



Sulphate HR PP

M361

50 - 1000

Bariumsulphate Turbidity

## 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
MD 600, MD 610, MD 640, MultiDirect, SpectroDirect, XD 7000, XD 7500	ø 24 mm	530 nm	50 - 1000

## Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
VARIO Sulfa 4 F10	Powder / 100 pc.	532160
Deionised Water	100 mL	461275
Deionised Water	250 mL	457022

The following accessories are required.

Accessories	Packaging Unit	Part Number
Round cuvette 24 mm ø, set of 5	1 Set	197629
Automatic pipette, 1-5 ml	1 pc.	419076
Pipette tips, 1-5 ml (white) 100 pc.	1 pc.	419066

## Application List

- Waste Water Treatment
- Cooling Water
- Drinking Water Treatment
- Raw Water Treatment

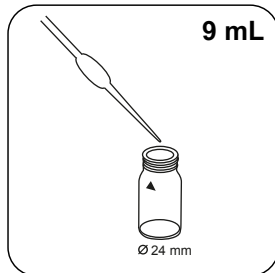




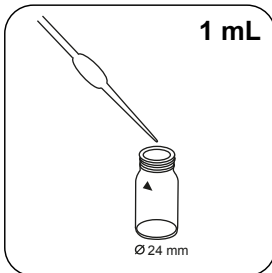
## Determination of Sulphate HR with powder packs

Select the method on the device.

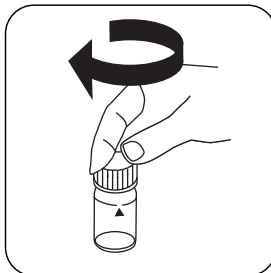
For this method, a ZERO measurement does not have to be carried out every time on the following devices: XD 7000, XD 7500



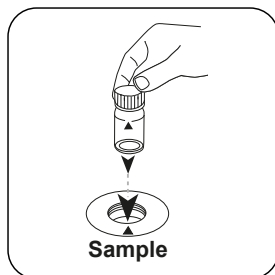
Fill 24 mm vial with **9 mL deionised water** .



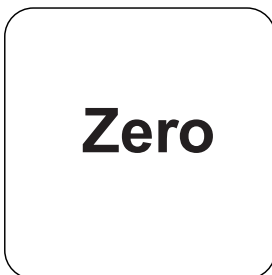
Put **1 mL sample** in the vial.



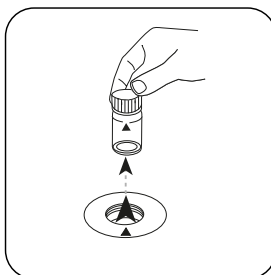
Close vial(s).



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

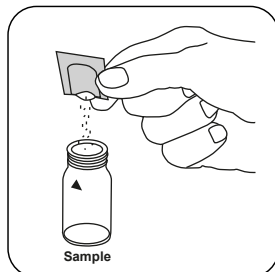


Press the **ZERO** button.

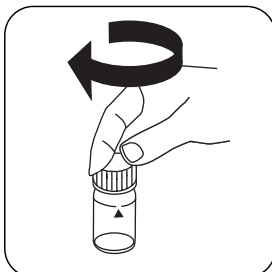


Remove the vial from the sample chamber.

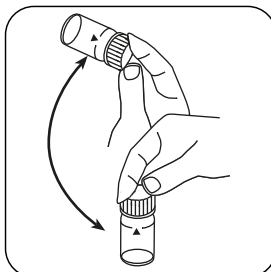
For devices that require **no ZERO measurement** , start here.



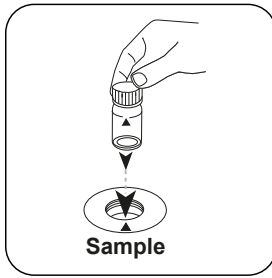
Add **Vario Sulpha 4/ F10 powder pack**.



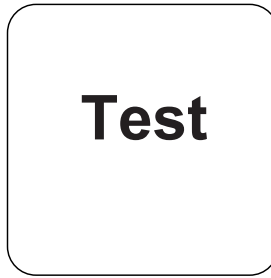
Close vial(s).



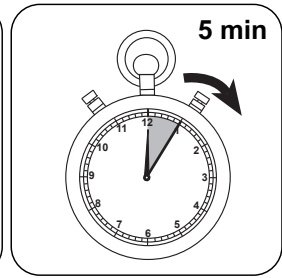
Invert several times to mix the contents.



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



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



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

Once the reaction period is finished, the measurement takes place automatically.

The result in mg/L Sulphate appears on the display.



## Chemical Method

Bariumsulphate Turbidity

### Calibration function for 3rd-party photometers

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

	∅ 24 mm	□ 10 mm
a	$2.42421 \cdot 10^{+1}$	$2.42421 \cdot 10^{+1}$
b	$1.07243 \cdot 10^{+3}$	$2.30572 \cdot 10^{+3}$
c	$-1.11466 \cdot 10^{+3}$	$-5.15249 \cdot 10^{+3}$
d	$7.93311 \cdot 10^{+2}$	$7.88423 \cdot 10^{+3}$
e	$-1.88194 \cdot 10^{+2}$	$-4.02124 \cdot 10^{+3}$
f		

### Method Validation

Limit of Detection	2.91 mg/L
Limit of Quantification	8.74 mg/L
End of Measuring Range	1,000 mg/L
Sensitivity	516 mg/L / Abs
Confidence Intervall	56.16 mg/L
Standard Deviation	23.22 mg/L
Variation Coefficient	4.42 %