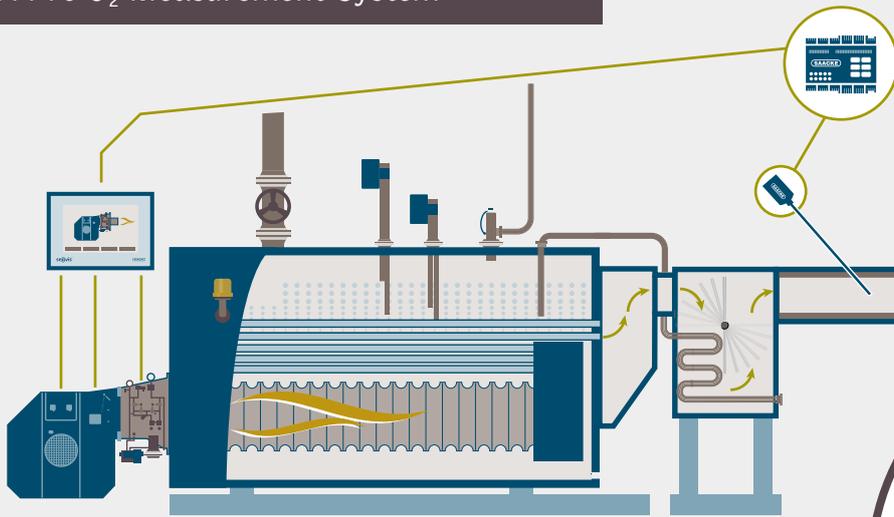


Product information

OXYPro O₂ Measurement-System

SAACKE



OXYPro® 400

Minimize excess oxygen, increase efficiency

OXYPro O₂ Measurement-System: Three components for optimized exhaust gas flow recording

Energy and heat supply

Fluctuations in temperature or changes in air humidity are completely normal during the course of a day or even a year – and yet problematic for users of combustion plants. This is because they directly influence the burner flame and fuel-air ratio. To guarantee that you have enough oxygen for a complete burn-out despite everything, the fixed adjustment of the burner flame occurs on the assumption of a worst-case scenario. The result is a frequently expensive oxygen excess. To prevent this, users normally install oxygen sensors that continuously record the residual oxygen content in the exhaust gas to make sure that the fuel-air ratio is continuously adjusted to the actual load to ensure optimal combustion. This is where SAACKE comes in, and provides a comprehensive modernization tool to boost energy efficiency with the newly developed OXYPro O₂ Measurement-System.

Practical tests document more precise measured values

The SAACKE solution reliably minimizes excess O₂ and reduces flue gas loss. It can be used in light oil and gas firing operation (natural and biogas). The system consists of three components based on each other: the O₂ probe OXYPro 400, the measured gas sampling device OXYPro SD 350 and the interface module se@vis IO OX4641. Practical operation shows more precise measured values compared to probes from competitors. Moreover, the plug-and-play solution is easy to retrofit without having to re-examine the values.

All benefits at a glance

- ✔ Temperature resistance up to 350°C
- ✔ Universal standard length thanks to scaling
- ✔ Suitable for all burner types and heat generators
- ✔ Fast and easy to retrofit without calibration and external power supply
- ✔ Space-saving module instead of a technology cabinet
- ✔ Ambient air pressure sensor corrects the O₂ content measured
- ✔ Compatibility with other control systems
- ✔ Very short amortization times of two years possible

The SAACKE solution in detail

The O₂ probe has a universal standard length and thanks to practical scaling, always permits exactly the same mounting depth in the flue. While competitors' products are restricted to 300°C, the OXYPro 400 is designed for temperatures up to 350°C. To reduce measurement fluctuations to a minimum and realize an optimized exhaust gas flow on the probe head together with the dirt particle protection, the SAACKE developers redesigned the measured gas sampling device. The in- and output module for data monitoring and error recognition is completely new and connected to either the se@vis burner control or another system. The interface module detects the power supply on the probe and compensates for this in accordance with the cable length for unchanging quality of the oxygen measurement.

Conclusion

You save up to two percent fuel with the OXYPro O₂ Measurement-System and increase the efficiency of existing systems by about one percent. Combine standards efficiency measures with the modern advantages of SAACKE know-how. As a result, your system operation will on the one hand become more environmentally friendly, while on the other the investment will amortize itself in less than two years – not least thanks to the unequalled value for money.

Technical data OXYPro O₂ Measurement-System

Transmitter OXYPro 400

Power supply voltage	24 V DC ±20% (take SELV / PELV into account)
Current consumption	About 500 mA
Plug type	7-pin, round plug IP 67
Ambient temperature	-20 °C to +60 °C (take insolation into account)
Casing	Aluminum (enclosure type IP 65)

Probe/sensor

Measuring range	0.1 to 25 vol. % oxygen at 1013.25 hPa (oxygen partial pressure)
Accuracy	±2 % MBE at +25 °C
Temperature	Up to +350 °C

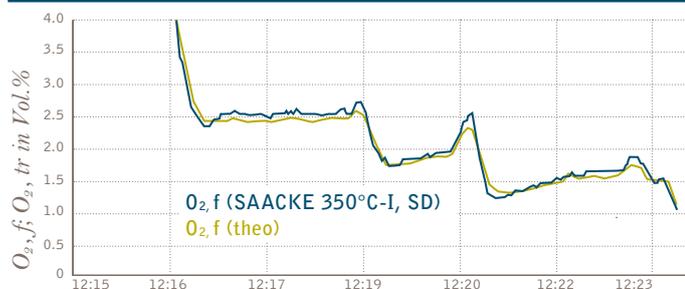
Measured gas sampling device

Length	About 400 mm
Flue gas duct immersion length	About 350 mm

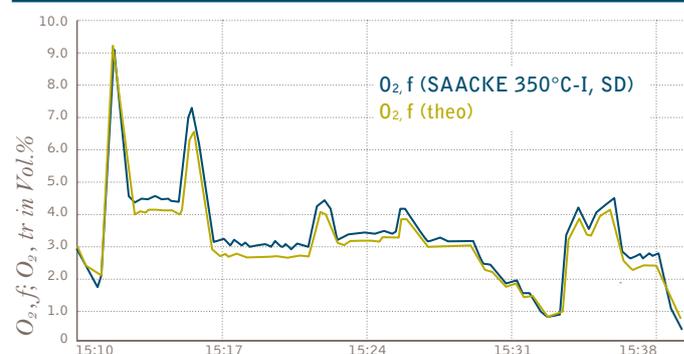
Interface module

Ambient temperature	-25 °C to +60 °C
Air humidity	≤95% at 60 °C
Cooling	Passive cooling

Measured values compared (gas firing operation)



Measured values compared (light oil firing operation)



Example calculation: Amortization period with 10 MW natural gas burner without economizer

Firing rate MW	Flue gas temperature °C	O ₂ concentration %		Operating time h/a	Saving*	
		without control system	with control system		Fuel kWh/a	Fuel costs EUR/a
4	230	3.8	2.8	1,000	24,000	960
6	230	3.6	2.6	1,100	38,600	1,351
8	240	3.2	2.2	2,500	117,000	4,095
10	260	3.0	2.0	1,500	94,250	3,299
Total				6,100	273,850	9,705

* Gas price: € 0.035/kWh

