

Portable Weld Fume Extractor User Manual

CLEAN AIR
INDUSTRIES



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SHIPPING RECEIVING, AND INSPECTION

RECEIVING AND INSPECTION

Congratulations on the purchase of your new Portable Unit(P700/P1200HD)!

- 🔗 Upon receipt of the Portable Unit, remove the master packing list from the unit and reconcile it with the total shipment.
- 🔗 Report any discrepancies to Clean Air Industries as soon as possible.
- 🔗 The Portable Units are shipped via freight and generally arrive on a box truck.
- 🔗 Remove the packaging from the unit; then remove the unit from the pallet.
- 🔗 Carefully inspect the unit and any other items shipped with the unit for any damage that may have been incurred during shipping. If damage is found, report it to the shipping company and Portable Unit immediately.



BEFORE INSTALLATION BEGINS

-  Adequate electrical must also be connected to the Portable Unit (P700/P1200HD). These connections are defined in “Electrical Connections” section of this manual.
-  For P1200HD, Compressed Air Connection is needed for cleaning the filter. See “Compressed Air Connection” section of this manual.
-  During installation, always be careful.

DESCRIPTION

DISCLAMER: The Portable Unit(P700/P1200HD) is designed to accumulate smoke residue / particles and other by-products of the manufacturing process. The nature of these accumulations may be flammable. Operating the P700/P1200HD with these materials could result in a fire inside the unit. The P700/P1200HD is not recommended for use with highly combustible materials or explosive materials or particles.



The Portable Unit has 2 different configurations: P700 and P1200HD. The Unit consists of:

- 🔗 Portable Housing
- 🔗 Motor / Blower System
- 🔗 Fume Arm
- 🔗 Metal Mesh Filter
- 🔗 One Cartridge filter
- 🔗 (P1200HD) Cleaning Wand

The P700 unit is intended for a lighter duty application, with 700 CFM. The P700 unit is equipped with an 6" Diameter fume arm with 7 feet arm length. The P1200HD is intended for medium duty application, equipped with an 8" Diameter fume arm with 7 feet arm length. The fume arm is fully adjustable to provide the most ergonomic work area. Smoke residue collected by the fume arm goes through a filter mesh and diverter panel before being filtered by a cartridge filter to provide extra protection and prolong filter life. Filter access doors are provided to easily access the metal mesh filter and the cartridge filter.



FEATURES AND SPECIFICATIONS

GENERAL FEATURES

- ✧ (P700) 6" diameter fume arm with 7 feet arm length
- ✧ (P1200HD) 8" diameter fume arm with 7 feet arm length
- ✧ (1) Cartridge Filter
- ✧ 14"x14"x2" Metal Mesh
- ✧ Silencing: Built-in Acoustical Lining
- ✧ Heavy Steel Construction and Powder-Coat Paint Finish
- ✧ Manual Motor Protector
- ✧ (P1200HD only) Cleaning Wand



BLOWER / MOTOR SPECIFICATIONS

-  (P700) 1 HP, Direct Drive, Backward Incline Blower
- (P1200) 1.5 HP, Direct Drive, Backward Incline Blower
-  Single Phase, 120 Volts, 60Hz
-  (P700) Motor Nameplate FLA: 11.8A
- (P1200) Motor Nameplate FLA: 16A
-  3450RPM

UNIT WEIGHT

The unit weighs about 311 lbs (with fume arm).

INSTALLATION

The Portable unit (P700/P1200HD) requires some minor assembly.

- 🔗 Refer to the fume arm assembly Instructions if the fume arm does not come pre-assembled.

GENERAL INSTALLATION GUIDELINES

The P700/P1200HD units are shipped via freight and generally arrive on a pallet. The units are crated on a pallet. Use a fork lift, driven by a qualified individual, to remove the crate / pallet from the truck. Fork extensions can aid in unloading the unit.

- 🔗 Once all packaging is removed, roll the P700/P1200HD Unit off of the pallet, and attach the fume arm to the top of the unit. (Refer to instructions below)



TOOLS NEEDED FOR INSTALLATION

The Following tool lists are given as a general outline. Additional tools may be used or substituted based on availability. Powered tools are recommended.

Tools:



INSTALLING THE FUME ARM ON THE UNIT

The fume arm must be attached to the Portable unit before use. To install the fume arm, align the fume arm with the inlet hole and the mounting holes on top of the unit. Use 1/4-20 bolts to mount the fume arm to the unit. Please be careful as the fume arm is heavy and it may require two people to install the fume arm to avoid injury or damaging the fume arm.

For more details on installing the fume arm on the unit please refer to the fume arm manual.



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WARNINGS AND LABELS



HIGH VOLTAGE: The voltage of the P700/P1200HD unit is dangerous once connected to a power source. Incorrect installation may cause damage to the equipment, serious injury, or death. Consequently, it is essential to comply with instructions in this manual, local and national safety rules, and follow all safety procedures including proper lock out and tag out procedures.

ELECTRICAL CONNECTION

120V Single Phase, Single Motor									
Motor Size (HP)	Nameplate FLA (A)	Motor FLC (A)	Unit FLA (A)	Disconnect Size (A)	Incoming Power Wire (Ga)	Incoming Power Cable (SO)	Overload Setting (A)	Recommended Breaker (A)	Maximum Breaker (A)
1	11.8	16	16	25	12	10	14.8	25	40
1.5	16	20	20	60	12	8	20.0	30	60

COMPRESSED AIR CONNECTION (P1200HD ONLY)

In order for the filter cleaning system to operate, the P1200HD unit requires a compressed air connection to be made.

- ✎ The compressed air inlet is located at the end of the cleaning wand.
- ✎ This P1200HD compressed air inlet supply is a 1/4" NPT nipple.
- ✎ Use a regulator to adjust the pressure to 80 PSI.

AIR REGULATOR

The compressed air for the P1200HD must be regulated at 70 to 90 PSI. A Regulator is used to allow the high-pressure air supply lines or tanks to be reduced to safe and usable pressure for cleaning the unit.

AIR FILTER

The compressed air for the P1200HD must be clean. Dirty air entering the system can cause damage to pneumatic components. The air should be filtered to remove all contaminants by the compressed air supply system prior to entering the P1200HD.

DRY AIR

The air supply to the P1200HD must be dry or drained. Water carried with air into the P1200HD can wash away lubricating oil. This can mean excessive wear to pneumatic components and higher maintenance expenses. Without adequate lubrication pneumatic components can run sluggishly and inefficiently be prone to air leakage. Water in the supply line must be removed using a dryer or water drain trap.

MANUAL MOTOR PROTECTOR SWITCH



- 🔗 This switch controls the operation of the motor / blower.
- 🔗 When the switch is in the "0" or "OFF" position, the main power to the motor is disconnected and the motor turns off.
- 🔗 When in the "1" or "ON" position, the motor starts running.

MINIHELIC GAUGE



- 🔗 The minihelic gauge monitors the differential pressure between the clean and dirty side of the filter.
- 🔗 This information tells user the status of the filter and whether it needs to be replaced.
- 🔗 It is recommended to replace the filter when the pressure difference is greater than 7 inches of water to ensure the most optimal performance of the unit



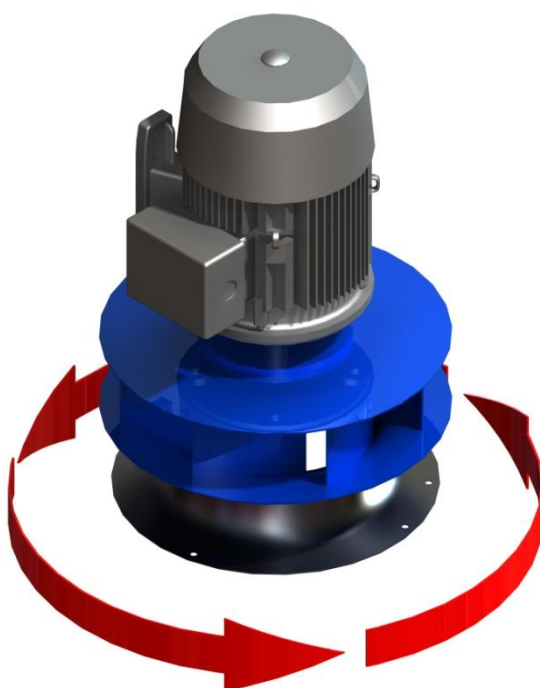
(P1200HD) CLEANING WAND



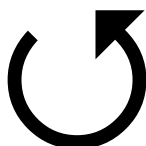
- ✎ P1200HD is equipped with a cleaning wand to clean the filter
- ✎ The compressed air will spin the nozzle at the end of the wand and blow the dust from the inside of the filter
- ✎ To clean the filter, attached compressed air to the end of the cleaning wand and move the wand in and out of the filter
- ✎ The recommended pressure is 90 psi
- ✎ The wand only needs to be used for approximately 30-45 seconds
- ✎ When cleaning the filter with the cleaning wand the filter does not need to be removed.
- ✎ After cleaning, it is recommended to clean out the dust tray within the unit.

BLOWER ROTATION

If blower rotation is incorrect, the unit will suffer a significant performance loss as well as an increase in noise level. Make sure the blower is rotating properly. To check blower rotation, have a colleague start the unit, count to '4', and then stop unit. As the fan slows, watch the rotation. When power is properly connected, the blower will rotate **counter-clockwise** when viewed from the exhaust of the Portable Unit. ***Make sure to check rotation from the exhaust (back) side.*** To change the blower rotation direction, simply swap any (2) of the incoming power leads.



***PLEASE NOTE: IT IS VERY IMPORTANT TO VIEW THE ROTATION
FROM THE EXHAUST OF THE PORTABLE UNIT!***



STARTUP PROCEDURES

- 🔗 The unit can be turned ON by turning the rotary switch clockwise
- 🔗 The blower will start immediately.

SHUTDOWN PROCEDURES

To shut down the unit, simply turn the rotary switch counterclockwise



MAINTENANCE

CARTRIDGE FILTER MAINTENANCE

Filter Features

- 🔗 Filter Dimensions: 13.84" OD x 18" H
- 🔗 80/20 Blend Cellulose/Polyester
- 🔗 Pleat Construction
- 🔗 Flame Retardant
- 🔗 (1) Cartridge Filter



Filter Maintenance

Filters are of excellent construction and of the best quality available. The filters are preconditioned with a unique process which has proven to be effective over time with long filter life and excellent cleaning characteristics. The cellulose media is even able to withstand and recover from water immersion due to the filter's high resin content (22% by weight) and mechanical resilience.

The unit is equipped with a minihelic gauge to monitor the condition of the filter. The minihelic gauge monitors the pressure difference between the clean and dirty side of the filter. The pressure will increase as the filter gets dirtier. When the value of the gauge is above 7, it is time to change the filter.

It is important to keep the filters clean and replaced on the proper interval for the proper operation of the Portable Unit(P700/P1200HD). The point when the filters must be changed depends upon the specific application.

Because of all of these factors, the customer must monitor and document the system airflow readings for a period of time. The information collected will help determine the most appropriate time to change filters. This process will ensure that the system runs at maximum efficiency while minimizing filter replacement costs.

The easy access system of the Portable Unit helps with faster filter replacement and reduced maintenance. Replacement filter cartridges and metal mesh of all types are available from your Clean Air Industries sales representative.

How to Clean Filter(P1200HD)

- ✎ Turn off the unit by turning the rotary switch to OFF position.
- ✎ Attach the wand to compressed air. The recommended pressure is 90psi
- ✎ Move the wand in and out repeatedly for approximately 30-45seconds
- ✎ After cleaning cycle is done, disconnect the compressed air
- ✎ Open the filter cover panel using the star knobs. Empty the dust tray located at the bottom of the filter compartment. Emptying the dust will avoid the dust to be sucked back onto the filter

How to Determine the Filter Change Interval

- ✎ The process for determining your specific filter change interval is based on many variables. Please feel free to establish a filter change interval that meets your application and desired performance results. By properly monitoring the filters you will reduce filter costs and improve the efficiency of the units.
- ✎ Proper filter cartridge replacement is important to optimal performance of the unit.

How to replace filters

NOTE: *It is important to ensure that the filter gaskets seal correctly for proper operation of the Portable Unit(P700/P1200HD). This will ensure that you do not get particulate past the filter compartment. The easy filter clamping system of the Portable Unit (P700/P1200HD) helps with faster filter replacement and maintenance.*

- 1) Turn the rotary switch to OFF position and disconnect main incoming power.
- 2) Open the filter cover panel using the star knobs. This will reveal the cartridge filter.
- 3) Once everything is removed, the filter can be accessed.
- 4) Slide a large plastic bag over the top of the filter cartridge, and slide the bag over the filter to the bottom of the filter cartridge.

- 5) Remove the filter in the bag and tie the end of the bag closed.
- 6) Some excess dust and debris may need to be removed while the filter has been removed from the unit. This can be done by sweeping the dust into the dust tray. The dust tray can then be serviced as normal. Alternatively, excess dust in the filter compartment can also be removed through the suction of a proper vacuum system.
- 7) Place the new filter onto the filter ring with the gasket seal end towards you. Make sure the filter is properly seated.
- 8) Close and secure the end panel.
- 9) Turn the rotary switch to start the motor. Some dust or debris may have fallen into the filter ducts; this dust would then be blown out when the unit begins to run.

APPENDIX C: EXPLODED VIEWS

