## SYSTEM

The Hoppe **Dynamic Draught Measurement solutions (DDM)** monitors the draught of the vessel and determines the draught values precisely at perpendiculars and draught marks during vessel voyage. In contrast to static draught measurement, the Dynamic Draught Measurement System uses additional IMU sensors (HOSIM 2) to compensate any dynamic influence during sailing. Furthermore the system delivers precise values for trim, bending and torsion under consideration of hydrodynamic effects.

The PLC unit HOMIP with a 6" Touch screen for dynamic draught calculation.
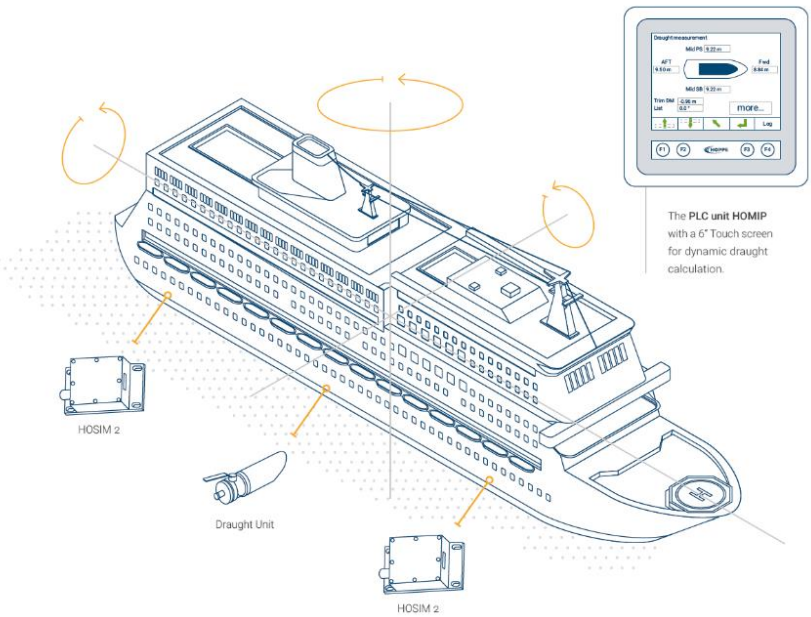
FACTS & FEATURES

-   Determination of dynamic draught values at Draught Marks

-   Calculation of dynamic trim between perpendicular by dynamic draughts

-   Calculation of bending line and torsion

-   Automatic detection of operation mode (Harbour / Sea)

-   System self-validation under consideration of bending line

-   Calculation of deepest position and respective draught

-   Retrofit with existing draught measurement systems for static input

-   Site-specific trim calculation for individual tank correction possible
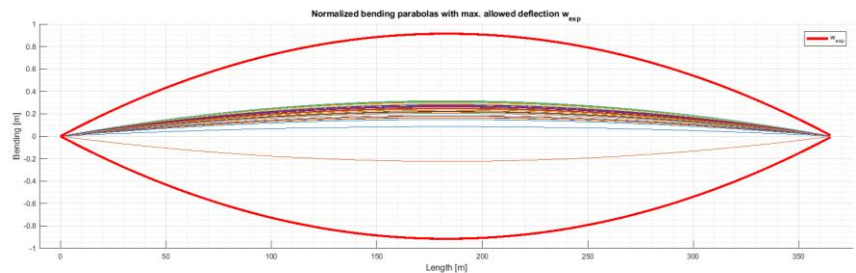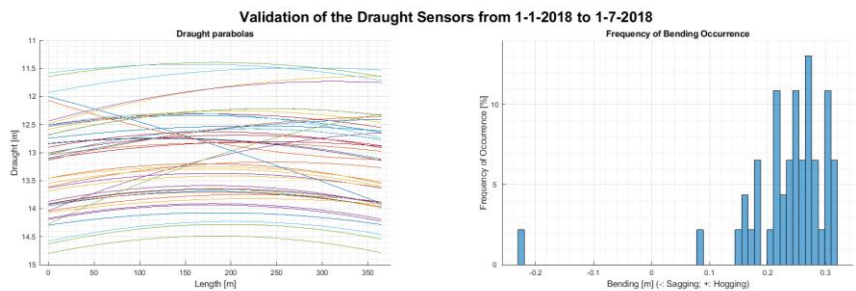
TECHNICAL DATA — HCG2011-MO4 ANALOG PRESSURE SENSOR 4…20mA

Measuring range	160mbar – 3200mbar
Output signal	4…20mA, 2-wire
Temperature measuring	via PT100
Housing material	Stainless Steel / Titanium
Degree of protection	IP 68; submersible, up to 10 bar
Application range	-40°C - +120°C

TECHNICAL DATA — HCG4011 DIGITAL BUS SENSOR

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Measuring range	0mbar – 3200mbar
Output signal	bus signal, half-duplex, interface RS485
Temperature measuring	via PT100
Housing material	Stainless Steel / Titanium
Degree of protection	IP 68; submersible, up to 10 bar
Application range	-10°C - +100°C

TECHNICAL DATA — HOSIM 2

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
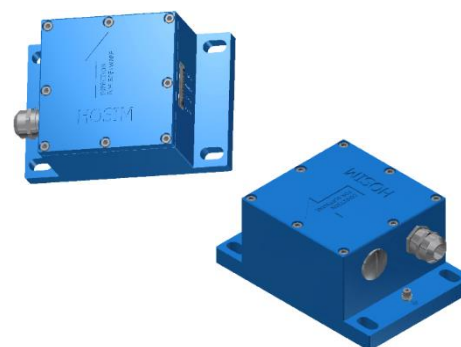
TECHNICAL DATA — CONTROL UNIT HOMIP 2

Supply voltage	24 VDC
Power consumption	15 W, approx. (30 W max.)
Interfaces	2x Ethernet RJ 45 3x USB 2.0 (1x Device, 2x Host) 2x RS 422, 6x RS 485 2x CAN 500 kbit 1x SD/MMC-Card (up to 25 MB/s)
Max. operating temperature	+5°C to +55°C