Site Requirements

VERITY® 1920 MASS SPECTROMETER

This document outlines the necessary preparation and required materials to ensure a successful installation or demonstration of the VERITY® 1920 Mass Spectrometer at your site. Please read and sign where indicated at the end of this document. Your signature will demonstrate that you have understood the requirements. Please return the signed document to Gilson prior to installation. If site preparation is not complete, Gilson cannot guarantee a complete installation or demonstration. If you have questions about any of this information, please contact Gilson.

The VERITY® 1920 Mass Spectrometer will arrive on a pallet of approximately 40 x 50 in. (102 x 127 cm). It is recommended that the system remain on the pallet until a Gilson representative arrives for installation.

If the pallet cannot be stored intact, all items should be cataloged and stored together. The VERITY 1920 MS will arrive in a crate and should not be opened by anyone other than a Gilson representative.

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Footprint

Adequate fume hood, bench, or table space is required for the VERITY 1920 MS, VERITY 3011 Pump (make up pump), and Rheodyne MRA100-000 Splitter. The fume hood, bench, or table space must be flat, vibration free, and clean. It must be strong enough to support the weight of the system and its accessories.

NOTE Do not place the system near air ducts, windows or heating and cooling systems.

System Component	Weight	Dimensions (H x W x D)
VERITY® 1920 Mass Spectrometer	70 lbs. (32 kg)	26 x 11 x 22 in. (66 x 28 x 56 cm)
Rheodyne MRA100-000 Splitter	5 lbs. (2.2 kg)	6 x 3 x 9 in. (15 x 8 x 23 cm)
Edwards RV 12 Oil-Sealed, Rotary Vane Pump	66 lbs. (30 kg)	10 x 9 x 18 in. (26 x 23 x 46 cm)
VERITY® 3011 Isocratic Pump	16 lbs. (7.26 kg)	6.8 x 10.7 x 16.3 in. (17.3 x 27.1 x 41.2 cm)

Edwards RV 12 Oil-Sealed, Rotary Vane Pump

Install the Edwards RV 12 Oil-Sealed, Rotary Vane Pump (roughing pump) underneath the fume hood, bench, or table when possible. Provide a firm, level platform for the rotary vane pump. Locate the rotary vane pump so that the oil level sight glass is visible and the oil filler plug, oil drain plug, mode selector and gas ballast control are accessible. Minimize the vacuum hose (<5 ft., around 152 cm). If the rotary vane pump is installed on a shelf that holds the VERITY 1920 MS, vibration and heat isolation is required.

If the rotary vane pump will be located inside an enclosure or cabinet, ensure that there is adequate ventilation at both ends of the rotary vane pump, so that the ambient temperature around the rotary vane pump does not exceed 40°C. There must be a minimum space of 1 in. (2.5 cm) between the rotary vane pump and the enclosure walls.

Additional Space Considerations

Position the VERITY 1920 MS at the end of the lab bench to allow the space required for the factory-installed PVC exhaust tubing.

AIR CIRCULATION

The VERITY 1920 MS requires 1 in. (2.5 cm) on the rear and 1 in. (2.5 cm) on the left side panel for air circulation.

Electrical Requirements

The quality of line power is critical for the longevity and performance of your VERITY 1920 MS. To ensure the highest level of performance, reliability, and confidence it is recommended that one or more of the following conditioning devices be used:

- Line conditioner
- Noise suppression transformer
- Uninterrupted Power Supply (UPS)—**highly recommended (1000 VA)**

Power Consumption

SYSTEM COMPONENT	POWER CONSUMPTION
VERITY 1920 MS	600 VA maximum
VERITY 1920 MS while in stand-by	200 VA Typical
VERITY 1920 MS while in operate	400 VA Typical
Edwards RV 12 Oil-Sealed, Rotary Vane Pump	550 VA maximum
VERITY 3011 Pump	75 W
Rheodyne MRA100-000 Splitter	50 VA maximum

Electrical Connections

OUTLET REQUIREMENTS

Five or more dedicated outlets (recommended):

- Computer (if necessary) —one outlet
- VERITY 1920 MS and rotary vane pump—two outlets on 15A (minimum) dedicated circuit
- VERITY 3011 Pump—one outlet
- MRA Splitter— one outlet
- Additional outlets for the liquid chromatography (LC), PLC, or CPC system components

⚠WARNING **Never operate instrument(s) from a power outlet that does not have a ground connection. Never use a power cord other than the power cord designed for your region.**

NOTICE **Mains supply shall be free of fluctuations, surges, sags, or transients. Where appropriate, the VERITY 1920 MS shall be placed on a UPS to prevent damage to the instrument.**

TYPE	SPECIFICATION	COMMENTS
Power Plug	NEMA 5-15 (15A / 125 V grounded) CEE 7/7 (16A / 250 V) BS1363 (13 A / 250 V)	North America Europe, England, UK
Line Voltage	100–240 VAC	Nominal ± 10%
Line Frequency	47–63 Hz	Nominal ± 3Hz

Nitrogen Gas Supply

The end user must provide a regulated supply of 98% pure nitrogen, terminated with a fitting for 1/4" (6 mm) OD tubing to make the required connection to the VERITY 1920 MS.

- Gas: Nitrogen (N_2) 98% pure
- Pressure: 4.1–6.9 bar (60–100 psi)

Services and Solvents Requirements

TYPE	SPECIFICATIONS	COMMENTS
VERITY 1920 MS Exhaust	1 L/min source exhaust	Recommended for optimal performance. Vital for APCI in negative ionization mode.
Edwards RV 12 Oil-Sealed, Rotary Vane Pump Exhaust	1 L/min source exhaust	
Gas Supply	Nitrogen (N_2) 98% pure 4.1–6.9 bar (60-100 psi)	1/4" (6 mm) OD tubing required. Teflon (PTFE) tubing must be used to limit chemical noise.
Nitrogen Gas Consumption	< 8 L/min	Common usage is 5 L/min
Solvents	Clean/HPLC-grade solvents (99% pure)	Recommend LC/MS grade solvents and modifiers
Solvent Waste Container	Approved and labeled	Source and sample waste

Environmental Requirements

The laboratory facilities must be compliant with all relevant safety regulations.

The VERITY 1920 MS may be operated in environments with the following limits and is only intended for indoor use:

- Temperature: 21°C ± 3°C (± 1°C for optimal performance)
- Operating Pressure (Altitude): 6560 feet (2000 meters)
- Operating Humidity: 40% to 60% RH (non-condensing)
- Storage and Transport Temperature: –20°C to +60°C

Acknowledgment

Signature: _____

Date: _____

Print Name: _____