

SPECIAL SPECIFICATION

SECTION 15862S

AIR FILTERS

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Disposable panel filters.
- B. Filter frames.
- C. Filter gages.
- D. Bag type filters.

1.02 RELATED SECTIONS

- A. Section 15720S - Air Handling Units.
- B. Section 15891S – Ductwork.
- C. Section 15840S - Air Terminal Units.

1.03 REFERENCES

- A. UL 900 - Test Performance of Air Filter Units.
- B. ASHRAE 52 - Method of Testing Air Cleaning Devices used in General Ventilation for Removing Particulate Matter.

1.04 SUBMITTALS

- A. Include filter media, filter performance data, filter assembly and filter frames.
- B. Provide operation and maintenance manual.

1.05 QUALITY ASSURANCE

- A. Provide filter media that is UL 900 listed, Class 1 or Class 2, as approved by local authorities.
- B. Provide all filters as product of one manufacturer.
- C. Assemble filter components to form filter banks from products of one manufacturer.

1.06 EXTRA MATERIALS

- A. Provide two spare sets of disposable panel filters at project final acceptance for each piece of equipment requiring filters. Provide one spare roll of filter media for each roll type filter.

PART 2 - PRODUCTS

2.01 MANUFACTURERS

- A. American Air Filter.
- B. Farr.
- C. Continental.
- D. Owens Corning.

2.02 DISPOSABLE PANEL FILTERS

- A. Media: 2-inch thick fiber blanket, factory sprayed with flameproof, non-drip, non-volatile adhesive. Provide industry standard sizes as required for installation.
- B. Rating: 500 feet per minute face velocity, 0.15-inch WG initial resistance, 0.50-inches WG recommended final resistance.
- C. Provide filter media in permanent removable frames.
- D. Holding Frames: 20 gage minimum galvanized steel frame with expanded metal grid on outlet side and steel rod grid on inlet side, hinged with pull and retaining handles.

2.03 FILTER FRAMES

- A. Fabricate filter frames and supporting structures of 16 gage galvanized steel or extruded aluminum T-section construction with necessary gasketing between frames and walls.
- B. Standard Sizes: Provide for interchangeability of filter media of other manufacturers; for panel filters, size for required installation of filter media minimum 2 inch thick; for extended surface and high efficiency particulate filters, provide for upstream mounting.
- C. Side Servicing Housings: Flanged for insertion into ductwork, of reinforced 16 gage galvanized steel; access doors with continuous gasketing and positive locking devices on both sides; extended aluminum tracks or channels for primary and secondary filters with positive sealing gaskets.

2.04 BAG FILTERS

- A. Select each filter element for operation at 500 feet per minute face velocity with a total net effective media filtering area of not less than 48 square feet per 1,000 cubic feet per minute of rate capacity. Provide open area of the cartridge face available for air passage not less than 90 percent of the total face area. Construct the filter cartridge elements so that the individual pleats are maintained in a tapered form by flexible internal supports under rated air flow conditions. At any point, provide sizes of the upstream and downstream air passages in exact proportion to the volume of unfiltered and filtered air being handled at that point. Provide filter with initial resistance not to exceed 0.5-inch W.G. at 500 feet per minute face velocity. Provide filter with average efficiency not less than 90 to 95 percent by the ASHRAE 52 test method using atmospheric dust. Provide final element of 32 inches.
- B. Unless filters are shown in the drawings installed upstream of the bag filters, provide for each bag filter a disposable prefilter consisting of 2-inch thick fiberglass pad with metal frame as part of the bag filter assembly. Install in a permanent holding frame.

2.05 FILTER SECTIONS

- A. Inclined Manometer: One piece molded plastic with epoxy coated aluminum scale, inclined-vertical indicating tube and built-in spirit level, range 0 inches to 3 inches WG, 3 percent of full scale accuracy.
- B. Accessories: Static pressure tips with integral compression fittings, 1/4-inch aluminum tubing, two-way or three-way vent valves.

PART 3 - EXECUTION

3.01 INSTALLATION

- A. Install air cleaning devices in accordance with manufacturer's instructions.
- B. Prevent passage of unfiltered air around filters with felt, rubber, or neoprene gaskets.
- C. Do not operate fan system until filters temporary or permanent are in place. Replace temporary filters used during construction.
- D. Install filter gage static pressure taps upstream and downstream of filters. Mount filter gages on outside of filter housing or filter plenum, in accessible position. Adjust and level.
- E. Provide inclined gage manometer with red gage oil at filter bank of each air handling unit. Provide at least 2 ounces of red gage oil for replacement in each manometer.

END OF SECTION