



# PARTICLE COUNTER SENSOR PC3 with HydroACT Series

## DESCRIPTION

The **PC3 Particle Counter Sensor** is an essential tool for municipal and industrial water treatment applications including filter performance monitoring, protecting RO membranes from colloidal fouling, and virtually any application where there is a concern of potential contamination in a clean liquid. The PC3 offers an excellent addition or alternative to other traditional measurements like turbidity (NTU) and Silt Density Index (SDI) testing. Particle counters are best known for their ability to detect when a filter has reached the end of its run well ahead of any impact to NTU readings. The more compact PC3 Particle Counter brings all the great features of Chemtrac's PC3400 model to the **HydroACT** family of analyzers. Customers can connect multiple sensors to the HydroACT analyzer, or mix and match the PC3 with other measurements like pH, chlorine, and UV254 for organics monitoring. The PC3 allows the user to view up to 3 channels of data in multiple measurement formats including "Total ppb", "Total Counts", and counts or ppb in individual size channels (e.g. 2 to 5 micron, 5 to 10 micron, etc.). Full integration between the sensor and analyzer means all sensor settings, including user-friendly calibration features, can be accessed from the HydroACT's user interface. Contact Chemtrac to discuss your application and let us find the right solution for you.

## STANDARD FEATURES

- Counts particles in liquid from 2-750 microns
- Sizes particles from 2-100 microns
- Up to 3 user programmable size ranges
- Reports total counts, cnts/mL, or cnts/100mL
- User-friendly, menu driven calibration
- Laser & cell condition readout (0-100%)
- External sensor with sapphire optics
- Available with HydroACT analyzer models HA2, HA4, and HA8



## BENEFITS

- Provides a reliable and accurate measurement of particles down to low ppt levels
- Advanced firmware and menu functions eliminates need for external software to perform setup and calibration
- User-friendly calibration routine makes the process fast and simple, and lowers maintenance cost
- External sensor is easy to clean and water is kept away from electronics

## APPLICATIONS

**Water Treatment**

**Wastewater Treatment**

**Reverse Osmosis Pretreatment**

**Membrane Filtration**

**Aquatics**

**Boiler/Condensate**

**Parts Washing**

**Food & Beverage**

**Pharmaceutical**

Particle Detection

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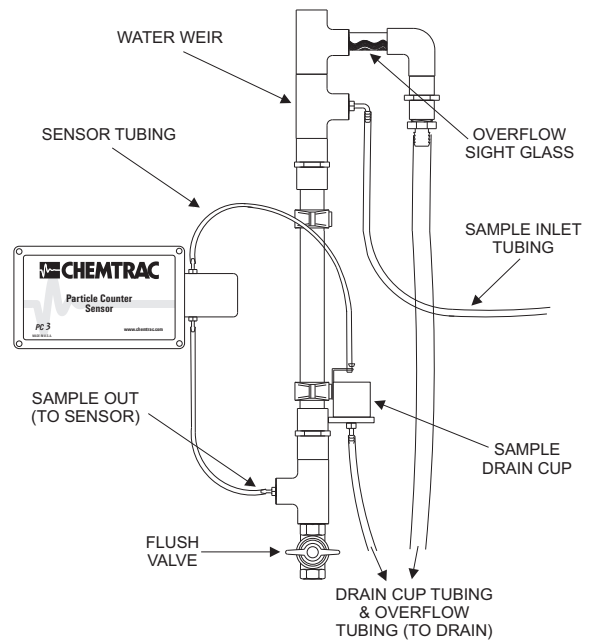
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[www.chemtrac.com](http://www.chemtrac.com)

# GENERAL SPECIFICATIONS

## PARTICLE COUNTER SENSOR

Laser Type	Solid-state laser diode (780nm)
Cell Material	Nituff coated aluminum PEEK plastic (optional)
Viewing Windows	Sapphire
Detection Range	2-750 microns
Sizing Range	2-100 microns
Analog Output Type	4-20mA
Flow Rate	75 mL/min
Resolution	Better than 10% at 10 micron (ASTM-F658)
Coincidence Limit	20,000 cnts/mL (2 micron)
Signal to Noise Ratio	Better than 3:1
Size Channels	3 user-selectable; each size channel counts as a parameter on HydroACT analyzers
Alarms	Sensor diagnostic, low cell condition
Laser Diode Life	MTBF 75,000 hours @ 55° C
Measurement Type	Light obscuration, volumetric
Display Readout	Size channel, counts, cell condition (0-100%), laser condition (0-100%), sample period, sample frequency

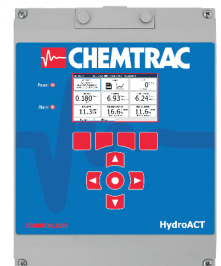
## PC3 and Weir set-up



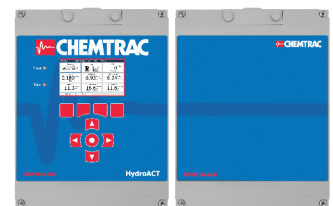
## ANALYZER

HA2 HA4 HA8

Power	100-240 VAC / 0.25 A or 12 VDC / 0.8 A (standard) or 24 VDC (optional)		
Display	4.3", 480x272, 8 bit, grayscale	4.3", 480x272, 24 bit, color	
Sensor Inputs	Up to 2	Up to 4	Up to 8
Sensor Options	Particle Counter, SCM, UV254 organics, TSS/NTU, DO, Conductivity Free Cl, Total Cl, Cl Dioxide, Chlorite, Ozone, pH with Temperature, ORP		
External Input (optional)	4-20 mA, 4-20 mA loop-powered, +/- 2000 mV for pH / ORP / ISEs		
Analog Outputs (optional)	Up to 2	Up to 4	Up to 8
	Menu configurable outputs: 4-20 mA (Note: unused sensor inputs can be used as outputs)		
Relays (optional)	Up to 4	Up to 8	Up to 16
	SPST, electromechanical, 380 VAC, 6 A max		
Digital Inputs (optional)	Up to 4	Up to 8	Up to 16
Alarms & Thresholds	2 user-configurable alarms & thresholds with deadband and delay for each parameter and control output		
Control Loops (optional)	Up to 2	Up to 4	Up to 8
Control Types (optional)	High / Low Threshold	PID (with start delay and SP ramping options), feed forward (NTU/UV), flow pacing, high/low threshold, timer	
Communication (optional)	Modbus ASCII/RTU (RS485), Modbus TCP (Ethernet), PROFIBUS DP		
Data & Event Logging	1,000 event / status records stored in internal memory	1 million records stored internally storage expandable with MicroSD card	
Modem (optional)	None	GSM / GPRS / 3G intergrated modem	
Remote Access (optional)	None	Internet browser access, alerts and reports via email (requires ethernet or modem card)	
Enclosure	ABS flame retardant, NEMA 4X / IP65		
Dimensions & Weight	HA2 & HA4: 9 in (230 mm) x 12.2 in (309 mm) x 4.1 in (103 mm); 4.4 lbs (2 kg) HA8: 18 in (460 mm) x 12.2 in (309 mm) x 4.1 in (103 mm); 4.4 lbs (2 kg)		



HA2 / HA4



HA8



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