

APC350

Phosphorus ortho

MR 2 – 20 mg/L PO₄-P / 6 – 60 mg/L PO₄

DOC312.53.94348

Principle

Phosphate ions react with molybdate and antimony ions in an acidic solution to form an antimonyl phosphomolybdate complex, which is reduced by ascorbic acid to phosphormolybdenum blue

Range of Application

Waste water, drinking water, boiler water, surface water, process analysis

Interferences

T1
5000 mg/l: SO ₄ ²⁻
2000 mg/l: Cl ⁻
1000 mg/l: K ⁺ , Na ⁺ , Ca ²⁺
500 mg/l: Mg ²⁺ , NO ₃ ⁻
50 mg/l: Co ²⁺ , Fe ²⁺ , Fe ³⁺ , Zn ²⁺ , Cu ²⁺ , Ni ²⁺ , I ⁻ , NO ₂ ⁻ , Cd ²⁺ , Sn ⁴⁺ , NH ₄ ⁺ , Mn ²⁺ , Al ³⁺ , Hg ²⁺ , Pb ²⁺ , SiO ₂
25 mg/l: Ag ⁺
10 mg/l: Cr ³⁺
5 mg/l: Cr ⁶⁺

The ions listed in T1 have been individually checked up to the given concentrations and do not cause interference. We have not determined cumulative effects and the influence of other ions. The measurement results must be subjected to plausibility checks (dilute and/or spike the sample).

Sample Volume	0,4 mL
Reagent B Volume	0,5 mL
Reagent C Volume	0,2 mL
Reagent B Filling	60 mL
Reagent C Filling	30 mL
Reagent D Filling	12 g
Temperature Sample/sample cuvette	15 – 25°C
pH sample	2 – 10

The screenshot shows the 'Settings' window for the 'Orthophosphate' method. The 'Methods definitions' list on the left includes Ammonium, Chloride, COD, COD high, Formaldehyde, ISO-COD, LCA722, LCA722_Reagent, LCK Ammonium, Nitrate, Nitrite, **Orthophosphate**, Phenol, Phosphate, Reagent Volume, Sample Volume, and TNb. The 'Reading 1 (Concentration)' section is configured with three ranges: Low-range test (APC349o, 0.050 to 1.500), Middle-range test (APC348o, 0.500 to 5.000), and High range test (APC350o, 2.000 to 20.000). Checkboxes for 'Redo samples with underrange error if possible', 'Redo samples with overrange error if possible', and 'Redo samples with other error (barcode/absorption error)' are present. A 'High-range cuvette overrange dilution factor' is set to 2. The 'Method priority level' is 0. The 'Stir sample in samplecup by default' checkbox is checked. The 'Waiting time after start processing cuvet before starting processing next cuvet of test' is set to 0 seconds. Buttons for 'Add Method', 'Delete Method', 'OK', and 'Cancel' are visible.

Method Library:

APC350 ortho is pre-programmed in the method library. Please check under Settings/Software/Application Methods **Orthophosphate** and Tests **350o**

The screenshot shows the 'Settings' dialog box with the 'Tests definitions' tab selected. The 'Tests definitions' list on the left includes APC114, APC138, APC238, APC303, APC304, APC314, APC338, APC339, APC340, APC341, APC342, APC346 I, APC346 II, APC349, APC349o, APC349o, APC350, APC350o (highlighted), APC400, APC500, LCA722_0.5, LCA722_2.0, LCA722_R_0.5, LCA722_R_2.0, LCK014, and LCK302. The main area shows 12 test steps with parameters: 1. Add sample to cuvette (Volume: 400 µl, Speed: 500 µl/s); 2. Add reagent to cuvette (Volume: 500 µl, Speed: 400 µl/s, Reagent: B 348/349/350); 3. Add reagent to cuvette (Volume: 200 µl, Speed: 400 µl/s, Reagent: C 348/349/350); 4. Shake cuvette by inversion (Time: 10 sec, Speed inv.: 50%, Speed rot.: 50%); 5. (Cooling) delay cuvette (Time: 10 min, Priority: Normal); 6. Measure cuvette; 7-12. None. At the bottom, there are checkboxes for 'Blank measurement needed for test.', 'Only measure blank.', and 'Re-create blank if re-measurement is needed for test.', and a 'Final capping overload (0-99%):' field set to 40.

Note

The APC350 ortho need a preparation of Reagent C:

Use the delivered spoon and take 2 spoonful of Reagent D into Solution C. Invert it for approximately 30 seconds (until it's solved). This solution is stable for 5 days at room temperature.

Run the APC350 ortho Phosphorous method

Create a Run like described in the QUICK GUIDE

- Place the APC350 cuvettes according to the settings in the Software in the cuvette racks.
- Place the samples according to the settings in the Software in the sample racks
- Place the Reagent B and C according to the settings in the Reagent trays

Settings

General | Methods/Tests | AQC/Blancs | Reagents trays

Tray 1 (Left):

	Name:	Volume:	Re-filled:
Position 1:	A 339	50.00	<input checked="" type="checkbox"/>
Position 2:	A 340	5.20	<input type="checkbox"/>
Position 3:		0.00	<input type="checkbox"/>
Position 4:		0.00	<input type="checkbox"/>
Position 5:	B 348/349/350	27.00	<input type="checkbox"/>
Position 6:	C 348/349/350	29.60	<input type="checkbox"/>

Volume in reagents cup:

Volume in filled reagents cup: ml.

Warning level reagents cup: ml.

Other liquid level settings:

Tray definition -> Max. Liquid level:

10th of mm -> ml.:

OK

Cancel

- Check if fresh and enough pipette tips are available
- Check if enough Rinsing/Dilution water is available
- Initialize the AP 3900 multi and the Dispenser



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