

INCH-POUND

MIL-E-24759 (SH)  
5 August 1991

## MILITARY SPECIFICATION

### EDUCTOR ASSEMBLY, IN-LINE, 90 GALLONS PER MINUTE, PORTABLE AQUEOUS FILM-FORMING FOAM (AFFF) LIQUID CONCENTRATE

This specification is approved for use by the Naval Sea Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense.

#### 1. SCOPE

1.1 Scope. This specification covers the requirements for 90 gallons per minute (gal/min), 1-1/2-inch portable in-line eductors used with Aqueous Film-Forming Foam (AFFF) liquid concentrate for fire fighting.

#### 2. APPLICABLE DOCUMENTS

##### 2.1 Government documents.

2.1.1 Specifications and standards. The following specifications and standards form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Naval Sea Systems Command, SEA 5523, Department of the Navy, Washington, DC 20362-5101 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

FSC 4210

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

## MIL-E-24759(SH)

## SPECIFICATIONS

## FEDERAL

- WW-C-621 - Coupling Assembly, Hose (Fire Woven-Jacketed, Rubber or Fabric-Lined and Unlined.
- PPP-B-601 - Boxes, Wood, Cleated-Plywood.
- PPP-B-621 - Boxes, Wood, Nailed and Lock Corner.
- PPP-B-636 - Boxes, Shipping, Fiberboard
- PPP-B-640 - Boxes, fiberboard, Corrugated, Triple wall
- PPP-F-320 - Fiberboard, Corrugated and Solid Sheet Stock (Container Grade), and Cut Shapes.

## MILITARY

- MIL-P-116 - Preservation, Method of
- MIL-G-1149 - Gasket Materials, Synthetic Rubber, 50 and 65 Durometer Hardness
- MIL-F-24385 - Fire Extinguishing Agent, Type 6, Aqueous Film-Forming Foam (AFFF) Liquid Concentrate, for Fresh and Sea Water
- MIL-N-24408 - Nozzles, Fire Hose, Combination Aqueous Film Forming Foam, Water Spray, Adjustable Pattern (Shipboard Use)
- MIL-R-83248 - Rubber, Fluorocarbon elastomer, High Temperature Fluid and Compression Set Resistant
- MIL-L-19140 - Lumber and Plywood fire-retardant Treated
- MIL-B-24480 - Bronze, Nickel-Aluminum. (UNS no.C95800) Castings For Seawater Service.

## STANDARDS

## FEDERAL

- FED-STD-H28 - Screw Thread Standards for Federal Services

## MIL-E-24759 (SH)

FED-STD-151 - Metals, Test Methods

## MILITARY

MIL-STD-1520 - Corrective Action and Disposition  
System for Non-Conforming Material  
MIL-STD-129 - Marking for Shipment and Storage

(Unless otherwise indicated, copies of the federal and military specifications, standards and handbooks are available from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094).

2.1.2 Other Government drawings. The following other Government drawings form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those in effect on the date of the solicitation.

## DRAWINGS

Naval Sea Systems Command (NAVSEA)  
810-4444647 Wrench, Spanner

(Application for copies should be addressed to: Commander, Portsmouth Naval Shipyard, Code 202.2, Portsmouth, NH 03801.)

2.2 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2)

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

A 313 - Standard Specification for Chromium-  
Nickel Stainless and Heat-Resisting  
Steel Spring Wire (DOD adopted)  
A 580 - Standard Specification for Stainless and  
Heat resisting Steel Wire (DOD adopted)

## MIL-E-24759 (SH)

B 16	-	Standard Specification for Free-cutting Brass Rod, Bar and Shapes for Use in Screw Machines (DOD adopted)
B 62	-	Standard Specification for Composition Bronze
B 148	-	Standard Specification for Aluminum-Bronze Sand Castings or Ounce Metal Castings (DOD adopted)
B 150	-	Standard Specification for Aluminum Bronze, Rod, Bar, and Shapes
D 1248	-	Standard Specification for Polyethylene Molding and Extrusion Materials
D 3951	-	Standard Specification for Commercial Packaging

(Applications for copies should be addressed to American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

(Non-government standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services.)

**2.3 Order of precedence.** In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

### 3. REQUIREMENTS

**3.1 First article.** When specified (see 6.4), a sample shall be subjected to first article inspection (see 6.4) in accordance with 4.5.

## MIL-E-24759 (SH)

3.2 Materials. The materials for each part shall be made as specified herein. Material not definitely specified shall be of the best commercial grade and suitable for the purpose intended. Material shall be selected to reduce erosion, corrosion and prevent galling, seizing, or abnormally excessive wear of component parts. Materials, gaskets, and seals in contact with AFFF shall be compatible with the fluid. Acceptance or approval of any constituent material shall not be construed as a guaranty of the acceptance of the finished product.

3.2.1 Recovered materials. Unless otherwise specified herein, all equipment, material, and articles incorporated in the products covered by this specification shall be new and may be fabricated using materials produced from recovered materials to the maximum extent practicable without jeopardizing the intended use. The term "recovered materials" means materials which have been collected or recovered from solid waste and reprocessed to become a source of raw materials, as opposed to virgin raw materials. None of the above shall be interpreted to mean that the use of used or rebuilt products is allowed under this specification

3.3 CONSTRUCTION

3.3.1 Description. The in-line eductor (see Figure 1) shall educt AFFF concentrate (MIL-F-24385 Type 6) as specified, when operating with fresh or seawater at rated inlet pressure and flow (See 6.3 and appendix). The eductor shall contain no moving parts except for a ball check in the AFFF inlet and a swivel hose connection. The entire eductor assembly shall not exceed 10 inches in length. The eductor shall consist of the following components:

- (a) Eductor body (diffuser)
- (b) Nozzle
- (c) AFFF ball check body
- (d) AFFF ball check
- (e) AFFF suction hose
- (f) AFFF suction strainer assembly
  - (1) Suction strainer screen
  - (2) Suction strainer housing (wand)
- (g) Hose retaining clamp
- (h) Water inlet coupling
- (i) Removable concentrate orifice

## MIL-E-24759 (SH)

3.3.2 Eductor body. The body shall contain the nozzle, throat, diffuser, and AFFF concentrate orifice. The nozzle shall allow water into the throat at a rate of 84 gal/min minute at 200 pounds per square inch (lb/in<sup>2</sup>). The throat shall accommodate the mixing of the AFFF concentrate with the water. The diffuser shall provide a transition from the throat and discharge to the outlet at 90 gallons per minute. The AFFF concentrate orifice shall induct AFFF concentrate at the prescribed mix concentration when the eductor is flowing water at the rated pressure and flow. The eductor body shall be cast brass in accordance with alloy no. 836 of ASTM B 62.

3.3.3 Nozzle section. The nozzle shall be able to pass a minimum of 84 gallons per minute at the rated pressure. The nozzle shall be Alpha Nickel Aluminum Bronze in accordance with alloy no. 958 of ASTM B 148 or MIL-B-24480.

3.3.4 AFFF ball check. A ball check shall be incorporated into the AFFF suction side of the eductor to prevent water from flowing to the AFFF source. The ball check body shall be removable from the body of the eductor for inspection and maintenance of the ball check. The ball check shall be made of a low density polyethylene material in accordance with Type I, Class "A" of ASTM D 1248.

3.3.5 AFFF concentrate orifice. The AFFF suction orifice shall induct AFFF concentrate at a 6 percent volumetric ratio, when the eductor is flowing at rated pressure and flow. The orifice shall be Alpha Nickel Aluminum Bronze in accordance with alloy no. 958 of ASTM B-148 or Alloy 544 of ASTM B-139. The orifice shall be stamped or engraved "6 percent". The orifice shall be removable. A retainer (for example, snap ring, made of corrosion resistant material) shall hold the orifice securely in place.

3.3.6 AFFF Suction Hose and Wand Assembly. The suction tube (see figure 1) shall consist of a spiral reinforced clear polyvinyl chloride hose 42 inches in length. It shall terminate at one end with a rigid brass tube, 18 inches in length, for insertion into an AFFF foam container. The opposite end shall have a connection for attachment to the eductor body. The material of the connection shall be free cutting brass in

## MIL-E-24759(SH)

accordance with ASTM B 16. A removable strainer shall be attached to the AFFF concentrate inlet end of the brass wand. The strainer shall be 300 series stainless steel in accordance with ASTM A 313 or ASTM 580. The suction end of the wand shall be castellated and shall provide for continuous flow of AFFF concentrate when the wand is held against the bottom of the container.

3.3.7 Connections. The fluid inlet hose connection shall be a female coupling, 1-1/2 inch diameter, 11-1/2 threads per inch NPSH swivel type with ball bearing movement. Two lugs shall be provided on the inlet coupling, spaced 180 degrees apart in accordance with style I of WW-C-621. The lugs shall be compatible with spanner wrenches conforming to drawing, 810-4444647. All threaded connections shall be in accordance with FED-STD H28. The diffuser outlet shall be 1-1/2 inch diameter, 11-1/2 NPSH threaded male end. A ring shall be integrally cast with the eductor body of sufficient thickness and circumference to adequately protect the diffuser outlet threads from damage while eductor and fire hose are separated (see figure 1). The AFFF suction hose connection shall be in a perpendicular plane to the centerline of the eductor body.

3.3.8 O-rings and gaskets. Gasket and gasket recess dimensions shall be in accordance with WW-C-621. The gasket shall be fabricated from rubber conforming to Shore A 60 to 75 durometer, of Type II, Class 5 of Mil-G-1149. O-ring seals shall conform to MIL-R-83248 Class 1.

3.4 Marking for identification. Each eductor shall have the following data stamped, engraved or cast on the body:

- (a) Manufacturer's name
- (b) Rated capacity in gal/min
- (c) Navy Stock Number (NSN) of the assembly

3.5 Special tools. No special tools shall be required nor supplied for maintenance of equipment covered by this specification. Special tools are defined as those tools which are not listed in the Federal Supply Catalog. (Copies of this catalog may be consulted in the office of the Defense Contract Administration Services Management Area (DCASMA) or at any Federal Government Agencies Procurement Office.)



## MIL-E-24759(SH)

3.6 Workmanship. Components shall be free from defects which affect their appearance or operation. Castings shall be clean, sound, and free from blow holes, hard spots, porosity, cracks, and related defects. The eductor shall have smooth and clean surfaces, inside and outside; all roughness shall be removed. Castings shall not be plugged or repaired. Industry standards for metallic sealing is acceptable.

#### 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified, the contractor is responsible for the performance of all inspection requirements (examinations and tests) as specified herein. Except as otherwise specified in the contract or purchase order, 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 this document where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of this sections 3 and 5. The inspections set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in this specification shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of the manufacture operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.2 Classification of inspections. The inspection requirements specified herein are classified as follows:

- (a) Material inspection (see 4.3)
- (b) Quality conformance inspection (see 4.4)
- (c) First article inspection (see 4.5)



## MIL-E-24759 (SH)

4.2.1 Inspection conditions. Unless otherwise specified, all inspections shall be performed in accordance with the test conditions specified herein.

4.2.2 Test temperature. Inspections and tests shall be accomplished at ambient room temperature.

4.2.3 Test fluid. Tests shall be conducted with fresh water.

4.2.4 Test installation approval. The test arrangement shall be approved by NAVSEA prior to conducting tests.

4.3 Material inspection. Material inspection shall verify that materials used in the fabrication of the eductors are in accordance with the requirements of this specification.

4.4 Quality conformance inspection. Quality conformance inspection shall consist of the inspections and tests listed in table I.

TABLE I. Quality conformance tests.

Test	Paragraph
Visual and dimensional examination	4.6
Vacuum	4.7.3
Leakage	4.7.5
Height	4.7.6
Proportioning characteristics	4.7.7

4.4.1 Lot. For purposes of quality conformance inspection, a lot shall consist of all eductors produced in one facility using the same materials and production processes, and being offered for delivery at one time.

## MIL-E-24759 (SH)

**4.4.1.1 Quality conformance inspection sampling.** As a minimum, the contractor shall randomly select a sample quantity of eductors from each lot in accordance with the requirements specified in table II for the tests specified in table I. Detection of any nonconforming characteristic in any sample shall result in rejection of the entire lot. If approved by the government, the contractor has the option of correcting the discrepancy, retesting, and resubmitting a conforming lot or submitting a new lot which shall be inspected and tested as specified herein.

TABLE II. Sampling for quality conformance inspection.

Lot size	Sample size	Accept	Reject
2 to 8	All	0	1
9 to 15	All	0	1
16 to 25	All	0	1
26 to 50	All	0	1
51 to 90	All	0	1
91 to 150	All	0	1
151 to 280	All	0	1
281 to 500	315	0	1
501 to 1200	315	0	1
1201 to 3200	315	0	1
3201 to 10,000	315	0	1

**4.4.1.2 Quality conformance report.** When specified in the contract or order, a test report shall be prepared (see 6.3).

**4.5 First article inspection.** As a minimum, the contractor shall provide two samples to be subjected to the tests listed in table III. Detection of any nonconformance during first article testing shall result in rejection of the first articles, initiation of corrective action to remove the root cause of the nonconformance, and repetition of all first article tests on eductors that incorporate the corrective action.

## MIL-E-24759 (SH)

TABLE III. First article inspection.

Test	Paragraph
Visual and dimensional examinations	4.6
Salt spray	4.7.1
Hydrostatic	4.7.2
Vacuum	4.7.3
Rough usage	4.7.4
Leakage	4.7.5
Height	4.7.6
Proportioning characteristics	4.7.7

4.6 Visual and dimensional examination. Each first article sample and each sample selected in accordance with 4.4.1.1 shall be visually and dimensionally examined for the defects specified in table IV. Detection of any defects (major and minor) in any sample result in rejection of the entire lot. The government reserves the right to scrap any rejected lot containing major defects when it is determined by government inspection personnel that the material is unfit for use and cannot be economically reworked or repaired. Scrapped material shall be conspicuously identified and controlled to preclude its subsequent use in a contract item unless approved by the government.

## MIL-E-24759 (SH)

TABLE IV. Classification of defects.

MAJOR	DEFECTS
101	Dimensions incorrect, affecting proper operation
102	Material not as specified
103	Components not as specified
104	Workmanship not as specified
Minor	
201	Components missings, damaged
202	Threads not as specified
203	Improper assembly
204	Parts loose or damaged
205	Identification marking missing, incorrect, or illegible

4.7 Tests. Tests shall be performed in the following order on each of the samples.

4.7.1 Salt spray. The eductor shall be subjected to seawater spray for a period of 240 continuous hours in accordance with method 812 of FED-STD-151. Any damage to the eductor which affects rated performance characteristics of 4.7.7 shall constitute failure of this test.

4.7.2 Hydrostatic pressure. The eductor body shall be hydrostatically tested by applying pressure to the eductor inlet. The AFFF concentrate inlet and the discharge outlet shall be plugged. The test shall be conducted using fresh water. The eductor body shall be pressurized to 500 lb/in<sup>2</sup> in and shall hold this pressure for a period of 10 minutes without additional pressurization. Leakage or deformation of the eductor shall constitute failure of this test and any damage to the eductor which affects rated performance characteristics of 4.7.7 shall constitute failure of this test.

## MIL-E-24759(SH)

4.7.3 Vacuum. The eductor AFFF suction hose and wand assemblies shall be tested. The assembly shall withstand a vacuum of 29 inches of mercury without collapsing. Permanent deformation of the hose or tube assembly or inability to reach 29 inches of mercury shall constitute failure of this test. Any damage to the eductor AFFF suction tube and wand assemblies which effects rated performance characteristics of 4.7.7 shall constitute failure of this test.

4.7.4 Rough usage. The eductor shall be dropped twice onto a hard, smooth, flat, horizontal concrete slab, from a height of at least 60 inches. The longitudinal axis of the eductor shall be horizontal to the concrete slab. The eductor shall be attached to the appropriate size hose at both ends of the eductor and the eductor and hoses shall be filled with water and pressurized to 250 lb/in<sup>2</sup>. Any damage to the eductor that effects rated performance characteristics of 4.7.7 shall constitute failure of this test.

4.7.5 Leakage test. The eductor with the AFFF suction tube and wand assembly attached, shall be tested for leakage. The eductor shall be pressurized with the outlet end plugged. The test pressure of 500 lbs/in<sup>2</sup> shall be maintained for 5 minutes. Leakage through the ball check or through the pick up tube or hose swivel connection to the eductor shall constitute failure of this test.

4.7.6 Height. The height test shall be conducted by using 150 feet of Navy standard 1-1/2 inch fire hose (MIL-H-24606) and a attached type I, 95 gal/min nozzle (MIL-N-24408) attached to the eductor outlet. The eductor body shall be above the AFFF source. The nozzle shall be elevated 33 feet above the eductor. The inlet pressure shall be 200 lb/in<sup>2</sup>. The test shall be run for 2 minutes. The minimum concentration shall be 5.0 percent. Inability to make the required minimum concentration for 2 minutes shall constitute failure.

4.7.7 Proportioning characteristics. Proportioning characteristics tests shall be conducted by utilizing 50 feet of 1-1/2 inch navy standard fire hose (MIL-H-24606) and a type I, 95 gal/min nozzle (MIL-N-24408) 50 feet downstream of the eductor outlet. The eductor body shall be above the AFFF source and the nozzle shall be elevated to the same height as the eductor. The water shall be supplied at an inlet pressure of 200 lb/in<sup>2</sup>. The minimum concentration acceptable is 5.0 percent and a maximum of

## MIL-E-24759 (SH)

7.0 percent. Inability to achieve the desired concentration for a period of 2 minutes shall constitute failure of this test.

4.8 Inspection of packaging. Sample packs and the inspection of preservation, packing and marking for shipment, stowage, and storage shall be in accordance with the requirements of section 5 and the documents specified therein.

## 5. PACKAGING

(The packaging requirements specified herein apply only for direct Government acquisition. For the extent of applicability of the packaging or requirements of reference documents listed in section 2, see 6.6).

5.1 Packaging requirements. The requirements for packaging shall be in accordance with the documents specified in 5.1.1 through 5.4.

5.1.1 Navy fire retardant requirements. When specified (see 6.2), the use of fire retardant materials will be in accordance with 5.1.1.1 through 5.1.1.3.

5.1.1.1 Treated lumber and plywood. When specified (see 6.2), all lumber and plywood including laminated veneer material used in shipping container and pallet construction, members, blocking, bracing, and reinforcing shall be fire-retardant treated material conforming to MIL-L-19140 as follows:

Levels A and B -	Type II - Weather resistant.
	Category 1 General use

Levels C	Type I - Non-weather resistant
	Category 1 General use

5.1.1.2 Fiberboard. Fiberboard use in construction of class domestic, non-weather resistant fiberboard and cleated fiberboard boxes including interior packing forms shall meet the flame spread index and the optic density requirements of PPP-F-320.

## MIL-E-24759(SH)

5.1.1.3 Cushioning and wrapping materials. The use of excelsior, newspaper, shredded paper (all types), and similar hygroscopic or nonneutral materials and all types of loose fill materials for packaging (preservation and packing) applications such as cushioning, fill, stuffing, and dunnage is prohibited. Materials selected for cushioning and wrapping shall have properties (characteristics) for resistance to fire. Cushioning or wrapping materials as applicable, shall be provided to prevent item and package damage, and to prevent free movement of the container contents.

5.1.2 Preservation. Preservation shall be level A, C or commercial as specified. (See 6.2)

5.1.2.1 Level A. Eductor assemblies shall be individually unit-protected in accordance with method III of MIL-P-116. Unit containers shall be in accordance with PPP-B-636 class weather resistant type CF or SF with other container classification selection options at the option of the contractor. (see 6.2). Containers shall be closed in accordance with method V of the appendix to the container section.

5.1.2.2 Level C. Eductor assemblies shall be individually unit-protected as specified for level A except that the unit containers shall be class domestic/fire retardant, and closure may conform to method I using pressure sensitive adhesive tape.

5.1.2.3 Commercial. Commercial packaging (cleaning, preservation, cushioning and unit pack) shall be in accordance with ASTM D 3951.

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

5.2.1 Level A. Eductor assemblies preserved as specified in 5.1.2 shall be packed in wood cleated plywood or nailed wood boxes in accordance with PPP-B-601 overseas type or PPP-B-621, class 2. Boxes shall be closed and strapped in accordance with the applicable box specification or appendix thereto. The gross weight of the boxes shall not exceed the weight limitations of the applicable box specification.



## MIL-E-24759(SH)

5.2.2 Level B. Eductor assemblies preserved as specified in 5.1.2 shall be packed in wood cleated plywood, nailed wood, or fiberboard boxes in accordance with PPP-B-601 domestic type, PPP-B-636 class weather resistant, or PPP-B-640 class weather resistant respectively, with box style selection at the option of the contractor (See 6.2). Boxes shall be closed, reinforced, and strapped in accordance with the applicable box specification, with method V closure of PPP-B-636 boxes or with the appendix of the applicable box specification. The gross weight of the boxes shall not exceed the weight limitations of the applicable box specification.

5.2.3 Level C. Eductor assemblies preserved as specified in 5.1.2 shall be packed in boxes specified for level B except that containers may be of domestic non-weather resistant type or class. Box closure for fiberboard boxes shall be in accordance with method I of the appendix to PPP-B-636.

5.2.4 Commercial. Commercial packing shall be as specified in 5.1.2.3.

5.3 Marking. In addition to any special marking required, interior packages and exterior shipping containers shall be marked in accordance with MIL-STD-129. Shipments offered for transportation by air shall be labeled in accordance with Department of Transportation regulation 49CFR part 173.306(c).

5.4 Use of loose-fill material. For domestic shipment, level A and C preservation, and level A, B and C packing, use of loose fill such as cushioning, filler, and dunnage is prohibited.

## 6. NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. The eductor covered by this specification is intended for use on surface ships. The eductor is a component of a portable shipboard fire fighting system that introduces Aqueous Film-Forming Foam (AFFF) into water to supply an AFFF and water mixture for firefighting purposes.

## MIL-E-24759 (SH)

6.2 Acquisition requirements. Acquisition documents must specify the following:

- (a) Title, number and date of this specification.
- (b) Quantity required.
- (c) Issue of DODISS to be cited in the solicitation, and if required, the specific issue of the individual documents referenced (see 2.1.1 and 2.2).
- (d) Requirement for first article inspection (see 3.1).
- (e) When fire-retardant material is required (see 5.1.1).
- (f) Level of preservation and packing that is required (see 5.1.2 and 5.2).
- (g) Container options and selection if other than the contractor's option (see 5.1.3 and 5.2.2).

6.3 Consideration of data requirements. The following data requirements should be considered when this specification is applied on a contract. The applicable Data Item Descriptions (DID's) should be reviewed in conjunction with the specific acquisition to ensure that only essential data are requested/provided and that the DID's are tailored to reflect the requirements of the specific acquisition. To ensure correct contractual application of the data requirements, a Contract Data Requirements List (DD Form 1423) must be prepared to obtain the data, except where DOD FAR Supplement 27.475-1 exempts the requirement for a DD Form 1423.

<u>Refer.Paragraph</u>	<u>DID Number</u>	<u>DID Title</u>	<u>Suggested tailoring</u>
3.3.1	DI-DRPR-80651	Engineering Dwgs	Level II
4.4.1	DI-T-2072	Test Reports	

The above DID's were those cleared as of the date of this specification. The current issue of DOD 5010.12-1, Acquisition Management Systems and Data Requirements Control list (AMSDL), must be researched to ensure that only current, cleared DID's are cited on the DD Form 1423.

## MIL-E-24759(SH)

6.4 First article When a first article inspection is required, the items should be a first article sample. The first article should consist of four units. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examinations, approval of first article test results and disposition of first articles. Invitations for bids should provide that the government reserves the right to waive the requirement for samples for first article inspection to those bidders offering a product which has been previously acquired or tested by the government, and that bidders offering such products, who wish to rely on such production or test, must furnish evidence with the bid that prior government approval is presently appropriate for the pending contract.

6.5 Provisioning. Provisioning Technical Documentation (PTD), spare parts, and repair parts should be furnished as specified in the contract.

6.5.1 When ordering spare parts or repair parts for the equipment covered by this specification, the contract shall state that such spare parts and repair parts should meet the same requirements and quality assurance provisions as the parts used in the manufacture of the equipment. packaging for such parts shall also be specified.

6.6 Sub-contracted material and parts. The packaging requirements of documents listed in section 2 do not apply when material and parts are acquired by the contractor for incorporation into the equipment and lose their separate identity when the equipment is shipped.

6.7 Subject term (key word) listing.

diffuser  
hose retaining clamp  
nozzle  
suction strainer  
water inlet couling

Preparing activity:  
Navy - SH  
(Project 4210-N342)

MIL-E-24759 (SH)

APPENDIX  
ENGINEERING DRAWINGS TECHNICAL CONTENT REQUIREMENTS

10. Scope

10.1 Scope. This appendix covers the technical content requirements that shall be included on drawings . This appendix is mandatory only when data item description DI-DRPR-80651 is cited on the DD form 1423.

20. APPLICABLE DOCUMENTS

This section is not applicable to this appendix.

30. DRAWINGS

30.1 Drawings. Drawings shall contain the following information:

- (a) Preliminary drawings sufficient to permit evaluation of the design and materials to determine conformance to the requirements of this specification.
- (b) Detail assembly drawings including the information required by (a) above, plus the following information:
  - (1) Overall dimensions.
  - (2) Bill of materials listing specification, grade, condition, and any other data required to identify the properties of the materials.
  - (3) Detail drawings of all parts and subassemblies necessary for maintenance of the eductor system components. Subassembly parts which cannot be acquired or serviced individually shall be identified as a single part.

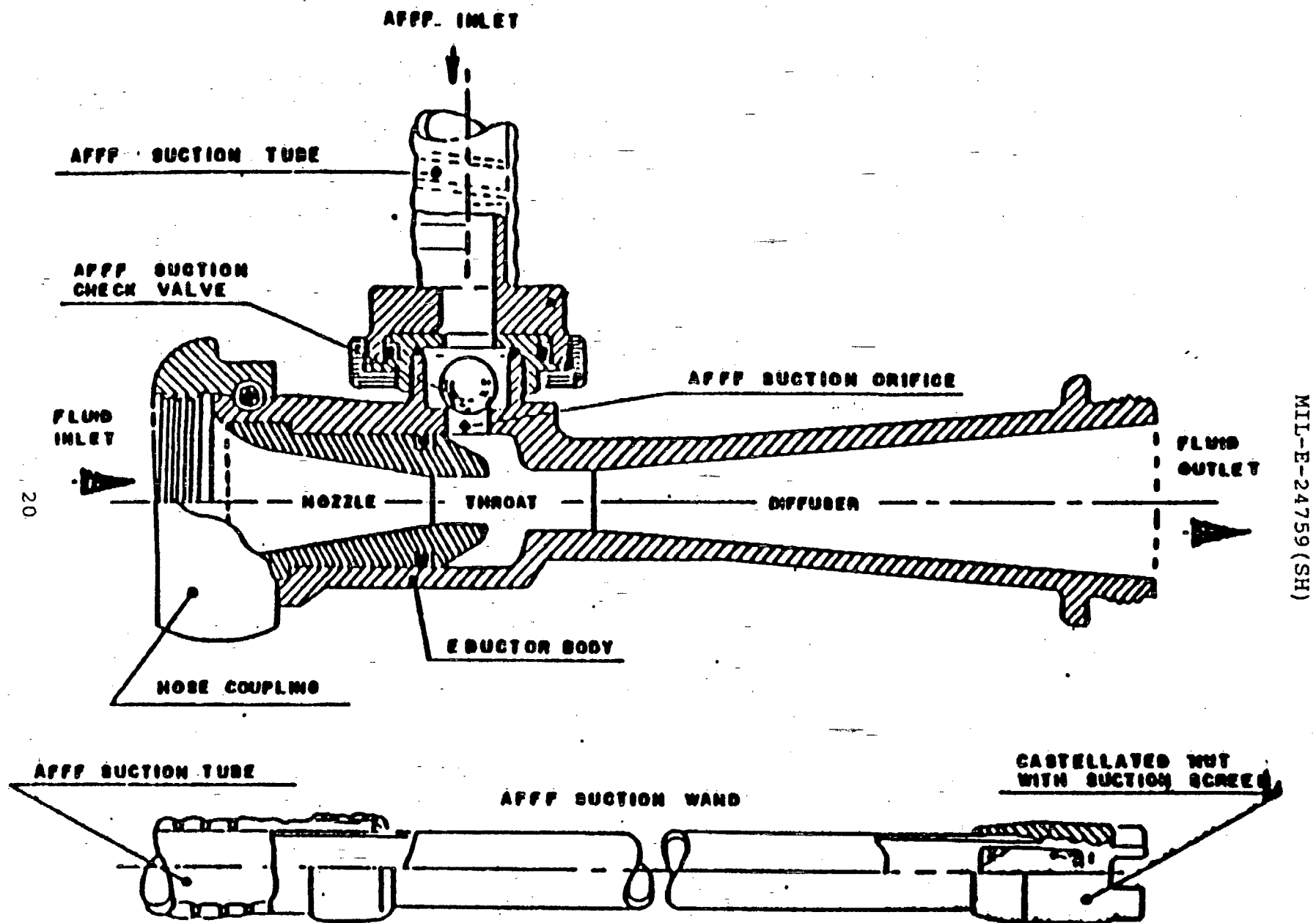


FIGURE 1. Portable eductor  
(For illustration and descriptive terminology only)

# STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

## INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

### I RECOMMEND A CHANGE:

1. DOCUMENT NUMBER

MIL-E-24759 (SH)

2. DOCUMENT DATE (YYMMDD)

5 AUGUST 1991

### 3. DOCUMENT TITLE

EDUCTOR ASSEMBLY, IN LINE, 90 GALLONS PER MINUTE

### 4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)

### 5. REASON FOR RECOMMENDATION

### 6. SUBMITTER

a. NAME (Last, First, Middle Initial)

b. ORGANIZATION

c. ADDRESS (Include Zip Code)

d. TELEPHONE (Include Area Code)

(1) Commercial

(2) AUTOVON

(If applicable)

2. DATE SUBMITTED

(YYMMDD)

### 8. PREPARING ACTIVITY

a. NAME

COMMANDER

NAVAL SEA SYSTEMS COMMAND

b. TELEPHONE (Include Area Code)

(1) Commercial

(703) 602-5545

(2) AUTOVON

(AV) 332-5545

c. ADDRESS (Include Zip Code)

ATTN: SEA 56Y53

WASHINGTON, DC 20362-5101

IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:

Defense Quality and Standardization Office

5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466

Telephone (703) 756-2340 AUTOVON 289-2340