

SECTION 10800

TOILET ACCESSORIES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Compact warm air electric hand dryers.
- B. Compact warm air contemporary design, compact, warm air, electric, sensor operated hand dryers.
- C. Compact warm air electric sensor-operated hand dryers.

1.2 RELATED SECTIONS

- A. Section 06100 - Rough Carpentry: Blocking in stud partitions for mounting hand dryers.
- B. Section 16100 - Wiring Methods: Electrical supply, conduit, wiring, boxes, and wiring devices for hand dryers.

1.3 REFERENCES

- A. Underwriter's Laboratory (UL): Labeled products.

1.4 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- C. Shop Drawings:
- D. Manufacturer's installation and maintenance instructions.
- E. Copy of warranty form for review by Architect.

1.5 QUALITY ASSURANCE

- A. Product Requirements:
 - 1. Hand dryers shall be certified by Underwriters Laboratory (UL), Inc. and shall bear UL labels.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.

- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.7 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.8 WARRANTY

- A. Hand Dryers: Warranty limited to replacing or repairing any Bradley hand/hair dryer unit or part thereof which our inspection shall show to have been defective within the limitations of this warranty. Warranty on Sensors is one (1) year from date of our invoice, Motor Brushes are three (3) years and all other components are ten (10) years.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Bradley Corporation; W142 N9101 Fountain Boulevard. Menomonee Falls, WI 53051 Tel: 1-800-BRADLEY (1-800-272-3539) Fax: 262-251-5817 Web: www.bradleycorp.com.
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 ELECTRIC HAND DRYER

- A. Surface mounted high speed hand dryer shall incorporate a vandal resistant design that includes 2 vandal-proof locks screws and lock wrench Bradley hand dryer model no. ;
 1. 2902-280000.
 2. 2902-287300.
 3. 2902-287400.
- B. Performance Requirements:
 1. Operation: The dryer shall start automatically, and operate with no interruption as long as the hands are kept in the detection range of the sensor. The appliance shall stop 2 seconds after the hands are removed from the airflow.
 2. Air Speed: Adjustable 4920 to 9840 lfm (1500 m/minute to 3000 m/minute).
 3. Temperature at 4 inches (102 mm) distance / 70 degrees F (21 degrees C): Adjustable from 106 degrees F to 111 degrees F (41 degrees C to 44 degrees C).
 4. Effective Airflow: 36 to 58 cfm (17000 cu. cm/second to 27400 cu. cm/second).
 5. Free Airflow: Adjustable 43 to 70 cfm (20300 cu. cm/sec to 33000 cu. cm/sec).
 6. Drying Time: 10 to 15 sec
 7. Safety: Automatic disconnection system after 60 seconds of continuous use. Self-resetting thermal cut-off at 302 degrees F (150 degrees C) which disconnect the whole appliance. Protection level against water splashes should be rating IP23.
 8. Unit shall VDE approved and CE marked and comply with electrical safety directives 73/23/CEE and 93/68/CEE and electro-magnetic compatibility directives 89/336/CEE and 92/31/CEE and with ADA projection requirements.
 9. Sound Pressure Level (SPL): Noise level at 79 inches (2000 mm). 64-70 dB dependant on fan speed.

C. Construction:

1. Cover: One-piece cover fabricated from:
 - a. Finish: Cast iron one piece cover 3/16 inch (5 mm) thick with white enamel paint finish.
 - b. Finish: Steel sheet 1/16 inch (2 mm) thick complying with ASTM A659 with white epoxy paint finish.
 - c. Finish: Stainless steel sheet 1/16 inch (2 mm) thick complying with AISI 304 with brushed satin finish.
 - d. Cover to be field attached to base with vandal proof screws and locked with special key wrench.
 - e. Locate air outlet, intake, and operating sensor in bottom of cover.
 - f. Nominal Size: 11-5/8 inches wide by 10-5/8 inches high by 4 inches deep (298 mm wide by 273 mm high by 102 mm deep).
 - g. Nominal Size: 11-1/2 inches wide by 10-1/2 inches high by 4 inches deep (292 mm wide by 267 mm high by 102 mm deep).
 - h. Weight: 15.2 pounds (6.9 kg).
 - i. Weight: 7.9 pounds (3.6 kg).
2. Base: Aluminum base, with 4 holes 5/16 inch (8 mm) for wall mounting. Base includes silent-blocks to damp mechanical vibrations.
3. Motor: 1/3 HP high speed motor. Universal brush motor, class A.
4. R.P.M.: 4.200 to 8.200. RPM may be adjusted manually by means of a potentiometer.
5. Voltage: 100-120 V.
6. Voltage: 208 V.
7. Voltage: 220-240 V.
8. Frequency: 50/60 Hz.
9. Power Consumption: 17.9 A (120 V).
10. Heating Element: 1150 watts.
11. Insulation: Grounding required.
12. Fully adjustable 2 inches to 8 inches (51 mm to 203 mm) infrared electronic detection sensor by means of a potentiometer. Sensors shall have a polycarbonate viewing window.
13. Fan: Fire resistant plastic UL 94-V0 fan scroll. Aluminum centrifugal double asymmetrical inlet fan wheel.

2.3 ELECTRIC HAND DRYER

- A. Type: Warm air, wall mounted, durable, compact, electric hand dryer with anti-vandalism features and low energy consumption, Bradley hand dryer model no.:
 1. 2903-280000.
 2. 2903-2800CE.
 3. 2904-280000.
 4. 2904-2800CE.
- B. Performance Requirements:
 1. Operation: Push button starts dryer which operates for 34 seconds.
 2. Operation: Infrared sensor turns dryer on when hands are held under air outlet. Dryer automatically turns off 2 seconds after hands are removed from air flow.
 3. Airflow: 203 cubic feet per minute (5.75 cubic meters per minute).
 4. Air Velocity: 5,512 linear feet per minute (1,680 linear meters per minute).
 5. Air Temperature at 4 inches (102 mm) below outlet at 70 degrees F (21 degrees C) ambient temperature: 128 degrees F (53 degrees C).
 6. Average Drying Time: 29 seconds.
 7. Sound Pressure Level (SPL): 70 decibels maximum.

- C. Construction:
1. Cover: One-piece cover fabricated from 1/4 inch (6 mm) thick cast iron with white porcelain enamel finish.
 - a. Cover to be field attached to base with vandal proof screws and locked with special key wrench.
 - b. Provide cover with fixed die cast air nozzle to focus air stream.
 - c. Nominal size: 11 inches wide by 9-3/4 inches high by 8-1/4 inches deep (278 mm wide by 248 mm high by 210 mm deep).
 - d. Weight: 23.4 pounds (11.5 kg).
 2. Base: Die cast aluminum base with factory attached dryer components.
 3. Motor: 1/3 HP, 5,500 RPM, universal brush type.
 4. Fan: Double inlet, centrifugal, aluminum fan.
 5. Heating Element: 1,600 watt with Ni-Crom 40 wire.
 6. Power Requirements: 110/120 volts, 50/60 Hz, 16 amps.

2.4 ELECTRIC HAND DRYER

- A. Warm air, wall mounted, contemporary design, durable, compact, electric, sensor operated hand dryer for Bradley hand dryer model no.;
1. 2905-287300.
 2. 2905-2873CE.
- B. Performance Requirements:
1. Operation: Infrared sensor turns dryer on when hands are held under air outlet. Dryer automatically turns off 2 seconds after hands are removed from air flow.
 2. Airflow: 166 cubic feet per minute (4.69 cubic meters per minute).
 3. Air Velocity: 4181 linear feet per minute (1274 linear meters per minute).
 4. Air Temperature at 4 inches (102 mm) below outlet at 70 degrees F (21 degrees C) ambient temperature: 125 degrees F (52 degrees C).
 5. Average Drying Time: 38 seconds.
 6. Sound Pressure Level (SPL): 60 decibels maximum.
- C. Construction:
1. Cover: One-piece cover fabricated from 1/16 inch (2 mm) thick:
 - a. Finish: Steel sheet complying with ASTM A659 with white epoxy paint finish.
 - b. Cover to be field attached to base with vandal proof screws and locked with special key wrench.
 - c. Locate air outlet, intake, and operating sensor in bottom of cover.
 - d. Nominal size: 10 inches wide by 11-7/8 inches high by 5-1/2 inches deep (225 mm wide by 302 mm high by 140 mm deep).
 - e. Weight: 9.8 pounds (4.5 kg).
 2. Base: UL listed, rigid, opaque, high temperature resistant acrylonitrile-butadiene-styrene (ABS) plastic base with factory attached dryer components.
 3. Motor: 1/5 HP, 3300 RPM, shaded pole type.
 4. Fan: Simple inlet, centrifugal fan fabricated from UL listed polypropylene (PP) plastic.
 5. Heating Element: 1,600 watt with Ni-Crom 40 wire.
 6. Power Requirements: 110/120 volts, 50/60 Hz, 13.6 amps.

PART 3 EXECUTION

3.1 COORDINATION

- A. Coordinate requirements for blocking to ensure adequate means for support and installation of hand dryers.
- B. Coordinate requirements for power supply, conduit, disconnect switches, and wiring.
- C. Coordinate dryer installation with application of wall finishes.

3.2 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.3 INSTALLATION

- A. Comply with manufacturer's written installation instructions and approved shop drawings.
- B. Mount dryers at heights indicated on Drawings and approved shop drawings and in accordance with applicable regulations.
- C. Install bases securely to supporting substrate so that dryers are level and aligned with each other. Anchor with fasteners of type and size recommended by manufacturer for type of wall substrate.

3.4 CLEANING, TESTING, AND DEMONSTRATING

- A. Remove protective wrappings. Clean surfaces with mild soap solution. Do not use abrasives.
- B. Inspect installed dryers to verify mounting is rigid and electrical connections are proper. Test each dryer to verify operation and performance. Correct deficiencies.
- C. Protect dryers from remaining construction activities. Immediately remove and replace dryers that are damaged.
- D. Demonstrate operation and maintenance to Owner's representative.

3.5 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION