DTF16

Haze Control Process Turbidimeter

inline control

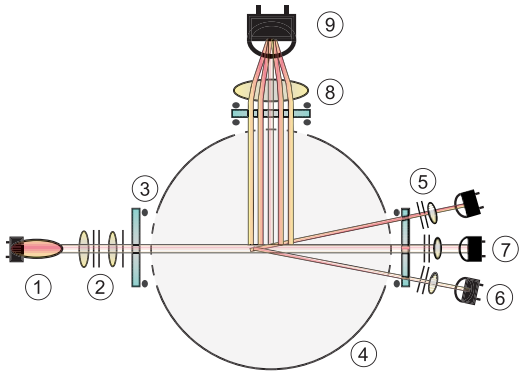


- **Factory zero point**
- **Drift-free calibration**
- **Drift-free zero point**
- **Optimized sensor body geometry traps scattered light**
- **Designed for CIP/SIP**
- **Self-diagnostic system**
- **Low maintenance, user serviceable**

The model DTF16 is a precision turbidimeter.
The DTF16 features an advanced, triple-beam scattered light optical design. It precisely measures light in the forward (11°) and side (90°) direction, with simultaneous light compensation.
This allows the DTF16 to effectively measure a broad range of particles that contribute to turbidity and fine haze in the line while providing the Nephelometric results required by most QA/QC guidelines. The combination of precise scattering light optics and optimized sensor body geometry prevents external or internal stray light from affecting the measurement. Variable disturbances, e.g. sample color, color changes, and lamp variations have no influence on the measured value.

Calibration or zero adjustments are unnecessary, since the system features a drift-free factory zero point.

The sensor body is constructed of sanitary stainless steel. The DTF16 O-Rings are made from FDA-approved EPDM. The optical windows are made from a single crystal sapphire for superior resistance to abrasive and corrosive media. Welding armatures are available in nominal sizes of DN50 - DN125. Weld ends allow adaptation to any pipe/tube standard.



Type DTF16

1 VIS/NIR Lamp
2 Primary optics module with spectral filter
3 Windows with O-Rings
4 Sample chamber
5 Forwards scattered light optics
6 11° Forward scatter photodiodes
7 Direct beam photodiode
8 Side scatter optics
9 90° Side scatter photodiode

Technical Data

DTF16



Material:
sensor body made of stainless steel
316 L (1.4435)

Line size:
DN50 (2“), DN 65 (2.5“), DN80 (3“), DN100 (4“), DN125 (5“)

Process connections:
Butt weld tube ends:
DIN 11850, ISO 1127, IPS (Schedule 5), OD (BS 4825-1),
others on request e.g. DIN Flange, ASME Flange, Tri-Clamp

Gaskets:
EPDM (FDA), EPDM (USP Class VI), Viton®, Kalrez®, Chemraz®, Fluoraz®, Buna (NBR), Silicone, Viton®/FEP (FDA),
and others on request

Windows:
Sapphire type 3A

Optical path length:
80 mm standard

Process pressure:
10 mbar to 20 bar, (0.15psi to 280psi)

Process temperature:
- 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 restric tions 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:
halogen lamp: 5.0 V DC, 0.97 A
typical life span 1.5 to 3 years

Wavelengths:
590 nm - 1100 nm

Detector (3 circuits):
silicon photodiodes, hermetically sealed

Factory calibration (11° and 90°):
0-25 EBC / 0-100 FTU in standard armature (OPL = 80 mm)

Measuring range:
any measuring range between
0 - 0.1 to 25 EBC
0 - 0.4 to 100 FTU/NTU

Resolution
< ± 0.05 % of respective measuring range

Repeatability:
< ± 0.3 % of respective measuring range

Linearity:
specific to application, < ± 0.5 % with standard solution

Protection:
all optical parts protected according to IP65

Cable lengths:
standard: 5, 10, 20, 35, 50 m, (16, 33, 66, 115, 164 ft.)

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

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

Use with Haze Control HC4322 converter!



Option



Air Drying System B-ADS
Is not a clean and dry compressed air for air purge available, we recommend the use of the air drying system B-ADS.

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