Model EZ11

Vibrating Sample Magnetometer

Facilities Requirements Guide, EZ11 VSM

Model EZ11 VSM Facilities Requirements

Electrical Requirements:

3 phase System Input Voltage and current, **please specify at time of order**

Voltage	Current [A]
200-208V	*65*
380V	*35*
400V	*35*
415V	*35*

Input Voltage for Optional Chiller: *Please check with factory for current chiller requirements.*

*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 easy 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.

A suitable disconnect device capable of the interruption of the specified system load current must be within easy 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. This disconnect device must allow for Lockout and Tagout (LOTO) when the power is disconnected for system service.

Cooling Water Requirements:

Coolant (for Magnet): 5 gpm (15 liter per minute) at 18 °C, 60 psi

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

MicroSense recommends 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, pure distilled water or deionized water as a cooling liquid (may cause corrosion and damage to pump seals, etc.)

For systems which include a customer-supplied chiller, MicroSense recommends checking the manufacturers manual for a suggested coolant.

Operating Environment:

Temperature Range:	15 °C to 28 °C (59 °F to 82 °F)
	NOTE: Operating range is typically 18-23°C (65 to 73°F)
	maintained within ±**0.5 °C (± 1 °F) of nominal.**
Temperature Gradient:	<0.5 ° C/hr (<0.9 ° F/hr), linear change
Relative Humidity:	10-65% Non-condensing

For Optional 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 (N_2) connected to 1/4" tube. 99.995% pure for measurements below room temperature
Heating Gas:	60 psi Argon (Ar) connected to 1/4" tube

Required Clearance Spaces:

The Model EZ11 will be installed as three units:

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

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 EZ11 Measurement Station stands approximately 74 in. (188 cm) tall.

The EZ11 Electronics Cabinet stands 68 in. (173 cm) tall.

Estimated Weights:

1)	EZ11 Measurement Station, including crate:	Approximately 5500 lbs. (2500 kg)
2)	EZ11 Electronics Cabinet, including crate:	Approximately 950 lbs. (430 kg)
3)	System Accessories, including crate:	Approximately 275 lbs. (125 kg)
4)	Optional Chiller, including crate:	Please check with factory

Total Weight with chiller, including crates: Approximately 6730 lbs (approximately 3053 kg)

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 feet (198 cm)

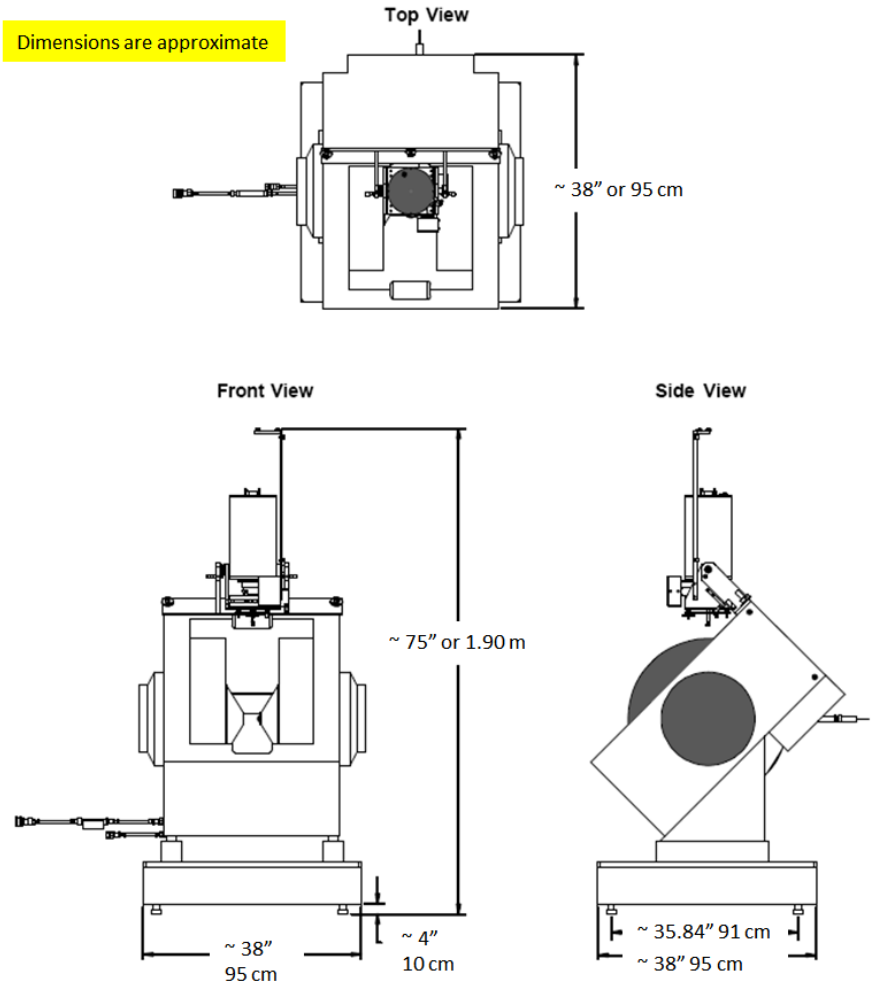
LOCATION OF SYSTEM - FLOORING

Concrete flooring or concrete/metal pillars capable of bearing at least 3000 kg (for system + operator) 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.

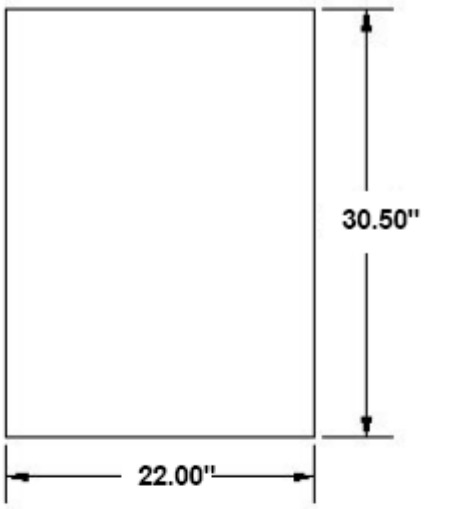


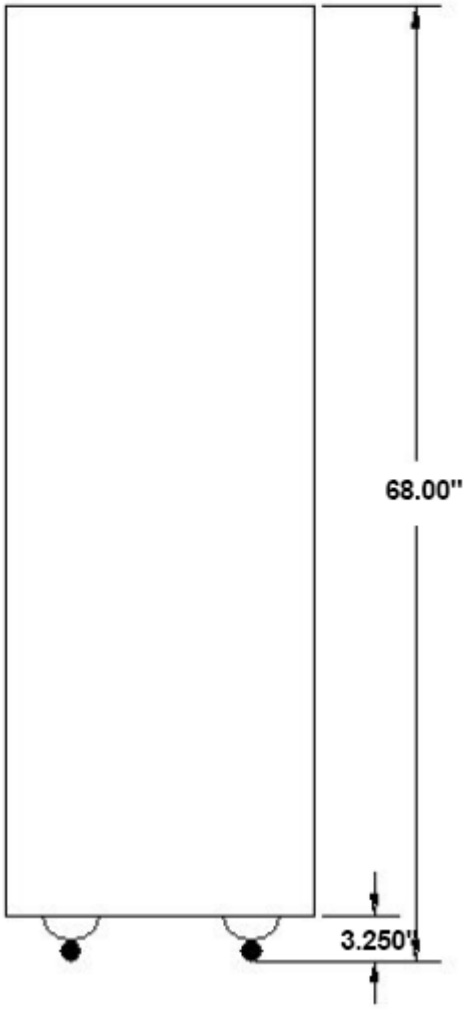
Dimensions - Measurement Station.

Dewar (with approx. 20x20” base) for temperature option (located behind magnet) not shown

Please note that the system is mounted on wheels for easy placement or lab reconfiguration.

(Note: Optional chiller unit not shown here)





Model EZ11 Electronics cabinet dimensions

Dimensions in Inch. For Dimensions in cm, multiply by 2.54