

INCH-POUND

A-A-59009

22 July 1997

## COMMERCIAL ITEM DESCRIPTION

### STRAINERS, SEDIMENT, PIPELINE, SELF-CLEANING

The General Service Administration has authorized the use of this commercial item description, for all federal agencies.

#### 1. SCOPE

1.1 Scope. This commercial item description covers self-cleaning pipeline sediment strainers.

1.2 Intended use. The strainers specified are intended for installation in fuel piping systems on the discharge side of the pump.

#### 2. SALIENT CHARACTERISTICS

2.1 Codes and standards. Strainer shall comply with the applicable requirements of Table I.

2.2 Design and construction. Each strainer shall contain one rotatable screen and floating brush for the purpose of cleaning the screen without shutting down operation of the system. The sump below the screen shall be fitted with a valved drain outlet.

2.3 Material. The material requirements for all strainer components shall be in accordance with Table II.

Beneficial comments, recommendations, additions, deletions, clarifications etc. and any other data which may improve this document should be sent to: Commander, SEA 03R42, Naval Sea Systems Command, 2531 Jefferson Davis Hwy, Arlington, VA 22242-5160.

AMSC N/A

FSC 4730

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

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TABLE I. Reference data.

Equipment/Characteristic	Description
Fuel type	F-76 fuel per MIL-F-16884
Operating pressure	600 psi (MAX)
Temperature range	70 to 120°F
Piping connections	
Inlet and outlet	3-inch, class 600, ANSI 16.5 raised face flanges
Sump drain	1-inch, class 600, ANSI 16.5
Screen	0.007 slots equivalent or better than 80-mesh per linear inch
Pressure resistance	FCI 78-1
Flow capacity	80 gpm per ISA-S75.02
Shock resistance	MIL-S-901, grade A
Vibration resistance	MIL-STD-167, type 1

2.4 Screen. The screen shall be made of one unit. Screen shall be of the spiral wound "V" shape wire construction. All seam welds shall be continuous.

2.4.1 Screen strength test. The strainer screen shall be tested by applying a differential pressure across the screen equal to 100 percent of the specified strainer design pressure using water for a duration of 10 minutes. Differential pressure shall be applied in a rapid manner, one minute or less. Screen which distort, stretch, or exhibit other weaknesses shall be rejected.

2.5 Actuation. Each strainer screen shall be fitted with a shaft along its rotational axis, which penetrates the compartment cover through a watertight seal. The design shall incorporate a positive means of preventing stem ejection. Handwheel shall be sized and configured so that maximum required operating force is less than 50 pound.

2.6 Brush. The brush shall be aligned so that the screen can be turned in either direction without being damaged.

TABLE II. Materials required for strainers.

Part	Material	Applicable documents	Remarks
Housing	CRES	ASTM A 351	CF8M
Cover	Monel		N04400
Brush	Stainless steel	ASTM A 167	S30400
Threaded fasteners	Non-CRES	MS17829	
	Non-ferrous	ASTM F 593	
"O" rings	Fluorocarbon	MIL-R-83248/1	Type 1 Class 1
Screen	CRES plate	ASTM A 167	S31600

2.7 Covers. Compartment covers shall be flanged and attached to the body by bolts. Each cover shall be equipped with an anti-spray feature to deflect fluid spray in the event of a O-ring seal failure.

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2.8 Envelope dimensions. Envelope dimensions shall be in accordance with Table III.

TABLE III. Envelope dimensions.

Strainer size	Width	Flange to flange	Height	Screen removal length
3	10.00	14.75	18.25 <sup>1</sup>	8.50 (MAX)

Notes: 1. Height does not include drain valve.  
2. All dimension are in inches.

2.9 Functional performance. Unless otherwise specified (see 6.1), design flow capacity and design temperature shall be as specified in Table I.

2.9.1 Operational cycling tests. The strainer shall be tested for a total of 600 cycles at design pressure. At the completion of the 600 cycles, compliance with the required operating force of 50 pounds or less and zero leakage shall be demonstrated. Upon satisfactory completion of this test the unit shall be refurbished to new condition before being offered for delivery.

2.10 Workmanship. The strainer body and covers shall be of uniform quality and condition, free from blow holes, porosity, hard spots, shrinkage defects, cracks, and other defects. All surfaces shall be smooth and well cleaned. The inside surfaces of strainers shall be well cleaned and free from sharp edges.

### 3. REGULATORY REQUIREMENTS

3.1 Recovered materials. The offeror/contractor is encouraged to use recovered materials to maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR).

3.2 Prohibited material. Zinc or cadmium plating shall not be used on any part of the strainer.

3.3 Mercury exclusion. The strainer shall be free of mercury contamination. During the manufacturing process, tests, and examination, the product to be offered for acceptance shall not come in direct contact with mercury or any of its components, nor with any mercury containing device employing a single boundary of containment.

### 4. QUALITY ASSURANCE PROVISIONS

4.1 Product conformance. The products provided shall meet the salient characteristics of this commercial item description, conform to the producer's own drawings, specifications, standards, and quality assurance practices, and be the same production offered for sale in the commercial market. The government reserves the right to require proof of such conformance.

4.2 Additional inspection. Where other specifications form a part of this commercial item description, sampling, examination, and tests shall be conducted as required by the pertinent specification, unless otherwise specified in the contract or order (see 7.1).

### 5. PACKAGING

5.1 General requirement. Commercial packaging shall be in accordance with the requirements of ASTM D 3951.

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5.1.1 Container modification. Shipping containers exceeding 200 pounds gross weight shall be provided with a minimum of two, 3- by 4-inch nominal wood skids laid flat, or a skid- or sill-type base which will support the material and facilitate handling by mechanical handling equipment during shipment, stowage, and storage.

## 6. NOTES

6.1 Acquisition requirements. Acquisition documents must specify the following:

- (a) Title, number, and date of this commercial item description.
- (b) The required design flow capacity and clean pressure drop (see Table I).
- (c) Technical manuals and drawings required (see 6.3).
- (d) Whether repair parts are required (see 6.4.1).
- (e) Issue of DODISS to be cited in the solicitation, and if required, the specified issue of individual documents referenced (see 6.2.1.1).

6.2 Sources of documents.

6.2.1 Government documents. The following documents of the issue in effect on date of invitation for bids or request for proposal, form a part of the commercial item description to the extent specified.

6.2.1.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.1).

## SPECIFICATIONS

## DEPARTMENT OF DEFENSE

- MIL-S-901 - Shock Tests, H.I. (High-Impact); Shipboard Machinery, Equipment, & Systems, Requirements for.
- MIL-R-83248 - Rubber, Fluorocarbon Elastomer, High Temperature Fluid and Compression Set Resistant.
- MIL-R-83248/1 - Rubber Fluorocarbon Elastomer, High Temperature Fluid, and Compression Set Resistant (O-rings, Class 1, 75 Hardness).
- MS17829 - Nut, Self-Locking, Hexagon, Regular Height, 250 Degree F, (Non Metallic Insert) Non-Corrosion-Resistant Steel.

## STANDARDS

## DEPARTMENT OF DEFENSE

- MIL-STD-167 - Mechanical Vibrations of Shipboard Equipment (Type I - Environmental and Type II - Internally Induced).

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

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6.2.2 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 6.1).

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)  
B16.5 - Pipe Flanges and Flanged Fittings.

(Application for copies should be addressed to the American National Standards Institute, 1430 Broadway, New York, NY 10018.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)  
A 167 - Standard Specification for Stainless and Heat-Resisting Chromium-Nickel Steel Plate, Sheet and Strip.  
A 351 - Standard Specification for Castings Austenitic-Ferritic (Duplex), for Pressure-Containing Parts.  
D 3951 - Commercial Packaging, Practice for.  
F 593 - Standard Specification for Nonferrous Bolts, Hex Cap Screws, and Studs.

(Application for copies should be addressed to the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2859.)

FLUID CONTROL INSTITUTE (FCI)  
78-1 - Pressure Rating Standard for Pipeline Strainers Other Than "Y" Type.

(Application for copies should be addressed to the Fluid Control Institute, Inc., P.O. Box 3854, Tequesta, FL 33458.)

INSTRUMENT SOCIETY OF AMERICA (ISA)  
S75.02 - Control Valve Capacity Test Procedure.

(Application for copies should be addressed to the Instrument Society of America, 67 Alexander Dr., P.O. Box 12277, Research Triangle Park, NC 27709.)

(Non-Government standards and other publications are normally available from the organization that prepares or distributes the documents. These documents also may be available in or through libraries or other informational services.)

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

6.3 Technical manuals. The requirement for technical manuals should be considered when this specification is applied to a contract. If technical manuals are required, military specifications and standards which have been cleared and listed in DoD 5010.12-L (AMSDL) must be listed on a separate CDRL (DD Form 1423), included as an exhibit to the contract. The technical manuals must be acquired under a separate contract line item in the contract.

6.4 Ordering spare or repair parts. When ordering spare parts or repair parts for the equipment covered by this commercial item description, the contract should state that such spare parts and repair parts should meet the same requirements as the parts used in the manufacture of the equipment. Packaging for such parts should also be specified.

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6.4.1 Repair parts and repair parts boxes. Complete sets of repair screens for each type and class shall be furnished as follows:

- (a) One set for each of the eight initial strainers required.
- (b) One set for each two additional strainers required.
- (c) Cover O-rings - four for every strainer supplied.
- (d) Other O-rings, and seals - one set for every eight strainers supplied.

When specified (see 6.1) items (c) and (d) shall be furnished in repair boxes.

6.5 Preinstallation instruction. A set of instructions covering the preinstallation of the equipment should be furnished. Instructions should include all information necessary to return the unit to active status, such as, but not limited to: the addition of lubricants prior to operation, flushing of lines, removal of greaseproof barrier and the location of detached components. Instructions should be packaged in a transparent waterproof plastic bag. Closure should be by heat sealing. The shipping container in which the instructions are packed should be so marked.

CIVIL AGENCY COORDINATING ACTIVITY:  
GSA-FSS

MILITARY INTERESTS:

Custodians:

Army - MR  
Navy - SH  
Air Force - 99

Preparing activity:

Navy - SH  
(Project 4730-0463)

Review activities:

Navy - SA  
Air Force - 82  
DLA-CS

## 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

A-A-59009

2. DOCUMENT DATE (YYMMDD)

970722

3. DOCUMENT TITLE

**STRAINERS, SEDIMENT, PIPELINE, SELF-CLEANING**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)*

7. DATE SUBMITTED

*(YYMMDD)*

8. PREPARING ACTIVITY

a. NAME

POC CHRIS GALECKI

b. TELEPHONE (*Include Area Code*)

(1) Commercial

(215) 897-7239

(2) AUTOVON

443-7239

c. ADDRESS (*Include Zip Code*)

COMMANDER, SEA 03R42  
 NAVAL SEA SYSTEMS COMMAND  
 2531 JEFFERSON DAVIS HWY  
 ARLINGTON, VA 22242-5160

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

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 5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466  
 Telephone (703) 758-2340 AUTOVON 289-2340