
Operator's Instruction Manual

Concrete grinding and polishing machine



Model 20HD

Table of Contents

Section	Page No.
I. Machine applications and Performances.....	1
II. Safety Instructions.....	1
III. Grinding Instructions.....	2
IV. Operation Instructions.....	3
V. Standard Configuration.....	4
VI. Inverter Circuit Diagram.....	5
VII. Maintenance.....	8
VIII. Warranty.....	8
IX. Brief Parts Diagram.....	10

Machine Applications and Performances

Machine applications: Our machine is used for grinding, polishing, maintaining, crystallizing and improving the brightness of stone, marble, concrete and epoxy maintaining project. The 20HD grinds a 20" diameter pattern and the machine weighs approximately 300 pounds.

Machine performance: Our new generation of machine combines grinding, polishing and crystallizing into one, which makes stone, concrete and epoxy maintaining project more efficient and cost-saving and improves customers' satisfaction at the same time. Its frame and motor can be separated for transportation, and it is easy for operation. What's more, there is a water tank and vacuum hole, so it can be used wet and dry.

Safety Instructions

1. Operators and other persons standing nearby have to wear suitable ear protectors, a dust mask, waterproof and insulated shoes.
2. Before using, please check the wire carefully in case of electricity shortages.
3. When the voltage is lower or higher, the machine will stop working. Please turn off the power switch, then turn on about 3minutes later, the inverter will recover automatically.
4. When you fix the wire, you must make sure the voltage confirm to requirement, for example, 110V or 220V. This unit is a 110v single phase from the factory.
5. During grinding, please pay attention to consume of diamond pad, in case that the plate has been grounded it means the diamond pad has been WIPED OUT or completely used up.
6. Sitting on the machine is not a recommendation and is dangerous.
7. The machine is too heavy for a person to remove out of storage, so ask someone to help.

Grinding Instructions

Stone Grinding: WET GRINDING

UNPLUG THE MACHINE BEFORE ADDING ANY ABRASIVES DISC TO MACHINE!

1. Repairs should be previous ground flat using sandpaper or abrasive and a hand grinder.
2. Use a vacuum cleaner to take in dust otherwise use a dust mop on the floor before grinding.
3. Select your diamond either metal trapezoids, 3" metal lippage remover, Tru-Grit or CLEANCare diamond pads. Tru-Grit must be used with water.
4. With feet on pedal, pull the machine back exposing the 3 base plates. Attach your pads using either a Velcro plate or a bolt onto the plate. Dry grinding will destroy velcro back diamonds. Do not use them if you are going to be dry grinding.
5. Stand the machine and adjust the handle bar to suitable level.
6. Add the right amount of water into the tank if you are wet grinding. Do not add a detergent to the water tank otherwise you will be buying replacement O-rings tomorrow.
7. Enclose the machine shroud with splash guard and recommend the splash guard for wet or dry grinding.
8. Make sure the OFF switch is in off position.
9. Insert the plug in a socket, power is on and indicating lamp (the red one) will light up.

TO START THE MACHINE:

10. With water in the tank and turn on the water value on right side of the handle. Turn counter clockwise one rotation. Five seconds later, start machine.
(before start, the speed controller should not be below 3 RPM) therefore turn the speed controller to 5 to begin the machine. Begin grinding, up and down, left and right, like "#". Floor evenness is very important for light reflection, so please check the evenness when grinding.
11. Wet vacuum up the dirty water and check if the grinding is even.
12. Repeat sections 3-11 for each grit or as needed.
13. Pay close attention when feathering. Overlap 1 inch as you go up in grit range.

Concrete Grinding: DRY GRINDING

UNPLUG THE MACHINE BEFORE ADDING ANY ABRASIVES DISC TO MACHINE!

1. Follow directions 1-5 above in Stone Grinding instructions
2. Attached dry vacuum hose to the port on the back of the shroud. Follow directions on the dry vacuum for operating that machine.
3. Enclose the machine shroud with splash guard. Do not operation without this guard firmly attached to the machine shroud.
4. Start the Vacuum first then the 20HD Grinder. Speed control for start up is above 3 RPMs.
5. Cross grinding is very important. North to south then east to west or like a "#".
6. Pay close attention to your grinding patterns.
7. Depending on the diamonds used, watch the dust left on the floor. If too much dust is being left behind then check the vacuum as fine dust will quickly accumulate the filtration. Follow directions on the vacuum to clean and restart your grinding once cleaned.

Operation Instructions

Operation Instructions:



(1)



(2)



(3)



(4)

1. First, check the wire and the plug. This machine is to be used on a 110v 25 amp designated electrical plug.
2. As show in figure (1), plug the power cord into socket which is colored RED. The RED plug on the machine goes to the inverter. Do not by-pass the inverter otherwise serious damage will occur to the motor. Motor replacement usually start out at over \$1800.00 if we are lucky to find one that cheap.
3. As show in figure (2) and (3), adjust the handlebars to a suitable level. The handle bar could be revolved up and down.
4. For dry grinding, please connect with vacuum cleaner. For wet grinding, fill clean water in water tank, and adjust water switch.
5. As show in figure(4), after preparation, turn on, adjust the inverter speed controller above 5 RPMs as indicated on the panel then once you have begun then suitable speed, then start grinding like “#”.

Installation of Diamond Tools



(4)



(5)



(6)

1. As shown in figure (4), use two hands hold onto the handle bar. Place one foot on the sissy the sissy bar. Push down using your foot and hands to lift the machine onto it back.
2. The grinding pad should be set directly on the plate, by magnetic, Velcro or three screws. The Velcro resin pad has to be set into a magnetic base and then place onto the drive plate, as shown in figure (6). Trapezoids and metal diamonds are recommended to be bolted onto the drive plate using 10mm x 3/4" length screws. The screws are metric!

NOTE:

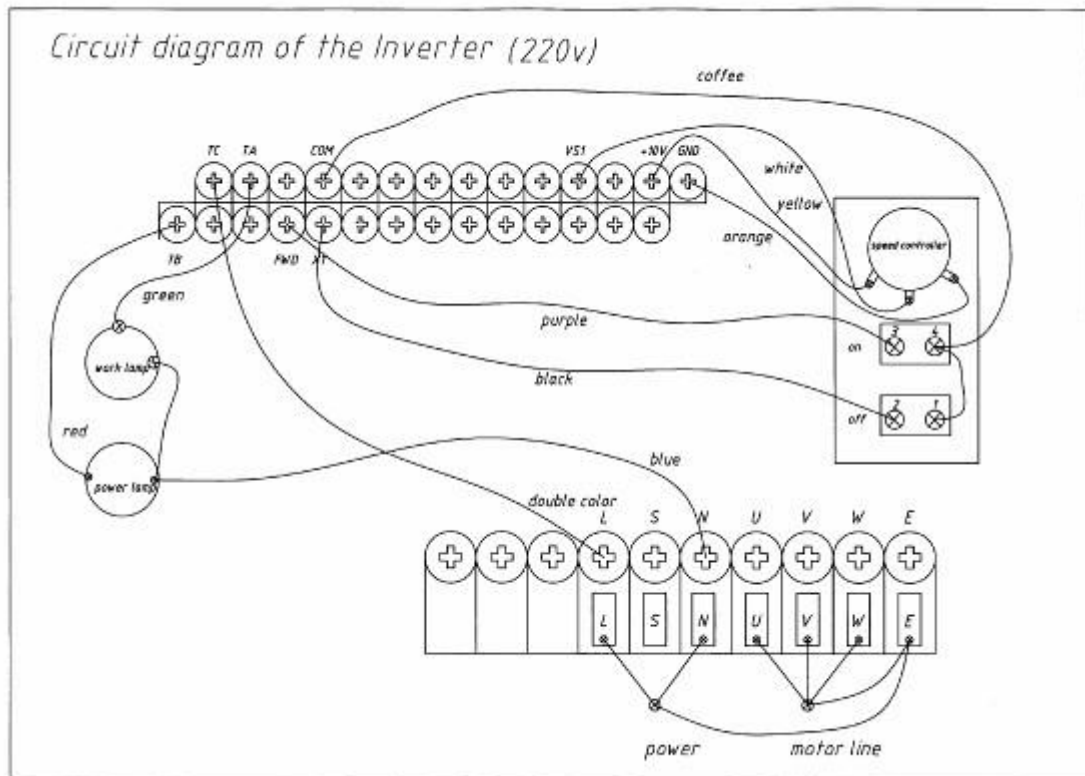
When dry grinding concrete, do not used diamond pad with Velcro. The heat generated during grinding will loosen the adhesive and the pad will come apart. Use the magnetic plate or better yet bolt on pads to attached to the machine such as trapezoids.

Attention: Storage

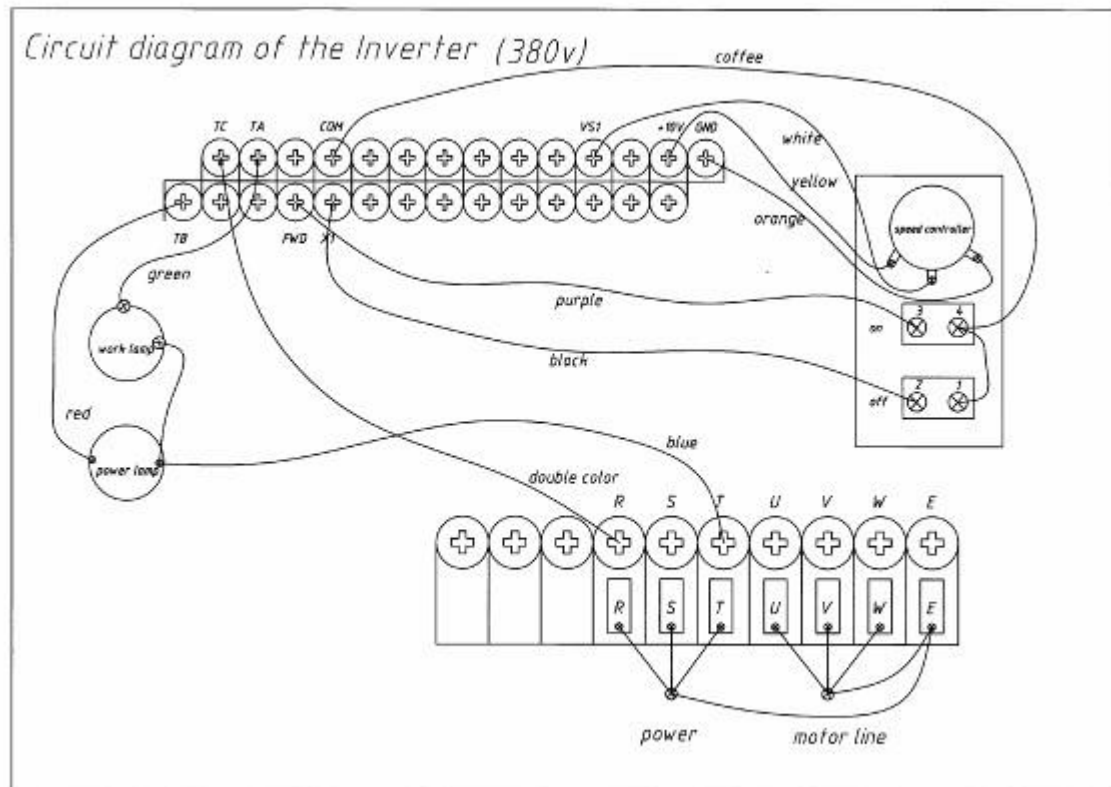
1. Before loading onto a ramp / trailer, operators should ensure that the power switch is OFF, the vacuum is separated and water tank is empty. It is NOT recommended to lift this machine! If you do you are strong but you will have a bad back or worse a hernia! Don't do it!
2. Once loaded tie down carefully, avoiding any damage to machine and walls of your vehicle trailer.
3. There are two lifting rods which can be used to help place the machine once it the trailer or on the ground
4. Lifting rods are not for you to play with. Use only to move the machine into or out of a trailer.

Inverter Circuit Diagram

110V or 220V:



380V:



Wire Instruction

1. Wire connection must be done by professional electricians or technical staff.
2. Before connecting the input power, please check and make sure the electrical system must be in accordance with nameplate marked the parameters (voltage, frequency).
3. To protect the operator from electric shock, the machine must be connected the power supply system with ground wire.
4. This machine (110V) is equipped with 2 main wire (black, blue) blue is the common and 1 ground wire (yellow-green). Please connect plug into the fit socket.

Inverter Fault Instruction

Fault	Fault Style	Fault Analysis	Solution
OL1	Motor overload	<ol style="list-style-type: none">1. V/F curve setup or torque boost is unsuitable.2. The network voltage is relatively low.3. Motor overload protection parameter is set improperly.4. Motor block rotor operation or heavy load.5. General motor low speed big loads work for a long time.	<ol style="list-style-type: none">1. Reset V/F curve or torque boost.2. Check the input power.3. Check [E-57] setting values.4. Adjust load behavior or select and use inverter with proper capacity.5. When requiring long term low speed works, please special use motor for inverter.
OL2	Inverter overload	<ol style="list-style-type: none">1. Heavy load.2. ACC time is set too short.3. Restart the running motor when momentary stop occurs.4. V/F curve setup or torque boost is unsuitable.	<ol style="list-style-type: none">1. Select inverter with proper capacity.2. Prolong acceleration time.3. Restart after the motor complete stop or [E-30] as "2".4. Reset V/F curve or torque boost.
OH	Inverter inner overheated	<ol style="list-style-type: none">1. Too high ambient temperature.2. Damaged fan.3. Blocked air duct.4. Carry wave frequency is too big.	<ol style="list-style-type: none">1. Improve periphery environment.2. Replace fan.3. Clear air duct, adjust the inverter periphery ventilation environment.4. Check [E-20] and [E-21] setting.

OC	Inverter output side products abnormal sudden increase over current	<ol style="list-style-type: none"> 1. Power supply lack of phase. 2. Acceleration time is perhaps too short. 3. Torque compensation curve is less or more. 4. Output side short circuit or grounding. 5. Motor perhaps blocks. 	<ol style="list-style-type: none"> 1. Please check the power wiring. 2. Should be properly prolonged. 3. Should be properly adjusted. 4. Please check output line and load. 5. Please check motor.
OC3	Load change suddenly	The network voltage is too low.	Lighten load, improve supply voltage.
SC	System abnormal	<ol style="list-style-type: none"> 1. Acceleration time is set too short. 2. Inverter output phase to phase or grounding short circuit. 3. Module failure. 4. Disturbance. 	<ol style="list-style-type: none"> 1. Prolong acceleration time. 2. Check peripheral device, reset after troubleshooting. 3. Ask for technical support. 4. Check grounding line, shield line grounding condition, terminal and control motor distance condition.
LU2	Low voltage of supply power at run-time	<ol style="list-style-type: none"> 1. Supply voltage is too low. 2. Capacity of power network is too small, or impulse current inside power network is too big. 3. DC main contactor inside inverter is not absorbed. 	<ol style="list-style-type: none"> 1. Check the supply voltage and troubleshooting. 2. Reform design of power supply system. 3. Ask for technical assistance.
Err1	Input side lack of phase	Inverter input power lack of phase.	Check three phase input power and power wiring.
Err2	Input grounding	Inverter has device grounding to short circuit at output side.	Check peripheral device, grounding line, motor insulation.
Err6	Keyboard communication fault	<ol style="list-style-type: none"> 1. Keyboard wiring fault. 2. Keyboard communication component damaged. 	<ol style="list-style-type: none"> 1. Check the keyboard wiring. 2. Ask for technical assistance.

Maintenance

Maintenance

1. Ask for professional technician to maintain the machine, and record every time.
2. Clean the dust on the inverter and filter after the use of 20days. If without vacuum cleaner, clean the inverter and filter every 2 days.
3. Change the gear oil regularly. The gear oil of new machine should be changed after grinding 1000 square feet and then every six month. The type is #320 medium-duty industrial gear oil gear oil. The quantity is: 20HD - 6L,.
4. Make sure the motor ventilation hole is open.
5. If you find the disc or screw loose, please maintain in time.
6. Avoiding informal operation, you can't remove the gear box by yourself. In emergency, you can contact with us to get instruction.

Every day work:

- 1, Clean the machine every day after work, especially the dust on the dust shroud and grinding plates.
- 2, Clean the water tank to prevent the dust block the filter.
- 3, If it is used for grind and polish dry often, clean the dust on the cooler fan of the inverter every 20-30days.
- 4, Change the gear oil regularly. The gear oil of new machine should be changed after grinding 1000 square meters and then every six month.
- 5, Check the machine every day after work, if all the bolts are tight, if the screws of grinding plates which shock absorption are loose.

Warranty

1. The warranty is valid 1 year after the date of purchase, (motor, inverter and gear box) and spare parts are 3 months.
2. To avoid the unnecessary loss, read the instructions seriously before using.
3. The damageable parts and artificial damage are without warranty.
4. During operation, the motor and inverter burned or damaged caused by abnormal voltage are not under warranty.

Brief Parts Diagram

Planetary Plates 20HD:



Gear Box Diagram:

