capacity. Units are available in size from 2473 L/s up to 73,000 L/s capacity. ASHRAE tests give an efficiency of 83% at rated air flow.

Maintenance/Service

AES Environmental provides full air filter maintenance, media changeover, replacement parts and servicing facilities. Under typical conditions, the roll media is changed every 6-24 months depending on filter height and air contamination levels.

When media requires changing, rolls of clean media can be readily loaded into the Filtoroll filter. After fitting trunnions to the roll of clean media, the roll is slipped into the bearing supports at one end of the filter. No cover is required over the clean roll.

The plastic leader attached to the media is then fed over the inner roller, across the opening with the edges in the sealing channels on the filter frame, around another roller and fixed on to the take up spool.

The operation of pulling the media through is quick and entirely manual, with the take up spool being wound by hand. The automatic drive to this spool is temporarily disengaged for loading new media.

Selection

In laying out a filter system it is recommended that there is 1 metre space on the air-on side of the filter for maintenance purposes. In some applications one Filtoroll unit can be linked to power multiple 'slave' units to cover a wide passage of air - refer to diagram at top of page. Contact your local AES Environmental office for an engineered solution.

How to specify

Air filters shall be AES Environmental Filtoroll air filters in sizes and capacities as listed on the plans and/or specifications.

The filter shall be of dry media type in which a roll of the media is wound across the air stream. The filter media shall be adequately supported for the particular application and sealed at the edges so that there shall be no by-pass of unfiltered air.

Media shall be synthetic non-woven type, cotton scrim backed for mechanical strength. One roll of media 20mt long of appropriate width shall be supplied for the initial charging of each filter section.

No variable speed devices shall be used in the media drive mechanism which shall be powered by a 240 volt single-phase motor, not less than 62 W. Control of media movement shall be by means of a pressure switch set to maintain the operating resistance at 100 Pa. In addition, a cut off switch shall be fitted to each filter section to the brake plate on the clean media roll to prevent media movement when the roll is exhausted.



www.aesenvironmental.com.au

Sydney: Tel 9827 3400 Fax 9603 8559
Melbourne: Tel 9357 7000 Fax 9357 6198
Adelaide: Tel 1300 550 116
Perth: Tel 9279 5122 Fax 9279 5133

Brisbane: Tel 3271 1077 Fax 3271 1053
Newcastle: Tel 1300 550 116



National Tel. Hotline 1300 550 116

National Fax 1300 550 117

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 ABN 74 136 515 430