Model AF46
Dual Wavelength UV Sensor

WEDGEWOOD ANALYTICAL

Flow through optical sensor for measuring the spectral absorbance of process liquids simultaneously at two specific wavelengths in the ultraviolet region of the electromagnetic spectrum

- Accurately measures UV absorbance up to 50 OD (dependent upon sensor optical pathlength)
- Configurable to measure UV absorbance at any two of many discrete wavelengths between 254 nm and 365 nm
- Patented window wiping system option eliminates process buildup on optical windows
- Fire polished quartz windows deliver repeatable performance under harsh process conditions.
- FDA and USP acceptable seal materials available for pharmaceutical applications
- Patented low-pressure mercury vapor gas discharge UV light source provides long life and stable operation
- Dedicated reference detector channels compensate for lamp decay drift
- Measurement detector housing accommodates reference rod for checking sensor functionality and calibration status
- 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
- FM and ATEX approved explosion proof lamps for hazardous area applications
- 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	254, 280, 295, 302, 313, and 365 nm in any combination. Others available upon request
Signal output	Low level current from two sets of 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
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

Expanding The Science of Analysis

Specifications (Cont.)

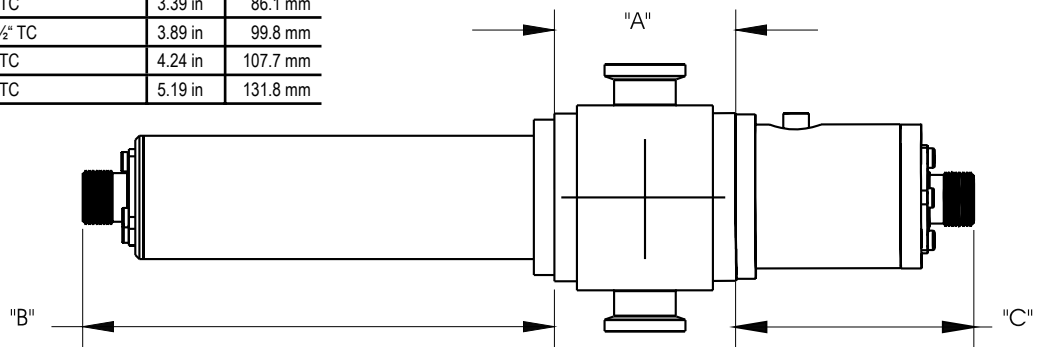
O-ring materials	EPDM, Viton®, Teflon® coated Viton®, Buna, Kalrez®
Window material	Fire-polished quartz. Sapphire available for extreme process conditions
Lamp type	Patented low-pressure mercury vapor gas discharge lamp, explosion-proof version rated for FM Class 1 Div 1 Groups B, C, D / ATEX II 2G EEx d IIC T5
Lamp power	4 watts
Optical filters	Proprietary multilayer narrow passband interference filters 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
Cable length	Standard lengths available are 10, 15, 25 and 50 ft, custom lengths up to 650 ft maximum (3, 5, 8 and 15 m, up to 200 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) With PEEK Isolators - 130 °C (266 °F) continuous
Options	High temp PEEK optical housing isolators, cleaning port, air purge, wiper system. *Note - while most of these options can be combined, high temperature isolators must always be ordered with the air purge option and cannot be ordered with a manual wiper unit. A cleaning port cannot be combined with any wiper system*

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

LAMP ASSY TYPE	"B" DIMENSION	
Standard Lamp	5.75 in	146.1 mm
EXP-1 Lamp	6.50 in	165.0 mm

DETECTOR ASSY TYPE	"C" DIMENSION	
AF46 Detector Assy	2.89 in	73.4 mm



Order Code

AF46			Q								C	*Please consult factory for complete order code specification*

Lamp Housing

V	Standard UV lamp housing with power supply
O	Standard explosionproof FM Cl.1, Div 1, Gr. B,C,D
P	Standard explosionproof ATEX II 2G EEx d IIC T5

Seal Type

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

Measurement Wavelength Options

Consult factory for additional combinations

P	254 / 280 nm
Q	280 / 295 nm
S	280 / 313 nm
X	Specified

Sensor Options

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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