

MIL-P-19131(SHIPS)
AMENDMENT 6
28 June 1985

SUPERSEDING
AMENDMENT 5
20 June 1969

MILITARY SPECIFICATION

PUMPS, ROTARY, POWER DRIVEN, MISCELLANEOUS

This amendment forms a part of Military Specification MIL-P-19131(SHIPS), dated 23 January 1956, and 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.

PAGE 1

1.2: Add:

- "Type II - Screws with timing gears.
- "Type X - Vane (sliding).
- "Type XI - Sliding shoe."

PAGES 1, 2, 3 and 4

2.1: Delete reference to Military Specifications "MIL-T-15071", "MIL-N-17506", "NAVY DEPARTMENT General Specifications for Inspection of Material" and "General Specifications for Ships: Section S9-1 Welding and Allied Processes.", and add the following:

"SPECIFICATIONS

"FEDERAL

"QQ-N-286 - Nickel-Copper-Aluminum Alloy, Wrought.

"MILITARY

"MIL-Q-9895 - Quality Program Requirements.

"MIL-M-15071 - Manuals, Equipment and Systems.

"STANDARDS

"MILITARY

"MIL-STD-278 - Fabrication, Welding and Inspection of Machinery Piping and Pressure Vessels for Ships of the United States Navy.

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"PUBLICATIONS

"MILITARY

- "250-648-8 - Inspection and Test of Silver-Brazed Piping Systems.
- "0900-001-7000 - Fabrication and Inspection of Brazed Piping Systems."

3.1: Delete and substitute:

"3.1 First article. When specified (see 6.1), a sample shall be subjected to first article inspection (see 4.2.1 and 6.2)."

PAGE 5

Table I, column 5: Delete "33 - 100" and substitute "30 - 100".

PAGE 6

3.3.1 item (e): Delete and substitute:

- "(e) Satisfactory operation when inclined as follows, unless otherwise specified in the contract or order:
- (1) Up to 30 degrees from the normal horizontal position in any direction (permanently inclined).
 - (2) With the ship rolling up to 60 degrees from the vertical (time of complete roll cycle, 8 seconds).
 - (3) With the ship pitching 10 degrees up and down from the normal horizontal plane (time of complete pitch cycle, 4 seconds)."

PAGE 14

Add as paragraph 3.3.15.3:

"3.3.15.3 Horizontal flexibly coupled units with bedplates shall have coupling guards provided. Guards shall be designed to permit ready access to the coupling for lubrication and inspection."

Add as paragraph 3.3.16.7:

"3.3.16.7 When specified (see 6.1), pumps shall be provided with mechanical seals."

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3.3.17, lines 3 and 5: Delete "qualification" and substitute "first article".

3.3.19: Delete and substitute:

"3.3.19 Welding. Welding shall be in accordance with MIL-STD-278.

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"3.3.19.1 Silver brazed joints shall be in accordance with NAVSHIPS 0900-001-7000. For joints 1/2 inch and above, only preinserted ring fittings shall be used."

PAGE 16

Table II, column 2 opposite "Shafts" add "17-4PH corrosion resisting steel."

Table II, column 3, line 7: Delete "MIL-N-17506" and substitute "QQ-N-286".

PAGE 17

3.4.3.1: Delete and substitute:

"3.4.3.1 Materials for class N-4 and O-3 pumps shall be the same as listed in table II except that commercial materials may be used in place of Government specification materials."

3.4.3.3: Delete and substitute:

"3.4.3.3 Materials of the vanes and sliding shoes of types IX, X and XI pumps shall be that most suitable for classes N-2 and O-2 services and shall be as proposed by the manufacturer and as approved by the command or agency concerned."

PAGE 18

3.5.3.1: Delete formula " $1.5 = \frac{\text{above formula hp.}}{4}$ " and substitute:

$1.5 = \frac{\text{above formula hp.}}{4}$

PAGE 21

3.8.1: Delete and substitute:

"3.8.1 Manuals shall be in accordance with MIL-M-15071."

3.8.5, line 5: Delete "MIL-T-15071" and substitute "MIL-M-15071".

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Table III: Delete and substitute:

"TABLE III. Onboard repair parts.

Item	Name or part	Quantity per set
a b c d e	Ball or roller bearings Oil seals Packing, if special, and packing spacers Coupling bushings, pins, springs and other wearing parts Mechanical seals	100 percent complete replacement for all installed units per ship
f g	Sleeve, sliding surface bearings Cams, slides, slide pins, housings or liners, vanes (set) and similar wearing parts	One to four units per ship 100 percent replacement for one pump Over four units per ship 100 percent replacement for two pumps
h i	Timing gears, reduction gears and pinions Complete rotating element including bearings and complete coupling	100 percent replacement for one pump

3.9.2.1, line 1: Delete "item (f)" and substitute "item (g)".

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3.9.2.2, line 1: Delete "item (h)" and substitute "item (i)".

3.9.2.3, lines 1 and 2: Delete "items (a) and (g)" and substitute "items (a) and (h)", and in line 3, delete "item (h)" and substitute "item (i)".

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3.10: Delete.

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4.1(a): Delete "Qualification" and substitute "First article".

4.2: Delete "Qualification" and substitute "First article".

4.2.1: Delete and substitute:

"4.2.1 First article tests. First article tests on class N-2 and class O-2 pumps shall be conducted at a laboratory satisfactory to the Naval Sea Systems Command. These tests shall consist of the test specified in 4.2.8."

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4.2.2: Delete and substitute:

"4.2.2 In addition to the tests at the laboratory class N-2 and O-2 pumps may be required to pass the following shipboard service test:

- (a) Two or more pumps of the same general design and general operating characteristics shall have given satisfactory service onboard Naval ships for a period of at least two years and shall still be in service on such ships at the time first article approval is granted.
- (b) When the design of pump in service, for which the manufacturer requests first article approval, does not meet current Naval requirements as regards suction lift, discharge pressure and capacity characteristics, the manufacturer will be required to furnish satisfactory evidence that he has produced pumps of a design, suction lift, discharge pressure and capacity characteristics equal to those currently required for Naval service. The Naval Sea Systems Command may require additional first article approval tests of any design of pump which in its opinion has been changed sufficiently to require further demonstration of its suitability."

4.2.3: Delete "qualification" and substitute "first article".

4.2.4, line 1: Delete "Qualification" and substitute "First article".

4.2.5, line 1: Delete "qualification" and substitute "first article".

4.2.5, line 2: Delete "qualification granted" and substitute "first article tests".

4.2.6, lines 1 and 4: Delete "qualification" and substitute "first article".

4.2.7, line 2: Delete "qualification" and substitute "first article".

4.2.7, last sentence: Delete.

4.2.8: Delete "qualification" and substitute "first article".

PAGE 27

4.3.2, lines 1 and 2: Delete "as selected by the Government inspector".

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4.3.3.1: Delete class "O-3" and substitute class "O-2; line 2, delete "tested on order" and substitute "tested in order".

4.3.3.2, line 1: Delete class "H-2" and substitute class "N-2".

4.3.4.1, line 2: Delete "by the representative of the bureau or agency concerned."

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4.3.5, first sentence: Delete and substitute "Sufficient data shall be taken during the tests of 4.3.1, 4.3.2 and 4.3.3 to prepare pump characteristic curves as specified below."

PAGE 33

4.5: Delete and substitute:

"4.5 Inspection and test of silver brazed joints in systems designated as hazardous in manual NAVSHIPS 250-648-8 shall be in accordance with the requirements of that manual."

Add as paragraphs 4.6 through 4.6.1.3:

"4.6 QUALITY ASSURANCE PROVISIONS

"4.6.1 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 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.

"4.6.1.1 Inspection system. The inspection system which the contractor is required to maintain, as provided in the inspection clause of the contract or order, shall be in accordance with MIL-I-45208.

"4.6.1.2 All instruments used in performance acceptance tests shall be calibrated before and after tests.

"4.6.1.3 No instrument containing mercury shall be used in the manufacture or testing of any equipment destined for installation on a nuclear powered ship. This point shall be covered in the manufacturer's quality control manual. Test reports shall contain a certification signed by a responsible official of the manufacturer that no mercury containing instruments have been used in the manufacture or testing of the equipment."

PAGE 35

6.1, item (h)(9): Delete and substitute:

"(h)(9) Whether mechanical shaft seals are required (see 3.3.16.7)."

6.1: Add: "(k) First article inspection, if required (see 3.1)."

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6.2: Delete and substitute:

"6.2 First article inspection. Invitations for bids should provide that Government reserves the right to waive the requirement for samples for first article inspection as 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."

NOTE: The margins of this amendment are marked with an asterisk to indicate where changes (additions, modifications, corrections, deletions) from the previous amendment 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 amendment.

Preparing activity:
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