

Models EV5, EV7

Vibrating Sample Magnetometer

Facilities Requirements

			DRAWN		TITLE Facilities Requirements Guide, EV5, EV7 VSM			
			CHECKED Legault, Marc	04/22/05				
			APPROVED - Engineering Samwel, Erik	04/25/05				
C	ECO 01848	JP <small>1/14/09</small>	APPROVED - Quality Horne, Stacey	04/25/05				
			APPROVED - Manufacturing Johnson, Olof	04/22/05				
B	ECO 11174	D.L.	APPROVED - Customer Support Moreira, Jim	04/25/05				
A	DR 1749	D.L. <small>5/17/05</small>	APPROVED - Production Control Brickell, Ralph	04/25/05				
REV	AUTHORIZATION	CHK			SIZE T	DRAWING NO. 600412-01	SHEET 1 of 7	REV. C

© 201MicroSense, LLC. All rights reserved. Information in this document is subject to change without notice. No part of this document may be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without the express written permission of Microsense.

Models EV5/EV7 Facilities Requirements

Electrical Requirements:

System Input Voltage: (Specify at time of order) Three-Phase, 208 VAC, 25 Amp plus Single-Phase, 120 VAC, 15 Amp required.

OR

Three-Phase, 380 VAC, 15 Amp

NOTE: The optional Model EV1 Temperature Controller is powered by the base unit.

Input Voltage for Optional Chiller: (Specify at time of order) 208 VAC, 60 Hz
OR
230 VAC, 50 Hz,
Single-Phase, 25 Amp required.

Frequency: 50 or 60 Hz

± 5%

(Specify at time of order)

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): 1.6 gpm at 18° C, 60 psi

Note that use of a Chiller (cooling system) is required and is offered as an option from MicroSense. Specify at time of order.

We recommend using a mixture of 50-percent FILTERED tapwater mixed with 50-percent pure ethylene glycol (to prevent oxidation and algae growth)

DO NOT USE automotive antifreeze, distilled water or dionized water as a cooling liquid (may cause corrosion and damage to pump seals, etc.)

For systems which include a customer-supplied chiller, check the manufacturer's manual for a suggested coolant.

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: Operating range is typically 18-23° C (65 to 73° 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

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: 80 psi Nitrogen (N₂) -connected to 1/4" tube.
99.95% pure for measurements below room temperature

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

Required Clearance Spaces:

The Model EV5/EV7 will be installed as four units:

- 1) Measurement Station (includes the magnet/vibrator frame),
- 2) Electronics Cabinet
- 3) System Computer
- 4) Chiller (purchased from MicroSense or customer-supplied)

The Measurement Station and Electronics Cabinet should be spaced within 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. MicroSense recommends the following:

- 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.
- Space may be required for Nitrogen and/or Argon gas tanks if the temperature control option is included on your system.

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

Heights:

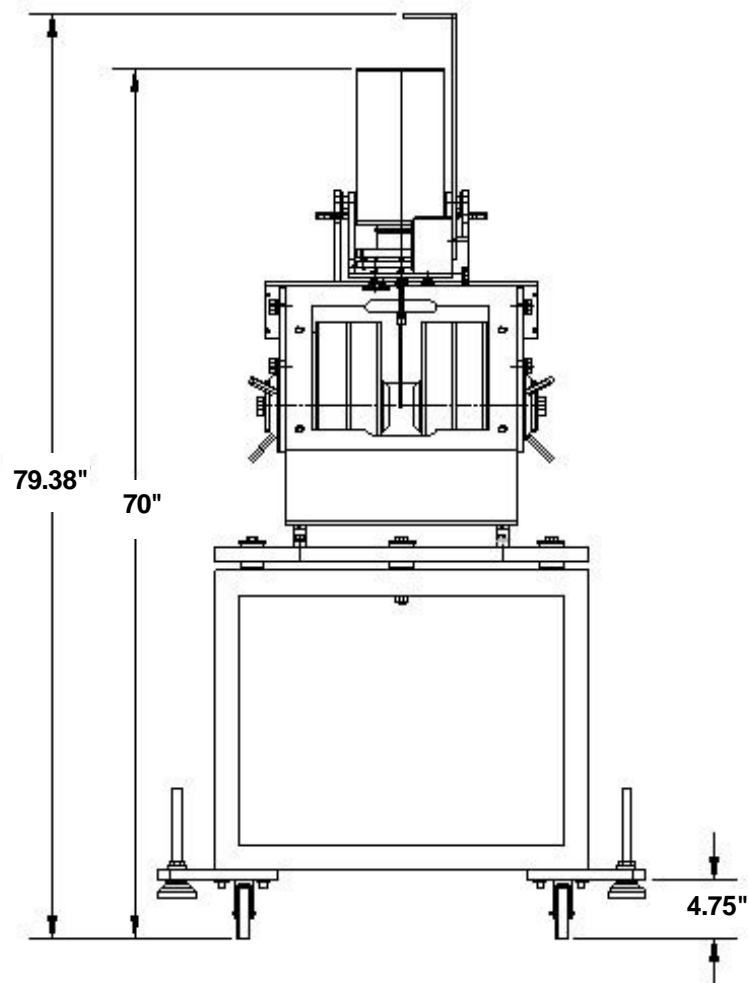
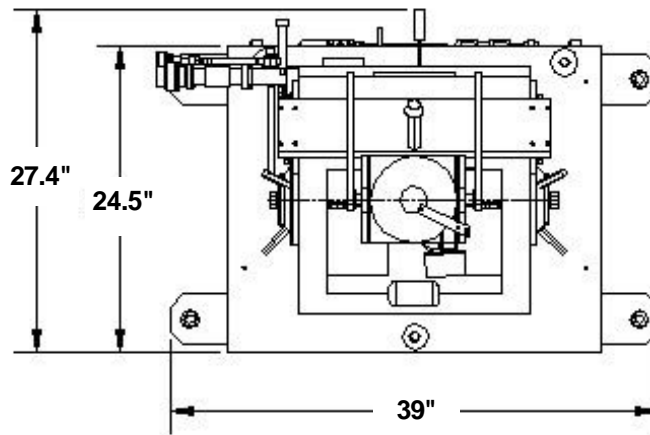
- The EV5/EV7 Measurement Station stands approximately 80 in. (203 cm) tall.
- The EV5/EV7 Electronics Cabinet stands 68 in. (173 cm) tall.

Estimated Weights:

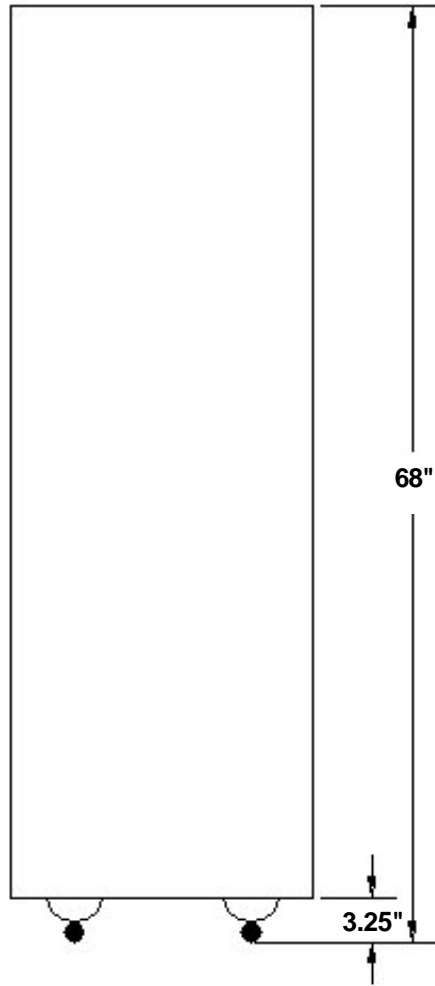
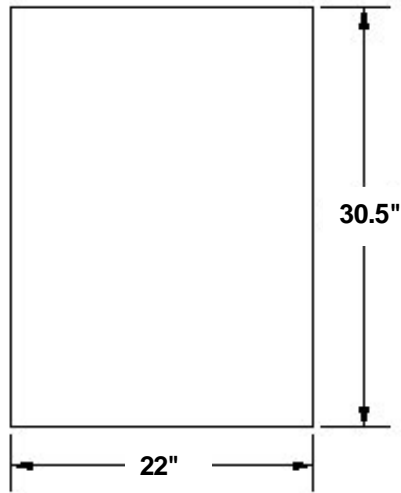
1) EV5/EV7 Measurement Station, including crate:	Approximately 1245 lbs. (565 kg)
2) EV5/EV7 Electronics Cabinet, including crate:	Approximately 785 lbs. (356 kg)
3) System Accessories, including crate:	Approximately 275 lbs. (125 kg)
4) Optional Chiller, including crate:	Approximately 245 lbs. (111 kg)
Total Weight with Chiller, including crates:	Approximately 2550 lbs (1157 kg)

Crate Dimensions:

1) EV5/EV7 Measurement Station Crate:	35"L x 64"W x 71" H
2) EV5/EV7 Electronics Cabinet Crate:	55"L x 33"W x 79" H
3) System Accessories Crate:	36"L x 56"W x 36" H
4) Chiller Crate:	29"L x 36"W x 47" H



Model EV5/EV7 Dimensions - Measurement Station
(Note: Optional chiller unit not shown here)



Model EV5/EV7 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: 6-½ feet (198 cm)
- **LOCATION OF SYSTEM - FLOORING**
Concrete flooring or concrete/metal pillars capable of bearing at least 1800 lbs. (816 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.