

10 | Optical Sensors Overview

Sensor Specifications								
	ASD	AS16	AS56	AF16	AF26	AF45	AF46	TF16
Basic Measuring Principle:	①	②	②	③	④	⑤	⑥	⑦
Absorption of light - 1-channel	✓	✓	✓	✓	✓	✓	✓	✓
Absorption of light - 2-channel	—	—	—	—	✓	—	✓	—
Scattering of light - 11°	—	—	—	—	—	—	—	✓
Basic Measuring Ranges:								
CU / AU / OD / %-Tr.	✓	✓	✓	✓	✓	✓	✓	✓
ppm / FTU / EBC	—	—	—	—	—	—	—	✓
Wavelengths Used:								
NIR (840 - 910 nm)	✓	—	—	—	—	—	—	—
NIR (730 - 970 nm) - Turbidity	—	AS16-N	AS56-N	AF16-N	—	—	—	✓
VIS (385 - 1000 nm) - Color	—	—	—	AF16-F	✓	—	—	—
VIS (430 - 620 nm) - Color	—	AS16-F	AS56-F	AF16-F	✓	—	—	—
UV (254 - 313 nm)	—	—	—	—	—	✓	✓	—
Windows and OPL:								
Window material: Pyrex®	—	—	—	✓	✓	—	—	✓
Window material: Sapphire	✓	✓	✓	✓	✓	✓	✓	✓
OPL (optical path length) mm	(*)	1 - 40	5 / 10	1 - 1000	1 - 1000	1 - 160	1 - 160	40
Window gaskets (various)	n/a	n/a	n/a	✓	✓	✓	✓	✓
Process Adaption:								
Armature in pipe	—	—	—	✓	✓	✓	✓	✓
Insertion through port	✓	✓	✓	—	—	—	—	—
Process Ratings:								
Max. pressure up to bar (psi)	(*)	20 (290)	10 (145)	100 (1450) depending on materials and design (higher on request)				
Max. temperature up to °C (°F) - continuously	(*)	100 (212)	90 (194)	120 (248)	120 (248)	70 (158)	70 (158)	120 (248)
Options:								
HT (high temperature) up to °C (°F) - continuously	—	—	—	240 (464)	240 (464)	120 (248)	120 (248)	240 (464)
VB (calibration adapter)	—	✓	—	✓	✓	✓	✓	—
EX-proof ATEX	—	—	—	✓	✓	✓	✓	✓
EX-proof FM	—	—	—	✓	✓	✓	✓	✓

* See individual sensor data for details

Pressure and temperature ratings specified herein may be subject to limitations - see instruction manual.

The appropriate choice of material for all wetted parts is the sole responsibility of the user. Data given are subject to changes without prior notice.



ASD (e.g. ASD12)



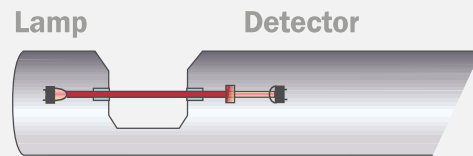
AS (e.g. AS16)



AF, TF (e.g. TF16)

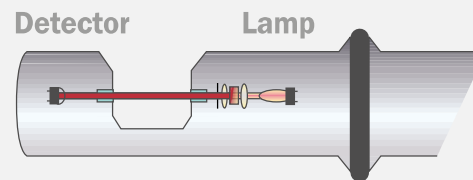
① Probe ASD12 / ASD25

NIR-Absorption,
single channel concentration measurement



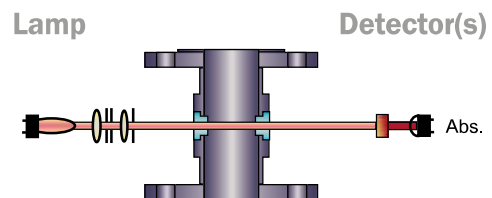
② Probe AS16 / AS56

VIS- and NIR-Absorption,
single channel concentration and
color measurement



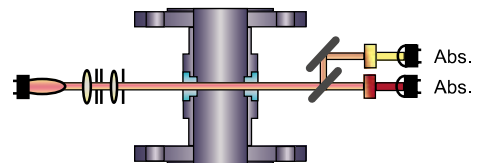
③ Sensor AF16

VIS- and NIR-Absorption,
single channel concentration
and color measurement



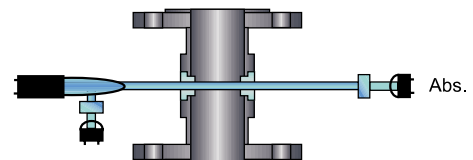
④ Sensor AF26

VIS-Absorption,
dual channel color measurement
with turbidity compensation



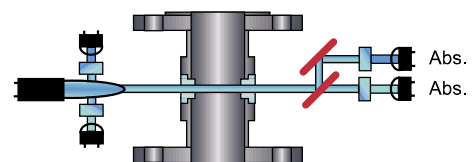
⑤ Sensor AF45

UV-Absorption,
single channel concentration measurement
with compensation of lamp intensity



⑥ Sensor AF46

UV-Absorption,
dual channel concentration measurement
with compensation of lamp intensity



⑦ Sensor TF16

11° scattered light and NIR-Absorption
dual channel turbidity measurement

