



# PARTICLE COUNTER / PORTABLE SAMPLER PC5000

## DESCRIPTION

The PC5000 Particle Counter/Portable Sampler combines simplicity of operation, advanced electronics, and powerful performance to set the standard for counting and sizing particles in liquids. This portable unit has the capability to operate as both a grab sample particle counter (lab or field use) and an online particle counter, which makes it ideal for particle size and concentration analysis in a variety of municipal and industrial applications. The PC5000 can size particulates from 2 to 125 microns and count particulates from 2 to 750 microns. With the ability to detect particles at low part per trillion concentrations, the PC5000 offers superior analytical performance at an economical price compared to most other laboratory type particle counters.

## STANDARD FEATURES

- Online and grab sample operation
- Built-in sample pump
- Counts particles in liquid from 2-750 microns
- Sizes particles from 2-125 microns
- Up to 8 user programmable size ranges
- Large display with 8 channel readout & graph
- Reports total counts, cnts/mL, or cnts/100mL
- Volumetric parts-per-billion (ppb) readout
- Data download to PC via USB
- User friendly, menu driven calibration
- MODBUS RTU communication
- Laser & cell condition readout (0-100%)
- External sensor with sapphire optics



## OPTIONAL FEATURES

- Flow control weir
- TracWare online data acquisition software
- Analog Outputs, Inputs, & Alarm Relays
- MODBUS TCP (Ethernet)
- Larger sizing capability upon request
- Battery operation

## BENEFITS

- Quick and easy testing of grab samples
- Can function as laboratory or online analyzer
- 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 calibration fast, simple, and lowers maintenance costs

## APPLICATIONS

**Water Treatment**

**Wastewater Treatment**

**Reverse Osmosis Pretreatment**

**Membrane Filtration**

**Boiler/Condensate**

**Parts Washing**

**Food & Beverage**

**Pharmaceutical**

Particle Detection

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## GENERAL SPECIFICATIONS

Laser Type:	Solid-state laser diode (780 nm)
Flow Cell Dimensions:	750 um x 750 um
Cell Material:	Nituff™ coated aluminum PEEK plastic (optional)
Viewing Windows:	Sapphire
Detection Range:	2-750 microns
Sizing Range:	2-125 microns
Flow Rate:	75 mL/min
Size Channels:	8 - user selectable and total counts
Count Format:	User selectable: Counts per ml, Counts per 100 ml, or Raw Counts
Volumetric Readout:	Parts-per-billion (ppb)
Laser Diode Life:	MTBF 75,000 hours @ 55° C
Local Display:	Graphical, 8 size channels displayed at once, unit info/diagnostic screen
Display Readout:	Size channel, counts ppb, cell condition (0-100%), laser condition (0-100%), unit address, # of stored data records, sample period, sample frequency, flow rate
Graphical Trending:	Last 64 recorded readings, User selectable value trending (e.g. Total Counts, Bin 1, Cell Condition, Analog Input, etc), Online mode only
Data Storage:	>30,000 sample strings, User defined logging interval (1 - 254 min.) in Online mode Up to 200 samples with 99 runs per sample in Grab mode
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 USB (Local)
Communication Protocols:	Standard: MODBUS RTU (RS485) Optional: MODBUS TCP (Ethernet)
Analog Outputs*:	2, 4, or 6 channels, 4-20 mA (optional) Online mode only
Analog Inputs*:	2, 4, or 6 channels, 0-5V, 0-10V, 0-20 mA, 4-20 mA (optional) Online mode only
Alarm Relays:	1 Dry Contact Relay, 250V, 5A (optional) Online mode only
Power Requirements:	100 or 240 VAC, 50 - 60 Hz, 1A
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)

\*Can only have up to a maximum of 6 I/O (e.g. 4 outputs, 2 inputs)

## PC5000 Display Screens

```
STATUS
Unit: 1          Ver: 1.07hx
Sample #: 2070
Memory: 34%     Days: 7
Sample Period: 10
Sample Frequency: 15
Laser: 99%     Cell: 92%
Flow Rate: 75 ml/min
Sampling        Time 15:25
```

```
2-5 um - 1051 /ml
5-10 um - 232 /ml
10-15 um - 55 /ml
15-25 um - 40 /ml
25-50 um - 7 /ml
50-80 um - 1 /ml
80-100 um - 0 /ml
> 100 um - 0 /ml
Time 15:25
```

```
VOLUMETRIC CONCENTRATION
> 2 micron
14.4
PPB
Cell 96% SAMPLING 14:43
```

