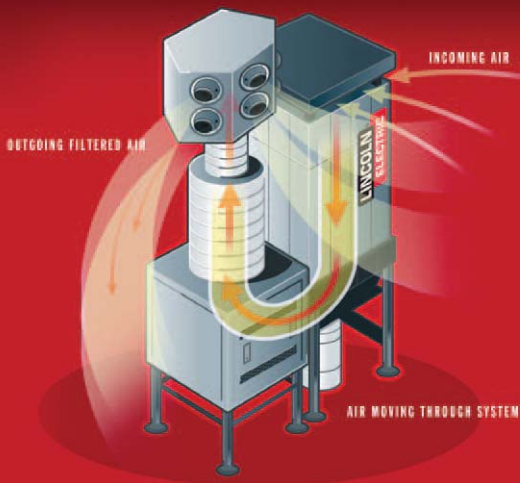


# ***The Circulator™***

FREE STANDING GENERAL FILTRATION SYSTEM  
GMAW // GTAW // FCAW // SMAW

- *Low installation costs*
- *Flexible*
- *Efficient filtration*





# The Circulator™ System

FREE STANDING GENERAL FILTRATION SYSTEM  
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**THE CIRCULATOR™ IS A FREE-STANDING GENERAL FILTRATION SYSTEM THAT REDUCES THE OVERALL CONCENTRATION OF WELDING FUME THROUGH CONTINUOUS FILTRATION AND AIRFLOW.**

The product has been designed exclusively for extracting and filtering welding fume which is released during the most common welding fabrication processes. The system supplements the natural ventilation (draft) and/or forced ventilation (roof/wall fans) which may be present to reduce the overall concentration of welding fume in the workshop.

**THE CIRCULATOR™ CAN BE THE RIGHT SOLUTION:**

- *When overhead cranes are in use (push-pull systems have obstructive ductwork);*
- *In facilities where ductwork cannot be hung;*
- *To supplement source extraction in areas where it is currently employed and in areas with outside interferences such as overhead fans, current HVAC, etc.; and*
- *When the weldments are too large to be fully covered by extraction arms.*



## THE LINCOLN ELECTRIC CIRCULATOR™ — INNOVATIVE WELD FUME CONTROL

Remove welding fume with an innovative and cost-effective method of extracting and filtering the workshop air. The Circulator™ system consists of four components: The Green-Drive™ control system, a high-efficiency filter unit, energy-efficient fan, and the Circulator™ with six multi-directional outlet nozzles.

Welding fume consists of heated gases, base metals and coatings present on base metals. The high temperatures cause the fume to rise, forming a layer known in the manufacturing environment as the “welding blanket.” The Circulator™ forces air movement through the welding blanket and into continuous motion. The circulated air is filtered and re-circulated.

### THE FOUR MAIN COMPONENTS:

- 1. Circulator™ Unit:** Lincoln Electric's unique Circulator™ air dispersement head re-circulates the cleaned air into the workspace by means of precisely controlled outlet nozzles. These nozzles can be rotated up to 35 degrees and adjusted individually for optimum airflow. The Circulator™ position is directly influenced by the height of the welding fume layer. Positioning inside the layer gives the best result, but it is also possible to locate the Circulator™ just beneath the layer. The Circulator™ ensures that the rising welding fumes are continuously filtered out and recirculated with clean air, thereby reducing the concentration of particulate in the air.
- 2. Filter Unit:** A stationary filter unit incorporating automatic pneumatic filter cleaning. Air is captured and cleaned in a 3-stage 150 m<sup>2</sup> (1615 ft<sup>2</sup>) filter system with an efficiency of 99.9%. The filter unit has an external compressed air connection and particulate is collected in a waste container that can be emptied easily.
- 3. Fan:** Lincoln Electric utilizes a high-efficiency 10 Hp IE3 motor in combination with 50Hz fan technology offering the same airflow as a traditional 60Hz fan, but with less noise, less energy consumption, and less required Hp. In addition, our fans are placed in an insulated sound absorbing box providing a quiet operating system (under 68dB).
- 4. Green-Drive™ Control System:** Lincoln Electric's Green-Drive Systems are on the cutting edge of fume technology control. Integrated controls continuously monitor system operation with a state-of-the-art pressure sensor and increase or decrease airflow to maintain the required performance levels. This results in energy savings of up to 50% and increased filter life of up to 30% over traditional on/off systems. The system controls offer two innovative cleaning mechanisms which monitor airflow through the filter — one triggered by a timer and the other by a pressure differential switch — to deliver maximum operating efficiency resulting in energy and cost savings.

#### *Please note:*

Continuous filtration and recirculation of air alone results in a degradation of the air quality; therefore additional ventilation with fresh outside air is also necessary. The degradation eventually occurs through the potential build-up of fumes and gases that cannot be filtered. Due to this unavoidable occurrence, we advise that the Circulator™ System be utilized in combination with roof or wall-mounted ventilators.



## FEATURES:

- **RotaPulsePlus™ Automatic Filter Cleaning System.**

Each time the system is switched off, an automatic cleaning cycle takes place. During this cycle both filter cartridges are cleaned by compressed air jets from the RotaPulsePlus™ system. The particulate is deposited in the drum beneath the filter.

- **Adjustable Outlet Nozzles.**

The nozzles can be easily customized for the configuration based on facility layout, welding areas and specific application needs.

## BENEFITS:

- **Cleaner work environment:** Reduce dust and dirt in operator and surrounding work areas
- **Low cost installation:** No ductwork required
- **Custom engineered** to meet facility and application requirements
- **Easy installation:** Position the unit on the floor, a platform or a mezzanine
- **Low noise level:** Will not contribute to increased noise levels

## THE CIRCULATOR TECHNICAL DATA:

- **Airflow 6000 cfm**
- **Input Power: 380 – 480/3/50-60 Hz**
- **Maximum Fan Power Consumption: 10 HP (7.5 kW)**
- **Dimensions: H x W x D: 213.6 x 47.2 x 96 in (5245 x 1200 x 2438 mm)**
- **Weight: 1764 (800 kg)**
- **Maximum Noise Level: 68 dB(A) according to ISO 3746**
- **Throw of the air flow is adjustable from 49.2 ft – 164 ft (15 – 50 m)**
- **Operating Temperatures: Minimum: 41°F (5° C), Maximum: 113°F (45° C)**
- **Drum Capacity: 26 gallons (100 liters)**
- **Certification: System Controls-UL 508A, Fan Motor-UR, Frequency Inverter-UL**

### CUSTOMER ASSISTANCE POLICY

The business of The Lincoln Electric Company® is manufacturing and selling high quality welding equipment, consumables, and cutting equipment. Our challenge is to meet the needs of our customers and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or advice about their use of our products. Our employees respond to inquiries to the best of their ability based on information provided to them by the customers and the knowledge they may have concerning the application. Our employees, however, are not in a position to verify the information provided or to evaluate the engineering requirements for the particular weldment. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or advice. Moreover, the provision of such information or advice does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or advice, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose is specifically disclaimed.

Lincoln Electric is a responsive manufacturer, but the selection and use of specific products sold by Lincoln Electric is solely within the control of, and remains the sole responsibility of the customer. Many variables beyond the control of Lincoln Electric affect the results obtained in applying these types of fabrication methods and service requirements.

Subject to Change – This information is accurate to the best of our knowledge at the time of printing. Please refer to [www.lincolnelectric.com](http://www.lincolnelectric.com) for any updated information.

The operation of welding fume control equipment is affected by various factors including proper use and positioning of the equipment, maintenance of the equipment and the specific welding procedure and application involved. Worker exposure level should be checked upon installation and periodically thereafter to be certain it is within applicable OSHA PEL and ACGIH TLV limits.

**LINCOLN**  
**ELECTRIC**

 WELD FUME CONTROL

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