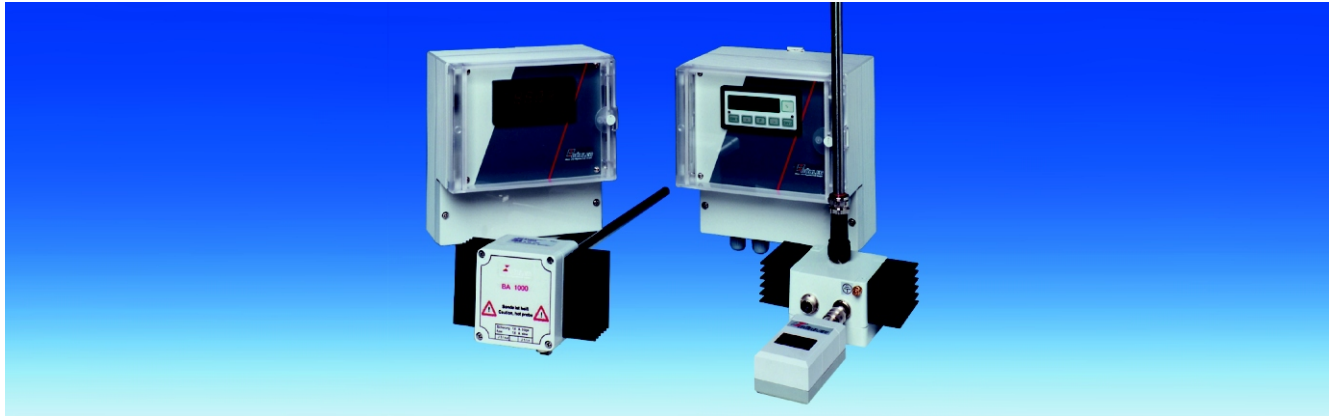


Zirkonia Oxygen Analyser BA 1000

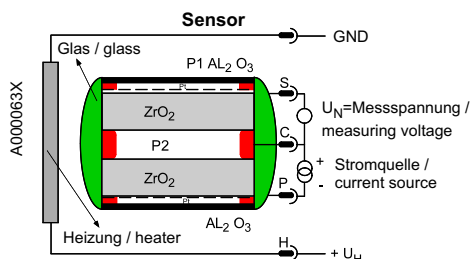


Description

The Buhler Model BA 1000 solid-state oxygen analyser has been developed for in-situ applications. The cell is self-controlling and therefore well-suited for applications in flue gas or similar matrices.

Principle of operation

The dynamic sensor measures oxygen without using a reference gas. The sensor consists of two zirconium discs covering both sides of a platinum ring. An additional Al_2O_3 coating protects the sensor from environmental influence and increases its life expectancy. The measurement chamber (P2) is filled with a sample gas. One disc is connected with a reversible source of current. It is then used as an solid-state electronic oxygen pump. On the opposite disc the partial pressure of oxygen is determined by measuring the induced Nernst potential.



First, the oxygen ions are pumped out of the chamber. The change in electrical charge on the first disc changes in direct linear proportion to the oxygen concentration. This increases the electric potential at the opposite disc. When the electric potential has reached a certain threshold, the polarity is

reversed. Oxygen ions are then pumped back into the chamber and oxygen concentration increases. After reaching a certain threshold, the polarity changes again. This process is repeated over and over. The time for one period is linearly proportional to the oxygen concentration in the sample gas.

An optional pre-filter enables operation in gas streams with high dust concentrations.

Fields of applications include:

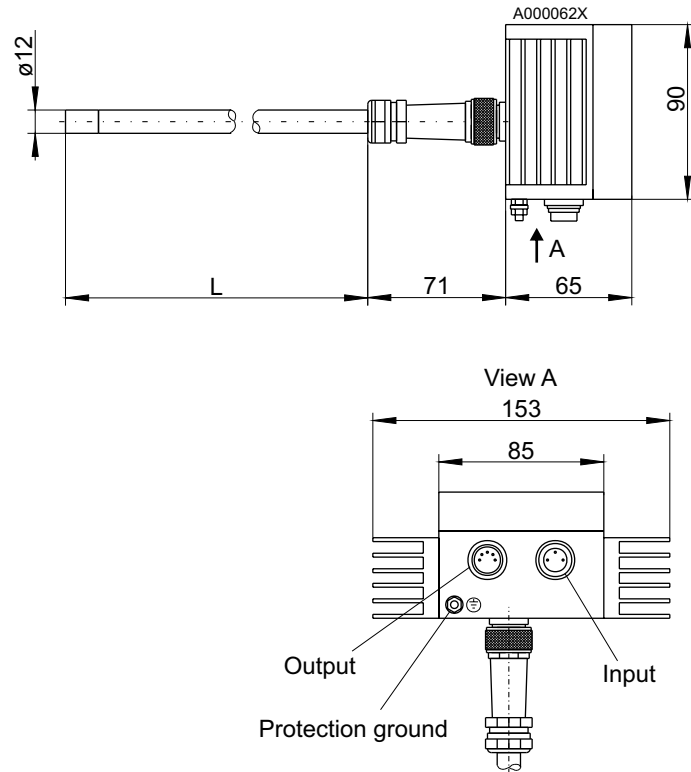
Furnaces, industrial heating facilities, industrial combustion facilities, farming (in silos), medical, biotechnology

Advantages and benefits

- Low energy consumption
- Temperature independent
- Linear output signals 4 - 20 mA
- Error protected
- High measurement precision
- Independent of gas matrix
- Long life
- Variety of applications
- No reference gas
- No calibration gas

Technical Data - Sensor BA 1000 S

Warm-up time	approx. 5 minutes
Measurement range	0.1 - 25 Vol.% O ₂ 0.1 - 100 Vol.% O ₂ upon request
Output	4-20 mA
Accuracy	± 2 % of full scale value
Sample temperature	0 °C up to +450 °C
Exhaust gas velocity	up to 10 m/s
Probe diameter	12 mm
Response time	approx. 3 seconds
Operating ambient temperature	-10 to +50 °C
Storage temperature	-20 to +70 °C
Power supply	24 V DC
Current	650 mA
Switch-on current	4.4 A
Distance analyser/ control unit	max.100 m
Protection class	IP 54
Dimensions (W x H x D)	85 x 90 x 65 mm
Weight	ca. 1.1 kg
Material	Probe tube stainless steel Head aluminium painted



Please indicate with order:

Description:

Sensor BA 1000 S with probe length L = 220 mm
Sensor BA 1000 S with probe length L = 380 mm
Sensor BA 1000 S with probe length L = 780 mm

Part-no.

55 01 398
55 01 399
55 01 499

Options

Power supply BA 1000 N wall mounted

Power supply 115 / 230V AC 48 - 62 Hz alternatively
Protection class IP 65
Weight 2.1 kg

55 01 599

3 ½ digit LED display BA 1000 D 24 wall mounted

Power supply 24 V DC
Protection class IP 65
Weight 1.8 kg

55 01 699

3 ½ digit LED display BA 1000 D 230 wall mounted

Power supply 115 / 230V AC 48 - 62 Hz alternatively
Protection class IP 65
Weight 2.5 kg

55 01 799

4 ½ digit LED display BA 1000 D 230 G wall mounted

With 2 alarms for min. and max. function
Free programmable
Relays 250 V / 3 A
Power supply 115 / 230V AC 48 - 62 Hz alternatively
Protection class IP 65
Weight 2.7 kg

55 01 899

Calibration display BA 1000 KA

Quick-check calibration unit
Dimensions 54 x 100 x 40 mm (W x H x D)
Weight 0.12 kg

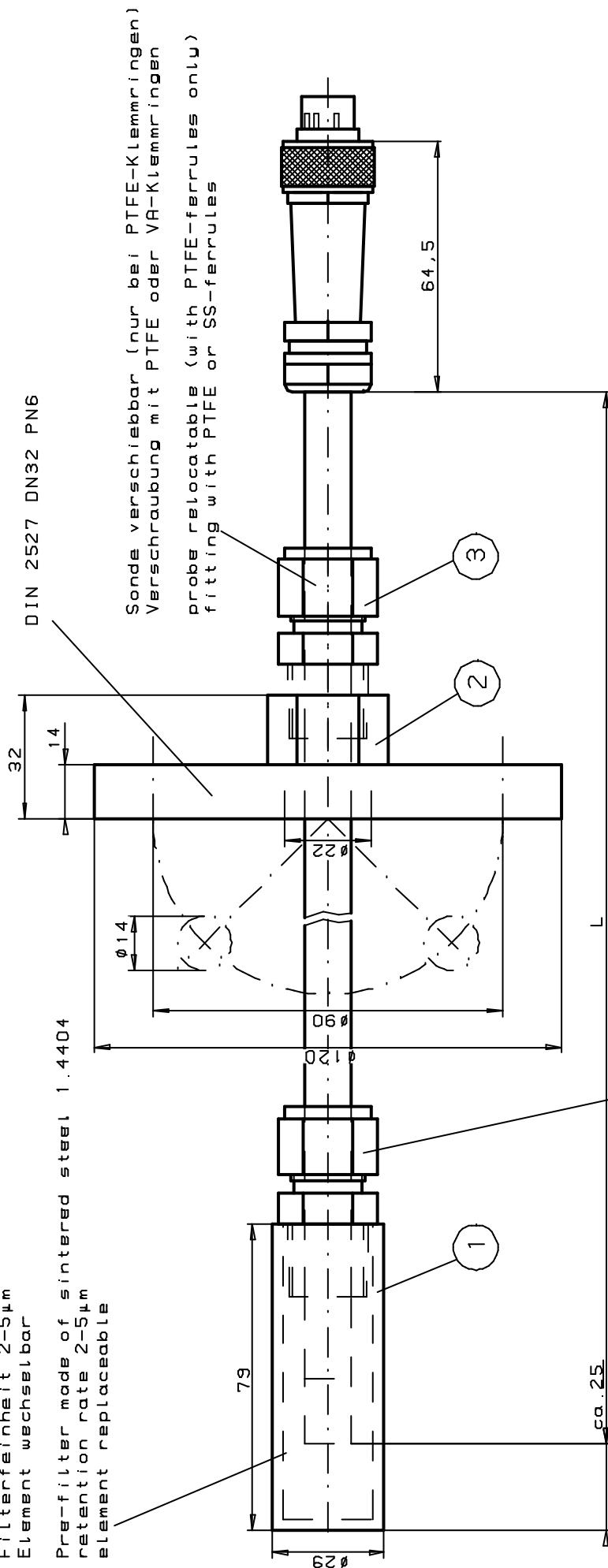
55 01 2992

Tools :

Pipe fitting for probe mounting 1/2" NPT with PTFE locking ring 55 01 2993
Pipe fitting for probe mounting 1/2" NPT with stainless steel locking ring 55 01 2994
Interconnecting cable 5 m (other lenght on request) 55 01 2995
Complete pre filter with mounting flange 55 01 2997
Pre filter without mounting flange 55 01 29971

Vorfilter aus Sintermetall 1.4404
Filterfeinheit 2-5µm
Element wechselbar

Pre-filter made of sintered steel 1.4404
retention rate 2-5µm
element replaceable



Sonde verschiebbar (nur bei PTFE-Klemmringen)
Verschraubung mit PTFE oder VA-Klemmringen
probe relocatable (with PTFE-ferrules only)
fitting with PTFE or SS-ferrules

Verschraubung mit Edelstahl-Klemmringen
fitting with SS-ferrules

Art.Nr.: 55012997 mit PTFE-Klemmringen/with PTFE-ferrules
Art.Nr.: 550129973 mit VA-Klemmringen/with SS-ferrules

- Lieferumfang:
1. Vorfilter mit Verschraubung für Rohr Ø12
 2. Montageflansch mit Muffe NPT 1/2"
 3. Verschraubung für Rohr Ø12

- Supplement:
1. Pre-filter with fitting for Tube Ø12
 2. Mounting flange with socket NPT 1/2"
 3. Fitting for tube Ø12

ALLE RECHTE VORBEHALTEN		Maßstab ohne Toleranzangabe nach DIN 7168	Maßstab 1:1 [Gewicht]
alle Kosten erstattet			Edelstahl/stainless steel
Oberflächenbear- beitungszusatz			
$\checkmark = \checkmark$	Bar		
$\chi = \checkmark$	$\checkmark$		
$\gamma = \checkmark$	$\checkmark$		
$z = \checkmark$	$\checkmark$		