

| INCH-POUND |

MIL-P-17608D(YD)

5 June 1991

SUPERSEDING

MIL-P-17608C(YD)

15 April 1983

MILITARY SPECIFICATION

PUMPS, ROTARY, POWER-DRIVEN, VISCOUS LIQUIDS

This specification is approved for use by the Naval Facilities Engineering 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 document covers horizontal and vertical, electric-motor- and steam-turbine-driven, positive displacement, rotary pumps with capacities up to 3,000 gallons per minute (gpm) and 125 pounds per square inch gage (psig) pressure for handling fuel oils, lubricating oils, and other viscous liquids.

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications. The following specifications 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 specification (see 6.2).

SPECIFICATION

MILITARY

MIL-P-10603 - Pumps and Pumping Units, Centrifugal, Power-Driven, for Water; Packaging of.

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| Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commanding Officer (Code 156), Naval Construction Battalion Center, Port Hueneme, CA 93043, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter. |
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AMSC N/A

FSC 4320

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

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(Unless otherwise indicated, copies of specifications are available from Standardization Documents Order Desk, Bldg. 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

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 specified 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 PETROLEUM INSTITUTE (API)

API STD 610 - Centrifugal Pumps for General Refinery Service.

(Application for copies should be addressed to the American Petroleum Institute, 1220 L Street, N.W., Washington, DC 20005.)

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

- ASME B 1.2 - Gages and Gaging for Unified Inch Screw Threads.
- ASME B 15.1 - Safety Standard for Mechanical Power Transmission Apparatus.
- ASME B 16.1 - Cast Iron Pipe Flanges and Flanged Fittings.
- ASME B 16.5 - Pipe Flanges and Flanged Fittings.
- ASME B 40.1 - Gauges - Pressure Indicating Dial Type - Elastic Element.
- ASME B 73.1M - Horizontal End Suction Centrifugal Pumps for Chemical Process.

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

ASTM

- ASTM A 27/A27M - Steel Castings, Carbon for General Applications.
- ASTM A 278 - Gray Iron Castings for Pressure-Containing Parts for Temperatures up to 650 Degrees F.
- ASTM A 395 - Ferritic Ductile Iron Pressure-Retaining Castings for Use at Elevated Temperatures.

(Application for copies should be addressed to the ASTM, 1916 Race Street, Philadelphia, PA 19103.)

HYDRAULIC INSTITUTE

Standards of Hydraulic Institute.

(Application for copies should be addressed to the Hydraulic Institute, 712 Lakewood Center North, 14600 Detroit Ave., Cleveland, OH 44107.)

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NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

NEMA ICS 2 - Standards for Industrial Control Devices, Controllers, and Assemblies.

NEMA MG 1 - Motors and Generators.

NEMA SM 23 - Steam Turbines for Mechanical Drive Service.

(Application for copies should be addressed to the National Electrical Manufacturers Association, 2101 L Street, N.W., Washington, DC 20037.)

SOCIETY OF AUTOMOTIVE ENGINEERS, INC. (SAE)

SAE J534 - Lubrication Fittings.

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

(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 Description. The pump unit shall include a positive displacement rotary pump and driver mounted on a common bedplate. The rotary pump shall consist of a fixed casing containing gears, cams, screws, vanes, plungers, or similar elements actuated by rotation of the drive shaft.

3.2 First article. When specified (see 6.2), the contractor shall furnish a unit for first article inspection and approval (see 4.2.1 and 6.5).

3.3 Standard commercial product. The unit shall, as a minimum, be in accordance with the requirements of this specification and may be the manufacturer's standard commercial product. Additional or better features which are not specifically prohibited by this specification but which are a part of the manufacturer's standard commercial product, may be included in the unit being furnished. A standard commercial product is a product which has been sold or is being currently offered for sale on the commercial market through advertisements of manufacturer's catalogs, or brochures, and represents the latest production model.

* 3.3.1 System of measurement. The dimensions used in this specification are not intended to preclude the use of metric system of measurement in the fabrication and production of the material, individual parts, and the finished product, provided form, fit, and function requirements are satisfied.

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* 3.4 Materials. Materials used shall be free from defects which would adversely affect the performance or maintainability of individual components or of the overall assembly. Materials not specified herein shall be of the same quality used for the intended purpose in commercial practice and shall be subject to all provisions of this specification. Material and components, parts, and accessories shall be compatible with liquid hydrocarbon products including aviation gasoline, jet aircraft engine fuels, fuel oils, kerosene, and diesel oils in accordance with ASME B 73.1M or API STD 610, as applicable. Unless otherwise specified herein, all equipment, material, and articles incorporated in the work covered by this specification are to be new.

3.5 Interchangeability. All units of the same classification furnished with similar options under a specific contract shall be identical to the extent necessary to insure interchangeability of component parts, assemblies, accessories, and spare parts.

3.6 Pump design and performance. The pumps shall be heavy-duty, positive displacement, rotary pumps. Pumps shall be designed for the specified capacity, total dynamic head, and type and viscosity of the fluid to be handled (see 6.2). The pumps shall be capable of continuously delivering its rated capacity at a pump efficiency of not less than 50 percent. The pumps shall discharge a steady continuous flow. Air chambers to reduce pulsations shall not be permitted. The size of the pump and the operating speed shall be as recommended by the manufacturer for the specified operating conditions and viscosity. When specified (see 6.1.1 and 6.2), the pump casing or the stuffing box, or both shall be jacketed to permit transfer of heat from hot oil, hot water, or steam to the pumped fluid. Unless otherwise specified (see 6.2), the jacket shall be designed to withstand a saturated steam pressure of 125 psig at 350 degrees Fahrenheit (°F).

3.6.1 Pump casing. The pump casing shall have properties at least equal to that of ASTM A 278, class 25 cast iron; ASTM A 395 ductile iron; or ASTM A 27/A27M grade 65-35 cast steel, and shall be capable of withstanding a hydrostatic pressure of 1.5 times the working pressure. All suction and discharge connections 2 inches nominal pipe size and above shall be integral with the casing and shall be flanged, faced, and drilled in accordance with ASME B 16.1, class 125 cast iron flanges. Cast iron companion flanges, ASME B 16.1, class 125, or adapters threaded in accordance with ASME B 1.2 shall be bolted to the casing flanges or reducers and be suitably gasketed. Suction and discharge connections less than 2 inch nominal pipe size shall be threaded in accordance with ASME B 1.2, taper pipe threads. When specified (see 6.2), reducers conforming to ASME B 16.5 shall be furnished to meet required connection sizes. When specified (see 6.2), casings shall be furnished with renewable liners except for screw type rotary pumps. The casing shall have tapped connections for draining. Bronze valves or cocks shall be furnished for the drains.

3.6.2 Rotating elements. Rotating elements shall be gears, cams, screws, vanes, plungers, or similar elements actuated by rotation of the drive shaft. Rotating elements shall be of close-grained cast iron, bronze, hardened carbon steel, hardened alloy steel, synthetic material, or combinations thereof, suitable for the intended service. Means shall be provided to maintain axial hydraulic balance during pump operation in accordance with good commercial practice. The assembly shall not develop a critical speed in the range

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extending from a speed 25 percent below the lowest operating speed to a speed 25 percent above the highest operating speed. The pump and driver, as mounted on the bedplate, shall give a double amplitude vibrometer reading of less than 0.005 inch when running at any speed in the operating range. Timing gears shall be used on lobe pumps over 300 gpm capacity and on gear pumps which have pumping gears not designed to carry the load.

3.6.3 Pump shaft. The pump shaft shall be the manufacturer's standard design. Sections of the shaft passing through stuffing boxes shall be hardfaced or hardened when a corrosive or abrasive fluid is to be handled.

3.6.4 Shaft seal. The shaft seal may either be a positive drive mechanical packless-type or a conventional fiber ring-type packing designed for the required service. If lubrication is required, suitable fittings shall be furnished.

3.6.5 Bearings. Except as otherwise specified herein, the pump shaft shall be supported by two bearing of either the sleeve-type or the antifriction type. When the fluid being pumped is abrasive or corrosive, bearing shall be sealed from the pumped fluid and shall be lubricated separately. Overhung pumps having both bearing on one side shall be equipped with a large diameter shaft and extra-heavy duty bearings an ample distance apart to limit the misalignment or deflection of rotating elements to 0.002 inch or less when operating at maximum load. Bearing will not be required on screw-type pumps in which the rotor housings (case liners) serve as a journal bearing for the main power rotor and the idler rotors except when the main shaft is subjected to overhung loading from V-belts or chain drives.

3.6.6 Relief valve. A pressure relief valve designed to protect the pump from discharge overpressures exceeding an allowable safe pressure rise shall be furnished with each pump. The valve shall be integral with or attachable to the pump casing in accordance with the manufacturer's standard practice. The valve shall attain full relieving capacity at a pressure not exceeding 125 percent of the maximum rated outlet working pressure.

3.7 Flexible coupling. Except for small, close-coupled models, a flexible coupling suitable for its intended purpose shall connect the pump to the driver or reduction gear.

3.8 Reduction gears. When furnished, reduction gears shall be machine cut and shall run in oil in a sealed weatherproof case. The gear unit shall have a minimum efficiency of 96 percent.

3.9 Pressure and vacuum gages. A compound gage reading from 0 to 30 inches of mercury vacuum and 0 to 150 psig shall be furnished for the pump intake. A pressure gage in a range of 0 to 200 psig shall be furnished for the pump discharge. Both gages shall be furnished with pulsation dampeners and gage cocks. Dials shall have minimum nominal diameter of not less than 2.5 inches. Gages shall be of the Bourdon-type and shall conform to the requirements of ASME B 40.1.

3.10 Pump driver. The pump driver shall be either an electric motor or a steam turbine, as specified (see 6.2).

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3.10.1 Electric motor. Unless otherwise specified (see 6.2), electric motors shall be designed to operate on 208 volt, 3 phase, 60 Hertz alternating current. Electric motors shall conform to NEMA MG 1, and shall be rated for continuous duty with starting torque and speed rating suitable for the application. Electric motors shall have a horsepower (hp) rating adequate for operation of the specified pump without exceeding the allowable temperature rise. The hp rating shall not be less than the maximum brake hp requirement of the pump under any specified condition of operation.

3.10.1.1 Motor controller. Unless otherwise specified (see 6.2), a motor controller in accordance with NEMA ICS 2, general purpose, class A, with a type I enclosure shall be furnished. The controller shall be equipped with a manually operated on-off control and thermal overload protection. The controller characteristics shall be based on the intended application and shall be of the type normally provided by the manufacturer for the required service.

3.10.2 Steam turbines. Steam turbines shall conform to NEMA SM 23. When provided with steam at the specified inlet temperature and inlet and outlet pressures (see 6.2), each turbine shall develop ample power at the proper speeds to drive its pump efficiently under all normal conditions of pump loading. The speed regulating governor shall be of the constant pressure type or of the excess pressure type, as specified (see 6.2). The overspeed governor shall limit the turbine speed to within 115 percent of rated speed.

3.11 Chain and belt drive. When belt-driven pumps are furnished, a multiple V-belt drive capable of transmitting not less than 125 percent of this rated hp of the driver shall be furnished. When specified (see 6.2), dual drive and driven pulleys and an idler pulley shall be furnished to afford a quick change of belts and speed ratio when heavy fluids are pumped. The belts shall be standard industrial belts. The pitch diameter, and center-to-center distance of the sheaves shall be as recommended by the belt manufacturer for the intended application. When chain-driven pumps are furnished, a multiple roller or silent chain drive capable of transmitting not less than 125 percent of the rated hp of the drive shall be furnished in accordance with manufacturer's standard practice. Silent chains shall run in oil in a sealed weatherproof case.

3.12 Bedplate. Each pump and driver, and reduction gears when furnished, shall be bolted to a common bedplate of heavy cast iron or fabricated steel designed to withstand strains and to maintain pump, gears, and driver in alignment. The upper surfaces for mounting pumps, gears, and drivers shall be parallel to each other. The bedplate shall have a minimum of four bolt holes and a sufficient number of grouting holes for installation on a concrete floor. There shall be a continuous drip channel around the four sides and a tapped drain connection. When pump sizes exceed 500 gpm, provisions shall be made for doweling both pump and driver after installation.

3.13 Safety guards. Chain drives, belt drives, roller chains, sprockets, flexible couplings, and similar mechanical power-transmission apparatus shall be enclosed by safety guards in accordance with ASME B 15.1.

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3.14 Lubrication. Unless otherwise specified (see 6.2), means for lubrication shall be in accordance with the manufacturer's standard practice. The lubricating points shall be easily visible and accessible. Hydraulic lubrication fittings shall be in accordance with SAE J534. Where use of high-pressure lubricating equipment, 1,000 pound-force per square inch or higher, will damage grease seals or other parts, a suitable warning shall be affixed to the equipment in a conspicuous location.

3.14.1 Lubricants. The equipment shall be designed to operate efficiently and satisfactorily when lubricated with standard military lubricants.

3.15 Cleaning, treatment, and painting. Surfaces normally painted in good commercial practice shall be cleaned, treated, and painted as specified herein. Surfaces to be painted shall be cleaned and dried to insure that they are free from contaminants such as oil, grease, welding slag and spatter, loose mill scale, water, dirt, corrosion product, or any other contaminating substances. As soon as practicable after cleaning, and before any corrosion products or other contamination can result, the surfaces shall be prepared or treated to insure the adhesion of the coating system. The painting shall consist of at least one coat of primer and one finish coat. The primer shall be applied to a clean dry surface as soon as practicable after cleaning and treating. Painting shall be with manufacturer's current materials according to manufacturer's current processes and the total dry film thickness shall be not less than 2.5 mils over the entire surface. The paint shall be free from runs, sags, orange peel, or other defects.

* 3.16 Dissimilar metals. Metals dissimilar with respect to the galvanic scale shall not be used unless separated by an insulating material which will avoid electrolytic corrosion.

3.17 Workmanship.

3.17.1 Steel fabrication. The steel used in fabrication shall be free from kinks, sharp bends, and other conditions which would be deleterious to the finished product. Manufacturing processes shall not reduce the strength of the steel to a value less than intended by the design. Manufacturing processes shall be done neatly and accurately. All bends shall be made by controlled means to insure uniformity of size and shape.

3.17.2 Riveted connections. Rivet holes shall be accurately punched or drilled and shall have the burrs removed. Rivets shall be driven with pressure tools and shall completely fill the holes. Rivet heads, when not countersunk or flattened, shall be of approved shape and of uniform size for the same diameter of rivet. Rivet heads shall be full, neatly made, concentric with the rivet holes, and in full contact with the surface of the member.

3.17.3 Bolted connections. Bolt holes shall be accurately punched or drilled and shall have the burrs removed. Washers or lockwashers shall be provided in accordance with good commercial practice, and all bolts, nuts, and screws shall be tight.

3.17.4 Castings. All castings shall be sound and free from patching, misplaced coring, warping, or any other defect which reduces the casting ability to perform its intended function.

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3.17.5 Welding. Welding procedures shall be in accordance with a nationally recognized welding code. The surface of parts to be welded shall be free from rust, scale, paint, grease, or other foreign matter. Welds shall be of sufficient size and shape to develop the full strength of the parts connected by the welds. Welds shall transmit stress without permanent deformation or failure when the parts connected by the weld are subjected to proof and service loadings.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements 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 the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of section 3 and 5. The inspection 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 assuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling in quality conformance does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material.

4.1.2 Component and material inspection. Components and materials shall be inspected in accordance with all the requirements specified herein and in applicable referenced documents.

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

- a. First article inspection (see 4.2.1).
- b. Quality conformance inspection (see 4.2.2).
- c. Packaging inspection (see 4.5).

4.2.1 First article inspection. First article inspection shall be performed on one pump when a first article is required (see 3.2 and 6.5). This inspection shall include the examination of 4.3 and the tests of 4.4. Failure of the first article to pass the examination or any of the tests shall be cause for rejection. The first article may be either a first production item or a standard production item from the supplier's current inventory provided the item meets the requirements of the specification and is representative of the design, construction, and manufacturing technique applicable to the remaining items to be furnished under the contract.

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4.2.2 Quality conformance inspection. The quality conformance inspection shall consist of the examination of 4.3, the tests of 4.4 and the packaging inspection of 4.5. When a first article is tested in accordance with the requirements of 4.4, and has passed, the tests of 4.4 need not be performed for the quality conformance inspection. When the tests of 4.4 are to be performed for the quality conformance inspection, they shall be performed on one production unit.

4.3 Examination. Each pump shall be examined for compliance with the requirements specified in section 3 of this specification. Any redesign or modification of the contractor's standard product to comply with specified requirements, or any necessary redesign or modification following failure to meet specified requirements shall receive particular attention for adequacy and suitability. This element of inspection shall encompass all visual examinations and dimensional measurements. Noncompliance with any specified requirements or presence of one or more defects preventing or lessening maximum efficiency shall constitute cause for rejection.

4.4 Tests. The first article, when furnished, shall be tested, and any unit failing to pass the following tests, as applicable, shall be rejected. Tests shall be conducted as outlined in the Rotary Pump Section of the Standards of Hydraulic Institute and as herein specified.

4.4.1 Hydrostatic test. The pump casing and jackets, after machining is completed, shall be hydrostatically tested using oil or water at a pressure equal to 1.5 times the maximum outlet working pressure for a period of one minute. Tests may be conducted on the completely assembled pump providing no damage to seals, bearings, or other internal components occurs.

4.4.2 Performance test. The pump shall be tested to determine compliance with the requirements of 3.6. Tests shall be conducted and reported in accordance with the Rotary Pump Section of the Standards of Hydraulic Institute. The test medium, of specific gravity exceeding 0.90, shall be a clean petroleum oil of approximately 250 S.S.U. viscosity at a pumping temperature between 60°F and 120°F. Test results shall be corrected as required to reflect the difference in slippage between the test medium and fuel oil of the viscosity specified in 3.6. The test shall cover the operating range of 3.6.2.

* 4.5 Packaging inspection. The preservation, packing, and marking of the pump-engine system shall be inspected to the requirements of section 4 of MIL-P-10603. When specified (see 6.2), a preproduction pack inspection shall be performed in accordance with MIL-P-10603.

5. PACKAGING

* 5.1 Preservation, packing, and marking. The pump-engine system shall be packaged, packed, and marked in accordance with MIL-P-10603. The level of preservation and level of packing shall be as specified (see 6.2).

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6. NOTES

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

6.1 Intended use. Pumps covered by this document are intended primarily for use in stationary power plants, or similar permanent installations handling viscous liquids.

* 6.1.1 Selection factors.

- a. Jacketed pumps provide for heating viscous fluids as they pass through the pump and facilitate resumption of pumping after fluid temperatures have dropped during system shutdowns. In lieu of jacketed pumps, consideration might be given to pump cases traced by steam lines and to electric resistance heating tape.
- b. Fungus resistant varnish conforming to MIL-V-173 should be used to coat electrical components and circuit elements, including terminal and circuit connections, when the unit is to be installed in humid conditions. Components and elements inherently inert to fungi or in hermetically sealed enclosures or current-carrying contact surfaces should not be coated.
- c. Electromagnetic interference suppression (EMI), when required, should conform to the EMI suppression requirements and test limits for class C3, group I equipment as specified in MIL-STD-461. The unit should be subjected to tests to determine conformance in accordance with MIL-STD-462.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of the specification.
- b. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).
- c. When a first article is required (see 3.2 and 6.5).
- d. Capacity, total dynamic head, and type and viscosity of fluid to be pumped (see 3.6).
- e. When jacketing is required; when jacket is to be designed for other than 125 psig steam pressure at 350°F (see 3.6).
- f. When pump connection reducers are required (see 3.6.1).
- g. When pump casing liners are required (see 3.6.1).
- h. Whether an electric motor or steam turbine drive is required (see 3.10).
- i. When electrical characteristics for motors is to be other than as specified (see 3.10.1).
- j. When a motor controller is not required or, if required, when controller characteristics are to be different (see 3.10.1.1).
- k. Steam inlet temperature and pressure at turbine inlet and outlet; whether the speed regulating governor is to be of the constant or excess pressure type (see 3.10.2).

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- l. When speed change pulleys for belt drives are required (see 3.11).
- m. When means for lubrication is to be other than as specified (see 3.14).
- n. When a preproduction pack inspection is to be performed (see 4.5).
- o. Level of preservation and level of packing required (see 5.1).

* 6.3 Part or identifying number (PIN). The PIN to be used for units applied to this specification are created as follows:

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Specification part number _____|

* 6.4 Data requirements. When this specification is used in an acquisition and data are required to be delivered, the data requirements shall be developed as specified by an approved Data Item Description (DD Form 1664) and delivered in accordance with the approved Contract Data Requirements List (DD Form 1423), incorporated into the contract. When the provisions of DoD FAR Supplement, Part 27, Sub-Part 27475.1 (DD Form 1423) are invoked and the DD Form 1423 is not used, the data shall be delivered by the contractor in accordance with the contract or purchase order requirements.

6.5 First article. When a first article inspection is required, the item will be tested and should be a first production item or it may be a standard production item from the contractor's current inventory (see 6.2) as specified in 4.2.1. The first article should consist of one unit. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examination, test, and approval of the first article.

* 6.6 Subject term (key word) listing.

Electric-motor-driven
 Steam-turbine-driven
 Fuel oil handling

6.7 Changes from previous issue. The margins of this specification are marked with an asterisk to indicate where changes (additions, modifications, corrections, deletions) from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the entire content irrespective of the marginal notations and relationship to the last previous issue.

Preparing Activity:
 Navy - YD

(Project 4320-N316)

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

INSTRUCTIONS

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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.

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| RECOMMEND A CHANGE: | | 1. DOCUMENT NUMBER MIL-P-17608D(YD) | 2. DOCUMENT DATE (YYMMDD) 910605 |
| 3. DOCUMENT TITLE PUMPS, ROTARY, POWER-DRIVEN, VISCOUS LIQUIDS | | | |
| 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) | e. DATE SUBMITTED (YYMMDD) |
| 8. PREPARING ACTIVITY | | | |
| a. NAME COMMANDING OFFICER | | b. TELEPHONE (Include Area Code) (1) Commercial (805) 982-5761 (2) AUTOVON 551-5761 | |
| c. ADDRESS (Include Zip Code) NAVAL CONSTRUCTION BATTALION CENTER CESO (code 1564A) PORT HUENEME, CA 93043-5000 | | 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 | |

