OFS Online Fluid Sensoric GmbH

Gesellschaft für analytische und meßtechnische Systeme

O2-Control

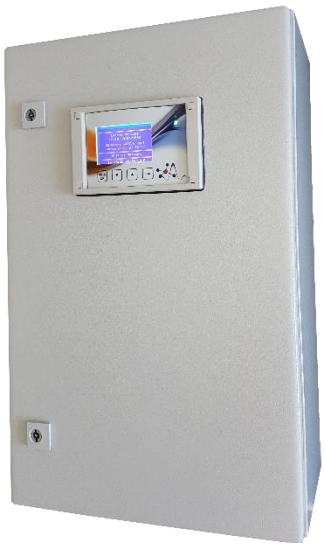
- innovative concept for sustainable energy and cost savings on feed water boilers -

O2-Control offers an efficient way to save energy and costs especially on feed water boilers. On individual systems, a savings potential of up to 80% of the exhaust vapour losses is detectable. Regardless, O2-Control offers an efficiency measure within the framework of the energy management system according to ISO 50001.

O2-Control analyzes and optimizes the water quality of the boiler feed water. Thanks to continuous monitoring, O2-Control can react very dynamically to load fluctuations and work very efficiently. Chemicals are only dosed according to qualitative requirements and not according to quantitative specifications. Detected oxygen-free space allows a saving of previous losses of the exhausted vapour, under certain conditions up to 80% of the total exhaust vapour losses.

To prevent deposits and/or corrosion in boilers, conditioning agents are added. Due to the fully automatic, constant measurement and monitoring of the feed water, a quality-related needs-based instead of a rigid quantity dosage of the conditioning agent takes place.

This leads to a significant reduction in the used chemicals, with up to 60% savings achieved. The consequence is that a higher thickening is achieved in the steam boiler. This entails a reduction in energy losses and quantities of blowdown.



The oxygen electrode integrated in the device enables direct oxygen monitoring, which eliminates the indirect measurement of the sulfite concentration. By appropriate dosage, the chemical use is reduced and the analytical efficiency of the boiler operation significantly improved. Furthermore, a connected vapour valve can be closed during the oxygen-free and exhaust vapour losses can be saved.

The measured values of the residual oxygen content as well as the process values for metering and closing times for the exhaust vapour valve are stored with a time stamp in an electronic diary and can be transferred to an external PC via a data stick and evaluated there.

Measured values and process data are visualized in the display and the dosing pumps are activated as required and necessary. Optionally, O2-Control also offers the option of networking with higher-level control centers.

An automatic function check is used to monitor the functionality and to trigger an alarm if errors are detected. This also applies to the connected dosing stations and dosing pumps.

Service requests are signaled on the display and managed and processed analogously to the process values.

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TÜV PROFI CERT ISO 9001 73 100 1248

TECHNICAL DATA

Dimension in case:	380 x 600 x 210 mm (W x H x D), wall mounted
Weight:	about 20 kg
Surrounding temperature:	5 °C ... 50 °C
Relative humidity:	20 % ... 80 %
Cooling water connection:	shut-off branch ½“ internal thread
Cooling medium:	pressurized supplemental water, 1…10 bar, 5...20 °C
Hot and feed water connection:	shut-off branch ¼“ internal thread with upstream hot water magnetic filter 100µm
Quality hot and feed water:	pressure afflicted, max. 10 bar, low-carbon and sediment-free
Drainage:	pressure-free, PA pipes OD 15 mm und OD 8 mm

OPERATING DATA

Oxygen measuring range:	0,001 mg/l … oxygen saturation (temperature compensated)
Measuring cycles:	continuously
Threshold value concentration:	parameterized 10 … 100 µg/l dissolved oxygen
Threshold value duration:	parameterized 1 .. 100 minutes
Dosing cycles:	depending on threshold values (oxygen)
Dosing chemical:	sodium sulfite
Sensor control:	automatically
Operating time sensors:	about 6...12 months, without warranty
Signaling:	collective alarm dosing stations and sensor service
Optional:	control vapour valve

ELECTRICAL CONNECTIONS

Power supply:	power supply unit: 230 Volt, 50 Hz (protection class I)
Operating voltage:	about 20 Watt
Alarm contacts:	potential-free changeover contact, max. 230 Volt, 10 A
Dosing pumps	active current loop 4..20 mA, max. 500 Ohm (oxygen binders)
Collective fault dosing alarm:	potential-free input
Boiler or feed water operation:	query make or break contact, potential-free
Optional:	ethernet connection with TCP / IP network protocol and encoding: Binary or ASCII execution
Optional:	exhaust vapour valve control potential-free changeover contact max. 230 Volt, 10 A, normally open

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