

PRODUCT SPECIFICATION GUIDE FOR SUPPLY FAN MODEL:

- FIN-180P
- FIN-180P-HW

**BROAN SUPPLY FAN / INLINE FAN FOR INDOOR INSTALLATION
CSI MASTERFORMAT CATEGORY 23 34 16**

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SECTION 233416**RESIDENTIAL VENTILATION AND INDOOR AIR QUALITY EQUIPMENT - BROAN NUTONE****A. PART 1 GENERAL****I. SECTION INCLUDES**

1. Outside air supply fans – inline cabinet type.

II. ABBREVIATIONS AND ACRONYMS

1. ECM: Electronically commutated motor.
2. HVI: Home Ventilating Institute.

III. REFERENCE STANDARDS

1. NFPA 70 - National Electrical Code; Most Recent Edition Adopted by Authority Having Jurisdiction, Including All Applicable Amendments and Supplements.
2. NFPA 90A - Standard for the Installation of Air-Conditioning and Ventilating Systems; 2024.
3. UL 94 - Tests for Flammability of Plastic Materials for Parts in Devices and Appliances; Current Edition, Including All Revisions.
4. UL 507 – Electric Fans; Current Edition, Including All Revisions.

IV. SUBMITTALS

1. **Product Data:** Provide manufacturer's literature and data sheets for each product. Include information on materials of fabrication, assembly of components, finishes, dimensions, weights, capabilities, performance, standard wiring diagrams, location and sizes of connections, service and access locations and manufacturer-provided and field-installed accessories.
2. **Shop Drawings:** Include plan views indicating locations of system components and proposed size, type, and routing of ducts. Include elevations and details of proposed equipment arrangements. Include system interconnection schematic diagrams. Include requirements for interface with other systems.
3. **Operation and Maintenance Data:** Include detailed information on system operation, equipment programming and setup, replacement parts, and recommended maintenance procedures and intervals.

V. QUALITY ASSURANCE

1. Comply with the following:
 - a. NFPA 70 (National Electrical Code).
 - b. NFPA 90A (Standard for the Installation of Air-Conditioning and Ventilating Systems).
2. **Product Evaluation and Listing Organization Qualifications:** Organization engaged in evaluation of products and services, including those recognized by OSHA as Nationally Recognized Testing Laboratories (NRTL) and acceptable to authorities having jurisdiction.

VI. DELIVERY, STORAGE, AND HANDLING

1. Accept products on-site in original factory packaging. Inspect for damage.
2. Store products in manufacturer's original packaging, keep dry and protect from damage until ready for installation.

VII. FIELD CONDITIONS

1. Maintain field conditions within manufacturer's required service conditions during and after installation, including requirements for ambient temperature and relative humidity, maintaining clearances to surfaces, heat and vibration sources.

VIII. WARRANTY

1. **Manufacturer Warranty:** Provide manufacturer warranty against defects in manufacturing from date of original purchase for period indicated below.
Fresh Air Supply Fans: 5 years.

B. PART 2 PRODUCTS**I. MANUFACTURERS**

1. BROAN; www.broan-nutone.com.

II. OUTSIDE AIR SUPPLY FANS – INLINE CABINET TYPE

1. General Requirements:
 - a. Regulatory Compliance:
 - i. UL 507-listed.
 - ii. UL 94-listed plastic components.
 - iii. HVI certified.
 - iv. Energy Star rated.
 - b. Cabinet: Galvannealed steel, paintable, insulated, with access door, filter housing, damper and ducting ports.
 - i. Multiposition Installation: Capable of installation in horizontal, vertical up, and vertical down configurations without modifications beyond changing orientation of mounting brackets.
 - ii. Insulation: Expanded polystyrene manufactured as two half-shells joined by tongue-and-groove interface to limit air and water leaks; HF-2 flammability when tested in accordance with UL 94.
 - iii. Access Door: Latching, hinged, and gasketed to allow access, service, and replacement of blower, motor, filter, and controls.
 - iv. Ducting Connections:
 - 1) Equipped with test ports to allow airflow measurement.
 - 2) One-piece collar system with inner collar for securing ducting and outer collar for securing and sealing duct insulation vapor barrier jacket.
 - c. Blower: Centrifugal forward-curved, with finger guard on blower inlet.
 - d. Blower Motor: ECM type with constant airflow controls.
 - e. Accessories: Manufacturer's trim kit for flush-to-ceiling installation.
 - f. Factory Testing: Factory tested prior to shipping.
 - g. Mounting Brackets: Ship unit with manufacturer's mounting brackets and associated hardware.
 - h. Owner's Manual: Ship unit with manufacturer's published manual.

2. Supply Fan - Basis of Design: BROAN Fresh In Premium.
- a. Nominal Airflow: 180 cfm (85 L/sec).
 - i. Selectable nominal airflow at 130 cfm (61L/sec) or 180 cfm (85 L/sec) at startup.
 - b. Design Airflow: _____ cfm (_____ L/sec) at _____ in-wc (_____ Pa) external static pressure.
 - c. Fan Efficacy: 6.4 cfm/W (3 L/sec/W) at 180 cfm (85 L/sec) at 0.2 in-wc (50 Pa).
 - d. Integral temperature and humidity sensor: factory mounted in supply air stream and factory wired to unit controller.
 - e. Ducting Ports: 6-inch (152 mm) diameter each.
 - f. Damper: Integral, motorized.
 - g. Power: 120 V, 1-phase, 60 Hz.
 - h. Filters: Washable aluminum filter.
 - i. Provide optional 2-inch (50 mm) deep MERV 8 replaceable filter.
 - ii. Provide optional 2-inch (50 mm) deep MERV 13 replaceable filter.
 - i. Controller:
 - i. Integral, microprocessor-based to maintain constant supply air setpoint; designed for user-defined intermittent fan operation.
 - 1) User-selectable run time percentage from 20% to 100%.
 - 2) User-selectable operation modes based on outdoor temperature and humidity conditions.
 - ii. Integral outdoor temperature and humidity sensors.
 - iii. Capable of measuring temperature and dew point each hour, retain previous 48 hours of data in memory.
 - iv. Capable of stopping ventilation when temperature or dew point is outside preset limits.
 - v. Capable of measuring operating time of heating and cooling operation from remote thermostat, retain previous 48 hours of data in memory.
 - vi. Supports different preset limits for when heating/cooling is operating and not.
 - vii. Supports external optional control for ON/OFF function.
 - viii. Supports damper automatically closing when 120V power is turned off while external low voltage power source is maintained.
 - ix. Capable of extrapolating the heating and cooling operation schedule for the next 4 hours based on the last 48 hours data in memory and leveraging such prediction to minimize air handling fan for ventilation purpose outside of heating and cooling calls.
 - j. Models:
 - i. Broan FIN-180P-HW (hardwired).
 - ii. Broan FIN-180P (plug connected).

C. PART 3 EXECUTION**I. EXAMINATION**

1. Verify field measurements.
2. Verify product ratings and configurations.
3. Verify mounting surfaces are ready to receive products.
4. Verify branch circuit wiring installation is completed, tested and ready for connection to products.
5. Verify conditions are satisfactory for installation prior to starting work.

II. INSTALLATION

1. Install products in accordance with manufacturer's instructions, project drawings, project specifications, and applicable building codes.
2. Install products level and plumb.
3. Install units with clearance for access and maintenance.
4. Locate, orient and connect ductwork in accordance with AMCA, ASHRAE and SMACNA guidelines.
5. Install 6-inch (152 mm) length of flexible ducting at unit duct ports to limit vibration transmission from unit to system ducting.

III. FIELD QUALITY CONTROL

1. Prepare and start system in accordance with manufacturer's instructions.
2. Test for proper interface with other systems where applicable.
3. Correct defective work, adjust for proper operation and retest until entire system complies with Contract Documents.

IV. CLOSEOUT ACTIVITIES

1. Demonstrate operation and maintenance of equipment to Owner's designated personnel.

END OF SECTION