

Introduction to the MANTECH PeCOD[®] COD Analyzer



About MANTECH

- MANTECH Inc. is a manufacturer of online, portable and laboratory analyzers for water and wastewater.
- With over 1,900 analyzers installed in 45 countries, 100,000's of samples are analyzed everyday by MANTECH systems.



MANTECH's mission is to generate the highest quality results in the shortest amount of time with the goal of enabling our customers to have significant positive economic and sustainable impacts on their businesses and communities.

Chemical Oxygen Demand

- Chemical oxygen demand (COD) is the amount of oxygen required to fully oxidize organic matter
 - It is used as a measurement of the oxygen-depletion capacity of a sample contaminated with organic waste
- COD is a valuable measurement for the determination of water quality in natural waterways and waste streams

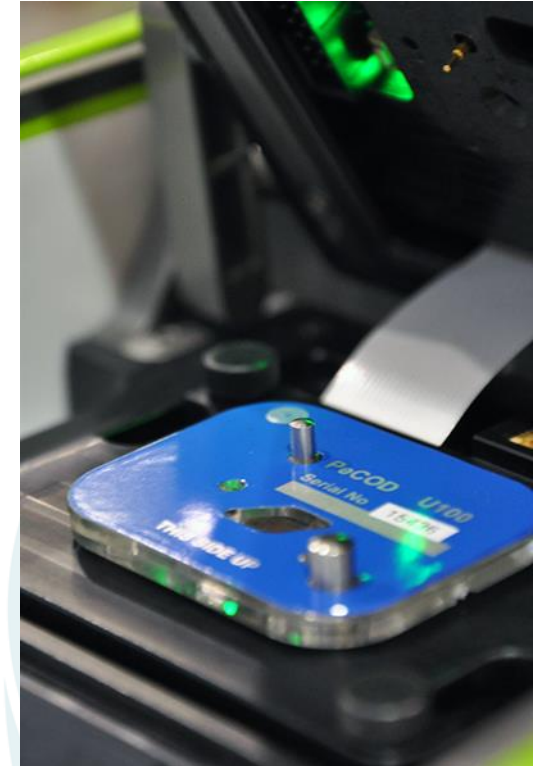
PeCOD[®] COD Analyzer

- A patented technology that measures soluble COD in real time by oxidizing organic matter, and measuring the extent of oxidation.
- PeCOD[®] eliminates the use of **mercury and potassium dichromate**
- Safe for both the environment and the analyst
- Results in 15 minutes
- Accurate method with a detection limit of 0.7 mg/L, and upper range of 15,000 mg/L



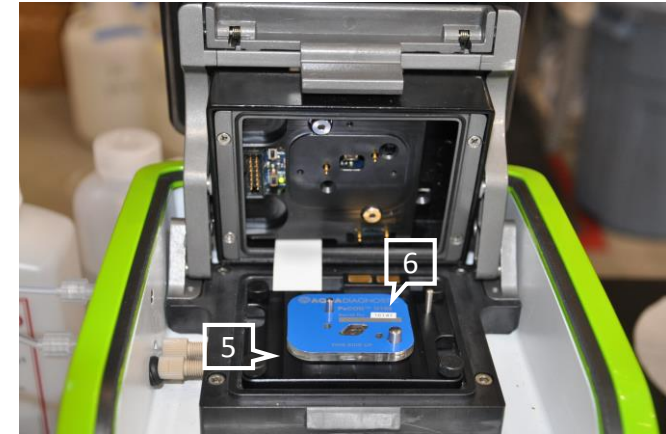
Nanotechnology

- The core of the technology is the PeCOD[®] sensor, which consists of a UV-activated nanoparticle TiO₂ (titanium dioxide) photocatalyst coupled to an external circuit.
- The powerful oxidizing potential of UV-illuminated TiO₂ ensures that virtually all species will be fully oxidized giving a true measure of COD.



PeCOD[®] COD Analyzer Components

1. Port A – for sample and calibration solution
2. Port B – for blank control solution
3. Port W – for waste
4. Analyzer Lid
5. Electrode Block
6. Sensor



Consumable Items:

- Calibrant Solution - COD Standard
- Electrolyte
- Sensors

PeCOD[®] Configurations

L100 Manual PeCOD[®]



- Minimal bench space
- Manual sample prep
- Portable – optional battery operation

At-Line L100 PeCOD[®]



- Continuous sampling
- Automated sample prep, calibrations, and rinsing
- Connected directly to low flow sample stream

Online P100 PeCOD[®]



- Online monitoring
- 4-20 mA output for SCADA connection
- Connected directly to high flow sample stream with automated filtration, sample analysis, calibrations and rinsing

PeCOD[®] Applications

Municipal



- Incoming COD monitoring
- Weather events
- Discharge compliance
- Potable water analysis
- Water reuse applications

Industrial



- In-plant COD monitoring
- Process optimization
- Discharge compliance
- Fine avoidance

Laboratory



- Rapid COD analysis
- Multi-parameter
- Improved accuracy and detection
- Safety of employees

Resources

- Website: <http://mantech-inc.com/>
- Email: info@mantech-inc.com
- PeCOD[®] – The 15 Minute COD Analyzer:
<https://www.youtube.com/watch?v=GRKAqigeMQA>

