

Discovery SA



Site Preparation Guide

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Circulator



Power



Cooling



Gas



LN₂



Fluid



Light



Hardware



Software



Temp



Lab



Customer

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: 61–183 cm (24–72 in)

Table width: 60 cm (24 in)

Bench depth: 76 cm (30 in)

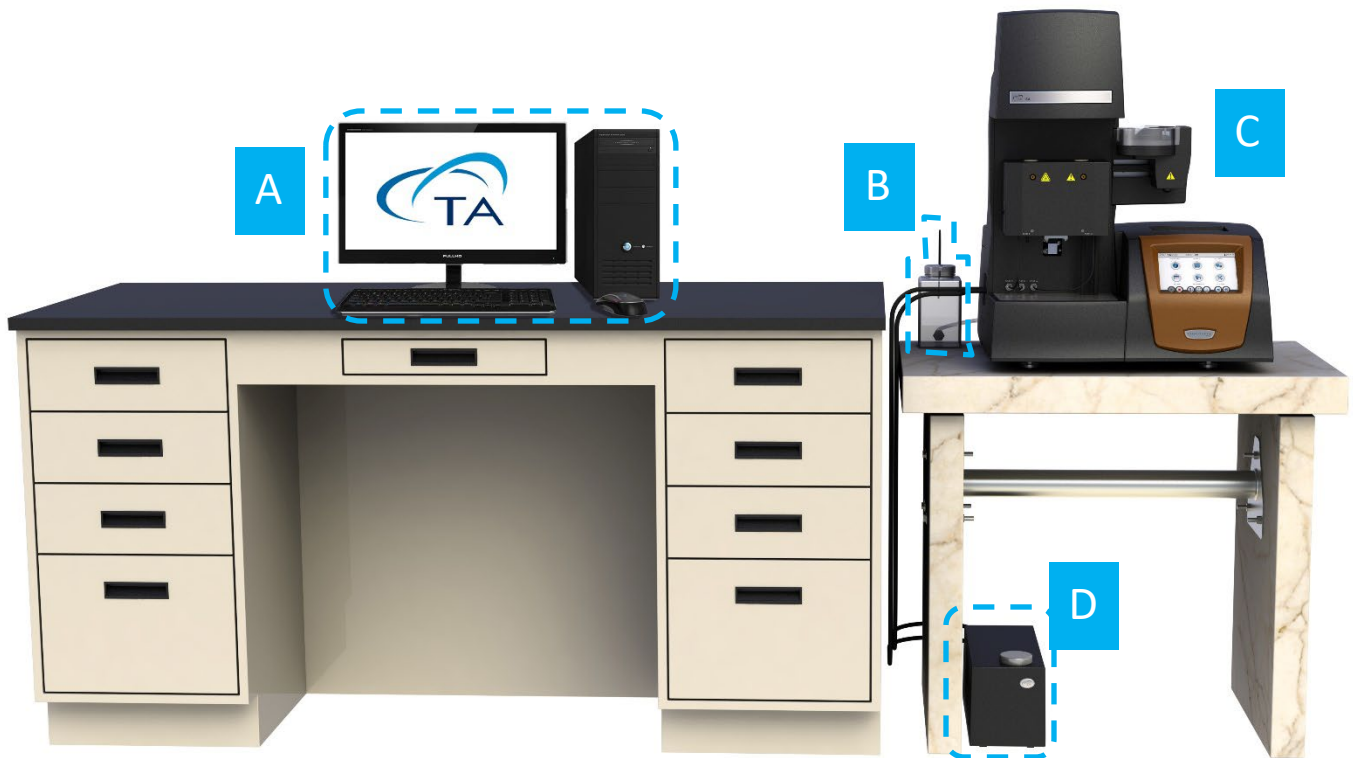
Table depth: 76 cm (30 in)

Distance from the wall: 30.5 cm (12 in) min.

System Components



MAIN SYSTEM COMPONENTS

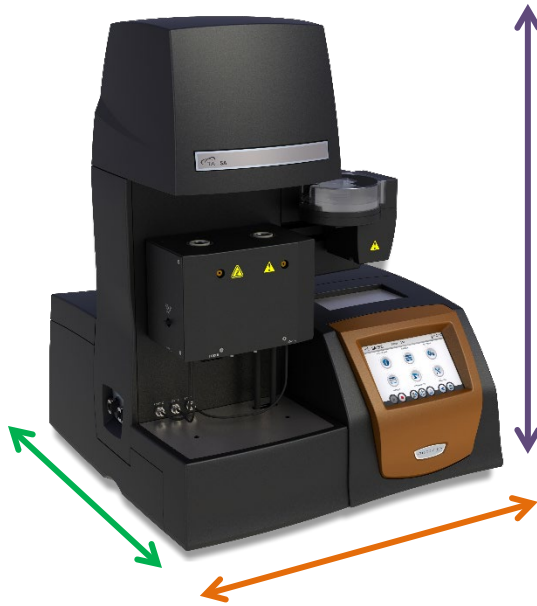


- A. Computer (Controller)
- B. Reservoir
- C. Instrument
- D. Heat Exchanger

Instrument Measurements



MAIN INSTRUMENT



Height: 71 cm (28 in)

Width: 56 cm (22 in)



Depth: 56 cm (22 in)

Weight: 37 kg (81.5 lbs)

Utility Requirements



POWER

Item	Requirement
Power	<ul style="list-style-type: none">• 100–240 VAC, 47–63 Hz, 225 W• Safety ground per local regulation• 20 amp branch circuit maximum with protective earthing• Mains fluctuation $\pm 10\%$
Power cords provided	<ul style="list-style-type: none">• NEMA 5-15 plug• Type F plug  Type F  NEMA 5-15



Use power cords with plugs appropriate for your circuit.



Supply voltages lower than indicated may result in a degradation of performance.



Ensure that the mains assigned do not also supply power to noise generating equipment nearby, such as motors, welders, transformers, etc.




An independent heavy GROUND wire must be provided through the power hookup. Improper grounding may cause severe damage for which the supplier will not accept responsibility. All power strips must be fully grounded and carry the ground through to the sockets into which the computer is plugged.

Utility Requirements





GAS

Item	Requirement
Purge gas	<ul style="list-style-type: none">Acceptable purge gases: DRY NITROGEN ONLYSource gas pressure is a maximum 20 psig for all inlets at the back of the instrumentConnected to the Gas 1 inlet on the instrumentPressure regulator required – must be rated for required gasConditions:<ul style="list-style-type: none">Must be dryMust be free from oil, dirt, and water <p> If you are using samples that may emit harmful gases, attach a compatible tube to the purge gas exit to transfer the gas to an exhaust or other suitable protective device.</p>
Purge gas flow rate	<ul style="list-style-type: none">Up to 200 mL/min for humidity chamber20 mL/min for balance
Blending GDM	<ul style="list-style-type: none">Auxiliary gas from external gas blending module (see page 10) is connected to AUX GAS connectionAcceptable auxiliary gases: N₂ and CO₂



FLUID

Item	Requirement
Humidity Reservoir	 DISTILLED WATER ONLY
Heat Exchanger Reservoir	 DISTILLED WATER ONLY and TA Instruments Conditioner (P/N 952377.901)

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 software installation.
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

Computer Requirements



SOFTWARE REQUIREMENTS

Item	Requirement
Operating System	<ul style="list-style-type: none">• Windows 10 or 11 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
Network	<i>A second network card for corporate connection is recommended. 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



DISCOVERY BLENDING GDM MEASUREMENTS



Height: 13 cm (5 in)

Width: 15 cm (6 in)

Depth: 15 cm (6 in)

Weight: 0.5 kg (1 lb)



DISCOVERY BLENDING GDM REQUIREMENTS

Requirements



- Power adapter: 100–240 VAC, 0.5A, 50/60 Hz
- Approved for operation on a 20 A branch circuit with protective conductor (ground). DC requirements: 24V, 0.8A. Use only TA Instruments-provided power adaptor.



- Must be dry and free of oil, dirt, and water
- Maximum inlet pressure: 140 kPa gauge (20 psig)
- Acceptable gases: Nitrogen, carbon dioxide



Circulator



Power



Cooling



Gas



LN₂



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Lab



Customer

Site Preparation Checklist



Discovery SA

	Sufficient bench space for instrument and computer <input type="checkbox"/> Length: 61–183 cm (24–72 in) <input type="checkbox"/> Depth: 76 cm (30 in)
	<input type="checkbox"/> Instrument power is 100–240 VAC, 47–63 Hz, 225 W
	Purge gas: <input type="checkbox"/> Is Nitrogen <input type="checkbox"/> Is dry and free of oil, dirt, and water <input type="checkbox"/> Pressure regulator is present and rated for required gas <input type="checkbox"/> Maximum 20 psig inlet pressure <input type="checkbox"/> 200 mL/min for humidity chamber <input type="checkbox"/> 20 mL/min for balance
	<input type="checkbox"/> Distilled water only in the humidity reservoir <input type="checkbox"/> Distilled water and TA Conditioner in the heat exchanger
	<input type="checkbox"/> Computer meets all hardware requirements <input type="checkbox"/> Computer meets all software requirements <input type="checkbox"/> Customer's IT personnel has provided Administrative privileges on the controller computer <input type="checkbox"/> The Customer's IT personnel will be on site the day of installation
	<input type="checkbox"/> 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.

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

_____ / /
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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