ASD25-BT-N

Single Channel NIR Absorption Probe

inline control

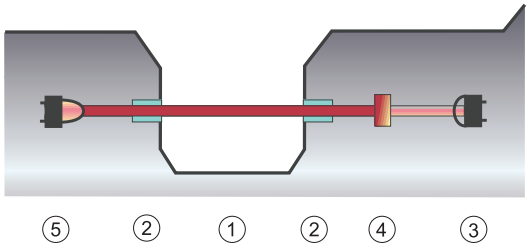
- **Inline real-time process monitoring**
- **Concentration measurement insensitive to color changes**
- **Superior sapphire window with no seals, gaps or crevices**
- **Extremely low maintenance**
- **CIP/SIP-compatible**
- **All wetted material and surface finishes are certifiable and traceable**

The ASD25-BT-N is a high-precision, single channel absorption probe. This stainless steel probe is engineered for use in pilot- or production scale fermenters or bioreactors. It precisely measures the growth of microbial or cell cultures as a function of NIR absorption. This extremely durable probe is designed for sanitary bioprocess environments and can be used in CIP/SIP processes.

The ASD25-BT-N uses the light in the Near Infrared range (NIR) from 840 to 910 nm. The precisely defined and constant LED 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 ASD25-BT-N probe is available with an optical path length (OPL) of 1 mm, 5 mm, 10 mm or 20 mm. Shorter OPLs are typically used for dense cell cultures such as bacterial and yeast cultures. Longer OPLs are used for lower absorbing mammalian cell cultures. Using an optical filter to adapt the wavelength range, the ASD25-BT-N performs concentration measurements insensitive to color changes.

The seal-less, sapphire optical window design eliminates crevices and gaps to assure the highest level of sterility, cleanability and sensor integrity. The surface of the wetted parts is electro-polished and may optionally comply with BN2. The probe mounts conveniently through a standard 25 mm safety port (BBI).



Type ASD25-BT-N

1 Optical path length (OPL)
2 Sapphire windows
3 Detector
4 Day-light filter
5 LED-light source

Technical Data

ASD25-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 (Ø25 H7)
Nominal length: 52 and 30 mm
Thread: G11/4“ ISO 228/1

Insertion depth maximal:
• OPL + 35 mm with port length 52 mm

Optical path length (OPL):
1, 5, 10 or 20 mm

Pressure rating:
PN10 (Test pressure PT 15 bar)

Permitted pressure PS:
10 mbar - 10 bar with TS 0 °C / +100 °C

Permitted pressure at elevated temperature:

TS [°C]	< 100	125	150
PS [bar]	10	8	6

Permitted process temperature TS:
• permanent: +5 °C to +65 °C, (+41 °F to +149 °F)
• peak (60 min/day): +5 °C to +135 °C, (+41 °F to +275 °F)
• peak (30 min/day): +5 °C to +145 °C, (+41 °F to +293 °F)
autoclaving not possible, short term values are only valid if the LED is switched off

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:
Hybrid LED, hermetically sealed

Wavelength range:
840 - 910 nm

Detector:
silicon photodiode, hermetically sealed

Measuring range:
any measuring range between
0 - 4 CU

Cable connection:
probe cable ASD-CC, pluggable both sides
2, 3, 5 or 10 m, (7, 10, 16 or 33 ft.)

Weight:
• Probe: approx. 2.0 kg

Type of protection:
IP65

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

Use with Fermenter Control converter!

Options

ASD25-BT-N-SR
wetted parts with surface electro-polished
Ra < 0.4 µm, dF < 1% (BN2)

- Weld-in safety port OSP25-G52 installation angle 0°
- Weld-in safety port OSP25-S52 installation angle 15°
- Sealing flange OSPS25

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