

Vector PCX Post-Column Derivatization Instrument

Sigma Series

Dependability and Reliability

- Works with any HPLC
- Rugged and Dependable
- Automatic Piston-Wash
- Low-pulsation flow

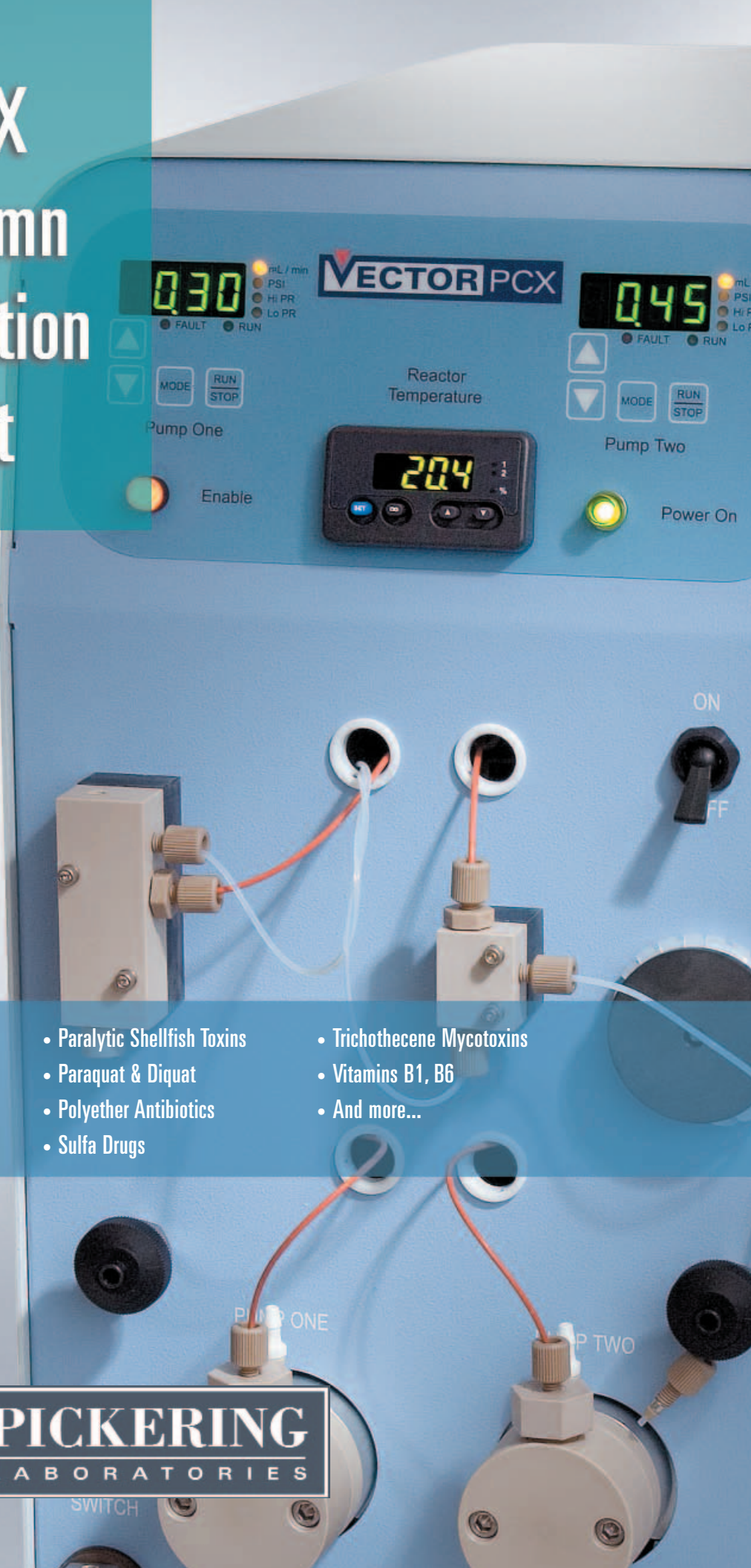
- Carbamate Pesticides
- Glyphosate Herbicide
- Guanidinos
- Mycotoxins

- Paralytic Shellfish Toxins
- Paraquat & Diquat
- Polyether Antibiotics
- Sulfa Drugs

- Trichothecene Mycotoxins
- Vitamins B1, B6
- And more...



PICKERING
LABORATORIES



SPECIFICATIONS

DIMENSIONS: (h x w x d): 43 x 21.6 x 41.2 cm (17 x 8.75 x 16 inches)
WEIGHT: 11.5 kg (25.3 lb.)
ELECTRICAL: 100 - 120V, 50/60 Hz 1.7 A, 200 W or
200-240 V, 50/60 Hz, 0.8 A, 200W
Mains voltage \pm 10% of nominal
Installation (overvoltage) category II, pollution degree 2

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% for flowrates of 0.33 ml/min and above, 0.01 ml/min for flowrates below 0.33 ml/min
- 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, match to flow rate and viscosity of reagents
- PEEK Bypass/purge valves
- Replaceable reagent filter
- PEEK mixing manifold

Reactor

- Heater reactor controls at $\pm 0.4^\circ\text{C}$ for temperatures from 10°C above ambient to 130°C . Range of reactor dwell volumes, depending upon application
- 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

Safeguards

• Post-column Reagent Backflow

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 35 bar (500 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 relief valve pre-calibrated to open at 35 bar (500 psi) prevents rupture of the post-column reactor tubing in the event of downstream blockage, and reduces the possibility that all or part of the reagent flow will be diverted to the column



Vector PCX provides easy access to fluidics and simple operation.

• Detector noise, precipitation

Back-pressure regulator applies 7 bar (100 psi) to the detector noise and precipitation due to solvent out-gassing or boiling adjustable (2-10 bar)

Gas Pressure Manifold and Regulator

- Regulator maintains 0.3 bar (3-5 psi) on reagent reservoirs with 3-5 bar (45-75 psi) source pressure
- Pressure-relief valve opens at 0.7 bar (10 psi)
- Manifold has two 1/4-28 tubing connections

Pressurized Reagent Reservoir

- One liter capacity (2 and 5 L reservoirs available)
- Maintained under inert gas pressure to inhibit oxidation of OPA or other oxygen-sensitive reagents
- Valve built into reservoir cap permits sparging during reagent preparation
- Reagent reservoirs fitted with 3.1 mm OD oxygen-impermeable Saran tubing for oxygen-sensitive reagents and/or with 3.1 mm OD FEP tubing.
- Check-valves on the gas lines prevents back-flow of the reagent into the manifold in case of pressure drop.