

Agilent 8453 UV-Vis Spectrophotometer – Site Preparation Checklist

Thank you for purchasing an Agilent **instrument**. To get you started and to assure a successful and timely installation, please refer to this specification or set of requirements.

Correct site preparation is the key first step in ensuring that your instruments and software systems operate reliably over an extended lifetime. This document is an **information guide AND checklist** prepared for you that outlines the supplies, consumables, space and utility requirements for your equipment.

Customer Responsibilities

Make sure your site meets the following specifications before the installation date. For details, see specific sections within this checklist, including:

- ☐ The necessary laboratory or bench space is available
- ☐ The environmental conditions for the lab as well as laboratory gases and plumbing
- ☐ The power requirements related to the product (e.g., number & location of electrical outlets)
- ☐ The required operating supplies necessary for the product and installation
- ☐ Please consult Other Requirements section below for other product-specific information.
- ☐ For more details, please consult the Agilent 8453 UV-Vis Spectroscopy System Installation Guide, G1115-90040.

If Agilent is delivering installation and familiarization services, users of the instrument should be present throughout these services; otherwise, they will miss important operational, maintenance and safety information.

Important Customer Information

1. If you have questions or problems in providing anything described as a Customer Responsibility above, please contact your local Agilent or partner support/service organization for assistance prior to delivery. In addition, Agilent and/or its partners reserve the right to reschedule the installation dependent upon the readiness of your laboratory.
2. Should your site not be ready for whatever reasons, please contact Agilent as soon as possible to re-arrange any services that have been purchased.
3. Other optional services such as additional training, operational qualification (OQ) and consultation for user-specific applications may also be provided at the time of installation when ordered with the system, but should be contracted separately.
4. You should ensure that all necessary operating supplies, consumables and usage dependent items such as cells, vials, and solvents required for the successful installation of instruments and systems are available. Installation sites should be prepared in accordance with the information contained in this document.

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Dimensions and Weight

Identify the laboratory bench space before your system arrives based on the table below.

Pay special attention to the **total height and total weight requirements for all system components you have ordered and avoid bench space with overhanging shelves**. Also pay special attention to the total weight of the modules you have ordered to ensure your workspace can support the weight.

Special Notes

1. The weight and the dimensions of the spectrophotometer allow it to be placed on almost any desk or laboratory bench but remember to provide enough space for the computer, monitor and printer. Also allow for any additional accessories that have also been purchased.
2. Ensure that the workbench is free from vibration. Any equipment generating vibration during operation must be placed on the floor rather than alongside the 8453 UV-Vis on the workbench.
3. To allow for the circulation of air for cooling, allow for an additional 2.5 cm (1.0 inches) of space on both sides and approximately 11 cm (4.3 inches) in the rear for electrical connections.
4. The computer, including the keyboard is approximately 50 cm (19.7 inches) wide and 60 cm (23.6 inches) deep.
5. The power cord and all other electrical connections are located in the rear of the instrument and the power switch is located in the front.
6. To avoid damage through the spillage of analyzed samples, the worktops should be covered with a material that is corrosion resistant and impervious to liquids.

Instrument Description	Weight		Height		Depth		Width	
	Kg	lbs	cm	in	cm	in	cm	in
8453 UV-Vis (unpacked)	14.0	30.86	18.5	7.3	56.0	22.0	34.4	13.5
8453 UV-Vis (packed)	18.0	39.68	35.2	13.9	80.4	31.7	50.9	20.0



Environmental Conditions

Operating your instrument within the recommended temperature ranges insures optimum instrument performance and lifetime.

Special Notes

1. Performance can be affected by sources of heat & cold e.g. direct sunlight, heating/cooling from air conditioning outlets, drafts and/or vibrations.
2. For optimum performance the area should have a dust-free, low humidity atmosphere. A layer of dust on the electronic components could act as an insulating blanket and reduce heat transfer to the surrounding air.
3. Air conditioning is recommended. The site's ambient temperature conditions must be stable for

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optimum performance. It is recommended that the ambient temperature of the laboratory be between 20 and 25°C, and be held stable throughout the entire working day.

4. In order to achieve the specified instrumental stability, changes of 1°C/hour or less are required. Higher variations will definitely result in higher drift.
5. The 8453 UV-Vis instrument is designed for operation in clean air conditions. The laboratory must be free of all contaminants that could have a degrading effect on the instrument's components.
6. Dust, acid and organic vapors, such as acetone, must be expelled from the work area. It is your responsibility to provide an adequate exhaust system. An exhaust system is not required for normal operation of the 8453 UV-Vis but should be installed if substances giving off toxic vapors are to be analyzed.
7. Sample preparation areas and materials storage facilities should be located in a separate room.
8. The spectrophotometer can be stored at altitudes up to 4,600 m (14,950 ft.) and operated at altitudes up to 2,000 m (6,500 ft.).

Instrument Description	Operating temp range °C (F)	Operating relative humidity range (%)	Heat Dissipation (BTU)
8453 UV-Vis (operating)	0 to 55 (32 - 131)	<95% at 25° to 40°C (77° to 104° F), non- condensing	307
8453 UV-Vis (non-operating - for storing)	-40 to 70 (-4 to 158)	<95% at 25° to 40°C (77° to 104° F), non- condensing	



Power Consumption

The installation of electrical power supplies must comply with the rules and/or regulations imposed by local authorities responsible for the supply of electrical energy to the workplace.

Special Notes

1. If a computer system is supplied with your instrument, be sure to account for those electrical outlets as well as any accessories that are ordered.
2. A separate power outlet receptacle should be provided for the 8453 UV-Vis system.
3. Always operate your instrument from a power outlet which has a ground connection. Making certain that power outlets are earth-grounded at the grounding pin.
4. Good electrical grounding is essential to avoid potentially serious shock hazards and for the instrument to perform within its specifications.
5. All power supplies for the 8453 UV-Vis must be single-phase, AC voltage, three-wire system (active, neutral, earth) and should be terminated at an appropriate power outlet receptacle that is within reach of the power cord.
6. The use of extension cords or outlet adaptors is not recommended.
7. The 8453 UV-Vis system is supplied with power cord and three-pin plug assembly that is designed

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for your region and is compatible with common standards applicable in the local area.

8. Avoid using power supplies from a source that may be subject to electrical or RF interference from other services (large electric motors, elevators, and welders, for example).

Instrument Description	Line Voltage & Frequency (V, Hz)	Maximum Power Consumption (VA)	Maximum Power Consumption (W)
8453 UV-Vis	90 to 264 VAC $\pm$ 10% 47 to 63 Hz	220VA	90W



Required Operating Supplies by Customer

Special Notes

1. For information on Agilent consumables, accessories and laboratory operating supplies, please visit <http://www.chem.agilent.com/en-US/Products/consumables/Pages/default.aspx>
2. A standard, single cuvette, cell holder is supplied with your 8453 UV-Vis system. To enhance productivity, the following accessories are recommended.

Item Description (including dimensions etc)	Vendor's Part Number (if applicable)	Recommended Quantity
Sipper system with flow cell	89068D	1
XY Autosampler	G1811A	1
Quartz cuvette, matched pair, 10mm path length, with PTFE lid	5061-3387	1

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Other Requirements

Use of the 8453 UV-Vis system requires the following general safety precautions must be observed during all phases of operation, service, and repair of this instrument. Failure to comply with these precautions or with specific warnings defined elsewhere violates safety standards of design, manufacture, and intended use of the instrument. Agilent Technologies assumes no liability for the customer's failure to comply with these requirements.

Before applying power, comply with the installation section set out in the installation manual. Do not remove instrument covers when operating. Before the instrument is switched on, all protective earth terminals, extension cords, auto- transformers, and devices connected to it must be connected to a protective earth via a ground socket. Any interruption of the protective earth grounding will cause a potential shock hazard that could result in serious personal injury. Whenever it is likely that the protection has been impaired, the instrument must be made inoperative and be secured against any intended operation.

Do not operate the instrument in the presence of flammable gases or fumes. Operation of any electrical instrument in such an environment constitutes a definite safety hazard.

ALWAYS ensure that laboratory safety practices governing the use, handling and disposal of such materials are strictly observed. These safety practices should include the wearing of appropriate safety clothing and safety glasses.

The 8453-UV-Vis is a Safety Class I instrument (provided with terminal for protective earthing) and has been manufactured and designed to comply with the requirements of the Electromagnetic Compatibility (EMC) Directive and the Low Voltage (electrical safety) Directive (commonly referred to as the LVD) of the European Union. Agilent has confirmed that each product complies with the relevant Directives by testing a prototype against the prescribed EN (European Norm) standards.

Customer Web Links

- ☐ For additional information about our solutions, please visit our web site at <http://www.chem.agilent.com/en-US/Pages/HomePage.aspx>
- ☐ Need to get information on your product?
Literature Library - <http://www.agilent.com/chem/library>
- ☐ Need to know more?
Customer Education – <http://www.agilent.com/chem/education>
- ☐ Need technical support, FAQs? – <http://www.agilent.com/chem/techsupp>
- ☐ Need supplies? – <http://www.agilent.com/chem/supplies>

Document part number: G1103-90012