

Discovery TMA



Site Preparation Guide

Table of Contents

Table of Contents	2
Ideal Setup	3
System Components.....	4
Instrument Measurements	5
Utility Requirements.....	6–7
Power	6
Gas.....	7
Computer Requirements.....	8–9
Hardware.....	8
Software	9
Accessories (MCA 70)	10
Site Preparation Checklist	11
TA Instrument Offices.....	12



Circulator



Power



Cooling



Gas



LN₂



Fluid



Light



Hardware



Software



Temp



Lab



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.



Table width: 60 cm (24 in)

Bench width: 61–183 cm (24–72 in)

Table depth: 76 cm (30 in)

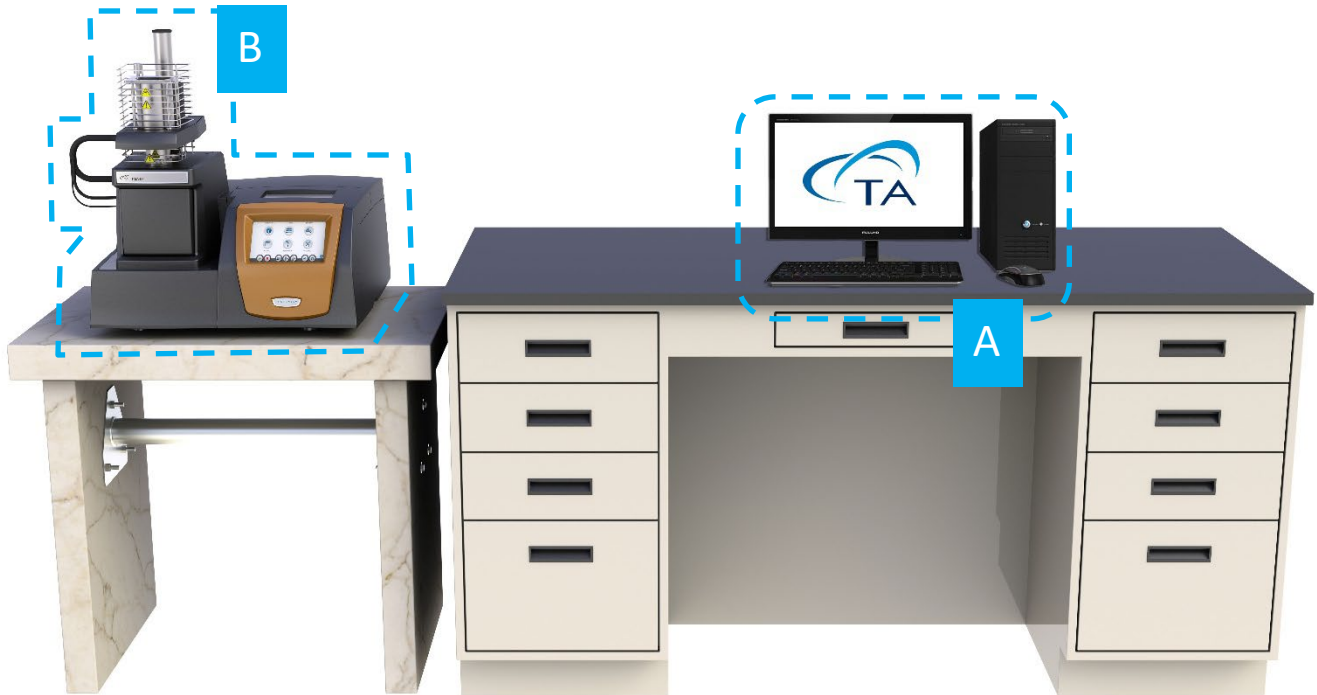
Bench depth: 76 cm (30 in)

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

System Components



MAIN SYSTEM COMPONENTS



- A. Computer (Controller)
- B. Instrument
- C. Optional Cooling Accessory –MCA 70

Instrument Measurements



MAIN INSTRUMENT



Height Furnace OPEN: 68 cm (27 in)

Height Furnace CLOSED: 63 cm (25 in)

Width: 56 cm (22 in)

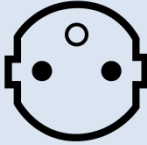

Depth: 56 cm (22 in)

Weight: 31.4 kg (69 lbs)

Utility Requirements



POWER

Item	Requirement
Power	<ul style="list-style-type: none">• 100–240 VAC, 47–63 Hz, 1200 W• Safety ground per local regulation
Power cords provided	<ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• Acceptable purge gases: air, nitrogen, argon, and helium• Pressure regulator required – must be rated for required gases• Conditions:<ul style="list-style-type: none">• Must be dry• Must be free from oil, dirt, and water <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	100 mL/min (-100°C and above) or 200 mL/min (-150°C and above)

Computer Requirements



HARDWARE REQUIREMENTS

Description	Requirement
Processor	<ul style="list-style-type: none">• 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 <ul style="list-style-type: none">• 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	<ul style="list-style-type: none">• 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	<i>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.</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



MCA 70 MEASUREMENTS



Height: 46 cm (18 in)

Width: 26 cm (10 in)

Depth: 51 cm (20 in)

Weight: 47.7 kg (105 lbs)



MCA 70 REQUIREMENTS

Requirements



- 120 VAC/12 A/60 Hz
- 220 VAC/6 A/50 Hz
- Uses NEMA 5-20P plug



- -70°C to 400°C temperature range with the TMA
- Refrigerants:
 - 1st Stage: R1270 (Propylene), approximately 14 g
 - 2nd Stage: (Blend) R1150 (Ethylene) & R290 (Propane), approximately 22 g



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TA Instruments Offices

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