ARES-G3 Rheometer

Site Preparation Guide

Revision A Issued December 2025

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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.

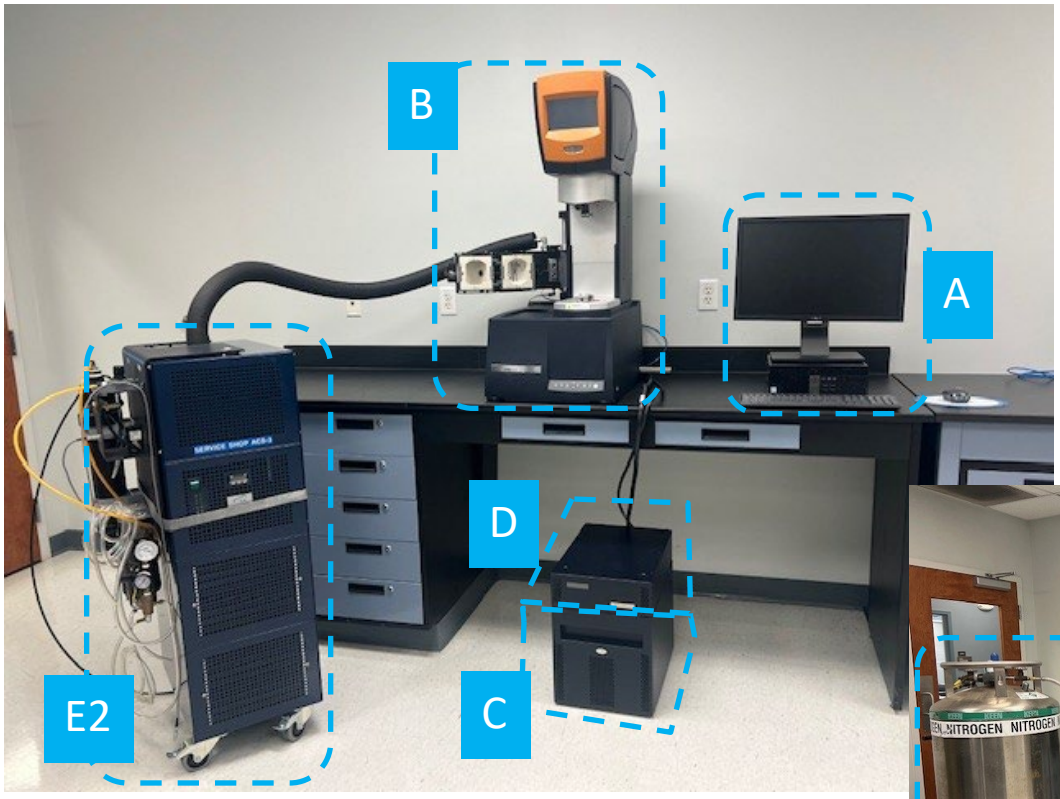
Bench width: 2.1 m (7 ft)

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 & LN_2 Tank

OR

E2. Air Cooling System

Instrument Measurements

MAIN INSTRUMENT

Height: 98 cm (38.5 in)

Width (Instrument): 42 cm (16.5 in)

Width (Oven closed): 42 cm (16.5 in)

Width (Oven open): 71 cm (28 in)

Depth: 56 cm (22.5 in)

Weight: 97 kg (209 lbs)

Weight (Oven installed): 105 kg (231 lbs)

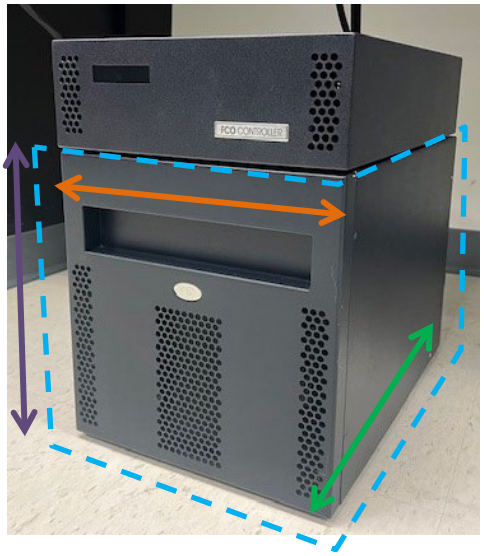
POWER SUPPLY ENCLOSURE

Height: 33 cm (13 in)

Width: 30 cm (12 in)

Depth: 46 cm (18 in)

Weight: 13 kg (29.5 lbs)



Instrument Measurements

ENVIRONMENTAL SUPPLY ENCLOSURE

Height: 10 cm (4 in)

Width: 30 cm (12 in)

Depth: 46 cm (18 in)

Weight with APS: 6.3 kg (14 lbs)

Weight (FCO Controller): 5.4 kg (12 lbs)

Utility Requirements

POWER

With FCO:	• 180–264 VAC, 47–63 Hz, and single phase • Dedicated 20 A outlet. US sites require an L6-20 outlet.
With APS and **without** FCO:	• 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	• Must be dry • Must be free from oil (0.01 mg/m^3) and dirt (5µm)
Dew Point*	-10°C or better
Pressure	100 psig (0.7 MPa)
Flow Rate	• WITH FCO: 9.5 scfm (270 L/min) • WITHOUT FCO: 4 scfm (115 L/min) NOTE 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 • 2 GB required for Full version of TRIOS
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
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 version 21H2 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: 104 kg (229 lbs) WITH SMC Chiller Panel

ACS-3 MEASUREMENTS

Height: 112 cm (44 in)

Width: 67 cm (26.5 in)

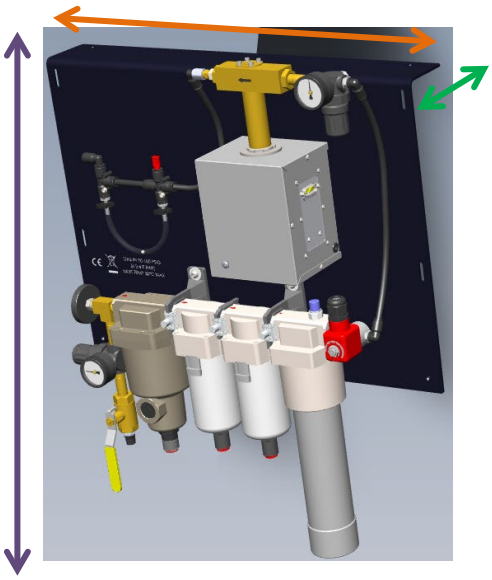
Depth: 56 cm (22 in)

Weight: 121 kg (267 lbs) WITHOUT Chiller Panel

Weight: 129 kg (285 lbs) WITH SMC 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)

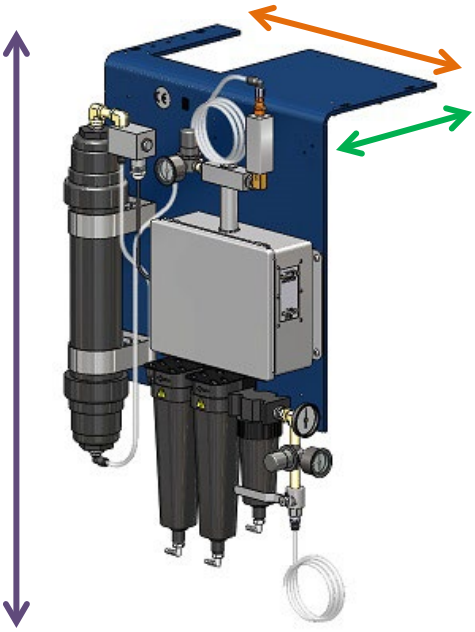
FCO CHILLER PANEL MEASUREMENTS – PARKER MODEL (DISCONTINUED)

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

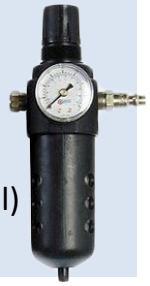
	• Gas:
	  • Air or nitrogen
	  • Pressure: 6.9 bar (100 psig)
	  • Flow rate: 200 L/min
	  • Temperature: 20–30°C
	  • Dew point: Must not exceed the ambient air temperature by more than 5°C. Specified at operating pressure.

	• 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 1.6 kg (3.5 lbs) • It has two mounting holes 18 cm (7 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

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 LN_2 Fluid Light Hardware Software Temp Lab Customer

Site Preparation Checklist

ARES-G3 Rheometer

	Sufficient bench space for instrument, computer, Power Supply Enclosure, and Environmental Supply Enclosure: ☐ Length: 2.1 m (7 ft) ☐ Depth: 76 cm (30 in) ☐ Distance from the wall: 20 cm (8 in)
	Instrument power: ☐ With FCO is 180–264 VAC, 47–63 Hz ☐ Without FCO is 90–264 VAC, 47–63 Hz ACS power: ☐ 207–252 VAC, 50 Hz ☐ 216–252 VAC, 60 Hz ☐ An L6-20 outlet if in the US (FCO only)
	☐ 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) with FCO or ☐ 4 scfm (115 L/min) without FCO ☐ 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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