

# TAM IV Calorimeter



## Site Preparation Guide

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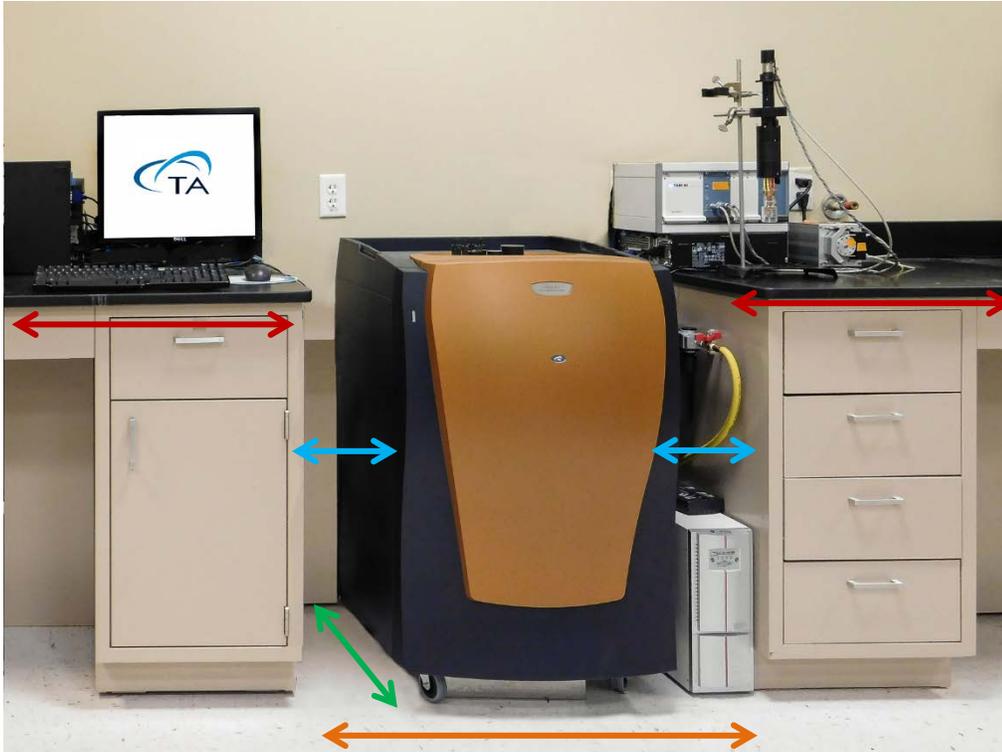
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# Ideal Setup



## 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)

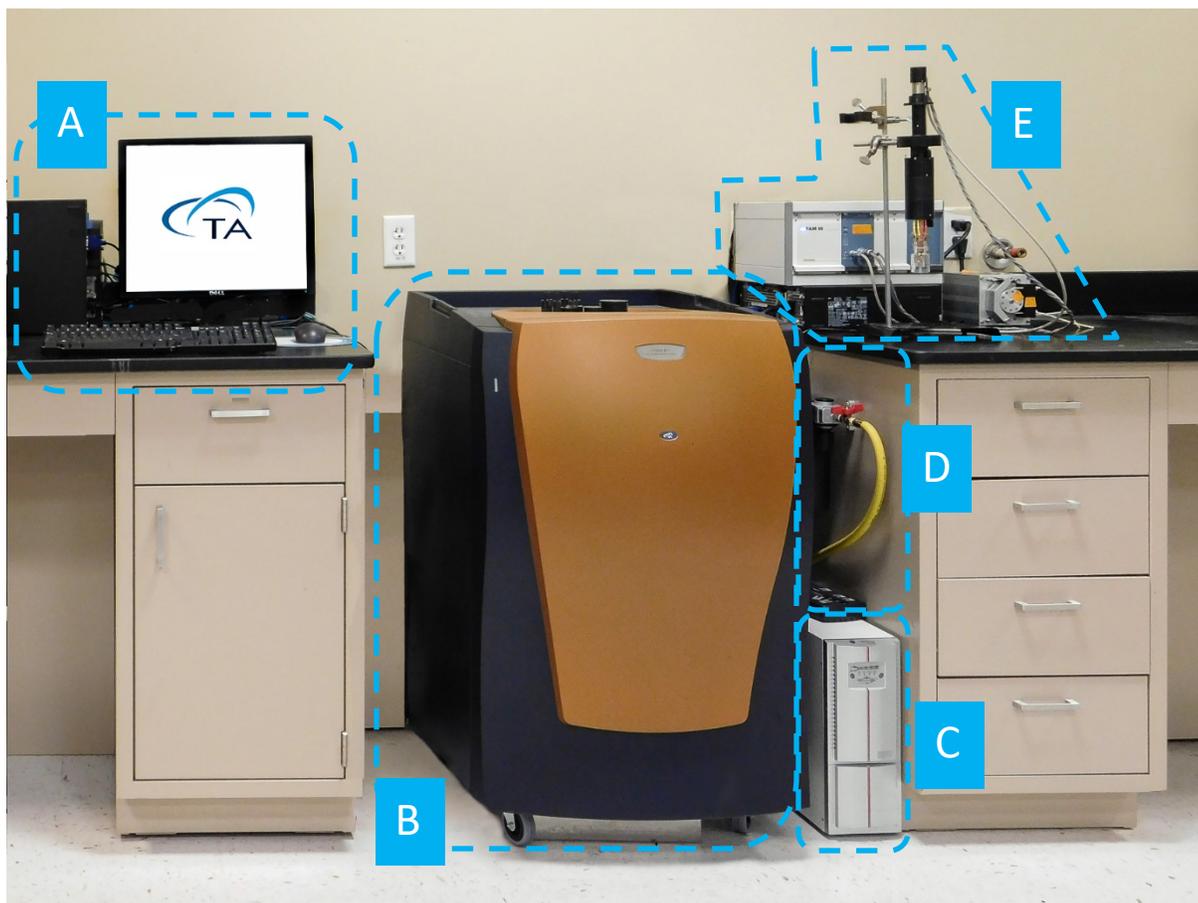
Bench space for computer: 40 cm (15.7 in)

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	<ul style="list-style-type: none"><li>• Dust-free</li><li>• Vibration-free</li><li>• Away from exposure to direct sunlight and direct air drafts</li><li>• Pollution Degree 2 Environment</li><li>• Maximum altitude: 2000 m (6560 ft)</li></ul>



## POWER

Item	Requirement
Instrument power	100–240V, 50/60 Hz, 1400 Watts
Power line	<ul style="list-style-type: none"><li>• Grounded, single-phase line for instrument and computer, not shared with motors, heaters, or compressors</li><li>• No fluctuation between ground and neutral</li></ul>
Electrical power cord	<ul style="list-style-type: none"><li>• The plug of the cord must be rated to carry at least 125% of the product current rating.</li><li>• The cord length must be less than 4.5 m (15 ft) and must be UL or CSA approved.</li><li>• 20 A socket for the UPS with 110 VAC; Standard socket for the UPS with 220 VAC</li></ul>
	 <b>Use power cords with plugs appropriate for your circuit.</b>
Customer-supplied	Surge suppressor power strip 

# Utility Requirements



## GAS

Item	Requirement
Conditions	<ul style="list-style-type: none"><li>• Must be dry</li><li>• Must be free from oil, water, and dirt</li></ul>
Purging	<ul style="list-style-type: none"><li>• Nitrogen required for purging the oil reservoir. For installation only; not required for normal daily use.</li><li>• Nitrogen required for RH Perfusion accessory (2 bar/29 psig).</li><li>• 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 <a href="#">Air Dryer Requirements</a> for specifications for on-site compressed air.</li></ul>
Regulator	<ul style="list-style-type: none"><li>• Low pressure dual stage regulator that provides 0.6–3 bar (10–50 psig)</li></ul>



# Computer Requirements



## HARDWARE REQUIREMENTS

Item	Requirement
Processor	<ul style="list-style-type: none"><li>• Intel® Core™ i3 or better</li><li>• 2.93 GHz with 3 MB L2 cache</li></ul>
Memory	Required: ≥ 8 GB RAM (if the computer is only acting as the controller) Recommended: ≥ 16 GB RAM or greater (for best analysis performance)
Hard drive	≥ 80 GB free space
CD/DVD	≥ 16x CD-ROM
USB Ports	<ul style="list-style-type: none"><li>• 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.</li><li>• 2.0</li></ul>

# Computer Requirements



## SOFTWARE REQUIREMENTS

Item	Requirement
Operating System	<u>TAM Assistant</u> <ul style="list-style-type: none"><li>• Windows 7 or 8 Service Pack 1</li><li>• Windows 10 Pro &amp; Enterprise</li><li>• Home version not supported</li></ul>
	<u>SolCal</u> <ul style="list-style-type: none"><li>• Windows 7 Service Pack 1</li></ul>
	Required: 32-bit or 64-bit version Recommended: 64-bit version
Other	Microsoft Operating System Service Pack
Windows Updates	Turn off Windows power-saving settings  <b>Updates must be controlled.</b> Refer to the document “Controlling Windows Updates” on the TA Instruments website.  Windows 7 must be up-to-date to May 2016 or later, otherwise driver signing issues will occur.
Network	<i>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



## 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  $\sim 20^{\circ}\text{C}$ ; 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)



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)



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