

W-H-50b
August 11, 1965
SUPERSEDING
Int. Fed. Spec. W-H-0050a (Navy-Ships)
January 6, 1964, and
Fed. Spec. W-H-50
June 30, 1955

FEDERAL SPECIFICATION

HAND DRIER, BLOWER, ELECTRIC

This specification was approved by the Commissioner, Federal Supply, Services General Service Administration, for the use of all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers electric hand drier for installation in washrooms, boiler-rooms, and restrooms.

1.2 Classification.

1.2.1 Type. Electric hand driers covered by this specification are of but one type.

2. APPLICABLE SPECIFICATIONS, STANDARDS, AND OTHER PUBLICATIONS

2.1 Specifications and Standards. The following specifications and standards, of the issues in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

Federal Specifications:

PPP-B-585--Boxes, Wood, Wirebound.
PPP-B-591--Boxes, Fiberboard, Wood-Cleated.
PPP-B-601--Boxes, Wood, Cleated-Plywood.
PPP-B-621--Boxes, Wood, Nailed and Lock-Corner.
PPP-B-636--Box, Fiberboard.
PPP-B-640--Boxes, Fiberboard, Corrugated, Triple-Wall.

Federal Standards:

Fed. Std. No. 102--Preservation Packaging, and Packing Levels.
Fed. Std. No. 123--Marking for Domestic Shipment (Civilian Agencies).

(Activities outside the Federal Government may obtain copies of Federal Specifications, Standards, and Handbooks as outlined under General Information in the Index of Federal Specifications and Standards and at the prices indicated in the Index. The Index, which includes cumulative monthly supplements as issued, is for sale on a subscription basis by the Superintendent of Documents, U. S. Government Printing Office, Washington, D. C., 20402.

(Single copies of this specification and other product specifications required by activities outside the Federal Government for bidding purposes are available without charge at the General Services Administration Regional Offices in Boston, New York, Washington, D. C., Atlanta, Chicago, Kansas City, Mo., Dallas, Denver, San Francisco, Los Angeles, and Seattle, Wash.

(Federal Government activities may obtain copies of Federal

Specifications, Standards, and Handbooks and the Index of Federal Specifications and Standards from established distribution points in their agencies.)

Military Specification:

MIL-P-116--Preservation, Methods of.

Military Standard:

MIL-STD-105--Sampling Procedures and Tables for Inspection by Attributes.

(Copies of Military Specifications and Standards required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

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2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issues in effect on date of invitation for bids or request for proposal shall apply.

Underwriters Laboratories, Inc. (UL) Standards:

UL 73--Standard for Motor Operated Appliances.

UL 499--Standard for Electric Heating Appliances.

(Application for copies should be addressed to the Underwriters Laboratories, Inc., 161 Sixth Avenue, New York 13, N. Y.)

(Technical society and technical association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

3. REQUIREMENTS

3.1 Fire and casualty hazards.

3.1.1 Each bidder shall submit to the contracting agency proof that the drier he proposes to supply under this specification conforms to the applicable requirements of UL 73 and 499, respectively.

3.1.2 In lieu of UL label or listing, the bidder may submit independent proof satisfactory to the contracting agency that his electric band drier conforms to the above noted UL Standards.

3.1.3 Compliance with the above preliminary requirements in regard to fire and casualty hazards does not absolve the bidder from complete compliance with the other requirements of this specification.

3.2 General design. The drier shall be designed for wall mounting. It shall be of design and construction in conformity with best commercial practices and such as to insure long service life and ease of maintenance. It shall be new and compact. Unless otherwise specified, all electrical parts shall be designed to operate on 110/125 volts, 60-cycle single-phase, alternating current (see 6.1). All parts except the actuating switch button and the exhaust air orifice or nozzle shall be contained within the housing. The drier shall have a drying time of not more than 30 seconds as determined by test described in 4.3.1. Materials used in the construction of the drier shall be noncombustible corrosion resistant, or suitably protected against corrosion. The weight of complete unit shall not exceed 55 pounds.

3.3 Component parts. The drier shall consist of a housing, electric motor, fan, heating element, starter switch, timer switch, and other parts not specifically specified herein, but which may be required to form a complete assembled hand drier.

3.4 Housing. The housing supporting the component parts, exclusive of the cover plate, shall be one-piece construction. It shall have sufficient strength and rigidity to support all parts without distortion. The material shall be metal or fiberglass.

3.5 Motor. The motor shall be capable of operating the fan under full load continuously without exceeding, the allowable motor temperature rise. The motor shall be provided with life-lubricated, sealed ball bearings, or bronze sleeve bearings. If the bearings are of sleeve type, the motor shall be provided with an oil reservoir having ample oil capacity.

3.6 Fan. The fan shall be of the centrifugal or axial flow type, constructed of metal and permanently protected against corrosion. The fan shall be statically balanced, and be mounted so as to reduce vibrations and noise. The capacity shall be not less than 100 cubic feet per minute when measured four inches from the point of discharge.

3.7 Heating element. The heating element shall be constructed of nickel-chrome resistance wire supported by a ceramic core. The rating shall be not more than 2100

watts. The heater shall be designed so that the temperature of the forced hot air at the outlet is not less than 120 deg. F., nor more than 170 deg. F. An enclosed type heating element is acceptable provided it does not exceed 2100 watts. In lieu of an electric heating element, air may be heated by means of compression and friction. With this type of heating unit, the thermal cutout as specified in 3.12 is not required.

3.8 Starter button. The starter button shall be shockproof as installed. It shall be designed so that the operator may actuate it with the back of his hand.

3.9 Starter switch. Unless otherwise specified, the starter switch shall be sturdily constructed and designed for 30 amperes, 120 volts (see 6.2).

3.10 Timer switch. The timer shall automatically start when the starter switch is actuated, and shall cut out the fan and heater, unless otherwise specified in the invitation for bids, at any predetermined time up to but not more than 30 seconds after the starter switch is actuated, except that when not otherwise specified, the timer may not be set for a shorter period than the drying time determined in accordance with 4.3.1 (see 6.2).

3.11 Wiring. Wire used in the electrical circuit shall be flameproof and it shall be installed in a neat and workmanlike manner. Wire size shall conform to standard commercial practice.

3.12 Thermal cutout. The drier shall be provided with a thermal cutout that will automatically cutout the heater element when the exhaust air temperature reaches a value of 180 deg. +/- 5 deg. F.

3.13 Grounding. All metallic parts other than those in the electric circuit shall be bonded to the housing or installed so that they are grounded through the housing.

3.14 Overload and short circuit protection shall be provided.

3.15 Insulation. The fan and motor shall be so mounted as to prevent the transmission of objectional vibrations to the drier housing.

3.16 Air discharge. The heated air shall be discharged from the drier housing through an orifice or nozzle or louvered opening, which shall be so designed that the airflow may be directed for drying the hands or face at the option of the user.

3.17 Finish. The exterior and interior surfaces of the drier housing including the orifice, nozzle, or louvered opening for discharging air, shall be smooth and free of burrs or sharp projections. The external finish, except for stainless steel housing, shall be white porcelain enamel or chrome plated steel which shall be firmly bonded or fused to the parent metal surface. The following finishes are also acceptable; polished cast aluminum, cast aluminum with baked on enamel finish, cast aluminum with brushed aluminum finish, fiberglass coated with jelcoat. The interior of metal except corrosion resistant metal surfaces, shall be suitably treated to prevent corrosion. Pushbutton and nozzle or louvered openings may be of a different color than the other component parts.

4. SAMPLING, INSPECTION, AND TEST PROCEDURES

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the supplier is responsible for the performance

of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own facilities or any commercial laboratory acceptable to the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure that supplies and services conform to prescribed requirements.

4.2 Sampling for inspection and tests. One drier shall be selected from each 25 or

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fraction thereof offered for delivery at one time for inspection and tests.

4.3 Test. The limiting conditions imposed by this specification follows: A hand drier to be acceptable shall qualify when the Cobalt chloride solution test places the drying time less than 30 seconds and the average temperature less than 170 deg. F. when measured indoors at a room temperature not exceeding 80 deg. F and relative humidity of approximately 42 percent.

4.3.1 The test. Two drops of cobalt chloride solution, 20 percent by weight, spread approximately 2-1/2 inches apart on a even inch diameter piece of Whatman No. 54 filter paper are held at right angles to the delivered hot air stream coming from the drier and three inches from the discharge point. The drier must have completed two cycles of drying time immediately before exposing the two drops to the hot air stream. The drops must be completely absorbed by the filter paper before timing the drying action. When the light-pink color of both drops have dried to bright-blue colors, the drying time will be considered completed. The observations shall be made on the side of the paper facing the air stream. The drying time is based on an ambient temperature of 80 deg. F and relative humidity of 42 percent.

4.3.2 Temperature measurements. All temperature readings shall be taken at the air-discharge outlet, the thermometer shall be held in and parallel to the air stream and held in this position until the temperature reaches a constant value. The maximum temperature shall not exceed the value specified in 3.12.

4.3.3 Operational test. Each drier submitted for test shall be operated through 30 drying-time cycles to demonstrate its ability to operate satisfactorily. The operation of the timer switch thermal cutout and temperature of forced hot air at the outlet shall also be checked for compliance with this specification. Temperature reading shall be observed at the completion of each drying cycle to determine compliance with 3.7. Temperature measurements shall be made in accordance with 4.3.2. Time intervals between completion of one cycle and start of another shall be 2 minutes.

4.4 Inspection of preparation for delivery requirements. An inspection shall be made to determine that the packaging, packing, and marking comply with the requirements of section 5. Defects shall be scored in accordance with Table I. For examination of interior packaging, the sample unit shall be one shipping container fully prepared for delivery selected at random just prior to the closing operations. Sampling shall be in accordance with MIL-STD-105. Defects of closure listed shall be examined on shipping containers fully prepared for delivery. The lot size shall be the number of shipping containers in the end item inspection lot. The inspection level shall be S-2 and the AQL shall be 4.0 defects per hundred units.

TABLE I--Classification of preparation for delivery defects

Examine	Defects
Markings (exterior and interior)	Omitted; illegible; improper size, location, sequence, or method of application.
Materials	Any component missing, or damaged.

Workmanship

Inadequate application of components
such as incomplete closure
of container flaps, loose strapping
inadequate stapling. Bulging
or distortion of container.

5. PREPARATION FOR DELIVERY

(For civil agency procurement, the definitions and application of levels of packaging and packing shall be in accordance with Fed. Std. No. 102.)

5.1 Packaging. Packaging shall be level A, B, or C as specified (see 6.2).

5.1.1 Level A. Each drier shall be packaged in accordance with method IA-14 of MIL-P-116.

5.1.2 Level B. Each drier shall be packaged in a close-fitting box conforming to PPP-B-636, class domestic. The box shall be closed in accordance with the appendix to the box specification.

5.1.3 Level C. The driers shall be packaged in accordance with the suppliers commercial practice.

5.2 Packing. Packing shall be level A, B, or C as specified (see 6.2).

5.2.1 Level A. The driers shall be packed in close-fitting boxes conforming to PPP-B-585, class 3; PPP-B-591, class II; PPP-B-601, type III, class 2; PPP-B-621, class 2; PPP-B-636, class weather-resistant; or PPP-B-640, class 2, grade A. The boxes shall be closed and strapped in accordance with the applicable specification of appendix thereto. The gross weight of the triple wall fiberboard box and the wood boxes shall not exceed approximately 200 pounds. The gross weight of the PPP-B-686 fiberboard box shall not exceed the weight limitations of the box specification.

5.2.2 Level B. The unit packages of driers shall be packed in a close-fitting box conforming to PPP-B-636, class domestic. The box shall be closed in accordance with the appendix to the box specification.

5.2.3 Level C. The driers shall be packed to insure carrier acceptance and safe delivery to destination in containers complying with the rules and regulations applicable to the mode of transportation.

5.3 Marking.

5.3.1 Civil agencies. In addition to markings required by the contract or order, the packages and shipping containers shall be marked in accordance with Fed. Std. No. 123.

5.3.2 Military activities. In addition to markings required by the contract or order, the packages and shipping containers shall be marked in accordance with MIL-STD-129.

6. NOTES

6.1 Intended use. Hand driers covered by this specification are intended to provide a safe and economical method for drying hands.

6.2 Ordering data. Purchasers should exercise any desired options offered herein and procurement documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) Electrical characteristics if other than specified (see 3.2).
- (c) Starter switch design if other than specified (see 3.9).
- (d) Timer switch cutout if other than specified (see 3.10).
- (e) Level of packaging and packing required (see 5.1 and 5.2).

6.3 Transportation description. The transportation description and minimum weights applicable to this commodity are:

Rail:

Electrical appliances, not otherwise indexed
by name.

Carload minimum weight 24,000
pounds, subject to Rule 34, Uniform
Freight Classification.

Motor:

Electrical appliances, not otherwise Indexed.

Truckload minimum weight 30,000
pounds, subject to Rule 115, National
Motor Freight Classification.

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MILITARY CUSTODIANS:

Navy--SH
Air Force--69

User activities:

Navy--YD, MC

Review activities:

Navy--SH
Air Force--69

Preparing activity:

Navy--SH

Copies of this specification may be purchased for 5 cents each.

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AMENDMENT 1
November 1, 1985

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This amendment, which forms a part of W-H-50b, dated August 11, 1965, is approved by the Assistant Administrator, Office of Federal Supply and Services, General Services Administration, for the use of all Federal agencies.

Page 2

Paragraph 3.7, line 4: Delete "2100" and substitute "2300".

Page 3

Paragraph 3.7, line 10: Delete "2100" and substitute "2300".

MILITARY INTERESTS:

CIVIL AGENCY COORDINATING ACTIVITIES:

Custodians

Army - GL

Navy - SH

Air Force - 99

GSA - FSS, PBO

District of Columbia

Government - DCG

HHS - FDA, FEC

Review Activity

DLA - CS

Air Force - 84

User Activities

Navy - YD, MC

PREPARING ACTIVITY:

Navy - SH

(Project 4510-0217)

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DISTRIBUTION STATEMENT A Approved for public release; distribution unlimited.

NOTICE OF
VALIDATION

INCH-POUND

W-H-50B
NOTICE 1
20 February 1991

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W-H-50B, dated 11 August 1965, has been reviewed and determined to be valid for use in acquisition.

Preparing activity:
Navy - SH

AMSC N/A

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