AS16-N

Single Channel NIR Absorption Probe

inline control

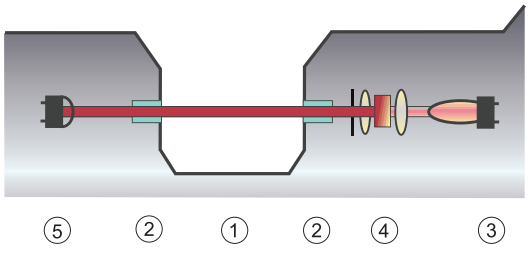
- **Inline real-time process monitoring**
- **Superior sapphire window with no seals, gaps or crevices**
- **Concentration measurement insensitive to color changes**
- **Extremely low maintenance**
- **CIP/SIP-compatible**
- **NIST-traceable validation accessories**

The AS16-N is a high-precision, single channel absorption probe. The stainless steel probe, equipped with an Ingold-style port, is designed for use in vessels or inline applications.
The AS16-N uses the light in the Near Infrared range (NIR) from 730 to 970 nm. 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.

The AS16-N is available in six different optical path lengths (OPL), from 1 to 40 mm. The optical filter on the lamp side adapts the wavelength for specific applications and allows color insensitive concentration measurements in the Near Infrared range.
The AS16-N is available with a 100 mm extended insertion depth for 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 for absolute measurement confidence.



Type AS16-N

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

Technical Data

AS16-N Probe

Material:
Wetted parts: stainless steel 1.4435 (SS 316 L)
Surface: electro-polished Ra < 0.8 µm (standard)
Windows: Sapphire (without gasket)
Housing: stainless steel 1.4571 (SS 316 Ti)

Port gasket:
O-ring Ø 18.64 x 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 (Ø 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 °C / +100 °C

Permitted pressure at elevated temperature:

TS [°C]	< 100	125	150
PS [bar]	20	15	10

Permitted process temperature TS:
- permanent: 0 °C to +100 °C, (+32 °F to +212 °F)
- peak (60 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)
- transportation: -20 °C to +70 °C, (-4 °F to +158 °F)

Air purge:
connections M5 available as standard

Light source:
incandescent tungsten lamp: 5.0 V DC, 775 mA

Wavelength range:
730 - 970 nm

Detector:
silicon photodiode, hermetically sealed

Measuring range:
any measuring range between
0 - 4 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, HP0

Use with C4000 converter!

Options

AS16-N-SR
wetted parts with surface electro-polished Ra < 0.4 µm, dF < 1% (BN2)

AS16-N-VB
with adapter for NIST-traceable validation filter

AS16-N-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

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