

LIGHTWEIGHT SLIP-ON FIREFIGHTING UNIT

DRAWINGS

To ensure unit will be built to the customer's specifications, C.A.D. drawings from multiple angles of the complete package will be provided to the buyer prior to construction of the unit. Drawings must be kept on file for five years at the contractor's facility.

SPECIFICATIONS

1.0 General Description

The purpose of these specifications is to describe a self-contained modular slip-on firefighting unit consisting of tank, reel, control panel, engine and pump that can be easily mounted or removed from a pickup bed truck chassis of sufficient payload capacity for the unit, full of all fluids. The bidder shall note any exceptions or variations to these specifications.

1.1 Capacity and Dimensions

The unit shall have a water tank with capacity of 50 Gallons (U.S.) with the overall dimensions and weight set according to customer's specifications.

1.2 Frame

The entire unit shall rest on an aluminum square tubular 1" frame that supports tank and platform. The frame is constructed so that the tank is fully supported with the areas between the interior frames not exceeding 540 square inches. The tank shall be isolated from the frame with 60 durometer, minimum .25 inch thick by 2 inch wide, hard rubber cushion between the frame and tank. The frame shall provide mounting flanges to truck bed. Frame shall be manufactured by the contractor.

1.3 Water Storage Tank Construction

The tank shall be constructed of 1/2" thick polypropylene sheet stock. This material shall be non-corrosive stress relieved thermo-plastic, natural black in color and U.V. stabilized for maximum protection. Materials used shall be compatible with fire fighting foams, retardants and wetting agents, and meet FDA requirements for potable water. All joints and seams shall be extrusion double welded and tested for maximum strength and integrity. The transverse baffle partitions shall be manufactured of 1/2" stock of the same material and extend from the floor of the tank to the cover to allow for positive welding and maximum integrity. All partitions shall be equipped with vent and air holes to permit movement of air and water between compartments. The partitions shall be designed to provide maximum water flow. All baffle partitions shall interlock with one another and be welded to each other, as well as to the walls of the tank. Grooves on tank wall to be cut on a computer numerical controlled machine to ensure baffle stability. Tank fill connections shall be backed with flow deflectors to diffuse the stream entering the tank. The end wall of tank shall have a vertical translucent panel sight gauge.

The tank shall have a combination vent and manual fill tower. The fill tower shall be constructed of 1/2" polypropylene and shall be a maximum dimension of 8" x 8" outer perimeter. The tower shall have a 1/4" thick, removable polypropylene screen and a polypropylene stainless steel hinged cover.

1.4 Diamond Plate

The entire top of the water tank shall be covered with .125 aluminum diamond plate with broken edges minimum 1", welded and finished. All proportions of frame not covered by the tank shall be covered in similar manner, with a minimum 2" broken edge. All components shall be mounted on top of the tank. Diamond plate shall be sheared, bent, and welded by the contractor.

2.1 Pump and Engine

The pump shall be a CFE #24019 positive displacement pump. A 6.5 hp Briggs & Stratton Vanguard Engine shall power the pump. The engine shall be a one-cylinder, four-cycle, air-cooled engine with manual recoil, electric starter, and fuel tank. The bronze pump housing shall have compound celcon impellers and a discharge of 11GPM at 50 PSI, 9 GPM at 150 PSI and 8 GPM at 200 PSI. Engine shall be mounted on a separate 1" thick platform, constructed of same material as the tank. Engine platform shall be attached to unit with stainless steel studs, flat washers and nuts, which do not require access to underside of platform. Pump shall be manufactured by the contractor.

3.1 Plumbing-General

Plumbing pipe shall be 304 seamless schedule 40 stainless steel, welded, sanded, and shot-blasted to a smooth finish. Steel braided hydraulic hose with reusable end couplings shall provide vibration control to tank and reel stainless steel plumbing manifolds. Tank to pump line shall be 1" full flow suction hose. All valves to be fire service quality with self-locking feature. Valves that are 1" or larger shall be full flow, quarter turn, swing out style bolted to stainless steel flange in order to provide maximum performance and ease of maintenance. All valves shall be labeled as to function.

3.2 Components

All plumbing shall be stainless steel, with all 1" full-flow piping and high-pressure hoses. Brass knife inserts will be used to secure diamond plate and components to top of tank, for ease of installation and removal of components. No underside nuts or bolts shall be used. Non-slit corrugated loom shall cover all water and foam auxiliary lines. A complete installation kit shall be included.

3.3 Hose Reel – Manual

Reel is constructed of welded steel. Reel is light in weight and have proven very durable. The ball bearing rotary joints are constructed from steel, carburized and hardened for long troublefree use. The joints are zinc-plated for corrosion resistance. The double row of ball bearings give the joint a rated working pressure of 600 PSI. Hose Reel designed to handle 200' for 3/4" Booster Hose. The brake is fully adjustable and is anchored to a preloaded compression spring, which will greatly smooth out the drag when unreeling the hose.