

THE PRISM CIRCULATOR 4000

FREE-STANDING AMBIENT AIR FILTRATION SYSTEM



Key Features

Designed for facilities where additional ductwork is not an option, the Prism® Circulator® 4000 helps extract welding fumes by continuously circulating and filtering ambient air. Delivering 4000 SCFM of high air flow, these units are able to filter 40,000 cu. ft. of ambient air every 10 minutes. The Prism Circulator can be easily transported and installed in 1 hour. When you choose a fume extraction solution from Lincoln Electric, you're choosing a system designed, manufactured, and supported by the welding experts—helping to make fume management easy, every step of the way.

- Designed for spaces where traditional fume extraction can be a challenge
- Captures the weld fume where it settles in the air - as overhead haze
- Optimized for your space to deliver effective fume extraction
- Turn-Key Solution – design, installation and commissioning, all from Lincoln Electric



Processes »

All welding processes where ambient air filtration is preferred.

Input »



Product Number »

K5140-1 Prism Circulator 4000 460V, Nano Filter
K5140-2 Prism Circulator 4000 230V, Nano Filter
K5140-3 Prism Circulator 4000 460V, PTFE Filter
K5140-4 Prism Circulator 4000 230V, PTFE Filter
K5140-5 Prism Circulator 4000, 575V
K5140-6 Prism Circulator 4000, 575V, PTFE

FEATURES/BENEFITS:

- » **Quick and easy installation** – Can be easily installed in 1 hour. Simply hook up power and compressed air then manually adjust the outlet grid to accommodate the airflow direction required for your facility.
- » **Easy filter change** – Quick front door access to the filters for easy change out. All tools included for the filter change process.
- » **Low cost** – A more economical solution than traditional circulators.
- » **Intuitive operation** – Easy to find and operate start/stop button.
- » **Energy Efficient** – Energy efficient fan that maintains the SCFM throughout filter life.
- » **Transportable** – Ships in two pieces and designed to be easily moved with a tow motor.
- » **Two Types of filters** - Nano for standard Applications - PTFE for oily Applications

CIRCULATOR APPLICATION

The Prism Circulator 4000 can be used for ambient air filtration:

- Workspaces where large assemblies are being welded.
- Assemblies that require crane access for part movement.
- In high-dust & fume production and logistic areas where ductwork is not feasible.
- With all welding processes on various base materials.

COMPRESSED AIR & POWER REQUIREMENTS

- Connect compressed air source to fitting (ISO 6150 B prole 1/4"). Adjust regulator pressure to 6 bar (87 psi) max.
- Connect the Prism Circulator 4000 control cable to 115V/230V outlet.
- Mount the plug on to the fan cable based on the available outlet standard. Connect the fan power cable to the respective 460V or 230V outlet based on the variant.

THE LINCOLN ELECTRIC PRISM® CIRCULATOR® 4000 – INNOVATIVE WELD FUME CONTROL

Each Prism Circulator 4000 filters 2000 sq. ft. (40 ft. x 50 ft. room)

Generates up to 4000 SCFM of filtered air flow that can reach air throw distances up to 50-90 feet, depending on Low, Medium, or High air fan speed.



The air flow direction can be changed by adjusting the outlet grids at the top of the unit.



HOW TO DETERMINE YOUR CIRCULATOR SYSTEMS QUANTITY BY YOUR SHOPS SQUARE FOOTAGE

Step 1 Determine the square foot area where the air filtration is required. Each Prism Circulator 4000 filters 2,000 sq. ft.

Step 2 Divide total square foot area where the air filtration is required by 2000 sq. ft.
$$\frac{\text{STEP 1 (Total sq. ft.)}}{\text{STEP 2 (2,000 sq. ft.)}} = \text{total quantity of circulators needed for your space}$$

Step 3 Select a Suitable Location for each of your circulators

The Prism Circulator 4000 can be placed in high-dust and fume producing areas or placed strategically throughout the facility based on the airflow patterns. Follow these simple guidelines:

- Install your circulator along the perimeter of shop, away from open doors and exhaust fans.
- Position near input power and compressed air.
- Do not place near radiant heat sources.
- Do not place in a confined space. Allow a minimum of 3 ft. [0.91 m] of clearance around the machine for maintenance.

Step 4 To finalize the appropriate quantity of Circulators and optimal location specific for your shop, please reach out to your Lincoln Electric Environmental Specialist.

Email: weldingfumecontrol@LincolnElectric.com

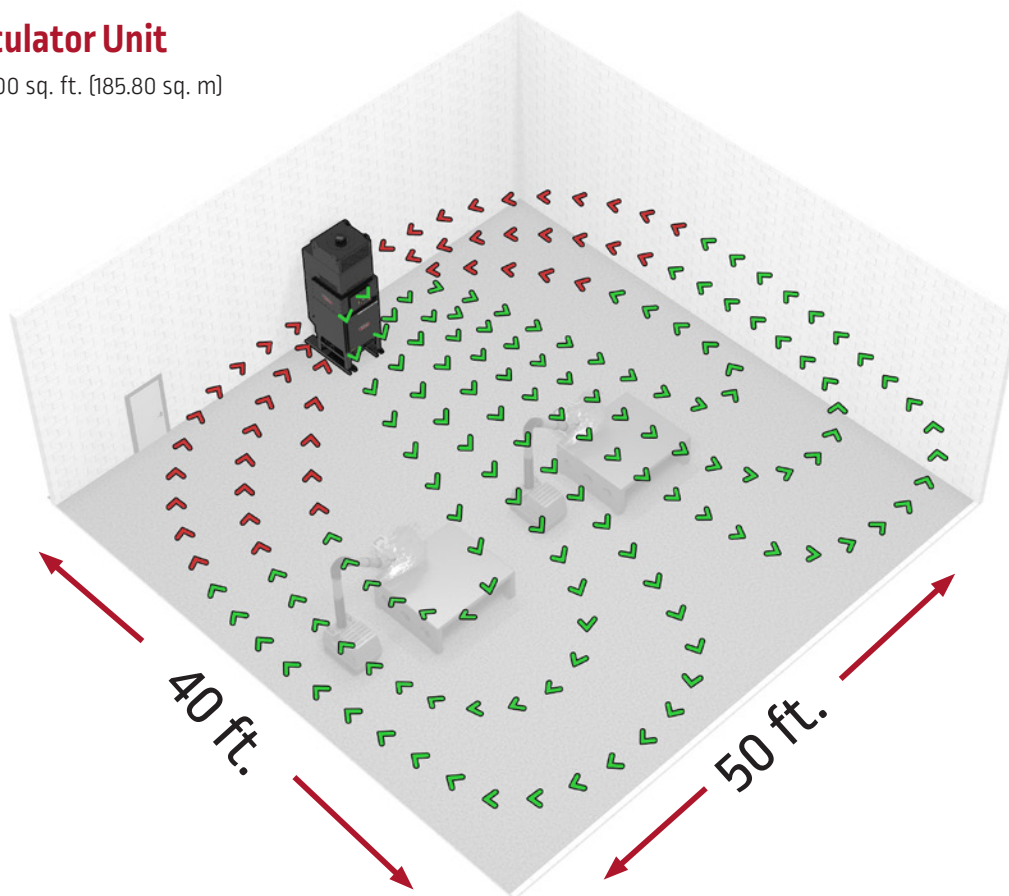
Phone: 1-888-935-3878 Ext. 4

Note: Air flow direction can be changed by adjusting the outlet grid located at the top of the unit.

Use the following diagrams to assist your location selection:

One Prism Circulator Unit

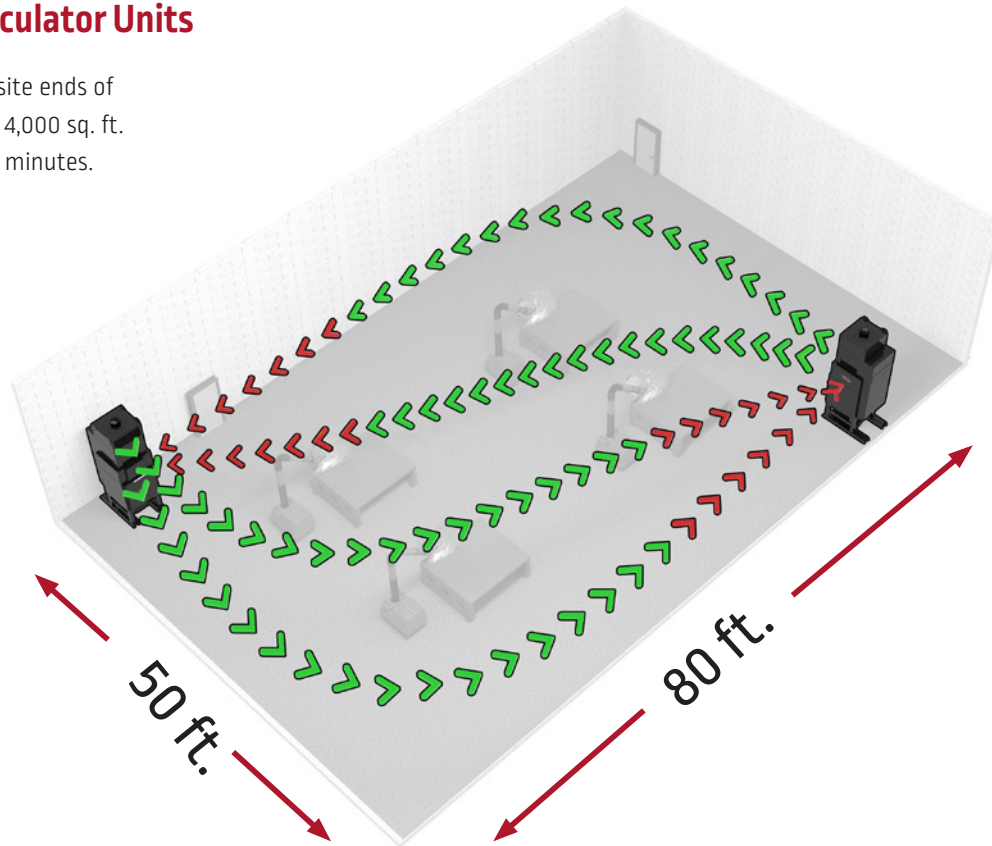
1: One unit filters 2,000 sq. ft. (185.80 sq. m) every 10 minutes.



Use the following diagrams to assist your location selection:

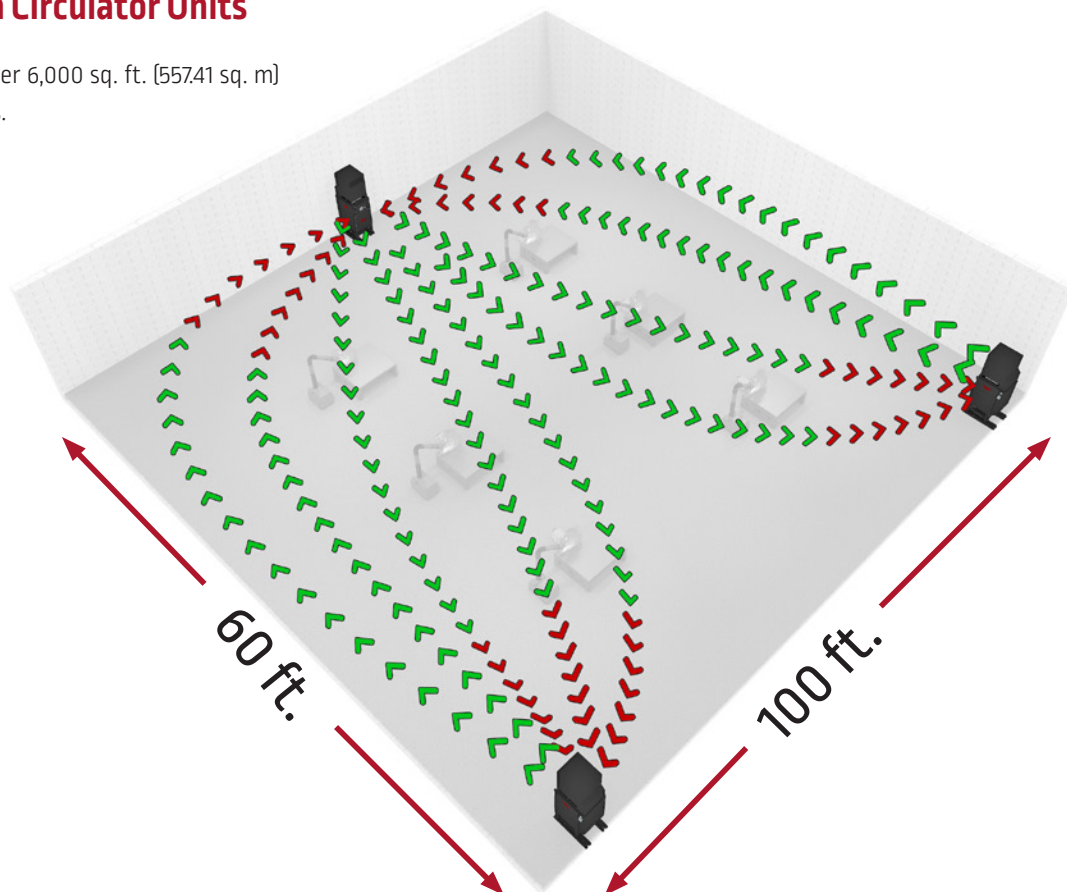
Two Prism Circulator Units

2: Two units at opposite ends of the workspace, filter 4,000 sq. ft. [371.6 sq. m] every 10 minutes.



Three Prism Circulator Units

3: Three units filter 6,000 sq. ft. [557.41 sq. m] every 10 minutes.



PRISM CIRCULATOR 4000 COMPONENTS

The Prism Circulator 4000 components consist of:

- 1 Fan with outlet grid
- 2 Inlet box - with Pre-Filter Spark Arrestor
- 3 Control panel
- 4 Filter unit - 4 MERV 16 Filters Included
- 5 Automatic filter cleaning system
- 6 Drum for particulate collection.

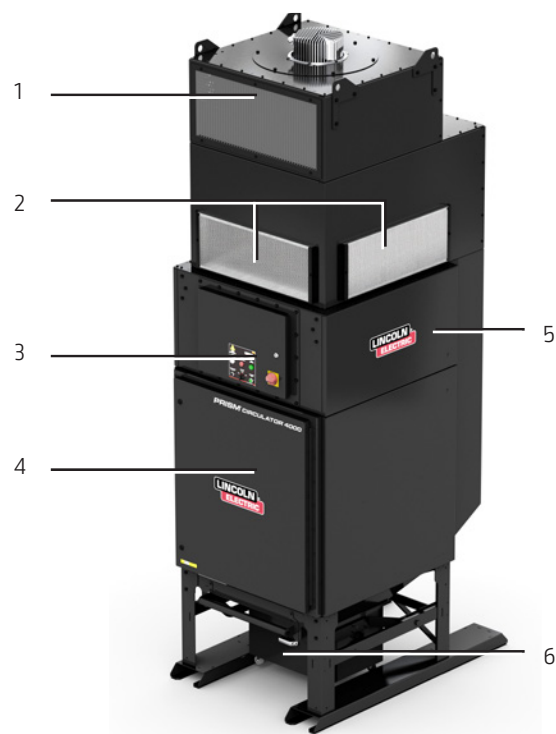
The Prism Circulator 4000 unit ships on 2 pallets in 2 sections.

- Filter section – Approximate Weight: 1190 lbs (540 kg)
- Fan section – Approximate Weight: 640 lbs (290 kg)

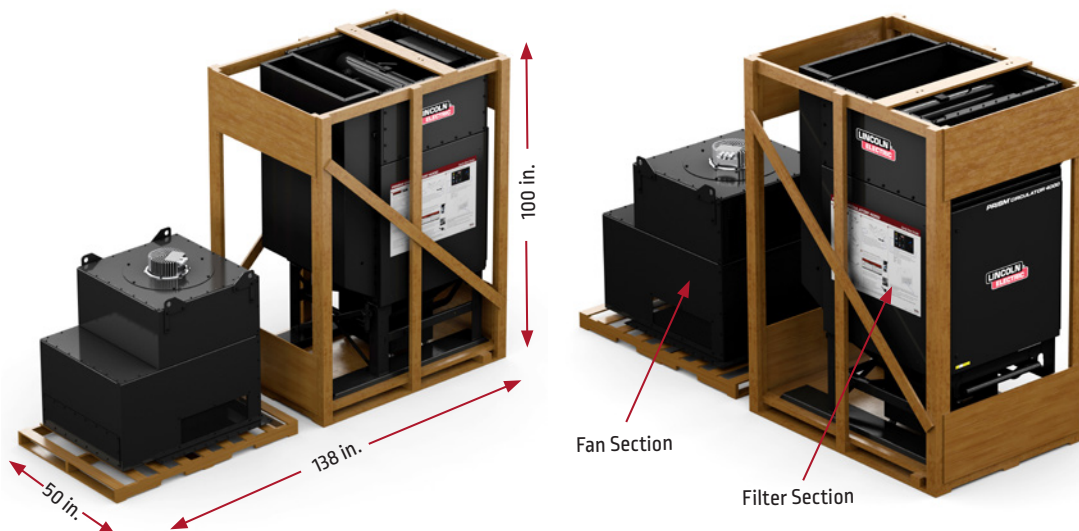


Prism Circulator 4000 Pre-Filter Spark Arrestors

- Spark Arrestor Kit for Circulator 4000 keeps large sparks from entering the unit.
- Spark Arrestors come standard on all Prism Circulator 4000 Units



The Prism Circulator 4000 is shipped in 2 sections on 2 pallets for quick onsite installation.
All the required mechanical and electrical hardware are included in the package.



AIR THROW DISTANCE BASED ON FAN SPEED

Fan Speed	Airflow CFM (m³/hr)	*Max Throw Distance ft (m)
High	4000 [6796]	120 [36.6]
Medium	3000 [5097]	90 [27.4]
Low	2000 [3398]	70 [21.3]

*At terminal velocity of 80 ft/min [0.4 m/s]

PRODUCT SPECIFICATIONS

Product Name	Capacity	Motor	Phase / Voltage	Rated Current (Amps)	Frequency HZ	Protection Class Fan Motor	Sound Level	Compressed Air Requirement psi (bar)	Type of Cleaning	Duty Cycle
Prism Circulator 4000 460V/480V	4000 SCFM @ 6.5 IN WG	75 HP EC Motor	3 Phase 460	9	50/60	IP55	72db	72 - 87 [5 - 6]	Pulse Jet	100%
Prism Circulator 4000 575V			3 Phase 575		60					
Prism Circulator 4000 - 230V			3Phase 230	19.5	50/60					

Product Name	Part Number	Filter Type	Number of Filters	Filter Area sq ft (sq m)	Minimum Temperature F [C]	Maximum Temperature F [C]	Footprint (Dimensions) in (mm)	Overall Height in (mm)	Overall Weight lbs (kg)
Prism Circulator 4000 460V/480V	K5140-1	MERV 16 Nano	4	1280 [118]	-4° [-20°]	113° [45°]	45 X 65 [1143 x 1651]	147 [3733.8]	1830 [830]
	K5140-3	MERV 16 PTFE							
Prism Circulator 4000 230V	K5140-2	MERV 16 Nano							
	K5140-4	MERV 16 PTFE							
Prism Circulator 4000 575V	K5140-5	MERV 16 Nano							
	K5140-6	MERV 16 PTFE							
Replacement Filter¹	KP4519-2	MERV 16 Nano	1						
Spark Arrestor Replacement²	KP4052-1	Metal Mesh	2						

(1) Refer to E13.90 for a complete list of compatible filter replacements.

(2) To replace all 3 spark arrestors order 2x of KP4052-1

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 Product Claim - Weld fume control products manufactured by The Lincoln Electric Company are designed to be utilized as an engineering safety control to aide in achieving adequate ventilation while conducting welding or it's allied processes. The operation of welding fume control equipment is affected by various factors including proper use and positioning of the equipment, and the specific welding procedure and application involved. When the equipment is used as designed - and when properly installed, operated and maintained - it can be a valuable and effective tool to help employers maintain adequate ventilation in the workplace. Lincoln Electric defines adequate ventilation as that which is required to maintain occupational exposure levels below the applicable exposure limits when sound work practices are utilized. Worker exposure level should be checked upon installation and periodically thereafter to be certain it is within applicable OSHA PEL and ACGIH TLV limits. Welding operations may produce hazardous gases such as carbon monoxide, oxides of nitrogen, and ozone. This equipment is designed to remove welding fume particulate, not gases. Ensure that adequate make-up air ventilation is provided to the workspace to prevent potential overexposure to these gases (see AWS Fact Sheet No. 36).

Lincoln Electric weld fume control products are highly effective at decreasing the occurrence level of thermal events, however, thermal events can still happen even if the system is operating as designed.

CUSTOMER ASSISTANCE POLICY

The business of Lincoln Electric is manufacturing and selling high quality welding equipment, automated welding systems, consumables, cutting equipment and EV charging systems. Our challenge is to meet the needs of our customers, who are experts in their fields, and to exceed their expectations. On occasion, purchasers may ask Lincoln Electric for information or technical information about their use of our products. Our employees respond to inquiries to the best of their ability based on information and specifications 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, or to provide engineering advice in relation to a specific situation or application. Accordingly, Lincoln Electric does not warrant or guarantee or assume any liability with respect to such information or communications. Moreover, the provision of such information or technical information does not create, expand, or alter any warranty on our products. Any express or implied warranty that might arise from the information or technical information, including any implied warranty of merchantability or any warranty of fitness for any customers' particular purpose or any other equivalent or similar warranty is specifically disclaimed.

Lincoln Electric is a responsive manufacturer, but the definition of specifications, and 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. 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 for any updated information.

The Lincoln Electric Company
22801 St. Clair Avenue · Cleveland, OH · 44117-1199 · U.S.A.
www.lincolnelectric.com