

Ammonia HR TT

M66

1.0 - 50 mg/L N

Salicylate

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	λ	Measuring Range
MD 600, MD 610, MD 640, MultiDirect	ø 16 mm	660 nm	1.0 - 50 mg/L N
SpectroDirect, XD 7000, XD 7500	ø 16 mm	655 nm	1.0 - 50 mg/L N

Material

Required material (partly optional):

Reagents	Packaging Unit	Part Number
VARIO am Vial Test Reagent Set High Range F5	1 Set	535650

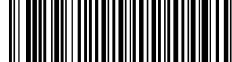
Application List

- Waste Water Treatment
- Raw Water Treatment

Preparation

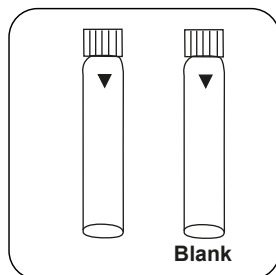
1. Strong alkaline or acidic water samples must be adjusted to approx. pH 7 before analysis (use 1 mol/l Hydrochloric acid or 1 mol/l Sodium hydroxide).



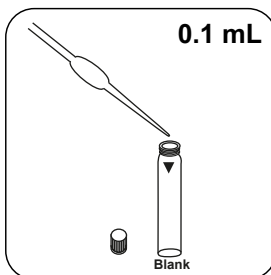


Determination of Ammonium HR with Vario Tube Test

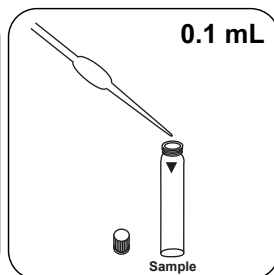
Select the method on the device.



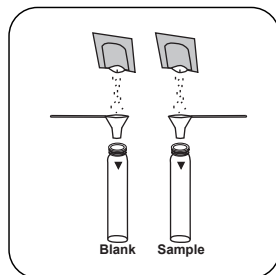
Prepare two **reaction vials**.
Mark one as a blank.



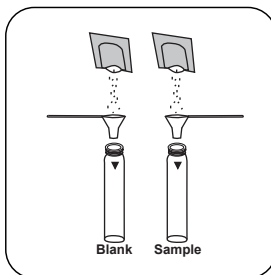
Put **0.1 mL deionised water** in the blank.



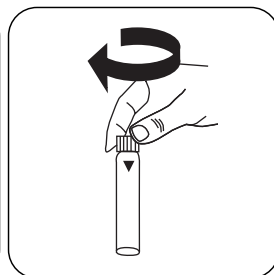
Put **0.1 mL sample** in the sample vial.



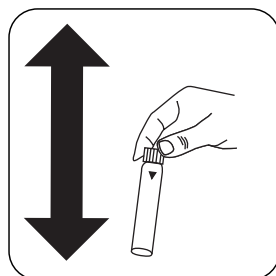
Add a **Vario AMMONIA Salicylate F5 powder pack** in each vial.



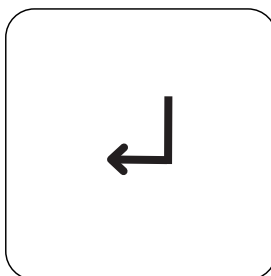
Add a **Vario AMMONIA Cyanurate F5 powder pack** in each vial.



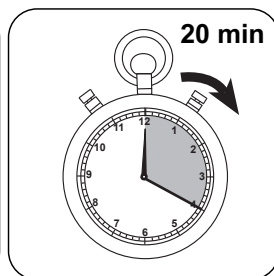
Close vial(s).



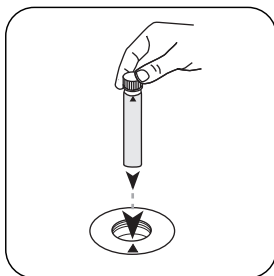
Dissolve the contents by shaking.



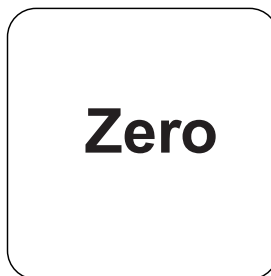
Press the **ENTER** button.



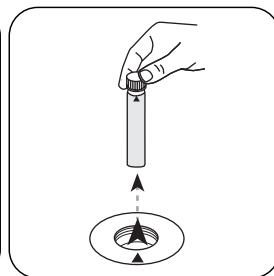
Wait for **20 minute(s) reaction time**.



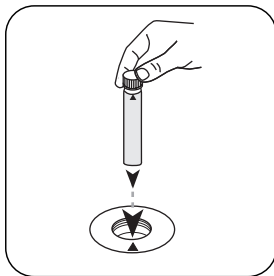
Place **blank** in the sample chamber. • Pay attention to the positioning.



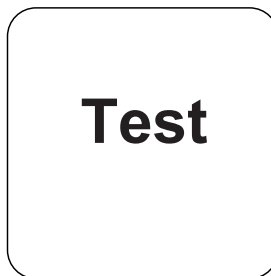
Press the **ZERO** button.



Remove **vial** from the sample chamber.

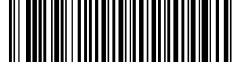


Place **sample vial** in the sample chamber. • Pay attention to the positioning.



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

The result in mg/L Ammonium 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	N	1
mg/l	NH ₄	1.29
mg/l	NH ₃	1.22

Chemical Method

Salicylate

Appendix

Calibration function for 3rd-party photometers

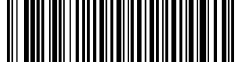
Conc. = $a + b \cdot \text{Abs} + c \cdot \text{Abs}^2 + d \cdot \text{Abs}^3 + e \cdot \text{Abs}^4 + f \cdot \text{Abs}^5$

	ø 16 mm
a	$-3.25421 \cdot 10^{+0}$
b	$3.62204 \cdot 10^{+1}$
c	
d	
e	
f	

Interferences

Removeable Interferences

- Iron interferes with the test and can be eliminated as follows: Determine the amount of total iron present. To produce the blank, add an iron standard solution with the same concentration instead of deionised water.
- If chlorine is known to be present, the sample must be treated with sodium thiosulphate. Add one drop of 0.1 mol/l Sodium thiosulphate for each 0.3 mg/L Cl₂ in a one litre water sample.



Method Validation

Limit of Detection	0.59 mg/L
Limit of Quantification	1.78 mg/L
End of Measuring Range	50 mg/L
Sensitivity	36.82 mg/L / Abs
Confidence Intervall	3.66 mg/L
Standard Deviation	1.51 mg/L
Variation Coefficient	5.93 %

Derived from

DIN 38406-E5-1 ISO 7150-1