

**W A L C H E M**

An Iwaki America Company

# Water Treatment Controllers



# Industrial Water Treatment

## W400 Class

Walchem is the world's leading manufacturer of water treatment controllers. The all-new W400 Class includes disinfection, pH/ORP, and electrodeless conductivity controllers for a variety of industrial, commercial, and municipal water treatment applications. The integrated USB data collection features provide a new set of valuable tools to enable water treatment professionals to deliver more effective water management services.



### Dual Input Reduces Cost

Dual sensor inputs allow one controller to take the place of two, reducing cost and space requirements and simplifying installation.



### Versatility for a Broad Range of Applications

The W400 is one of the most versatile controllers available. Select from a variety of industrial grade sensors, output modes, and relay configurations to customize the W400 to your application. On/off and pulse proportional outputs are available for control of valves and metering pumps.



### Ideal for Harsh Environments

The NEMA 4X (IP65) enclosure, combined with Walchem's industrial sensors, provides a water-proof system with no metallic parts exposed to wet or corrosive environments.



### Built-in Safety Features

Programmable output limit timers prevent run-away chemical addition. Digital interlock input may be used from a flow switch or level input to prevent chemical addition based on a stagnant sample, or control of an empty batch tank.



### Simple, Integrated Data Collection

Download stored data from the controller to a USB stick with the press of a button. Use the data to simply and easily validate system performance, document compliance, and reduce liability. The data and event logs show measurement values, as well as accumulated chemical feed and relay activation times.



## WDIS410 | Disinfection Controllers



Walchem's WDIS Series controller will reliably and economically control your water treatment disinfection process. The controller includes four standard sensor input options (free chlorine/bromine, chlorine dioxide, ozone, peracetic acid) or can be configured to use a variety of other types of disinfection sensors, such as hydrogen peroxide or total chlorine.

The WDIS Series controller takes the guesswork out of your disinfection process. The chemical concentration is continuously monitored and controlled to the precise range required for proper system control and regulatory compliance.

Designed to be flexible and versatile, the WDIS Series controller is the ideal solution for disinfection applications in cooling towers, food & beverage, drinking water, wastewater and swimming pools. UL/CSA/CE certified.

### > Disinfection Sensors

#### Free chlorine/bromine, chlorine dioxide, peracetic acid, ozone

- Long-lasting amperometric electrode with rugged membrane
- Integrated temperature compensation
- Relatively insensitive to changes in sample flow rate
- Large openings in flow cell prevent clogging
- Excellent long-term stability

### > Probe wash feature

For applications that require frequent electrode cleaning, automatic probe wash extends the time between maintenance interruptions.

### > Programmable access code

Secures set point parameters and prevents unauthorized use. Program any four digit access number or disable the code requirement.

### > Versatile relay configuration

Control outputs can be set as high or low set points via keypad. Auxiliary outputs can be set as:

- High alarm
- Low alarm
- Probe wash
- In-range output
- Out of range alarm

### > Display status at a glance

Look at any set point without interrupting control or needing access code. Top level view:

- Analog graph relative to set point
- Free chlorine, chlorine dioxide, peracetic acid or ozone values
- Status of alarms, outputs

### > Self diagnostics

Software and electronics are constantly monitored without having to take the controller off-line. Any error messages are clearly displayed. A fifth relay is activated by any diagnostics failures.

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## WPH/WDP400 | pH/ORP Controllers



Walchem's pH/ORP on-line process controllers are designed for a broad range of industrial, commercial, and municipal water treatment applications. WPH/WDP controllers are easily configured to accurately measure pH or mV (ORP) values from Walchem's WEL and WDS differential combination electrodes, or any conventional combination electrode.

A versatile output configuration allows you to program up to four outputs in a variety of control modes. Select from on/off mechanical relays or pulse proportional control for direct connection to metering pumps. The easy-to-use menu format and pre-wired, pre-mounted panel system options make set-up and installation quick and simple. UL/CSA/CE certified.

### ➤ Ideal for Harsh Environments

The NEMA 4X (IP65) enclosure, combined with Walchem's WEL and WDS electrodes, provides a waterproof system with no BNC connectors exposed to wet or corrosive environments.

### ➤ pH or ORP Measurement

- Configurable via a software menu setting.
- Reduces inventory requirements.



### Differential pH

WDP and WPH controllers are a perfect match with Walchem's WEL pH/ORP sensors - offering an extremely reliable differential measurement technique immune to any possible ground loop problems. WEL pH/ORP electrodes are easily removed and replaced without any tools.

### ➤ Probe wash feature

For applications that require frequent electrode cleaning, automatic probe wash stretches out reliable measurement life between maintenance interruptions.

### ➤ Versatile relay configuration

Control outputs can be set as high or low set points via keypad. Auxiliary outputs can be set as:

- High alarm
- Low alarm
- In-range output
- Out-of-range alarm
- Probe wash

### ➤ 4-20mA Output

Internally powered and fully isolated, for connection to WebAlert, PLC or other devices.

## WEC/WDEC410 | Electrodeless Conductivity Controllers



Walchem's WEC/WDEC410 Series Single and Dual Input Electrodeless Conductivity Controllers measure conductivity of a solution up to 1000mS/cm via an encapsulated, non-contacting sensor to control replenishment pumps and alarms. They may be installed in a variety of very harsh chemical control applications, including oily cleaner baths, chromates, rinse tanks, fume scrubbers and other concentrated chemical environments.

Four conductivity ranges may be selected to configure the controller over a wide range of applications. Choice of measurement units is  $\mu\text{S}/\text{cm}$ , mS/cm, ppm and % concentration. The non-contacting, toroidal sensor technology is immune to thin coatings and the contamination and calibration problems to which direct contacting sensors are prone. UL/CSA/CE certified.

### ➤ Ideal for Harsh Environments

The rugged, NEMA 4X (IP65) enclosure, combined with Walchem's electrodeless conductivity sensors, provides a waterproof system with no metallic parts exposed to wet or corrosive environments.

### ➤ Single or Dual Input

One unit monitors two baths with control and alarm relay for each, resulting in considerable cost savings.

### ➤ Time proportional control option

- Selectable on front panel keypad
- Varies the pump or valve on-time depending on deviation from set point

### ➤ Measurement Units

- Choice of  $\mu\text{S}/\text{cm}$ , mS/cm, ppm or % concentration
- % Concentration allows the user to enter up to 5 calibration data points

# Industrial Water Treatment

## WIND | WebMaster® Industrial Water Controller



Walchem's WIND WebMaster® sets a new standard for Industrial Water Treatment Controllers. The WIND WebMaster® has a flexible multi-input/output platform, a wide range of analytical sensor measurement capabilities, and an extensive assortment of integrated communications and data handling features.

Beyond the extensive list of capabilities, WIND WebMaster® has set an industry-wide ease-of-use benchmark. All together, it represents the perfect balance between innovation, flexibility, and simplicity. UL/CSA/CE certified.

- Fully integrates functions of a transmitter, PLC, data-logger and auto-dialer into a rugged, industrial, NEMA 4X (IP65) package.
- No proprietary software required to view live data – just a web browser. Access live or stored data remotely within the facility (LAN connection) or from anywhere in the world (cell or landline modem).
- No expensive PLC programming and re-programming – all changes made intuitively using a standard web browser.
- Extensive built-in Plug-n-Play communications options:
  - Ethernet
  - USB (laptop & Flash disk support)
  - Landline modem
  - Cell modem
- A wide range of direct sensor measurements:
  - pH
  - ORP
  - Conductivity
  - Free chlorine
  - Chlorine dioxide
  - Ozone
  - Peracetic acid
  - Electrodeless conductivity
- PID control for relay and analog outputs
- Modbus TCP read and write capability
- Instant alarm notification via cell phone text message, email, or local alarm relay.
- System status reports and datalog files can be emailed automatically.

## WebAlert® | Remote Monitoring & Datalogging



Walchem's WebAlert was developed to meet the increasing demands for improved operational efficiencies and enhancements to service programs that can be gained by continuous monitoring of remote equipment and systems.

WebAlert seamlessly web-enables your installed equipment, providing local and remote access to vital system information, without the need to physically visit remote sites. WebAlert monitors and datalogs analog and digital inputs from virtually any installed device, and notifies on-site and remote personnel of any system abnormalities.

The data handling and communications options in WebAlert are truly innovative. Ethernet and USB are standard features, therefore local or plant networked PC's can be connected and communicating with WebAlert in true Plug & Play fashion. Authorized operators and quality control personnel can view LIVE system parameters and historical graphs, as well as receive emailed alarms, reports or datalog files. UL/CSA/CE certified.

- WebAlert integrates the functions of a monitor, data logger and auto-dialer in one low cost package. It is easily customized to your application without the need for a programmer.
- System status reports and datalog files can be emailed automatically on a regular basis. Instant alarm notification via cell phone text message, email, or local alarm relay.
- No subscription service, monthly fees, or proprietary software is required. View data and program settings with just a standard web browser.
- Monitor up to six (6) 4-20mA signals and six (6) discrete inputs. Access live or stored data remotely within the facility (LAN) or from anywhere in the world.

# Specialty Plating

## WNI/WCU | Electroless Nickel and Copper Controllers



Walchem's WCU410 Copper Controller and WNI410 Nickel Controller are optoelectronic on-line analyzers that measure the actual concentration of copper or nickel in solution. They are used in a variety of applications including electroless plating baths and microetch baths (including oxide-replacement types).

The WCU410 can be switched from electroless copper to microetch via the menu, eliminating the need for a second controller. It reduces the need for manual titration, improves yield, and in microetch applications, improves productivity by reducing the frequency of bath change-outs.

The WNI410 is available as nickel-only, or with a pH control option. Two separate pump outputs for nickel and reducer, and another for pH are used, each of which is capable of totalizing either pump on-time, volume pumped, or metal turnovers. UL/CSA/CE certified.

### › Operator Adjustable

Concentration set point, alarm set points (high and low), dead band and pump on-time are all easily adjustable. An interlock feature allows external devices (such as a flow switch) to interlock control relays.

### › Simple, Integrated Data Collection

Download stored data from the controller to a USB stick. Use the data to simply and easily validate system performance. The data and event logs show copper or nickel values, as well as accumulated chemical feed and relay activation times.

### › Four Separate Control Relays & Outputs (WCU)

May be used to add copper, caustic, formaldehyde or chelator/stabilizer chemistries. Each output has a replenishment totalizer which may be set in units of time or volume.

### › Optional pH Input Board (WNI)

May be used to add pH adjustment chemistry. Output has a replenishment totalizer which may be set in units of time or volume.

### › Concentration Read in Units

Selectable between grams per liter (g/L) or ounces per gallon (oz/gal). Backlit digital display also acts as a bar graph for a continuous "visual summary" of measurement versus set point.

## Cooling Tower & Boiler Water Treatment

### WebMaster® ONE | Cooling Tower & Boiler Controller



Walchem's WebMasterONE is the most advanced online cooling tower and boiler controller in the water treatment industry. The flexible multi-input/output platform allows you to control multiple cooling towers, boilers, closed loops, and condensate lines with just one controller. Four direct sensor inputs are available (choose from pH, ORP, conductivity, chlorine and chlorine dioxide) along with twelve discrete inputs, eight analog inputs, and four analog outputs. An extensive assortment of integrated communications and data handling features is included that enables water treatment professionals to provide more effective water management services. All of the standard cooling tower and boiler water treatment control methods are included, as well as many unique control methods to improve your system's performance. Beyond the extensive list of capabilities, WebMasterONE has set an industry-wide ease-of-use benchmark. All together, it represents the perfect balance between innovation, flexibility, and simplicity. UL/CSA/CE certified.

### › Easy to start-up and use - with just a web browser!

### › Extensive built-in Plug-n-Play communications options:

- Ethernet
- USB (laptop and flash disk support)
- Landline modem
- Cell modem

### › System status reports and datalog files can be sent automatically

### › Instant alarm notification via email, cell phone text message or local alarm relay

### › Wide range of direct sensor measurements:

- pH
- Conductivity
- Free chlorine/bromine
- ORP
- Electrodeless conductivity
- Chlorine dioxide

### › PPM set points with feed verification

### › Modbus read/write is available for seamless integration with building energy management, distributed control, process management and SCADA systems

### › Protects the building's infrastructure while conserving water, energy and chemicals

# Cooling Tower & Boiler Water Treatment

## W400 Class

Walchem has raised the bar for mainstream water treatment controllers! The all-new W400 Class includes cooling tower and boiler controllers with USB data collection features that give water treatment professionals the tools they need to deliver a higher level of service.



### Ensures Optimal Performance and Maximum Efficiency

Precise control of conductivity and chemical feed reduces water consumption and inhibits corrosion, solids precipitation, scale build-up, and growth of algae or dangerous bacteria.



### More Informative Monthly Reports

Download stored data from the controller to a USB flash stick. Use the data to easily develop reports that show actual water usage, system conductivity, temperature, and more.



### Efficient Customer Service

Quickly identify system upsets by knowing exactly what happened and when. An event log can be downloaded to tell you precisely when pumps turned on, valves opened, and when there was flow or no-flow.



### Validation and Verification Made Easy

Use stored data from the controller to simply and easily validate water treatment results. The data and event logs show water usage, system conductivity, and temperature, as well as accumulated chemical feed and bleed times.



### Save Time

Copy the user settings from your controller to a USB flash stick and upload to a new controller. Programming your new controller this way can be accomplished in seconds. It's that simple!



## WBL/WDB/WCM/WDC400 | Boiler Controllers / Condensate Monitors



Walchem's WBL/WDB Boiler Controllers keep boiler water at the correct conductivity by automatically blowing-down water at high solids levels and adding low conductivity make-up water. Simultaneous control of chemical feed inhibits corrosion, solids precipitation, and scale build-up. Intermittent sampling is available to reduce operating costs for smaller boilers. UL/CSA/CE certified.

WCM/WDC Condensate Monitors control the conductivity of a boiler's condensate. When conductivity of the condensate exceeds an operator-adjustable set point, the controller opens a diverter valve to prevent contaminated condensate from returning to the boiler. UL/CSA/CE certified.

- **Choice of measurement units**  
To customize your control or complement your calibration procedures, conductivity may be displayed as  $\mu\text{S}$  or PPM; temperature as  $^{\circ}\text{F}$  or  $^{\circ}\text{C}$ .
- **Four chemical feed options**
  - Feed & blowdown simultaneously, with or without feed lockout timer
  - Feed after blowdown has finished, as a percentage of blowdown time
  - Feed as a percentage of time elapsed
  - Feed as a percentage of make-up water
- **Detects flashing during timed samples**  
Rechecks the conductivity after the sample valve closes and reopens if the reading is now above set point.
- **Self-diagnostics**  
Software, electronics and sensor are constantly monitored, without having to take the controllers off-line.
- **Automatic temperature compensation**  
Conductivity measurements are temperature compensated to ensure the highest accuracy.
- **Choices of blowdown modes for timed samples**
  - In intermittent sampling, the blowdown valve is open until the set point conductivity is reached.
  - In intermittent with timed blowdown, the blowdown valve opens for a set programmable time.
  - In intermittent with time proportional blowdown, the blowdown valve opens for a variable time that is calculated based on the conductivity of the sample versus the set point.

# Cooling Tower & Boiler Water Treatment

## WCT/WDT400 | Cooling Tower Controllers



Walchem's WCT/WDT400 Cooling Tower Controllers represent the latest in technological and innovative advancements from Walchem. WCT/WDT controllers maintain cooling tower water at correct conductivity by automatically bleeding water at high solids levels and adding low conductivity make-up water. Simultaneous control of chemical feed inhibits corrosion, solids precipitation, and scale build-up. Automatic addition of biocides prevents growth of algae and dangerous bacteria. UL/CSA/CE certified.

- **Four Chemical Feed Options**
  - Feed & bleed simultaneously, with or without feed lockout timer
  - Feed after bleed has finished, as a percentage of bleed time
  - Feed as a percentage of time elapsed
  - Feed as a percentage of make-up water
- **Self-Diagnostics**

Software, electronics and sensor are constantly monitored, without having to take the controllers off-line.
- **Conductivity Electrodes**
  - Graphite or stainless steel
  - Low pressure or high pressure
  - In-line or submersion
- **Flow Switch Manifolds**

Optional integrated flow switch manifold may be panel mounted for quick professional installation with only two process connections.
- **USB Flash Disk Support**

Optional for data logs, event/relay and reset logs, and user configuration file import/export. Store conductivity and temperature values, water usage, relay and flow switch status, and user settings. A USB memory stick is all that's needed to extract the information.
- **Flow Meter Input**

Accommodates a wide range of contacting and Hall Effect water meters.
- **Programmable Dual Biocide Timers**
  - Choice of 1,7,14 or 28-day cycles
  - Ability to add:
    - a single biocode at any time or
    - dual alternating biocides or
    - dual independent biocides
- **pH or ORP Control**

Choice of pH or ORP sensor for control of acid or chlorine/bromine addition.
- **Alarm Output Relay**

Triggered by low conductivity, high conductivity or no-flow conditions.
- **4-20 mA Output**

Optional isolated 4-20 mA output proportional to the conductivity reading.

## WECT/WEDT400 | Cooling Tower Controllers



Walchem's WECT/WEDT400 Cooling Tower Controllers with electrodeless (toroidal) conductivity sensors are based on our industry-leading WCT/WDT400 platform and include all of the same features listed above. The electrodeless conductivity sensors require less frequent cleaning and calibration since they're impervious to contamination by oils, scale, biofilm, or other coatings. The result is a low maintenance system that provides reliable, effective control of cooling tower water. The resistance to fouling makes the WECT/WEDT400 controllers ideal for non-chemical cooling tower control systems. UL/CSA/CE certified.

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# W A L C H E M

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