



MARATHON EQUIPMENT INC.
 4041 NORTH SERVICE RD, UNIT #2
 BURLINGTON, ON, CANADA
 L7L 4X6

SPECIFICATIONS

KERA370BRE
370 GALLON MELTING KETTLE
ELECTRICALLY HEATED HOSE

PURPOSE

The crack sealing kettle must be able to safely heat, agitate & apply all grades of asphalt rubber based sealants, joint sealants and hot pour crack sealants in a consistent process. Qualified bidders must provide a factory trained representative for initial startup and training while also maintaining an active inventory of replacement parts for the equipment.

1. GENERAL		YES	NO
1A	The machine must be new, current year production and meet the needs of this specification without modification. Any hybrid, one-off or prototype units are deemed unacceptable. Equipment shall have a working volume of nothing less than called for in this specification.		
1B	Complete operation and training manuals are to be provided along with a recommended repair parts list.		
1C	The machine must be capable of starting at ambient temperature and bringing material to working temperature in less than two hours.		
1D	The machine shall be an oil jacketed design to provide consistent heating and melting throughout. Direct fire or air jacketed units are not acceptable.		
1E	The machine must utilize digital thermostat control for both material and heat transfer oil temperatures for maximum accuracy and to maintain each temperature within the manufacturer's specified range.		
1F	The machine must have calibrated analog dial thermometers located at the rear. Temperature intervals shall be no more than 5°F (2.8°C) for accuracy.		
1G	The machine must have continuous sealant agitation to provide the correct product temperature and viscosity prior to application.		
1H	The machine must have the ability to recirculate sealant back to tank with and without the electrically heated hose.		
2. SAFETY FEATURES		YES	NO
2A	Top loading doors feature a safety shut off switch so that agitator rotation stops once a door opens and only resumes once door is closed.		
2B	Material loading height will be no more than 57 inches (144.78 cm) for proper lifting ergonomics and to eliminate operator fatigue.		



2. SAFETY FEATURES (cont'd)		YES	NO
2C	Applicator wand has a button trigger design that automatically shuts off pump flow when released.		
2D	Machine includes a vented heat transfer oil expansion tank. Sealed expansion tanks will be considered a fatal deviation and unacceptable.		
2E	Minimum 10lb. fire extinguisher mounted to unit in a dedicated bracket. Location shall always be accessible to operator.		
2F	Machine to be outfitted with heat resistant safety decals and signage. 2 inch (5.08 cm) conspicuity tape along trailer frame to maximize night time visibility.		

3. TRAILER & FRAME		YES	NO
3A	Machine is trailer mounted and capable of being safely towed at highway speeds when fully loaded.		
3B	The frame is to be constructed of minimum 6 inch x 8.2 pound gusseted steel channel for safety and strength.		
3C	Tongue equipped with a bolt-on heavy duty 3 inch (7.62 cm) pintle hitch ring and be height adjustable for level towing, 14 inches up and down.		
3D	Heavy duty screw type, side wind trailer jack with a 7000lb (3,175 kg) capacity to be welded to frame.		
3E	Equipped with LED stop, tail, and turn lights. Clearance lighting also to be LED.		
3F	Illuminated license plate bracket attached to the rear of curb side fender.		
3G	Junction box installed to allow easy changeover of different towing vehicle plugs. A standard seven (7) pin flat RV round plug will be included.		
3H	Equipped with two safety chains measuring no less than 48 inches (35.56 cm) long. Double clevis mid links and safety slip hooks included.		

4. SUSPENSION & WHEELS		YES	NO
4A	Equipped with tandem axle slipper spring system with a GAWR (Gross Axle Weight Rating) of 14,000lbs (6,350 kg.)		
4B	Electric brakes on all four wheels with an emergency breakaway switch included.		



4. SUSPENSION & WHEELS (cont'd)		YES	NO
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4C	Heavy duty ST235/85R16 radial tires (Load Range E) mounted on aluminum rims.		
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5. TANK		YES	NO
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5A	Double boiler type design with a minimum working volume of 370 gallons (1400 L). Working volume described as the maximum usable amount of sealant that can be contained in the material tank at one time and pumped out of the heated hose.		
5B	Both sealant and heated oil tanks must be constructed of no less than 10 gauge (.1345 inch) steel.		
5C	Firing chamber lined with 1.5 inch (3.81 cm) ceramic insulation on top, bottom & both sides.		
5D	Heat transfer oil jacket to have complete material vat surface coverage including front, rear & both sides.		
5E	Heat transfer oil tank must hold a minimum of 69 gallons (261L) at ambient temperature.		
5F	Heat transfer oil shall be Shell S2X (ISO grade 68.)		
5G	Heat transfer oil jacket shall have a single drain port, located underneath the unit at the rear.		
5H	6 inch (15.24 cm) wand recirculation port located at rear of tank with latching lid and internal grate to prevent wand/hose submersion into sealant.		
5I	Tank will have a 1500 watt, 120 volt overnight heater. Heater is installed on the unit's rear wall in a protective enclosure with electrical plug hook-up.		
5J	Sealant tank has a 3 inch (7.62 cm) flange for the installation of a draw off valve.		

6. HEATING SYSTEM		YES	NO
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6A	Tank features one 12 volt 340,000 BTU diesel burner.		
6B	The burner must be self-priming and be equipped with a fuel pressure gauge.		
6C	Diesel burner shall be ignited by a high voltage, interrupted ignition 12 volt primary controller and electronic spark igniter's.		
6D	Externally mounted green LED beacon light indicating when diesel burner is active.		



7. HYDRAULICS		YES	NO
7A	Minimum 30 gallon (113.56 L) reservoir tank with a 10 micron in-line filter, located on return side.		
7B	Tank shall be a bolt-on design to allow future replacements.		
7C	Hydraulic oil reservoir equipped with a low mount 1.5 inch (3.81 cm) suction strainer rated at 15 GPM.		
7D	Engine driven double stacked hydraulic pump rated at 16CC / 8CC.		
7E	Agitator and pump forward/reverse will be controlled from a hydraulic manifold with lever control handles, located on the curb side.		
7F	Agitation speed controlled by a hydraulic speed control located in the hydraulic manifold.		
7G	Analog pressure gauge for system pressure, located on hydraulic manifold.		
7H	Air-to-oil hydraulic cooler with integrated electric fan to maintain correct hydraulic system temperature.		
8. AGITATION SYSTEM		YES	NO
8A	Speed adjustable, side sweep horizontal agitator design.		
9. ENGINE		YES	NO
9A	Rehiko three cylinder diesel engine. Direct injected, water cooled, 23 HP, tier 4 final emissions.		
9B	Electric start with auto shutdown protection for alternator, oil pressure, coolant temperature, air filtration system and low voltage.		
9C	Engine faults and integrated hour meter to be indicated on illuminated control box for easy viewing.		
9D	Adjustable throttle provided with quick-kill option to return to idle RPM.		
9E	Engine to have a protective weather guard installed that allows access to all filters and fill points without the need to remove.		
10. FUEL SYSTEM		YES	NO
10A	Minimum 30 gallon (113.5 L) diesel fuel tank. The tank will incorporate a lockable fuel fill cap and an analog fuel gauge.		



10. FUEL SYSTEM (cont'd)		YES	NO
10B	The engine shall have it's own spin-on type fuel filter with ball valve shut off to simplify filter replacement and/or maintenance. Ball valve to be located on fuel tank.		
10C	The diesel burner shall have it's own spin-on type fuel filter with ball valve shut off to simplify filter replacement and/or maintenance. The filter shall be located near the fuel tank for ease of maintenance. Ball valve to be located on fuel tank.		
10D	Tank shall be a bolt-on design to allow future replacements.		

11. KETTLE TEMPERATURE CONTROL		YES	NO
11A	Dual digital thermostat controllers that automatically regulate oil and material temperature based off of a user defined set point.		
11B	Control intervals no greater than one degree Fahrenheit via continuously monitored thermocouples.		
11C	Controllers must display an error code and shut burner down should any thermocouple failure occur.		
11D	Thermostat power is controlled by a single toggle switch located on panel.		
11E	Controllers must be located in a weather tight box on the front curbside of machine.		
11F	Burner reset button located on panel in the event of a fault where burner enters "lockout mode."		

12. HEATED HOSE & WAND		YES	NO
12A	Electrically heated sealant hose powered by a 120VAC gas generator, located on front side of unit. Non-heated or oil jacketed hoses are unacceptable.		
12B	Sealant hose temperature is controlled with a dedicated digital thermostat which automatically regulates the temperature based off of a user defined set point.		
12C	Sealant hose temperature shall be able to reach 400°F (204°C) in under 20 minutes.		
12D	Sealant hose is built with no less than 3/4 inch (1.91 cm) inside diameter. Hose must be Teflon ("PTFE") based with metal corrugated outside liner for burst safety. Hose is insulated and wrapped in a protective, high-heat outer layer to prevent burns to operator. Integrated swivel fitting ends with 360° rotation are mandatory.		
12E	Sealant hose length shall measure no less than 22 feet (6.70 m).		



12. HEATED HOSE & WAND (cont'd)		YES	NO
12F	Wand is constructed of lightweight aluminum to eliminate operator fatigue.		
12G	Standard applicator end shall be a high flow 3/4 inch (1.91 cm) x 4 inch (10.16 cm) swivel disk made of stainless steel. Applicator ends must be interchangeable to suit.		
12H	Wand has dual button triggers for on-demand pumping and operator alert horn system.		
13. PUMPING SYSTEM		YES	NO
13A	Sealant pump shall be a 2 inch (5.1 cm) positive displacement helical gear pump with an output rating of 11 GPM.		
13B	Sealant pump is located inside the material tank, suspended beneath the canopy.		
13C	Sealant pump has bi-directional rotation and is controlled with a simplified lever control handle.		
13D	Pumping system must be capable of exceeding the machines sealant melt rate.		
13E	Sealant flow control is operated with a ball valve located at the rear topside of unit. This valve shall be heated by tank heat and allow operator to switch between tank re-circulation and user defined wand pressure.		
14. MISCELLANEOUS		YES	NO
13A	Dual reverse-loading doors - minimum 14 inch (35.56 cm) x 29 inch (73.66 cm).		
13B	Loading doors are located on the curb side of the machine and shall be an insulated and lockable design.		
13C	Trailer fenders constructed with 10 gauge (.1345 inch) steel and welded to machine. Fenders shall be no less than 72 inches (182.88 cm) in length and 14 inches (35.56 cm) in width to facilitate handling and easiest loading of material blocks.		
13D	Hose is supported by a 7 foot (84 inch) tubular boom with locking swivel base. Boom has locking collar to prevent hose from twisting during operator movement.		
15. PAINT		YES	NO
14A	Machine to be painted using epoxy primer and a urethane top coat. Machine to be painted manufacturer's standard colour unless optional custom colour is purchased.		



16. WARRANTY		YES	NO
15A	The manufacturer shall warranty the equipment for a period of two years with unlimited hours of use. Trailer frames will be covered for a period of five years with unlimited hours of use. Third party coverages are excluded from the above time frames and carry their own coverage timeline(s). Bidder warranty policy must be included with bid submittal and shall outline all coverages and timelines.		

17. OPTIONS		PART NUMBER	YES	NO
16A	Slow moving vehicle sign	11-1027		
16B	Amber strobe light	11-8140		
16C	Flashing LED arrow stick advisor	11-1025		
16D	LED work light (installed, each)	11-1010		
16E	2-5/16" ball hitch (replaces pintle ring)	11-8109		
16F	Spare tire and rim mounted to trailer	SPTIRE		
16G	Aluminum rims (upgrade)	RIMS		
16H	Custom paint colour (blue, grey, orange, yellow, or red)	13-9999		
16I	Tool box	11-1147		
16J	Hydraulic surge brakes	11-2046		
16K	1500 watt, 240 volt overnight heaters	11-1506		
16L	Electronic Control (Sealant Pump & Agitator)	11-1032		
16M	80 CFM air compressor w/ 40ft air hose & wand	11-0402		
16N	Hot air lance (replaces air wand)	50-0122		

These specifications are not intended to be restrictive, but are meant to describe the kind and size of unit desired to be purchased in detail. If bidder is basing the proposal on equipment other than what is specified in these bid documents and wishes the equipment to be considered as an "approved equal" they shall submit on a separate sheet, an item by item description of that which is proposed. The bidder's specifications must be complete and of sufficient detail to cover all items included in this bid specification and in a manner that allows a direct comparison. Any item not covered will be deemed as not meeting specifications. Such bidder shall also include, but not as a substitute for the above, any manufacturer's literature. In addition, if the bidder takes exception to any item they shall note this and describe in detail the exception and how the proposal is an "approved equal".

Failure to carry out the provisions noted herein may be deemed sufficient reason to reject the bidder's proposal.