PATsmart™ FlowVPX® System

Product Specifications

Specification Sheet

Part ID: **SYS-FX-VP-CARY60** (FlowVPX with Agilent Cary 60)

SYS-FX-VP-BM (FlowVPX with Beams™ System)



Overview

The PATsmart™ FlowVPX® System enables users to monitor and optimize critical process parameters and make real-time decisions for enhanced product consistency and quality. The system uses Variable Pathlength Spectroscopy to measure concentration directly, avoiding costly, time-consuming dilution and background correction steps. The in-line design also enables 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, pilot-scale, and production-scale fluid systems, 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 increase efficiency and 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 PATsmart 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.

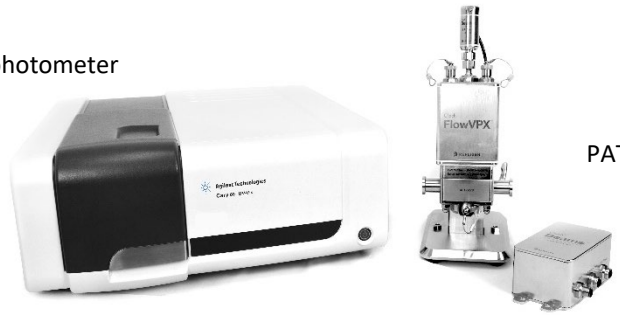
The Beams System is designed for GMP environments targeting molecules at 260 nm or 280 nm. It has a compact design and an IP65 rating for compatibility with cleaning requirements.

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FlowVPX System

Cary 60
spectrophotometer



PATsmart 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	The Flow Cell connects to the process via barbed, Luer, compression, or tri-clamp fittings. Further information can be found in the Flow Cell specification sheets. Two Flow Cells are included with the FlowVPX System.
Linear Range-Finder Technology	The system automatically identifies the linear region of the absorbance data for reliable calculations according to the Beer-Lambert law.
Integration Options	The system comes with two analog output channels.
Software	PATsmart 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 process development labs that require broadband or multi-wavelength readings between 190 and 1100 nm.
Beams System Light Source	Ideal for GMP environments using single-wavelength readings for a target molecule. IP65 rating facilitates commonly used cleaning practices, and the small footprint is compatible with space-constrained setups.
Education/Support	On-site installation and training included with system purchase.

FlowVPX System Specifications	
Qualification Slope Range	0.10 Abs/mm to 46 Abs/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	120 x 100 x 230 mm (4.7 x 3.9 x 9.1 in)
Weight	3.2 kg (7.0 lb) not including Flow Cell
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 or 11 Control Software: ViPER ANLYTX
Power Requirements	Power Supply Input: 100–230 VAC, 50–60 Hz FlowVPX 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	• CE • IP65 • 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 × D × H)*	477 x 567 x 196 mm (19 x 22 x 8 in) *(Requires cart in manufacturing space)*	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
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	• CE • RoHS • Requires GMP-grade cart for use in manufacturing environment	• CE • IP65 • RoHS

Customer Support Options

Support and Training	Repligen is committed to customer success from predelivery through installation and training. Included with purchase: • IQOQ • On-site training • Full 12-month warranty support

Available Options	• Single- and multi-year service contract options, which include
	  ○ Annual qualification (standard or CPV)
	  ○ One complimentary service repair visit
	• Computer System Validation (CSV)

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. Contact a Repligen analytical representative for more information. Repligen Corporation 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.

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