AF26

Dual Channel Absorption Sensor

optek® inline control

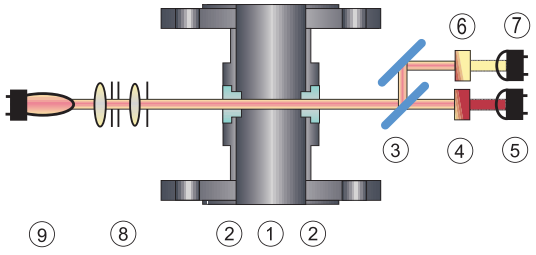
- Inline real-time process monitoring
- Accurate measurement of color or color changes
- Turbidity independent dual channel absorption technology
- Extremely low maintenance
- CIP/SIP-compatible
- Broad variety of line sizes, process connections and wetted materials
- NIST-traceable validation accessories

The model AF26 is a dual channel absorption sensor designed for inline applications. It accurately measures color or color changes and can be used in a variety of industrial processes, from sanitary CIP/SIP applications to high pressure, high temperature industrial applications.

The AF26 uses light in the range from 385 to 1000 nm at selected wavelengths. A precisely defined, constant light beam penetrates the process medium.
The light beam is devided by a beam splitter into two beams and passes through the specific interference filters at application dependent wavelengths.

The attenuation of the light intensity, caused by absorption and/or scattering of the dissolved and undissolved substances, is detected by two hermetically sealed silicon photodiodes. This dual channel absorption technology compensates for turbidity in the process streams and even the smallest presence of color can be measured.

The special optical window is made from a single crystal sapphire, providing superior resistance to all abrasive and corrosive media. The AF26 is available with a broad variety of line sizes, process connections and wetted materials. NIST-traceable validation accessories assure absolute measurement confidence. Options for hazardous location are also available.



Type AF26

1 Sensor body
2 Windows
3 Beam splitter
4 Filter 2
5 Detector 1
6 Filter 1
7 Detector 2
8 Optics module
9 Lamp

Technical Data

Sensor AF26

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 – 1000 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 +120 °C, (+32 °F to +248 °F)
- peak (15 min/day): 0 °C to +150 °C, (+32 °F to +302 °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

Wave lengths:
specific to application from 385 nm - 1000 nm

Detector:
silicon photodiodes, hermetically sealed

Calibration:
basic calibration in CU (concentration units)

Measuring range:
sensor specific
0 - 0,05 to 3 CU

Resolution:
< ± 0.05 % of respective measuring range

Repeatability:
< ± 0.5 % of respective measuring range

Linearity:
specific to application, < ± 1% 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: 250 m, (820 ft.)

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

Certificates:
ISO 9001:2000, ATEX, FM, PED, CE, HPO

Use with C4000 converter!

Options

Measuring cells for any application

AF26-HT
high temperature model
permanent:
-20 °C to +240 °C, (-4 °F to +464 °F)
periodic 15 min/day:
-20 °C to +260 °C, (-4 °F to +500 °F)

Validation adapter
modular adapter with application specific validation filter for sensor verification

AF26-EX and AF26-EX-HT
ATEX and FM flameproof versions for safety and confidence in all hazardous area classification. Approval report:
DMT ATEX E176, FMG J.I. 3013884
(please contact us for separate data sheet)

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