

CRITICAL SYSTEMS' CALLISTO™ PROCESS EXHAUST SCRUBBER

POINT-OF-USE PROCESS EXHAUST SCRUBBER

Callisto Technology:

Critical Systems' Callisto Dry Scrubber is a highly advanced Abatement System that provides Guaranteed scrubbing of the Target Gases to levels well below the (TLV) Threshold Limit Values. With medias blended specifically to the gases and flow rates of your unique process applications, the Callisto utilizes both Chemisorption and Catalytic medias to assure the maximum abatement of the process gas stream. Custom blending also ensures that adsorbents are not poisoned or fouled since potential poisons and fouling agents are removed before they can harm the media.

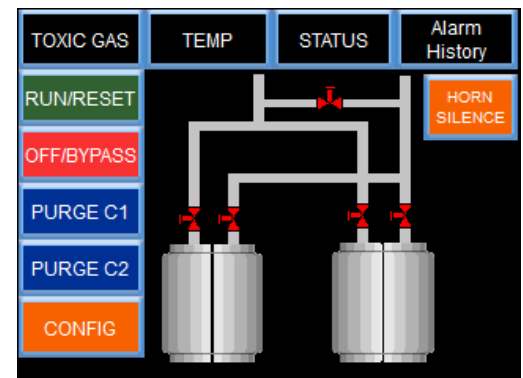
The Callisto's sophisticated control system operates the canisters to peak efficiencies to assure the longest life of the canisters at the lowest destruction temperatures, while automated purge cycles insure that the canisters are safe to remove when it comes time for replacement. The Callisto's controller also maintains a history of all scrubber alerts, temperatures and exhaust concentrations to verify performance and compliance with regulations.

The Callisto's Dual Canister option employs two canisters which can run in an auto-crossover configuration for continuous duty or in an oscillation mode where the canisters share duty with time scheduled switching to maximize canister life.

Key Features of the Callisto Point-of-Use Process Exhaust Scrubber:

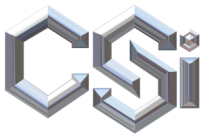
- *Guaranteed 99.999% Efficiency* - Monitored at Outlet and Data Logged
- *Environmentally Friendly* - Methane Burners Create Large Amounts of CO2 & Wet Scrubbers create Contaminated Water that needs to be Treated
- *Integrated Vacuum Pump* - Creates Zero Load on House Exhaust!
- Control Logic Assures that Zero Back Pressure on Process Tool Exhaust
- Integrated Cabinet & Exhaust Monitoring System to Ensure Safety & Compliance
- Ethernet Communications to End User
- Tool Interlock Connections to Prevent Reactor Operation when Callisto is Offline
- Integrated Temperature, Pressure & Exhaust Monitoring with Data Logging
- Widest Offering of Catalysts & Adsorbents of any Dry Bed Scrubber Supplier
- In-House Creation & Blending of Custom Adsorbents
- *Adsorbents are Made in the USA!*
- *Lowest Cost Canister Disposal of Any Dry Bed Canister Provider!*
- *Only Dry Bed Scrubber Made in the USA!*

Service & Maintenance performed by Certified CSI Field Technicians



Callisto Main Screen - Dual Canister

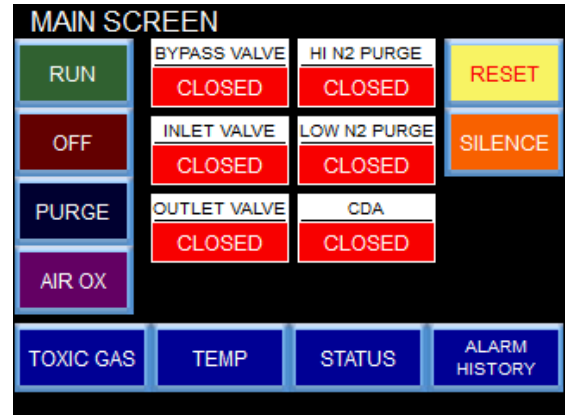
Since 2000, Critical Systems, Inc. (CSI) has been supporting the breakthrough technologies of our customers with practical, cost effective solutions that “surround the process tool”.



CALLISTO DRY BED SCRUBBING SYSTEMS (cont.)

PERFORMANCE:

- Color Touch Screen Display
- Real Time Flow Schematics
- User Settable Alarm Limits and Functions
- Automated Cycle Purge Routines
- Independent Life Safety Board
- Visual and Audible Fault and Shutdown Alarms
- Digital Inputs for Cabinet Shutdown
- Multiple Password Level Access
- Ethernet and Analog Outputs
- Z-Purge for Class 1 Div 2 Compliance
- Digital Customer I/Os
- Integrated Vacuum Pump



Callisto Main Screen - Single Canister

ALARMS: *

Canister Not In Place	Shut Down
Over Pressure	Shut Down
Lost Nitrogen	Shut Down
Toxic Gas In Cabinet	Shut Down
Toxic Gas at 90%	Notification Alarm
Toxic Gas at Exhaust	Maintenance Alarm
Over Temp / Missing TC	Shut & Purge with N2 until Clear
Warning Temperature	Maintenance Alarm

FACILITATION INFORMATION:

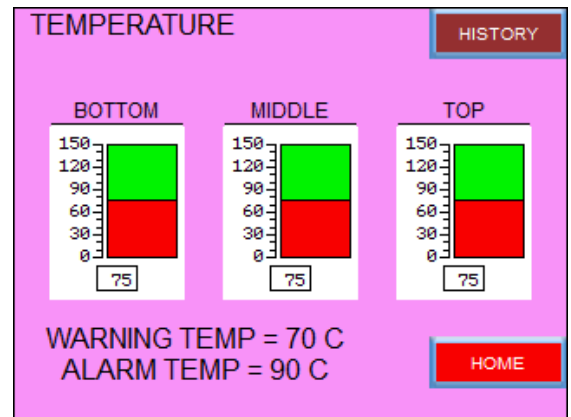
Connections:

Process Inlet / Flow	KF40 SS / 180 SLPM
Process Exhaust / Flow	KF40 SS / 180 SLPM
Cabinet Exhaust / Flow	4" OD x 3" High / 140 CFM @ 1/2" W.C.
N2 High Purge / Flow	1/2" SS Swagelok / 10 CFM @ 60-80 psi
N2 Purge / Flow	1/4" SS Swagelok / 100 LPM @ 60-80 psi
N2 Valves / Flow	1/4" SS Swagelok / 4 CFM @ 60-80 psi
CDA Air Oxidation	1/4" SS Swagelok / 25 LPM @ 60-80 psi
Customer Alarm	7/8" Through Hole

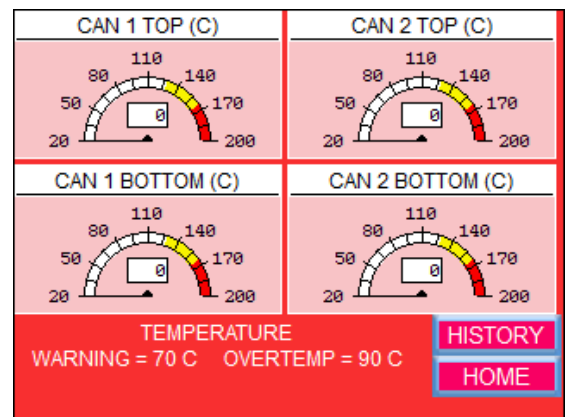
Power: 7/8" Through Hole - 110/220 VAC, 5 Amp

Overall Dimensions:

Single Canister	60" Tall x 28" Wide x 30" Deep
Dual Canister	68" Tall x 48" Wide x 24" Deep



Callisto Temperature Screen - Single Canister



Callisto Temperature Screen - Dual Canister

* With the Dual Canister Callisto, Shut Down Alarms will activate the second canister while Alarm condition is active.