

# Product Specifications

Part ID: IN-VPX-FLOW-A

## CTech™ FlowVPX™ System

### Overview

Take control of your process with the CTech™ FlowVPX™ System. The in-line Slope Spectroscopy® method enables users to monitor and optimize critical process parameters and make real time decisions for enhanced product consistency and quality. Eliminate off-line measurements, out-of-spec results, and costly and time-consuming deviation reports. Slope-based measurements increase the efficiency of your process and avoid costly dilution and background correction steps.

Capable of making spectral and fixed-point measurements at wavelengths between 190 nm and 1100 nm with varying pathlengths, the System is adaptable to a wide range of sample types and the highest concentrations found in the biopharmaceutical industry. It can support lab-scale flow lines of 3 mm, pilot-scale flow lines of 10 mm, and production-scale flow lines of 22 mm. These processes include UF/DF, chromatography, mixing, and fill finish.

Directly incorporating the FlowVPX System into one or more locations of a process stream helps to reveal process characteristics previously hidden from commonly used online fixed pathlength sensors. The versatility of this robust technology is unparalleled.



## Features | Advantages | Benefits

**Stainless Steel Construction:** Robust stainless steel head design to withstand process environment.

**Removable Flow Cells:** System comes with different sized, removable Flow Cells (information available upon request). These connect to the process via barbed, Luer, tri-clamp fittings, and compression fittings.

**Hold-Up Volumes:**

- 3 mm Flow Cell volume: 0.6 mL
- 10 mm Flow Cell volume: 9.0 mL
- 22 mm Flow Cell volume: 47.0 mL

**Education/Support:** On-site installation and training included with System purchase.

**Linear Range-Finder Technology:** The System automatically identifies the linear region of section data sets to verify compliance with Beer-Lambert law.

**Integration Options:** The System comes with three digital input channels, three digital output channels, and two analog output channels.

## System Specifications

**Dimensions:**

- Cary 60: 483 x 559 x 203 mm (22 x 8 x 19 in)
- FlowVPX (fully assembled): 120 x 100 x 230 mm (4.72 (W) x 3.94 (D) x 9.06 (H) in)
- Computer (Dell Latitude Rugged Extreme Laptop, open): 343 x 305 x 305 mm (13.5 x 12 x 12 in)

**Weight:**

- Cary 60: 18.14 kg (40 lb)
- FlowVPX Head (fully assembled), with 3 mm Flow Cell: 4.31 kg (9.5 lb)
- with 10 mm Flow Cell: 4.22 kg (9.3 lb)
- with 22 mm Flow Cell: 5.54 kg (10 lb)
- Computer (Dell Latitude Rugged Extreme Laptop): 3.63 kg (8 lb)

**Spectroscopic Engine:** Agilent Cary 60 spectrophotometer

**Qualification Slope Range:** 0.10 Abs/mm to 46 Abs/mm using NIST traceable slope standards

**Qualification Slope Repeatability:** ±2%

**FlowVPX Mounting:** Two mounting screws on base of instrument. Mounting stand available.

**Maximum Pathlength:** 5.000 mm

**Minimum Pathlength Step:** 0.001 mm

**Cable Lengths:** Delivery Fiber optic standard length 3 m (optional 6 m cable available upon request)

**Cary 60 Power Requirements:** 90 VAC–265 VAC, frequency 47 Hz–63 Hz

**FlowVPX Power Requirements:** Power supply input 100 VAC–230 VAC, 50 Hz–60 Hz. VPX power input, 24 VDC, 0.6 A max current draw.

**Operating System:** Windows 10 compatible

**Software Environment:** ViPER™ v1.0.80 and Agilent WinUV Software Suite v5.1.0.1019 or newer

**Required Computer Hardware:** Repligen Analytics recommends:

- Min Processor: Intel i3 (i7 preferred)
- Min Hard Drive: 250 GB (SSD preferred)
- Min RAM: 8 GB (16 GB preferred)

## Customer Support Options

**Support and Training:** Repligen Analytics is committed to customer success from predelivery through installation and training.

Included with purchase:

- IQQQ
- Full 12-month warranty support
- Post-obsolescence seven-year hardware support
- Single- and multi-year service contract options, which include an annual PM service
- Preventative Maintenance (PM) service options
- Remote and on-site training and support
- Software support
- Two Flow Cells and Fibrettes®

**More information:** Final application suitability of all materials and ratings are the sole responsibility of the user. Specified pressure and temperature ratings may be subject to limitations. See the *CTech FlowVPX System Introduction and Installation Guide* DOC0211 or contact a Repligen Analytics Representative for more information. Visit our website: <https://ctech.repligen.com/>

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Published: June 8, 2021 (Rev. 01)

Publication number: DOC0206