

Drinking water sampling for fluoride & chlorine analysis per state regulations

Application Note: W-AN22



Industry

Drinking Water

Application

State Regulatory Required
Sample Collection for Fluoride
and Chlorine Level Analysis

Significant Issues

- Need to meet state permit requirements
- Pressurized system
- Need to sample 24/7/365
- Work schedules (manpower issues, no one available to collect samples on weekends and holidays)

Application

The U.S. State of California requires public drinking water providers that add fluoride and/or chlorine to the supply to take daily samples at multiple points in the distribution system. The samples are taken to a lab for analysis of fluoride and chlorine concentrations to assure they are within permit limits throughout the distribution network. Water utility technicians generally visit these various sites on weekdays, but not on weekends or holidays. Samples still need to be taken 365 days per year, so to meet this requirement, water utilities use ISCO automated water samplers.

Solution

Water utilities install Teledyne ISCO model 6712FR fiberglass refrigerated automatic samplers with 24 poly bottles each — multiple samplers for fluoride and chlorine analysis throughout the distribution system. As utilities are sampling from pressurized pipe, ISCO's pressurized line sample system is used. Utilities may also use ISCO's triple I/O alarm box to interface with their SCADA system.

Benefits

- Complete solution of sampler, pressurize line capability, and alarm integration to SCADA
- In-line continuous analyzers do not meet the permitted sampling/lab requirement; the ISCO system does
- Compliance with regulations
- Backup if personnel cannot visit a location for some reason, and on weekends/holidays

6712FR Automatic Refrigerated Sampler

The 6712FR is a sequential or composite refrigerated sampler designed to withstand the harshest indoor or outdoor environments. It features our unequalled "FR" model corrosion-proof refrigerator cabinet molded from polyester resin fiberglass and supported by a stainless-steel frame. Thick, foamed-in-place insulation helps keep samples preserved at the EPA-recommended 39°F (4°C). An automatically controlled, built-in heater ensures that samples won't freeze.

The heart of the 6712FR is ISCO's advanced 6712 Controller. It allows you to select different programming modes to assure the most suitable routine for your application. Programming is fast and simple, with online help just a keystroke away.

Standard Features

- SDI-12 interface provides "plug and play" connection with compatible measuring devices—including multi-parameter sondes from leading manufacturers.
- Standard 512KB of memory gives you great flexibility for logging environmental data.
- Corrosion-proof refrigerator cabinet is molded from polyester resin fiberglass and UV-resistant gel coat provides a smooth, non-porous finish for added protection and easy cleaning
- Heavy-duty stainless steel frame and cabinet.
- Automatic built-in heater ensures that samples won't freeze, even when ambient temperatures drop to -20°F (-29°C).
- Durable powder-coated epoxy, phenolic paint, polyester tubing protect refrigeration components.
- Sample delivery at the EPA-recommended velocity of 2 ft./sec., even at head heights of 26 feet.
- Pump revolution counter and patented liquid detection sensor ensure accurate sample volumes - and tells you when tubing should be replaced.

