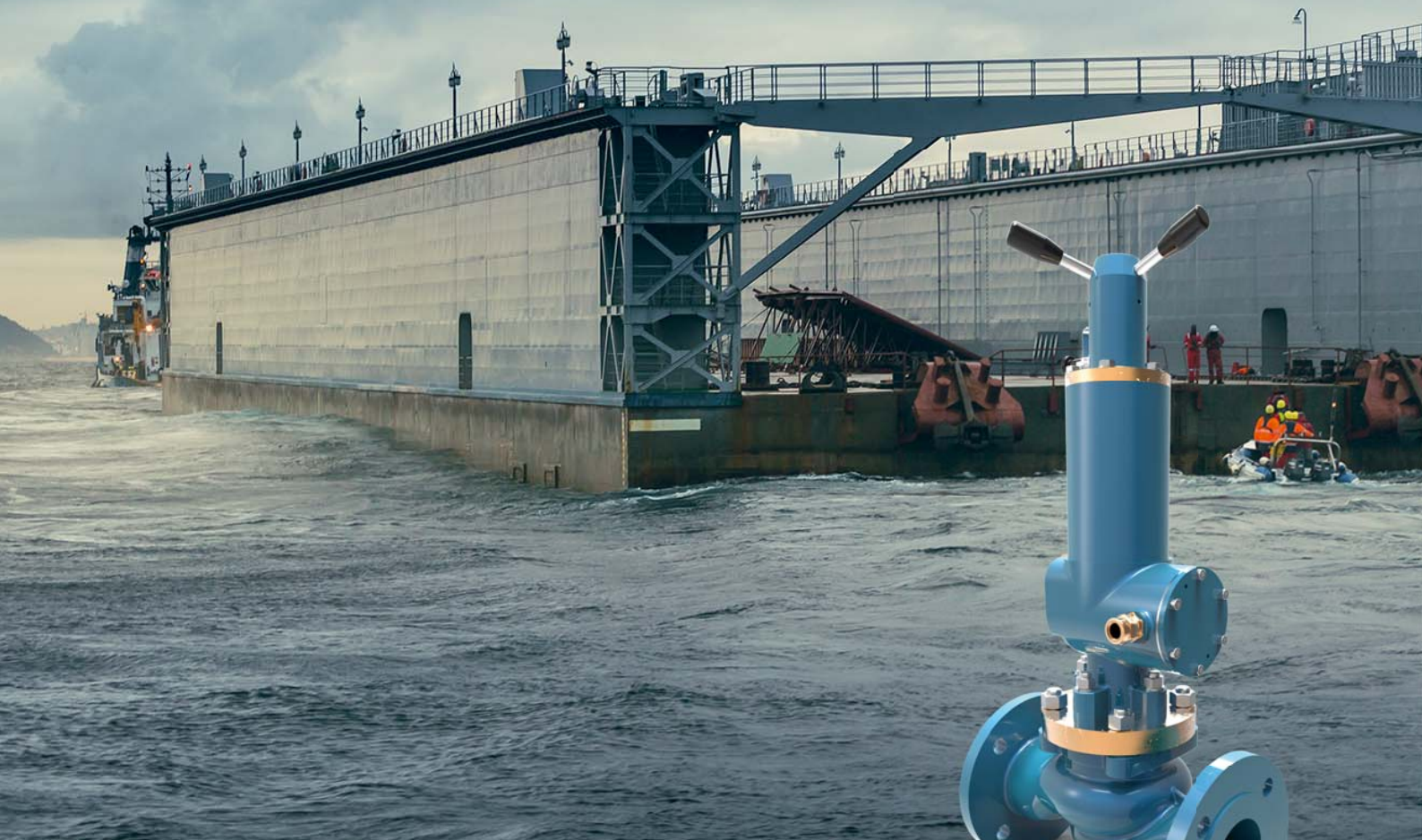


SANTORQUE

# HYDRAULIC AND ELECTRO-HYDRAULIC COMPONENTS





## HIGH-PERFORMANCE ACTUATORS

### / Meet the latest class rules in terms of materials and operating pressure

- / DNV-GL type approved
- / Actuator body made of ductile iron according to latest DNV-GL and LR rules
- / Control pressure 103 bar according to industry standard EN15714-4.

### / Easy installation due to modular design

- / Any installation orientation possible, even IP68 submerged
- / Operating conditions -55°C to +80°C, dry / submerged / on deck, winterization
- / Adjustable flange size according to ISO 5211
- / Variable shaft dimensions and shapes
- / Adjustable torque and opening/closing time
- / NAMUR connection for limit switch/positioner
- / Coating suitable for severe marine environment

### / Simple maintenance by crew

- / Very long service intervals: Tested for up to 75,000 load cycles
- / Single-acting actuators: Easy service gas pressure reservoir instead of spring pack
- / All components readily accessible
- / Reduced external hydraulic piping
- / Integrated position indication in shaft end

### / Available options:

- / Open/close limit switch or 0-100% positioner
- / Adjustable cycle time
- / Emergency operation by hand wheel or hand pump
- / Special application sealing materials
- / Special designs for offshore application (submerged, resistant, ...)



We are certified according to  
**ISO 9001:** 2015  
**ISO 14001:** 2015

Made in Germany for customers all over the seas.

# FULL TORQUE – COMPACT DESIGN

## Volume indicator

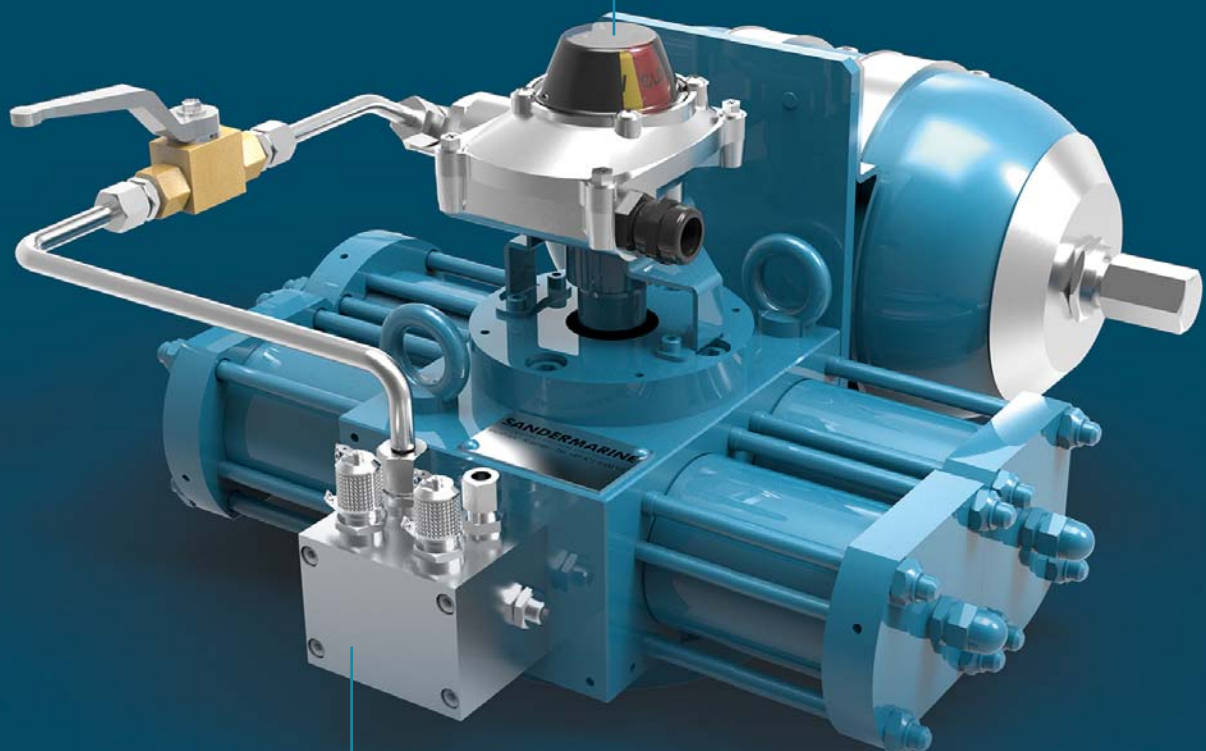
- / Installed in hydraulic control cabinet in non-hazardous, dry environment
- / Provides an analogue 4-20mA signal based on hydraulic oil volume transferred to actuator
- / Remote indication of opening angle of valve

## Limit switch

- / Installed on valve
- / Provides a digital signal indicating if the valve is open or closed
- / Protection class IP68 (permanently submerged) possible
- / Hazardous zone installation possible

## Position feedback

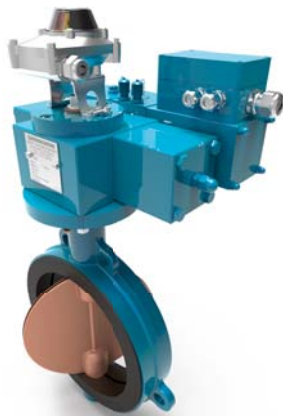
- / Installed on valve
- / Provides an analogue 4-20mA signal indicating opening angle of the valve
- / Protection class IP67 possible
- / Hazardous zone installation possible



## Control block

- / Suitable for all SANDER hydraulic actuators
- / Aluminum or bronze material
- / Allows various valve operating modes
- / Quick & Easy connection of emergency hand pump
- / Adjustable running time
- / Bypass for de-aeration of hydraulic piping system

## HYDRAULIC ACTUATORS



### Rotary actuators

- / 90° part-turn actuator for butterfly and ball valves
- / Dry and submerged service
- / Compact design
- / Flanges ISO 5211 F07 to F40
- / Square, flat or round shaft
- / Torque up to 15700 Nm
- / Body material EN-GJS-400-15

### Linear actuators

- / Used for stop and non-return valves
- / Dry and submerged installation
- / Stroke 18-30 mm
- / Compact design
- / Body material EN-GJS-400-15



## AUXILIARY EQUIPMENT

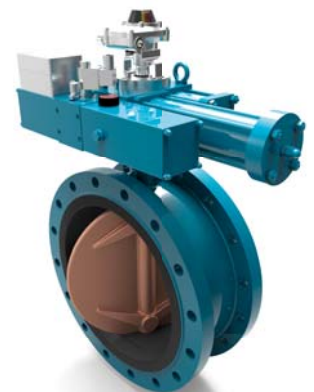


### Hydraulic power unit HPU

- / Central power supply for a hydraulic remote control valve system
- / Designed for 103 bar control pressure according to EN 15714-4
- / Wide range of operating pressure adjustable
- / Two pumps for redundancy
- / Very long maintenance intervals > 20,000 operating hours

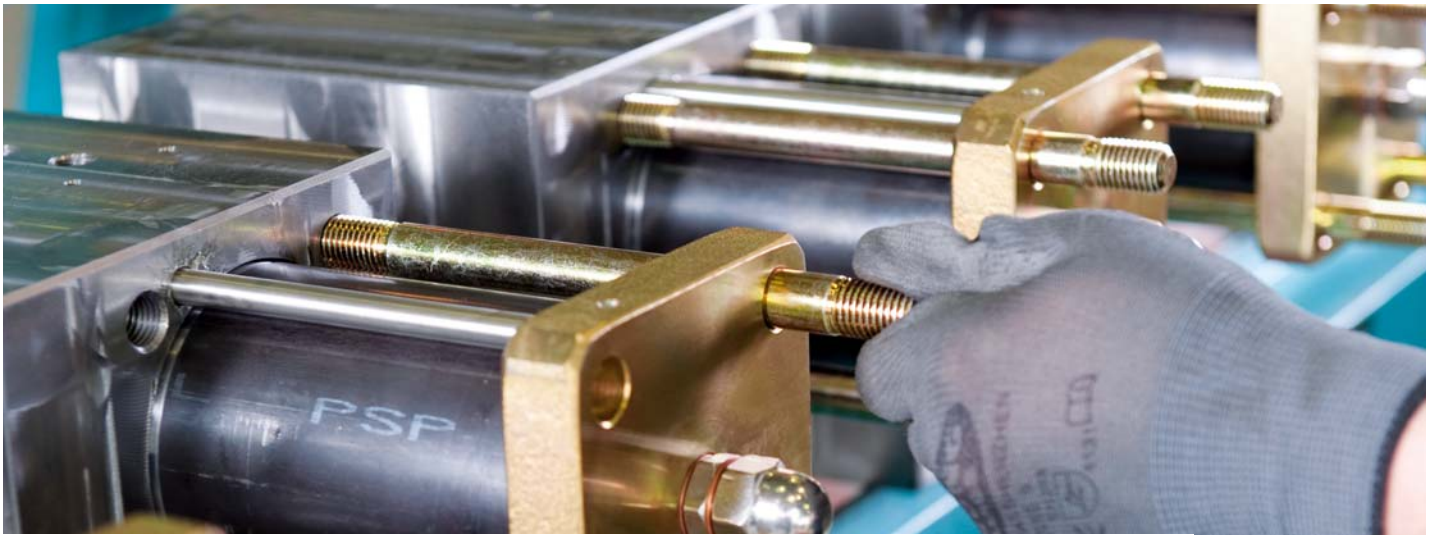
### Local power unit LPU

- / Decentralized hydraulic power supply for linear or rotary actuators
- / Designed for 103 bar control pressure according to EN 15714-4
- / LPU can be installed in any direction, mounted on actuator or separately
- / Protection class IP68 for double-acting actuators



### SANSWITCH 3.0 control unit

- / Local or remote operation of electro-hydraulic valves
- / Includes 0-100% position indication of valve
- / DNV-GL type approved according to DNVGL-CG-0339 (Nov. 2016)
- / Modbus RTU capable
- / Self-monitoring incl. preventive maintenance and automatic unblocking



## A RANGE OF RELIABLE OPTIONS

### Hydraulic actuators

Hydraulic actuators are the most commonly used devices to operate marine valves from a distance. They convert oil pressure into a 90° rotating (ball or butterfly valves) or a linear movement (non-return or stop valves).

### Hydraulic vs. electro-hydraulic

A hydraulic remote control valve system (RCVS) is operated by a central hydraulic power unit (HPU) and valve cabinet, while an electro-hydraulic RCVS is based on decentralized local power units (LPU) which open and close individual valves.

### Double- vs. single acting actuators

Standard actuators are double-acting, opening and closing is done by hydraulic power. However, some critical applications require valves which open (or close) automatically, even in case of a complete power or pressure loss. Consequently, all SANDER hydraulic actuators are also available as single-acting version: Only one direction requires hydraulic power, while the reverse direction is powered by a spring pack or gas pressure reservoir.

## SANDER MESON GROUP WORLDWIDE

The Sander Meson Group is your one-stop solution provider for fluid management. The product range includes manual valves and fittings according to DIN, ANSI and JIS standard, most of which are available from stock. In-house certification according to DNV-GL, LR, RINA and RMRS class saves cost and reduces lead time for critical spare parts.

Based on warehouses as well as sales & service stations we can provide a quick and reliable spare parts supply and technical support in:

- / SWEDEN
- / GERMANY
- / SINGAPORE
- / DENMARK
- / NORWAY
- / DUBAI
- / INDIA
- / TURKEY
- / SPAIN
- / ROMANIA
- / RUSSIA



For new building vessels and retrofits we supply:

### SANSYS

Customizable control and monitoring system

### SANVALUE

Tank level gauging system incl. SOLAS flooding detection or bunker alarm system

### SANHEEL

Anti-heeling system

### SANDER NAVY

Valves and systems according to international Navy standards

### SANCONTROL

Hydr./el.-hydr./pneum./el. remote control valve system

### SANFAST

Pneumatic or hydraulic quick closing valve system

### SANTORQUE

Hydraulic and electro-hydraulic actuators and accessories

### SANDER MARINE

After sales support and services



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