

Instruments & Hardware

Vector PCX



Vector PCX Derivatization Instrument

The Vector PCX serves as another post-column choice ideal for application-specific methods.

Vector PCX provides the selectivity and sensitivity required for most standard post-column applications while being reliable and easy to use. Since the Vector PCX does not have a column oven it is important to use the HPLC column oven to ensure stable column temperature and prevent retention time drifts and separation problems.

Features

- Inert pumps
- PEEK® liquid manifolds
- Integrated gas manifold
- Easy access and monitoring of fluidics
- Simple control interface (no computer required)
- Reduced bench space profile

Matched with Pickering Laboratories' Chromatographic Grade® reagents, eluants and columns, the Vector PCX instrument is a solid choice for laboratories' standard post-column needs.

Specifications

Dimensions

- (h x w x d): 43 x 21.6 x 41.2 cm (17 x 8.75 x 16 inches)

Weight

- 27.6 lbs (12.5 kg) –Duplex

Electrical

- 100 - 120 V, 50/60 Hz 1.7 A, 200 W or 200-240 V, 50/60 Hz, 0.8 A, 200 W
- Mains voltage $\pm 10\%$ of nominal
- Installation (over voltage) category II, pollution degree 2
- Indoor use only

Environmental

- Altitude up to 6,500 ft
- Ambient temperature 15 - 25 °C
- Relative humidity up to 80 % at 31 °C

Reagent Pumps

- Independently adjustable, low-pulsation
- Adjustable from 0.05 to 2.00 mL/minute against back-pressures of up to 2000 psi
- Flow Accuracy 3 %
- Flow Precision 0.5 % RSD
- Sapphire pistons
- Liquid ends, including check valve housing, PEEK®
- PEEK® bypass/purge valves for each pump located on front of instrument panel
- Automatic piston wash

Flow Path

- Independent pressure transducer for each pump 210 bar (0-3000 psi)
- Diamond-packed restrictors, matched to flow rate and viscosity of reagents
- PEEK® bypass/purge valves
- Replaceable reagent filter
- PEEK® mixing manifold

Instruments & Hardware

Vector PCX
Continued**Reactor**

- Heater reactor controls at ± 0.4 °C for temperatures from 5 °C above ambient to 130 °C
- Range of reactor dwell volumes, 0.1 mL to 3.5 mL
- Reaction coil withstands up to 42 bar (600 psi) inlet pressure at 130 °C
- LCD display of actual temperature or set point
- Thermal safety switch limits temperature to 150 °C to prevent damage

Gas Pressure Manifold and Regulator

- Panel mounted manifold
- Regulator maintains 0.3 bar (3-5 psi) on reagent reservoirs with 3-5 bar (45-75 psi) source pressure
- Safety pressure relief valve opens at 0.7 bar (10 psi)

- Manifold has two 1/4-28 tubing connections
- Gas line with anti-siphon valve

Pressurized Reagent Reservoir

- One liter capacity (2 L reservoirs available)
- Maintained under inert gas pressure to inhibit oxidation of oxygen-sensitive reagents
- Valve built into reservoir cap permits sparging during reagent preparation
- Reagent reservoirs fitted with 3.1 mm (1/8") OD, oxygen-impermeable Air Barrier tubing for oxygen-sensitive reagents and/or with 3.1 mm (1/8") OD FEP tubing

Safeguards

- A pressure switch installed between LC (eluant) pump and sample injector turns off power to

reagent pumps and reactor when the eluant pump pressure drops to 30 bar (425 psi), ensuring that reagent will not flow upstream and damage the analytical column. Low eluant pressure can result from power failure, eluant pump malfunction, automatic or intentional shut-down, or an empty reservoir. The Vector PCX will not restart automatically.

- Post-column system over pressure: A pre-calibrated relief valve opens at 35 bar (500 psi) to prevent rupture of the post-column reactor tubing in the event of down-stream blockage
- Back-pressure regulator: Applies 7 bar (100 psi) to the detector flow cell outlet (waste) to prevent detector noise and precipitation due to out-gassing or boiling

Vector PCX Derivatization Instruments	
Catalog No.	Description
1154-4011	Vector, Single Pump, OPA Flow Restrictor, 0.15 mL, 120 V (Primary Amino Acids w/OPA, Aminoglycoside Antibiotics, Biogenic Amines, Sulfonamide Artificial Sweetener)
1154-4012	Vector, Single Pump, OPA Flow Restrictor, 0.15 mL, 240 V (Primary Amino Acids w/OPA, Aminoglycoside Antibiotics, Biogenic Amines, Sulfonamide Artificial Sweetener)
1154-4021	Vector, Single Pump Trione Flow Restrictor, 0.5 mL, 120 V (Amino Acids w/TRIONE®, Theanine)
1154-4022	Vector, Single Pump Trione Flow Restrictor, 0.5 mL, 240 V (Amino Acids w/TRIONE®, Theanine)
1154-4031	Vector, Single Pump, OPA Flow Restrictor, Knitted 1.4 mL, 120 V (Aflatoxins, Sulfonamide Drugs)
1154-4032	Vector, Single Pump, OPA Flow Restrictor, Knitted 1.4 mL, 240 V (Aflatoxins, Sulfonamide Drugs)
1154-4051	Vector, Dual Pump, OPA Flow Restrictors, 0.5 mL, 120 V (Carbamate, Glyphosate, Primary and Secondary Amino Acids w/OPA, Streptomycin)
1154-4052	Vector, Dual Pump, OPA Flow Restrictors, 0.5 mL, 240 V (Carbamate, Glyphosate, Primary and Secondary Amino Acids w/OPA, Streptomycin)
1154-4061	Vector, Dual Pump, OPA Flow Restrictors, Knitted 1.0 mL, 120 V (Paralytic Shellfish Toxins)
1154-4062	Vector, Dual Pump, OPA Flow Restrictors, Knitted 1.0 mL, 240 V (Paralytic Shellfish Toxins)
1154-4071	Vector, Dual Pump, OPA Flow Restrictors, Knitted 1.2 & 1.6 mL, 120 V (Tricothescene)
1154-4072	Vector, Dual Pump, OPA Flow Restrictors, Knitted 1.2 & 1.6 mL, 240 V (Tricothescene)
1154-4081	Vector, Dual Pump, Reverse Plumbing, PEEK® Tubing Flow Restrictors, Knitted 1.4 mL, 120 V (Polyether Antibiotics)
1154-4082	Vector, Dual Pump, Reverse Plumbing, PEEK® Tubing Flow Restrictors, Knitted 1.4 mL, 240 V (Polyether Antibiotics)
1154-4091	Vector, Single Pump, Custom Configuration, 120 V *
1154-4092	Vector, Dual Pump, Custom Configuration, 120 V *
1154-4093	Vector, Single Pump, Custom Configuration, 240 V *
1154-4094	Vector, Dual Pump, Custom Configuration, 240 V *
1154-4101	Vector, Single Pump, OPA Flow Restrictor, Knitted 3.5 mL, 120 V (Voglibose)
1154-4102	Vector, Single Pump, OPA Flow Restrictor, Knitted 3.5 mL, 240 V (Voglibose)
1154-4103	Vector, Single Pump, OPA Flow Restrictor, 0.5 mL, 120 V (Formaldehyde, B Vitamins)
1154-4104	Vector, Single Pump, OPA Flow Restrictor, 0.5 mL, 240 V (Formaldehyde, B Vitamins)

* Quote required for custom configurations. Contact support@pickeringlabs.com for questions.