




# Model 10 Mark II Vibrating Sample Magnetometer Facility Requirements

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REV	AUTHORIZATION	CHK	APPROVED - Production Control Brickell, Ralph	10/30/06	SIZE <b>T</b>	DRAWING NO. <b>600446-01</b>	SHEET <b>1 of 8</b>	REV. <b>(A)</b>

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# Model 10 Mark II Facilities Requirements

## Electrical Requirements:

*System Input Voltage:* (Specify at time of order) Three-Phase, 208 VAC, 50 Amp plus Single-Phase, 120 VAC, 15 Amp required.

OR

Three-Phase, 400 VAC, 40 Amp

*Input Voltage for Optional Chiller (customer-supplied):* Check with the chiller manufacturer for electrical requirements.

*Frequency:* (Specify at time of order) 50 or 60 Hz  $\pm$  5%

*Input Connection:* The system comes with a line cord (without a connector) for the three-phase power to be connected at the customer site. A suitable disconnect device capable of the interruption of specified tool load current **MUST** be within reach of the system. This device must provide branch circuit protection in accordance with the National Electric Code (NEC) and must satisfy all local regulations.

## System Requirements:

*Coolant (for Magnet):* 4 gpm at 18° C, 60 psi

Note that use of a Chiller (cooling system) is recommended.

For systems which include a customer-supplied chiller, ADE recommends checking the manufacturer's manual for a suggested coolant. Do not use automotive antifreeze, distilled water or de-ionized water as a cooling liquid (may cause corrosion and damage to pump seals, etc.)

If permitted by the Chiller manufacturer, use of a mixture of 50-percent FILTERED tapwater mixed with 50-percent pure ethylene glycol (to prevent oxidation and algae growth) is suggested as a coolant.

A means of control of flow with readout is strongly recommended. A coolant flow which is too high can cause system noise.

*Workstation:* Customer supplies appropriate desk for placement of system computer.

## Operating Environment:

*Temperature Range:* 15° C to 35° C (59° F to 95° F)

**NOTE: Recommended operating range is typically 18-25° C (65 to 77° F) maintained within  $\pm 1^\circ$  C ( $\pm 2^\circ$  F) of nominal.**

*Temperature Gradient:* <0.5 ° C/hr (<0.9 ° F/hr), linear change

**NOTE: Changes in room temperature will have an effect on measurement results.**

*Relative Humidity:* 10-65% Non-condensing

### For Optional Model EV1 Temperature Controller:

*Cooling Liquid:* Liquid Nitrogen is required for experiments below room temperature.  
**NOTE: A 25 liter rolling dewar is supplied with the system.**

*Cooling Gas:* *For Measurements Below Room Temperature (From 77 K to 600 K)*

80 psi Nitrogen (N<sub>2</sub>) - connected to 1/4" tube.  
99.95% pure for measurements below room temperature

*Heating Gas:* *For Measurements Above Room Temperature (From 300 K to 1000 K)*

60 psi Argon (Ar) - connected to 1/4" tube

## Required Clearance Spaces:

The Model 10 Mark II VSM will be installed as three units:

- 1) Measurement Station (includes the magnet/vibrator frame)
- 2) Electronics Cabinet
- 3) System Computer

The Measurement Station and Electronics Cabinet should be spaced within 2 to 3 feet of each other. They will be connected to each other by cables. The computer should be placed on a customer-supplied workstation close to the Electronics Cabinet.

There should be enough clearance to allow easy access to the back of the Measurement Station and Electronics Cabinet. ADE recommends the following:

- A perimeter guard is supplied with your system. The guard should be installed around the system footprint with clearly visible safety signs.
- Allow enough clearance around the perimeter of the Measurement Station and Electronics Cabinet for a person to comfortably walk around (at least 2 feet).
- Allow enough clearance for the optional dewar (which rolls on caster wheels) to be connected to the Measurement Station with tubing.
- Allow some room above the top of the Measurement Station for access.
- Space may be required for Nitrogen and/or Argon gas tanks if the temperature control option is included on your system.

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**NOTE:** *The Electronics Cabinet may be installed on either side of the Measurement Station.*

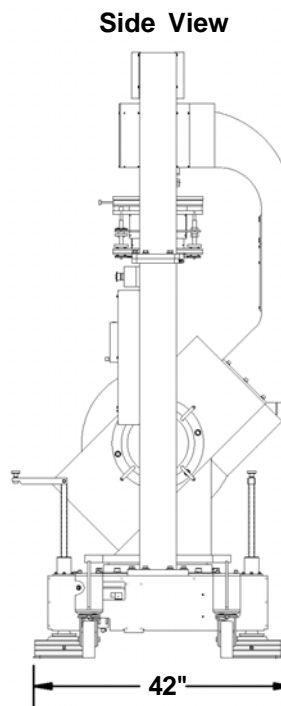
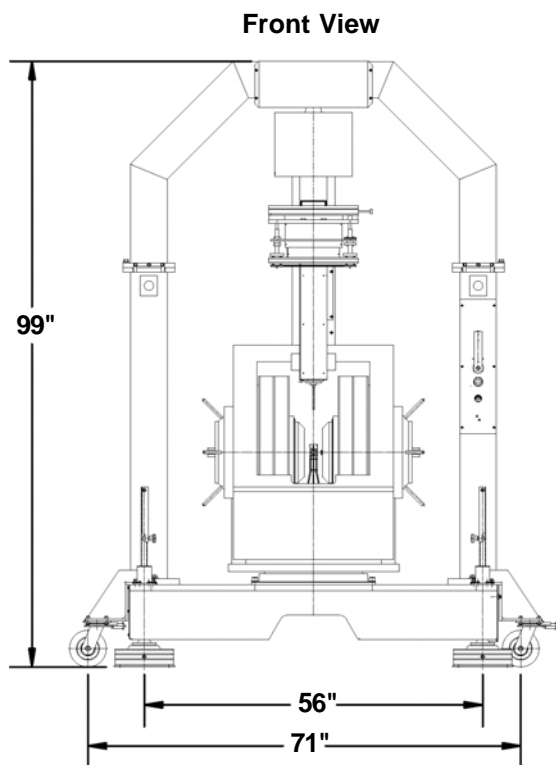
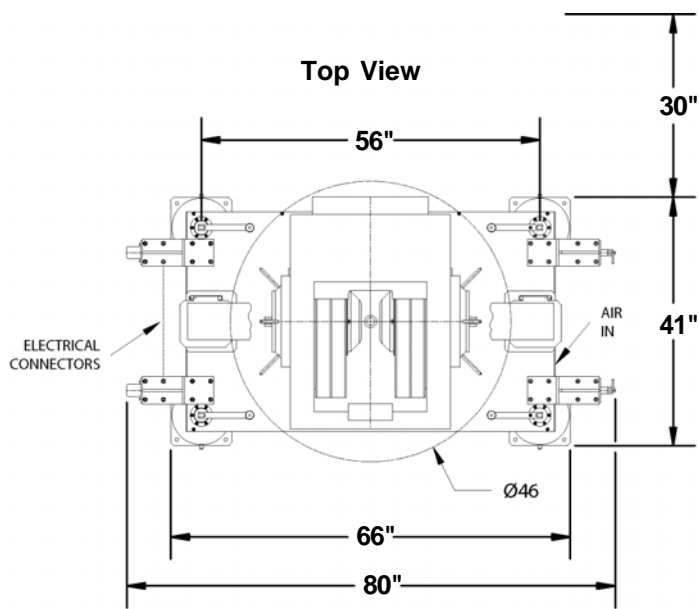
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## Heights:

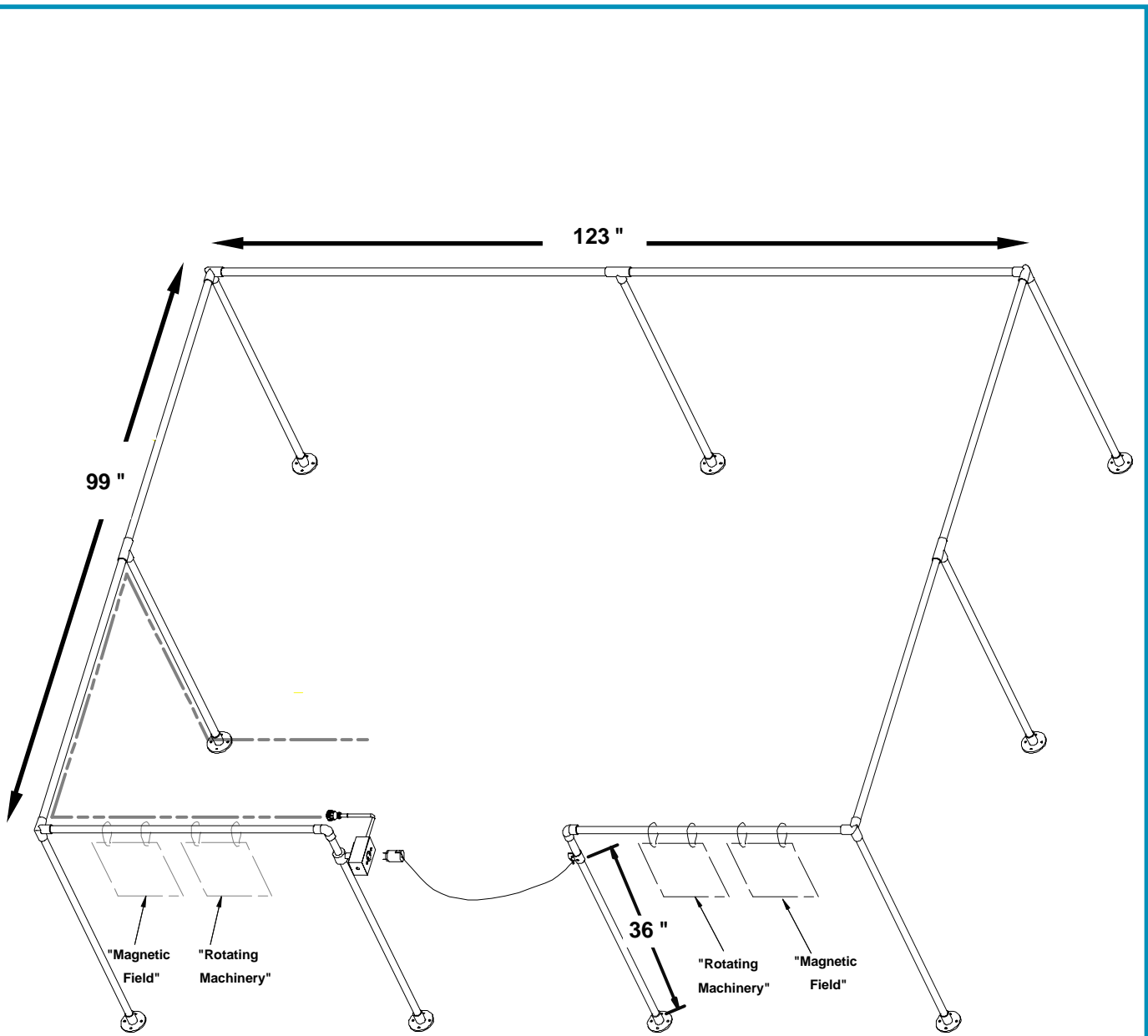
- The Model 10 Mark II Measurement Station stands approximately 99 in. (251 cm) tall.
- The Model 10 Mark II Electronics Cabinet stands approximately 68 in. (173 cm) tall.

## Estimated Weights:

1) Model 10 Measurement Station, including crate:	Approximately 2050 lbs. (930 kg)
2) Model 10 Electronics Cabinet, including crate:	Approximately 955 lbs. (433 kg)
3) Model 10 Electromagnet, including crate:	Approximately 3970 lbs. (1800 kg)
4) System Accessories, including crate:	Approximately 550 lbs. (250 kg)
 Total Weight, including crates:	 Approximately 7525 lbs (3413 kg)

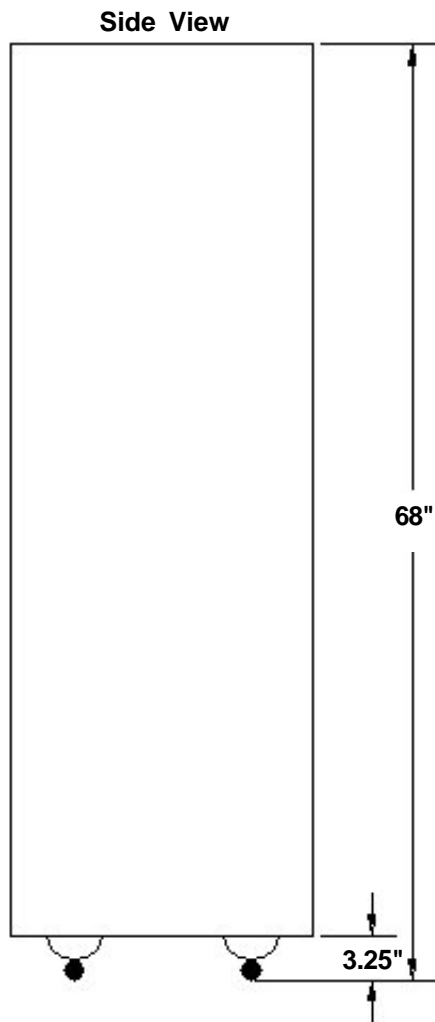
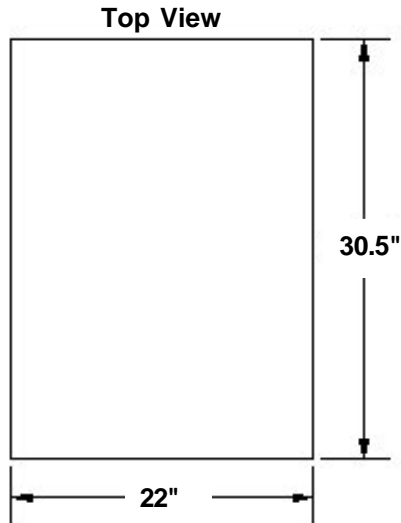


**Model 10 Mark II Dimensions - Measurement Station**  
 (Note: Chiller and Dewar not shown here)



Front of System Footprint

**Model 10 Mark II Dimensions - Perimeter Guard**  
**(ADE Part Number 035287-01)**



**Model 10 Mark II Dimensions - Electronics Cabinet**

## Facility Readiness Checklist:

Below is a list of items to consider or prepare at your facility, **ahead of the system installation date**:

- **ASSEMBLY OF THE SYSTEM - ASSEMBLY AREA**

A clean and dry assembly area where the equipment can be maneuvered easily is necessary.

- **LOCATION OF SYSTEM - SPACE REQUIRED**

Space required for system at destination site is:

WIDTH: at least 10 feet (305 cm) - 12 feet (368 cm) recommended

DEPTH: at least 8-1/2 feet (259 cm)

Perimeter Guard dimensions are: 10-1/4 feet (Length) x 8-1/4 feet (Width)

- **LOCATION OF SYSTEM - FLOORING**

Concrete flooring or concrete/metal pillars capable of bearing at least 9725 lbs. (4415 kg) load is required. **The floor should be level and free of vibrations.**

- **FACILITY NETWORK HOOKUP**

One hookup (optional). Customer may supply network connection for standard Ethernet 10/100 card (provided with system).

- **FACILITY TELEPHONE HOOKUP**

Not required for operation, but very helpful for installation and operational troubleshooting.