Water Quality Analysers

# FilterSense - Particle Counter

With the FilterSense range of Particle Counters you get a world's first. The first particle counter to allow multiple sensors on a single analyser. The FilterSense is a low cost solution to monitoring filters for cryptosporidia and giardia sized particles.

- **Counts particle 2-100 microns**
- **Counts and sizes 2-100 microns**
- **Up to 3 user selectable size ranges (selectable at time of purchase)**
- **Sapphire optics for extended life**
- **User calibratable for a lower cost of ownership**


*"Low cost, multipoint filter monitoring is here at last."* **UK**

The FilterSense sensors are available with different controllers giving you the same great performance with different communication, display, and control options. Each sensor comes with a 'clean me' alert and can be run with a constant head weir or a flowmeter, to maintain a constant flow. FilterSense gives a low cost particle counter specifically designed to monitor filters.

## CRONOS® FilterSense


- High Quality and Multilingual
- Lowest Purchase Cost
- 3 size ranges* (up to 3 sensors)
- Options include:
  - **up to 3 4-20mA outputs**
  - **up to 4 relays (solid state or mechanical)**
  - **modbus TCP**
  - **modbus ASCII/RTU**
  - **profibus**
  - **HART**
  - **flow switch input**
  - **PID control**
- Can combine with other sensors

* *To be shared amongst sensors e.g. 3 sensors each with 1 size range*

## CRIUS® FilterSense


- High Quality and Multilingual
- Low Cost
- Colour Display and Keypad
- Sophisticated Comms and Control
- Datalogging
- 6 size ranges* (up to 6 sensors)
- Options

  All CRONOS® options plus:
  - **texting alarms via GSM**
  - **remote internet access via GPRS**
  - **email alarms via GRPS**
- Can combine with other sensors

* *To be shared amongst sensors e.g. 3 sensors with 2 size ranges or 6 sensors with 1 size range etc.*

## CRATOS FilterSense


- High Quality and Multilingual
- Medium Cost
- Colour Touchscreen
- Datalogging
- 12 size ranges* (up to 12 sensors)
- Options:

  All CRONOS® and CRIUS® options plus:
  - **lowest cost per point**
- Can combine with other sensors

* *To be shared amongst sensors e.g. 6 sensors each with 2 size ranges, or 12 sensors with 1 size range etc.*

For more information please see the individual brochure - CRONOS®, CRIUS® and CRATOS

find us at www.processinstruments.net

## Principle of Operation

As particles in a water stream pass through a measurement cell they break a laser beam. This break is measured by a detector opposite the laser beam and the number of breaks is equal to the number of particles and the size of signal (created as the particle passes through the beam) is proportional to the size of the particle. The FilterSense is unique in the marketplace in that it allows:

- **Simple user calibration**
- **Set up direct from the instrument (no software/PC required)**
- **Multiple sensor capability**
- **Control with PID functions based on particle counts**
- **Multipoint monitoring**

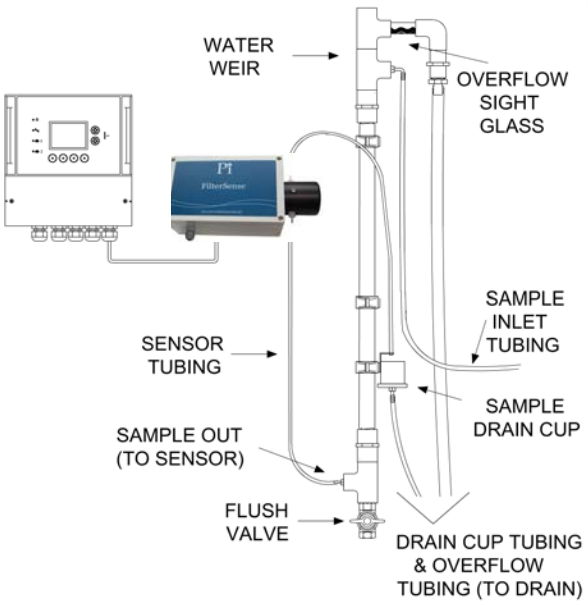
## Applications

The most common application for a FilterSense is in water treatment and the optimisation or ongoing monitoring of filters. The FilterSense, when coupled with turbidity and differential pressure sensors offers onboard PID control of automatic backwash. FilterSense provide a low cost per point for filter breakthrough monitoring.

Other applications for FilterSense include:

- **Pre RO monitoring**
- **Make up water monitoring**
- **Ultraclean medical device washing monitoring**
- **Membrane filtration monitoring**

For more information please visit:
***www.processinstruments.net/products/particle-counter.php***




*CRIUS FilterSense with overflow weir*

## Specification*

| | |
|---|---|
| **Laser Type:** | Solid-state laser diode (780 nm) |
| **Cell Material:** | Nituff coated aluminium<br>PEEK plastic (optional) |
| **Viewing Windows:** | Sapphire |
| **Detection Range:** | 2-750 microns |
| **Sizing Range:** | 2-100 microns |
| **Flow Rate:** | 75 ml/mins |
| **Resolution:** | Better than 10% at 10 micron (ASTM-F658) |
| **Coincidence Limit:** | 8,000 cnts/ml (20,000 cnts/ml - OPTIONAL) |
| **Signal to Noise Ratio:** | Better than 5:1 |
| **Size Channels:** | Up to 2 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 |
| **Comms:** | TCP/IP, Modbus, RS232, RS485, 4-20mA, profibus, HART |
| **Power supply:** | 100-250 V AC, 50/60 Hz 8-36 V DC |
| **Ambient temperature:** | -20 to +50°C |
| **Process temperature:** | 0-50°C |
| **Cleaning:** | <5 mins, 6 monthly on clean water |
| **Enclosure rating:** | IP65 |
| **Display:** | Value and Alarms at the same time, controller dependent |

**** All subject to change without notice***