

## POLYMER CONTROL SYSTEM MODEL PCS5500XRD

### BENEFITS

#### Optimize the Waste Treatment Process

- Immediate Response To Process Changes
- Reduce Polymer/Coagulant Costs
- Automate Polymer/Coagulant Dosing
- Reduce Sludge/Cake Handling Costs
- Improve Cake Dryness
- Reduce Solids Recycle
- Improve Process Runnability
- Reduce Operational/Maintenance Costs

### STANDARD FEATURES

- Patented Sensor Design
- Microprocessor Technology
- Quick Replacement Probe & Piston
- Self-Diagnostic Sensor
- High-Volume Flow Minimizes Sensor Fouling
- Spare Probe Cartridge and Piston Included
- SmartTrac PID Control
- Auxiliary Input Signals
- Sensor Maintenance Module (S.M.M.)
- Web Access Controller (W.A.C.)

### APPLICATIONS

- › Primary Clarification
- › Secondary Clarification
- › Tertiary Filtration
- › Gravity Belt Thickner
- › Rotary Drum Thickner
- › Thickening Centrifuge
- › Belt Filter Press
- › Centrifuge
- › Screw Press
- › Dissolved Air Flotation

### MEASUREMENT PRINCIPLE

The instrument uses streaming current measurement to maintain proper electrokinetic charge (ionic & colloidal) in the treated waste water/solids going into a clarification, thickening, or dewatering process. Effectively, it responds to changes in waste water/solids characteristics (TSS or % solids, blends, pH, etc.) and flow rates. This allows the PCS5500XRD to make the necessary polymer/coagulant feed adjustments in order to continuously maintain the optimum dosage.

Wastewater Treatment / Solids Dewatering

6991 Peachtree Industrial  
Boulevard, Building 600  
Norcross, GA 30092  
USA

PH: 770.449.6233  
US: 800.442.8722  
FX: 770.447.0889

[www.chemtrac.com](http://www.chemtrac.com)

## SYSTEM COMPONENTS

### **Monitor**

- Keypad Interface, Menu Functions
- Chemical Feed Control Output
- Auxiliary I/Os, 3 Analog and 3 Digital
- Timing & Control Signals to SMM

### **Web Access Controller**

- Data logging/Storage
- Access Via Web Browser
- Various Security Levels for Access/Control
- Stand Alone/Intranet/Internet Capability

### **DuraTrac II Sensor**

- High Sample Flow/throughput, 10 GPM
- Industrial Grade, 1/30 HP motor
- Quick Replacement Probe and Piston
- Available with Solids Separator

### **SMM**

- Protection Against Sensor Fouling
- Extends Routine Maintenance Period
- Field Adjustable Flush and Wash Cycles
- Comes Complete with Chemical Carboy

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## GENERAL SPECIFICATIONS

### **DuraTrac II Remote Sensor**

Power	110 VAC, 1 A, 60Hz (standard) 220 VAC, 1 A, 50Hz (optional)
Sample Flow Rate	10 GPM
Sample Cell Type	External Receiver, High Flow
Probe Type	Quick Replacement Cartridge
Piston Type	Quick Replacement
Sample Connections	Inlet, 3/4" O.D./19mm O.D., Barb Type
Water Sample Outlet	1-1/2" O.D. /38mm Pipe to Atmosphere
Materials Contacting Sample	Delrin, Nylon, Neoprene, Viton, PVC, Stainless Steel
Flush Water Connection	1/4" Quick Connect
Chemical Wash Connection	1/4" Quick Connect
Wiring Connections	1 ea. Shielded, 4 conductor, 18 AWG (6 conductor w/ Flush)
Enclosure Type	NEMA250 Type 4X, Reinforced Fiberglass
Module Size	9.2"W, 7.2"H, 5.3"D 234mm W, 183mm H, 135mm D
Weight	15 Pounds (6.8 kg)
Self Diagnostics	Motor, Opto Switch, Wiring Connection
Operating Temperature	32-120 degrees F (0-49 degrees C)

### **Sensor Maintenance Module**

Power	24Vdc (supplied from Monitor)
Flush Water Connection	1/4" Quick Connect, Adaptable
Water Pressure	35 to 80psi
Chemical Wash Carboy	5 gallon (chemical not supplied)
Chemical Wash Connection	1/4" Quick Connect
Chemical Injection Pump	1,000 mL/min (Max)
Enclosure Type	NEMA 250 Type 4X, Reinforced Fiberglass
Module Size	11.2"W, 9.2"H, 6.3"D 285mmW, 234mmH, 161mmD
Weight	6 Pounds (2.72kg)

### **Monitor/Controller**

Power	85 - 264 VAC, 1 A, 47 - 63 Hz
Engineering Units	± 1000 Streaming Current Unit
Resolution	1.0 Streaming Current Unit
User Interface	Backlit Liquid Crystal Display, Menu Driven Functions, Keypad Interface
Accuracy	±0.5% of Full Scale
Response Time	1 Second
SC Output Signal	4-20mA or 0-10VDC
Alarms	Diagnostic & High/Low Alarms
Signal Gain	User Adjustable 1X to 20X
Zero Offset	User Adjustable, Full Scale
Enclosure Type	NEMA 250 Type 4X Reinforced Fiberglass
Module Size	9.2"W, 11.2"H, 6.3"D 234mm W, 285mm H, 161"D
Weight	6 Pounds (2.72kg)
Smart Tuning Parameters	Flow Based Control
PID Control	Proportional Gain 0-1000 Integral Gain 0-1000 Derivative Gain 0-1000 Rate 1-20
Control Output Signal	4-20mA or 0-10VDC
Control Output Limits	Adjustable High/Low Limits
Control Output Alarms	Adjustable High/Low Alarms
Digital Input	(3) Dry Contacts
Analog Input Signal	(4) 4-20mA or 0-10VDC
Operating Temperature	32-120 degrees
Communications	LonWorks®
SMM Timer	Adjustable Flush Frequency Auto/Manual Control

### **Web Access Controller**

Power	95-260VAC, 165VA Max, 47-63 Hz
Control	Java Application Control Engine
Communications	2 RS485 Ports, LonWorks®, Ethernet
Data Storage	4 GB on board (upgradeable)
Viewing Control	Web Browser Driven
Module Size	7.88"W, 10.66"H, 6.81"D 200mmW, 256mmH, 173mmD

**Chemtrac Systems, Inc.**  
**Represented By**