

## **Onyx PCX Site Requirements**

The minimum bench top space required for the Onyx PCX system is
approximately 32H x 23.9W x 20D inches (81 x 60 x 51 cm), both doors fully
opened, with bottles and electrical connections in place. The Onyx PCX weighs
approximately 67 lbs (30kg) for simplex systems, and approximately 77 lbs
(35kg) for duplex systems. The minimum bench space does not include the
HPLC system. 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 Onyx 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 Onyx 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.
- $\Box$  An adaptor from the gas regulator to <u>**1/8 inch OD**</u> tubing is required.
- A waste container should be provided for the waste lines from the Onyx PCX and the HPLC detector.

#### **Onyx Control Software Computer Requirements**

How far is the computer from the HPLC?

The computer must have:

Microsoft Windows 7 or newer operating environment Minimum of one USB port 8GB of RAM

## **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  $\underline{pH > 9}$ ; 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
—	$\sim$ 570nm for primary amines
	$\sim 440$ nm for secondary amines
	FLD if using OPA
	$\sim$ Ex 330nm and Em 465nm
	0 Ex 550min and Em 405min
	For Glyphosate Analysis
	Pumn
	Minimum binary gradient elution
	Piston wash canability 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 200ul injection
	Por water samples, at least 20001 injection
	ELD detection manufed
	FLD detection required
	$\circ$ Ex 330nm and Em 465nm
	For Corbomate Analysis
	For Carbamate Analysis
	<i>Tump</i> Minimum binory gradient elution
	Information of the second seco
	Injector Economication and a state 200 ml iniciation
	For water samples, at least 20001 injection
	Detector
	FLD required
	• Ex 330nm and Em 465nm
	For Chromium VI Analysis
	Non metallic HDI C or IC
	Initiality IIF LC VI IC
	1000 ul injection loop non official mathed
	1000ul injection loop per official method.

Vis required o 530nm

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

# HPLC Relay Requirements

For HPLC systems other than Agilent 1100, or 1200, the Software and system must be capable of sending a relay signal to an external piece of equipment to achieve synchronization.

□ Chemstation version 9 to OpenLab version 1 is required for Agilent 1100 or Agilent 1200. Onyx PCX software will communicate with Chemstation directly – no relay connection is needed. OpenLab version 2 is not compatible. If OpenLab version 2 is used, an external contact board must be installed.

Any machine that drives this relay input shall provide a relay contact pair that is electrically isolated from all other electrical devices. The relay signal must have:

Relay detection voltage	24 +/- 2V
Relay detection current	Approximately 1 mA

### Chemistry

The user must have HPLC experience and must be able to operate the HPLC being coupled with the Onyx PCX.
The user must check the chemistry requirements for the specific application.
Application test mixture or standard must be stored in the freezer.

## For Carbamate Analysis

HPLC Grade Methanol HPLC Grade Water Materials for calibration standards Carbamate hydrolysis reagent (Cat. No. CB130 or CB130.2) Carbamate OPA diluent (Cat. No. CB910) o-phthaladehyde (Cat. No. O120) Thiofluor<sup>TM</sup> (Cat. No. 3700-2000) Carbamate Test Mixture (included with column)

# 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-phthaladehyde (Cat. No. 0120) Thiofluor<sup>™</sup> (Cat. No. 3700-2000)

Glyphosate Test Mixture (included with column)

# For Amino Acid Analysis

A: UV – Visible detection

- DI Water
- TRIONE® Ninhydrin reagent (cat. no. T1OOC or T200)
- Pickering sodium or lithium elution buffers
- Amino Acid Test Mixture (included with column) and standard (included with application kit)

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
- Amino Acid Test Mixture (included with column) and standard (included with application kit)

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:		
2 –		
Name		

Company:		
Phone:		
Email:		

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