

# WÖHLER

**NEW**



**COMPACT, RUGGED,  
LOADED WITH SMART  
FUNCTIONS.**

**Wöhler A 450 Flue Gas Analyzer**

*The Measure of Technology*



Made in  
Germany



5" TOUCHSCREEN

48 Months Warranty

DEVICE AND SENSORS<sup>1)</sup>

CO

10,000 ppm



PRINTER



USB



WIRELESS-LAN TRANSMISSION



A 450 APP (Android)

PC

SOFTWARE



620 g LBS



WÖHLER TUNING GUIDE

# Wöhler A 450 Flue Gas Analyzer

## The new compact class – sturdy and smart

This is where Wöhler excels: A reasonably priced flue gas analyzer that offers all measurement and tuning functions. A small and lightweight flue gas analyzer enclosed in an eye-catching, sturdy housing. The Wöhler A 450 is a handheld device with a user friendly touchscreen. Simply display all measurement data on the large screen, or connect the device and view the results on your mobile devices.

### Compact with a full range of functions

The Wöhler A 450 is a sturdy measuring device that combines solid workmanship with a clear color display. All measured values are displayed clearly at a glance. The Wöhler A 450 is a well rounded tool that offers measurements such as flue gas analysis, draft measurement, burner tuning guide, adjustment tasks on gas and oil systems and even solid fuel fireplaces. Typical Wöhler.

In true Wöhler fashion, the device is compact and lightweight by design and is guaranteed to be user friendly. Intuitively easy to use: The menu consists of icons similar to that known from smartphones. The user simply taps an icon to open the individual menu items.

### Smart functions

In addition to the user-friendly convenience of the touchscreen the Wöhler A 450 also offers the advantages that smart devices provide: You are able to transmit all measurement data to a mobile devices (smart-phones, tablets by Android and iOS) per Wireless LAN. These devices can then display the measurements as numerical values or as a graph in the Wöhler A 450 app. The app gives technicians the option of reading measurements already taken and also the ability to take new measurements through the app. This proves to be particularly practical when measuring at spots with poor accessibility. The measurement data can be saved in different formats and can be sent to the customer by email.

## ADVANTAGES

- Switch on – read off – done
- Rugged and compact analyzer that offers all measurement and tuning functions
- High-resolution 5" color touchscreen: 14 measured values available at a glance
- Future-proof network connectivity with Wireless LAN
- Wöhler A 450 app included for Android and iOS

<sup>1)</sup> Wöhler A 450 L: 24 months; A 450 / A 450 Hi: 48 month; CO sensors 5.000 ppm; 48 months excludes thermocouples, rechargeable battery and optional NO Sensor. For more information see our Terms and Conditions.





**5" large color touchscreen**

All measured values available at a glance thanks to high-resolution display



**Wöhler A 450 App**

Displaying the measured data on a mobile device



**All values at a glance**

The tuning guide offers an advanced guidance to the technician to properly adjust the burner.



**Interface to the printer**

Printout of the measured data on site.



**Easy maintenance**

Condensate trap can easily be pulled out to change cotton wool and water stop filters.



**Perfect size**

Compact and light in a plastic case

## ✂ Application

- Residential flue gas analysis
- Service and maintenance tasks
- Determine flue gas loss and burner tuning
- Immission control measurements (1st BImSchV)
- NO measurement (optional)
- Differential pressure / gas pressure measurement

## ⚙ Functionality

- Simple to use: Switch on – read off – done
- Large 5" color touchscreen: Displays up to 14 measurement readings
- Intuitive to operate via on-screen keyboard
- Graphic hotspot search

## 🔒 Safety / Reliability

- 24 or 48 months guarantee without maintenance agreement<sup>1</sup>
- Effective condensate protection
- Multistage filter technology incl. water stop filter
- Electronic filter monitor with illuminated condensate trap
- Analyzer and sensor diagnostics
- Field replaceable sensors – user-friendly
- Rechargeable battery operating time: up to 17 h with lithium ion power
- Hose assembly – robust and flexible

## 📁 Data management

- Store up to 1,000 customer records
- Data transmission by USB, Wireless LAN or infrared
- Wöhler A 450 app included

TUV test registered for 1st BImSchV (German Federal Immission Control Act) and KÜO (German sweeping and inspection ordinance), for oil or gas fi ring installations to VDI 4206 Part 1 and DIN EN 50379 Part 2

<sup>1</sup> Wöhler A 450 L: 24 months; A 450 / A 450 H: 48 month; CO sensors 5,000 ppm: 48 months excludes thermocouples, rechargeable battery and optional NO Sensor. For more information see our Terms and Conditions.

## TECHNICAL DATA

### Oxygen concentration (O<sub>2</sub>) in flue gas

Display .....	Volume % referenced to dry flue gas
Measurement principle .....	Electrochemical sensor
Range .....	0.0 .. 21.0 Vol. %
Accuracy .....	±0.3 Vol. %

### Carbon monoxide (CO, 5,000 ppm) in flue gas

Display .....	Volume ppm referenced to dry flue gas
Measurement principle .....	Electrochemical sensor, not H <sub>2</sub> compensated
Range .....	0 .. 5,000 Vol. ppm; resolution 1 Vol. ppm
Accuracy .....	±40 ppm (< 400 ppm), otherwise 10 % of reading (if H <sub>2</sub> < 5 % of reading)

### Carbon monoxide (CO, 100,000 ppm) in flue gas

Display .....	Volume ppm referenced to dry flue gas
Measurement principle .....	Electrochemical sensor, not H <sub>2</sub> compensated
Range .....	0 .. 100,000 Vol. ppm; resolution 1 Vol. ppm
Accuracy .....	±100 ppm (< 1,000 ppm), rest 10 % f.m.

### Carbon monoxide (CO, 10,000 ppm) in flue gas

Display .....	Volume ppm referenced to dry flue gas
Measurement principle .....	Electrochemical sensor, not H <sub>2</sub> compensated
Range .....	0 .. 10,000 Vol. ppm; resolution 1 Vol. ppm
Accuracy .....	±10 f.m., absolute ±40 ppm

### Carbon monoxide (CO, 10,000 ppm) in flue gas

Display .....	Volume ppm referenced to dry flue gas
Measurement principle .....	Electrochemical sensor, H <sub>2</sub> compensated
Range .....	0 .. 10,000 Vol. ppm; resolution 1 Vol. ppm
Accuracy .....	±20 ppm (< 400 ppm), rest 5 % f.m.

### Nitric oxide concentration (NO<sub>x</sub>) in flue gas (optional)

Display .....	Volume ppm referenced to dry flue gas
Measurement principle .....	Electrochemical Sensor
Range .....	0 .. 3,000 Vol. ppm, resolution 1 Vol. ppm
Accuracy .....	±5 Vol. -ppm (< 100 ppm), otherwise 5 % of reading

### Chimney draught / differential pressure (PD)

Display .....	Pascal
Measurement principle .....	Semi-conductor diaphragm
Range .....	0.00 .. ±110.00 hPa; resolution 1 Pa
Accuracy .....	2 Pa (< 40 Pa), otherwise 5 % of reading

### Flue gas temperature (T<sub>g</sub>)

Display .....	°C
Measurement principle .....	Thermocouple (NiCr-Ni)
Range .....	-20.0 .. 800 °C; resolution 0.1 °C
Accuracy .....	0 .. 133 °C: ±2°C 133 .. 800 °C: ±1.5 % of reading

### Combustion air temperature (T<sub>a</sub>)

Display .....	°C
Measurement principle .....	Thermocouple (NiCr-Ni)
Range .....	-20.0 .. 100 °C; resolution 0.1 °C
Accuracy .....	±1°C

### Power supply

Wöhler A 450 L .....	Lithium-Ion, rechargeable battery 3.7V, 2,250 mAh, charges via USB
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### Battery operating time

Wöhler A 450 L .....	approx. 6 h (depends on operating status and display illumination)
Wöhler A 450 / A 450 H .....	approx. 17 h (depends on operating status and display illumination)

### Charging time

Wöhler A 450 L .....	approx. 3 h
Wöhler A 450 / A 450 H .....	approx. 7 h

### Storage temperature .....

-20 .. 50 °C

### Operating temperature .....

+5 .. 40 °C to maintain stated accuracy

### Weight .....

620 g (with NO sensor included)

### Dimension .....

160 x 110 x 45 mm (without probe)

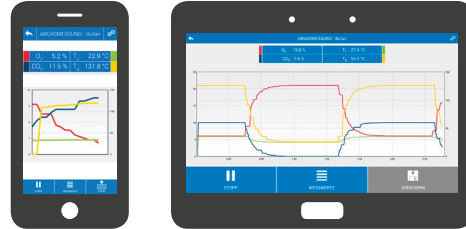
### Length of the probe hose .....

1.500 mm



# Wöhler A 450 APP

Do you prefer to do everything with your smartphone or tablet? Then the Wöhler A 450 App is exactly the right choice for your measuring and adjustment work. No matter if you are using an Android or iOS device.



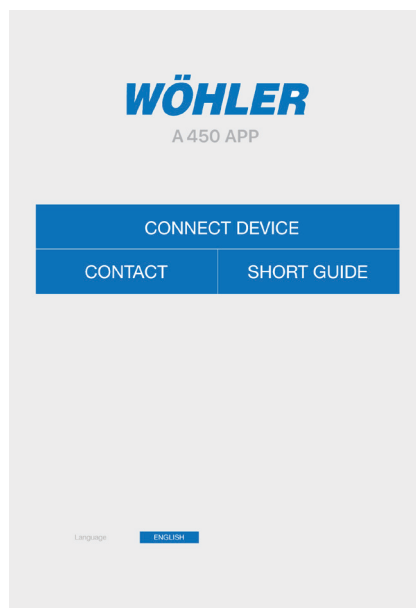
## WÖHLER A 450 APP ADVANTAGES



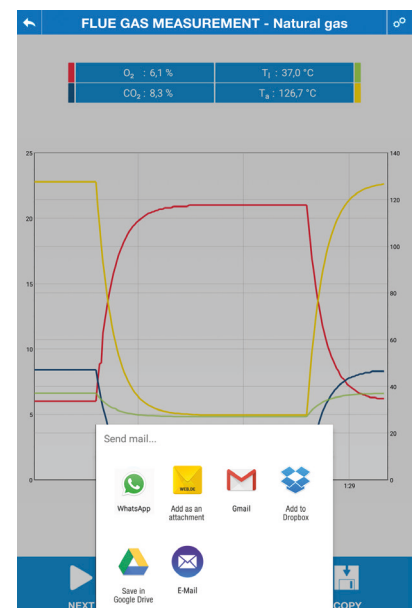
- Remote control of measurements at locations where access is difficult
- Direct Wireless LAN connection to the smart device – future-proof connectivity
- Data can be sent from smartphone/tablet by email



Display of all measured values at a glance



Homepage of the Wöhler A 450 App



Dispatch of measurement data to the customer



	Wöhler A 450 L Flue Gas Analyzer 5,000 ppm	Wöhler A 450 L Flue Gas Analyzer 100,000 ppm	Wöhler A 450 Flue Gas Analyzer 10,000 ppm	Wöhler A 450 H Flue Gas Analyzer 10,000 ppm
<b>APPLICATIONS</b> (depends on accessories)	Article no. 4503 J	Article no. 4672 J	Article no. 5181 J	Article no. 7165 J
Setting tasks gas/oil systems	•	•	•	•
Burner adjustment assistant	•	•	•	•
Possible sensors	3	3	3	3
<b>FUNCTIONALITY</b>				
5" color touchscreen	•	•	•	•
1,000 measurement data sets	•	•	•	•
Wireless LAN	•	•	•	•
USB & infrared	•	•	•	•
<b>RELIABILITY</b>				
Warranty	24 months	24 months	48 months	48 months
Device sensor diagnostics	•	•	•	•
Sensor replacement	•	•	•	•
Visual filter monitor	•	•	•	•
Rechargeable lithium ion battery	up to 6 h operating time	up to 6 h operating time	up to 17 h operating time	up to 17 h operating time
<b>SCOPE OF DELIVERY</b>				
CO sensor	5,000 ppm	100,000 ppm	10,000 ppm	10,000 ppm
O <sub>2</sub> sensor	0...21 %	0...21 %	0...21 %	0...21 % (H <sub>2</sub> compensated)
NO sensor	optional 3,000 ppm	optional 3,000 ppm	optional 3,000 ppm	optional 3,000 ppm
Combustion air temperature probe			•	•
USB battery charger	•	•	•	•

• = included | optional = retrofit or upgrade ex works, contact us

## Wöhler A 450 Flue Gas Analyzer

### 1 Device – different Versions

Wöhler A 450 L – 5,000 ppm

Wöhler A 450 L – 100,000 ppm

Wöhler A 450 – 10,000 ppm

Wöhler A 450 H – 10,000 ppm, H<sub>2</sub> compensated



# Wöhler A 450 L / A 450 / A 450 H Flue Gas Analyzer

## Basic sets

Scope of delivery	Wöhler A 450 L	Wöhler A 450 L	Wöhler A 450 L	Wöhler A 450 L
5,000 ppm CO sensor	•	•		
100,000 ppm CO sensor			•	•
3,000 ppm NO sensor		•		•
Wireless LAN, USB and IR interfaces	•	•	•	•
Flue gas probe 250 mm with 1.5 m hose assembly	•	•	•	•
USB battery charger with micro USB cable	•	•	•	•
Rechargeable lithium ion battery, 3.6 V / 2,250 mAh	•	•	•	•
25 cotton filters	•	•	•	•
<b>Article no.</b>	4503 J	4703 J	4672 J	4979 J


















Scope of delivery	Wöhler A 450	Wöhler A 450	Wöhler A 450 H	Wöhler A 450 H
10,000 ppm CO sensor	•	•		
10,000 ppm CO sensor, H <sub>2</sub> compensated			•	•
3,000 ppm NO sensor		•		•
Wireless LAN, USB and IR interfaces	•	•	•	•
Flue gas probe 250 mm with 1.5 m hose assembly	•	•	•	•
Rechargeable lithium ion battery, 3.6 V / 6,700 mAh	•	•	•	•
25 cotton filters	•	•	•	•
<b>Article no.</b>	5181 J	5341 J	7165 J	7183 J

## Standard sets








Flue Gas Analyzer	4503 J	4703 J	4672 J	4979 J	5181 J	5341 J	7165 J	7183 J
Case Midi	•	•	•	•	•	•	•	•
Cone	•	•	•	•	•	•	•	•
<b>Article no.</b>	5102 J	5709 J	5158 J	5166 J	5189 J	5343 J	7166 J	7184 J

## Professional sets

Flue Gas Analyzer	4503 J	4703 J	4672 J	4979 J	5181 J	5341 J	7165 J	7183 J
Case Maxi	•	•	•	•	•	•	•	•
Wöhler TD 100 Thermal Fast Printer	•	•	•	•	•	•	•	•
Thermal Paper	•	•	•	•	•	•	•	•
Temperature Probe	•	•	•	•	•	•	•	•
Cone for Temperature Probe	•	•	•	•	•	•	•	•
Cone	•	•	•	•	•	•	•	•
<b>Article no.</b>	5157 J	5710 J	5159 J	5179 J	5340 J	5345 J	7185 J	7186 J

	<b>Wöhler A 450 App</b> for Wöhler A 450 Available for both Android and iOS devices! The Wöhler A 450 App is precisely what you need for your measuring and adjustment tasks.	free
	<b>PC-Software Wöhler A 450</b> Languages EN / FR / IT / CZ / NL / CN for online measurements, diagram functions and export to MS Excel	4499 J
	<b>Air Temperature Plug</b>	5517 J
	<b>Air Temperature Probe</b> for Wöhler A 450 / A 550 185 mm with 1,7 m cable	5521 J
	280 mm with 1,7 m cable	5511 J
	<b>Probe</b> 250 mm with 1.5 m hose for Wöhler A 450	4498 K
	<b>Hose Assembly Extension</b> for Wöhler A 450/A 450 L/A 450 ECO 1,5m triple hose assembly  for larger boiler service	2045 J
	<b>Hose Assembly</b> for Wöhler A 450 1,5 m hose without flue gas probe	4476 J
	<b>Gas Probe</b>  500 mm	9614 J
	295 mm	9622 J
	180 mm	9613 J
	130 mm	9652 J
	<b>Flexible Probe</b> 300 mm	3242 J
	<b>Clamping Cone</b> stainless steel, to stabilize the gas probe in the flue pipe for probes Ø 8 mm	2494 K
	<b>PTFE Cone</b> to stabilize air temperature probes in openings Ø 10 - 15 mm for probes Ø 8 mm	2463 K
	<b>Threaded cone</b> for probes Ø 8 mm stainless steel	1235 K
	<b>CHP filter</b> CO measurements on combustion engines	5523 J
	<b>Filter Granulate</b> 100 ml for BHKW Filter	4398 J
	<b>Wöhler TD 100 Thermal Fast Printer</b> Infrared printer with 1 roll thermal paper and four batteries	4160 I
	<b>Thermal Paper</b> 57 mm width, 12 m long, 10 rolls for thermal printer Wöhler TD 100, TD 600	4145 I
	<b>Charger</b> for Wöhler A 550 / A 450 / L 200	5502 J



Accessories Wöhler A 450		Article no.
	<b>Plastic case MIDI</b> for Wöhler A 450 L	6594 J
	<b>Plastic case MAXI</b> for Wöhler A 450	4704 J
	<b>Backpack</b> for Wöhler A 450 / A 550	5101 J
	<b>Servicebag Wöhler A 450 / A 450 L / A 450 ECO</b>	4734 K
	<b>Water Stop Filters</b> pack with 3 pieces	9621 K
	<b>Coarse Filters</b> pack with 5 pieces	9632 K
	<b>Wadding Filters</b> pack with 150 pieces	4288 K

Sensors for self-installation for Wöhler A 450 L   A 450   A 450 H Flue Gas Analyzer		Article no.
<b>O<sub>2</sub> sensor</b> for all Wöhler A 450 versions field replaceable		8963 C
<b>CO sensor 5.000 ppm</b> for Wöhler A 450 L 5.000 ppm field replaceable		8964 C
<b>CO sensor 10.000 ppm not H<sub>2</sub> compensated</b> for Wöhler A 450 field replaceable		8967 C
<b>CO sensor 10.000 ppm H<sub>2</sub> compensated</b> for Wöhler A 450H field replaceable		8966 C
<b>CO sensor 100.000 ppm</b> for Wöhler A 450 L 100.000 ppm field replaceable		8965 C
<b>NO sensor 3.000 ppm</b> for all Wöhler A 450 versions field replaceable		8969 C
<b>Checking Charge</b> for Wöhler A 450 / A 550		439 X

# Order Form

Product	Basic	Standard	Professionell	Qty.
Wöhler A 450 L - CO 5,000 ppm	<input type="checkbox"/> 4503 J	<input type="checkbox"/> 5102 J	<input type="checkbox"/> 5157 J	
Wöhler A 450 L - CO 5,000 ppm with NO	<input type="checkbox"/> 4703 J	<input type="checkbox"/> 5709 J	<input type="checkbox"/> 5710 J	
Wöhler A 450 L - CO 100,000 ppm	<input type="checkbox"/> 4672 J	<input type="checkbox"/> 5158 J	<input type="checkbox"/> 5159 J	
Wöhler A 450 L - CO 100,000 ppm with NO	<input type="checkbox"/> 4979 J	<input type="checkbox"/> 5166 J	<input type="checkbox"/> 5179 J	
Wöhler A 450 - CO 10,000 ppm	<input type="checkbox"/> 5181 J	<input type="checkbox"/> 5189 J	<input type="checkbox"/> 5340 J	
Wöhler A 450 - CO 10,000 ppm with NO	<input type="checkbox"/> 5341 J	<input type="checkbox"/> 5343 J	<input type="checkbox"/> 5345 J	
Wöhler A 450 H - CO 10,000 ppm	<input type="checkbox"/> 7165 J	<input type="checkbox"/> 7166 J	<input type="checkbox"/> 7185 J	
Wöhler A 450 H - CO 10,000 ppm with NO	<input type="checkbox"/> 7183 J	<input type="checkbox"/> 7184 J	<input type="checkbox"/> 7186 J	

Billing address / customer	Delivery address (if different to billing address)						
Company _____	Company _____						
Name _____	Name _____						
Street/house no. _____	Street/house no. _____						
ZIP code/City _____	ZIP code/City _____						
Country _____	Country _____						
Telephone _____	Fax _____						
Mobile _____	E-Mail _____						
Customer number <table border="1" style="display: inline-table; vertical-align: middle;"> <tr> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> <td style="width: 20px; height: 20px;"></td> </tr> </table>							
Date _____	Signature or company stamp _____						



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Your contact