

SAC 436 nm

M345

0.5 - 50 m<sup>-1</sup>

Direct Reading EN ISO 7887:1994

## Instrument specific information

The test can be performed on the following devices. In addition, the required cuvette and the absorption range of the photometer are indicated.

Instrument Type	Cuvette	$\lambda$	Measuring Range
SpectroDirect, XD 7000, XD 7500	□ 50 mm	436 nm	0.5 - 50 m <sup>-1</sup>

## Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
no reagent required		

## Application List

- Drinking Water Treatment

## Preparation

1. The deionised water for zero calibration should be passed through a membrane filter with a pore width of 0.45  $\mu\text{m}$ .

## Notes

1. Because the colouration is dependent on pH value and temperature, these should be determined together with the optical measurement and specified along with the result.
2. The spectral absorption coefficient is a variable used to describe the true colouration of a water sample. The "true colouration" of a water sample is the colouration caused solely by dissolved substances in the sample. This is why the water sample has to be filtered prior to measurement. Measurement at a wavelength of 436 nm is obligatory and is adequate for natural waters and the outflow of municipal sewage plants. As industrial waste waters often have no pronounced extinction maxima, additional measurements are required at the wavelengths 525 nm and 620 nm. In case of doubt, you should perform a wavelength scan from 330 to 780 nm using the spectrum function (Mode 53).

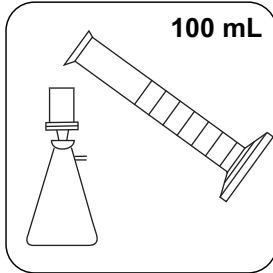




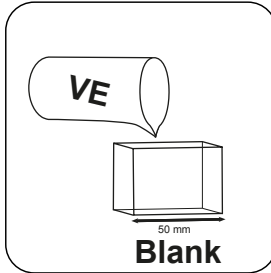
## Determination of Spectral absorption coefficient at 436 nm

Select the method on the device.

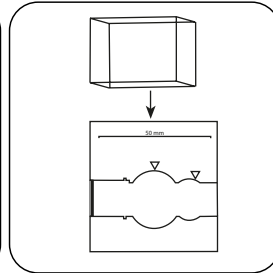
For this method, a ZERO measurement does not have to be carried out every time on the following devices: XD 7000, XD 7500



Filter approx. 100 mL sample with a pre-rinsed filter (pore size 0.45 µm).



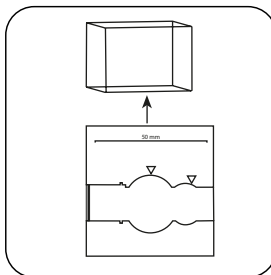
Fill **50 mm vial** with **deionised water** .



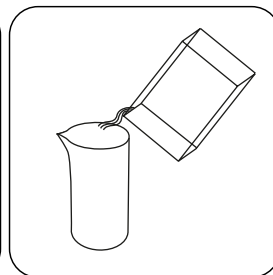
Place **sample vial** in the sample chamber. • Pay attention to the positioning.



Press the **ZERO** button.

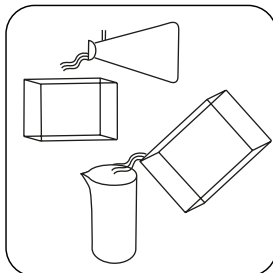


Remove **vial** from the sample chamber.

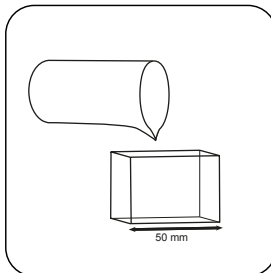


Empty vial.

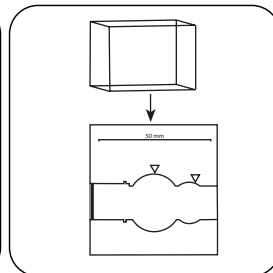
For devices that require **no ZERO measurement** , **start here**.



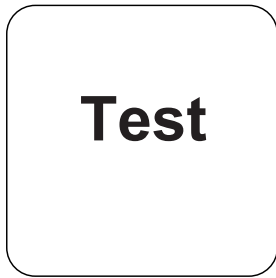
Rinse out vial with prepared sample .



Fill **50 mm vial** with **sample**.



Place **sample vial** in the sample chamber. • Pay attention to the positioning.



Press the **TEST** (XD:  
**START**) button.

The result in ( $m^{-1}$ ) appears on the display.



## Chemical Method

Direct Reading EN ISO 7887:1994

### Appendix

#### Calibration function for 3rd-party photometers

$$\text{Conc.} = a + b \cdot \text{Abs} + c \cdot \text{Abs}^2 + d \cdot \text{Abs}^3 + e \cdot \text{Abs}^4 + f \cdot \text{Abs}^5$$

	□ 50 mm
a	$-5.4658 \cdot 10^{-1}$
b	$1.00631 \cdot 10^{-2}$
c	
d	
e	
f	

#### According to

EN ISO 7887:1994, main section 3