

# Biotage® Horizon 5000 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 is not intended or designed to substitute a full operator training course. Familiarization will take up to a maximum of two 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
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.
Inspect the shipping containers for damage and review contents for internal damage.	
Inspect the instrument and verify that it has not damaged during transport.	

### Site Preparations

✓ Tasks	Notes
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 signed by the Customer.
Confirm system footprint meets installation requirements.	
Confirm all power, venting and gas supply (optional) requirements are met.	
If the optional N <sub>2</sub> kit was purchased, ensure that the N <sub>2</sub> gas is present and able to be regulated to a pressure of 60–80 psi.	
If the optional N <sub>2</sub> kit was purchased, ensure that the customer has provided the appropriate fittings to adapt the N <sub>2</sub> regulator to the 3/16 in. OD tubing provided with the system.	

## Mains Voltage Supply

✓	Tasks	Actual VAC	Notes
	<b>120–240 VAC, 50/60Hz</b>		
	L1 to neutral is between 100 and 240 VAC.		Verify the mains supply prior to physical connection of the instrument and pump to the lab supply voltage.

## Unpacking and Lifting the System

✓	Tasks	Notes
	<b>Remove the Packing and accessory Box</b>	
	Carefully lift the 5000 system and place it in a location with adequate ventilation source for the exhaust hose.	The weight of a system is 28 kg (61.7 lbs). The location must be within reach of the 10 ft length of the exhaust hose. The hose provided is 3 in. ID.
	Cross-checking system components against the packing list.	

## System Set-up

Tasks	Notes
If purchased, install all 1-Pass kits.	Detailed instructions can be found in the installation guide included with the 1-Pass Kit.
Install all waste lines onto the rear of the system.	Detailed instructions can be found in the Users' Guide.
Assemble the solvent waste and water waste containers.	Detailed instructions can be found in the Users' Guide.
Attach the waste lines to the waste containers.	Ensure that the green vent line is attached to the solvent waste manifold on the VENT side.
Run the waste container vent lines to a suitable ventilation source.	Detailed instructions can be found in the Users' Guide.
Assemble the solvent bottles and lines and attach to the system ports 1-7. Attach the line with the filter on it to position 8 of the system.	Detailed instructions can be found in the Users' Guide.
Connect the power supply and power cord to the system.	Detailed instructions can be found in the Users' Guide.
If the nitrogen option was purchased, attach the N <sub>2</sub> supply line to the system and run to the user-supplied regulator.	Detailed instructions can be found in the Users' Guide.
If more than one system with the N <sub>2</sub> option was purchased, ensure that the supplied tee fittings are installed.	Detailed instructions can be found in the Users' Guide.
Connect the USB cable and run to the PC or USB hub that will be used.	Detailed instructions can be found in the Users' Guide.
If installing outside of a fume hood, connect the exhaust hose and run to a suitable ventilation source.	Detailed instructions can be found in the Users' Guide.
Remove the shrouds and verify that the thermistor heights are correct for the disk holder being used.	Detailed instructions can be found in the Users' Guide.
Install the elution tubes into the collection adapters.	Detailed instructions can be found in the Users' Guide.
Using clean solvents, rinse all containers and solvent intake lines and fill the solvent containers.	The user should be involved in this step to ensure that all containers are rinsed per their technique and labeled appropriately.

## System Start-up and Software Installation

✓ Tasks	Notes
Turn on the system.	All test results shall be noted and recorded.
Install the USB drivers followed by the Horizon 5000 software.	
Start the software and record both the software and firmware versions.	
If more than one system is being installed, modify the COM ports as needed.	

## System Verification and Functional Testing

✓ Tasks	Notes
Verify that the ring on the power button is illuminated.	
Navigate to the the Solvent Config screen, set up the solvents, and record.	
Ensure that the PDF Viewer is working correctly.	Modify the setting in the PC Setup screen if necessary. Common readers are: "Acrobat.exe" and "AcroRd32.exe".
Verify that the thermistors are responding.	Use a beaker of water to submerge the thermistors in cold water and verify that their values on the diagnostics screen changes.

### Create the method as follows

1: Condition SPE Disk -- Reagent 1: 5mL Purge:60 Pump:2 Saturate:0 Soak:0 Drain:30
2: Condition SPE Disk -- Reagent 2: 5mL Purge:60 Pump:2 Saturate:0 Soak:0 Drain:30
3: Condition SPE Disk -- Reagent 3: 5mL Purge:60 Pump:2 Saturate:0 Soak:0 Drain:30
4: Condition SPE Disk -- Reagent 4: 5mL Purge:60 Pump:2 Saturate:0 Soak:0 Drain:30
5: Condition SPE Disk -- Reagent 5: 5mL Purge:60 Pump:2 Saturate:0 Soak:0 Drain:30
6: Condition SPE Disk -- Reagent 6: 5mL Purge:60 Pump:2 Saturate:0 Soak:0 Drain:30
7: Condition SPE Disk -- Reagent 7: 5mL Purge:60 Pump:2 Saturate:0 Soak:0 Drain:30
8: Load Sample – Vacuum Pump Rate:2 Done Loading Delay:45
9: Air Dry Disk Timer – Dry:30sec PumpRate:6 N <sub>2</sub> :On
10: Elute Sample Container – Reagent 1:5mL Purge:60 Pump:2 N <sub>2</sub> :Off Saturate:0 Soak:0 Elute:30
11: Elute Sample Container – Reagent 1:5mL Purge:60 Pump:2 N <sub>2</sub> :Off Saturate:0 Soak:0 Elute:30

Prepare the system for operation.

Fill empty bottle with 500-mL of water and load onto system with empty disk holders and collection vessels.

Load and run the method created previously.

Record results.

## Record Section

### System Information

Serial # \_\_\_\_\_

Software Version: \_\_\_\_\_

Firmware Version: \_\_\_\_\_

In Solvent Config, select the solvents which will be run according to the customer's application:

Port	Module 1 Reagents	Module 2 Reagents	Module 3 Reagents	Module 4 Reagents
1				
2				
3				
4				
5				
6				
7				
8	Air Vent	Air Vent	Air Vent	Air Vent

Start the method on all stations and observe the following behavior:

	Station 1	Station 2	Station 3
Water Inlet Valve Seals			
Conditioning Solvent 1 Dispenses			
Conditioning Solvent 2 Dispenses			
Conditioning Solvent 3 Dispenses			
Conditioning Solvent 4 Dispenses			
Conditioning Solvent 5 Dispenses			
Conditioning Solvent 6 Dispenses			
Conditioning Solvent 7 Dispenses			
Conditioning Solvents are Pulled to Solvent Waste			
Water Inlet Valve Opens			
Sample Water is Pulled to Water Waste			
Air Dry step Occurs (Thermistor Functions Correctly)			
Nitrogen is Dispensed During Air Dry (If Applicable)			
Rinse Solvent is Dispensed			
Rinse Solvent is Applied to Center of Bottle			
Rinse Solvent is Collected			
Final Extract Volume is Consistent Across Stations			

## Familiarization Checklist

To review with the operator/operators

### System Overview and Hardware Familiarization

✓ Tasks	Notes
Hardware Overview.	Review with the customer what equipment they have and explain the functions. Including how to prep, load and extract samples.
Specifications overview.	Review the system specifications with the customer.
System startup and shut down procedures.	Highlight the recommend running conditions for vacuum and pressure as well as the purging instructions contained on the Start-Up/Shut-Down Card. <ul style="list-style-type: none"> <li>• Collection vessels.</li> <li>• Water inlet valves.</li> <li>• Disk holders.</li> <li>• Cap adapters.</li> </ul>
Cover all instrument supporting accessories.	<ul style="list-style-type: none"> <li>• 1 -Pass and Carbon Cartridges.</li> <li>• Vapor Shield.</li> <li>• Thermistor height tool.</li> <li>• WIV Wrench.</li> </ul>

### Software Overview

✓ Tasks	Notes
Explain the theory of operation.	Ensure that the Lockstep operation is covered in particular.
Show the customer the method library.	Explain how to create methods and what each of the steps available do.
Show the customer how to add news reagents to the system and how to map them.	
Show the diagnostics screen and explain each of the functions.	
Demonstrate the full extraction process.	Have the customer load an SPE disk into the holder, 1 liter of water, and a collection vessel. Have them dstart the system and explain what steps are occurring as the system runs through the process.

### Maintenance and Troubleshooting

✓ Tasks	Notes
Show and Explain how to Troubleshooting.	-
Show maintenance procedure and best practice.	Explain how external lines are connected.
Explain the most common service questions for the customer.	Talk about false overflows and cleaning of the system through building a custom purge method.

## Operators Trained

<b>Operator #1</b>	_____	Date:	_____
<b>Operator #2</b>	_____	Date:	_____
<b>Operator #3</b>	_____	Date:	_____
<b>Operator #4</b>	_____	Date:	_____
<b>Operator #5</b>	_____	Date:	_____

## Notes

## Signatures and System Information

**Location:** \_\_\_\_\_

**Biotage Engineer:** \_\_\_\_\_ **Date:** \_\_\_\_\_

**Customer:** \_\_\_\_\_ **Date:** \_\_\_\_\_

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