



SAND BLAST CABINET ECO 420



INSTRUCTION MANUAL



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IMPORTANT WARNING

Read all instructions before using this equipment. For efficient and safe production, reference OSHA requirements.

Remember:

1. Start up preparations :

- Supply air line should be sized according to the table shown on page 6 All hoses should be rated at least 125 PSI and an isolation valve should be installed so that supply air can be turned off and then disconnected from blast machine for servicing.
- Supply air should be dry and clean from oil and other contaminants. (I.e.use air dryer, coalescent filter, or moisture separator as needed.)
- Blast machine must be grounded to avoid shock.
- Electric extension cords should be three wire grounded, and rated for the amperage of the blaster. Check nameplate for rated amps.

2. Operator’s responsibilities before starting :

- Inspect fittings and hoses for damage and wear.
- Check the seal on all doors. Only operate the blast cabinet with all doors securely closed and dust collection system running.
- Clean dust from dust collector and clean filter as needed.

3. Caution :

- Watch for silicosis (from dust created when using silica sand as a blast media) or toxic dust hazard. **DO NOT USE MEDIA CONTAINING FREE SILICA, USE ONLY GLASS BEAD MEDIA**
- Unless otherwise specified, working pressure of blast machine and related components must not exceed 125 PSI.
- Keep blast nozzle controlled and aimed at the-work.

4. Maintenance :

- Keep your machine in good repair. Use ISTblast parts and do not substitute or modify ISTblast supplied items.

Note : max. loading weight: 90 lb



IMPORTANT NOTICE

TO DISTRIBUTORS, PURCHASERS AND END USERS OF ISTBLAST PRODUCTS

The information provided described and illustrated in this material is intended for experienced, knowledgeable users of abrasive blasting equipment and supplies (products).

The products described in this material may be combined as determined solely by the user in a variety of ways and purposes. However no representations are made as to intended use, performance standards, engineering suitability, safe practices or compliance with government regulations and laws that apply to these products, products of others, or a combination of various products chosen by the user or others. It is the responsibility of the users of these products, products of third parties, and a combination of -various products, to exercise caution and familiarize themselves with all applicable laws, government regulations and safety requirements.

Nor are representations made or intended as to the useful life, maintenance cycles, efficiency or performance of the referenced products of any combination of products.

This material must not be used for estimating purposes ; Production rates, labor performance or surface finishes are the sole responsibility of the user based on the users expertise, experience and knowledge of industry variables.

It is the responsibility of the user to insure that proper and comprehensive training of operators has been performed and all environmental and safety precautions observed.

ISTblast provides a variety of excellent products to the surface preparation industry, and we are confident that all proficient users, operators and contractors in this industry will continue to use our products in a safe and knowledgeable manner.

Before using this product, read all instructions, literature, labels, specifications and warnings sent with and affixed to the unit. If operation of the unit is unclear after reading this manual, contact your supervisor for instructions. It is the responsibility of the employer to read the following instructions to users of this equipment, who are unable to read. Periodic inspection at the work site should be made by supervisory personnel to ensure the blast machine is being properly used and maintained. A copy of this owner's manual must be kept with the blast machine and readily accessible to the blast machine operators at all times.

ASSEMBLY INSTRUCTIONS

1. Remove all parts from inside cabinet including floor grate from bottom of crate, underneath cardboard.
2. Remove all parts from inside cabinet.
3. Place cabinet on its top(#22)
4. Attach legs using four 1/4 x 1/2" bolts.
 - a) Front left leg has name plate.
 - b) Rear legs will also take 2 self tapping screws each.
5. Stand cabinet upright on legs



ASSEMBLY INSTRUCTIONS (CONT'D)

7. Place foot pedal between front legs.
8. Attach metering valve (#13) using three self-tapping screws to back bottom on cabinet. Snap closed with door catch.
9. Attach left and right dors (#6) with four nuts.
10. Loosen bolts on door catches (#20) and move out to full extent and tighten bolts. Moving them in slightly will tighten door seal.
11. Place glass (#19) on top of cabinet.
12. Place light fixture (#1) on glass with light switch on right side. Fasten to cabinet with four 1/4 x 3/4" bolts and flat washers.

Dust Collector :

- a) Attach body of dust collector to rear panel (right side) aligning pipe with hole. Use 1/4" x 3/4" bolts and flat washers.
 - b) Place top of dust collector (with motor and filter) into top of unit. Do up the 2 catches.
 - c) Remove inlet box that covers the dust collector pipe inside the cabinet and place a bead of caulking around pipe to seal it. Replace inlet box.
14. Tighten all bolts, nuts and screws.
 15. Place floor grate with cut out corner to front right of cabinet. Bring hoses through opening.
 16. Plug dust collector into female plug coming from light. Then plug male cord from light into 115 Volt 60Hz supply. Turn on switch on vacuum, the switch on cabinet will turn on light and vacuum or dust collector.
 17. Put media (**GLASS BEAD ONLY**) into cabinet through floor grate. (approx. 1/4" bag.)

OPERATING INSTRUCTIONS

1. Preparing parts for blasting

All parts processed must be free of oil, grease and moisture. Make sure parts are dry before putting into the cabinet for cleaning. **Maximum loading weight is 90 lb.**

2. Air pressure

Operating Pressure : from 50 to 80 PSI. (pounds per square inch)(higher pressures (up to 125) can be used but this breaks down the media prematurely). Set air pressure to 80 PSI. Most parts for blast cleaning can be blasted at 80 PSI. For light gauge steel, aluminum, and other more delicate parts, start at lower pressure and gradually increase the pressure -until the desired finish is achieved.

WARNING:

DO NOT CONNECT TO HIGH PRESSURE BOTTLED GAS. RUPTURE AND EXPLOSION CAN OCCUR.

3. Gun angle and distance

Direct gun at parts at 45-60 degree angle with ricochet towards the back of the cabinet. Do not hold gun at 90 degree angle to parts being processed. This will cause the media blast to bounce back into the blast stream and add slow blasting action. Also 90 degree angle will cause excessive wear on gun and viewing window. Hold gun approximately 6 inches from parts being blasted.



WARNING

GUN MUST ALWAYS BE POINTED AWAY FROM THE OPERATOR AND TOWARDS ITEMS BEING PROCESSED. NEVER BLAST WITH ANY OF THE CABINET DOORS OPEN. WHILE LOADING AND UNLOADING, NO ONE SHOULD BE AT THE OPERATOR STATION, AT THE FRONT OF THE BLAST CABINET.

- Cabinets are available with safety doors so that the gun cannot be operated unless the doors are closed. Contact ISTblast for further information.

4. Media

- Media should be of good quality and dry. Moisture will cause the media not to flow and will clog metering valve and hopper. **USE GLASS BEAD ONLY.**

NEVER USE ABRASIVE MEDIA THAT CONTAINS SILICA NOR CRUSHED GLASS

This cabinet is designed to use glass beads only. Using another type of abrasive media may damage your equipment and will immediately void your warranty.

5. Metering Valve

- The metering valve adjusts the amount of media being pulled into the venturi gun. This valve, located at the bottom of the hopper, has the media stored on top of it. When air is sent to the gun from the foot pedal a vacuum is created that sucks air and media up into the gun through the clear media hose. A 7/16" bolt on the top of the metering valve can be adjusted to vary the amount of air that is sucked in through the holes. If the holes are too far closed, the mixture will have too much media and the gun will pulsate. If the holes are too far opened, too little media will go to the gun and production will decrease.

6. Nozzle Size

- By changing to the next larger size of nozzle, production can increase significantly. Larger sized nozzles produce a larger cleaning pattern. This, however, requires more air (your compressor must be able to provide this)

MAINTENANCE INSTRUCTIONS

1. Blasting Gun

- After 10-12 hours of blasting time, the nozzle should be checked. If it shows uneven wear it should be turned 1/4 turn every 10 hours of use.

2. Caking of media

- Media caking is caused by moisture in the air supply or from oily and greasy parts. If this is not corrected media will not flow evenly and will plug up in the metering valve and the gun. Check air supply; if water is present install a good moisture trap. If oily or greasy parts are being blasted, you should degrease and dry the parts first.

3. Reverse pressure

- If media stops flowing occasionally, place thumb over nozzle (hold tight) and push foot pedal down for a couple of seconds. This will cause the system to back blast through the gun and up the media hose. This will help loosen any clogs.

4. Gun air pressure drop

- Set the air pressure to 80 PSI on the air gauge at regulator. Push the foot pedal while holding gun and see if the gauge pressure drops significantly. If the pressure drops, this indicates that there is a restriction in the supply line. This could be hose that is too small, a reducer or quick coupler, a plugged filter, or other piping that doesn't allow enough air through. Also if the cabinet is too far from the air compressor, a pressure drop will occur. Air supply line should be 1/2" or larger.



MAINTENANCE INSTRUCTIONS (CONT'D)

5. Poor visibility-Excessive dust :

- Air inlet at front left above regulator, should be free to allow air into cabinet.
- Dust container full and needs to be cleaned and emptied. (latch at bottom of dust collector . or remove black cover on vacuum.
- Dust cartridge contaminated. (clean or replace filter in dust collector, part #29)
- Media breakdown; Eventually the media becomes so small that it is essentially dust. Replace media and clean dust collector.

6. Poor visibility-Viewing window

ISTblast windows come with a clear plastic protector on them. As these become pitted they can be easily replaced to extend the life of the window. The window can also be easily replaced.

7. Poor media flow

- Check for moisture as indicated above. Install moisture trap as needed, Replace damp media and clean hoses and sump.
- Holes in media hose will cause poor media delivery. Replace hose.
- Debris in media. Replace or screen media.

MAINTAIN SUCTION EFFICIENCY WITH SIMPLE STEPS

The most common problem customers have with their suction (venturi) blast cabinets is a decrease in production rates. properly maintained suction cabinet should provide years of constant service. When production rates fall the operator can usually locate the problem by checking :

1. Air supply

- If the pressure gauge on the regulator shows an adequate no-load supply (when the blaster is not running),press the foot pedal. If the pressure drops more than a few PSI your air supply is restricted or inadequate. Clean filters and moisture separators ail the way back to the air compressor. Straighten any kinky lines.Use a master gauge to check the air pressure or replace existing gauge if you suspect it is giving you false readings.

2. Blast gun

- The nozzle will wear out eventually. Replace it if it measures 1/16" over its original size or if it shows uneven wear. Adjust as needed for different media and conditions. A properly working gun will pull 15-17 inches of mercury on a manometer.

3. Dust collector

- Inadequate cabinet ventilation results in reduced cleaning power at the nozzle as well as diminished view of the work in progress. Use the dust collectors shaker every 20-30 minutes when the cabinet is turned off, (more often in dusty conditions. Empty dust collector at least once a day.. Remove filter and blow out occasionally to keep the dust collector or vacuum working efficiently. Replace as needed.

4. Media

- Use quality **glass bead** blast media sized to the job. Damp or dirty media can bring blasting to an instant halt. Store media in a dry area and load the appropriate quantity. Add enough media through the flooring to have 6" deep of media on top of the metering valve. If you run out of media as you are blasting add enough so it keeps circulating to the gun. The media will eventually break down or get too contaminated to use. The less there is in the system, the less you will have to replace.



5. Media delivery

- Replace any media hose that has soft spots or visible wear. Adjust the metering valve to provide adequate flow. A mixture that is too rich will cause pulsating at the gun. An unusually loud noise while blasting means the mixture is too lean. A rich mixture can result in lower impact velocities, while a lean mixture reduces the number of impacts. Both reduce your cleaning rate.

If everything is adjusted right and you are still not getting the production levels needed, contact your distributor. The suction system may be operating properly, it may be time to get a cabinet with a media reclaimer or a pressure system. Many upgrades are available.

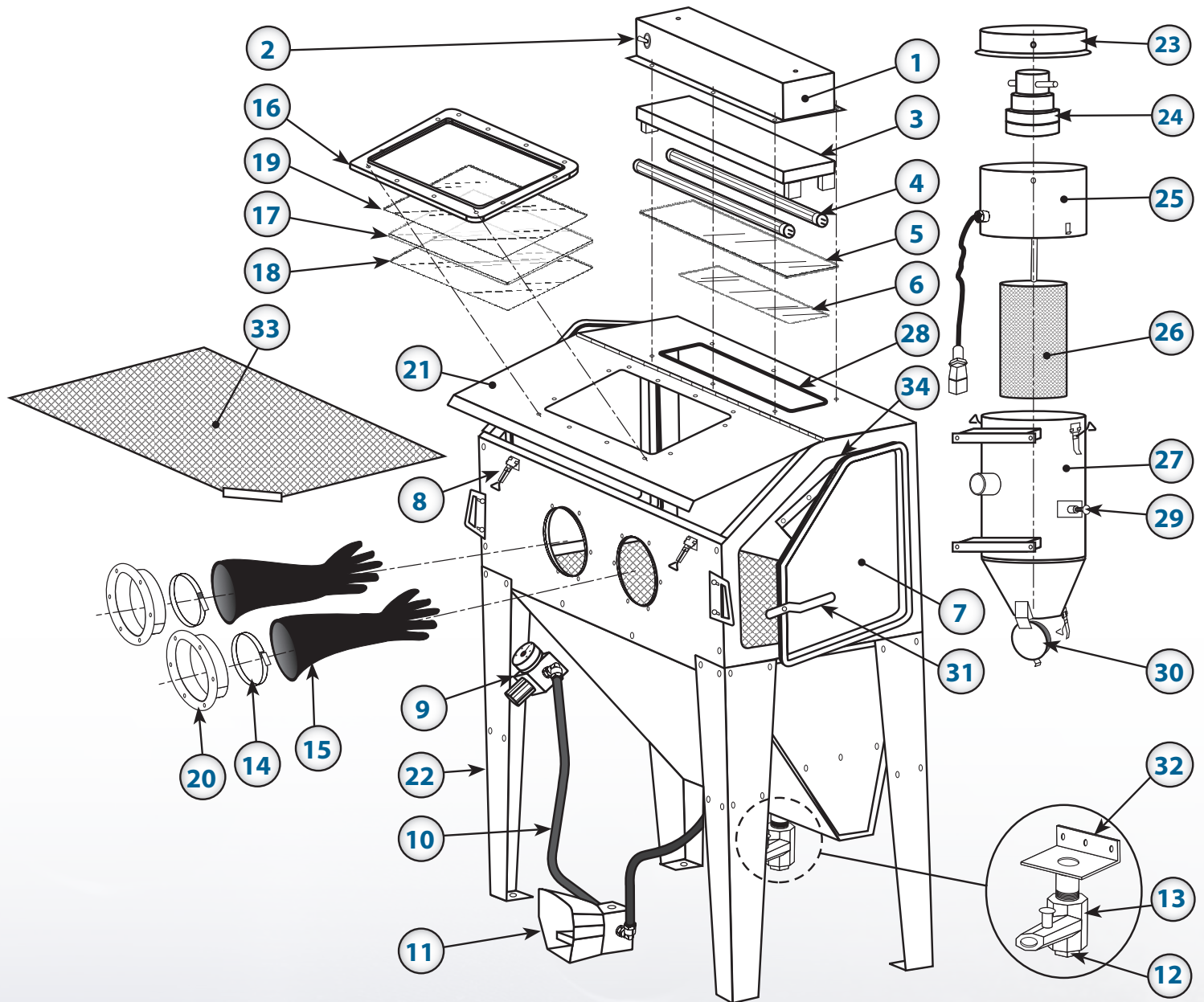
AIR REQUIREMENTS

SUPPLY AIR PIPE SIZE in inches

Line	Volume of air through pipe (cfm)									
Length	25	30	35	40	50	60	70	80	100	125
25'	.75	.75	.75	.75	1	1	1	1.25	1.25	1.25
50'	.75	.75	.75	1	1	1	1	1.25	1.25	1.25
75'	.75	.75	1	1	1	1	1	1.25	1.25	1.2y5
100'	.75	.75	1	1	1	1	1.25	1.25	1.25	1.25
150'	.75	1	1	1	1	1.25	1.25	1.5	1.5	1.5
200'	1	1	1	1	1	1.25	1.25	1.5	1.5	1.5
250'	1	1	1	1	1	1.25	1.25	1.5	1.5	1.5
300'	1	1	1	1	1	1.25	1.25	1.5	1.5	1.5



PARTS DIAGRAM





PARTS LISTING FOR CABINET

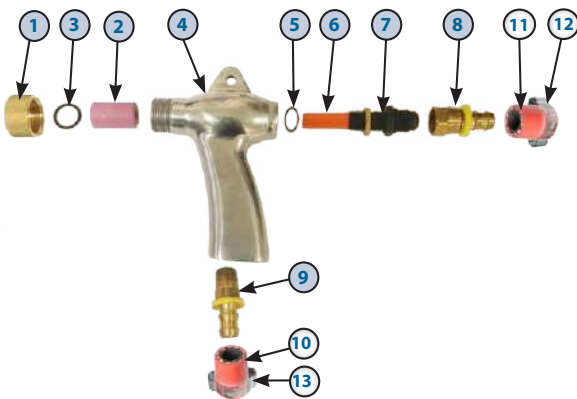
#	STOCK	DESCRIPTION
1	415101	Lamp Housing
2	415101A	Switch
3	415102	Double Fluorescent Tube Fixture
4	415103	Fluorescent Tube
5	415104	Lighting Window
6	415105	Light Window Seal
7	415106	Side Door
8	415107	Door Latch
9	415108	Pressure Gauge 150 psi with Regulator
10	606104	½" ± PVC Compressed Air Hose (sold per foot)
11	415111	⅜" Foot Pedal Complete

#	STOCK	DESCRIPTION
12	415112	Metering Valve Plug
13	415113	Metering Valve
14	624128	T Clamp T-128 (8" Ø) for Gloves (sold per unit)
15	415115	Gloves, Pair
16	415116	Window Frame Cover
17	910298	Glass
18	415118	Protection lens (Pack of 5)
19	415119	Plastic board
20	415120	Mounting ring, Gloves
21	415121	Lid, cabinet
22	415123	Legs, Cabinet

#	STOCK	DESCRIPTION
23	415124	Top of D.C.
24	415125	Vacuum Motor
25	415127	Cover, Motor
26	405100	Dust Filter
27	415130	Round Dust Collector
28	415131	Sealing Tape
29	415134	Push Rod
30	415133	Board, Exhaust
31	415135	Door locker
32	415137	Cover
33	415139	Floor
34	618320	Door Gasket

PARTS LISTING FOR GUN

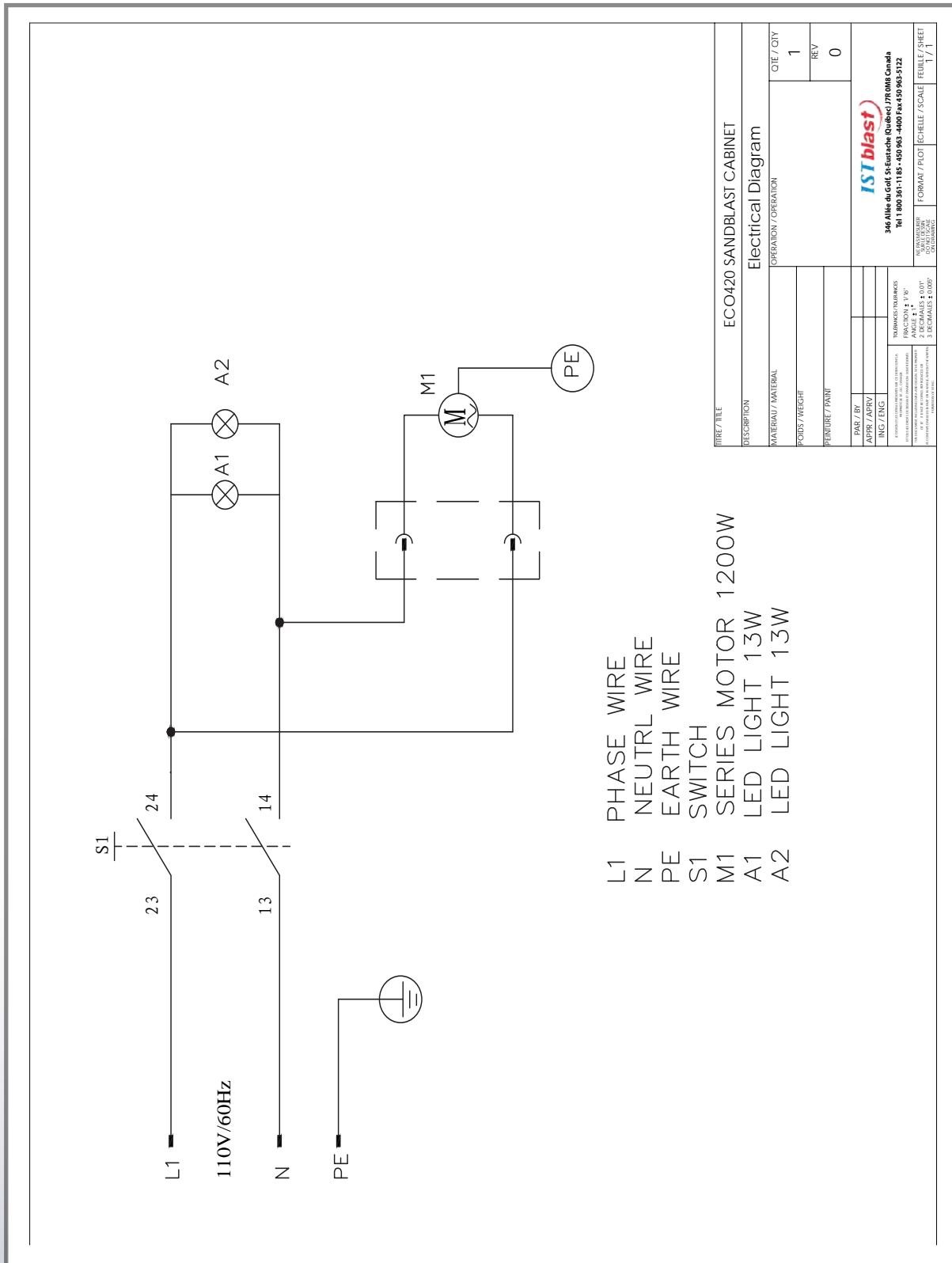
ECO420 SANDBLAST GUN



#	STOCK	DESCRIPTION
A	420000	COMPLETE GUN WITH 7 MM NOZZLE
1	420001	Nozzle Holding Nut, Brass
2	905304	Ceramic Nozzle, 7 mm
3	420003	O-Ring, Nozzle
4	420004	Gun Body
5	420005	Air Jet Hex Nut, Brass
6	420006	Sleeve, Air Jet
7	420007	Air Jet
8	420008	½" I.D. x ⅜" Hose barb
9	420009	Media Inlet Fitting, Barb ⅜"
10	606148	Hose, Media ½"
11	606104	Hose, Air ½"
12	624015	O Clamp ¾"



ELECTRICAL DIAGRAM





ABOUT THE COMPANY

WHO WE ARE

IST is a leading industrial manufacturer of standard and custom engineered equipment for the surface treatment industry and the solvent recycling industry.

MISSION

IST is dedicated to being an innovative and trusted supplier in the conception, fabrication and distribution of surface treatment equipment and recycling equipment.

The success of our mission relies on the following core values :

Innovation - Integrity - Quality

The products, technologies and industry expertise of IST are used in a wide range of manufacturing and industrial applications, including but not limited to :

- General Manufacturing
- Industrial Equipment
- Metal forming
- Aerospace and Aviation
- Rail and Transit
- Marine
- Automotive
- Petroleum
- Flexography (labelling) & Lithography
- Wood finishing
- Power & Energy
- Pharmaceutical

