SECTION 10 28 00
ELECTRIC HAND DRYERS

1 GENERAL

1.1 SECTION INCLUDES

1.1.1 Electric hand dryers of the following types:
1.1.1.1 High-speed hand dryers with Ion Hygienic Technology. (MACHFLOW Series M09A)

1.2 RELATED SECTIONS

1.2.1 Section 06 10 00 - Rough Carpentry.

1.2.2 Section 26 05 00 - Common Work Results for Electrical.

1.3 REFERENCES

1.3.1 Underwriter's Laboratory (UL): Labeled products.

1.4 SUBMITTALS

1.4.1 Submit under provisions of Section 01 30 00 - Administrative Requirements.

1.4.2 Product Data: Manufacturer's data sheets on each product to be used, including:
1.4.2.1 Preparation instructions and recommendations.
1.4.2.2 Storage and handling requirements and recommendations.
1.4.2.3 Installation methods.
1.4.2.4 Manufacturer's installation and maintenance instructions.

1.4.3 Shop Drawings: Submit shop drawings indicating details of mounting and relationship to adjacent construction.

1.4.4 Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

1.5 QUALITY ASSURANCE

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

1.5.2 Mock-Up: Provide a mock-up for evaluation of surface preparation techniques and application workmanship.
1.5.2.1 Finish areas designated by Architect.
1.5.2.2 Do not proceed with remaining work until workmanship, color, and sheen are approved by Architect.
1.5.2.3 Refinish mock-up area as required to produce acceptable work.

1.6 DELIVERY, STORAGE, AND HANDLING

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

1.6.2 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

1.7.1 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 recommended limits.

1.8 WARRANTY

1.8.1 Manufacturer's Warranty: 5 year limited warranty for electric hand dryers to cover defects in material and workmanship.

2 PRODUCTS

2.1 MANUFACTURERS

2.1.1 Acceptable Manufacturer: SANIFLOW Hand Dryer Corporation, which is located at: 3325 N. W. 70th Ave.; Miami, FL 33122; Toll Free Tel: 877-222-9125; Tel: 305-424-2433; Fax: 305-424-2435; Email:request info (info@saniflowcorp.com); Web:www.saniflowcorp.com

2.1.2 Substitutions: Not permitted.

2.1.3 Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 HIGH-SPEED HAND DRYERS WITH ION HYGIENIC TECHNOLOGY (MACHFLOW Series M09A-ION)

2.2.1 Type: Surface mounted high speed hand dryer shall incorporate a vandal resistant design that includes a metal cover with 2 vandal-proof locks screws and lock with special speed flow wrench as manufactured by Saniflow Corporation.

2.2.1.1 Machflow Hand Dryer Model No. M09A-UL, white epoxy on steel.

2.2.1.2 Machflow Hand Dryer Model No. M09AB-UL, matte black epoxy on steel.

2.2.1.3 Machflow Hand Dryer Model No. M09ACS-UL, satin finish on stainless steel.

2.2.2 Performance Requirements:

2.2.2.1 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.

2.2.2.2 Air Speed: Adjustable 11,800 to 18,000 lfm (3600 m/minute to 5500 m/minute).

2.2.2.3 Temperature at 4 inches (102 mm) distance / 70 degrees F (21 degrees C): 106 degrees F (41 degrees C).

2.2.2.4 Heating Element: 250 W.

2.2.2.5 Effective Airflow: 80 to 100 cfm (37,800 cu. cm/second to 47,200 cu. cm/second).

2.2.2.6 Drying Time: 10 to 15 sec

2.2.2.7 Safety: Automatic disconnection system after 60 seconds of continuous use. Self-resettable thermal cut-off at 180 degrees F (82 degrees C) which disconnect the whole appliance. Protection level against water splashes should be rating IP23.

2.2.2.8 Unit shall be UL and CSA approved, according to UL 499 and CSA C22.2 standards and with ADA projection requirements.

2.2.2.9 Unit shall be Greenspec listed.
2.2.2.10 Unit shall contribute to LEED credit EAc1 (Optimize Energy Performance) for the following standard:
2.2.2.10.1 LEED NC-2009.
2.2.2.10.2 LEED NC-v2.2.
2.2.2.10.3 LEED Schools-2009.
2.2.2.10.4 LEED CS-2009.
2.2.2.11 Unit shall contribute to LEED credit EAp2 (Minimum Energy Performance) for the following standard:
2.2.2.11.1 LEED NC-2009.
2.2.2.11.2 LEED NC-v2.2.
2.2.2.11.3 LEED Schools-2009.
2.2.2.11.4 LEED CS-2009.
2.2.2.12 Sound Pressure Level (SPL): Noise level at 79 inches (2000 mm). 67 to 77 dBA dependant on fan speed.

2.2.3 Construction:
2.2.3.1 Cover: One-piece cover fabricated from 1/16 inch (1.5 mm) steel:
2.2.3.1.1 Finish (A): Steel sheet 1/16 inch (1.5 mm) thick complying with ASTM A659 with white epoxy paint finish.
2.2.3.1.2 Finish (AB): Steel sheet 1/16 inch (1.5 mm) thick complying with ASTM A659 with matte black epoxy paint finish
2.2.3.1.3 Finish (ACS): Stainless steel sheet 1/16 inch (1.5 mm) thick complying with AISI 304 with brushed satin finish.
2.2.3.2 Cover to be field attached to base with vandal proof screws and locked with special key wrench.
2.2.3.3 Locate air outlet, intake, and operating sensor in bottom of cover.
2.2.3.4 Nominal Size: 8-3/8 inches wide by 13 inches high by 6-11/16 inches deep (213 mm wide by 330 mm high by 170 mm deep).
2.2.3.5 Weight: 11.24 pounds (5.1 kg).
2.2.3.6 Base: Fire resistant UL V0 plastic base, with four 7/32 inch (5.6 mm) holes for wall mounting. It includes silent-blocks to damp mechanical vibrations.
2.2.3.7 Filters: Provide HEPA Media Filter in the Machflow captures the most of allergens in the air by filtering the air.
2.2.3.8 Motor: High pressure Universal brush motor, 19000-26000 rpm, A class. RPM may be adjusted manually by means of a potentiometer. 350 to 1050 W (0.5 to 1.5 HP) high speed motor.
2.2.3.9 R.P.M.: 19,000 to 26,000. RPM may be adjusted manually by means of a potentiometer.
2.2.3.10 Voltage: 100-120 V.
2.2.3.11 Voltage: 208 V.
2.2.3.12 Voltage: 220-240 V.
2.2.3.13 Voltage: 277 V.
2.2.3.14 Frequency: 50/60 Hz.
2.2.3.15 Power Consumption: 6.4 to 10 A (120 V).
2.2.3.16 Power Consumption: 7.5 to 11 A (220 V).
2.2.3.17 Heating Element Power: 250 watts.
2.2.3.18 Total Maximum Power: 350 to 1,300 watts.
2.2.3.19 Isolation: Class I Grounding required.
2.2.3.20 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.
2.2.3.21 Fan Scroll: Fire resistant plastic UL 94-V0 fan scroll. Aluminum centrifugal double asymmetrical inlet fan wheel.
2.2.3.22 Recess Mounting: Recessed box and cover with opening for dryer and intake air grille to allow dryer to be recessed mounted in wall.

2.2.3.22.1 Material: Stainless steel sheet complying with AISI 304 with brushed satin finish.
2.2.3.22.2 Box Size: 21-21/32 inches H x 13 inches W x 3 inches D (550 mm x 330 mm x 77 mm).
2.2.3.22.3 Overall Cover Dimensions: 23-7/16 inches H x 14-3/4 inches W x 6-55/64 inches D (595 mm x 375 mm x 174 mm).

3 EXECUTION

3.1 COORDINATION

3.1.1 Coordinate requirements for blocking to ensure adequate means for support and installation of hand dryers.

3.1.2 Coordinate requirements for power supply, conduit, disconnect switches, and wiring.

3.1.3 Coordinate dryer installation with application of wall finishes.

3.2 EXAMINATION

3.2.1 Do not begin installation until substrates have been properly prepared.

3.2.2 If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.3 INSTALLATION

3.3.1 Comply with manufacturer's written installation instructions and approved shop drawings.

3.3.2 Mount dryers at heights indicated on Drawings and approved shop drawings.

3.3.3 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.

3.3.4 Install dryers with recess mounting kits such that maximum projection from wall surface is 4 inches (102 mm) in compliance with ICC/ANSI A117.1. Anchor box in rough wall opening with fasteners of type and size recommended by manufacturer. When cover is installed over dryer, ensure that joint between box and wall finish is concealed.

3.4 CLEANING, TESTING, AND DEMONSTRATING

3.4.1 Remove protective wrappings. Clean surfaces with mild soap solution. Do not use abrasives.

3.4.2 Inspect installed dryers to verify mounting is rigid and electrical connections are proper. Test each dryer to verify operation and performance. Correct deficiencies.

3.4.3 Protect dryers from remaining construction activities. Immediately remove and replace dryers that are damaged.

3.4.4 Demonstrate operation and maintenance to Owner's representative.

3.5 PROTECTION

3.5.1 Protect installed products until completion of project.

3.5.2 Touch-up, repair or replace damaged products before Substantial Completion.

END OF SECTION