

TurboVap® Installation and Familiarization Checklist

The following document will ensure that the installation is complete and that all installation steps and tasks have been performed. It will also provide guidelines for best practices and familiarization of the system after installation has been completed. The familiarization is intended to give the system operators a basic overview of the operation and maintenance of the new instrument, system, and software. Familiarization will take up to a maximum of 1.5 to 2 hours.

We cannot guarantee a complete installation or demonstration if the site requirements are not met. If you have any questions, please do not hesitate to contact your local Biotage® 1-Point Support™ group.

Please use the checklist below to track progress of both the installation and familiarization and fill out this form electronically. A printed copy should be signed by both the Field Service Engineer and Customer and given to the customer after completion.



Installation Checklist

Shipping Review

✓ Tasks	Notes
<input type="checkbox"/> Inspect the shipment carefully and verify that entire order has been received.	Use the packing lists to confirm that no items are missing. Inspect for any damages due to shipping. If the packaging or the instrument has been damaged, confirm with the customer that the receipt of Instrument document was completed and that a claim was initiated with the shipping company.
<input type="checkbox"/> Inspect the shipping containers for damage and review contents for internal damage.	

Site Preparations

✓ Tasks	Notes
<input type="checkbox"/> Ensure that the site requirements are met and that the final instrument location is accessible and ready for installation.	If available, review the site preparation checklist document.
<input type="checkbox"/> Ensure that inert gas is present at appropriate pressure.	Compressed air can be used but is not recommended with some solvents due to the possible risk of explosion.

Mains Voltage Supply

✓	Tasks	Actual VAC	Notes
	USA Utility: 110 VAC, 50/60 Hz, 1000 VA		
<input type="checkbox"/>	L1 to neutral is between 100 and 127 VAC.	_____	Verify the mains supply prior to physical connection of the instrument and pump to the lab supply voltage.
	EU & UK Utility: 230 VAC, 50/60 Hz, 1000 VA		
<input type="checkbox"/>	L1 to ground is between 220 and 240 VAC.	_____	

Environmental Conditions at Room Temperature

✓	Tasks	Actual VAC	Notes
<input type="checkbox"/>	Temperature is between 18 and 32 °C.	_____	In the event the lab is not equipped with temperature and humidity measurement devices or the lab conditions are outside of the specified control limits, a deviation to this installation must be documented.

Unpacking and Lifting the System

✓	Tasks	Notes
<input type="checkbox"/>	Remove the packing and accessory box	Verify that all items listed on the packing list supplied with the system are included. If any parts are damaged or missing, please contact Biotage.
<input type="checkbox"/>	Carefully lift the system by the base plate and place it in the fume hood or connected to a ventilation system using the exhaust outlet at the rear of the system.	We recommend that the boxes and packing materials are kept by the customer in case the system needs to be returned for service or moved to another location. If you need to ship the system, please contact Biotage 1-Point Support for instructions.

System Set-up

✓	Tasks	Notes
<input type="checkbox"/>	Remove the warning sticker covering the voltage selector switch on the right side of the system.	
<input type="checkbox"/>	Set the voltage switch correctly configured with the electric supply.	
<input type="checkbox"/>	Connect the inert gas supply.	Inert gas supply OD is 6 mm. There should be adequate supply pressure. For full flow capability: 6 bar (0.6 MPa, 87 psi) Maximum pressure: 9 bar (0.9 MPa, 130 psi).
<input type="checkbox"/>	Fill the water bath 75% full with deionized water.	5 L is required. Up to the MIN level at least. Aqua Stabil is supplied with the system.
<input type="checkbox"/>	Use Aqua Stabil water treatment.	
<input type="checkbox"/>	Connect the end-point sensor (optional) connection box to the AUX port on the right side of the system.	Ensure that the manifold air shield is not installed and all sensors are fully plugged into the bottom of the sensor connection box.
<input type="checkbox"/>	Install the Manifold air shield.	Manifold air shield is used without end-point sensors.
<input type="checkbox"/>	Adjust the Manifold.	Adjust the manifold correctly to generate a vortex shearing action.
<input type="checkbox"/>	Install the exhaust hose.	Use only an exhaust hose supplied by Biotage. To avoid excessive pressure drop, it is important to use an exhaust hose with the appropriate length and internal diameter.

System Start-up

✓ Tasks	Notes
<input type="checkbox"/> Turn on the system.	All test results shall be noted and recorded. Details instructions can be found in the getting started guide.
<input type="checkbox"/> Verify that the system start up with no issues or error codes.	Ensure that the power cord and any cables, hoses, and tubing connected to the system cannot come in contact with chemicals.
<input type="checkbox"/> Verify that the installed versions of Software is the latest.	If a later SW version is available, upgrade the system.

System Verification and Functional Testing

✓ Tasks	Notes
<input type="checkbox"/> Visual Inspection.	No visual breakage or damage to the unit or kinks and cracks on the tubing.
<input type="checkbox"/> In manual mode set water bath temp to 30 °C.	Red heating indicator blinks while heating to set point. System displays confirmation popup when measured temperature is ± 2 °C. See figures 1 to 4.
<input type="checkbox"/> Gas Connection.	The gas tubing is connected correctly to the system using adapters if necessary.
<input type="checkbox"/> Exhaust Hose.	An exhaust hose is connected to appropriate outlet. That is capable of exhausting 1 m ³ /min (35.3 ft ³ /min). Or the instrument is placed in a fume hood.
<input type="checkbox"/> In manual mode set gas flow to 2.0 L/min. Verify flow, then press Stop and OK on popup.	System displays measured Gas Flow ± 0.1 L/min.
<input type="checkbox"/> In Settings view toggle water bath light ON/OFF.	Bath light shall turn ON and OFF accordingly.
<input type="checkbox"/> In Settings view toggle Sound Level through different levels OFF/Low/Medium/High.	System shall emit alarm sounds of different volumes.
<input type="checkbox"/> Run a nozzle check and record the results.	This test is performed to verify the gas flow from all nozzles on the system.

Record Section

System Information

TurboVap® Serial # _____

Manufacturer Biotage GB Ltd

Base Mode TurboVap LV/II/EH _____

Main Module Software Version _____

I/O Module Software Version _____

End-Point Module Software Version (optional) _____

End-Point Serial Number (optional) _____

Instrument Serial Number GUI _____

Manifold Serial Number _____

IP Address _____

MAC Address _____

TurboVap Nozzle Check

Acceptance Criteria	Pass/Fail	Verified By	Date of Test
Verify Gas Flow on all nozzles of all rows individually.	_____	_____	_____
Verify Gas Flow on all rows simultaneously.	_____	_____	_____
Verify gas flow drops to 0.0 L/min on pressing pause.	_____	_____	_____
Verify gas flow increases to 2.0 L/min on pressing pause	_____	_____	_____

Familiarization Checklist

To review with the operator/operators

1. System Overview and Hardware Familiarization

✓	Tasks	Notes
<input type="checkbox"/>	Hardware Overview.	Review with the customer what equipment they have and explain the function.
<input type="checkbox"/>	Specifications overview.	Review the system specifications and requirements.
<input type="checkbox"/>	System startup and shut down procedures.	Demonstrate how to start up the system and what to consider then turning the system off.
<input type="checkbox"/>	Explain the different rack options and tube sizes.	
<input type="checkbox"/>	Explain how to Replace a Multi Rack Height Adjustment Handle.	Refer to the User manual

2. Manifold and End-point Configuration (optional)

✓	Tasks	Notes
<input type="checkbox"/>	Show the procedure to change the manifold.	
<input type="checkbox"/>	Explain how the end-point sensors work (optional).	Refer to the User manual
<input type="checkbox"/>	Show the procedure to change the end-point sensors.	

3. Software Overview

✓	Tasks	✓	Tasks
<input type="checkbox"/>	Explain the main menu.	<input type="checkbox"/>	Manifold Setup
	Explain the Evaporate Menu	<input type="checkbox"/>	Sleep mode
<input type="checkbox"/>	Mode	<input type="checkbox"/>	Automatic Wake-up
<input type="checkbox"/>	Gas flow	<input type="checkbox"/>	Temp Unit
<input type="checkbox"/>	Water bath temperature calibration	<input type="checkbox"/>	Time and Date
<input type="checkbox"/>	Nozzle setup	<input type="checkbox"/>	Bath Light
<input type="checkbox"/>	Stop	<input type="checkbox"/>	Show Reports
<input type="checkbox"/>	Pause		General
<input type="checkbox"/>	Status	<input type="checkbox"/>	Explain the More >> button.
	Explain the Settings Menu	<input type="checkbox"/>	Show how to program and run a method.
<input type="checkbox"/>	Sound Levels		
<input type="checkbox"/>	Brightness		

4. Safety and Safe Operation Overview

✓ **Tasks**

- Review the warning summary in the Installation and safety guide.

5. Maintenance and Troubleshooting

✓ **Tasks**

- Show maintenance procedure and best practice.
- Explain the water bath drain connector.
- Explain and show how to replace a fuse.
- Explain Log files for error reporting and how to access it.

Notes

This checklist confirms familiarization has been provided as outlined in this document. Any further training if required is covered in advanced user training.

Company Name and Location _____

Customer Name _____ **Date** _____

Field Service Engineer _____ **Date** _____

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