Megalam ES
Tender Specification

This specification covers most options for the Megalam ES type filters. Delete any non-applicable part of the spec.

1.0General information

The air filter shall provide fine airborne particulate control to meet the requirements of today's high technology cleanrooms, clean benches and clean air devices with unidirectional airflow.

2.0Construction

2.1 The filter pack shall be constructed by pleating a continuous sheet of medium in a way that it becomes self-supporting without the use of metal separators. Continuous hotmelt separators ensure uniform pleat spacing and form a rigid self-supported media pack. Media-to-media contact, and associated fiber break-off, will be eliminated.

2.2 The filter medium shall be made of ePTFE media to allow solid and liquid depth loading capacity comparable to glass fiber HEPA medium glass microfibers with a waterproofing binder.

2.3 The media pack shall be permanently sealed to the filter frame of the module with a solid polyurethane sealant. The potting compound should be thoroughly characterized for proper adhesion to the filter frame along with other critical properties.

2.4 The frame shall be made from heavy-duty, lightweight anodized aluminum with frame corners secured with barbed angles for module durability and long-term integrity.

[Gasket (2) options available (PICK 1)]

2.4 Filter Gasket seal shall be a seamless polyurethane foam gasket applied to the filter frame. Gasket seams or joints (i.e. dove tail joints or but joints in the corners) are not allowable.

2.5 For gel seal applications, the frame shall have an integral aluminum skirt extending downstream from the filter face or a continuous perimeter channel that is filled with a non-flowing silicon gel.

2.6 Media, frame material and adhesives shall be free of harmful chemical components such as Bisphenols-A, formaldehyde or phthalates.

2.7 Media, frame material and adhesives shall be tested for resistance against common decontamination and cleaning procedures such as Peracetic acid, Hydrogen Peroxide, Acetic Acid, Ethanol, Isopropanol, Acetone, Bleach & Ammonium

3.0 Filter shall be resistant to damage from finger poke pressure tests.

4.0 Filter must be compatible with aerosol injection concentration during routine validation operations below 18 g/m2, in order to maximize energy savings during the longer possible lifetime for the filter.

5.0 Filter materials shall be resistant to usual decontamination agents such as hydrogen peroxide, Sporklenz, bleach, and quaternary ammonium. The filter shall resist efficiency and pressure drop degradation from exposure to 9600 ppm-hr of H2O2.

6.0Filter Performance Criteria/Factory testing:

3.1 The filter shall be an H14 filter in accordance with EN1822:2009 with a modified maximum local penetration as specified in the Factory Scan test section of this specification. The filter shall have a minimum overall efficiency of 99.995 percent tested at the most penetrating particle size (MPPS) as specified in the referenced standard.

3.1 Factory Scan Test:

3.1.1 Each filter shall be subjected to an automated scan test for the detection of leaks in the media and the perimeter seal. The face velocity shall be according to the nominal airflow of each filter size/configuration. Small filters (filters less than 457 mm wide) or small lot sizes (less than 5 pieces of a given size) may be manually scan tested.

3.1.2 The scanning shall be accomplished by passing the probe with overlapping strokes so the entire filter face area is sampled. Scanning shall be performed in accordance with EN-1822. A separate laser particle counter shall continuously monitor the upstream challenge concentration.

3.1.3 The particle counting equipment shall have a detection limit of 0.10 micron or smaller at a sample flow rate of one (1) cubic foot per minute. The particle counting equipment should be calibrated and within its recommended calibration cycle.

3.1.4 The challenge aerosol for factory scan testing is DEHS (Di-Ethyl-Hexyl-Sebacat). The acceptable generation technique is the use of a Laskin nozzle type aerosol generator. The challenge aerosol concentration shall be chosen in a way that the counting rate of both counters, before and after the filter, are significantly above the zero-count limit and below the coincidence-limit

3.1.5 The Scan Test shall be performed at the MPPS with the Scan method outlined in EN-1822. The required data as the measured pressure drop, overall and minimum efficiency, measured particle count, test date, filter size, lot number, unique serial number, article number and the used measuring equipment shall be reported on an individual certificate per each filter. The Scantest certificate shall be delivered with the filter.

3.1.6 All filters shall be tested for initial pressure drop. The maximum allowable initial pressure drop varies depending on actual application and should be agreed upon during the purchasing process.
Configuration typical Value:
Filterclass: *H14 acc. to EN 1822*
Profile height: MD / MX
Pressure drop: 75 / 60 Pa

3.2 Each filter shall be delivered with three labels indicating that it has passed the scan test the

3.3 The serial number must serve to trace back the filter to production date, site, operator and the used scan-test devise.

3.4 Each filter shall be delivered including the individual scantest protocol.

3.0Delivery, Storage and Handling of HEPA/ULPA Filters

3.1 Materials shall be delivered in their original unopened packages and shipped in enclosed trailers.

3.2 Care shall be exercised in handling components to prevent damage.

3.3 Materials shall be stored in such as manner as to prevent damage or intrusion of foreign matter. Materials stored longer than 1 week shall be in a controlled environment (20°C, 50% maximum relative humidity).

3.4 The filters shall be individually packaged. Each filter module shall be wrapped in a protective polyethylene bag. Protective sleeves shall be inserted between the filter module and the carton walls. The packaging shall be such that sufficient protection of the bare media shall be provided. Each carton shall display the Manufacturer's label indicating the part and model number in addition to the label on the filter itself.

3.5 Filters shall not be unpackaged until they are ready for inspection, testing and installation.

3.6 In all handling operations, care should be as for all taken to prevent:
3.6.1 Dropping of cartons.
3.6.2 Vibration.

3.6.3 Excessive movement.

3.7 Filters awaiting installation shall be stored in accordance with the Manufacturer's instructions for correct side
of carton up, stacking limits, etc.

Nevertheless because of the nature of the media if there is rougher handling the chance of damaging the filter is very low.

Filter shall be Camfil Megalam ES or equal