

Biotage® Extrahera™ 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
<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 signed by the Customer.
<input type="checkbox"/> Ensure that N ₂ gas is present at a pressure of 6 +/- 0.2 Bar.	Other inert gas option may be chosen.
<input type="checkbox"/> Ensure that Air is present at a pressure of 6 +/- 0.2 Bar with flowrate at 5 L/min	
<input type="checkbox"/> Ensure that the N ₂ gas fulfils the quality required according to ISO 8573-1, classification 1-6-1. Indicate if not used.	If the gas applied is not according to class x-6-x, an air dryer needs to be ordered separately (P/N 416441SP).

Mains Voltage Supply

✓	Tasks	Actual VAC	Notes
	120–240 VAC, 50/60Hz, 300 VA		
<input type="checkbox"/>	L1 to neutral is between 100 and 120 VAC.		Verify the mains supply prior to physical connection of the instrument and pump to the lab supply voltage.

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.
<input type="checkbox"/>	Humidity is between 10 and 90% RH.	_____	

Unpacking and Lifting the System

✓	Tasks	Notes
	Remove the Packing and accessory Box	
<input type="checkbox"/>	Carefully lift the Extrahera by using the handles and place it in a well-ventilated fume hood or an equivalent enclosure.	Two or more persons are needed when lifting the system. The weight of a system is 75 kg (165 lbs).
<input type="checkbox"/>	Level the system by adjusting the height of the feet.	Pay particular attention to the foam insert that holds the robot in position.
<input type="checkbox"/>	Prepare for ventilation connections if the system is to be installed on a benchtop (outside a fume hood or equivalent enclosure).	The ventilation system or fume hood must be capable of exhausting 6 cubic meters/min (212 cubic feet/min). The outer diameter of the air duct adapter is 159.0 ± 0.3 mm (6.26" \pm 0.01"), and the inner is 152.7 ± 0.3 mm (6.01" \pm 0.01").

System Set-up

✓	Tasks	Notes
<input type="checkbox"/>	Install the screen.	Detailed instructions can be found in the service manual and in the getting started guide.
<input type="checkbox"/>	Electrical connections.	
<input type="checkbox"/>	Computer connections,	
<input type="checkbox"/>	Gas connections (N ₂).	
<input type="checkbox"/>	Pneumatic connections (Air or N ₂).	
<input type="checkbox"/>	Waste kit connections.	
<input type="checkbox"/>	House vacuum or external vacuum pump.	
<input type="checkbox"/>	Install the solvent racks and tip racks.	
<input type="checkbox"/>	Set up the tubing connection and solvents.	

System Start-up

✓	Tasks	Notes
<input type="checkbox"/>	Turn on the system.	All test results shall be noted and recorded.
<input type="checkbox"/>	Verify that the system start up with no issues or error codes.	
<input type="checkbox"/>	Verify that the external vacuum pump or house vacuum is initialized.	
<input type="checkbox"/>	Verify that the installed versions of Software and OS are the latest.	If a later SW version is available, upgrade the system.
<input type="checkbox"/>	Check that Solvent bottles are connected to the solvent tubing.	
<input type="checkbox"/>	Verify that the Solvent feeder is inserted and active.	
<input type="checkbox"/>	Set system date and time.	
<input type="checkbox"/>	Set the serial number of the unit.	
<input type="checkbox"/>	Check and record the Robot Calibration parameters.	System has been calibrated at factory.

System Verification and Functional Testing

✓	Tasks	Notes
<input type="checkbox"/>	Prime/flush all five solvent inlet lines with 25 mL of methanol. Empty the reservoirs and repeat twice.	
<input type="checkbox"/>	Verify that all 5 solvents pumps are functional.	
<input type="checkbox"/>	Prime/flush all five solvent inlet lines with 25 mL of water. Empty the reservoirs and repeat twice.	
<input type="checkbox"/>	Empty the solvent reservoirs and flush the five solvent inlet lines again with 25 mL of water.	All test results shall be noted and recorded
<input type="checkbox"/>	Verify visually that all solvents levels are approximately equally filled. Clean & Primed Solvent System Performance.	All tests are detailed in the Installation checkout document.
<input type="checkbox"/>	Perform the Pressure Head Function Test (Both for 96 and 24 plate configuration if applicable).	
<input type="checkbox"/>	Verify the functionality of the Waste valve. The valve should open and close without restriction.	
<input type="checkbox"/>	Perform a Pipette Performance Test.	

Record Section

System Information

Extrahera Serial # _____

Application SW Version _____

Controller SW Version _____

Mover FW Version _____

Pressure Head Function Test Result (Pass/Fail) _____

Waste Valve Function (Pass/Fail) _____

Pumper FW Version _____

Calibration coefficient (K) _____

Calibration offset (M) _____

Clean & Primed Solvent System Performance Checked (Yes/No) _____

Pipetting Performance Test Result (Pass/Fail) _____

Extrahera Pipette Performance Test

The result of the Pipette Performance Test shall be recorded below and the data sheet attached as an appendix to this Installation document.

Analysis	% CV Pass/Fail	% Accuracy Pass/Fail	Date of Test
Channel 1	_____	_____	_____
Channel 2	_____	_____	_____
Channel 3	_____	_____	_____
Channel 4	_____	_____	_____
Channel 5	_____	_____	_____
Channel 6	_____	_____	_____
Channel 7	_____	_____	_____
Channel 8	_____	_____	_____

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.
<input type="checkbox"/>	System startup and shut down procedures.	
<input type="checkbox"/>	Show Solvent Pumps and feeder.	
<input type="checkbox"/>	Show the Z head/Robot functions.	
<input type="checkbox"/>	Show how to remove and take out the pump unit.	
<input type="checkbox"/>	Show the pressure plate and the procedure to remove and replace it.	
<input type="checkbox"/>	Show the Carousel, Lifter and door.	

2. Software Overview

✓	Tasks	Notes	
Show and Explain the Options in the Main Menu:			
<input type="checkbox"/>	Run Single Method		
<input type="checkbox"/>	Run Multiple Methods		
<input type="checkbox"/>	Reports		
<input type="checkbox"/>	Manage Methods	Show and Explain all the tabs in each of the options.	
<input type="checkbox"/>	Data Administration		
<input type="checkbox"/>	About		
Methods & Run			
<input type="checkbox"/>	Explain and show how to create a Method.		
<input type="checkbox"/>	Explain how to run a Method.		
<input type="checkbox"/>	Show the preparation steps before executing a run.		

3. Safety and Safe Operation Overview

✓ **Tasks**

- Review the safety precautions necessary when working with the Extrahera. Use the Installation and safety guide.

4. Maintenance and Troubleshooting

✓ **Tasks**

- Show and Explain the Maintenance tab in the Main Menu.
- Show maintenance procedure and best practice.
- 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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