

**SECTION 23 40 00
HVAC AIR CLEANING DEVICES**

PART 1 GENERAL

THE CONTRACTOR IS REFERRED TO THE "SPECIAL NOTICE TO CONTRACTORS SUMMARY FORM "THE "FORM OF PROPOSAL"; THE "FORM OF BID BOND"; "DIVISION 01 – GENERAL REQUIREMENTS" OF THE "CONTRACT SPECIFICATIONS"; THE "CONTRACT DRAWINGS" AND ALL AMENDMENTS AND ADDENDA THERETO; ALL OF WHICH GOVERN THE WORK OF THIS SECTION.

1.01 SECTION INCLUDES

- A. Disposable panel filters.
- B. WASHABLE PERMANENT PANEL FILTERS.
- C. Filter frames and housings.
- D. Filter gages.

1.02 REFERENCE STANDARDS

- A. AHRI 850 (I-P) - Performance Rating of Commercial and Industrial Air Filter Equipment; 2013 (Reaffirmed 2023).
- B. ASHRAE Std 52.2 - Method of Testing General Ventilation Air-Cleaning Devices for Removal Efficiency by Particle Size; 2025.
- C. UL 900 - Standard for Air Filter Units; Current Edition, Including All Revisions.

1.03 SUBMITTALS

- A. See Section 01 30 00 - Administrative Requirements for submittal procedures.
- B. Product Data: Provide data on filter media, filter performance data, filter assembly and filter frames, dimensions, motor locations and electrical characteristics and connection requirements.
- C. Manufacturer's Installation Instructions: Indicate assembly and change-out procedures.
- D. Operation and Maintenance Data: Include instructions for operation, changing, and periodic cleaning.
- E. Maintenance Materials: Furnish the following for Owner's use in maintenance of project.
 - 1. Extra Filters: One set of each type and size.

PART 2 PRODUCTS

2.01 FILTER MANUFACTURERS

- A. American Filtration Inc: www.americanfiltration.com.
- B. AAF International/American Air Filter: www.aafintl.com.
- C. The Camfil Group: www.camfilfarr.com.
- D. __Approved Equal____.

2.02 PERFORMANCE REQUIREMENTS

- A. Conform to the rating requirements in [AHRI 850 \(I-P\)](#).

2.03 DISPOSABLE PANEL FILTERS

- A. Media: [UL 900](#) Class 2, fiber blanket, factory sprayed with flameproof, non-drip, non-volatile adhesive.
 - 1. Nominal Size: 24 by 24 inches.
 - 2. Thickness: 2 inch.
- B. Performance Rating:
 - 1. Face Velocity: 500 FPM.
 - 2. Initial Resistance: 0.15 inch WG.
 - 3. Recommended Final Resistance: 0.50 inches WG.
- C. Casing: Cardboard frame.
- D. Holding Frames: 20 gage, 0.0359 inch minimum galvanized steel frame with expanded metal grid on outlet side and steel rod grid on inlet side, hinged with pull and retaining handles.

2.04 WASHABLE PERMANENT PANEL FILTERS

- A. Media: 14 mesh steel screen, zinc electroplated, alternate layers of flat and herringbone crimp, four layers per inch; rod reinforced.
 - 1. Frame: 16 gage, 0.0598 inch galvanized steel.
 - 2. Thickness: 1 inch thick.
- B. Performance Rating:
 - 1. Initial Resistance at 500 FPM face velocity: 0.10 inch WG.
 - 2. Recommended Final Resistance at 500 FPM face velocity: 0.50 inch WG.

2.05 FILTER FRAMES AND HOUSINGS

- A. General: Fabricate filter frames and supporting structures of 16 gage, 0.0598 inch 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 24 by 24 inches filter media, minimum 2 inches thick; for extended surface and high efficiency particulate air filters, provide for upstream mounting of panel filters.

2.06 FILTER GAGES

- A. Manufacturers:
 - 1. Dwyer Instruments, Inc: www.dwyer-inst.com.
 - 2. Approved Equal.
- B. Direct Reading Dial: 3-1/2 inch diameter diaphragm actuated dial in metal case, vent valves, black figures on white background, front recalibration adjustment, range 0- 0.5 inch WG, 2 percent of full scale accuracy.
- C. Accessories: Static pressure tips with integral compression fittings, 1/4 inch aluminum tubing, 2-way or 3-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 and testing, with clean set.

- D. Provide filter gages on filter banks, installed with separate static pressure tips upstream and downstream of filters.

END OF SECTION 23 40 00 23 40 00