



# Automating Bench Chemistry with a Discrete Analyzer

How to do a more with a little  
less effort

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# The situation as we know it in Wet Chem



- Ammonia
- Total and orthophosphate
- TKN
- Cyanide
- Phenol
- Nitrate/Nitrite
- Hexavalent Chromium
- Chlorine
- COD
- IC
- Alkalinity
- And more...



# Common Solutions



- Add more people - \$
- Work more hours - \$\$
- Add automation - \$\$\$ (?)



# Instrumentation Solutions

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- Ion Chromatography – Ion Chromatograph
- Organic Carbon – TOC Analyzer
- Titrations – Autotitrator
- Colorimetric tests – Flow Injection Analyzer (FIA) or Discrete Analyzer

# Discrete vs Flow Injection

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# Comparison of Instruments

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- Discrete Analyzer
  - Use only measured reagents
  - < 1 mL total volume sample/reagents
  - Method is the same as manual
  - Reaction takes exactly as long, concurrent analysis
  - Multiple chemistries
- Flow Injection Analyzer
  - Continuous use of reagents
  - Approx. 3 mL sample +1-2 mL reagent
  - Often requires new method reference
  - Approx. 1 minute per sample, consecutive analysis
  - Multiple chemistries

# rAPID-T Discrete Analyzer

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Questions?

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**Thank you**

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