

Overview

WCT Series controllers maintain cooling tower water at correct conductivity by automatically bleeding water at high solids levels and adding low conductivity make-up water.

The WCT Series models are low cost, microprocessor-based, menu driven industrial controllers. Exceptionally versatile, units are easily customized on site.

This series offers models as simple bleed-and-feed controllers to units including fully programable 28-day dual biocide additions, lockout timer and flow switch. Intermittent sampling is available to facilitate inexpensive installation costs on small towers.



WCT Series Cooling Tower Controllers

Summary of Benefits

- Simultaneous control of chemical feed inhibits corrosion, solids precipitation, and scale build up.
- Automatic addition of biocide prevents growth of algae or dangerous bacteria.
- Four methods of chemical feed are available via the program menu, without mechanical switches, rewiring, or probing inside the instrument.
- One unit takes the place of four separate models, and addresses applications from the typical to the unusual.

W A L C H E M



WCT300 Series

Feed & Bleed Cooling Tower Controller

- **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
- **Contact divider accumulates up to 100 pulses.** Accommodates a wide range of water meters.
- **Timed sample conductivity control.** Intermittent sampling reduces installation costs on evaporative cooler applications or small cooling towers.
- **At-a-glance status display.** Best of both worlds; bright backlit digital LCD display also acts as an analog bar graph for a continuous visual summary of measurement versus set point.
- **Direct or inverse set point operation.** For applications that require reverse set point capability, such as a closed loop chilled water cooler. Programmed via easy menu option, direction is indicated at all times on controller parameter displays.
- **Self-Diagnostics.** Software, electronics and sensor are constantly monitored without having to take the controller off line. Any error messages are displayed.
- **Programmable access code.** Secures set point parameters. Program any four digit access number or disable the code requirement.
- **Choice of output modes.** Each output may be set to run automatically or manually, or be shut off.



WCT310 Series

Feed & Bleed Cooling Tower Controller with Biocide Additions

The WCT310 Series offers all of the WCT300 features as well as:

- **Programmable biocide additions:**
 - 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
- **Also able to add a biocide up to 10 times a day.** Ideal for bromination or towers with small volumes and large makeup demand.
- **Lockout timer.** Prevents waste of chemistry by preventing blowdown immediately after a biocide addition.
- **Flow totalizer.** If feeding is based on water meter/contactor, the volume of make-up water will be totalized. Especially important if the flow meter is inaccessible.
- **Conductivity based biocide prebleeds.** Ensure acceptable conductivity level prior to a biocide addition and lockout and is user programmable.
- **Powered alarm output relay.** Triggered by low conductivity, high conductivity or no flow condition, the relay will activate whatever alarm device has been installed.

Extended Capabilities

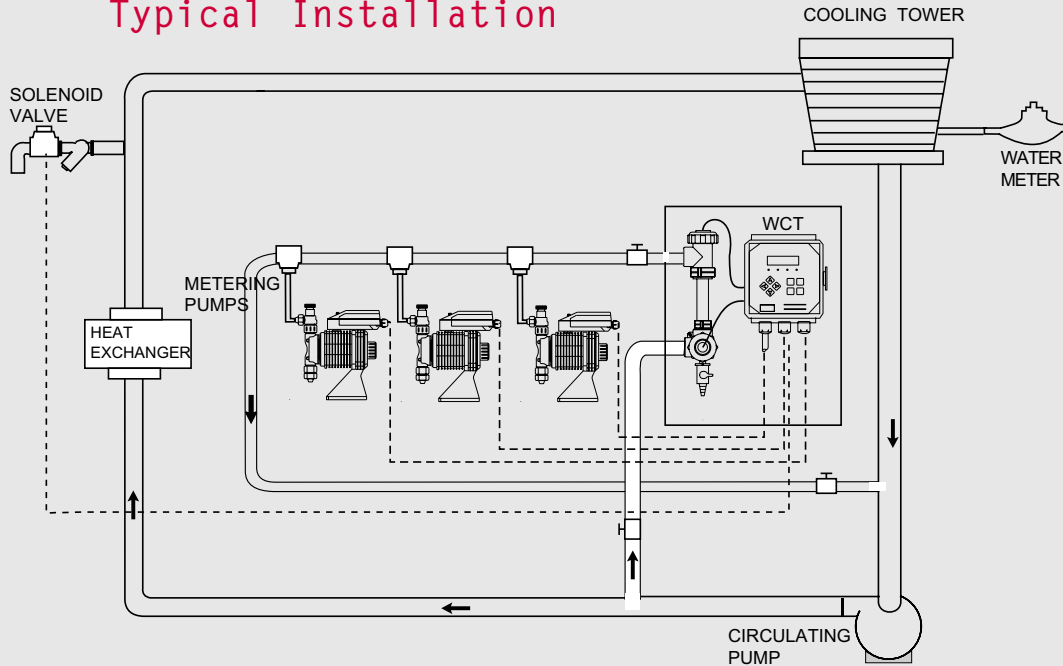
Conductivity electrodes are available in several mounting styles and pressure ratings.

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

Optional integral flow switch.

Accessories include flow meters, flow switches, solenoid valves, chart recorders, pumps and tanks.

Typical Installation



Specifications

INPUTS

Power	110-120 VAC 50/60 Hz, 60mA	220-240 VAC 50/60 Hz, 30mA
Signals	Flow meter- isolated, dry contact closure required (relay, reed switch or Hall Effect) 0 - 300 Hz Flow switch- isolated, dry contact closure required (reed switch) 0 - 10 Hz	

OUTPUTS

Mechanical relays	@ 120 VAC, 10A resistive, 1/8 HP @ 240 VAC, 6A resistive, 1/8 HP
For WCT300:	Two powered relays (bleed & feed)
For WCT310:	Five powered relays (bleed, feed, dual biocide & diagnostic alarm)
4-20mA (Optional)	Fully isolated, internally powered 600Ω max. resistive load. Resolution 0.001% of span, accuracy ± 1% of reading

MEASUREMENT PERFORMANCE

Conductivity Range	0-10,000 μS/cm
Resolution	1 μS
Accuracy	10-10,000 μS/cm ±1% of reading 0-10 μS/cm ±20% of reading
Temperature Range	32 to 158°F (0 to 70°C)
Resolution	0.1 degree
Accuracy	±1% of reading

MECHANICAL (controller)

Enclosure	Fiberglass
NEMA rating	NEMA 4X (IP65)
Display	2 x 16 character backlit liquid crystal
Ambient temperature	32 to 158°F (0 to 70°C)
Shipping weight	7 lbs (3 kg) (approximately)

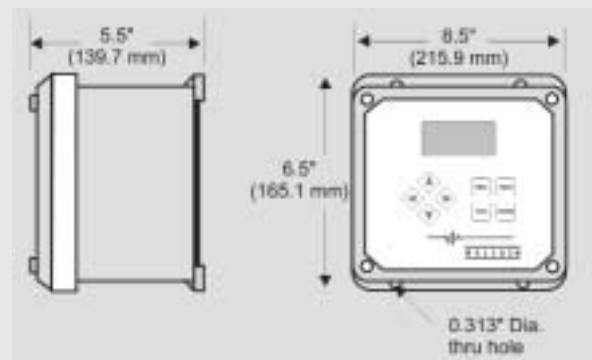
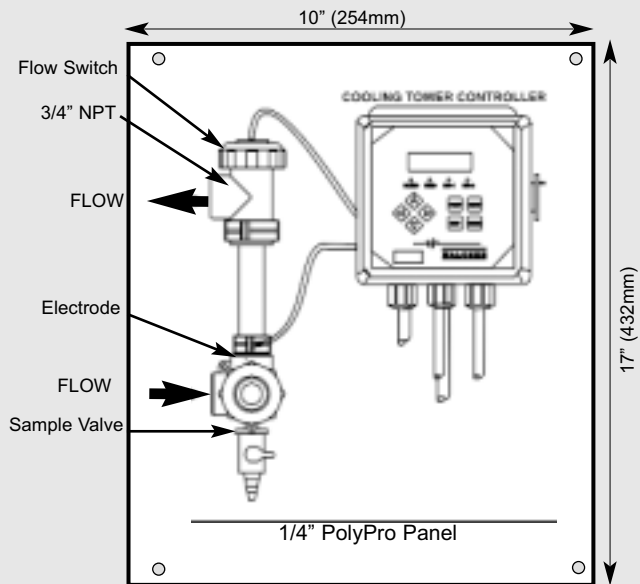
FLOW SWITCH MANIFOLD & SENSOR SPECIFICATIONS

Standard:

Process connections	3/4" NPTF
Temperature	140°F (60°C)
Pressure	150 psi up to 100°F 50 psi at 140°F

High Pressure:

<i>Materials of construction</i>	
Standard electrode	GFRPP, Graphite, FKM
High pressure electrode	316SS, PVDF
Flow switch manifold	GFRPP, PVC, Isoplast, FKM
PP/Stainless steel electrode	GFRPP, 316SS, FKM
High pressure manifold	Carbon steel, Steel



WCT300 - or WCT310

 (Voltage) (Output) (Sensor)

VOLTAGE

- 1 = 120 VAC, prewired
- 4 = 120 VAC, conduit
- 5 = 240 VAC, conduit

OUTPUT

- N = No data output
- 4 = Isolated 4-20 mA output

SENSOR

- N = No electrode
- 1 = PP/Graphite electrode & tee, 20ft. (6.1m) cable
(for in-line or submersion mounting)
- 2 = PP/Graphite electrode & flow switch manifold
mounted on PP panel, 5 ft. (1.5m) cable
- 4 = High pressure electrode (up to 300 psi), 20 ft.
(6.1m) cable
- 5 = High pressure electrode & flow switch manifold
on PP panel, 5 ft. (1.5m) cable
- 6= PP/SS electrode & tee, 20 ft. (6.1m) cable
- 7= PP/SS electrode & flow switch manifold on
PP panel, 5 ft. (1.5m) cable

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.

*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 GENERAL INDUSTRIAL CONTROLLER



WEBMASTER COOLING TOWER AND BOILER CONTROLLER



METERING PUMPS AND ACCESSORIES



WEBALERT REMOTE MONITORING & DATALOGGING

Walchem designs and manufactures an integrated line of analytical control, sensing and feed devices.

Our in-house engineering is driven by quality, technology and innovation.

For more information on the entire Walchem product line, visit : www.walchem.com

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