

# Complete tank expertise

Marine tank management solutions for all ship types





## See your opportunities unfold



*With 50 years of experience and innovation behind them, Damcos VRC systems deliver safety and reliability in a compact, cost-effective design.*

Any tank-related function. Any vessel. Any challenge. Emerson Process Management offers a wide variety of marine tank management solutions that broaden your opportunities for success – including more uptime, higher productivity and safer, more reliable conditions.

From systems integration down to single components, Emerson is your source for world-leading application knowledge, best-in-class products, an all-tanks system approach and consistent, expert support from start to finish.

No other company in the world offers our particular combination of superior tank-related products and expert know-how. It's a combination that comes out of decades in the business. And every day, thousands of customers around the world depend on it.

### **Widespread solutions; in-depth competence**

Emerson solutions are based on pioneering technology, unrivalled application expertise and a thorough



understanding of the conditions of the marine market. You'll find we're unique in our in-depth understanding of the details of the individual processes and our development of technologies to meet your challenges.

### 3 times the leadership

Since 2007, Emerson Process Management represent the merged resources of Rosemount Tank Radar AB, Damcos A/S and SF-Control OY – each a leader in its field of expertise. And we're all committed to helping you maximize your opportunities in tank management.

*Rosemount TankRadar pioneered marine tank gauging and has remained the indisputable knowledge leader of the industry for more than 30 years.*



*LevelDatic is an electro-pneumatic system for the measurement of levels and filling rates in all types of tanks. We have 3000 installed systems today.*

*MAS2600 is based on pressure technology for reliable and high-quality tank level and draft measurement. It can be mounted both from the tank's top and side.*





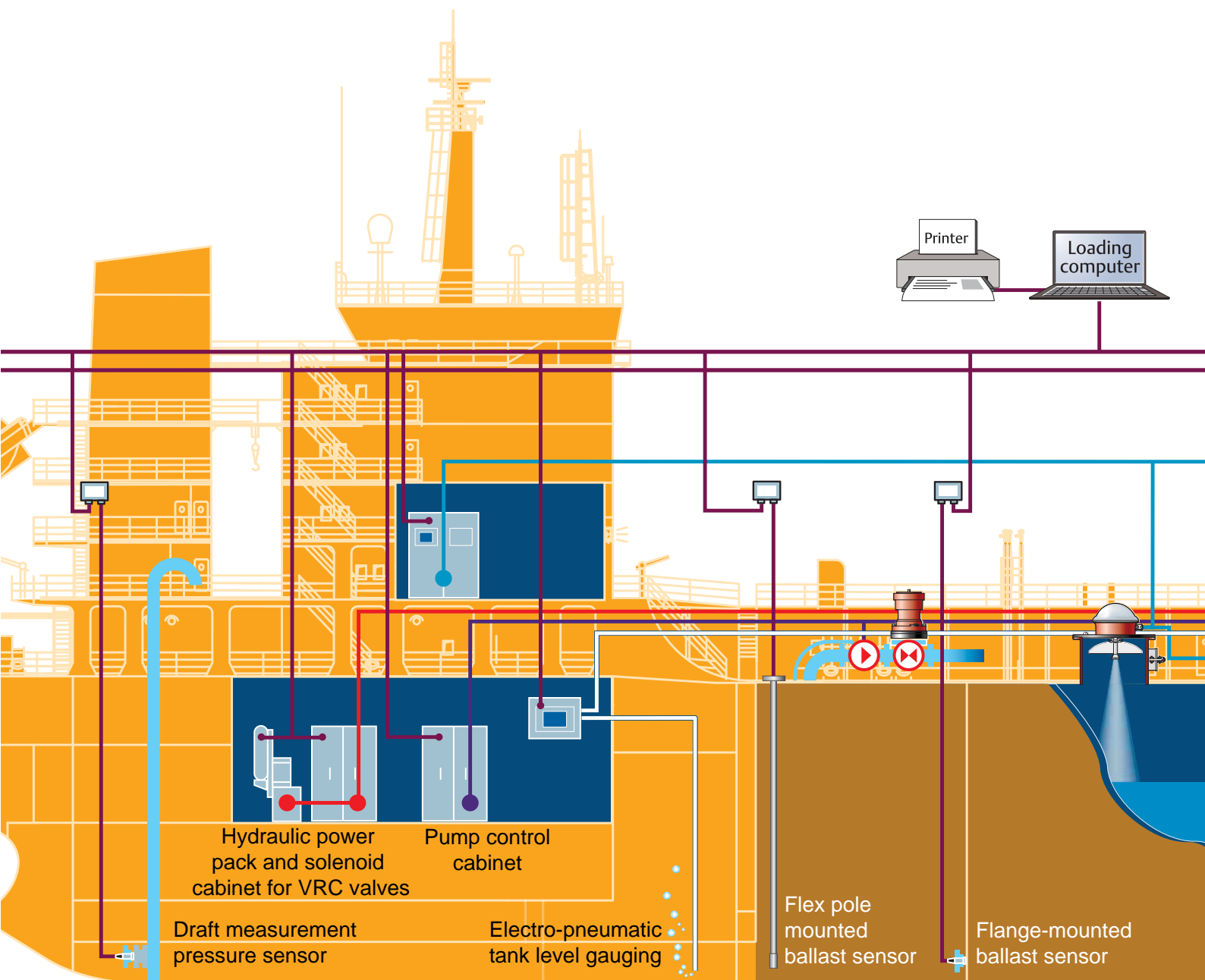
## Emerson's Marine Tank Management System. Confidence within.

Emerson's Marine Tank Management system is a complete solution for monitoring and control of all tank-related functions on any type of ship. The operator can be confident of integrity and quality in decisions with the full overview provided in the user-friendly interface. The result is a safe operation and better throughput, based on robust, reliable and timely data.

Because we build our systems from the bottom up, integrating sub-systems designed and manufactured by our own marine companies, we can meet a wide variety of requirements. And if required, we can add monitoring and control of yard-supplied systems. With our offering, engineering work is reduced and installation and commissioning is quick and easy.

We offer one-stop-shop efficiency with worldwide support in all phases, from design over to long-term profitable operation of the ship.

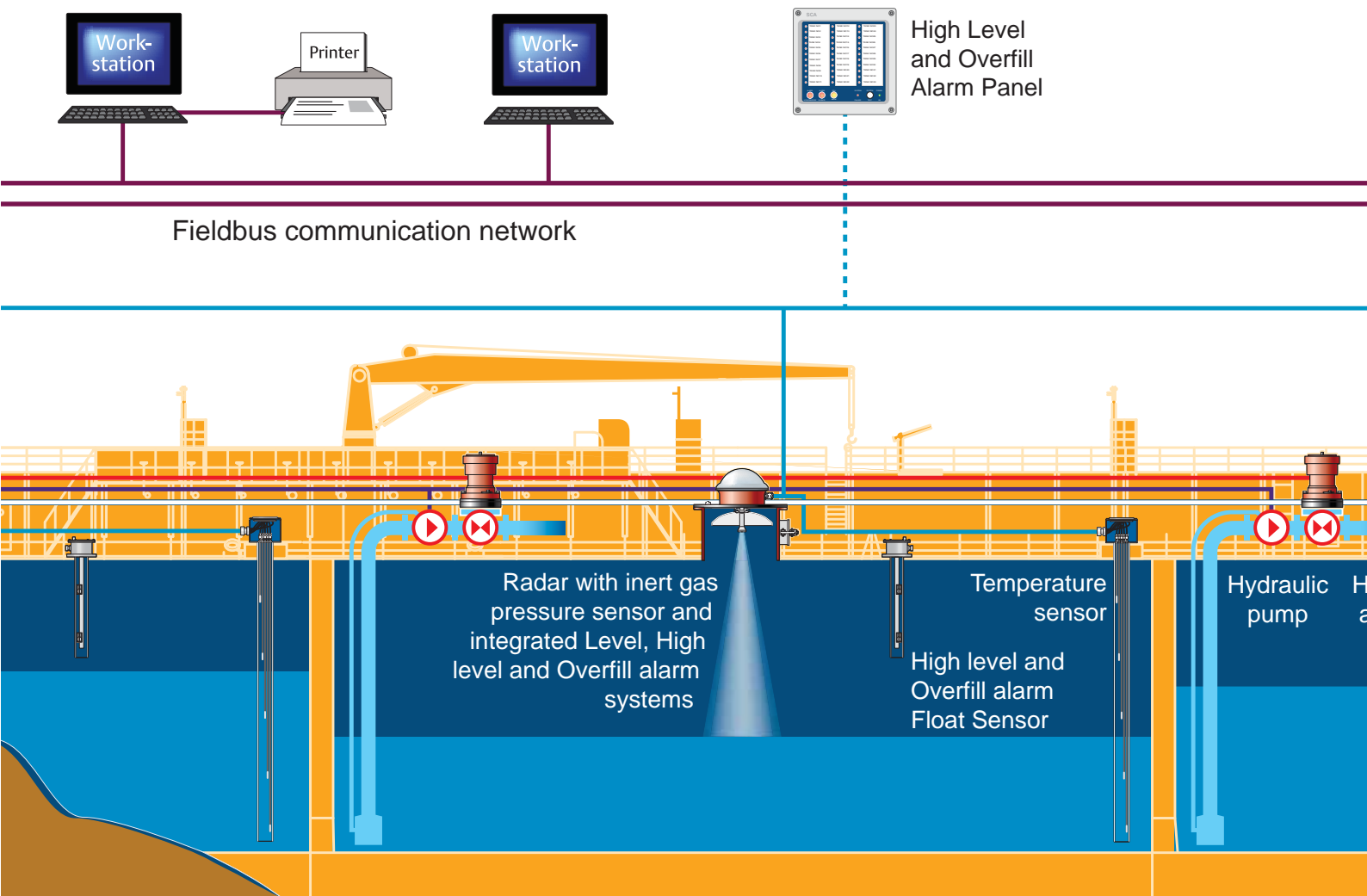




## Valve Remote Control (VRC)

**Damcos™** Due to its proven stability, flexibility and reliability, as well as long operating life and low maintenance, Damcos VRC sets the standard for the marine industry. The systems meet industry standards and authorities' requirements worldwide. We offer two types of solutions – hydraulic VRC and electro-hydraulic VRC.

- Hydraulic VRC features compact actuator design, with an exceptionally high torque while minimizing size and weight
  - Prepared for direct built-on modular control function
  - Patented multi-helical spline
  - Built-on portable hand pump
- Electro-hydraulic VRC offers an economical solution with no hydraulic piping needed, keeping installation cost down. Designed to be mounted directly on Damcos valve actuators
  - Easy adaptation and mounting on all quarter-turn and linear valves; adjustments without demounting
  - Minimum oil volume and pipe dimension
  - Hydraulic and electric position indicators
  - Customized Control Units and System Power Unit
  - Power or fieldbus controlled
  - Automatic functions and supervision
  - No System Power Unit or Solenoid Valve Cabinet needed



### Cargo Monitoring System (CMS)

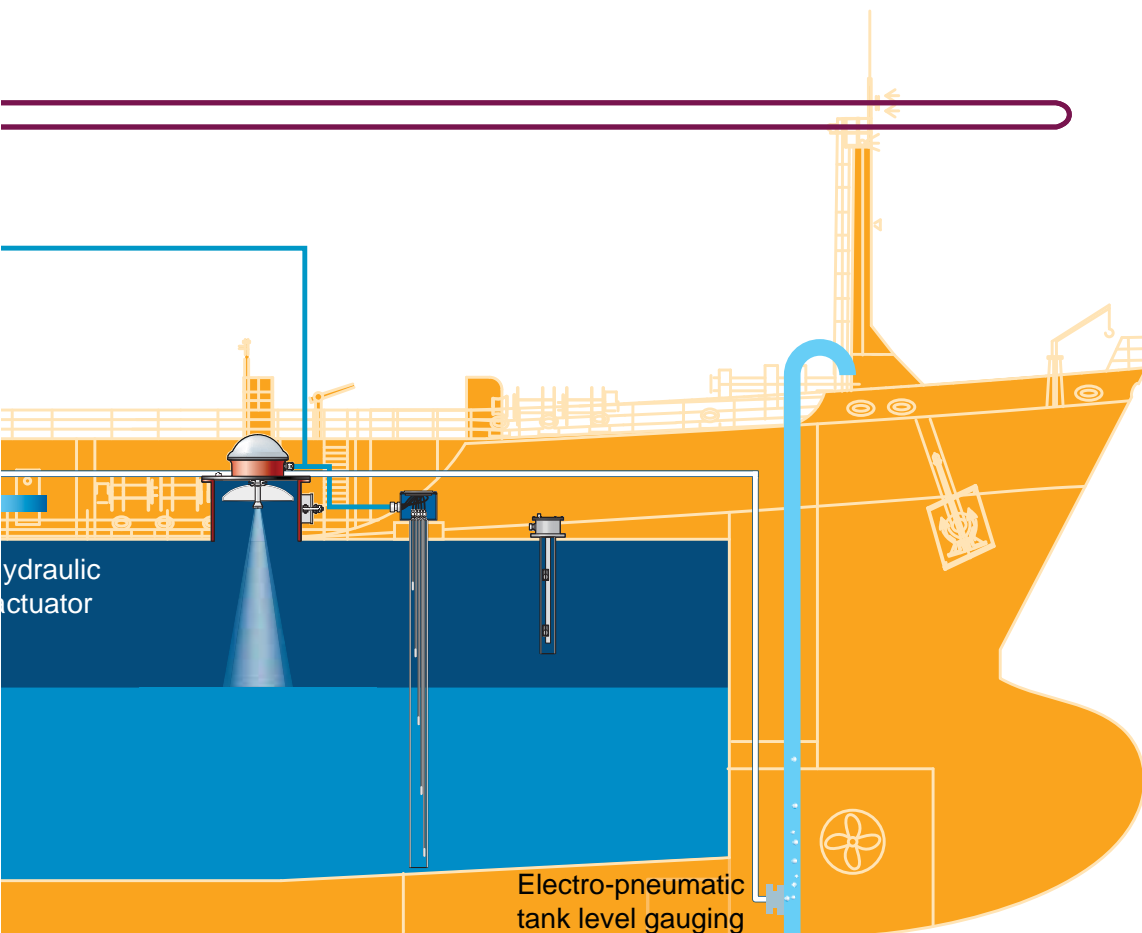
**ROSEMOUNT™ Marine** The cargo monitoring system covers functions for tank gauging, high-level and overflow control, pressure and temperature measurement as well as tank cleaning surveillance. All functions meeting the industry's requirements for safety and reliability for any ship and cargo.

- Rosemount CMS with Rosemount TankRadar gauges provides reliable and profitable operation throughout the life cycle of the ship
- Proven operating accuracy and reliability, minimizing impact from tank conditions

- No moving parts in tank – reduces maintenance cost
- Easy service and maintenance under closed tank conditions – electronics exchangeable while ship is in operation
- Service and communication display – onboard analysis, tank data monitoring and self-testing
- Rosemount TankRadar fits all tanks – wide range of gauges and antennas, for high-temperature cargo, shallow tanks, limited deck space, narrow tanks, and draft measurement
- Approved radar solution for integrated level, high-level and overfill alarm. Separate systems for data capture and information processing, meeting class society requirements

#### More solutions:

- Rosemount TankRadar CTS – Custody Transfer System for LNG carriers
- Rosemount TankRadar OFC – Radar-based overflow control for LNG carriers
- LevelDatic WIM – Water Ingress Monitoring for bulk carriers



#### Ballast & Service tank level gauging (TLG)

**LevelDatic™** LevelDatic electro-pneumatic system is a reliable solution for ballast, fuel, miscellaneous tanks and void spaces providing accurate tank level indication for all ship types.

- Reliable, high-quality level and draft measurement
  - No electrical parts inside tank
  - Virtually no maintenance cost – service in safe area
  - Low consumption of power and supply air
  - All parts interchangeable between tanks, reducing need for spare parts
- Display in cabinet for easy value monitoring and status check

**MAS2600** The MAS2600 pressure sensor is designed for level and draft measurement.

The MAS2600 provides genuine versatility with approved mounting designs, from both the tank's top and side. The sensor is robust and durable, with low maintenance requirements.

- Reliable, high-quality tank level measurement
- One sensor for all types of liquids, fully welded with titanium housing and diaphragm
  - Reduces number of spare parts
  - Capacity to handle pressure spikes
  - Seawater resistant – minimizes number of sensors in spare part set



# Expertise within Marine Tank Management

Emerson Process Management (emersonprocess.com), an Emerson business, is a leader in helping businesses automate their production, processing and distribution in the chemical, oil and gas, refining, pulp and paper, power, water and wastewater treatment, mining and metals, food and beverage, life sciences and other industries. The company combines superior products and technology with industry-specific engineering, consulting, project management and maintenance services.

Emerson's Marine Tank Management system is a complete solution for integrated control and monitoring, including alarm monitoring on any type of ship and offshore unit. The operator can be confident of integrity and quality in decisions with the full overview

provided in a user-friendly interface. The result is safe operation and better throughput, based on robust, reliable and timely data.

Our brands include Damcos for Valve Remote Control, LevelDatic and MAS2600 for Ballast & Service Tank Level Gauging and Rosemount Marine for Cargo Monitoring. We have served marine customers for more than 40 years and our solutions represent the foremost thinking within marine tank management. What really sets us apart is our dedication to the marine sector and engineering excellence. This is reflected in all aspects of our offering, from design and production, through to application know-how and global after-sales support.

For additional information please contact:

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