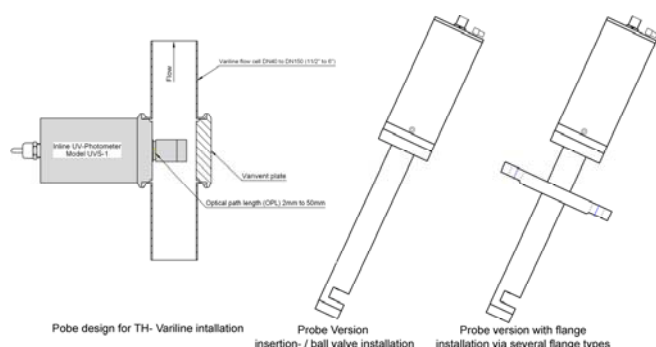


Model UVS-1

Process UV/VIS/NIR- Absorption Photometer



- **Low Maintenance**
- **Typical calibration interval 12 Month**
- **Material measuring windows: Sapphire**
- **Typical measuring wavelength: 254nm or 280nm**
- **Other wavelength in UV/VIS- spectrum available on request**
- **Optional dual wavelength measurement**
- **Optional process temperature measurement**
- **Installation via TH- Varivent plate (TH- Variline flow cell)**
- **Variline flow cell sizes: DN40 to DN150 (1 1/2" to 6")**
- **Optional extended probe length (insertion length 215 mm)**
- **Optional flanges: DIN, ANSI, Tri clover, APV, TH, ...**
- **Optional Air purge**
- **Cleaning: CIP / SIP**

Description:

The sensor model UVS-1 is used to detect UV- absorbing substances in liquids at wavelength of 254nm or 280nm. Other wavelengths are available on request (240 – 880nm). The lifetime of the LED- light sources is between 2 and 5 years (depending by wave length and application).

The probe detects all UV- absorbing substances at the specified wavelength. This means the probe is sensitive against substances which absorb only UV- light (e.g. benzene) and substances which absorb in the whole UV/VIS/NIR spectrum (e.g. solids). Therefore the dual wavelength option offers a second reference measurement, typical in the NIR- spectrum at 850nm. The UV- absorption is affected by UV- absorbing substances and turbidity (solids).

The NIR- absorption is primary affected by particles (turbidity).

The difference of the both absorption signals ([UV- absorption + turbidity absorption] - turbidity absorption) allows to detect all substances which absorb in the specified UV- range only.

If the probe is specified to measure the absorption in the visible spectrum (colour measurement) the result will be calculated as follow: ([colour absorption + turbidity absorption] - turbidity absorption) = colour absorption. The dual wavelength measurement compensates for turbidity and results UV / colour absorption the influences of the turbidity will be compensated.

A temperature sensor provides a shut down of the probe in case of to high product temperature.

This temperature signal can be displayed as an additional option (accuracy approx. +/- 1°C).

The transmitter model Messenger is required to process the sensor signal of the UV- absorption, respectively the optional signals of dual wavelength absorption and temperature.

Calibration can be done in multiple ranges and measurement units by using up to 8 calibration samples. The UVS-1 covers a wide span measuring ranges, due to the availability of multiple optical path lengths (2mm up to 50mm).

Applications:

- UV254 (optional with reference wavelength 850nm)
- UV280 (optional with reference wavelength 850nm)
- Spectral Absorption Coefficient (SAC)
- TOC / COD / PAC
- Toluene, Benzene,
- Colour measurements in the visible spectrum

Operational areas :

- Potable water / Waste water treatment
- Food and drinking industry
- Bio technology
- Pharmaceutical
- ...

Technical Data:

| | | | |
|---------------------|--|-----------------------------|------------------------------------|
| Line sizes: | DN40 – DN150 / 1/2" to 6" | Measuring range absorption: | typical: 0–4AU |
| Process pressure: | PN25 at DN40 & DN50 PN16 at DN65 & DN80 PN10 at DN100 to DN150 | Measuring range temp.: | typical 0-140°C (optional) |
| Temperature range: | maximal 75° (110°C w. purge air) short time 140°C | Optical path length: | 2mm, 5mm, 10mm, 15mm, 30mm or 50mm |
| Flow cell material: | 1.4404 (316L) | Reproducibility: | ± 1 % |
| Window material: | Sapphire | Measuring wavelength: | 254nm or 280nm (other on request) |
| Gasket material: | EPDM (other on request) | Reference wavelength: | 850nm |
| | | Protection class: | IP65 / NEMA 4X |
| | | Cleaning: | CIP / SIP |

Chemtronic Waltemode GmbH, Sales & Service Partner for your MONITEK Products.