

Technical Service Engineering Department

Tonawanda, New York

Customer Support Capabilities

- Hydrogen Peroxide System Installations
- Training & Commissioning
- Parts & Service
- Hydrogen Peroxide Equipment Inventory
- Technical Support
- Materials Of Construction Expertise
- Hydrogen Peroxide Engineering Standards
- Hydrogen Peroxide Technical Bulletins
- Hydrogen Peroxide Distribution Support



Hydrogen Peroxide System Installations

- FMC Engineering Services has played a major role (i.e., lead or support) in the installation of over 50% of all H₂O₂ systems in North America.
- Installations cover all H₂O₂ grades (standard, technical, electronics, food, cosmetic & HTP) & concentrations (35, 50, 70 & 90%).
- H₂O₂ systems range from large bulk (in excess of 80K-gals) to IBC/drum systems.
- FMC Engineering has designed/installed H₂O₂ systems for customers, our valued distributors and FMC distribution.
- FMC engineered H₂O₂ systems range from fully automated (i.e., DCS or PLC control) to fully manual - driven by customer's specific needs.
- Remote Tank Gauging (RTG) with Vendor Managed Inventory (VMI) is offered to customers.
- Most H₂O₂ system designs are done using CAD.
- We have an extensive engineering drawing database.



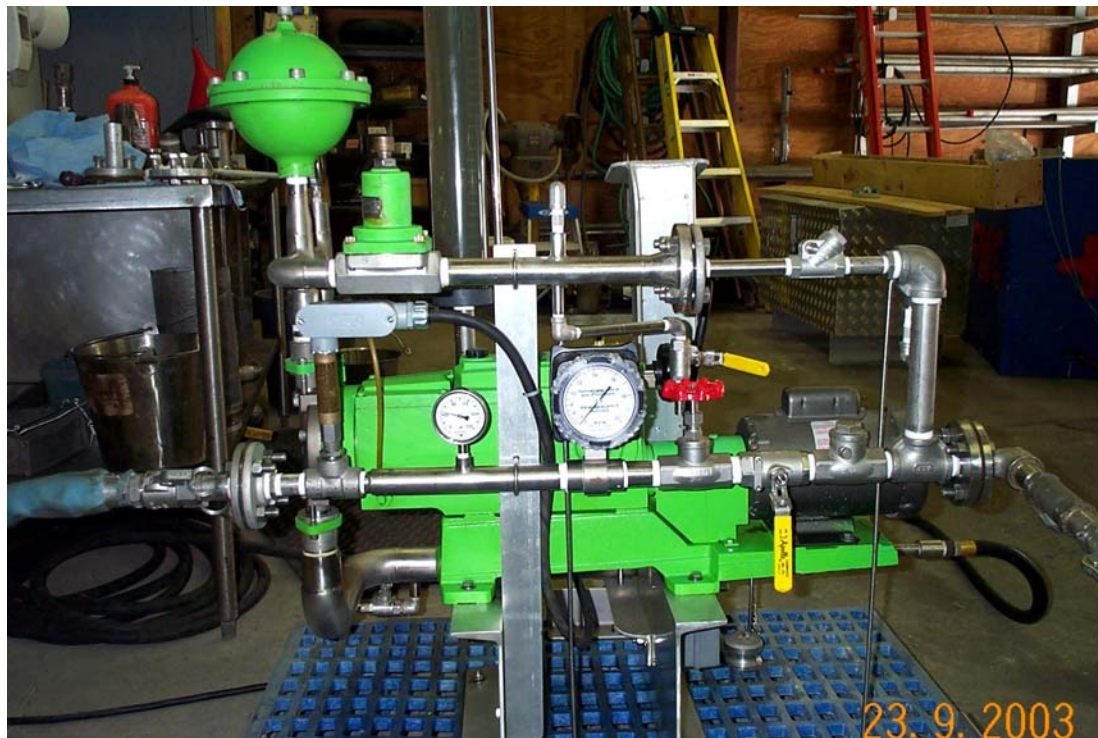
Training & Commissioning

- H₂O₂ safety training for new & existing customers.
- Safety inspection of new systems prior to the first delivery.
- Passivation services system prior to startup.
- Oversight during first H₂O₂ delivery.
- Technical input as needed to local authorities & emergency response agencies, throughout planning & implementation phases.
- FMC H₂O₂ system preparation is the best in the industry.



Parts & Service

- We service & guarantee any FMC installation.
- Experienced field service reps are available to install, passivate and repair/modify existing systems.
- Vast inventory of parts for peroxide systems - new & used.



Hydrogen Peroxide Equipment Inventory

- FMC maintains a large inventory of H₂O₂ equipment for immediate response capability (e.g., H₂O₂ trials, environmental clean-up, etc.).
- Storage tanks: 2K to 20K-gals; horizontal & vertical; aluminum & stainless; standard & skid-mounted; located in NY, NC, WV, TX, CA & BC (Canada).
- 5K-gal drop trailers for H₂O₂ trials (environmental remediation, etc.).
- Pumps: metering & batch transfer; standard & skid-mounted; wide range of flow rates.



Technical Support

- Routine phone support to customers, distributors & consultants.
- Engineering review of H₂O₂ equipment specs, drawings, P&IDs, etc.
- Participation in HAZOP's of customer H₂O₂ systems.
- Emergency response to H₂O₂ incidents; process troubleshooting.
- Safety inspections/audits of customer and FMC H₂O₂ systems.
- Main engineering office & shop located in Tonawanda, NY; additional support capabilities at Spring Hill, WV; Bayport, TX & Prince George, BC (Canada) plants.



Materials Of Construction Expertise

- FMC Engineering has been involved in evaluations of materials for suitability with peroxide since the 1930's.
- Effect of material on H₂O₂ stability is more important than effect of H₂O₂ on material.

Hydrogen Peroxide Engineering Standards

- Standards available for stainless, aluminum & polyethylene vessels & piping systems (IBC's, drums, rail cars and tank truck construction).
- FMC's Engineering Design Package is "Bible" for H₂O₂ system design.

Hydrogen Peroxide Distribution Support

- Design/Installation of regional H₂O₂ Distribution Centers.
- Design/Fabricate/Install/Start-up of Supply Chain Transloaders at strategic locations throughout the United States.
- Maintain critical equipment & parts inventory (e.g., pumps, blenders, flow meters, etc.).
- Routine inspection & preventative maintenance of H₂O₂ equipment/transfer systems.
- Emergency repairs as needed.
- Retrofit FMC rail cars & tank trucks prior to commissioning for H₂O₂ service.

