

Method Z440 – Silicon Si

Specification

Description: Test for determining the content of silicon in marine and fresh water
 Range: 0,05 - 7 mg/l
 Resolution: 0,01 mg/l
 Wavelength: 610 nm

Reagent set

| Product Code | Description |
|--------------|---|
| 8440 | Set of reagents for method Z440, Silicon Si, fresh and marine water (reagents for approx. 55 tests) |

List of components

- ✓ Reagent Si-1
- ✓ powder Reagent Si-2
- ✓ spatula

Performing the measurement

- Select the **Z440 Silicon Si** method (**Methods** → **Select method** → **Z440 Silicon Si**).
 How to select the method, see [8.1 Choosing method](#).

NOTE:

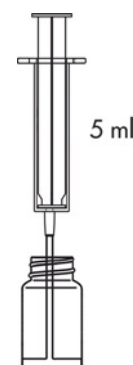
*It is recommended to use the **GUIDE** system by pressing the context button **GUIDE** on the photometer. It will provide you with step-by step basic instruction how to perform measurement and a timer with beeper to count down reaction time. To enable this function press the button **GUIDE**.*

- Rinse the vial and the syringe three times with the tested water.

NOTE:

If you use the vial for the first time, before taking the tested water:

- rinse the vial with water after adding six drops of Reagent Si-1,*
- put the cap on the vial and shake vigorously for a few seconds,*
- remove all water from the vial by turning it upside down and tapping lightly on the folded paper towel,*
- rinse the vial and the syringe three times with the tested water.*

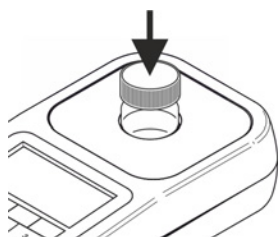


- Take exactly 5 ml of the tested water with the syringe and pour into the vial.

NOTE:

Make sure no air bubbles are present in the syringe. Trapped air bubbles can affect accuracy of the measurement.

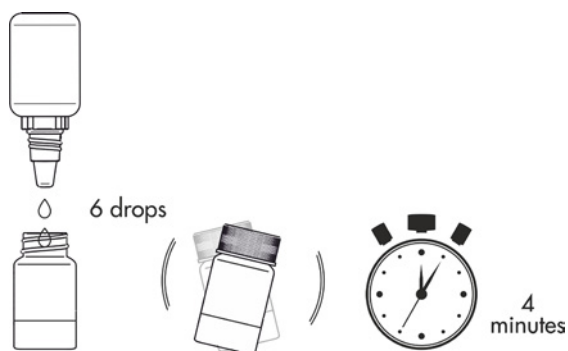
- Insert the vial into the round vial holder and press the **ZERO** key. The display will show **"-0.0-**", which means the device is ready for measurement.



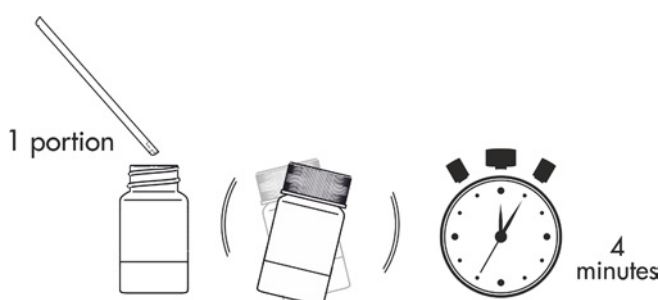
| | | | |
|----------------------|-----------------|-------|--|
| 26 08 20 | | 12:35 | |
| Si | Z440 Silicon Si | tag 1 | |
| Measuring ... | | | |
| ZERO | MEAS | GUIDE | |

| | | | |
|-------------------|-----------------|-------|--|
| 26 08 20 | | 12:35 | |
| Si | Z440 Silicon Si | tag 1 | |
| -0.0- mg/l | | | |
| ZERO | MEAS | GUIDE | |

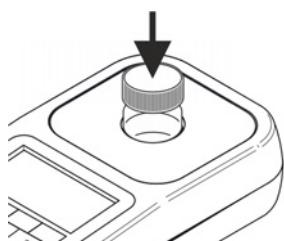
5. Add 6 drops of **Reagent Si-1**, shake to mix and wait **4 minutes**.



6. Add 1 portion of **powder Reagent Si-2** with the spatula, shake until the powder has dissolved. Before taking a measurement wait **4 minutes**.



7. After 4 minutes insert the vial into the round vial holder and press the **MEAS** key to take a measurement. The result – **the concentration of silicon** – is displayed in **mg/l (ppm)**.



| | | | |
|----------------------|-----------------|-------|--|
| 26 08 20 | | 12:43 | |
| Si | Z440 Silicon Si | tag 1 | |
| Measuring ... | | | |
| ZERO | MEAS | GUIDE | |

| | | | |
|------------------|-----------------|-------|-----|
| 26 08 20 | | 12:43 | |
| Si | Z440 Silicon Si | tag 1 | |
| 0.95 mg/l | | | |
| ZERO | MEAS | GUIDE | REC |

There are also available alternative units to display: ppm and SiO₂ mg/l. They can be accessed by pressing the **left / right** cursors on the keyboard.

Potential interferences

the presence of:

iron (Fe) - above 0,5 ppm
phosphate - above 50 ppm

may cause falsely low readings

high content of sulphide

may cause falsely low readings