

SUPERIOR

SD23



Model SD23, SD34, SD46, SD48 Operator's Manual

INSPECTION:

The Superior table is shipped on one skid. This skid should be inspected for any visible damage that may have occurred during shipment. Note any damage immediately on the Bill of Lading .

IMPORTANT:

This manual contains specific cautionary statements relative to worker safety. Read this manual thoroughly and follow as directed. It is impossible to list all the hazards of dust control equipment. All persons involved with the equipment or systems should be instructed how to operate in a safe manner.

CAUTIONS:

Avoid mixing combustible materials, such as buffing lint, paper, and wood with dust generated from grinding ferrous metals due to the potential fire hazard caused by sparks in the table.

Under no conditions should cigarettes or any other burning object be put into the table.

All users of Superior Downdraft equipment should comply with all National and Local Fire Codes and/or other appropriate codes when determining the location and operation of dust control equipment.

This table is not suited for applications where explosion potential is present. Consult the Factory to determine if there is a risk.

SPECIFICATIONS:

- ❖ INPUT VOLTAGE: 120V 60Hz 1 Phase 208 / 230V 60Hz 3 Phase / 460V 60Hz 3 Phase
- ❖ MAXIMUM CURRENT: 3HP 120V 24.6: Amps
- ❖ 3HP 208V: 7.8 Amps ,230V: 8.6 Amps 460V: 4.3 Amps
5HP 208V: 13 Amps 230V: 12 Amps 460V: 6 Amps
- ❖ MOTOR:
3HP 1 Phase 3450 RPM TEFC (SD34 ONLY) 3HP 3 Phase 3450 RPM TEFC (SD34 ONLY) 5HP 3Phase 3450RPM TEFC (SD46 ONLY) 7.5 HP 3Phase 3450RPM TEFC (SD48 ONLY)

AIR REQUIREMENTS:

- ❖ 1.1 SCFM at 80psi per second of cleaning pulse.
- ❖ Minimum air line is 3/4"
- ❖ Air Pressure regulated 80 – 90 psi.
- ❖ Clean, dry, compressed air at the correct pressure is required for the cleaning system to operate correctly. It is recommended that a pressure regulator and coalescing filter be installed between the compressed air source and the inlet to the table.



INSTALLATION

EQUIPMENT/TOOLS REQUIRED:

- ❖ Standard wrenches
- ❖ Screwdriver
- ❖ Forklift
- ❖ Pipe Wrench

ASSEMBLY OF UNIT:

Determine the location where the unit is to be installed. Be sure to allow sufficient room around the unit to service the filters and allow for exhaust air. When selecting a location consider the floor surface. It needs to be smooth and level.

1. Uncrate the unit. Use caution not to damage the paint while dismantling the crate.
2. Remove any options ordered from the skid.
3. Using a forklift, lift the unit off of the skid. Forklift rails are provided on the bottom of the table to keep it from tipping. The forklift rails must be used, since the weight inside the unit is not evenly distributed.
4. Carefully place the downdraft table into its location.

COMPRESSED AIR INSTALLATION

The compressed air inlet for the Power-Pulse cleaning system is on the left side on the lower-back corner of the unit. A 3/4" air line is required (at a minimum) with 80 – 90 psi clean dry air, for proper operation of the Power-Pulse System.

1. Locate the compressed air connection.
2. Connect your standard air fitting to the provided 3/4" NPT thread.
3. Connect your air line to the fitting.

ELECTRICAL INSTALLATION

**ALL ELECTRICAL WORK MUST BE DONE BY A QUALIFIED ELECTRICIAN
ACCORDING TO LOCAL CODES**

**INSTALLATION CAN CAUSE EXPOSURE TO LIVE COMPONENTS. DISCONNECT
ELECTRICAL POWER BEFORE PROCEEDING WITH INSTALLATION. PROPER
LOCK OUT/ TAG OUT PROCEDURES SHOULD BE USED.**

If the unit is ordered with 120V electrical wiring there is no additional wiring required. Simply plug the unit into any 110/120V electrical plug rated for 15A.

If the unit is ordered with the 208/230-460V electrical wiring, follow the steps outlined below:

1. Cut the outer insulation and strip back the wires on the provided power cable.
2. Install the correct plug for your facility. Use caution to match the plug style to the voltage ordered.

LAMP: If the unit is ordered with a florescent lamp (optional) that lamp may or may not be wired into the start/stop switch. This is chosen when the unit is ordered. If the lamp is wired into the start/stop it will automatically turn on and off with the unit. If the table is ordered with the lamp unwired, the lamp will need to be wired into some other switch (not provided). Also, bulbs are not provided with the unit, they must be supplied by the end user. The fixtures have special dust proof enclosures and require specialty bulbs.



UNIT OPERATION:

- ❖ To start the unit, turn the switch located on the front of the unit to the on position. To stop the unit, turn the switch to the off position.
- ❖ On some units (depending on how the table was ordered) the light may be wired directly into the on/off switch. If this is the case, the light will turn on with the motor. (Bulbs are not supplied with the unit and must be purchased separately.)

CARTRIDGE CLEANING OPERATION:

The Superior Downdraft Table is designed with the Power-Pulse Cleaning System to clean the cartridge filters. This system provides superior cleaning performance using a rotating tube with pre-drilled holes. As the diaphragm valve opens, the Power-Pulse tube rotates while air exits the holes, thus providing the cleaning of the cartridge.

- For proper cleaning, the compressed air pressure should be regulated at 80 - 90 psi maximum.
- During normal operation the Power-Pulse cleaning system is factory set to clean two (2) cartridge filters for a period of 2 seconds every 45 seconds.
- Once the unit is turned off, the cleaning cycle will continue for a period of five minutes. Do not service the filters until cleaning is complete.
- The Power-Pulse cleaning operation dislodges particles from the cartridges. Particles then fall down into the collector.

NOTE: When servicing the collection system, be sure to turn the unit off.

TIMER ADJUSTMENTS: (If equipped)

The table is provided with a manual pulse option as the standard for all units. The filters can be pulse cleaned by depressing the brass pulse button (located on the front of the electrical box) and holding it down for approximately 2 seconds. If the unit does not have "Auto-Pulse" the filters should be pulse cleaned regularly throughout the day. In addition, they should be pulsed several times after the blower has been shut off. If the table is equipped with the "Auto-Pulse" feature, the table will automatically pulse every 45 seconds during operation. Pulsing will stop when the unit is shut off. Additional pulsing can be performed manually, by depressing the pulse button, if required.

POWER-PULSE CLEANING TIMER ADJUSTMENTS

1. Turn unit off via the stop switch and disconnect power.
2. Remove the electrical box cover.
3. The timer control is preset at the factory to clean two (2) cartridge filters every 45 seconds. This time can be adjusted from 8 seconds to 180 seconds by rotating the dial on the timer marked "OFF TIME".
4. The timer control is preset at the factory to have a cleaning pulse duration of 2-seconds. This can be adjusted from 0.5 second to 5 seconds by rotating the dial on the timer marked "ON TIME".
5. Once adjustments have been made replace the electrical box cover and reconnect the power.
6. Start the unit and observe the new pulse settings and determine if additional adjustments are necessary.

NOTE: While this time can be adjusted we recommend that you leave the "ON TIME" at the factory setting. If less cleaning is needed you should increase the time between pulses as means of reducing the amount of cleaning. If more cleaning is needed you should decrease the amount of time between pulses. Beware, as the time between pulses is decreased for additional cleaning, this will increase your compressed air consumption and create an additional load on your compressed air system.

NOTE: Cleaning of the filters too often will decrease your level of performance. A certain level of dust cake on the filters will improve the efficiency of the filter cartridges.

You should try to maintain a minimum of 1 in w.c. of pressure differential across the filters. If you can not maintain this minimum level of differential across the filters the time between cleaning pulses should be increased until this can be achieved.



AFTERFILTER CHANGEOUT (WHEN EQUIPPED WITH CARBON)

Carbon filters are refillable.

Once every 6 months the carbon filters should be pulled out from the side access doors.

1. The top of the module is unscrewed and slides off.
2. Empty the spent carbon into the appropriate hazardous containment device.
3. Refill with 40 lbs. of carbon ea. module.
4. Slide lid back on and screw retaining screws back on the module.
5. Slide modules back in place.

HEPA Afterfilter Box (WHEN EQUIPPED)

1. HEPA filters should be changed at 1.25" on secondary module magnahelic gauge.
2. Un-latch and remove top access door.
3. Lift out HEPA Filter(s) and dispose of.
4. Lay in replacement HEPA filters.
5. Place top access door back on after filter module.
6. Close latch assembly.

