MICROACTIVE ASAP® 2460

ACCELERATED SURFACE AREA AND POROSIMETRY SYSTEM



micromeritics®

PRE-INSTALLATION INSTRUCTIONS AND
CHECKLIST



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ABOUT THIS MANUAL



This manual contains instructions for both standard installations and installations in 21CFR11 environments.

The following icons may be found in this document:



NOTE — Notes contain important information applicable to the topic.



<u>CAUTION</u> — Cautions contain information to help prevent actions that may damage the analyzer or components.



<u>WARNING</u> — Warnings contain information to help prevent actions that may cause personal injury.

CFR Note

NOTE — Notes that apply to 21CFR11 environments only (Confirm applications).



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1 Pre-installation Document Overview



If a Micromeritics Service Technician performs this installation, additional charges apply. Please see *Contact Us on page i* for information on how to contact Micromeritics.

This document describes how to prepare a site for installation of the ASAP 2460 for both standard and 21 CFR Part 11 (Confirm) environments. If Micromeritics will be performing this installation, when the enclosed procedures have been completed, return the signed and dated form to Micromeritics as outlined in *Dates and Signatures* — *All Environments on page 6 - 1*.

The following chart indicates the applicable sections for your type of installation:

Section		lation /pe
	Std	Cfr
Pre-installation Document Overview above.	✓	✓
<u>Pre-installation Instructions — All Environments on page 2 - 1</u> . Contains instructions to help analyze the installation site.	~	✓
<u>Pre-installation Checklists — All Environments on page 3 - 1</u> . Contains questions and a checklist for the installation site.	~	✓
<u>Pre-installation Instructions — Confirm Environments on page 4 - 1</u> . Contains information to help analyze the installation site for 21 CFR Part 11 environments.		~
<u>Pre-installation Checklist</u> — <u>Confirm Environments on page 5 - 1</u> . Contains questions and a checklist for the installation site for 21 CFR Part 11 environments.		✓
<u>Dates and Signatures — All Environments on page 6 - 1.</u> For use when Micromeritics will be performing this installation. Read this entire document carefully. Complete all checklists. Sign and return the form in this section to Micromeritics. Micromeritics will contact you to confirm an installation date.	✓	✓



MICROMERITICS INSTALLED INSTRUMENTS ONLY

APPLICATION RELATED ISSUES

To ensure a thorough installation, it will be helpful for Micromeritics to know which types of samples will be tested. If known, list them in *Application Related Issues Checklist on page 3 - 5*.

Please advise Micromeritics if samples require any pretreatment. If required, do you have the proper equipment to pretreat your samples? Micromeritics offers application assistance through our materials analysis laboratory (Micromeritics Particle Testing Authority).

HAZARDS AND PRECAUTIONS

Inform Micromeritics of any on-site conditions that may present hazards to Micromeritics employees or equipment. Advise Micromeritics of any precautions that need to be taken.

SAFETY MEASURES

Inform Micromeritics of any safety equipment, requirements, or procedures necessary for Micromeritics employees to enter and install the system at your facility.

PERSONNEL SECURITY CLEARANCE

If security clearances, insurance certificates, or any other special arrangements are required for Micromeritics employees to enter your facility, see <u>Personnel Security Clearance Checklist on page 3 - 5</u> to explain. Inform Micromeritics how much advance notice you require to obtain clearance.

PROJECTED INSTALLATION DATE

Read this entire document carefully. Complete all checklists in this document. Sign and return all checklists and the form in <u>Dates and Signatures</u> — <u>All Environments on page 6 - 1</u> to Micromeritics. Micromeritics will contact you to confirm an installation date.



2 Pre-installation Instructions — All Environments

UNPACKING AND INSPECTION

When the equipment is received, unpack and inspect the contents of the shipping container(s). Use the packing list to verify that all products, accessories, software (if applicable), and documentation are received intact and in the correct quantity. The shipping container(s) and contents should be inspected within a few days of receipt in the event damage or loss has occurred. Sort through all packing material before declaring missing equipment or parts.



Micromeritics recommends saving all shipping containers until installation of the equipment is complete. All shipping containers where equipment is to be declared as damaged or lost must be examined by the claims investigator prior to completion of the inspection report.

SHIPPING DAMAGE

If equipment is damaged or lost in transit, you are required to make note of the damage or loss on the freight bill. The freight carrier, not Micromeritics, is responsible for all damage or loss occurring during shipment. If damage or loss of equipment is discovered during shipment, report the condition to the carrier immediately. Insurance claims **MUST** be made with the freight carrier, **NOT** Micromeritics.

- Keep all software, manuals, and accessories with the equipment.
- Report any shipping damage immediately to the carrier and follow their directions.
- Report missing or wrong parts to Micromeritics, in addition to any shipping damage, only after filing a claim with the carrier.
- Micromeritics will NOT file a claim for shipping damage.
- Do not discard shipping boxes and containers until installation is complete. If space is available, it is recommended that shipping containers be saved for future use in the event of return to factory for repair.



ANALYZER SPACE

A unobstructed lab work space that will accommodate the following specifications is needed:



Master Module

Height 94 cm (37 in.)
Width 51 cm (20 in.)
Depth 59 cm (23 in.)
Weight 55 kg (120 lbs.)

Auxiliary Module

Height 94 cm (37 in.)
Width 38 cm (20 in.)
Depth 39.5 cm (15.5 in.)
Weight 29 kg (64 lbs.)

Computer and Printer

Width 96.5 cm (38 in.) Approx.

Gas Supply

1 square ft (0.1 square m) for each gas cylinder needed for installation. For standard installations, the cylinders must be within 6ft. (2m) of the instrument.

Degas Unit

Width	50 cm (20 in.) Approx.
Depth	40 cm(16 in.) Approx.



INSTALLATION CONFIGURATION

Standard installation requires the use of 1/8 in. copper or stainless steel gas supply lines, located in the instrument accessories kit.

A nonstandard installation will be created if another gas supply line is used or if the gas cylinders cannot be placed within 6 ft (2 m) of the analyzer. There may be additional costs associated with a nonstandard installation. Please contact the Micromeritics Service Department at 1-770-662-3666 to discuss a nonstandard installation.

COMPUTER SYSTEM

We recommend purchasing the computer system from Micromeritics. Micromeritics thoroughly tests operating systems with the Micromeritics applications and offer technical support and maintenance for the computers we provide. For analyzers not installed by Micromeritics, please note:



- The labor and expense costs associated with delays traceable to a computer system not purchased from Micromeritics are not part of a standard installation.
- Micromeritics is not responsible for providing assistance for the connection to a company network or LIMS.
- During installation, Administrator rights will be required to make changes to the Ethernet settings. If access cannot be granted to the Service Technician, an IT representative must be readily available to make these changes or additional charges may apply.

The computer system to be used with the analyzer must meet the following minimum requirements:

- **Operating System.** Windows 7 Professional or higher operating system is recommended for the best user experience. For 21CFR11 environments, Windows 10 Professional or Windows 10 Enterprise or higher is required.
- **Desktop Installation Required.** The application should not be installed on a network drive with shared access. Multiple users cannot operate the application at the same time.
- 10 Base T or 100 Base T Ethernet Port. If the computer is to be connected to a network, two
 Ethernet ports are required. If more than one Ethernet based unit is connected to the same computer (or if a Smart VacPrep is purchased), an Ethernet switch will also be required.
- Read / Write Permissions. All users of the application will need Read/Write permission to all directories and subdirectories where the application is installed. For 21CFR11 environments, permission may be limited to the installation directory.
- Drives. CD-ROM drive and USB port.



ENVIRONMENTAL FACTORS

POWER

The ASAP 2460 is designed to operate with 100, 115, or 230 VAC + 10% at 50 or 60 Hz. Noise free power of the correct voltage and frequency, with a safety earth ground, should be available through a standard wall receptacle. These requirements can be checked by using a circuit analyzer or a multimeter.



The analyzer and peripheral devices **must** be installed on their own dedicated power line. Other devices — such as motors, generators, or ovens — **should not** be placed on the same power line.

TEMPERATURE AND HUMIDITY

Temperature and humidity must be controlled to within:

• Temperature: 10 to 30 °C operating, stable within ± 3 °C; -10 to 55 °C non-operating

• **Humidity**: Up to 90%, non-condensing

Do Not:

- Allow room temperature or humidity to exceed limits.
- Install the analyzer where it is exposed to direct sunlight.
- Locate the analyzer near air conditioning or heating vents.



GAS SUPPLY

GAS CYLINDERS AND GAS SUPPLY LINES

See <u>Gas for Analyzer Test on page 2 - 9</u> for the analytical gases needed during installation. Gas cylinders must be placed within 6 ft (2 m) of the analyzer inlet valves.

It is required that the 1/8 in. × 6 ft (2 m) single piece copper gas line in the analyzer accessories kit
is used. Stainless steel gas lines are available from Micromeritics for use with gases that are not
compatible with copper.



Gas lines not supplied by Micromeritics will not be installed by Micromeritics Service Personnel.



Gas supply lines made of materials other than copper or stainless steel may cause operational problems.

- **Do not** use gas cylinders with less than 500 psig (3549 kPag) pressure.
- Do not use any other gas lines to connect the gas supply to the analyzer except those supplied in the accessories kit. Use of other gas lines will result in a nonstandard installation. See <u>Install-ation Configuration on page 2 - 3</u>.
- Do not use gas purifiers; they can cause operational problems. Oxygen traps are preferred.



GAS SUPPLY HARDWARE

Micromeritics recommends the gas regulators to be used with the analyzer be purchased from Micromeritics. The regulators Micromeritics provides have been carefully evaluated and tested to provide superior performance.



If purchased from a source other than Micromeritics, please keep in mind that many commercially available gas regulators lack key features which are required for gas adsorption measurements. These vital criteria must be met:

- **Cleanliness**. Clean regulators designed specifically for high-vacuum service are required. Other regulators often contain elastomeric material or oils which can contaminate the gas.
- **High stability**. Excess pressure at the gas inlet ports to the analyzer can interfere with accurate gas dosing and flow rates. The combined change in the outlet pressure from the gas regulator, as the gas cylinder pressure decreases or as the flow rate stops, should not change more than 5 psig (34.4 kPag) from the selected setting. When the analyzer is idle for an extended period of time, such as 8 to 10 hours, this same stability of gas delivery pressures should be achieved.
- Range of pressure. The regulator output must operate from 0 to 30 psig (207 kPag).
- Suitable sub-assemblies. The regulator must have a shutoff or outlet isolation valve compatible with 1/8 in. or 1/4 in. Swagelok® compression fittings.



To purchase regulators from Micromeritics, contact your local Micromeritics Sales Representative.



REGULATOR EXPANSION KITS

It is sometimes beneficial to attach more than one analyzer, and/or accessory device, or different inlet ports to a single gas supply. Any time this is done, it is critically important that there be a means of isolating, or shutting-off, each device attached to the gas supply regulator. Micromeritics recommends the use of a vacuum rated shutoff/isolation valve for this purpose.

This shutoff/isolation valve is required in order to prevent problems when changing gas cylinders or servicing any of the devices attached to the gas supply.

If the need to attach more than one inlet or one analyzer and/or accessory device is anticipated, one or more of the following regulator expansion kits must be acquired:

- 004-33601-00 Regulator Expansion Kit (2 outlet, 1000 psi maximum). This kit contains one
 T fitting, two vacuum rated shutoff valves, and other necessary hardware. This expansion kit
 allows gas to be provided to two inlets.
- **004-33601-01** Regulator Expansion Kit (3 outlet, 1000 psi maximum). This kit contains one cross fitting, three vacuum rated shutoff valves, and other necessary hardware. This expansion kit allows gas to be provided to three inlets.



LABORATORY EQUIPMENT AND SUPPLIES

LIQUID NITROGEN

Ensure liquid nitrogen is available in sufficient quantities. A minimum of 36 liters is required for starting an analysis.

- For installation, there **must** be an adequate supply of liquid nitrogen. At least 3 liters per analysis dewar is required.
- Do not use liquid nitrogen that is either blue (a sign of oxygen contamination) or not clear.

ANALYSIS EQUIPMENT AND SUPPLIES

Since the analysis results are expressed in units of surface area per gram of sample, the true mass of the sample must be known. This requires an analytical balance with the capability of 100 grams measurement and 0.1 mg readability.

In order to obtain accurate analysis results, the sample tubes must be clean. The following items are suggested for cleaning sample tubes:

- Alconox[®] or similar laboratory detergent
- · Balance for weighing sample
- Brush
- Clean, dry compressed air or dry nitrogen
- Drying oven

- Isopropyl alcohol
- Sink
- Small plastic tub for detergent solution
- Ultrasonic bath



GAS FOR ANALYZER TEST

To verify proper operation and to train users, Micromeritics representatives will analyze the reference material provided in the analyzer accessories.

The following gases are required in order to analyze the reference materials. If these gases are not available, Micromeritics representatives will only be able to perform a limited number of analyzer tests during installation and operator training.



All gases require the indicated purity.

(CGA 580) N₂ 99.999% (CGA 580) He 99.999%

(CGA 580) Kr 99.995% (Krypton needed for krypton units only)

Any additional gases that may be used after the installation is complete can be connected by the Micromeritics representative.



3 PRE-INSTALLATION CHECKLISTS — ALL ENVIRONMENTS

For each question, circle **Yes** if the condition applies to your laboratory or **No** if it does not. When this *Pre-installation Checklist* has been completed, see <u>Dates and Signatures</u> — <u>All Environments</u> <u>on page 6 - 1</u>. Sign and date the form, then send it along with all completed checklists to Micromeritics.

UNPACKING AND INSPECTION CHECKLIST

Unpacking and Inspection		
Have the shipping cartons been unpacked and their contents inspected?	Υ	N
Was there any shipping damage?	Υ	N
If Yes , has a claim been filed with the freight carrier?	Υ	N
Were all items on the packing list received?	Υ	N
If No , has Micromeritics been notified?	Υ	N
Was an Ethernet switch purchased with the analyzer or is there one available, if needed?	Y	N

ANALYZER SPACE CHECKLIST

Analyzer Space		
Can the lab area where the analyzer and computer will be placed accommodate the combined dimensions of the analyzer, accessories, computer, and printer?	Y	N

Installation Configuration Checklist

Installation Configuration		
Will 1/8 in. copper gas supply lines (supplied with the analyzer for standard installation) be used?	Y	N
If NO , have 1/8 in. stainless steel gas supply lines been ordered and received from Micromeritics?	Y	N



ENVIRONMENTAL FACTORS CHECKLIST

Environmental Factors		
Is power available with the correct voltage and frequency, and a safety earth ground?	Y	N
Are temperature and humidity controlled within specifications?	Y	N
Are hazards present or precautions necessary in area of installation?	Υ	N
If Yes , please explain:		
Are safety measures required?	Υ	N
If Yes , please explain:		



GAS SUPPLY CHECKLIST

6 ft (2 m) of where the instrument will be	Y	N
from Micromeritics?	Υ	N
eet Micromeritics' specifications?	Υ	N
s available? The installation will not be schedu	led until thes	<u>e</u>
999%	Υ	N
99%	Y	N
995% (for krypton units only)	Υ	N
•	•	!-
	999% 999% 995% (for krypton units only) stallation can be connected by the Micromeritic	from Micromeritics? Peet Micromeritics' specifications? Peet Micromeritics' specifications? Peet Micromeritics' specifications? Y Peet Micromeritics' specifications?



COMPUTER SYSTEM CHECKLIST

Computer System		
Was the computer purchased from Micromeritics?	Υ	N
If NO , does the computer meet Micromeritics' minimum requirements?	Υ	N
Will the computer be connected to the local network?	Υ	N
If YES , will two Ethernet ports be available during the installation?	Υ	N
Will there be more than one Micromeritics Ethernet based analyzers connected to this computer?	Υ	N
If YES , will an Ethernet switch be available during the installation?	Υ	N
All application users are required to have read/write permission to all directories and subdirectories where the application is installed. Will these permissions be set prior to installation?	Y	N
Will the Micromeritics Service Engineer have Administrator rights to the computer?	Υ	N
If NO , will an IT representative be available?	Y	N



LABORATORY EQUIPMENT AND SUPPLIES CHECKLIST

Laboratory Equipment and Supplies		
Are sufficient quantities of liquid nitrogen available?	Υ	N
Are sufficient quantities of isopropyl alcohol available?	Y	N
Is a balance available for weighing samples?	Y	N
Is a drying oven or sample degasser available?	Y	N

APPLICATION RELATED ISSUES CHECKLIST

Application Related Issues		
What types of samples will be tested?		
Will these samples require pretreatment?	Y	N
Will any application assistance from Micromeritics Particle Testing Authority be required?	Y	N

PERSONNEL SECURITY CLEARANCE CHECKLIST

Security Clearance		
Are there any special arrangements required concerning security clearance?	Y	N
If Yes , please explain:		



4 Pre-installation Instructions — Confirm Environments

Use the *Users and Groups Worksheet on page 5 - 3* to log user names and assigned groups.

The Confirm application uses Windows Users and Groups to control access to the Micromeritics Confirm application. When the Micromeritics Confirm application is installed, two Confirm groups are created. Confirm users must be assigned to only one group.

Confirm User Name	Description
mic_confirm_user	mic_confirm_user is the user name used by all installations.
	This user should have complete control over the installation directory.
	The application is launched under this user name and has this user's privileges to the windows file system.
	This user should not be used by anyone or any other software that is not a Micromeritics application.
	The system administrator has the option of modifying this account so that the password never expires. Alternatively, if the password does expire while the application is running, the application automatically changes the password for this account.

Confirm Group Name	Description
Developer Group	The default Developer group name is mic_[analyzer model number]_developer. Members of the Developer group: • have rights to all functions of the Micromeritics application - including Advanced option presentation which allows the creation and modification of methods, sample files, and parameter files.
	 can run an analysis. can also be assigned Administrator rights which control the user profiles.
Analyst Group	The default Analyst group name is mic_[analyzer model number]_analyst. Members of the Analyst group:
	 have access to the Basic presentation option only. may create sample files from pre-defined methods and can modify only a limited number of input fields.



User Permissions within the Application

Function	Developer	Analyst
Create methods	✓	
Create or modify sample files and parameter files	✓	
Create or modify sample files and parameter files only from the available method and parameter file		✓
Run analyses	✓	√
Generate reports	✓	√
List and print sample files	✓	√
Perform routine maintenance	✓	√
Enable manual control	✓	✓
Change limited analysis conditions prior to performing an analysis	✓	√
Change report options after analysis	✓	√
Access to the Advanced option presentation	✓	
Access to the Basic option presentation	✓	✓
Access to directories outside of the installation directory and data directory	√ *	√ *
Can overwrite, rename, or delete existing files in the data directory	√ *	√ *
Can perform diagnostics	✓	✓
Can perform calibration	✓	✓
Can view and print the system audit trail	✓	✓
Can manage libraries	✓	✓
Can change system units and gas selections	✓	✓
Browse outside of the Confirm installation location	✓	
Can add log entries	✓	√ *

^{*} With administrative privileges only.



5 Pre-installation Checklist — Confirm Environments

For each question, circle **Yes** if the condition applies to your laboratory or **No** if it does not. When this *Pre-installation Checklist* has been completed, see <u>Dates and Signatures</u> — <u>All Environments</u> on page 6 - 1. Sign and date the form, then send it to Micromeritics.

PERSONNEL REQUIREMENTS

Network Administrator		
Name:		
Will the computer be connected to a LAN? If YES , does the network administrator have the ability to:	Υ	N
connect the computer to the network?	Y	N
to correct network connection problems?	Y	N
to set necessary network drive and directory access?	Υ	N
Will the analyzer need to be accessible to a laboratory information application? If YES :	Υ	N
does the application administrator have the necessary file permissions?	Υ	N
will the network administrator be available during installation?	Y	N

Confirm Administrator		
Name:		
Will the Confirm Administrator:		
Have administrative privileges?	Y	N
Have a basic understanding of Windows groups and Windows users?	Y	N
Be available during installation?	Y	N



Software User		
Name:		
Will the software user:		
have the ability to create and manage Windows users and groups?	Y	N
have Windows Administrator access?	Y	N
be available the first and last day of installation?	Y	N

USER INFORMATION REQUIREMENTS

Function		
Has the <u>Users and Groups Worksheet on the next page</u> been completed?	Y	N



USERS AND GROUPS WORKSHEET

Micromeritics (Confirm application:	Developer	Analyst
User Name Full Name			



6 DATES AND SIGNATURES — ALL ENVIRONMENTS



All checklists and this completed form should be returned only if Micromeritics will be performing this installation.

PROJECTED INSTALLATION DATE

This is not a commitment for a specific installation date. After reading the site preparation requirements in this document, enter a date your site will be prepared and a preferred date for installation. After returning the checklist and signed form to Micromeritics, your Micromeritics representative will contact you to confirm an installation date.

When would installation be most convenient? Date: ____/___/

COMMITMENT STATEMENT AND SIGNATURE FORM

I have read this document and understand my responsibilities regarding preparations for the installation of our analysis system. I believe this site is ready for the system to be installed.

Signature:			Date:
Name (Printed):			
Title (Printed):			
Company:			
City / State / Zip:			
Phone Number:		Fax Number:	
E-mail:			
Analyzer:	Model:	Serial No.:	

RETURN THE COMPLETED CHECKLIST AND FORMS TO:

Is the Customer Representative also the End User?

Micromeritics Instrument Corporation ATTN: Service Operations Manager 4356 Communications Drive Norcross, GA / USA / 30093-2901

Email: Service.Helpdesk@Micromeritics.com

No

Fax: 1-770-662-3604

Yes