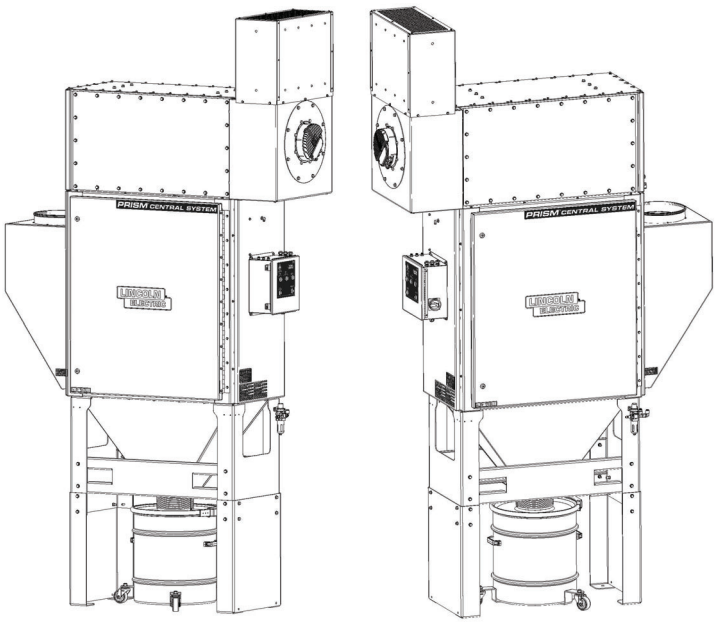
Operator's Manual

PRISM® CENTRAL SYSTEM 2



For use with machines having Code Numbers:

13655, 13656

GENUINE LINCOLN PARTS™

Register your machine:
www.lincolnelectric.com/register

Authorized Service and Distributor Locator:
www.lincolnelectric.com/locator

Save for future reference

Date Purchased

Code: (ex: 10859)

Serial: (ex: U1060512345)

Need Help? Call 1.888.935.3877
to talk to a Service Representative

Hours of Operation:
8:00 AM to 6:00 PM (ET) Mon. thru Fri.

After hours?
Use "Ask the Experts" at lincolnelectric.com
A Lincoln Service Representative will contact you no later than the following business day.

For Service outside the USA:
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IM10686 | Issue Date Feb - 24

THE LINCOLN ELECTRIC COMPANY
22801 St. Clair Avenue • Cleveland, OH • 44117-1199 • U.S.A.
Phone: +1.216.481.8100 • www.lincolnelectric.com

THANK YOU FOR SELECTING A QUALITY PRODUCT BY LINCOLN ELECTRIC.

PLEASE EXAMINE CARTON AND EQUIPMENT FOR DAMAGE IMMEDIATELY

When this equipment is shipped, title passes to the purchaser upon receipt by the carrier. Consequently, claims for material damaged in shipment must be made by the purchaser against the transportation company at the time the shipment is received.

SAFETY DEPENDS ON YOU

Lincoln arc welding and cutting equipment is designed and built with safety in mind. However, your overall safety can be increased by proper installation ... and thoughtful operation on your part. **DO NOT INSTALL, OPERATE OR REPAIR THIS EQUIPMENT WITHOUT READING THIS MANUAL AND THE SAFETY PRECAUTIONS CONTAINED THROUGHOUT.** And, most importantly, think before you act and be careful.

⚠ WARNING

This statement appears where the information must be followed exactly to avoid serious personal injury or loss of life.

⚠ CAUTION

This statement appears where the information must be followed to avoid minor personal injury or damage to this equipment.

KEEP YOUR HEAD OUT OF THE FUMES.

DON'T get too close to the arc. Use corrective lenses if necessary to stay a reasonable distance away from the arc.

READ and obey the Safety Data Sheet (SDS) and the warning label that appears on all containers of welding materials.

USE ENOUGH VENTILATION or exhaust at the arc, or both, to keep the fumes and gases from your breathing zone and the general area.

IN A LARGE ROOM OR OUTDOORS, natural ventilation may be adequate if you keep your head out of the fumes (See below).

USE NATURAL DRAFTS or fans to keep the fumes away from your face.

If you develop unusual symptoms, see your supervisor. Perhaps the welding atmosphere and ventilation system should be checked.

WEAR CORRECT EYE, EAR & BODY PROTECTION

PROTECT your eyes and face with welding helmet properly fitted and with proper grade of filter plate (See ANSI Z49.1).

PROTECT your body from welding spatter and arc flash with protective clothing including woolen clothing, flame-proof apron and gloves, leather leggings, and high boots.

PROTECT others from splatter, flash, and glare with protective screens or barriers.

IN SOME AREAS, protection from noise may be appropriate.

BE SURE protective equipment is in good condition.

Also, wear safety glasses in work area **AT ALL TIMES.**

SPECIAL SITUATIONS

DO NOT WELD OR CUT containers or materials which previously had been in contact with hazardous substances unless they are properly cleaned. This is extremely dangerous.

DO NOT WELD OR CUT painted or plated parts unless special precautions with ventilation have been taken. They can release highly toxic fumes or gases.

Additional precautionary measures

PROTECT compressed gas cylinders from excessive heat, mechanical shocks, and arcs; fasten cylinders so they cannot fall.

BE SURE cylinders are never grounded or part of an electrical circuit.

REMOVE all potential fire hazards from welding area.

ALWAYS HAVE FIRE FIGHTING EQUIPMENT READY FOR IMMEDIATE USE AND KNOW HOW TO USE IT.

SECTION A: WARNINGS

CALIFORNIA PROPOSITION 65 WARNINGS

WARNING: Breathing diesel engine exhaust exposes you to chemicals known to the State of California to cause cancer and birth defects, or other reproductive harm.

- Always start and operate the engine in a well-ventilated area.
- If in an exposed area, vent the exhaust to the outside.
- Do not modify or tamper with the exhaust system.
- Do not idle the engine except as necessary.

For more information go to www.P65 warnings.ca.gov/diesel

WARNING: This product, when used for welding or cutting, produces fumes or gases which contain chemicals known to the State of California to cause birth defects and, in some cases, cancer. (California Health & Safety Code § 25249.5 *et seq.)*

WARNING: Cancer and Reproductive Harm www.P65warnings.ca.gov

ARC WELDING CAN BE HAZARDOUS. PROTECT YOURSELF AND OTHERS FROM POSSIBLE SERIOUS INJURY OR DEATH. KEEP CHILDREN AWAY. PACEMAKER WEARERS SHOULD CONSULT WITH THEIR DOCTOR BEFORE OPERATING.

Read and understand the following safety highlights. For additional safety information, it is strongly recommended that you purchase a copy of "Safety in Welding & Cutting - ANSI Standard Z49.1" from the American Welding Society, P.O. Box 351040, Miami, Florida 33135 or CSA Standard W117.2. A Free copy of "Arc Welding Safety" booklet E205 is available from the Lincoln Electric Company, 22801 St. Clair Avenue, Cleveland, Ohio 44117-1199.

BE SURE THAT ALL INSTALLATION, OPERATION, MAINTENANCE AND REPAIR PROCEDURES ARE PERFORMED ONLY BY QUALIFIED INDIVIDUALS.

FOR ENGINE POWERED EQUIPMENT.

1.a. Turn the engine off before troubleshooting and maintenance work unless the maintenance work requires it to be running.

1.b. Operate engines in open, well-ventilated areas or vent the engine exhaust fumes outdoors.

1.c. Do not add the fuel near an open flame welding arc or when the engine is running. Stop the engine and allow it to cool before refueling to prevent spilled fuel from vaporizing on contact with hot engine parts and igniting. Do not spill fuel when filling tank. If fuel is spilled, wipe it up and do not start engine until fumes have been eliminated.

1.d. Keep all equipment safety guards, covers and devices in position and in good repair. Keep hands, hair, clothing and tools away from V-belts, gears, fans and all other moving parts when starting, operating or repairing equipment.

1.e. In some cases it may be necessary to remove safety guards to perform required maintenance. Remove guards only when necessary and replace them when the maintenance requiring their removal is complete. Always use the greatest care when working near moving parts.

1.f. Do not put your hands near the engine fan. Do not attempt to override the governor or idler by pushing on the throttle control rods while the engine is running.

1.g. To prevent accidentally starting gasoline engines while turning the engine or welding generator during maintenance work, disconnect the spark plug wires, distributor cap or magneto wire as appropriate.

1.h. To avoid scalding, do not remove the radiator pressure cap when the engine is hot.

1.i. Using a generator indoors CAN KILL YOU IN MINUTES.

1.j. Generator exhaust contains carbon monoxide. This is a poison you cannot see or smell.

1.k. NEVER use inside a home or garage, EVEN IF doors and windows are open.

1.l. Only use OUTSIDE and far away from windows, doors and vents.

1.m. Avoid other generator hazards. READ MANUAL BEFORE USE.

ELECTRIC AND MAGNETIC FIELDS MAY BE DANGEROUS

2.a. Electric current flowing through any conductor causes localized Electric and Magnetic Fields (EMF). Welding current creates EMF fields around welding cables and welding machines

2.b. EMF fields may interfere with some pacemakers, and welders having a pacemaker should consult their physician before welding.

2.c. Exposure to EMF fields in welding may have other health effects which are now not known.

2.d. All welders should use the following procedures in order to minimize exposure to EMF fields from the welding circuit:

- 2.d.1. Route the electrode and work cables together - Secure them with tape when possible.
- 2.d.2. Never coil the electrode lead around your body.
- 2.d.3. Do not place your body between the electrode and work cables. If the electrode cable is on your right side, the work cable should also be on your right side.
- 2.d.4. Connect the work cable to the workpiece as close as possible to the area being welded.
- 2.d.5. Do not work next to welding power source.

ELECTRIC SHOCK CAN KILL.

3.a. The electrode and work (or ground) circuits are electrically “hot” when the welder is on. Do not touch these “hot” parts with your bare skin or wet clothing. Wear dry, hole-free gloves to insulate hands.

3.b. Insulate yourself from work and ground using dry insulation. Make certain the insulation is large enough to cover your full area of physical contact with work and ground.

In addition to the normal safety precautions, if welding must be performed under electrically hazardous conditions (in damp locations or while wearing wet clothing; on metal structures such as floors, gratings or scaffolds; when in cramped positions such as sitting, kneeling or lying, if there is a high risk of unavoidable or accidental contact with the workpiece or ground) use the following equipment:

- Semiautomatic DC Constant Voltage (Wire) Welder.
- DC Manual (Stick) Welder.
- AC Welder with Reduced Voltage Control.

3.c. In semiautomatic or automatic wire welding, the electrode, electrode reel, welding head, nozzle or semiautomatic welding gun are also electrically “hot”.

3.d. Always be sure the work cable makes a good electrical connection with the metal being welded. The connection should be as close as possible to the area being welded.

3.e. Ground the work or metal to be welded to a good electrical (earth) ground.

3.f. Maintain the electrode holder, work clamp, welding cable and welding machine in good, safe operating condition. Replace damaged insulation.

3.g. Never dip the electrode in water for cooling.

3.h. Never simultaneously touch electrically “hot” parts of electrode holders connected to two welders because voltage between the two can be the total of the open circuit voltage of both welders.

3.i. When working above floor level, use a safety belt to protect yourself from a fall should you get a shock.

3.j. Also see Items 6.c. and 8.

ARC RAYS CAN BURN.

4.a. Use a shield with the proper filter and cover plates to protect your eyes from sparks and the rays of the arc when welding or observing open arc welding. Headshield and filter lens should conform to ANSI Z87. I standards.

4.b. Use suitable clothing made from durable flame-resistant material to protect your skin and that of your helpers from the arc rays.

4.c. Protect other nearby personnel with suitable, non-flammable screening and/or warn them not to watch the arc nor expose themselves to the arc rays or to hot spatter or metal.

FUMES AND GASES CAN BE DANGEROUS.

5.a. Welding may produce fumes and gases hazardous to health. Avoid breathing these fumes and gases. When welding, keep your head out of the fume. Use enough ventilation and/or exhaust at the arc to keep fumes and gases away from the breathing zone. **When welding hardfacing (see instructions on container or SDS) or on lead or cadmium plated steel and other metals or coatings which produce highly toxic fumes, keep exposure as low as possible and within applicable OSHA PEL and ACGIH TLV limits using local exhaust or mechanical ventilation unless exposure assessments indicate otherwise. In confined spaces or in some circumstances, outdoors, a respirator may also be required. Additional precautions are also required when welding on galvanized steel.**

5. b. 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.

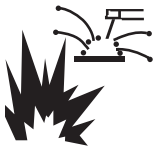
5.c. Do not weld in locations near chlorinated hydrocarbon vapors coming from degreasing, cleaning or spraying operations. The heat and rays of the arc can react with solvent vapors to form phosgene, a highly toxic gas, and other irritating products.

5.d. Shielding gases used for arc welding can displace air and cause injury or death. Always use enough ventilation, especially in confined areas, to insure breathing air is safe.

5.e. Read and understand the manufacturer’s instructions for this equipment and the consumables to be used, including the Safety Data Sheet (SDS) and follow your employer’s safety practices. SDS forms are available from your welding distributor or from the manufacturer.

5.f. Also see item 1.b.

WELDING AND CUTTING SPARKS CAN CAUSE FIRE OR EXPLOSION.



6.a. Remove fire hazards from the welding area. If this is not possible, cover them to prevent the welding sparks from starting a fire. Remember that welding sparks and hot materials from welding can easily go through small cracks and openings to adjacent areas. Avoid welding near hydraulic lines. Have a fire extinguisher readily available.

6.b. Where compressed gases are to be used at the job site, special precautions should be used to prevent hazardous situations. Refer to "Safety in Welding and Cutting" (ANSI Standard Z49.1) and the operating information for the equipment being used.

6.c. When not welding, make certain no part of the electrode circuit is touching the work or ground. Accidental contact can cause overheating and create a fire hazard.

6.d. Do not heat, cut or weld tanks, drums or containers until the proper steps have been taken to insure that such procedures will not cause flammable or toxic vapors from substances inside. They can cause an explosion even though they have been "cleaned". For information, purchase "Recommended Safe Practices for the Preparation for Welding and Cutting of Containers and Piping That Have Held Hazardous Substances", AWS F4.1 from the American Welding Society (see address above).

6.e. Vent hollow castings or containers before heating, cutting or welding. They may explode.

6.f. Sparks and spatter are thrown from the welding arc. Wear oil free protective garments such as leather gloves, heavy shirt, cuffless trousers, high shoes and a cap over your hair. Wear ear plugs when welding out of position or in confined places. Always wear safety glasses with side shields when in a welding area.

6.g. Connect the work cable to the work as close to the welding area as practical. Work cables connected to the building framework or other locations away from the welding area increase the possibility of the welding current passing through lifting chains, crane cables or other alternate circuits. This can create fire hazards or overheat lifting chains or cables until they fail.

6.h. Also see item 1.c.

6.I. Read and follow NFPA 51B "Standard for Fire Prevention During Welding, Cutting and Other Hot Work", available from NFPA, 1 Batterymarch Park, PO box 9101, Quincy, MA 022690-9101.

6.j. Do not use a welding power source for pipe thawing.

CYLINDER MAY EXPLODE IF DAMAGED.

7.a. Use only compressed gas cylinders containing the correct shielding gas for the process used and properly operating regulators designed for the gas and pressure used. All hoses, fittings, etc. should be suitable for the application and maintained in good condition.

7.b. Always keep cylinders in an upright position securely chained to an undercarriage or fixed support.

7.c. Cylinders should be located:

- Away from areas where they may be struck or subjected to physical damage.
- A safe distance from arc welding or cutting operations and any other source of heat, sparks, or flame.

7.d. Never allow the electrode, electrode holder or any other electrically "hot" parts to touch a cylinder.

7.e. Keep your head and face away from the cylinder valve outlet when opening the cylinder valve.

7.f. Valve protection caps should always be in place and hand tight except when the cylinder is in use or connected for use.

7.g. Read and follow the instructions on compressed gas cylinders, associated equipment, and CGA publication P-I, "Precautions for Safe Handling of Compressed Gases in Cylinders," available from the Compressed Gas Association, 14501 George Carter Way Chantilly, VA 20151.

FOR ELECTRICALLY POWERED EQUIPMENT.

8.a. Turn off input power using the disconnect switch at the fuse box before working on the equipment.

8.b. Install equipment in accordance with the U.S. National Electrical Code, all local codes and the manufacturer's recommendations.

8.c. Ground the equipment in accordance with the U.S. National Electrical Code and the manufacturer's recommendations.

Refer to http://www.lincolnelectric.com/safety for additional safety information.

As a rule of thumb, for many mild steel electrode, if the air is visibly clear and you are comfortable, then the ventilation is generally adequate for your work. The most accurate way to determine if the worker exposure does not exceed the applicable exposure limit for compounds in the fumes and gases is to have an industrial hygienist take and analyze a sample of the air you are breathing. This is particularly important if you are welding with stainless, hardfacing or Special Ventilation products. All Lincoln MSDS have a maximum fume guideline number. If exposure to total fume is kept below that number, exposure to all fume from the electrode (not coatings or plating on the work) will be below the TLV.

There are steps that you can take to identify hazardous substances in your welding environment. Read the product label and material safety data sheet for the electrode posted in the work place or in the electrode or flux container to see what fumes can be reasonably expected from use of the product and to determine if special ventilation is needed. Secondly, know what the base metal is and determine if there is any paint, plating, or coating that could expose you to toxic fumes and/or gases. Remove it from the metal being welded, if possible. If you start to feel uncomfortable, dizzy or nauseous, there is a possibility that you are being overexposed to fumes and gases, or suffering from oxygen deficiency. Stop welding and get some fresh air immediately. Notify your supervisor and co-workers so the situation can be corrected and other workers can avoid the hazard. Be sure you are following these safe practices, the consumable labeling and MSDS to improve the ventilation in your area. Do not continue welding until the situation has been corrected.

NOTE: The MSDS for all Lincoln consumables is available on Lincoln's website: www.lincolnelectric.com

Before we turn to the methods available to control welding fume exposure, you should understand a few basic terms:

Natural Ventilation is the movement of air through the workplace caused by natural forces. Outside, this is usually the wind. Inside, this may be the flow of air through open windows and doors.

Mechanical Ventilation is the movement of air through the workplace caused by an electrical device such as a portable fan or permanently mounted fan in the ceiling or wall.

Source Extraction (Local Exhaust) is a mechanical device used to capture welding fume at or near the arc and filter contaminants out of the air.

The ventilation or exhaust needed for your application depends upon many factors such as:

- Workspace volume
- Workspace configuration
- Number of welders
- Welding process and current
- Consumables used (mild steel, hardfacing, stainless, etc.)
- Allowable levels (TLV, PEL, etc.)
- Material welded (including paint or plating)
- Natural airflow

Your work area has adequate ventilation when there is enough ventilation and/or exhaust to control worker exposure to hazardous materials in the welding fumes and gases so the applicable limits for those materials is not exceeded. See chart of TLV and PEL for Typical Electrode Ingredients, the OSHA PEL (Permissible Exposure Limit), and the recommended guideline, the ACGIH TLV (Threshold Limit Value), for many compounds found in welding fume.

Ventilation

There are many methods which can be selected by the user to provide adequate ventilation for the specific application. The following section provides general information which may be helpful in evaluating what type of ventilation equipment may be suitable for your application. When ventilation equipment is installed, you should confirm worker exposure is controlled within applicable OSHA PEL and/or ACGIH TLV. According to OSHA regulations, when welding and cutting (mild steels), natural ventilation is usually considered sufficient to meet requirements, provided that:

1. The room or welding area contains at least 10,000 cubic feet (about 22' x 22' x 22') for each welder.
2. The ceiling height is not less than 16 feet.
3. Cross ventilation is not blocked by partitions, equipment, or other structural barriers.
4. Welding is not done in a confined space.

Spaces that do not meet these requirements should be equipped with mechanical ventilating equipment that exhausts at least 2000 CFM of air for each welder, except where local exhaust hoods or booths, or air-line respirators are used.

Important Safety Note:

When welding with electrodes which require special ventilation such as stainless or hardfacing (see instructions on container or MSDS) or on lead or cadmium plated steel and other metals or coatings which produce hazardous fumes, keep exposure as low as possible and below exposure limit values (PEL and TLV) for materials in the fume using local exhaust or mechanical ventilation. In conned spaces or in some circumstances, for example outdoors, a respirator may be required if exposure cannot be controlled to the PEL or TLV. (See MSDS and chart of TLV and PEL for Typical Electrode Ingredients.) Additional precautions are also required when welding on galvanized steel.

BIBLIOGRAPHY AND SUGGESTED READING

ANSI Z87.1, Practice for Occupational and Educational Eye and Face Protection, American National Standards Institute, 11 West 42nd Street, New York, NY 10036.

Arc Welding and Your Health: A Handbook of Health Information for Welding. Published by The American Industrial Hygiene Association, 2700 Prosperity Avenue, Suite 250, Fairfax, VA 22031-4319.

NFPA Standard 51B, Cutting and Welding Processes, National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9146, Quincy, MA 02269-9959.

OSHA General Industry Standard 29 CFR 1910 Subpart Q. OSHA Hazard Communication Standard 29 CFR 1910.1200. Available from the Occupational Safety and Health Administration at http://www.osha.org or contact your local OSHA office.

The following publications are published by The American Welding Society, P.O. Box 351040, Miami, Florida 33135. AWS publications may be purchased from the American Welding society at http://www.aws.org or by contacting the AWS at 800-443-9353.

ANSI, Standard Z49.1, Safety in Welding, Cutting and Allied Processes. Z49.1 is now available for download at no charge at http://www.lincolnelectric.com/community/safety/ or at the AWS website http://www.aws.org.

AWS F1.1, Method for Sampling Airborne Particulates Generated by Welding and Allied Processes.

AWS F1.2, Laboratory Method for Measuring Fume Generation Rates and Total Fume Emission of Welding and Allied Processes.

AWS F1.3, Evaluating Contaminants in the Welding Environment: A Strategic Sampling Guide.

AWS F1.5, Methods for Sampling and Analyzing Gases from Welding and Allied Processes.

AWS F3.2, Ventilation Guide for Welding Fume Control

AWS F4.1, Recommended Safe Practices for the Preparation for Welding and Cutting of Containers and Piping That Have Held Hazardous Substances.

AWS SHF, Safety and Health Facts Sheets. Available free of charge from the AWS website at http://www.aws.org.

LISTED BELOW ARE SOME TYPICAL INGREDIENTS IN WELDING ELECTRODES AND THEIR TLV (ACGIH) GUIDELINES AND PEL (OSHA) EXPOSURE LIMITS

INGREDIENTS	CAS No.	TLV mg/m^3	PEL mg/m^3
Aluminum and/or aluminum alloys (as Al)*****	7429-90-5	1.0	15
Aluminum oxide and/or Bauxite*****	1344-28-1	1.0	5**
Barium compounds (as Ba)*****	513-77-9	0.5	0.5
Chromium and chromium alloys or compounds (as Cr)*****	7440-47-3	0.5(b)	0.5(b)
Hexavalent Chromium (Cr VI)	18540-29-9	0.05(b)	.005(b)
Copper Fume	7440-50-8	0.2	0.1
Cobalt Compounds	7440-48-4	0.02	0.1
Fluorides (as F)	7789-75-5	2.5	2.5
Iron	7439-89-6	10*	10*
Limestone and/or calcium carbonate	1317-65-3	10*	15
Lithium compounds (as Li)	554-13-2	15	10*
Magnesite	1309-48-4	10	15
Magnesium and/or magnesium alloys and compounds (as Mg)	7439-95-4	10*	10*
Manganese and/or manganese alloys and compounds (as Mn)*****	7439-96-5	0.02	5.0(c)
Mineral silicates	1332-58-7	5**	5**
Molybdenum alloys (as Mo)	7439-98-7	10	10
Nickel*****	7440-02-0	0.1	1
Silicates and other binders	1344-09-8	10*	10*
Silicon and/or silicon alloys and compounds (as Si)	7440-21-3	10*	10*
Strontium compounds (as Sr)	1633-05-2	10*	10*
Zirconium alloys and compounds (as Zr)	12004-83-0	5	5

Supplemental Information:

(*) Not listed. Nuisance value maximum is 10 milligrams per cubic meter. PEL value for iron oxide is 10 milligrams per cubic meter. TLV value for iron oxide is 5 milligrams per cubic meter.

(**) As respirable dust.

(*****) Subject to the reporting requirements of Sections 311, 312, and 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of 40CFR 370 and 372.

(b) The PEL for chromium (VI) is .005 milligrams per cubic meter as an 8 hour time weighted average. The TLV for water-soluble chromium (VI) is 0.05 milligrams per cubic meter. The TLV for insoluble chromium (VI) is 0.01 milligrams per cubic meter.

(c) Values are for manganese fume. STEL (Short Term Exposure Limit) is 3.0 milligrams per cubic meter. OSHA PEL is a ceiling value.

(****) The TLV for soluble barium compounds is 0.5 mg/m^3.

TLV and PEL values are as of October 2013. Always check Safety Data Sheet (SDS) with product or on the Lincoln Electric website at http://www.lincolnelectric.com

TECHNICAL SPECIFICATIONS

GENERAL	
TYPE OF CLEANING	Pulse jet
DUTY CYCLE	100%
COMPRESSED AIR PRESSURE AND QUALITY	72 - 87 psi (5 - 6 bar) clean, dry and oil free

FILTER CLEANING COMPRESSED AIR CONSUMPTION		
	Compressed Air pressure: 6 bar (87 psi) *5 bar (72 psi) approx 20% less* volume	
	PAUSE TIME: 15 SEC (factory default "bold") **PULSE LENGTH:** 250ms (factory default)	
		Air Consumption CFM, (L/MIN)
		Cleaning Cycle
Pause Time (Sec)	5	51.6 (1464)
	10	25.8 (732)
	15	**17.2 (488)**
	20	12.9 (366)
	25	10.3 (293)
	30	8.6 (244)
	35	7.4 (209)
	40	6.5 (183)
	45	5.7 (163)
	50	5.2 (146)
	55	4.7 (133)
	60	4.3 (122)

NOTE: Compressed air must be clean and dry, and have a dew point of -40°F (-40°C).

FILTER CLASS (ACCORDING TO ASHRAE 52.2)	
KP4519-1	MERV 11
KP4519-2	MERV 16 NANO
KP4519-3	MERV 16 PTFE
KP4519-4	MERV 11 OIL RESISTANT
KP4519-5	MERV 16 OIL RESISTANT NANO

AMBIENT CONDITIONS	
MINIMUM TEMPERATURE	-4°F (-20°C)
MAXIMUM TEMPERATURE	113°F (45°C)
MAXIMUM RELATIVE HUMIDITY	75%

PRISM® 2: AD1326-25 & AD1326-26	
INPUT VOLTAGE NOMINAL +/- 10%	380-480V/3~/50-60Hz (FAN) 115-230V/1~/50-60Hz (CONTROLS)
MAXIMUM CURRENT (NOMINAL)	5.9A (FAN) 2A (CONTROLS)
MOTOR POWER (NOMINAL)	5.8 HP
INSULATION CLASS FAN MOTOR	F
PROTECTION CLASS FAN MOTOR	IP54
DIMENSIONS	See Section F
FAN SUPPLY FUSE	CLASS J OR CC 10A/600V
ALARM LEVEL	1500Pa (factory default)

INSTALLATION

GENERAL DESCRIPTION

Prism® 2 is a reduced-footprint fan/filtration unit combination designed with robotic welding and plasma cutting system in mind. The 2-filter configuration can provide extraction capacity for just about any automated system equipped with a hood.

Pre-assembly allows for easy and quick installation.

The fan pulls the air with particulate through the filters. When the pressure over the filter reaches a preset point, the internal self cleaning mechanism begins to clean the filter cartridges by means of compressed air shots, resulting in the particulate dropping into a dustbin at the bottom of the unit.

THE INTENDED PURPOSE

Extraction of fumes that are released in the course of using welding equipment for cutting and joining non-alloy and alloy steels, including highalloy chromium/nickel steels with a nickel and chromium content of ≥ 30%

TRANSPORT AND ERECTION

⚠ ATTENTION

Instruct all persons whose presence is not required to stay out of the hazard area

Do not stand under or next to the load when it is being lifted up or set down

Transport the unit or erection components on the pallets provided, and secure them against falling over or slipping.

Transport them with a suitable pallet truck or forklift truck

Taller units should be built up on site

Filter units must be secured to the foundations

The foundations must have adequate load-bearing strength and be free of vibration

⚠ ATTENTION

- **The installer is responsible for following federal, state and local safety codes and regulations.**
- **Before drilling, verify locations of existing gas, water or electrical conduits.**

⚠ WARNING

Excluded Uses!

- **Welding fumes containing oil**
- **Aluminium dust**
- **Burning or incandescent materials**
- **Cigarettes**
- **Aggressive media**
- **Water and moisture**
- **Explosive gases and/or dust mixtures**
- **Dusts with toxic characteristics other than welding fumes**

- **The installation of this product is exclusively reserved to authorized, well-trained and qualified professional electrical and mechanical contractors. A goal of the Smartwire is quick installation, possibly without any LE involvment.**
- **Inspect the product and check it for damage. Verify the functioning of the safety features.**
- **Electrical connection to be executed in accordance with local requirements. Ensure compliance with the EMC regulatory arrangements.**
- **Check the working environment. Do not allow unauthorized persons to enter the working environment.**
- **Protect the product against water and humidity.**
- **Use common sense. Stay alert and keep your attention to your work. Do not use the product when you are under the influence of drugs, alcohol or medicine.**
- **Ensure the workspace is well-illuminated.**
- **Make sure the room is always sufficiently ventilated; this applies especially to confined spaces.**
- **Never install the product in front of entrances and exits which must be used for emergency services.**
- **Make sure that the workshop, in the vicinity of the product, contains sufficient approved fire extinguishers.**
- **Make sure the wall, ceiling or support system are strong enough to carry the product.**
- **Air containing particles such as chromium, nickel, beryllium, cadmium, lead etc., which is a health hazard, should never be recycled. This air must always be brought outside the working area.**

SELECT SUITABLE LOCATION

- Do not place equipment near radiant heat sources.
- Do not place in a confined space. Allow a minimum of 3 feet of clearance around machine at all times for maintenance requirements.

ENVIRONMENTAL AREA

Keep the machine inside and dry at all times. Do not place on wet ground or in puddles. Never place liquids on top of the machine.

INSTALLATION OF PRISM® CENTRAL SYSTEM 2 (AD1326-25 & AD1326-26)

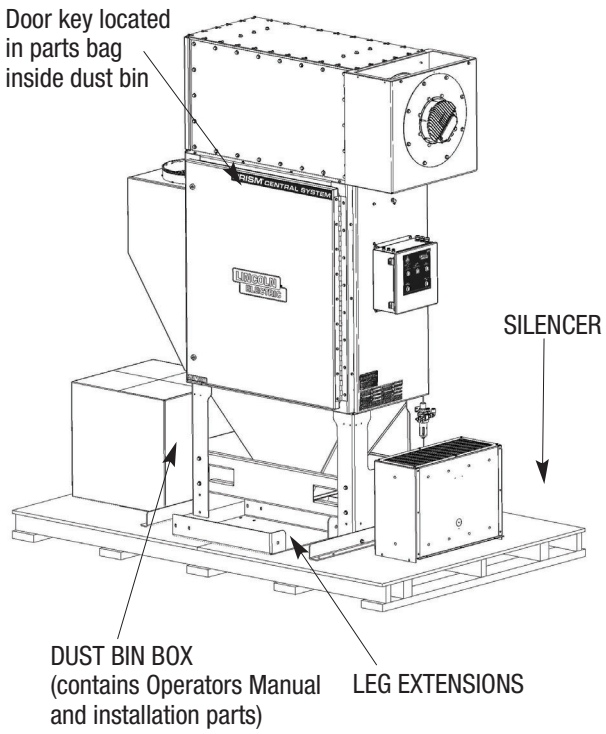
TOOLS NEEDED

- 5/16" Nutdriver
- 9/16" Nutdriver
- Ladder/Lift
- Drill + 1/4" Drill Bit

Step 1 - Unpack The Unit

Place pallet near intended installation location and unpack in preparation for assembly.

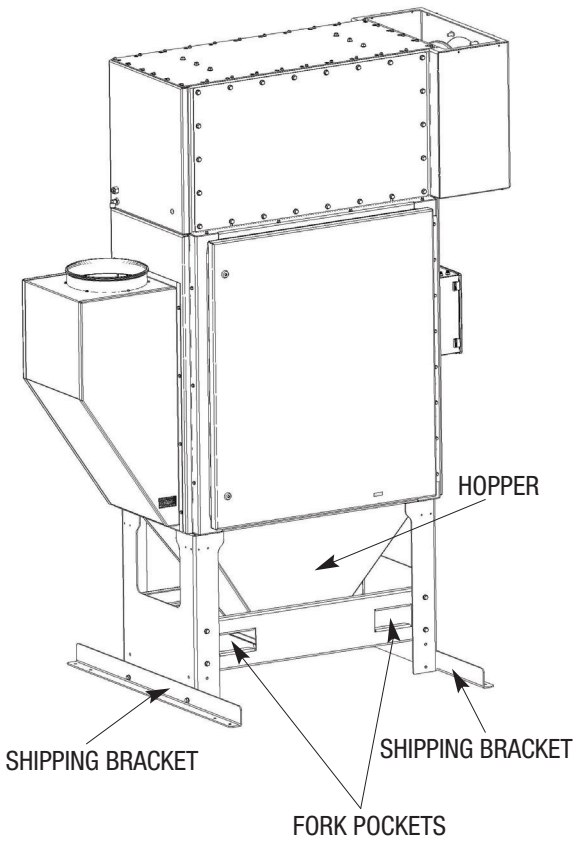
FIGURE A.1



Step 2 - Lift The Unit For Final Assembly

1. To lift unit for final assembly using fork truck, place forks through front and rear fork pockets. NOTICE: Ensure forks are perpendicular to fork pockets to prevent damage to hopper. (See Fork Pocket Locations in Figure A.2)
2. After lifting unit, remove shipping brackets from bottom of legs. Save to reinstall on bottom of leg extensions in Step 3. (See Shipping Braket locations in Figure A.2)

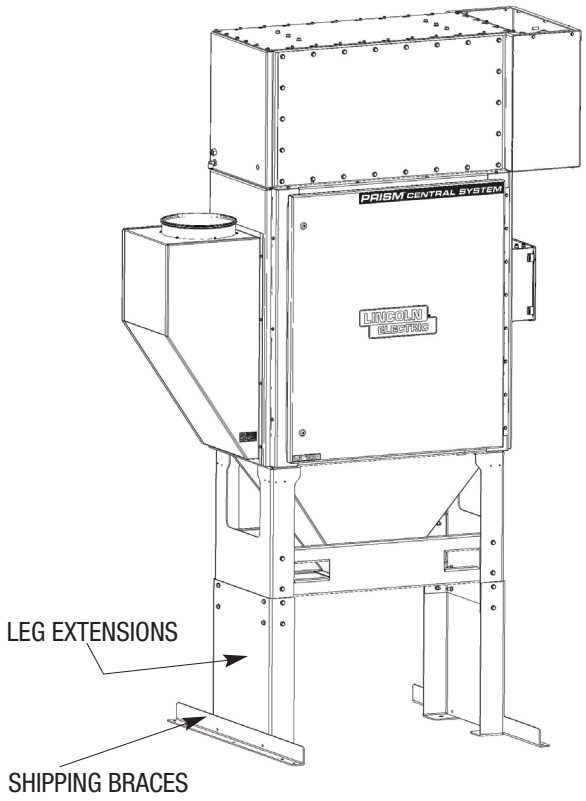
FIGURE A.2



Step 3 - Assemble Leg Extensions

1. Install Leg Extensions as shown using supplied 3/8-16 bolts and nuts (8 each per leg) (See Figure A.3).
2. To ensure unit stability during remaining installation steps, install shipping braces as shown (See Figure A.3).
3. Place unit on floor in desired location. Keep Shipping Braces installed until unit's legs are bolted to the floor during a later step (See Figure A.3).

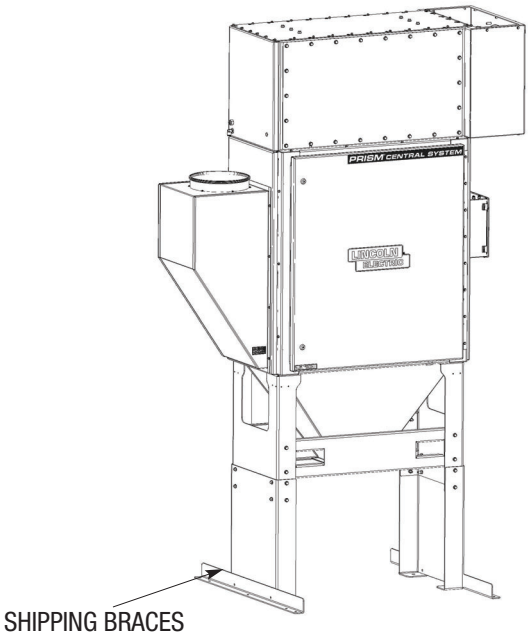
FIGURE A.3



Step 4 - Bolt Unit To Floor

1. Using the bottom view mounting dimensions on pages F-6 and F-7, bolt unit to floor.
2. The Shipping Braces can now be removed.

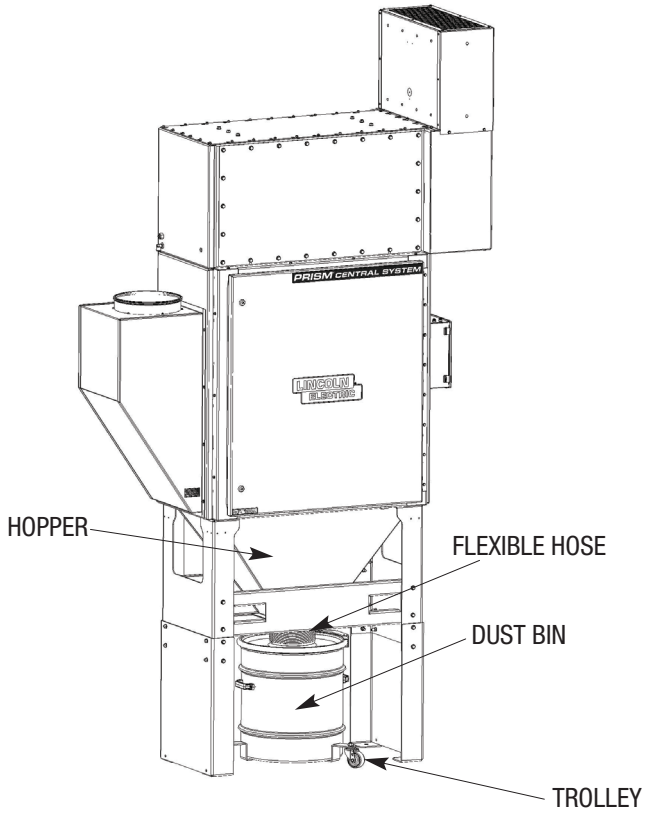
FIGURE A.4



Step 5 - Install Silencer And Dust Bin

1. Place fan silencer on top of fan housing as shown with slots in silencer under heads of two pre-installed bolts. Fasten fan silencer using (8 additional) supplied 1/4-20 bolts (see Figure A.5).
2. Attach flex hose to dust bin lid using supplied screw clamp. DO NOT OVERTIGHTEN (see Figure A.5).
3. Place dust bin on trolley and roll under hopper (see Figure A.5).
4. Attach flex hose to bottom of hopper using supplied screw clamp (see Figure A.5).

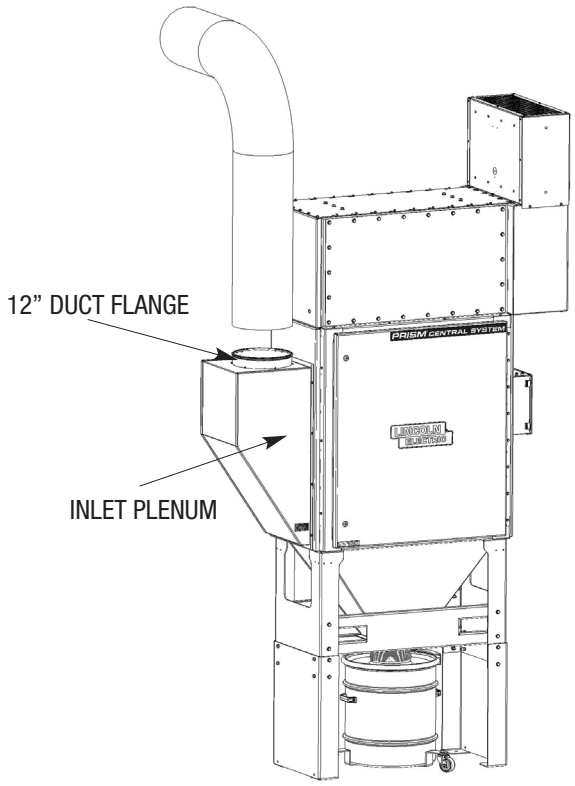
FIGURE A.5



Step 6 - Install Duct To Inlet Plenum

1. Install 12” inlet duct to duct flange on inlet plenum. (See Figure A.6)

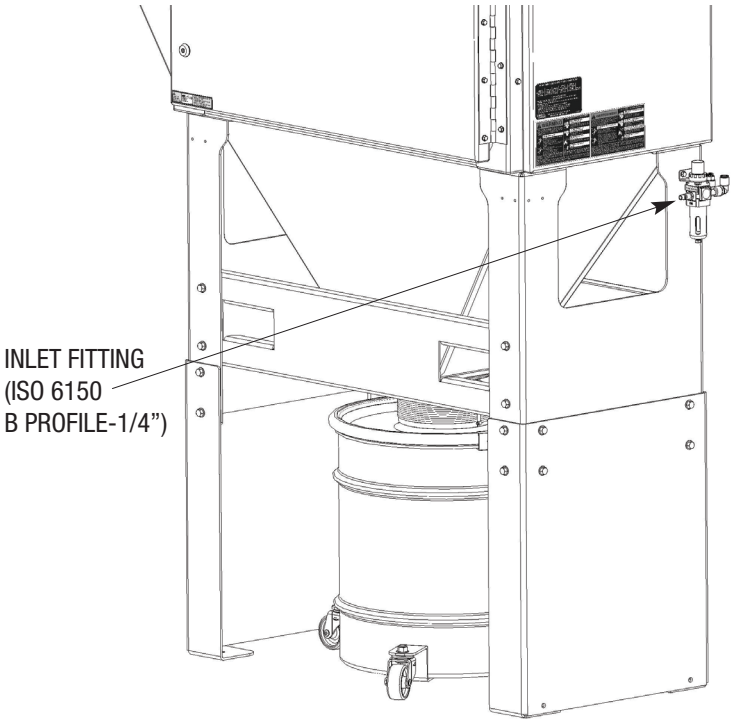
FIGURE A.6



Step 7 - Compressed Air Connection

1. Connect compressed air source to regulator’s inlet fitting (ISO 6150 B Profile - 1/4”). Adjust regulator pressure to 6 BAR (87 psi) for best cleaning performance (6 BAR Max) (see Figure A.7).

FIGURE A.7



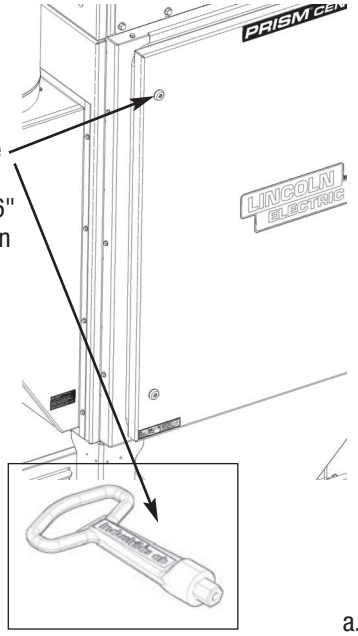
Step 8 - Install Filters (See section D for filter replacement instructions)

⚠ WARNING

Before opening door, unit must be off and the power switch on the side of the control panel turned to the off position.

1. Unlock door latches

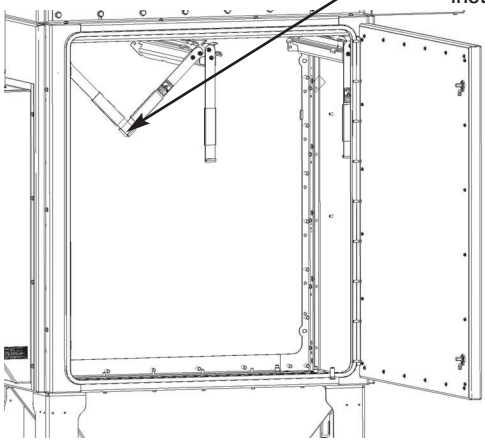
FIGURE A.8



Unit ships with door latches locked. Unlock latches using the supplied hex tool (or standard 5/16" hex wrench), then open door.

2. Unclamp filter handles

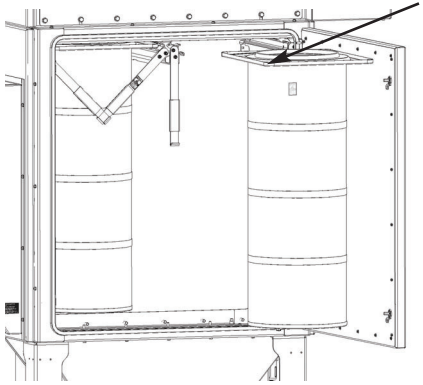
FIGURE A.9



a. Unclasp handles for filter installation.

3. Install new filters.

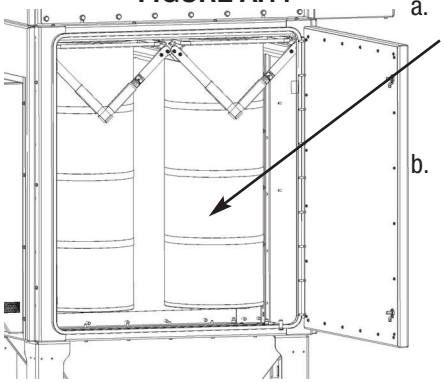
FIGURE A.10



a. Slide filters into unit as shown, making sure they are pushed against rear of unit.

4. Reclasp filter handles.

FIGURE A.11



a. Reclasp filter handles to lift filters to their sealed position.

b. Close and latch door.

Step 9 - Lock Door

To prevent accidental door opening during unit operation, lock door latches using the supplied hex tool (or standard 5/16" hex wrench.

FIGURE A.12

ELECTRICAL CONNECTIONS

Make all electrical connections compatible to your local city / state code.

⚠ WARNING

ELECTRIC SHOCK can kill.

- **Only qualified personnel should perform this installation.**
- **Turn the input power OFF and unplug the machine from the receptacle before working on this equipment.**
- **Insulate yourself from the work and ground.**
- **Always connect the Prism® Compact to a power supply grounded according to the National Electrical Code and local codes.**

⚠ WARNING

All electrical wiring which includes primary, secondary and control wiring must be done by certified/licensed electrician.

ELECTROCUTION HAZARD.

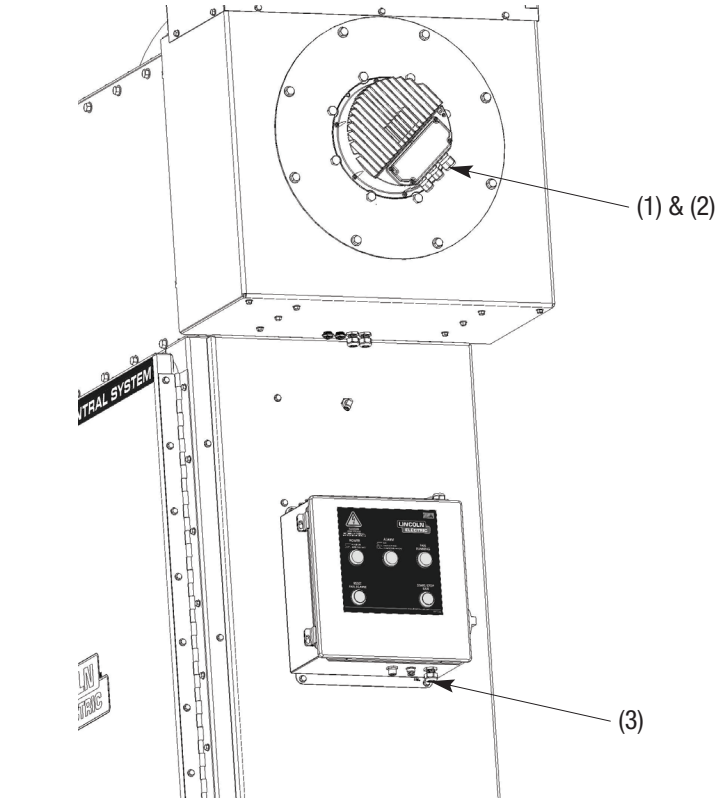
Disconnect mains before servicing. Failure to do so could result in serious personal injury or death.

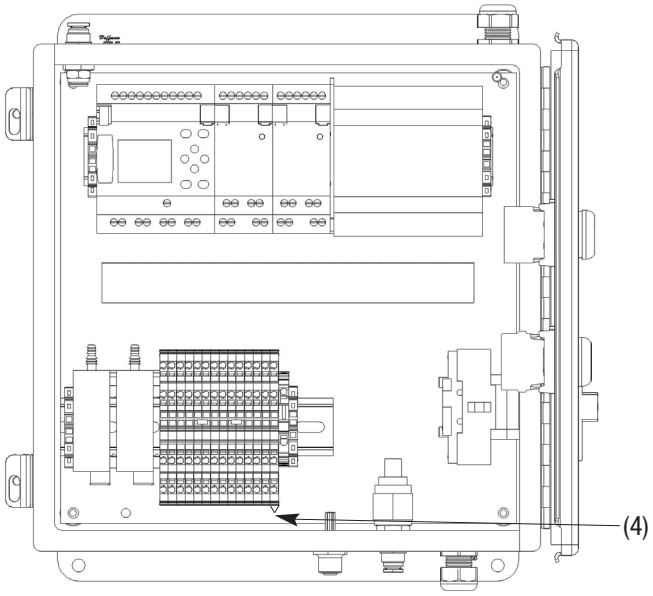
Do not attempt installation of this unit unless you are familiar with the necessary tools, equipment, utility connections and potential hazards. Installation should be performed only by a qualified service provider. Failure to do so could result in reduced performance of the unit, serious personal injury or death.

Step 10 - Connect Power To Fan And Control Panel

1. Route power cable through cord grip (see Figure A.13).
2. Connect cable to motor per motor's wiring instructions (see Figure A.13).
3. Run power cable into control panel through cord grip (see Figure A.13).
4. Connect cable wires to terminals - Green to "GND", Black to "L" and White to "N" (see Figure A.14).

FIGURE A.13





OPERATION

Safety Precautions

⚠ WARNING

Only use the product for the welding processes described in the General Description. Avoid using the product for extracting and/or filtering fumes and gases which are released during the following (welding) processes:

Never use the product for:

- **oxy-fuel cutting**
- **aluminium laser cutting**
- **oil mist**
- **paint mist**
- **extraction of hot gases (more than 80°C/176°F continuously)**
- **grinding aluminium and magnesium**
- **flame spraying**
- **extraction of cement, saw dust, wood dust, grit etc.**
- **explosive environments or explosive substances/gases**

(This list is not comprehensive.)

If the product is used in above situations it could result in potential fire hazard, non-compliance with local regulations and reduction in product performance and life.

USERS

The use of this product is exclusively reserved to authorized, well-trained and qualified users. Temporary personnel and personnel in training can only use the product under supervision and responsibility of skilled engineers.

⚠ WARNING

Worker exposure level should be checked upon installation and periodically thereafter to be certain it is within applicable federal, state and/or local regulations and guidelines (i.e. OSHA PEL and ACGIH TLV limits in the U.S.).

INTENDED USE

The product has been designed as a filtration unit for dry dust and fumes. Using the product for other purposes is considered contrary to its intended use. The manufacturer accepts no liability for any damages or injury resulting from such use. The product has been built in accordance with state-of-the-art standards and recognized safety regulations.

Only use this product when in technical perfect condition in accordance with its intended use and the instructions explained in the user manual.

MODIFICATIONS

Modifications of (parts of) the product is not allowed.

RESTRICTIONS

The Lincoln Electric "BANK" system may only be used for filtration of fumes and dust generated by some dry processing industries. Max 80°C (176°F) gas temperature.

⚠ WARNING

- **During use, always use Personal Protective Equipment (PPE) to avoid injury. This also applies for persons who enter the work area.**
- **Check the working environment. Do not allow unauthorized persons to enter the working environment.**
- **Protect the product against water and humidity.**
- **Make sure the room is always sufficiently ventilated; this applies especially to confined spaces.**

⚠ WARNING

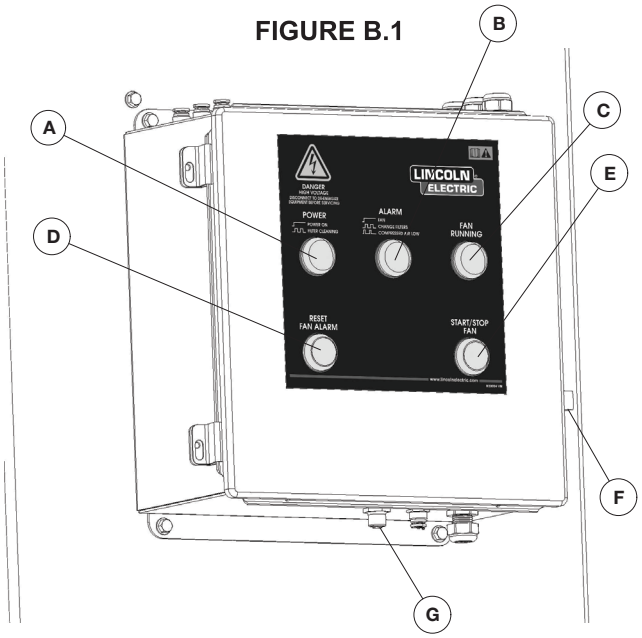
Saturation or clogging of the filter cartridge results in a decrease of the extraction capacity which could result in a higher localized concentration of welding fumes.

The controls will automatically maintain airflow via a PID loop controlling the Danfoss FC 101 Variable Speed Drive (VFD) motor speed so that it keeps the duct pressure consistent. The VRD has a parameter setting to maintain the required pressure and therefore airflow is set during installation of the unit. For changes to this setting contact Lincoln Electric Service.

CONTROL

The PLC Controls produce both an input and an output when connected to a robotic welding cell. When the unit is powered on and operating, the remote output will produce a 24VDC “running” signal. If dry contact is made between the input and 24V source line the Fan Running Light will illuminate green. Starting remotely prevents the local panel button from stopping the unit, as a maintained start signal will take precedence. For further details refer the "Connections Diagram" in section “F” of this manual.

FIGURE B.1



A. Power On (Light)

B. Alarm (Light)

C. Fan Running (Light)

D. Reset Fan Alarm (Switch)

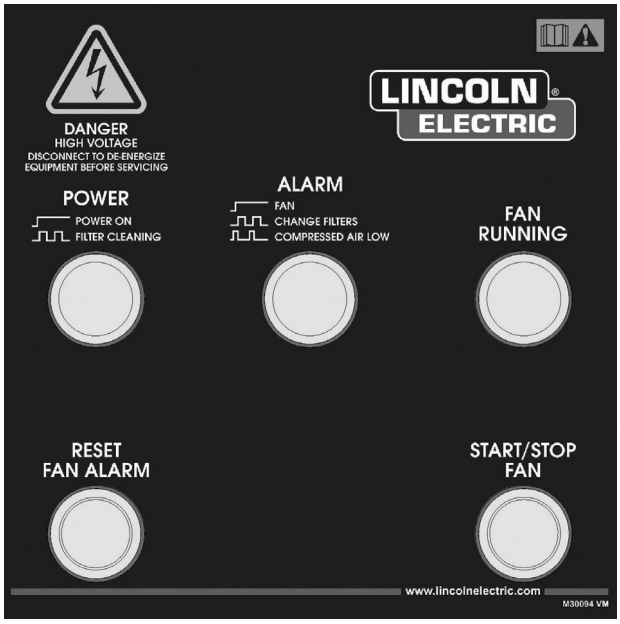
E. Start/Stop fan (Switch)

F. Main Switch - Input Power

G. Remote Start / Stop Input

Display System Control Panel

FIGURE B.2



Functions

A. POWER Light (white): indicates the unit has power, is online, and available for operation. Blinking light indicates that filter cleaning is in progress.

B. ALARM Light (red): indicates one of three potential issues with the unit. A solid light indicates that the fan has faulted. A steady flashing light (equal on/off) indicates the filter differential pressure has surged above the maximum DP Alarm set point for two continuous hours and the filters should be changed. A quick flash (short on/long off) light indicates supplied compressed air pressure has fallen below the alarm set point (default 5 Bar or 72psi). Raise the pressure to shut off the light but do not exceed a pressure of 6 Bar or 87 psi at the regulator on the unit.

C. FAN RUNNING Light (green): indicates the unit is operational and fan is running.

D. RESET FAN ALARM BUTTON
Resets the fan alarm if the condition causing the alarm has been eliminated. Pressing this button for 5 seconds will initiate a manual cleaning process.

E. START/STOP FAN Button: starts the fan operation when the unit is in stand-by mode with no fan alarms, and also stop the fan if already in operational.

NOTE - Fans will NOT stop if the unit has been remotely started.

NOTE - Refer control panel label for wiring specifications.

PRODUCT FUNCTIONAL DESCRIPTION

The Prism® 2 is controlled by PLC with the following functions:

1) Start/Stop Fan feature activated by push button on the cabinet front.
2) Remote Start/Stop Fan feature activated by an external switch or remote control.
3) Automatic main filter cleaning function triggered in the following cases:
   a) Filter bank online cleaning activated once the differential pressure across filter exceeds filter set point.
   b) Offline filter pressure cleaning active at three levels of filter pressure drop (low, medium, high). Each level gradually increases filter cleaning.

Pressure level	Default set pressure limit	# Cleaning Cycles
Below low	<400	No cleaning
Low	400	2
Medium	600	4
High	800	6

   c) When the fan is running the filter pressure is monitored. Once a level is reached, the system will wait for the fan to shit down before offline cleaning begins. Aside from hearing air blasts cycling to each filter, the Power On Indicator will flash as a visual indication that the unit is cleaning. The default pulse time is 250ms. After the first valve is pulsed, the next one is delayed. This delay is the valve pulse timer at work, and the default delay time is 15 seconds. The delay allows the air accumulators within the filter bank to charge.

   d) Online cleaning is activated with the Delta P pressure drop settings. Default level is 1000Pa with a range of 100Pa-2500Pa. When the fan is running, and the Delta P level has been reached, the Power On white light will flash and filter cleaning will start from the top. The same pulse and pause times from the offline cleaning are used. Online cleaning will not stop until the filter pressure falls below the Delta P level.
4) The Delta P Alarm default is set at 1500Pa. When the alarm is active, the red Alarm light will blink on the main control cabinet. At this time filters should be ordered from Lincoln Electric.
5) The PLC will trigger an Alarm in case of:
   a) Fan faults with a solid red alarm. After the cause has been resolved, this alarm can be reset by pushing the reset fan alarm button.
   b) The filter is clogged due to passing the *Differential Filter (DP) Alarm setting, giving you a flashing on/off red Alarm light.
   c) Low compressed air pressure is indicated with a quick flash (short on/long off). This alarm is deactivated when the pressure raises above the set point (default 5 Bar or 72psi).

* The DP alarm only stops once your DP pressure across the filter is below the alarm set point.

FUNCTIONS OF THE PRISM® CENTRAL SYSTEM 2 FILTER UNIT:

1) Manual start/stop ventilator.
2) Remote start/stop of unit along with a "running" signal available that the remote Robotic Welding Cell can monitor.
3) Adjustable airflow setting on PLC screen (1000 - 2000 cfm).
4) Automated on line filter cleaning.
5) Automated off line filter cleaning.
6) Manual filter cleaning.
7) Alarm signal for:
   a. Faulted fan
   b. Clogged filter
   c. Low compressed air pressure
8) Reset Alarm

OPERATION

Start/Stop Fan - ventilator operation is activated with the Start/Stop Fan push button or with the remote Start/Stop.

NOTE: remote input takes precedence in operation. If the remote signal starts the unit, pushing the Start/Stop Fan button on the control panel will not stop the fans. The remote signal has to be removed (opened) This will allow the Start/Stop Fan button to operate normally again.

Reset Alarm - Reset Alarm push button is used to reset the alarm if the fan faults. Pressing this button for 5 seconds will start manual cleaning process.

CAUTION: only qualified persons with proper protections in place should open control cabinets under power.

Ventilation Fan Speed and Operation - Ventilator fan airflow is preset in the controls (default 2000 cfm). Internal pressure monitoring allows the controls to provide a varying voltage signal to the EC fan that maintains constant airflow over the life of the filters.

A solid red alarm light indicates a problem was detected by the fan's electronics. If the cause of the alarm is resolved, the alarm can be cleared by pushing the fan reset alarm button. If the alarm remains, fan service is required.

STARTUP

The following points are to be checked and implemented before the filter unit is put into operation:

Electricity - Check for connection to a proper three phase line voltage connection for optimal performance. The fan motor will be rated for the applied line voltage to the unit. Ensure supply lines to the unit are properly fused and all local electrical codes are followed.

Pneumatics - Check that the compressed air is connected. Compressed air should be clean, dry and oil free and at a pressure between 5 - 6 Bar (72 - 87 psi). Do not set pressure above 6 Bar (87 psi) at the unit's regulator.

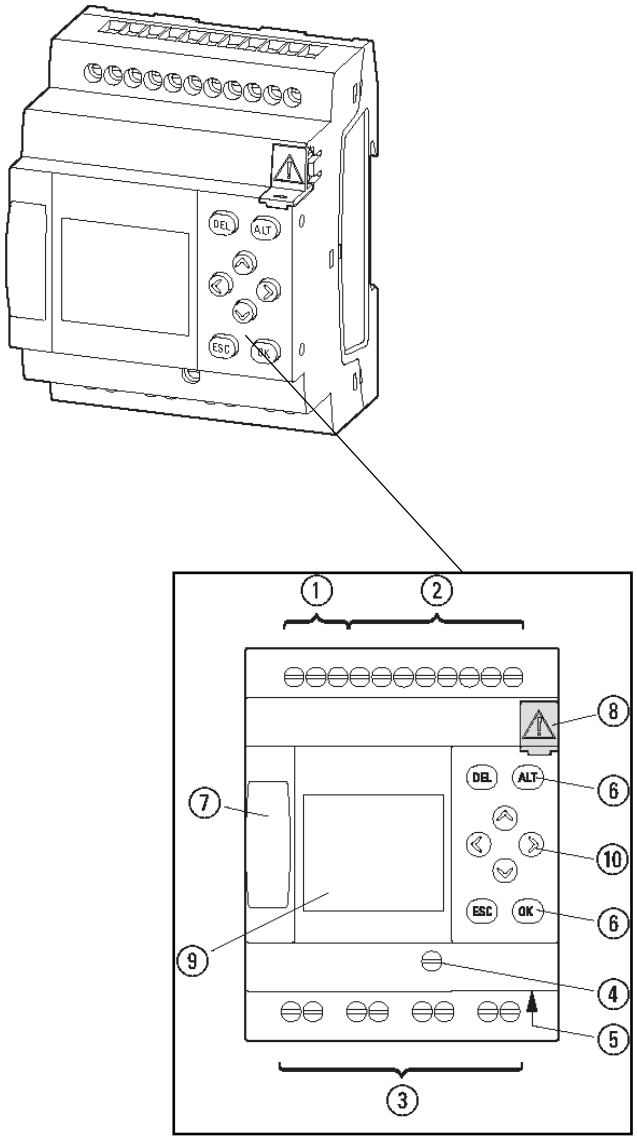
NOTE: For best unit performance, set the regulator pressure at 6 Bar (87 psi).

SET POINTS

Default values enable basic unit operation. Each value should be given consideration for optimized operation, and can be adjusted with continued use and experience using the equipment. Consult Lincoln Electric Field Service to shorten the learning curve.

PLC NAVIGATION

FIGURE B.3



PLC Controls (See Figure B.3):

1. Power Supply
2. Input Points
3. Outputs
4. Ethernet Connection Functional Earth
5. Ethernet Socket
6. Pushbuttons
7. Slot For microSD Memory Card
8. Covering Cap
9. Display
10. Cursor Buttons

SCREEN NAVIGATION

ALT Button - Push to change parameters while in standby mode (fan not running).

ARROW Buttons - Push left arrow to navigate through settings screens. Use all arrows to move cursor position and change values.

OK Button - Push to enter menu screen. The menu screen includes clock update, daylight saving time and SD card options. This button also accepts/saves revised parameters.

ESC Button - Push to exit a menu.

ADJUSTING PARAMETERS

A) The following parameters can be adjusted from the main standby screen (with fan off).
   1. Airflow (SetCFM): Default is 2000 cfm
   2. Filter Change Alarm Setpoint (Alarm SP): Default is 1500 pa
   3. Online Filter Cleaning Threshold (SetFltPr): Default is 1000 pa
   4. Filter Hours (FilterHr)
   5. Date/Time (also see DATE/CLOCK ADJUSTMENT)

B) Other parameters that can be adjusted but should remain at default in most instances.
   1. Pause Between Cleaning Pulses (PauseTm): Default is 15 seconds
   2. Cleaning Pulse Time (PulseTm): Default is 250 ms
   3. Offline Cleaning Thresholds (Low/Med/High): 400/600/800 Pa

C) The following parameters are password (1234) accessible and should only be adjusted by maintenance or service personnel.
   1. Auto mode enable
   2. Auto mode calendar schedule
   3. Fan speed control parameters

DATE/CLOCK ADJUSTMENT

1. To adjust the PLC's date and clock settings with the unit in standby mode, press OK, then arrow down to SET CLOCK and press OK. Select SET CLOCK again by pressing OK. Change the date and time, then hit the ESC button to exit.
2. Daylight Savings Time can be set by selecting DST in the SET CLOCK menu. USA locations with daylight savings time can select US at this menu.

PERFORMANCE MONITORING

The following system performance data can be viewed from the FAN RUNNING screen

1. Filter Differential Pressure (FiltrPr)
2. Duct Pressure (DuctPr): This is a function of the airflow setting
3. Fan Speed % (FanSpeed)
4. Airflow Setpoint (SetCFM)
5. Filter Cleaning Threshold (SetFltPr)
6. Time

PLC Display Screens For Codes 13655 & 13656

The following screen is shown at startup.

```
STANDBY  MANUAL
ALarm SP  1500pa
SetFtrPr  1000pa
FilterHr     0Hr
SetCFM     2000
16/10/2023 10 00
```

Alarm SP: This is the filter differential pressure set point that triggers the change filter alarm (default 1500pa).
SetFtrPr: The unit cleans online when the filter differential pressure reaches this setpoint or higher (default 1000pa).
FilterHr: This is the time count for the filter used hours. It can be reset to "0" when filters are changed.
SetCFM: This is the amount of airflow the unit is set to produce (default 2000 cfm)

When starting the fan, the following screen is displayed. For this and all subsequent screens, only new parameters will be defined.

```
FanRunningManual
FiltrPr    197pa
DuctPr      48pa
FanSpeed    14%
SetCFM      2000
SetFltPr 1000 pa
```

FilterPr: This is the current filter differential pressure in the unit (it will rise as the fan speeds up).
DuctPR: This is the current fan differential pressure that is used to control fan airflow.
FanSpeed: This is the current fan speed percentage. Upon startup, it rises until the target airflow is reached.

The next 4 screen are displayed consecutively when pressing the left arrow on the PLC.

```
    SETTINGS
AUTO □ Cycle#  2
FltrALrmDLy 100s
DeLayCLn100s
PreCoatHr  0Hr
12/10/2023 14 41
```

AUTO: When this box is checked, the unit on/off fan function will be controlled by a calendar schedule.
Cycle#: This is the number of offline cleaning cycles that will initiated when the fan is turned off.
FltrAlrmDly: This is the amount of time filter pressure needs to be above the alarm setpoint before the alarm is activated.
DelayCln: This is the amount of time that online cleaning is delayed between cycles.
PreCoatHr: This is the amount of time that cleaning will be delayed after new filters are installed.

```
   SETTINGS          SETTINGS          SETTINGS          SETTINGS
PauseTm    15 S   PauseTm    15 S   PauseTm    15 S   PauseTm    15 S
PuLseTm   250 mS  PuLseTm   250 mS  PuLseTm   250 mS  PuLseTm   250 mS
MinSpdSet    500  MinSpdSet    500  MinSpdSet    500  MinSpdSet    500
RSB 355mm         RSB 355mm         RSB 355mm         RSB 355mm
ALARM:NO ALARM    ALARM:EC ALARM    ALARM:FILTER CHG  ALARM:COMP AIR
```

PauseTm: This is the amount of time between cleaning pulses (default 15s).
PulseTm: This is the length of each cleaning pulse (default 250 mS).
MinSpdSet:
RSB 355mm: This is the fan installed on this unit.
ALARM: Identifies type of alarm currently active.

```
SETTING CLEANING
DataLogInt   60s
Low  400 CY    2
Med  600 CY    4
High 800 CY    6
S36202 A.05
```

DateLogInt: When datalogging system performance, this is the delay between data points.

Low/Med/High are thresholds to control the amount of offline cleaning cycles (CY). Defaults are:
- **Low**: 400 Pa **Cycles**: 2 (this threshold is in control between 400-600 Pa)
- **Med**: 600 Pa **Cycles**: 4 (this threshold is in control between 600-800 Pa)
- **High**: 800 Pa **Cycles**: 6 (this threshold is in control over 800 Pa)

This following screen is displayed when manual cleaning is initiated by pressing the RESET FAN ALARM button for 5 sec.

```
MANUAL CLEANING
RemainClnTm   78
MaxClnTm     165
SPEED SET   1000
SPEED %       24
13/10/2023 14 39
```

This following screens are displayed when online cleaning is in progress.

```
ONLINE CLEANING      ONLINE CLEANING
RemainClnTm   77     PulseTm    200mS
MaxClnTm     165     Pause Tm    20 S
SPEED SET    500     CleanCy#     2
SPEED %       12     Pulse#  3 of   4
13/10/2023 14 42     13/10/2023 14 43
```

This screen allow password entry for access to additional parameters and the calendar schedule. The password for entry is 1234.

```
   PASSWORD              PASSWORD

4DIGIT CODE    0     4DIGIT CODE 1234


12/10/2023 14 42     12/10/2023 14:43
```

The following screens are displayed after entering the password.

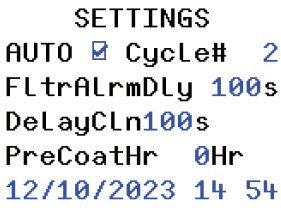
This screen begins the calendar schedule mode. There are 4 timers available – HW1, HW2, TMR3 & TMR4.

```
I ........    ECN
RE          DC P
TH 14:43
Q  ...4       RUN

AUTO-IP active..

HW1     ON    OFF     HW1     ON    OFF
DAY  HH MM   HH MM    DAY  HH MM   HH MM
SAT   0: 0    0: 0    WED   7: 0   12: 0
SUN   0: 0    0: 0    THR   7: 0   12: 0
MON   7: 0   12: 0    FRI   7: 0   12: 0
TUE   7: 0   12: 0

HW2     ON    OFF     HW2     ON    OFF
DAY  HH MM   HH MM    DAY  HH MM   HH MM
SAT   0: 0    0: 0    WED  13: 0   17: 0
SUN   0: 0    0: 0    THR  13: 0   17: 0
MON  13: 0   17: 0    FRI  13: 0   17: 0
TUE  13: 0   17: 0

TMR3 START STOP      TMR4 START STOP
     HH:MM HH:MM          HH:MM HH:MM
TMR3□17:30 21: 0     TMR4□21:30 23:59
DAYS      MTWTFSS    DAYS      MTWTFSS
EN TMR3   □□□□□□□    EN TMR4   □□□□□□□
14 44 12/10/2023     14:45 12/10/2023
```

This screen controls some additional system functionality and settings should normally remain at the default values. They should only be changed after consulting with Lincoln Service Personnel.

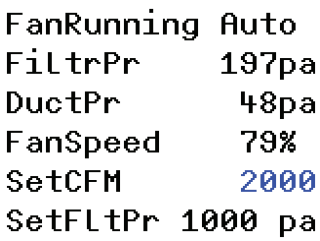
```
DIAGNOSTIC    □
SpeedSet        0
Speed          0%
SoL1□ EBMkP 2610
SoL2□ RSBkP 1475
RSB  500EBM  737
```

This screen is used to turn unit from manual start/stop to auto controlled by the calendar schedule.



NOTE: Auto mode is enabled when the box next to AUTO is checked

In AUTO mode with the fan running, FanRunningManual changes to FanRunning Auto.



ACCESSORIES

REPLACEMENT FILTER OPTIONS

- **KP4519-1** - MERV 11-rated filter cartridge featuring spun bond polyester media construction.
- **KP4519-2** - MERV 16-rated (high efficiency) filter cartridge featuring nano fibers.
- **KP4519-3** - MERV 16-rated (high efficiency) filter cartridge featuring a thermal bonded PTFE membrane.
- **KP4519-4** - MERV 11 OIL RESISTANT
- **KP4519-5** - MERV 16 OIL RESISTANT NANO
- **KP4680-1** - Pre-Filter

All filters should be replaced at the same time; all should be of the same type. Replacement filters include dust mask, gloves and plastic bag (for spent filter).

MAINTENANCE

⚠ WARNING

Have qualified personnel do the maintenance work. Turn the power off before working inside the machine. In some cases, it may be necessary to remove safety guards to perform required maintenance. Remove guards only when necessary and replace them when the maintenance requiring their removal is complete. Always use the greatest care when working near moving parts.

If a problem cannot be corrected by following the instructions, contact your local Lincoln Electric representative for service options or contact Lincoln Electric Customer Service.

ELECTRIC SHOCK can kill.

- **Do not touch electrically live parts or electrode with skin or wet clothing.**
- **Insulate yourself from work and ground.**
- **Always wear dry insulating gloves**

FUMES and GASES can be dangerous.

- **Use in open, well ventilated areas or vent exhaust outside.**

MOVING PARTS can injure.

- **Do not operate with doors open or guards off.**
- **Stop before servicing.**
- **Keep away from moving parts.**

⚠ WARNING

Dismantling and disposal

- **Only a qualified electrician may disconnect the machine or the electrical system**
- **Before dismantling it the machine must be disconnected from the power supply and from the external compressed air supply**
- **Before dismantling it, clean the equipment**
- **The dismantling area must be cleaned afterwards**
- **During dismantling work, the working area must be adequately ventilated; this can be achieved by provision of a mobile ventilation unit**
- **During dismantling work, wear appropriate personal protective equipment. We recommend half-face breathing masks to DIN EN 141/143, protection class P3**
- **The pollutants and dust, together with the dirty filter cartridges, must be properly disposed of in a professional manner in accordance with statutory instructions, using the plastic sack disposal system supplied**

⚠ ATTENTION

Maintenance should only be performed by authorized, qualified and trained persons (skilled) using appropriate work practices.

⚠ WARNING

When cleaning equipment or replacing filter use personal protection equipment (PPE) such as gloves, respirators and protective clothing to protect against overexposure to particulate. It is recommended that a vacuum cleaner or wet methods be used to clean up any loose particulate that is present in the extraction arm. It is necessary to use a vacuum cleaner with HEPA rated filtration.

⚠ WARNING

- **Observe the maintenance intervals given in this manual. Overdue maintenance can lead to high costs for repair and revisions and can render the guarantee null and void.**
- **During service, maintenance and repair jobs, always use Personal Protective Equipment (PPE) to avoid injury. This also applies to persons who enter the work area during installation.**
- **Always use tools, materials, lubricants and service techniques which have been approved by the manufacturer. Never use worn tools and do not leave any tools in or on the product.**
- **Safety features which have been removed for service, maintenance or repairs, must be put back immediately after finishing these jobs and it must be checked that they still function properly.**
- **Use sufficient climbing gear and safety guards when working on a higher level than 6 feet.**
- **Ensure the workspace is well illuminated.**

MALFUNCTIONS AND EMERGENCIES EFFECTING THE FILTER UNIT

Fire

- In the event of fire, an approved extinguisher for fire classes A, B and C should be used
- The manufacturer must be contacted.

ESCAPE OF NOXIOUS SUBSTANCES OR RADIATION

- The Prism® Compact contains no noxious substances.
- If the filter ruptures, welding fumes can be released into the building; welding activities must be suspended and the Prism® Compact repaired.

PERIODIC MAINTENANCE

The product has been designed to function without problems for many hours with minimal maintenance. In order to ensure this, some simple, regular maintenance and cleaning activities are required which are described in this section. If you observe the necessary caution and carry out the maintenance at regular intervals, any problems that occur will be detected and corrected before they lead to a total breakdown.

The indicated maintenance intervals can vary depending on the specific working and ambient conditions. Therefore it is recommended to thoroughly inspect the complete product once every year other that the indicated periodic maintenance.

The maintenance activities in Table D.1 indicated by [*] can be carried out by the user; other activities are strictly reserved for well trained and authorized service engineers.

TABLE D.1 – PERIODIC MAINTENANCE

COMPONENT	ACTION	EVERY MONTH	EVERY 3 MONTHS	EVERY 6 MONTHS
Control Panel	*Clean inside using an industrial vacuum cleaner.		X	
Drum	*Check levels of dust and dirt particulate. Empty if necessary.	X	X	X
Pre-Filter System	Inspect and clean pre-filters (some applications may require shorter intervals)	X	X	X
	Remove dust buildup at bottom of intake plenum	X	X	X

* Frequency depends on welding or cutting process.

MAINTENANCE SCHEDULE

NOTE: * REQUIRES Lincoln Electric factory authorized service technician.

AS NEEDED

- **Replace filters (See filter replacement instructions).**
- **Inspect and test functionality of the filter media cleaning system. ***
- **Program and verify system performance. ***
- **Clean spiral ducting. ***

MONTHLY

- **Check particulate collection drum and dispose of particulate if necessary.**
- **Check and log filter pressure.**
- **Check incoming pressure.**
- **Clean pre-filters and remove dust buildup at bottom of intake plenum.**

EVERY 6 MONTHS

- **Ensure that the air flow Cubic Feet per Minute (CFM) is operating to the engineered specifications based on the individual system ***

UNIT HOUSING

- **Clean housing with a non-aggressive detergent.**
- **Check the connections to the duct work, seal if necessary.**
- **Inspect and clean (with a non-aggressive detergent) the filter control box.**

YEARLY

- **Inspect unit for proper operation and function, address any issues found.**
- **Fan motor temperature is within normal ranges, a hand held IR temp meter is a good tool for this. High motor temps indicate bearing or winding issues and predict a failure. This can also apply to the electrical power connections to the unit- elevated temps on junction boxes and wire terminations are precursors to problems.**

MOTOR/FAN HOUSING

⚠ WARNING

Observe safety precautions when working on the inside of the fan box or control panel. Removing power and observing LOTO (Lockout-Tagout) procedures as required.

- **Check the integrity of the fan housing and tighten all bolts and screws if necessary.**
- **Clean housing with a non-aggressive detergent.**
- **Check connection of silencer to fan housing and seal if necessary.**
- **Check connection of ductwork to silencer and seal if necessary.**

- **Check fan motor blades for encrusted particles and clean if necessary.**
- **Inspect and clean control panel with a non-aggressive detergent.**
- **Check inlets and outlets for tears or wear.**

CONTROL PANEL

- **Clean inside of control panel with industrial vacuum.**

REPLACING FILTER CARTRIDGES OR EMPTYING DUSTBINS

Shut off the compressed air feed and empty the internal pressure tank of air by opening the drain valve on the side of the unit.

NOTE: The power must always be switched off at the circuit-breaker or by the line fuses. Protective gloves and mask should always be worn.

⚠ WARNING

Take necessary precautions so that you and your fellow workers are not overexposed to particulate. Wear suitable personal protection equipment, such as gloves, respirator, eye glass and protective clothing when disposing of the filter and particulate.

Check with local waste management or local agency(ies) for assistance in the disposal of filter. If filter has collected certain types of particulate which local agencies define as hazardous waste, filter may be classified as hazardous waste and will need to be disposed in accordance with federal, state and local regulations - which could vary from state to state and between local municipalities within the state.

Use protective gloves. If not carried out with the necessary caution, may cause serious personal injury.

Use breathing protection. If not carried out with the necessary caution, may cause serious personal injury.

- Maintenance work and functional testing should be performed regularly to TRGS 560 section 5, paragraph 9 and to TRGS 528.
- During maintenance the machine must be deenergized and secured against switching on again.
- The maintenance area must be cleaned afterwards.
- During maintenance work the working area must be adequately ventilated; this can be achieved by provision of a mobile ventilation unit.
- During maintenance, appropriate personal protective equipment should be worn. We recommend half-face breathing masks to DIN EN 141/143, protection class P3.
- The dust and the dirty filter cartridges must be properly disposed of in accordance with statutory instructions, using the plastic sack disposal system supplied.

REPLACING FILTER CARTRIDGES

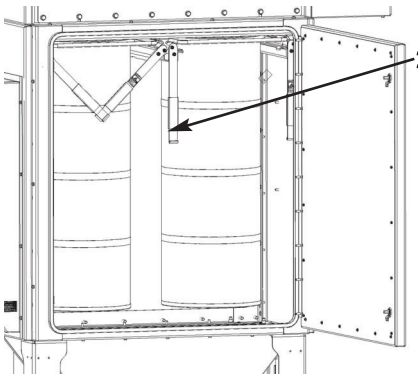
⚠ WARNING

Before opening door, unit must be off and the power switch on the control panel turned to the off position.

Verify power has been switched off at the control panel, then unlock door latches using the supplied hex tool or any standard 5/16" hex wrench.

a. Unclamp handles and lower filters.

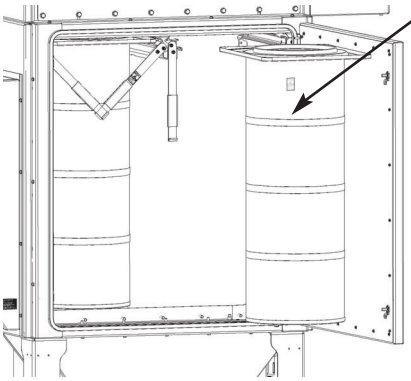
FIGURE D.1



1. Unlock door latches using the supplied hex tool or any 5/16” hex wrench, then open door.
2. Unclasp handles to lower filters for removal

b. Remove filters.

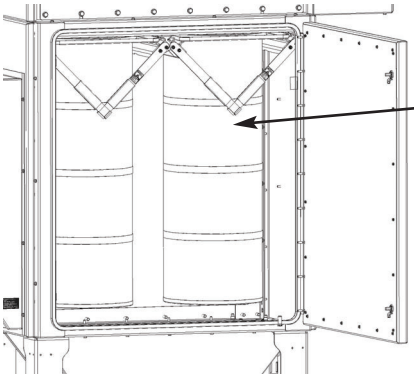
FIGURE D.2



1. Slide filters out of unit through the door opening as shown. **NOTE**: To minimize cleanup, it is best to slide bag supplied with new filter over clogged filter before removal.
2. If required by federal, state and/or local regulations and guidelines, conceal filter cartridge in appropriate bag, e.g. plastic bag.
3. Dispose of the filter cartridge in accordance with all federal, state and/or local guidelines.
4. Clean the filter compartment with an industrial vacuum cleaner that meets OSHA guidelines for Cr6 housekeeping.

c. Install new filters.

FIGURE D.3



1. Install new filters, making sure they are pushed against rear of unit.
2. Reclasp filter handles to lift filters to their sealed position.
3. Re-lock door latches using the supplied hex wrench or any standard 5/16" hex wrench.

PRE-FILTER REMOVAL FOR CLEANING AND REPLACEMENT

⚠ WARNING

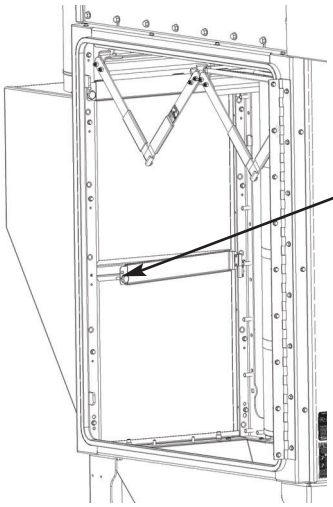
Before servicing, unit must be off and the power switch on the control panel turned to the off position.

Unlock the door latches using the supplied hex tool or any 5/16" hex wrench, then open the door.

NOTE: Graphics shown with door and one cartridge filter removed for clarity only. Removal is not required.

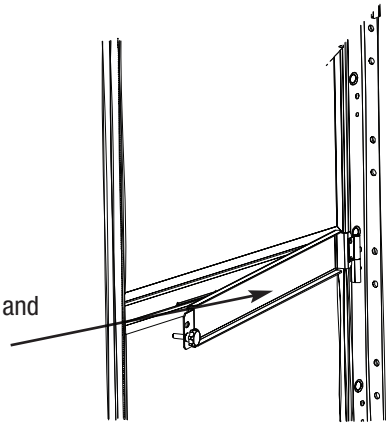
1. Remove the pre-filter brackets

FIGURE D.4



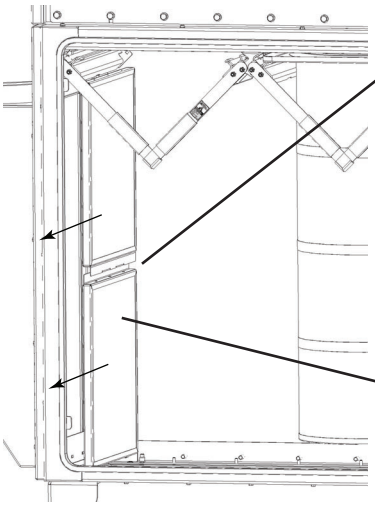
a. Loosen lower bracket's screw knob.
b. Rotate bracket on rear hinge.

FIGURE D.5

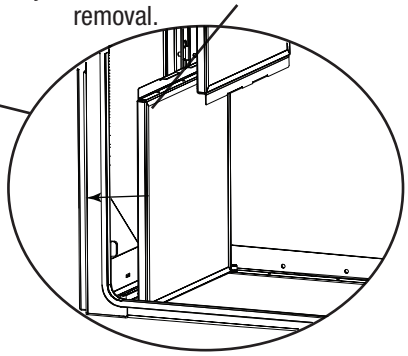


c. Lift bracket up off of base hinge and remove bracket from unit.
d. Repeat for the upper bracket.

FIGURE D.6



e. Pull pre-filters out of side panel pocket.
f. Remove through door opening.
g. Clean or dispose of pre-filters in accordance with all federal, state and/or local guidelines.
h. Install lower filter into lower bracket in side pocket. Make sure filter's upper bracket flange is against the side of the housing as shown.
i. Install upper filter above lower filter.
j. Reinstall filter brackets in reverse order from removal.



TROUBLESHOOTING GUIDE

Service and Repair should only be performed by Lincoln Electric Factory Trained Personnel. Unauthorized repairs performed on this equipment may result in danger to the technician and machine operator and will invalidate your factory warranty. For your safety and to avoid ELECTRICAL SHOCK, please observe all safety notes and precautions detailed throughout this manual.

This Troubleshooting Guide is provided to help you locate and repair possible machine malfunctions. Simply follow the three-step procedure listed below.

Step 1. LOCATE PROBLEM (SYMPTOM).

Look under the column labeled “PROBLEM (SYMPTOMS)”. This column describes possible symptoms that the machine may exhibit. Find the listing that best describes the symptom that the machine is exhibiting.

Step 2. POSSIBLE CAUSE(S).

The second column labeled “POSSIBLE AREA(S) OF MISADJUSTMENTS” lists the obvious external possibilities that may contribute to the machine symptom.

Step 3. RECOMMENDED COURSE OF ACTION

This column provides a course of action for the Possible Areas of Misadjustment(s).

Service and Technical Support

For information about specific adjustments, maintenance or repair jobs which are not dealt with in this manual, please contact Lincoln Electric Automation Department 888-935-3878.

Make sure you have the following data on hand:

- product name
- serial number
- purchase order (number + date) for warranty verification

If for any reason you do not understand the test procedures or are unable to perform the tests/repairs safely, contact your Lincoln Authorized Service Facility for technical troubleshooting assistance before you proceed.

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Observe all Safety Guidelines detailed throughout this manual

Observe all Safety Guidelines detailed throughout this manual		
PROBLEMS (SYMPTOMS)	**POSSIBLE CAUSE**	**RECOMMENDED COURSE OF ACTION**
FUNCTION PROBLEMS		
White Power On light does not light up.	1. Main Switch is in off position 2. No power supply 3. Fuse(s) defective	Turn on main switch 1. Check power supply. 2. Check for normal component operation. 3. Are green power lights illuminated on PLCs and components? If not, replace.
Cleaning cycle is not functioning.	1. Possible bad connection between control box and junction box. 2. Possible bad electrical connection. 3. Possibly no or low compressed air.	1. Verify that the Fan running LED (Green) and the white power on light is illuminated. 2. Verify the correct input voltage is being applied. 3. Verify that all fuses and circuit breakers are not blown/tripped. 4. Verify compressed air is present and with adequate pressure.
Cleaning valve fails to open.	1. The pulsation cycle may be faulty. 2. Possible dirt in the housing of the valve. 3. Possible incorrect flow direction on the cleaning valves. 4. Possible incorrect control voltage for the magnetic valves.	1. Verify that the pulsation cycle is OK, that it's within the parameters recommended by Lincoln Electric. 2. Clean the housing of the valve. 3. Verify that the airflow directions on the cleaning valves are in accordance with the airflow. 4. Verify that the cleaning system is working properly - 87 PSI (6 BAR) 5. Verify that control voltage for the magnetic valve is 24V DC.
Cleaning valve fails to close.	1. The pulsation cycle may be faulty. 2.Possible dirt in the housing of the valve. 3. Possible incorrect control voltage for the magnetic valves.	1. Close the control valve to stop air loss and debug the system. Verify that the pulsation cycle is OK, that it's within the parameters recommended by Lincoln Electric. 2. Clean the housing of the valve. 3. Verify that the cleaning system is working properly, minimum - 87 PSI (6 BAR) 4. Verify that control voltage for the magnetic valve is 0 Volts.

If for any reason you do not understand the test procedures or are unable to perform the tests/repairs safely, contact your Lincoln Authorized Service Facility for technical troubleshooting assistance before you proceed.
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Observe all Safety Guidelines detailed throughout this manual

Observe all Safety Guidelines detailed throughout this manual		
PROBLEMS (SYMPTOMS)	**POSSIBLE CAUSE**	**RECOMMENDED COURSE OF ACTION**
FUNCTION PROBLEMS		
Filter replacement alarm does not function.	1. Pre-filters are clogged. 2. Wrong DP reading reported by sensor. 3. Incorrect airflow.	1. Clean or replace pre-filters. 2. The Differential Pressure sensor PD1 is read by the PLC. After confirming solid electrical and tubing connections you can tap into the readings with a "T" fitting connected to a hand held manometer to confirm its readout matches the real DP. Calibrate or re-zero the sensor if needed. Replace if it does not operate properly. 3. Verify the airflow is not too low. Measure and adjust as necessary.
The air flow is diminished.	1. Pre-filters are clogged. 2. Cartridge filters are clogged. 3. Airflow setting is wrong.	1. Clean or replace pre-filters. 2. Replace cartridge filters. 3. Adjust SetCFM on the PLC.
Particulate is emitting from the collection drum.	1. Collection drum is full. 2. Possible bad seal and clamp on the collection drum.	1. Empty the collection drum. 2. If all recommended possible areas of misadjustment have been checked and the problem persists, Contact your local Lincoln Authorized Field Service Facility. 1-888-935-3878.
There is an abnormal amount of weld fume in the work zone.	1. Check to make sure the machine is powered on. 2. Check nozzle position. 3. Check fan speed on the PLC. 4. Check for clogged or torn filters.	1. Machine may not be powered ON 2. Nozzle blocked 3. If fan speed is 100%, it indicates the pre-filters and/or cartridge filters are clogged. Clean or replace pre-filters and/or replace cartridge filters. 4. Replace filters.

If for any reason you do not understand the test procedures or are unable to perform the tests/repairs safely, contact your Lincoln Authorized Service Facility for technical troubleshooting assistance before you proceed.
WWW.LINCOLNELECTRIC.COM/LOCATOR

Observe all Safety Guidelines detailed throughout this manual

Observe all Safety Guidelines detailed throughout this manual		
PROBLEMS (SYMPTOMS)	**POSSIBLE CAUSE**	**RECOMMENDED COURSE OF ACTION**
FUNCTION PROBLEMS		
Poor suction.	1. Outlet(s) are blocked. 2. Pre-filters and/or cartridge filters are clogged.	1. Clean or replace pre-filters and/or replace cartridge filters. 2. If all recommended possible areas of misadjustment have been checked and the problem persists, Contact your local Lincoln Authorized Field Service Facility. 1-888-935-3878.
Dust or smoke coming out of the outlet opening(s). Pollution of the facility.	1. Filter cartridge is damaged. 2. Sealing on filter cartridge is damaged.	1. Replace the filter cartridge. 2. Replace sealings.
Dust or smoke coming out of the inlet opening(s). Pollution of the facility.	1. Outlets blocked. 2. Filter cartridge clogged. 3. Non-return valve(s) installed incorrectly.	1. Remove obstructions from the outlet opening(s) and/or connected ductwork. 2. Replace filter cartridge. 3. Install non-return valve(s) correctly.
Alarm - Red Alarm LED lights.	1. Red alarm light is on solid due to fan motor malfunction. 2. Red alarm light steady flashing (equal on/off) when filter alarm threshold is reached. 3. Red alarm light quick flashing (short on/long off) when compressed air pressure is low.	1.Press fan alarm reset. If alarm remains, service fan and then press fan alarm reset to shut off alarm. 2. Replace cartridge filters. 3. Ensure pressure at unit's regulator is set for and remains between 5-6 Bar (72-87 psi) during operation.
Fan does not start running	No power Fan motor is faulted (red alarm light on solid) or there are no lights on fan. Motor defective Controller defective	Check Fuse FU1, FU2, and FU3 for incoming power to the drive and FU4, FU5 and FU6 for the controls power and replace if necessary. Verify fan motor has correct voltage on all three legs. If alarm persists, fan service may be required. After checking for proper 24VDC supply to devices. Replace suspected component(s).

If for any reason you do not understand the test procedures or are unable to perform the tests/repairs safely, contact your Lincoln Authorized Service Facility for technical troubleshooting assistance before you proceed.
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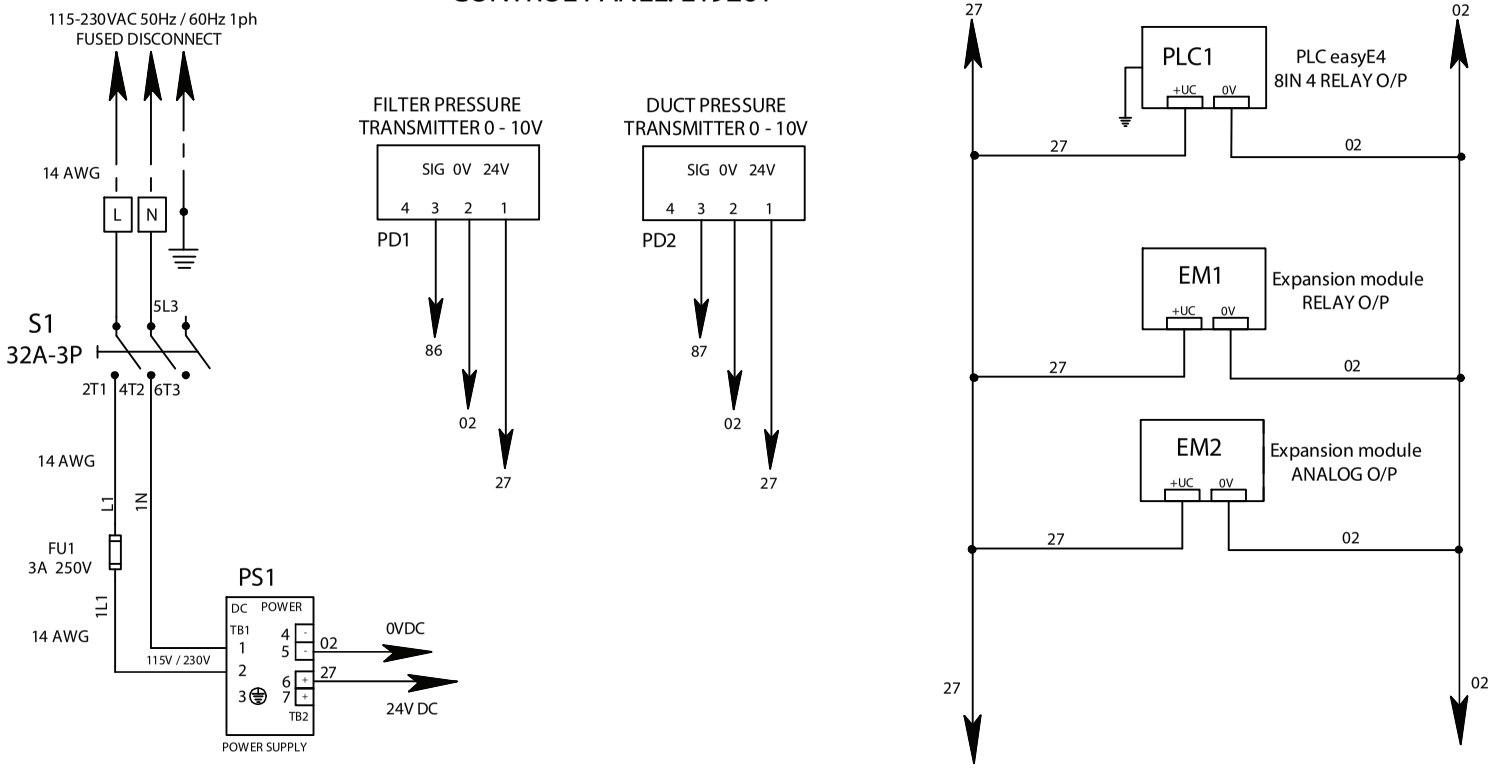
CONTROL PANEL: L19261



NOTES:
N.A. DISCONNECTING MEANS AND BRANCH CIRCUIT PROTECTION SHALL BE PROVIDED BY THE INSTALLER
N.B. THE DOTTED LINES INDICATE CONNECTION TO EXTERNAL COMPONENTS

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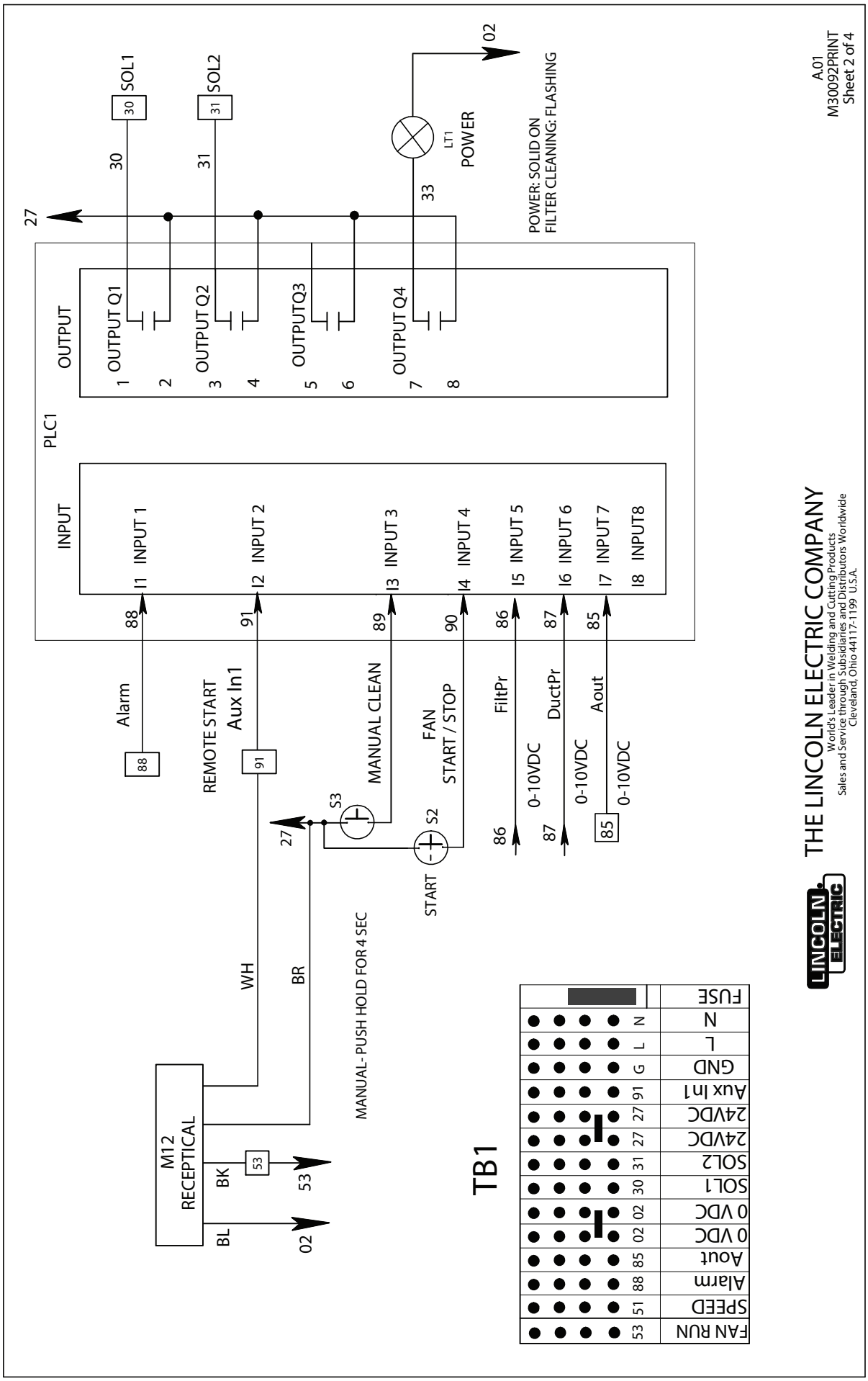
A.01
M30092PRINT
Sheet 2 of 4
THE LINCOLN ELECTRIC COMPANY
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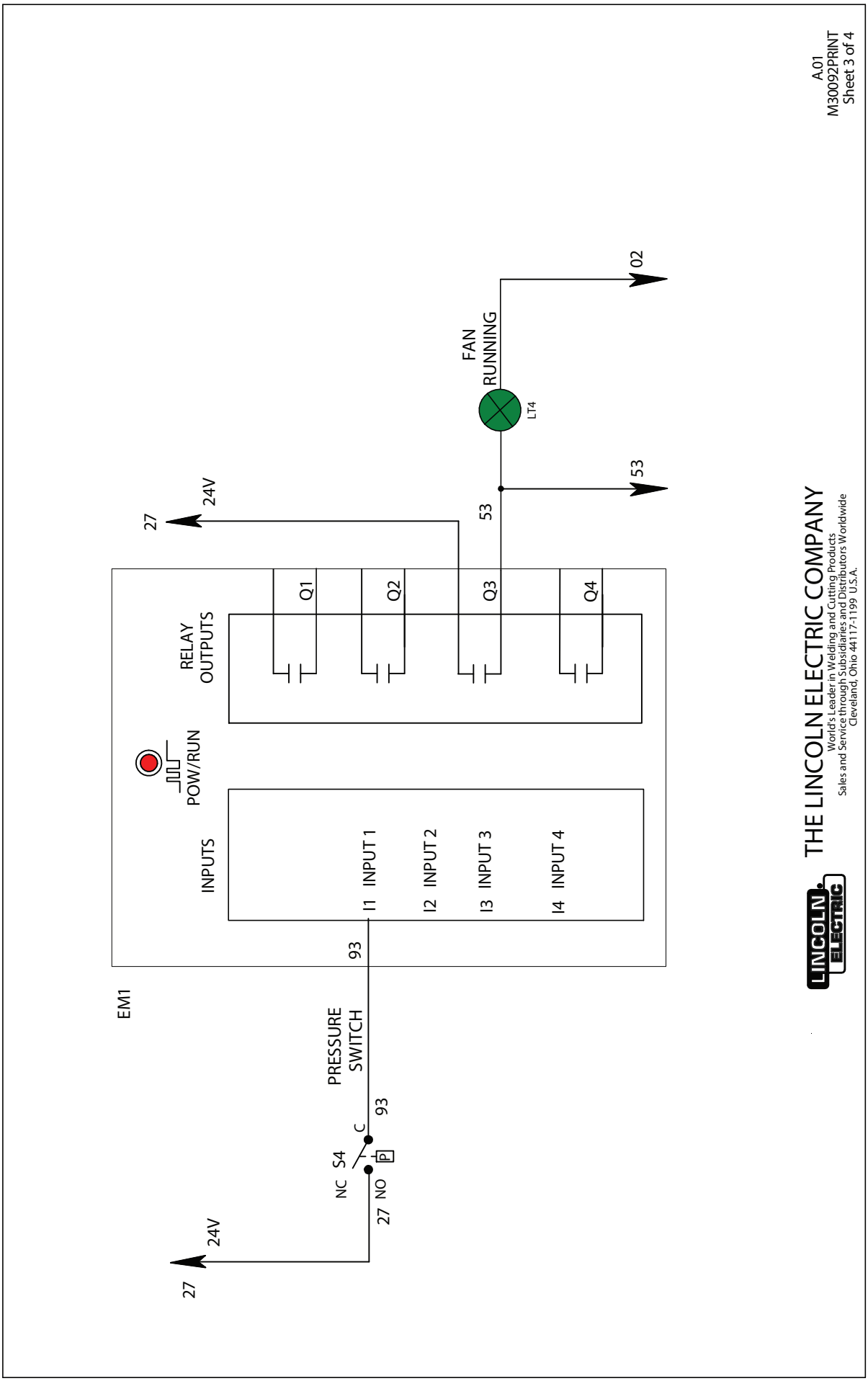
LINCOLN ELECTRIC
POWER: SOLID ON
FILTER CLEANING: FLASHING
02
LT1
POWER
33
27
30
SOL1
31
SOL2
PLC1
OUTPUT
OUTPUT Q1
OUTPUT Q2
OUTPUTQ3
OUTPUT Q4
1 2 3 4 5 6 7 8
INPUT
I1 INPUT 1
I2 INPUT 2
I3 INPUT 3
I4 INPUT 4
I5 INPUT 5
I6 INPUT 6
I7 INPUT 7
I8 INPUT8
88 91 89 90 86 87 85
Alarm
REMOTE START
Aux In1
MANUAL CLEAN
FAN
START / STOP
FiltPr
DuctPr
Aout
0-10VDC
0-10VDC
0-10VDC
S3
S2
START
MANUAL- PUSH HOLD FOR 4 SEC
WH
BR
M12
RECEPTICAL
BK
BL
53
02
TB1
FAN RUN
SPEED
Alarm
Aout
0 VDC
0 VDC
SOL1
SOL2
24VDC
24VDC
Aux In1
GND
L
N
FUSE


A.01
M30092PRINT
Sheet 3 of 4
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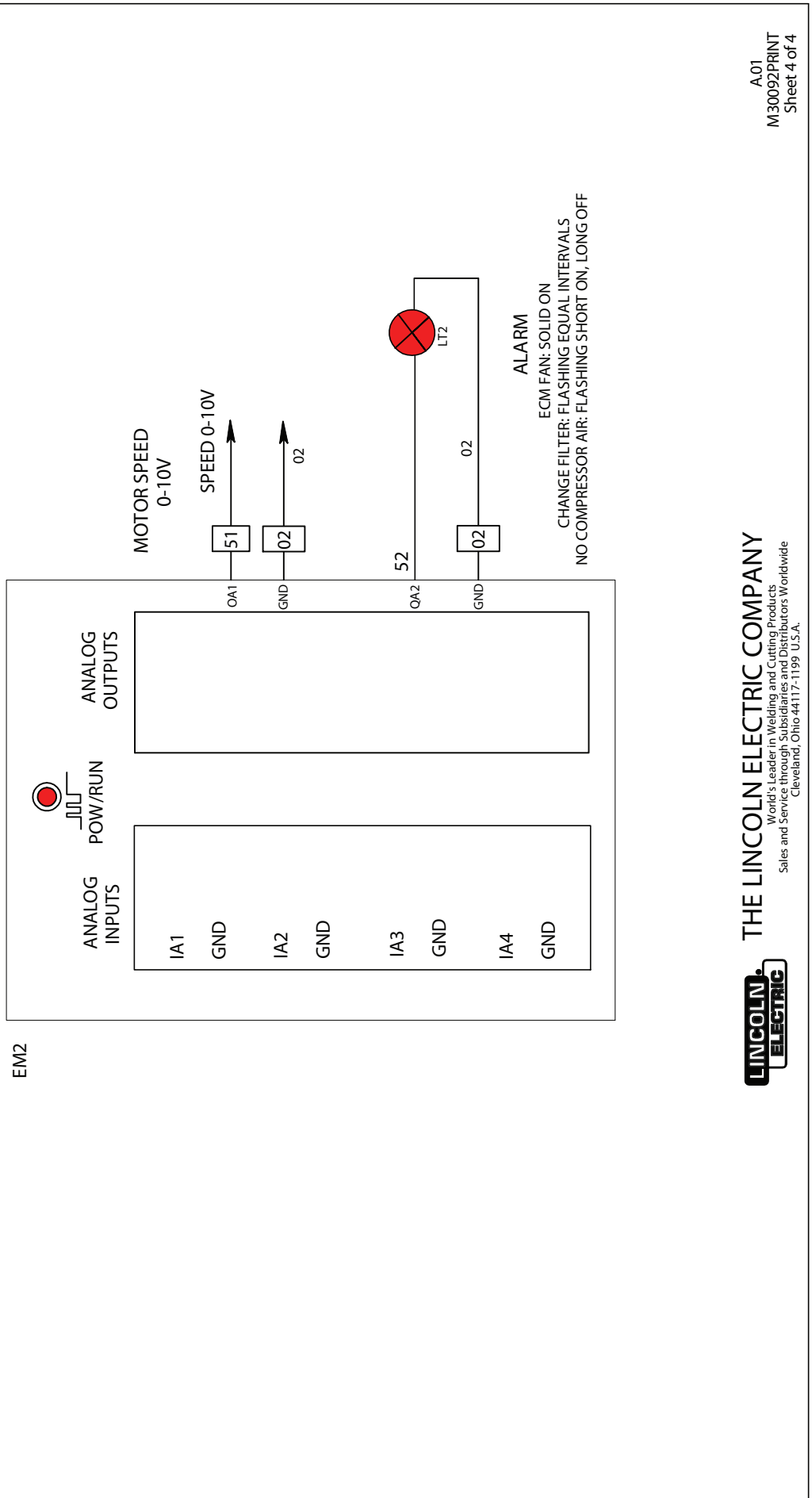
LINCOLN ELECTRIC
EM1
INPUTS
POW/RUN
RELAY OUTPUTS
Q1
Q2
Q3
Q4
I1 INPUT 1
I2 INPUT 2
I3 INPUT 3
I4 INPUT 4
93
PRESSURE SWITCH
NC S4 C
27 NO
93
27
24V
27
24V
53
FAN RUNNING
LT4
53
02


EM2
ANALOG INPUTS
POW/RUN
ANALOG OUTPUTS
IA1
GND
IA2
GND
IA3
GND
IA4
GND
OA1
GND
QA2
GND
MOTOR SPEED 0-10V
SPEED 0-10V
51
02
02
52
02
LT2
ALARM
ECM FAN: SOLID ON
CHANGE FILTER: FLASHING EQUAL INTERVALS
NO COMPRESSOR AIR: FLASHING SHORT ON, LONG OFF
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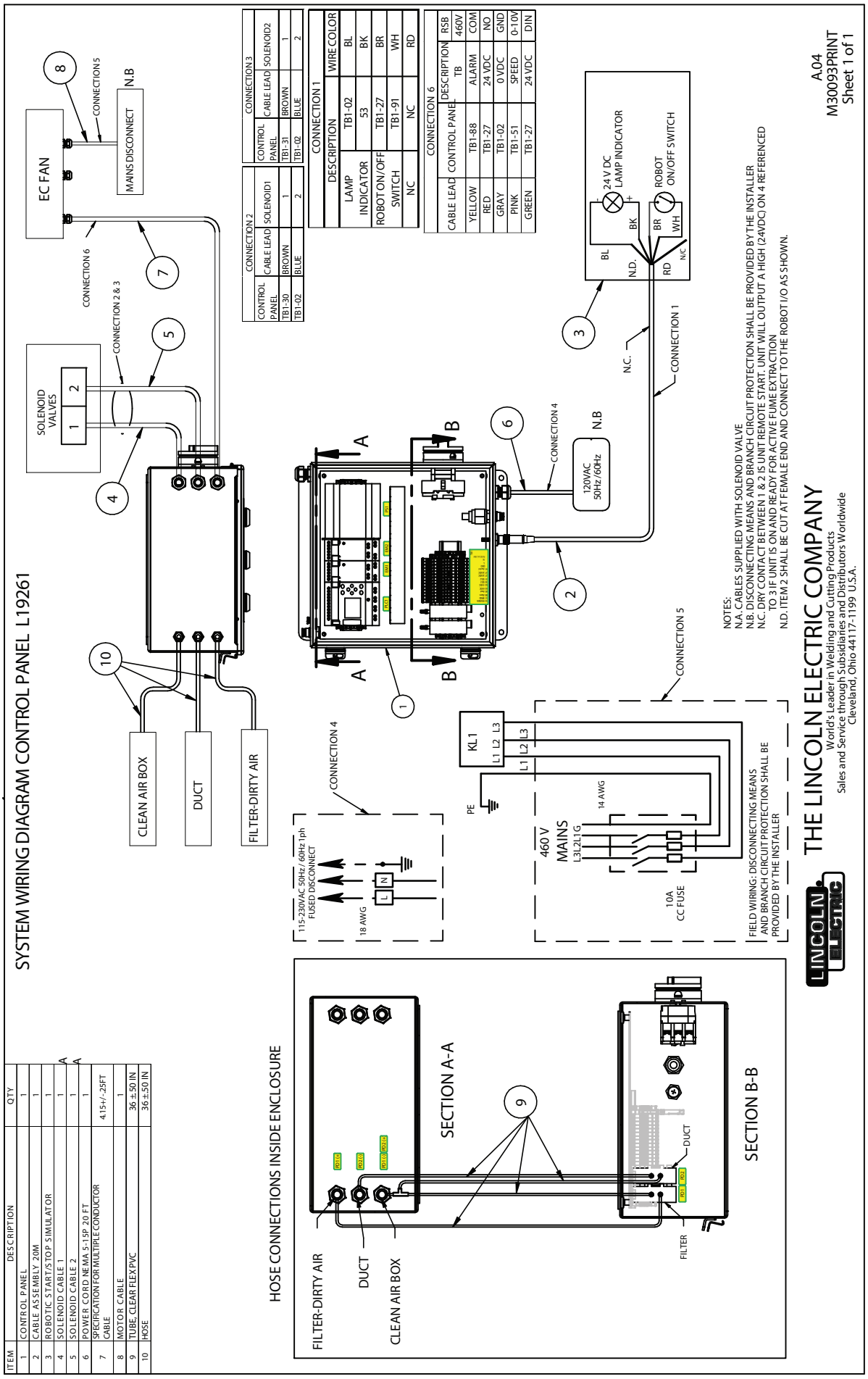
Sheet 4 of 4



ITEM	DESCRIPTION	QTY	
1	CONTROL PANEL	1	
2	CABLE ASSEMBLY 20M	1	
3	ROBOTIC START/STOP SIMULATOR	1	
4	SOLENOID CABLE 1	1	A
5	SOLENOID CABLE 2	1	A
6	POWER CORD NEMA 5-15P 20 FT	1	
7	SPECIFICATION FOR MULTIPLE CONDUCTOR CABLE	4.15+/-.25FT	
8	MOTOR CABLE	1	
9	TUBE, CLEAR FLEX PVC	36 ±.50 IN	
10	HOSE	36 ±.50 IN	

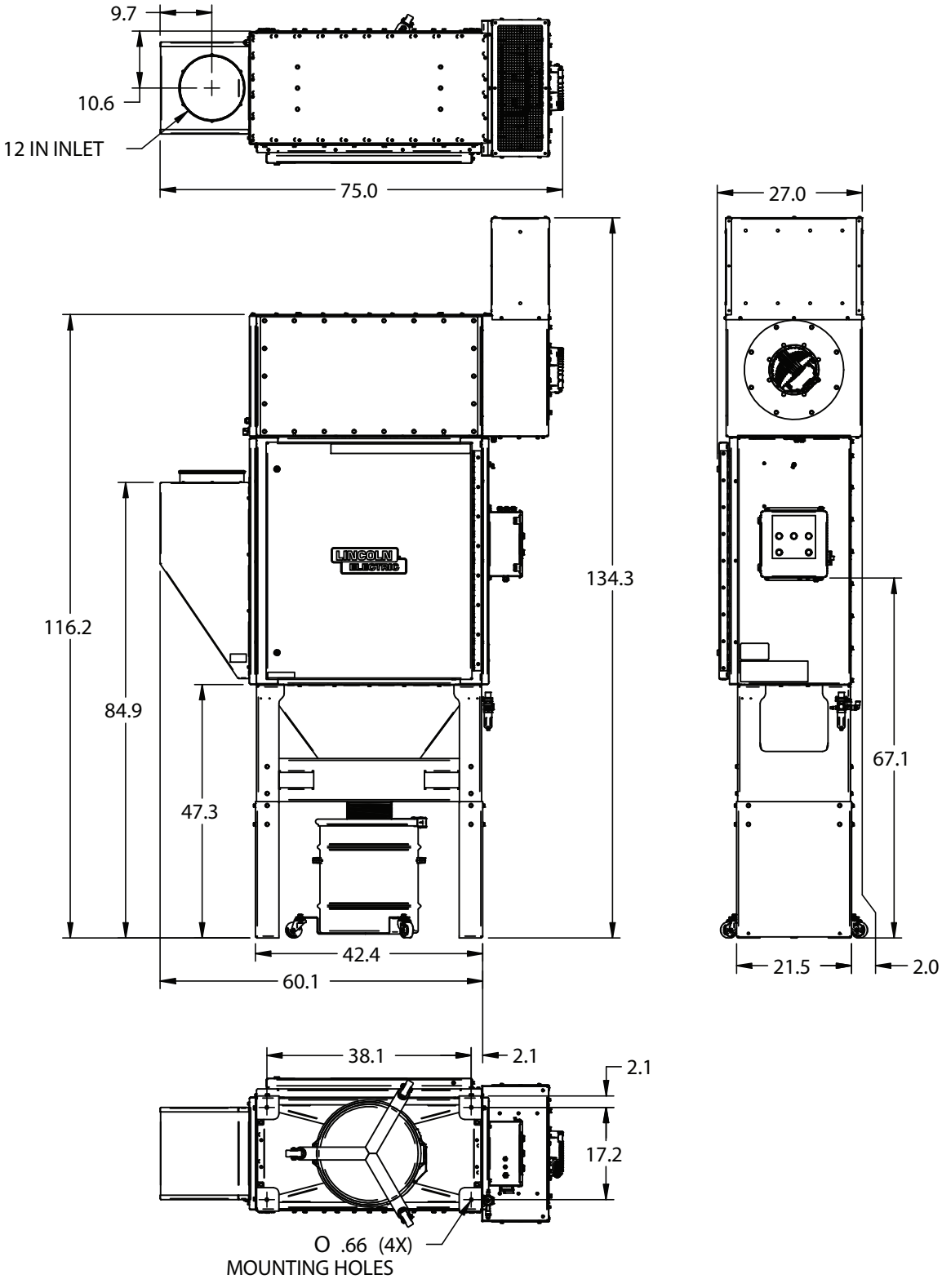
CONNECTION 2			
CONTROL PANEL	CABLE LEAD	SOLENOID1	
TB1-30	BROWN	1	
TB1-02	BLUE	2	

CONNECTION 3		
CONTROL PANEL	CABLE LEAD	SOLENOID2
TB1-31	BROWN	1
TB1-02	BLUE	2

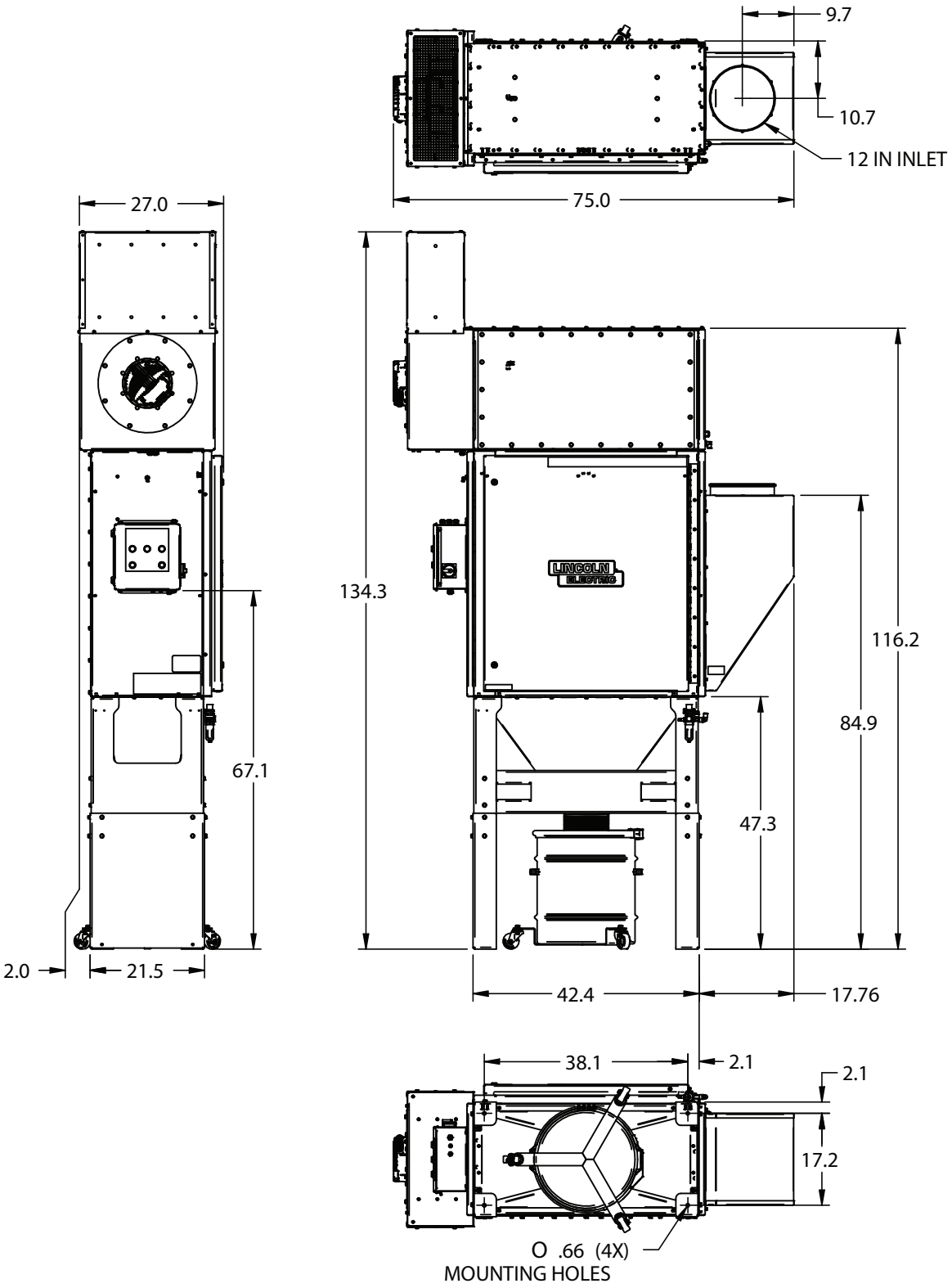
CONNECTION 1		
DESCRIPTION		WIRE COLOR
LAMP INDICATOR	TB1-02	BL
	53	BK
ROBOT ON/OFF SWITCH	TB1-27	BR
	TB1-91	WH
	NC	RD

CONNECTION 6			
CABLE LEAD	CONTROL PANEL	DESCRIPTION TB	RSB 460V
YELLOW	TB1-88	ALARM	COM
RED	TB1-27	24 VDC	NO
GRAY	TB1-02	0 VDC	GND
PINK	TB1-51	SPEED	0-10V
GREEN	TB1-27	24 VDC	DIN

AD1326-25 CODE 13655



AD1326-26 CODE 13656



			
WARNING	● Do not touch electrically live parts or electrode with skin or wet clothing. ● Insulate yourself from work and ground.	● Keep flammable materials away.	● Wear eye, ear and body protection.
Spanish **AVISO DE PRECAuCION**	● No toque las partes o los electrodos bajo carga con la piel o ropa mojada. ● Aislese del trabajo y de la tierra.	● Mantenga el material combustible fuera del área de trabajo.	● Protéjase los ojos, los oídos y el cuerpo.
French **ATTENTION**	● Ne laissez ni la peau ni des vêtements mouillés entrer en contact avec des pièces sous tension. ● Isolez-vous du travail et de la terre.	● Gardez à l'écart de tout matériel inflammable.	● Protégez vos yeux, vos oreilles et votre corps.
German **WARNuNG**	● Berühren Sie keine stromführenden Teile oder Elektroden mit Ihrem Körper oder feuchter Kleidung! ● Isolieren Sie sich von den Elektroden und dem Erdboden!	● Entfernen Sie brennbarres Material!	● Tragen Sie Augen-, Ohren- und Körperschutz!
Portuguese **ATENÇÃO**	● Não toque partes elétricas e electrodos com a pele ou roupa molhada. ● Isole-se da peça e terra.	● Mantenha inflamáveis bem guardados.	● Use proteção para a vista, ouvido e corpo.
Japanese **注意事項**	● 通電中の電気部品、又は溶材にヒフやぬれた布で触れないこと。 ● 施工物やアースから身体が絶縁されている様にして下さい。	● 燃えやすいものの側での溶接作業は絶対にしてはなりません。	● 目、耳及び身体に保護具をして下さい。
Chinese **警 告**	● 皮肤或濕衣物切勿接觸帶電部件及銲條。 ● 使你自己與地面和工件絶緣。	● 把一切易燃物品移離工作場所。	● 佩戴眼、耳及身體勞動保護用具。
Korean **위 험**	● 전도체나 용접봉을 젖은 헝겁 또는 피부로 절대 접촉치 마십시요. ● 모재와 접지를 접촉치 마십시요.	● 인화성 물질을 접근 시키지 마시요.	● 눈, 귀와 몸에 보호장구를 착용하십시요.
Arabic **تحذير**	● لا تلمس الاجزاء التي يسري فيها التيار الكهربائي أو الالكترود بجلد الجسم أو بالملابس المبللة بالماء. ● ضع عازلا على جسمك خلال العمل.	● ضع المواد القابلة للاشتعال في مكان بعيد.	● ضع أدوات وملابس واقية على عينيك وأذنيك وجسمك.

READ AND UNDERSTAND THE MANUFACTURER'S INSTRUCTION FOR THIS EQUIPMENT AND THE CONSUMABLES TO BE USED AND FOLLOW YOUR EMPLOYER'S SAFETY PRACTICES.

SE RECOMIENDA LEER Y ENTENDER LAS INSTRUCCIONES DEL FABRICANTE PARA EL USO DE ESTE EQUIPO Y LOS CONSUMIBLES QUE VA A UTILIZAR, SIGA LAS MEDIDAS DE SEGURIDAD DE SU SUPERVISOR.

LISEZ ET COMPRENEZ LES INSTRUCTIONS DU FABRICANT EN CE QUI REGARDE CET EQUIPMENT ET LES PRODUITS A ETRE EMPLOYES ET SUIVEZ LES PROCEDURES DE SECURITE DE VOTRE EMPLOYEUR.

LESEN SIE UND BEFOLGEN SIE DIE BETRIEBSANLEITUNG DER ANLAGE UND DEN ELEKTRODENEINSATZ DES HERSTELLERS. DIE UNFALLVERHÜTUNGSVORSCHRIFTEN DES ARBEITGEBERS SIND EBENFALLS ZU BEACHTEN.

			
● Keep your head out of fumes. ● Use ventilation or exhaust to remove fumes from breathing zone.	● Turn power off before servicing.	● Do not operate with panel open or guards off.	**WARNING**
● Los humos fuera de la zona de respiración. ● Mantenga la cabeza fuera de los humos. Utilice ventilación o aspiración para gases.	● Desconectar el cable de alimentación de poder de la máquina antes de iniciar cualquier servicio.	● No operar con panel abierto o guardas quitadas.	Spanish **AVISO DE PRECAuCION**
● Gardez la tête à l'écart des fumées. ● Utilisez un ventilateur ou un aspirateur pour ôter les fumées des zones de travail.	● Débranchez le courant avant l'entretien.	● N'opérez pas avec les panneaux ouverts ou avec les dispositifs de protection enlevés.	French **ATTENTION**
● Vermeiden Sie das Einatmen von Schweibrauch! ● Sorgen Sie für gute Be- und Entlüftung des Arbeitsplatzes!	● Strom vor Wartungsarbeiten abschalten! (Netzstrom völlig öffnen; Maschine anhalten!)	● Anlage nie ohne Schutzgehäuse oder Innenschutzverkleidung in Betrieb setzen!	German **WARNuNG**
● Mantenha seu rosto da fumaça. ● Use ventilação e exhaustão para remover fumo da zona respiratória.	● Não opere com as tampas removidas. ● Desligue a corrente antes de fazer serviço. ● Não toque as partes elétricas nuas.	● Mantenha-se afastado das partes moventes. ● Não opere com os paineis abertos ou guardas removidas.	Portuguese **ATENÇÃO**
● ヒュームから頭を離すようにして下さい。 ● 換気や排煙に十分留意して下さい。	● メンテナンス・サービスに取りかかる際には、まず電源スイッチを必ず切って下さい。	● パネルやカバーを取り外したまゝで機械操作をしないで下さい。	Japanese **注意事項**
● 頭部遠離煙霧。 ● 在呼吸區使用通風或排風器除煙。	● 維修前切斷電源。	● 儀表板打開或沒有安全罩時不準作業。	Chinese **警 告**
● 얼굴로부터 용접가스를 멀리하십시요. ● 호흡지역으로부터 용접가스를 제거하기 위해 가스제거기나 통풍기를 사용하십시요.	● 보수전에 전원을 차단하십시요.	● 판넬이 열린 상태로 작동치 마십시요.	Korean **위 험**
● ابعد رأسك بعيداً عن الدخان. ● استعمل التهوية أو جهاز ضغط الدخان للخارج لكي تبعد الدخان عن المنطقة التي تتنفس فيها.	● اقطع التيار الكهربائي قبل القيام بأية صيانة.	● لا تشغل هذا الجهاز اذا كانت الاغطية الحديدية الواقية ليست عليه.	Arabic **تحذير**

LEIA E COMPREENDA AS INSTRUÇÕES DO FABRICANTE PARA ESTE EQUIPAMENTO E AS PARTES DE USO, E SIGA AS PRÁTICAS DE SEGURANÇA DO EMPREGADOR.

使う機械や溶材のメーカーの指示書をよく読み、まず理解して下さい。そして貴社の安全規定に従って下さい。

請詳細閱讀並理解製造廠提供的説明以及應該使用的銀焊材料，並請遵守貴方的有関勞動保護規定。

이 제품에 동봉된 작업지침서를 숙지하시고 귀사의 작업자 안전수칙을 준수하시기 바랍니다.

اقرأ بتمعن وافهم تعليمات المصنع المنتج لهذه المعدات والمواد قبل استعمالها واتبع تعليمات الوقاية لصاحب العمل.

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 advice or information about their use of our products. We respond to our customers based on the best information in our possession at that time. Lincoln Electric is not in a position to warrant or guarantee such advice, and assumes no liability, with respect to such information or advice. We expressly disclaim any warranty of any kind, including any warranty of fitness for any customer's particular purpose, with respect to such information or advice. As a matter of practical consideration, we also cannot assume any responsibility for updating or correcting any such information or advice once it has been given, nor does the provision of information or advice create, expand or alter any warranty with respect to the sale of our products.

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 for any updated information.

WELD FUME CONTROL EQUIPMENT

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.

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