

CHEMTRAC

Analyze. Monitor. Control. Optimize.



Multi-Parameter Analyzers



HydroACT 300



HydroACT 600



HydroACT 1200

The [HydroACT](#) series of analyzers are extremely versatile, offering the measurement of a variety of key parameters, including:

Free Chlorine

Ozone

Dissolved Oxygen

Zero Free Chlorine

pH with Temperature

Streaming Current

Total Chlorine

ORP

Biofilm

Chlorine Dioxide

Conductivity

Particle Counts

The [HydroACT 300](#) is capable of accepting up to three individual measurement parameters (e.g., Chlorine, pH, and Temp). The LCD display and local keypad allow for easy setup and calibration. The [HydroACT 600](#) can accept as many as six parameters, and offers PID control as an option. The unit is also equipped with virtually unlimited data logging capability onto a microSD card. The color display can show multiple readings simultaneously with a highly visual alarm indication, as well as on-screen graphic trending on a multi-axis graph. The [HydroACT 1200](#) can accept as many as twelve measurement parameters, and comes equipped with a color touch screen interface. All HydroACT models include multiple integration options such as multiple 4-20 mA outputs, digital I/O, and digital communication including Modbus RTU & TCP, and PROFIBUS. The optional remote monitoring features allow both the HydroACT 600 and 1200 analyzers to be placed in remote locations and still allow the data to be accessible over the internet.

Particle Detection



PC3400 / PC4400



PC3 / PC6



PC5000

Particle Counters are a proven and reliable means for obtaining early detection of filter breakthrough events, as well as for use in optimizing filter performance and run times. Many water treatment professionals are unsure of why both turbidimeters and particle counters should be used to monitor filter performance. It is not commonly understood that filter effluent particle size distribution varies depending on the cause of the breakthrough event. For example, underdosing a coagulant will generally cause a higher magnitude of change in an NTU reading (as compared to the response seen on a particle counter). This is due to a rising concentration of solids primarily in the submicron particle range at the filter effluent, which is better detected with light scatter turbidity measurements. But a different kind of breakthrough event is due to particle detachment from the filter media, such as what occurs towards the end of a filter's run time, or when flow through the filter is altered. Particle detachment of this nature has been shown to produce a higher concentration of solids in the larger particle size ranges (i.e., >1 μm) and relatively low concentration of solids in the submicron range. This sort of particle size distribution far favors light blocking particle count measurements which exhibit a parts-per-trillion (ppt) level of detection for particles 2 μm in diameter and above. This is why particle counters continuously prove to provide an earlier detection of filter breakthrough resulting from particle detachment.

The [PC3400 Particle Counter](#) provides a real-time indication of insoluble particulate loading in a water stream. The counter utilizes a laser light source to detect particles in the 2 - 750 μm range, and reports results for up to 8 size ranges, allowing for ongoing size/count distribution profile generation. Whether tracking filter performance to ensure waterborne pathogen removal for drinking water applications, or optimizing filtration prior to reverse osmosis, the PC3400 offers extremely sensitive particle detection capabilities (less than 10 ppt). The data logging feature allows for continuous data collection, and graphical trends can be seen on the local LCD display. The PC3400 also offers a user-friendly calibration process, making it easy for the plant personnel to perform calibrations.

In addition to providing everything that the PC3400 offers, the [PC4400 Particle Counter](#) was developed to report parts-per-billion (ppb) volumetric concentrations of insoluble contaminants. This exclusive feature is quite valuable for steam cycle corrosion product transport monitoring, and pre-RO filter performance monitoring.

For both laboratory and online use, the [PC5000 Particle Counter](#) is available. This portable unit utilizes the same optics and electronics as the PC4400, but is designed to accommodate grab sample analysis as well.

And we are now offering remote particle counter sensors compatible with the HydroACT platform: the [PC3](#), and the [PC6](#) (with ppb reporting similar to the PC4400).

APPLICATIONS:

Water Treatment

- Optimize filtration performance

Reverse Osmosis Pretreatment

- Reduce RO membrane fouling
- Reduce SDI testing

Membrane Filtration

- Ensure membrane performance

Boiler/Condensate

- Monitor corrosion product transport

Parts Washing

Food & Beverage

Pharmaceutical

Streaming Current



DuraTrac 4

The [DuraTrac 4 Streaming Current Sensor](#) is used to help maintain the optimum dosage of coagulants, polymers, flocculants, filter aids, etc. When combined with one of the HydroACT analyzers, this Streaming Current Monitor (SCM) system works to optimize coagulant dosage by measuring the resulting net charge of continuously flowing sample of treated water taken immediately downstream of chemical addition. Changes in water quality, such as increases in turbidity/solids or organics, cause the treated water charge to change. Once a change in charge has occurred, an adjustment is made to the chemical dosage to bring the charge back to an ideal range (e.g. near neutral charge). The real-time charge measuring capability of the SCM allows water and waste water treatment personnel to make proper chemical feed adjustments as conditions warrant.

When the PID Control option is utilized, the SCM can automatically control the feed pumps, and maintain the optimum chemical dosage whenever changes occur in raw water characteristics (turbidity, organics, pH, etc.) or process flow rates.

The SCM system is also capable of handling the harsh conditions of wastewater applications, allowing the analyzer to control polymer feed rates to clarifiers, DAFs, dewatering systems, etc.

APPLICATIONS:

Water Treatment

- Respond quickly to raw water changes
- Reduce coagulant usage
- Improve clarifier performance

Reverse Osmosis Pretreatment

- Reduce RO membrane fouling
- Monitor RO feedwater for overfeed of filter aids

Wastewater Treatment

- Respond quickly to changes in solids
- Reduce polymer usage
- Improve dewatering performance



CCA3100

The [CCA3100 Coagulant Charge Analyzer](#) enables operators to determine the ideal coagulant dosage much quicker (5 minutes or less) than with conventional jar testing. This laboratory analyzer can also determine the "charge demand" of a process water sample, helping to identify charge-related excursions in applications like papermaking. The CCA3100 uses the same measurement principle as the streaming current monitors.

The [ECA2100 Charge Analyzer](#) offers a touch-screen LCD display with graphing capabilities. And the [ECAT2100 Charge Analyzer Titrator](#) automatically titrates the sample to the isoelectric (neutral) charge value, or some other desired endpoint.

APPLICATIONS:

Water Treatment

- Determine optimum coagulant dosage much faster than jar testing (use same jars and dosing procedures as current jar testing method)

Pulp & Paper

- Quantify level of anionic trash and charge demand
- Optimize feedrates of key additives

Coagulant/Polymer QA Testing

- Verify charge neutralization capability of different product batches
- Identify off-spec product prior to receipt or distribution

Wastewater Treatment

- Determine optimum polymer dosage
- Facilitate polymer trial evaluations



ECAT2100

Organics



UV1

The [UV1 Organics Sensor](#) provides an inexpensive solution for continuous organics detection. This online UV254 analyzer measures transmittance (UVT) or absorbance (UVA), using a 254 nm light source, providing a surrogate measurement for total organic carbon (TOC). A unique patent pending optomechanical design ensures instrument repeatability and accuracy by automatically compensating for lamp fluctuations (drift), and/or sample cell surface fouling. An optional automatic cleaning feature virtually eliminates maintenance.

The stand-alone [UVP1000 Portable Organics Monitor](#) uses the same UV254 light absorption principle for detecting organics. UVT and/or UVA values are attained within seconds of inserting the cuvette into the analyzer. A battery powered option is available making the handheld unit very convenient for use in the field.

APPLICATIONS:

Water Treatment

- Detect changes in coagulant demand
- Monitor organics removal
- Monitor potential for disinfection byproducts (DBPs)

Distribution System Monitoring

- Detect system contamination

Wastewater Treatment

- Monitor effluent discharge



UVP1000

Committed to Excellence

Maintaining optimum water quality is an ongoing goal for plant operators. Having accurate and reliable instrumentation allows the operator to react to water condition fluctuations in a time-critical and cost-effective fashion.

Since 1985, Chemtrac has led the way in establishing Streaming Current Monitors as essential tools for surface water treatment. We have also been recognized as one of the leading manufacturers of water particle counters.

Today, we offer a full line of process monitoring and control instrumentation for use in many different water treatment applications. Our commitment to designing and producing high-quality and innovative products, while providing unmatched service, has resulted in thousands of worldwide Chemtrac installations.

Industries Served

Municipal/Industrial Water Treatment

- Coagulant Dosage Control
- Disinfection Monitoring
- Organics Monitoring
- Filtration Optimization
- RO Pretreatment Optimization

Municipal/Industrial Wastewater

- Polymer Dosage Control
- Disinfection Monitoring
- Tertiary Filtration Monitoring

Power/Steam Generation

- Corrosion Product Monitoring
- RO Pretreatment Optimization
- Cooling Water Biocide Control

Pulp and Paper

- Wet-End Charge Measurement
- Condensate Monitoring

Medical

- Medical Device Testing
- Medical Research



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