

Specifications



OJK-V *STEPP Oil Jacketed Kettle*



The Stepp Trailer Mounted OJK is the
perfect blend of

PERFORMANCE, DURABILITY,

and VERSATILITY

for your pothole patching needs and budget!

Quick Specs	OJK 75	OJK 125
Material Capacity	75 Gallons	125 Gallons
Empty Weight	3,000 lbs.	3,500 lbs.
GVWR	Single Axle 6,000 lbs.	Single Axle 6,000 lbs.
Dimensions (LxWxH)	128"x 73"x 88"	148"x 73"x 96"
Loading Height	48"	53"
Diesel Burner BTU	120,000 BTU	120,000 BTU
LP Burner BTU	250,000 BTU	250,000 BTU
Fuel Tank Capacity	25 Gallons	25 Gallons
Hydraulic Tank Capacity	19 Gallons	19 Gallons
Tank Construction	10 Gauge Tank 10 Gauge Oil Jacket 12 Gauge Insulation Jack-	10 Gauge Tank 10 Gauge Oil Jacket 12 Gauge Insulation Jack-
Tank Configuration	Vertical	Vertical
Frame Construction	2"x 4"x 11 ga Rectangular Steel Tubing	2"x 4"x 11 ga Rectangular Steel Tubing
HTO Capacity	28 Gallons	30 Gallons
Tires	(2) ST225/75R15	(2) ST225/75R15
Brakes	Electric (std) Hydraulic (opt)	Electric (std) Hydraulic (opt)
Hitch	3" Pintle or 2-5/16" Ball	3" Pintle or 2-5/16" Ball
Hitch Height	Adjustable 24"-32"	Adjustable 24"-32"

DETAILED SPECIFICATIONS

Models Available

- OJK-75D OJK-75P
- OJK-125D OJK-125P

*Each base unit includes: Diesel or LP Burner, Automatic Temperature Controls, Gravity Drain, Agitator, and 2 Light LED System.

Brief Description of Model Features

Each model comes with customer's choice of a diesel or LP burner. Each model shall be capable of heating, melting, and applying all grades of rubberized asphalt crack sealer, joint sealants, and water-proofing compounds without the need for additional equipment.

Paint

Surfaces of the unit will be properly prepared and primed per standard industry practices. The machine shall be painted in your choice of High Visibility Safety Orange, Yellow, or Black. Custom colors shall be available upon request. Shall have a two (2) part polyurethane paint.

Warranty

The warranty shall be one year on parts, materials, and workmanship. Product pumps and hoses that handle heated material have a 12 month pro-rated warranty. Component parts such as engines, hydraulic components, tires, etc., shall be covered by the component manufacturers warranties. A complete warranty statement is available upon request.



DETAILED SPECIFICATIONS



Tank Construction

The melting tank shall have a minimum capacity of 75 gallons or 125 gallons, with an actual capacity of 80 gallons or 127 gallons to allow for material expansion. The tank is to be constructed of ten (10) gauge material with a sump in the lowest part of the tank to allow heating of a small amount of material and complete removal of the contents via the product pump. A safety loading chute shall be incorporated into the hood to allow "splash-free" loading of block material into kettle with minimum dimensions being 16"x16". The overall design of the machine is to be constructed to have a loading height not to exceed 53" measured from the ground. Standard unit to be of gravity discharge with an optional pumping system available upon request. The machine is to be equipped with a removable cover to allow for easy access for cleaning and maintenance without the need to comply with the OSHA confined space entry permit regulations. A minimum 2 1/2" draw-off cock with inside closing feature to eliminate valve freeze-up shall be located at rear of machine. All tanks are positioned higher than the axles on the unit to ensure proper ground clearance.

Lights

Combination stop, turn, and clearance lights with license plate bracket wired in a protective loom with 7 prong connector. Shall be a 2 light LED system.

DETAILED SPECIFICATIONS

Trailer

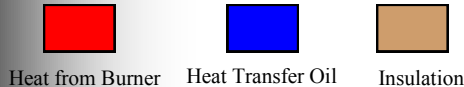
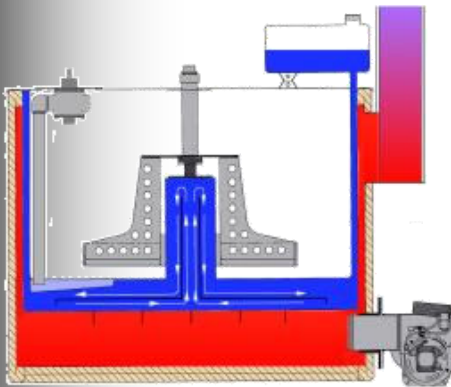
Frame shall be A-frame style constructed of 2" x 4" x 11 gauge high strength, rectangular steel tubing reinforced at all stress points with 1/4" x 6" x 15" fish plates. Open channel shall not be used. Suspension shall be of leaf spring type. Shall have a one-piece bolt-on shackle. Shall have electric brakes with break-away kit and tires. Hydraulic surge brakes are also available to allow for break-away protection by applying brakes in case of accidental break-away from towing vehicle. Hitch shall be of 3" pintle or 2-5/16" ball style (customer specified) and have adjustable height from 21"-34". Fenders shall be heavy duty, minimum 12 gauge steel and be of bolt-on design and able to support 500 lbs. without damage. Trailer electrical system shall be 12 volt DC battery with charging system, with a 6 pin round or 7 pin RV light plug (customer specified). Turn signals and brake lights shall be sealed beam grommeted. Side markers shall be mounted at the rear and sides of unit. A minimum 5,000 lbs. capacity tongue jack, with swing away feature for road clearance, shall be installed. Safety chains shall be grade 40 with attached eye bolts. All wiring and fuel lines shall be run through the inside frame for protection from outside elements. All options for this unit are of bolt-on design for easy installation after unit is delivered.



DETAILED SPECIFICATIONS– HEATING SYSTEM



CUT VIEW OF HEATING SYSTEM



Burner Controls

Automatic spark ignition lights the burner with the flip of a switch and includes flame-out protection to shut off the fuel supply if the flame is blown out. The electronic thermostat has an easy-to-adjust thermostat with a setting range from 0° - 550° F. A large digital LED display makes it easy to monitor the product temperature in the tank. Once the operator sets the desired temperature, burner operation and temperature controls are fully automated with this system. The burner controls and thermostats are to be located in a weather proof enclosure. The enclosure shall have a transparent cover so the temperatures can be monitored without the need to open the cover. The operator shall be able to read the product temperatures when standing 6 feet from the machine.

Propane Heating System

Flue Configuration

The machine is to be equipped with a self-vaporizing liquid LP burner with an operating output of up to 250,000 BTU. The heating system shall operate on liquid propane to eliminate gas system freeze-up.

The machine shall also be equipped with a single flue constructed of 6" diameter x .188" wall thickness fire tube, and a 6" diameter x .135" wall thickness on return tube to a vertical exhaust stack.

Diesel Heating System

Diesel Burner

The machine is to be equipped with one (1) Beckett forced air diesel fuel burner with an operating output of up to 250,000 BTU. The burner fires down a single flue constructed of 8" diameter x .188" wall thickness fire tube, and an 8" diameter x .135" wall thickness on return tube to a vertical exhaust stack. The burner is completely self contained with automatic ignition and safety shut off circuitry to stop the fuel flow if the flame goes out. The burner is designed to operate on 12 volt DC power without the need for additional adaptors or apparatus. The heating system shall operate on either #1 or #2 diesel fuel. Fuel is supplied from a 30 gallon fuel tank.

DETAILED SPECIFICATIONS– HEATING SYSTEM

Heat Transfer Jacket

The heat transfer oil jacket is to be constructed of 10 gauge material. The oil jacket shall contain a minimum quantity of heat transfer oil as follows:

OJK-75.....28 gallons

OJK-125.....30 gallons

The heat transfer oil shall be ISO 460 with a COC flash point of 550° F and a pour point of 25° F.

A cold seal expansion tank shall be provided to eliminate moisture condensation and reduce oil oxidation in the heat transfer oil. The expansion tank shall include a vented down-tube to direct the flow of oil to the ground in the event of an overflow.

A center heat riser shall be installed to direct more heat into the center of the product tank. Heat transfer oil will be circulated in the heat riser by convective means. The heat riser shall be vented to the outside oil jacket to assure the heat riser remains full of heat transfer oil.

There shall be a threaded port in the oil jacket to allow installation of an optional immersion type electrical heating element. If this option is selected, the heating element shall be a minimum of 1500 watts and capable of preheating the heat transfer oil for faster start-up times.

Insulation Jacket

The oil jacket shall be insulated with a minimum of 1" of ceramic refractory insulation. The outer shell that covers the insulation shall be fabricated from 12 gauge steel (minimum).

Combustion Chamber

The combustion chamber shall be engineered and constructed in a configuration that assures the highest efficiency available based upon the BTU output of the burner. Baffling shall be used to direct the heat across the heating chamber and around the side walls for maximum efficiency. Heating fins shall be installed in the combustion chamber to maximize the heat transfer area. The minimum heat transfer surface area to the heat transfer oil shall be :

OJK-75.....4611 sq. in.

OJK-125.....5468 sq. in.

A minimum of 2" of ceramic refractory insulation will be used in the combustion chamber.

For operator safety, the burner and combustion chamber shall be located in front of the product tank to keep noise and exhaust fumes as far away from the operator as possible.

DETAILED SPECIFICATIONS



Diesel Engine

The engine shall be a two cylinder, water cooled, Kubota® model Z602 diesel engine complete with air, fuel, and oil filters, electric starter, alternator, muffler with rain cover, battery and lockable steel battery box, hour meter, warning lights, engine cover, and all necessary controls. Optional oil pressure and coolant temperature gauges will be available if desired. A glow plug system for cold weather starting shall be included. An automatic engine shut down system to prevent engine damage caused by low oil pressure or high engine coolant temperatures shall be included. The engines available horse power shall be a minimum of 16HP. A minimum 30 gallon fuel tank, equipped with fuel gauge, shall be provided.



Propane Engine

The engine shall be a twin cylinder, air cooled, 25HP OHC Kohler® gasoline engine complete with air and fuel filters, electric starter, alternator, muffler, battery and lockable steel battery box, and all necessary controls shall be available. Propane carburetion shall be standard to allow convenient single source refueling.



DETAILED SPECIFICATIONS

Agitator / Auger

The agitator shall be a full-sweep type located in the vertical position in the center of the tank. It shall be driven by a reversible hydraulic motor at approximately 25 rpm. A variable speed, 4-way, pressure compensated flow control shall allow rotation in either direction, at speeds from approximately 0-25 rpm. Shall be equipped with agitator disconnect (agitator shutdown switch) which protects the operator when the loading chute is open.

Hydraulic System

The hydraulic system shall include a crankshaft driven, tandem Eaton pump with priority flow to the heat transfer oil circulation system. The agitator and product pump shall use independent, 4-way, pressure compensated flow controls allowing rotation in either direction at variable speeds. Hydraulic oil filtration shall be a suction strainer located in the reservoir and by a 25 micron "spin-on" type filter in the return line. An oil cooler with a minimum area of 216 sq. in. shall be installed in the hydraulic system in a location that assures continuous forced air flow through the cooler. All hydraulic lines to be a minimum of 5/8" high pressure steel tubing. Hoses are only to be used where required for component flexibility purposes. For extended component life, hydraulic system pressures shall not exceed 1000 psi.



DETAILED SPECIFICATIONS— PRODUCT DELIVERY



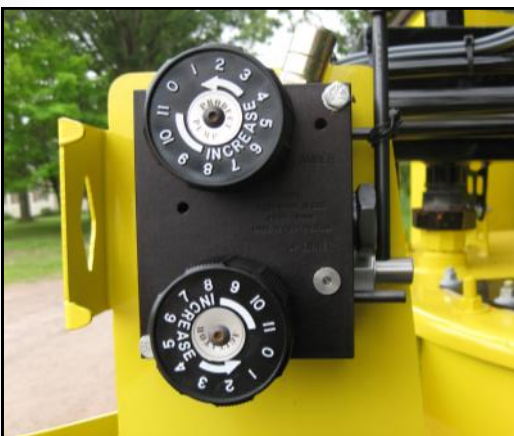
Pumping System

The product pump shall be a Haight rotary gear positive displacement pump with 20 GPM capacity with the actual output variable from approximately 0 to 4.1 GPM for greater operator controllability and extended service life. The pump shall be driven by a reversible hydraulic motor with variable speed, 4-way pressure compensated flow controls with approximately 0 to 190 rpm operating range. The reversible feature will purge the pump of material to facilitate cold start-up. The pump suction tube shall be located in a sump in the bottom of the tank to allow complete removal of the contents in the tank. Shall include a screen to prevent 1/2" or larger sized debris from entering the tank. A 0 to 550° F dial type thermometer shall be installed to monitor the discharge temperature of the sealant from the product pump.



The pump will be submerged in the tank allowing it to heat with the product, thus eliminating the need to pre-heat the pump. The pump shall be removable without the need for maintenance personnel to enter the product tank.

Pump shall be designed and mounted in such a way that any leakage from the pump packing shall drain back into the tank. To eliminate high maintenance and replacement costs, oil jacketed pumps will not be accepted.



Shall include a pump saver product pump control system. The system shall automatically engage and disengage the product pump based upon demand for product at the application wand to eliminate unnecessary pump wear. The pump saver option shall include a one year warranty against product pump failure caused by wear.

DETAILED SPECIFICATIONS- PRODUCT DELIVERY

Application Wand

A 68" x 3/4" i.d. (minimum) insulated application wand with insulated handles shall be included. The wand valve shall be located at the application end of the wand to immediately stop the flow of product, without excess dripping when the valve is shut off.

Wand options include: A lightweight aluminum wand in lieu of the standard steel wand, designed to reduce operator fatigue; the Ultra-Lite 4130 Chromoly valve-less wand with trigger control and manual shut-off valve to reduce dripping; all are available with the operator controlled "Exact Flow" wand control for one pass application, has operator controlled flow volume via finger tip control.

The wand shall be equipped with an internal electric heating element designed to melt the crack sealant from within the wand. The wand heating system shall operate at no more than 28 volts DC to eliminate the risk of hazardous electrical shock. The heating system will be capable of heating the crack sealant in the wand from ambient temperature (60°F) to application temperature in 30 minutes or less. This system shall eliminate the need for heating compartments and flushing procedures.

The wand heating system shall add no more than 12 oz. to the total weight of the wand. The wand heating system shall be a separate component and not part of the wand or hose. The wand and heating components shall be individually replaceable. The wand shall be attached to the hose with a quick-disconnect 360° swivel.

Application Nozzle with Shoe

Various nozzles available to give operator the ability to squeeze material into crack. Nozzles available in 1/8", 1/4", or 3/8" sizes.



Options! Options! Options!

DETAILED SPECIFICATIONS– PRODUCT DELIVERY



Heated Hose System

A 3/4" corrugated Teflon with wire braid hose with internal and external stainless steel braided, insulated hose, specially designed for use with heated petroleum products, shall be attached to a 1" i.d. (minimum) insulated overhead delivery boom.



The material will pass through the inside of the boom to the hose. The boom shall swivel on sealed ball bearings and be mounted at a height that allows the boom to safely pass over a 6' 2" person. The overhead delivery boom shall be mounted on the right rear corner of the machine to allow crack filling operations across two lanes if desired. A safety stop will be installed to prevent the boom from swinging to the left or right traffic lane when the safety stop is engaged. The design of the boom will allow the use of a less expensive shorter hose length of 8' or 12' while maintaining an effective 21' work zone that is equal to or greater than a standard 20' hose. This design will also prevent the hose from contacting the ground, eliminating abrasion damage.



The hose and boom shall be equipped with individual internal electric heating elements designed to melt the crack sealant from within. The heating system shall operate at no more than 28 volts DC to eliminate the risk of hazardous electrical shock. The heating system will be capable of heating the crack sealant in the hose and boom from ambient temperature (60°F) to application temperature in 30 minutes or less. This system shall eliminate the need for hose heating compartments and hose flushing procedures. The hose & boom heating system shall add no more than 12 oz. to the total weight of the hose. The heating elements shall be a separate component and not part of the hose or boom. For economic replacements, the hose and heating components shall be individually replaceable.



Air Compressor

An optional air compressor can be installed on the unit to aid in the cleaning of debris from the crack. Shall include 50' of hose and cold air lance with hose rack. Compressor shall be direct coupled (no belts) to a Kubota V3300 diesel engine. Engine is rated at 44.1 hp at 2600 rpm. Engine, compressor, and all other components to be enclosed in a common cabinet with lockable service doors and include noise reduction insulation. Compressor shall be a Rotor-comp EVO3-NK compact encapsulated, oil injected rotary screw compressor with positive displacement. Compressor shall produce 100 CFM with 100 PSI. Compressor package will include intake valve, oil cooler, high temp shut down, oil filter, minimum pressure valve, separator head, pressure gauge, and shuttle valve to maintain constant engine speed, a DOM cartridge and thermo valve



Autoloader

A conveyor is mounted on top of the oil jacketed kettle with one end extending out over the hitch of the kettle, accessible for loading blocks of material from the bed of the towing vehicle. The other end of the conveyor feeds the blocks of material into the kettle through a splash proof hatch. The system is designed for automatic operation once loaded. This eliminates the need for personnel to be in a dangerous position in the bed of the towing vehicle when in motion. Once the conveyor is loaded, it will automatically advance to place additional material into the kettle at a rate equal to that of the material being dispensed.





Fire Extinguisher

10 lb ABC Dry Chemical fire extinguisher



Spare Tire

Spare tire with holder mounted onto frame of unit.



Strobe Light

12 volt powered. Controlled from operators control panel. Strobe mounted on top rear of the unit or flush mounted.



Engine Enclosure

A lockable, weather protector, vandal proof, vented enclosure for the engine. Enhances overall security and appearance.



Electric Overnight Heater

Available to reduce start up time and maintain heated material at temperature. Provides low density heat that will not scorch material.



Arrowboard

12 volt powered directional arrow. Controlled from operators control box. Mounted on rear of unit. Optional location available on request.

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Visit Our Website at STEPPMFG.COM

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