



# Iron Test Kit

IR-21 (2299300)

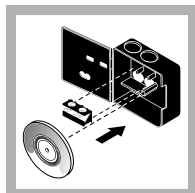
DOC326.97.00064

## Test preparation

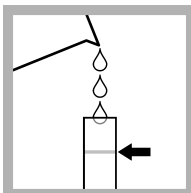
**CAUTION:** ⚠ *Review the Safety Data Sheets (MSDS/SDS) for the chemicals that are used. Use the recommended personal protective equipment.*

- Put the color disc on the center pin in the color comparator box (numbers to the front).
- Use the color disc that is applicable to the test procedure range.
- Rinse the tubes with sample before the test. Rinse the tubes with deionized water after the test.
- This test is very sensitive to contamination. For best results, clean all glassware with 6.0 N (1:1) hydrochloric acid solution, then rinse fully with deionized water.
- If the sample is clear with no color or turbidity, prepare a reagent blank for best results. To prepare a reagent blank, fill the measuring vial with deionized water. Add one TPTZ Iron Reagent Powder Pillow. Swirl immediately to mix. Pour the solution into a clean viewing tube to the line that is shown in step 2 of the test procedure. Continue the test procedure with step 3.
- The long-path adapter for the low range test shows the color in the tubes from top to bottom. Make sure the light source is above the tubes during the color match.
- 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.
- To verify the test accuracy, use a standard solution as the sample.
- The reagent contains a reducing agent that changes precipitated or suspended iron, such as rust, to ferrous iron ( $\text{Fe}^{2+}$ ). The indicator in the reagent forms a blue color with ferrous iron.
- Copper, cobalt, chromium or mercury in the sample cause an interference that gives high results, but the effect is small.

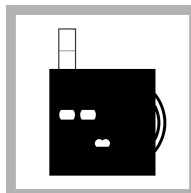
## Test procedure—Iron (0–0.2 mg/L Fe)



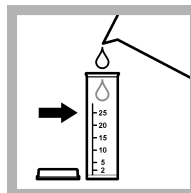
1. Install the long-path adapter in the color comparator box.



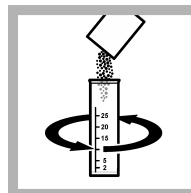
2. Fill a tube to the top line with sample.



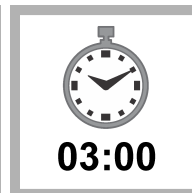
3. Put the tube into the left opening of the color comparator box.



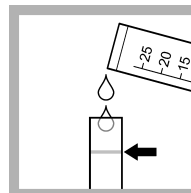
4. Fill the vial to the 25-mL mark with sample.



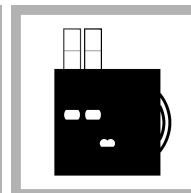
5. Add one TPTZ Iron Reagent Powder Pillow. Immediately swirl to mix.



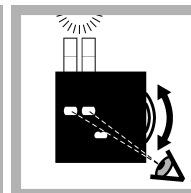
6. Wait 3 minutes. A blue color develops.



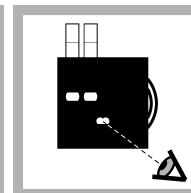
7. Fill a second tube to the top line with the prepared sample.



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



9. Hold the color comparator box below a light source. Turn the color disc to find the color match.



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

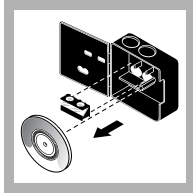
## Replacement items

Description	Unit	Item no.
TPTZ Iron Reagent Powder Pillows, 25 mL	100/pkg	2275699
Color disc, iron, TPTZ, 0–0.2 mg/L	each	9265400
Color disc, iron, TPTZ, 0–2.0 mg/L	each	9264300
Color comparator box	each	173200
Long-path adapter	each	2412200
Glass viewing tubes, 18 mm	6/pkg	173006
Stoppers for 18-mm glass tubes and AccuVac Ampuls	6/pkg	173106
Vial, graduated to 2, 5, 10, 15, 20 and 25 mL	each	219300

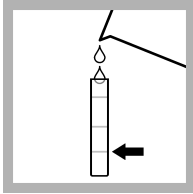
## Optional items

Description	Unit	Item no.
Hydrochloric acid standard solution, 6.0 N (1:1)	500 mL	88449
Iron standard solution, 1 mg/L Fe	500 mL	13949
Water, deionized	500 mL	27249

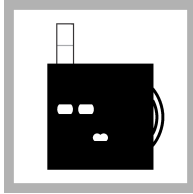
## Test procedure—Iron (0–2 mg/L Fe)



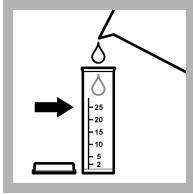
1. If installed, remove the long-path adapter.



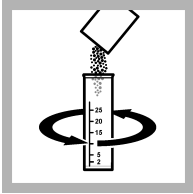
2. Fill a tube to the first line (5 mL) with sample.



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



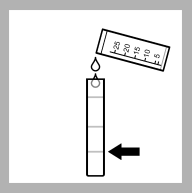
4. Fill the vial to the 25-mL mark with sample.



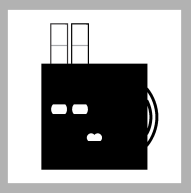
5. Add one TPTZ Iron Reagent Powder Pillow. Immediately swirl to mix.



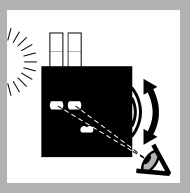
6. Wait 3 minutes. A blue color develops.



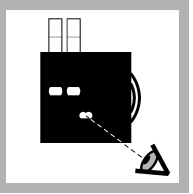
7. Fill a second tube to the first line (5 mL) with the prepared sample.



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



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



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

