



## SPECIFICATIONS FOR BAX 250

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### GENERAL

The intent of this specification is to describe the minimum requirement for a bitumen melting and application device to be used for the placement of pavement markers. This unit shall conform to all standards for bituminous application equipment, including but not limited to, continuous agitation. The system shall have a flexible heated output hose and wand, which can be utilized as a hand held or fixed mounted application device. The system shall be equipped with a positive displacement pump for dispensing preset volumetrically controlled shots of bituminous material.

### CYCLE RATE

Unit shall be capable of dispensing a minimum of 30 shots per minute at a shot size of four ounces each and a material temperature of 425° F.

### MATERIAL CAPACITY

Unit shall be capable of heating 250 lbs. of bituminous material with a specific gravity of 1.4 to a temperature of 425° F from an ambient temperature of 50° F. Unit shall be capable of dispensing material one hour after lighting with 125 pounds of material in melter.

### MELTING TANK

This tank shall be of all welded steel construction. Tank shall be round. Bottom of tank shall be ¼inch thick steel minimum. It shall be equipped with a flame shield, which prevents direct contact between the flame and the bottom of the kettle. Tank shall be LP fired using a ring type burner with an output of 75,000 BTU/HR. Dimensions of the melter shall be 19 inch ID. X 25 inch deep.

### LOADING HATCH

The tank shall have an opening of 17.25”(43.81) x 5.625”(14.29) minimum with an area of 70.1 square inches (452.03 square cm) and shall have a continuous hinge.

### AGITATOR

The material shall be mixed by a hydraulically driven full sweep agitator. Agitator shall be concentric with a positive displacement pump. This feature ensures that the material remains in complete suspension and the material temperature stays consistent throughout the tank. The agitation system shall be chain driven from the hydraulic motor to the agitator. The agitator rotates in one direction. For additional safety the agitator will shut off automatically when the loading hatch is opened.

### POSITIVE DISPLACEMENT PUMP

Pump shall have adjustable output up to 4 ounces per stroke. Pump will have no elastomeric seals and the only moving part shall be the pump plunger. Pump to be hydraulically driven using a 1 1/2-inch diameter drive cylinder with a stroke of 6 inches. Pump to develop a maximum of 500 psi of output pressure with 300 psi of input pressure. Pump to be mounted inside of melting vat with no external seals. Pump drive shaft to be inside of and concentric with the agitator shaft.

### HEATED OUTPUT HOSE

Output hose shall be 10 feet long with a 2-foot rigid applicator wand (optional length hoses and wands available). Hose to be electrically heated with the heating element integral to the outer cover. Hose to be Teflon inner core and stainless steel overbraid with a minimum working pressure rating of 500 psi continuous duty at 425° F.

Burst pressure of the hose is to be at least three times maximum working pressure. Two wire RTD temperature sensor is to be attached to the stainless steel overbraid. Hose to be insulated in order that the maximum external temperature will not exceed 175° F (excluding fittings). Hose shall be operated with low voltage electric current.

Hose shall be 1200 watts minimum. Hose shall be insulated and covered with a high temperature rubber outer covering to protect the hose from external damage and kinking.

#### **OUTPUT VALVE**

Output valve to be mounted at end of output hose to minimize dripping. Valve to be rated for 425° F continuous duty. Valve to be constructed of an elastomeric polymer and have no moving parts and be easily removable using only a screwdriver.

#### **TEMPERATURE INDICATION**

The melter applicator shall have a thermostatic control device that will automatically regulate the material temperature. The control shall have a digital readout for material and hose temperature. The thermostat shall control the burner ignition for a temperature range from a low of 200°F (93.3°C) up to a high of 450°F (232.2°C)

#### **CONTROLS**

Pump to be controlled by a 12 volt DC, 4 way electrically operated hydraulic valve. System to be operational from 60 to 300 psi.

Melting tank temperature and gas burner ignition shall be controlled by a Gas Control Module. Module shall include a 12 DC gas ignition system for lighting burner and a 12 VDC solenoid valve to control gas flow. Module shall include on-off switch, and panel light to indicate system status. It shall also include a safety circuit that senses loss of flame.

Hose temperature shall be regulated by a Hose Control Module. The temperature is to be sensed using a two wire RTD sensor which is attached to the stainless steel overbraid of the hose. Temperature range of the solid state controller shall be 200 to 400° F.

Modular controls are desired to simplify trouble-shooting, inventory of spare parts and to minimize down time when repairs are needed. Machines without modular controls will not be accepted.

#### **ENGINE**

Air-cooled, four cycle, single-cylinder engine.

14 HP (10.4kw) at 3600 RPM

Electronic Ignition

High efficiency air cooling fan

2.64 (67mm) stroke

24.3 cu. In. (398 cu. Cm) displacement

3.43 inches (87mm) bore

Overhead valve design and hydraulic valve lifters

8.5 to 1 compression ratio

Full-pressure oil flow lubrication with 4 pints (1.91l) oil capacity

Optimum engine speed is preset at the factory to power the heated hose and wand

#### **POWER PACK MOUNTING**

Motor, hydraulic pump and generator shall be mounted on a 12-inch wide heavy wall steel channel base. Base to be mounted on skid using four rubber vibration isolators properly sized for the total weight of power pack.

#### **MOUNTING SKID**

Unit shall be mounted on a steel skid with captive slots for easy loading and unloading using a forklift. Skid shall measure 66 inch long X 40.0 inch wide X 3 inch high.

#### **FINISH**

Skid and melter and all exposed steel parts shall be finished with automotive quality paint (Crafco red standard).

#### **MANUAL**

A set of parts/service, safety manuals and other applicable manuals shall be provided on all equipment furnished with unit.