Model AF45
High UV Sensor

Flow through optical sensor used with a Model 960 or 662 UV analyzer for measuring the spectral absorbance of process liquids in the high ultraviolet region of the electromagnetic spectrum

- Patented EasyCal™ system option allows for quick and simple on-line NIST traceable calibration
- Accurately measures UV absorbance up to 50 OD (dependent upon sensor optical pathlength)
- Configurable to measure UV absorbance at a discrete wavelength of 206 nm, 214 nm or 226 nm
- Fire polished quartz windows deliver repeatable performance under harsh process conditions.
- FDA and USP acceptable seal materials available for pharmaceutical applications
- Low-pressure Zinc (206 nm) or Cadmium (214/226 nm) vapor gas discharge UV light source provides long life and stable operation
- Dedicated reference detector channel compensates for lamp decay drift
- Unique precision optical pathlength (POPL) adjuster, coupled with EasyCal™, enables exact adjustment of short pathlengths for unequalled accuracy
- Wide variety of process connections and line sizes available
- Ultra-hygienic, CIP and SIP resilient flow cell design available with material finish of 16 µinch (0.4 µm) R_a
- Air purge ports available for preventing condensate buildup on optical windows
- Includes separate high voltage lamp power supply with sensor / transmitter connection safety interlocks
- Patented window wiping system option eliminates process buildup on optical windows
- All sensors are pre-tested at the factory and can be supplied with full certification package

Specifications

Pathlengths available	0.5 to 100 mm, dependent on process line size and process connection
Wavelengths available	206, 214 and 226 nm
Signal output	Low level current from high stability measurement and reference silicon photodetectors
Process connections	Tri-Clamp, ANSI flange, FNPT, DIN flange, tube compression fittings, weld stubs. Others available - contact factory

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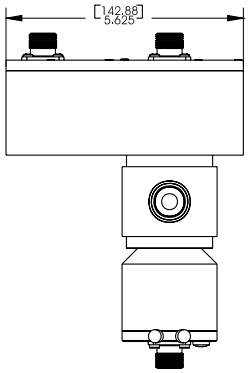
Specifications (Cont.)

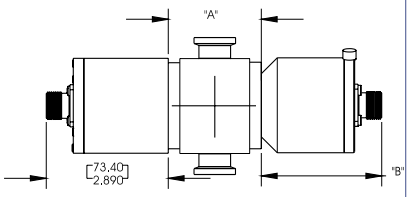
Sensor housing material	316L, Kynar®, AL6XN®, Hastelloy®, Teflon®, PEEK, Nickel, Monel®, Inconel®, Tantalum, Titanium. Others available
Sensor housing finish	Sanitary 316L sensors - electropolished sensor interior 16 µinch (0.4 µmeter) R_a or better. Standard sensors to fine machine finish
O-ring materials	EPDM, Viton®, Silicone, Teflon® coated Viton®, Kalrez®
Window material	Fire-polished Quartz, Sapphire available for extreme process conditions
Lamp type	Low pressure zinc or cadmium gas discharge analytical grade lamp
Lamp power supply	115 Vac / 230 Vac (switch selectable), 10 W
Lamp power	7.5 watts
Optical filter	Proprietary multilayer narrow passband interference filter designed for extreme UV conditions. 10 nm bandwidth, stray light 0.01 % maximum
Detector type	Precision UV enhanced hermetically sealed silicon photodetector
Cable connectors	Nickel plated brass signal connections, isolating plastic for lamp power connection
Cable length	Standard lengths available are 10,15, 25 and 50 ft, custom lengths up to 100 ft maximum (3, 5, 8, and 15 m, up to 30 m maximum)
Max pressure	3000 psig (200 bar) dependent upon material of construction, line size and process connection
Max temperature	90 °C (194 °F) continuous, 130 °C (266 °F) for 2 hours (SIP cycle)
Options	Cleaning port, air purge, wiper system, EasyCal™, POPL. *Note - while most of these options can be combined, a cleaning port cannot be ordered with a wiper unit*

Dimensions

FLOWCELL TYPE	"A" DIMENSION	
¼" to ¾" TC	2.21 in	56.1 mm
1" to 1-½" TC	2.60 in	66.0 mm
2" TC	3.39 in	86.1 mm
2-½" TC	3.89 in	99.8 mm
3" TC	4.24 in	107.7 mm
4" TC	5.19 in	131.8 mm

DETECTOR ASSY LAMP	"B" DIMENSION	
AF45 w/ EasyCal	2.86 in	72.6 mm
Standard AF45 w/ Ref Rod	2.41 in	61.2 mm





Order Code

AF45			Q								E	*Please consult factory for complete order code specification*

Lamp Housing

L	Hi-UV lamp housing with power supply (115 Vac)
M	Hi-UV lamp housing with power supply (230 Vac)

Seal Type

V	Viton
E	EPDM
S	Silicone
B	Buna N
K	Kalrez
X	Specified
T	TFE Coated Viton

Optical Filter Options

A	206 nm
B	214 nm
C	226 nm

Sensor Options

x	EasyCal™
x	Precision optical pathlength system
x	Wiper system (pneumatic or manual)
x	Cleaning port
x	Air purge
x	High temperature
N	None

Flowcell Code

The flowcell code uniquely identifies the process connection type, line size, material of construction, optical pathlength and pressure rating for each sensor. There are many combinations. In order to optimize configuration to each application, please consult factory for specification assistance.

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