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Operation and Maintenance Manual

SEM Model EMP1000/EMP1000-HS Pulse Degausser



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1.) Before Use

Congratulations on your purchase of your SEM EMP1000/EMP1000-HS pulse degausser. This is a highly capable and robust degausser that produces a maximum demagnetizing field (coercive force) of 20,000 gauss (EMP1000-HS) or 15,500 (EMP1000).

The EMP1000/EMP1000-HS is capable of running at input voltages of 120V or 240V AC at either 50 or 60Hz. There are no required changes to switch from one voltage to the other. Just plug in the correct power cord for your country.

The SEM Model EMP1000-HS can be ordered with CE marking, which complies with standard EN61010-1: 2010 (Third Edition).



Note: Always remember that any type of degausser/demagnetizer by itself is entirely ineffective at erasing solid state memory or optical storage media. It is only effective for the erasure of magnetic media (i.e. hard disk drives, magnetically recorded tapes, magnetic strips on credit cards, hotel passes, floppy disks, Zip and Jaz disks, etc.).

1.1 Items and Packaging

The EMP1000/EMP1000-HS pulse degausser includes the following items:

- (1) Model EMP1000/EMP1000-HS pulse degausser unit
- (1) power cord, U.S. style cord (NEMA 5-15P to IEC320) for use with 120V 60Hz
- (1) power cord, European style cord (Schuko CEE 7/7 to IEC320) for use with 240V 50Hz
- (1) EMP1000/EMP1000-HS user's manual

1.2 Lifting and Carrying

The EMP1000/EMP1000-HS pulse degausser weighs approximately **160 lb. (73 kg)**, so it is recommended that two people lift this product when moving. Be sure to practice safe lifting techniques when handling this product to reduce the risk of injury or equipment damage.

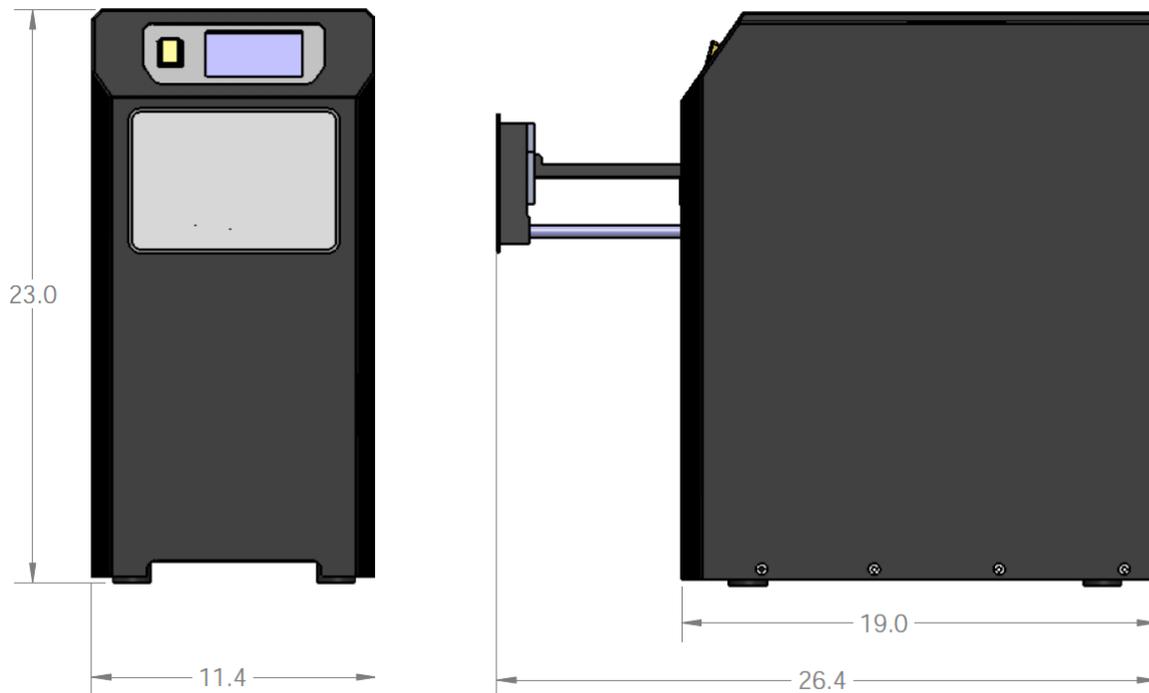
1.3 Installing the Unit

The SEM EMP1000/EMP1000-HS pulse degausser was designed to have a small footprint so that it can fit onto a countertop or into an area where space is limited. See dimensioned diagram below for space requirements. Please note the following:

- Always mount the unit onto a level surface.
- This unit was designed to be used in an office or light industrial environment.
- The rear panel of the unit should be kept at a minimum of two inches from any walls or obstructions to allow proper exhaust of air flow from the unit.

The EMP1000/EMP1000-HS is designed with extensive magnetic shielding, so external magnetic fields should be very low at the external surfaces of the unit and at zero a few inches beyond that. Other equipment may be placed alongside the EMP1000/EMP1000-HS as long as the equipment is not highly sensitive to magnetic fields, does not emit a high level of electromagnetic emissions, and does not emit any significant level of heat. Please see the Operator Safety section on page 12 of this manual for additional information.

Please also note that individuals wearing a pacemaker should not operate this unit.



2.) Operation

2.1 Powering on

Attach the IEC320 end of the appropriate power cord (US or European style) to the receptacle on the rear panel of the unit and the other end into a wall receptacle.

Note: Do not replace the power cord with an inadequately rated cord. Always be sure that any replacement cord is supplied by SEM or has an equivalent rating.

Press the power rocker switch (amber in color) upwards to power up the unit. The power switch will illuminate when powered on.

The touch screen display will illuminate and the product splash screen should appear with the SEM EMP1000/EMP1000-HS product name on a white background. This screen will be displayed for several seconds.



The display will now be in the **standby screen**. The standby screen is displayed when the unit is first turned on or when any error or failure is encountered.



When in this mode, there is no charging of the unit's capacitors and the **CONTINUE** button is always displayed. The triangle icon is the charge indicator and indicates the level of charge stored in the unit's capacitors. When the border of the triangle is light green (as shown above) the unit is fully depleted of charge.

Press the **CONTINUE** button to advance to the **user screen**. The display will now show the **user screen**.



- The charge indicator (triangle) border turns red indicating that the unit is charging. Black bars inside the triangle appear as the level of charge increases. A blinking icon of a person with a shovel is displayed as the unit charges.
- The **OPEN DOOR** icon remains present and allows the user to access the media tray and insert the media that requires erasure.
- The green **START** button is used to start the degauss cycle.

Follow steps on the following pages which explain how to execute a degauss cycle on the media requiring erasure:

2.2 Executing a Degauss Cycle





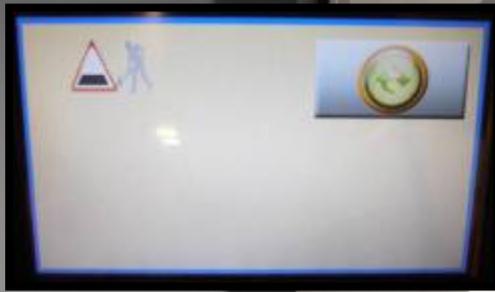
Insert a disk drive into the media tray, as shown.



If inserting a tape, place the tape onto the center portion of the media tray, as there is more clearance area here to accommodate tapes.



Close the door manually by pushing in the tray until it locks in place.



Press the **START** button to begin the degauss cycle AFTER the door has been closed. It will be disallowed if the door is not closed.



The **START** button may be pressed at any time after the door is closed, regardless of the charge level. The degauss cycle will start, but erasure will not occur until the charge level is full.

The **START** button will change to indicate that a degauss cycle is in process after it has been pressed.

The charge indicator (triangle) will show a dark green border and full bars when the charge level is full. The unit will automatically discharge shortly after.



After the unit has discharged, the media tray will be released automatically so that the now erased media can be removed.

NEVER PULL ON THE MEDIA TRAY DOOR. This will damage the locking mechanism.

If the door ever fails to open, it will try again every five seconds. If it continues to fail or an error is displayed, please contact the SEM service department.

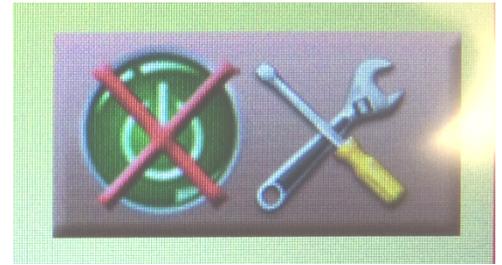
The magnetic field strength indicator is displayed in the upper middle portion of the screen. This displays the actual measured strength of the magnetic field produced during the cycle and grades the value PASS or FAIL. Shown above is a model EMP1000, where 1.53 Tesla is results as a PASS.

The magnetic field strength is displayed in units of Tesla (flux density). If PASS is indicated, the media can be removed, the next media to be erased can be inserted and the cycle started again.

If FAIL is indicated then the current media should be run again. If FAIL is encountered too many times or if an error is present, please contact the SEM service department.

3.) Error Messages

As stated in the previous section, the EMP1000/EMP1000-HS may encounter an error if there are multiple cycle magnetic field failures. This will result in the service needed icon (shown at right) appearing. If this appears at anytime, please contact the SEM service department.



3.1 Temperature Errors

The unit is thermally designed to operate "cool." In any degausser, the maximum demagnetizing field produced will drop as temperature rises. The EMP1000/EMP1000-HS is designed with internal heat sinks, optimized routing of air flow, and cooling fans. Under normal operation, the fans are not required and will not run.

If the temperature rises to a critical level, the fans will come on intermittently after each discharge cycle.

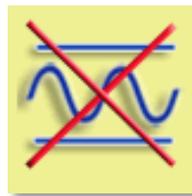
If the temperature still rises, the fans will come on continuously.

If the temperature reaches the maximum allowed, the unit will display a red thermometer icon (shown on right) and disallow further operation until the unit has cooled down sufficiently.

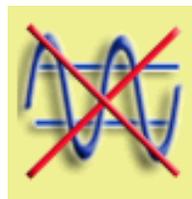


3.2 Voltage Errors

The degausser is designed to operate at either 120V or 240V AC. During charging of the capacitors, the line voltage may dip. In the event that the line voltage dips below the level required to charge the capacitors, the following error will be shown:

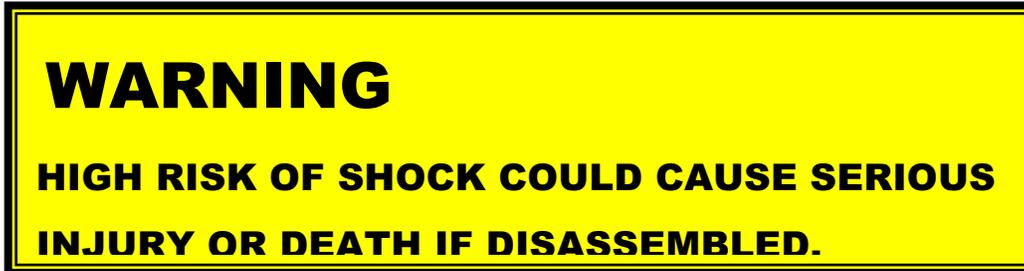


If the line voltage is too high, the unit will display the following error in order to prevent damage to the capacitors:



If either of these errors occur, please contact the SEM service department.

4.) Operating Safety



Never attempt to remove the cover, rear panel or disassemble the unit in any way as you could be exposed to a high level shock.



A pacemaker may be affected by magnetic fields. Despite a high level of external magnetic shielding built into the unit, individuals wearing a pacemaker should not operate or remain near the unit as an extra precaution.

5.) Machine Specifications

Operating Temperature and Humidity Range:

40-105° F

40% rel. humidity

Voltage Input: 120V or 240V AC, auto voltage sensing

Frequency: 50/60Hz, auto sensing

Max Current Draw at 120V: 8A

6.) Declaration of Conformity (For Models Purchased with CE Marking)



EC Declaration of Conformity

We,
Security Engineered Machinery Co., Inc.
5 Walkup Drive, Westborough, MA 01581

Hereby declare that the following list of Hard Drive/SSD Shredder equipment:

Brand 1	Model #	Brand 2	Model #	Voltage Rating
SEM	EMP1000	SITES	MMD1000	120-240VAC 50/60Hz, 1-ph
SEM	EMP1000/EMP1000-HS	SITES	MMD1000-HS	120-240VAC 50/60Hz, 1-ph

Is in full conformity with the following directives and applied standards:

2014/30/EU- EMC Directive	2014/35/EU- Low Voltage Directive	2011/65/EU- RoHS2 Directive
EN 61000-6-4 EN 61000-6-2 EN 61000-3-2 EN 61000-3-3 EN 61000-4-2 EN 61000-4-3 EN 61000-4-4 EN 61000-4-5 EN 61000-4-6 EN 61000-4-8 EN 61000-4-11	EN 61010-1	EN 50581:2012

Authorized representative for technical documentation:

Nicholas Cakounes

Executive Vice President & GM

Datum: 4/01/2016



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