



SECTION 10 28 00
ELECTRIC HAND DRYERS

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1 GENERAL

1.1 SECTION INCLUDES

- 1.1.1 Electric hand dryers of the following types:
 - 1.1.1.1 High-efficiency, high-speed hand dryers. (DUALFLOW PLUS Series M14)
 - 1.1.1.2 High-speed hand dryers. (MACHFLOW Series M09A)
 - 1.1.1.3 High-speed hand dryers (SPEEDFLOW Series M06A)
 - 1.1.1.4 Heavy-duty hand dryers. (SANIFLOW AUTOMATIC Series E85A & E88A)
 - 1.1.1.5 Heavy-duty hand dryers (SANIFLOW PUSH BUTTON Series E85 & E88)
 - 1.1.1.6 Hand dryers. (MEDIFLOW Series M03A)
 - 1.1.1.7 Hand dryers (MEDIFLOW INTELLIGENT Series M02A)
 - 1.1.1.8 Medium-range hand dryers. (OPTIMA Series M99A)
 - 1.1.1.9 Low-medium range hand dryers. (JUNIOR PLUS Series M88APLUS)

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 \(info@saniflowcorp.com\)](mailto: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-EFFICIENCY, HIGH-SPEED HAND DRYERS (DUALFLOW PLUS Series M14)

- 2.2.1 Type: Warm air, high speed, rapid drying, surface-mounted, UL-compliant, electric hand dryers activated by putting hands within unit, unit turns off after hands are removed; as manufactured by Mediclinics, S.A. and distributed by its subsidiary Saniflow Corporation.
 - 2.2.1.1 Dualflow Plus Hand Dryer Model No. M14A-UL, white finish.
 - 2.2.1.2 Dualflow Plus Hand Dryer Model No. M14ACS-UL, satin finish.
 - 2.2.1.3 Dualflow Plus Hand Dryer Model No. M14AB-UL, black finish.
- 2.2.2 Characteristics:
 - 2.2.2.1 Voltage: 110/120 volts.
 - 2.2.2.2 Voltage: 208 volts.
 - 2.2.2.3 Voltage: 220-240 volts.
 - 2.2.2.4 Frequency: 50/60 hertz.
 - 2.2.2.5 Total Power: 600 to 1,300 watts.
 - 2.2.2.6 Motor Power: 350-1,050 watts.
 - 2.2.2.7 Heating Element: 250 watt equipped with ON/OFF button.
 - 2.2.2.8 Power Consumption: 8-10 amps (120 V) element ON; 6-8 amps (120 V) element

- OFF.
 - 2.2.2.9 Electrical Isolation: Class I, grounding required.
 - 2.2.2.10 Protection Level: IPX4.
 - 2.2.2.11 Nominal Overall Dimensions: 12-5/8 inches wide by 26-1/8 inches high by 9 inches deep (320 mm wide by 663 mm high by 228 mm deep).
 - 2.2.2.12 Weight: 18.3 pounds (8.3 kg).
- 2.2.3 Operation: Two infrared sensor located at top of unit detects when hands are placed into drying cavity. Within a few seconds warm air flows through air nozzles to dry hands.
- 2.2.3.1 Sensor shall have polycarbonate window.
 - 2.2.3.2 Dryer automatically turns off after 30 seconds or when hands are removed from drying cavity.
- 2.2.4 Performance Requirements:
- 2.2.4.1 Unit shall be UL and CSA approved, according to UL 499 and CSA C22.2 standards and with ADA projection requirements.
 - 2.2.4.2 Unit shall be Greenspec listed.
 - 2.2.4.3 Unit shall contribute to LEED credit EAc1 (Optimize Energy Performance) for the following standard:
 - 2.2.4.3.1 LEED NC-2009.
 - 2.2.4.3.2 LEED NC-v2.2.
 - 2.2.4.3.3 LEED Schools-2009.
 - 2.2.4.3.4 LEED CS-2009.
 - 2.2.4.4 Unit shall contribute to LEED credit EAp2 (Minimum Energy Performance) for the following standard:
 - 2.2.4.4.1 LEED NC-2009.
 - 2.2.4.4.2 LEED NC-v2.2.
 - 2.2.4.4.3 LEED Schools-2009.
 - 2.2.4.4.4 LEED CS-2009.
 - 2.2.4.5 Maximum Air Velocity: 20,467 feet per minute (6,238 meters per minute).
 - 2.2.4.6 Approximate hand drying time: 10 to 15 seconds (high speed).
 - 2.2.4.7 Minimum air temperature at 70 degrees F (21 degrees C) ambient temperature: 104 degrees F (40 degrees C).
 - 2.2.4.8 Noise (sound pressure) level at 79 inches (2007 mm): 65-68 decibels maximum, 62 decibels on eco-setting.
- 2.2.5 Components:
- 2.2.5.1 Cover: 1-3/6 inch (30 mm) thick ABS plastic, U-shaped design.
 - 2.2.5.1.1 Hygienic Property: Biocote.
 - 2.2.5.2 Drying Cavity: 300 separate air nozzles for distribution of warm air.
 - 2.2.5.3 Filters: Provide H13 HEPA Filter in the Dualflow PLUS captures more than 99% of allergens in the air by filtering the air through a 20 mm thick 3 coat filter.
 - 2.2.5.4 Drain Container: Removable container within drying cavity to collect water from user's hands and equipped with flashing light and sound signal indicating container needs emptying.
 - 2.2.5.5 Motor: High speed class A universal brush vacuum motor.
 - 2.2.5.5.1 Motor power: 350-1050 watts.
 - 2.2.5.5.2 Revolutions per minute (RPM): 28,000 RPM.
 - 2.2.5.6 Sensor: Infrared detection sensor with polycarbonate viewing window.
 - 2.2.5.7 Mounting Brackets: Galvanized steel brackets pre-drilled with 3 holes for surface mounting. Provide with fasteners for attachment to wall.
 - 2.2.5.8 Odor Control: Provide dryer with replaceable odor mitigation tablets which neutralize toilet room odors.

2.3 HIGH-SPEED HAND DRYERS (MACHFLOW Series M09A)

- 2.3.1 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.

- 2.3.1.1 Machflow Hand Dryer Model No. M09A-UL, white epoxy on steel.
- 2.3.1.2 Machflow Hand Dryer Model No. M09AB-UL, black epoxy on steel.
- 2.3.1.3 Machflow Hand Dryer Model No. M09AC-UL bright finish on stainless steel.
- 2.3.1.4 Machflow Hand Dryer Model No. M09ACS-UL, satin finish on stainless steel.

2.3.2 Performance Requirements:

- 2.3.2.1 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.
- 2.3.2.2 Air Speed: Adjustable 11,800 to 18,000 lfm (3600 m/minute to 5500 m/minute).
- 2.3.2.3 Temperature at 4 inches (102 mm) distance / 70 degrees F (21 degrees C): 107.6 degrees F (42 degrees C).
- 2.3.2.4 Heating Element: 250 W.
- 2.3.2.5 Effective Airflow: 68 to 108 cfm (32000 cu. cm/second to 51000 cu. cm/second).
- 2.3.2.6 Nominal Airflow: Adjustable 76 to 116 cfm (36000 cu. cm/sec to 55000 cu. cm/sec).
- 2.3.2.7 Drying Time: 10 to 15 sec
- 2.3.2.8 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.
- 2.3.2.9 Unit shall be UL and CSA approved, according to UL 499 and CSA C22.2 standards and with ADA projection requirements.
- 2.3.2.10 Unit shall be Greenspec listed.
- 2.3.2.11 Unit shall contribute to LEED credit EAc1 (Optimize Energy Performance) for the following standard:
 - 2.3.2.11.1 LEED NC-2009.
 - 2.3.2.11.2 LEED NC-v2.2.
 - 2.3.2.11.3 LEED Schools-2009.
 - 2.3.2.11.4 LEED CS-2009.
- 2.3.2.12 Unit shall contribute to LEED credit EAp2 (Minimum Energy Performance) for the following standard:
 - 2.3.2.12.1 LEED NC-2009.
 - 2.3.2.12.2 LEED NC-v2.2.
 - 2.3.2.12.3 LEED Schools-2009.
 - 2.3.2.12.4 LEED CS-2009.
- 2.3.2.13 Sound Pressure Level (SPL): Noise level at 79 inches (2000 mm). 68 to 75 dB dependant on fan speed.

2.3.3 Construction:

- 2.3.3.1 Cover: One-piece cover fabricated from 1/16 inch (1.6 mm) steel:
 - 2.3.3.1.1 Finish (A): Steel sheet 1/16 inch (2 mm) thick complying with ASTM A659 with white epoxy paint finish.
 - 2.3.3.1.2 Finish (AB): Steel sheet 1/16 inch (2 mm) thick complying with ASTM A659 with black epoxy paint finish
 - 2.3.3.1.3 Finish (AC): Stainless steel sheet 1/16 inch (2 mm) thick complying with AISI 304 with bright reflective polished finish.
 - 2.3.3.1.4 Finish (ACS): Stainless steel sheet 1/16 inch (2 mm) thick complying with AISI 304 with brushed satin finish.
- 2.3.3.2 Cover to be field attached to base with vandal proof screws and locked with special key wrench.
- 2.3.3.3 Locate air outlet, intake, and operating sensor in bottom of cover.
- 2.3.3.4 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).

- 2.3.3.5 Weight: 10.4 pounds (4.7 kg).
- 2.3.3.6 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.
- 2.3.3.7 Motor: High pressure Universal brush motor, 18000-26000 rpm, A class. RPM may be adjusted manually by means of a potentiometer. 400 to 1050 W (0.5 to 1.5 HP) high speed motor.
- 2.3.3.8 R.P.M.: 18,000 to 26,000. RPM may be adjusted manually by means of a potentiometer.
- 2.3.3.9 Voltage: 100-120 V.
- 2.3.3.10 Voltage: 208 V.
- 2.3.3.11 Voltage: 220-240 V.
- 2.3.3.12 Frequency: 50/60 Hz.
- 2.3.3.13 Power Consumption: 6.4 to 10.6 A (120 V).
- 2.3.3.14 Power Consumption: 6 to 9 A (220 V).
- 2.3.3.15 Heating Element Power: 50 to 250 watts.
- 2.3.3.16 Total Maximum Power: 450 to 1,300 watts.
- 2.3.3.17 Isolation: Class I Grounding required.
- 2.3.3.18 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.
- 2.3.3.19 Fan: Fire resistant plastic UL 94-V0 fan scroll. Aluminum centrifugal double asymmetrical inlet fan wheel.
- 2.3.3.20 Recess Mounting: Recessed box and cover with opening for dryer and intake air grille to allow dryer to be recessed mounted in wall.
 - 2.3.3.20.1 Material: Stainless steel sheet complying with AISI 304 with brushed satin finish.
 - 2.3.3.20.2 Box Size: 21-21/32 inches H x 13 inches W x 3 inches D (550 mm x 330 mm x 77 mm).
 - 2.3.3.20.3 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).

2.4 HIGH-SPEED HAND DRYERS (SPEEDFLOW Series M06A)

2.4.1 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 Mediclinics, S.A. and distributed by its subsidiary Saniflow Corporation.

- 2.4.1.1 Speedflow Hand Dryer Model No. M06A-UL, white epoxy on steel.
- 2.4.1.2 Speedflow Hand Dryer Model No. M06AF-UL white porcelain enamel coating on cast iron.
- 2.4.1.3 Speedflow Hand Dryer Model No. M06AB-UL, black epoxy on steel.
- 2.4.1.4 Speedflow Hand Dryer Model No. M06AC-UL, bright finish on stainless steel.
- 2.4.1.5 Speedflow Hand Dryer Model No. M06ACS-UL, satin finish on stainless steel.

2.4.2 Performance Requirements:

- 2.4.2.1 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.
- 2.4.2.2 Air Speed: Adjustable 4920 to 9840 lfm (1500 m/minute to 3000 m/minute).
- 2.4.2.3 Minimum temperature at 4 inches (102 mm) distance / 70 degrees F (21 degrees C): Adjustable from 106 degrees F (41 degrees C).
- 2.4.2.4 Effective Airflow: 36 to 58 cfm (17000 cu. cm/second to 27400 cu. cm/second).
- 2.4.2.5 Free Airflow: Adjustable 43 to 70 cfm (20300 cu. cm/sec to 33000 cu. cm/sec).
- 2.4.2.6 Drying Time: 10 to 15 seconds
- 2.4.2.7 Safety: Automatic disconnection system after 60 seconds of continuous use. Self-resettable thermal cut-off at 302 degrees F (150 degrees C) which

- disconnect the whole appliance. Protection level against water splashes should be rating IP23.
- 2.4.2.8 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.
 - 2.4.2.9 Unit shall be Greenspec listed.
 - 2.4.2.10 Unit shall comply with LEED credit EA_c1 (Optimize Energy Performance) for the following standard:
 - 2.4.2.10.1 LEED NC-2009.
 - 2.4.2.10.2 LEED NC-v2.2.
 - 2.4.2.10.3 LEED Schools-2009.
 - 2.4.2.10.4 LEED CS-2009.
 - 2.4.2.11 Unit shall comply with LEED credit EA_p2 (Minimum Energy Performance) for the following standard:
 - 2.4.2.11.1 LEED NC-2009.
 - 2.4.2.11.2 LEED NC-v2.2.
 - 2.4.2.11.3 LEED Schools-2009.
 - 2.4.2.11.4 LEED CS-2009.
 - 2.4.2.12 Sound Pressure Level (SPL): Noise level at 79 inches (2000 mm). 70 dB maximum.
- 2.4.3 Construction:
- 2.4.3.1 Cover: One-piece cover fabricated from metal:
 - 2.4.3.1.1 Finish: Stainless steel sheet 1/16 inch (2 mm) thick complying with AISI 304 with brushed satin finish.
 - 2.4.3.1.2 Finish: Stainless steel sheet 1/16 inch (2 mm) thick complying with AISI 304 with bright reflective polished finish.
 - 2.4.3.1.3 Finish: Steel sheet 1/16 inch (2 mm) thick complying with ASTM A659 with white epoxy paint finish.
 - 2.4.3.1.4 Finish: Steel sheet 1/16 inch (2 mm) thick complying with ASTM A659 with black epoxy paint finish.
 - 2.4.3.1.5 Finish: Cast iron one piece cover 3/16 inch (5 mm) thick with white epoxy paint finish.
 - 2.4.3.2 Cover to be field attached to base with vandal proof screws and locked with special key wrench.
 - 2.4.3.3 Locate air outlet, intake, and operating sensor in bottom of cover.
 - 2.4.3.4 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).
 - 2.4.3.5 Weight: 7.9 pounds (3.6 kg).
 - 2.4.3.6 Weight: 15.2 pounds (6.9 kg).
 - 2.4.3.7 Base: Aluminum base, with 4 holes 5/16 inch (8 mm) for wall mounting. Base includes silent-blocks to damp mechanical vibrations.
 - 2.4.3.8 Motor: 1/3 HP high speed motor. Universal brush motor, A class.
 - 2.4.3.9 R.P.M.: 4.200 to 8.200. RPM may be adjusted manually by means of a potentiometer.
 - 2.4.3.10 Voltage: Universal voltage: Unit adjusts automatically from 110 volts to 240 volts.
 - 2.4.3.11 Frequency: 50/60 Hz.
 - 2.4.3.12 Power Consumption: 17.9 A (120 V).
 - 2.4.3.13 Heating Element: 900 watts.
 - 2.4.3.14 Total Power: 1,150 watts to 2,150 watts maximum.
 - 2.4.3.15 Insulation: Grounding required.
 - 2.4.3.16 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.
 - 2.4.3.17 Fan: Fire resistant plastic UL 94-V0 fan scroll. Aluminum centrifugal double asymmetrical inlet fan wheel.

2.5 HEAVY-DUTY HAND DRYERS (SANIFLOW AUTOMATIC Series E88A and E85A)

2.5.1 Type: Warm air, wall mounted, durable, compact, electric hand dryer with anti-vandalism features and low energy consumption, as manufactured by Mediclinics, S.A. and distributed by its subsidiary Saniflow Corporation:

- 2.5.1.1 Saniflow Hand Dryer Model No. E88A.
- 2.5.1.2 Saniflow Hand Dryer Model No. E88AC.
- 2.5.1.3 Saniflow Hand Dryer Model No. E88ACS.
- 2.5.1.4 Saniflow Hand Dryer Model No. E88AO.
- 2.5.1.5 Saniflow Hand Dryer Model No. E85A.

2.5.2 Performance Requirements:

- 2.5.2.1 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.
- 2.5.2.2 Airflow: 203 cubic feet per minute (5.75 cubic meters per minute).
- 2.5.2.3 Air Velocity: 5,512 linear feet per minute (1,680 linear meters per minute).
- 2.5.2.4 Air Temperature at 4 inches (102 mm) below outlet at 70 degrees F (21 degrees C) ambient temperature: 128 degrees F (53 degrees C).
- 2.5.2.5 Average Drying Time: 29 seconds.
- 2.5.2.6 Sound Pressure Level (SPL): 70 decibels maximum.

2.5.3 Construction:

- 2.5.3.1 Cover: One-piece cover fabricated from 1/16 inch (2 mm) thick sheet steel.
 - 2.5.3.1.1 Finish: White porcelain enamel finish.
 - 2.5.3.1.2 Finish: Bright chrome plated finish.
 - 2.5.3.1.3 Finish: Satin chrome plated finish.
 - 2.5.3.1.4 Finish: 24K gold plated finish.
- 2.5.3.2 Cover: One-piece cover fabricated from 1/4 inch (6 mm) thick cast iron.
 - 2.5.3.2.1 Finish: White porcelain enamel finish.
- 2.5.3.3 Cover to be field attached to base with vandal proof screws and locked with special key wrench.
- 2.5.3.4 Provide cover with rotating die cast air nozzle to focus air stream.
- 2.5.3.5 Base: Die cast aluminum base with factory attached dryer components. Provide with fasteners for attachment to wall.
- 2.5.3.6 Nominal Size: 11 inches by 9-3/4 inches by 8-1/4 inches (278 mm by 248 mm by 210 mm).
- 2.5.3.7 Nominal size: 11-1/8 inches wide by 10 inches high by 8-1/2 inches deep (282 mm wide by 255 mm high by 215 mm deep).
- 2.5.3.8 Weight: 14.3 pounds (6.5 kg).
- 2.5.3.9 Weight: 23.4 pounds (11.5 kg).
- 2.5.3.10 Motor: 1/3 HP, 5,500 RPM, universal brush type.
- 2.5.3.11 Fan: Double inlet, centrifugal, aluminum fan.
- 2.5.3.12 Heating Element: 1,600 watt with Ni-Crom 40 wire.
- 2.5.3.13 Power Requirements: 110/120 volts, 50/60 Hz, 16 amps.

2.6 HEAVY-DUTY HAND DRYERS (SANIFLOW PUSH BUTTON Series E88 and E85)

2.6.1 Type: Warm air, wall mounted, durable, compact, electric hand dryer with anti-vandalism features and low energy consumption, as manufactured by Mediclinics, S.A. and distributed by its subsidiary Saniflow Corporation:

- 2.6.1.1 Saniflow Hand Dryer Model No. E88.
- 2.6.1.2 Saniflow Hand Dryer Model No. E88C.
- 2.6.1.3 Saniflow Hand Dryer Model No. E88CS.
- 2.6.1.4 Saniflow Hand Dryer Model No. E88O.
- 2.6.1.5 Saniflow Hand Dryer Model No. E85.

2.6.2 Performance Requirements:

- 2.6.2.1 Operation: Push button starts dryer which operates for 34 seconds.
- 2.6.2.2 Airflow: 203 cubic feet per minute (5.75 cubic meters per minute).
- 2.6.2.3 Air Velocity: 5,512 linear feet per minute (1,680 linear meters per minute).
- 2.6.2.4 Air Temperature at 4 inches (102 mm) below outlet at 70 degrees F (21 degrees C) ambient temperature: 128 degrees F (53 degrees C).
- 2.6.2.5 Average Drying Time: 29 seconds.
- 2.6.2.6 Sound Pressure Level (SPL): 70 decibels maximum.

2.6.3 Construction:

- 2.6.3.1 Cover: One-piece cover fabricated from 1/16 inch (2 mm) thick sheet steel.
 - 2.6.3.1.1 Finish: White porcelain enamel finish.
 - 2.6.3.1.2 Finish: Bright chrome plated finish.
 - 2.6.3.1.3 Finish: Satin chrome plated finish.
 - 2.6.3.1.4 Finish: 24K gold plated finish.
- 2.6.3.2 Cover: One-piece cover fabricated from 1/4 inch (6 mm) thick cast iron.
 - 2.6.3.2.1 Finish: White porcelain enamel finish.
- 2.6.3.3 Cover to be field attached to base with vandal proof screws and locked with special key wrench.
- 2.6.3.4 Provide cover with rotating die cast air nozzle to focus air stream.
- 2.6.3.5 Base: Die cast aluminum base with factory attached dryer components. Provide with fasteners for attachment to wall.
- 2.6.3.6 Nominal Size: 11 inches by 9-3/4 inches by 8-1/4 inches (278 mm by 248 mm by 210 mm).
- 2.6.3.7 Nominal size: 11-1/8 inches wide by 10 inches high by 8-1/2 inches deep (282 mm wide by 255 mm high by 215 mm deep).
- 2.6.3.8 Weight: 14.3 pounds (6.5 kg).
- 2.6.3.9 Weight: 23.4 pounds (11.5 kg).
- 2.6.3.10 Motor: 1/3 HP, 5,500 RPM, universal brush type.
- 2.6.3.11 Fan: Double inlet, centrifugal, aluminum fan.
- 2.6.3.12 Heating Element: 1,600 watt with Ni-Crom 40 wire.
- 2.6.3.13 Power Requirements: 110/120 volts, 50/60 Hz, 16 amps.

2.7 HAND DRYERS (MEDIFLOW Series M03A)

2.7.1 Type: Warm air, wall mounted, durable, compact, sensor operated, electric hand dryer with anti-vandalism features.

- 2.7.1.1 Provide automatic temperature selector to regulate hand drying air temperature according to room ambient temperature, as manufactured by Mediclinics, S.A. and distributed by its subsidiary Saniflow Corporation.
- 2.7.1.2 Saniflow Hand Dryer Model No. M03A.
- 2.7.1.3 Saniflow Hand Dryer Model No. M03AC.
- 2.7.1.4 Saniflow Hand Dryer Model No. M03ACS.

2.7.2 Performance Requirements:

- 2.7.2.1 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.
- 2.7.2.2 Airflow: 265 cubic feet per minute (7.5 cubic meters per minute).
- 2.7.2.3 Air Velocity: 5198 linear feet per minute (1584 linear meters per minute).
- 2.7.2.4 Air Temperature at 4 inches (102 mm) below outlet at 70 degrees F (21 degrees C) ambient temperature: 120 degrees F (49 degrees C).
- 2.7.2.5 Temperature selector shall automatically increase or decrease air flow temperature according to room ambient temperature.
- 2.7.2.6 Average Drying Time: 29 seconds.
- 2.7.2.7 Sound Pressure Level (SPL): 65 decibels maximum.

2.7.3 Construction:

- 2.7.3.1 Cover: One-piece cover fabricated from 1/16 inch (2 mm) thick sheet steel.

- 2.7.3.1.1 Finish: Stainless steel sheet complying with AISI 304 with brushed satin finish.
- 2.7.3.1.2 Finish: stainless steel sheet complying with AISI 304 with bright reflective polished finish.
- 2.7.3.1.3 Finish: Steel sheet with white epoxy paint finish.
- 2.7.3.2 Cover to be field attached to base with vandal proof screws and locked with special key wrench.
- 2.7.3.3 Locate air outlet, intake, and operating sensor in bottom of cover.
- 2.7.3.4 Nominal Size: 10-3/4 inches wide by 12-7/8 inches high by 6-1/2 inches deep (272 mm wide by 325 mm high by 164 mm deep).
- 2.7.3.5 Nominal Size: 10-3/4 inches wide by 12-5/8 inches high by 6-1/2 inches deep (272 mm wide by 325 mm high by 164 mm deep).
- 2.7.3.6 Weight: 9.37 pounds (4.25 kg).
- 2.7.3.7 Weight: 10.7 pounds (4.85 kg).
- 2.7.3.8 Base: Rigid, opaque, high temperature resistant, UL listed, polyphenylene oxide (PPO) plastic base with factory attached dryer components. Provide with fasteners for attachment to wall.
- 2.7.3.9 Motor: 1/3 HP, 4500 RPM, universal brush type.
- 2.7.3.10 Fan: Double inlet, centrifugal, aluminum fan.
- 2.7.3.11 Heating Element: 2,000 watt with Cr-Al-Fe tape.
- 2.7.3.12 Power Requirements: 250 - 2750W 110/120 volts, 50/60 Hz, 2.1 to 19 amps.
- 2.7.3.13 Recess Mounting: Recessed box and cover with opening for dryer and intake air grille to allow dryer to be recessed mounted in wall.
 - 2.7.3.13.1 Material: Stainless steel sheet complying with AISI 304 with brushed satin finish.
 - 2.7.3.13.2 Material: Stainless steel sheet complying with AISI 304 with bright reflective polished finish.
 - 2.7.3.13.3 Box Size: 11-5/8 inches wide by 18-7/8 inches high by 3 inches deep (296 mm wide by 426 mm high by 76 mm deep).
 - 2.7.3.13.4 Overall Cover Dimensions: 13-3/8 inches wide by 18-7/8 inches high (340 mm wide by 481 mm high).

2.8 HAND DRYERS (MEDIFLOW INTELLIGENT Series M02A)

- 2.8.1 Type: Warm air, wall mounted, durable, compact, sensor operated, electric hand dryer with anti-vandalism features.
 - 2.8.1.1 Provide automatic temperature selector to regulate hand drying air temperature according to room ambient temperature, as manufactured by Mediclinics, S.A. and distributed by its subsidiary Saniflow Corporation.
 - 2.8.1.2 Saniflow Hand Dryer Model No. M02A.
 - 2.8.1.3 Saniflow Hand Dryer Model No. M02AC.
 - 2.8.1.4 Saniflow Hand Dryer Model No. M02ACS.
- 2.8.2 Performance Requirements:
 - 2.8.2.1 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.
 - 2.8.2.2 Airflow: 265 cubic feet per minute (7.5 cubic meters per minute).
 - 2.8.2.3 Air Velocity: 5198 linear feet per minute (1584 linear meters per minute).
 - 2.8.2.4 Air Temperature at 4 inches (102 mm) below outlet at 70 degrees F (21 degrees C) ambient temperature: 120 degrees F (49 degrees C).
 - 2.8.2.5 Temperature selector shall automatically increase or decrease air flow temperature according to room ambient temperature.
 - 2.8.2.6 Average Drying Time: 29 seconds.
 - 2.8.2.7 Sound Pressure Level (SPL): 65 decibels maximum.

2.8.3 Construction:

- 2.8.3.1 Cover: One-piece cover fabricated from 1/16 inch (2 mm) thick sheet steel.
 - 2.8.3.1.1 Finish: Stainless steel sheet complying with AISI 304 with brushed satin finish.
 - 2.8.3.1.2 Finish: stainless steel sheet complying with AISI 304 with bright reflective polished finish.
 - 2.8.3.1.3 Finish: Steel sheet with white epoxy paint finish.
- 2.8.3.2 Cover to be field attached to base with vandal proof screws and locked with special key wrench.
- 2.8.3.3 Locate air outlet, intake, and operating sensor in bottom of cover.
- 2.8.3.4 Nominal Size: 10-3/4 inches wide by 12-7/8 inches high by 6-1/2 inches deep (272 mm wide by 325 mm high by 164 mm deep).
- 2.8.3.5 Nominal Size: 10-3/4 inches wide by 12-5/8 inches high by 6-1/2 inches deep (272 mm wide by 325 mm high by 164 mm deep).
- 2.8.3.6 Weight: 9.37 pounds (4.25 kg).
- 2.8.3.7 Weight: 10.7 pounds (4.85 kg).
- 2.8.3.8 Base: Rigid, opaque, high temperature resistant, UL listed, polyphenylene oxide (PPO) plastic base with factory attached dryer components. Provide with fasteners for attachment to wall.
- 2.8.3.9 Motor: 1/3 HP, 4500 RPM, universal brush type.
- 2.8.3.10 Fan: Double inlet, centrifugal, aluminum fan.
- 2.8.3.11 Heating Element: 2,000 watt with Cr-Al-Fe tape.
- 2.8.3.12 Power Requirements: 250 - 2750W 110/120 volts, 50/60 Hz, 2.1 to 19 amps.
- 2.8.3.13 Recess Mounting: Recessed box and cover with opening for dryer and intake air grille to allow dryer to be recessed mounted in wall.
 - 2.8.3.13.1 Material: Stainless steel sheet complying with AISI 304 with brushed satin finish.
 - 2.8.3.13.2 Material: Stainless steel sheet complying with AISI 304 with bright reflective polished finish.
 - 2.8.3.13.3 Box Size: 11-5/8 inches wide by 18-7/8 inches high by 3 inches deep (296 mm wide by 426 mm high by 76 mm deep).
 - 2.8.3.13.4 Overall Cover Dimensions: 13-3/8 inches wide by 18-7/8 inches high (340 mm wide by 481 mm high).

2.9 MEDIUM-RANGE HAND DRYERS (OPTIMA Series M99A)

- 2.9.1 Warm air, wall mounted, contemporary design, durable, compact, electric, sensor operated hand dryer as manufactured by Mediclinics, S.A. and distributed by its subsidiary Saniflow Corporation.;
 - 2.9.1.1 Optima Hand Dryer Model No. M99A.
 - 2.9.1.2 Optima Hand Dryer Model No. M99AC.
 - 2.9.1.3 Optima Hand Dryer Model No. M99ACS.
- 2.9.2 Performance Requirements:
 - 2.9.2.1 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.
 - 2.9.2.2 Effective Airflow: 166 cubic feet per minute (4.69 cubic meters per minute).
 - 2.9.2.3 Air Velocity: 4181 linear feet per minute (1274 linear meters per minute).
 - 2.9.2.4 Air Temperature at 4 inches (102 mm) below outlet at 70 degrees F (21 degrees C) ambient temperature: 125 degrees F (52 degrees C).
 - 2.9.2.5 Average Drying Time: 38 seconds.
 - 2.9.2.6 Sound Pressure Level (SPL): 60 decibels maximum.
- 2.9.3 Construction:
 - 2.9.3.1 Cover: One-piece cover fabricated from 1/16 inch (2 mm) thick:
 - 2.9.3.1.1 Finish: Stainless steel sheet complying with AISI 304 with brushed satin finish.

- 2.9.3.1.2 Finish: Stainless steel sheet complying with AISI 304 with bright reflective polished finish.
- 2.9.3.1.3 Finish: Steel sheet complying with ASTM A659 with white epoxy paint finish.
- 2.9.3.2 Cover to be field attached to base with four Allen head screws.
- 2.9.3.3 Locate air outlet, intake, and operating sensor in bottom of cover.
- 2.9.3.4 Nominal size: 10-1/4 inches wide by 11-7/8 inches high by 5-29/32 inches deep (260 mm wide by 302 mm high by 150 mm deep).
- 2.9.3.5 Weight: 9.4 pounds (4.3 kg).
- 2.9.3.6 Weight: 9.8 pounds (4.5 kg).
- 2.9.3.7 Base: Base and fan scroll: Fabricated from rigid, opaque, high temperature resistant thermoplastic Cyclocac. Provide with fasteners for attachment to wall.
- 2.9.3.8 Motor: 1/5 HP, 3300 RPM, shaded pole type.
- 2.9.3.9 Fan: Simple inlet, centrifugal fan fabricated from UL listed polypropylene (PP) plastic.
- 2.9.3.10 Heating Element: 1,500 watt with Ni-Crom 40 wire.
- 2.9.3.11 Power Requirements: 110/120 volts, 50/60 Hz, 13.6 amps.

2.10 LOW-MEDIUM RANGE HAND DRYER JUNIOR PLUS

- 2.10.1 Type: Warm air, wall mounted, durable, compact, electric, hand dryer as manufactured by Mediclinics, S.A. and distributed by its subsidiary Saniflow Corporation;
 - 2.10.1.1 Saniflow Junior Hand Dryer Model No. M88APLUS, white ABS finish.
- 2.10.2 Performance Requirements:
 - 2.10.2.1 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.
 - 2.10.2.2 Effective Airflow: 139 cubic feet per minute (4.69 cubic meters per minute).
 - 2.10.2.3 Air Velocity: 4181 linear feet per minute (1274 linear meters per minute).
 - 2.10.2.4 Air Temperature at 4 inches (102 mm) below outlet at 70 degrees F (21 degrees C) ambient temperature: 126 degrees F (52 degrees C).
 - 2.10.2.5 Average Drying Time: 25-35 seconds.
 - 2.10.2.6 Sound Pressure Level (SPL): 60 decibels maximum.
- 2.10.3 Construction:
 - 2.10.3.1 Cover: One-piece cover fabricated from 1/8 inch (3 mm) thick, UL listed, rigid, opaque, high temperature resistant, white acrylonitrile-butadiene-styrene (ABS) plastic.
 - 2.10.3.1.1 Cover to be field attached to base with four Allen head screws.
 - 2.10.3.1.2 Locate air outlet, operating sensor, and intake in bottom of cover.
 - 2.10.3.1.3 Nominal size: 10 inches W by 11-7/8 inches H by 5-7/8 inches D (254 mm by 302 mm by 149 mm).
 - 2.10.3.1.4 Weight: 6.6 pounds (3 kg).
 - 2.10.3.2 Base: UL listed, high temperature resistant acrylonitrile-butadiene-styrene (ABS) plastic base with factory attached dryer components. Provide with fasteners for attachment to wall.
 - 2.10.3.3 Motor: 1/5 HP, 3300 RPM, shaded pole type.
 - 2.10.3.4 Fan: Simple inlet, centrifugal fan fabricated from UL listed polypropylene (PP) plastic.
 - 2.10.3.5 Heating Element: 1,500 watt with Ni-Crom 40 wire.
 - 2.10.3.6 Power Requirements: 110/120 volts, 50/60 Hz, 13.6 amps.

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