

# ConSensor™

## Concentration Sensor

- » Real-time analysis
- » Compact design
- » Reduces cost of ownership
- » Fully Automated



### Product Overview

Monitoring and controlling the concentration of oxidizers added to CMP slurries is vital for optimum polishing performance. Through the use of precision instrumentation and proprietary algorithms, Celerity's ConSensor™ monitors and maintains the concentration of an oxidizer, such as hydrogen peroxide, in a CMP slurry blend. Automatic qualification of blends ensures the user that the slurry introduced to the global loop is within specification. Standby blends are periodically re-qualified to ensure the specified concentration is maintained. If the concentration falls below specification, the system automatically adds oxidizer via the slurry distribution system. In addition, when a blend is not being qualified, the global loop concentration is monitored and replenished as required.

### Celerity's Spectrym™ Technology

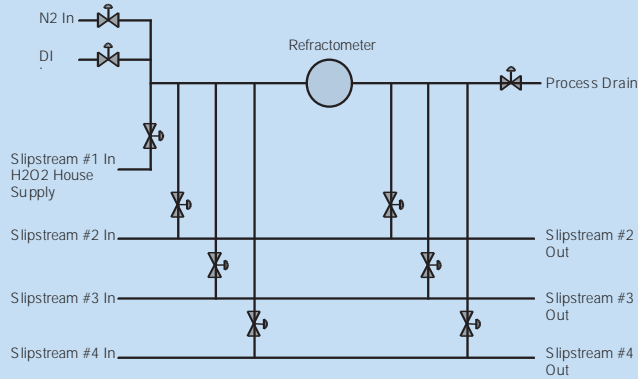


The ConSensor utilizes Celerity's proprietary Spectrym™ technology to measure the composition of CMP slurry using advanced optical analysis, thus determining the concentration of the oxidizer. Spectrym technology delivers measureable and validated concentration, provides greater flexibility, ensures repeatability, and reduces the cost of ownership.

### System Operation

For systems with multiple sample points, such as the MegaFlow™ VI, slipstreams are utilized to sample from the primary and secondary blend tanks. From the main process line, the sample is diverted for analysis and returned, thereby avoiding a waste stream. The global loop is monitored continuously until a newly made batch needs qualification or a standby batch needs re-qualification.

Replenishment of the blend tanks (primary and secondary) is accomplished through a chemical addition line in the primary and secondary stations with the setpoint configurable by the operator. The house supply of hydrogen peroxide is periodically analyzed to ensure accurate and repeatable replenishments.



Utility	Requirement	Connection Type
N <sub>2</sub> Inlet	35 psig, 0.1 SCFM	3/8" Flaretek
DI Inlet	35 psig, 1 GPM	3/8" Flaretek
DI Exit	Field Set	3/8" Flaretek
Exhaust, Probe	9.2 SCFM, -2" H <sub>2</sub> O	2" FNPT
Exhaust, Process	4.7 SCFM, -2" H <sub>2</sub> O	2" FNPT
Cabinet Drain	Gravity	3/8" Flaretek
Process Drain	35 psig, 1 GPM	3/8" Flaretek

## Features and Benefits

- Real-time analysis to guarantee blend is in specification before transferring and while in the global loop
- Minimizes preventive maintenance
- Integrates with existing flow meter- or scale-based blending systems
- Compact design
- Reduces cost of ownership
- Four sample slipstreams monitored with one instrument
- Fully Automated
- Monitors the chemical distribution and replenishes as required based on user defined set-points
- Automatic flush and purge of slipstreams and probe
- Eliminates separate replenishment module
- Increased make-up rate (>25%)
- More reliable and less labor intensive than manual titrations and replenishments
- Improves accuracy of replenishment
- Alerts user to large variations in the incoming supply

## Options

- MegaView™ Supervisory System to provide historical and real-time trending of process parameters
- Standalone control system to provide integration with any slurry distribution system

## System Specifications

Concentration Measurement 1-8 wt % ± 0.05 wt % of H<sub>2</sub>O<sub>2</sub> (may vary depending on the application)

## Dimensions

22"W x 18.75"D x 50"H



CELERITY, INC.  
 1315 West Drivers Way  
 Tempe, Arizona 85284  
 Telephone 480.763.2200  
 Facsimile 480.763.2218  
 www.celerity.net



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