

### OVERVIEW

The WEDT410 Cooling Tower Controller with electrodeless (toroidal) conductivity sensor represents the latest in technological and innovative advancements from Walchem. The electrodeless sensor is impervious to contamination by oils, scale, biofilm, or other coatings, resulting in a low maintenance system that provides reliable, effective control.

All of the standard features you'd expect in a conventional cooling tower controller are included, plus optional simple-to-use information management tools that enable water treatment professionals to deliver more effective service to their customers. The WEDT410 controllers have the ability to store conductivity, pH/ORP, and temperature values, water usage, relay and flow switch status, and user settings. A USB stick is all that's needed to extract the information. Download logs from the USB stick to a PC at your convenience, or copy your preferred treatment program from one controller to another to speed start-up. It couldn't be easier!



### SUMMARY OF KEY BENEFITS

- **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.

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- **Spend More Time Selling**  
 Electrodeless conductivity sensor is impervious to contamination and coatings, which means you'll spend less time cleaning and calibrating sensors and spend more time selling!

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- **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.

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- **More Informative Monthly Reports**  
 Download stored data from the controller to a USB flash stick. Use the data to easily develop reports that validate and verify water treatment results, and include actual water usage, system conductivity, temperature, and accumulated chemical feed and bleed times.

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- **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!



## WEDT410 Series | Feed and Bleed Cooling Tower Controller with Dual Biocide Timers

### » Four chemical feed options

- Feed & bleed, with or without feed lockout timer
- Feed after bleed has finished, as a percentage of 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 controller offline.

### » Conductivity Sensor

- Electrodeless, temperature compensated, CPVC
- In-line or submersion

### » pH or ORP Control

- Choice of pH or ORP sensor for control of acid of chlorine/bromine addition

### » 4-20mA Output

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

### » Alarm Output Relay

- Triggered by low conductivity, high conductivity, no-flow conditions, bleed timeout, sensor error, and temperature error

### » Flow Switch Manifolds

- Optional integrated flow switch manifold may be panel mounted for quick, professional installation with only two process connections.

### » Flow Meter Input

- Accommodates a wide range of contacting and Hall Effect water meters

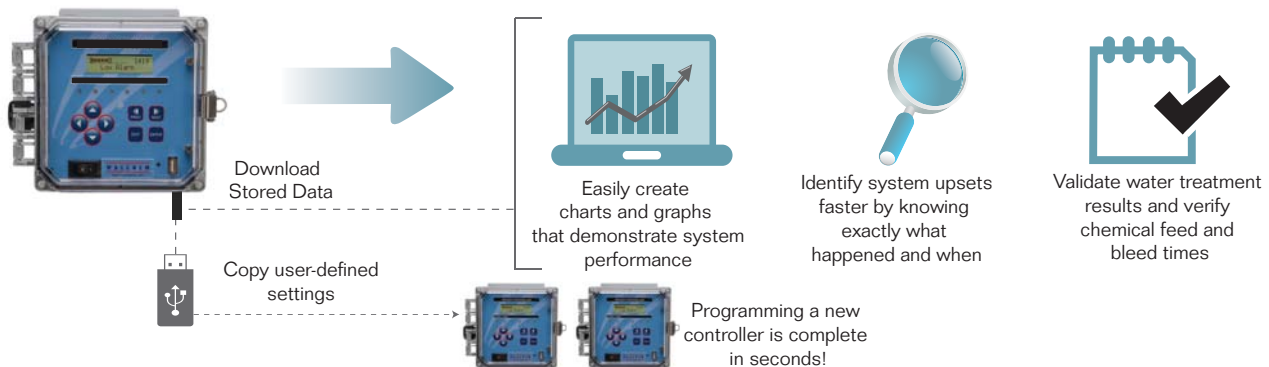
### » USB Flashstick Support

- Standard for software upgrades
- Optional for data logs, event/relay and reset logs, and user configuration file import/export

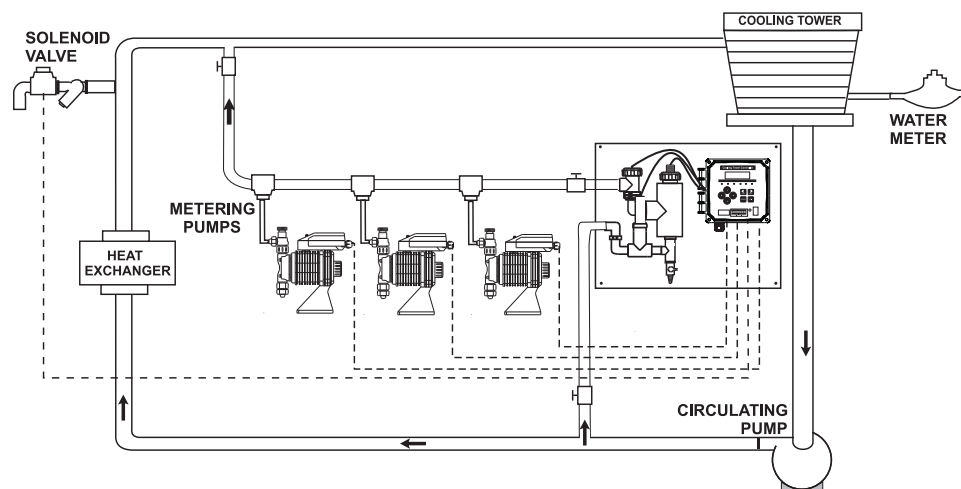
### » Programmable Dual Biocide Timers

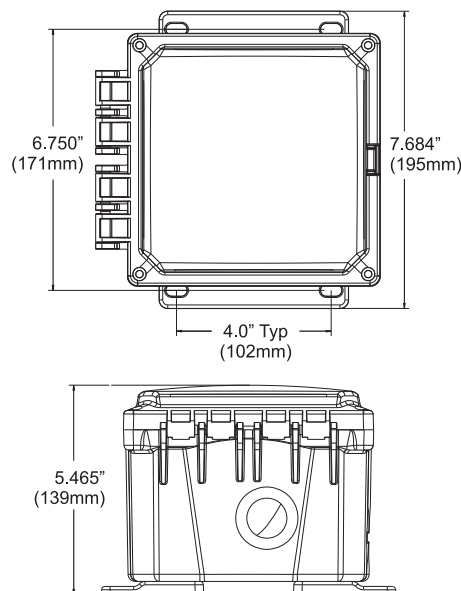
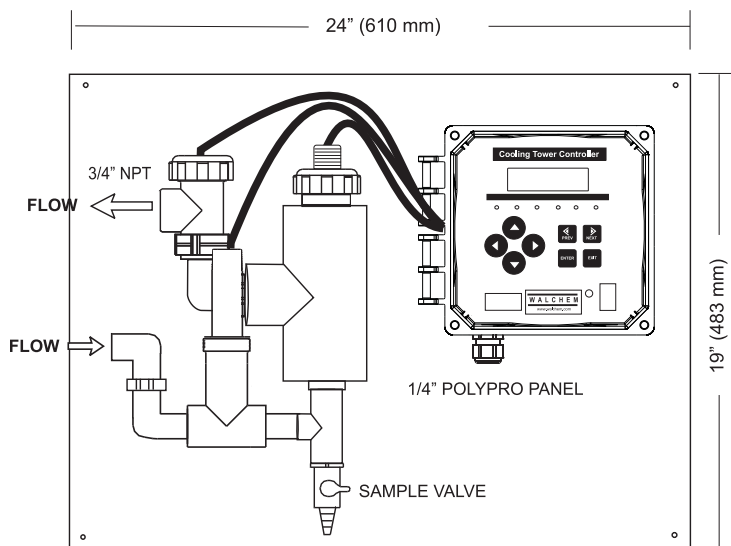
- Choice of 1, 7, 14, or 28-day cycles
- Able to: add a single biocide at any time or dual alternating biocides, or dual independent biocides

## Optional USB Features



## Typical Installation





## Inputs

### Power

100-240 VAC, 50/60 Hz, 8A  
Fuse: 1.0 ampere, 5 x 20 mm

### Signals

Cond Sensor: 1.0 cell factor, 10K thermistor  
pH/ORP: Requires a preamplified signal.  
Walchem WEL series recommended.  
±5V power available for external preamp

Note: Temperature compensation for pH input is accomplished using the conductivity sensor temp element. ORP measurement does not use temp comp.

Flow Meter: Isolated, dry contact closure required (optional) (i.e. relay, reed switch)  
Flow Switch: Isolated, dry contact closure required (optional) (i.e. reed switch)

## Measurement Performance

**Conductivity Range** 100-10,000  $\mu\text{S}/\text{cm}$   
**Resolution** 1  $\mu\text{S}$   
**Accuracy**  $\pm 1\%$  of reading

**Temperature Range** 32 to 158°F (0 to 70°C)  
**Resolution** 0.1 degree  
**Accuracy**  $\pm 1\%$  of reading

**pH Range** -2 to +16 pH units  
**Resolution** 0.01 pH units  
**Accuracy (calibrated)**  $\pm 0.01$  pH units

**ORP Range**  $\pm 1500$  mV  
**Resolution** 1 mV  
**Accuracy (calibrated)**  $\pm 1$  mV

## Outputs

### Mechanical Relays

WEDT410: Six powered relays (Bleed, Feed, Bio 1, Bio 2, pH/ORP, Alarm)  
6 A (resistive), 1/8 HP  
All relays are fused together as one group, total current for this group must not exceed 6A

### 4 - 20 mA (optional)

Internally powered  
Fully isolated  
600 Ohm max resistive load  
Resolution .001% of span  
Accuracy  $\pm 1\%$  of reading

## Mechanical

**Enclosure** Polycarbonate  
**NEMA Rating** NEMA 4X (IP65)  
**Display** 2 x 16 character backlit liquid crystal  
**Ambient Temperature** 32 to 122°F (0 to 50°C)  
**Shipping weight** 7 lbs (3 kg) (approximately)

**Flow switch manifold connections** 3/4" NPTF

### Electrode Pressure Ratings:

Electrodeless conductivity 150 psi (10 bars)  
pH/ORP 100 psi (6.9 bars)  
Flow switch manifold 150 psi (10 bars)

## ORDER INFORMATION

WEDT410 —  voltage  output  sensor  U USB

### VOLTAGE

1 = 120 VAC, prewired  
5 = 100-240 VAC, hardwired, cable glands

### OUTPUT

N = No analog output  
4 = Single isolated 4-20 mA output  
2 = Two isolated 4-20 mA outputs

### SENSOR

N = No electrodes  
1 = Electrodeless conductivity & pH sensors and tees, 20 ft. cable (for inline mounting)  
2R= Electrodeless conductivity & rod style ORP sensors and tees, 20 ft. cable ( for inline mounting)  
3 = Electrodeless conductivity & pH sensors and flow switch manifold on PP panel  
3R= Electrodeless conductivity & rod style ORP sensors and flow switch manifold on PP panel

### USB FEATURES

U = Integrated datalogging, event/reset logging, and configuration file import/export

## AGENCY CERTIFICATIONS

UL	ANSI/UL 61010-1:2004, 2nd Edition*
CAN/CSA	C22.2 No.61010-1:2004 2nd Edition*
CE Safety	EN 61010-1 2nd Edition (2001)*
CE EMC	EN 61326 :1998 Annex A*

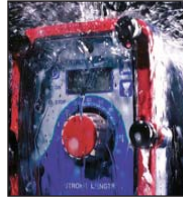
Note: For EN61000-4-6,-3 the controller met performance criteria B.

\*Class A equipment: Equipment suitable for use in establishments other than domestic, and those directly connected to a low voltage (100-240 VAC) power supply network which supplies buildings used for domestic purposes.



### Webmaster®ONE

WebMasterONE is the most advanced online cooling tower and boiler controller in the water treatment industry. The flexible multi-I/O platform allows you to control multiple cooling towers, boilers, closed loops, and condensate lines with just one controller. An extensive assortment of integrated communications and data handling features are included that enable water treatment professional to provide more effective water management services to their customers.



### Metering Pumps

The E-Class is the most innovative and comprehensive metering pump product line in the world. Over 50 years of pump experience and a commitment to superior mechanical design has led to development of many industry firsts, including 360 stroke-per-minute technology, IP67 waterproof construction, and the world's highest capacity solenoid metering pumps.



### WIND WebMaster® Industrial Water Controllers

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



### WebAlert® Remote Monitor

Walchem's WebAlert is the first stand alone remote monitoring device that can web enable your installed equipment without having to replace or upgrade it.

## ABOUT US

Walchem integrates its advanced sensing, instrumentation, fluid pumping and communications technologies to deliver reliable and innovative solutions to the global water treatment market

Our in-house engineering is driven by quality, technology and innovation. For more information on the entire Walchem product line, visit: [www.walchem.com](http://www.walchem.com)



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