



Orthophosphate Test Kit

PO-19 (224800) and PO-19A (224801)

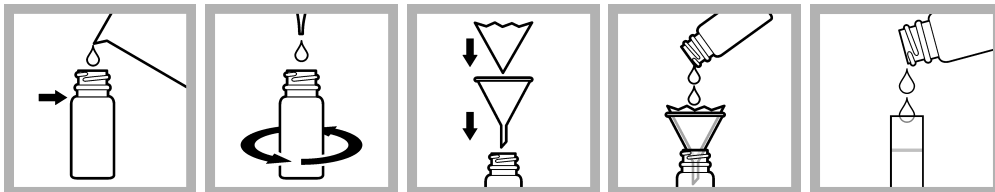
DOC326.98.00023

Test preparation

CAUTION: Review the Safety Data Sheets (MSDS/SDS) for the chemicals that are used. Use the recommended personal protective equipment.

- Put the color disc on the center pin in the color comparator box (numbers to the front).
- Use sunlight or a lamp as a light source to find the color match with the color comparator box.
- Rinse the tubes with sample before the test. Rinse the tubes with deionized water after the test.
- For best results, clean the tubes and bottles with 6.0 N (1:1) hydrochloric acid solution, then rinse with deionized water.
- If the color match is between two segments, use the value that is in the middle of the two segments.
- If the color disc becomes wet internally, pull apart the flat plastic sides to open the color disc. Remove the thin inner disc. Dry all parts with a soft cloth. Assemble when fully dry.
- Undissolved reagent does not have an effect on test accuracy.
- If the low range test result is more than the maximum limit, use the mid range test procedure with a new sample.
- To verify the test accuracy, use a standard solution as the sample.
- Use the filtration procedure for samples that contain turbidity. Test Kit PO-19A includes the necessary supplies for filtration.
- To record the test result as mg/L P, divide the test result by 3.

Filtration procedure for turbid samples



- Fill a bottle to the shoulder with sample.
- Add one drop of Filtration Aid Solution. Swirl to mix.
- Put the filter paper in the funnel. Put the funnel on a second bottle.
- Pour the sample from the first bottle into the funnel.
- Use the filtered sample in the test procedure. Record the results as soluble phosphate.

Replacement items

Description	Unit	Item no.
PhosVer® 3 Phosphate Reagent Powder Pillows, 5 mL	100/pkg	220999
Color disc, phosphate, 0–40 mg/L	each	9262100
Bottle, square, 29 mL, with 10, 15, 20 and 23-mL marks	6/pkg	232706
Dropper, glass, 0.5- and 1.0-mL marks	5/pkg	1419705
Color comparator box	each	173200
Glass viewing tubes, 18 mm	6/pkg	173006

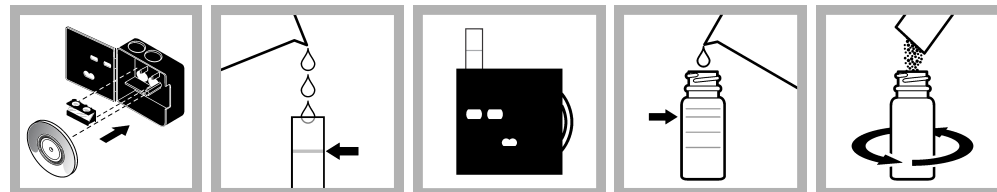
Replacement items (continued)

Description	Unit	Item no.
Long-path adapter	each	2412200
Stoppers for 18-mm glass tubes and AccuVac Ampuls	6/pkg	173106
PO-19A test kit only:		
Filter paper, 2–3 micron, pleated, 12.5 cm	100/pkg	189457
Funnel, poly, 65 mm	each	108367
Filtration aid solution, 29-mL dropper bottle	29 mL	104633

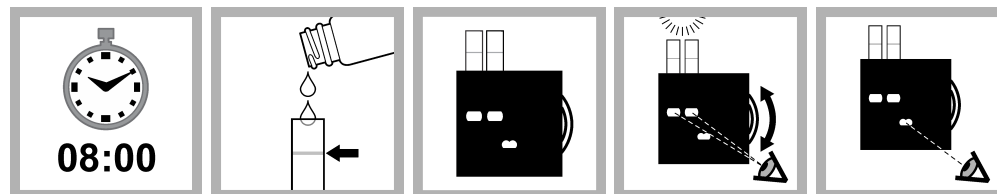
Optional items

Description	Unit	Item no.
Caps for plastic viewing tubes (4660004)	4/pkg	4660014
Water, deionized	500 mL	27249
Plastic viewing tubes, 18 mm, with caps	4/pkg	4660004
Hydrochloric acid standard solution, 6.0 N (1:1)	500 mL	88449
Phosphate Standard Solution, 1 mg/L as PO ₄ (NIST)	500 mL	256949
Phosphate Standard Solution, 10 mg/L as PO ₄ (NIST)	946 mL	1420416

Test procedure—Orthophosphate (0–0.8 mg/L PO₄)

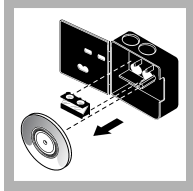


- Install the long-path adapter in the color comparator box.
- Fill a tube to the top line with sample.
- Put the tube into the left opening of the color comparator box.
- Fill a bottle to the 20-mL mark with sample.
- Add one PhosVer 3 Phosphate Reagent Powder Pillow. Swirl to mix.

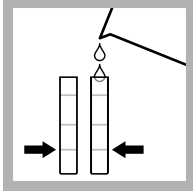


- Wait 8 minutes. Read the result within 10 minutes.
- Fill a second tube to the top line with the prepared sample.
- Put the second tube into the color comparator box.
- Hold the color comparator box below a light source. Turn the color disc to find the color match.
- Read the value in the scale window. Divide the value by 50 to get the result in mg/L.

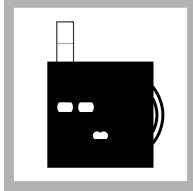
Test procedure—Orthophosphate (0–4 mg/L PO₄)



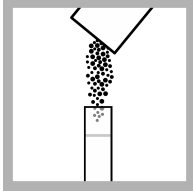
1. If installed, remove the long-path adapter.



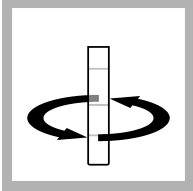
2. Fill two tubes to the first line (5 mL) with sample.



3. Put one tube into the left opening of the color comparator box.



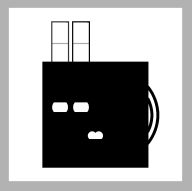
4. Add one PhosVer 3 Phosphate Reagent Powder Pillow to the second tube.



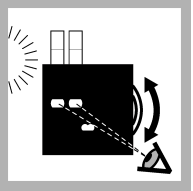
5. Swirl to mix. A blue color develops.



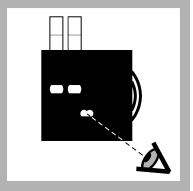
6. Wait 1 minute. Read the result within 5 minutes.



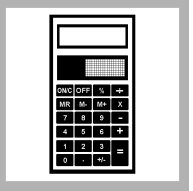
7. Put the second tube into the color comparator box.



8. Hold the color comparator box in front of a light source. Turn the color disc to find the color match.

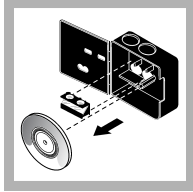


9. Read the value in the scale window.

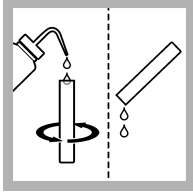


10. Divide the value by 10 to get the result in mg/L.

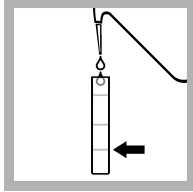
Test procedure—Orthophosphate (0–40 mg/L PO₄)



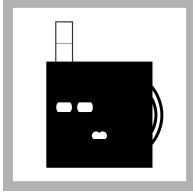
1. If installed, remove the long-path adapter.



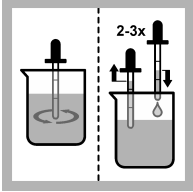
2. Rinse two tubes with deionized water.



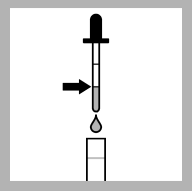
3. Fill a tube to the first line (5 mL) with deionized water.



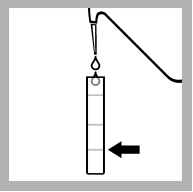
4. Put the tube into the left opening of the color comparator box.



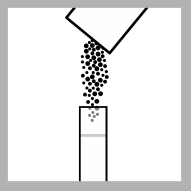
5. Fully rinse the dropper with the sample.



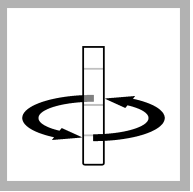
6. Use the dropper to add 0.5-mL of sample to a second tube.



7. Add deionized water to the first (5 mL) line on the second tube.



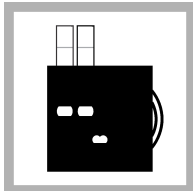
8. Add one PhosVer 3 Phosphate Reagent Powder Pillow to the second tube.



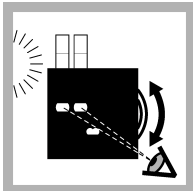
9. Swirl to mix. A blue color develops.



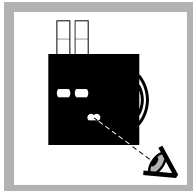
10. Wait 1 minute. Read the result within 5 minutes.



11. Put the second tube into the color comparator box.



12. Hold the color comparator box in front of a light source. Turn the color disc to find the color match.



13. Read the result in mg/L in the scale window.

