

Are you rolling the dice on Quad O compliance?

Control emissions with the industry's tightest sealing tank venting solutions.



Meet your Quad O compliance challenges head-on with Emerson's tight-sealing storage tank solutions. Engineered with precision-manufactured internal components and multiple seal selections, Emerson's Enardo brand relief valves ensure the highest level of protection against product loss through evaporation and fugitive emissions.

Emission reducing options include pipe-away valves that send tank vapors directly to a vapor control system, plus the industry's lowest pressure drop flame arrestors to help you maximize performance as you improve overall safety.

Tight sealing valves and vents also help you avoid hefty fines. In fiscal 2014, EPA enforcement actions required companies to invest more than \$9.7 billion in actions and equipment to control pollution and clean up contaminated sites. The EPA cases resulted in \$163 million in combined federal administrative, civil, and judicial penalties and criminal fines.*

Don't gamble when it comes to storage tank safety and potentially costly noncompliance fines. Choose Enardo for the industry's tightest sealing tank venting solutions to help you overcome Quad O compliance challenges.

*U.S. EPA, Enforcement Annual Results for Fiscal Year (FY) 2014

Quad O

EPA 40 CFR, Part 60, Subpart OOOO Emission Standards

Quad O applies to all onshore oil and gas facilities, including storage tanks, constructed, modified, or reconstructed after August 23, 2011.

Storage Tank Deadlines

- **April 15, 2015**
Tanks commissioned between August 23, 2011 and April 12, 2013.
- **April 15, 2014**
Tanks commissioned after April 12, 2013.



Improve your Quad O compliance. Choose industry-leading Enardo tank sealing and venting solutions.



Enardo 850

Pressure Vacuum Relief Valves

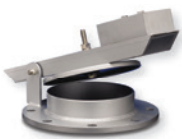
High-performance sealing power for maximum protection against leaks and emissions. Enardo Model 850 pipe-away and Model 950 vent-to-atmosphere pressure vacuum relief valves protect against vacuum overpressure and evaporative losses while limiting odorless and potentially explosive vapor emissions. A patented Saber Guide system ensures smooth and accurate valve seating. The pallet and seat ring are made with an advanced thermoplastic composite (PPS) material to provide superior resistance to corrosion, chemical attack, and liquid and vapor adhesion.



Enardo ES-660-HF

Thief and Gauge Hatches

Ultra-tight sealing for maximum emissions control. Enardo Models ES-660 and ES-660-HF are next-generation spring-loaded thief hatches that feature precision-manufactured internal components, a round base and cover, and are ideally suited for use in applications that require ultra-tight sealing – sour crude, gas, and strict environmental emissions standards compliance.



Enardo 2000

Emergency Relief Vents

Advanced sealing technology that exceeds the most stringent industry standards. The ENARDO Model 2000 emergency relief vent provides an emergency pressure relief opening for storage tanks when exposed to overpressures not handled by standard tank vents. When excessive pressure builds within the storage tank the hinged cover opens at a predetermined setting to relieve excess pressure. When the overpressure dissipates, the cover reseats tightly onto the base. The hinge mechanism prevents misalignment and provides an accurate reseal. The 2000 Series meets API Standard 2000, NFPA 30 and OSHA (29 CFR 1910.106).



Enardo Series 7FA

Flame Arrestors

Maximize safety with protection against flame propagation and detonations. Enardo offers a wide variety of arrestors with maximum flow-to-pressure drop characteristics, including in-line, free vent, high-pressure deflagration, and detonation flame arrestors. Each plays a critical roll in the safe operation of vapor control systems. Our arrestors use spiral-wound, crimped-metal ribbon flame cell elements to inhibit flame propagation by absorbing and dissipating heat, and provide maximum flow with minimal pressure drop across the element. Enardo flame arrestors are bi-directional and proven to stop an ignited flammable vapor mixture approaching from either direction and traveling at subsonic or supersonic velocities.



Enardo ES-800

Vent Valves

The highest level of protection against leakage and emissions. The Enardo ES-800 in-line and ES-900 end-of-line vent valves represent the latest development in high-performance, tight-sealing tank venting products. With a leakage rate of no more than 1 SCFH at 90% of set point, the ES-800 and ES-900 Series offers unparalleled vent valve performance. This series of vent valves prevents the escape of light ends of crude by maintaining pressure in the storage tank. When system pressure or vacuum exceeds the set pressure of the valve, the pallet lifts, breaking the seal between the seat and pallet. This allows vapors to pass through the valve. The valve reseats tightly onto the base once the tank pressure or vacuum drops below the set pressure.



The Leader in Storage Tank Safety

Enardo leads the way in providing the industry's tightest sealing tank-venting solutions to help you reduce emissions, limit product loss through evaporation, and improve Quad O compliance. Look to our experienced staff to work proactively to help you catch up, keep up, and stay ahead of changes in emissions controls and environmental regulations: www.enardo.com

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