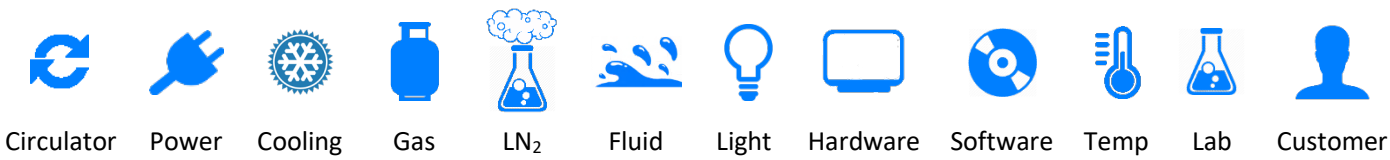
Discovery SDT 650

Site Preparation Guide

Revision N Issued June 2024

Ideal Setup



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: 76 cm (30 in)

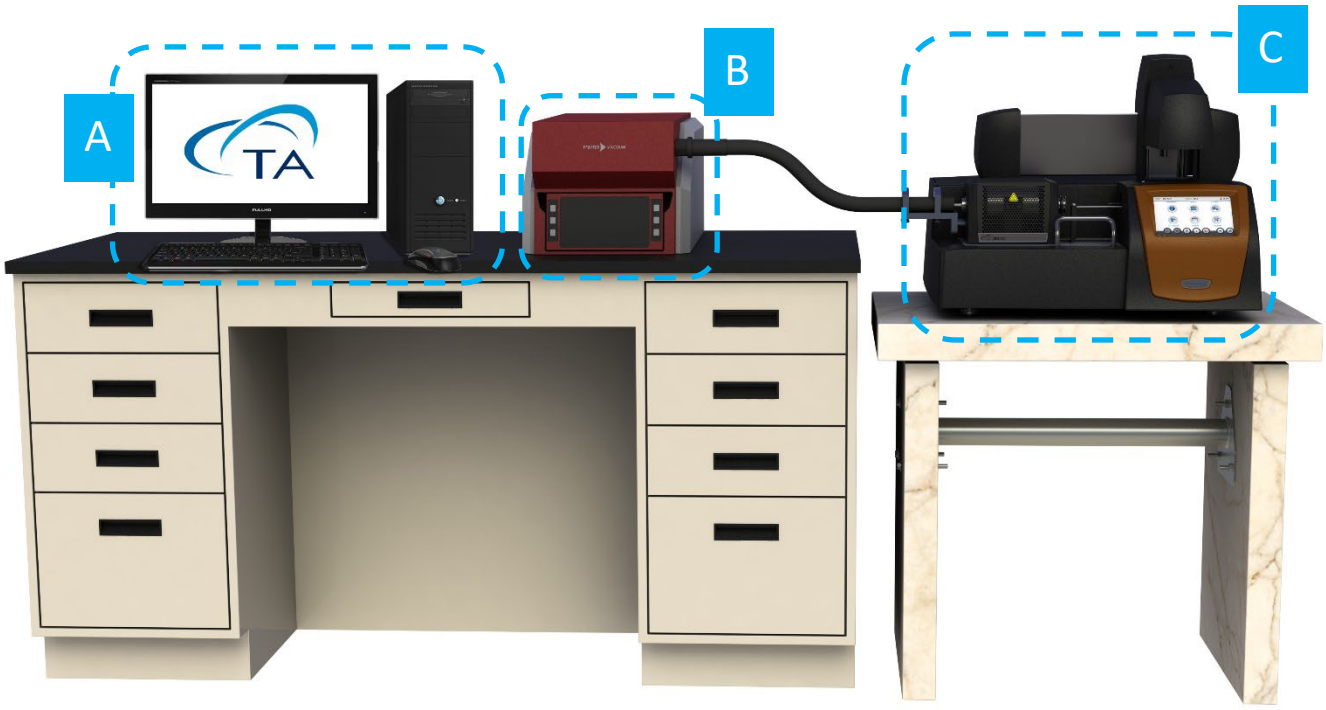
Bench depth: 76 cm (30 in)

Table depth: 76 cm (30 in)

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

System Components

MAIN SYSTEM COMPONENTS – WITH MASS SPECTROMETER



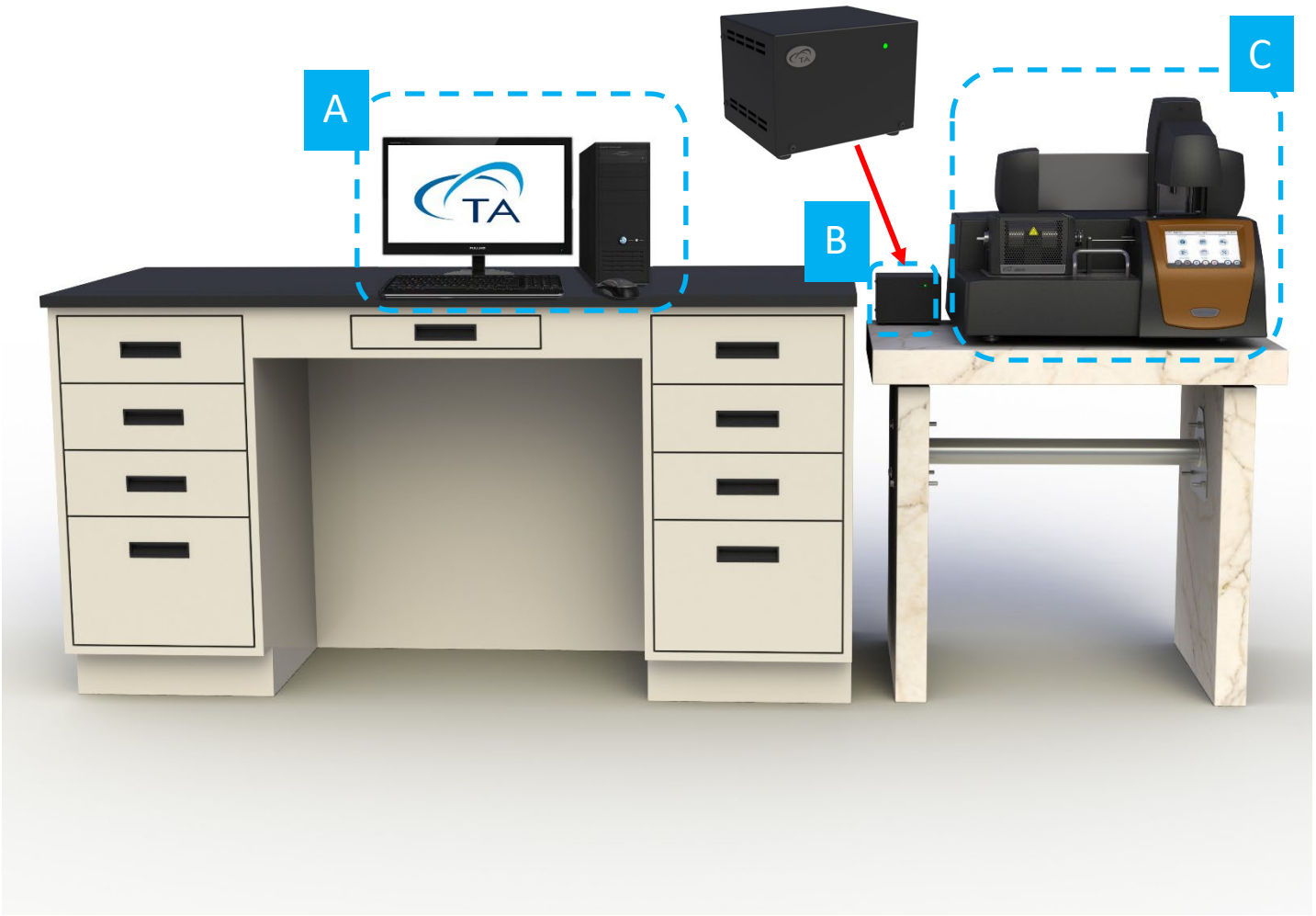
A. Computer (Controller)

B. Mass Spectrometer (Optional)

C. Instrument

System Components

MAIN SYSTEM COMPONENTS – WITH BLENDING GDM



A. Computer (Controller)

B. Blending Gas Delivery Module (Optional)

C. Instrument

Instrument Measurements

SDT 650 *WITH* AUTOSAMPLER

Height: 53 cm (21 in)

Width: 66 cm (26 in)

Depth: 64 cm (25 in)

Weight: 40 kg (88 lbs)

SDT 650 *WITHOUT* AUTOSAMPLER

Height: 28 cm (11 in)

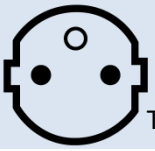
Width: 66 cm (26 in)

Depth: 64 cm (25 in)

Weight: 33 kg (73 lbs)

Utility Requirements

POWER

Item	Requirement
Power	• 100–240 VAC, 47–63 Hz, 1200 W • Safety ground per local regulation
Power cords provided	• 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 gases	• Acceptable purge gases: air, nitrogen, oxygen, argon, and helium
	• Source gas pressure is a maximum 20 psig for all inlets at the back of the instrument
	• Pressure regulator required – must be rated for required gases
	• Conditions:
	  • Must be dry
	  • Must be free from oil, dirt, and water
	
	 
	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.

Purge gas flow rate	Up to 500 mL/min. Recommended flow rate is 100 mL/min.

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 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

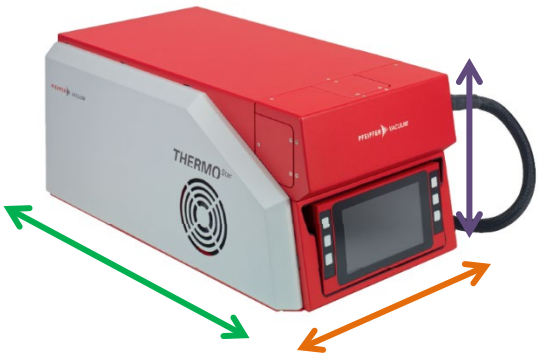
Computer Requirements

SOFTWARE REQUIREMENTS

Item	Requirement
Operating System	• 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	*A second network card for corporate network 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

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)

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

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.

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

Site Preparation Checklist

Discovery SDT 650

	Enough bench space for instrument, computer, and Mass Spectrometer (if needed): ☐ Bench width: 61–183 cm (24–72 in) ☐ Bench depth: 76 cm (30 in)
	☐ Instrument power is 100–240 VAC, 47–63 Hz, 1200 W
	Purge gas: ☐ Is one of the following: air, nitrogen, oxygen, argon, or helium ☐ Is dry and free of oil, dirt, and water ☐ Pressure regulator is present and rated for required gases ☐ Maximum 20 psig inlet pressure ☐ Gas source regulated pressure: up to 500 mL/min High Pressure Mass Spectrometer Purge Gas (if applicable): ☐ Is nitrogen or argon ☐ Pressure is 7–14 kPa gauge (1–2 psig) ☐ Is dry and free of oil, dirt, and water
	☐ Computer meets all hardware requirements ☐ Computer meets all software requirements
	☐ 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/

TA Instruments – Waters LLC
Corporate Headquarters
159 Lukens Drive
New Castle, DE 19720
USA

Telephone: 302-427-4000
Fax: 302-427-4001
Email: info@tainstruments.com