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**PRODUCT: 1500 SERIES MOBILE EXPLOSION PROOF**

PAGE 1

REV.020112

## **"BLADE MASTER" AC-EP-SINGLE PHASE-1.5 HP OPERATING AND MAINTENANCE INSTRUCTIONS**

The "Blade Master" is a high-volume, low-energy, (U.L. /C.S.A., CLASS 1. DIVISION 1. GROUP D, CLASS 2, GROUP F AND G) mobile transfer pump. This pump is designed for ease of mobility and transferring of light viscous products at low pressures. The "Blade Master" is equipped with 1 1/2 inch inlet/outlet, oil/diesel hoses and aluminum cam lock couplings with a maximum operating pressure 0 to 100 P.S.I. This pump is designed to self-prime to a maximum of a six foot vertical lift. **NOTE:** The viscosity of some products may affect the self-priming vertical lift of the pump.

### **OPERATING INSTRUCTIONS**

The "Blade Master" is on a dolly assembly which is made for ease of operating and moving the unit wherever the transferring of product is needed. Once you have moved the pumping unit to the desired location the following operating procedures should be followed:

Lay the pumping unit on a flat surface so it will be operating in the horizontal position. At this time, remove the drum suction tube from the holding tube mounted on the side of the dolly. After you have done this, remove the hose connected to the drum suction from the hose guard making sure that this hose is connected to the inlet side of the pump. Remove the discharge nozzle from holding tube on the dolly, removing hose from hose guard at the same time making sure this hose is connected to the outlet side of the pump. **NOTE:** The oil/diesel hose supplied with the "Blade Master" is rated at 100 P.S.I.

### **INLET AND OUTLET ARE LABELED ON THE PUMP**

**WARNING: WHEN PUMPING EXPLOSIVE PRODUCTS, ALL HOSE COUPLINGS MUST BE EXPLOSION PROOF RATED. THE HOSE MUST HAVE A STATIC WIRE, WHICH PROVIDES ELECTRICAL CONTINUITY BETWEEN THE HOSE COUPLINGS, TO DISSIPATE STATIC ELECTRICAL CHARGE PROPERLY GROUNDED. ALL COMPONENTS MUST ALSO BE UNDER WRITER'S LABORATORIES INC. LISTED FOR CLASS 1 DIV, 1, GROUP D, CLASS 2, GROUP F AND G. CANADA: MUST BE CANADIAN STANDARDS ASSOCIATION LISTED.**

The "Blade Master" comes standard with a 1 1/2 inch inlet/outlet. **DIXON PUMPS DOES NOT RECOMMEND REDUCING THE INLET/ OUTLET TO ANY SMALLER THAN 1 1/2 INCHES!!!!** **NOTE:** By reducing the inlet/outlet size this will limit the length of the outlet hose or pipe that can be used. You **must** have inlet and outlet at the same dimensional size. **REMEMBER** that when you reduce the inlet/outlet it will reduce your volume of flow and

increase pressure which will increase your horsepower requirement. **CAUTION:** When making connections be sure that all thread connections are sealed with the proper thread sealing compound that is applicable for your application.

Insert the drum suction tube in the drum or tank from which you want to transfer the product. The drum suction tube comes equipped with a movable bung adapter. Screw bung adapter in bung of drum or tank, locate the suction tube to the desired position in the drum or tank and tighten the set screws located on the bung adapter. Once this has been completed, insert the discharge nozzle into the desired drum or tank that you wish to transfer the product into, making sure that the discharge nozzle is secure.

When you are finished transferring your product, return the suction tube and the discharge nozzle back to the holding tubes on the dolly. Coil the hoses back into the hose rack. The drip tubes are designed to catch excess product from suction tube and the discharge nozzle. Refer to **MAINTENANCE** for emptying the containment tank.

### **SHUT-OFF NOZZLE**

**CAUTION:** IF EQUIPPED WITH SHUT-OFF NOZZLE THE "BLADE MASTER" PUMP WILL OPERATE IN THE BY-PASS MODE IF NOZZLE IS IN OFF POSITION. THE PUMP SHOULD ONLY OPERATE FOR 5 MINUTES IN FULL BY-PASS MODE, ANY LONGER THEN 5 MINUTES MAY CAUSE DAMAGE TO THE AND/OR CAUSE A HAZARDOUS CONDITION. **NOTE:** YOU CAN ONLY OPERATE A SHUT OFF NOZZLE ON THE OUTLET SIDE OF THE PUMP WHEN EQUIPPED WITH BY-PASS.

### **ELECTRICAL CONNECTIONS**

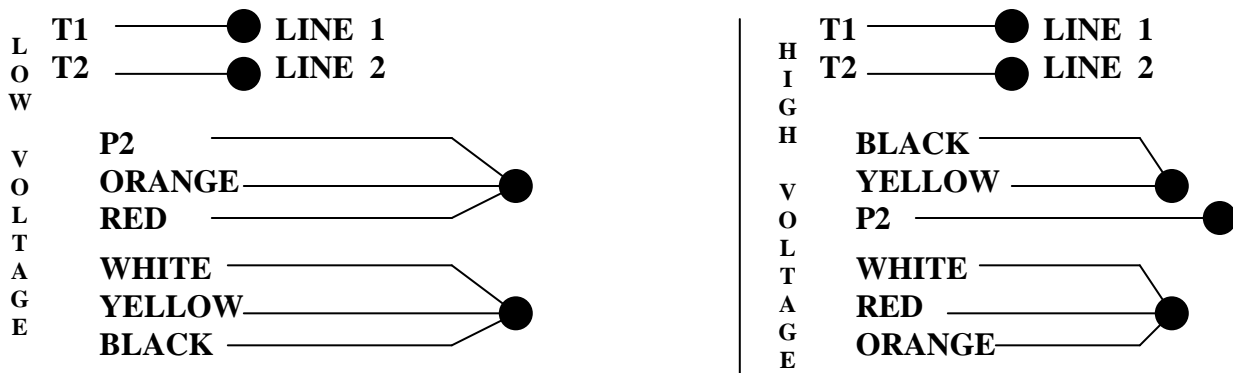
The "Blade Master" comes wired for 110 volts, 20 amps. (When Dixon Pumps wires the motor for 220 volts, 7.5 amps no cord end is provided.) Your "Blade Master" comes with 50 feet of 12 gauge, 3 conductor SOW portable electrical cord. The SOW electrical cord has **NO CORD END**. **NOTE: THE "BLADE MASTER" IS AN EXPLOSION PROOF PUMP, THE CORD END USED MUST BE EXPLOSION PROOF RATED (CLASS 1, DIVISION 1, GROUP D, CLASS 2 GROUP F AND G) YOU MUST USE A CORD END THAT IS RATED FOR THE EXPLOSIVE ENVIRONMENT THAT YOU ARE USING THE PUMP UNIT IN.** Recommended electrical supply for the pumping unit is 120 volts, 20 amps, 230 volts, 7.5 amps. A.C.

**WIRING INSTRUCTIONS**

**TO CHANGE TO VOLTAGE THE MOTOR:**

1. Remove four 3/16 inch x 1 inch hex head screws holding the cover on the junction box. Unwrap tape from wire nuts, cut wires remove wire nuts and rewire motor to desired voltage. **FOLLOW THE WIRING DIAGRAM PROVIDED.** When proper configuration is determined twist wires together, crimp wire nuts on and tape connections securely. Coil wires and neatly place in junction box, replace cap and insert the four 3/16 inch x 1 inch hex head screws in previous holes and tighten securely. This should be within +1 degree or -1 degree of alignment.

**EXTERNAL WIRING DIAGRAM**



**ROTATION CCW-OPE TO REVERSE EITHER VOLTAGE INTERCHANGE RED WITH BLACK LEAD**

**MOTOR SWITCH**

The pump motor comes equipped with an on/off rotating toggle 120/230 VOLT switch which is located at the side of the motor. Before connecting the pump to the power supply, place the toggle switch in the off position.

**NOTE:** This is a timed synchronized, twin impeller with revolutionary wiper blades, positive displacement pump which enables this pump to be run dry without any adverse affect, and can be operated in either direction. Refer to the wiring instructions.

### **GENERAL OPERATION**

When you have completed all of the above procedures, the "Blade Master" pump is ready for operation. You should first turn the pump on, and check all connections for leakage. If any leakage occurs, tighten all fittings until no leakage appears.

### **GENERAL MAINTENANCE**

The "Blade Master" requires minimal maintenance, but the following maintenance procedures are required for maximum performance.

After 2000 hours of operation, you should add 22 ounces of synthetic lubricant. Dixon Pumps recommends Mobile SHC-626

Periodically all nuts and bolts should be checked and tightened securely to assure maximum performance of the pump unit.

The dolly on the "Blade Master" has two wheels and tires. The bearings on the wheels need grease periodically to lubricate the ball-bearings. You will find a grease-zerk in the inside of each wheel for adding lubricant to the ball-bearings. Recommended tire pressure is 30 P.S.I.

All of the couplings and hoses should be checked periodically for leakage and wear. As excess wear appears, the components should be replaced to prevent any accidental spillage.

When the containment tank on the dolly is full, it is recommended that they be drained. The following is recommended for emptying the containment tank. Move the pump unit over a product drain area. Tilt pump unit back until drip tubes are vertical. There is one petcock on the bottom of the containment tank. Turn the petcock clockwise to open, and drain the excess product. When the containment tank is completely drained, turn the petcock counter clockwise until they are securely tightened. **(CAUTION: WHEN PUMPING ANY CORROSIVE PRODUCT OR PRODUCTS THAT WILL LEAVE A FILM OR DEPOSIT OF ANY KIND, THE PUMP SHOULD BE FLUSHED IMMEDIATELY AFTER USE.)**

### **GEAR REDUCER MAINTENANCE**

This pump unit comes equipped with a "Grove TXQ" gear reducers that requires very minimal maintenance. Every 50 hours of operation you should check the mounting bolts for tightness. This unique gear reducer is designed with the synthetic lubricating oil within the gear reducer housing. This gear reducer should not become hot enough to cause any breakdown in the synthetic oil, to cause any breakdown within the gear operation of this reducer. If you have any concerns contact Dixon Pumps for further details.

**TROUBLE SHOOTING GUIDE**

<i>SYMPTOM</i>	<i>PROBABLE CAUSE</i>	<i>REMEDY</i>
Pump will not prime or lift	(a) Trying to self prime over 6 foot vertical lift	Reduce lift to 6 feet or install check valve at end of inlet line
	(b) Pump impellers are not sealing properly	Squirt approximately two tablespoons of oil in the outlet of pump coating the impellers completely
	(c) Line plugged or filter clogged	Flush line and clean filter
	(d) Suction line flush on bottom of drum or tank	Suction line needs minimum 1 inch clearance on all sides
	(e) Loose, unsealed fittings	Check all fittings for proper sealing
	(f) Loose bands or pin holes in the hoses	Check banding and hose for proper sealing.
Motor tripping circuit breaker or overload protector shutting motor off.	(a) Circuit breaker too small or overloaded	The "Blade Master" requires 20 amps 120 Volts/230 volts 7.5 amps., check power outlet to make sure that the pump is supplied with the the proper voltage and amperage.

**TROUBLE SHOOTING GUIDE CONTINUED**

<i>SYMPTOMS</i>	<i>PROBABLE CAUSE</i>	<i>REMEDY</i>
Motor tripping circuit breaker	(b) Outlet hose or pipe too long, creating too much head pressure (c) Reducing inlet/outlet too small	This unit can only create 100 P.S.I. maximum head pressure With any wt. viscous products, the inlet/outlet should <b>NOT BE ANY SMALLER THAN 1 1/2 INCHES</b>
	(d) Pumping too viscous of a product	Make sure you have the right DIXON PUMPS model for your application
Pump is not producing the proper volume of product flow	(a) By-Pass is opening (If equipped with a By-Pass kit)	By-Pass will open with head pressure (depending on size of by-pass spring)
	(b) Inlet/Outlet has been reduced	When inlet/outlet are reduced the flow rate will decrease. <b>DO NOT REDUCE SMALLER THAN 1 1/2 INCHES.</b>

*REMEMBER:* The longer your outlet hose or pipe and the more head pressure required will reduce the gallons per minute flow rate.

For a list of products which may or may not be pumped with the "Blade Master" or for further operating or maintenance information, refer to your local distributor or our factory at:

**DIXON PUMPS**

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