



# PARTICLE COUNTER PC4400

Corrosion Product / Steam Cycle Contaminant Detection Series

## STANDARD FEATURES

- Counts particles in liquid from 2-750 microns
- Sizes particles from 2-125 microns
- Parts-per-billion (ppb) display for particle concentrations\*
- Reports total counts, counts/mL, or counts/100mL
- Up to 8 user-programmable size ranges
- Large display with 8-channel readout & graph
- User friendly, menu driven calibration
- MODBUS RTU communication
- Laser & cell condition readout (0-100%)
- External sensor with sapphire optics

## OPTIONAL FEATURES

- TracWare data acquisition software
- Analog Outputs, Inputs, & Alarm Relays
- Multiple communication protocols supported



## BENEFITS

- Provides a reliable and accurate measurement of particles down to ppt levels
- Advanced firmware and menu functions eliminates need for external software to perform setup and calibration
- User friendly calibration routine makes calibration fast, simple, and lowers maintenance cost
- Display modes include: all 8 particle size channels at once; total counts; ppb (Insoluble Material Volumetric Concentration) of particulate > 2 microns; graph of last 64 readings; and other sensor performance info
- External sensor is easy to clean and water is kept away from electronics

## APPLICATIONS

Boiler/Condensate

Water Treatment

Wastewater Treatment

Reverse Osmosis Pretreatment

Membrane Filtration

Parts Washing

Food & Beverage

Pharmaceutical

## DESCRIPTION

The PC4400's performance reliability, ease of use, and measurement capability make it an ideal choice for online steam cycle corrosion product transport monitoring, and online filter performance monitoring and optimization. This is most clearly demonstrated in the PC4400's ability to report as low as a 0.01 ppb level of IMCV<sub>>2</sub> (Insoluble Material Volumetric Concentration of particulate > 2 microns) in boiler/condensate systems, or in the case of water treatment applications, being able to detect filter breakthrough often hours in advance of any turbidity (NTU) change. Close to two decades of customer experience with Chemtrac's Particle Counters has proven the effectiveness of this technology to take water quality monitoring to the next level. Chemtrac's PC4400 is the right choice if the optimization demands of your application are not being met by relative and less sensitive measurements of water quality like those provided by turbidimeters or SDI test systems.

Chemtrac has experience with many applications that require the measurement of liquid borne particles. Our team of professionals can help with just about any application.

Particle Detection

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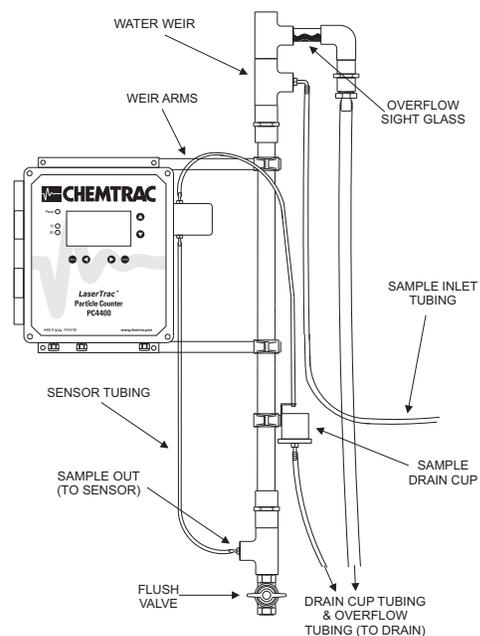
# GENERAL SPECIFICATIONS

Laser Type:	Solid-state laser diode (780 nm)
Cell Material:	Nituff coated aluminum PEEK plastic (optional)
Viewing Windows:	Sapphire
Detection Range:	2-750 microns
Sizing Range:	2-125 microns
ppb Range:	0.01 - 10,000 ppb*
Flow Rate:	75 mL/min
Sample Temperature:	32° - 120° F (0° - 50° C)
Resolution:	Better than 10% at 10 micron (ASTM-F658)
Coincidence Limit:	20,000 cnts/mL (2 micron)
Signal to Noise Ratio:	Better than 5:1
Size Channels:	8 - user selectable and total counts
Alarms:	Sensor diagnostic, particle count limit
Laser Diode Life:	MTBF 75,000 hours @ 55° C
Measurement Type:	Light obscuration, Volumetric
Local Display:	Graphical, 8 size channels displayed at once, unit info/diagnostic screen, alarm screen, total count and ppb screen, graphical trending, user menus
Display Readout:	Size channel, counts, parts-per-billion (ppb), cell condition (0-100%), laser condition (0-100%), unit address, sample period, sample frequency, flow rate, days until data log overwrite
Graphical Trending:	Trending of last 64 logged values for any size range, analog input, or sensor status %
Data Storage:	65,000 sample strings User defined logging interval (1 - 254 min.)
Keypad Interface:	All instrument settings may be modified via the keypad interface, including instrument calibration (some settings require password)
Serial Communications:	2 wire RS485 (Network) and RS232
Communication Protocols:	Standard: MODBUS RTU (RS485) Optional: MODBUS TCP (Ethernet), multiple communication protocols supported (contact for details)
Analog Outputs**:	2, 4, 6, or 8 channels, 4-20 mA (optional)
Analog Inputs**:	2, 4, 6, or 8 channels, 4-20 mA 0-5V, 0-10V (optional)
Alarm Relays**:	2, 250V, 1 Amp (optional)
Power Requirements:	100-240 VAC, 200mA, 47 - 63 Hz 12 or 24 VAC (optional)
Operating Temperature:	32° - 120° F (0° - 50° C)
Dimensions:	12" W x 11.5" H x 5.25" D (305 mm W x 292 mm H x 57 mm D)
Weight:	7 lbs (3.2 kg)

\*Calculated volumetrically for particles larger than 2 micron & assuming spherical shape

\*\*Can only have up to a maximum of 8 outputs, inputs & relays combined

## PC4400 and Weir set-up



## PC4400 Display Screens

