

AS16-F

Single Channel Absorption Probe



- Inline real-time process monitoring
- Superior sapphire window with no seals, gaps or crevices
- Extremely low maintenance
- CIP/SIP-compatible
- All wetted material and surface finishes are certifiable and traceable
- NIST-traceable validation accessories
- Conform to FDA requirements

The model AS16-F is a high-precision, single channel absorption probe. This stainless steel probe, equipped with an Ingold-style port, is designed for use in vessels or inline applications.

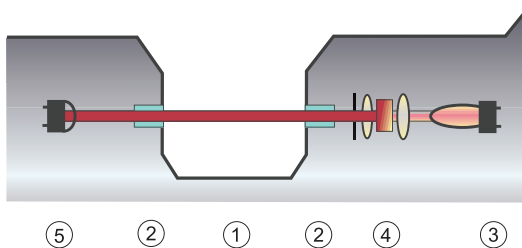
The AS16-F uses mainly the light in the visible (VIS) range at selected wavelengths. A precisely defined, constant light beam penetrates the process medium.

The attenuation of the light intensity, caused by absorption and/or scattering by dissolved and undissolved substances, is detected by a hermetically sealed photodiode.

An optical filter on the lamp side adapts the wavelength for a specific application and allows color measurements with great accuracy (e.g. phase separation beer/water) at selected wavelength.

The AS16-F is available with 100 mm extended insertion depth used with larger vessels (e.g. fermenters).

The seal-less, sapphire window design eliminates crevices and gaps to assure the highest level of sterility, cleanability and sensor integrity. The probe body demonstrates extreme durability and fulfills the CIP/SIP requirements demanded by ultra-sanitary process environments. NIST-traceable validation accessories are available as option to provide absolute measurement confidence.



Type AS16-F

- 1 Optical path length (OPL)
- 2 Sapphire windows
- 3 Lamp
- 4 Optics module with filter
- 5 Detector

Technical Data

AS16-F Probe



Material:

Wetted parts: stainless steel 1.4435 (SS 316 L)
 Surface: electro-polished $Ra < 0.8 \mu m$ (standard)
 Windows: sapphire (without gasket)
 Housing: stainless steel 1.4571 (SS 316 Ti)

Port gasket:

O-ring $\varnothing 18.64 \times 3.53$ mm

Gasket material:

application specific, selection by end user

Permitted:

EPDM (FDA), Silicone (FDA), Kalrez 6375, Chemraz (FDA), others on request

Port connection:

for ports AS25-GS60 (similar to Ingold-Ports)

Diameter: 25 mm ($\varnothing 25$ H7)

Nominal length: 60 and 30 mm

Thread: G11/4" ISO 228/1

Insertion depth maximal:

- AS16: OPL + 35 mm with port length 60 mm
- AS16-EA: OPL + 135 mm with port length 60 mm

Optical path length (OPL):

1, 2, 5, 10, 20 or 40 mm

Pressure rating:

PN20 (Test pressure PT 25 bar)

Permitted pressure PS:

10 mbar - 20 bar with TS $0^\circ C / +100^\circ C$

Permitted pressure at elevated temperature:

TS [$^\circ C$]	< 100	125	150
PS [bar]	20	15	10

Permitted process temperature TS:

- permanent: $0^\circ C$ to $+100^\circ C$, ($+32^\circ F$ to $+212^\circ F$)
- peak (60 min/day): $0^\circ C$ to $+150^\circ C$, ($+32^\circ F$ to $+302^\circ F$)

Ambient temperature:

- operation: $0^\circ C$ to $+40^\circ C$, ($+32^\circ F$ to $+104^\circ F$)
- transportation: $-20^\circ C$ to $+70^\circ C$, ($-4^\circ F$ to $+158^\circ F$)

Air purge:

connections M5 available as standard

Light source:

incandescent tungsten lamp: 5.0 V DC, 775 mA

Wavelengths:

415, 430, 470, 525, 550, 620, 660 or 1000 nm

Detector:

silicon photodiode, hermetically sealed

Measuring range:

sensor specific

0 - 3 CU

Cable connection:

probe cable ASx6-TT, end splice on both sides
 probe cable ASx6-SCT, with stainless steel plug and socket
 2, 3, 5, 10, 15, 20, ... 45 or 50 m
 (7, 10, 16, 33, 49, 66, ...148 or 164 ft.)

Weight:

- Probe: approx. 2.0 – 2.5 kg, depending on version
- Cable set: approx. 1.5 kg / 10 m

Type of protection:

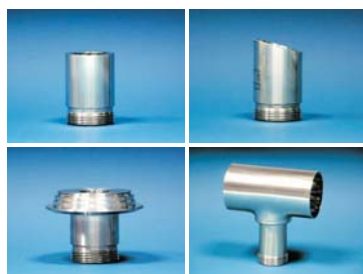
IP65

Certificates:

ISO 9001:2000, PED, CE, HPO

Use with C4000 converter!

Options



AS16-F-SR

wetted parts with surface electro-polished
 $Ra < 0.4 \mu m$, $dF < 1\%$ (BN2)

AS16-F-VB

with adapter for NIST-traceable validation filter

AS16-F-EA

100 mm extended insertion depth

- Weld-in ports AS25 (0° or 15°)
- Adapter-Varivent 50/0.0 AS25-G60
- Adapter-Clamp 2.0" AS25-G60
- T-pieces with port AS25-G60 for tube ends DIN, DN50 – DN150
- T-pieces with port AS25-G60 for tube ends OD, 2.0" – 6.0"
- Sealing flange AS25

