

A-A-50497
11 September 1990

COMMERCIAL ITEM DESCRIPTION

COFFEE MAKER, ELECTRIC, AUTOMATIC

The General Services Administration has authorized the use of this commercial item description as a replacement for W-C-500B which is canceled.

Abstract. This commercial item description covers coffee makers comprising bowl units (metal or glass) with 12 cup (60 ounce) minimum brewing capacity. The coffee maker includes a thermostatically controlled heat exchanger or electrically heated tank to make available hot water for continuous operation.

The automatic coffee makers covered herein are intended for dispensing limited quantities of coffee in mess halls, cafeterias and classes. Types, classes, styles and model are as follows:

Type I - Tank Type.

Type II - Tankless, heat exchanger type.

Class 1 - Fixed unit, automatic, water hook-up.

Class 2 - Moveable unit, pour-over, no water hook-up.

Style A - Glass decanter.

Style B - Metal decanter.

Model S - Single brewing head.

* Beneficial comments, recommendations, additions, deletions, clarifications,*
 * etc. and any data which may improve this document should be sent to: *
 * Commanding Officer (Code 156), Naval Construction Battalion Center, Port *
 * Hueneme, CA 93043, by using the self-addressed Standardization Document *
 * Improvement Proposal (DD Form 1426) appearing at the end of this document *
 * or by letter. FSC 7310 *

FSC 7310

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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Salient Characteristics.

The coffee maker shall consist essentially of an enclosed counter-top stand with an electric heat exchanger or a tank containing an immersion electric heating element thermostatically controlled to maintain the water temperature. The coffee maker shall also include, but not be limited to, the following:

- a. A method for regulating water flow through a brewing cartridge holding a measured amount of ground coffee.
 - b. A decanter for receiving liquid coffee.
 - c. An electric hot plate or plates to maintain the desired temperature of the brewed coffee.
1. Tank. The hot water tank of type I coffee maker shall be up to 2-gallon capacity, shall be formed of copper or austenitic stainless material conforming to ASTM A 240, and shall have a readily removable immersion heater. The fresh water intake of the tank shall be so located as to minimize incoming cold water from mixing with hot water at the top of the tank or shall be provided with baffle plates to accomplish this purpose. When a pressurized tank is provided, the tank shall conform to the ASME "Boiler and Pressure Vessel Code, Section VIII, Pressure Vessels, Division I, Unfired Steam Boilers."
 2. Immersion heater. The electric immersion heater shall be of sufficient wattage to raise the temperature of the tank water to brewing temperature. The heater shall be thermostatically controlled and removed easily with the use of simple tools for cleaning or replacement. Sheathed heating elements shall comply with UL 1030.
 3. Heat exchanger. The heat exchanger of type II coffee maker shall have a water flow rate of at least 25 ounces per minute, and shall heat the water to brewing temperature. The heat exchanger shall be thermostatically controlled and be easily removed with simple tools for cleaning or replacement.
 4. Flow control. Unless otherwise specified (see ordering data), an automatic flow control for a line water pressure of 20 pound-force per square inch (psi) to 120 psi shall be provided for fixed units to control the brewing time between the limits of 2 and 4 minutes. A means of regulating the liquid coffee level shall be provided.

The amount of water poured into the opening provided shall be sufficient to yield a minimum 12 cups of brewed coffee of the strength desired.

5. Warming stove. The coffee maker shall include an electric warmer on which the decanter rests when it is placed underneath the brewing cartridge. Recessed heating elements or other guides shall be furnished for automatic positioning of the decanter beneath the brewing cartridge. When specified (see ordering data), additional warming stoves shall be incorporated in the unit or attached to the unit. The attachable warming stoves shall be of the same manufacture and compatible with the main unit. When specified (see ordering data), one or more three-heat warming stations shall be furnished to boil water. Individual

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colored pilot lights shall indicate when each warmer switch is energized. When specified for railroad or shipboard use (see ordering data), guardrails shall be furnished to prevent decanters from sliding off the warmer.

6. Casing. Unless otherwise specified (see ordering data), the entire coffee maker, hot water tank or heat exchanger, warmer, thermostat, and switches shall be enclosed in a minimum 0.024-inch thick casing and constructed of austenitic stainless material conforming to ASTM A 167.

7. Water Filter. A water strainer shall be incorporated in the incoming water line as close as possible to the tank or heat exchanger. Proper flow direction shall be indicated by arrows and wording on the strainer. When specified for hard-water areas (see ordering data), an ion exchanger water treatment device or other water softening device shall be furnished.

8. Safety devices. Unvented water tanks shall incorporate a high limit heater safety device, or a combination high temperature-and-pressure relief valve, fusible plug or link, or burn-out heating elements.

9. Decanter. The style B decanter receiving the freshly brewed coffee shall conform to the requirements specified for lower stainless steel bowls of A-A-1078, unless otherwise specified (see ordering data). Each model S coffee maker shall be furnished with one decanter. Unless otherwise specified (see ordering data), each warming stove and each three-heat warming station shall be furnished with one stainless material decanter. Unless otherwise specified (see ordering data), the style A decanter shall be the manufacturer's standard 12 cup capacity glass decanter. The glass shall be annealed heat resistance, thermo-shock-proof that is capable of withstanding the thermal resistance without damage.

10. Spray head. The spray head or water outlet shall be located in the upper portion of the casing, above the warming stove, and shall be designed to distribute water uniformly over the ground coffee in the brewing cartridge. The model S coffee maker shall have a single brewing head.

11. Brewing cartridge. A brewing cartridge of austenitic stainless material equipped with perforated or wire grid shall be firmly positioned at spray head or water outlet to receive the hot water. Shaped outer walls shall direct the freshly brewed coffee into the bowl neck. The cartridge shall be designed for quick attachment and detachment. A disposable paper filter or filter bag holding coffee shall fit snugly against the grid walls of the cartridge and shall be large enough to contain at least 2 3/4 ounces of ground coffee without overflowing at the maximum flow rate.

Unless otherwise specified (see ordering data), when 2 1/2 to 2 3/4 ounces of finely ground coffee are placed in the brewing cartridge, the hot water shall mix with the ground coffee at a rate sufficient to yield a minimum of 12 cups (60 ounces) of liquid coffee in 4 minutes or less.

12. Volume regulator. An automatically controlled mechanical or electrical means shall regulate the volume of hot water flowing through the spray head. The device shall be adjustable to give the predetermined volume of coffee in the receiving decanter. A heat resistant plastic handle or switch shall be at a

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location convenient to the operator and provide means for emergency shut-off of water in the event of overflow or other malfunction. For class II coffee makers, the amount of cold water poured into the tank opening shall yield the desired volume and strength of coffee in the receiving bowl.

13. Temperature control. The type I electric immersion heater shall be controlled by a thermostat designed to maintain the tank water operating temperature at 200 degrees Fahrenheit (oF) +/-5oF at sea level pressure. For high-altitude operation, the thermostat shall be adjustable down to 175oF. Operating temperature shall be reached in less than 21 minutes for 115 volt (V) heaters and less than 11 minutes for 230V heaters. Temperature recovery time after brewing a full bowl of coffee shall be less than 5 minutes for 115V heaters and less than 3 minutes for 230V heaters. The II coffee maker water temperature shall be controlled by a thermostat adjustable over a range for delivery of water at 200oF +/-5oF at sea level to 175oF at high altitude.

14. Temperature maintenance. The electric warming stoves shall maintain a full decanter of liquid coffee at a temperature of 185oF to 190oF without variation.

15. Design. The coffee maker shall be so designed that normal adjustments and repair can be readily accomplished by means of general purpose tools with a minimum removal or disturbance of other elements of the unit.

All buttons, switches, and indicators shall be located on the front or top of the casing. The coffee level indicator adjustment and temperature adjustment shall be located where adjustment can be readily accessible.

16. Coffee filter. The filter shall be held on a cartridge designed to direct the hot water towards the center of the ground coffee. The cartridge shall direct the flow of freshly brewed coffee directly into the decanter beneath it. The filter shall be made of disposable paper or fabric.

17. Legs. Unless otherwise specified (see ordering data), the entire unit shall be on 1 1/2-inch or 4-inch high adjustable legs, unless the construction involved in the manufacturer's standard practice requires a solid casing enclosure support. The legs or support shall have holes drilled in the base so that the unit can be bolted to a counter.

18. Water dispensing system. Unless otherwise specified (see ordering data), the water dispensing system shall include the following:

- a. Type I, class 1, coffee makers shall be constructed to be converted from automatic to a pour-over unit. The pour-in opening shall be located on top of the coffee maker in accordance with the manufacturer's standard practice.
- b. Type I, class 1 and type II, if applicable, coffee makers shall include a self-closing, non-drip draw-off faucet for dispensing hot water. The faucet shall be located on the unit as recommended by the manufacturer.

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19. Electrical requirements. Unless otherwise specified (see ordering data), the coffee maker shall be designed for operation on 120/240V, single phase alternating current (ac). The pilot lamp, warming stove, liquid level regulator (when furnished), and accessory stoves shall operate on a nominal 115V ac. The terminal block, power cord, and plug, as applicable, shall conform to UL 197. Each warmer station shall be controlled with a separate on-off switch. The coffee maker shall not present a risk of electric shock when tested as specified in accordance with UL 197.

20. Finish. The exterior surfaces of the unit shall be in accordance with the manufacturer's standard practice except that austenitic stainless material surfaces shall be No. 3 finish or better.

21. Identification markings. Identification shall be permanently and legibly marked directly on the coffee maker and components, or on a corrosion-resisting metal plate securely attached to the unit at the source of manufacture. Identification marking shall be in accordance with UL 197 and shall include, but not be limited to, the manufacturer's model, serial number, name, electrical rating, date of manufacture, and plumbing requirements, if applicable.

When specified (see ordering data), military markings for each coffee maker shall be furnished. The coffee maker shall be equipped with instruction plates suitably located, describing any special or important procedures to be followed in operating and servicing the equipment. Plates shall be of a material which will last and remain legible for the life of the equipment. Manufacturer's standard commercial publications shall be furnished.

Standard Compliance. The coffee maker and warming stove shall meet the applicable requirements of UL 197, UL 1030 and NSF No. 4.

Certification. Prior to approval of the first shipment, the contractor shall submit for the approval to the contracting officer, or his authorized representative, satisfactory evidence that the coffee maker he proposes to furnish under this CID meets the requirements of UL 197, UL 1030 and NSF No. 4.

UL Certification. Acceptable evidence of meeting the requirements of UL 197 and UL 1030 shall be the UL label, UL listing marking, or a certified test report from a recognized independent testing laboratory. Such evidence must be acceptable to the contracting officer.

NSF Certification. Acceptable evidence of meeting the requirements of NSF No. 4 shall be the NSF seal on the finished coffee maker and a listing in the NSF Seal of Approval Listing of Food Service Equipment, or a certified test report from a recognized testing laboratory, acceptable to the contracting officer with the advice of the Army Surgeon General.

Contractor certification. The contractor shall certify and maintain substantiating evidence that the product offered meets the salient characteristics of this commercial item description, shall be the manufacturer's standard commercial product, and conforms to the producer's own drawings, specifications, standards, and quality assurance practices. The Government reserves the right to require proof of such conformance prior to first delivery and thereafter.

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Metric products. Products manufactured to metric dimensions will be considered on an equal basis with those manufactured using inch-pound units, provided they fall within the tolerances specified using conversion tables contained in the latest revision of FED-STD-376, and all other requirements of this Commercial Item Description are met.

If a product is manufactured to metric dimensions and those dimensions exceed the tolerances specified in the inch/pound units, a request should be made to the contracting officer to determine if the product is acceptable. The contracting officer has the option of accepting or rejecting the product.

Preservation, packing, and marking. Unless otherwise specified in the contract or order, the preservation, packing, and marking shall be in accordance with ASTM D 3951.

CID based part identification numbers. The following part of identification numbering procedure is for Government purposes and does not constitute a requirement for the contractor.

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* * * * *- A - Glass Decanter
* * * * *- B - Metal Decanter
* * * * *
* * * * *----- 1 fixed unit
* * * * *----- 2 moveable unit
* * * * *
* * * * *----- 1 tank type
* * * * *----- 2 tankless type
* * * * *
* * * * *----- CID Number
*
*----- Designates a CID

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NOTES.

Ordering Data. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. Type, class, style, and model of coffee maker required.
- c. When a line water pressure for an automatic flow control is other than as specified.
- d. When additional warming stoves are required and the quantity to be furnished.
- e. When three-heat warming station(s) for boiling are required and the quantity to be furnished.
- f. When guardrails shall be furnished for railroad or shipboard use.
- g. When materials for the casing are other than as specified.
- h. When a water treatment device is required.
- i. When style B decanters are other than as specified.
- j. When quantity of stainless steel decanters are other than one per stove or station, and the quantity to be furnished.
- k. When glass decanters shall be other than as specified.

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- l. When coffee brewing is other than specified.
- m. When the height of legs are other than as specified.
- n. When water dispensing system is other than as specified.
- o. When electrical requirements are other than as specified.
- p. When military identification is required and the information is to be included.
- q. When level of preservation, packing and marking required is to be other than specified herein.

ASTM A 240, A 167 and D 3951 are available from the ASTM, 1916 Race Street, Philadelphia, PA 19103.

UL 1030 and 197 are available from Underwriters Laboratories (UL), Inc., 333 Pfingsten Road, Northbrook, IL 60062.

ASME Code for "Unfired Steam Boilers" is available from the American Society of Mechanical Engineers (ASME), United Engineering Center, 345 East 47th Street, New York, NY 10017.

NSF No. 4 is available from the National Sanitation Foundation (NSF), 3475 Plymouth Road, P.O. Box 1468, Ann Arbor, MI 48106.

FED-STD-376 and A-A-1078 are available from the Standardization Documents Order Desk, Bldg. 4D, 700 Robbins Avenue, Philadelphia, PA 19120-5099.

MILITARY INTERESTS

CIVIL AGENCY COORDINATING ACTIVITY

Custodians:

GSA - FSS

VA - OSS

Army - GL

Navy - YD

Air Force - 99

PREPARING ACTIVITY

Navy - YD

Review Activities:

(Project 7310-0781)

Army - MD

Navy - MS, CG

Air Force - 84

DLA - GS

User Activities:

Navy - MC, SA