

MIL-D-22825C

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## MILITARY SPECIFICATION

## DEHYDRATORS, DESICCANT, REFRIGERANT 12

This specification is approved for use by all Departments and Agencies of the Department of Defense.

## 1. SCOPE

1.1 Scope. This specification covers, nonrefillable, straight through, liquid line dehydrators suitable for use with refrigerant type 12 (see 6.1).

1.2 Classification. Dehydrators shall be of the following sizes (see 6.2):

<u>Size</u>	<u>Capacity in tons of refrigeration (TR)</u>
1	2 TR (3/8-inch flare connections)
2	3 TR (3/8-inch flare connections)
3	5 TR (1/2-inch flare connections)
4	7-1/2 TR (5/8-inch flare connections)
5	10 TR (5/8-inch flare connections)

## 2. APPLICABLE DOCUMENTS

2.1 Issues of documents. The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein:

## SPECIFICATIONS

## FEDERAL

PPP-B-566	- Boxes, Folding, Paperboard
PPP-B-636	- Boxes, Shipping, Fiberboard
PPP-B-665	- Boxes: Paperboard, Metal Edged and Components
PPP-B-676	- Boxes, Setup
PPP-T-45	- Tape, Gummed, Paper, Reinforced and Plain, for Sealing and Securing

FSC 4130

MIL-D-22825C

MILITARY

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

STANDARDS

MILITARY

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

MIL-STD-129 - Marking for Shipment and Storage

MS 35845 - Dehydrators, Desiccant, Refrigerant 12

(Copies of 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.)

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

Underwriters' Laboratories, Inc. (UL)

Standard 207(C) - Refrigerant Containing Components

(Application for copies should be addressed to the Underwriters' Laboratories, Inc., 207 East Ohio Street, Chicago, IL 60611; 50 Dundee Road, Box 247, Northbrook, IL; Walt Whitman Road, Melville, L.I., NY 11746; or 1655 Scott Blvd., Santa Clara, CA 95050.)

Air-Conditioning and Refrigeration Institute (ARI)

Standard 710 - Standard for Liquid Line Driers

(Application for copies should be addressed to the Air-Conditioning and Refrigeration Institute, 1815, No. Fort Myer Drive, Arlington, VA.)

National Motor Freight Traffic Association, Inc., Agent

National Motor Freight Classification

(Application for copies should be addressed to the American Trucking Associations, Inc., Tariff Order Section, 1616 P Street, N.W., Washington, DC 20036.)

Uniform Classification Committee, Agent

Uniform Freight Classification

(Application for copies should be addressed to the Uniform Classification Committee, Room 1106, 222 South Riverside Plaza, Chicago, IL 60606.)

MIL-D-22825C

(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 Standard product. The dehydrators delivered under this specification shall be new and the manufacturer's current commercial product, except for any changes necessary to comply with specification requirements.

#### 3.2 Code and standards compliance.

3.2.1 Safety standard. The dehydrators shall conform to UL Standard 207(C).

3.2.2 Capacity rating. The dehydrators shall conform to ARI Standard 710, except as specified herein including capacity rating.

3.2.3 UL certification. Prior to approval of the first shipment, the supplier shall submit satisfactory evidence to the contracting officer or his authorized representative that the dehydrators he proposes to supply under this specification meet the requirements of UL Standard 207(C). Acceptable evidence of meeting the requirements of UL Standard 207(C) shall be the UL label, an approved UL listing, or a certified test report from a recognized independent testing laboratory acceptable to the Government, proving conclusively that the dehydrators offered conform to UL Standard 207(C).

3.2.4 ARI certification. Prior to approval of the first shipment, the supplier shall submit satisfactory evidence to the contracting officer or his authorized representative that the dehydrators he proposes to supply under this specification conform to ARI Standard 710. Acceptable evidence of meeting the requirements of ARI Standard 710 shall be a certification data provided by the manufacturer over the signature of a responsible officer, by a certified test report from a recognized independent laboratory. Certification data shall include the statement that the test data was obtained by the testing procedure outlined in section 5 of ARI Standard 710.

3.3 Materials. The materials shall conform to the requirements specified herein and on MS 35845. Materials not definitely specified shall be of the quality used in the manufacturer's standard dehydrators.

3.4 Design and construction. The dehydrators shall consist of a shell containing a desiccant and an external flare connection at each end. Construction shall be as specified herein and in accordance with MS 35845. The flare connection ends shall be capped and sealed against contamination during shipment and storage.

## MIL-D-22825C

3.5 Desiccants. Desiccants shall be as specified on MS 35845.

3.6 Marking.

3.6.1 Special marking. The inlet end or the direction of flow shall be clearly stamped, etched, or embossed on the dehydrator or shown by the manufacturer's standard marking.

3.6.2 Identification. The manufacturer's name or easily identifiable trade name shall be clearly stamped, embossed, or etched on a securely attached corrosion-resistant metal plate or indicated on a pressure-sensitive label or decalcomania suitably waterproofed and attached to the shell with an adhesive.

3.7 Finish. The dehydrators shall be finished as specified on MS 35845.

\* 3.8 Workmanship. The finished dehydrators shall be free from burrs, slivers, rough edges and malformations.

#### 4. QUALITY ASSURANCE PROVISIONS

\* 4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by 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 supplies and services conform to prescribed requirements.

4.2 Sampling for inspection and acceptance. Sampling for inspection and acceptance shall be performed in accordance with the provisions set forth in MIL-STD-105, except where otherwise indicated.

\* 4.2.1 Component and material inspection. In accordance with 4.1 above, components and materials shall be inspected in accordance with all the requirements of referenced specifications, drawings, and standards unless otherwise excluded, amended, modified or qualified in this specification or applicable purchase document.

4.2.2 End item inspection. The lot shall consist of all dehydrators of one size offered for inspection at one time. The sample unit shall be one dehydrator.

\* 4.2.2.1 Visual examination. The dehydrator shall be examined for defects in table I. The inspection level shall be II with an acceptable quality level (AQL) of 2.5 for major defects and 6.5 for total defects, expressed in terms of defects per hundred units.

MIL-D-22825C

TABLE I. Classification of defects

Examine	Defect	Classification	
		Major	Minor
Design, construction and workmanship, general	No flare connection, flare connection not capped or sealed	X	
Finish	Steel not dipped, plated, coated, or otherwise treated to resist corrosion	X	
	Sharp edges, slivers, or burrs	X	
Marking	Inlet end or direction of flow not clearly stamped, etched, or embossed on the dehydrator or not indicated on decalcomania	X	
Identification marking	Omitted, incorrect, illegible, not attached with adhesive, not specified type of plate or material, not etched, stamped or embossed, whichever required		X

- \* 4.2.2.2 Dimensional examination. The dehydrator shall be examined for compliance with dimensions specified. Any dimension not within the specification tolerance shall be a defect. The inspection level shall be S-2 with an AQL of 4.0 expressed in terms of defects per hundred units.

4.2.3 Packaging inspection. An inspection shall be made to determine that preservation, packaging, packing, and marking complies with the section 5 requirements. Defects will be as set forth in table II. The lot shall be the number of containers offered for inspection at one time. The sample unit shall be one container fully prepared for delivery. The inspection level shall be S-2 and the AQL shall be 4.0 expressed in terms of defects per hundred units.

MIL-D-22825C

TABLE II. Inspection of packaging

<u>Examine</u>	<u>Defect</u>
Marking, (exterior and interior)	Omitted; incorrect; illegible; of improper size, location, sequence, or method of application
Preservation	Preservation missing, not applied as specified
Material	Component missing, damaged, or otherwise defective

4.2.3.1 Inspection of interior boxes and shipping containers. When interior boxes and shipping containers are required to be in accordance with PPP-B-636, PPP-B-566, or PPP-B-676, inspection for the closure, waterproofing and reinforcing, as applicable, shall be in accordance with the appendix of the applicable box specification.

- \* 4.2.4 Certificate examination. Certificates of compliance, certified test reports, approval labels or listing marks for codes and standards, as applicable, that are submitted as proof of compliance with the specification requirements shall be examined and validated.

## 5. PACKAGING

5.1 Preservation - packaging. Preservation - packaging shall be level A or C as specified (see 6.2).

5.1.1 Level A packaging. Each dehydrator shall be preserved and packaged in accordance with method III of MIL-P-116 in a snug-fitting fiberboard, folding paperboard, set-up paperboard, or metal-stayed paperboard box conforming to style RSC (end opening) or FPF, type CF, variety SW or SF, class domestic, grade 125 of PPP-B-636; variety 1, style II, type D or E, class e, or style III, type G, class 1 of PPP-B-566; type I, variety 1, class A, style 2 of PPP-B-676; or class 1, style C of PPP-B-665, respectively. Metal-stayed paperboard boxes shall be closed by means of 2 inch minimum width tape conforming to type III, grade B of PPP-T-45. Other boxes shall be closed in accordance with the appendix of the applicable box specification.

5.1.2 Level C packaging. Dehydrators shall be preserved and packaged to afford adequate protection against physical damage during shipment from the supplier to the first receiving activity. The package and the quantity per package shall be the same as that normally used by the supplier for retail distribution.

MIL-D-22825C

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

5.2.1 Level A. Dehydrators, preserved and packaged as specified in 5.1, shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC, grade V2s of PPP-B-636. Each fiberboard container shall be closed in accordance with method III, waterproofed in accordance with method V and reinforced as specified in the appendix of PPP-B-636. The weight and dimension limitations of PPP-B-636 shall not be exceeded.

5.2.2 Level B. Dehydrators, preserved and packaged as specified in 5.1, shall be packed in a snug-fitting fiberboard shipping container conforming to style RSC, type CF, variety SW or SF, class domestic, grade 275 of PPP-B-636. Closure shall be in accordance with method II of the appendix of the container specification. The weight and dimension limitations of PPP-B-636 shall not be exceeded.

5.2.2.1 Weather-resistant shipping containers. When specified (see 6.2), the fiberboard shipping container shall be a grade V3c, V3s or V4s fiberboard box fabricated in accordance with PPP-B-636 and closed in accordance with method III as specified in the appendix of the container specification.

5.2.3 Level C (commercial packing). Dehydrators, preserved and packaged as specified in 5.1, shall be packed in a manner to insure carrier acceptance and safe delivery at destination at the lowest transportation rate for such supplies. The quantity per shipping container shall be the same as that normally used by the supplier for retail distribution. Containers shall comply with Uniform Freight Classification or National Motor Freight Classification, as applicable.

5.3 Marking. In addition to any special marking required by the contract or order, interior packages and shipping containers shall be marked in accordance with MIL-STD-129.

## 6. NOTES

6.1 Intended use. The dehydrators covered by this specification are primarily intended for use as a component of Military field-type refrigeration equipment. Dehydrators are used for the purpose of collecting and holding within the desiccant, water in the system in excess of the amount which can be tolerated in the circulating refrigerant.

6.2 Ordering data. Procurement documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) Size required (see 1.2).
- (c) Selection of applicable levels of preservation and packaging and packing (see 5.1 and 5.2).
- (d) When weather-resistant grade fiberboard shipping containers are required for level B packing (see 5.2.2.1).

MIL-D-22825C

6.3 The outside margins of this document have been marked to indicate where changes from the previous issue have been made. An asterisk (\*) indicates a substantive change in the paragraph text. This has been done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content as written irrespective of the marginal notations and relationship to the last previous issue.

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Navy - YD  
Air Force - 82

**Preparing activity:**

Army - GL  
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**Review activities:**

Army - MD, CE  
Navy - MC  
DGSC - GS

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