

INCH POUND

A-A-52030
9 May 1991

COMMERCIAL ITEM DESCRIPTION

NOZZLES, FUEL AND OIL SERVICING, NONAUTOMATIC SHUTOFF
AND NOZZLES, FUEL SERVICING, AUTOMATIC SHUTOFF

The General Services Administration has authorized the use of this commercial item description as a replacement for Military Specification MIL-N-52110F.

This description covers automatic shutoff nozzles used for dispensing liquid fuel and nonautomatic shutoff nozzles used for dispensing liquid fuel and oil.

Salient characteristics.

Design. The nozzles, intended for attachment to fuel hoses, shall consist of a spout, a control device as specified herein, and body. When specified, the body shall be designed to accommodate an arctic mitten as shown in figure 1. The nozzles shall be a commercial product and the latest model of the manufacturer's standard product that has been manufactured, marketed, and accepted commercially for a minimum period of one year prior to invitation to bid or request for proposal. The manufacturer's latest product improvements incorporated in their current production nozzles are acceptable. When specific requirements are not stated herein, all items listed as standard equipment in the manufacturers' published specifications, brochures, and catalogs which are normally furnished to the commercial customer as standard equipment shall be furnished. In addition, the nozzles shall be equipped with optional equipment and accessories as required to comply with the performance requirements specified herein. Optional equipment for the purpose of this document may be defined as equipment not standard or normally furnished with the nozzles but which is available to the commercial customer on an optional basis. Any additional equipment or accessories specified to satisfy military requirements shall be constructed, assembled, and equipped with all components, whether or not specified herein, necessary to enable the unit to function reliably and efficiently in sustained operations. The nozzles shall conform to all Federal laws and regulations applicable for this type of equipment which are in effect on date of award of contract.

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and other data which may improve this document should be sent by letter to: Commander, US Army Belvoir Research, Development and Engineering Center, ATTN: STRBE-TSE, Fort Belvoir, VA 22060-5606.

AMSC N/A

FSC 4930

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

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Classification. The nozzles shall be the following types, sizes, classes, and styles as specified.

Type I - Nozzles, fuel and oil servicing, nonautomatic shutoff (manually operated).

Size 1 - For use with 3/4-inch or 1-inch hose.

Size 2 - For use with 1-1/4-inch or 1-1/2-inch hose.

Size 3 - For use with 2-inch or 1-1/2-inch hose.

Type II - Nozzles, fuel servicing, automatic shutoff.

Size 1 - For use with 3/4-inch or 1-inch hose.

Size 2 - For use with 1-1/4-inch or 1-1/2-inch hose.

Type III - Nozzles, service station pump, self service, automatic shutoff.

Size 1 - For use with 3/4-inch or 1-inch hose.

Size 2 - For use with 1-1/4-inch or 1-1/2-inch hose.

Class A - Spouts for use with leaded gasoline.

Class B - Spouts for use with unleaded gasoline.

Style 1 - Curved spout.

Style 2 - Straight spout.

Type I. The type I, size 1 nozzle shall weigh not more than 2.50 pounds. The size 2 nozzle shall weigh not more than 5.50 pounds. The size 3 nozzle shall weigh not more than 6.0 pounds. The nozzle weight shall not include the accessories specified herein.

Type II. The type II, size 1 nozzle shall weigh not more than 3.25 pounds. The size 2 nozzle shall weigh not more than 6.50 pounds. The nozzle weight shall not include the accessories specified herein.

Type III. The type III, size 1 nozzle shall weigh not more than 3.50 pounds. The size 2 nozzle shall weigh not more than 6.50 pounds. The nozzle weight shall not include the accessories specified herein.

Inlet. The inlet of the size 1 nozzle shall have internal nominal 1.0-inch American National Standard taper pipe thread (NPT), or 0.75 inch American National Standard taper pipe thread and be furnished with a bushing to increase thread to 1.0 inch NPT. The inlet of the size 2 nozzle shall have internal nominal 1.50-inch NPT. The inlet of the size 3 nozzle shall have internal nominal 2.0-inch NPT.

Materials. The nozzle body shall be cast aluminum alloy, such as 356-T6. The valve springs shall be corrosion-resisting steel wire or spring steel. The valve stem shall be corrosion-resisting steel. The nozzle

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shall be fabricated of materials fully compatible with the fuels to be dispensed to include all grades of gasoline and jet hydrocarbon fuels. Fuel wetted metallic surfaces shall avoid the use of copper, copper alloys or cadmium plating. Elastomeric seals and diaphragms shall not deteriorate during long term exposure to fuel and shall remain flexible under the environmental conditions applicable to type I, type II and type III nozzles.

Spout. The spout shall be style 1, nonflexible, curved type, or style 2, straight type, conforming to the contractor's standard configuration and length, provided the end-to-end length of the spout is not less than 7.0 inches as measured along the centerline of the spout. The spout of the size 1 nozzle shall meet the release and breakaway requirements of UL 842. Gasoline-dispensing nozzles shall be for use with leaded or unleaded gasoline, as specified. The terminal end of the nozzle spout for use with leaded gasoline, class A, shall have an outside diameter of not less than 0.930 inches and a wall thickness of not less than 0.065 inches. The terminal end of the nozzle spout for use with unleaded gasoline class B, shall have an outside diameter of not more than 0.840 inches and a wall thickness of not less than 0.065 inches. The delivery end of the spout shall include a straight section not less than 2.50 inches in length. The retaining spring shall terminate 3.0 inches from the terminal end of the spout.

Wire, spiral, antislip. The type II, size 1 nozzle shall be equipped with a zinc-plated spring steel wire, spirally wound around the spout and secured to the nozzle. The size and length of the spiral wound wire shall be in accordance with the wire supplied on the manufacturer's standard nozzle spout.

Check valve. Unless otherwise specified, a check valve shall not be required. When check valves are required, they shall be compatible with the applicable type, size, class, and style of nozzles and shall be in accordance with the manufacturer's standard check valve.

Accessories. The size 1 nozzle shall be furnished with an external nominal 1.0-inch x 0.75-inch NPT reducing bushing or external nominal 0.75-inch x 1.0-inch NPT step-up bushing with the internal nominal 0.75-inch NPT inlet. The size 2 nozzle shall be furnished with an external nominal 1.50-inch x 1.250-inch NPT reducing bushing. The size 3 nozzle shall be furnished with an external nominal 2.0-inch x 1.50-inch NPT reducing bushing. Unless otherwise specified, an aluminum dust cap shall be attached to the nozzle by a chain and a spring. The chain shall be size no. 8 sash chain. The chain shall be tensioned by a 3-pound per inch, plus or minus 1-pound per inch, compression spring. When specified, each nozzle shall be equipped with a fuel nozzle-to-aircraft cable jumper conforming to MS25384-1. Unless otherwise specified, the cable shall be 6.50 feet long. The spout tube of the size 2 and size 3 nozzles shall be equipped with a wire-cloth strainer. The wire cloth shall be 100 x 100 mesh (open area 30.3 percent), made from 0.0045-inch

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diameter round wire. The strainer and spout shall be capable of being inserted in, or removed from, the nozzle assembly by hand without the use of any tool. The nozzle spout and strainer shall be securely mounted to the nozzle to prevent any movement of the strainer or spout when assembled.

Control. For hand control, type I nozzles, hold-open notches, lugs, or lever supports shall not be permitted on the operating-lever guard. The type II nozzle shall have a fluorosilicone-coated nylon or "Buna-N" coated fabric diaphragm. When the diaphragm is covered by an externally mounted cap (e.g., attached by capscrews), the diaphragm shall be visibly exposed around the outside perimeter of the cap and body mating surfaces. Metal or plastic parts coming in contact with the diaphragm shall have no sharp edges or projections which might affect proper seating, and no sharp edges or burrs which might abrade the diaphragm. Unless otherwise specified, the type III control shall be hand or diaphragm controlled.

Operating-lever guard. When specified, the nozzles shall have a lever and a guard designed to allow for operation using an arctic mitten as shown in figure 1. With the valve in the closed position, the clearances shall be as shown in figure 1. The guard shall protect the lever and valve-operating parts from damage. The guard of size 1 nozzles shall have a 0.375-inch x 1.50-inch minimum slot. The slot shall be located in proximity to the guard to accommodate the standard locking fixture in fuel service pumps.

Anodizing finish. All aluminum and aluminum alloy components of the type I and type II nozzles shall be treated electrolytically in a bath containing sulfuric acid to produce a uniform anodic coating on the metal surfaces. The minimum nominal thickness shall be 0.0007 inch. The anodic coating of visible components shall be dyed with specified color. Unless otherwise specified, the type III nozzle shall not be anodized.

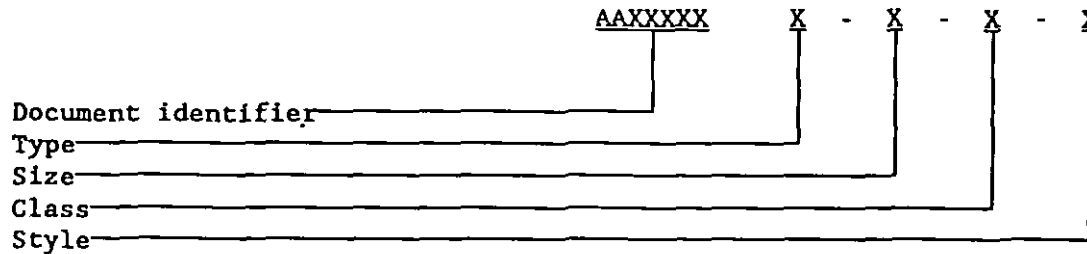
Nozzle capacity. The size 1 nozzle shall have a maximum inlet pressure of 15 psi and a flow capacity of not less than 12 gpm. The size 2 nozzle shall have a maximum inlet pressure of 15 psi and a flow capacity of not less than 40 gpm. The size 3 nozzle shall have a maximum inlet pressure of 10.2 psi and a flow capacity of not less than 136 gpm.

Environmental. The type I, type II and III nozzles shall perform as specified herein at any ambient temperature from -65, ± 5 °F to 145, ± 5 °F.

Safety. Except as specified herein, the nozzles shall conform to the assembly and design requirements of UL 842. The type III nozzle shall bear the listing mark of the Underwriters' Laboratories, Inc., as evidence that the nozzle to which it is attached has been produced under the listing and follow-up services of the Underwriters' Laboratories. The contractor shall certify that the nozzles comply with all applicable Federal safety requirements.

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



Contractor certification. Unless otherwise specified, the contractor shall certify that the nozzles offered meet the salient characteristics of this description and that the nozzles conform to the manufacturer's own drawings, specifications, standards, and quality assurance practices and are the same nozzles offered for sale on the commercial marketplace. Prior to delivery, the Government reserves the right to require proof of such conformance and to perform any inspections as may be necessary to assure the nozzles conform to the requirements as stated herein.

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 specified tolerances 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.

Regulatory requirements. In accordance with Federal Acquisition Regulation, section 23.403, the Government's policy is to acquire items composed of the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition without adversely affecting performance requirements or exposing the supplier's employees to undue hazards from the recovered materials.

Preservation, packaging, packing, labeling, and marking. The preservation, packaging, packing, labeling, and marking shall be as specified in the contract or purchase order.

Quality assurance provisions. The nozzles shall be examined for the following defects. Presence of one or more defects shall be cause for rejection.

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1. Nozzle type, size, class, and style not as specified in contract or purchase order.
2. Weight not as specified.
3. Inlet not as specified.
4. Material not as specified.
5. Spout not as specified.
6. Antislip, spiral wire not as specified.
7. Any accessory missing or not as specified.
8. Controls not as specified.
9. Operating-lever guard not as specified.
10. Finish not as specified.
11. Nozzle capacity not as specified.
12. Environmental conditions not as specified.
13. Safety certification not as specified.
14. Preservation, packaging, packing, labeling and marking not as specified in the contract or purchase order.

Notes.

1. Ordering data. Procurement documents should specify the following:
 - (a) Title, number, and date of this item description.
 - (b) Nozzle type, size, class, and style required.
 - (c) When nozzle body is required to accommodate arctic mitten.
 - (d) When check valves are required.
 - (e) When dust cap is not required to be attached.
 - (f) When grounding cable is required and length if other than as specified.
 - (g) When type III is required to be other than hand or diaphragm controlled.
 - (h) When guard designed to allow for arctic mitten is required.
 - (i) Color of coating.
 - (j) When type III nozzle is not required to be anodized.
 - (k) Level of preservation, packaging, and packing required.
 - (l) Any special marking.
 - (m) When certification that the nozzles offered meet all requirements of this item description is required.
 - (n) When a TIP is required.
2. UL 842 is available from the Underwriters Laboratories, Inc., 207 East Ohio Street, Chicago, IL 60611; 333 Pfingsten Road, Northbrook, IL 60062; 1283 Walt Whitman Road, Melville, L.I., NY 11746; 1655 Scott Boulevard, Santa Clara, CA 95050; or 2602 Tampa East Boulevard, Tampa, FL 33619.
3. MS25384 is available from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.
4. The following are suggested sources of supply for this item description (competition is not limited to these sources):

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(a) Type I, Size 2, Class A and Style 2:

- (1) F217-018 or 5M7107 from EMCO Wheaton Inc., 6200 Falls of the Neuse Rd., Suite 304, Raleigh, NC 27609 (TEL: 919/790-2700).
- (2) 190 GAL-1-2 from Dover Corporation/OPW Division, Fueling Components Group, Post Office Box 405003, Cincinnati, OH 45240-5003 (TEL: 513/870-3100).
- (3) 2000-5169-42 from Advanced Industries Inc., 301 NE Railroad St, Post Office Box 250, Odessa, MO 64076 (TEL: 816/633-4064)

(b) Type II, Size 1, Class A and Style 1:

- (1) OPW11A with 0.75-inch x 1.0-inch step-up bushing from Dover Corporation/OPW Division, Fueling Components Group, Post Office Box 405003, Cincinnati, OH 45240-5003 (TEL: 513/870-3100).
- (2) 45C from Mc Donald A Y Mfg Co., 4800 Chavenelle Rd, Post Office Box 508, Dubuque, IA 52004-0508 (TEL: 800/292-2737).
- (3) 5433K or 5433K14 from McMaster-Carr Supply Co., Post Office Box 4355, Chicago, IL 60680-4355 (TEL: 201/329-3200).

(c) Type III, Size 1, Class A and Style 1:

- (1) A200-008 or A2000-015 from EMCO Wheaton Inc., 6200 Falls of the Neuse Rd., Suite 304, Raleigh, NC 27609 (TEL: 919/790-2700).
- (2) OPW11AP from Dover Corporation/OPW Division, Fueling Components Group, Post Office Box 405003, Cincinnati, OH 45240-5003 (TEL: 513/870-3100).

5. Preparing activity for this CID is: Commander, US Army Belvoir RDE Center, ATTN: STRBE-TSE, Fort Belvoir, VA 22060-5606.

Custodians:

Army - ME
Navy - YD

Preparing activity:

Army - ME

Review activities:

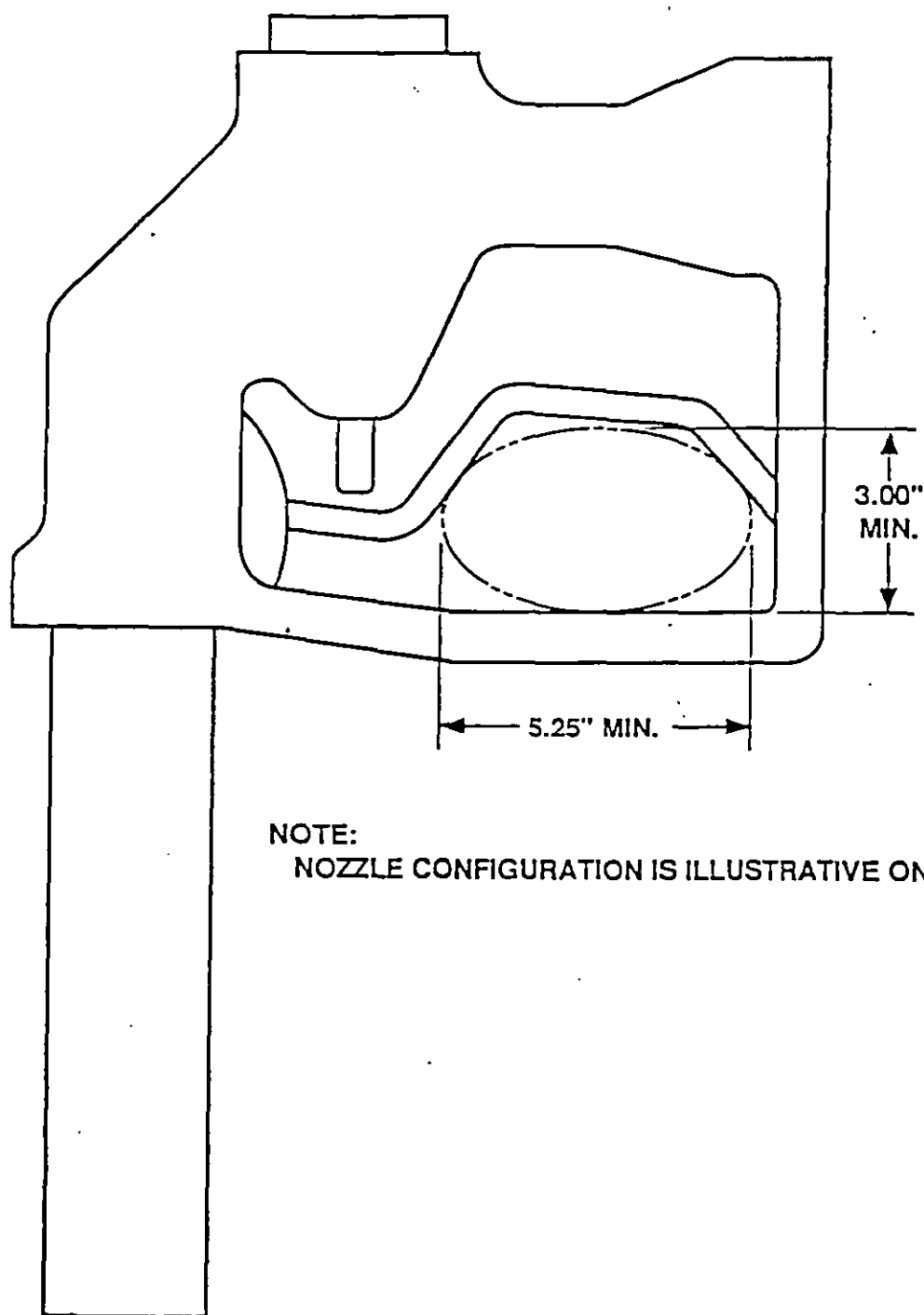
Army - AV
DLA - CS

Project 4930-0352

User activities:

Army - CE
Navy - CG, MC

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NOTE:
NOZZLE CONFIGURATION IS ILLUSTRATIVE ONLY.

FIGURE 1. Illustration showing minimum clearances necessary to accommodate operator using an arctic mitten.

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