



MAREX VCS

TANK BALLAST SOLUTIONS –
PERFECTLY BALANCED

Rexroth
Pneumatics



Results that speak for themselves: Advantages at a glance

The true value of a product becomes evident only when you compare the total cost of ownership. The pneumatic Marex Valve Control System has a clear advantage, with 30 % lower costs.

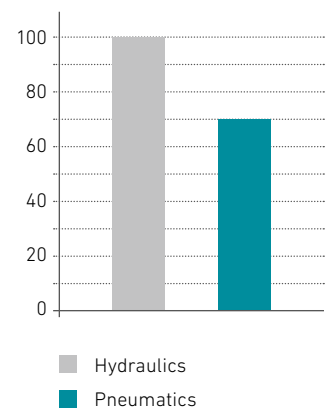
Technology

- Environment protection
- Very dependable, low-maintenance basic principle
- Reliable down to -40°C
- Purely pneumatic system (including feedback signal)
- No electrical systems installed in tanks
- Suitable for offshore applications (ATEX/explosion protection)
- Visualization on mimic panel
- Certified system
- Crew can perform maintenance independently
- Worldwide service network
- Sustainable, using air as a medium

Price

- Economically attractive
- Low material costs for
 - tubing,
 - control cabinet, and
 - compressed air preparation
- Low installation costs
- Low maintenance costs
- Easy commissioning

System price in %



30 % cheaper on average than hydraulic systems

We produce in collaboration with



ClassNK
NIPPON KAIJI KYOKAI



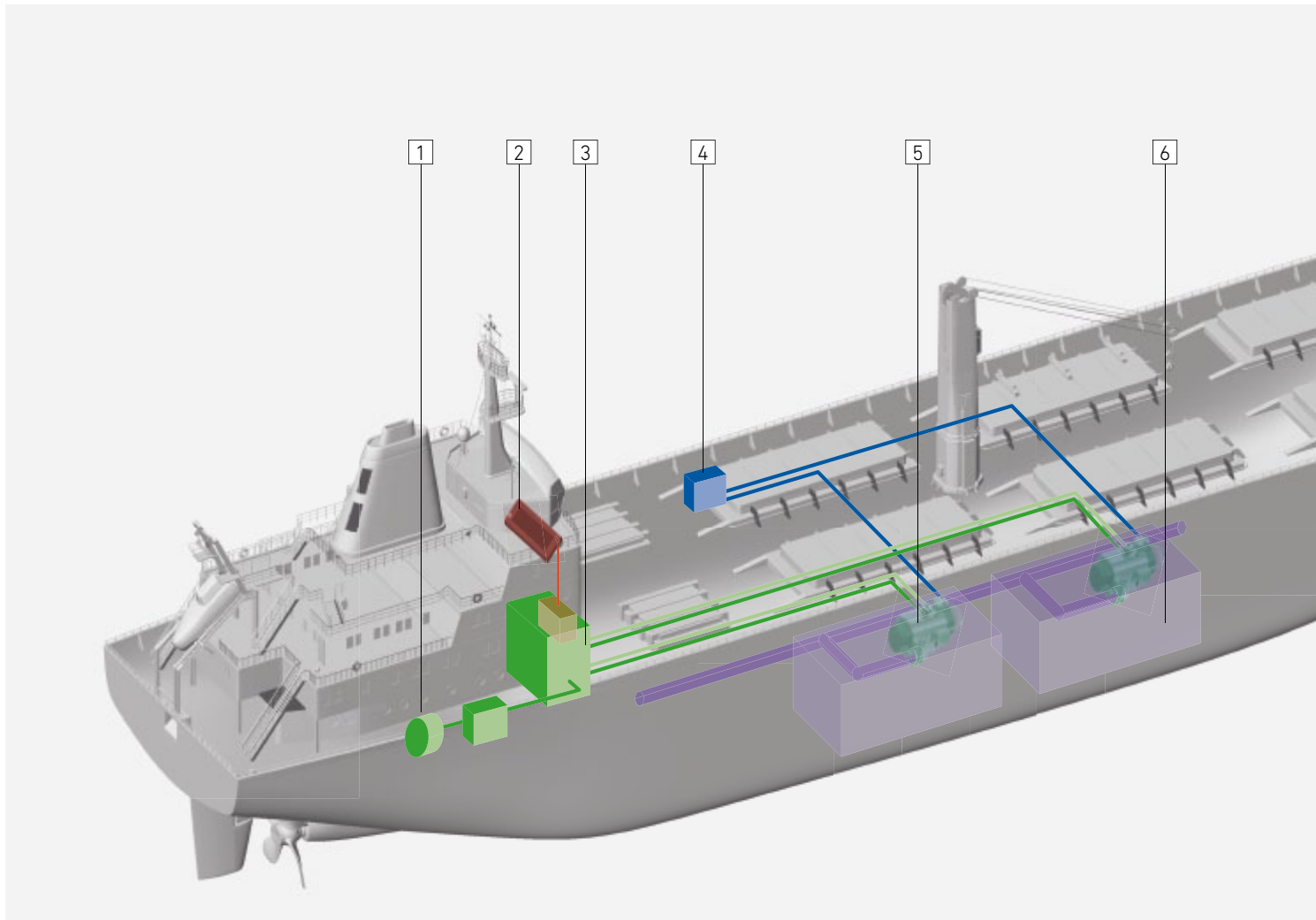
Lloyd's Register



Marex VCS

A perfect balance of reliability and economic viability

It comes with an excellent price/performance ratio, is more sustainable than hydraulic systems and extremely reliable: For over 10 years. The **V**alve **C**ontrol **S**ystem VCS from the Marex Ship Control range has performed impressively for a growing number of owners and decisionmakers at international shipyards.

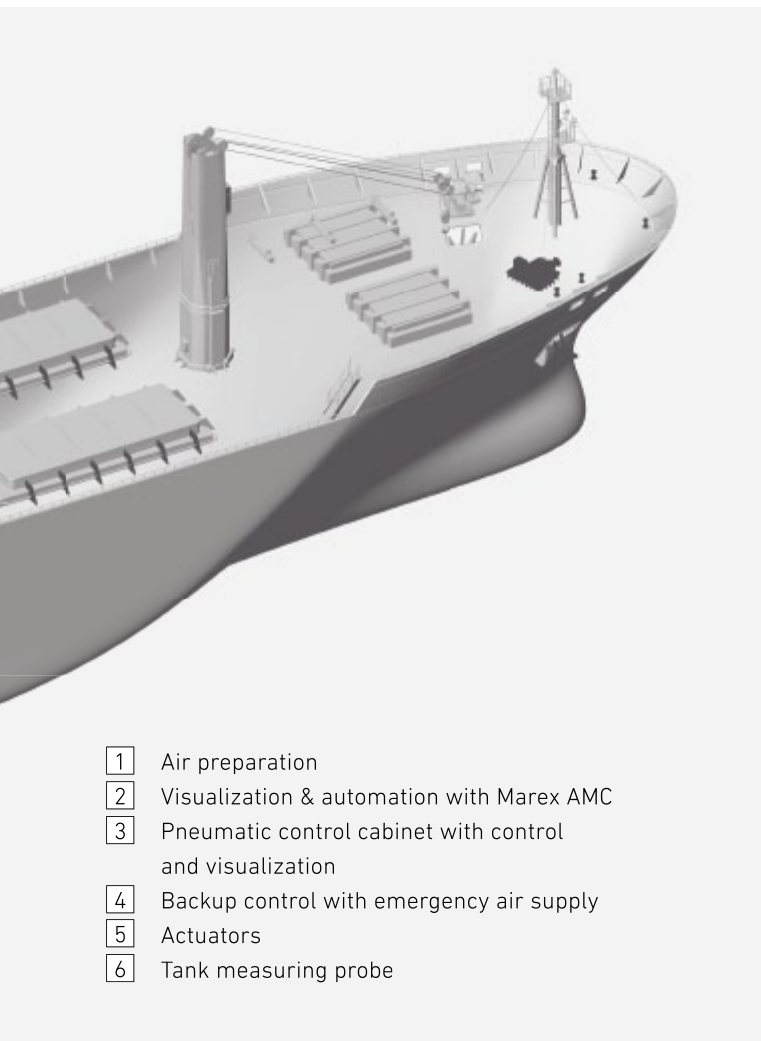


The oil-free valve control system: Cost-effective, pneumatic, environment friendly

An attractive alternative with major advantages

Unbeatable: in a direct cost comparison, a pneumatic tank-ballast system offers major advantages. Tubing, commissioning, operating medium, maintenance: Compared to hydraulic systems, the Marex VCS clearly fares better in all applications. The light, high-quality plastic tubing requires one inlet and one feedback line. The system does not require electricity and, in case of an emergency, can be operated with the simplest of means: using a manual pump.

As the Marex VCS is designed with standard components, spare parts are available worldwide. The system is easy to operate and its maintenance is simple. This is why Marex VCS is the easy, cost-effective, environmentally-friendly option for cargo management, trimming and ship stabilization.



- 1 Air preparation
- 2 Visualization & automation with Marex AMC
- 3 Pneumatic control cabinet with control and visualization
- 4 Backup control with emergency air supply
- 5 Actuators
- 6 Tank measuring probe



▲ Air preparation 1



▲ Pneumatic control cabinet with control and visualization 3



▲ Backup control with emergency air supply (sea inlet) 4



▲ Actuators 5 (submerged)

Unique system: Active feedback directly from the actuator

Marex Valve Control System segments

1. Air preparation

Air preparation unit can be used to reduce the pressure from 30 to 7 bar, which is enough to operate the entire VCS. It consists mainly of a filter and a compressed air reservoir, and all relevant components are certified.

2. Visualization & automation with Marex AMC

The interface to Marex AMC gives you structured and clear access to the information and functions provided by the systems on board. The modular system communicates via Ethernet/Profibus and features an ergonomic touch-screen controller that mimics the ship movement, as well as fail-proof operation.



▲ Visualization & automation with Marex AMC 2

3. Pneumatic control cabinet with control and visualization

The control cabinet features a completely pneumatic layout in the basic system and can be used to process pneumatic feedback, indicate the operating status on the mimic panel, and control the valves in one logic unit. A decentralized structure is also possible. In case of pilot air failure, a manual pump is enough to maintain control functions.

4. Backup control with emergency air supply

If the main system fails, the valves can be controlled via a backup control and the SOS system located outside the engine control room with the redundancy air line or manual pump.

5. Actuators

These purely pneumatic actuators can be submerged inside ballast tanks and even in hazardous areas. The actuator sends feedback signals directly and purely pneumatically, so they are independent of power. Electric feedback is available on request.

6. Tank measuring probe

With Marex AMC, tank measuring probes can optionally be integrated to simplify tank monitoring. The system is available for multiple media. There is also a completely pneumatical solution.

"The Marex VCS tank ballast system is reliable and cost effective. Not only when it comes to controlling the valves outside of the tanks, but also within them."

Frederik Dijkstra,
Damen Shipyards Bergum



AVENTICS GmbH

Product Area Marine
Ulmer Straße 4
30880 Laatzen, Germany
Tel +49 511 2136-251
www.marex-shipcontrols.com
marinesales@aventics.com



Your Contact:

Further contacts:

www.aventics.com/contact

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