

[INCH-POUND]  
A-A-50572  
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SUPERSEDING  
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## COMMERCIAL ITEM DESCRIPTION

### PUMP UNIT, CENTRIFUGAL: PORTABLE, SELF-PRIMING, ENGINE-DRIVEN (DEWATERING; CONTRACTOR AND TRASH TYPE)

The General Services Administration has authorized the use of this commercial item description for all Federal agencies.

1. SCOPE. This commercial item description covers three types of portable, self-priming, power-driven, radial flow, single suction, single stage, centrifugal pump units.
2. CLASSIFICATION. The pump units are of the following types and sizes, materials, classes, and styles, as specified (see 7.3):

#### TYPE

Type I - M, medium head, dewatering contractor pump.

Size	5M	-	1.5-inch ; 5,000 gallons per hour (gph) (40 millimetre (mm)); (18 900 litre per second (L/s)).
Size	8M	-	2.0-inch; 8,000 gph (50 mm; 30 240 L/s).
Size	10M	-	2.0-inch; 10,000 gph (50 mm; 37 800 L/s).
Size	15M	-	3.0-inch; 15,000 gph (80 mm; 56 700 L/s).
Size	18M	-	3.0-inch; 18,000 gph (80 mm; 68 040 L/s).
Size	20M	-	3.0-inch; 20,000 gph (80 mm; 75 600 L/s).
Size	40M	-	4.0-inch; 40,000 gph (100 mm; 151 200 L/s).
Size	90M	-	6.0-inch; 90,000 gph (150 mm; 340 200 L/s).
Size	125M	-	8.0-inch; 125,000 gph (200 mm; 472 500 L/s).
Size	200M	-	10.0-inch; 200,000 gph (250 mm; 756 000 L/s).

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data which may improve this document should be sent to: Commanding Officer (Code 15E2), Naval Construction Battalion Center, 1000 23rd Avenue, Port Hueneme, CA 93043-4301, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

## A-A-50572

Type III - MT, solids handling, trash pump.

- Size 5MT - 1.5-inch; 5,000 gph (40 mm; 18 900 L/s).
- Size 10MT - 2.0-inch; 10,000 gph (50 mm; 37 800 L/s).
- Size 18MT - 3.0-inch; 18,000 gph (80 mm; 68 040 L/s).
- Size 33MT - 4.0-inch; 33,000 gph (100 mm; 124 740 L/s).
- Size 35MT - 4.0-inch; 35,000 gph (100 mm; 132 300 L/s).
- Size 70MT - 6.0-inch; 70,000 gph (150 mm; 264 600 L/s).

Type IV - MTC, compact, trash pump.

- Size 5MTC - 1.5-inch; 5,000 gph (40 mm; 18 900 L/s).
- Size 9MTC - 2.0-inch; 9,000 gph (50 mm; 34 020 L/s).
- Size 15MTC - 3.0-inch; 15,000 gph (80 mm; 56 700 L/s).
- Size 22MTC - 4.0-inch; 22,000 gph (100 mm; 83 160 L/s).

## MATERIALS

- Material A - Cast iron casing; ferrous impeller.
- Material B - Cast iron casing; bronze impeller.
- Material C - Aluminum casing; ferrous impeller.
- Material D - Aluminum casing; bronze impeller.

## CLASS

- Class 1 - Base-mounted with carrying handle or lifting eye.
- Class 2 - Wheel-mounted, two-wheel, manually-propelled.
- Class 2A - Wheel-mounted, two-wheel, vehicular-towed.
- Class 3 - Skid-mounted.
- Class 4 - Wheel-mounted, four-wheel, wagon-type, vehicular-towed.
- Class 4A - Wheel-mounted, four-wheel, tandem-axle with suspension system, vehicular-towed.
- Class 5 - Base-mounted with tubular, wrap-around, roll-bar frame.

Note: See table I for applicability of class to size.

## STYLE

- Style A - Gasoline-engine-driven air- or liquid-cooled.
- Style B - Diesel-engine-driven liquid-cooled.
- Style C - Diesel-engine-driven air-cooled.

A-A-50572

### 3. SALIENT CHARACTERISTICS.

3.1 Description. Each pump unit shall consist of an integrally self-priming centrifugal pump, a direct-connected internal combustion engine, and a common base, skid, or wheel mounting. The pump capacity in gph listed in 2. to identify pump sizes shall be interpreted as the nominal capacity. The size of the pump listed in 2. indicates suction and discharge openings, which shall be of identical dimension on each size. The applicability of class to size shall be as specified in table I, as represented by an "X" in the column under the size of pump.

TABLE I. Applicability of class to size.

Class	Size - Type I												
	5M	8M	10M	15M	18M	20M	40M	90M	125M	200M			
1	X	X	X	X	X	-	-	-	-	-			
2	X	X	X	X	X	X	X	-	-	-			
2A	-	-	-	-	-	-	X	X	-	-			
3	-	-	-	-	-	X	X	X	X	X			
4	-	-	-	-	-	-	-	X	X	X			
4A	-	-	-	-	-	-	-	X	X	X			
5	X	X	-	-	-	-	-	-	-	-			
Class	Size - Type III												
	5TM		10MT		18MT		33MT		35MT		70MT		
1	X		X		X		-		-		-		
2	X		X		X		-		-		-		
2A	-		-		-		X		X		X		
3	-		-		-		X		X		X		
4	-		-		-		-		X		-		
Class	Size - Type IV												
	5MTC			9MTC			15MTC			22MTC			
1	X			X			X			-			
2	X			X			X			X			
3	-			-			-			X			
4	X			X			-			-			

3.2 Material requirements. 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.

3.2.1 Iron castings. Gray cast iron conforming to ASTM A 48 shall be used for pump casings, impellers, and wear plates. Ductile (nodular) iron conforming to ASTM A 536 or malleable iron conforming to ASTM A 47 may be used provided the surface has a Brinell hardness of 150, minimum.

3.2.2 Steel. Steel used for such components as pump shafts, impellers, skids, bases, and diffusers shall be of a type and grade normally used by the contractor on his standard commercial units.

## A-A-50572

3.2.3 Aluminum. Aluminum for pump casing shall conform to ASTM B 26 or B 108, UNS A03190 or A0356. Pressure-containing castings shall have a minimum tensile strength of not less than 30,000 pounds per square inch (psi) (205 kilopascals (kPa)).

3.2.4 Bronze. Bronze castings for pump impellers, when material B or D is specified, shall conform to ASTM B 62, composition bronze, UNS C83600.

3.3 Construction. The pump unit shall be constructed to prevent conditions hazardous to personnel or deleterious to equipment and shall permit easy accessibility for maintenance and service in the field. The pump unit shall withstand the strains, jars, vibrations, and other conditions normal to shipping, storage, and installations; and shall be complete so that, when installed, it can be used for any operation for which it was designed.

3.3.1 Pump. The pump shall be of the self-priming, radial flow, single suction, single stage, centrifugal-type referred to commercially as contractor pumps. Each pump shall consist of a casing, impeller, seal, connections, and a diffuser ring or air separation chamber. The impeller shaft may be an extension of the engine crankshaft except for 4-inch (101.60 mm) and larger pumps, which shall be furnished with a separate bearing-mounted impeller shaft, connected to the engine crankshaft by a flexible-coupling. The pump shall be capable of starting and operating, not necessarily at rated capacity, in ambient temperatures up to 120 degrees Fahrenheit (°F) (49 degrees Celsius (°C)) at sea level and 110 °F (43 °C) at 5,000 foot (1 525 metre (m)) (barometric pressure of 25 inches (633 mm) of mercury. The pump shall also be able to withstand extended periods of storage at temperatures to - 25 °F (- 32 °C) without adverse affect on the subsequent operability or efficiency.

3.3.1.1 Type I pump. Type I pump shall be designed and constructed to meet the requirements of the Contractor's Pump Bureau (CPB) Contractors Pump Manual for M rated pumps, as well as all applicable requirements specified herein. Type I pump shall be equipped with an open or semi-open impeller designed to pass solids equal to 10 percent by volume and equal to 25 percent of the nominal inlet diameter of the pump.

3.3.1.2 Type III pump. Type III pumps shall be designed and constructed to meet the requirements of the CPB Contractors Pump Manual for MT rated pumps, as well as all applicable requirements specified herein. Type III pumps shall be similar to type I pumps except they shall be designed to incorporate a removal end plate which shall provide ready and easy access to the interior as well as to the impeller for clean-out purposes. Type III pumps shall be designed to pass spherical solids in the sizes shown in table II.

3.3.1.3 Type IV pump. Type IV pump shall be designed and constructed to meet the requirements of the CPB Contractors Pump Manual for MTC rated pumps as well as all applicable requirements specified herein. Type IV pump shall be so designed as to incorporate easy access to the impeller for quick clean out purposes. Type IV pumps shall be designed to pass spherical solids in the sizes shown in table III.

## A-A-50572

TABLE II. Solids passing sizes for type III pumps.

Pump rating	Pump size (in inches)(mm)	Solids size (in inches)(mm)
5MT	1.5 (40 mm)	1.00 (25.4 mm)
10MT	2.0 (50 mm)	1.25 (31.75 mm)
18MT	3.0 (80 mm)	1.50 (38.10 mm)
33MT	4.0 (100 mm)	2.00 (50.80 mm)
35MT	4.0 (100 mm)	2.00 (50.80 mm)
70MT	6.0 (150 mm)	2.50 (63.50 mm)

TABLE III. Solids passing sizes for type IV pumps.

Pump rating	Pump size (in inches)	Solids size (in inches)
5MTC	1.5 (40 mm)	0.75 (19.05 mm)
9MTC	2.0 (50 mm)	1.00 (25.40 mm)
15MTC	3.0 (80 mm)	1.50 (38.10 mm)
22MTC	4.0 (100 mm)	2.00 (50.80 mm)

3.3.2 Casing. The casing including flanged-mounted air separation chambers, if furnished, shall be cast iron or aluminum alloy in accordance with the material specified (see 7.3), except that type IV pump casings shall be furnished in aluminum alloy only. The casing shall be designed to withstand a hydrostatic test pressure equal to 1.5 times the pump discharge pressure or the total dynamic head, whichever is greater. There shall be no damage or permanent deformation of the pump casing or leakage in the casing or through the casing gasket. The casing shall be equipped with a priming port and means for readily draining the casing. A standard pipe tee and plug installed on the discharge connection will be acceptable as a priming port. The casing shall be designed or equipped to prevent siphonage of priming fluid on shutdown if a foot valve is not installed on the suction line. The pump shall be equipped with a renewable wearing surface or surfaces, or impeller adjustment so that proper clearances can be designed without the need for replacing the pump casing. The casing shall be designed with bolted plates or segmental sections to permit removal and replacement of internal pump components.

3.3.3 Impeller. The impeller shall be steel, cast iron, or bronze. Impellers shall be open or semi-open. Impellers shall be cast in one piece, balanced, and shall be keyed or screwed to the shaft in a manner to provide positive locking against any rotative loosening effect.

3.3.4 Bearings. Pumps with separate shafts coupled to the engine crankshaft shall be equipped with not less than two sets of ball or roller anti-friction bearings to support the shaft. The bearing shall be rated to withstand continuous radial or axial loading due to inherent rotational forces and hydraulic imbalance. The bearings shall have adequate provisions for lubrication and shall be sealed against the entrance of dirt and water.

## A-A-50572

3.3.5 Shaft seal. The shaft seal shall be of the mechanical type and shall be self-lubricated, oil lubricated, or grease lubricated. The seal shall consist of a rotating element, a stationary element, a spring, and any additional elements common to particular seal designs, such as a diaphragm, bellows, spring cage, or grease cup. Stationary elements shall be fabricated of a hard, wear-resistant ceramic or brass material, or of nickel-bearing cast iron. On self-lubricated seals, the rotating wearing surface shall be carbon or a material having similar low-friction properties. Seal springs shall be stainless steel. Grease cups shall be of the spring-loaded type designed to automatically feed lubricant to the seal as required.

3.3.6 Connections. The connection sizes for the suction opening shall be of the same nominal pipe size as the discharge opening. The opening shall be tapped or fitted to provide female tapered pipe connections. Both connections shall be so located or fitted that a direct-connected length of straight pipe shall extend in a horizontal direction.

3.3.6.1 Optional connections. When specified (see 7.3), the pumps shall be fitted in accordance with one of the following options:

- a. Option 1: Four inch (100 mm) and larger pipes size shall be equipped with standard class 125-pound (lb) (57 kilograms (kg)) cast iron flanges.
- b. Option 2: Pump connections shall be fitted with straight, pipe-to-hose adapters. The hose thread shall be male American National NH designator fire-hose coupling thread, except that 2.0-inch (50 mm) adapters and, when specified (see 7.3), 1.50-inch (38.1 mm) adapters shall be American National NPSH designator hose coupling threads. Unless otherwise specified (see 7.3), the nominal size of the hose threads shall be the same as the pump connection.

3.3.7 Suction strainer. A suction strainer, having the same nominal pipe size as the inlet connection, shall be furnished with each pump.

3.3.8 Hose. When specified (see 7.3), hose shall be furnished with the pump unit. The hose furnished shall be four 10-foot lengths (3 m) of the manufacturer's standard commercial 4-inch (100 mm) rubber, wire-reinforced, with hose couplings. All hoses furnished shall have the capability of being coupled together.

3.3.9 Engine. Unless otherwise specified (see 7.3), the engine shall be a commercial engine normally supplied by the contractor. Engines rated at 30 horsepower (hp) (22 371 watts (W)) and below may be air-cooled and shall operate on unleaded gasoline or diesel fuel, as specified (see 7.3). All multi-cylinder, air-cooled engines shall be equipped with positive exhaust valve rotators and with stellite-faced exhaust valves and solid stellite valve-set inserts. Engines rated over 30 hp (22 371 W) shall be heavy-duty industrial diesel type, liquid-cooled or air cooled, and designed to operate on fuel.

## A-A-50572

3.3.9.1 Horsepower. The engine, fully equipped with all accessories, shall drive the pump and operate under standard conditions at rated capacity for all applicable conditions of head and lift specified herein without exceeding the continuous hp rating of the engine.

3.3.9.2 Engine accessories. Each engine shall be equipped with a governor, manual speed control, exhaust muffler, air cleaner, and fuel tank. All engines shall be equipped with a cooling fan with a protective screen or shroud. Diesel engines shall be equipped with a lubricating oil pressure gage, a coolant temperature gage, an oil filter, and an air cleaner. All other engine accessories supplied in commercial practice as standard equipment shall be furnished.

3.3.9.3 Starting systems. The starting system for gasoline engines rated 10 hp (7 457 W) and below may be manual (rope, crank, or recoil). The starting system for gasoline engines rated over 10 hp (7 457 W) shall be electric. The starting system for diesel engines rated 5 hp (3 728 W) and below may be manual (rope, crank, or recoil). Diesel engines rated 6 hp (4 474 W) and above shall have electric starting systems. Electric starting systems shall be 12 volts and shall include an electric cranking motor, charging alternator, regulator, dry-charged battery with cables, starter switch, and ammeter. Gasoline engines with electric starting systems shall include a high tension, distributor-type ignition system. Ether starting systems, if furnished for diesel engines, shall be of the automatic injection engine temperature limited type, or controlled from the control panel, and shall be inoperative with the engine running.

3.3.9.4 Hour meter. Engines rated over 30 hp (22 371 W) shall be equipped with an hour meter. The meter shall either be electrical or mechanical and shall register not less than 9 999.9 hours of operating time.

### 3.4 Mountings.

3.4.1 Base mounting (class 1 and 5). Base mountings shall consist of a flat steel plate or a steel plate or sheet formed to provide a raised horizontal center section with supporting vertical sections along with each longitudinal edge. Base mountings consisting of a combination of steel channels, flat steel runners, or other structural steel shapes will be acceptable. The base mounting shall be of sufficient thickness and rigidity to maintain the pump and engine in proper alignment under normal conditions of operation and transport. All class 1 base-mounted pumps shall be equipped with a lifting eye or a lifting bail. Base-mounted size 5M, 5MT, and 5MTC, class 1 pumps shall also be equipped with one-man closed grip carrying handle. The net weight of size 5M and 5MT shall be not greater than 85 pounds (lb.) (38 kg). Base-mounted size 8M and 9MTC, class 1 pumps shall also be equipped with a two-man closed grip carrying handle. The net weight of size 8M and 9MTC pumps shall be not greater than 170 lb. (77 kg). Class 5, base-mounted pumps shall be furnished with a tubular, wrap-around, welded, roll-bar frame firmly attached to the base mounting. The frame shall consist of tubular members having an outside diameter of not less than 0.75-inch (19 mm). The frame shall be designed to prevent damage to any component of the pump unit should the pump roll on its top or any of its four sides. In accordance with 2., base mountings shall be limited to pumps having nominal capacities not greater than 9,000 gph (34 067 L/s) for class 5, and not greater than 18,000 gph (68 135 L/s) for class 1.



## A-A-50572

3.4.2 Skid mounting (class 3). When specified (see 7.3), skid mounting shall be furnished for pumps having nominal capacities of not less than 20,000 gph (75 706 L/s). The skid mounting shall consist of a base mounting having steel skids longitudinal along each of the two longest edges of the base mounting. The skids shall be structural steel shapes and shall be of sufficient depth to provide not less than 3-inch (76.20 mm) clearance between the ground and the underside of the base plate or cross members. The bearing surface of each skid shall be not less than 2 inches (50.80 mm) wide. Both ends of each skid shall be beveled or rounded to facilitate skidding and shall be equipped with pulling attachments. A hole, not less than 2 inches (50.80 mm) in diameter, near the ends of each skid shall be acceptable for pump sizes up to 20M and 3 inches (76.20 mm) in diameter for larger size units in lieu of pulling attachments. The pump and engine shall be mounted to the skid base in a manner to permit ready removal and replacement of either or both components. Skid mountings shall be designed and constructed to permit pulling (skidding) the units over dry, unpaved surfaces at speeds up to 5 miles per hour (mph) (8 kilometre per hour (km/h)) without damage to the skid, or damage to, or misalignment of any components mounted on the skid. All skid mounted pumps shall also be capable of being towed at 5 mph (8 km/h) in a series of S-curves for not less than 300 feet (91.2 m), without any damage to the skid or causing misalignment of the pump mounted on the skid.

3.4.3 Wheel mountings. Tire and rim sizes shall be the same for all wheels. Tires for vehicular-towed pumps shall be tube or tubeless type with highway tread, and shall be of rated capacity at least equal to the load imposed on each tire, measured at each wheel at the ground. Tires for vehicular-towed pumps shall be not less than 100 level quality and shall be of domestic make. When tube type tires are furnished, tubes shall be heavy-duty type, and shall be of proper size for the tires furnished.

3.4.3.1 Manually-propelled (class 2). Class 2, wheel-mounted, manually-propelled pumps shall have wheel mounting requirements as specified in table IV. Class 2 mountings shall consist of a two-wheel, rubber-tired cart with a push bar or handle, and a supporting leg. Tires shall be of the semi-pneumatic industrial type, or pneumatic wheelbarrow type in accordance with table IV (see 7.3). Tires and wheels shall be commercially rated to withstand speeds up to 10 mph (16 km/h) when supporting the gross weight of the pump unit.

3.4.3.2 Vehicular-towed (class 2A and 4) wheel-mounted. Wheel mountings for class 2A and class 4 pumps shall be designed for vehicular towing over graded gravel roads at speeds up to 20 mph (32 km/h) with wheel and tire sizes specified in 3.4.3. All vehicular-towed pumps mounted on automotive-type tires shall be capable of being towed for a distance of not less than 15 miles (24 km), the pump shall not sustain any damage or misalignment. The undercarriage shall include a drawbar and lunette-type towing ring. The towing ring shall be fabricated of 1-inch (25.4 mm) round steel stock, and shall form a ring with 3-inch  $\pm$  0.0625-inch (76  $\pm$  1 mm  $\pm$  1.588 mm) inside diameter. The towing assembly shall include two safety chains with links formed of stock not less than required by DoT FMVSSR. The safety chains shall be anchored to the drawbar and shall extend 24 inches (609.60 mm) beyond the towing ring. The loose end of each chain shall be fitted with a safety-type hook or a pin-type clevis. Axle ratings shall be at least equal to the load imposed on each axle, measured at the ground, with wheeled undercarriages



## A-A-50572

loaded with rated payload. Class 2A, two-wheeled undercarriages shall be equipped with one or more retractable landing legs located, as required, to prevent the unit from tipping when disconnected from the towing vehicle. The leg(s) shall be capable of maintaining the unit in a stable, level attitude during operation. Class 4 wheeled undercarriages, applicable to sizes 90M and 70MT, and larger rated pumps on an optional basis shall be furnished with four rubber-tired wheels and automotive type steering. Clearances shall preclude interference between tires and any other part of the assembly when making turns and under the operating conditions specified herein.

3.4.3.3 Vehicular-towed (class 4A) wheel-mounted. The four-wheeled tandem axle undercarriage for class 4A pump units shall be applicable to sizes 90M and 70MT and larger rated pumps on an optional basis. Wheel mountings shall be designed for vehicular towing up to speeds of 50 mph (80 km/h) on improved roads and over graded gravel roads at speeds up to 20 mph (32 km/h) with wheel and tire sizes specified in 3.4.3. The undercarriage shall include a drawbar and lunette-type towing ring adjustable from 20 to 33 inches (508.0 to 838.2 mm) above the ground. The towing ring shall be fabricated of 1-inch (25.40 mm) round steel stock and shall form a ring with 3-inch  $\pm$  0.065-inch (76 mm  $\pm$  1 mm) inside diameter. The towing assembly shall include two safety chains with links formed of stock not less than required by DoT FMVSSR. The safety chains shall be anchored to the drawbar and shall extend 24 inches (609.60 mm) beyond the towing rings. The loose end of each chain shall be fitted with a safety hook or a pin type clevis. The tandem axle ratings shall be not less than equal to the load imposed on each axle, measured at the ground level when loaded with rated payload. The tandem axle undercarriage shall be furnished with the manufacturer's standard suspension system. Each component of the suspension system shall have a rated capacity not less than that equal to the load imposed, measured at the ground when the trailer is loaded with its rated payload. The wheels and axles shall be equipped with breaks conforming to DoT FMVSSR. The undercarriage shall be equipped with one or more retractable landing legs located, as required, to prevent the unit from tipping when disconnected from towing vehicles. The leg(s) shall be adjustable to maintain the unit in a stable, level attitude during operation. Clearances shall preclude interference between tires and any other part of the undercarriage under the operating conditions specified herein.

3.5 Lifting and tiedown attachments. Class 1, size 5M, 5MT, 5MTC, 8M, and 9MTC pumps shall be equipped with lifting attachments as specified in 3.4.1. A nonferrous transportation plate shall be provided and mechanically attached to the pump unit. Transportation plates shall be inscribed with a diagram showing the lifting attachments and lifting slings, the capacity of each attachments, and the required length and size of each sling cable. A silhouette of the item furnished showing the center of gravity shall be provided on the transportation plate. Tiedown attachments may be identified by stenciling or other suitable marking. Tiedown marking shall clearly indicate that the attachments are intended for the tie down of the pump unit on the carrier when shipped. The lifting devices, except for one-man or two-man close grip carrying handles, shall be capable of withstanding a loading equal to 2.5 times the normal static load when the pump is suspended in a normal position.

A-A-50572

TABLE IV. Wheel mounting requirements for class 2, manually propelled.

Pump rating	Minimum tire sizes	
	Semi-pneumatic Industrial	Pneumatic Wheelbarrow
5M, 5MT, 5MTC	10 X 2.75	
8M, 9MTC	10 X 2.75	
10M, 10MT	10 X 2.75	
15M, 18M, 18MT, 15MTC	10 X 2.75	4.00 X 8 <u>1/</u>
20M, 22MTC		4.00 X 8
40M		4.00 X 8 <u>2/</u>
<u>1/</u> Optional: To be furnished when specified (see 7.3).		
<u>2/</u> To be furnished when class 2 is specified in lieu of class 2A for size 40M (see 7.3).		

3.6 Safety. All mechanical and electrical parts that are of such nature or so located as to become a hazard to operating or maintenance personnel shall be enclosed or properly guarded. The pump shall comply with OSHA 29, CFR, 1910.95 for noise and 1910.219 for guarding. All vehicular-towed pumps shall comply with all applicable DoT FMVSSR in effect on date of manufacture.

3.6.1 Noise for Air Force acquisition. When specified (see 7.3), for Air Force acquisition, the noise level at the operator's position at the control panel, while the pump is delivering rated capacity, shall be within the limits for the preferred frequencies. If the noise level is not within acceptable limits, the distance from the control panel at which it becomes acceptable shall be determined. That distance shall be shown on warning plates mounted on both sides of each pump unit, stating: "WARNING EAR PROTECTION REQUIRED WITHIN \_\_\_\_ FEET(METRE) WHEN EQUIPMENT IS OPERATING." The manufacturer of the pump shall be responsible for filling in the number of feet for the required distance. The warning shall be legible from the distance shown on the warning plate.

3.6.2 DoT FMVSSR. All vehicular-towed pump units shall comply with all applicable DoT FMVSSR in effect on the date of manufacture.

3.7 Performance. The pump shall meet the minimum capacity requirement. The capacity requirement for each type of pump shall be attainable without exceeding the continuous horsepower rating of the engine as specified herein. Pump capacities at the specified heads and static suction lifts shall be achieved with the contractor's standard suction hose 5 feet (1.5 m) longer than the static suction lift. The specific weight of water at 68° F (20° C) at sea level (29.92 inches (758 mm)) of mercury shall be 62.3 lb/cu. ft. (998 kg/m). After initial priming, the pump shall, on succeeding startups, automatically self-prime. The pump shall pass solids as specified in 3.3.1.1, 3.3.1.2 and 3.3.1.3.

A-A-50572

#### 4. REGULATORY REQUIREMENTS.

4.1 Recovered materials. The offeror/contractor is encouraged to use recovered materials to the maximum extent practicable, in accordance with paragraph 23.403 of the Federal Acquisition Regulation (FAR). Unless otherwise specified herein, all equipment, material, and articles incorporated in the work covered by this commercial item description are to be new and fabricated using materials produced from recovered materials to the maximum extent 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. Unless otherwise specified, none of the above shall be interpreted to mean that the use of used or rebuilt products are allowed under this commercial item description.

4.2 Metric products. Products manufactured to metric dimensions will be considered on an equal basis with those manufactured using inch-pound units, provided they fall within specified tolerance using conversion tables contained in the last version of ASTM E 380, and all other requirements of this commercial item description including form, fit, and function are met. If a product is manufactured to metric dimensions, and these dimensions exceed the tolerances specified in the inch-pound units, a request should be made to the contracting officer to determine if the product is acceptable. The contracting officer has the option of accepting or rejecting the product.

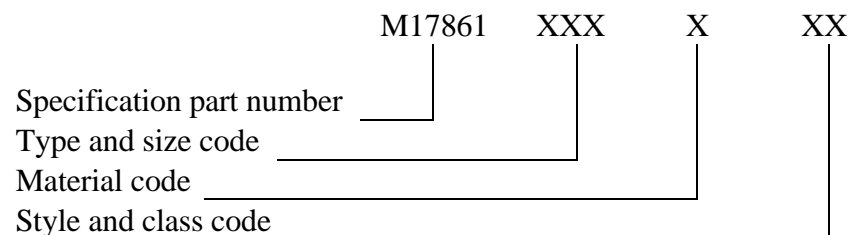
#### 5. QUALITY ASSURANCE PROVISIONS.

5.1 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 product offered for sale in the commercial market. The Government reserves the right to require proof of such conformance.

6. PACKAGING. The preservation, packing, and marking shall be as specified in the contract or order.

#### 7. NOTES

7.1 Part or identifying number (PIN). The following part identification numbering procedure is for Government purposes and does not constitute a requirement for the contractor. The PINs to be used for items acquired to this description are created as follows:



## A-A-50572

7.1.1 Type and size to code identifier. The type and size of the pump unit is identified by a three-digit identifier as shown in table V. The first number identifies the type; the second and third numbers identify the size.

7.1.2 Material to code identifier. The material of the pump unit is identified by a single letter specified (see 2.).

7.1.3 Style and classes to code identifier. The style and class of the pump unit is identified by a two-digit identifier as shown in table VI. The first character is a single letter identifying the style and the second character is a single number identifying the class.

TABLE V. Type and size to code identifier.

Type and size	Code number	Type and size	Code number	Type and size	Code number
Type I		Type III		Type IV	
Size 5M	101	Size 5MT	331	Size 5MTC	441
Size 8M	102	Size 10MT	332	Size 9MTC	442
Size 10M	103	Size 18MT	333	Size 15MTC	443
Size 15M	104	Size 33MT	334	Size 22MTC	444
Size 18M	105	Size 35MT	335		
Size 20M	106	Size 70MT	336		
Size 40M	107				
Size 90M	108				
Size 125M	109				
Size 200M	110				

TABLE VII. Style and class to code identifier.

Style	Class						
	1	2	2A	3	4	4A	5
A	A1	A2	A3	A4	A5	A6	A7
B	B1	B2	B3	B4	B5	B6	B7

## A-A-50572

7.2 Source of documents.

7.2.1 Department of Transportation (DoT) documents may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.

7.2.2 The Federal Acquisition Regulation (FAR) may be obtained from the Superintendent of Documents, U.S. Printing Office, Washington, DC 20402.

7.2.3 Occupational Safety and Health Administration (OSHA) documents may be obtained from the Superintendent of Documents, U.S. Printing Office, Washington, DC 20402.

7.2.4 The Contractor's Pump Manual may be obtained from the Contractor's Pump Bureau, 13975 Connecticut Avenue, Silver Spring, MD 20906.

7.2.5 ASTM standards may be obtained from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

7.3 Ordering data. Acquisition documents should specify the following:

- a. Type, size, material, class, and style of pump unit required (see 2.).
- b. Material required for pump casing (see 3.3.2).
- c. When optional connections are required; type of flange for option 1, when 1.50-inch (38.1 mm) thread adapters are to be NPSH in lieu of NH for option 2; when size of hose threads are other than as specified in option 2 (see 3.3.6.1).
- d. When hose is furnished (see 3.3.8).
- e. Type of engine, if other than as specified; and whether engine is to be gasoline or diesel driven (see 3.3.9).
- f. When skid mountings are required for class 3 pumps with capacities over 20,000 gph (75 706 L/s) (see 3.4.2).
- g. When pneumatic wheel barrow type tires are required for sizes 15M, 18M, 18MT, 15MTC, and 40M (see 3.4.3.1).
- h. When noise level limits are to be invoked for Air Force acquisition (see 3.6.1).

7.4 Subject term (key word) listing.

Base mounted  
 Pump  
 Skid mounted  
 Solids handling  
 Wheel mounted

A-A-50572

MILITARY INTERESTS:

Custodians:

Army - CE

Navy - YD1

Air Force - 99

Review Activities:

Army - AT

Navy - MC

DLA - GS

CIVIL AGENCY COORDINATING ACTIVITIES:

DOT- ACO

GSA - FSS

GSA - FCAE

GSA - 10FTE

Preparing Activity:

Navy - YD1

(Project 4320-0018)

# 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-50572

2. DOCUMENT DATE (YYMMDD)  
2 JULY 1997

3. DOCUMENT TITLE PUMP UNIT, CENTRIFUGAL: PORTABLE, SELF-PRIMING, ENGINE-DRIVEN (DEWATERING; CONTRACTOR AND TRASH TYPE)

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 NAVAL CONSTRUCTION BATTALION CENTER

b. TELEPHONE (Include Area Code)  
(1) Commercial (2) AUTOVON

c. ADDRESS (Include Zip Code)

1000 23<sup>RD</sup> AVENUE  
PORT HUENEME, CA 93043-4301

IF YOU DO NOT RECEIVE A REPLY WITHIN 45 DAYS, CONTACT:  
DEFENSE QUALITY AND STANDARDIZATION OFFICE  
5203 Leesburg Pike, Suite 1403, Falls Church, VA 22401-3466  
Telephone (703) 756-2340 AUTOVON 289-2340