



Development Production Sales Service

Biogas analyser Biogas analytical systems Digester analysis Gas warning Equipment PRODUCT CATALOGUE







SM 6000 Classic



Version SSM 6000 19"

#### Using the SSM 6000

The SSM 6000 was developed specifically for the analysis of biogenic process gases, such as biogas, sewage gas and landfill gas. It is designed for on-site plant use, capable of meeting regular process control requirements and unites the high quality sensor technology used for continual gas analysis with multi-stage gas conditioning technology. If used to full capacity, all main gas types can be recorded: methane, hydrogen sulphide, oxygen, carbon dioxide and hydrogen. Analysis is fully automatic, appearing at variable time intervals (at 8-hour intervals, for example). Continuous measuring of individual types of gases is also optionally possible. The SSM 6000 is easy to operate, equipped with a clear display and a data logger with history function where all measured data is stored together with the precise recording time.

#### proCAL and automatic calibration

The proCAL method developed by PRONOVA enables even greater long-term stability for methane and carbon dioxide measurements. Thanks to additional automatic one-point calibration of all other measuring channels, the SSM 6000 is setting new standards in long-term stability.

#### SSM 6000 Classic

A multi-channel measuring device with an integrated gas conditioning unit for analysing methane, oxygen, carbon dioxide and hydrogen and for high concentrations of hydrogen sulphide. The device is designed for both discontinuous and continuous operation for up to four internal measuring points.

#### SSM 6000 LT

The SSM 6000 LT has been developed to carry out easy, cost-effective routine inspection. Although based closely on the SSM 6000 Classic, the standard version features neither a gas cooler nor the load-limit function for measuring hydrogen sulphide concentration. Its standard measuring range is hence 1,000 ppm hydrogen sulphide.

#### **SSM 6000 ECO**

Single channel measuring device for monitoring hydrogen sulphide at desulphurisation plants or methane levels at CHPs with a view to their continuous control.

#### SSM 6000 Lab

A special version of the SSM 6000 that has been designed specifically for labor applications. The SSM 6000 Lab device is specialised for measuring smallest sample volumes.

#### **TECHNICAL SPECIFICATIONS:**

Measuring ranges:	
CH₄:	0 to 100 Vol%
CO <sub>2</sub> :	0 to 100 Vol%
) <sub>2</sub> :	0 to 25 Vol%
H₂S:	0 to 5,000 ppm SSM Classic
H₂S:	0 to 1,000 ppm SSM LT
1 <u>,</u> :	0 to 1,000 ppm
others on request	

#### **Resolution:**

CH₄:	0.1 Vol%
CO <sub>2</sub> :	0.1 Vol%
<b>0</b> <sub>2</sub> :	0.1 Vol%
H <sub>2</sub> S:	1 ppm
H <sub>2</sub> :	1 ppm

Display: LED display for measuring values and LC display	
Communication:	RS232, Profibus DP option
Operating temperature:	+5 to +40 °C
Power supply:	85 to 264 VAC, 47 to 63 Hz
Protection class:	IP 20
Dimensions and weight:	300 x 400 x 200 mm,
	approx. 13 kg (Classic 4K)

Art. No.	
1102	SSM 6000 Classic (CH <sub>4</sub> , H <sub>2</sub> S)
1103	SSM 6000 Classic (CH <sub>4</sub> , H <sub>2</sub> S, O <sub>2</sub> )
1104	SSM 6000 Classic (CH <sub>4</sub> , H <sub>2</sub> S, O <sub>2</sub> , CO <sub>2</sub> )
1106	SSM 6000 LT ( $CH_4$ , $H_2S$ )
1107	SSM 6000 LT ( $CH_4$ , $H_2S$ , $O_2$ )
1108	SSM 6000 LT ( $CH_4$ , $H_2S$ , $O_2$ , $CO_2$ )
1126	SSM 6000 ECO (H <sub>2</sub> S)
1131	SSM 6000 ECO (CH <sub>4</sub> )
1006	Condensate pre-separator
	OPTIONAL SSM 6000 LT and Classic
1110a	H <sub>2</sub> (measuring range 1,000 ppm)
1117	Another measuring point (max. 4 pcs.)
1118	Sample gas cooler
1120	Profibus DP interface
1122	Continuous measurement (except for H <sub>2</sub> S)
1127	19" table unit
1129	19" subrack
1130	Design Lab

others on request

## SSM 6000 Outdoor



SSM 6000 outdoor application

#### Biogas analyser for outdoor installation

- Integration gas analyser SSM 6000 (see data sheet) for monitoring and registration of gases from biogas plants, wastewater treat ment plants and landfills
- Measurement of the methane, hydrogen sulfide and optionally the oxygen, carbon dioxide and hydrogen concentration
- High accuracy and stability by proCAL
- Calibration with test gas earlier than one year
- Gas preparation with various filter systems and optional sample gas cooler
- Wall-mounted enclosure for outdoor installation
- Optional housing heating

#### **TECHNISCHE DATEN:**

Measuring components:	$CH_4, H_2S$
	option O <sub>2</sub> , CO <sub>2</sub> , H <sub>2</sub>
Housing dimensions (W x H x	<b>(D):</b> 600 x 800 x 300 mm
Housing color:	RAL 7035
System housing:	GPR cabinet with front door
	and window
Protection:	IP 56
Ambient temperature:	-20°C to +40°C



### Art. No.

0000 SSM 6000 Outdoor

## **BIOGAS ANALYSER**

## SSM 6000 Trace gas analyser for H<sub>2</sub>S



SSM 6000 trace gas analyser for measuring hydrogen sulphide in the ppb range: to protect adjacent facility components (e.g. catalytic converters) from H<sub>2</sub>S. Highly sensitive analysis system with a cycle time of approximately two to five minutes (depending on the application). Optionally available: additional oxygen trace gas analyser with a measuring range of 10 ppm  $O_2$ , complete with installed pipes on mounting plate.

#### **TECHNICAL SPECIFICATIONS:**

Measuring range H <sub>2</sub> S:	0 to 2,000 ppb
Detection limit H <sub>2</sub> S:	5 ppb
Resolution H <sub>2</sub> S:	1 ppb
Display: LED display for meas	suring values and LC display
Communication:	RS232, Profibus DP option
Operating temperature:	+5 to +40 °C
Power supply:	85 to 264 VAC, 47 to 63 Hz
Protection class:	IP 20
Dimensions and weight:	300 x 400 x 200 mm
others gas modes on request	

#### Art. No.

0000 SSM 6000 Trace gas analyser H<sub>2</sub>S

## PROMOVA

## SSM 6000 Compact



Compact analysis system for measuring at different measuring points during the processing of biogas to bio-methane. The analysis system consists of two SSM 6000 gas analysers: one for measuring the crude gas and one for measuring the clean gas. Additional measuring points are optionally available.

#### Measuring crude gas

- Continuous or intermittent measurements of methane  $\rm CH_{4'}$  carbon dioxide  $\rm CO_{2'}$  and oxygen  $\rm O_2$
- Intermittent measurements of hydrogen sulphide  $\rm H_2S$
- Wall-mount housing for indoor installations

#### Measuring clean gas

- Continuous measurement of methane  $CH_4$ , carbon dioxide  $CO_2$ , and oxygen  $O_2$
- Continuous measurement of hydrogen sulphide with dilution and moisture
- Wall-mount housing for indoor installations

#### **Options include:**

- Measurement of hydrogen H<sub>2</sub>
- FA<sup>-</sup> flow alarm
- Fan monitoring
- LA<sup>+</sup> humidity alarm
- Additional measuring points
- Condensate pre-separator

#### **TECHNISCHE DATEN:**

Measuring ranges fo	r crude gas:
CH₄:	0 to 100 Vol.%
CO <sub>2</sub> :	0 to 100 Vol.%
0 <sub>2</sub> :	0 to 25 Vol.%
H <sub>2</sub> S:	0 to 5,000 ppm SSM 6000 Classic
H <sub>2</sub> S:	0 to 1,000 ppm SSM 6000 LT
H <sub>2</sub> :	0 to 1,000 ppm
others on request	

#### Measuring ranges for clean gas:

CH₄:	0 to 100 Vol.%
CO <sub>2</sub> :	0 to 10 Vol.%
<b>0</b> <sub>2</sub> :	0 to 5 Vol.%
	or 0 to 2 Vol.% at N <sub>2</sub> -calibration
H <sub>2</sub> S:	0 to 25 ppm
H <sub>2</sub> :	0 to 4,000 ppm
others on request	

#### **Resolution for crude gas:**

;H₄:	0,1 Vol.%
:0 <sub>2</sub> :	0,1 Vol.%
) <sub>2</sub> :	0,1 Vol.%
l <sub>2</sub> S:	1 ppm
2:	1 ppm
-	

#### **Resolution for clean gas:**

;H₄:	0,1 Vol.%
:0 <sub>2</sub> :	0,01 Vol.%
) <sub>2</sub> :	0,01 Vol.%
l <sub>2</sub> S:	0,1 ppm
l <sub>2</sub> :	1 ppm

Display: LED display for me	asuring values and LC display
Communication:	RS232, Profibus DP option
Operating temperature:	+5 to +40 °C
Power supply:	85 to 264 VAC, 47 to 63 Hz
Protection class:	IP 20
Dimensions and weight:	300 x 400 x 200 mm,
	approx. 13 kg (Classic 4K)

#### Art. No.

0000 Biogas, biogas feed-in SSM 6000 Compact

## **BIOGAS, BIOGAS FEED-IN**

## SSM 6000 19"



Biogas analytical system for automatic monitoring of methane, carbon dioxide, oxygen, hydrogen sulphur, hydrogen and water steam concentrations at biogas refinement plants for feeding biogas into the natural gas network.

- Measurement at three different places
- Redundant oxygen measurement for higher safety
- Hydrogen and hydrogen sulphur monitoring as an extension for the process gas chromatograph (PGC)
- Additional process measurements
- Three-tier sample gas conditioning with compressor cooling and several filter systems
- Status modules for monitoring and displaying the operating status

#### **TECHNICAL SPECIFICATIONS:**

System housing:	Steel sheet cabinet
	with door window
Housing dimensions:	(W x H x D) 800 x 2150 x 600 mm
Protection:	IP 20
Housing colour:	RAL 7035
Measuring components:	$CH_{41}$ , $CO_{22}$ , $O_{22}$ , $H_{22}$ , $H_{2}S$ and $H_{2}O_{12}$

Art. No.		
0000	Biogas, biogas feed-in SSM 6000 19"	

PROMOVA

## Biogas, add-on for calibratable measurement H<sub>2</sub>S special version for high H<sub>2</sub> concentrations



**Design similar to SSM Compact** 

- Compact system for indoor installations
- Dilution mechanism for continual measurements from H<sub>2</sub>S
- Moistening mechanism (external)
- Additional process measurements -
- Optional methane, carbon dioxide and oxygen measurements
- Optional flow monitoring
- Optional fan monitoring -





#### **TECHNICAL SPECIFICATIONS:**

Measuring ranges:	
CH <sub>4</sub> :	0 to 100 Vol%
CO <sub>2</sub> :	0 to 100 Vol%
<b>0</b> <sub>2</sub> :	0 to 25 Vol%
H <sub>2</sub> S:	0 to 25 ppm
H <sub>2</sub> :	0 to 1,000 ppm

H <sub>2</sub> S:	0 to 25 ppm
H <sub>2</sub> :	0 to 1,000 ppm
others on request	

#### **Resolution:**

CH₄:	0.1 Vol%
CO <sub>2</sub> :	0.1 Vol%
0,:	0.1 Vol%
H <sub>2</sub> S:	0.1 ppm
Н,:	1 ppm

Display: LED display for measuring values and LC display **Communication:** RS232, Profibus DP option +5 to +40 °C **Operating temperature:** 85 to 264 VAC, 47 to 63 Hz **Power supply:** Protection class: IP 20 **Dimensions and weight:** 300 x 400 x 200 mm

#### Design similar to SSM 6000 19"

Biogas measuring system for automatic monitoring of hydrogen sulphur and hydrogen concentrations at biogas refinement plants as an extension for the process gas chromatograph (PGC).

For applications dealing with high concentrations of hydrogen  $H_2$  (e.g. > 1 % vol.), a special version with a cross-sensitivity option is available. Thus it is possible to reliably measure the hydrogen sulphide (H,S) despite the presence of hydrogen. This is useful for monitoring H<sub>2</sub>S limits when bio-methane is being supplied into the public gas grid.

- Status module for monitoring and displaying the operating status
- Gas preparation with several filter systems
- Dilution system for continuous measurement of H<sub>2</sub>S
- Optional methane, oxygen or carbon dioxide measurement
- Wall-mounted housing for indoor installation

#### **TECHNICAL SPECIFICATIONS:**

System housing:	Steel sheet wall cabinet
	with door window
Housing dimensions:	(W x H x D) 600 x 750 x 600 mm
Protection:	IP 44
Housing colour:	RAL 7035
Measuring components:	$H_2$ , $H_2$ S, optional $CH_4$ , $CO_2$ , $O_2$

#### Art. No.

0000	<b>Biogas, add-on for</b> <b>calibratable measurement</b> SSM 6000 as 19" rack unit
0000	Biogas, add-on for calibratable measurement Design similar to SSM 6000 Compact

## PROMOWA

## **FOS/TAC 2000**





A device used to automatically measure the FOS/ TAC (volatile organic acids and buffer capacity) at biogas plants. With an automatic titrator, the plant operator can simply identify the FOS/TAC content with a minimum of effort and with high degree of repetition precision. The fully automatic system reduces operator errors to a minimum and enables a high repeatability rate. This is important because the most recent result must always be evaluated in light of the previous results.

#### **TECHNICAL SPECIFICATIONS:**

FOS:	1 to 10 g <sub>org.acid</sub> / kg <sub>Substrate</sub>
TAC:	5 to 20 g <sub>CaC03</sub> / kg <sub>Substrate</sub>
FOS/TAC:	0.05 to 2.0 [/]
Measuring principle:	pH measurement
Precision:	+/- 0.01 pH
Sample volume:	approx. 5 g of filtrate
Protection:	IP 20 according to DIN 40 050
Dimensions:	approx. 405 x 290 x 160 mm
Weight:	approx. 7.5 kg

Art. No.	
2000	FOS/TAC 2000
2001	Case for FOS/TAC 2000
	SPARE AND WEAR PARTS
1998	1 pc. Titration solution, 1.0 l
1999	1 pc. Titration solution, 5.0 l
3012	1 pc. Buffer solutions pH 4, 100 ml
3013	1 pc. Buffer solutions pH 7, 100 ml
3014	1 pc. Buffer solutions pH 4, 1.0 l
3015	1 pc. Buffer solutions pH 7, 1.0 l
3022	1 pc. Refill solution with filler syringe 3 mol/I KCI, 100ml
1940	1 pc. pH-electrode with ceramic diaphragm, liquid electrolyte 3 mol/l KCl

## **GAS WARNING**

## Gas alarm series GW-S/-S4



Compact, freely programmable gas alarm station with wall-mounted housing and display for connecting up to 2 or 4 sensors. The evaluation unit allows various types of gases to be monitored. The gas alarm station features a display which shows in alternation different measurement points and 3 operating levels: measurement level, parameter level and service level. Alarms and faults can be assigned to the potential-free relay outputs and external functions can be activated (horn, etc.).

#### **TECHNICAL SPECIFICATIONS:**

Sensor inputs:	4-20 mA (gas sensor)
Alarm limits:	2 max.
Outputs:	4 voltage-free relay contacts
Display:	LED
Power supply:	230 VAC, max. 20 VA
Operating temperature:	-10 to +40 °C
Housing and protection cl	ass: Wall mounted
	IP 54 (EN 60529)
Dimensions and weight:	195 x 160 x 137 mm, 1.3 kg
Connectable sensors: 4	400, 500, 600, 700 and 800 series
Art. No.	
1900 Gas alarm so	eries GW-S

Gas alarm series GW-S4 1901 for 4 gas sensors max.

## Gas alarm series GW-SK



Compact, freely programmable gas alarm station with a wall-mounted housing and display for connecting up to 6 sensors. The evaluation unit allows various types of gases to be monitored. The gas alarm station features a display which shows in alternation different measurement points and 3 operating levels: measurement level, parameter level and service level. Alarms and faults can be assigned to the potential-free relay outputs and external functions can be activated (horn, etc.).

#### **TECHNICAL SPECIFICATIONS:**

Sensor inputs:		4-20 mA (gas sensors)
Alarm limits:		4 max.
Outputs:	6 vo	ltage-free relay contacts
Display:		LED
Power supply:		24 VDC, max. 30 W
Operating temperature:		-10 to +40 °C
Housing and protection o	class:	Standard rail DIN 43880
		IP 30 (EN 60529)
Dimensions and weight:		105 x 75 x 90 mm, 650 g
Connectable sensors:	400, 50	0, 600, 700 and 800 series

Art. No.

Gas alarm series GW-SK 1902 for 6 gas sensors max.

## Gas sensors for GW-S/-S4/-SK



Series 400 (semiconductor), 500 (heat tone), 600 (electro-chemical) and 700 (infrared) sensors for connection to GW-S and GW-S4 gas alarm devices. The gas sensors are connected to the corresponding evaluation unit. The sensors are suitable for use in dusty and dirty environments.

Art. No.	
1903	Gas sensor 400 ST not calibrated
1904	Gas sensor 500 ST-H <sub>2</sub> S not calibrated
1905	Gas sensor 500 ST not calibrated
1906	Gas sensor 510 Ex not calibrated (EX II 2G EEx d IIC T6)
1907	Gas sensor 600 ST-0 <sub>2</sub> not calibrated
1908	Gas sensor 600 ST-CO not calibrated
1909	Gas sensor 700 ST-CO <sub>2</sub> not calibrated
1910	Calibration costs per alarm and measuring point
	other equipment available on request

## PRONOVA

### TM 40, ISE 40, LF 40, AM 40



#### Measures pH, redox, ion concentrations, conductivity and dissolved gases

These measuring devices offer the advantages of a mobile field unit together with the precision and comfort of a laboratory instrument: with high measurement accuracy, a multifunction graphic display, integrated data logger and heavy-duty IP65 housing. The important GLP functions - such as date/time, primary measured value, secondary measured value (including the physical units), temperature and device number - are transmitted and recorded in the data file. The devices for  $O_2$ , pH, ISE and LF have an automatic temperature compensation feature.

#### **TECHNICAL SPECIFICATIONS:**

Measurement range:	
TM 40	pH: 0 to 14; -1,999 to 1,999 mV;
ISE 40	0.1 to 100 g/l;
LF 40 L	F: 0 to 200 $\mu S/cm;$ 0 to 2,000 $\mu S/cm;$
	0 to 20 mS/cm; 0 to 500 mS/cm;
autom	atic measuring range switch-over;
	TDS: 0 to 200 mg/l; 0 to 2,000 mg/l;
	0 to 20 g/l; 0 to 500 g/l;
	Salinity: 0 to 70 g/kg;
AM 40	0 <sub>2</sub> : 0 to 200 %; 0 to 20 mg/l
Resolution:	
TM 40	0.01 pH; 1 mV
ISE 40	0.1 mg/l
LF 40	0.1 µS; 1 µS; 0,01 mS; 0.1 mS
AM 40	1 %; 0.01 mg/l,
	Temperature: 0.1 °C
Precision:	
TM 40	+/- 0.02 pH; +/- 1 mV
LF 40	+/- 1% to 200 mS
AM 40	+/- 1 %; +/- 0.01 mg/l
Display:	graphic LCD, 128 x 64 px, back-lit
Communication port:	USB, electrical/galvanic isolation
Data logger:	4,000 data records
Power supply:	3 x AA, IEC R6, LR6, 1.5 V
Protection degree:	IP65
Dimensions and weig	nt: 200 x 95 x 40 mm, approx 290 g

## Art. No. TM 40 Set 7130 7140 ISE 40 Set 7120 LF 40 Set AM 40 Set 7110

Each measuring device is delivered in a set with probe/electrode, solutions and spare parts (AM 40) in a case

## **KM 3000**



#### KM 3000 multi-parameter measuring system

The KM 3000 multi-parameter controller has a modular bus structure; it provides excellent functionality, maximum operational reliability, outstanding ease, and a wide range of customized configuration options. The KM 3000 offers a complete system solution for any application where multiple parameters need to be detected on-line, and where these measurements need to be transmitted and evaluated very reliably. It also is capable of documenting and controlling processes.

#### **TECHNICAL SPECIFICATIONS:**

Parameters:	max. of 16: pH, redox, conductivity,
	CO <sub>2</sub> , O <sub>2</sub> , ISE (NH <sub>4</sub> , NO <sub>3</sub> , K, CI, F, etc.)
Display:	5.7" touchscreen
Data logger:	Approx. 100,000 parameter sets
Analogue outputs:	4 x 0(4) to 20 mA
Relay outputs:	4 x potential-free outputs, max. 3 A,
	250 VAC
Interface:	USB, RS285, RS485
Power supply:	115/230 VAC, 48 to 63 Hz
	or 15 to 30 VAC/DC
Housing:	Wall mount, in aluminium
Protection degree:	IP65 (EN 60529)
Dimensions:	240 x 240 x 120 mm



Art. No.	
KM 3000	Multi-parameter controller base unit
MVM 2210	<b>pH measuring module</b> 0 to14 pH, without electrode
MVM 2216	<b>ISE measuring module</b> NH <sub>4</sub> , NO <sub>3</sub> , etc., without electrode
MVM 2220	<b>Conductivity transmitter</b> 0 to 20 mS / cm, without electrode
GSM 3000	GSM/GPRS modem
	Others available on request

## **MV 50xx-Serie**

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#### MV 50xx single-channel measuring transducer

The MV 50XX series of measuring transducers is perfect for taking stationary measurements di-rectly at the measuring point in the open field. The measuring transducer is simple and intuitive to use. It also maintains the essential functionality with maximum operational reliability and safety. Each MV 50XX features a large OLED display and plain-text menu navigation. The software also enables you to configure, calibrate, view and record measured values at your PC using a standard USB port.

- Areas of use:
- Water treatment
- Water-quality monitoring systems
- Process monitoring
- Process control
- Special features: Cost-effective measurement of process variables
- Easy to use (plain text menus) Simultaneous temperature measurements and compensation
- 2 scalable analogue outputs and 2 relay outputs USB interface and PC software
- Firmware update via USB
- IP65 field housing

#### **TECHNICAL SPECIFICATIONS:**

Parameters:	1 x pH, redox, conductivity,
	CO <sub>2</sub> , O <sub>2</sub> , ISE (NH <sub>4</sub> , NO <sub>3</sub> , K, CI, F, etc.)
Display:	graphic OLED,
	128 x 64 pixels with plain text menu
Data logger:	4.000 parameter sets
Analogue outputs:	2 x 0(4) to 20 mA, or 0 to 5 V
Control outputs:	2 limit switch contacts,
CO contact,	max. 250 V AC / 5 A; PID controller,
bi-directional (	oulse length or analogue controller)
Interface:	USB (optional RS-232)
Power supply:	100 to 240 V AC, 18 to 36 V DC
Housing:	Aluminium housing for wall mount
Protection degree:	IP65
Dimensions:	160 x 130 x 70 mm

Art. No.	
MV 5010	<b>pH measuring transducer</b> 0 to 14 pH
MV 5020	LF measuring transducer 0 to 20 mS/cm
MV 5016	<b>ISE measuring transducer</b> $NH_{4^{\prime}} NO_3 etc.$
MV 5030	<b>O<sub>2</sub> measuring transducer</b> 0 to 20 mg/l
MV 5050	CO <sub>2</sub> measuring transducer

# GAS ANALYSIS EQUIPMENT BIOGAS ANALYSIS EQUIPMENT WATER ANALYSIS EQUIPMENT AGRICULTURAL EQUIPMENT



## Pronova

- Supplies key products for the control and optimisation of biogas plants:
  - The SSM 6000 for online biogas analysis, now with even greater long-term stability thanks to proCAL.
  - The FOS/TAC 2000 for evaluating the most important substrate variables: levels of volatile organic acids (FOS) and buffer capacity (TAC).
- Is a leader in the biogas analysis since the company produced the first gas analyser specially developed for biogas plants in 1998. Thousands of systems from the SSM family are installed around the globe. PRONOVA also supplies solutions for special and new applications, such as the preparation of biogas for feed-in into natural gas grids.
- Has taken over the expertise of AEG and is now active in many areas of gas analysis.
  As part of a company group, PRONOVA still offers agricultural measuring equipment under the iRAS<sup>®</sup> Water analysis equipment und STELZNER<sup>®</sup> Agricultural measuring.



 Manufactures application-specific analytical systems, analysers and sensors, components for gas analysis and gas detection. Is the competent partner for analysis technique certified under DIN/ISO 9001.



- Has access to a wide range of technologies due to its practical experience in the corresponding applications:
  - Infrared spectroscopy
  - Electrochemistry
  - Heat conduction
  - UV spectroscopy
  - Paramagnetism
  - Catalytic combustion
  - Photoionization
  - Optical chemistry
  - Laser technology
  - Semiconductors
  - Chemiluminescence
  - Flame ionisation
  - Chromatography
- Offers cost-efficient solutions for all applications based on decades of experience.
- Supplies equipment for the following fields:
  - Stack gas
  - Process gas
  - Biogas
  - Special applications

## www.pronova.de

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