BB-4-18 Portable Pump Specification

Pump Performance and Rating:

The pump/engine shall perform to the standards of ISO 9 and NFPA 1906 medium pressure rating of 50 GPM. Typical pump performance from 5 foot draft under standard NFPA conditions shall be 50 GPM @ 350 PSI, 80 GPM @ 250 PSI, 100 GPM @ 150 PSI, and 100 GPM @ 100 PSI.

The pump shall provide a maximum pressure of 440 PSI and a maximum flow of 104 GPM. It shall be capable of operating to a maximum pressure of 600 PSI and be capable of passing a hydrostatic test of 550 PSI for 10 minutes per NFPA 1906 specifications – NO EXCEPTIONS.

Pump Suction/Discharge Ports:

The pump intake shall be a 2" Male NPSH hose thread and be an integral part of the pump intake cover. The pump discharge shall be a 1-1/2" Male NPSH hose thread and be an integral part of the pump body. The pump intake and discharge shall be in locations where applicable hose thread adapters can be installed without interference.

Pump:

The pump shall be a 4-stage centrifugal pump with the pump body, diffusers, and impellers made of an anodized corrosive resistance aluminum. The impeller must be aluminum to match the pump body and diffusers in order to prevent galvanic corrosion from taking place between pump components – NO EXCEPTIONS. The impellers shall be 3.67 inches in diameter.

The pump shaft shall be stainless steel supported by two maintenance free bearings and shall not be co-linear to the engine's drive shaft. A sealed roller bearing shall be located externally from the pump and a sintered bronze bushing shall be located within the pump cover. In addition, the pump seal shall be a mechanical rotary seal, shall be externally pressurized and shall incorporate a blister-resistant carbon seal face, silicon carbide seat, and fully integrated drive bushing – NO EXCEPTIONS.

A 1-1/2 NPSH priming port shall be located on the top side of the pump near the intake cover.

The pump shall be coupled to a vertical belt driven speed increaser with a quick release clamp capable of being removed by hand and without any additional tools – NO EXCEPTIONS. The quick release clamp system shall allow for the entire pump assembly, pump body with all its internal and external components, to be removable and capable of being service at a location away from the gasoline engine and fire apparatus upon which it was part of. It shall also allow for the swapping out of the same or different performance pump assemblies within a minute's time – NO EXCEPTIONS.

The vertical belt driven speed increaser shall be a low maintenance timing belt and pulley system – NO EXCEPTIONS. The belt shall be a high quality timing belt and the drive pulley shall mount directly on the engine drive shaft through a means of a keyed tapered locking device. The increaser shall be a 1 to 1.88 ratio. In addition, a dampening device shall be provided between the pump shaft and pump shaft pulley.

Both the pump and vertical speed increaser shall be painted red.

Engine:

The engine shall be a 4-cycle Briggs and Stratton horizontal drive Vanguard series V-twin overhead cam air cooled gasoline engine. The engine rating shall be 18 HP at 4000 RPM with a maximum torque of 26.9 lb-ft at 2800 rpm. The engine shall have a 2.83 bore, 2.76 inches of stroke, and a displacement of 34.78 cubic inches. The engine shall meet current EPA and CARB emission standards.

The electrical system of the engine shall be 12 VDC. It shall have an electric starting system with a recoil backup. It shall also have a 16 amp regulating alternator and be pre-wired with a 3 feet engine harness to allow it to connect to a mating control harness via an 8-pin industrial sealed quick-connect connector – NO EXCEPTIONS.

Muffler:

The engine muffler system shall be dual low tone mufflers if a hand or electric primer is provided or a single vertical side mounted muffler if an exhaust primer is provided. The muffler system shall be equipped with a forestry approved spark arrestor.

Fuel Tank:

The unit shall have the ability of offering a fuel tank with a manual shut off valve that is an integral part of the pump/engine unit and meet current EPA evaporative emission standards. The integral fuel tank shall have a 7 quart fuel capacity.

Priming:

The pump shall provide the following pump priming options: a guzzler type hand primer, an exhaust venturi primer, or a 12VDC electric primer.

The guzzler hand primer shall have a composite body with aluminum handle and reinforced buna-n diaphragm and flapper valves. It shall have a lift of 12 feet with the capability of approximately 16 feet when a foot valve is used on the pump suction hose. The hand primer shall be capable of handling a maximum pressure of 15 PSI and weigh 1.7 pounds. It shall ship loose with the unit with all the essential hardware items and hose needed to connect it to the pump up to 6 feet away.

The exhaust primer shall be an integral part of the muffler and shall be capable of pulling a minimum of 17 in-Hg vacuum. The venturi primer shall be of complete brass construction and pressurized via a push/pull cable operated exhaust valve located on the opposite side of the muffler. The exhaust valve must be constructed of a corrosive resistant aluminum body with stainless shaft and disc.

The electric primer shall be a 12 VDC piston type vacuum pump with 3/8 female NPT intake and discharge ports – NO EXCEPTIONS. The body of the electric primer shall be a corrosive resistant aluminum with bronze sleeves and a composite piston. It shall pull a maximum current of 105 amps and have a vacuum of 22 in-Hg. The electric primer shall weigh 8.1 pounds. It shall ship loose with the unit with all the essential hardware items and hose needed to connect it to the pump up to 6 feet away.

Any priming system offered must be connected to the pump through a ¼ turn ball type shut-off valve to prevent the priming system from being pressurized when the pump is attached to a pressurized water source.

Frame:

The pump/engine unit shall be mounted on a black powder coated carry frame. The frame shall have two U-shaped carry handles that are an integral part of the base tubular frame – NO EXCEPTIONS.

The frame shall house the battery kit for the unit when electric start and/or electric priming option are a part of the portable pump unit.

Control Panel:

The pump shall have the capability of being supplied with the Briggs and Stratton standard engine controls or with an engine mounted control panel.

The engine mount control panel shall be mounted on the starter side of the engine at an angle easily seen when the operator is in a standing position – NO EXCEPTIONS. It shall have the following features and controls: chrome On/Off toggle and vernier throttle with red emergency throttle idle push button. It shall provide the option for a push button engine start, red LED low oil pressure warning indicator and priming momentary chrome toggle switch if provided with a battery kit and electric primer. All electrical components shall be weather resistant.

The engine choke shall be the standard Briggs and Stratton push/pull ring.

Pump Discharge Gauge:

The pump shall be provided with a liquid filled dual unit 0-600 PSI/0-4000 kilopascals pump discharge pressure gauge. The gauge shall mount on an auxiliary port located on the 1-1/2" discharge check valve.