

# Site Requirements

## Biotage® Extrahera™ HV-5000

### Dear Valued Customer,

The following document will assist you in the preparation of your laboratory for a successful installation of Biotage® Extrahera™ HV-5000. Please read and sign where indicated at the end of this document. Your signature validates that you have understood our requirements. We cannot guarantee a complete installation or demonstration if the requirements are not met. If you have any questions, please do not hesitate to contact Biotage® 1-Point Support™. See below for contact details.

### Customer Responsibility

Make sure your site meets these requirements, including the necessary ventilation, space, electric outlets, gases, and tubing required for a successful installation of the system. Users of the system should be present throughout the installation and familiarization services; otherwise, they will miss important operational, maintenance, and safety information.

<b>Fume Hood/ Ventilation System</b>	<p>The system must be either connected to a ventilation system or placed in a well-ventilated fume hood or an equivalent enclosure to reduce the risk of exposure to harmful gases. The ventilation system or fume hood must be capable of exhausting 6 m<sup>3</sup>/min (212 cubic feet/min).</p> <p>If the system is to be installed on a benchtop (outside a fume hood or equivalent enclosure), an air duct adapter supplied with the system must be installed on the top of the ventilation fan to allow connection to suitably sized ventilation tubing.</p> <p>The outer diameter of the air duct adapter is 159.0 ± 0.3 mm (6.26" ± 0.01") and the inner is 152.7 ± 0.3 mm (6.01" ± 0.01").</p>
<b>Weights and Dimensions</b>	<p>The total weight of the package including the system is 116 kg (256 lbs). Use suitable lifting equipment when moving the package. The system is supplied on pallet and the dimensions of the package (+ pallet) are: 1230 x 840 x 800 mm (48.4" x 33.1" x 31.5"). The fume hood or bench must be able to support the weight of the system, 80 kg (176 lbs). The dimensions of the system are (W x D x H):</p> <ul style="list-style-type: none"> <li>• <b>Without touch screen:</b> 610 x 510 x 790 mm (24.0" x 22.1" x 31.1")</li> <li>• <b>With touch screen:</b> 860 x 570 x 790 mm (33.8" x 22.4" x 31.1")</li> </ul>
<b>Operating Environment</b>	<ul style="list-style-type: none"> <li>• <b>Operating temperature:</b> 18 °C to 32 °C</li> <li>• <b>Humidity:</b> 10% to 90% RH</li> </ul> <p>The system must be located in an area where the ambient air is clean. No emission of solid particles or smoke in the air by adjacent equipment is allowed. The level of dust should be comparable to that of normal laboratory spaces.</p>
<b>Electrical Supply</b>	100 to 240 V~, 50/60 Hz, 300 VA. Connect only to a properly grounded outlet.
<b>Gas Supply</b>	<p>The filter unit that is supplied with the system delivers according to ISO 8573-1, class 1-x-1. If the gas applied is not according to class x-6-x, an air dryer needs to be ordered separately (P/N 416441SP).</p> <ul style="list-style-type: none"> <li>• <b>AIR port requirements:</b> 5 L/min (0.18 cubic feet/min), 6 ± 0.2 bar (0.6 ± 0.02 MPa; 87 ± 3 PSI).</li> <li>• <b>N<sub>2</sub> port requirements:</b> 1 L/min (0.04 cubic feet/min) during processing and 70 L/min (2.5 cubic feet/min) during plate dry, 6 ± 0.2 bar (0.6 ± 0.02 MPa, 87 ± 3 PSI).</li> <li>• <b>Connection:</b> The gas tube supplied with the system has a 6 mm (0.24") outer diameter and 4 mm (0.16") inner diameter. The gas applied to the samples (i.e. the gas connected to the N<sub>2</sub> port) must be free of moisture, particulates, and hydrocarbons. This is essential to prevent sample contamination and general fouling of the pressure unit.</li> </ul>
<b>Vacuum Supply</b>	<ul style="list-style-type: none"> <li>• <b>Partial pressure range:</b> &lt; 500 mbar (50 kPa; 7 PSI)</li> <li>• <b>Flow rate:</b> ≥ 8.3 L/min (0.29 cubic feet/min)</li> <li>• <b>Connection:</b> The vacuum tube supplied with the system has a 6 mm (0.24") outer diameter and 4 mm (0.16") inner diameter.</li> </ul>
<b>External Fire Protection</b>	External fire protection should be installed according to local regulations for equipment operating unattended.

## Configuration Options

In the case of installation outside of a fume hood or safety cabinet it is the responsibility of the customer to provide suitable ventilation tubing. This is required for a connection between the air duct adapter and the ventilation system. The air duct adapter dimensions needed to ensure safe connection are specified above in the fume hood/ventilation system section.

If two different gas supply options are chosen, nitrogen (N<sub>2</sub>) for delivering processing flow to the positive pressure unit and air for pneumatic operation, each gas supply must meet the minimum specified pressure requirements (above in the positive pressure unit section).

If only one gas supply is available it must meet the minimum specified pressure requirements (above in the positive pressure unit section). During installation, the gas supply will be split prior to connection to the Air and N<sub>2</sub> ports. Two pressure regulators are included with the system to allow individual regulation after the split.

Biotage recommends the use of nitrogen if using a single gas supply due to the risk of sample oxidation if air is chosen.

## System Test Requirements

To ensure that the system is correctly installed and functioning as specified, an installation checkout procedure can be carried out. This procedure requires a calibrated laboratory balance with an accuracy of four decimal places (in grams), available for service engineer use, and within reasonable proximity of the system installation. The checkout procedure also requires deionized water, available for service engineer.

## Gas Supply Connection

The gas tubing provided with the system has a 6 mm (0.24") outer and 4 mm (0.16") inner diameter. It is the customer's responsibility to ensure that suitable connections are available to their primary gas supply source(s) within the laboratory. The customer is to provide either male or female 1/4" BSPT within 2 meters of the proposed system location. Biotage also provides the system with a range of adapters and fittings to facilitate this.



**Signature:** \_\_\_\_\_

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

**Print name:** \_\_\_\_\_

### EUROPE

Main Office: +46 18 565900  
 Toll Free: +800 18 565710  
 Fax: +46 18 591922  
 Order Tel: +46 18 565710  
 Order Fax: +46 18 565705  
 order@biotage.com  
 Support Tel: +46 18 56 59 11  
 Support Fax: + 46 18 56 57 11  
 eu-1-pointsupport@biotage.com

### NORTH & LATIN AMERICA

Main Office: +1 704 654 4900  
 Toll Free: +1 800 446 4752  
 Fax: +1 704 654 4917  
 Order Tel: +1 704 654 4900  
 Order Fax: +1 434 296 8217  
 ordermailbox@biotage.com  
 Support Tel: +1 800 446 4752  
 Outside US: +1 704 654 4900  
 us-1-pointsupport@biotage.com

### JAPAN

Tel: +81 3 5627 3123  
 Fax: +81 3 5627 3121  
 jp\_order@biotage.com  
 jp-1-pointsupport@biotage.com

### CHINA

Tel: +86 21 68162810  
 Fax: +86 21 68162829  
 cn\_order@biotage.com  
 cn-1-pointsupport@biotage.com

### KOREA

Tel: + 82 31 706 8500  
 Fax: + 82 31 706 8510  
 korea\_info@biotage.com  
 kr-1-pointsupport@biotage.com

### INDIA

Tel: +91 11 45653772  
 india@biotage.com

Distributors in other regions are listed on [www.biotage.com](http://www.biotage.com)

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