AF56-F

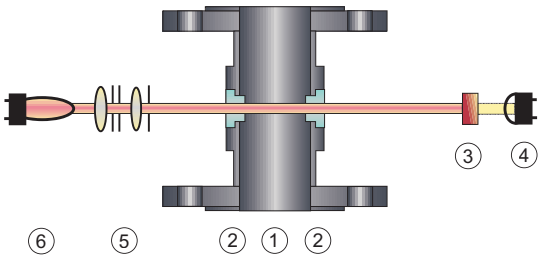
Single Channel Absorption Sensor

inline control

- **Inline real-time process monitoring**
- **Measures any color or color change**
- **Extremely low maintenance**
- **CIP/SIP-compatible**
- **Broad variety of line sizes, process connections and wetted materials**

The model AF56-F is a precise single channel absorption sensor designed for inline applications. It accurately measures color or color changes and can be used in a variety of processes.
The AF56-F uses light in the wavelength range from 400 to 480 nm at selected wavelengths. A precisely defined, constant light beam penetrates the process medium.
The attenuation of the light intensity, caused by absorption and/or scattering by dissolved and undissolved substances in the medium, is detected by a hermetically sealed silicon photodiode.

Optical path lengths (OPL) are available from 1 to 200 mm for process versatility. The AF56-F is typically installed to determine precise color or color changes in a broad range of applications.
The special optical window is made from a single crystal sapphire. This provides superior resistance to all abrasive and corrosive media. The AF56-F is available with a broad variety of line sizes, process connections and wetted materials and can be adapted easily to the process.
Options for silicone free models are also available.



Type AF56-F

1 Sensor body
2 Windows
3 Filter
4 Detector
5 Optics module
6 Lamp

Technical Data

Sensor AF56-F

Material:
sensor body made of stainless steel
SS 316 Ti, 1.4571 (standard)

Special materials:
SS 316 L (1.4435), 1.4539, 1.4462, TFM 4215, Hastelloy® C4, Hastelloy® C22, Titanium, Tantalum, Monel® 400, Inconel® 625, PP, and others on request.

Line size:
¼“ to 8“, (DN 6 to DN 200)

Process connections:
ASME Flange, DIN Flange, Varivent, JIS Flange, Tri-Clamp, BBS-Clamp, Female Thread NPT, Female Thread DIN ISO 228/1 G, Sanitary Thread (DIN 11851), and others on request.

Gaskets:
Viton®, EPDM (FDA), EPDM (USP Class VI), Kalrez®, Chemraz®, Fluoraz®, Buna (NBR), Silicone, Viton® /FEP (FDA), and others on request.

Windows:
Pyrex®, Sapphire

Optical path length:
1 mm – 200 mm

Process pressure:
10 mbar to 325 bar, (0.15 psi to 4713 psi), depending on process connection, material and design

Process temperature:
values are only valid with appropriate material of sensor body and gaskets. No icing on sensor!
- permanent: 0 °C to +100 °C, (+32 °F to +212 °F)
- peak (15 min/day): 0 °C to +120 °C, (+32 °F to +248 °F)

Ambient temperature:
- operation: 0 °C to +40 °C, (+32 °F to +104 °F)

(elevated or reduced ambient temperatures may require restrictions to the operating temperatures stated above!)
- transport: -20 °C to +70 °C, (-4 °F to +158 °F)

Air purge:
connectors available as standard

Light source:
incandescent tungsten lamp: 5.0 V DC, 775 mA, typical life span 3 to 5 years

Wavelengths:
specific to application from 400 nm - 480 nm

Detector:
silicon photodiodes, hermetically sealed

Calibration:
basic calibration in CU (concentration units)

Measuring range:
sensor specific
0 to 3 CU

Resolution:
< ± 0.5 % of respective measuring range

Repeatability:
< ± 1.0 % of respective measuring range

Linearity:
specific to application, < ± 2 % of respective measuring range

Protection:
all optical parts protected according to IP65

Cable lengths:
standard: 5, 10, 20, 35, 50 m, (16, 33, 66, 115, 164 ft.)
maximum: 100 m, (328 ft.)

VA-plug-protection:
special ultra-shielded cable sets,
optional rigid stainless steel connector

Certificates:
ISO 9001:2000, PED, CE, HP0

Use with 156 converter!

Options

Measuring cells for any application

AF56-SF-F
silicone free model
with restricted temperature ratings:
permanent:
0 °C to +60 °C, (+32 °F to +140 °F)
peak (15 min/day):
0 °C to +80 °C, (+32 °F to +176 °F)

optek-Danulat GmbH
Emscherbruchallee 2
45356 Essen,
Germany
Phone: +49-(0)201-63409-0
Fax: +49-(0)201-63409-999
E-Mail: info@optek.de

optek-Danulat, Inc.
N 118 W 18748 Bunsen Drive
Germantown, WI 53022, USA
Phone: +1-262-437-3600
Fax: +1-262-437-3699
Toll free: +1-800-371-4288
E-Mail: info@optek.com

optek-Danulat bv
Tiel, The Netherlands
E-Mail: info@optek.nl

optek-Danulat Pte. Ltd.
Singapore
E-Mail: info@optek.com.sg

www.optek.com

1005-2011-0001-02