

## SECTION 15910

### DUCTWORK ACCESSORIES

#### PART 1 GENERAL

##### 1.1 Section Includes

- A. Volume dampers
- B. Backdraft dampers
- C. Flexible duct connections
- D. Duct access doors
- E. Duct test holes

##### 1.2 Related Work Specified Elsewhere

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##### 1.3 Submittals

- A. Submit Shop Drawings and product data under provisions of Division 1, General Requirements, for all products specified in this Section.
- B. Provide product data for factory fabricated products or Shop Drawings for shop fabricated assemblies, including dampers and operators, fire and smoke dampers, duct access doors, and duct test holes.

##### 1.5 Delivery, Storage, and Handling

- A. Deliver, store, and protect products under provisions of Division 1, General Requirements.

## **PART 2 MATERIALS**

### **2.1 Volume Dampers**

- A.** Rectangular: 16 gage stainless steel hat channel frame, 16 gage stainless steel blades maximum 8-inch wide, opposite blade action, synthetic bearings, ½-inch plated steel axles, suitable for velocity to 1,500 fpm and pressure to 2.5 in w.g.
- 1.** Provide locking, indicating quadrant regulators. On insulated ducts mount quadrant regulators on standoff brackets, bases, or adapters.
  - 2.** Manufacturers: Ruskin; Swartwout; Greenheck; Air Balance Inc.; or approved equal.
- B.** Rectangular, Low Leakage Type: 16 gage stainless steel hat channel frame, 16 gage stainless steel blades maximum 8-inch wide, opposed blade action unless otherwise shown, synthetic bearings, ½-inch plated steel axles, elastomeric blade edge seals, flexible stainless steel or aluminum jamb seals, maximum leakage 10 cfm/sq.ft. at 4-inch w.g. differential pressure in accordance with AMCA Standard 500, suitable for velocity to 1,500 fpm and pressure to 2.5-inch w.g.
- 1.** Provide locking, indicating quadrant regulators. On insulated ducts mount quadrant regulators on standoff brackets, bases, or adapters.
  - 2.** Manufacturers: Ruskin; Swartwout; Greenheck; Air Balance Inc.; or approved equal.
- C.** Round: Minimum 22 gage stainless steel frame with rolled beads, minimum 22 gage stainless steel blade, minimum 3/8-inch plated steel axle, swaged steel or nylon bearings, suitable for velocity to 2,000 fpm and pressure to 3-inch w.g.
- 1.** Provide locking, indicating quadrant regulators.
  - 2.** Manufacturers: Ruskin; Arrow United Industries; Air Balance Inc.; or approved equal.

## 2.2 Backdraft Dampers

- A. Backdraft dampers, size 18-inches by 18-inches or smaller, furnished with air moving equipment, may be air moving equipment manufacturers standard construction, unless otherwise indicated in equipment specification.
- B. Gravity Dampers: Designed for vertical or horizontal (air flow up) mounting, minimum 0.081-inch thick extruded aluminum channel frame, minimum 0.05-inch thick extruded aluminum blades, synthetic elastomeric blade edge seals, synthetic bearings, concealed linkage, rear mounted screen, suitable for velocity to 1,500 fpm.
  - 1. Model: BD2/A2 manufactured by Ruskin; 402 manufactured by Swartwout; Type 655 manufactured by Arrow United Industries; or approved equal.
- C. Counterbalanced Dampers: Designed for vertical or horizontal mounting, minimum 0.081-inch thick extruded aluminum channel frame, minimum 0.07-inch thick extruded aluminum blades, synthetic elastomeric blade edge seals, synthetic or ball bearings, face mounted linkage, adjustable counterbalance weights, suitable for velocity to 2,500 fpm.
  - 1. Model: CBD4 or CBD6 manufactured by Ruskin; 414 or 416 manufactured by Swartwout; Tpe 655 manufactured by Arrow United Industries; or approved equal.

## 2.3 Flexible Duct Connections

- A. Fabricate in accordance with SMACNA HVAC Duct Construction Standards, and as indicated.
- B. Indoor: UL listed fire-retardant neoprene coated woven glass fiber fabric to NFPA 90A, minimum density 30 oz per sq yd, minimum 6-inches wide, criped into 4-inch wide metal edging strip.
  - 1. Model: Neoflex manufactured by Cain Manufacturing Co.; Ventglass manufactured by Ventfabrics, or approved equal.
- C. Outdoor: UL listed Hypalon coated woven glass fiber fabric to NFPA

90A, minimum density 24 oz per sq yd, minimum 6-inches wide, crimped into 4-inch wide metal edging strip.

1. Model: Flexlon manufactured by Cain Manufacturing Co.; Ventlon manufactured by Ventfabrics; or approved equal.

## **2.4 Duct Access Doors**

- A. Fabricate in accordance with SMACNA HVAC Duct Construction Standards, and as indicated.
- B. Review location prior to fabrication.
- C. Fabricate rigid and close-fitting doors of stainless steel with sealing gaskets and quick fastening locking devices. For insulated ductwork, install minimum 1-inch thick insulation with sheet metal cover.
- D. Access doors smaller than 12-inches longest dimension may be removable type, secured with sash locks.
- E. Provide two hinges and two sash locks for sizes up to 18-inches longest dimension, three hinges and two compression latches with outside and inside handles for sizes up to 24-inches by 48-inches. Provide an additional hinge for larger sizes. Full length piano type hinges are acceptable for doors with hinged side dimension up to 24-inches.
- F. Access doors with sheet metal screw fasteners are not acceptable.
- G. Provide transparent window of plexiglass, wireglass, or laminated safety glass where indicated on Drawings.
- H. Manufacturer: Ruskin, Ventfabrics; CE Sarrow Co.; or approved equal.

## **2.5 Duct Test Holes**

- A. Cut or drill temporary test holes in ducts as required. Cap with neoprene plugs, threaded plugs, or threaded or twist-on metal caps.
- B. Permanent test holes shall be factory fabricated, air tight gasketed flanged fittings with screw cap. Provide extended neck fittings to clear insulation.

1. Model 699 manufactured by Ventfabrics; or approved equal.

### **PART 3 EXECUTION**

#### **3.1 Installation**

- A. Install accessories in accordance with manufacturer's instructions.
- B. Provide volume dampers at points on supply, return, and exhaust systems where indicated and as required for air balancing.
- C. Provide flexible connections immediately adjacent to equipment in ducts associated with fans and motorized equipment.
- D. Provide duct access doors for inspection and cleaning before and after filters, coils, fans, automatic dampers, at fire dampers, and elsewhere as indicated.
- E. Provide duct test holes where indicated and where required for testing and balancing purposes.

### **PART 4 MEASUREMENT AND PAYMENT**

#### **4.1 Measurement**

- A. No measurement will be made for this item, Ductwork Accessories.

#### **4.2 Payment**

- A. Payment will be made at the contract lump sum price bid and shall be considered full payment for providing labor and materials to perform this work.

**\*\* END OF SECTION 15910 \*\***