

Your visions are our standard

Göpfer[®] AG

GMS
Göpfer Maritime Systems



**Automation
Valve Remote Control
Tank Measurement**

Your visions are our standard

The Göpfert promise

Our Philosophy

The shipping industry has been living on great visions for many centuries. We contribute to realising today's visions. Each customer of ours has his individual requirements referring to maritime systems. We are aiming at developing tailor-made product solutions at competitive prices, which both satisfy your specific needs and correspond to our own quality and safety standards.

Our services

We are your competent partner in the field of valves and actuators, remote control, tank measurement and automation. Disposing of our own valve foundry and software design department, we are able to supply complete system solutions consisting of valves, actuators and the corresponding measuring and automation techniques as a single package.

Our service starts where you would not suspect it to be: We already offer assistance at the beginning of your planning stage in order to come up with product solutions which are matching your individual needs and requirements. Furthermore we do not only accompany our customers along the implementation but also after a project is finished. Our well-trained service personnel does not only conduct commission jobs but is also a reliable partner when it comes to maintenance and sourcing as well as installation of spare parts.

Our quality

Most of our system components are designed, manufactured and/or assembled in our own manufacturing sites. That is how we can meet the high demands regarding quality, product life time and safety.

We are able to guarantee an optimal interaction between all system components. Valves, actuators and automation components do not only stand for high quality on their own, but they develop their interface strength due to custom-fit calibration in system operation. Further to this we have all major classification societies in-house on a regular basis for an independent monitoring of our product quality.



GMS SMART Wave

The integrated automation control system for valve remote control, tank measurement and anti heeling

GMS SMART Visual

Display and operation of valves and pumps, tank management



Standard PC with Internet Explorer and Java. Usually three work stations located in cargo office, wheel house and engine control room

GMS SMART Level

Tank measurement and valve emergency control



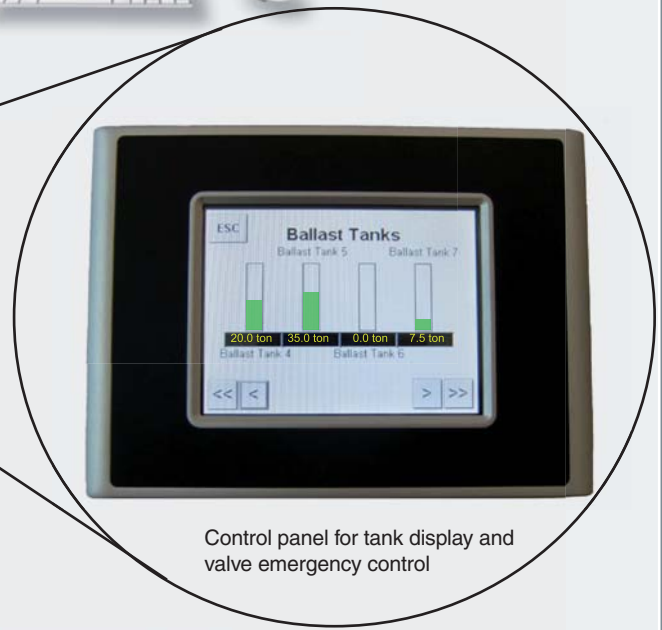
Control cabinet, usually installed in engine room



System bus for the connection of up to 62 sensors for tank measurement



System bus for analogue E/A module for the connection of valves



Control panel for tank display and valve emergency control



Tank level sensors, e.g. pressure transmitter

Valves with actuators, hydraulic type, electro-hydraulic type, electric type, pneumatic type with single acting or double acting design



GMS SMART Valve

Valve control

GMS SMART Visual Automation

GMS SMART Visual is our contribution to a reliable and easily operated automation system.

It integratively controls and displays the valve remote control system and tank measurement system. The system consists of a control software and - depending on the customers' preferences - personal computers with keyboard and mouse or touch screen TFTs.

Everything at a glance, always on top of things

With GMS SMART Visual you will never lose track of any important information. You are able to control the vessels' valves intuitively at any time - either in a manual remote control mode or in an automatic remote control mode.

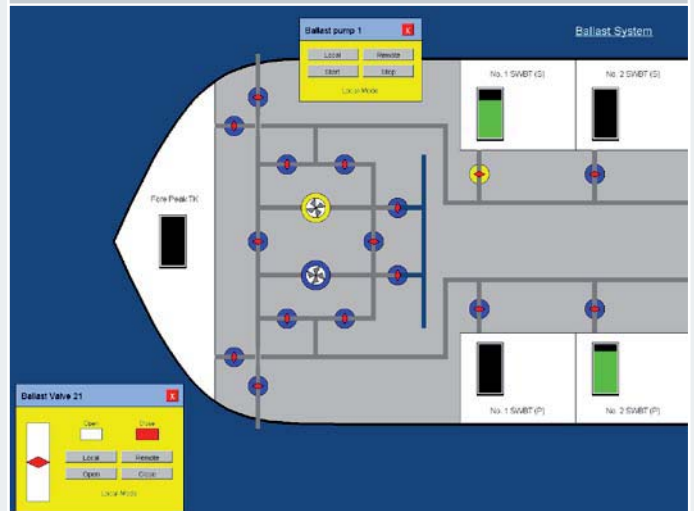
GMS SMART Visual is tailor-made and completely adjustable to a vessels' special requirements.

As a matter of course we are also able to realise switch panels (mimic diagrams) as an alternative to our computer based automation solution.

Simple connection

The software is located on the CPU controller in the valve remote control cabinet and does not need to be installed on the computer on which it shall be operated and displayed.

Thereby complicated installation procedures are eliminated - the software can be operated and displayed on every available computer, as long as it disposes of Ethernet connection and an Internet Browser such as Microsoft Internet Explorer.



Visualisation of a ballast water system in GMS SMART Visual



Operation / display
of SMART Visual
Software on computer
via Ethernet



SMART Visual
Software for valve
remote control located
on CPU controller in
cabinet



GMS SMART Visual Automation

Advanced operation

SMART Visual allows two different ways of handling the tank content.

MANUAL MODE - Operating each valve manually

By clicking on a valve the operator can open or close the respective valve.

Handling the system via the manual mode requires that the operator clearly knows which valves need to be operated in order to fill / drain a tank.

In order to further simplify the operation of the valve remote control system on a vessel, SMART Visual disposes of an alternative way of handling the tank content management.

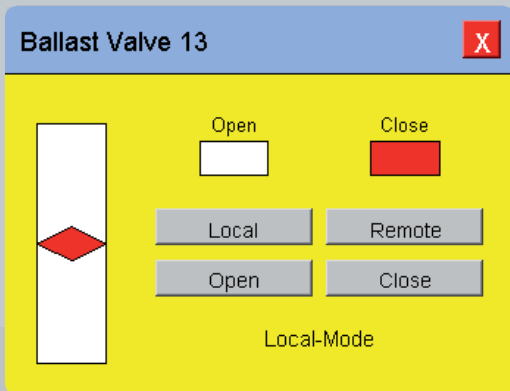
AUTOMATIC MODE -

By clicking on a tank, the user gets all the respective tank information such as current filling level, weight, density or medium temperature. Every information can be displayed as long as SMART Visual is provided with the respective signals.

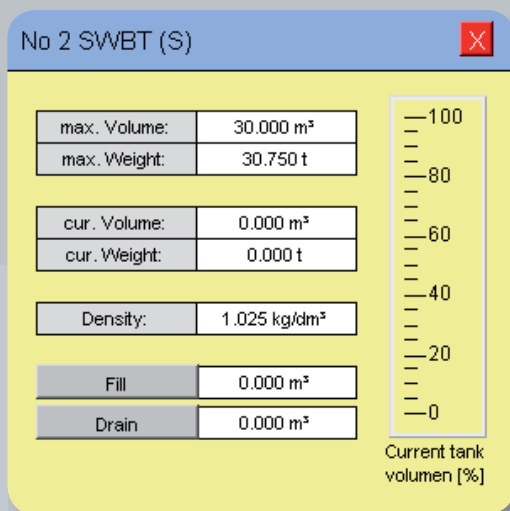
The tank information interface contains the option to enter a set point with the required filling or draining amount.

After clicking 'fill' or 'drain' the system automatically selects and operates all valves involved in the process and starts the pump. Once the required tank level is reached, the pumps stop automatically and all valves will be closed again.

The AUTOMATIC MODE can be realised smoothly, if Göpfert combines SMART Visual valve remote control with its SMART Level tank measurement system.



Individual valve / pump control in manual remote control mode



Handling of tank content in automatic remote control mode

Your visions are our standard



Our profile

- Products made in Germany
- Production area on more than 12.000 square meters in Weddingstedt, Germany
- Own foundry, which processes all kinds of materials relevant for shipbuilding and industrial applications such as bronze and copper alloys, light alloys, cast iron, nodular cast iron, steel and stainless steel in Weddingstedt, Germany
- Own design department and model section in Weddingstedt, Germany
- Modern production and assembly sites in Weddingstedt, Germany
- GMS Office in Hamburg, Germany (Design and sales)
- Large stock and flexible production to ensure fast and reliable deliveries to worldwide customers and partners



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Our product range

The product range of the Göpfert group consists of more than 30.000 articles within the field of:

- Valve remote control systems
- Tank and draught measurement systems
- Manual and remote operated valves (such as ball valves, butterfly valves, globe valves, stop valves, strainers, cocks, high pressure valves etc.)
- Actuators (hydraulic, electro-hydraulic, pneumatic, electric)
- Quick closing and quick opening systems (with type approvals from all major certification classes)
- Fire fighting equipment (such as couplings, branch pipes, nozzles, landing valves)

Your benefits

- Expertise
- High performance
- Superior quality
- at very competitive prices

Göpfert AG

GMS
Göpfert Maritime Systems



Actuators

We offer hydraulic, electro-hydraulic, electric and pneumatic driven actuators.

Our hydraulic actuators are both available with double acting design (type GHA/D) and single acting design with spring package (type GHA/S).

Rotation:	90° +/- 3°
Control pressure:	100 bar / 10 MPa
Working temp.:	-20°C up to 80°C
Torque:	50 Nm up to 8.000 Nm
Connection flange:	acc. to ISO 5211 (F05...F25)

The hydraulic actuators are suitable for submerged operation.



Hydraulic part turn actuator type GHA/S single acting with local position indicator

In case of the electro-hydraulic solution, the actuator is equipped with a local power unit including a motor and a small oil tank and thereby forms a self-contained unit with a closed hydraulic circuit.

Oil pipes to a centralised hydraulic power unit are not needed anymore and the connection to the central system is realised electrically.



Hydraulic part turn actuator type GHA/D double acting with local power unit and local position indicator

Actuators

We offer electric part turn actuators with induction motor with thermal protector.

Rotation:	90° +/- 9°
Working temp.:	-20°C up to 70°C
Torque:	20 Nm up to 9.000 Nm
Connection flange:	acc. to ISO 5211 (F05...F25)

Electric part
turn actuator
with handwheel



We offer pneumatic actuators both with double acting design (type P/D) and with single acting design with spring package (type P/S).

Rotation:	90° +/- 9°
Air supply pressure:	2,8 up to 8 bar
Working temp.:	-20°C up to 80°C
Torque:	20 Nm up to 9.000 Nm
Connection flange:	acc. to ISO 5211 (F03...F16)

Pneumatic part
turn actuator
type P/D
double acting with
local position
indicator



GMS SMART Level

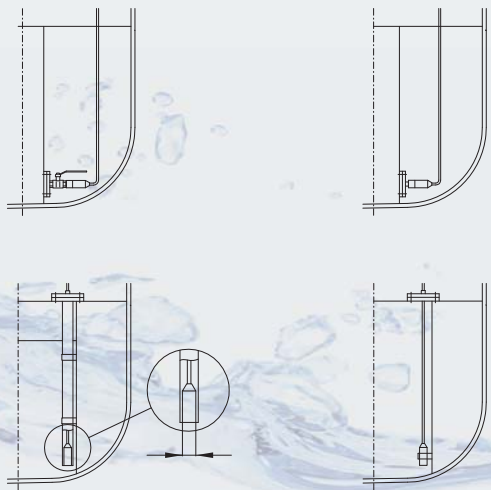
Tank Measurement

Our pressure transmitter is the all-rounder in the field of electronic tank measurement.

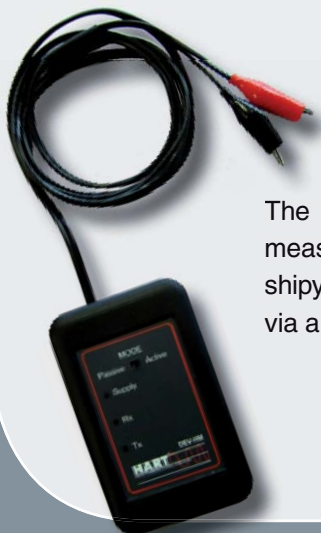
The seawater resistant body made of stainless steel allows a reliable operation of the sensor in temperature ranges from $-10\text{ }^{\circ}\text{C}$ up to $+100\text{ }^{\circ}\text{C}$ and in all tanks such as ballast, bilge, seawater or HFO.

A special advantage is the programmability of the sensor according to each desired tank height and a measuring range between $0\text{...}100\text{ mbar}$ up to $0\text{...}10\text{ bar}$.

The sensor is available both for relative and absolute measurement. An additional option is a design with included temperature detector in order to measure the temperature of the medium as well.



The sensor is suitable for all mounting positions; e.g. side mounted via flange and ball valve or submerged mounted via protection pipe or clamp.



The programming or adjusting of a measuring range can also be done at the shipyard or aboard by the vessel's crew via a HART modem.

Pressure transmitter with cover made of stainless steel in case of installation inside the tank



Pressure transmitter with flange for installation at the tank side



Bringing shipbuilding ahead

Latest footprints of the Göpfert Group



'Highland Guardian'
Platform supply vessel
(GulfMark Offshore Inc.)

Delivered scope of supply:

- Tank measurement sensors
- Electric valve remote control system
- Manual valves

Project: 8 x Platform supply vessel

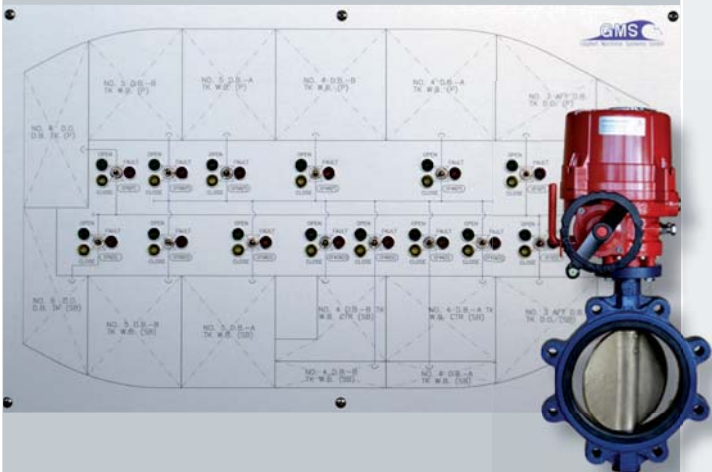
Delivered scope of supply:

- Tank measurement equipment
- manual operated valves

Project: Platform supply vessel

Delivered scope of supply:

- Electric valve remote control system
- Manual valves
- Tank measurement sensors



Project: Diving support vessel

Delivered scope of supply:

- Electric valve remote control system
- hydraulic valve remote control system

Project: Platform supply vessel

Delivered scope of supply:

- Pneumatic valve remote control system

Diving support vessel

Delivered scope of supply:

- Electric valve remote control for cross-flooding system
- Extension of hydraulic valve remote
- control system with separate cabinet



Project: Mine hunter

Delivered scope of supply:

- Electro-hydraulic valve remote control system

Valves and fittings for shipbuilding



We are offering solutions for all applications

Since 1911, Göpfert is known for products of high safety regulations and reliability due to modern production technology. Our product range covers more than 30.000 articles, most of them developed in our own design department. Göpfert disposes of its own design offices (valve design and software design for valve remote control), model construction as well as its own foundry. The treatment on CNC machines and the final assembly takes place in our modern production line. We work on copper alloys (Rg 5, Rg 10, Gbz 10, CuAl 10 Ni), light alloy, cast iron, nodular cast iron, steel and stainless steel - depending upon the type of fitting, from DN 8 - DN 600.

You are looking for tailor-made product solutions? With our technical know-how we offer you prompt and competent service of highest quality.



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