

# Disssolved Oxygen Analysers



## DO402G

4-wire dissolved oxygen analyser

## DO202G

2-wire dissolved oxygen analyser

Distribué par :



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A Yokogawa Commitment to Industry

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**YOKOGAWA** 

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The clear path to operational excellence

*“...Because water quality is critical to your process and your world...”*

As a global citizen, Yokogawa is fully aware that water is a precious natural resource and as a global supplier, we know that water quality is a critical factor in the biotechnical process industries. Our response to growing environmental and quality concerns is the EXA DO402 and DO202 dissolved oxygen analyser system. This system is designed to monitoring water quality in water and wastewater treatment plants and in biotechnical processes requiring precise measurement of oxygen levels.

Yokogawa's Dissolved Oxygen analyser systems have been developed with broad range flexibility making it equally suitable for measurement in aerobic and anaerobic water treatment processes. The EXA Dissolved Oxygen analysers give accurate measurement and has built-in compensation for factors that can influence oxygen levels including temperature, barometric pressure and salinity levels. These automatically compensated values can be presented as ppm, mg/litre, ppb or as percentage saturation.



The key word to describe Yokogawa's Dissolved Oxygen analyzers is, however, reliability at both ends of the analytical process. with yes/no dialogues.

The sensor solutions give fast, precise response and are designed for reliable performance at low maintenance. The EXA transmitters combine microprocessor-based diagnostics with an easy operator interface, guiding operators through programming menus



#### **Galvanic cell sensors for water quality monitoring**

The EXA Dissolved Oxygen water quality solution starts with the Yokogawa DO30 sensor, which gives continuous accurate measurement at low maintenance. It is designed for use in water treatment plants such as sewage treatment works, effluent activated sludge processing and potable water treatment. It is also well suited to monitoring of the quality of surface waters such as in rivers and lakes, and in intake protection and fish farming. Depending on the application, the DO30 sensor is supplied with either the PB30 floating ball fitting or FD30 immersion fitting.



***“...continuous reliable performance...”***

#### **FD30 Immersion fitting**

When the DO30 sensor is installed in tanks, open vessels or drains, a FD30 PVC immersion fitting is placed at the measurement point. This point needs to be selected so that the sensor remains immersed at all times. The immersion fitting has a sensor membrane checking facility and is supplied with a cable in lengths of between 0.5 and 2.0 m and if required, with a flange mounting.

When supplied without a flange, a mounting set and jet cleaner are offered as options. The jet cleaner is recommended for applications with heavy solid loads in order to prevent build-up of deposits and consequently, fouling of the sensor membrane. Regular cleaning by spraying water or air can extend the period of continuous measurement at reduced maintenance. The EXA DO402 analyser has a built-in auto-wash timer for cleaning of the sensor membrane. The sprayer has a built-in (no return) valve to prevent process liquid penetrating the cleaning system.



#### **Floating ball fitting**

The PB30 floating ball fitting ensures accurate measurement at low maintenance. The constant movement of the floating ball with wave action at the tank surface provides good flow for sampling at the membrane surface. The floating ball also assures a constant insertion depth without edges or hollows to collect deposits that cause fouling.

The sensor is surrounded by a brass ring, which facilitates checking the membrane integrity. As the sensor and floating ball are precisely aligned, they can be lifted out of the water for easy cleaning. But basically, maintenance is easy and only periodic inspections and calibrations are required. For convenience, the PB30 floating ball can be fitted with a winch mounting mechanism, specified as a complete unit with the sensor and cable.



**“...Yokogawa's DO402, DO202 analysers and application-specific sensors require a minimum of maintenance...”**

**Polarographic sensors for bio-processing applications**

Dissolved oxygen is an effective way of monitoring various biochemical processes. But because of the harsh process conditions, many DO sensors are unreliable and require constant maintenance with the result, costs are high and the lifetime of the sensor is short. There is now an effective solution; the Yokogawa EXA DO402 and DO202 analysers with the Oxyferm (ppm) and Oxygold (ppb) sensor. This durable sensor has been designed specifically for harsh biotechnical process conditions to give long-term stability at low maintenance.

Most dissolved oxygen sensors operate on the principle of oxygen reduction at the surface of a noble metal electrode (cathode). But this design is known to lead to problems during calibration, not the least because of interference from other substances. These problems have been addressed in the Oxyferm and Oxygold electrodes by covering the polarographic sensor with a gas permeable membrane. This membrane technology makes the difference. The OXYferm and OXYgold have a laminated membrane, comprising a thin layer of TEFLON for high selectivity and fast response, silicone rubber for elasticity, and steel mesh for mechanical stability. This unique combination ensures that the membrane can withstand the rigors of steam sterilisation up to a temperature of 130°C without cracking or the membrane pushing out.

**Model and Suffix Codes**

**DO402G**

Model	Suffix code	Option code	Description
DO402G			Converter for dissolved oxygen
	-E		Always E
Supply Voltage	-1		115 Volts 50/60Hz
	-2		230 Volts 50/60Hz
	-4		24 Volts DC
	-5		100 Volts 50/60Hz
Instruction manual		-E	English language
Options		/U	Pipe and wall mounting hardware
		/PM	Panel mounting hardware
		/Q	Quality certificate
		/SCT	Stainless steel tag

**DO202G**

Model	Suffix code	Option code	Description
DO202G(S)			Dissolved oxygen transmitter General Purpose version
Type	-A		Milli-amp (HART) version
	-F		Foundation Fieldbus version
	-P		Profibus PA version
		-E	Always E
Options		-H	Hood for Sun Protection
		-U	Pipe & wall mounting hardware
		-SCT	Stainless steel tagplate
		-Q	Calibration certificate

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What does Yokogawa **vigilance** mean to the future of your business? **Quality.** Through products that are built from the ground up and tested to the last hour, you're ensured continuous operation and more uptime. **Innovation.** Your business will benefit from new insights and capabilities, bringing true predictability to your process. **Foresight.** As the market changes, you'll have solutions that give you the continuity and flexibility to plan ahead and grow. Our partners know the difference. With Yokogawa, you can count on a lifetime of plant efficiency, from instrumentation to operation support. Let us be vigilant about your business.

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