



ENVIRONMENTAL SOLUTIONS

LINCOLN
ELECTRIC

Why Choose Lincoln Electric's Environmental Welding Safety Solutions?

TECHNICAL EXPERTISE



Our Environmental Specialists
Are Experts in Fume Extraction

PROJECT MANAGEMENT



We Provide Consultation
Services You Can Trust

SIMPLE EXECUTION



Have Confidence in Fume Control
Solutions from Lincoln Electric

EDUCATION EXPERIENCE



We Serve the Unique Needs of
Welding Programs, Big and Small

Ask the Experts



What are welding fumes?

Welding fumes are comprised of complex metallic oxides, often along with silicates and fluoride compounds, forming particles that are typically less than 5 microns (μm) in diameter.

Who regulates air quality in welding applications?

The Occupational Safety and Health Administration (OSHA) is the primary U.S. agency regulating air quality. OSHA sets PELs (Permissible Exposure Limits) for compounds, some of which may be found in welding fume.

What is the difference between high vacuum extraction and low vacuum extraction?



High vacuum extraction is high local pressure where low volumes of air are being extracted. The typical range of CFM in a high vacuum application is 30-180 CFM. High vacuum extraction is traditionally done 2-4" from the weld source and is typically handled by small, compact systems that utilize fume extraction guns and extraction nozzles with small openings.



Low vacuum extraction is when high volumes of air are being extracted. The typical range of CFM in a low vacuum applications is 560-860 CFM. Low Vacuum extraction is traditionally done 6-12" from the weld source. Low vacuum extraction is handled by flexible extraction arms with larger diameter openings.

Our Family of Environmental Solutions

Help Provide Welders with a Safe & Comfortable Training Experience

PLUG AND PLAY (PNP) SOLUTIONS



X-Tractor® Mini
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PRISM® Mobile
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X-Tractor® 1 Fume Gun
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PRISM® Circulator® 4000
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Magnum® PRO 350 / 550 Fume Extraction Gun
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PRISM® Wall Mount
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PRISM® Downdraft Tables
Page 8



X-Tractor® 2, 4 & 6 Fume Guns
Page 9



Source - Capture Fume at the arc



Local - Isolated fume extraction



General - Facility-wide fume
Extraction Solutions

CONFIGURED TO APPLICATION (CTA) SOLUTIONS



PRISM® Central Systems
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PRISM® Suspend 4000
Page 12



Fire Safety Solutions
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Circulator®
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Extraction Arms
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Welding Booths
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Booth Assist
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Plug and Play

Fume Control Where Welders Need It



Prism Mobile with Mechanized Cleaning

Prism Mobile



X-Tractor Mini

System's Portability Is Ideal for Confined and Hard-to-Reach Spaces

- Captures fume at the arc
- Lightweight and portable, low-volume/high-vacuum system
- Designed for small training environments
- Connects to a fume gun or extraction nozzle
- SCFM: 95 CFM (Low) or 108 CFM (High)
- Quiet operation at <80 dB(a)
- Current Sensor – Automatic start/stop capability by sensing welding current

See E13.11 for complete specs.

PRISM Mobile

Easily Moves from One Workspace to the Next

- Captures fume at the arc
- Comes in MERV 14 and MERV 16 filter configurations
- Lightweight, high-volume/low-vacuum mobile fume extractor
- Designed for general/heavy fabrication and training applications that require fume extraction in multiple locations
- SCFM: 735 CFM with 10 ft and 13 ft flexible Extraction Arm
- Large filter surface area (538 ft²)
- Available with automatic cleaning or disposable filters

See E13.21 for complete specs.

X-Tractor 1 Fume Gun

Internal Cleaning System Removes Particulate from Filter

- Captures fume at the arc
- Lightweight and portable, high-vacuum extraction unit
- Unique rotary air jet system cleans filter without the need to remove the filter
- Designed for light-duty welding applications that connects to either a fume gun or extraction nozzle
- SCFM: 55-115 CFM
- Quiet operation at <74 dB(a)

See E13.17 for complete specs.



Magnum PRO 350



PRISM Wall Mount

Prism Wall Mount with
Mechanized Cleaning

VIKING 3350 PAPR

Powered Air Purifying Respirator Welding Helmet Delivers Filtered Air to Welder

- Provides isolated fume extraction
- Complete wearable system purifies ambient air from the shop and delivers filtered air to the user
- Designed for confined spaces
- 8 hours of battery life
- Extended life battery accessory provides up to 16 hours of battery life
- Audible and vibrating alarms notify user of low airflow or low battery
- Lightweight and comfortable: Blower weighs 2.20 lbs while the entire system weighs 6.19 lbs

See E14.744 for complete specs.

Magnum PRO 350 / 550 Fume Extraction Gun

Provide Source Extraction for Various Wire Processes

- Captures fume at the arc
- Line of semiautomatic air-cooled fume extraction guns
- Intended for confined spaces in high-productivity fabrication and production environments
- Magnum Pro 350 wire diameter range: .035 - 5/64 in. (0.9 – 2.0 mm)
- Magnum Pro 550 wire diameter range: .035 - 1/8 in. (0.9 - 3.2 mm)
- Innovative strain relief: Swivels to take pressure off the operator's wrist, allowing for added comfort
- Rated at 100% duty cycle

See E12.02 for complete specs.

PRISM Wall Mount

Wall-Mounted Fume Extractors Ideal for Environments with Limited Floor Space

- Captures fume at the arc
- MERV 14 and MERV 16 filter configurations
- Stationary wall-mounted, low-vacuum fume extractors
- Customizable and versatile
- Light- to heavy-duty fume extraction and filtration
- SCFM: 735-1200 CFM with extraction arm(s) and SF2400 fan
- Single- or dual-arm configurations
- Available with automatic filter cleaning or disposable filters

See E13.14 for complete specs.

Plug and Play

Fume Control Where Welders Need It



PRISM Down Draft



PRISM Down Draft Direct



PRISM Down Draft with Mechanized Cleaning

PRISM Down Draft Tables

Weld Fume Downdraft Tables and Workbenches Are Versatile Assets in Training Environments

- Captures fume at the arc
- Add customized extraction system to Prism Down Draft Direct
- Prism Down Draft Table and Prism Down Draft Table with Mechanized Cleaning include extraction motor (1750 CFM) and dual MERV 16, high-efficiency filters
- Compact/fixed fume extraction workstations
- Accommodates Stick, TIG, MIG, Flux-Cored, Grinding* and Plasma Cutting processes
- SCFM: 1750 CFM
- Standard table size: 53.8 in. x 29.5 in.
- Available with automatic filter cleaning or disposable filters

See E13.53 and E13.50 for complete specs.

*Not suitable for grinding Aluminum, Magnesium or other explosive materials.

Plug and Play

Fume Control Where Welders Need It



X-Tractor 4 and 6 Fume Gun

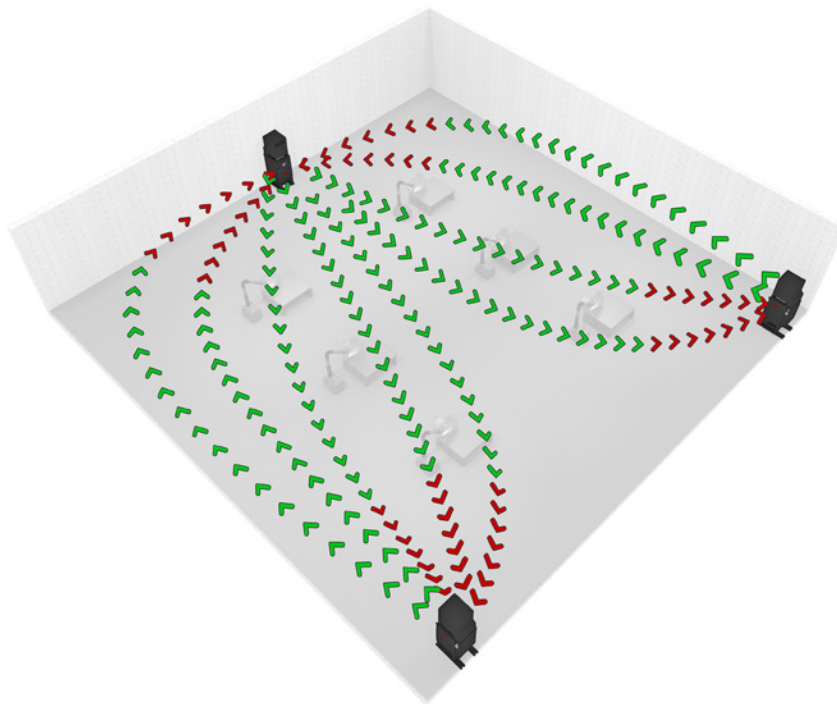
Provide Fume Extraction for Multiple Operators Simultaneously

- Captures fume at the arc for up to 6 operators simultaneously
- High-vacuum/low-volume systems designed to provide suction for attached nozzles or fume extraction guns
- Designed for heavy-duty semiautomatic and on-torch applications
- SCFM: 150-475 CFM
- Automatic filter cleaning

See E13.19 for complete specs.

Plug and Play

Fume Control Where Welders Need It



The PRISM Circulator 4000

Free-Standing Ambient Air Filtration

- Ideal for large and small shop environments
- 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 70-120 feet, depending on Low, Medium, or High air fan speed
- 40,000 cu. ft. of ambient air filtration every 10 minutes
- Easily installed in 1 hour
- Ships in two pieces making it easily moveable with a tow motor

See E13.24 for complete specs.

Configured to Application

Advanced Fume Control for Advanced Applications



PRISM CENTRAL SYSTEMS

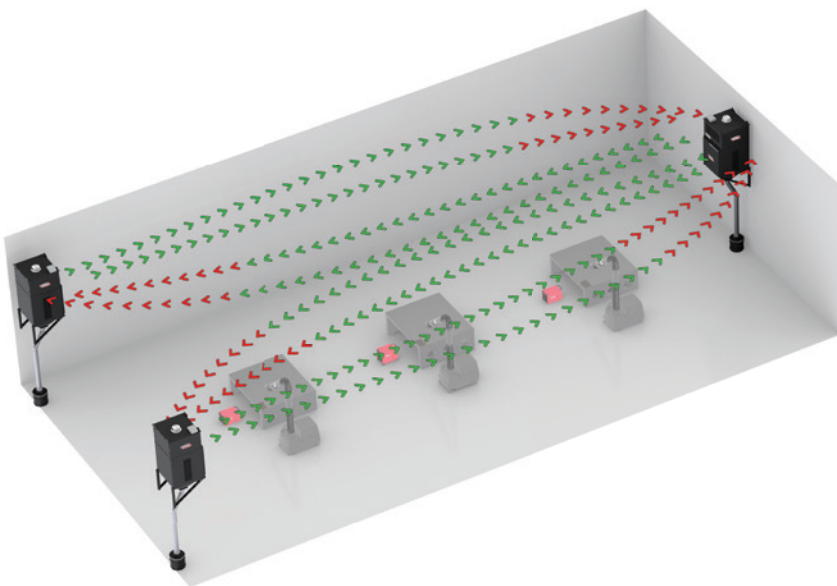
Vertical Filtration for Robotic Welding and Plasma Cutting Systems

- All-in-one vertically positioned filter bank provides isolated fume extraction
- Available in 4, 8 and 12-bank models
- Designed for advanced fabrication, plasma cutting, education and automation applications
- Connects to a modular or formed hood
- SCFM: 2750-19400 @ 7 in. WG
- Vertically aligned filters support even distribution of particulate to promote longer filter life and reduce maintenance requirements
- Automatic filter cleaning collects particulate in 30-gallon dust bin
- Filter replacement is quick and simple
- Quiet operation through added silencer
- Firetrace® fire suppression system optional

See E13.109 for complete specs.

Configured to Application

Advanced Fume Control for Advanced Applications



WITH MOUNTING BRACKETS

PRISM Suspend 4000 System

Ceiling or Wall Mounted Circulator

- A series of circulators mounted across from each other, above the shop floor, to circulate and filter ambient air.
- Easily mounted to an I-beam, flat ceiling or wall.
- Automatic filter cleaning
- Ductless push/pull system

See E13.25 for complete specs.

Configured to Application

Advanced Fume Control for Advanced Applications



BOOTH ASSIST

Monitor Students in the Weld Booth with Booth Assist

- Easy install
- Low voltage operation
- Compatible with any welding process
- Compatible with any welding equipment

See EMC22-03 for complete specs.

Need Help Designing a Welding Training Environment?

Lincoln Electric Environmental Specialists have helped welding educators across the country create effective and efficient training spaces, big and small.

Who We Serve:

- High Schools
- Community Colleges
- 4-Year Colleges and Universities
- Career & Technical Education Facilities
- Apprenticeship Programs/Labor Unions

How We Help:

- We consult with you to understand your fume control needs, space limitations and cost and maintenance considerations
- We recommend environmental solutions to match your applications' needs
- We provide equipment, drawings and installation support*
* Dependent upon terms of service package

How to Get Started:

Request to speak to one of Lincoln Electric's Environmental Specialists by calling 888-935-3878 EXT. 4.

Configured to Application

Advanced Fume Control for Advanced Applications

Extraction Arms

**Telescopic, Rotating and Counterweight Capabilities
Provide Dependable Fume Control**

- Flexible extraction arms are lightweight
- Balance system enables welders to easily place arms in a fixed position
- 360° rotatable hood can be positioned at the welding arc to quickly capture fumes
- Baffle controls airflow
- Automatic on/off operation with arc sensor
- Dent and scratch resistance for minimal maintenance
- Wall-mounted and mobile configurations available
- Extension cranes, available in 7 ft and 14 ft lengths, increase arm reach up to 27 feet

See E13.16 for complete specs.





Weld Booths

Configure Booths to Meet the Needs of Your Education Program

- Available in 4 ft, 5 ft and 6 ft wall widths
- Larger sized booths have enough floor space to comfortably fit both student and instructor
- Single or multiple booth options (square or rectangle)
- Heavy-duty steel construction
- Booth walls have an open space of 18 in at the bottom of the weld booth for air circulation and safety
- Exceeds AWS EG2.0:2006 recommendation of 12 in

See E13.51 for complete specs.



For more product
information and specifications,
visit lincolnelectric.com

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.

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.
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