ABB MEASUREMENT & ANALYTICS

Valve positioners

For marine applications

Valve positioners
For the marine industry

ABB's industry proven EDP300 and TZIDC positioners are DNV GL certified and suitable for any control valve applications in the marine industry.

Introduction

Changing regulations in the marine industry have driven the need for ballast water treatment and measurement. Ballast water is used to stabilize vessels when not fully loaded. Water that is taken in at one port and released at another port causes the introduction of non-indigenous organisms into fragile ecosystems. Oceangoing vessels including container ships, tankers, rigs and cruise ships are major contributors to this type of pollution. The release of ballast water is now highly regulated and vessels need to install a ballast water treatment system.

ABB offers a wide portfolio of measurement products for key marine solutions – from fuel and combustion management as well as emission monitoring to ballast water treatment.

This brochure deals with the use of positioners on civil vessels and contains descriptions of ABB positioners that are suitable for valve automation in this environment. The main features of these devices are explained and the comprehensive services ABB offers for these products are presented.
Further documents are available for the positioners as described, including technical data sheets with device design and performance information.

Our sales staff will be happy to support you, even on your premises.

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For more information please visit:
abb.com/measurement

Marine applications
Our solutions

ABB´s positioner products have delivered reliability, accuracy and easy maintenance to customers world wide.

Ballast water treatment
Control valve automation using an ABB positioners. The comprehensive portfolio of digital positioners provide solutions for any single or double acting, linear or rotary valve actuator with fail safe or fail in place option on loss of the input signal.

The positioners incorporate a robust design with high immunity to vibration caused by pumps and other impacts. Thanks to the unique design of the positioner's pneumatic system its instrument air consumption during steady state is less than 0.03 kg/h (0.015 scfm) providing large energy savings and cost of ownership.

Example of oil tanker
Oil tankers are an excellent example of the wide range of applications for ABB's control valve positioners.

Typical applications
- Lube oil treatment
- Fuel treatment
- Ship cooling system
- Energy recovery
- Drainage system
- Fire extinguishing system
- Ballast water distribution
- Drinking water treatment
- Hot water preparation
- Waste water treatment

EGR (Exhaust Gas Recirculation)

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01 EGR shema
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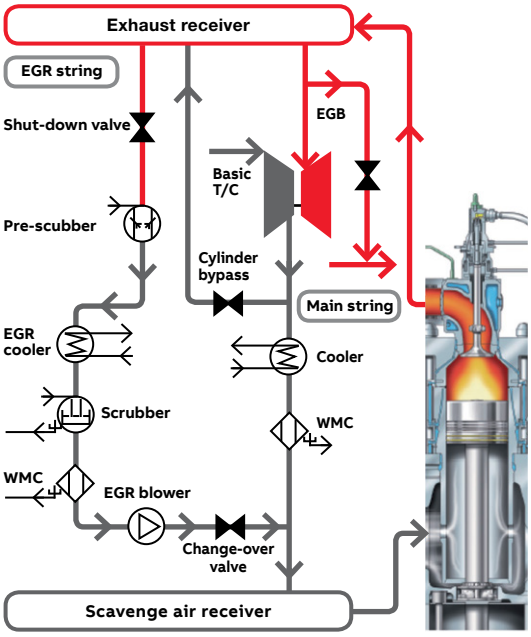
02 EDP300 with remote sensor

EGR fulfills new NO_x emission Tier III limits. Continuous oxygen monitoring on EGR with AZ10 Marine.

- Robust O_2 measurement to achieve compliance with IMO pollution rules
- Close coupled solution with HART communication and diagnostic



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01

Actuators and positioners
Valves, dampers and butterflies are essential devices in the plant. With expertise and experience built up over 100 years and countless applications worldwide, ABB provides a wide range of products to position and actuate any final control element, delivering best performance for every process in the marine industry.

- Marine approved
- Best in class shock- and continuous vibration immunity at 10 g
- Easy to operate through single button startup and autotune
- Adaptive tube function for realtime self-optimization
- Lowest air consumption in the market
  Easy to maintain through position deviation indication

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02

Digital positioners
Features

	TZIDC	EDP300
Explosion protection		
Without	●	●
Intrinsically Safe	●	●
Input / Communication		
4 to 20 mA LCI	●	
4 to 20 mA HART	●	●
PROFIBUS PA	●	
Pneumatic output		
Single acting	●	●
Double acting	●	●
Safe position		
Fail-safe	●	●
Fail-freeze	●	●
Emergency Shutdown		
ESD		●
Diagnostics		
Basic diagnostics	●	●
Advanced diagnostics		●
Valve signature		●
Partial stroke		●
Housing		
Aluminum	●	●
Stainless steel		●
Supply pressure		
Up to 6 bar (90 psi)	●	●
Up to 10 bar (145 psi)		●
Air capacity		
Up to 10 Nm^3/h (6 scfm)	●	●
Up to 40 Nm^3/h (23 scfm)		●
Position sensor		
Potentiometer	●	●
Contactless sensor		●
Remote version		
With HART communication	●	●

Valve positioners
Application solutions

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01 EDP300 digital positioner
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02 TZIDC digital positioner
—
03 EDP300 with remote sensor
—
04 EDP300 digital positioner with stainless steel housing

Standard and advanced applications
Whatever the application ABB can provide the solution. The TZIDC positioner family is ideal for a wide range of standard applications with basic valve diagnostics, while the EDP300 positioner is ideal for advanced applications providing comprehensive valve diagnostic and valve health reports.

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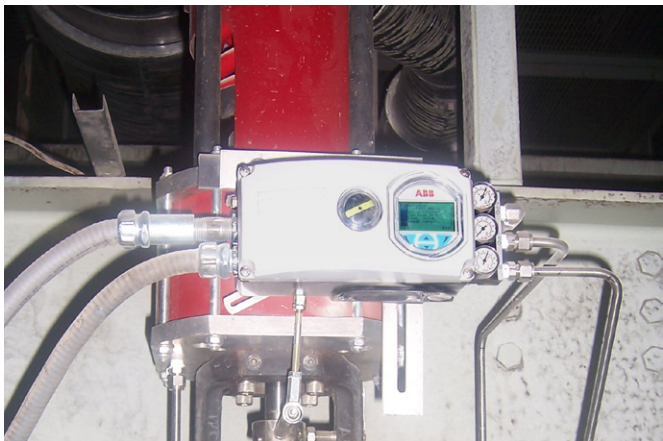
— 02

Remote mount positioners
For difficult to reach valve applications the EDP300 with remote position sensor provides the ideal solution. The sensor is mounted on the control valve while the electronics with the user access interface is located in an easy to reach location, the typical distance between the positioner and the remote sensor is 10 meters (32 ft.).

— 03

For harsh and corrosive environments
The EDP300 positioner is available in a robust stainless steel housing suitable for harsh and corrosive applications. Thanks to its HART communication capability remote access is possible via the user friendly FDI PC based Field Information Manager for programming and valve heath monitoring.

— 04



Benefits covered by ABB positioner
For us is relationship a partnership

The aim of a ship-owner is to make the vessel as economical as possible while ensuring maximum safety. The initial investment costs of the control equipment on the ship play an important role to ensure reliability and high performance under any condition, the equipment should be easy to operate and maintain.

When looking at the total lifetime, further factors are economically relevant. In particular, the operating and maintenance costs that is essential for the competitiveness of a ship and crucial to the success of the fleet.

The ABB digital positioners meets the requirements providing robust design, user friendly functionality and low cost of ownership with its unique low air consumption design.

Competence always close to you
As soon as a task becomes a little more complex, and positioners are components of systems of varying complexity, nothing replaces direct consultation with one of our sales staff. This ensures that the correct positioner is selected. ABB has a global distribution network with subsidiaries and agencies across the world. ABB sales staff are kept up to date on the latest developments in regular sales training courses.

Your advantage
Competent advice is available all over the world on the ABB products and device selection assistance – within your reach.

Comprehensive service
What applies to advice applies equally to service. Our sales network is also a service network. We leave you with our devices.

Our service technicians know the ABB devices inside out and hardly any technical facts in the operational environment of the devices are unknown to them. And if such a case does arise, then the ABB service network contains the collected ‘Best Practice’-treasure at your disposal. The ABB service offers our customers worldwide comprehensive services for positioners.

Our wide range of services accompanies you from installation and commissioning to training, maintenance and repair through to worldwide spare parts dispatch. We guarantee the availability of spare parts for at least ten years after the discontinuation of a product.

In the right place at the right time
Downtime is costly. Here, service calls have to be carried out exactly plan. When a ship moors in port, the ABB service technician is at your service. Already ready, equipped with the necessary permits, the right spare parts and the necessary tools.

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