

CTech™ FlowVPX® System

Product Specifications

Specification
Sheet

Part ID: **SYS-VPX-FLOW** (FlowVPX with Agilent Cary 60 System)

SYS-VPX-FLOW-BEAMS (FlowVPX with Beams System)

Overview

The CTech™ FlowVPX® System enables users to monitor and optimize critical process parameters and make real-time decisions for enhanced product consistency and quality. Variable Pathlength Spectroscopy increases process efficiency and avoids costly, time-consuming dilution and background correction steps. In-line measurements provide feedback in real time without removing material from the process or introducing additional sources of error.

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, making it suitable for operations such as UF/DF, chromatography, mixing, and fill finish.

Directly incorporating the FlowVPX System into one or more operations in a process stream helps to reveal process characteristics previously hidden when using fixed pathlength sensors, which often oversaturate.

Light Sources

Built for flexibility, the FlowVPX instrument can be paired with the Agilent Cary 60 or CTech Beams™ System light sources.

The Agilent Cary 60 spectrophotometer is the optimal light source for process development and research settings, where there is a need for taking spectral scans and single-wavelength measurements between 190 and 1100 nm.

The Beams System is designed for GMP environments targeting molecules at 260 nm or 280 nm. Its compact design has an IP65 rating for compatibility with cleaning requirements.



Cary 60 spectrophotometer



CTech FlowVPX System



CTech Beams System



Features | Benefits

Measurement Method	In-line measurements using Variable Pathlength Technology enable real-time concentration readings without dilution, saving time and minimizing errors.
Construction	Robust stainless steel design to withstand process environment.
Flow Cells	Three sizes of Flow Cells are available. The Flow Cell connects to the process via barbed, Luer, tri-clamp, or compression fittings. Further information can be found in the Flow Cell specification sheets. Two Flow Cells are included with the FlowVPX System.
Hold-Up Volumes	3 mm Flow Cell volume: 0.9 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 the absorbance data for reliable calculations according to the Beer-Lamber law.
Integration Options	The system comes with two analog output channels.
Software	ViPER® ANLYTX Software for data analysis is available with OPC-UA communication and optional security tools to support 21 CFR part 11 compliance.
Agilent Cary 60 Light Source	Best for labs that regularly require broadband or multi-wavelength readings between 190 and 1100 nm.
Beams System Light Source	Ideal for GMP environments where single wavelength readings for a target molecule are typically used. IP65 rating facilitates commonly used cleaning practices, and the small footprint is compatible with space-constrained setups.

FlowVPX System Specifications		
Qualification Slope Range	0.10 AU/mm to 46 AU/mm using NIST traceable slope standards	
Qualification Slope Repeatability	≤2% RSD	
Maximum Pathlength	5.000 mm	
Minimum Pathlength Step	0.001 mm	
Housing Material	316L Stainless Steel	
Dimensions	FlowVPX (Assembled): 120 x 100 x 230 mm (4.7 x 3.9 x 9.1 in) Computer: 343 x 305 x 305 mm (13.5 x 12.0 x 12.0 in)	
Weight	Fully Assembled with 3 mm Flow Cell: 4.3 kg (9.5 lb) Fully Assembled with 10 mm Flow Cell: 4.2 kg (9.3 lb) Fully Assembled with 22 mm Flow Cell: 4.6 kg (10 lb)	
Mounting	Two mounting screws on base of instrument. Mounting stand included.	
Computer Specifications	Min Processor: Intel i5 (i7 preferred) Min Hard Drive: 250 GB (SSD preferred) Min RAM: 8 GB (16 GB preferred)	
Software	Operating System: Windows 10 Software Version: ViPER ANLYTX	
Power Requirements	Power Supply Input: 100–230 VAC, 50–60 Hz VPX Power Input: 24 VDC, 0.6 A Max Current Draw	
Operating Conditions	0°C to 48°C 15 to 80% Relative Humidity (non-condensing)	
Storage Conditions	-34°C to 66°C 0 to 95% Relative Humidity	
Compliance	<ul style="list-style-type: none"> • CE • IP65 • C1D2 (See guidelines on setup in User Guide) • Pollution Degree 2 • RoHS 	
Light Source Specifications	Agilent Cary 60	Beams System
Light Source	Xenon Lamp	Monochromatic LED
Wavelength Range	190–1100 nm	260 nm, 272 nm, 280 nm, or 310 nm
Housing Material	Plastic	316L Stainless Steel
Dimensions (W x D x H)	477 x 567 x 196 mm (19 x 22 x 8 in) <i>(Requires cart in manufacturing space)</i>	Beams Source (Dia. x H): 25 x 71 mm (1 x 2.8 in) Beams Controller: 104 x 160 x 61 mm (4.1 x 6.3 x 2.4 in)
Weight	18 kg (40 lb)	Beams Source: 0.2 kg (0.4 lb) Beams Controller: 1.3 kg (3.0 lb)
Software	Cary WinUV v5.1.0.1019 or newer; ViPER ANLYTX v1.0 or newer; Available with 21 CFR part 11 package	ViPER ANLYTX v1.2 or newer; Available with 21 CFR Part 11 package

Light Source Specifications (cont.)	Agilent Cary 60	Beams System
Fiber Optic Cable Length	3 m (6 m Cable Available upon Request)	N/A
Power Requirements	100–240 VAC, 47–63 Hz	100–240 VAC, 47–63 Hz
Operating Conditions	5°C to 40°C 15 to 80% Relative Humidity (non-condensing)	0°C to 48°C 15 to 80% Relative Humidity (non-condensing)
Storage Conditions	-40° to 70°C <90% Relative Humidity	-34°C to 66°C 0 to 95% Relative Humidity
Compliance	<ul style="list-style-type: none"> • CE • ROHS • Requires GMP-Grade Cart for Use in Manufacturing Environment 	<ul style="list-style-type: none"> • CE • IP65 • C1D2 (See guidelines on setup in User Guide) • RoHS

Customer Support Options	
Support and Training	<p>Repligen is committed to customer success from predelivery through installation and training.</p> <p><u>Included with purchase:</u></p> <ul style="list-style-type: none"> • IQOQ • Full 12-month warranty support • Remote and on-site training and support • Software support
Available Options	<p><u>Available as additional options:</u></p> <ul style="list-style-type: none"> • Single- and multi-year service contract options, which include an annual PM service • Preventative Maintenance (PM) service options
More information	<p>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. Contact a Repligen Analytics Representative for more information.</p> <p>C Technologies, Inc. and/or its affiliates, to the extent allowed by law, disclaims, and in no event shall be liable for, any incidental or consequential damages in connection with user, instrument, or system performance in relation to all content contained in this document, including but not limited to fitness for location of use, specific purpose for use, or application. Information, descriptions, and specifications in this publication are subject to change without notice.</p> <p>Customer Support analytics-support@repligen.com +1 908-707-1009</p> <p>Repligen Corporation 685 Route 202/206 Bridgewater, NJ 08807, USA repligen.com</p> <p>© 2023 Repligen Corporation. All rights reserved. The trademarks mentioned herein are the property of Repligen Corporation or a Repligen affiliate, or their respective owners.</p>