

Total Tank Protection Inside and Out



Fully integrated solutions for advancing safety, emissions control
and maintaining product integrity.

FISHER™


EMERSON™
Process Management

Overcome Operational Challenges

Mismatched and incompatible multi-vendor systems have long been an obstacle for companies seeking total tank protection, putting employee safety, asset protection and product integrity at risk. Regulatory compliance tied to emissions control and environmental protection also becomes increasingly difficult, and often costly to achieve.

Turning such complex challenges into simple, integrated solutions that increase safety and reduce risk requires uncompromising application experience and expertise.

Emerson Process Management Regulator Technologies, Inc. (Emerson Process Management) helps you overcome operational challenges inside and out, with Single Solution Protection.



Total Tank Protection from a Single Source



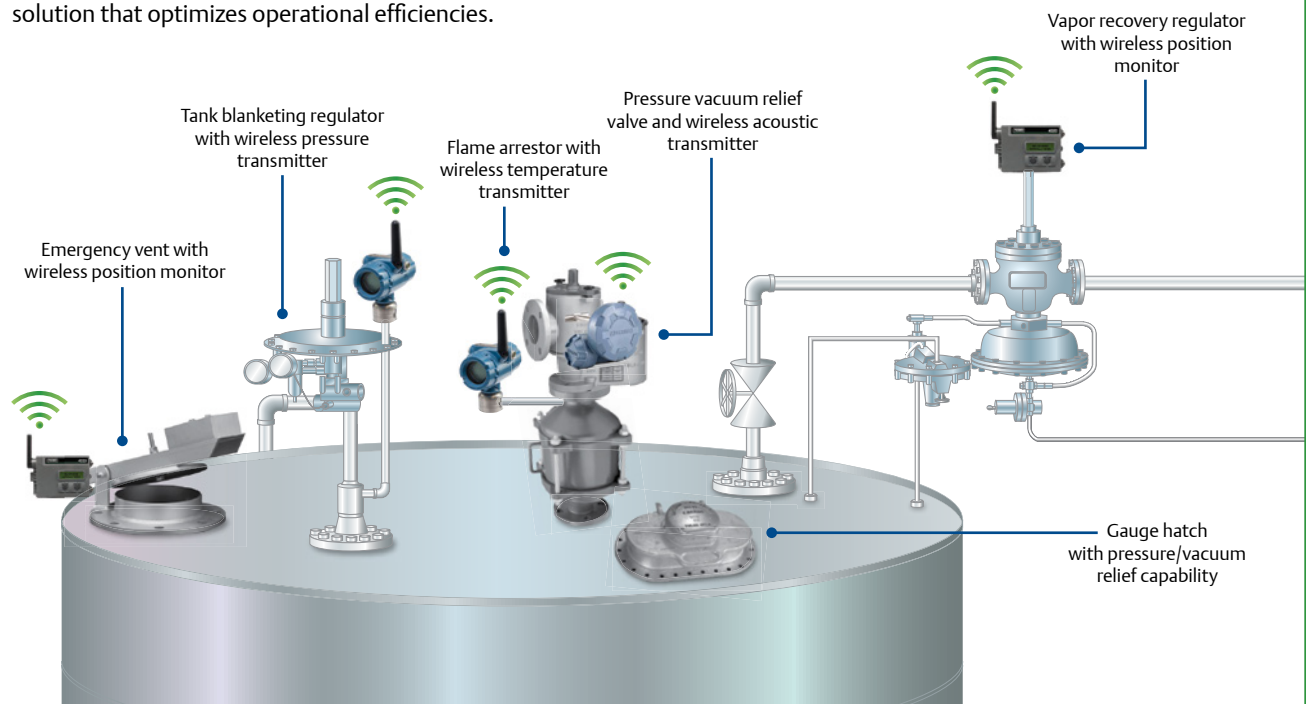
Emerson™ Single Solution Protection teams industry-leading tank blanketing and vapor recovery regulators with top-rated flame arrestors, pressure-vacuum relief valves, emergency vents and tank hatches to deliver seamless compatibility. It's the latest step in our ability to provide the widest possible array of environmental protection and safety equipment, expertise and unparalleled service across a full range of oil and gas, chemical and other industries worldwide.

Achieve optimal safety for your employees, assets and products around the globe with fully integrated solutions from Emerson, your single source for total tank protection.

Integrated, scalable solutions to fit your specific needs

What solution is right for you?

Rely on our expertise to help you create a total tank protection solution that optimizes operational efficiencies.



Safety First

Emerson™ tank blanketing solutions and emergency prevention devices increase employee safety and provide optimal asset and product protection. Our expert staff works collaboratively with you to achieve total system compatibility and effective emergency preparedness.

Manage Pressure

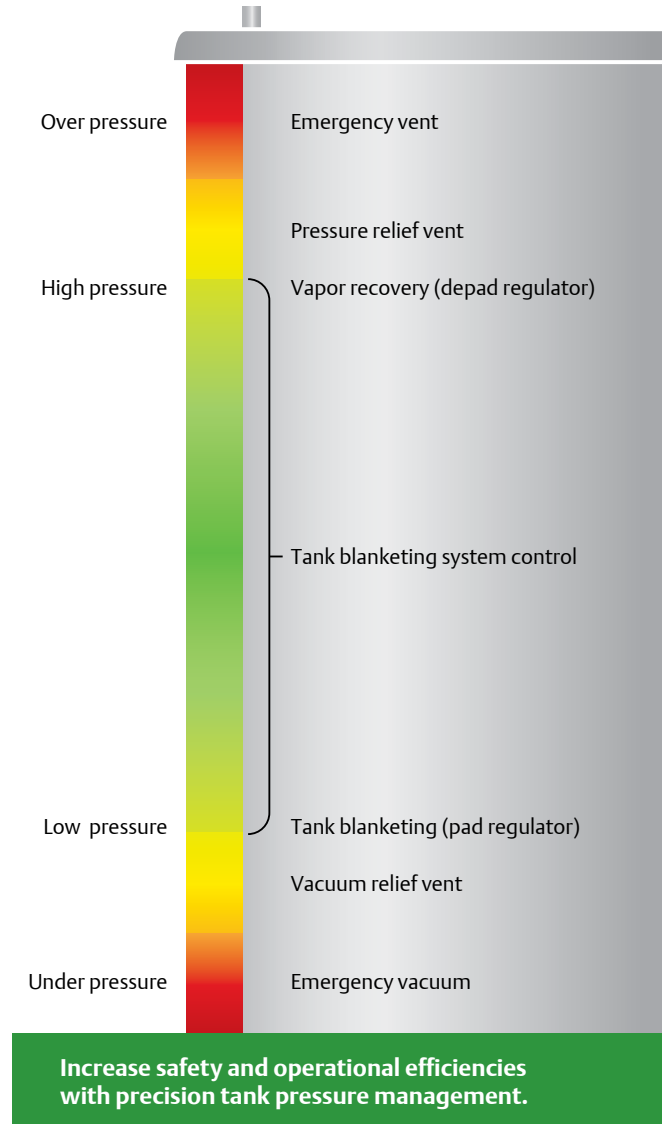
- Maintain optimal tank pressure to prevent tank damage or failure
- Ensure all system pressure set points are correct and compatible

Manage Oxygen

- Blanket tanks with inert gas to control oxygen levels, reduce contamination and maintain product integrity
- Reduce oxygen levels to minimize safety risk
- Minimize use of inert gas with low pressure set point regulators
- Maintain product integrity and reduce chance of contamination

Manage Emergencies

- Install emergency vents for added protection in the event of external fire, equipment failure, or abnormal conditions
- Install flame and detonation arrestors to:
 - Minimize or prevent fire and explosion damage to protect equipment
 - Improve safety, reduce emergency costs, and protect against personal injury



Low Cost-to-Protection Ratio

Protecting your investment with proper venting and safety equipment costs only a fraction of total capital expenditure required for building and installing storage tank facilities.





Reduce emissions, limit product loss and protect the integrity of the products in your tanks.

Emissions Control

Emerson™ pressure relief valves and vapor recovery regulators reduce emissions, limit product loss and improve regulatory compliance. Our experienced staff works proactively to help you stay ahead of changes in emissions controls and environmental regulations.

Manage Relief Pressure

- Minimize emissions with accurate and highly sensitive relief pressure control

Manage Emissions

- Reduce leakage, emissions and product loss with tighter seals

Manage Vapor Recovery

- Optimize vapor recovery efficiency to reduce emissions, improve regulatory compliance and avoid or reduce potential fines



In 2013, EPA cases resulted in criminal sentences requiring violators to pay more than \$4.5 billion in combined fines, restitution, and court-ordered environmental projects that benefit communities, and more than \$1.1 billion in civil penalties.

– U.S. EPA. Enforcement Annual Results for Fiscal Year (FY) 2013

- ▶ Reduce your risk by lowering emissions and accurately managing relief pressure.

Asset Protection

Emerson total tank protection helps avoid unexpected equipment failures that cost you time and money to repair, and put the integrity of your tanks and their contents at risk.

Product Integrity

Emerson tank blanketing solutions protect the integrity of a wide range of low- and high-pressure gaseous and liquid assets.

- Minimize oxidation to reduce contamination and maintain product integrity
- Maintain a slight positive pressure to keep contaminants from entering through tank imperfections

Tank Protection

Emerson delivers integrated solutions to protect and extend the life of your hard assets. We offer a range of tank protection products, from flame and detonation arrestors that satisfy API 2000 guidelines, to wireless monitoring and diagnostic devices.

- Extend asset life and reduce asset failure cost effectively
- Promote proactive tank maintenance
- Maximize uptime, minimize downtime



Reduce risk while increasing awareness and response time with wireless monitoring.

Remote Monitoring and Data Collection

Emerson™ wireless-ready tank-monitoring equipment detects device and system malfunctions in advance, to help reduce your risk of equipment damage and operational emergencies. Expanded data collection capabilities can help improve operational efficiencies, lower costs and aid in making more informed decisions.

- Monitor tanks from the safety of a remote control room
- Eliminate the need to climb tanks to monitor gauges
- Monitor regulator functions and receive malfunction notifications
- Respond immediately to safety and emissions events
- Monitor opening and closing of emergency pressure vacuum vents
- Detect the opening of pressure vacuum relief valves and the presence of flame
- Trace and compare nitrogen costs



Minimize Downtime



The average hourly cost of facility downtime is approximately \$12,500, but is substantially higher at many continuous process facilities.

– ABC Advisory Group

- ▶ *Wireless monitoring helps minimize your risk of downtime by anticipating problems and responding quickly.*

Best-in-class solutions for an unparalleled range of applications.

Achieve total tank protection inside and out with Emerson fully integrated solutions for tank blanketing, environmental protection, emissions control and emergency preparedness. Everything you need from a single source.

EMERSON™ PRODUCTS

SOLUTIONS

Hatches

Enardo 660



Enardo ES-660-HF



Enardo 1000



- Minimizes harmful emissions and evaporative losses
- Provides access to tanks for gauging
- Protects against excessive positive or vacuum pressure (*select models*)

Vent Valves and Pressure/Vacuum Relief Valves

Enardo 850



Enardo 950



Enardo ES-800



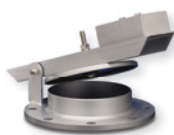
Enardo ES-900



- Minimizes harmful emissions and evaporative losses
- Protects against excessive positive or vacuum pressure

Emergency Pressure Relief Vents

Enardo 2000



Enardo 2100



Enardo 2500



- Provides additional venting capacity for storage tank emergencies when normal venting capacity is inadequate

Tank Blanketing and Vapor Recovery Regulators

Fisher® T205



Fisher Type ACE 95



Fisher Type 1290



- Regulates the flow of blanketing gas and vapor based on pressure
- Renders vapor space inert

Flame and Detonation Arrestors

Enardo DFA



Enardo Free Vent FA



Enardo Series 7FA



- Protects against propagation of deflagrations and detonations

Wireless Monitoring

Topworx™ 4310



Fisher 4320



Rosemount 648/702



- Monitors tanks from the safety of a control room
- Provides immediate notification of safety or emissions events
- Eliminates the need and cost of wiring



Industries

- Petrochemical
- Chemical
- Oil and Gas Production
- Refining
- Pharmaceutical
- Food and Beverage Production
- Pulp and Paper
- Wastewater

Applications

- Liquid Storage Tanks
- Vapor Combustion
- Vapor Recovery
- Storage Terminal Loading Systems
- Tank Degassing



Emerson™ sales, service and technical support are as close as your telephone or on the web, anywhere in the world. Our distribution network offers a full complement of expert sales and support staff, and more than 2,000 technical experts strategically located across nearly 200 offices worldwide.

Learn more about Emerson regulator technologies and emergency preparedness equipment at www.emersonprocess.com/regulators.

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