

From Basic CEMS to All the Bells and Whistles

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Early Basic System

- When CiSCO started out the systems only included what they needed and were installed in cabinets or freestanding racks.
- Cylinder racks were basic as well and mounted away from the rack/cabinet or outside of the building.



Cabinets and Racks

- If your location is inside or has a small footprint we still put CEMS in Racks or Cabinets.
- CEMS components (Analyzers, PLC, plumbing panels, etc.) accessed from the front.
- Electrical boxes/ breaker panels accessed from the rear.



Small Shelters 7' x 6'

- We recommend upgrading to a shelter for outside installations.
- Dual access cabinet requires roughly 6' x 9' plus HVAC.
- This shelter requires roughly 7' x 9' plus HVAC.



CEMS and then some

- With a larger shelter we can install other equipment inside, such as wall cabinets and workbenches.
- With enough room we can accommodate larger cabinets and other equipment as well.



CEMS and then some more

- With a large enough shelter, we can even do multiple rooms. This shelter had three total rooms, one with a 12' ceiling, a smaller one with an 8' ceiling and an enclosed cylinder storage area.



Enclosed Cylinder racks

- Keep your calibration cylinders out of the elements.
- Standard enclosures include vents for air flow.
- We have installed fans for extra ventilation and even heaters for cold climates as well.



Included Audit Stations

- Rather than juggle cylinders and adapters around every quarter we can install extra stations for CGAs/ Linearities.



Cylinder Pressure Switches

- Send an alarm to the PLC when a Cylinder starts to get low.



Cylinder Pressure Transmitters

- An upgrade from a pressure switch.
- Receive a live pressure signal into your DAHS to track gas pressures and usage over time.
- Does require more analog inputs into the PLC.



Ambient Monitors

- Used to monitor the air quality inside of the shelter.
- Can monitor Oxygen, Carbon Monoxide, Sulfur Dioxide, LELs, & numerous others.



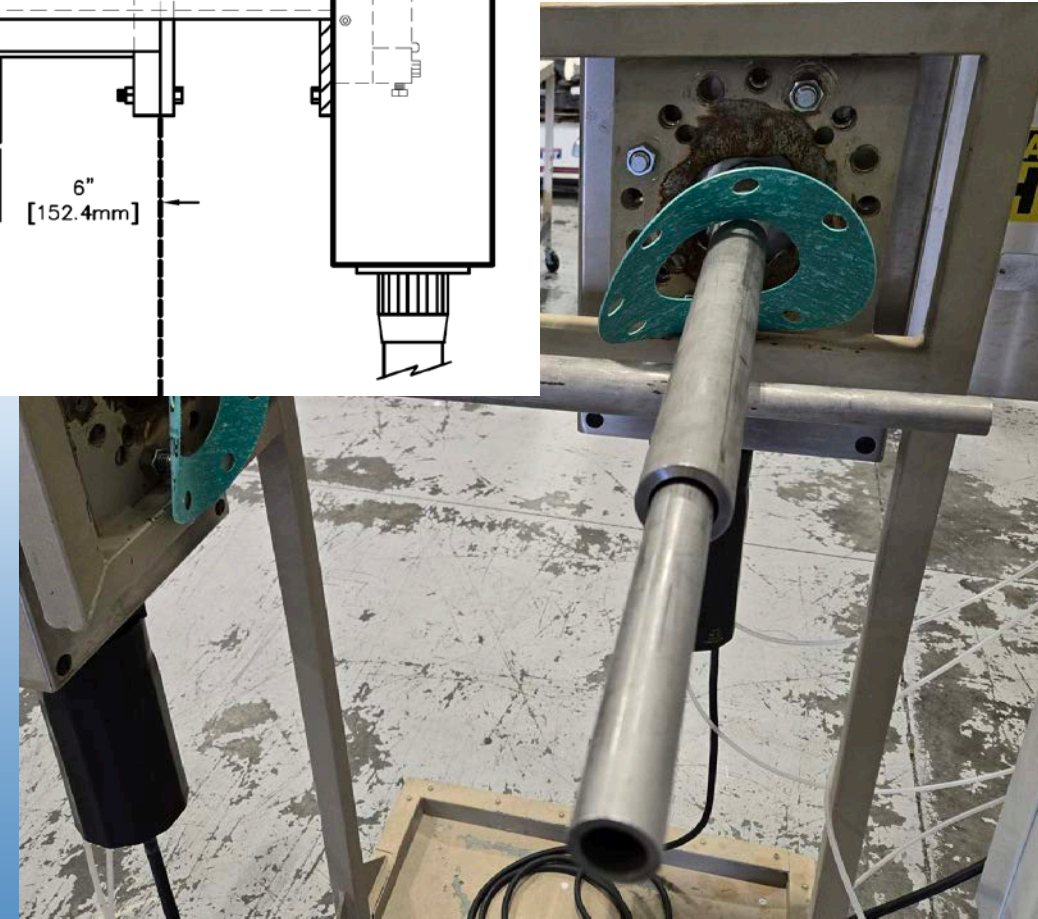
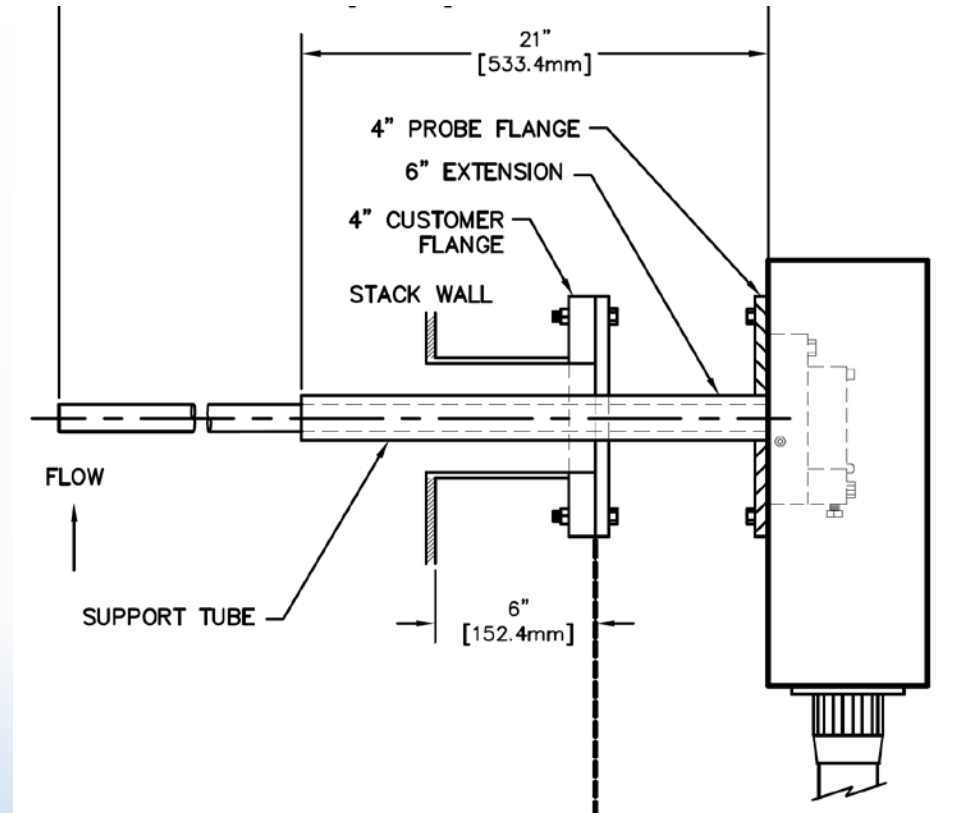
Alarm Beacons

- Visual indicator that something is wrong with the CEMS or the environment in the shelter.
- Audible alarms are also available.



Insertion Tubes & Supports

- Insertion tubes (and even probes) can be made with different materials.
- This can help with extreme temperatures and corrosive environments.
- Support tube flanges are also available .
- Reduces stresses on threads in high velocity flue streams.



Move Ammonia Control to Shelter

- Creates a simpler install on the stack.
- Makes it easier to adjust the temperature of the converter as it ages and efficiency is reduced.



Remote Audit Rack

- Shelter mount retrofit in the field.



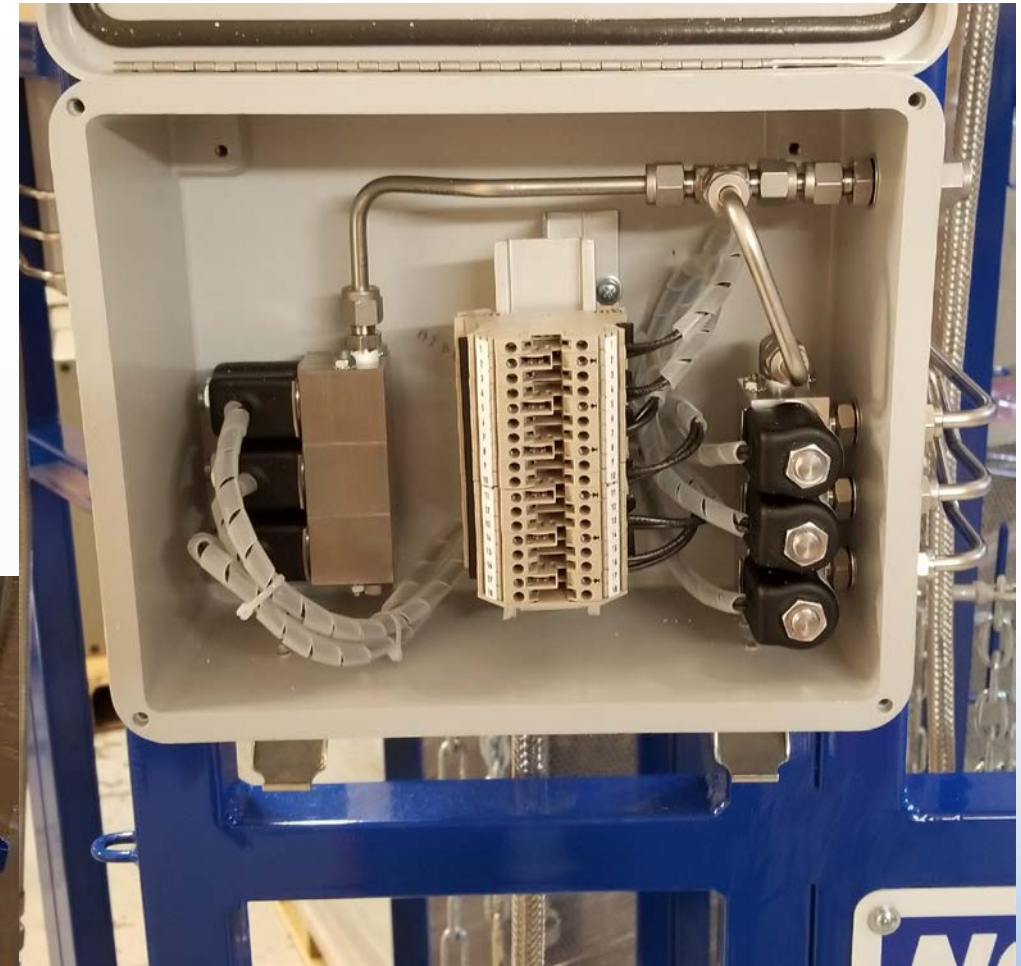
Remote Audit Rack

- Various orientations available, stand alone or shelter mount.
- Various colors available, it can match your shelter or be bright for safety, such as orange, or just a unique color to stand out, such as blue.



Solenoid Enclosure for Remote Audit Rack

- Need to verify that there are enough digital outputs from the PLC for valve actuation.



Even More Bells and Whistles?

- Most of the upgrades that we have added through the years have come from customer questions and comments. This includes requests as well as issues that have come up that required new or creative solutions.
- If you have something you are thinking about or a conundrum you want to overcome, let us know.