



Vector PCX Site Requirements

- ❑ The minimum bench top space required for the Vector PCX system is approximately 21H x 13.75W x 19D inches (53 x 35 x 48 cm). The Vector PCX weighs approximately 26 lbs (11.6kg) for dual pump systems. The minimum bench space does not include the HPLC system or reagent bottles. The total space requirement depends on the brand and model of HPLC. For most cases, it is best to place the LC pump and injector system on the left side of the Vector PCX, and the detector on the right.
- ❑ In addition to the power outlets required for the HPLC system, one grounded outlet will be needed.
- ❑ Nitrogen is required to pressurize the reagent reservoir(s). The Vector PCX requires gas pressure of 45-75psi (3-5bar) at the gas inlet. To minimize oxidation of the TRIONE ninhydrin or OPA reagent, use oxygen-impermeable tubing for the entire gas supply line. *Note:* If TRIONE is to be used, Nitrogen must be used to prevent out-gassing.
- ❑ An adaptor from the gas regulator to **1/8 inch OD** tubing is required

HPLC System Requirements

Since every HPLC is different, the following procedure has been generalized. Before attempting to connect any tubing, examine the HPLC setup, and determine the best possible means of making the connections. Small ID tubing (0.010") should be used wherever the sample is in the flow path.

Important! If the system will be used for amino acids, glufosinate, glyphosate, polyamines, or diquat & paraquat analysis, be aware that the column regenerant is strongly alkaline. Any polymers or other materials in the HPLC pump, injector, needle seat, and detector must be compatible. For example, the standard rotor seal in Rheodyne injector valves is Vespel polyimide, which is not recommended at $\text{pH} > 9$; a Tefzel or PEEK rotor seal must be installed.

- ❑ **Detector Specs:** Cannot use UHPLC standard size (1uL) flowcell. Must use larger volume flowcell with a pressure rating greater than 110psi (7.5 bar). The viscosity of some reagents can cause high pressure problems with small volume flow cells.
OK Example: Agilent 1290 DAD (G4212-60007), 60mm, 4uL, 60 bar (870psi)

For Amino Acid Analysis

Pump

- Minimum ternary gradient elution
- Piston wash capability is preferable

Injector

- Tefzel or PEEK rotor seal for injector valve
- Tefzel or PEEK needle seat if it is an autosampler

Detector

- Vis if using TRIONE
 - 570nm for primary amines
 - 440nm for secondary amines
- FLD if using OPA
 - Ex 330nm and Em 465nm

For Glyphosate Analysis

Pump

- Minimum binary gradient elution
- Piston wash capability is preferable

Injector

- Tefzel or PEEK rotor seal for injector valve
- Tefzel or PEEK needle seat if it is an autosampler
- For water samples, at least 200 ul injection

Detector

- FLD detection required
 - Ex 330nm and Em 465nm

For Carbamate Analysis

Pump

- Minimum binary gradient elution

Injector

- For water samples, at least 200 ul injection

Detector

- FLD detection required
 - Ex 330nm and Em 465nm

For all other applications, review the method notes for chemistry requirements.

Chemistry

- The user must have HPLC experience and must be able to operate the HPLC being coupled with the Pinnacle PCX.
- The user must check the chemistry requirements for the specific application.

For Carbamate Analysis

HPLC Grade Methanol

HPLC Grade Water

Materials for calibration standards

Carbamate hydrolysis reagent (Cat. No. CB910)

Carbamate OPA diluent (Cat. No. CB130 or CB130.2)

o-phthalaldehyde (Cat. No. O120)

Thiofluor™ (Cat. No. 3700-2000)

For Glyphosate Analysis

5% Sodium hypochlorite solution
Materials for calibration standards
Methanol for OPA reagent preparation
Glyphosate Eluant, pH2.0 (Cat. No. K200)
Glyphosate Regenerate (Cat. No. RG019)
Glyphosate Hypochlorite diluent (Cat. No. GA116)
Glyphosate OPA diluent (Cat. No. GA104)
o-phthalaldehyde (Cat. No. 0120)
Thiofluor™ (Cat. No. 3700-2000)

For Amino Acid Analysis

A: UV – Visible detection

- DI Water
- TRIONE® Ninhydrin reagent (cat. no. T100C or T200)
- Pickering sodium or lithium elution buffers

B: Fluorescence detection

- Methanol for OPA reagent preparation
- 5% Sodium hypochlorite if using the 2-reagent method
- Brij 35 solution for OPA reagent preparation
- DI Water
- Pickering sodium or lithium elution buffers

All of the requirements must be met and the HPLC must be in working condition before the Installation can take place. If any of the site requirements are not met or the HPLC is not working, then the Installation must be rescheduled until the requirements are met and the HPLC is in working condition.

All of the requirements have been met and the HPLC is in working condition:

Sign and date: _____

Name: _____

Company: _____

Phone: _____

Email: _____

Please send a signed copy back to
Fax: (650) 968-0749 or
Email: support@pickeringlabs.com