

INCH-POUND

A-A-52038
25 October 1991

COMMERCIAL ITEM DESCRIPTION

PUMP ASSEMBLY, CENTRIFUGAL, WATER, DIESEL-ENGINE-DRIVEN,
3-INCH, SKID-MOUNTED, 200 GPM AT 300 FEET

The General Services Administration has authorized the use of this commercial item description in preference to Military specification MIL-P-52469.

This item description covers a skid-mounted, diesel-engine-driven, auxiliary priming, centrifugal pump assembly for water pumping service.

Salient characteristics:

General: When specific requirements are not stated herein, all items listed as standard equipment in the manufacturers' published specifications, brochures, and catalogs which are normally furnished to the commercial customer as standard equipment shall be furnished. In addition, the pump assembly shall be equipped with optional equipment and accessories as required to comply with the performance requirements specified herein. For the purpose of this item description, optional equipment may be defined as equipment not standard and not normally furnished with the pump assembly but which is available to the commercial customer on an optional basis. Any additional equipment or accessories needed to satisfy military requirements shall be specified in the contract or order. The additional equipment shall be constructed, assembled, and equipped with all components, whether or not specified herein, necessary to enable the unit to function reliably and efficiently in sustained operation. The pump assembly shall conform to all Federal laws and regulations applicable for this type equipment which are in effect on date of award of contract.

Materials: The pump shall be fabricated from compatible materials, inherently corrosion resistant or treated to provide protection against the various forms of corrosion and deterioration that may be encountered in any of the applicable operation and storage environments to which the item may be exposed. Dissimilar metals shall not be used in intimate contact with each other unless protected against galvanic corrosion.

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and other data which may improve this document should be sent by letter to: Commander, US Army Belvoir Research, Development and Engineering Center, ATTN: SIRBE-TSE, Fort Belvoir, VA 22060-5606.

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Design and performance:

Pump: The pump shall be the straight centrifugal, single-suction, single-stage, vertical split-case, auxiliary priming type. The maximum net positive suction head (NPSH) requirement shall not exceed 9 feet of water at 225 gpm at 350 feet total head at not more than the manufacturer's recommended speed of the engine. A check valve assembly shall be provided on the discharge side of the pump. The pump assembly shall include a welded skid base with rounded ends for skidding. The pump assembly shall have a lifting bracket located at the center of gravity of the pump assembly to enable lifting from above. Permanently affixed tiedown provisions that permit fastening the pump assembly to the floor or deck of a transportation medium shall be provided. Using water with 15 feet or 25 feet of suction line (as applicable), containing one elbow, the pump shall meet the following priming requirements:

- a. Prime in not more than 1 minute under a 10-foot static suction lift.
- b. Prime in not more than 5 minutes under a 20-foot static suction lift.

When operated at a speed not exceeding the maximum continuous speed of the engine as recommended by the engine manufacturer, with a lift of 10 feet through 20 feet of 3-inch suction hose, the pump assembly shall prime and discharge water as follows:

- c. Deliver a minimum of 200 gallons per minute (gpm) at 300-foot total head when operated under a 10-foot, static suction lift at not more than the manufacturer's recommended governed speed of the engine.
- d. Deliver a minimum of 170 gpm when operated under a 20-foot, static suction lift at not more than the manufacturer's recommended governed speed of the engine.

Diesel engine: The engine shall meet all operational requirements and conditions specified herein, or, the engine manufacturer's recommended operating limits. A fuel tank shall be furnished. The capacity of the tank shall be sufficient for not less than 4 hours of continuous operation at the rated load.

Instrumentation: An instrument panel shall be furnished and shall be equipped with the following instruments:

- a. Gauge, pressure, engine lubricating oil.
- b. Tachometer and hourmeter.
- c. Ammeter, battery charging.
- d. Engine coolant temperature gauge (if liquid cooled).

Manual engine controls shall include a fuel priming system, cold starting control, ether starting aid if required, switch, and throttle. An electrical cranking system based on the use of a 12-volt electrical circuit energized by storage batteries shall be furnished.

Safety: The contractor shall certify that the pump assembly complies with all Federal Safety Standards,

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Human factors engineering: The pump assembly shall conform to accepted human factors engineering design criteria as specified in the contract or order.

Noise limits. The noise levels produced by the pump assembly shall not exceed 85 dB(A) when measured with an ASA 47, type I meter with the microphone located 6 inches from the operators right ear and when measured with the equipment operating at maximum load. If and only if the 85 dB(A) limit is documented as being clearly beyond the state-of-the-art, selection of another noise limit shall be made by the contracting officer on the basis of system requirements. Said documentation must be based upon testing and analysis which clearly and convincingly proves that achievement of the required limit is beyond the state-of-the-art for the pump assembly. Such testing and the resultant analysis shall be conducted and reported by a professionally qualified acoustical consultant or acoustical laboratory. Documentation shall be furnished to the procuring activity for consideration of whether or not increase of the required limit is justified. If the contracting officer grants written permission to exceed the 85 dB(A), the pump assembly shall be labeled "CAUTION HEARING PROTECTION REQUIRED".

Regulatory requirements. In accordance with Federal Acquisition Regulation, section 23.403, the Government's policy is to acquire items composed of the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory level of competition without adversely affecting performance requirements or exposing the supplier's employees to undue hazards from the recovered materials.

Preservation, packaging, packing, labeling, and marking: The preservation, packaging, packing, labeling, and marking shall be as specified in the contract or order.

Quality assurance: Each pump assembly shall be examined for the following defects. Presence of one or more defects shall be cause for rejection.

- a. Materials not resistant to corrosion or deterioration.
- b. Dissimilar metals not protected against galvanic corrosion.
- c. Pump or engine design not as specified.
- d. Pump or engine performance not as specified.
- e. Instruments missing or not as specified.
- f. Manual engine controls not as specified.
- g. Electrical cranking system not as specified.
- h. Certification of safety not as specified.
- i. Human factors engineering design criteria not as specified in contract or order.
- j. Noise limits not as specified.
- k. Level of preservation, packaging, packing, and marking not as specified in the contract or order.
- l. Optional/additional equipment or accessories not as specified in the contract or order.

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Certification: Unless otherwise specified, the contractor shall certify that the pump assemblies offered meet the salient characteristics of this item description and that the pump assemblies conform to the manufacturer's own drawings, specifications, standards and quality assurance practices and is the same pumping units offered for sale on the commercial marketplace. Prior to delivery, the Government reserves the right to require proof of such conformance and to perform any inspections as may be necessary to assure the pumping units conform to the requirements as stated herein.

Notes: The procuring agency should specify the preferred options permitted herein and include the following information in procurement documents:

1. Title, number, and date of this item description.
2. Level of preservation, packaging and packing required.
3. Any special marking.
4. When this commercial item description is used for procurement, the commercial item certification clause must appear in the solicitation.
5. The safety and human factors requirements.
6. What optional/additional equipment or accessories are needed to satisfy military requirements.
7. When commercial manuals with installation and operating instructions and parts list are required.
8. When this commercial item description is used for procurement, the commercial item certification clause must appear in the solicitation.

Copies of ASA 47 are available from the Acoustical Society of America, 335 East 45th Street, New York, NY 10017.

Custodian:
Army - ME

Preparing activity:
Army - ME

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