



Silica VLR PP

M349

0.005 - 0.5 mg/L SiO<sub>2</sub>

Heteropolyblue

### 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	820 nm	0.005 - 0.5 mg/L SiO <sub>2</sub>

### Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
Silicate VLR PP Reagent Set	1 Set	5443002

The following accessories are required.

Accessories	Packaging Unit	Part Number
W100/OG/50MM Rectangular cell, optical glass	1 pc.	601070
Universal Container - Cap	1 mL	424648

### Application List

- Boiler Water

### Notes

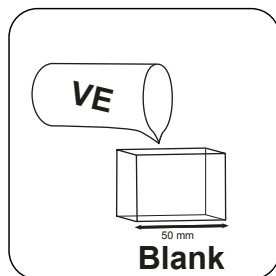
1. The test sample should have a pH value between 1 and 2 after the Heptamolybdate Reagent has been added.
2. Use a plastic sample container (>15 ml) with cap (for example part number 424648).



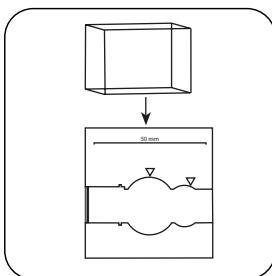


## Determination of Silica VLR PP

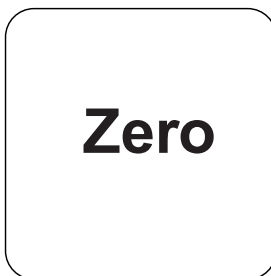
Select the method on the device.



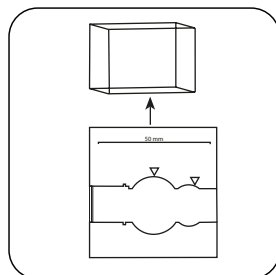
Fill **50 mm vial** with **deionised water**.



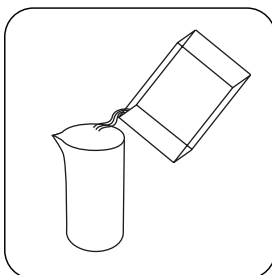
Place **sample vial** in the sample chamber. • Pay attention to the positioning.



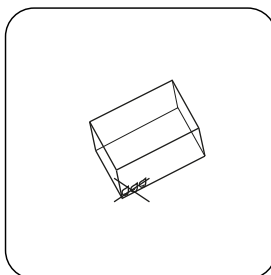
Press the **ZERO** button.



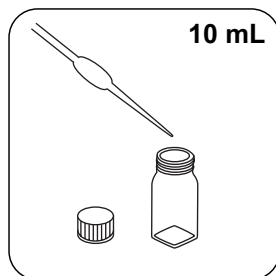
Remove **vial** from the sample chamber.



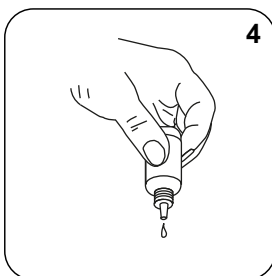
Empty vial.



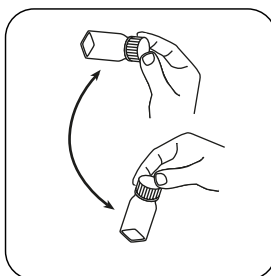
Dry the vial thoroughly.



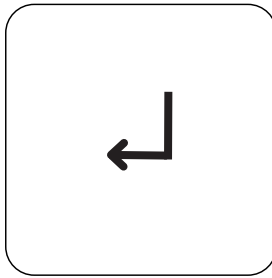
Fill a suitable sample vessel with **10 mL sample**



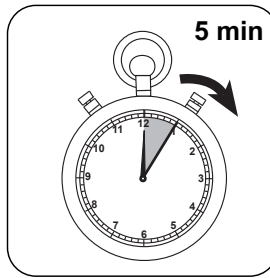
Add **4 drops Heptamolybdate Reagent**.



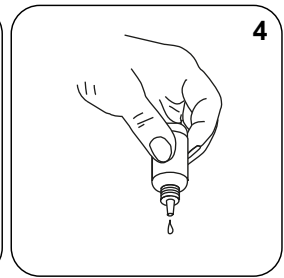
Invert several times to mix the contents.



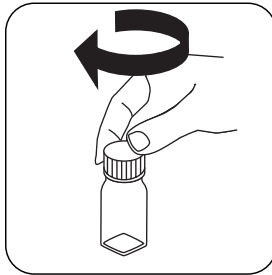
Press the **ENTER** button.



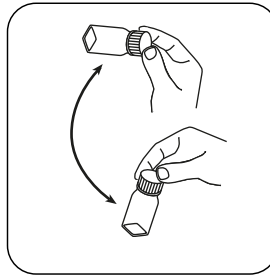
Wait for **5 minute(s) reaction time**.



Add **4 drops Tartaric Acid Reagent**.



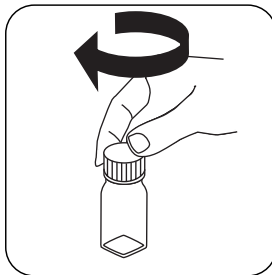
Close digestion vial



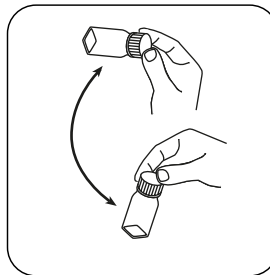
Invert several times to mix the contents.



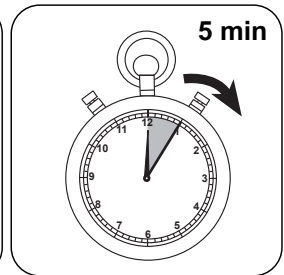
Add **Vario Silica Amino Acid F10 powder pack**.



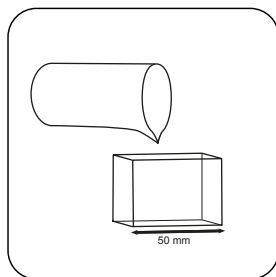
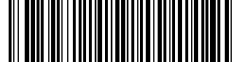
Close digestion vial



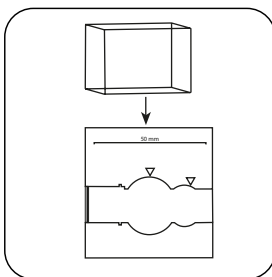
Swirl around to dissolve the powder.



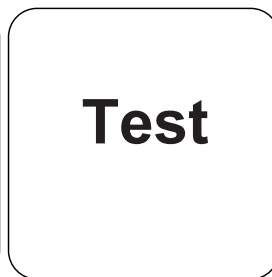
Wait for **5 minute(s) reaction time**.



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 mg/L SiO<sub>2</sub> appears on the display.

## Analyses

The following table identifies the output values can be converted into other citation forms.

Unit	Cite form	Scale Factor
mg/l	SiO <sub>2</sub>	1
mg/l	Si	0.47

## Chemical Method

Heteropolyblue

### Calibration function for 3rd-party photometers

Conc. = a + b•Abs + c•Abs<sup>2</sup> + d•Abs<sup>3</sup> + e•Abs<sup>4</sup> + f•Abs<sup>5</sup>

□ 50 mm

a	0.00000 • 10 <sup>-2</sup>
b	5.77158 • 10 <sup>-1</sup>
c	
d	
e	
f	

## Method Validation

Limit of Detection	0.003 mg/L
Limit of Quantification	0.008 mg/L
End of Measuring Range	0.5 mg/L
Sensitivity	0.58 mg/L / Abs
Confidence Intervall	0.004 mg/L
Standard Deviation	0.002 mg/L
Variation Coefficient	0.73 %