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Specifications

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Product:	VariSorb XL15
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Specifications for Extended Surface, High Efficiency Gas Phase/Particulate Filters:

1.0 SCOPE

This specification covers extended surface supported pleat gas phase/particulate filters which are a component of heating, ventilating and air conditioning systems.

2.0 PURPOSE

The purpose of this specification is to establish performance criteria and identify physical properties that are pertinent and necessary for proper filter performance. Conformance to all items in the specifications is the responsibility of the bidder.

3.0 PERFORMANCE CHARACTERISTICS

Filters of the size, air flow capacity and efficiency (MERV and gas phase) shall meet the following rated performance specifications based on the ASHRAE 52.2 and ASHRAE 145.2 test methods. Where applicable, performance tolerance specified in Section 7.4 of the Air-Conditioning and Refrigeration Institute (ARI) Standard 850-93 shall apply to the performance ratings. All testing is to be conducted on filters with a nominal 24"x24" dimension.

Nominal Size (Width x Height x Depth)	24x24x12	24x20x12	24x12x12
Minimum Efficiency Reporting Value (MERV)	15	15	15
Average Efficiency – Toluene	94	94	94
Average Efficiency – SO_2	93	93	93
Rated Air Flow Capacity (CFM)	2,000	1,650	1,000
Rated Initial Resistance (In W. G.)	0.45	0.45	0.45
Media Area (Sq. Ft.)	65.8	54.5	28.4
Carbon Weight (lbs per filter)	6.7	5.6	2.9

4.0 BID ATTACHMENTS

One (1) ASHRAE 52.2 test report from an independent, commercially operated test lab or a test lab covered by an ISO 9000 quality/business system with documented operating procedures including an audited calibration system. The supplier shall grant permission to the test lab which conducts the ASHRAE tests to verbally verify the test results to the purchaser on request.

Two (2) ASHRAE 145.2 test reports from an independent, commercially operated test lab or a test lab covered by an ISO 9000 quality/business system with documented operating procedures including an audited calibration system. The gas challenges shall be with toluene and with SO_2. The supplier shall grant permission to the test lab which conducts the ASHRAE tests to verbally verify the test results to the purchaser on request.

5.0 PHYSICAL CHARACTERISTICS

Each filter shall consist of 8 pleated media packs assembled into 4 V-banks within a totally plastic frame. The filters shall be capable of operating at temperatures up to 130 degrees Fahrenheit and maximum relative humidity of 95%. The filters must either fit without modification or be adaptable to the existing holding frames. If adapters are required, they must be included in the total bid price and notation of this requirement made on the bid form.

5.1 Size

The filters shall be supplied with the following nominal dimensions (width x height x depth) and efficiencies:

_____ _____ _____

5.2 Frame

The molded end panels are to be made of high impact polystyrene plastic. The center support members shall be made of ABS plastic. No metal components are to be used.

5.3 Media

Media to be composed of very high activity carbon particles bonded into a three dimensional network of bicomponent fibers that maximizes the exposure of the sorbent to the gas. The carbon media is laminated to a synthetic particulate filtration layer which provides a high level of efficiency. The media shall be pleated into self supported media packs.

5.4 Media Pack Bond

The media packs shall be bonded to both end panels points of contact, this improves the rigidity as well as eliminates potential air bypass in the filter.

6.0 PACKAGING AND IDENTIFICATION

Packaging shall provide adequate protection against damage or deterioration during shipment and allow complete identification of both the filters and the shipping container. Each filter shall be individually sealed in a polybag to prevent carbon media from adsorbing ambient gases.

6.1 Each filter must be marked with the following:

- 6.1.1 The name or tradename of the product.
- 6.1.2 Nominal filter size.
- 6.1.3 Means of identifying air flow direction of the filter when installed.
- 6.1.4 Name of manufacturer.

6.2 Shipping containers must be marked with the following information:

- 6.2.1 The name or tradename of the product.
- 6.2.2 Nominal filter size.
- 6.2.3 Quantity of filters per carton.
- 6.2.4 Name of manufacturer.

7.0 APPROVED INTERNATIONAL QUALITY SYSTEM

7.1 The manufacturer shall have implemented, or be in process of implementing, an approved international quality system based on ISO 9000 at the facility manufacturing this product.

- 7.1.1 If manufacturer has implemented an approved international quality system, the manufacturer shall make available documentation showing third party certification of same.
- 7.1.2 If manufacturer is in process of implementing an approved international quality system, manufacturer shall submit evidence illustrating progress towards compliance. Evidence is defined as a timetable for implementation plus one or more operating procedures.

7.2 If requested, manufacturer shall make available their procedures describing the monitoring of their Approved Vendors List (AVL).

7.3 If requested, manufacturer shall make available a copy of their Corporate Quality Manual.

7.4 Manufacturer shall provide evidence of a corporate quality policy which must be signed by an officer of the company.