

ARES-G2 Rheometer



Site Preparation Guide

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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)

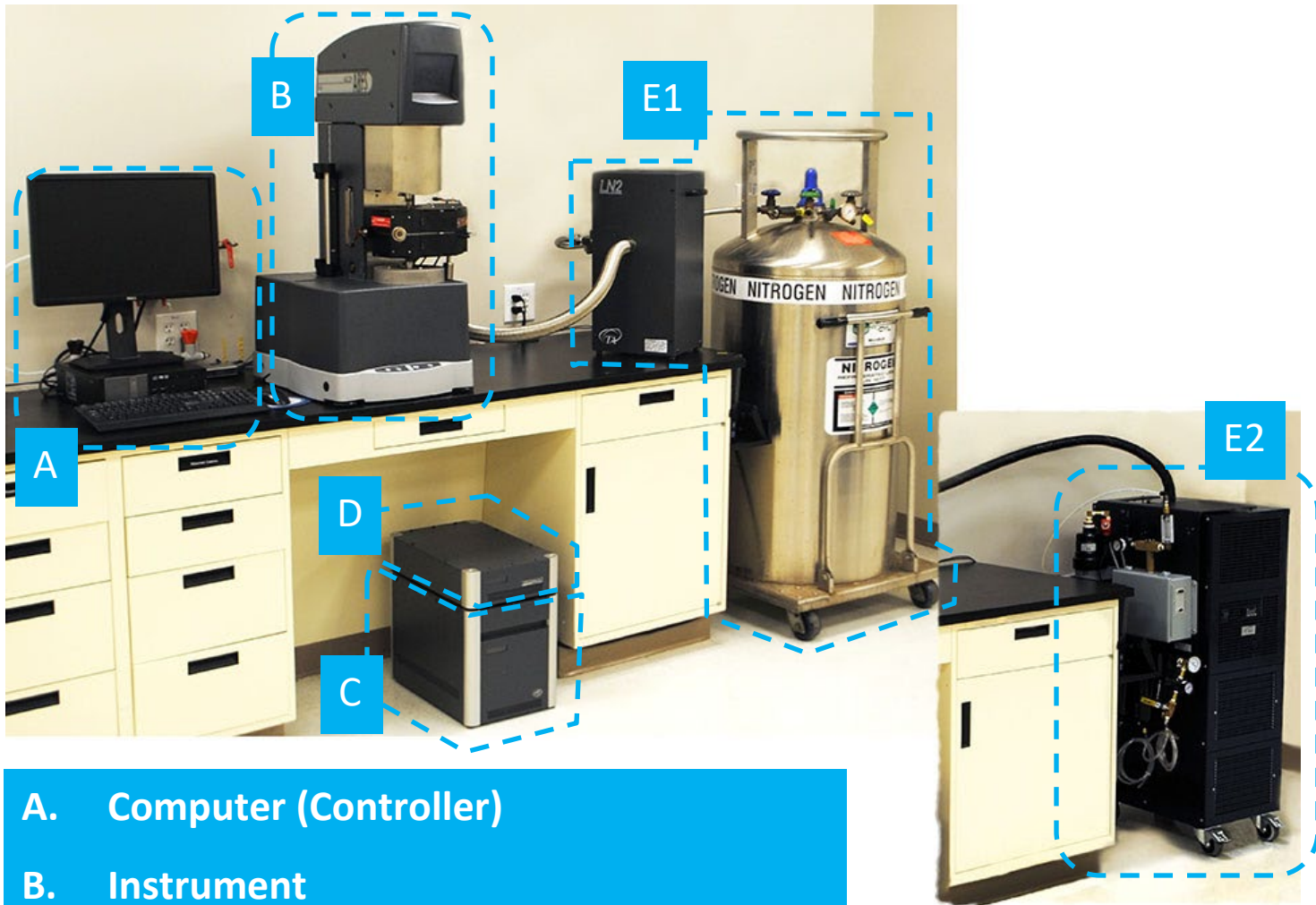
Bench depth: 76 cm (30 in) min.

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

System Components



MAIN SYSTEM COMPONENTS



- A. Computer (Controller)
- B. Instrument
- C. Power Supply Enclosure
- D. Environmental Supply Enclosure
- E1. Liquid Nitrogen Controller & LN₂ Tank
- OR
- E2. Air Cooling System

Instrument Measurements



MAIN INSTRUMENT



Height: 104 cm (39 in)

Width: 46 cm (18 in)

Depth: 56 cm (22 in)

Weight: 97 kg (213 lbs)



POWER SUPPLY ENCLOSURE

Height: 34 cm (13.5 in)

Width: 32 cm (12.5 in)

Depth: 48 cm (19 in)



ENVIRONMENTAL SUPPLY ENCLOSURE

Height: 11 cm (4.5 in)

Width: 32 cm (12.5 in)

Depth: 48 cm (19 in)

Utility Requirements



POWER

| | |
|---|--|
| With FCO: | <ul style="list-style-type: none"> • 180–264 VAC, 47–63 Hz, and single phase • Dedicated 20 A outlet. US sites require an L6-20 outlet. |
| With APS, Peltier Plate, or Sealed Bath and without FCO: | <ul style="list-style-type: none"> • 90–264 VAC, 47–63 Hz, and single phase • Neutral to ground < 1 volt • Dedicated 15 A outlet |
| Line voltage connects into power supply enclosure via 2.44 m (8 ft) power cable | |




NEMA L6-20 plug



GAS

Air Supply:

| | |
|------------|--|
| Conditions | <ul style="list-style-type: none"> • Must be dry • Must be free from oil (0.01 mg/m³) and dirt (5µm) |
| Dew Point* | -10°C or better |
| Pressure | 100 psig (0.7 MPa) |
| Flow Rate | <ul style="list-style-type: none"> • WITH FCO: 9.5 scfm (270 L/min) • WITHOUT FCO: 4 scfm (115 L/min) <p> NOTE If using N₂ gas as FCO heater source, air flow rate is 6 scfm (170 L/min). Separate N₂ gas source must be 70–125 psig and able to sustain a flow rate of 3.5 scfm (100 L/min)</p> |

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

Computer Requirements



HARDWARE REQUIREMENTS

| Description | Requirement |
|-------------------------------|--|
| Processor | <ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• 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 | <ul style="list-style-type: none">• TCP: 20010, 20011• UDP: 5050, 5056 |

Computer Requirements



SOFTWARE REQUIREMENTS

| Item | TRIOS |
|------------------|---|
| Operating System | <ul style="list-style-type: none">• 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 | <i>A second network card for corporate connection is recommended.</i> <i>TA Instruments is not responsible for resolving issues associated with connections to your corporate network.</i> |
| Conflicts | <i>TA Instruments is not responsible for resolving hardware/software conflicts created by the addition of third-party hardware or software to the computer.</i> |

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

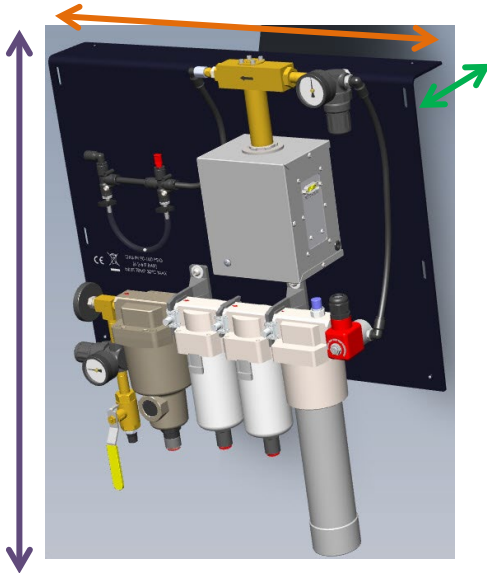
Weight: 137 kg (302 lbs) WITH Chiller Panel



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)



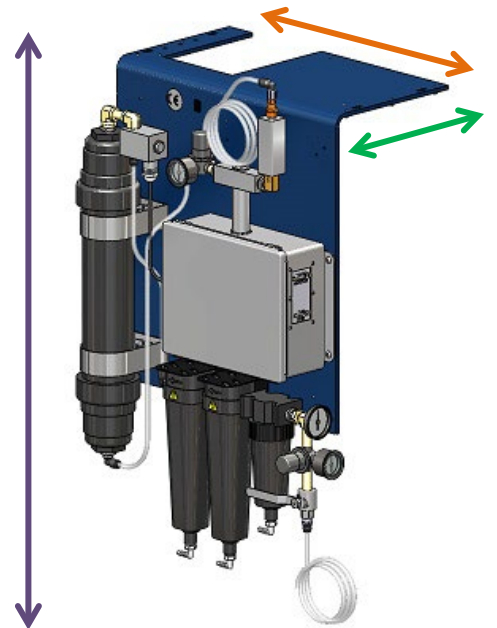
FCO CHILLER PANEL MEASUREMENTS – PARKER MODEL (DISCONTINUED)

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 ft² required floor space for the ACS.



Circulator



Power



Cooling



Gas



LN₂



Fluid



Light



Hardware



Software



Temp



Lab



Customer

Accessories



AIR DRYER REQUIREMENTS

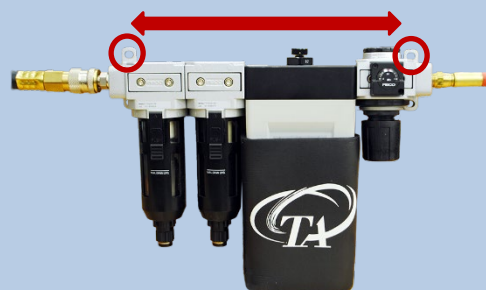
Requirements



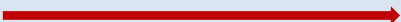
- Inlet air: 100–130 psig (0.7–0.9 MPa); air temperature $\sim 20^{\circ}\text{C}$; Relative Humidity of 70% or less at RT with particle size of 5 microns (0.0002 in) or less
- Air source into dryer should be oil-less compressed air



- 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



LN₂



Fluid



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Hardware



Software



Temp



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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)



LN₂ pressure above 30 psig (207 kPa gauge) may cause damage to the Liquid Nitrogen Controller.



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



LN₂



Fluid



Light



Hardware



Software



Temp



Lab



Customer

Accessories



TCUBE EDGE CIRCULATOR MEASUREMENTS



Height: 28 cm (11 in)

Width: 33 cm (13 in)

Depth: 28 cm (11 in)

Weight: 11.3 kg (25 lbs)

Requirements



- 100–240 VAC at 50/60 Hz (3.5 A)
- Neutral to ground < 1 volt
- 8.5 A at 100 VAC, 3.5 A at 240 VAC



Koolance (supplied with TCube)



Circulator



Power



Cooling



Gas



LN₂



Fluid



Light



Hardware



Software



Temp



Lab



Customer

TA Instruments Offices

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

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