

# Discovery TGA 55, TGA 550, TGA 5500



## Site Preparation Guide

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Circulator



Power



Cooling



Gas



LN<sub>2</sub>



Fluid



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Hardware



Software



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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)

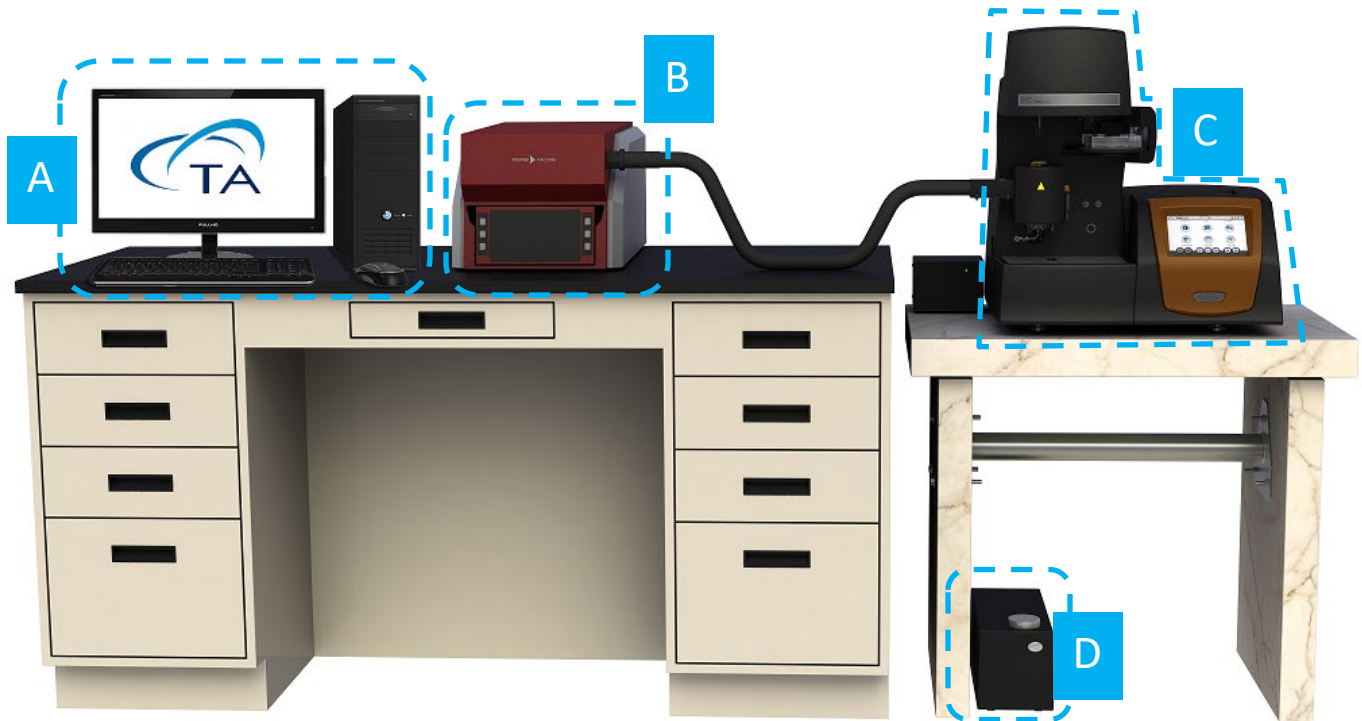
Table depth: 76 cm (30 in)

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

# System Components



## MAIN SYSTEM COMPONENTS – WITH MASS SPECTROMETER

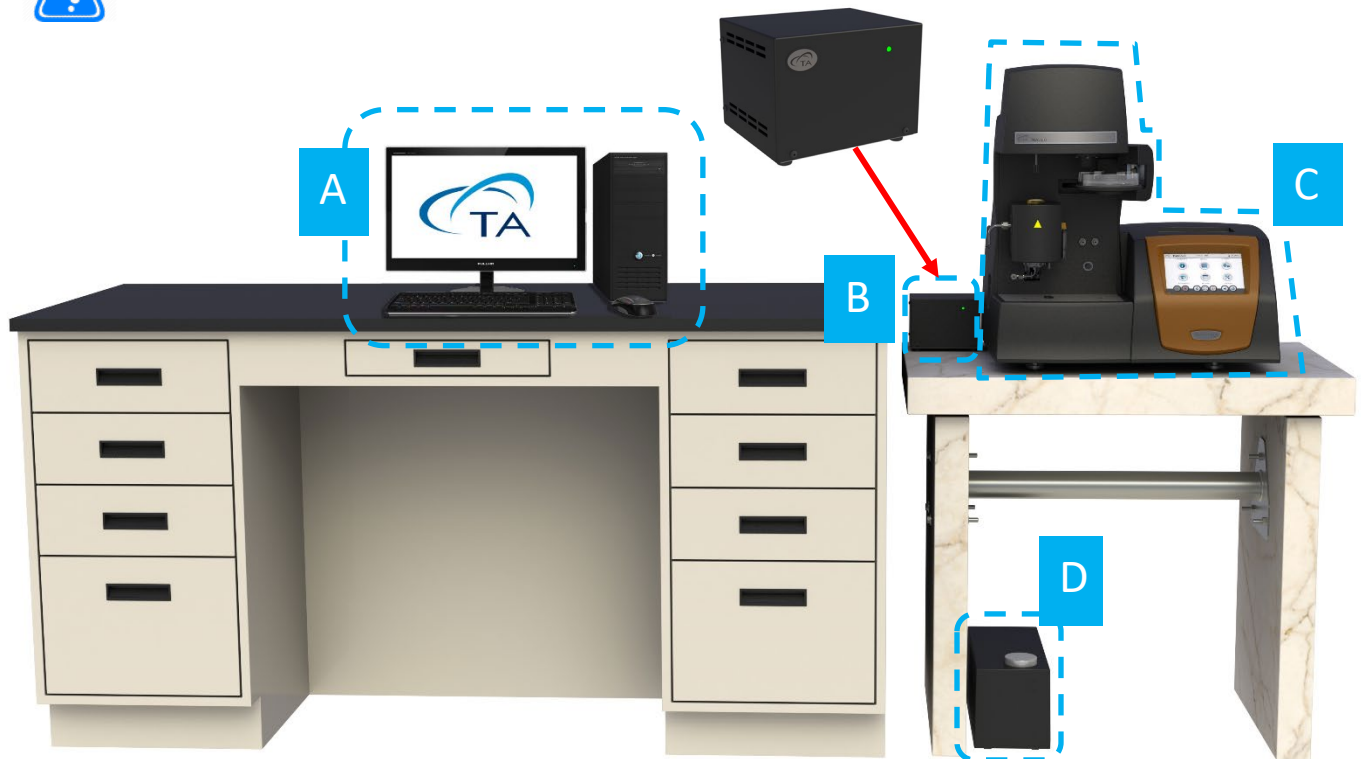


- A. Computer (Controller)
- B. Mass Spectrometer (Optional)
- C. Instrument
- D. Heat Exchanger

# System Components



## MAIN SYSTEM COMPONENTS – WITH BLENDING GDM

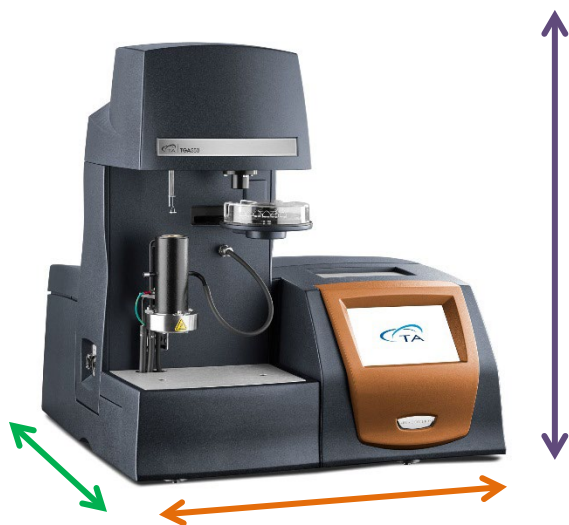


- A. Computer (Controller)
- B. Blending Gas Delivery Module (Optional)
- C. Instrument
- D. Heat Exchanger

# Instrument Measurements



## MAIN INSTRUMENT



Height: 61 cm (24 in)

Width: 56 cm (22 in)



Depth: 56 cm (22 in)

Weight: 34 kg (76 lbs)

# Utility Requirements



## POWER

Item	Requirement
Power	<ul style="list-style-type: none"><li>100–240 VAC, 47–63 Hz, 1200 W</li><li>Safety ground per local regulation</li></ul>
Power cords provided	<ul style="list-style-type: none"><li>NEMA 5-15 plug</li><li>Type F plug</li></ul>  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 gases	<ul style="list-style-type: none"> <li>Acceptable purge gases: air, nitrogen, oxygen, argon, and helium</li> <li>Source gas pressure is a maximum 20 psig for all inlets at the back of the instrument</li> <li>Pressure regulator required – must be rated for required gases</li> <li>Conditions: <ul style="list-style-type: none"> <li>Must be dry</li> <li>Must be free from oil, dirt, and water</li> </ul> </li> </ul> <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	Up to 500 mL/min. See below for recommended flow rates.
Balance gases	Acceptable gases for the balance: nitrogen, helium, argon
Cooling gas (air)	<ul style="list-style-type: none"> <li>Source gas pressure is maximum 20 psig at the back of the instrument</li> <li>Pressure regulator required – must be rated for required gas</li> <li>Conditions: <ul style="list-style-type: none"> <li>Must be dry</li> <li>Must be free from oil, dirt, and water</li> </ul> </li> </ul>

## Recommended Flow Rates

Furnace Type	Flow Rate for <b>Sample</b>	Flow Rate for <b>Balance</b>
Wire-wound furnace	60 mL/min	40 mL/min
EGA furnace	90 mL/min	10 mL/min
IR furnace	25 mL/min	10 mL/min



Wire-wound furnace



EGA furnace



IR furnace



# Computer Requirements



## HARDWARE REQUIREMENTS

Description	Requirement
Processor	<ul style="list-style-type: none"><li>• Intel® Core™ i5 8400 or better</li><li>• 2.8 GHz with 9 MB L2 cache</li></ul>
Memory	≥ 16 GB RAM DDR4 2666 SDRAM
Hard drive	<ul style="list-style-type: none"><li>≥ 80 GB free space</li><li>• 1.5 GB required for Full version of TRIOS</li><li>• 675 MB required for Lite version of TRIOS (without Online help)</li></ul>
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"><li>• Windows 10 or 11 Ultimate &amp; Professional</li><li>• Home version not supported</li><li>• 64-bit version</li></ul>
Internet	<b>Internet connection is strongly recommended for ongoing support after installation</b>
Service Pack	Microsoft Operating System Service Pack
Updates	Windows Operating System and associated Microsoft updates must be up to date
Network	<p><i>A second network card for corporate connection is recommended.</i></p> <p><i>TA Instruments is not responsible for resolving issues associated with connections to your corporate network.</i></p>
Conflicts	<p><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></p>

# Accessories



## PFEIFFER THERMOSTAR MASS SPECTROMETER MEASUREMENTS



Height: 27.4 cm (10.8

Width: 35.8 cm (14.1 in)

Depth: 61.5 cm (24.2 in)

Weight: 23 kg (51 lbs)



## PFEIFFER THERMOSTAR MASS SPECTROMETER REQUIREMENTS

### Requirements



- Voltage: 100–240 VAC
- Amperage: 8.3A to 3.5 A, depending on voltage
- Power: 830 W
- Fuse type: 2x 10A (slow)



- 10°C–40°C (50°F–104°F)
- Max 80% RH at temperatures below 31°C, linearly decreasing to 50% RH at 40°C



- Acceptable purge gases: nitrogen
- Must be dry and free of oil, dirt, and water
- Purge gas pressure: 7–14 kPa gauge (1–2 psig)



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# 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, argon, helium, air, oxygen, carbon dioxide, forming gas.



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# Site Preparation Checklist



## Discovery TGA 55, TGA 550, TGA 5500

	<p>Sufficient bench space for instrument, computer, and Mass Spectrometer (if needed)</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Length: 61–183 cm (24–72 in)</li> <li><input type="checkbox"/> Depth: 76 cm (30 in)</li> </ul>
	<ul style="list-style-type: none"> <li><input type="checkbox"/> Instrument power is 100–240 VAC, 47–63 Hz, 1200 W</li> </ul>
	<p>Purge gas:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Is one of the following: air, nitrogen, oxygen, argon, or helium</li> <li><input type="checkbox"/> Is dry and free of oil, dirt, and water</li> <li><input type="checkbox"/> Pressure regulator is present and rated for required gases</li> <li><input type="checkbox"/> Maximum 20 psig inlet pressure</li> <li><input type="checkbox"/> Gas source regulated pressure: up to 500 mL/min</li> </ul> <p>Cooling gas (air):</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Pressure regulator is present and rated for required gas</li> <li><input type="checkbox"/> Maximum 20 psig inlet pressure</li> <li><input type="checkbox"/> Is dry and free of oil, dirt, and water</li> </ul> <p>High Pressure Mass Spectrometer purge gas (if applicable):</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Is nitrogen or argon</li> <li><input type="checkbox"/> Pressure is 7–14 kPa gauge (1–2 psig)</li> <li><input type="checkbox"/> Is dry and free of oil, dirt, and water</li> </ul>
	<ul style="list-style-type: none"> <li><input type="checkbox"/> Computer meets all hardware requirements</li> <li><input type="checkbox"/> Computer meets all software requirements</li> <li><input type="checkbox"/> Customer's IT personnel has provided Administrative privileges on the controller computer</li> <li><input type="checkbox"/> The Customer's IT personnel will be on site the day of installation</li> </ul>
	<ul style="list-style-type: none"> <li><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.</li> </ul>

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  
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