



## **BLAST™ GUIDE SPECIFICATION**

### **INTRODUCTION**

Comac Corporation, Inc. manufactures both conventional warm air hand dryers, which evaporate water from the hands in approximately 30 seconds, and the ultra-high-speed **BLAST™** hand dryer, which uses a combination of high-velocity air to blow water off the hands and heat to evaporate the residual moisture.

The **BLAST™** Hand Dryer dries hands completely in approximately 10 seconds. Air is compressed by a powerful vacuum-type motor and heated to 136 degrees F (58 degrees C) by a resistance element before being ejected at high speed through a focused nozzle. The jet of heated air simultaneously blows loose water droplets from the hands and evaporates any moisture clinging to the surface.

Despite its power, the **BLAST™** Hand Dryer consumes only 1450 watts. The combination of low power consumption and 10-second drying time results in an 80 percent reduction in energy use compared to conventional dryers.

The **BLAST™** is unique among high-speed hand dryers in that the cover is constructed of ¼-inch thick cast iron with a porcelain enamel finish yielding superior durability and vandal resistance. The **BLAST™** also incorporates Comac's exclusive universal-voltage technology, instantly and automatically adjusting to 115, 208 or 230 VAC, 50/60 Hz input power sources.

This guide specification, SECTION 10811 - RAPID DRYING ELECTRIC HAND DRYER, has been developed to assist the design professional in incorporating Comac Corporation's **BLAST™** Hand Dryer into a construction project and to reduce the time and effort required to prepare project specifications.

The section numbers and titles are based on classifications and numbering contained in MasterFormat - Master List of Numbers and Titles for the Construction Industry, 1995 Edition, published jointly by the Construction Specifications Institute (CSI) and Construction Specifications Canada (CSC).

This specification section has been organized according to SectionFormat – A Recommended Format for Construction Specifications Sections, 1997 Edition, published jointly by CSI and CCS. SectionFormat provides a uniform approach to organizing specification text by placing information in three standard parts:

- |                                  |   |
|----------------------------------|---|
| <b><u>PART 1 – GENERAL</u></b>   | <b>Describes administrative and procedural requirements.</b>  |
| <b><u>PART 2 – PRODUCTS</u></b>  | <b>Describes materials, products, and accessories to be incorporated into the construction project.</b> |
| <b><u>PART 3 – EXECUTION</u></b> | <b>Describes how the products will be installed at the construction site.</b>                           |

This specification has been written using the writing principles and techniques contained in the Manual of Practice published by CSI. The imperative mood has been used for instructions for providing, fabricating, and installing the **BLAST™** Hand Dryer. It is understood that the specifications are addressed to the contractor who is legally responsible to the owner for constructing the project. Hence, the imperative mood is used to indicate actions to be performed by the contractor.

Unnecessary words such as "the", "an", and "a" have been eliminated. Streamlining has also been used to reduce verbiage. This technique places the subject first and hence provides key words for quick reference. The words "shall be" are included by inference where a colon (:) is used.



Throughout this product guide specification, references are made to other specification sections that might be contained in the project manual. These references are presented as examples and coordination reminders. For each project, these references will need to be revised to reflect actual sections being used.

Within the specification text, Imperial dimensions are presented first in brackets followed by System International Metric (SI) equivalents also in brackets. Depending on project requirements, either the Imperial or the SI metric equivalents will need to be deleted.

This product specification will need to be edited by the specifier for a specific project and to reflect the options and applications being used. The guide section has been written so that most editing can be accomplished by deleting unnecessary requirements and options. Depending on project requirements, some additional information will need to be added by the specifier. Options are indicated by [ ]. Notes to assist the specifier in selecting options and editing the specification guide are printed in bold and indicated with \*\*\*\*\*. For final editing, all brackets and notes will need to be deleted from the guide.

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## **SECTION 10811**

### **RAPID DRYING ELECTRIC HAND DRYER**

#### **PART 1 – GENERAL**

##### **1.1 SUMMARY**

- A. Section includes: Warm air, rapid drying, high efficiency, self-contained electric hand dryers.

**\*\*\*\* List other specification sections dealing with work directly related to this section such as the following. \*\*\*\***

- B. Related sections:

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

##### **1.2 REFERENCES**

**\*\*\*\* List by number and full title reference standards referred to in remainder of specification section. \*\*\*\***

- A. ICC/ANSI A117.1 - International Code Council/American National Standards Institute Standard on Accessible and Useable Buildings and Facilities.

##### **1.3 PERFORMANCE REQUIREMENTS**

- A. Operating protocol: Hand drying shall be accomplished by two simultaneous means:
1. High-velocity air jet: Loose water droplets blown from hands with powerful, focused air blast:
    - a. Air velocity in linear feet per minute (LFM):



(1) At outlet: 19,000 LFM.

**\*\*\*\*\* The user of the hand dryer will typically place the hands approximately 4 inches (100 mm) below the air outlet. Consequently, measurements of air velocity and temperature at this distance provide the most relevant measure of hand dryer performance. \*\*\*\*\***

(2) At average hand position of [4 inches] [100 mm] below outlet: 16,000 LFM.

2. Heat: Residual moisture evaporated by heat in air stream.

a. Minimum air temperature at average hand position of [4 inches] [100 mm] below air outlet: [136 degrees F] [58 degrees C] when room temperature is [68 degrees F] [20 degrees C].

B. Drying time required to remove 5 grams of water: approximately 10 seconds

C. Moisture remaining on hands at end of drying cycle: maximum 0.2 grams.

#### 1.4 SUBMITTALS

A. Submit in accordance with Section 01330 - Submittal Procedures:

1. Product data: Include detailed description of dryer explaining operating protocol, drying method, and performance. Provide block diagram of basic components.
2. Shop drawings showing dimensions, method of attachment, and required supports.
3. CAD drawings showing overall dimensions.
4. Electrical wiring diagrams for connection of hand dryers.
5. Manufacturer's installation and maintenance instructions.
6. Copy of warranty required by Paragraph 1.6 for review by Architect.

#### 1.5 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in manufacturing, distribution and servicing of electric hand dryers.
- B. Hand dryers shall be certified by Canadian Standards Association (CSA) to both US and Canadian standards and shall bear the CSA c/us mark.

**\*\*\*\*\* 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. Hand dryers shall be provided and installed in compliance with ICC/ANSI A117.1.



## 1.6 WARRANTY

- A. Provide under provisions of Section 01770 - Closeout Procedures: 10 year warranty for hand dryer to be free of manufacturing defects.

## PARTS 2 – PRODUCTS

### 2.1 ACCEPTABLE MANUFACTURERS

- A. Comac Corporation, Inc., 9005b boul du Quartier , Brossard, Qc, J4Y 0A8  
[www.comaccorporation.com](http://www.comaccorporation.com)
- B. [No substitutions allowed.] [Manufacturers of equivalent products submitted and approved in accordance with Section 01630 - Product Substitution Procedures.]

### 2.2 HAND DRYER

- A. Type: Warm air, electric, rapid drying hand dryer; BLAST™ as manufactured by Comac Corporation, Inc.
- B. Nominal size: [11 inches wide by 9 1/2 inches high by 6-3/4 inches deep.] [241 mm wide by 279 mm high by 172 mm deep.]
- C. Weight: [22 pounds.] [10 kg.]

\*\*\*\*\* The Universal-Voltage BLAST™ Hand Dryer automatically adjusts to the following input voltages. \*\*\*\*\*

- D. Power requirements: 115 or 208 or 230VAC 50 or 60Hz. 1450 watts, 12.6 amperes at 115VAC, 6.3 amperes at 230VAC

### 2.3 COMPONENTS

- A. Combination blower and motor: Series commutated, flow-through discharge vacuum type motor, 5/8 HP 20,000 RPM, yielding air velocities of:
  - 1. At outlet: 19,000 LFM.
  - 2. At typical hand position of [4 inches] [100 mm] below outlet: 16,000 LFM.
- B. Heating element:
  - 1. 725 watts resistance coil located between motor and air outlet.
  - 2. Capable of raising air temperature to [136 degrees F] [58 degrees C] measured at typical hand position of [4 inches] [100 mm] below air outlet.
  - 3. Protected by automatic resetting thermostat to open when airflow is restricted and close when airflow is resumed.
- C. Air outlet nozzle: Delivers a focused jet of air at [4 inches] [100 mm] below outlet. Incorporates lateral air openings to evacuate air and prevent overheating of dryer mechanism if air outlet is blocked.



- D. Electronic controls: Infrared sensor automatically turns dryer on when hands are placed under air outlet and stops dryer approximately two seconds after hands are removed. Electronic sensor shuts off dryer after 60 seconds if hands are not removed or obstruction is placed under air outlet.

## 2.4 ENCLOSURE

- A. Material: One piece, [1/4-inch] [6 mm] thick cast iron.
- B. Finish: Acid and scratch resistant porcelain enamel.
- C. Colour: [White] [Grey] [Black].[White steel] [Polished stainless steel] [Brushed stainless steel]
- D. Air inlet grill: Stainless steel.
- E. Mounting: Cover mounted to inlet grill/wallplate assembly with stainless steel tamperproof screws.
- F. Wall plate: Zinc-plated steel, [0.075-inch] [2 mm] thick. Provided with four [1/4 inch] [6 mm] diameter holes for surface mounting to wall and one [7/8 inch] [22 mm] diameter knockout for recessed electrical wiring.

## PART 3 – EXECUTION

### 3.1 PREPARATION

- 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.

### 3.2 INSTALLATION

- A. Comply with manufacturer's installation instructions and approved shop drawings.

**\*\*\*\*\* Optimum placement of hand dryers varies with layout of toilet rooms and with requirements to accommodate persons with physical disabilities. To ensure accessibility for persons with physical disabilities layout must provide a minimum clear floor space of 30 by 48 inches (762 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 mounting heights, measured between bottom surface of hand dryer and floor, for the following users:**

<b>Men</b>	<b>47 inches (119 cm)</b>
<b>Women</b>	<b>44 inches (112 cm)</b>
<b>Teenagers</b>	<b>39 inches (98 cm)</b>
<b>Young children</b>	<b>33 inches (87 cm)</b>
<b>Persons with physical disabilities</b>	<b>36 inches (91 cm)</b>

**Mounting heights may be indicated on drawings or designated as part of this Section. To avoid potential conflicts, do not indicate mounting heights in both specifications and drawings. \*\*\*\*\***



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- B. Mount dryers at [heights indicated on Drawings.] [the following heights, measured between bottom surface of hand dryer and floor:]
  - 1. Men's toilets: [47 inches] [119 cm].
  - 2. Women's toilets: [44 inches] [112 cm].
  - 3. Teenager's toilets: [39 inches] [98 cm].
  - 4. Young children's toilets: [33 inches] [87 cm].
  - 5. Toilets for persons with physical handicaps: [36 inches] [91 cm].
- 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.
- D. Install electrical wiring in accordance with manufacturer's instructions.

### **3.3 TESTING AND CLEANING**

- A. Inspect installation to verify secure and proper mounting. Test each dryer to verify operation, control functions, and performance. Correct deficiencies.
- B. Clean surfaces and wash with soap or porcelain cleaner.
- C. Protect dryers from damage from subsequent construction operations. If damage occurs, remove and replace damaged units.

### **END OF SECTION**

### **COMMENTS**

**This product guide specification has been developed to assist the design professional in specifying the BLAST™ Hand Dryer. Your comments and suggestions for future revisions are greatly appreciated. Please direct questions or comments to :**

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