



SECTION 10811

ELECTRIC HAND DRYERS

November 2010

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**** NOTE TO SPECIFIER ** Excel Dryer Inc.; electric hand dryers. This section is based on the products of Excel Dryer Inc., which is located at:**

357 Chestnut St. P. O. Box 365

East Longmeadow, MA 01028

Tel: 413-525-4531

Email: [request info \(sales@exceldryer.com\)](mailto:sales@exceldryer.com)

Web: www.exceldryer.com

[[Click Here](#)] for additional information.

For more than 40 years, Excel Dryer has manufactured a full line of MADE IN USA Certified electric hand dryers featuring the XLERATOR model, The New Industry Standard, which dries hands completely in 10 seconds, uses 80 percent less energy and qualifies for LEED Credits. Excel has provided cost-effective electric hand and hair dryers for facilities such as schools, hospitals, airports, service stations, correctional facilities, restaurants, stadiums, movie theaters, health clubs, office buildings, factories, hotels, and many others.

PART 1 GENERAL

1.1 SECTION INCLUDES

**** NOTE TO SPECIFIER ** Delete items below not required for project.**

- A. Warm air, high speed, energy efficient self-contained electric hand dryers.
- B. Warm air, self-contained electric hair dryers.

1.2 RELATED SECTIONS

**** NOTE TO SPECIFIER ** Delete any sections below not relevant to this project; add others as required.**

- 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

**** NOTE TO SPECIFIER ** Delete references from the list below that are not actually required by the text of the edited section.**

- A. ICC/ANSI A117.1 - American National Standard for Accessible and Useable Buildings and Facilities; 1998.

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. Operating instructions and performance.
 - 3. Storage and handling requirements and recommendations.
 - 4. Installation methods.
- C. Shop Drawings showing dimensions, method of attachment, and required supports.

**** NOTE TO SPECIFIER ** Delete the following paragraphs if LEED is not applicable.**

- D. LEED Submittals: Provide documentation of how the requirements of Credit will be met:

- E. Dryer to be MADE IN USA Certified. Verify Certification # MAOAA.0027

**** NOTE TO SPECIFIER ** CE or CSA certifications for export applications may apply for non-US applications.**

**** NOTE TO SPECIFIER ** Barrier free requirements will depend on type of project and local jurisdiction. Edit and include the following paragraph if toilet rooms and installation of hand dryers need to accommodate persons with physical disabilities.**

- F. Electrical wiring diagrams for connection of hand dryers.
- G. Manufacturer's Certificates: Certify products meet or exceed specified requirements.

1.5 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Company specializing in manufacturing electric hand dryers with 20 years minimum experience.

**** NOTE TO SPECIFIER ** CE or CSA certifications for export applications may apply for non-US applications.**

- B. Equipment certified by Underwriters Laboratory, Inc., with UL labels.

**** NOTE TO SPECIFIER ** Barrier free requirements will depend on type of project and local jurisdiction. Edit and include the following paragraph if toilet rooms and installation of hand dryers need to accommodate persons with physical disabilities.**

- C. Comply with ICC/ANSI A117.1.

1.6 WARRANTY

- A. Provide manufacturer's standard limited warranty for period specified.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Excel Dryer Inc., which is located at: 357 Chestnut St. P. O. Box 365 ; East Longmeadow, MA 01028; Tel: 413-525-4531; Email: [request info \(sales@exceldryer.com\)](mailto:requestinfo@exceldryer.com); Web: www.exceldryer.com

**** NOTE TO SPECIFIER ** Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.**

- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 ELECTRIC HAND DRYERS

- A. Hand Dryer: Warm air, rapid drying, energy efficient electric hand dryer; XLERATOR; surface mounted; entire dryer internally grounded.
 - 1. Warranty Period: 5 years; limited warranty.
 - 2. MADE IN USA Certified. Verify Certification # MAOAA.0027
 - 3. Controls: Completely sealed control assembly and optics for protection against moisture, lint/dust and vandalism. Automatic, activated by infrared optical sensor. Operates while hands are under blower. Shut-off within 2 seconds when hands removed or in 35 seconds if hands not removed.

**** NOTE TO SPECIFIER ** Select one of the following cover materials and delete the one not required.**

- 4. Cover: One piece, vandal resistant, reinforced white thermoplastic (Bulk Molding Compound).
- 5. Cover: Stainless steel with brushed finish.
- 6. Cover: One piece, heavy duty, rust-resistant, rib-reinforced, die-cast zinc alloy.

**** NOTE TO SPECIFIER ** Delete all but one of the following finishes for die-cast zinc alloy cover..**

- a. Finish: Electrostatically applied, chip resistant, white paint.
- b. Finish: Electrostatically applied, chip resistant, textured graphite paint (grey).
- c. Finish: Bright chrome plated.
- d. Finish: Custom color as selected by Architect.

**** NOTE TO SPECIFIER ** Include the following finish if required and delete if not required. New special cover option that can incorporate digital images and logos. Call manufacturer for more information.**

- 7. Image: Custom digital image as selected by Architect.
- 8. Air Intake: Small circular Inlet openings on bottom of cover.
- 9. Air Outlet: Delivers focused air stream of 18,000 LFM at nozzle and 16,000 LFM at average hand position of 4 inches (102 mm) below air outlet.

**** NOTE TO SPECIFIER ** Use Optional 1.1 noise reduction nozzle if required. Delete if not required. Nozzle lowers peak air deflection noise by 9 decibels.**

- 10. Noise Reduction Nozzle: 1.1 noise reduction nozzle. Reduces air deflection noise and decibel level by 9db.
- 11. Wall Plate: Injection molded, rib reinforced plate with metal L brackets to attach cover, with ten 5/16 inch (8 mm) diameter holes for surface mounting to wall and three 7/8 inch (22 mm) diameter holes for electrical wiring; bottom hole suitable for surface conduit.

**** NOTE TO SPECIFIER ** Optional ADA compliant recess kit if required. Delete if not required. Kit adheres to ADA 4" protrusion requirements.**

- 12. Recess Kit: ADA compliant recess kit is fabricated of 22 GA 18-8 type 304 stainless steel with #4 satin finish with 16 GA18-8 type 304 stainless steel dryer mounting plate. All welded construction. 16-3/8 inches (416 mm) wide by 26 inches (660 mm) high by 3-3/8 inches (86 mm) deep.
- 13. Nominal Size: 11-3/4 inches (298 mm) wide by 12-11/16 inches (322 mm) high by 6-11/16 inches (170 mm) deep.

14. Weight:

**** NOTE TO SPECIFIER ** Delete all but one of the following covers.**

- a. 17 pounds (7.7 kg) die cast cover.
- b. 15 pounds (6.8 kg) stainless cover.
- c. 13 pounds (5.9 kg) bulk mold compound.

**** NOTE TO SPECIFIER ** Delete all but one of the following five power sources.**

- 15. Power Source: 110/120 volt, 12.5 amp, 60 Hz
- 16. Power Source: 208 volt, 7.0 amp, 60 Hz
- 17. Power Source: 220/240 volt, 6.5 amp, 60 Hz
- 18. Power Source: 277 volt, 5.5 amp, 60 Hz
- 19. Power Source: 220/240 volt, 6.5 amp, 50 Hz
- 20. Combination Motor and Blower: Series commutated, through-flow discharge, vacuum type; 5/8 HP, 20,000 RPM. Air flow rate: 19,000 linear feet per minute (97 meters per second) at air outlet, 16,000 linear feet per minute (81 meters per second) at average hand position of 4 inches (102 mm) below air outlet.
- 21. Heater: Nichrome wire element, mounted inside blower housing to be vandal proof.
- 22. Heater Safeguard: Automatic resetting thermostat to open when air flow is restricted and close when air flow is resumed.
- 23. Air Temperature: 135 degrees F (55 degrees C) measured at average hand position of 4 inches (102 mm) below air outlet. Air Heater Output: 900 watts.
- 24. All metal parts coated according to Underwriters Laboratories, Inc. requirements.

**** NOTE TO SPECIFIER ** Indicate mounting heights on Drawings or designate as part of specification; do not indicate mounting heights in both specifications and drawings. Delete one of the following two paragraphs.**

- 25. Mount dryers at heights indicated on Drawings.
- 26. Mount at the following heights above floor surface:

**** NOTE TO SPECIFIER ** Select dimensions and delete unused paragraphs.**

- a. Men's Toilets: 45 inches (1143 mm).
- b. Women's Toilets: 43 inches (1092 mm).
- c. Teenagers' Toilets: 41 inches (1041 mm).
- d. Young Children's Toilets: 35 inches (889 mm).
- e. Toilets for Persons with Physical Disabilities: 37 inches (940 mm).

B. Hand or Hair Dryer: Warm air electric hand dryer; push-button; Hands On series; entire dryer internally grounded.

- 1. Warranty Period: 10 years; unlimited warranty.

**** NOTE TO SPECIFIER ** Delete one of the following two options. If both hand and hair dryers are required, indicate clearly where each will be used.**

- 2. Controls, Hand Dryers: Push button; electronic timer with adjustable time cycle; set to 30 seconds.
- 3. Controls, Hair Dryers: Push button; electronic timer with adjustable time cycle; set to 3 minutes.
- 4. Cover: One piece, heavy duty, rust-resistant, rib-reinforced, die-cast zinc alloy. Recessed instruction plate.

**** NOTE TO SPECIFIER ** Delete all but one of the following three finishes.**

- 5. Finish: Electrostatically applied, chip resistant, white paint.
- 6. Finish: Bright chrome plated.
- 7. Finish: Custom color as selected by Architect.

**** NOTE TO SPECIFIER ** Delete one of the following two nozzles.**

- 8. Nozzle: Fixed chrome plated nozzle.
- 9. Nozzle: 360 degree revolving, chrome plated nozzle.
- 10. Push Button: Die-cast, chrome plated, zinc alloy push button.
- 11. Air Intake: Perforated metal screen fixed to cover; designed to keep foreign

objects out of dryer.

**** NOTE TO SPECIFIER ** Delete one of the following two mountings.**

12. Mounting: Surface, mounted on cast zinc alloy wall plate, with four 5/16 inch (8 mm) diameter holes for surface mounting to wall and three 7/8 inch (22 mm) diameter holes for electrical wiring; bottom hole suitable for surface conduit.
 - a. Nominal Size: 10-3/4 inches (273 mm) wide by 8 inches (203 mm) high by 10-1/8 inches (257 mm) deep including nozzle.
 - b. Weight: 18 pounds (8.1 kg).
13. Mounting: Semi-recessed, mounted on cast zinc alloy plate in wall box with concealed mounting bolts; two 7/8 inch (22 mm) diameter holes for electrical wiring.
 - a. Nominal Size: 12-1/2 inches (318 mm) wide by 9-3/4 inches (248 mm) high by 7-1/8 inches (181 mm) deep including nozzle.
 - b. Weight: 20 pounds (9.0 kg).

**** NOTE TO SPECIFIER ** Delete all but one of the following six power sources. 50 Hz models available for export.**

14. Power Source: 110/120 volt, 15 amp, 60 Hz.
15. Power Source: 110/120 volt, 20 amp, 60 Hz.
16. Power Source: 208/230 volt, 10 amp, 60 Hz.
17. Power Source: 277 volt, 8 amp, 60 Hz.
18. Power Source: 220 volt, 10 amp, 50 Hz.
19. Power Source: 240 volt, 10 amp, 50 Hz.

**** NOTE TO SPECIFIER ** Delete one of the following two motors, according to power source selected.**

20. Motor: 60 Hz. Capacitor-initiated; brushless, for longer life and quiet operation; 1/10 HP, 3,450 RPM; self-lubricating bearings; self-resetting thermal protection.
21. Motor: 50 Hz. Universal brush, 1/10 HP, 4200 RPM; sealed ball bearings; insulated by resilient mounting and thermally protected.
22. Blower Fan: Single inlet centrifugal, 150 cubic feet per minute (0.071 cubic meters per second); mounted on motor shaft; insulated with resilient rubber mounting to obtain maximum sound and vibration dampening.
23. Heater: Nichrome wire element, side mounted on blower housing to be vandal proof.
24. Heater Safeguard: Automatic resetting thermostat to open when air flow is restricted and close when air flow is resumed.
25. Air Temperature: 145 degrees F (63 degrees C).
26. All metal parts coated according to Underwriters Laboratories, Inc. requirements.

**** NOTE TO SPECIFIER ** Indicate mounting heights on Drawings or designate as part of specification; do not indicate mounting heights in both specifications and drawings. Delete all but one of the following three paragraphs; if both hand dryers and hair dryers are required, indicate clearly where each will be installed.**

27. Mount dryers at heights indicated on Drawings.
28. Mount hand dryers at the following heights above floor surface:

**** NOTE TO SPECIFIER ** Select dimensions and delete unused paragraphs.**

- a. Men's Toilets: 40 inches (1016 mm).
- b. Women's Toilets: 38 inches (965 mm).
- c. Teenagers' Toilets: 36 inches (914 mm).
- d. Young Children's Toilets: 30 inches (762 mm).
- e. Toilets for Persons with Physical Disabilities: 32 inches (813 mm).
29. Mount hair dryers at the following heights above floor surface:

**** NOTE TO SPECIFIER ** Select dimensions and delete unused paragraphs.**

- a. Men's Showers: 64 inches (1626 mm).
- b. Women's Showers: 58 inches (1473 mm).

- c. Teenagers' Showers: 56 inches (1422 mm).
 - d. Young Children's Showers: 43 inches (1092 mm).
 - e. Showers for Persons with Physical Disabilities: 45 inches (1143 mm).
- C. Hand Dryer: Warm air electric hand dryer; automatic; Hands Off series; surface mounted or semi-recessed; entire dryer internally grounded.
- 1. Warranty Period: 10 years; limited warranty.
 - 2. Electronic Controls: Activated by infrared optical sensor. Operates while hands are moving under blower. Shut-off in 90 seconds if hands not removed.
 - 3. Cover: One piece, heavy duty, rust-resistant, rib-reinforced, die-cast zinc alloy. Recessed instruction plate.

**** NOTE TO SPECIFIER ** Delete all but one of the following three finishes.**

- 4. Finish: Electrostatically applied, chip resistant, white paint.
- 5. Finish: Bright chrome plated.
- 6. Finish: Custom color as selected by Architect.

**** NOTE TO SPECIFIER ** Delete one of the following two mountings.**

- 7. Mounting: Surface, mounted on cast zinc alloy plate, with four 5/16 inch (8 mm) diameter holes for surface mounting to wall and three 7/8 inch (22 mm) diameter holes for electrical wiring; bottom hole suitable for surface conduit.
 - a. Air Intake: Inlet openings on bottom of cover.
 - b. Air Outlet: Cast alloy grating fixed into blower housing.
 - c. Nominal Size: 12 inches (305 mm) wide by 9-3/4 inches (248 mm) high by 8 inches (203 mm) deep. Weight: 17 pounds (7.3 kg).
 - d. Air Temperature: 130 degrees F (54 degrees C).
- 8. Mounting: Semi-recessed, mounted on cast zinc alloy plate in wall box with concealed mounting bolts; two 7/8 inch (22 mm) diameter holes for electrical wiring.
 - a. Air Intake: Vandal resistant metal grill on bottom of casting.
 - b. Air Outlet: Chrome-plated, die-cast zinc nozzle, fixed to front of cover.
 - c. Nominal Size: 12-1/2 inches (318 mm) wide by 9-3/4 inches (248 mm) high by 7-1/8 inches (181 mm) deep including nozzle. Weight: 20 pounds (9.0 kg).
 - d. Air Temperature: 145 degrees F (63 degrees C).

**** NOTE TO SPECIFIER ** Delete all but one of the following five power sources. 50 Hz models available for export.**

- 9. Power Source: 110/120 volt, 15 amp, 60 Hz.
- 10. Power Source: 110/120 volt, 20 amp, 60 Hz.
- 11. Power Source: 208/230 volt, 10 amp, 60 Hz.
- 12. Power Source: 277 volt, 8 amp, 60 Hz (maximum 2,400 W).
- 13. Power Source: 220 volt, 10 amp, 50 Hz.
- 14. Power Source: 240 volt, 10 amp, 50 Hz.

**** NOTE TO SPECIFIER ** Delete one of the following two motors, according to power source selected.**

- 15. Motor: 60 Hz. Capacitor-initiated; brushless, for longer life and quiet operation; 1/10 HP, 3,450 RPM; self-lubricating bearings; self-resetting thermal switch.
- 16. Motor: 50 Hz. Universal brush, 1/10 HP, 4200 RPM; sealed ball bearings; insulated by resilient mounting and thermally protected.
- 17. Blower Fan: Single inlet centrifugal, 180 cubic feet per minute (0.085 cubic meters per second); mounted on motor shaft; insulated with resilient rubber mounting to obtain maximum sound and vibration dampening.
- 18. Heater: Nichrome wire element, side-mounted on blower housing to be vandal proof.
- 19. Heater Safeguard: Automatic resetting thermostat to open when air flow is restricted and close when air flow is resumed.
- 20. All metal parts coated according to Underwriters Laboratories, Inc.

requirements.

**** NOTE TO SPECIFIER ** Indicate mounting heights on Drawings or designate as part of specification; do not indicate mounting heights in both specifications and drawings. Delete all but one of the following three paragraphs.**

21. Mount dryers at heights indicated on Drawings.
22. Mount surface mounted hand dryers at the following heights above floor surface:

**** NOTE TO SPECIFIER ** Select dimensions and delete unused paragraphs.**

- a. Men's Toilets: 43 inches (1092 mm).
- b. Women's Toilets: 41 inches (1041 mm).
- c. Teenagers' Toilets: 39 inches (991 mm).
- d. Young Children's Toilets: 33 inches (838 mm).
- e. Toilets for Persons with Physical Disabilities: 35 inches (889 mm).
23. Mount semi-recessed hand dryers at the following heights above floor surface:

**** NOTE TO SPECIFIER ** Select dimensions and delete unused paragraphs.**

- a. Men's Toilets: 40 inches (1016 mm).
- b. Women's Toilets: 38 inches (965 mm).
- c. Teenagers' Toilets: 36 inches (914 mm).
- d. Young Children's Toilets: 30 inches (762 mm).
- e. Toilets for Persons with Physical Disabilities: 32 inches (813 mm).

- D. Hand Dryer: Warm air electric hand dryer; Lexan series; surface mounted; lightweight; entire dryer internally grounded.
1. Warranty Period: 5 years; limited warranty.

**** NOTE TO SPECIFIER ** Delete one of the following controls.**

2. Controls: Push button, chrome-plated, on cover; sealed electronic timer with adjustable cycle, set for 30 seconds. (Hands On).
3. Controls: Automatic; activated by infrared optical sensor. Operates while hands are moving under blower. Shut-off in 90 seconds if hands not removed. (Hand Off).
4. Cover: One piece, molded Lexan 940; uniformly white throughout. Recessed instruction plate.
5. Wall Plate: Cast zinc alloy plate, with four 5/16 inch (8 mm) diameter holes for surface mounting to wall and three 7/8 inch (22 mm) diameter holes for electrical wiring; bottom hole suitable for surface conduit.
6. Air Intake: Inlet openings on bottom of cover.
7. Air Outlet: Chrome-plated, die-cast zinc grating; fixed to blower housing; designed to keep foreign objects out of dryer.
8. Nominal Size: 12 inches (305 mm) wide by 9-3/4 inches (248 mm) high by 8 inches (203 mm) deep. Weight: 13 pounds (5.9 kg).

**** NOTE TO SPECIFIER ** Delete all but one of the following five power sources.**

9. Power Source: 110/120 volt, 15 amp, 60 Hz.
10. Power Source: 110/120 volt, 20 amp, 60 Hz.
11. Power Source: 208/230 volt, 10 amp, 60 Hz.
12. Power Source: 277 volt, 8 amp, 60 Hz.
13. Power Source: 220 volt, 10 amp, 50 Hz.
14. Power Source: 240 volt, 10 amp, 50 Hz.

**** NOTE TO SPECIFIER ** Delete one of the following two motors, according to power source selected.**

15. Motor: 60 Hz. Capacitor-initiated; brushless, for longer life and quiet operation; 1/10 HP, 3,400 RPM; self-lubricating bearings; self-resetting thermal switch.
16. Motor: 50 Hz. Universal; 1/10 HP, 4,200 RPM at rated loads; sealed lubricated ball bearings; self-resetting thermal switch.
17. Blower Fan: Single inlet centrifugal, 180 cubic feet per minute (0.085 cubic

- meters per second); mounted on motor shaft; insulated with resilient rubber mounting to obtain maximum sound and vibration dampening.
18. Heater: Nichrome wire element, side-mounted on blower housing to be vandal proof.
 19. Heater Safeguard: Automatic resetting thermostat to open when air flow is restricted and close when air flow is resumed.
 20. Air Temperature: 130 degrees F (55 degrees C).
 21. All metal parts coated according to Underwriters Laboratories, Inc. requirements.

**** NOTE TO SPECIFIER ** Indicate mounting heights on Drawings or designate as part of specification; do not indicate mounting heights in both specifications and drawings. Delete one of the following two paragraphs; if both hand dryers and hair dryers are required, indicate clearly where each will be installed.**

22. Mount dryers at heights indicated on Drawings.
23. Mount at the following heights above floor surface:

**** NOTE TO SPECIFIER ** Select dimensions and delete unused paragraphs.**

- a. Men's Toilets: 43 inches (1092 mm).
- b. Women's Toilets: 41 inches (1041 mm).
- c. Teenagers' Toilets: 39 inches (991 mm).
- d. Young Children's Toilets: 33 inches (838 mm).
- e. Toilets for Persons with Physical Disabilities: 35 inches (889 mm).

PART 3 EXECUTION

3.1 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.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Coordinate requirements for blocking to ensure adequate means for support and installation of hand dryers.
- D. Coordinate requirements for power supply, conduit, disconnect switches and wiring.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions.

**** NOTE TO SPECIFIER ** Accessible layout for persons with physical disabilities must ensure a minimum clear floor space of 30 inches by 48 inches (762 mm by 1219 mm) in front of or parallel to hand dryers. A portion of the hand dryer may project into this clear space if there is a 29 inches (737 mm) minimum knee and toe space beneath the hand dryer; recommended to install at least one hand dryer for persons with physical disabilities in multiple hand dryer installations.**

- B. Install dryers at specified heights.
- C. Install dryers securely to supporting substrate so that fixtures are level and aligned with each other. Use type and length of fastener as recommended by manufacturer for type of substrate.

3.4 PROTECTION

- A. Inspect installation to verify secure and proper mounting. Test each dryer to verify operation, control functions, and performance. Correct deficiencies.
- B. Protect installed driers until completion of project.
- C. Replace damaged products before Substantial Completion.

END OF SECTION