RSA-G2 Solids Analyzer

Site Preparation Guide

Revision H Issued April 2023

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Ideal Setup

IDEAL PLACEMENT AND BENCH MEASUREMENTS

Select a location with adequate floor space and a rigid laboratory bench that is level and is in a vibration-free environment. For optimal performance it is recommended that the instrument be placed by itself on a separate marble table.

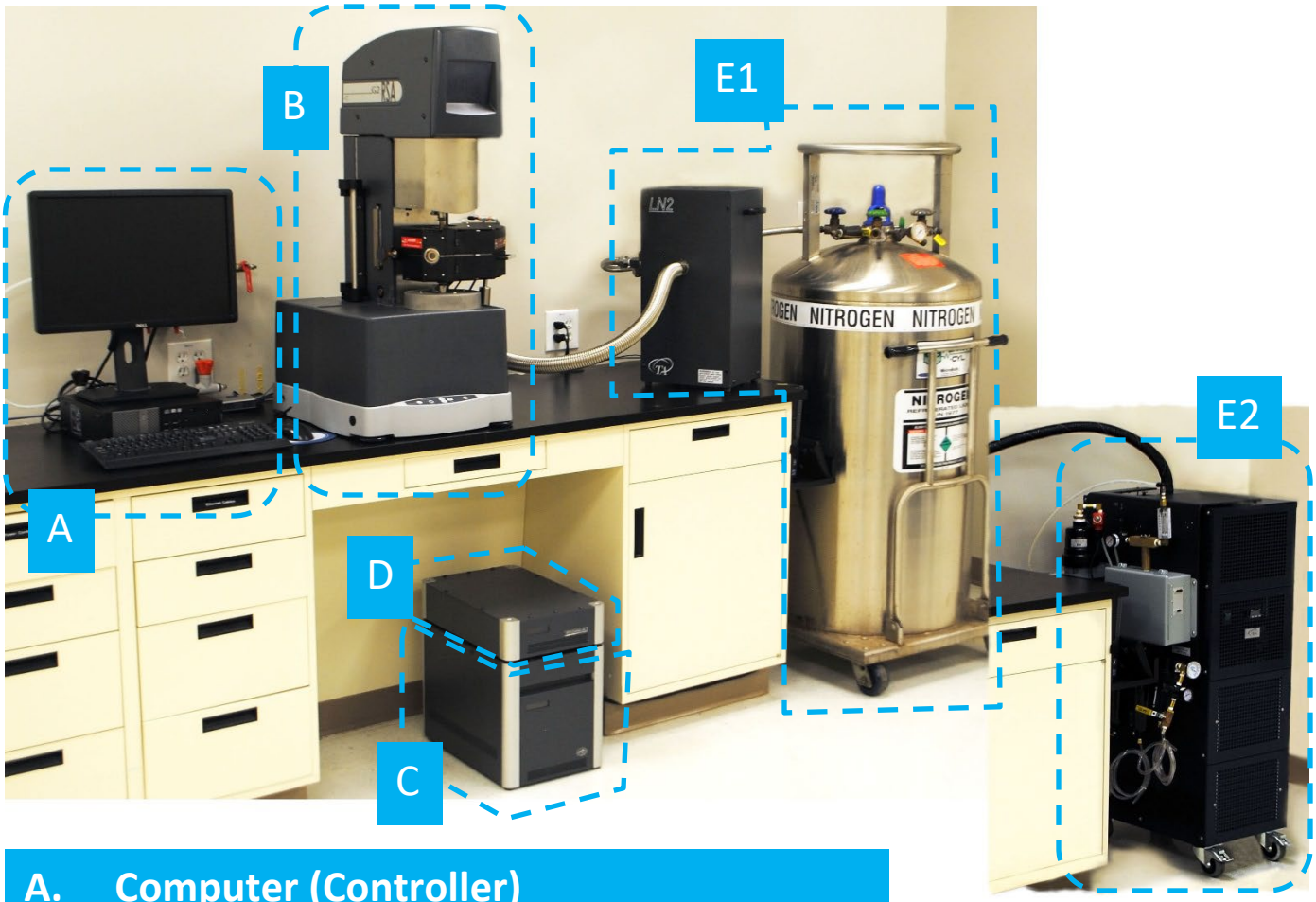
Bench width: 2.1 m (7 ft)

Bench depth: 76 cm (30 in) min.

Distance from the wall: 20 cm (8 in) min.

System Components

MAIN SYSTEM COMPONENTS



A. Computer (Controller)

B. Instrument

C. Power Supply Enclosure

D. Forced Convection Oven Enclosure

E1. Liquid Nitrogen Controller & LN_2 Tank

OR

E2. Air Cooling System

Instrument Measurements

MAIN INSTRUMENT

Height: 104 cm (39.37 in)

Width: 46 cm (18 in)

Depth: 56 cm (22 in)

Weight: 87.5 kg (193 lbs)

POWER SUPPLY ENCLOSURE

Height: 34 cm (13.5 in)

Width: 32 cm (12.5 in)

Depth: 48 cm (19 in)

FORCED CONVECTION OVEN ENCLOSURE

Height: 11 cm (4.5 in)

Width: 32 cm (12.5 in)

Depth: 48 cm (19 in)

Utility Requirements

POWER

- 180–264 VAC, 47–63 Hz, and single phase
- Dedicated 20 A outlet. US sites require an L6-20 outlet.

NEMA L6-20 plug

GAS

	Air Supply:
Conditions	• Must be dry • Must be free from oil (0.01 mg/m^3) and dirt (5 µm)
Dew Point*	-10°C or better
Pressure	100 psig (0.7 MPa)
Flow Rate	9.5 scfm (270 L/min) If using N_2 gas as FCO heater source, air flow rate is 6 scfm (170 L/min). Separate N_2 gas source must be 70–125 psig and able to sustain a flow rate of 3.5 scfm (100 L/min)

*TA Instruments recommends purchasing the air dryer to account for the necessary dew point and air quality.

Computer Requirements

HARDWARE REQUIREMENTS

Description	Requirement
Processor	• Intel® Core™ i5 8400 or better • 2.8 GHz with 9 MB L2 cache
Memory	≥ 16 GB RAM DDR4 2666 SDRAM
Hard drive	≥ 80 GB free space • 1.5 GB required for Full version of TRIOS • 675 MB required for Lite version of TRIOS (without Online help)
DVD (optional)	≥ 48x CD-ROM or DVD (optional for installing TRIOS)
Screen resolution	Required: 1280 x 1024 with 24-bit colors Recommended: 1920 x 1080 with 24-bit colors
Graphic memory	128 MB
Screen (LCD) size	Required: 19” or greater Recommended: 24” wide screen
USB II port	Required with FCO Camera option.
Network card	Ethernet 10Base T/100 Base TX
Additional Ethernet card(s)	Necessary if connecting the instrument directly and access is needed to the Corporate LAN.
Ethernet Cabling	10/100BaseTX Ethernet hub/switch. Must be EIA-568B Category 5+ UTP
Client-Server Protocol	DHCP
Image Capture (Camera Option)	DirectX 9.0 or higher
TCP/IP ports used	• TCP: 20010, 20011 • UDP: 5050, 5056

Computer Requirements

SOFTWARE REQUIREMENTS

Item	TRIOS
Operating System	• Windows 10 or 11 Enterprise, Ultimate, & Professional • Home version not supported • ≥ 64-bit version
Internet	**Internet connection is strongly recommended for ongoing support after installation**
Service Pack	Microsoft Operating System Service Pack
Updates	Windows Operating System and associated Microsoft updates must be up to date. Windows 10 must be 1709 or later.
Network	*A second network card for corporate connection is recommended.* *TA Instruments is not responsible for resolving issues associated with connections to your corporate network.*
Conflicts	*TA Instruments is not responsible for resolving hardware/software conflicts created by the addition of third-party hardware or software to the computer.*

Accessories

ACS-2 MEASUREMENTS

Height: 88.5 cm (35 in)

Width: 67 cm (26.5 in)

Depth: 56 cm (22 in)

Weight: 96 kg (211 lbs) WITHOUT Chiller Panel

Weight: 112 kg (247 lbs) WITH Chiller Panel

ACS-3 MEASUREMENTS

Height: 112 cm (44 in)

Width: 67 cm (26.5 in)

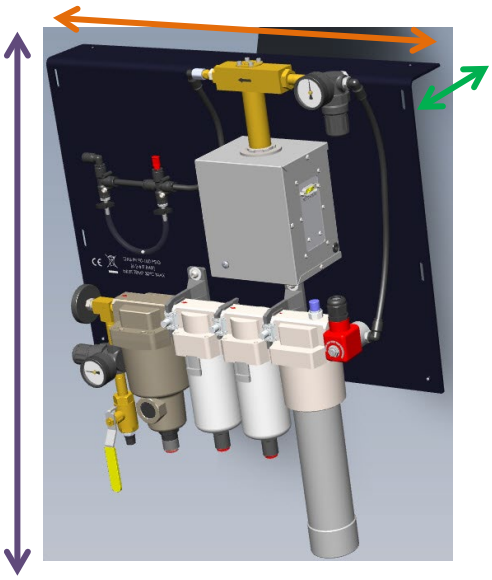
Depth: 56 cm (22 in)

Weight: 121 kg (267 lbs) WITHOUT Chiller Panel

Weight: 137 kg (302 lbs) WITH Chiller Panel

Accessories

FCO CHILLER PANEL MEASUREMENTS – SMC MODEL



Height: 68.6 cm (27 in)

Width: 54.6 cm (21.5 in)

Depth: 20.3 cm (8 in)

Weight: 8.2 kg (18 lbs)

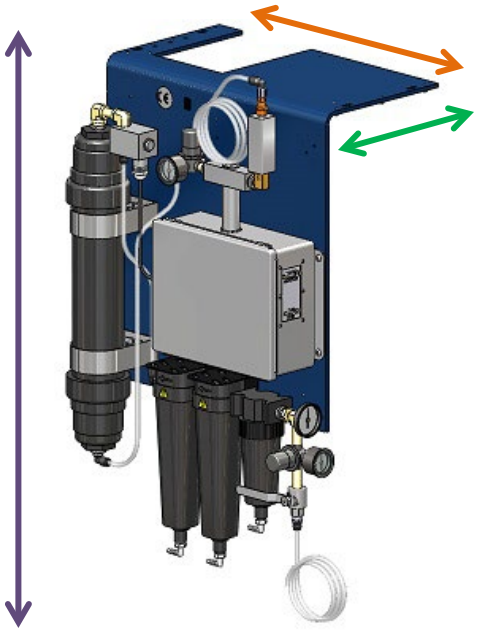
FCO CHILLER PANEL MEASUREMENTS – PARKER MODEL (DISCONTINUED)

Height: 86.4 cm (34 in)

Width: 48.3 cm (19 in)

Depth: 38.1 cm (15 in)

Weight: 15.8 kg (35 lbs)



Accessories

AIR COOLING SYSTEM REQUIREMENTS

Requirements	
	• 50 Hz: 207–252 VAC (refer to the serial number plate on the rear of the unit. The ACS is line frequency specific.) • 60 Hz: 216–252 VAC (refer to the serial number plate on the rear of the unit. The ACS is line frequency specific.) • 8A, 9A, 9.1A, or 11A (refer to the serial number plate on the rear of the unit) • US sites require an L6-20 single-phase outlet  NEMA L6-20 plug

	• Gas:
	  • Air or nitrogen
	  • Pressure: 6.9 bar (100 psig)
	  • Flow rate: 200 L/min
	  • Temperature: 20–30°C
	  • Dew point: Must not exceed the ambient air temperature by more than 5°C. Specified at operating pressure.

	• Lab Environment: (must be below 25°C):
	  • 12°C–21°C = Acceptable
	  • 21°C–24°C = Ideal
	• Leave 20 cm (8 in) of space in the front and back of the ACS for ventilation.
	• 4 ft^2 required floor space for the ACS.

Circulator Power Cooling Gas LN_2 Fluid Light Hardware Software Temp Lab Customer

Accessories

AIR DRYER REQUIREMENTS

Requirements	
	• Inlet air: 100–130 psig (0.7–0.9 MPa); air temperature ~ 20°C; Relative Humidity of 70% or less at RT with particle size of 5 microns (0.0002 in) or less • Air source into dryer should be oil-less compressed air
	• The dryer weighs 3.2 kg (7 lbs). • It has two mounting holes 22.3 cm (8.8 in) apart • Must be mounted upright to the wall within 183–244 cm (6–8 ft) of the air source 
	Customer must provide: • Means to connect to a 3/8” NPT male connector on the inlet hose (provided by TA Instruments) of the air dryer • Gauge to monitor the air into the air dryer  • Water trap if there is excessive moisture levels that result in immediate condensation into water (installed by Customer’s maintenance personnel)

Circulator Power Cooling Gas LN_2 Fluid Light Hardware Software Temp Lab Customer

Accessories

LIQUID NITROGEN CONTROLLER MEASUREMENTS

Height: 58 cm (23 in)

Width: 28 cm (11 in)

Depth: 36 cm (14 in)

Weight when EMPTY: 14 kg (30 lbs)

Weight when FULL: 15 kg (33.5 lbs)

LIQUID NITROGEN CONTROLLER REQUIREMENTS

Requirements	
	Should be placed on the same side as the FCO
	Customer must provide: 160 L (or larger) Liquid Nitrogen tank with a pressure of 14–22 psig (95–150 kPa gauge)
	CAUTION: LN_2 pressure above 30 psig (207 kPa gauge) may cause damage to the Liquid Nitrogen Controller. CAUTION: Keep the supply line short and provide adequate insulation to minimize gaseous nitrogen build-up in the supply line. Failure to do so may cause the Liquid Nitrogen Controller to malfunction frequently. Use the 3 ft. hose provided by TA Instruments for this reason.

Circulator Power Cooling Gas LN_2 Fluid Light Hardware Software Temp Lab Customer

Site Preparation Checklist

RSA-G2 Solids Analyzer

	Sufficient bench space for instrument, computer, Power Supply Enclosure, and FCO Enclosure: ☐ Length: 2.1 m (7 ft) ☐ Depth: 76 cm (30 in) ☐ Distance from the wall: 20 cm (8 in)
	Instrument power: ☐ 180–264 VAC, 47–63 Hz. In the US, an L6-20 outlet is required. ACS power: ☐ 207–252 50 Hz ☐ 216–252 60 Hz
	☐ Computer meets all hardware requirements ☐ I have two network cards installed on the computer to be able to connect to both the corporate LAN and the instrument. ☐ Computer meets all software requirements ☐ Customer's IT personnel has provided Administrative privileges on the controller computer ☐ The Customer's IT personnel will be on site the day of installation
	Air Supply: ☐ Pressure is 100 psig (0.7 MPa) ☐ Available flow rate is 9.5 scfm (270 L/min) ☐ Dew point is -10°C or better
	Liquid Nitrogen Controller: ☐ Customer must provide 160 L (or larger) Liquid Nitrogen tank with a pressure of 14–22 psig (95–150 kPa gauge)
	☐ The Customer assumes responsibility for any damage that occurs when the instrument is moved by someone other than a trained TA Instruments Service Representative.

I hereby acknowledge that all utility requirements have been met per the checklist above and that they will be ready at the agreed time of installation.

<u>If all utility requirements are not met at the agreed time of installation, additional charges may be incurred for a return Service trip.</u>

_____ / _____ / _____

Customer *DD* *MM* *YYYY*

_____ _____ _____

Company *City* *State* *Country*

Please send a signed copy of the completed checklist to your local Service representative.

TA Instruments Offices

For information on our latest products, contact information, and more, see our website at: http://www.tainstruments.com.

To find your local TA Instruments office and contact information, visit http://www.tainstruments.com/contact/ta-directory/

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