

# TAM Air Isothermal Calorimeter



## Site Preparation Guide

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Circulator



Power



Cooling



Gas



LN<sub>2</sub>



Fluid



Light



Hardware



Software



Temp



Lab



Customer

# 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.



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

Bench width: 2.8 m (9 ft)

Floor space width: 1–1.2 m (3.5–4 ft)

Floor space depth: 1 m (3.5 ft)

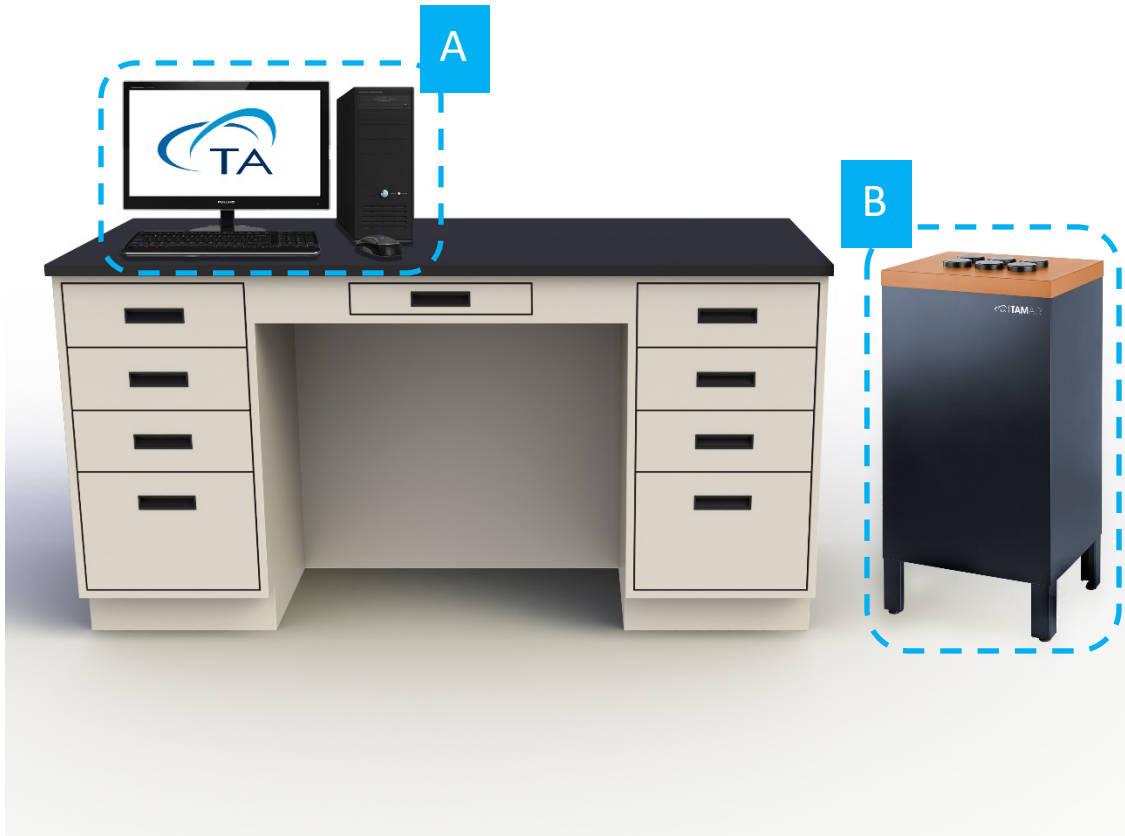


For each optional extra 3- or 8-channel calorimeter module, reserve an **in-cabinet storage space** of 25 cm x 33 cm x 25 cm (10" x 13" x 10") (D x W x H).

# System Components



## MAIN SYSTEM COMPONENTS



A. Computer (Controller)

B. Instrument

# Instrument Measurements



## MAIN INSTRUMENT



Height: 90 cm (35 in)

Width: 46 cm (18 in)

Depth: 40 cm (16 in)

Weight: 40 kg (88 lbs)

# Utility Requirements


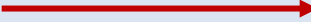


## LABORATORY

Item	Requirement
Temperature	5°C–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	110 VAC ± 10 %, 50/60 Hz or 220 VAC ± 10 %, 50/60 Hz
Fuse ratings	4 A (120 V) or 2 A (230 V)
Power line	<ul style="list-style-type: none"><li>• Grounded, single-phase line for instrument and computer, not shared with motors, heaters, or compressors<ul style="list-style-type: none"><li>• 15 A for voltages near 110 VAC</li><li>• 10 A for voltages near 220 VAC</li></ul></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**

A dry purge gas source (ex. air, nitrogen or argon) at low pressure (5–10 psig) is required for operation of the instrument with sample temperatures below the dew point conditions in the laboratory.



## **PREINSTALLATION STORAGE CONDITIONS**

Store the TAM Air in an area where the temperature is maintained within the range of 5°C–30°C (40°–85°F) prior to installation. If possible, store it at the same temperature as the laboratory.

# Computer Requirements



## HARDWARE REQUIREMENTS


Item	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	≥ 80 GB free space
DVD (optional)	≥ 48x CD-ROM or DVD (optional for installing software)
USB Ports	<ul style="list-style-type: none"><li>• 1 USB port for the TAM Air</li><li>• 2.0</li></ul>



# Computer Requirements







## SOFTWARE REQUIREMENTS

Item	Requirement
Operating System	<u>TAM Air Assistant</u> <ul style="list-style-type: none"><li>• Windows 10 Pro &amp; Enterprise</li><li>• Home version not supported</li></ul>
	64-bit version
Service Pack	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.
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>

# Site Preparation Checklist



## TAM Air

	<p>Sufficient floor space for instrument and bench space for computer (controller):</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Floor space: 1–1.2 m (width) x 1 m (depth)</li> <li><input type="checkbox"/> Space on each side of instrument: 300 mm</li> <li><input type="checkbox"/> Bench space: 40 cm</li> </ul> <p>Laboratory conditions meet the following requirements:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Dust-free, vibration-free, away from exposure to direct sunlight/air drafts, in a pollution degree 2 environment</li> <li><input type="checkbox"/> Temperature is 5–30°C with a stability of <math>\pm 1^\circ\text{C}</math> over 24 hours.</li> <li><input type="checkbox"/> Relative humidity is 5–80% non-condensing</li> <li><input type="checkbox"/> Maximum altitude is 2000 m (6560 ft)</li> </ul>
	<ul style="list-style-type: none"> <li><input type="checkbox"/> Power is 110 VAC <math>\pm 10\%</math>, 50/60 Hz <b>or</b> 220 VAC <math>\pm 10\%</math>, 50/60 Hz</li> </ul>
 if applicable	<ul style="list-style-type: none"> <li><input type="checkbox"/> If applicable: Dry purge gas source (air, nitrogen, or argon) at low pressure (5–10 psig) is required for operation of the instrument with sample temperatures below the dew point conditions in the laboratory</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

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<http://www.tainstruments.com>.

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