

# AT1000 application selection guide for Free & Total Chlorine, Chlorine Dioxide, Sulfite

DOC316.52.93145

Use the table below to find the correct application information for sample analysis.

1. Find the method type in the first column.
2. Read across to select the applicable range, titrant, stir bar, sample volume, buffer and application note.
3. Download the application note from the AT1000 USB flash drive. The application note contains the detailed instructions for analysis.

Method	Range	Titrant	Buffer, KI and Acid	Sample volume	Application note
<b>Chlorine Dioxide (H)</b>	0.100 to 5.00 mg ClO <sub>2</sub> /L Cl <sub>2</sub> more than 0.100 mg/L	0.00564 N PAO	2 × 1 mL pH 7 2 × 1 g KI 2 × 2 mL 2.5N HCl	2 × 200 mL	Determination of Chlorine Dioxide, Chlorite and Chlorine (DOC316.52.93097)
<b>Chlorine Dioxide (L)</b>	0.100 to 5.00 mg ClO <sub>2</sub> /L Cl <sub>2</sub> less than 0.100 mg/L	0.00564 N PAO	2 × 1 mL pH 7 1 g KI 2 × 2 mL 2.5 N HCl	2 × 200 mL	Determination of Chlorine Dioxide, Chlorite and Chlorine (DOC316.52.93097)
<b>Chlorite (H) (Quick, 2-step)</b>	0.100 to 5.00 mg ClO <sub>2</sub> /L Cl <sub>2</sub> more than 0.100 mg/L	0.00564 N PAO	1 mL pH 7 1 g KI 2 mL 2.5 N HCl	200 mL	Determination of Chlorite in Water–Quick 2-Step Method (DOC316.52.93149)
<b>Chlorite (L) (Quick, 2-step)</b>	0.100 to 5.00 mg ClO <sub>2</sub> /L Cl <sub>2</sub> less than 0.100 mg/L	0.00564 N PAO	1 mL pH 7 1 g KI 2 mL 2.5N HCl	200 mL	Determination of Chlorite in Water–Quick 2-Step Method (DOC316.52.93149)
<b>Chlorine Dioxide Generator Yield</b>	100 to 4,500 mg ClO <sub>2</sub> 100 to 4,500 mg ClO <sub>2</sub> <sup>-</sup> 100 to 4,500 mg Cl <sub>2</sub>	0.1000 N Thiosulfate	2 × 1 mL pH 7 2 × 1 g KI 2 × 2 mL 2.5N HCl	2 × 2 mL (diluted to 200 mL)	Determination of Chlorine Dioxide Generator Yield (DOC316.52.93146)
<b>Total Chlorine Forward Titration– Diluted Titrant</b>	3 to 100 µg/L as Cl <sub>2</sub>	0.000564 N PAO	1 mL pH 4.0 acetate 0.1 g KI	200 mL	Total Chlorine–Diluted Titrant (DOC316.52.93148)
<b>Total Chlorine, Forward Titration</b>	0.005 to 0.100 mg Cl <sub>2</sub> /L 0.05 to 1.00 mg Cl <sub>2</sub> /L 0.05 to 5.0 mg Cl <sub>2</sub> /L	0.00564 N PAO	1 mL pH 4.0 acetate 0.1 g KI	200 mL	Total Chlorine (DOC316.52.93147)
<b>Total Chlorine, Back Titration</b>	0.5 to 5.0 mg Cl <sub>2</sub> /L 0.05 to 0.5 mg Cl <sub>2</sub> /L 0.005 to 0.05 mg Cl <sub>2</sub> /L	0.0282 N I <sub>2</sub>	0.00564 N PAO Reductant <sup>1</sup> 1 mL pH 4 acetate buffer 0.1 g KI	200 mL	Total Chlorine Back Titration (DOC316.52.93102)
<b>Sulfite, Back Titration</b>	0.00 to 20.0 mg SO <sub>3</sub> <sup>2-</sup> /L	0.00564 N PAO	0.0282 N I <sub>2</sub> Oxidant <sup>1</sup> 1 mL pH 7 buffer 0.1 g KI	200 mL	Sulfite (DOC316.52.93090)
<b>Free Chlorine</b>	0.100 to 1.000 mg/L as Cl <sub>2</sub> 0.500 to 5.000 mg/L as Cl <sub>2</sub>	0.00564 N PAO	1 mL pH 7 buffer	200 mL	Free Chlorine (DOC316.52.93093)

<sup>1</sup> Volume added changes with the expected concentration



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