

AS16-BT-N

Single Channel NIR Absorption Probe



- 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 model AS16-BT-N is a high-precision, single channel absorption probe. This stainless steel probe, equipped with a BBI safety port, is designed for use in vessels or inline applications.

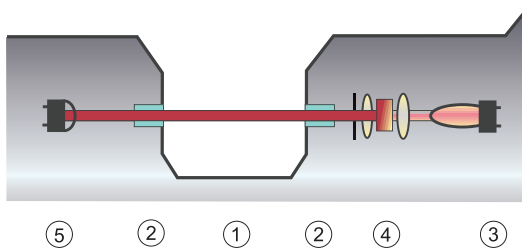
The AS16-BT-N uses the light in the Near Infrared range (NIR). A precisely defined, constant light beam penetrates the process medium. The attenuation of the light intensity, caused by absorption and/or scattering by dissolved and undissolved substances, is detected by a hermetically-sealed photodiode.

The optical filter on the lamp side adapts the wavelength for specific applications and allows color insensitive concentration measurements in the Near Infrared range.

The probe is available in six different optical path lengths (OPL), from 1 to 40 mm. The AS16-BT-N is also 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 to provide absolute measurement confidence.



Type AS16-BT-N

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

Technical Data

AS16-BT-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 OSP25-GS52 (similar to BBI Safety-Ports)
Diameter: 25 mm (Ø 25 H7)
Nominal length: 52 and 30 mm
Thread: G11/4" ISO 228/1

Insertion depth maximal:

- AS16-BT: OPL + 35 mm with port length 52 mm
- AS16-BT-EA: OPL + 135 mm with port length 52 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:

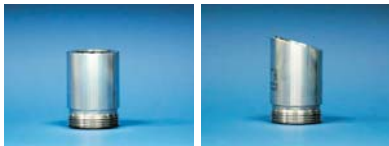
IP65

Certificates:

ISO 9001:2000, PED, CE, HPO

Use with C4000 converter!

Options



AS16-BT-N-SR

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

- Weld-in safety-ports OSP25

- Sealing flange OSP25

AS16-BT-N-VB

with adapter for NIST-traceable validation
filter

AS16-BT-N-EA

100 mm extended insertion depth