

**SYSTEM**

The Hoppe Anti Heeling System is designed for compensation of the ship's heel during loading/unloading operations in port and for offshore operations. The system is made for different types of container, heavy lift, offshore supply and construction vessels, with special heel control on sailing ships and for wind load compensation on cruise vessels.

The compensation is achieved by pumping ballast water or other fluids between the heeling tanks, using mostly reversible propeller pumps as well as centrifugal pumps. The PLC unit HOMIP with integrated 6" touch screen offers screen layouts for automatic or manual control and can be connected to the ship management system via Ethernet TCP/IP, serial RS485 and RS422 interfaces. The AH-system layout is ship-specific and individual tuned for various ship types. Butterfly valves are standard components, equipped with remote operated actuators.



**FACTS, FEATURES & DIMENSIONS**

- Standard: reversible propeller pump

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- Pump dry running protection by float switches

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- Tank sensors for water level measuring

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- Butterfly valves with pneumatic or electro-hydraulic actuators

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- HOMIP with self-explaining operation screens

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- Frequency converter for VFD-motor operation

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- Pump flow rate tuned by manual motor rpm (speed) adjustment

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- Automatic flow control, including "zeroflow"

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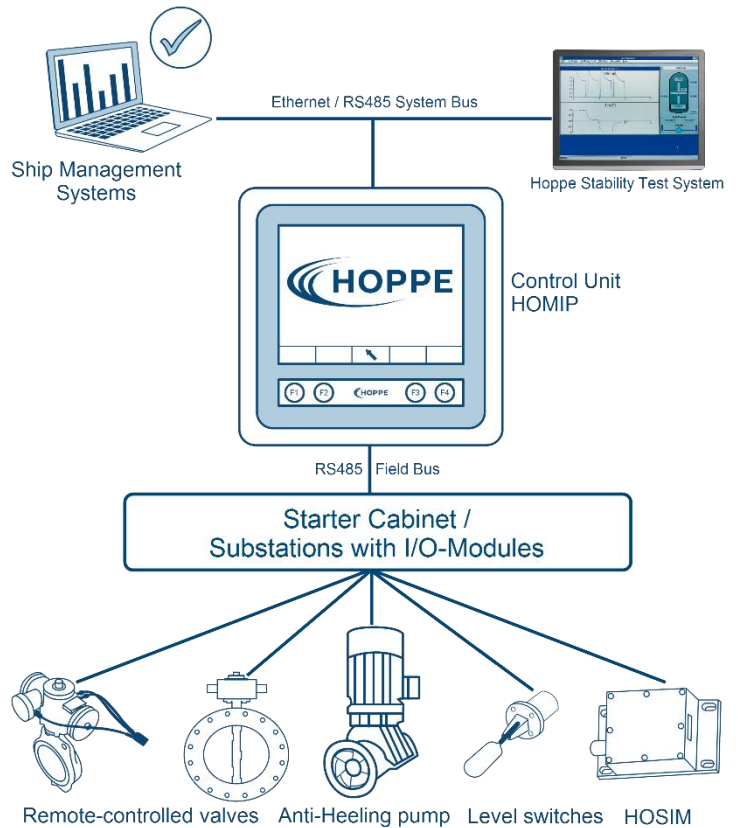
- Load Moment Control (LMC) for automatic heeling moment compensation (crane operation)

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- All components and software are type approved for marine applications

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**TECHNICAL DATA REMOTE-CONTROLLED VALVES**

Working type	Double-acting, single-acting (various types, pneumatic and hydraulic)
Working locations	Dry, temporarily or fully submerged
Valve range	DN50-DN500
Material	Aluminum, Steel, Bronze
Emergency functions	with wrench or portable hand pump



**TECHNICAL DATA ANTI-HEELING PUMP AHS**

Pump types	H250 / H300 / H400
Material	Casing G-CuSn10, Impeller G-CuAl10Ni
Power consumption	20-150 kW
Voltage	380-690V
Frequency	50Hz/60Hz
Flow rates (Pressure height)	200m³/h to 1500m³/h ( max. 20m water column)



**TECHNICAL DATA LEVEL SWITCH & LEVEL SENSOR**

Level sensor measuring range	0mbar – 4000mbar
Level sensor output signal	Analog 4...20mA, or Bus signal RS485 half-duplex
Level sensor degree of protection	IP 68; submersible up to 10 bar



**TECHNICAL DATA HOSIM**

Measuring principle	Acceleration- and temperature-compensated position measurement
Roll/Pitch angle accuracy (static)	0.07° RMS
List/Trim angle accuracy (5 min. average)	0.09° RMS
Linear temperature influence (angles)	± 0.02°/°C
Interfaces	RS422, RS485, Ethernet
Housing and protection class	Aluminum, IP68

