INCH-POUND

A-A-59000
9 February 1995

COMMERCIAL ITEM DESCRIPTION

STRAINERS, SEDIMENT, PIPELINE, SELF-CLEANING (MANUAL OR AUTOMATED)

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 both manual and automated self-cleaning pipeline sediment strainers.

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

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, Attn: SEA 03R42, 2531 Jefferson Davis Hwy, Arlington, VA 22242-5160.

AMSC N/A FSC 4730

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

2. CLASSIFICATION

2.1 Classification. Self-cleaning strainers shall be of the following types, classes, styles, and sizes as specified (see 7.1):

Type I - Manual hand wheel actuation.
Type II - Electric motor actuation.

Class 150 - 150 pounds per square inch gage (psig) pressure rating.
Class 250 - 250 psig pressure rating.

Style 1 - One screen, angled flow, sizes 2, 2½, and 3 inch.
Style 2 - Two screens, inline flow, sizes 2½, 3, 4, 6, 8, 10, and 12 inch.
Style 3 - Four screens, inline flow, sizes 14 and 16 inch.
Style 4 - Six screens, inline flow, size 20 inch.

3. SALIENT CHARACTERISTICS

3.1 Codes and standards. Strainer shall comply with the applicable requirements of FCI Standard 78-1 and ASME Boiler and Pressure Vessel Code Section VIII.

3.2 Design and construction. Each strainer shall be of the type, class, style, and size as specified (see 2.1). Each strainer shall contain one or more rotatable screens and fixed scraper bars for the purpose of cleaning the screen without shutting down operation of the system. The sump below the screen(s) shall be fitted with a drain outlet.

3.3 Material. The material requirements for all strainer components shall be in accordance with Table I.

3.4 Screen. The screen shall be made of one unit. Screen shall be of the perforated plate construction. All seam welds shall be continuous. Plates shall be not less than 18 gauge. The total clear/open area of the perforations shall be sufficient to allow a minimum pressure drop as shown by table II. Unless otherwise specified (see 7.1), perforated holes are sized as specified by 7.7.3).

3.5 Actuation. Each strainer screen shall be fitted with a shaft along its rotational axis, which penetrates the compartment cover through a watertight seal. Outside the housing, the shaft shall be capable of being fitted with either a manual hand wheel (Type I) or an electric motor actuator (Type II).

3.5.1 Manual actuation (Type I Strainer). Each manually actuated handwheel shall be sized and configured so that maximum required operating force is less than 50 pound (lbs). (See 5.7.2)

3.5.2 Electric Motor Actuation (Type II Strainer).

3.5.2.1 Motor. Each motor shall be in accordance with MIL-M-17059. Motors shall be Service A with a Navy sealed insulation system in accordance with the requirements of MIL-STD-2037. For certain hazard areas, such as installation in a JP-5 pump room, the motor shall be explosion proof.

Table I. Materials Required for Strainers.

Part	Material	Applicable Documents	Remarks
Bodies, covers (parts in contact with sea water)	Copper-nickel alloy	ASTM B 369	C96400
	Aluminum bronze	ASTM B 505	C95800
Collar, handwheel operators, (parts not in contact with sea water)	Cast tin bronze	ASTM B 61	C92200
	CRES	ASTM A 276	C31600
Scraper	Bronze	ASTM B 584	C86500
Threaded fasteners	NiCu alloy	ASTM F 467	N04400, N04405
		ASTM F 468	
"O" rings	Fluorocarbon	MIL-R-83248/1	For all except threaded bosses
		MIL-R-83248/2	Threaded bosses
Screen	CuNi plate	ASTM B 122	C71500
	NiCu plate	ASTM B 127	N04400, N04405

3.5.2.2 Control panel. The strainer cleaning cycle shall be controlled by an electric control panel furnished by the strainer manufacturer. The panel shall include all motor starters, control relays, fuse and overload protection, control transformer, and operation lights. The strainer control panel shall be equipped with a programmable solid state timer to initiate cleaning cycles at predetermined intervals, a hand/off/automatic selector switch, and a push button for manual starting/stopping. An adjustable cycle duration timer shall also be furnished to allow for control of the cleaning cycle duration. An adjustable pressure differential switch shall be mounted on the strainer and shall be used to initiate a cleaning cycle if the pressure drop reaches a predetermined set point. The control panel shall include controls for actuating the

flush valve, which is separately furnished and installed in the drain line. It shall be possible to manually actuate the flush valve by itself, or automatically via electrical interlock with the strainer screen motor. The panel shall be constructed in accordance with the requirements of MIL-M-38510 and MIL-STD-1686 and shall be packaged for shipment in accordance with the requirements of MIL-E-17555.

3.6 Scraper bars. Each scraper bar in style 1 strainers size 2-1/2 inch and below, and in style 2 strainers size 3 inch and below, shall be cast as an integral part of the body and shall not be adjustable. For all other strainers, the scraper bars shall be adjustable. For style 1, size 3 inch strainers, scraper blade adjustment can only be accomplished via removal of the screen assembly. The scraper blades in all strainers size 4 inch and above shall be capable of inspection and adjustment via a removable watertight inspection cover on the strainer body, without having to further disassemble the strainer. Each scraper bar shall be aligned so that the screen can be turned in either direction without being damaged.

3.7 Covers.

3.7.1 Compartment covers. Compartment covers shall be flanged and attached to the body by bolts. Each cover shall effect a positive seal on an O-ring recessed in the cover plate.

3.7.2 Blade inspection/adjustment covers. Blade inspection/adjustment covers on strainer sizes 5 inches and above shall be bolted to flanges on the strainer body. An O-ring recessed in the cover shall be provided to form a watertight seal. For size 4 inch and below, the cover shall be a straight thread plug and sealed via an O-ring.

3.8 Piping connections. Piping connections for 3.8.1, 3.8.2, and 3.8.3 shall be either welded, flanged, or straight thread. Welded connections shall be made in accordance with the requirements of MIL-STD-278. Flanges shall be in accordance with the requirements of MIL-F-20042 except that they shall be integrally cast with the body as applicable to the working pressure. Castings shall also be in accordance with the requirements of MIL-STD-278. Tapered threaded connections shall not be allowed.

3.8.1 Inlet and outlet connections. Inlet and outlet connections of each strainer shall be the same type and size as specified (see 2.1). Both inlet and outlet connections shall be flanged. Flange faces shall have concentric or phonographic circular finish.

3.8.2 Valved gage connections. When specified (see 7.1), valved gage connections shall be included at both the inlet and outlet. Straight threaded union or boss connections shall be in accordance with SAE J 1926.

3.8.3 Drain connection. The sump below the screen(s) shall be fitted with a flanged drain outlet on pipe sizes 4 inch and above. Sump outlets on sizes 3 inch and below shall have a straight thread connection in accordance with SAE J 1926.

3.9 Functional performance. Unless otherwise specified (see 7.1), design flow capacity, design pressure, design temperature, and clean pressure drop shall be as specified in table II.

Table II. Functional performance.

Size	Screens number	Clean pressure (psi)/flow rate (gpm)		(Temperature F degrees
2	1	1.65	100	150
2-1/2	1	1.65	100	150
3	1	1.65	160	150
2-1/2	2	1.65	165	150
3	2	1.65	250	150
4	2	1.65	390	150
6	2	1.65	900	150
8	2	1.65	1500	150
10	2	1.65	2150	150
12	2	1.65	2750	150
14	4	1.65	4250	150
16	4	1.65	5500	150
20	6	1.65	8750	150

3.10 Envelope dimensions. Envelope dimensions (inches) shall be in accordance with table III.

Table III. Envelope dimensions.

Size	Screens number	Manual actuation			Motor actuation			Screen removal clearance
		Length	Width	Height	Length	Width	Height	
2	1	7.00	13.00	11.00	---	---	---	13.50
2-1/2	1	7.00	14.25	12.00	---	---	---	15.50
3	1	10.00	15.75	14.00	19.50	12.00	22.25	17.25
2-1/2	2	6.25	21.75	12.50	---	---	---	15.50
3	2	8.50	24.00	13.75	---	---	---	17.25
4	2	9.50	28.50	16.00	34.00	33.00	16.00	21.00
6	2	14.00	35.50	20.00	41.00	35.00	20.00	27.00
8	2	16.00	44.00	24.00	47.00	38.00	24.00	33.00
10	2	21.00	49.50	27.50	52.00	38.00	27.50	37.00
12	2	23.00	54.50	31.75	57.50	39.00	31.75	42.00
14	4	62.00	62.00	29.75	54.00	54.00	40.00	38.00
16	4	69.50	69.50	32.75	68.00	68.00	43.00	42.00
20	6	74.00	74.00	39.50	66.00	66.00	49.00	43.00

3.11 Identification plates. Identification plates shall be provided in accordance with the requirements of MIL-P-15024 and MIL-P-15024/5, and shall include the following:

(a) Commercial Item Description (CID) number.
(b) Type, class, and style.
(c) Manufacturer.
(d) Contract Number.
(e) The nominal pipe size of the inlet and outlet connections.
(f) Design pressure.
(g) Screen perforated hole size.

3.11.1 Part numbering of interchangeable parts. The manufacturer's part number and drawing number shall be the same. All fasteners shall be identified by an industry part number which identifies both size and material.

3.12 Mechanical shock. The complete strainer assembly shall be capable of withstanding the high impact shock test specified in 5.7.5.

3.13 Welding and allied processes. Fabrication welding and inspection, and casting inspection and repair shall be in accordance with the requirements of MIL-STD-278, class P1.

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

4. REGULATORY REQUIREMENTS

4.1 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 the use of used or rebuilt products is allowed under this specification unless otherwise specifically specified.

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

4.3 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.

5. QUALITY ASSURANCE PROVISIONS

5.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, 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 specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

5.1.1 Responsibility for compliance. All items shall meet all requirements of sections 3 and 6. 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 the 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 manufacturing 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.

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

(a) First article inspection (see 5.3)
(b) Quality conformance inspection (see 5.4)

5.3 First article inspection. First article inspection shall consist of one strainer of each size, type, class, and identical design undergoing the examinations and tests as specified in Table IV.

5.4 Quality conformance inspection. All assembled strainers shall undergo testing as specified in Table IV. Visual and dimensional examination shall consist of selecting strainer(s) in accordance with 5.5 and inspecting them in accordance with 5.6.

5.5 Sampling for visual and dimensional examination.

5.5.1 Lot. For sampling, a lot shall consist of strainers of the same type, class, style, size, and identical design offered for delivery at one time.

5.5.2 Sampling. As a minimum, the contractor shall select a sample quantity of strainers in accordance with Table V and inspect them in accordance with 5.6. If one or more defects are found in any sample, the entire lot shall be rejected. The contractor has the option of screening 100 percent of the rejected lot for the defective characteristic(s) or providing a new lot which shall be inspected in accordance with the sampling plan.

Table IV. First article and quality conformance inspection.

Examinations and Tests	First Article	Quality Conformance
POST-FOUNDRY PRODUCTION:		
Pilot pressure boundary casting	5.7.8	---
PRODUCTION:		
Examination	5.6	5.6
Shock	5.7.5	---
Hydrostatic	5.7.1	5.7.1
Torque	5.7.2	5.7.2
Operating capacity	5.7.3	---
Pressure drop	5.7.4	---
Screen strength test	5.7.6	---
Electric motor test	5.7.9	---
Operational cycling	5.7.10	---
Non-destructive	5.7.7	5.7.7
Additional inspection	5.8	5.8

Table V. Sampling for visual and dimensional examination.

Lot Size Number of Strainers	Sample Size
5 and under	All
6 to 8	5
9 to 15	7
16 to 25	10
26 to 40	15
41 to 65	25
66 to 110	35
111 to 180	50
181 to 300	75

5.6 Visual and dimensional examination. The strainers shall be examined to verify conformance to the requirements of Table VI. Any strainers having one or more defects shall be rejected.

Table VI. Visual and dimensional inspection.

Inspection	Paragraph
Screen construction	3.4
Scraper bar(s)	3.6
Covers	3.7
Piping connections	3.8
Identification plate	3.11
Quality of workmanship	3.14

5.7 Tests.

5.7.1 Hydrostatic pressure test for strength and porosity. The test shall be an internal pressure test with water. Each assembled strainer shall be tested to a pressure equal to 150 percent of the design pressure for a duration of 60 minutes. Any strainers not maintaining zero leakage shall be rejected.

5.7.2 Torque test. While conducting the leakage test in 5.7.1, the torque required to turn each screen shall be determined by multiplying the necessary turning force applied to the radius of the handwheel by the distance from the center of the wheel to the force's point of application. Strainers whose basket turning force torque exceeds 50 pounds shall be rejected.

5.7.3 Flow capacity. Unless otherwise specified (see 7.1), strainers shall be tested in accordance with ISA-S75.02 for compliance with table II. Strainers who fail to meet the performance requirments of table II shall be rejected.

5.7.4 Pressure drop. Unless otherwise specified (see 7.1), strainers shall be tested for compliance with table II clean pressure drop across the strainer at the specified design flow capacity and pressure. Strainers exceeding specified clean pressure drop shall be rejected.

5.7.5 Mechanical shock test. The strainer shall be tested for compliance with high impact shock resistance in accordance with the requirements of MIL-S-901 Grade A at a laboratory satisfactory to the command or agency concerned. After shock test, the screens shall be subjected to and pass the torque test in accordance with 5.7.2.

5.7.6 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 for the applicable type and class, 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.

5.7.7 Non-destructive tests. The strainer and its components shall have their welds and castings surfaces inspected in accordance with the requirements of MIL-STD-278. Welds or castings not in accordance with the requirements of MIL-STD-278 shall be rejected.

5.7.8 Pilot pressure boundary casting test. Prior to production of casting lots, each foundry must establish foundry methods and techniques, produce one casting and subject it to radiographic and dye penetrant testing in accordance with the requirements of MIL-STD-278. The results of these tests shall be furnished as specified. Where the foundry has previously furnished a casting of the same type, class, size, and identical design which was accepted by the command or agency concerned, a test report of the test conducted and approval letter will be acceptable.

5.7.9 Electric motor test. Each screen turning and flush valve actuation motor shall be tested in accordance with the requirements of MIL-M-17059.

5.7.10 Operational cycling tests. The strainer shall be tested for a total of 600 cycles at design pressure and flow rates. At the completion of the 600 cycles, compliance with the requirements of 3.5.1 as specified by 5.7.2, 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.

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

5.9 Inspection of packaging. Sample packages and the inspection of the packaging-preservation, packing, and marking for shipment and storage shall be in accordance with the requirements of section 6 and the documents specified therein.

6. PACKAGING

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

6.1.1 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.

7. NOTES

7.1 Acquisition requirements. Acquisition documents must specify the following.

(a) Title, number, and date of this commercial item description.
(b) Type, class, and style required (see 2.1).
(c) Strainer screen design and characteristics (see 3.4).
(d) Motor design is required (see 3.5.2.1).
(e) Gage connections are required at inlet/outlet (see 3.8.2).
(f) The required design flow capacity, pressure, temperature, and clean pressure drop (see 3.9, 5.7.3 and 5.7.4).
(g) Technical manuals and drawings required (see 7.3).
(h) Whether repair parts are required (see 7.5.1).
(i) Issue of DODISS to be cited in the solicitation, and if required, the specified issue of individual documents referenced (7.2.1.1).

7.2 Sources of documents.

7.2.1 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 specification to the extent specified.

7.2.1.1 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 7.1).

SPECIFICATIONS

MILITARY

MIL-S-901 - Shock Tests, H.I. (High-Impact); Shipboard Machinery, Equipment, & Systems, Requirements for.
MIL-P-15024 - Plates, Tags, and Bands for Identification of Equipment.
MIL-P-15024/5 - Plates, Identification.
MIL-M-17059 - Motors, 60-Cycle, Alternating Current, Fractional H.P., Shipboard Use.
MIL-E-17555 - Electronic and Electrical Equipment Accessories and Repair Parts, Packaging and Packing of.
MIL-F-20042 - Flanges, Pipe, Bronze (Silver Brazing).
MIL-M-38510 - Microcircuits, General Specification 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).
MIL-R-83248/2 - Rubber Fluorocarbon Elastomer, High Temperature Fluid, and Compression Set Resistant (O-rings, Class 2, 60 Hardness).

STANDARDS

MILITARY

MIL-STD-278 - Welding and Casting Standard.
MIL-STD-1686 - Electrostatic Discharge Control Program for Protection of Electrical and Electronic Parts, Assemblies, and Equipment (Excluding Electrically Initiated Explosive Devices) Metric.
MIL-STD-2037 - Electric Motor Sealed Insulation Systems, Procedure to Obtain Certification for.

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Naval Publication and Forms Center, (Attn: NPODS) 5801 Tabor Avenue, Philadelphia, PA 19120-5099.)

7.2.2 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issue 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 7.1).

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

Boiler and Pressure Vessel Code - Section VIII - Pressure Vessels.

(Application for copies should be addressed to the American Society of Mechanical Engineers, 345 East 47th St., New York, NY 10017.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

A 276 - Standard Specification for Stainless and Heat-Resisting Steel Bars and Shapes.
B 61 - Standard Specification for Steam or Valve Bronze Castings
B 122 - Standard Specification for Copper-Nickel-Tin Alloy, Copper Nickel-Zinc Alloy (Nickel Silver), and Copper-Nickel Alloy Plate, Sheet, Strip and Rolled Bar.
B 127 - Standard Specification for Nickel-Copper Alloy (UNS N04400) Plate, Sheet, and Strip.
B 369 - Copper Nickel Alloy Castings.
B 505 - Standard Specification for Copper-Base Alloy Continuous Castings.
B 584 - Standard Specification for Copper Alloy Sand Castings for General Applications.
D 3951 - Commercial Packaging, Practice for.
F 467 - Standard Specification for Nonferrous Nuts for General Use.
F 468 - Standard Specification for Nonferrous Bolts, Hex Cap Screws, and Studs.

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

FLUID CONTROL INSTITUTE (FCI)

78-1 - Pressure Rating Standard for Pipeline Strainers Other the "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.)

SOCIETY OF AUTOMOTIVE ENGINEERS (SAE)

J 1926 - Specification for Straight Thread O-ring Boss Port.

(Application for copies should be addressed to the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096-0001.)

(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.)

7.2.3 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.

7.3 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.

7.3.1 Technical repair standard (TRS). A technical repair standard should be prepared upon initial introduction of new equipment or introduction of equipment that has an approved TRS if major or minor configuration changes have been approved that would effect the adequacy of the standard for use in equipment repairs.

7.3.1.1 TRS technical content. A TRS should include sufficient technical details to enable a repair, maintenance, or overhaul activity to restore the equipment dimensions, clearances, and tolerances such that the equipment is capable of performing its function as originally specified and is capable of being logistically supported by the DoD logistics support system.

7.3.2 Additional training aids. When specified (see 7.1), training aids such as audio or video tapes which supplements normal operations, trouble shooting and assembly/disassembly procedures of the unit should be provided. Additional documents or training aids must be acquired under a separate line item in the contract.

7.4 First article. When a first article inspection is required, the items shall be a first article sample. The first article shall consist of the units specified. 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 and 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.

7.5 Ordering spare or repair parts. When ordering spare parts or repair parts for the equipment covered by this specification, the contract should state that such spare parts and repair parts should meet the same requirements and first article provisions as the parts used in the manufacture of the equipment. Packaging for such parts should also be specified.

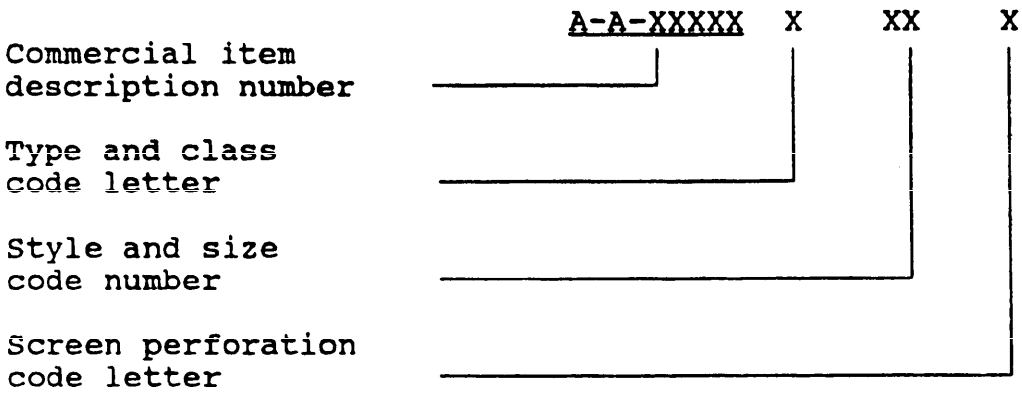
7.5.1 Repair parts and repair parts boxes. Complete sets of repair screens for each type and class shall be furnished as follows:

(a) One set for each of the ten 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 ten strainers supplied.

When specified (see 7.1) items (c) and (d) shall be furnished in repair boxes.

7.6 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, minimum 4 mils thick. Closure should be by heat sealing. The shipping container in which the instructions are packed should be so marked.

7.7 Part number. The part number is a definitive part number which corresponds to the type, class, style, size, style and screen performation of strainers covered by this commercial item description. The commercial item description number, the type and class code letter, the style and size code numbers and screen perforation code letter are combined to form a definitive part number. Part numbers for the strainers are assigned as follows:



7.7.2 Type and class. The type and class of strainer (see 1.2) are identified by a single letter (see Table VI).

Table VI. Code letter to type and class.

	Type I	Type II
Class 150	A	B
Class 250	C	D

7.7.3 Style and size. The style and size of strainer (see 1.2) are identified by a double digit number (see Table VII).

Table VII. Code number to style and size.

	Style			
Size	1	2	3	4
2	01	-	-	-
2-1/2	02	04	-	-
3	03	05	-	-
4	-	06	-	-
5	-	-	-	-
6	-	07	-	-
8	-	08	-	-
10	-	09	-	-
12	-	10	-	-
14	-	-	11	-
16	-	-	12	-
20	-	-	-	13

7.7.4 Screen perforation. The screen perforation of strainer (see 1.2) are identified by a single letter (see Table VIII).

Table VIII Code letter for screen perforation

PERFORATED SCREENS		
Size	System particle size tolerance range	Code
1/4"	.47 to .62	A
3/16"	.31 to .47	B
1/8"	.24 to .31	C
3/32"	.15 to .24	D
1/16"	.09 to .15	E
1/32"	.06 to .09	F

7.8 Subject term (key word) listing.

Automated
Screen
Cleaning
Filtration
Fittings
Manual
Motor
Sea water

MILITARY INTERESTS:

Custodians:
Army - AR
Navy - SH
Air Force - 16

Review activities:
Army - AT, CR, ME, MR
Navy - EC, OS, YD, CG, MC
Air Force - 11, 85, 90
DLA - CS

Civil agency coordinating activities: (where appropriate)
AGR - APS
HHS - FEC

PREPARING ACTIVITY:

Preparing activity:
Navy - SH
(Project 4730-0282)