TAM IV Calorimeter

Site Preparation Guide

Revision H Issued January 2024

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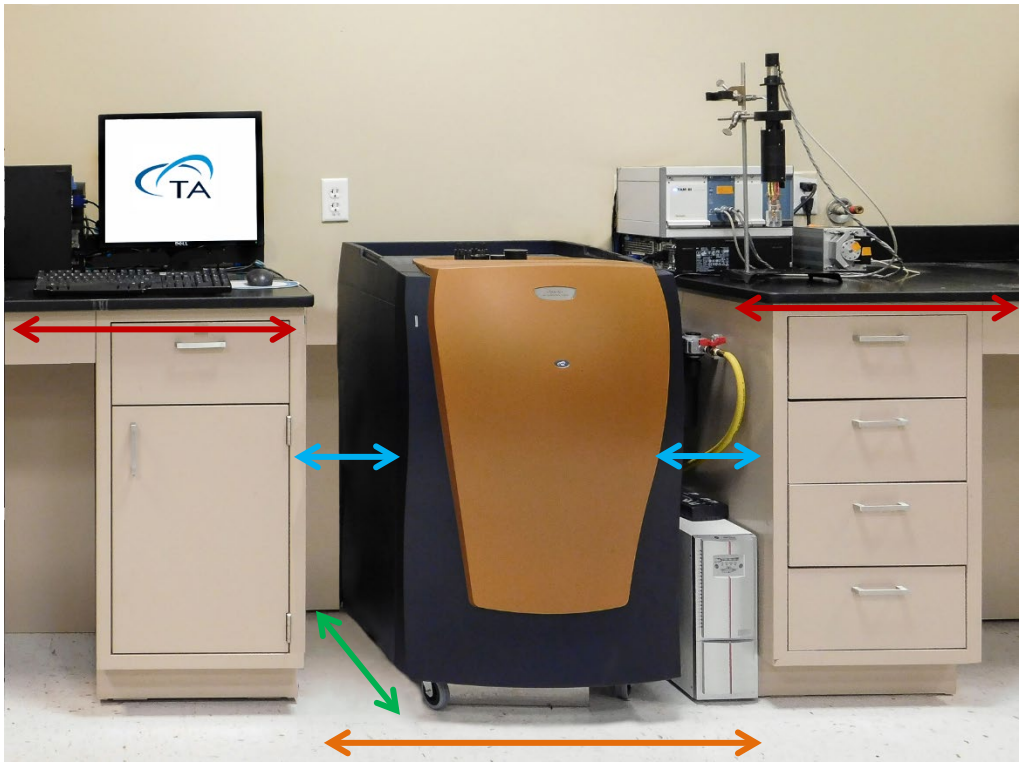
Ideal Setup

IDEAL PLACEMENT AND BENCH MEASUREMENTS

Select a location with adequate floor space for the instrument and a bench for the computer (controller) and any required accessories.



Floor space width: 1–1.2 m (3.5–4 ft)

Floor space depth: 1 m (3.5 ft)

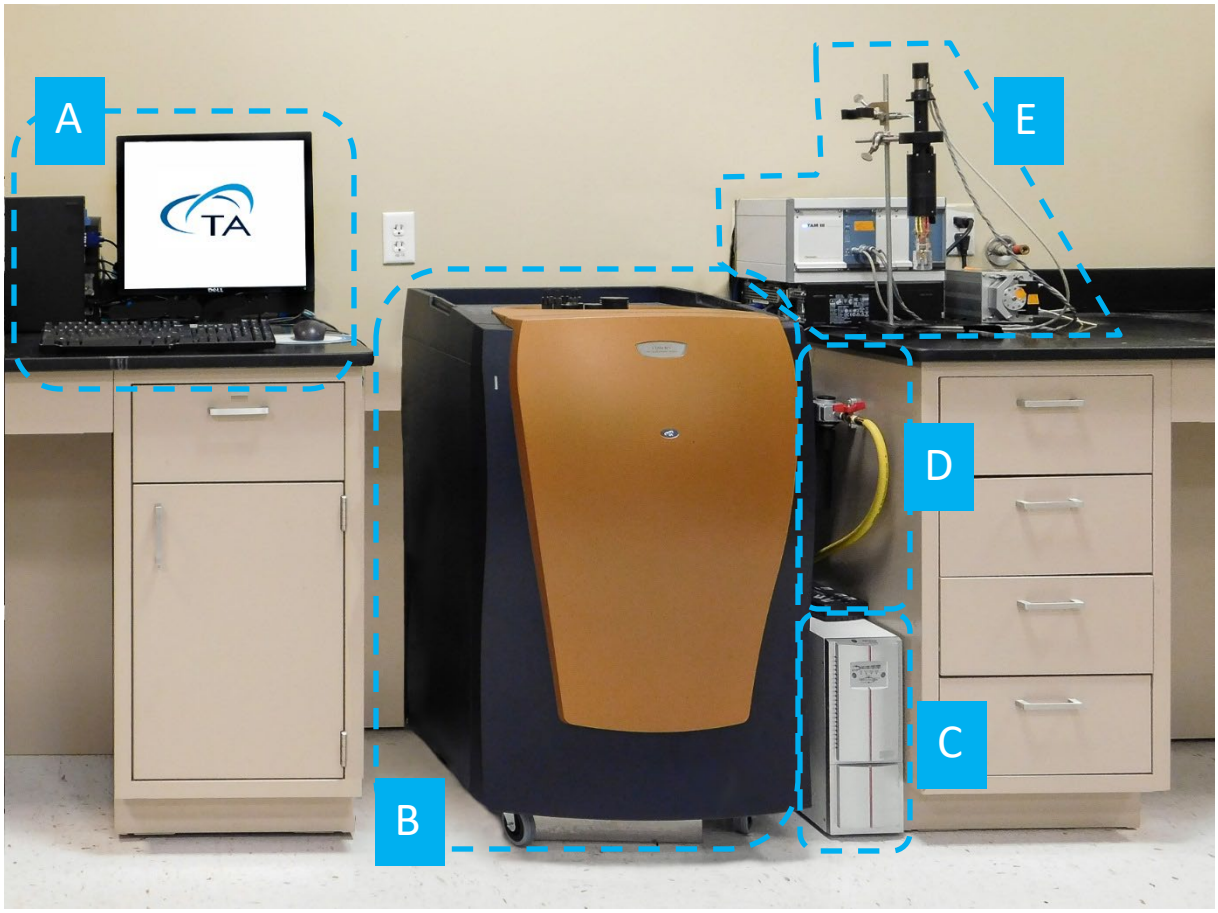
Space on each side of the instrument: 300 mm (12 in)

Bench space for computer: 40 cm (15.7 in)

Bench space for optional accessories: 0.6–1 m (2–3 ft)

System Components

MAIN SYSTEM COMPONENTS



A. Computer (Controller)

B. Instrument

C. Uninterruptible Power Source (Optional)

D. Gas Dryer (Optional)

E. Accessories (Optional)

Uninterrupted Power Source (UPS) models are updated frequently by the manufacturer and may not look exactly like the one pictured.

Instrument Measurements

MAIN INSTRUMENT

Height: 100 cm (40 in)

Width: 58 cm (23 in)

Depth: 76 cm (30 in)

Weight: 160 kg (350 lbs)

Utility Requirements

LABORATORY

Item	Requirement
Temperature	15–30°C
Relative Humidity	5–80% (non-condensing)
Temperature Stability	±1°C over 24 hours with changes in temperature being gradual shifts instead of fast changes
Instrument Location Environment	• Dust-free • Vibration-free • Away from exposure to direct sunlight and direct air drafts • Pollution Degree 2 Environment • Maximum altitude: 2000 m (6560 ft)

POWER

Item	Requirement
Instrument power	100–240V, 50/60 Hz, 1400 Watts
Power line	• Grounded, single-phase line for instrument and computer, not shared with motors, heaters, or compressors • No fluctuation between ground and neutral
Electrical power cord	• The plug of the cord must be rated to carry at least 125% of the product current rating. • The cord length must be less than 4.5 m (15 ft) and must be UL or CSA approved. • 20 A socket for the UPS with 110 VAC; Standard socket for the UPS with 220 VAC CAUTION **Use power cords with plugs appropriate for your circuit.**
Customer-supplied	Surge suppressor power strip 

Utility Requirements

GAS

Item	Requirement
Conditions	• Must be dry • Must be free from oil, water, and dirt
Purging	• Nitrogen required for purging the oil reservoir. For installation only; not required for normal daily use. • Nitrogen required for RH Perfusion accessory (2 bar/29 psig). • Dry gas (air) for purging the cabinet when operating near/below ambient dew point. 3 L/min (higher when loading samples. Compressed air or nitrogen from tanks can be an acceptable source for low temperature operation lasting a few days. For long-term experiments, use a continuously available gas supply. Refer to Air Dryer Requirements for specifications for on-site compressed air.
Regulator	• Low pressure dual stage regulator that provides 0.6–3 bar (10–50 psig)

Computer Requirements

HARDWARE REQUIREMENTS

Item	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
DVD (optional)	≥ 48x CD-ROM or DVD (optional for installing software)
USB Ports	• 1 USB port for the TAM IV, and at least 1 other USB port for the RH Perfusion Accessory, Titration, I/O controls, and SolCal accessories. • 2.0

Computer Requirements

SOFTWARE REQUIREMENTS

Item	Requirement
Operating System	TAM Assistant • Windows 10 or 11 Pro & Enterprise • Home version not supported • 64-bit version
Service Pack	Microsoft Operating System Service Pack
Windows Updates	Turn off Windows power-saving settings  **Updates must be controlled**. Refer to the document "Controlling Windows Updates" on the TA Instruments website.
Network	*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

AIR DRYER REQUIREMENTS*

*Optional; Only when working below the dew point with the low temperature kit.

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 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) 

Accessories

UPS MEASUREMENTS

Height: 33cm (12.8 in)

Width: 21 cm (8.4 in)

Depth: 41 cm (16 in)

Weight: 34 kg (76 lbs)

NOTE

UPS models are updated frequently by the manufacturer and may not look exactly like the one pictured.

UPS REQUIREMENTS

Requirements	
	120V: • Input voltage range 90–144 VAC • Frequency 50/60 Hz • Nominal current 16.6 A • Power minimum 2200 VA (2.2 kVA) 230V: • Input voltage range 160-276 VAC • Frequency 50/60 Hz • Nominal Current 8.7 A • Power minimum 2000 VA (2 kVA)

Site Preparation Checklist

TAM IV

	Sufficient floor space for instrument and bench space for computer (controller) and accessory (if needed): ☐ Floor space: 1–1.2 m (width) x 1 m (depth) ☐ Space on each side of instrument: 300 mm ☐ Bench space: 40 cm Laboratory conditions meet the following requirements: ☐ Dust-free, vibration-free, away from exposure to direct sunlight/air drafts, in a pollution degree 2 environment ☐ Temperature is 15–30°C with a stability of ±1°C over 24 hours ☐ Relative humidity of 5–80% non-condensing ☐ Maximum altitude is 2000 m (6560 ft)
	☐ Power is 100–240V, 50/60 Hz, 1400 Watts
	☐ Nitrogen for purging the oil reservoir ☐ Dry gas (air) for purging the cabinet (3 L/min) ☐ Low pressure dual stage regulator that provides 10–50 psig
	☐ The Customer assumes responsibility for any damage that occurs when the instrument is moved by someone other than a trained TA Instruments Service Representative.
	☐ Computer meets all hardware requirements ☐ 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

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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