WÖHLER

CATALOG

PRODUCTS FROM THE MANUFACTURER
MEASURE | INSPECT | CLEAN

The measure of technology

WORKING TOGETHER

For over 80 years, the name Wöhler has been a synonym for quality and progressive innovations in the field of measuring instruments, visual inspection systems and cleaning equipment for heating, ventilation and facility management applications.

Working on the basis of many years of experience, close contact to customers, comprehensive skills in all technical disciplines, Wöhler develops products that are tailored to each customers needs. Chimney sweeps, plumbing, heating and air conditioning contractors, construction specialists and industrial customers worldwide rely on technology made by Wöhler.

As an international family-owned business, we closely cooperate with customers and vendors on a partnership basis. Continual growth and long-term success are assured by both trust based cooperation and a passion for technology.

Elmar Schrader
Executive Director | International Business

HIGHLIGHTS

POWERFULLY SIMPLE.
Wöhler A 550
FLUE GAS ANALYZER

Flue gas analysis at the tip of a finger

Page 24

EVEN THE FINEST CANNOT ESCAPE.
Wöhler SM 500
SUSPENDED PARTICULATE ANALYZER

The latest innovation in total Suspended

Particulate Measurement
– Awarded with the PLUS X AWARD® –

Page 45

PLUS X AWARD®

achieved for:
Innovation
High Quality
Ease of Use
Functionality

UNIQUELY CLEAN VIEW.
Wöhler VIS 350
SERVICE CAMERA

Video inspection, position indicator,
home function and locator

Page 92

MODULAR POINT OF VIEW.
Wöhler VIS 400
MODULAR CAMERA SYSTEM

Professional video inspection system

Page 98

PENETRATING VIEWS THROUGH CONCRETE AND ASPHALT.
Wöhler L 200
LOCATOR

Exact location of damages

Page 109
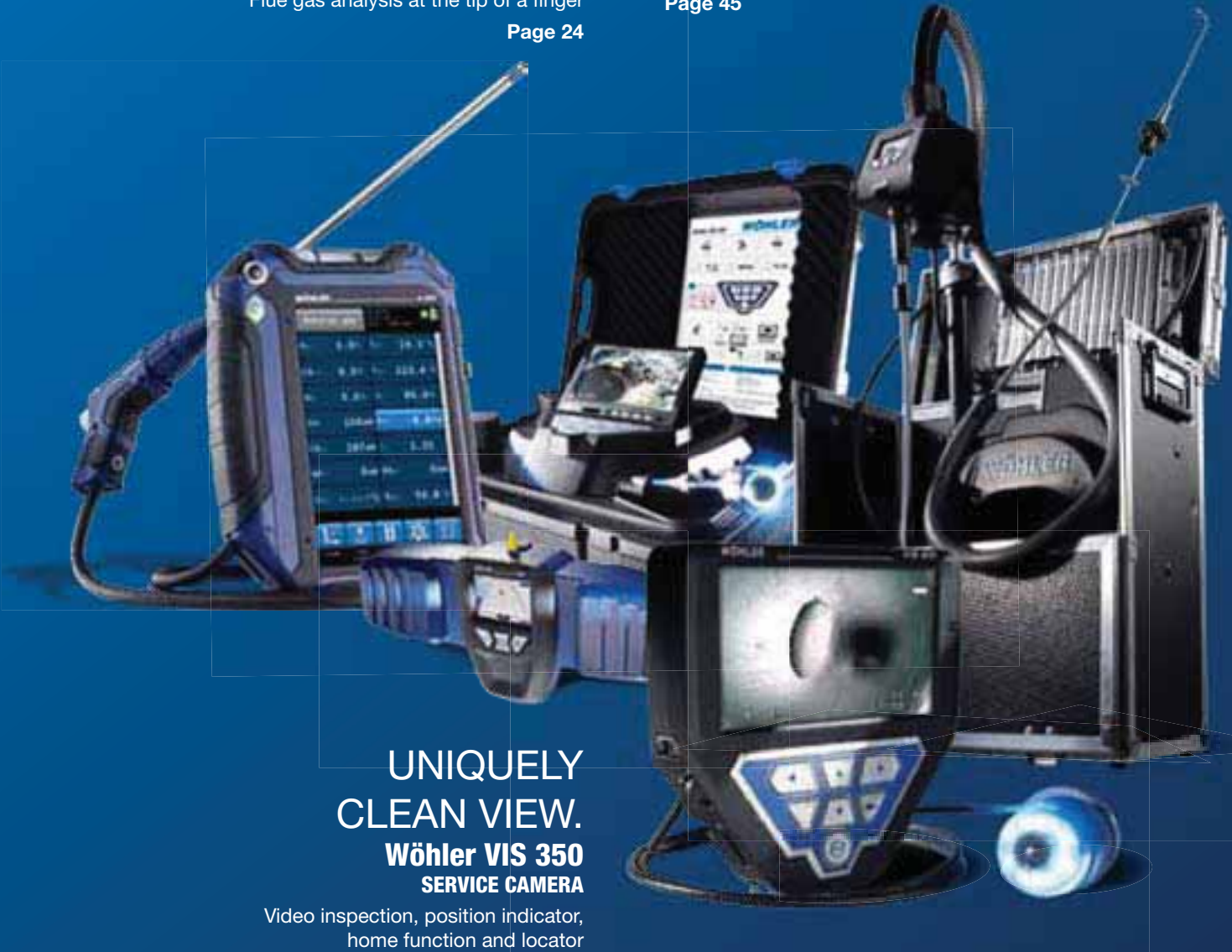
WÖHLER WORLDWIDE
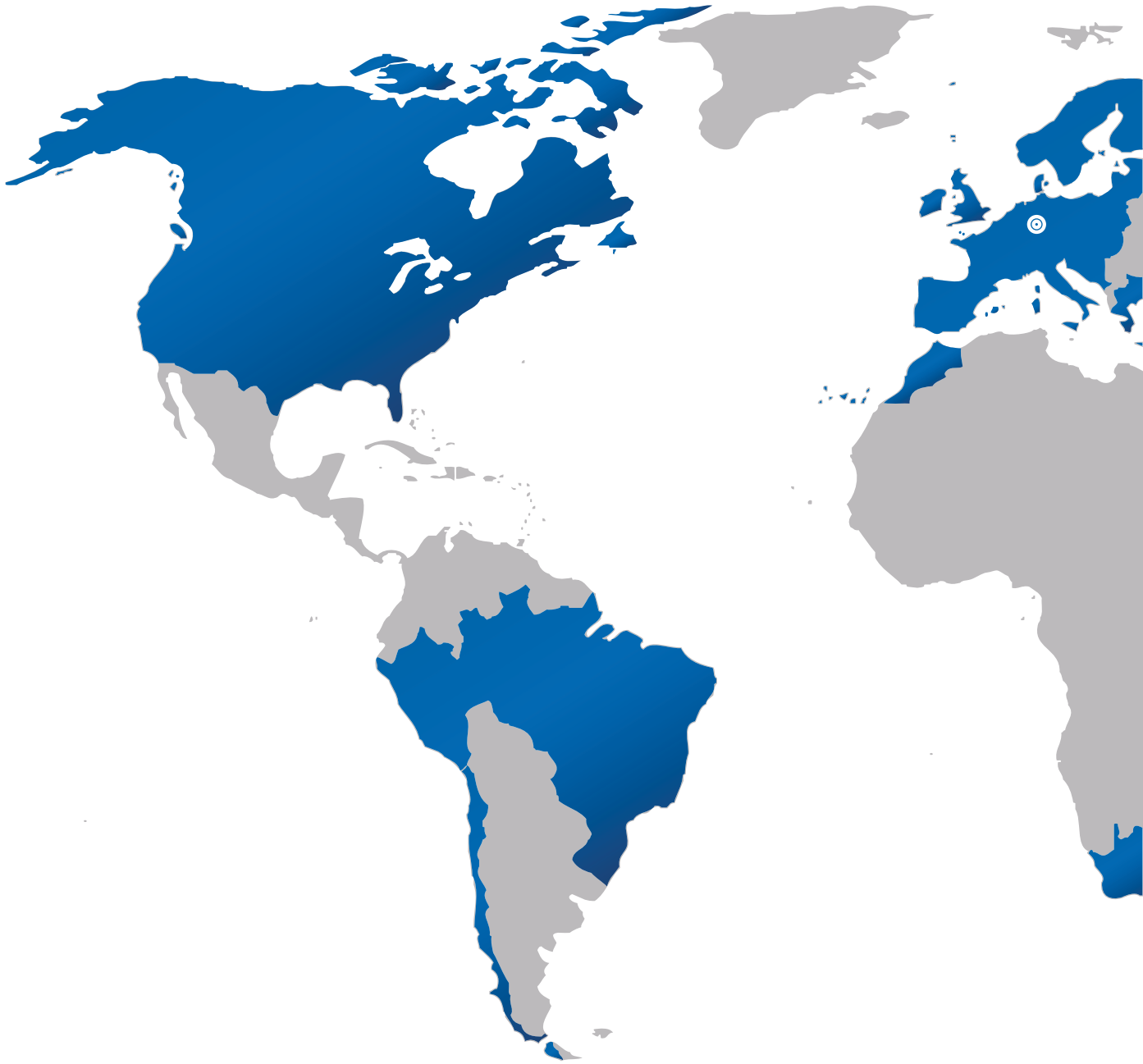
HEADQUARTER GERMANY

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HARD & SOFTWARE DESIGN – IN LINE WITH STANDARD USAGE & THOUGHT OUT CAREFULLY

Devices must be simple to use. That is possible only with a matured technology. Both mechanics and electronics as well as instrument software and the supporting PC-programs must be user-friendly. Therefore we stay closely in contact with you – ultimately the most important and best improvement suggestions come from practical application.

CONSTRUCTION – INNOVATIVE & ACCURATE TO SIZE

Together construction and production work hand in hand. Each equipment is designed three-dimensionally on the computer - both technical requirements and ergonomic aspects play an elementary role. Prepared program data flow directly in our CNC machines and these produce the required mechanical components for your equipment - in this way we guarantee a fast and error free production process.

DEVELOPMENT

FUTURE MADE BY WÖHLER

Our prescription for innovative product ideas is experience of many years, a lot of competence and fascination for technology. Also close cooperation with our customers and experts from business, trade organizations and universities are the basis for our long-lived products. Together we develop trend-setting and practice-oriented innovations for you for decades.

PRODUCTION

IDEAS BECOME REALITY

Production and development cooperate closely here - therefore we react
to changes of the market or new customer requirements fast and flexible.
We can guarantee high quality and productivity by computer-controlled
production methods and modern technology.

CNC-MANUFACTURING – MODERN & EFFICIENT

Precise, automatic and fast; those are three characteristics, which we value about our CNC machines. 'Computerized Numerical Control' means that the machines are electronically steered and regulated. Because that saves time and money, we offer our in-house produced devices at a fair price and on a technically highest level.

ASSEMBLY – CAREFULLY & RELIABLY

Reliable assembly is obvious with us. No equipment leaves our house without detailed final inspection. This way we can guarantee that our instruments meet the highest requirements and will serve our customers for many years. Absolute reliability is for us the basis for the partnership bond of trust between you as a user and us as a manufacturer.
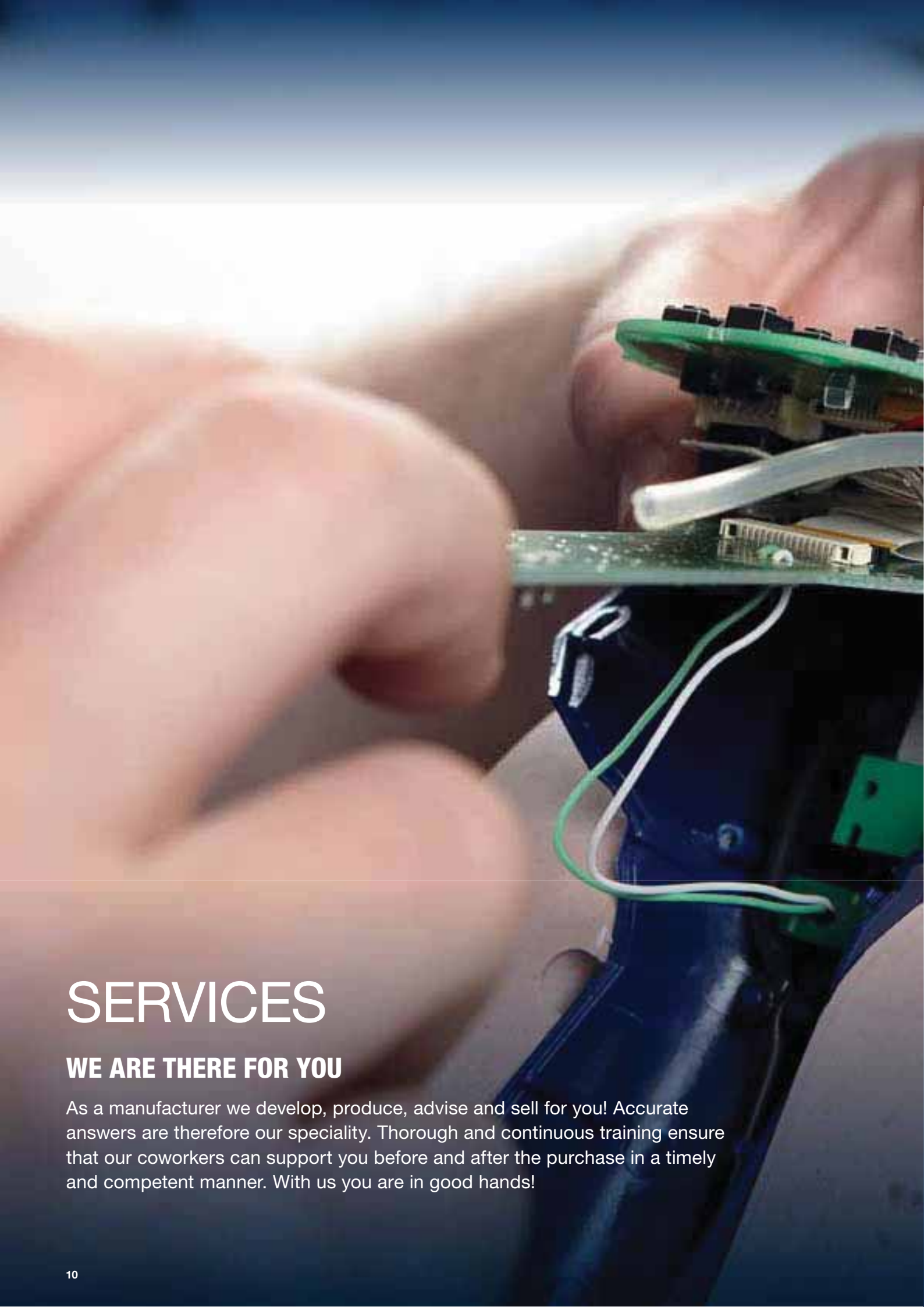
SERVICES

WE ARE THERE FOR YOU

As a manufacturer we develop, produce, advise and sell for you! Accurate answers are therefore our speciality. Thorough and continuous training ensure that our coworkers can support you before and after the purchase in a timely and competent manner. With us you are in good hands!

CONSULTATION & SERVICE –
INDIVIDUAL & COMPETENT

Each purchase decision should be well thought out. Therefore you can test our devices not only at trade shows or exhibitions, but you can also get detailed, individual advice by telephone or in our sales offices. Also in the case of service requirements we do not leave you alone: in our sales and service stations we help you directly and competently. A loan units depot, our express service and the possibility of the direct repair round off our performance spectrum.

DISPATCH & LOGISTICS –
RELIABLE & PUNCTUAL

Our devices should be with you as fast as possible. Our co-ordinated team - reliable coworkers and a well thought out management support system work so well together that in-stock orders will be shipped the same day. Thanks to cooperation for many years with our logistics partners we guarantee that the products reach their new owner as fast as possible.

APPLICATIONS

MEASURING INSTRUMENTS
FLUE GAS ANALYSIS

MEASURING INSTRUMENTS
LEAKAGE AND PRESSURE

MEASURING INSTRUMENTS
IAQ/BUILDING

VISUAL INSPECTION

SWEEP INSTRUMENTS

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MEASURING INSTRUMENTS - FLUE GAS ANALYSIS

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PRODUCT OVERVIEW
FLUE GAS ANALYSIS

	Wöhler A 400 L Flue Gas Analyzer page 20	Wöhler A 400^{PRO} Flue Gas Analyzer page 21
APPLICATIONS		
Residential	•	•
Commercial		
Manifold and Differential Pressure	•	•
Tuning Guide	•	•
Data Management	•	•
SENSORS		
O_2	0...21%	0...21%
CO	0...10,000 ppm	0...4,000 ppm
CO high		
NO		0...1,000 ppm
SO_2		
NO_2		
Stack Temperature	0...800 °C	0...800 °C
Supply Air Temperature	-20...120 °C	-20...120 °C
Differential Pressure	100 hPa	100 hPa
Warranty	2 years	4 years
OPERATION FEATURES		
Touch-Screen		
Colored Display	•	•
Infrared port for printer	•	•
Bluethooth port for computer		
SAFETY FEATURES		
Self Diagnosis for Sensors (S) and Instrument (I)	•	•
CO-valve (V) and CO purge-pump (P)		
4 or 6 Filter Technology	4	4
Filter and Pump Monitor	•	•
Field Replaceable Sensors (F) / Longtime Sensors (L)	F	F / L

	Wöhler A 550 L	Wöhler A 550	Wöhler A 600
	Flue Gas Analyzer	**Flue Gas Analyzer**	**Flue Gas Analyzer**
	page 28-29	page 30-31	page 37
	•	•	•
	•		•
	•	•	•
	•	•	
	•	•	•
	0...21%	0...21%	0...21%
	0...35,000 ppm	0...4,000 ppm	0...4,000 ppm
		0...100,000 ppm	0...100,000 ppm
	0...3,000 ppm	0...3,000 ppm	0...2,000 ppm
		0...5,000 ppm	0...4,000 ppm
	0...1,000 ppm	0...1,000 ppm	0...150 ppm
	-20...800 °C	-20...800 °C	0...900 °C
	-20...100 °C	-20...100 °C	-20...100 °C
	110 hPa	110 hPa	150 hPa
	4 years	4 years	1 year
	•	•	Laptop/PC
	•	•	Laptop/PC
	•	•	Laptop/PC
		•	•
	•	•	•
		•	•
	4	4	6
	•	•	•
	F / L	F / L	F

MEASURING INSTRUMENTS FLUE GAS ANALYSIS

MEASURING INSTRUMENTS LEAKAGE AND PRESSURE

MEASURING INSTRUMENTS IAQ/BUILDING

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SWEEP INSTRUMENTS

SIMPLY GENIUS!

The Wöhler A 400 Flue Gas Analyzers are the multi-functional instruments (flue gas, differential pressure, ambient CO) for residential and light commercial applications. Its unique design allows a comfortable one-hand operation with a technician-friendly 4 button key pad. Integrated magnets make even a hands-free operation possible. Your eyes will love the brilliant full color OLED display which shows all combustion values on one screen. The self-diagnosis functions with an alarm makes the instrument reliable and failsafe. We provide full 4 year warranty for the instrument and LT-Sensors (Wöhler A 400[PRO]).
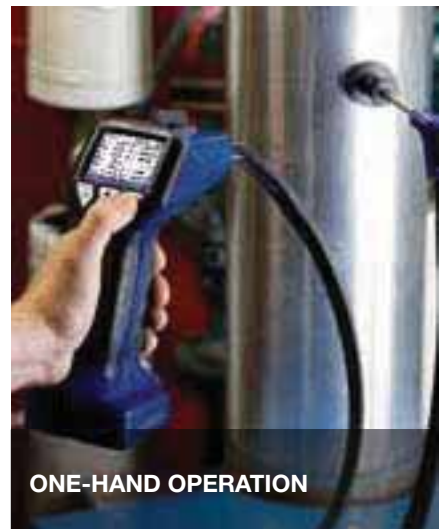
4 YEARS
WARRANTY[1]
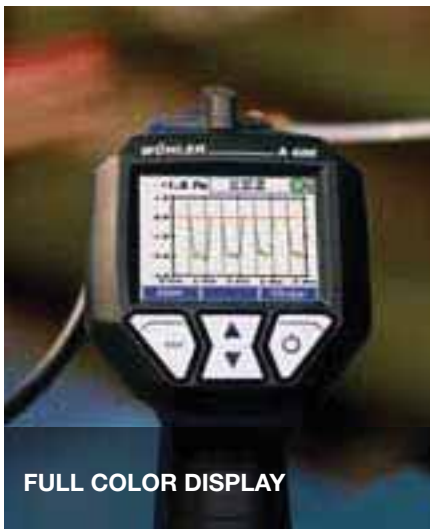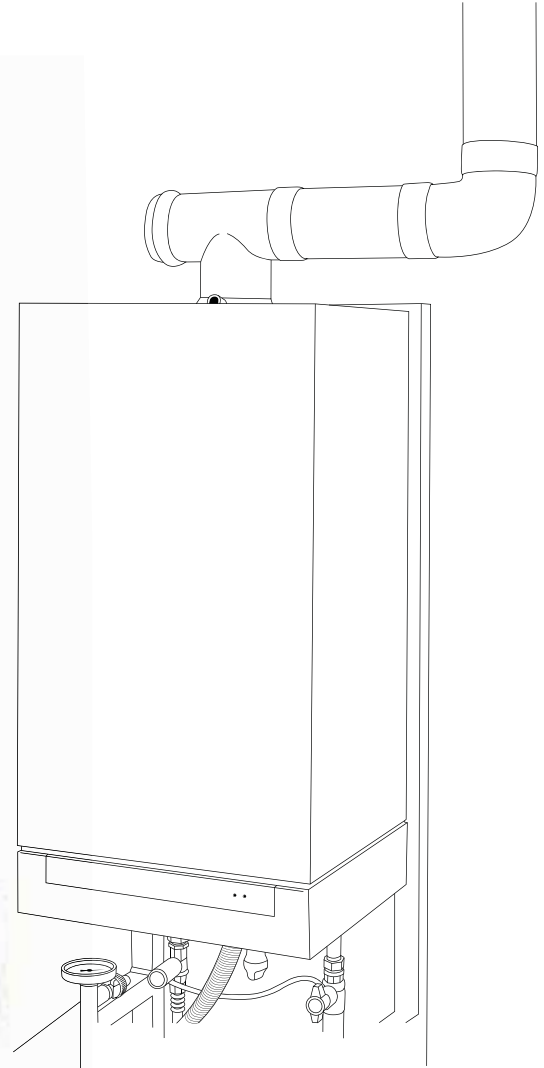
FULL COLOR DISPLAY

FLEXIBLE PROBE OPTION

ONE-HAND OPERATION

10 h BATTERY OPERATION **>100** MEMORY DATA PRINTER SELF DIAGNOSIS FILTER MONITORING WÖHLER TUNING GUIDE IR PORT

FEATURES AND BENEFITS

- Color OLED display – all combustion data values on one screen
- Zoom function
- Integrated magnetic holder
- Technician-friendly 4 button keypad
- Ergonomic shape: comfortable one-hand operation
- Graphic function
- User selectable units for temperature, pressure and CO

SAFETY / RELIABILITY

- Integrated 4-filter technology including water stop filter, cotton filter, sample conditioner and sensor protection
- LT-sensors[1]
- Full 4 year warranty on instrument including sensors[1]
- Continuous self-diagnosis with feedback for:
- All sensors
- Instrument functions
- Condensate

DATA MANAGEMENT

- Memory for 100 customer records
- Date and time stamp

VARIETY OF APPLICATIONS

- Wöhler Tuning Guide with graphical support
- Combustion and efficiency analyzer for residential and light commercial applications
- Ambient CO tester
- Flue gas CO tester (CO air free)
- Differential manometer for chimney draft and appliance manifold pressure
- Graph feature for all combustion readings

APPROVALS

- TÜV approved
- EN 50379-2
- EN 50379-1 for CO

TECHNICAL DATA

Oxygen (O_2)
Sensor type.........................electrochemical
Range................................0.0...21.0 Vol.-%
Resolution...........................0.1 Vol.-%
Accuracy.............................± 0.3 Vol.-%

Carbon monoxide (CO) (Wöhler A 400[PRO])
Sensor type.........................electrochemical
Range................................0...4,000 ppm
Resolution...........................1 Vol.-ppm
Accuracy.............................± 5 % f.m., absolute ±20 ppm

Carbon monoxide (CO) (Wöhler A 400 L)
Sensor type.........................electrochemical
Range................................0...10,000 ppm
Resolution...........................1 ppm
Accuracy.............................± 10 % f.m., absolutee ±40 ppm

Nitrate monoxide (NO) (Wöhler A 400[PRO])
Sensor type.........................electrochemical
Range................................0...1,000 ppm
Resolution...........................1 Vol.-ppm
Accuracy.............................± 5 % f.m., ± 5% Vol.-ppm (<100 ppm)

Draft / Differential Pressure (PD)
Unit ....Pascal
Range................................± 100 hPa
Resolution...........................1 Pa
Accuracy.............................± 2 % f.m., absolute ± 5 Pa

Flue Gas Temperature (T_S)
Unit ....°C
Sensor type.........................thermoelement (NiCr-Ni)
Range................................-20...800 °C ± 2°C
Accuracy.............................133...800 °C: ± 1.5 % f. m.
Resolution...........................0.1 °C

Air Temperature (T_A)
Unit ....°C
Sensor type.........................semiconductor (Si-PTC-Ni)
Range................................-20.0 °C...120.0 °C
Resolution...........................0.1°C
Accuracy............................. ±1°C

Calculated Values
Effc. / SL............................efficiency and losses calculated in accordance to ASME standards
ETA / Q_S............................efficiency and losses calculated in accordance to EN European Standards
CO_2 in Vol.-% ....range O – CO_2max, resolution 0.1 %
CO_c....................................CO concentration ($CO_{corrected}$) air free, adjustable O_{2ref} reference level
Dew point ....in °C / °F
λ / EA.................................Lambda λ (theoretical air), Excess air
m_{COND} ....condensate quantity in condensing conditions

Work temperature ....+5°C...40°C
Storage temperature ....-20°C...50°C
Battery lifetime..................> 10 h (NiMH, 2000 mAh)
Weight...............................640 g
Size ....205 x 85 x 220 mm (without probe)
Length cable-hose ....1700 mm
Length flexible probe ....540 mm

[1] Wöhler A 400/A400[Pro], except for thermocouples and batteries; for further information see our guarantee guidelines

Wöhler A 400 L Flue Gas Analyzer

2 YEARS WARRANTY[1]

APPLICATION:

- Combustion and Efficiency Analyzer for residential and light commercial applications

ADVANTAGES:

- All combustion data values on a bright full color display
- Integrated magnetic holder
- Technician friendly 4 button keypad
- Ergonomic shape: comfortable one hand operation
- Integrated 4-filter technology including water stop filter, cotton filter, sample conditioner and sensor protection
- 2 year full warranty on instrument including sensors[1]
- Memory for 100 customer records
- Date and time stamp

[1]except thermocouple and batteries

Wöhler A 400 L Flue Gas Analyzer Standard Set

Scope of delivery:

| Wöhler A 400L Flue Gas Analyzer |
| 4 disposable batteries |
| plastic case |

➔ **Accessories on page 22**

Part no. 4661 J

Wöhler A 400 L Flue Gas Analyzer Advanced Set

Scope of delivery:

| Wöhler A 400 L Flue Gas Analyzer |
| 4 disposable batteries |
| Wöhler TD 100 Thermal Fast Printer |
| plastic case |

➔ **Accessories on page 22**

Part no. 4662 J

Wöhler A 400PRO Flue Gas Analyzer

4 YEARS WARRANTY[1]

APPLICATION:
- Multifunctional Combustion Analyzer for residential and light commercial applications

ADVANTAGES:
- LT-sensors (full 4 year warranty incl. sensors)
- Ergonomic shape: one hand operation with a 4 button key pad
- Brilliant OLED full color display technology
- Multi-functional: combustion and efficiency analyzer, ambient CO tester, flue gas CO tester (CO air free), differential manometer
- Safety: integrated smart filter technology, condensate control with LED warning light, sensor diagnostics, continuous self diagnosis with feedback

[1]except thermocouple and batteries

Wöhler A 400PRO Flue Gas Analyzer Standard Set
Scope of delivery:

A 400PRO Flue Gas Analyzer
disposable batteries
water stop filter
25 cotton filters
heavy duty carrying case

➔ Accessories on page 22

Part no. 3045 J

Wöhler A 400PRO Flue Gas Analyzer Advanced Set
Scope of delivery:

A 400PRO Flue Gas Analyzer
4 rechargeable batteries
charger
cone
air temperature probe
Wöhler TD 100 printer
water stop filter
25 cotton filters
heavy duty carrying case

➔ Accessories on page 22

Part no. 3053 J

Wöhler A 400PRO Flue Gas Analyzer Professional Set
Scope of delivery:

A 400PRO Flue Gas Analyzer
4 rechargeable batteries
charger
cone
air temperature probe
Wöhler TD 100 printer
Wöhler RP 72 soot test pump
water stop filter
25 cotton filters
heavy duty carrying case

➔ Accessories on page 22

Part no. 3056 J

Probes / Cable Hoses	Part no.
Air Temperature Plug Wöhler A 600 / A 400 without cable	**6013 J**
Air Temperature Probe 100 mm Wöhler A 600 / A 400 with 1.7 m cable, to measure the supply air temperature especially in fire places independent of ambient air	**6020 J**
Air Temperature Probe 280 mm for Wöhler A 600 / A 400 with 1.7 m cable, to measure the supply air temperature especially in fire places independent of ambient air	**6019 J**
Cable Hose Wöhler A 400 V2	**5576 J**
Cable hose Wöhler A 400PRO 1.7 m with flexible probe 300 mm	**3241 X**
Extenstion Wöhler Cable Hose for Wöhler A 400 2,8 m	**2077 J**

Wall Temperature Probe	Part no.
Special Wall Temperature Probe Type W-02 for Wöhler A 400 or Wöhler DT 310	**4651 I**

Flue Gas Preparation	Part no.
Peltier cooler Wöhler A 550 / A 400 NEW incl. power supply	**5535 J**

Cones	Part no.
Clamping Cone for probes 8 mm Ø stainless steel, to stabilize the gas probe in the flue pipe	**2494 K**
PTFE Cone for probes 8 mm Ø to stabilize air temperature probes in openings 10 - 15 mm Ø	**2463 K**

Printer	Part no.
Wöhler TD 100 Thermal Fast Printer Infrared printer with 1 roll thermal paper and four batteries	**4160 I**
Thermal Paper 57 mm width, 10 rolls for thermal printer Wöhler TD 100, TD 600	**4145 I**

Charger / Batteries	Part no.
Charger A 400, A 500 with plug adapter EU, US, GB	**3302 K**
Set of 4 rechargeable NiMH batteries 2000 mAh for Wöhler A 500 / A 400	**9407 I**

Cases	Part no.
Small plastic case for Wöhler A 400 L	**4681 J**
Heavy duty carrying case Wöhler A 400 twin-wall case	**3319 J**

Filter	Part no.
Service kit Wöhler A 400 1 water stop filter, 25 wadding filters, O-Ring, wadding holder and filter cap	**3776 K**
Water Stop Filters pack with 3 pieces for Wöhler A 600 / A 500 / A 400	**9621 K**
Wadding filters pack with 150 pieces for Wöhler A 400	**4288 K**

Cover labels	Part no.
Cover labels, aluminium, D 28 5 Blocks with 100 Pcs each	**4964 I**

Sensors	Part no.
O_2 sensor Wöhler A 400 field replaceable, 1 year warranty	**3354 C**
CO sensor Wöhler A 400 international field replaceable, 1 year warranty 4,000 ppm	**3368 C**
CO-Sensor Wöhler A 400 L field replaceable, 1 year warranty 10,000 ppm	**3398 C**

POWERFULLY SIMPLE NEW

Wöhler A 550 Flue Gas Analyzer

As robust as cast iron, but as easy to operate as a smartphone – that's what Wöhler's new flue gas analyzer feels like in your hand. Appropriately, the advantages are equally substantial: A tip with your finger on the Wöhler A 550 is all that is required to perform analyses, inspections and settings on residential and commercial appliances. The flue gas analyzer is equipped with coded connections for the 4 Pa test and even »NEW AND UNIQUE« a wood moisture content measurement function to VDI Guideline 4206 (VDI = Association of German Engineers).

4 YEARS
WARRANTY[1]

[1] Except thermocouple, rechargeable battery and special sensors; for further information please read our Terms and Conditions.

EASY TO USE WITH A CLEAR DESIGN
Flue gas analyses in accordance with the 1st BImSchV and KÜO are child's play.

ROBUST & WEAR-RESISTANT
The analyzer is able to withstand a thing or two.

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SWEEP INSTRUMENTS

TÜV-CERTIFIED

4 YEARS WARRANTY[1]

ROBUST HOUSING

4 FILTER TECHNOLOGY

DATA TRANSFER USB & BLUETOOTH®

4 Pa TEST
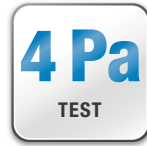
PRODUCT BENEFITS

- Simple to use: Switch on – read off – done
- Large, color touchscreen:
  Displays up to 14 measurement and calculation values
- Intuitive to operate via on-screen keyboard
- Calibrate in the flue gas pipe via a fresh air pump
  (Wöhler A 550)
- Graphic hot spot search

EXTREMLY RELIABLE

- Effective condensate protection
- Automatic CO clean out pump protects CO sensor
  (Wöhler A 550)
- 4-filter technology – easily accessible
- Analyzer and sensor diagnostics
- Sensor replacement – user-friendly
- Rechargeable battery operating time: more than 12 h with
  Lithium Ion power
- Hose assembly – robust and flexible

HUGE RANGE OF APPLICATIONS

- Expandable with up to 5 sensors
- For measurements: NO, NO_2, SO_2
- Insertion probe for a variety of measurement tasks
- Spillage Test and much more
- First flue gas analyzer incl. wood moisture content
  measurement (wood moisture probe included in scope of
  supply of Wöhler A 550)

SIMPLE DATA MANAGEMENT

- 1,000 measurement records
- Data transfer via USB, Bluetooth or infrared

WOOD MOISTURE
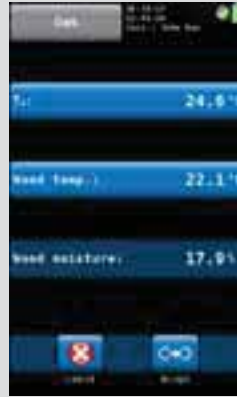
SPILLAGE TEST
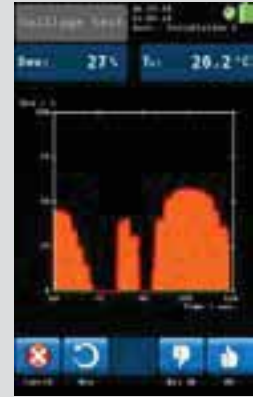
TUNING GUIDE
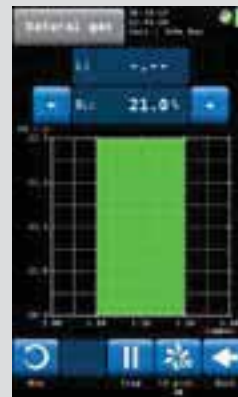
PRINT PREVIEW
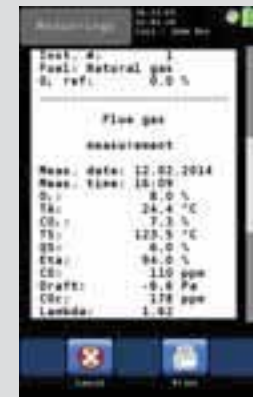
TÜV-APPROVED (GERMAN TECHNICAL INSPECTORATE)

- TÜV By RgG 297
- EN 50379 - 2, VDI 4206
- EN 50379 - 1 for CO

PRINTING OUT THE RESULTS OF MEASUREMENT
Printing out the results on the spot with the
Wöhler TD 100 Thermal Printer.

SECURE & RELIABLE
The Wöhler A 550 Combustion Analyzer with protective
hinged lid.

THOSE SPECIAL EXTRAS

LARGE 7" COLOR TOUCHSCREEN
All results of measurement at a glance - Simple to use menu navigation: Switch on - read off - done.

CONDENSATE STATUS ALWAYS IN VIEW
The bright blue condensate trap is serviced in no time at all and without any difficulty.

THE RIGHT PROBE FOR EVERY APPLICATION
The right probe is connected in no time at all.

CONVENIENT PLUG-IN CONNECTION
Analysis, temperature and draught – 3 functions in a single hose: Simply plug them together and fold down the protective lid again.

START /STOP BUTTON ON THE PROBE HANDLE
When measuring in difficult conditions, you can also simply stop and save the measurement at the press of the button on the probe handle.

Wöhler	A 550	A 550 L
Applications (depends on accessories)		
Flue Gas Analysis	●	●
4 Pa-test	●	
Wood moisture	●	●
Backflow check	●	●
Wöhler Tuning Guide	●	●
Possible sensors	5	3
Functionality		
7" color touchscreen	●	●
Fresh air pump, simulta-neous hot spot search and calibration	●	
Start-/stop function at probe	●	
1,000 measurement records	●	●
USB & infrared	●	●
Bluetooth®	●	
CO clean out pump	●	
Reliability		
4-year sensor and analyzer guarantee[1]	●	●
Analyzer self diagnostics	●	●
Field replaceable sensors	●	●
Visual filter alarm	●	●
Lithium Ion rechargeable battery with up to 12 h battery operating time	●	●
Scope of supply		
Interchangeable probe with 1.7 m hose assembly and plug-in probe 295 mm	●	
Probe with 1.7 m hose assembly and fixed probe 275 mm		●
Combustion air temperature probe	●	optional
Wood Moisture Probe	optional	optional
Pressure measurement adapter for 4 Pa test	optional	
1 water stop filter and 1 coarse filter	●	●
Rechargeable battery and USB battery charger	●	●
Case	●	●

● = included

[1] Except thermocouple, rechargeable battery and special sensors; for further information please read our Terms and Conditions.

TECHNICAL DATA

Oxygen concentration (O_2) 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 4000 ppm) in flue gas (Wöhler A 550)
Display.................................Volume ppm referenced to dry flue gas
Measurement principle ....Electrochemical sensor
Range..................................0-4,000 vol. ppm; resolution 1 vol. ppm
Accuracy..............................±20 ppm (< 400 ppm), otherwise 5% of reading

Carbon monoxide (CO) in flue gas (Wöhler A 550 L)
Display.................................Volume ppm referenced to dry flue gas
Measurement principle ....Electrochemical sensor
Range..................................0-35,000 vol. ppm; resolution 1 vol. ppm
Accuracy..............................± 100 ppm (< 1,000 ppm),
                                           otherwise 10% of reading (with H_2 < 5% of reading)

Carbon monoxide (CO_{high}) in flue gas (optional)
Display.................................Volume ppm referenced to dry flue gas
Measurement principle ....Electrochemical sensorr
Range..................................0-100,000 vol. ppm; resolution 1 vol. ppm
Accuracy..............................± 100 ppm (< 1,000 ppm),
                                           otherwise 10% of reading (with H_2 < 5 % of reading)

Nitric oxide concentration (NO) in flue gas (optional)
Display.................................Volume ppm referenced to dry flue gas
Measurement principle ....Electrochemical Sensor
Range..................................0-3,000 vol. ppm (continuously up to 1,000);
Resolution ....1 vol. ppm
Accuracy..............................± 5 Vol.-ppm (<100 ppm), otherwise 5 % of reading

Nitrogen dioxide concentration (NO_2) in flue gas (optional)
Display.................................Volume ppm referenced to dry flue gas
Measurement principle ....Electrochemical sensor
Range..................................0-1000 vol. ppm (continuously up to 200); resolution 1 vol. ppm
Accuracy..............................±5 vol. ppm (< 100 ppm), otherwise 5 % of reading

Sulfur dioxide (SO_2) in flue gas (optional)
Display.................................Volume ppm referenced to dry flue gas
Measurement principle ....Electrochemical sensor
Range..................................0-5,000 vol. ppm; resolution 1 vol. ppm
Accuracy..............................± 10 vol. ppm (0...200 ppm), otherwise 5 % of reading

Chimney draught / differential pressure (PD) with 4 Pa test (Wöhler A 550)
Display.................................Pascal
Measurement principle ....Semi-conductor diaphragm
Range..................................0.00 to ± 110.00 hPa; resolution 0.1 Pa (< 1000.0 Pa),
                                           otherwise 1 Pa, with ventilation loss measurement 0.01 Pa
Accuracy..............................0.3 Pa (< 10.0 Pa), otherwise 3 % of reading
                                           Drift < 0.2 Pa in 5 minutes

Chimney draught / differential pressure (PD) (Wöhler A 550 L)
Display.................................Pascal
Measurement principle ....Semi-conductor diaphragm
Range..................................0.00 to ± 110.00 hPa; resolution 1 Pa
Accuracy..............................2 Pa (< 40 Pa), otherwise 5% of reading

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

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

Wood moisture
Display.................................Mass of water referenced to dry fuel mass
Measurement principle ....Electrical resistance measurement
Range..................................10.0-40.0%; resolution 0.1%
Accuracy..............................±40% of reading tested to VDI 4206 Part 4
Power supply ....Lithium-Ion, rechargeable battery 3.7 V, 5800 mAh,
                                           charges via USB
Battery operating time ......Approx. 12 h (depends on operating status and display illumination)
Storage temperature ....-20 °C to +50 °C
Operating temperature......+5-40 °C to maintain stated accuracy
Weight...............................1250 g
Dimensions.......................220 x 160 x 55 mm (without probe)
Length of cable-hose: ....1700 mm

MEASURING INSTRUMENTS
FLUE GAS ANALYSIS

Wöhler A 550 L Flue Gas Analyzer

4 YEARS WARRANTY[1]

APPLICATION

- For burner adjustment and determination of combustion loss
- For residential and commercial applications
- Burner maintenance

ADVANTAGES

- Large 7"color-touch screen: Displays up to 14 measurement and calculation values
- Intuitive to operate via on-screen keyboard
- Data transfer via integrated USB- & IR-Interface
- Large CO-measurement range: 35,000 ppm
- Robust plastic case for safe transport

ROBUST HOUSING | 4 FILTER TECHNOLOGY | USB MMC/SD | PRINTER

Wöhler A 550 L Flue Gas Analyzer Standard Set
Scope of delivery:

Wöhler A 550 L Flue Gas Analyzer

cable hose 1.7 m

gas probe 275 mm

USB-charger with Micro-USB cable

Lithium-ion rechargeable battery

waterstop filter

coarse filters

wadding filters

plastic case

➔ Accessories on page 32

Part no. 8133 J

Wöhler A 550 L Flue Gas Analyzer Advanced Set
Scope of delivery:

Wöhler A 550 L Flue Gas Analyzer

cable hose 1.7 m

gas probe 275 mm

USB-charger with Micro-USB cable

Lithium-ion rechargeable battery

waterstop filter

coarse filters

wadding filters

Wöhler TD 100 Thermal Fast Printer

plastic case

➔ Accessories on page 32

Part no. 8134 J

[1] Except thermocouple, rechargeable battery and special sensors; for further information please read our Terms and Conditions.

Wöhler A 550 L NOx Flue Gas Analyzer

4 YEARS WARRANTY[1]

APPLICATION

- For burner adjustment and determination of combustion loss
- For residential and commercial applications
- Burner maintenance

ADVANTAGES

- Large 7" color-touch screen: Displays up to 14 measurement and calculation values
- Intuitive to operate via on-screen keyboard
- Data transfer via integrated USB- & IR-Interface
- Large CO-measurement range: 35,000 ppm
- Complete Set with Wohler TD 100 Thermal Fast Printer

ROBUST HOUSING | **4 FILTER TECHNOLOGY** | **USB MMC/SD** | **PRINTER** | **NO SENSOR**

Wöhler A 550 L NOx Flue Gas Analyzer Standard Set

Scope of delivery:

Wöhler A 550 L NOx Flue Gas Analyzer
cable hose 1.7 m
gas probe 275 mm
USB-charger with Micro-USB cable
Lithium-ion rechargeable battery
waterstop filters
coarse filters
wadding filters
plastic case

➔ Accessories on page 32

Part no. 8148 J

Wöhler A 550 L NOx Flue Gas Analyzer Advanced Set

Scope of delivery:

Wöhler A 550 L NOx Flue Gas Analyzer
cable hose 1.7 m
gas probe 275 mm
USB-charger with Micro-USB cable
Lithium-ion rechargeable battery
waterstop filters
coarse filters
wadding filters
Wöhler TD 100 Thermal Fast Printer
plastic case

➔ Accessories on page 32

Part no. 8149 J

[1] Except thermocouple, rechargeable battery and special sensors; for further information please read our Terms and Conditions.

MEASURING INSTRUMENTS FLUE GAS ANALYSIS

MEASURING INSTRUMENTS LEAKAGE AND PRESSURE

MEASURING INSTRUMENTS IAQ/BUILDING

VISUAL INSPECTION

SWEEP INSTRUMENTS

Wöhler A 550 Flue Gas Analyzer with Bluetooth®-Interface

4 YEARS WARRANTY[1]

APPLICATION

- Flue gas analysis
- Backflow Check (optional)
- Wood Moisture Measurement
- 4 Pa-Test

ADVANTAGES

- Large 7"color-touch screen: Displays up to 14 measurement and calculation values
- Intuitive to operate via on-screen keyboard
- Data transfer via integrated Bluetooth®-, USB- & IR-Interface
- Start-/Stop-Button on the probe handle – When measuring in difficult conditions, you can also simply stop and save the measurement at the press of the button on the probe handle
- 1,000 measurement records
- Huge range of applications: NO, NO_2, SO_2 (in connection with the Wöhler Peltier cooler), ...

ROBUST HOUSING

4 FILTER TECHNOLOGY

DATA TRANSFER USB & BLUETOOTH®

Wöhler A 550 Flue Gas Analyzer Standard Set

Scope of delivery:

Wöhler A 550 Flue Gas Analyzer

cable hose 1.7 m

gas probe 295 mm

combustion air temperature probe

USB-charger with Micro-USB cable

Lithium-ion rechargeable battery

waterstop filters

coarse filters

wadding filters

plastic case

➔ **Accessories on page 32**

Part no. 8150 J

Wöhler A 550 Flue Gas Analyzer Advanced Set

Scope of delivery:

Wöhler A 550 Flue Gas Analyzer

cable hose 1.7 m

gas probe 295 mm

combustion air temperature probe

USB-charger with Micro-USB cable

Lithium-ion rechargeable battery

waterstop filters

coarse filters

wadding filters

Wöhler TD 100 Thermal Fast Printer

plastic case

➔ **Accessories on page 32**

Part no. 8152 J

Wöhler A 550 NOx Flue Gas Analyzer Advanced Set

Scope of delivery:

Wöhler A 550 NOx Flue Gas Analyzer

cable hose 1.7 m

gas probe 295 mm

combustion air temperature probe

USB-charger with Micro-USB cable

Lithium-ion rechargeable battery

waterstop filters

coarse filters

wadding filters

Wöhler TD 100 Thermal Fast Printer

plastic case

➔ **Accessories on page 32**

Part no. 8154 J

Wöhler A 550 Flue Gas Analyzer with Bluetooth®-Interface

4 YEARS WARRANTY[1]

APPLICATION

- Flue gas analysis
- Backflow Check (optional)
- Wood Moisture Measurement
- 4 Pa-Test

ADVANTAGES

- Large 7" color-touch screen: Displays up to 14 measurement and calculation values
- Intuitive to operate via on-screen keyboard
- Data transfer via integrated Bluetooth®-, USB- & IR-Interface
- Start-/Stop-Button on the probe handle – When measuring in difficult conditions, you can also simply stop and save the measurement at the press of the button on the probe handle
- 1,000 measurement records
- Huge range of applications: NO, NO_2, SO_2 (in connection with the Wöhler Peltier cooler), ..

TÜV-CERTIFIED ROBUST HOUSING 4 FILTER TECHNOLOGY

DATA TRANSFER USB & BLUETOOTH® 4 Pa TEST

Wöhler A 550 Flue Gas Analyzer Professional Set

Scope of delivery:

Wöhler A 550 Flue Gas Analyzer

Wöhler RP 72 Soot Test Pump Set

combustion air temperature probe

magnetic holder

2 cones

3 m cable hose

3 waterstop filter

5 coarse filters

Wöhler TD 100 Thermal Fast Printer

aluminium framed case

➔ Accessories on page 32

Part no. 8156 J

Wöhler A 550 NOx Flue Gas Analyzer Professional Set

Scope of delivery:

Wöhler A 550 NO / NO_2 Flue Gas Analyzer

Wöhler RP 72 Soot Test Pump Set

combustion air temperature probe

magnetic holder

2 cones

3 m cable hose

3 waterstop filters

5 coarse filters

Wöhler TD 100 Thermal Fast Printer

aluminium framed case

➔ Accessories on page 32

Part no. 8157 J

Wöhler A 550 SOx Flue Gas Analyzer Professional Set

Scope of delivery:

Wöhler A 550 O_2 / CO / NO / NO_2 / SO_2 Flue Gas Analyzer

Wöhler RP 72 Soot Test Pump Set

combustion air temperature probe

magnetic holder

2 cones

3 m cable hose

3 waterstop filters

5 coarse filters

Wöhler TD 100 Thermal Fast Printer

aluminium framed case

➔ Accessories on page 32

Part no. 8158 J

[1] Except thermocouple, rechargeable battery and special sensors; for further information please read our Terms and Conditions.

MEASURING INSTRUMENTS FLUE GAS ANALYSIS

MEASURING INSTRUMENTS LEAKAGE AND PRESSURE

MEASURING INSTRUMENTS IAQ/BUILDING

VISUAL INSPECTION

SWEEP INSTRUMENTS

Probes	Part no.
Wöhler A550 air temperature probe with 1.7 m cable	
280 mm	**5511 J**
185 mm	**5521 J**
Air Temperature Plug Wöhler A 550	**5517 J**
Wöhler A 550 / 500 Gas Probe	
500 mm	**9614 J**
295 mm	**9622 J**
180 mm	**9613 J**
130 mm	**9652 J**
Wöhler A 550 / 500 Flexible Probe 300 mm	**3242 J**
Wöhler A 550 dew point indicator probe	**5512 J**
Moisture Probe Wöhler A 550	**5513 J**
Special Wall Temperature Probe Type W-02 for Wöhler A 400 or Wöhler DT 310	**4651 I**
Hose assembly for Wöhler A 550 Gas Probe	
1.7 m	**7178 K**
3.0 m	**7179 K**

Cones	Part no.
Magnetic Holder for air temperature probes to stabilize the air temperature probe	**6142 K**
Clamping Cone for probes 8 mm Ø stainless steel, to stabilize the gas probe in the flue pipe	**2494 K**
PTFE Cone for probes 8 mm Ø to stabilize air temperature probes in openings 10 - 15 mm Ø	**2463 K**

Flue Gas Preparation	Part no.
Filter granulate NEW for BHKW Filter Wöhler A 550 100 ml	**4398 J**
Peltier cooler Wöhler A 550 / A 400 NEW incl. charger	**5535 J**
Extension Wöhler Cable hose Wöhler A 550 L, 2,8 m	**2076 J**

HOTLINE: +49 2953 73-279   FAX: +49 2953 73-96279   **WÖHLER**

Printer	Part no.
Wöhler TD 100 Thermal Fast Printer Infrared printer with 1 roll thermal paper and four batteries	**4160 I**
Thermal Paper 57 mm width, 10 rolls for thermal printer Wöhler TD 100, TD 600	**4145 I**

Charger	Part no.
Charger Wöhler A 550	**5502 J**

Cases	Part no.
Wöhler A 550 Aluminium framed case	**5515 J**
Wöhler A 550 L Plastic case	**5516 J**
Wöhler A 550 Heavy duty carrying case twin-wall case	**5577 J**

Consumables	Part no.
Water Stop Filters pack with 3 pieces for Wöhler A 600 / A 500 / A 400	**9621 K**
Coarse Filters pack with 5 pieces for Wöhler A 500 / A 600	**9632 K**
Wadding filters A 400 pack with 150 pieces for A 400	**4288 K**

	Part no.
O_2 sensor Wöhler A 550 field replaceable	**5594 C**
CO sensor 4,000 ppm Wöhler A 550 field replaceable	**8166 C**
CO-Sensor 35.000 ppm Wöhler A 550 L field replaceable	**4496 C**
CO_H sensor 100,000 ppm Wöhler A 550 field replaceable	**5596 C**
NO sensor 3,000 ppm Wöhler A 550 field replaceable	**5597 C**
NO_2 sensor 1,000 ppm Wöhler A 550 field replaceable	**5598 C**
SO_2 sensor 5,000 ppm Wöhler A 550 field replaceable	**5665 C**

UNLIMITED INTELLIGENCE – FLUE GAS ANALYSIS VIA BLUETOOTH®

Wöhler A 600 Flue Gas Analyzer

The next generation of commercial and industrial combustion and emission analysis. Rely on latest technology with Bluetooth® operation: The Wöhler Bluetooth® probe turns your PC into a professional flue gas analyzer: Thanks to the integrated Bluetooth® interface the Wöhler A 600 connects smoothly with your netbook, notebook or PC.
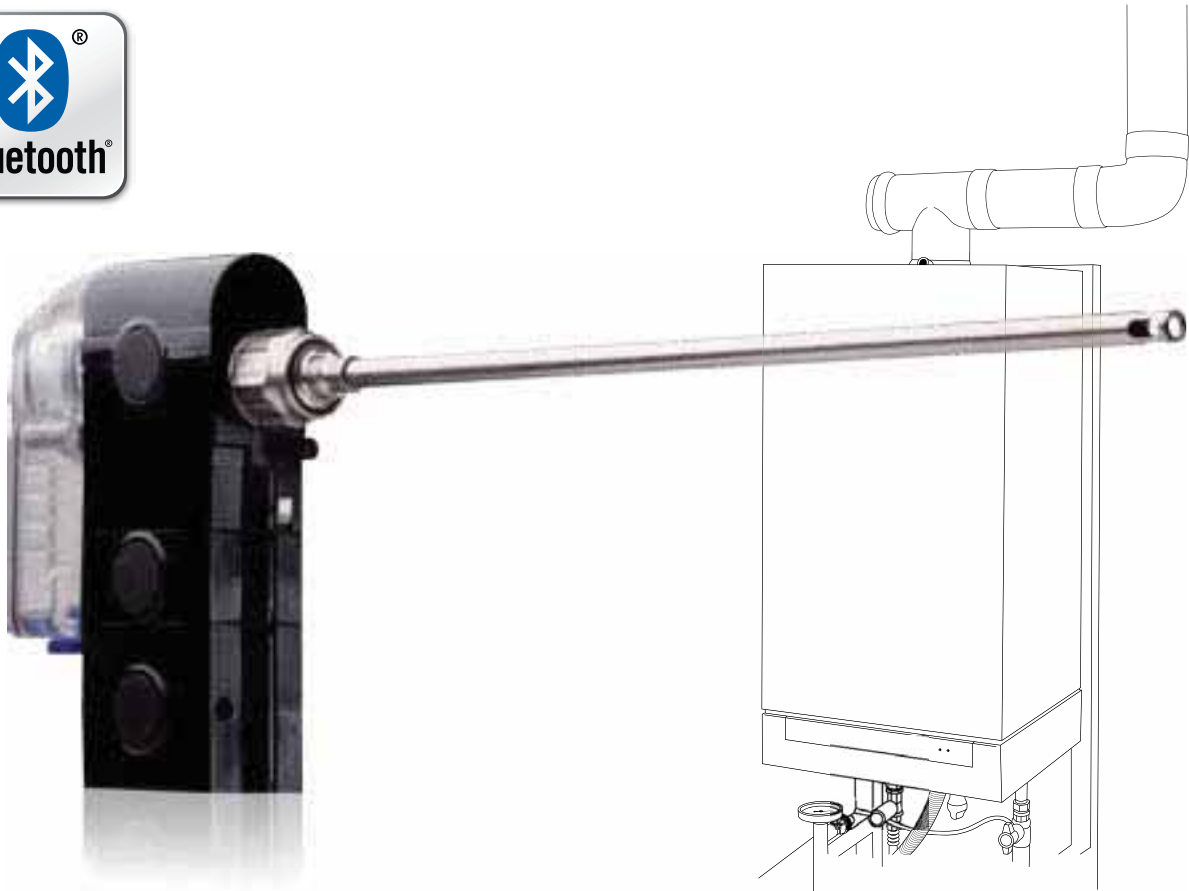
OPEN CONCEPT
Operates together with your netbook, notebook and PC

FAST AND RELIABLE
Easily upgrade or replace sensors
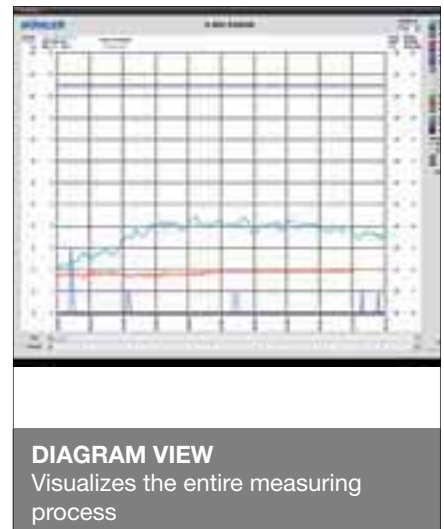
DIAGRAM VIEW
Visualizes the entire measuring process

TÜV-CERTIFIED   **4 Pa TEST**   **Bluetooth®**

FEATURES AND BENEFITS
- Wireless probe for versatile applications
- Core temperature search with displayed graph
- Rapid Readout Technology (R.R.T.)

RELIABILITY / SAFETY
- Full automatic calibration
- Automatic CO-safety-valve
- Self-monitoring filter and pump
- Enhanced self diagnosis
- Field replaceable sensors
- 6 filter technology
- More than 10 hours operation time with standard AA rechargeable batteries
- Optional use of non-rechargeable standard AA batteries

VARIETY OF APPLICATIONS
- Multiple fuels: oil, gas and solid fuel fired heat appliances
- Sensors: O_2, CO, NO, NO_2, SO_2, H_2
- Variety of probes for different measurement tasks
- Adapters for temperature and air flow probes
- Optional peltier-cooler and solid fuel adapter
- Customer adjustable fuel parameters

DATA MANAGEMENT
- For more than 1,000 measurement records
- Infrared printer port
- Bluetooth link to computer or laptop
- USB interface

TÜV-APPROVED
- EN 50379 Part 2
- TÜV By RgG 248 according to EN 50379

TECHNICAL DATA

Oxygen Concentration (O_2)
Range.................................0…21.0 Vol.-%
Accuracy.............................± 0.3 Vol.-%

Carbon Monoxide Concentration (CO_{low}), H_2 compensated
Range.................................0…4,000 Vol.-ppm
Accuracy.............................± 20 ppm: (< 400 ppm), otherwise 5 % of reading

Hydrogen Concentration (H_2)
Range.................................0…1,000 Vol.-ppm
Accuracy.............................± 40 ppm (<400 ppm), otherwise 10 % of reading

NO-measurement (optional)
Range.................................0...2,000 ppm
Accuracy.............................± 5 ppm (<400 ppm), otherwise 5 % of reading

NO_2-measurement (optional)
Range.................................0...150 ppm
Accuracy.............................± 2 ppm within the range up to 40 ppm, otherwise ± 5 % o.r.

SO_2-measurement (optional)
Range.................................0...4,000 ppm
Accuracy.............................± 10 within the range up to 200 ppm, otherwise ±5 % o.r.

Carbon Monoxide Concentration (CO_{high}) (opt)
Range.................................0…100,000 Vol.-ppm
Accuracy.............................± 100 Vol.-ppm (<1,000 ppm),10 % of reading

Nitrogen Concentration (NO) (opt)
Range.................................0…2,000 Vol.-ppm, (permanent up to 1,000 ppm)
Accuracy.............................± 5 ppm (< 400 ppm), otherwise 5 % of reading

Draft/Differential Pressure (PD)
Range.................................± 150 hPa
Accuracy.............................± 3.0 Pa (< 100,0 Pa), otherwise 3 % of reading
Resolution............................0.1 Pa

Air temperature (T_A)
Range.................................-20.0…100.0 °C
Accuracy.............................± 1 °C

Flue Gas temperature (T_S)
Range.................................-10.0…900.0 °C
Accuracy.............................EN 50379, Part 2

CO_2-Calculation
Range.................................0…CO_{2max}
Resolution............................0,1 %

Stack losses Q_A
in reference to the selected fuel (Siegert formula)

Efficiency
Range.................................0…100.0 % condensation is automatically detected
Accuracy.............................0.1 %

Dew point temperature
in reference to selected fuel
Resolution............................0.1 °C
Condensate........................readings in kg/m3 (gas) or kg/l (Öl)

Air speed...........................approx. 130 m/s
Resolution............................< 0.4 m/s

Air flow..............................0...2,000 m³/h
Resolution............................approx. 1 m³/h

Date/time...........................realtime clock with backup battery

Storage temperature.........-20…50 °C

Work temperature.............5…40 °C to meet specifications

Battery hand held..............6 x AA rechargeable batteries or mains supply

Battery wireless probe......3 x AA rechargeable batteries or mains supply

Weight...............................approx. 1,200 g

Size..................................240 x 155 x 65 mm (with docked probe)

MEASURING INSTRUMENTS FLUE GAS ANALYSIS

MEASURING INSTRUMENTS LEAKAGE AND PRESSURE

MEASURING INSTRUMENTS IAQ/BUILDING

VISUAL INSPECTION

SWEEP INSTRUMENTS

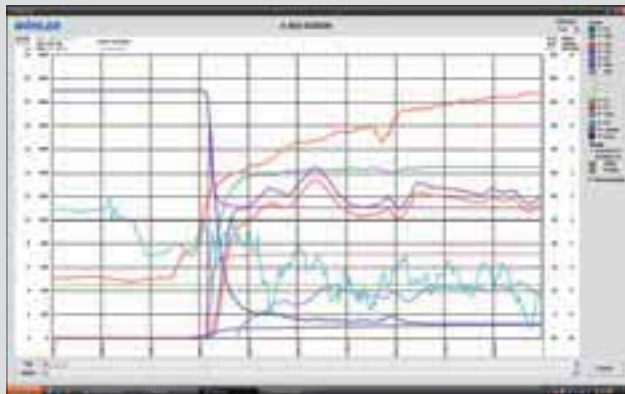# PC ANALYSIS WITH THE WÖHLER A 600 BLUETOOTH® PROBE

Diagram view

TOGETHER WITH YOUR PC

Utilizing Bluetooth® technology your Wöhler A 600 enables you to perform continuous, PC supported analyses to serve your customers at home as well as analyses for industry and further development. After launching the program your Wöhler A 600 software automatically connects with the Bluetooth® probe. Once sensor diagnostics and core flow search have been completed successfully the readings are displayed as a diagram in a user scalable measurements screen. It is possible to store the completed analysis in the integrated data management environment as well as use the measurements in external applications. Moreover, it is easily possible to import all of the analysis readings into a spreadsheet program (for example Excel).

Measurements display Q_A-mean value measurements

TOGETHER WITH YOUR NOTEBOOK

The Wöhler A 600 basic set turns your notebook into a first class analyzer and display instrument.

Once your notebook has connected automatically with the Bluetooth® probe it carries out the desired analysis with the aid of the software and then saves the results as required.

1) System requirements:
  - Operating system Windows XP, Windows Vista, Windows 7 or Windows 8
  - In addition, Microsoft .net Framework Version 4.0 must be installed. This is normally a component of the Windows operating system; however, it can also be downloaded for free from the Microsoft website and installed later.

Wöhler A 600 Flue Gas Analyzer

APPLICATION

- Combustion measurements on heating appliances (for all types of fuels)

ADVANTAGES

- TÜV-approved for oil, gas, solid fuel
- 4-Pa certified
- Bluetooth® probe
- Up to 6 sensors possible
- Connection for peltier cooler

Wöhler A 600 Flue Gas Analyzer PC Set

Scope of delivery:

Wöhler A 600 Bluetooth® probe 295 mm

O_2 + CO 4,000 ppm sensors

1.7 m cable hose

air temperature probe with 1.6 m cable

cone

plastic case

➔ **Accessories on page 38**

Part no. 6083 J

MEASURING INSTRUMENTS FLUE GAS ANALYSIS

MEASURING INSTRUMENTS LEAKAGE AND PRESSURE

MEASURING INSTRUMENTS IAQ/BUILDING

VISUAL INSPECTION

SWEEP INSTRUMENTS

Data Management	Part no.
Bluetooth® Dongle USB for PC for data transmission from Wöhler instruments to PC via bluetooth	**7172 I**

Probes	Part no.
Wöhler A 600 flexible probe 300 mm	**3244 J**
Wöhler A 600 probe holder with hose 1.7m without probe	**6002 J**
Air Temperature Probe 280 mm for Wöhler A 600 / A 400 with 1.7 m cable, to measure the supply air temperature especially in fire places independent of ambient air	**6019 J**
Air Temperature Probe 100 mm for Wöhler A 600 / A 400 with 1.7 m cable, to measure the supply air temperature especially in fire places independent of ambient air	**6020 J**
Air Temperature Plug Wöhler A 600 / A 400 without cable	**6013 J**
Wöhler A 600 Air Temperature Probe Adaptor for bluetooth probe, to measure combustion air temperature in connection with the combustion air temperature plug or combustion air temperature probe	**6012 J**
Gas Probe for Wöhler A 600	
500 mm	**6056 J**
295 mm	**6005 J**
180 mm	**6016 J**
130 mm	**6017 J**

Cones	Part no.
PTFE Cone for probes 8 mm Ø to stabilize air temperature probes in openings 10 - 15 mm Ø	**2463 K**
Clamping Cone for probes 8 mm Ø stainless steel, to stabilize the gas probe in the flue pipe	**2494 K**

Flue Gas Preparation	Part no.
Wöhler Peltier Cooler for Wöhler A 600 / A 500 to protect the Analyzer against condensate during longtime measurements, incl. power supply	**4635 J**
Wöhler A 600 / A 500 Condensate Pump for Wöhler Peltier Cooler for automatic condensate extraction in connection with the Peltier Cooler.	**4636 J**
Solid Fuel Adapter/Long Term Condensator for Wöhler A 600 / A 500	**3535 J**
Wadding 50 g for solid fuel adaptor / long-term condensator	**50351 K**

Printer	Part no.
Wöhler TD 100 Thermal Fast Printer Infrared printer with 1 roll thermal paper and four batteries	**4160 I**
Thermal Paper 57 mm width, 10 rolls for thermal printer Wöhler TD 100, TD 600	**4145 I**

Batteries	Part no.
Set of 3 rechargeable NiMH batteries 2000 mAh for Wöhler A 600 bluetooth probe	**6026 J**

Consumables	Part no.
Wöhler A 600 Service Pack with several O-rings, special service oil, 3 coarse filters, 1 pack wadding 25 g and 1 water stop filter	**6053 J**
Wöhler A 600 Wadding Filters 25 g	**6052 K**
Water Stop Filters pack with 3 pieces for Wöhler A 600 / A 500 / A 400	**9621 K**
Coarse Filters pack with 5 pieces for Wöhler A 500 / A 600	**9632 K**
Cover labels, aluminium, D 28 5 Blocks with 100 Pcs each	**4964 I**

Sensors	Part no.
Wöhler A 600 Sensor O_2 field replaceable	**6003 C**
Wöhler A 600 Sensor CO - 4,000 ppm field replaceable	**6004 C**
Wöhler A 600 Sensor CO high - 100,000 ppm field replaceable	**6008 C**
Wöhler A 600 Sensor NO - 2,000 ppm field replaceable	**6009 C**
Wöhler A 600 Sensor NO_2 - 150 ppm field replaceable	**6043 C**
Wöhler A 600 Sensor SO_2 - 4,000 ppm field replaceable	**6045 C**

Wöhler RP 72 Soot Test Pump

APPLICATION

For measuring the soot level manually

ADVANTAGES

- Rugged and reliable 10 stroke Soot Test Pump
- Long hose: ideal for difficult to reach measurement openings
- Non centered soot spot, allows many tests on one filter, easy to compare
- 2 filter technology

rugged · reliable · established

Wöhler RP 72 Soot Test Pump Standard Set
Scope of delivery:

Wöhler RP 72 Soot Test Pump
1 m hose
probe 220 mm
smoke spot comparison scale
filter papers (300 pcs.)
short wadding (25 pcs.)
long wadding (50 pcs.)

Part no. 9150 I

Wöhler RP 72 Soot Test Pump Professional Set
Scope of delivery:

Wöhler RP 72 Soot Test Pump
1 m hose
probe 220 mm
smoke spot comparison scale
threaded cone
oil test bottle
servicing oil
filter papers (300 pcs.)
short wadding (25 pcs.)
long wadding (50 pcs.)
probe brush

Part no. 9152 I

Accessories	Part no.
Probe holder with probe 220 mm for Wöhler RP 72 incl. spiral	**7547 G**
Probe connector for Wöhler RP 72	**3879 X**
Spiral for Wöhler RP 72 probe	**20401 K**
Probe brush 6 mm Ø	**2419 G**

Cones	Part no.
PTFE Cone for probes 8 mm Ø to stabilize air temperature probes in openings 10 - 15 mm Ø	**2463 K**
Clamping Cone for probes 8 mm Ø stainless steel, to stabilize the gas probe in the flue pipe	**2494 K**

Soot Test Comparison Scale	Part no.
Wöhler RP 72 Soot Spot Comparison Scale from soot number 1 to 10	**2416 I**
Wöhler RP 72 Soot Spot Comparison Scale Set of 2 pieces	**369 I**

Consumables	Part no.
Smoke pump filters bag	
300 pcs	**2415 K**
1,800 pcs	**590 K**
Wöhler RP 72 Filter Paper Dispenser with 300 pieces of filter paper	**3700 K**
Wadding rolls short for Wöhler A 500, A 400, RP 72	
25 pcs.	**5289 K**
150 pcs	**5290 K**
Wadding rolls long for Wöhler RP 72	
50 pcs	**2450 K**
150 pcs	**621 K**
Wöhler RP 72 Oil Derivates Test bottle Aceton	**2481 I**
Special servicing oil	**2418 G**

EVEN THE FINEST CANNOT ESCAPE

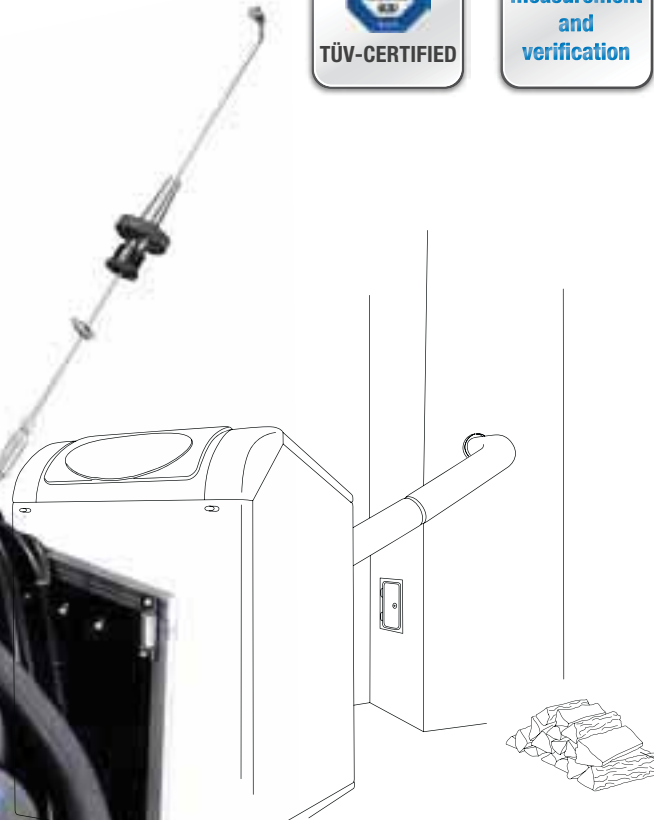## Wöhler SM 500 Suspended Particulate Analyzer

The world's first multi-functional analyzer for onsite mass concentration measurements of total suspended particulate matter in flue gas, O_2 and CO, draft and stack temperature. The Wöhler SM 500 analyzer will give you immediate readings. Laboratory based analysis becomes superfluous.

The all new TUV certified technology allows onsite mass concentration measurements on all solid fuel fired appliances. Mass concentration limits as low as 20 mg/m³ (maximum emission rate of wood stoves in Germany) can accurately be verified.

The simple user interface and the technician-friendly 4 button key pad make your work fast and accurate. The brilliant full color LED display shows the mass concentration and all combustion values on one screen. After the sampling process the instrument automatically calculates all results to allow compliance testing for solid fuels.

- **Onsite measurement and verification**
- **High precision digital mass scale**
- **All in One – Particles, O_2, CO, temperature and draft measurement inclusive**
- **Real time graphic function display**
- **High technology at an affordable price**

TÜV-CERTIFIED

Onsite measurement and verification

USB data transfer

PLUS X AWARD®
achieved for:
Innovation
High Quality
Ease of Use
Functionality

HOTLINE: +49 2953 73-279   FAX: +49 2953 73-96279   **WÖHLER**

MANY ADVANTAGES

ONSITE MEASUREMENT AND VERIFICATION

Simple as that: adjust the display unit to your working level, measure, take results. All aspects of the instrument are user friendly designed. The Wöhler SM 500 accomplishes everything for you.

ALL IN ONE: O_2, CO, TEMPERATURE AND DRAFT MEASUREMENT INCLUSIVE

The basic instrument kit comes with a fully featured, integrated flue gas analyzer for O_2, CO, stack temperature and draft to give a complete analysis and verification onsite.

HIGH PRECISION DIGITAL MASS SCALE

With the Wöhler SM 500 Suspended Particulate Analyzer you can verify for the first time onsite mass concentration limits as low as 20 mg/m³ according to German environmental protection standards (1. BImSchV). The results of the measurements and verifications can be displayed or printed on the portable Wöhler TD 100 Thermal Fast Printer.

REAL TIME GRAPHIC FUNCTION DISPLAY

The simple menu is intuitive by design. The technician friendly 4 button key pad allows real time graphic function display and user selectable readings. The brilliant full color LED display is even visible in a dark environment.

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WIDE RANGE OF APPLICATIONS

- All in one: Particulate matter measurement and flue gas analysis in a single analyzer
- On-the-spot analysis and evaluation
- Data transfer via USB

FUNCTIONALITY

- Brilliant, high-intensity graphic display – all readings at a glance and easily read – even in dark rooms, zoom function
- Provides graphic display of current values as well as their progression during the analysis
- Simple and intuitive 4-key operation
- Adjustable to individual working height

SAFETY / RELIABILITY

- Precision mass scale unit – facilitates true on-the-spot gravimetric analysis and evaluation
- Simple to clean – no fuss
- Integrated filter monitoring
- Sensor replacement – user-friendly
- 3-fold device diagnostics

DATA TRANSFER / MANAGEMENT

- USB port to transfer data to PC/ notebook etc.
- Software Wöhler SM 500 for data processing and management

TÜV TESTED AND APPROVED

- Levels I and II to 1st BImSchV
- Incl. all solid fuels
- 20 to 1000 mg/m³ flue gas

TECHNICAL DATA

Suspended Particulate Matter concentration / Filter load (mStF) in 15 min
Reading .... Filter load in mg
Sensor technology .... real time digital mass scale
Range .... 0,0 to 45,0 mg (equals 0,0 mg/m³ to 1.000,0 mg/m³ in flue gas)
Accuracy .... ± 0.3 mg

Sample rate (VolS)
Reading .... standard litre per minute (slpm)
Sensor technology: .... Differential pressure
Range: .... 4,5 Li.N./min and 3,0 Li.N./min
Accuracy: .... ± 5 %

Oxygen (O_2) concentration in flue gas
Reading .... % of flue gas volume (dry conditions)
Sensor technology .... electrochemical sensor
Range .... 0.0 to 21,0 %
Accuracy .... ± 0.3 % according to VDI 4206 - 1

Carbone monoxide (COV) in flue gas
Reading .... ppm of flue gas volume (dry conditions)
Sensor technology .... electrochemical sensor
Range .... 0 to 100,000 ppm, resolution 1 ppm (< 32,000 ppm), rest 10 ppm
Accuracy .... ± 100 ppm (< 1.000 ppm), rest 10 % of reading according to VDI 4206 - 1

Draft (PD)
Reading .... Pascal
Sensor technology .... Semiconductor
Range .... 0.00 to ± 110.00 hPa, resolution 1 Pa
Accuracy .... 3 Pa (< 100 Pa), 3 % of reading

Flue gas temperature (TA)
Reading .... °C
Sensor technology .... Thermocouple (NiCr-Ni)
Range .... -20.0 °C to 800.0 °C, resolution 0.1 °C
Accuracy .... according to VDI 4206 Blatt 1

Calculated Values
mSt .... Total suspended particulate matter mass concentration in flue gas refered to the adjustable oxygen reference value in mg/m³
Vol .... Sample volume in SL
O_2 .... O_2 concentration in % given as 15 min average value
CO_v .... CO concentration in ppm given as 15 min average value
CO_n .... CO air free concentration in ppm referred to the adjustable oxygen reference value

Power Supply .... 230 V, 50 Hz, max. 1,200 W

Storage temperature .... -20 °C to +50 °C

Work temperature .... +5 °C to 40 °C

Weight .... approx. 15 kg

Dimensions .... 480 x 240 x 550 mm
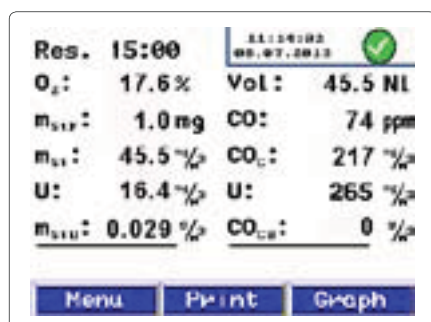
RESULTS DISPLAY

Numeric representation of mean value throughout the whole measurement process. It is also possible to switch to the graphic display.

DISPLAY DURING ANALYSIS

Measurement values are displayed during the TSPM mass concentration measurement. The operator is also able to switch between numeric and graphic representations throughout.

DATA TRANSFER

All measurement data and online readings can be transferred to a computer by USB connection. The Wöhler SM 500 computer software package allows extensive data analysis and display.

Wöhler SM 500 Suspended Particulate Analyzer

TÜV APPROVED

APPLICATION

- TÜV tested and approved for particulate matter analysis in accordance with the 1st BImSchV

ADVANTAGES

- Measure and evaluate concentration of particulate matter onsite in compliance with 1st BImSchV levels 1 and 2
- All in a single analyzer: Particulate matter measurements and flue gas analysis CO and O_2
- The operating unit with display can be set to the personal work height – for the best-possible operating and working conditions
- Precision digital mass scale unit for true gravimetric analysis
- Simple maintenance
- Analyze O_2 and CO concentrations in flue gas
- Graphic display of values during analysis
- USB port to transfer data
- Wöhler SM 500 software for data processing

Wöhler SM 500
Suspended Particulate Analyzer

Scope of delivery:

Wöhler SM 500 Suspended Particulate Analyzer including O_2, CO, temperature and draft

high precision digital mass scale unit

heated probe and hose assembly

pack with 10 filter cartridges

Part no. 8935 0

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Printer	Part no.
Wöhler TD 100 Thermal Fast Printer Infrared printer with 1 roll thermal paper and four batteries	**4160 I**
Thermal Paper 57 mm width, 10 rolls for thermal printer Wöhler TD 100, TD 600	**4145 I**

Accessories	Part no.
Auxiliary Probe Heater NEW for Wöhler SM 500 for long term measurement to avoid condensation	**23201 J**
Heated Probe Holder NEW for Wöhler SM 500 to avoid condensate formation with cold probe	**8921 J**
1 m Extension Hose NEW Wöhler SM 500 for laboratory measurements Set with heated probe holder Wöhler SM 500	**8922 J**
Probe NEW for Wöhler SM 500, length 450 mm to be used with Auxiliary Probe Heater (part number 23201)	**8951 J**
Tripod set Wöhler SM 500 NEW extended radius up to approx. 4 m With the tripod the Wöhler SM 500 display unit can be placed outside the case during measurements. Necessary for hard to reach measuring openings.	**8919 J**
Backpack Carry-On for Wöhler SM 500 case	**8911 J**
Air puffer for Wöhler SM 500	**8918 X**
10 Filter Cartridges for Wöhler SM 500 in exchange of used cartridges	**8917 0**
Coarse filter vlies for Wöhler SM 500 10 pcs. per unit	**9503 K**
Wöhler SM 500 Wadding Filters 25 g	**6052 K**
Spare Parts Kit for Wöhler SM 500 with 2 rubber seals for the sampling probe Wöhler SM 500 and 28 O-rings of a different size	**8933 K**
Cleaning tool for Wöhler SM 500 for probe and mass scale unit	**8909 K**

Wöhler TI 410 Dew Point Indication

TECHNICAL DATA

Temperature
Resolution...........................0.1 °C
Accuracy.............................0.1 °C

Size
Housing ....12 x 6 x 2.5 cm
Flexarm................................30 cm
Sensor plate.........................1 x 3 cm

Weight...............................200 g

Supply...............................9 V block battery

APPLICATION

- For the inspection of burner appliances for flue-gas spillage in the scope of flue-gas path inspections

ADVANTAGES

- Small sensor plate for inaccessible locations
- Reliable result through 3 indicators: visual, audible and temperature rise

PRINCIPLE OF OPERATION

The Wöhler TI 410 dew point indicator indicates flue gas backflow. Increased moisture and temperature in comparison with the surrounding air are distinguishing features of flue gas backflow. Any CO content present is highly toxic, which is why flue gas backflow can prove life threatening. To guarantee reliable detection the analysis is performed by two independent sensors:

- Sensor 1 measures the surface resistance of sensor plate
- Sensor 2 measures the temperature.

Optical and acoustic signals are emitted if the measured resistance of the sensor plate falls below a specified value. Located in a bore at the end of the sensor plate, the rapid reacting temperature sensor detects the increased temperature of the outflowing flue gas. The operator is able to set the analyzer to four different levels of sensitivity to adapt to different ambient conditions. To save the battery the analyzer switches off automatically after four minutes.

Wöhler TI 410 Dew Point Indicator
Scope of delivery:
Wöhler TI 41 Dew Point Indicator
with 440 mm flex arm

Part no. 6808 I

Accessories	Part no.
Smoke Pen with 6 smoke refills, each fill for 240 cycles of about 30 sec.	**6789 I**
Fog spray gun incl. fluid and 6 batteries Scope of delivery: Nebelpistole inkl. Fluid und 6 Batterien	**8451 I**
Fog spray gun - Full set At the push of a button it generates a non aggressive oil dust for local leak detection. Includes: fog spray gun, fluid, machine attachment, small replacement attachment, screw-driver, 7 batteries, manual, all in a heavy-duty carrying case.	**8450 I**

Wöhler HBF 420 Moisture Meter

APPLICATION

With its unique combination of electrical resistance measuring technique and dielectric measurement the Wöhler HBF 420 wood and building materials moisture meter represents an ideal hand-held instrument to assess the moisture content of materials in a wide range of applications:

- Building diagnostics: Damage analysis, leak detection
- Building work: Preparatory measurements before applying paint, installing floor coverings etc.
- Fuel management: Assessing wood fuel materials

ADVANTAGES

- Ability to assess building and wood moisture with one instrument
- Dielectric measuring technique, ideal to quickly assess moisture and measure the moisture profiles of building materials
- Resistance measurements to precisely determine the moisture content of wood:
- Automatic temperature compensation after entering the material temperature
- Wood species correction via material codes
- Calibration kit facilitates on-the-spot measurement value verification
- Adjustable alarm threshold

TECHNICAL DATA

Resistence measurement wood
Range .... approx. 0 to 40 %
Needles .... 12 mm, 10 kind of wood

Dielectrical measurement (non destructive)
Effective depth .... approx. 3 – 4 cm
                                     20 material codes
Alarm .... 3 color LED (green, yxellow, red), adjustabe limit
Auto-Off-Function: .... adjustable

Operation conditions .... 0...+40 °C, < 90 % r.H.

Size .... 165 x 62 x 26 mm

Weight .... 175 g (without batteries)

Power Supply .... 4 x 1.5 V AAA-batteries

Wöhler HBF 420 Moisture Meter for wood and building materials

Scope of delivery:

Wöhler HBF 420 moisture meter
2 replacement electrodes
4 batteries 1.5 V AAA
leather bag

Part no. 8440 I

Accessories	Part no.
Pair of replacement pins Wöhler HBF 420	**3661 I**
Wöhler wood moisture probe rugged stainless steel wood moisture probe with ergonomic handle bar, user friendly Design - avoids pinching fingers; tool for changing the electrodes is integrated in the probe; storage opportunity for the electrodes within the probe; rugged protective cap - for protecting the electrodes; Items delivered: Wöhler wood moister probe, connecting cable, 2 electrodes length 35mm, 2 electrodes length 50 mm, protective cap	**2522 I**
Wöhler wood moisture - Advanced set includes: Wöhler HBF 420 moisture meter for wood and building materials, Wöhler wood moisture probe, plastic case	**2510 I**
Electrodes Wöhler wood moisture probe Set length: 6x35mm, 4x50 mm, shank insulated, appropriate for precise depth measurement	**2527 K**
Connection cable wood moisture probe Length 1.4 m	**2525 K**

WÖHLER

Wöhler HF 300 Wood Moisture Meter

APPLICATION

The Wöhler HF 300 is an easy to use instrument for determination of wood moisture. Depending on the kind of wood the needles can be pushed up to 5 mm into the log.

TECHNICAL DATA

Range ....5 % to 40 %

Resolution.........................1% Wood moisture

Power Supply ....9 V battery

Operating temperature .....+5 °C to 40 °C

Relative Ambient Humidity:..0 tot 70 % r.H.

Needle length....................12 mm

Size ....129 x 63 x 32 mm

Weight ....116 g (including battery)

Wöhler HF 300 Wood Moisture Meter

Scope of delivery:

Wöhler HF 300 Wood Moisture Meter

9 V battery

protective bag

1 pair of replacement pins

Part no. 7180 R

Accessories	Part no.
6 pairs of replacement pins Wöhler HF 300	**7181 I**

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PRODUCT OVERVIEW
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	Wöhler DM 2000 Digital Manometer page 54	Wöhler DC 2000[PRO] Pressure Computer page 55	Wöhler DC 17 Pressure Meter page 56
APPLICATIONS			
Main- and Stress Test according to TRGI 2008-G 600		●	
Measurement of Gas Leakage Rates according to TRGI 2008-G 600 (approved in VP 952)		●	
Manifold and Differential Pressure	●	●	●
Flow Measurement in ducts and chimneys		from approx. 2.0 m/s	
Differential Pressure in and around buildings			
4 Pa-Test for supply air			
Leakage measurement of flue gas lines according to EN 1443			
Leakage measurement of buildings acc. to EBPG / EN 13829			
Supply air measurement acc. to TRGI G 625			
Datalogger fo IAQ / Pressure / Temperature / Humidity		●	● (Pressure/Temperature)
Oil throughput measurement on nozzle			●
SENSOR SPECIFICATIONS			
Differential Pressure	±2 bar	±2 bar	±17 bar
Air flow			
Temperature (internal/external)	external -20...99 °C	internal -5...55 °C external -20...99 °C	internal -20...60 °C external -20...99 °C
Humidity		0...100 % r.H.	
Barometric Pressure			
FEATURES			
Full automatic measurements		●	●
Infrared port to connect with printer(P) and computer (C)		C/P	C/P
Certifications and approvals		DVGW-certified VP 952	

	Wöhler DC 410 FLOW	Wöhler DC 430	Wöhler BC 21	Wöhler DP 600
	Pressure Differential & Flow Meter	Leakage Tester	Blower Check	Leakage Tester
	page 58	page 60	page 62	page 64
		•		
		•		
	•	•		
	from approx. 0.3 m/s	from approx. 0.3 m/s		
	•			
	•			
				•
			•	
				•
		•		
	±100 mbar	±2 bar	±120 Pa	0...60 hPa
			up to ca. 2,500 m3/h	0,1...10.00 Nl/min 2,0...200.0 Nm³/h
	internal -20...60 °C external -20...800 °C	internal -20...60 °C external -20...800 °C		
	0...100 % r.H.	0...100 % r.H.		
			910...1,100 hPa	
		•	•	•
	C/P	C/P	C/P	P
		DVGW-certified VP 952	TÜV-approved	TÜV-approved

WÖHLER

Wöhler DM 2000 Digital Manometer

TECHNICAL DATA

Differential pressure
Range ....± 2 bar / ± 2,000 hPa
Accuracy ....< 3% from measuring,
in range < ± 200 Pa better
than ± 6 Pa
Resolution ....1 Pa in range ± 125 Pa,
otherwise 10 Pa

Temperature (external Si-PTC)
Range ....-20 °C up to +99 °C
Accuracy ....< 1 °C
Resolution ....0.1 °C

Storage temp. ....-20 °C up to +60 °C
Working temp. ....-5 °C up to +60 °C
Weight ....450 g with protection bag
Size ....54 x 165 x 52 mm

APPLICATION

- Fine tuning of burners (resolution 1 Pa)
- Draft measurement
- Differential pressure measurement
- Optional temperature measurement
- Contains all necessary parts for burner tuning and manifold pressure adjustment (part no. 7270)

ADVANTAGES

- Switch on - measure - finish
- Extra wide pressure range from 0.01...2,000 hPa
- Quick response time
- 2 x AA batteries
- Easiest one button operation
- For almost all differential and manifold pressure applications

Wöhler DM 2000 Gas Installer Set

Scope of delivery:

Wöhler DM 2000 Digital

Manometer in mbar, hose 1.5 m

long, rubber boot, set of various

plastic connectors and hoses,

plastic case Mini

Part no. 7270 I

Wöhler DM 2000 Digital Manometer in Pa

Scope of delivery:

with 1.5 m hose

Part no. 3443 I

Wöhler DM 2000 digital manometer in mbar

Scope of delivery:

with 1.5 m hose in mbar

Part no. 7243 I

Wöhler DC 2000^{PRO} Pressure Computer
DVGW certified according to VP 952

APPLICATION

- Differential pressure measurements from 0.01 hPa to 2,000 hPa
- Rel. humidity measurement
- Temperature measurement
- Data logger for 6.400 data sets

ADVANTAGES

- Extra wide pressure range of ± 2,000 hPa
- Selectable units for temperature (°C,°F), and pressure (hPa, Pa, mm, H_2O, PSI, mbar)
- Rapid readout time
- Internal temperature sensor, external probe option
- IR interface for PC and printer, personalized printout possible
- Humidity measurement
- Data logger (max. 3 years)
- 2 x AA batteries

TECHNICAL DATA

Differential pressure

Range	± 2 bar
Accuracy	< 3% from measuring, in range < ± 200 Pa better than ± 6 Pa
Resolution	1 Pa in range ± 125 Pa, otherwise 10 Pa

Temperature (internal NTC)

Range	-5 °C up to +55 °C
Accuracy	< ± 4 °C
Resolution	1°C

Relative humidity (optional)

Range	0 % up to 100 % r.H, non condensing
Accuracy	± 5% r.H (0 – 60% r.H), otherwise < 10% r.H
Resolution	1% r.H

Storage temp.	-20 °C up to +60 °C
Working temp.	-5 °C up to +60 °C
Weight	450 g (with case)
Size	54 x 165 x 52 mm

Wöhler DC 2000^{PRO}

Scope of delivery:
Wöhler DC 2000^{PRO} pressure computer, humidity sensor, snap in connectors, 1.5 m hose

Part no. 7279 I

Wöhler DC 2000^{PRO} Standard Set

Scope of delivery:
Wöhler DC 2000^{PRO} pressure computer with humidity sensor, rubber boot with magnets, 2x 1.5m hose with snap in connector, 1 x hose 1.5 m, plastic case MINI

Part no. 7206 I

Wöhler DC 2000^{PRO} Advanced Set for gasline testing

Scope of delivery:
Wöhler DC 2000^{PRO} Pressure Computer with humidity sensor, rubber boot with magnets, plastic carrying case Midi, 100 ml syringe for volume measurement, gas line sealing set consisting of 2 adjustable cones, 1 pump, 1 X-Connector, fixed hoses

Part no. 3813 I

Accessories	Part no.
Wöhler TD 100 Thermal Fast Printer Infrared printer with 1 roll thermal paper and four batteries	**4160 I**
Thermal Paper 57 mm width, 10 rolls for thermal printer Wöhler TD 100, TD 600	**4145 I**
Wöhler DC 2000 / DM 2000 rubber boot with magnets	**7202 I**
Plastic Case Mini Internal size 244 x 161 x 66 mm	**7204 J**

Wöhler DC 17 Pressure Meter

TECHNICAL DATA

Differential pressure

Range	± 17 bar
Accuracy	< 3% from measuring, in range < ± 10 hPa better than ± 0,3 hPa
Resolution	0.1 hPa in range ± 1,100 hPa, otherwise 1 hPa
Medias	gas, water, oil (do not mix)
Burst Pressure	32 bar
power supply	2 AA batteries
Interface	IR output to PC and printer
Storage temp.	-20°C up to +60°C
Working temp.	0°C up to 50°C
Weight	450 g (with case)
Size	54 x 165 x 52 mm

APPLICATION

High pressure measurement
up to 17 bar

ADVANTAGES

• Differential pressure on gas or liquid medias
• Print out and logger capabilities
• Temperature measurement
• Measuring of current oil flow rate through nozzle

Wöhler DC 17 Pressure Meter

Scope of delivery:

Wöhler DC 17

rubber boot with magnets

connection hose,

plastic carrying case

Part no. 3663 I

Accessories	Part no.
Wöhler TD 100 Thermal Fast Printer Infrared printer with 1 roll thermal paper and four batteries	**4160 I**
Thermal Paper 57 mm width, 10 rolls for thermal printer Wöhler TD 100, TD 600	**4145 I**
Combustion Air Temperature Probe, 280 mm for Wöhler DC 2000 / DM 2000 / A 550 with 1.7 m cable to analyse chimneys independent from ambient air	**9611 J**
Wöhler Air Temperature Probe, 60 mm for Wöhler A 500 / DC 100 / DC 2000/ with 1.7 m cable to analyse chimneys independent from ambient air	**9651 J**
Wöher Air Temperature Probe for Wöhler A 500 / DC 100 / DC 2000 plug form	**9605 J**
Pitot tube	
length 35 cm, 7 mm Ø	**9487 I**
length 50 cm, 7 mm Ø	**9488 I**
length 100 cm, 7 mm Ø	**9489 I**
Wöhler DC 2000 / DM 2000 rubber boot with magnets	**7202 I**
Plastic Case Mini Internal size 244 x 161 x 66 mm	**7204 J**

Wöhler DC 410FLOW Pressure Differential & Flow Meter

APPLICATION

- One instrument for measurement of pressure, air flow, temperature and relative humidity
- Is tested to comply with standards for 'Ventilation for buildings – test procedures & measuring methods for handing over installed ventilation and air conditioning systems'

ADVANTAGES

- Brillant full colour OLED display
- Technician-friendly one hand operation with 4 button keypad
- Highly accurate with 'no drift technology'
- Pressure resolution of 0.1 Pa
- Differential temperature with two probes

TECHNICAL DATA

Differential Pressure
Range .... ± 100 hPa
Accuracy .... < 3 % of the reading, if the value is < ± 10 Pa, better than ± 0,3 Pa
Resolution .... 0.1 Pa at -1,100 Pa to +1,100 Pa, otherwise 1 Pa

Air speed
Range .... 0.3 m/s to 120 m/s
Resolution .... 0.01 m/s
Continuous density correction: automatic, with temperature signal

Temperature (internal sensor)
Range .... -20 °C to 60 °C
Accuracy .... < ± 1 °C
Resolution .... 0.1 °C

External temperature probe
Range .... 2 canals, -20.0 °C to +800.0 °C
Accuracy .... < ± 2 °C at 0 °C to 133 °C, otherwise 1.5 % of the value, according to the directive EN 50379-2
Resolution .... 0.1 °C

Relative humidity
Range .... 0 % bis 100 % r.H. (relative humidity), non condensing
Accuracy .... < ± 2 % r.H., at 0 to 90 % r.H., otherwise < 3 % r.H.
Resolution .... 0.1 % r.H.

Barometric Pressure
Range .... ± 300 hPa bis 1,100 hPa
Accuracy .... < ± 1.5 % hPa of reading
Resolution .... 0.1 hPa

Current consumption .... 4 AA rechargeable batteries or 4 AA disposable batteries 1.5 volt
Interfaces .... USB interface for data transfer to a PC. It is possible to transfer the data directly from the meter to the Wöhler TD 600 thermal fast printer.
Operating temperature ...... 5 °C to +40 °C
Dimensions .... 80 x 225 x 60 mm

Wöhler DC 410 FLOW Standard Set

Scope of delivery:
Wöhler DC 410FLOW
Pressure Differential & Flow Meter

rechargeable batteries and charger

2 capillary hoses

Wöhler DC 4xx case

Part no. 9286 J

Wöhler DC 410FLOW Set

Scope of delivery:
Wöhler DC 410FLOW
Pressure Differential & Flow Meter

brass connectors

2 x 1 m measuring hose

case DC 4xx

Prandtl tube 35 cm

air / flue gas temp. probe with 1 m cable

Part no. 4283 J

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Accessories		Part no.
	S-Tube Probe for DC 4xx for measuring the flow speed, including: temperature probe	**9244 J**
	Pitot tube	
	length 35 cm, 7 mm Ø	**9487 I**
	length 50 cm, 7 mm Ø	**9488 I**
	length 100 cm, 7 mm Ø	**9489 I**
	Wöhler DC 410^{FLOW} Flexible Capillary 3 m differential pressure measurement between adjoining rooms with Wöhler DC 410^{FLOW}, 1 x capillary hose 3 m, connector, silicone hose	**4515 J**
	Wöhler TD 100 Thermal Fast Printer Infrared printer with 1 roll thermal paper and four batteries	**4160 I**
	Thermal Paper 57 mm width, 10 rolls for thermal printer Wöhler TD 100, TD 600	**4145 I**

Temperature probes		Part no.
	Surface Temperature Probe for Wöhler DT 310 / A 400^{PRO} / DC 410^{FLOW} with clamp, range up to 100°C, clamp for pipes 6 – 35 mm Ø	**6679 I**
	Special Wall Temperature Probe Type W-02 for Wöhler A 400 or Wöhler DT 310	**4651 I**
	Special Wall Temperature Probe Type W-02 angulate for Wöhler A 500 or Wöhler DT 22	**4718 I**
	Surface tempeature probe TF1 for Wöhler A 500 / DT 310 Thermoelement type K, up to max. 200°C / 392°F	**6625 I**
	Surface temp. probe TF2 for Wöhler A 500 / DT 310 Thermoelement type K, up to max. 500°C / 932°F	**6626 I**
	Surface temp. probe TF3 angulate for Wöhler A 500 / DT 310 Thermoelement type K, up to max. 500°C / 932°F	**6628 I**
	Penetration temp. probe TF4 for Wöhler A500 / DT 310 Thermoelement type K, up to max. 600°C / 1112°F	**6629 I**
	Flue gas temp. probe TF5 for Wöhler A 500 / DT 310 Thermoelement type K, up to max. 900°C / 1652°F	**6635 I**

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Wöhler DC 430 Leakage Tester

TRGI 2008
KONFORM

DG-4805CL002

TÜV-CERTIFIED

AUTOMATIC MEASUREMENT

APPLICATION

- Leakage testing on gas lines according to the DVGW directives (German Association of Gas and Water Engineers)
- Differential pressure testing
- Stress and main test
- Air speed

ADVANTAGES

- Leakage testing on in use gas appliance possible
- Easy and full automatic measurement: switch on – take readings
- Brilliant color display
- Integrated pumps
- High resolution: 0,01 hPa within the range ± 210 hPa
- Leakage test with gas
- Data transfer to PC via USB

TECHNICAL DATA

Differential pressure
Range .... ± 2 bar
Accuracy .... < 3 % of the reading,
within the range < ± 200 Pa
better than ± 6 Pa
Resolution .... 1 Pa within the range
-210 hPa bis +210 hPa,
otherwise 10 Pa
Leakage test
Range .... 0,0 l/h to 10,0 l/h,
tested up to 8 l/h
Accuracy .... < ± 0,2 l/h up to 4 l/h, ...
otherwise 5 % of the reading
Resolution .... 0.1 l/h

Internal temperature measurement
Range .... -20 °C to 60 °C
Accuracy .... < ± 1 °C
Resolution .... 0.1°C

External temperature measurement
(optional, e.g. with measuring pliers for temperature measurement or special wall temperature probe)
Range .... 2 canals
20,0 °C to +800,0 °C
Accuracy .... < ± 2 °C within the range
of 0 °C bis 133 °C,
otherwise 1.5 % of the reading
Resolution .... 0.1 °C

Moisture measurement (optional)
Range .... 0 % to 100 % r.H.
non condensing
Accuracy .... < ± 2 % r.H., within the range
of 10 to 90 % r.H.,
otherwise < 3 % r.H.
Resolution .... 0.1 % r.H.

Absolute pressure (optional)
Range .... 300 hPa bis 1100 hPa
Accuracy .... < ± 1,5 hPa
Resolution .... 0,1 hPa

Current consumption .... 4 AA rechargeable
batteries or 4 AA disposable
batteries 1.5 volt
Interfaces .... USB interface for data
transfer to a PC. It is
possible to transfer the
data directly from the
meter to the Wöhler TD
600 thermal fast printer.
Operating temperature ...... 5 °C to +40 °C
Dimensions .... 80 x 225 x 60 mm

**Wöhler DC 430 Leakage Tester
Standard Set**

Scope of delivery:

Wöhler DC 430 Leakage Tester

batteries

battery charger,

heavy duty carrying case

Part no. 4285 J

WÖHLER

Accessories	Part no.
Wöhler TD 100 Thermal Fast Printer Infrared printer with 1 roll thermal paper and four batteries	**4160 I**
Wöhler GS 220 Gas Sniffer Wöhler GS 220 gas sniffer with 440 mm gooseneck, batteries and plastic case	**6606 I**
Wöhler gas bladder DC 430 Gas bladder with self-locked coupler for measuring the leakage rate with gas with the Wöhler DC 430	**9232 J**
Gas line sealing set	**7292 K**
Rubber plug, blue	
16–32 mm	**7162 O**
21–44 mm	**7163 O**
High pressure with gasket rings	
1/2" and 1"	**7213 O**
3/8" and 3/4"	**7214 O**
Plastic Case Wöhler DC 4xx	**9257 J**
Charger Wöhler A 400, A 500 with plug adapter EU, US, GB	**3302 K**
Set of 4 rechargeable NiMH batteries 2000 mAh for Wöhler A 500 / A 400	**9407 I**
Supporting Loop DC 4xx	**54348 X**
Measuring hose for Wöhler DC 430 1,5 m with snap-in connector and apaptors	**9237 J**
Data Exchange Software for Wöhler DC 4xx / DP 600EN-FR-NL-CZ	**1005 J**

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Wöhler BC 21 Blower Check TÜV-approved

TOUCHSCREEN

PRINTING DATA ON-SITE

SIMPLE CLAMP SYSTEM

EASY TO TRANSPORT

AUTOMATIC MEASUREMENT

PC SOFTWARE

TECHNICAL DATA

Air flow	50 – 2,500 m³/h at a pressure difference of 50 Pa
Pressure difference	-100...+100 Pa
Air temp.	-20.00...50.00 °C
Accuracy	according to EN 13829
Blower	automatically regulated
Touch Screen	LCD 248 x 128 pix
Supply	230 V AC

Size

Operation unit	130 x 240 x 280 mm
Blower	440 x 440 x 120 mm
Installation dimensions max.	1,300 x 2,300 mm min. 740 x 670 mm
Weight	22 kg in 2 cases

APPLICATION

- Determination of the tightness of the building shell
- All measurements according to EN13829
- Leakage detection in the building shell
- Proof of the building quality

ADVANTAGES

- Integrated measurement of the interior and outside temperature
- Continuous display of the flow rate in m³/h
- Excellent price performance ratio
- Large grafic LC display – all measured values on a view
- Over and negative pressure measurement
- IrDA interface for printer and PC
- Short setup by new clip system
- Compact measuring instrument, can be transported completely in 2 suit-cases
- Comfortable data input over complete alphanumeric touch-screen keyboard
- Integrated measuring data memory
- Leakage detection with continuous measured value display

Wöhler BC 21 Blower Check

Scope of delivery:

Wöhler BC 21 touch screen unit with carrying bag

blower with foil

set of clamps

hose set

thermo printer

Wöhler aluminium case XXL

Part no. 4809 J

Accessories	Part no.
Wöhler BC 21 Door Sealing telescopic aluminium frame, 1 telescopic pole for fixing blower, alu case	**4864 K**
Wöhler BC 21 Sealing Set Hand Pump each 2 sealing plugs for water pipes: 40 mm Ø, 75 mm Ø, 125 mm Ø and 160 mm Ø, each 4 sealing plugs: 50 mm Ø and 110 mm Ø, each 1 sealing bladder size 3 and 5, 1 roll transparent tape 66 m, 1 roll textile tape 50 m, hand pump and valve set, platic case MIDI	**4810 J**
BC 21 Sealing Set each 2 sealing plugs for water pipes: 40 mm, 75 mm, 125 mm and 160 mm each 4 sealing plugs 50 mm and 110 mm each 2 sealing bladders 70-75 mm and 100-110 mm 1 roll transparent tape 66 m, 1 roll textile tape 50 m, valve set for pump	**4811 J**
Wöhler TD 100 Thermal Fast Printer Infrared printer with 1 roll thermal paper and four batteries	**4160 I**
Thermal Paper 57 mm width, 10 rolls for thermal printer Wöhler TD 100, TD 600	**4145 I**
Aluminium Case XXL 48 x 27 x 48 cm	**5824 J**
Wöhler BC 21 Sealing Clamps Angular set with 4 pieces for sealing the Wöhler BC 21 blower in the window.	**4807 K**
Wöhler BC 21 Sealing Clamps Straight set with 10 pieces for sealing the Wöhler BC 21 blower in the window.	**4805 K**
Fog machine incl. remote control	**3460 I**
Fog spray gun - Full set At the push of a button it generates a non aggressive oil dust for local leak detection. Includes: fog spray gun, fluid, machine attachment, small replacement attachment, screw-driver, 7 batteries, manual, all in a heavy-duty carrying case.	**8450 I**
Wöhler LD 400 Laser Distance Meter Wöhler LD 400 Laser Distance Meter, 3 AAA batteries, protective bag	**7190 I**
Wöhler TA 420 Thermoanemometer includes: Wöhler TA 420 with telescope tube, 4 batteries 1,5 V Typ AA plastic case	**4605 I**
PC-Software Wöhler BC 21 DE / EN / FR	**4869 J**

Wöhler DP 600 Leakage Tester

TÜV-APPROVED

4 Pa TEST

STOVE TIGHTNESS TESTING
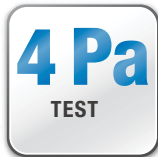
TECHNICAL DATA

Pressure
Range .... ± 7.000 Pa
Resolution .... 0,1 Pa from
0,0 to 900,0 Pa
1 Pa from 900 Pa
Accuracy .... ± 0,5 Pa, ± 2,5 % f.m.

Volume flow without adapter
Range .... 0,0 to 200,0 Nm³/h
Resolution .... 0,1 Nm³/h
Accuracy .... ± 2,5 Nm³/h,
± 5 % f.m.

Volume flow with adapter 3,0
Range .... 0,00 to 10,00 Nm³/h
Resolution .... 0,01 Nm³/h
Accuracy .... ± 0,05 Nm³/h,
± 5 % f.m.

Volume flow with adapter 0,3
Range .... 0,10 to 18,00 NL/min
Resolution .... 0,01 NL/min
Accuracy .... ± 0,05 NL/min,
± 5 % f.m.

General information
Power Supply .... 110 to 230 V,
50 to 60 Hz
Size .... 33 x 36 x 15 cm
Weight .... 9,2 kg

APPLICATION

- Tightness testing with leakage rates up to 200.00 m³/h
- Tightness testing of all chimney classes and flue gas systems
- Tightness testing of flue gas systems of combined heat and power plants
- Confirmation of a sufficient combustion air supply according to TRGI sheet G 625 (simple and detailed procedure)
- Stove tightness testing
- Tightness testing is also possible with negative pressure

ADVANTAGES

- Equipped with a brilliant colour display and a simple menu navigation
- Volume flow adjustable up to 200 m³/h
- Extended pressure range up to ± 7,000 Pa
- Integrated memory for up to 100 measurement records
- USB interface for the PC
- IrDA interface for the printer
- Tightness classes preset for flue gas systems N, P and H according to EN 1443
- 4 Pa-Test without any auxiliary measuring instrument

TIGHTNESS TESTING
of all flue gas systems

4 PA-TEST
with low pressure measurement and data logging

FUNCTION

The Wöhler DP 600 checks the tightness of exhaust ducts and chimneys. The menu enables the user to select between the different installation types. The Wöhler DP 600 regulates automatically the pressure which is necessary for the flue gas systems type P1 (exhaust ducts), H1 (combined heat and power plants, exhaust ducts with high pressure), N1 and N2 (chimneys) and determines the leakage rate automatically.

It also disposes of a variable mode which allows the user to select the test pressure and the leakage rate. This way, tightness tests of ventilation systems or flue gas systems type P2 or H2 are also possible. A thermal fast printer can print all results.

New: Also suitable for the confirmation of a sufficient combustion air supply according to DVGW 625 („simple procedure" and „detailed procedure") with the necessary differential pressure test (4 Pa test). No auxiliary measuring instrument will be necessary.

The Wöhler DP 600 simulates the combustion air inlet of a fireplace. After the user has entered the capacity of the fireplace, the Wöhler DP 600 will produce automatically the corresponding volume flow which passes through the chimney and will register the pressure progression in the room.

Wöhler DP 600 Leakage Tester
for tightness testing of chimneys and flue gas systems and for 4 Pa-test

Scope of delivery:

Wöhler DP 600 with mains cable and adapters for all tightness tests of fluegas systems - comes without sealing bladders and elements, plastic case included

Part no. 2678 J

Sealing Sets and Accessories	Part no.
Wöhler DP 600 Sealing Set Type P + H for 200 + 5.000 Pa measurements comes with: hoses, sealing bladder with gas lead through and without gas lead through 50-150 mm and hand pump	**2601 J**
Wöhler DP 600 Sealing Set Type N for 20 + 40 Pa measurements comes with: measuring probe DP 600 /DP 23 with extension tube, ferrule, pressure hose 4 m, extension tube 4 m and different sealing elements	**2602 J**
Sealing Element, round with hole for Wöhler DP 600 / DP 23 Ø 110 - 150 mm (G625)	**3843 K**
Extension tube 3,75 m for Wöhler DP 600 / DP 23 50 mm Ø	**50676 O**
Wöhler DP 600 Capillary hose, 6 m for the 4 Pa-Test (differential pressure) capillary hose 6 m, connector, silicone hose	
(+) port	**2604 J**
(-) port	**2672 J**
Set Wöhler DP 600 Capillary hoses, 6 m for the 4 Pa-Test (differential pressure capillary hose 6 m with (+) port, capillary hose 6 m with (-) port, connector, silicone hose	**2670 J**

Printer	Part no.
Wöhler TD 100 Thermal Fast Printer Infrared printer with 1 roll thermal paper and four batteries	**4160 I**
Thermal Paper 57 mm width, 10 rolls for thermal printer Wöhler TD 100, TD 600	**4145 I**

Software	Part no.
Data Exchange Software for Wöhler DC 4xx / DP 600EN-FR-NL-CZ	**1005 J**

Sealing Bladders and Accessories	Part no.
Wöhler DP 600 / DP 23 Sealing Bladder with gas lead through	
50 - 150 mm	**7973 K**
150 - 350 mm	**7974 K**
350 - 600 mm	**7966 K**
Wöhler DP 600 / DP 23 Sealing Bladder without gas lead through	
50 - 150 mm	**7970 K**
150 - 350 mm	**7971 K**
350 - 600 mm	**7981 K**
Wöhler Replacement Bladder for sealing bladders with or without gas lead through	
50 - 150 mm	**8034 K**
150 - 350 mm	**6217 X**
350 - 600 mm	**6215 X**
Wöhler DP 600/DP 23 Telescopic Bladder with 20 m hose for pushing upwards	
50 - 150 mm	**7933 K**
150 - 350 mm	**7938 K**

Sealing Elements	Part no.
Wöhler DP 600/DP 23 Sealing Element Set Square Sealing elements square without hole: 120 x 120 mm / 190 x 190 mm, 180 x 180 mm / 250 x 250 mm, 220 x 220 mm / 290 x 290 mm, 270 x 270 mm / 340 x 340 mm, 330 x 330 mm / 390 x 390 mm Sealing elements square with hole: 100 x 200 mm / 150 x 260 mm, 110 x 230 mm / 190 x 310 mm, 220 x 250 mm / 290 x 310 mm, 220 x 230 mm / 350 x 400 mm, 270 x 350 mm / 330 x 400 mm, 270 x 410 mm / 340 x 480 mm	**8220 G**
Wöhler DP 600/DP 23 Sealing Element set round Sealing elements, 4 pieces round with and 4 pieces without hole, 110 - 150 mm, 140 - 180 mm, 170 - 210 mm, 230 - 270 mm	**8050 G**
Sealing Element, round with hole for Wöhler DP 600 / DP 23 Ø 110 - 150 mm (G625)	**3843 K**

Cases	Part no.

Universal Box
Wöhler DP 600

for Wöhler DP 600, Wöhler TD 100 Thermal Fast Printer, Sealing Set Type P and Type N and sealing elements

50784 O

Plastic Case for Wöhler DP 600
for Wöher DP 600 and Wöhler TD 100 Thermal Fast Printer

54810 X

Aluminium Case XXL
48 x 27 x 48 cm

5824 J

Accessories / Other Products	Part no.

Accu Compressor
comes with 3 different adaptors, pressure control valve, adapter cable for 12 V car supply and 220 V charger

7460 K

Wöhler GS 220 Gas Sniffer

TECHNICAL DATA

Sensitivity	40 ppm
Sensor	Semiconductor
Indicators	acoustic signal and optically by stage-LED
Flex holder	440 mm long
Warm up time	max. 50 sec.
Refresh time	2 sec.
Work temperature	-5...45 °C
Supply	4 AA batteries, 1.5 V
Size	130 x 70 x 35 mm
Weight	300 g

APPLICATION

Leakage detection of gas lines carrying combustible gases

ADVANTAGES

- Calibrated for methane (CH_4) and liquid petrol gas (LPG)
- Highly sensitive and quick response
- 440 mm flexible gooseneck for easy access of hard to reach spots
- Handheld unit

Wöhler GS 220 Gas Sniffer

Scope of delivery:

Wöhler GS 220 gas sniffer with 440 mm gooseneck

batteries

plastic case

Part no. 6606 I

Accessories	Part no.
Headphone with volume control	**55145 X**

WÖHLER

Wöhler CM 220 CO-Meter

APPLICATION

- Measurement of CO concentration in the ambient air
- Test CO leakage from furnaces, water heaters, stoves
- MWC-Value-Measurement (Maximum Workplace Concentration)

ADVANTAGES

- Quick response for testing safe entry conditions
- Easy operation-one button, manual zero
- Visual and acoustic indicators
- Backlight
- Precise electrochemical sensor
- Calculation of the MWC-value (Maximum Workplace Concentration)

TECHNICAL DATA

Range	0...999 ppm
Accuracy	±20 % at 0...99 ppm
	±15 % at 100 – 500 ppm
Resolution	1 ppm
Sypply	3 AAA batteries
Response time	up to 60 sec.
Humidity range	5 – 99 % r.H.
	(non-condensing)
Storage temp.	-20 – 60 °C
Operating temp.	0 – 90 °C
Size	175 x 47 x 28 mm

Wöhler CM 220 CO-Detector

Scope of delivery:

Wöhler CM 220 CO-Detector

Part no. 6613 I

Wöhler UL 23 Ultrasonic Leak Detector

TECHNICAL DATA

Frequency regulation	Precision-Quarzoscillator
Output frequency	40 kHz
	(± 2.5 Hz)
Indicator	acoustic signal
	and level LEDs
Output intensity	115 dB at 30 cm
Wave conductor	200 mm long
Sonic probe	200 mm long
Work temperature	-20...45 °C
Current supply	9 V Block battery
Service life	70 hours
	permanent use
Weight	1.25 kg in complete case

APPLICATION

Leak detection at e.g.:

- Gas lines
- Water lines
- Refrigerant units
- Pneumatic systems
- Hydraulic systems
- Vacuum systems
- Electrical systems: switches, relays and other contacts

Wöhler UL 23 Ultrasonic Leak Detector Receiver only

Scope of delivery:

Wöhler UL 23 ultrasonic leak detector

headset

wave guide

sonic probe

Part no. 3620 I

Wöhler UL 23 Ultrasonic Leak Detector Sender + Receiver

Scope of delivery:

Wöhler UL 23 ultrasonic leak detector

Wöhler US 23 ultrasonic sound generator

wave conductor

headset

plastic case Midi 60

Part no. 3630 I

WÖHLER _____ FA 410

020
25.9

WÖHLER

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	CO$_2$-Datalogger	Indoor Air Quality Meter	Hygrotemp	Thermoanemometer	Fan Anemometer	Fan Anemometer
	page 77	page 78	page 76	page 79	page 80	page 81
				•	•	•
	•	•			•	•
		•				
	• (room)	• (room)	•			• (room)
				•	•	•
				•	•	•
	•	•	•	•	•	•
	•	•	•			•
		•				•
	•	•				•
		•				•
	• (PC)	• (PC)	• (printer)			
	•	•				
	•	•				

Wöhler DT 310 Differential Temperature Meter

APPLICATION

- Simple measurement of differential temperature
- Temperature measurement of flow and return surface temperature of water and flue lines

ADVANTAGES

- Display of differential temperature (two probes required)
- Simultaneous display of both temperature readings
- Optional temperature probes, classes K, J, T
- Run / Hold Function
- Back light
- MIN and MAX memory with date and time stamp

TECHNICAL DATA

Resolution

K	-200...650 °C	0.1 °C
	640...1370 °C	1 °C
J	-200...500 °C	0.1 °C
	490...760 °C	1 °C
T	complete range	0.1 °C

Accuracy

K	-200...1370 °C ± 0.3 % f.m. + 0.7 °C
J	-200...760 °C ± 0.3 % f.m. + 0.7 °C
T	-200...390 °C ± 0.3 % f.m. + 0.7 °C
Supply	1 x 9 V Block battery
Humidity	0...85 % RH (not condensing)
Operating temperature	0...50 °C
Size	181 x 72 x 32 mm (LxWxT))

Wöhler DT 310 Differential Thermometer

Scope of delivery:

Wöhler DT 310

2 surface probes (type K)

battery

plastic carrying case

Part no. 6622 I

Accessories		Part no.
	Special Wall Temperature Probe Type W-02 for Wöhler A 400 or Wöhler DT 310	**4651 I**
	Surface temp. probe TF2 for Wöhler A 500 / DT 310 Thermoelement type K, up to max. 500°C / 932°F	**6626 I**
	Surface temp. probe TF3 angulate for Wöhler A 500 / DT 310 Thermoelement type K, up to max. 500°C / 932°F	**6628 I**
	Penetration temp. probe TF4 for Wöhler A500 / DT 310 Thermoelement type K, up to max. 600°C / 1112°F	**6629 I**
	Flue gas temp. probe TF5 for Wöhler A 500 / DT 310 Thermoelement type K, up to max. 900°C / 1652°F	**6635 I**
	Surface Temperature Probe for Wöhler DT 310 / A 400PRO / DC 410Flow with clamp, range up to 100°C, clamp for pipes 6 – 35 mm Ø	**6679 I**

Wöhler IR Temp 210 Infrared Thermometer

APPLICATION

Non-contact temperature measurement of surfaces

ADVANTAGES

- Detection of heat sinks
- Measurement focus ratio Ø:10:1
- Laser-pointer
- Back light
- Adjustable emission factor
- Quick response time

TECHNICAL DATA

Range	-40...+500 °C
Accuracy	± 2 °C, ± 2 % f. m.
Resolution	0.1 °C
Reaction time	500 msec.
Display	LCD, 3 figure
Emission factor	0.30 - 0.99 adjustable
Supply	9 V battery
Size	170 x 80 x 45 mm)

Wöhler IR Temp 210 Infrared Thermometer

Scope of delivery:

Wöhlert IR Temp 210 with battery and hand loop

Part no. 6612 I

Wöhler IR Hygrotemp 24

APPLICATION

- Non-contact surface temperature measurement
- Measurement of air temperature and relative humidity
- Dew point and wet bulb calculation

ADVANTAGES

- One instrument for evaluation of the room climate
- Determination of air temperature, humidity and wall temperature via infrared measuring
- IR temperature measurement ratio 8:1
- Adjustable emissivity factor 0.30...0.99
- Calculation of dew point temperature, temperature difference, wet bulb temperature and dew point distance temperature

TECHNICAL DATA

Temperature range	-20...50 °C
Accuracy	± 0.6 °C f.m.
Resolution	0.1 °C
Infrared Temperatue range	-40...500°C
Accuracy	± 2 % or ± 2 °C (-20...450°C), rest ±3% or ± 3 °C f.m.
Resolution	0.1 °C
Response time	500 msec.
Ratio	8:1
Humidity range	0 to 100% (not condensing), ± 3 % at 10...90 %, rest ± 5 %
Resolution	0.1 %
Wet bulb temperature	-21.6 to 49.9 °C
Emission factor	0.30...0.99 adjustable
Display	3 line LCD
Current supply	4 x 1.5V micro battery
Size	170 x 50 x 70 mm
Weight	170 g (without case)

Wöhler IR Hygrotemp 24

Scope of delivery:

Wöhler IR Hygrotmep 24 with batteries and plastic case

Part no. 6603 I

Wöhler RF 220 Hygrotemp

APPLICATION

- Quick test of relative humidity within buildings and offices
- Air conditioning test
- Building inspection for mold and other humidity related problems
- The dew point and wet bulb temperature are calculated online from the current air humidity and temperature

ADVANTAGES

- Remote probe
- Hold function
- Min/max/average memory
- Backlight

TECHNICAL DATA

Range
Rel.Humidity ....0...99 % r.H.
Temperature ....-10...+60 °C
Dew point ....-73.4...59.9 °C
Wet bulb temp. ....-13.4...~ 59.9 °C

Accuracy
Rel. Humidity ....± 3 % r.H. (10 - 90 %)
                                              otherwise ± 5 % r.H.
Temperature ....± 0,6 °C f.m.

Storage temperature ....-20...+60 °C
Operating temperature ......0...+50 °C
Weight ....approx. 270 g

Wöhler RF 220 Hygrotemp

Scope of delivery:

Wöhler RF 220 with probe

4 x AAA batteries

plastic carrying case

Part no. 6615 I

Accessories	Part no.
Calibration Set Wöhler IR Hygrotemp 24 33% and 75 % humidity reference	6605 I
Relative Humidity remote probe Wöhler RF 220	6624 I

Wöhler SP 22 Sound Level Meter

APPLICATION

- Building services
- Building physics
- Heat appliances

ADVANTAGES:

- Accuracy class 3 L
- Different measuring range and scanning rates
- Hold function
- RS 232 interface

TECHNICAL DATA

Range ....31.5 Hz...8 kHz
Accuracy ....± 1.5 dB
Measurement Level A filter
                                              30 dB...130 dB
Measurement Level C filter
                                              35 dB...130 dB
Measurement Level Range
                                              6 levels in 10 dB steps:
                                              30...80 dB, 40...90 dB,
                                              50...100 dB, 60...110 dB,
                                              70...120 dB, 80...130 dB
Automatic Range ....30...130 dB
Display ....3 1/2 digit LCD, resolution
                                              0.1 dB, update every
                                              0.5 sec.
Quasi Analog Bar Indicator
                                              1 dB display steps, 50 dB
                                              display range, updated
                                              every 50 ms
Range ....50 dB
Time Weighting ....Fast (F): 125 ms
                                              Slow (S): 1 s
Size ....80 x 256 x 38 mm
Weight ....240 g
Supply ....9 V block battery

Wöhler SP 22 Sound Level Meter

Scope of delivery:

Wöhler SP 22 in plastic case

Part no. 6670 I

Wöhler CDL 210 CO$_2$-Datalogger

DATA LOGGER

CO$_2$, HUMIDITY, TEMPERATURE

TECHNICAL DATA

CO$_2$-Measurement
Range..................................0 - 2,000 ppm
Resolution: 1 ppm
Accuracy: . ± 50 ppm ± 5 %

°C-Measurement
Range.................................. -10 °C...+60 °C
Resolution: 0,1 °C
Accuracy: . ± 0.6 °C

Measurement of air humidity
Range..................................5 - 95 % r.H.
Resolution............................0,1 % r.H.
Accuracy ....10-90 %, 25 °C: ± 3 % r.H.
otherwise: ± 5 % r.H.

List of measurement readings
5,300 total

Logrates............................3/10/30 Sec.
1/3/10/30 min.
1/3/4 h.
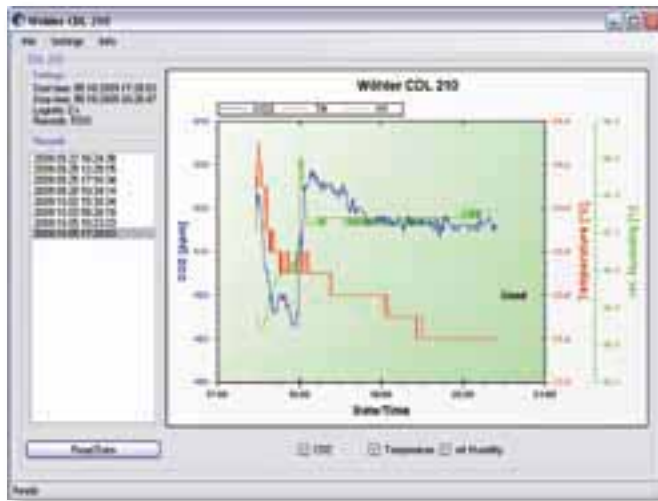
APPLICATION

- Determination of the indoor air quality through combination of measurement and identification of:
  - The CO$_2$-concentration
  - The air temperature
  - The air humidity
- For CO$_2$-monitoring of:
  - Housing spaces (comfortableness, humidity problems, etc.)
  - Conference rooms and lounges (e.g. schools)

ADVANTAGES

- Comfort level indicator with adjustable alarm values
- Acoustical and visual alarm function with adjustable limit
- Large display to show CO$_2$, humidity, temperature, date / time
- Max/Min-values
- Infrared-CO$_2$-measurement
- Automatic calibration function
- Non-volatile memory

Wöhler CDL 210 CO$_2$-Datalogger

Scope of delivery:

Wöhler CDL 210 CO$_2$-Datalogger, power supply, data cable, PC software

Part no. 6648 I

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SWEEP INSTRUMENTS

Wöhler KM 410 Indoor Air Quality Meter

HIGH ACCURACY

DATA LOGGER
CO_2, CO, HUMIDITY, TEMPERATURE

TECHNICAL DATA

CO_2-Measurement (NDIR-Sensor)
Range:..................................0 – 5,000 ppm
Resolution..............................1 ppm
Accuracy ....± 30 ppm ± 5 %
Warming phase.....................30 sec
Response time ....<30 sec
CO-Measurement
Range....................................0 – 1,000 ppm
Resolution..............................1 ppm
Accuracy ....± 10 ppm or less
than 100 ppm
± 10 % between
101-500 ppm
± 20 % more than 501 ppm
Response time ....<60 sec.
Temperature
Range....................................-20.0 °C...+60.0 °C
(-5 – 140 °F)
Resolution..............................0.1 °C (0.1 °F)
Accuracy ....± 0,5 °C (± 0,9 °F)
Relative air humidity
Range ....0.1...99.9 % r.H.
Resolution ....0,1 % r.H.
Accuracy.............................± 3 % at 10 to 90 % r.H.
and 25 °C,
± 5 % r.H. at other readings ...
and 25 °C
Response time ....<10 sec
Working temp. ....0 °C... +50 °C
Storage temp. ....-20 °C... +60 °C,
10-90 % r.H.
non-condensing
Current supply...................4 AA-batteries or
mains operation via a
9 V-DC-adapter (not included
in delivery)
PC ....USB-interface
Memory ....6,000 per list of
measurement readings CO_2,
temp., r.H., CO
Logrates ....1s...4h49m59s
Size....................................205 x 70 x 56 mm
Weight ....200 g

APPLICATION

The Wöhler KM 410 Indoor Air Quality Meter is the perfect instrument for verifying HVAC system performance and air ventilation control.

It measures:

- CO_2-content
- Air temperature
- Air humidity
- CO-content
- Dew point
- Wet bulb temperature

ADVANTAGES

- Big LC display with blue backlight to use in dark area
- Acoustical and visual alarm function
- Max/Min-values
- Hold function freezes current readings
- Mini USB output to PC for analysis
- Data logger
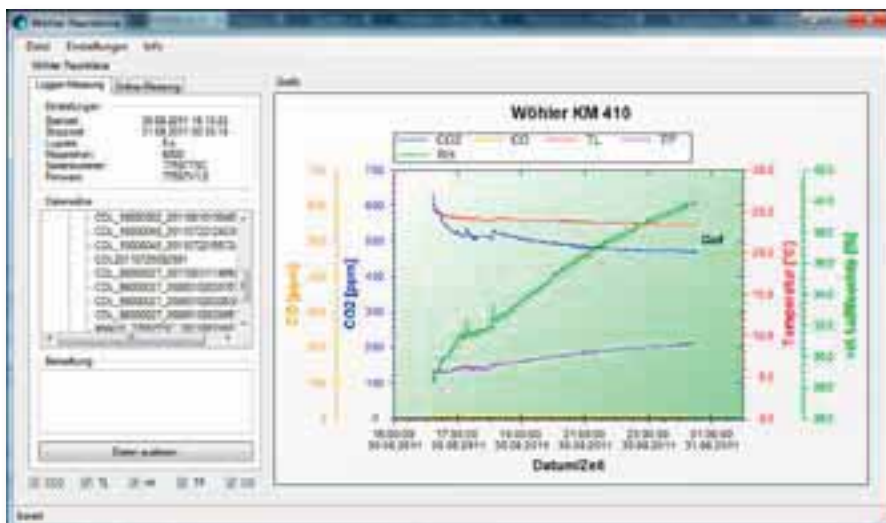
Wöhler KM 410 IAQ Instrument

Scope of delivery:

Wöhler KM 410 instrument,

4 AA-Batteries

USB-Data Cable

PC-Software

Manual and plastic case

Part no. 4280 I

Wöhler TA 420 Thermoanemometer

APPLICATION
- Measurement of airspeed, flow and temperature

ADVANTAGES
- 2 simultaneous values
- Telescopic probe
- Auto-off function

TECHNICAL DATA

Flow velocity

Range	0.2 – 20.0 m/s
	0.7 – 72.0 km/h
Resolution	0.1 m/s
	0.1 km/h
Accuracy	± 5 %

Flow rate

Range	0 – 36,000 m³/min
Resolution	0.001 – 1 m³/min
Accuracy	0.00 – 30.0 m²

Air temperature

Range	0 – 50 °C
	32 °F – 122 °F
Resolution	0.1 °C
	0.1 °F
Accuracy	± 0.8 °C
	± 1.5 °F

Size .... 203 x 76 x 38 mm

Weight .... 515 g

Current supply .... 4 x AA batteries

Wöhler TA 420 Thermoanemometer

Scope of delivery:

Wöhler TA 420 with telescopic probe

4 batteries 1,5 V type AA

plastic case

Part no. 4605 I

Accessories	Artikel-Nr.	Preis
Air Flow Funnel for Wöhler A 600 / TA 420 **Funnel K120** range 50-1,200 m³/h, size 450 x 450 x 600 mm		53789 I
Funnel K35 range 10-400 m³/h, size 200 x 200 x 330 mm		53794 I
Funnel K 75 range 30-750 m³/h, size 300 x 300 x 370 mm		53793 I
Funnel K 150 range 50-2,000 m³/h, size 550 x 100 x 600 mm		53788 I
Wöhler IR Hygrotemp 24 with batteries and plastic case		6603 I

MEASURING INSTRUMENTS
FLUE GAS ANALYSIS

MEASURING INSTRUMENTS
LEAKAGE AND PRESSURE

MEASURING INSTRUMENTS
IAQ/BUILDING

VISUAL INSPECTION

SWEEP INSTRUMENTS

Wöhler FA 410 Fan Anemometer **NEW**

TECHNICAL DATA

Range
Flow velocity.........................0,5 – 30 m/s
Volume flow ....0 – 99.999 m³/h
Temperature.........................-20.0 °C – 60 °C

Resolution
Flow velocity ....0.1 m/s
Volume flow ....0.1 (0 – 9.999,9) or
1 (10,000 – 99,999) m³/h
Temperatur ....0.1 °C/°F

Accuracy
Flow velocity.........................± (1.5 % of reading + 0.3 m/s)
for under 20 m/s,
± (3 % of reading +0.3 m/s)
for above 20 m/s
Temperature.........................± 0.6 °C

Operating conditions
(to avoid condensation) ....0 – 50 °C, < 90 % RH

Storage conditions ....-10 – 50 °C, < 90 % RH

Power supply ....4 micro batteries AAA

Dimensions.......................269 x 106 x 51 mm

Fan diameter......................10 cm

Weight (without funnel) ....270 g

APPLICATION

- Measurement of air speed, temperature and humidity at the air vents
- Detection of air leaks
- Integrated measurement of volume flow
- Direct measurement of volume flow at air vents in combination with the cone

ADVANTAGES

- Easy handling with automatic identification of the cone
- Measurement report via IR-transfer to the Wöhler TD 100 Thermal Fast Printer
- Hold-Function
- Selectable units: m/s, fpm, m³/h, CFM, °C, °F, cm², Inch²
- Wöhler Telescope Handle e.g. for ceiling vents
- Parallel measurement of volume flow, air velocity and air temperature
- Backlight LC display

Wöhler FA 410 Fan anemometer
Scope of delivery:
Wöhler FA 410 Fan Anemometer

4 x AAA batteries

plastic carrying case

Part no. 4146 I

**Wöhler FA 410 Fan Anemometer Set
with Wöhler FA 4xx measuring funnel set**
Scope of delivery:
Wöhler FA 410 Fan Anemometer

4 x AAA batteries

plastic case

Wöhler FA 4xx measuring funnel set with rectangular and round measuring funnel

in a handy carrying bag; funnels can be clipped onto the fan anemometer

rectangular funnel: 346 x 346 mm

round funnel: Ø 210 mm

Part no. 4155 I

Wöhler FA 430 Fan Anemometer NEW

APPLICATION

- Measurement of air velocity, temperature, humidity, CO$_2$ at the air vents
- Integrated measurement of flow rate
- Direct measurement of flow rate at the air nozzle in combination with a funnel
- Determination of the inlet and exhaust air quality

ADVANTAGES

- Two measurements in one step: determination of flow rate and evaluation of the inlet and exhaust air quality via CO$_2$, T, RH
- Easy handling with automatic identification of the cone
- Measurement report via IR-transfer to the Wöhler TD 100 Thermal Fast Printer
- Wöhler Telescope Handle e.g. for ceiling vents
- Selectable units: m/s, fpm, m³/h, CFM, °C, °F, cm², Inch², ppm, %, RH, WBT, DP
- Determination of the dew point and wet bulb temperature
- Hold-Function
- Min-/Max-Function
- Backlight LC display
- Simultaneous measurement of wet bulb temperature and dew point

TECHNICAL DATA

Range
Flow velocity.........................0.5 – 30 m/s
Volume flow ....0 – 99,999 m³/h
Temperature.........................-20.0 °C – 60 °C
Relative humidity ....0.1% – 99.9%
Dew point ....-20.0 °C – 59.9 °C
Wet-bulb temperature............-20.0 °C – 59.9 °C
CO$_2$.....................................0 – 9,999 ppm

Resolution
Flow velocity.........................0.1 m/s
Volume flow ....0.1 (0 – 9,999.9) or
                                    1 (10,000 – 99,999)
Temperature.........................0.1 °C/°F
Relative humidity (RH) ....0.1 %
Dew point ....0.1 °C/°F
Wet-bulb temperature ....0.1 °C/°F
CO$_2$.....................................1 ppm

Accuracy
Flow velocity.........................±(1.5 % of reading +
                                    0.3 m/s) for under 20 m/s,
                                    ±(3 % of reading + 0.3 m/s)
                                    for above 20 m/s
Temperature.........................± 0.6 °C
Relative humidity ....± 3 % (at 25 °C)),
                                    otherwise ± 5 %
CO$_2$.....................................± 30 ppm ±5 % of reading
                                    (0 – 5,000 ppm)

CO$_2$ warm-up time.............30 seconds

**Operating conditions
(to avoid condensation)** ....0 – 50 °C, < 80 % RH

Storage conditions ....-10 °C – 50 °C, < 90 % RH

Power Supply.....................4 micro batteries AAA

Dimensions.........................269 x 106 x 51 mm

Fan diameter.....................10 cm

Weight (without funnel) ....270 g

Wöhler FA 430 Fan Anemometer incl. CO$_2$-Measurement

Scope of delivery:

Wöhler FA 430 Fan Anemometer

4 x AAA batteries

plastic carrying case

Part no. 4147 I

Wöhler FA 430 Fan Anemometer Set with Wöhler FA 4xx measuring funnel set

Scope of delivery:

Wöhler FA 430 Fan Anemometer

4 x AAA batteries

plastic case

Wöhler FA 4xx measuring funnel set with rectangular and round measuring funnel

in a handy carrying bag; funnels can be clipped onto the fan anemometer

rectangular funnel: 346 x 346 mm

round funnel: Ø 210 mm

Part no. 4156 I

MEASURING INSTRUMENTS FLUE GAS ANALYSIS

MEASURING INSTRUMENTS LEAKAGE AND PRESSURE

MEASURING INSTRUMENTS IAQ/BUILDING

VISUAL INSPECTION

SWEEP INSTRUMENTS

7"TFT-LCD MONITOR

0.71m

TABLE OF CONTENTS
VISUAL INSPECTION

PRODUCT OVERVIEW VISUAL INSPECTION

		Wöhler VIS 250 Service Camera page 86-91	Wöhler VIS 350 Visual Inspection Camera page 92-97	Wöhler VIS 400 Visual Inspection Camera Modular System page 98-108
APPLICATIONS				
Dry environments – e.g. Flue Gas Systems.:	Ø 125 mm or bigger		● (1)	●
	Ø 100 mm to Ø 125 mm	●	●	●
	Ø 70 mm to Ø 100 mm	●	●	●
	Ø 40 mm to Ø 70 mm	●		●
Wet environments – e.g. Waste Water Pipes:	Ø 125 mm or bigger		● (4)	●
	Ø 70 mm to Ø 125 mm	● (4)	● (4)	●
	Ø 40 mm to Ø 70 mm	● (4)		●
Twin walls, cavaties, ducts			●	●
FEATURES				
Video Memory		2 GB SD-Card (VIS 250)	2 GB SD-Card (VIS 350)	2 GB SD-Card
MD = Digital Meter Counter (Resolution. 0.04 m)		MD	MD	MD with Camera Viper or Cable Reel
Video Output		RCA	RCA	RCA
Location of the camera head / damaged spot		with Wöhler L 200 Locator	with Wöhler L 200 Locator	
Audio recording				●
TECHNICAL DATA				
Monitor:	Display	7" TFT	7" TFT	7" TFT
	Battery Voltage & Technology / Main Supply (N)	1 x 12 V NiMH battery (Space to store 2 recharge-able NiMH batteries) / (N)	2 x 12 V NiMH batteries / (N)	1 x 12 V NiMH battery (N)
	Operation Time with batteries	1 x 120 min = approx. 2 h	2 x 120 min = approx. 4 h	approx. 2 h
Camera Head:	Dimensions	Ø 26 mm x 38 mm	Ø 40 mm x 60 mm	
	Pan- and tilt range		360° / 180°	
	Protection class	IP 68 (5)	IP 67	
	Field of View (FOV)	120°	120°	
	Lighting	12 x LED white	12 x LED white	
Cable / Push Rod:	Length / Diameter	20 / 30 m, Ø 6.0 mm	20 m / 30 m, Ø 6.5 mm	
Total Dimensions		51 x 43 x 17 cm	51 x 43 x 17 cm	19.9 x 19.6 x 4 cm (without bag)
Weight		8 kg	8 kg	1.2 kg (without bag)

(1) top down and bottom top inspection (2) limited use in bends (3) with roller guide, see accessories; splash water proof only (4) recommended for wet applications; waterproof (5) up to 3 bar

VISUAL INSPECTION

	Miniature Color Camera Head Ø 26 mmr page 104	Pan-/Tilt Color Camera Head Ø 40 mm page 104	Camerahead Ø 51 mm, pan-/ tiltable page 104	Wöhler Camera Viper 42 with push rod Ø 42 cm page 105	Wöhler Camera Viper 36 with push rod Ø 36 cm page 105	Wöhler Cable Reel page 104
		● (1)	●	●	● (1)	● (1)
	●	●	●	●	●	● (1)
	●	●	● (2)		●	● (1)
	●				●	● (1)
		● (4)	● (3)	●		
		● (4)	● (2, 3)	●	●	
	● (4, 5)				●	
		●	●	●		
				MD	MD	MD
	with Wöhler L 200 Locator	with Wöhler L 200 Locator				
	Ø 26 mm x 38 mm	Ø 40 mm x 60 mm	Ø 51 mm x 99 mm			
		360° / 180°	360° / 180°			
	IP 68 (5)	IP 67	IP 64			
	120°	120°	98° x 75°			
	12 x LED white	12 x LED white	4 x bulbs, 6 x LED white			
				20/30 m, Ø 7 mm	20/30 m, Ø 6.5 mm	20/30 m, Ø 5 mm
	Ø 26 mm x 38 mm	Ø 40 mm x 60 mm	Ø 51 mm x 99 mm	Ø 42 cm x Ø 10 cm	Ø 36 cm x Ø 10 cm	Ø 35 cm x Ø 10 cm
	60 g	110 g	240 g	3.1 to 3.5 kg	2.6 to 3 kg	3 to 3.5 kg

CLEAR VIEW, WHEN SPACE IS TIGHT NEW

Wöhler VIS 250 – Video inspection, position indicator and locator

Wöhler's innovative VIS 250 service camera enables you to easily analyze damage in pipes of Ø 40 mm and larger – and no power outlet required. Compact by design and powered by a rechargeable battery, this complete camera set is supplied in a plastic case. The camera head features a powerful, integrated light to allow you to precisely analyze damage in waste water pipes (at least Ø 40 mm) and inspect downpipes as well as flue gas lines. Absolutely essential to analyze damage quickly!
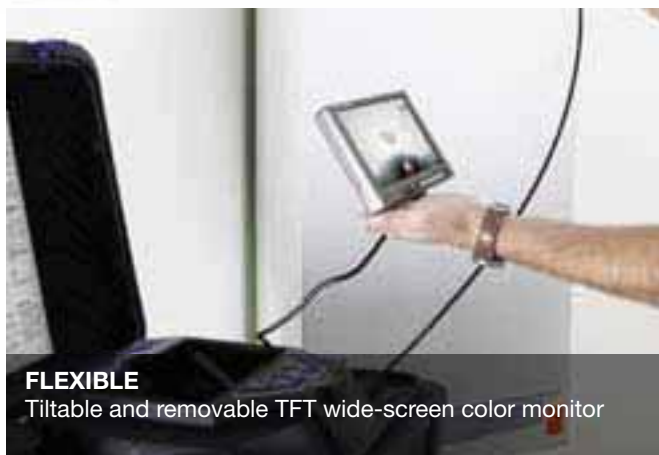
FLEXIBLE
Tiltable and removable TFT wide-screen color monitor

WATERPROOF AND ROBUST
The camera head easily negotiates 87°-bends in pipes of Ø 40 mm and larger

| ROBUST HOUSING | 1" diameter MINIATURE COLOR CAMERAHEAD | 87° DN 40 | VIDEO FUNCTION | PHOTO FUNCTION | INTEGRATED LOCATOR TRANSMITTER | POWERFUL RECHARGEABLE BATTERY UP TO 4h MOBILITY |

WIDE RANGE OF APPLICATIONS

Analyze damage and inspect:

- Waste water pipes of Ø 40 mm and larger
- Ventilation lines of Ø 40 mm and larger
- Inspect hollow spaces; e.g. in front-wall installations
- Flue gas lines up to approx. Ø 125 mm

FUNCTIONALITY

- Waterproof, light-sensitive camera head with a diameter of just 26 mm easily takes bends
- Store video footage on a 2 GB SD card (Wöhler VIS 250)
- Digital Position Indication of the camera head (Wöhler VIS 250)
- Electronic metering displayed on monitor
- Fully equipped mobile solution in a robust, plastic case
- Does not require main power supply
- Bright TFT color monitor for razor-sharp images
- Tiltable and removable monitor
- Integrated video output for documentation purposes
- Battery operating time: 2 x 120 min. with 2 rechargeable batteries (optional)
- Data exchange via mini USB cable

LOCATOR (OPTIONAL)

- Transmitter integrated in camera head makes it possible to precisely locate the camera head
- Facilitates targeted repairs to damaged pipelines
- Telescopic holder makes it possible to locate damage under floors or in ceilings
- Chalk holder with lithographic chalk ensures it is possible to mark located damage immediately
- Powerful rechargeable battery

DOCUMENTATION

Simply record and store photos and videos on a 2 GB SD card (Wöhler VIS 250) for documentation and archiving purposes for you and your customers.

TECHNICAL DATA

Monitor
Dimensions housing.............176 x 114 x 32 mm
TFT-display ....7" / 16:9 format
Video out ....RCA signal
Weight ....400 g
Power supply.......................Space for 2 rechargeable batteries, each 12 V or via power pack
Battery operating time...........Max. 2 rechargeable batteries, each 120 mins. = 4 h (battery status in display)

Miniature camera head, color Ø 26 mm
Type ....1/3" COLOR CMOS
Resolution...........................420 lines
Pixels..................................768 x 576 (PAL), 656 x 492 (NTSC)
Light sensitivity ....0.5 Lux
Lens ....f = 2.3 mm, F = 2.5
Viewing angle......................115°
Light source ....12 white LEDs
Degree of protection ....Waterproof to IP 68
Dimensions ....Ø 26 mm x 38 mm
Weight ....240 g
Operation temperature..........0...40 °C, RH 95 % MAX
Storage temperature.............-20...50 °C, RH 95 % MAX
Transmitter frequency ....8.9 kHz

Distance measurement
Wöhler VIS 200/250 ....Electronic meter counter

Plastic case
Dimensions ....51 x 43 x 17 cm (L x W x H)
Weight ....7 kg

Memory (Wöhler VIS 250)
Recording ....2 GB SD card (2,5 h recording capacity)
Interface ....Mini USB port

Locator sender
Transmitter frequency ....8.9 kHz

Locator receiver
Display................................Graphic visualization of transmitted position
Output impedance
Headphones ....32 Ohm
Power supply.......................3.7 V Li-Ion rechargeable battery
Operating temperature..........0...40 °C
Storage temperature.............-10 °C...40 °C
Weight ....605 g
Dimensions ....32 x 14 x 7 cm (L x W x H)

[1] Excepted from this: Opening of the housing, inappropriate handling; For further information please see our guarantee guidlines

PRODUCT FEATURES

	Flues, ventilation lines, waste water pipes	
Wöhler VIS	200	250
Features		
Color camera head Ø 26 mm	●	●
Digital meter counter	●	●
Photo and video record		●
Menu		●
Video settings		●
Transmitter / Probe	●	●
Level indicator		●

Wöhler VIS 200 Service Camera `NEW`

1" diameter MINIATURE COLOR CAMERAHEAD

87° DN 40 ✓

INTEGRATED LOCATOR TRANSMITTER

POWERFUL RECHARGEABLE BATTERY UP TO 4h MOBILITY

!

The color camera head Ø 26 mm can be located with the Wöhler L 200 Locator– more information see page 109

Wöhler VIS 200 Service Camera 20 m

for visual inspection of water pipes, flues and ventilation lines from 40 – 150 mm Ø

Scope of delivery:

Wöhler VIS 200 Service Camera

Wöhler color camera head Ø 26 mm V2

Wöhler TFT monitor 7" with 2 m cable (detachable)

20 m push rod Ø 6 mm

digital meter counter

1 anti-slide-mat

1 NiMH-battery and charger

plastic case

➔ **Accessories on page 90**

Part no. 6260 J

Wöhler VIS 200 Service Camera 30 m

for visual inspection of water pipes, flues and ventilation lines fom 40 – 150 mm Ø

Scope of delivery:

Wöhler VIS 200 Service Camera

Wöhler color camera head Ø 26 mm V2

Wöhler TFT monitor 7" with 2 m cable (detachable)

30 m push rod Ø 6 mm

digital meter counter

1 anti-slide-mat

1 NiMH-battery and charger

plastic case

➔ **Accessories on page 90**

Part no. 5702 J

Wöhler VIS 200 Service Camera 30 m, with Wöhler Locator L 200

for visual inspection of water pipes, flues and ventilation lines fom 40 – 150 mm Ø

Scope of delivery:

Wöhler VIS 200 Service Camera

Wöhler L 200 Locator

Wöhler color camera head Ø 26 mm V2

Wöhler TFT monitor 7" with 2 m cable (detachable)

30 m push rod Ø 6 mm

digital meter counter

1 anti-slide-mat

1 NiMH-battery and charger

plastic case

➔ **Accessories on page 90**

Part no. 5703 J
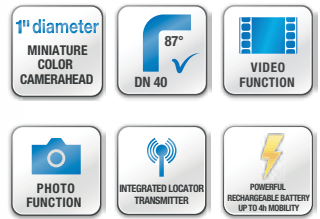
VISUAL INSPECTION

Wöhler VIS 250 Service Camera `NEW`

1" diameter MINIATURE COLOR CAMERAHEAD

87° DN 40 ✓

VIDEO FUNCTION

PHOTO FUNCTION

INTEGRATED LOCATOR TRANSMITTER

POWERFUL RECHARGEABLE BATTERY UP TO 4h MOBILITY

! The color camera head Ø 26 mm can be located with the Wöhler L 200 Locator – more information see page 109

Wöhler VIS 250 Service Camera 20 m

for visual inspection of water pipes, flues and ventilation lines from 40 – 150 mm Ø

Scope of delivery:

Wöhler VIS 250 Service Camera

digital meter counter

Wöhler color camera head Ø 26 mm V2

SD memory card 2 GB for recording of pictures and videos

Wöhler TFT monitor 7" with 2 m cable (detachable)

mini USB cable

20 m push rod Ø 6 mm

1 anti-slide-mat

1 NiMH battery and charger

plastic case

➔ **Accessories on page 90**

Part no. 6250 J

Wöhler VIS 250 Service Camera 30 m

for visual inspection of water pipes, flues and ventilation lines from 40 – 150 mm Ø

Scope of delivery:

Wöhler VIS 250 Service Camera

digital meter counter

Wöhler color camera head Ø 26 mm V2

SD memory card 2 GB for recording of pictures and videos

Wöhler TFT monitor 7" with 2 m cable (detachable)

mini USB cable

30 m push rod Ø 6 mm

1 anti-slide-mat

1 NiMH battery and charger

plastic case

➔ **Accessories on page 90**

Part no. 6251 J

Wöhler VIS 250 Service Camera 30 m, with Wöhler L 200 Locator

for visual inspection of water pipes, flues and ventilation lines from 40 – 150 mm Ø

Scope of delivery:

Wöhler VIS 250 Service Camera

Wöhler L 200 Locator

digital meter counter

Wöhler color camera head V2

SD-memory card 2 GB for recording of pictures and videos

Wöhler TFT monitor 7" with 2 m cable (detachable)

mini USB-cable

30 m push rod Ø 6 mm

1 anti-slide-mat

1 NiMH battery and charger

plastic case

➔ **Accessories on page 90**

Part no. 6225 J

VIS Guidance Sets, Glare Protection, Lighting	Part no.
Wöhler VIS Guidance Set 70 for miniature camera head: guidance sleeve with protection cage, centering star for rod fixture	**3883 I**
Wöhler VIS Centering Brush for Wöhler VIS 400 / 400 / 2xx / 3xx 20 cm Ø with 6 brushes, with thread, centers the GRP camera rod, to guide the camera head	**3854 J**
Wöhler VIS Centering Brush Extension for Wöhler VIS 400 / 2xx / 3xx 20 cm Ø with inner and outer thread for endless extension	**3853 J**
Wöhler VIS Centering Brush for Wöhler VIS 400 / VIS 2xx / VIS 3xx	**3850 J**
Wöhler VIS Spare Brushes for Wöhler VIS 400 / 2xx / 3xx, for centering brush, 24 pieces	**3858 J**
Wöhler VIS Stabilization Tube for Wöhler VIS 400 / 2xx / 3xx extension for centering star art. 3854	**21736 J**
Guidance Sleeve for mini camera head	**3827 J**
Guidance Sleeve with protection cage for mini camera head	**3847 J**
Camera Roller Guide suitable for camera heads and rods	**3681 J**
Wöhler additional glare protection for VIS 2xx / 3xx monitors	**6814 J**
Wöhler Supplementary Light Ring for 51 mm pan&tilt camera head, for 40 mm pan&tilt head in combination with guidance weight (art. 3857), incl. battery pack with four AA batteries 1.5 V in cordura bag.	**9377 J**

VISUAL INSPECTION

WÖHLER

Camera Guidance	Part no.

Wöhler Guidance Weight
740 g, stainless steel
for VIS 2xx / VIS 3xx to let down the camera head (e.g. in a chimney).
Necessary to use supplementary light (art. 9377).

3857 J

Guidance Ball
for flex part of camera push rod,
improves ability to go through bends

3634 J

Relining Adapter for Wöhler VIS 3xx

6888 J

Relining adapter set
consisting of:
relining adapter, centering star and 3 x stabilization sleeve

6889 J

Power Supply	Part no.

Wöhler VIS 2xx / VIS 3xx Quick Charger
1.5 A / 230 V / 50 Hz

56102 J

VIS 3xx / VIS 2xx Power Supply
18V, 1,5A, 100-240V, 50 Hz, 2.1 mm female plug, center plus, charge time 3 hours for all countries

3789 K

Wöhler Battery 12 V NiMh 2600 mAh
VIS 2xx / VIS 3xx
operation time: 120 min

warranty: 12 months

4715 J

Wöhler Car charger 18 V for
VIS 2xx / VIS 3xx / VIS 400

3169 J

Accessories / Further products	Part no.

Wöhler L 200 Locator (Receiver) NEW
Wöhler L 200 Locator Receiver, plastic case, USB power supply with micro USB cable, chalk (12 pcs.
box, yellow), telescopic rod and headphones

7430 J

Wöhler VIS Cleaning Set NEW
1 liter disinfection spray, 50 cleaning tissues, 100 disposable gloves size XL (powder free), 200 ml
lubricant, plastic case
For approx. 50 applications.

4725 I

Wöhler VIS Cleaning Set Refill NEW
1 liter disinfection spray, 50 cleaning tissues, 100 disposable gloves size XL (powder free), 200 ml
lubricant, in plastic bag
For approx. 50 applications.

4726 O

MEASURING INSTRUMENTS FLUE GAS ANALYSIS

MEASURING INSTRUMENTS LEAKAGE AND PRESSURE

MEASURING INSTRUMENTS IAQ/BUILDING

VISUAL INSPECTION

SWEEP INSTRUMENTS

UNIQUELY CLEAR VIEW NEW

Video inspection, position indicator, home function and locator with the Wöhler VIS 350

Video inspection in a case: With the new Wöhler VIS 350 camera system, you not only have everything you need to inspect waste water pipes, flue gas and ventilation lines as well as industrial systems – you can also precisely locate the damage and accurately document the results of the inspection.

HOME-FUNCTION
The Home button (Wöhler VIS 350) realigns the camera head to its initial position.

INTEGRATED LOCATOR TRANSMITTER
The camera head is equipped with a transmitter as standard – that means the camera head can easily be located by the new Wöhler L 200 Locator.

BRIGHT ILLUMINATION
Thanks to the excellent lighting system of the color camera head, the camera supplies razor sharp images of even the darkest corners of the section under inspection.

ROBUST HOUSING	POSITION & ANGLE DISPLAY 64°	Ø 40 mm PAN&TILT COLOR CAMERA HEAD	VIDEO FUNCTION	PHOTO FUNCTION	INTEGRATED LOCATOR TRANSMITTER	POWERFUL RECHARGEABLE BATTERY UP TO 4h MOBILITY

WIDE RANGE OF APPLICATIONS

Analyze damage and inspect:

- Waste water lines of Ø 70 mm and larger
- House connections up to Ø 200 mm
- Flue gas systems of Ø 60 mm and larger
- Ventilation lines of ventilation systems
- False ceilings, hollow spaces, shafts

FUNCTIONALITY

- Optics pan 360° and tilt 180° – facilitate maximum move-ment radius and ensure even the smallest damage does not remain hidden from your view
- Store video footage and photos on a 2 GB SD card (Wöhler VIS 350)
- Camera head with integrated transmitter harmonizes loca-tion detection by the Wöhler L 200 Locator
- Digital position and angle of the camera head displayed on the monitor
- Home function aligns the camera head to a straight position – display parallel to the ground above
- Brightly illuminating color camera head, 60 mm in length and 40 mm in diameter, easily negotiates tight bends
- Electronic meter counter with a resolution of 0.04 m dis-played on the monitor
- Bright TFT color monitor (tiltable and removable) supplies razor sharp images
- Battery operating time: 2 x 120 min. with 2 rechargeable batteries (optional)
- Fully equipped mobile solution in a robust plastic case

LOCATOR (OPTIONAL)

- Transmitter integrated in camera head makes it possible to precisely locate the camera head
- Facilitates targeted repairs to damaged pipelines
- Telescopic holder makes it possible to locate damage un-der floors or in ceilings
- Chalk holder with lithographic chalk ensures it is possible to mark located damage immediately
- Long-lasting LI-ION rechargeable battery

DOCUMENTATION

Simply record and store photos and videos on a 2 GB SD card (Wöhler VIS 350) for documentation and archiving pur-poses for you and your customers.

TECHNICAL DATA

Monitor
Dimensions housing.............176 x 114 x 32 mm
TFT-Display.........................7" / 16:9 format
Video-Out............................RCA signal
Weight.................................400 g

Power Supply.......................Space for 2 rechargeable batteries, each 12 V or via power pack
Battery operating time...........Max. 2 rechargeable batteries, each 120 mins. = 4 h (battery status in display)

Pan&tilt Ø 40 mm color camera head
Type.....................................1/3" COLOR CMOS
Pixels...................................768 x 576 (PAL), 656 x 492 (NTSC)
Light sensitivity....................0.5 Lux
Lens.....................................f = 2.3 mm, F = 2.5
Viewing angle......................115°
Light source........................12 white LEDs
Degree of protection.............Waterproof to IP 67
Dimensions.........................Ø 40 mm x 60 mm
Operating temperature..........0...40 °C, RH 95 % MAX
Storage temperature.............-20...50 °C, RH 95 % MAX

Push rod
Length.................................20 m
Diameter..............................6.5 mm

Plastic case
Dimensions.........................51 x 43 x 17 cm (L x W x H)
Weight.................................8.2 kg

Distance Measurement
Wöhler VIS 350 / VIS 300......Electronic meter counter

Memory (Wöhler VIS 350)
Recording............................2 GB SD card (2.5 h recording capacity)
Interface..............................Mini USB port

Locator transmitter
Transmission frequency........8.9 kHz

Locator receiver
Display.................................Graphic visualization of transmitted position
Output impedance Headphones.........................32 Ohm
Power supply.......................3.7 V Li-Ion rechargeable battery
Operating temperature..........0...40 °C
Storage temperature.............-10 °C...40 °C
Weight.................................605 g
Dimensions.........................32 x 14 x 7 cm (L x W x H)

*)Excepted from this: Opening of the housing, inappropriate handling; For further information please see our guarantee guidlines

PRODUCT FEATURES

	Chimneys, vents and waste water pipes	
Wöhler VIS	300	350
Features		
Pan and tilt color camera head Ø 40 mm	●	●
Digital distance measurement	●	●
Photo& video record		●
Menu		●
Video settings		●
Transmitter / Probe	●	●
Level indicator		●
Home-function		●

Wöhler VIS 300 Service Camera `NEW`

Ø 40 mm
PAN&TILT
COLOR CAMERA HEAD

POWERFUL
RECHARGEABLE BATTERY
UP TO 4h MOBILITY

INTEGRATED LOCATOR
TRANSMITTER

!

The color camera head Ø 40 mm can be located with the Wöhler L 200 Locator– more information see page 109

VISUAL INSPECTION

Wöhler VIS 300 Service Camera 20 m	Wöhler VIS 300 Service Camera 30 m	Wöhler VIS 300 Service Camera 30 m, with Wöhler L 200 Locator
for visual inspection of water pipes, flues, chimneys and ventilation lines from 60 – 200 mm Ø	**for visual inspection of water pipes, flues, chimneys and ventilation lines from 60 – 200 mm Ø**	**for visual inspection of water pipes, flues, chimneys and ventilation lines from 60 – 200 mm Ø**
Scope of delivery:	Scope of delivery:	Scope of delivery:
Wöhler VIS 300 Service Camera	Wöhler VIS 300 Service Camera	Wöhler VIS 300 Service Camera
		Wöhler L 200 Locator
digital distance measurement	digital distance measurement	digital distance measurement
pan and tilt color camera head 40 mm Ø V2	pan and tilt color camera head 40 mm Ø V2	pan and tilt color camera head 40 mm Ø V2
Wöhler TFT-monitor 7" with 2 m cable (detachable)	Wöhler TFT-monitor 7" with 2 m cable (detachable)	Wöhler TFT-monitor 7" with 2 m cable (detachable)
20 m push rod 6,5 mm Ø	30 m push rod 6.5 mm Ø	30 m push rod 6.5 mm Ø
5 replacement plastic domes	5 replacement plastic domes	5 replacement plastic domes
1 anti-slide-mat	1 anti-slide-mat	1 anti-slide-mat
1 NiMH-battery and charger	1 NiMH-battery and charger	1 NiMH-battery and charger
plastic case	plastic case	plastic case
➔ **Accessories on page 96**	➔ **Accessories on page 96**	➔ **Accessories on page 96**
Part no. 7300 J	**Part no. 6226 J**	**Part no. 6227 J**

Wöhler VIS 350 Service Camera **NEW**

Ø 40 mm PAN&TILT COLOR CAMERA HEAD	**64°** POSITION & ANGLE DISPLAY	INTEGRATED LOCATOR TRANSMITTER
VIDEO FUNCTION	PHOTO FUNCTION	POWERFUL RECHARGEABLE BATTERY UP TO 4h MOBILITY

! *The color camera head Ø 40 mm can be located with the Wöhler L 200 Locator – more information see page 109*

Wöhler VIS 350 Service Camera
30 m, fixed camera head

for visual inspection of water pipes, flues, chimneys and ventilation lines from 60 – 200 mm Ø

Scope of delivery:

Wöhler VIS 350 Sevice Camera

digital meter counter

pan and tilt color camera head Ø 40 mm V2

Wöhler TFT monitor 7" with 2 m cable (detachable)

SD memory card 2 GB SD for recording of pictures and videos

mini USB cable

30 m push rod 6.5 mm

5 replacement plastic domes

1 anti-slide-mat

2 NiMH batteries and charger

plastic case

➔ Accessories on page 00

Part no. 7351 J

Wöhler VIS 350 Service Camera
30 m, detachable camera head

for visual inspection of water pipes, flues, chimneys and ventilation lines from 60 – 200 mm Ø

Scope of delivery:

Wöhler VIS 350 Service Camera

digital meter counter

pan and tilt color camera head Ø 40 mm V2 (detachable)

Wöhler TFT monitor 7" with 2 m cable (detachable)

SD memory card 2 GB for recording of pictures and videos

mini USB cable

30 m push rod 6.5 mm

5 replacement plastic domes

1 anti-slide-mat

2 NiMH batteries and charger

plastic case

➔ Accessories on page 96

Part no. 6351 J

Wöhler VIS 350 Service Camera
30 m, fixed camera head with
Wöhler L 200 Locator

for visual inspection of water pipes, flues, chimneys and ventilation lines from 60 – 200 mm Ø

Scope of delivery:

Wöhler VIS 350 Service Camera

Wöhler L 200 Locator

digital meter counter

pan and tilt color camera head Ø 40 mm V2

Wöhler TFT monitor 7" with 2 m cable (detachable)

SD memory card 2 GB for recording of pictures and videos

mini USB cable

30 m push rod 6.5 mm

5 replacement plastic domes

1 anti-slide-mat

2 NiMH batteries and charger

plastic case

➔ Accessories on page 96

Part no. 7361 J

Wöhler VIS 350 Service Camera
30 m, detachable camera head with
Wöhler L 200 Locator

for visual inspection of water pipes, flues and ventilation lines from 60 – 200 mm Ø

Scope of delivery:

Wöhler VIS 350 Service Camera

Wöhler L 200 Locator

digital meter counter

pan and tilt color camera head Ø 40 mm V2 (detachable)

Wöhler TFT monitor 7" with 2 m cable (detachable)

SD memory card 2 GB for recording of pictures and videos

mini USB cable

30 m push rod 6.5 mm

5 replacement plastic domes

1 anti-slide-mat

2 NiMH batteries and charger

plastic case

➔ Accessories on page 96

Part no. 6354 J

VIS Guidance Sets	Part no.
Wöhler Guidance Set 100 for VIS 3xx pan and tilt camera head 40 mm Ø protection sleeve with cut-out, roller guide and centering star	**4240 J**
Camera Roller Guide suitable for camera heads and rods	**3681 J**
Wöhler VIS Centering Brush for Wöhler VIS 400 / VIS 2xx / VIS 3xx	**3850 J**
Wöhler VIS Centering Brush for Wöhler VIS 400 / 2xx / 3xx 20 cm Ø with 6 brushes, with thread, centers the GRP camera rod, to guide the camera head	**3854 J**
Wöhler VIS Centering Brush Extension for Wöhler VIS 400 / 2xx / 3xx 20 cm Ø with inner and outer thread for endless extension Suitable only for detachable versions of the Wöhler VIS 3xx.	**3853 J**
Wöhler VIS Spare Brushes for Wöhler VIS 400 / 2xx / 3xx, for centering brush, 24 pieces	**3858 J**
Wöhler VIS Stabilization Tube for Wöhler VIS 400 / 2xx / 3xx extension for centering star art. 3854	**21736 J**
Wöhler guidance weight 740 g, stainless steel for VIS 2xx / VIS 3xx to let down the camera head (e.g. in a chimney). Necessary to use supplementary light (art. 9377).	**3857 J**
Wöhler Supplementary Light Ring - for 51 mm pan&tilt head - for 40 mm pan&tilt head in combination with guidance weight (art. 3857) incl. battery pack with four AA batteries 1.5 V in cordura bag.	**9377 J**
Guidance Ball for flex part of camera push rod, improves ability to go through bends	**3634 J**

Power Supply	Part no.
Wöhler VIS 2xx / VIS 3xx Quick Charger 1.5 A / 230 V / 50 H	**56102 J**
VIS 3xx / VIS 2xx Power Supply 18V, 1,5A, 100-240V, 50 Hz, 2.1 mm female plug, center plus, charge time 3 hours for all countries	**3789 K**
Wöhler Battery 12 V NiMh 2600 mAh VIS 2xx / VIS 3xx operation time: 120 min warranty: 12 months	**4715 J**
Wöhler Car charger 18 V for VIS 2xx / VIS 3xx / VIS 400	**3169 J**

VISUAL INSPECTION

Accessories	Part no.
Relining Adapter for VIS 3xx	**6888 J**
Re-lining adapter set consisting of: re-lining adapter, centering star and 3 x stabilization sleeve	**6889 J**
Protection Sleeve for Wöhler VIS 3xx with cut-out	**2641 J**
Protection Sleeve for VIS 3xx	**3682 J**
Glass Dome for Wöhler VIS 3xx	**3674 J**
Replacement Plastic Domes (10 pcs.) for Wöhler VIS 3xx	**3675 J**
Anti slide mat	**3252 J**
Wöhler additional glare protection for VIS 2xx / 3xx monitors	**6814 J**

Accessories / Further products	Part no.
Wöhler VIS Cleaning Set NEW 1 liter disinfection spray, 50 cleaning tissues, 100 disposable gloves size XL (powder free), 200 ml lubricant, plastic case For approx. 50 applications.	**4725 I**
Wöhler VIS Cleaning Set Refill NEW 1 liter disinfection spray, 50 cleaning tissues, 100 disposable gloves size XL (powder free), 200 ml lubricant, in plastic bag For approx. 50 applications.	**4726 O**
Wöhler L 200 Locator (Receiver) NEW Wöhler L 200 Locator Receiver, plastic case, USB power supply with micro USB cable, chalk (12 pcs. box, yellow), telescopic rod and headphones	**7430 J**

MODULAR POINT OF VIEW NEW

Wöhler VIS 400 Professional Video Inspection System

The carry strap around your neck and the monitor in front of your chest, one hand guides the camera cable, the other precisely controls the camera head via the typical Wöhler keypad: That is how stable the new Wöhler VIS 400 video inspection system is and how easy it is to work with while inspecting chimneys standing on steep roofs or inspecting house supply lines.
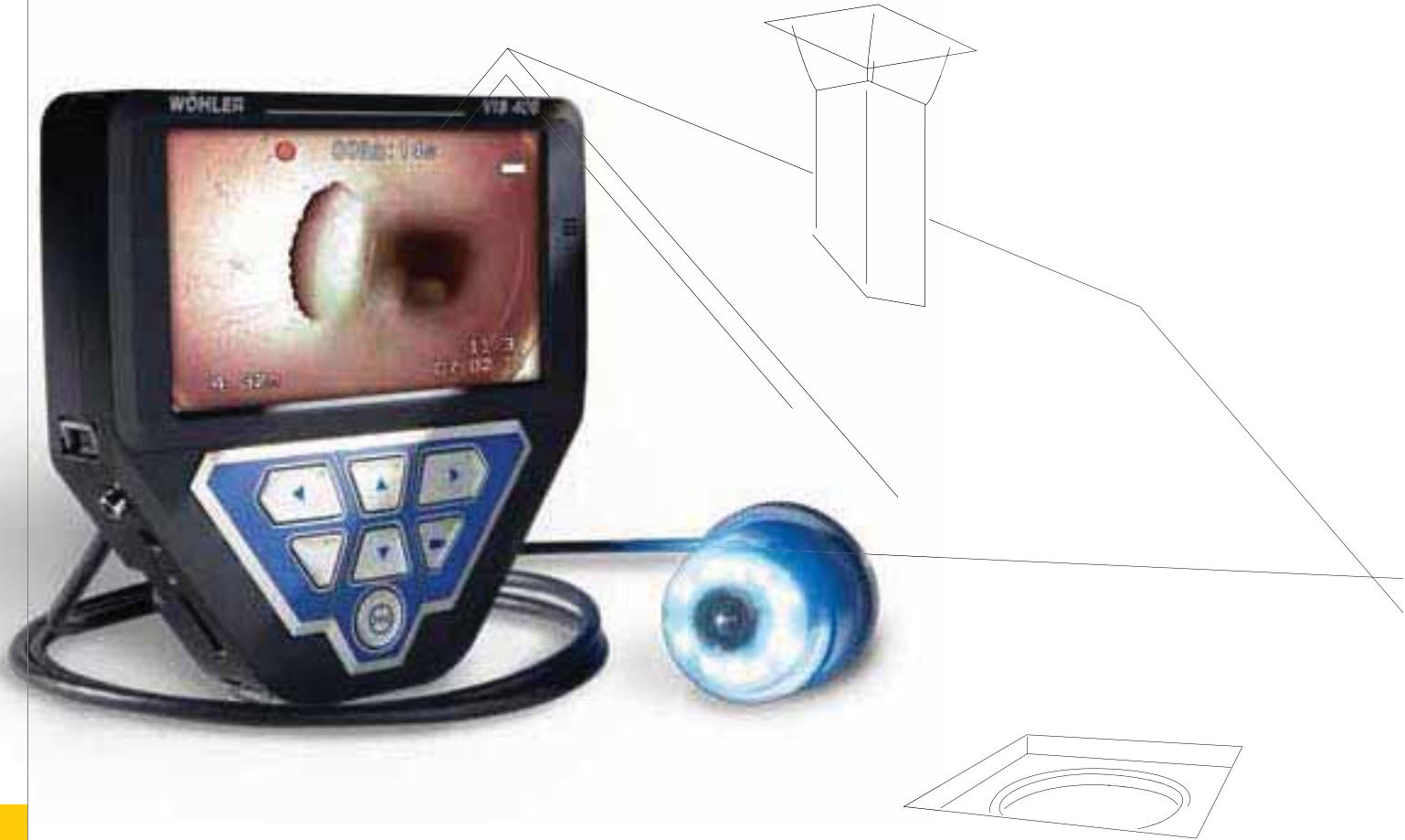
MONITOR SUN PROTECTION
ensures optimum viewing even in the glare of the sun

PROFESSIONELLY EQUIPPED WITH CAMERA VIPER
for inspecting underground pipelines

NO UNNECESSARY BALLAST ON THE ROOF
helps you keep your balance in the most difficult of conditions

WÖHLER

ROBUST HOUSING	VIDEO FUNCTION	PHOTO FUNCTION	VOICE RECORDING	USB MMC/SD
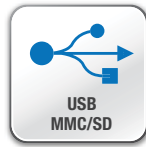
WIDE RANGE OF APPLICATIONS

Analyze damage and visually inspect:

- Flue gas systems
- Building drains, house connections
- Ventilation systems

PRODUCT BENEFITS

- Modular system – components are modular by design to support extensive expansion options
- Pan & Tilt color camera heads with integrated power lighting easily negotiate bends in the line
- Digital meter counter with a resolution of 0.04 m, displayed on the monitor (with Wöhler camera viper or cable reel)
- Mini USB port for data transmissions

TECHNICAL DATA

Monitor
TFT display...7" / 16:9 format
Video out ....RCA signal
Power supply ....12 V NiMH rechargeable battery,2,000 mAh
Battery operating time ....2 h (battery status in display)
Distance measurement ....Digital meter counter in conjunction with the camera viper and cable reel
Storage ....2 GB SD card (2.5 h recording capacity)
Interface ....Mini USB port
Operating temperature..................................0 - 40 °C
Storage temperature ....-20 - 50°C
Dimensions housing without pouch..............199 x 196 x 40 mm
Dimensions housing with pouch ....210 x 210 x 60 mm
Weight...Without pouch 1200 g; with pouch 1700 g
Connection, stand..Standard

DOCUMENTATION

Integrated video output – simply record and store photos, videos and voice annotations on a 2 GB SD card (Wöhler VIS 250) for documentation and archiving purposes for you and your customers.

MODULAR SYSTEM DESIGN

Put your camera system together to suit your requirements and wishes. Select your components from the list below and more:

CABLE REEL

VIPER

Ø 51 mm color camera head, pan- & tiltable

Ø 40 mm color camera head, pan- & tiltable

Ø 26 mm color camera head for smaller pipe diameters

CAMERA HEADS

MEASURING INSTRUMENTS FLUE GAS ANALYSIS

MEASURING INSTRUMENTS LEAKAGE AND PRESSURE

MEASURING INSTRUMENTS IAQ/BUILDING

VISUAL INSPECTION

SWEEP INSTRUMENTS

Wöhler VIS 400 Video Inspection System – Chimney `NEW`

APPLICATION
- Chimney inspection
- Inspection of vents and flues

ADVANTAGES
- Compact - no unnecessary ballast on the roof
- Additional LEDs
- Modular system
- Light weight – 1.200 g only
- Incl. carrying belt and protection bag

Wöhler VIS 400 Video Inspection System Standard Set Chimney

Scope of delivery:

Wöhler VIS 400 color TFT monitor 7" with 2 GB SD card and power supply

protection bag with glare protector and shoulder belt

pan & tilt camera head Ø 51 mm

camera cable 20 m

power supply

plastic case

➔ **Accessories on page 104**

Part no. 4100 J

VISUAL INSPECTION

Wöhler VIS 400 Video Inspection System – Chimney `NEW`

Order no. 4180

APPLICATION
- Chimney inspection
- Inspection of vents and flues

ADVANTAGES
- Compact - no unnecessary ballast on the roof
- Additional LEDs
- Modular system
- Light weight – 1.200 g only
- Incl. carrying belt and protection bag

Order no. 4170

Wöhler VIS 400 Video Inspection System Advanced Set Chimney

Scope of delivery:

Wöhler VIS 400 color TFT monitor 7" with 2 GB SD card and power supply

Protection bag with glare protector and shoulder belt

Pan & tilt camera head Ø 51 mm

Cable reel with 20 m camera cable

Plastic case

XXL alu case

➔ Accessories on page 104

Part no. 4180 J

Wöhler VIS 400 Video Inspection System Professional Set Chimney

Scope of delivery:

Wöhler VIS 400 color TFT monitor 7" with 2 GB SD card and power supply

protection bag with glare protector and shoulder belt

pan & tilt camera head Ø 51 mm

Viper cage with 20 m camera push rod 7 mm

camera roller guide

stabilization sleeve with star holder

plastic case

XXL alu case

➔ Accessories on page 104

Part no. 4170 J

Wöhler VIS 400 Video Inspection System – Waste Water Pipes `NEW`

order no. 4090

order no. 4190

APPLICATION
- Inspection of waste water pipes
- Inspection of vents and flues

ADVANTAGES
- Push rod for for guidance in pipes
- Adjustable LED brightness
- Modular system
- Incl. carrying belt and protection bag

Wöhler VIS 400 Video Inspection System Advanced Set Waste Water Ø 40 mm

Scope of delivery:

Wöhler VIS 400 color TFT monitor 7" with 2 GB SD card and power supply

protection bag with glare protector and shoulder belt

mini camera head 26 mm

camera head protection cage

viper with 20 m camera push rod 6 mm

plastic case

XXL alu case

➜ **Accessories on page 104**

Part no. 4090 J

Wöhler VIS 400 Video Inspection System Advanced Set Waste Water Ø 70 mm

Scope of delivery:

Wöhler VIS 400 color TFT monitor 7" with 2 GB SD card and power supply

protection bag with glare protector and shoulder belt

pan & tilt camera head Ø 40 mm

10 replacement plastic domes

roller guide

camera head protection cage

viper with 30 m camera push rod 6.5 mm

plastic case

XXL alu case

➜ **Accessories on page 104**

Part no. 4190 J

WÖHLER

VISUAL INSPECTION

Wöhler VIS 400 Video Inspection System – Cavities `NEW`

order no. 6228

order no. 6229

APPLICATION
- Inspection of cavities or machines

ADVANTAGES
- Incl. telescope with flex and stay
- gooseneck up to 3.4 m

Wöhler VIS 400 Video Inspection System with miniature color camera head Ø 26 mm V2

Scope of delivery:

Wöhler VIS 400 color TFT monitor 7" with 2 GB SD card and power supply

miniature color camera head Ø 26 mm V2

gooseneck with telescope 0.9 - 1.6 m

plastic case

➔ Accessories on page 104

Part no. 6228 J

Wöhler VIS 400 Video Inspection System with pan & tilt color camera head Ø 40 mm V2

Scope of delivery:

Wöhler VIS 400 color TFT monitor 7" with 2 GB SD card and power supply

pan & tilt color camera head Ø 40 mm V2

gooseneck with telescope 0.9 - 3.4 m

plastic case

➔ Accessories on page 104

Part no. 6229 J

MEASURING INSTRUMENTS FLUE GAS ANALYSIS

MEASURING INSTRUMENTS LEAKAGE AND PRESSURE

MEASURING INSTRUMENTS IAQ/BUILDING

VISUAL INSPECTION

SWEEP INSTRUMENTS

Monitor	Part no.
Wöhler VIS 400 Color Monitor Scope of delivery: Wöhler VIS 400 color monitor, protective bag with glare shield and shoulder belt, mini USB cable, 2 GB SD-Card , power supply, plastic case	**4105 J**

Camera Heads	Part no.
Pan and tilt color camera head 40 mm Ø V2, PAL, detachable with leather protection bag, flexible connection to camera rod	**8930 J**
Miniature color camera head Ø 26 mm V2, PAL, detachable, flexible connection to the camera rod, with leather protection case	**8920 J**
Wöhler VIS 400 Camera Head b/w 51 mm Ø, pan & tilt, with leather case	**7801 J**
Wöhler VIS 400 Camera Head Color 51 mm Ø, pan & tilt, with leather case	**7806 J**

Domes for Camera Head Ø 51 mm	Part no.
Wöhler Replacement Glass Dome for pan & tilt camera heads Wohler VIS 400 color and b/w	**7802 K**
Replacement Glass Domes with protection sleeve for Wöhler Camera Head VIS 400	**3494 K**
Plastic domes pack of 5 pieces, for Wöhler Camera Head VIS 400	**7075 K**

Protection Sleeves & Domes for Camera Head Ø 40 mm	Part no.
Protection Sleeve for Wöhler VIS 3xx with cut-out	**2641 J**
Protection Sleeve for VIS 3xx	**3682 J**
Glass Dome for Wöhler VIS 3xx	**3674 J**
Replacement Plastic Domes (10 pcs.) for Wöhler VIS 3xx	**3675 J**

Cable Reel	Part no.
Wöhler VIS 400 Cable Reel with integrated distance measurement with 0.05 m resolution (shown on monitor display), with shoulder strap and connection cable to monitor, without camera cable	**7816 J**

Wöhler VIS 400 Camera Cable with metric marking	
10 m, extension cable	**8636 J**
20 m	**9172 J**
30 m	**7812 J**
50 m, without metric marking	**7845 J**

WÖHLER

Camera Rods	Part no.
Wöhler GRP Camera Rod (2 x Wöhler 8-pin plugs)	
black, flexible, Ø 6 mm, 5 m length	**7821 J**
black, flexible, Ø 6 mm, 20 m length	**7818 X**
black, flexible, Ø 6 mm, 30 m length	**7819 X**
blue, medium, Ø 6.5 mm, 5 m length	**7343 J**
blue, medium, Ø 6.5 mm, 20 m length	**7342 X**
blue, medium, Ø 6.5 mm, 30 m length	**7341 X**
red, rugged, 7 mm Ø, 5 m length	**7305 J**
red, rugged, 7 mm Ø, 20 m length	**7829 X**
red, rugged, 7 mm Ø, 30 m length	**7306 X**
Wöhler Special Cable 0.8 m for connecting single GRP camera rods to the monitor	**9181 J**

Telescope	Part no.
Wöhler Telescopic Tube with flexible gooseneck for pan and tilt color camera heads Ø 40 mm and miniature color camera head Ø 26 mm length of the telescopic tube 0.9 ...1.6 m plus gooseneck 0.3 m. The flex and stay gooseneck remains in a bent position allowing for easy inspection	**7005 O**
Wöhler Telescopic Tube with flexible gooseneck for pan and tilt color camera heads Ø 40 mm and miniature color camera head Ø 26 mm length of the telescopic tube 0.9 ...3.40 m plus gooseneck 0.3 m. The flex and stay gooseneck remains in a bent position allowing for easy inspection	**7024 J**

Camera Vipers	Part no.
Wöhler Camera Viper 42 with GRP camera rod, integrated digital meter counter, retractable viper stand, connection cable to monitor - used with Wöhler VIS 400 pan and tilt camera heads	
red, Ø 7 mm, 30 m length	**7307 J**
red, Ø 7 mm, 20 m length	**7309 J**
Wöhler Camera Viper 42 with GRP-Camera rod blue, Ø 6.5 mm, 30 m length, integrated digital meter counter, retractable viper stand, connection cable to monitor - used with Wöhler VIS 400 pan and tilt camera heads	**7301 J**
Wöhler Camera Viper 36 with GRP-Camera rod blue, Ø 6.5 mm, 20 m length, intergrated digital meter counter, retractable viper stand connection cable to monitor - used with miniature camera heads	**7302 J**
Wöhler Camera Viper 36 with GRP- Camera rod black, Ø 6 mm, 20 m length, integrated digital meter counter, retractable viper stand, connection cable to monitor - used with miniature camera heads	**7308 J**
Wöhler Camera Viper 36 with GRP- Camera rod black, Ø 6 mm, 30 m length, integrated digital meter counter, retractable viper stand, connection cable to monitor - used with miniature camera heads	**7336 J**
Wöhler Camera Rod Reel 42 for GRP- camera rods Ø 7 mm up to 30 m length (comes without camera rod) with integrated distance measurement, retractable viper stand, connection cable to monitor	**7822 X**
Wöhler Camera Rod Reel 36 for GRP- camera rods Ø 6 mm up to 20 m length (comes without camera rod) with integrated distance measurement, retractable viper stand, connection cable to monitor	**3822 X**

| Localization	Part no.
Wöhler L 200 Locator (Receiver) NEW Wöhler L 200 Locator Receiver, plastic case, USB power supply with micro USB cable, chalk (12 pcs. box, yellow), telescopic rod and headphones	**7430 J**

Guidance Sets for Wöhler Camera Head Ø 51 mm	Part no.
Wöhler VIS Guidance Set 150 for pan and tilt camera head Ø 51 mm guidance for pan and tilt camera head with protection cage, extension part, centering star and centering star for rod fixture	**3882 J**
Wöhler VIS Guidance Set 110 for pan and tilt camera head Ø 51 mm camera roller cage with protection cage and stabilization sleeve with star holder	**3881 J**
Wöhler Camera Spring Guide for pan & tilt camera head Ø 51 mm for centering of the camera head in vertical vents. A stainless steel spring prevents a rotating and oscillating of the camera head. The spring is adjustable on the tubing size up to 35 cm.	**8633 J**
Camera holder for pan & tilt camera head Ø 51 mm	**3720 J**
Wöhler Camera trolley VIS for pan & tilt camera head Ø 51 mm with M10 and M5 connection for pushing, size: 160 x 125 x 120 mm	**9548 J**
Wöhler VIS Maxi Adaptor for camera trolley for the inspection of larger ventilation ducts (from about 300 mm)	**9549 J**

Guidance Sets for pan & tilt Wöhler Camera Head Ø 40 mm	Part no.
Relining Adapter for VIS 3xx	**6888 J**
Re-lining adapter set re-lining adapter, centering star and 3 x stabilisation sleeve	**6889 J**
Wöhler Guidance Set 100 for VIS 3xx pan and tilt camera head Ø 40 mm protection sleeve with cut-out, roller guide and centering star	**4240 J**

Guidance Sets for pan & tilt Wöhler Camera Head Ø 26 mm	Part no.
Re-lining adapter set re-lining adapter, centering star and 3 x stabilisation sleeve	**6889 J**
Wöhler VIS Guidance Set 70 for miniature camera head guidance sleeve with protection, cage, centering star for rod fixture	**3883 I**

HOTLINE: +49 2953 73-279   FAX: +49 2953 73-96279   **WÖHLER**

Components for Wöhler Camera Head Ø 51 mm	Part no.
Wöhler Camera Protection with brushes for Ø 51 mm pan & tilt camera head with protection cage and 20 cm Ø brushes for centering	3855 J
Camera roller guide with protection cage for VIS 400	7826 J
Stabilizing sleeve for VIS camera on GRP rod Ø 6 and 7 mm	3590 J
Wöhler Stabilization Sleeve with M10 thread for Wöhler VIS 400 pan and tilt camera heads for use with camera cable: head can be pushed upwards with GRP rods	3591 J

Components for Wöhler Miniature Camera Head Ø 26 mm	Part no.
Guidance Sleeve for mini camera head	3827 J
Guidance Sleeve with protection cage for mini camera head	3847 J

Components for Wöhler Camera Heads Ø 40 mm and Ø 26 mm	Part no.
Wöhler VIS Centering Brush for Wöhler VIS 400 / VIS 2xx / VIS 3xx	3850 J
Wöhler guidance weight 740 g, stainless steel for VIS 2xx / VIS 3xx to let down the camera head (e.g. in a chimney). Necessary to use supplementary light (art. 9377).	3857 J
Camera Roller Guide suitable for camera heads and rods	3681 J
Wöhler Supplementary Light Ring for 51 mm pan & tilt camera head for 40 mm pan & tilt head in combination with guidance weight (art. 3857) incl. battery pack with four AA batteries 1.5 V in cordura bag.	9377 J

Components for all Wöhler Camera Heads	Part no.
Wöhler VIS Spare Brushes for Wöhler VIS 400 / 2xx / 3xx, for centering brush, 24 pieces	3858 J
Wöhler VIS Centering Brush for Wöhler 400 / 2xx / 3xx 20 cm Ø with 6 brushes, with thread, centers the GRP camera rod, to guide the camerad head	3854 J
Wöhler VIS Centering Brush Extension for Wöhler VIS 400 / 2xx / 3xx 20 cm Ø with inner and outer thread for endless extension	3853 J
Wöhler VIS Stabilisation Tube for Wöhler VIS 400 / 2xx / 3xx extension for centering star art. 3854	21736 J
Guidance Ball for flex part of camera push rod, improves ability to go through bends	3634 J

Accessories	Part no.
Telescopic dolly, stainless steel extendable from 22 - 40 cm	**5706 I**
Aluminium Case XXL 48 x 27 x 48 cm	**5824 J**
Camera Backpack	**5560 J**
Plastic Case VIS 400	**4131 J**
VIS 3xx / VIS 2xx Power Supply 18V, 1,5A, 100-240V, 50 Hz, 2.1 mm female plug, center plus, charge time 3 hours for all countries	**3789 K**
Wöhler Car charger 18 V for VIS 2xx / VIS 3xx / VIS 400	**3169 J**
Chalk, yellow package with 12 pcs.	**1774 X**
Wöhler VIS Cleaning Set NEW 1 liter disinfection spray, 50 cleaning tissues, 100 disposable gloves size XL (powder free), 200 ml lubricant, plastic case For approx. 50 applications.	**4725 I**
Wöhler VIS Cleaning Set Refill NEW 1 liter disinfection spray, 50 cleaning tissues, 100 disposable gloves size XL (powder free), 200 ml lubricant, in plastic bag For approx. 50 applications.	**4726 O**

Wöhler L 200 Locator

COLOR DISPLAY

LOCATES PRECISELY

TECHNICAL DATA

Locator Receiver

Display...........................	Graphic visualisation of the position of the camera head
Output impedance Headphones	Typ. 32 ohm
Power Supply	3,7 V Li-Ion Battery
Operating Temperature	0...40 °C
Storage Temperature	-10 °C...+40 °C
Weight	605 g
Size	31 x 14 x 7 cm (L x B x H)

APPLICATION

The Wöhler L 200 Locator makes it possible to locate the Wöhler VIS Camera heads VIS 200/250/300/350 wirelessly. Damaged or soiled sections of pipework are displayed precisely in a graphic on the display.

ADVANTAGES

- Locates radio signals transmitted by the camera head – rapidly pinpoints damage
- Easy to handle – user guided via display throughout the locating process
- Bright, easy-to-read color display
- Telescopic pole – easily track down damage anywhere
- Chalk holder – for chalk to mark the position where damage is found
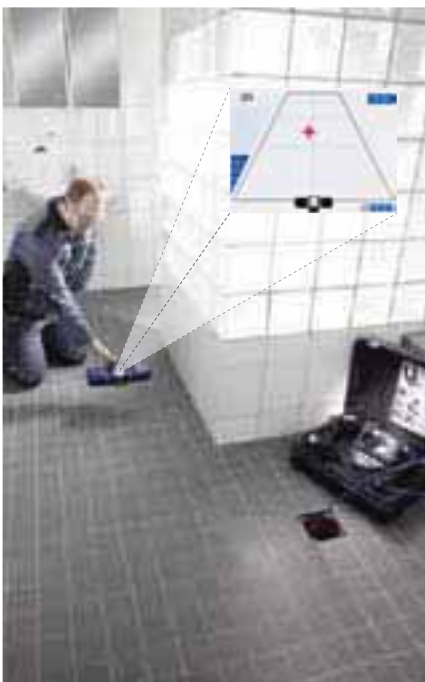
Wöhler L 200 Locator (Receiver)

Scope of delivery:

Wöhler L 200 Locator Receiver

USB power supply with micro USB cable

Chalk (12 pcs. box, yellow)

telescopic rod

headphones

plastic case

Part no. 7430 J

Wöhler VE 200 Video-Endoscope
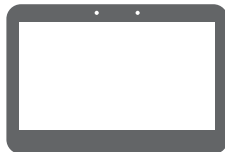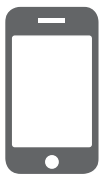
TECHNICAL DATA

Signal transmission
WLAN
Network Standard .... IEEE 802.11 b/g/n
Antenna .... Integrated IPEX Antenna
Frequency .... 2.4 GHz
Data transmission rate
wireless card with
802.11 a/b/g/n .... up to 150 Mbit/s

Recording
Camera Head .... Ø 8.5 mm
Image Resolution .... 2.0 Megapixels
Focus .... 60 mm to 100 mm
Video Resolution .... 800 x 600 Pixel
                                    1024 x 768 Pixel
                                    1280 x 720 Pixel
Angle of view................... 60°
Probe length.................... 1.2 m

File formats
Image format................... jpg
Video format .... avi

Light source .... 6 adjustable LEDs
Additional light source....... 1 watt LED
Power Supply .... 4 AA batteries

APPLICATION
- For inspection of inaccessible cavities from 20 mm in diameter (for example: roof insulation, exhaust pipes, sinks, fireplaces)
- Transmission of image and video data via wireless (WiFi) on laptop, tablet PC or Smartphone

ADVANTAGES
- Snapshot and Video Functions
- Direct forwarding of data - no further data transmission necessary
- Image display via wireless at all
- Compatible devices (such as net-books, Smartphone, tablet)
- 1.2 m gooseneck
- Video Recording
- Variable Light intensity of the flashlight for Illumination of cavities

Wöhler VE 200 Video Endoscope
Scope of delivery:
Wöhler VE 200 Video Endoscope with 1.2 m probe

miniature camera head

4x AA batteries

plastic case

(The VE 200 is not compatible with Windows Phone)

Part no. 7792 I

VISUAL INSPECTION

Wöhler Glass Mirror

APPLICATION
- Inspection of objects hard to reach
- Inspection of chimneys
- Building inspection

ADVANTAGES
- Best view with glass mirror plates
- Pan and tilt
- Aluminium frame for protection
- Easy to replace
- Telescopic handle, extendable from 15 to 100 cm

**Wöhler Glass Hand Mirror
5 x 8 cm**

Scope of delivery:
Wöhler Glass Hand Mirror 5 x 8 cm

leather cover

Part no. 5064 0

**Wöhler Glass Mirror small
with telescopic handle**

Scope of delivery:
Wöhler Glass Mirror small up to 1 m extendable

Ball joint (pan and tilt)

Mirror plate 2.6 x 7 cm

aluminium edge protector

leather cover

Part no. 8064 0

**Wöhler Glass Mirror medium
with telescopic handle**

Scope of delivery:
Wöhler Glass Mirror medium up to 1 m extendable

Ball joint (pan and tilt)

Mirror plate 5 x 8 cm

aluminium edge protector

leather cover

Part no. 8059 0

**Wöhler Glass Mirror large
with telescopic handle**

Scope of delivery:
Wöhler Glass Mirror large up to 1 m extendable

Ball joint (pan and tilt)

Mirror plate 8 x 15 cm

aluminium edge protector

leather cover

Part no. 8087 0

Wöhler Metal Chimney Mirror

APPLICATION
- Inspection of objects hard to reach
- Inspection of chimneys

ADVANTAGES
- Chromed and polished
- Tiltable handle

Wöhler Chimney Mirror Small

Scope of delivery:
Wöhler chimney mirror

metal mirror plate 7 x 10 cm

leather sleeve

Part no. 1015 0

**Wöhler Telescopic Chimney Mirror Small
with telescoping handle**

Scope of delivery:
Wöhler chimney mirror

metal mirror plate 7 x 10 cm

telescopic handle 54 cm

leather sleeve

Part no. 1748 0

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SWEEP INSTRUMENTS

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SWEEP INSTRUMENTS

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APPLICATIONS			
Chimneys (sizes in cm):	14...20		●
	20...40		●
	40 and bigger	●	
Flue Gas lines (sizes in mm):	40...150		
	150...250		●
	250 and bigger	●	●
Air duct (sizes in mm):	75...150		
	150...250		●
	250...400	●	
	400 and bigger	●	
FEATURES & BENEFITS			
Horizontal and vertical cleaning		●	●
Sweeping top down			●
Stainless steel approved		●	●
Portable		●	●
Lock/brake		●	●
CW/CCW rotation			
Extendable		●	●
TECHNICAL DATA			
Length / diameter		50 or 100 m / GRP-Rod 11 mm Ø	15 or 20 m / GRP-Rod 9 mm Ø
Size / weight		80 or 100 cm Ø / 21.6 - 34.2 kg	59 cm Ø / 4.3 - 5.3 kg
Thread		M10 thread	M10 thread

WÖHLER

SWEEP INSTRUMENTS

	Wöhler H 420 Viper M	Wöhler Mini Viper S	Wöhler Rotary Viper heavy-duty	Wöhler Rotary Viper vent	Wöhler DH 420 Pneumtatic Viper
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	•				•
	15 or 20 m / GRP-Rod 7 mm Ø	15 m / GRP-Rod 4.5 mm Ø	7 or 10 m / 20 mm Ø	5 or 10 m / 15 mm Ø	10 m/ 10 mm
	42 cm Ø / 1.8 kg	28 cm Ø / 720 g	5.62 / 7.66 kg	1.44 kg / 1.88 kg	42 cm Ø / 2.5 kg
	M10 thread	M5 thread	M10 thread	M10 thread	compressed air supply

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Wöhler Viper XL / XXL

TECHNICAL DATA

Wöhler Viper XL
Cage diameter.................. 80 cm
Width.............................. 50 cm
Height............................. 93 cm
Weight............................ 21.6 kg

Wöhler Viper XXL
Cage diameter.................. 100 cm
Width.............................. 50 cm
Height............................. 116 cm
Weight............................ 34.2 kg

APPLICATION
• For sweeping large chimneys, ventilation systems or pipes

ADVANTAGES
• GRP Rod with resistant coat and distance marking
• A camera trolley with a Wöhler VIS 400 camera head can be installed and pushed

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Wöhler Viper XL

Scope of delivery:

Viper cage 80 cm and wheels

GRP Rod 11 mm Ø with stainless steel end pieces M10, 50 m long

GRP-starholder 28 mm Ø (without stars)

Part no. 3332 I

Wöhler Viper XXL

Scope of delivery:

Viper cage 100 cm and wheels

GRP Rod 11 mm Ø with stainless steel end pieces M10, 100 m long

GRP-starholder 28 mm Ø (without stars)

Part no. 3337 X

ACCESSORIES	Part no.
GRP Rod Repair Kit with stainless steel end piece, screws and allen wrench 11 mm Ø	**3691 K**
Stars Set Stainless Steel Flat Wire 3 Stars, flat wire, 20 cm Ø soft 6 Stars, flat wire, 25 cm Ø medium hard 6 Stars, flat wire, 30 cm Ø medium hard	**3709 O**
Threaded Brush Set Perlon 20 - 35 cm Ø, M10 thread 1 x Ø 20 cm, 2 layers 1.2 mm, 1 x Ø 25 cm, 2 layers 1.2 mm, 1 x Ø 30 cm, 2 layers 1.2 mm, 1 x Ø 35 cm, 3 layers 2 mm	**5529 G**

SWEEP INSTRUMENTS

Wöhler Viper L

TECHNICAL DATA

Cage diameter.................. 59 cm
Height............................ 61 cm
Weight............................ 4.3 – 5.3 kg
Brake.............................. adjustable,
                             additional lock for transportation

APPLICATION

For sweeping chimneys, ventilation systems or pipes

ADVANTAGES

- Adjustable brake and safety lock
- Can be used standing upright or in horizontal position
- Integrated holder for up to 3 stars
- GRP Rod with resistant coat and length marking

**Wöhler Viper L
15 m**
Scope of delivery:

GRP Rod 9 mm Ø, 15 m long, with two stainless steel end pieces M10

GRP-starholder 28 mm Ø

protection tube 80 cm long (without stars)

Part no. 9412 I

**Wöhler Viper L
20 m**
Scope of delivery:

GRP Rod 9 mm Ø, 20 m long, with two stainless steel end pieces M10

GRP-starholder 28 mm Ø

protection tube 80 cm long (without stars)

Part no. 9413 I

ACCESSORIES	Part no.
GRP Rod Repair Kit with stainless steel end piece, screws and allen wrench 9 mm Ø	**3690 K**
GRP Rod PA-coat with length marking 9 mm Ø, 15 m long, with 2 stainless steel end pieces M10 internal thread	**9015 I**
GRP Rod PA-coat with length marking 9 mm Ø, 20 m long, with 2 stainless steel end pieces M10 internal thread	**9020 I**
Stars Set Stainless Steel Flat Wire 3 Stars, flat wire, 20 cm Ø soft 6 Stars, flat wire, 25 cm Ø medium hard 6 Stars, flat wire, 30 cm Ø medium hard	**3709 O**
Threaded Brush Set Perlon 20 - 35 cm Ø, M10 thread 1 x Ø 20 cm, 2 layers 1.2 mm, 1 x Ø 25 cm, 2 layers 1.2 mm, 1 x Ø 30 cm, 2 layers 1.2 mm, 1 x Ø 35 cm, 3 layers 2 mm	**5529 G**

Wöhler Handy Viper M

TECHNICAL DATA
Cage diameter.................. 42 cm
Width.............................. 11 cm
Weight .... 2.1 kg
                                         incl. 15 m GRP rod
Freewheel brake.............. precisely adjustable

APPLICATION

Perfect tool for cleaning flue gas systems, chimneys of up to 250 mm Ø as well as ducts and pipework

ADVANTAGES

- GRP Rod with resistant coat and length marking
- Precisely adjustable brake (DGBM patented)
- Integrated holder for up to 2 stars
- Belt clip for sweeping and carrying
- For threaded brushes and stars
- Very light weight

**Wöhler Handy Viper M
15 m**
Scope of delivery:

Wöhler Handy Viper M

GRP Rod 7 mm Ø, 15 m long

(without stars)

Part no. 7649 I

**Wöhler Handy Viper M
20 m**
Scope of delivery:

Wöhler Handy Viper M

GRP Rod 7 mm Ø, 20 m long

(without stars)

Part no. 7648 I

ACCESSORIES	Part no.
GRP Rod Repair Kit with stainless steel endpiece, screws and allen wrench 7 mm Ø	3696 K
GRP Rod PA-coat with length marking with stainless steel end piece M10 internal thread	
7 mm Ø, 15 m long	7015 I
7 mm Ø, 20 m long	7020 I
Stars Set Stainless Steel Flat Wire 3 Stars, flat wire, 20 cm Ø soft 6 Stars, flat wire, 25 cm Ø medium hard 6 Stars, flat wire, 30 cm Ø medium hard	3709 O
Threaded Brush Set Perlon 20 - 35 cm Ø, M10 thread 1 x Ø 20 cm, 2 layers 1.2 mm, 1 x Ø 25 cm, 2 layers 1.2 mm, 1 x Ø 30 cm, 2 layers 1.2 mm, 1 x Ø 35 cm, 3 layers 2 mm	5529 G
Star Set PEK 2 Stars, PEK, 15 cm Ø 4 Stars, PEK, 20 cm Ø 2 Stars, PEK, 25 cm Ø	3710 O

SWEEP INSTRUMENTS

Wöhler H 420 Viper M

TECHNICAL DATA
Cage diameter.................. 42 cm
Width.............................. 11 cm
Weight .... 2 kg incl. 15 m GRP rod
Freewheel brake .... precisely adjustable
resolution meter counter ... 0.1 m

Digital Meter Counter

GRP Push Head for mounting stars

APPLICATION

Perfect tool for cleaning flue gas systems, chimneys of up to 250 mm Ø as well as ducts and pipework

ADVANTAGES

- Digital meter counter
- Precisely adjustable brake (DGBM patented)
- Integrated holder for up to 2 stars
- Belt clip for sweeping and carrying
- For push head brushes, stars and sponges
- Very light weight

**Wöhler H 420 Viper M
15 m, with digital meter counter**
Scope of delivery:

GRP Rod 7 mm Ø, 15 m long, with stainless steel end pieces M10

quick change star holder to hold stars

GRP push head for mounting stars (without stars)

Part no. 3770 I

**Wöhler H 420 Viper M
20 m, with digital meter counter**
Scope of delivery:

GRP Rod 7 mm Ø, 20 m long, with stainless steel end pieces M10

quick change star holder to hold stars

GRP push head for mounting stars (without stars)

Part no. 3790 I

ACCESSORIES	Part no.
GRP Rod Repair Kit with stainless steel endpiece, screws and allen wrench 7 mm Ø	**3696 K**
GRP Rod PA-coat with length marking with stainless steel end piece M10 internal thread	
7 mm Ø, 15 m long	**7015 I**
7 mm Ø, 20 m long	**7020 I**
Stars Set Stainless Steel Flat Wire 3 Stars, flat wire, 20 cm Ø soft 6 Stars, flat wire, 25 cm Ø medium hard 6 Stars, flat wire, 30 cm Ø medium hard	**3709 O**
Threaded Brush Set Perlon 20 - 35 cm Ø, M10 thread 1 x Ø 20 cm, 2 layers 1.2 mm, 1 x Ø 25 cm, 2 layers 1.2 mm, 1 x Ø 30 cm, 2 layers 1.2 mm, 1 x Ø 35 cm, 3 layers 2 mm	**5529 G**
Star Set PEK 2 Stars, PEK, 15 cm Ø 4 Stars, PEK, 20 cm Ø 2 Stars, PEK, 25 cm Ø	**3710 O**

STARS	Part no.
Star, Stainless Steel, Flat Wire	
Ø 15 cm soft	**14015 G**
Ø 20 cm soft	**14020 G**
Ø 25 cm medium hard	**14125 G**
Ø 30 cm hard	**14130 G**
Ø 35 cm hard	**14135 G**
Ø 40 cm very hard	**14240 G**
Star, Stainless Steel, Crimped Wire	
Ø 15 cm	**14315 G**
Ø 20 cm	**14320 G**
Ø 25 cm	**14325 G**
Ø 30 cm	**14330 G**
Star, PEK	
Ø 15 cm	**13815 G**
Ø 20 cm	**13820 G**
Ø 25 cm	**13825 G**
Ø 30 cm	**13830 G**
Star, Perlon	
Ø 15 cm 1.2 mm	**2019 G**
Ø 20 cm 1.2 mm	**2752 G**
Ø 25 cm 1.2 mm	**2755 G**
Ø 35 cm 1.2 mm	**2018 G**
Ø 40 cm 2.0 mm	**8140 G**

SWEEP INSTRUMENTS

THREADED BRUSHES	Part no.

Threaded Brush, Stainless Steel, Flat Wire
with M10 thread

Ø 15 cm	**18915 G**
Ø 20 cm	**18420 G**
Ø 25 cm	**18425 G**
Ø 30 cm	**18530 G**
Ø 35 cm	**18535 G**

Threaded Brush, Stainless Steel, Crimped Wire
with M10 thread

Ø 15 cm	**19115 G**
Ø 20 cm	**19120 G**
Ø 25 cm	**19125 G**

Threaded Brush, PEK
with M10 thread

Ø 15 cm	**18815 G**
Ø 20 cm	**18820 G**
Ø 25 cm	**18825 G**

Threaded Brush, Perlon
with M10 thread

Ø 15 cm 1.2 mm	**18715 G**
Ø 20 cm 1.2 mm	**4332 G**
Ø 25 cm 1.2 mm	**3564 G**
Ø 30 cm 1.2 mm	**3500 G**
Ø 35 cm 2.0 mm	**4424 G**
Ø 40 cm 2.0 mm	**18740 G**
Ø 50 cm 2.0 mm	**18750 G**

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Wöhler Mini Viper S

TECHNICAL DATA

Cage diameter	28 cm
Width	3.3 cm
Weight	720 g
	incl. 15 m GRP - rod
Brake	precisely adjustable

APPLICATION

Perfect tool to clean flue gas systems, chimneys as well as ducts and pipeworks

ADVANTAGES

- Very light weigth – only 720 grams
- Very small diameter – only 28 cm
- GRP Rod with resistant PA coat and distance marking
- Ergonomic shape
- Belt clips (left and right)

Wöhler Mini Viper S
with handle and belt clip
Scope of delivery:

Wöhler Mini Viper S

GRP Rod 4.5 mm, 15 m long

stainless steel end piece M5

guidance adapter

protection tube (without stars)

Part no. 2028 I

MINI HOLE STAR, PEK	Part no.
Mini Hole Star, PEK for use with Wöhler Mini Viper S	
Ø 70 mm	**8644 G**
Ø 100 mm	**8645 G**
Ø 130 mm	**8646 G**
Ø 150 mm	**8647 G**
Ø 200 mm	**8648 G**
Threaded Brush, PEK with M5 thread	
Ø 70 mm	**3803 G**
Ø 100 mm	**8076 G**
Ø 130 mm	**7091 G**
Ø 150 mm	**3839 G**
Ø 200 mm	**7990 G**

ACCESSORIES	Part no.
GRP Rod Repair Kit with stainless steel end piece, screws and allen wrench 4,5 mm	**3687 K**

SWEEP INSTRUMENTS

Wöhler Rotary Viper Heavy-duty

FUNCTION

The Wöhler rotary viper can easily remove severe soot, creosote and tar deposits in the chimney. A drill is used to drive the rotary viper. The chains of the endpiece spread out by rotation and knock off the soot and deposits. The chain length is adjustable.

TECHNICAL DATA

Length .... 7 m/10 m
Coat .... rugged, 20 mm Ø
Thread Connection .... internal M10
Drill connector .... 10 mm Ø
End piece......................... running in ball bearings
Core .... 10 mm Ø, CW/CCW rotation

APPLICATION

For chimney sweeping purposes

ADVANTAGES

- Stiff rotary viper can be pushed upwards or used downwards
- CW rotation enhances the cleaning effect
- Safety clutch between the drill and the rotary viper enhances safety
- Easy and fast cleaning

**Wöhler Rotary Viper Heavy-Duty
7 m**
Scope of delivery:
Wöhler Rotary Viper Heavy-Duty
safety clutch
end piece for holding chains
3 m stainless steel chain 5 mm Ø

Part no. 7437 J

**Wöhler Rotary Viper Heavy-Duty
10 m**
Scope of delivery:
Wöhler Rotary Viper Heavy-Duty
safety clutch
end piece for holding chains
3 m stainless steel chain 5 mm Ø

Part no. 7440 J

**Wöhler Rotary Viper Heavy-Duty
13 m**
Scope of delivery:
Wöhler Rotary Viper Heavy-Duty
safety clutch
end piece for holding chains
3 m stainless steel chain 5 mm Ø

Part no. 7423 J

ACCESSORIES	Part no.
Endpiece for holding chains stainless steel to use with the rotary viper, with 4 screws M10 for the attachment of the chains	7540 K
Chain Stainless Steel 5 mm Ø, 3 m long	3108 O
Sealing Element, rectangular, with hole Ø 110 x 230 mm - 190 x 310 mm	50666 J
Wöhler Sealing Elements Set to seal chimney doors 14 x 20 cm or similar measurements as well as pipe connections 100 – 150 mm or 150 – 200 mm	3708 I
Wöhler Sealing Element to seal chimney doors 14 x 20 cm and 12 x 18 cm or similar measurements	50000 I
Wöhler Sealing Element, large to seal chimney doors 20 x 30 cm or similar measurements Size: 18.5 x 22.5 cm / 27.5 x 34.5 cm, Height: 11.5 cm	3430 I
Grease press for Rotary Viper with multi-purpose grease 65 ml	3436 K

Powered Boiler Cleaning Brush

APPLICATION
Cleaning of big boilers

ADVANTAGES
- Effective boiler cleaning
- Extendable
- No danger from rotating parts

Powered Boiler Cleaning Brush Professional Set
Scope of delivery:

drill
bushing
3 guide tubes
3 shafts 30 cm for extension
2 cup brushes Ø 20 cm, medium hard and hard
2 spiral spring brushes Ø 4 and 6 cm

Part no. 1770 0

ACCESSORIES	Part no.
Drill , 550 Watt with speed regulation, for Wöhler motor brush	1720 I
Bushing with short shaft Internal thread M10 for Wöhler motor brush, to be clamped on drill	1721 K
Guide tube 400 mm for Wöhler motor brushwith bearing, for secure extension	1722 I
Shaft 15 mm x 366 mm for Wöhler motor brush Internal / external thread M 10	1723 K
Cup brush, hard with 2 small-hole stars Ø 20 cm Ø, 10 mm hole	1724 G
Cup brush, medium with 2 small-hole stars Ø 20 cm Ø, 10 mm hole	1725 G
small-hole star flat steel, 10 mm hole	
Ø 20 cm, medium	1350 G
Ø 20 cm, hard	1347 G
Boiler Brush Springs 3 mm Ø, thread M10 40 mm Ø	1726 G
Boiler Brush Springs 3 mm Ø, thread M10 60 mm Ø	1727 G

WÖHLER

BOILER BRUSHES	Part no.
Boiler Brush, Stainless Steel, Crimped Wire with thread M10	
Ø 20 mm	**1573 G**
Ø 30 mm	**1579 G**
Ø 40 mm	**1583 G**
Ø 60 mm	**1591 G**
Ø 80 mm	**1595 G**
Ø 100 mm	**1599 G**
Ø 120 mm	**1603 G**
25 x 50 mm	**1607 G**
50 x 100 mm	**1615 G**
70 x 120 mm	**5121 G**
Boiler Brush, Polyamid with thread M10	
Ø 20 mm	**1574 G**
Ø 40 mm	**1584 G**
Ø 50 mm	**1588 G**
Ø 60 mm	**1592 G**
Ø 80 mm	**1596 G**
25 x 50 mm	**1608 G**
40 x 80 mm	**1612 G**
50 x 100 mm	**1616 G**
Boiler Brush Springs 3 mm Ø, thread M10	
Ø 40 mm Ø	**1726 G**
Ø 3 mm Ø, thread M1060 mm Ø	**1727 G**
80 mm Ø	**2827 G**
Boiler Brush, Flat Wire 28 mm Ø, with thread M 10	
Ø 30 mm	**1578 G**
Ø 40 mm	**1581 G**
Ø 50 mm	**1585 G**
Ø 60 mm	**1589 G**
Boiler Brush, Flat Wire 1.25 x 0.25 mm with thread M10	
40 x 80 mm	**1610 G**
50 x 100 mm	**1614 G**
Boiler Brush, Steel Wire 28 mm Ø, with thread M10	
25 x 50 mm	**1605 G**
40 x 80 mm	**1609 G**
50 x 100 mm	**1613 G**

BRUSH ROD	Part no.
Brush Rod	
spring steel, Type B (3 x 3.8 mm Ø), with internal thread M10, 1 m long	**1624 I**
spring steel, Type B (3 x 3.8 mm Ø), with internal thread M10, 1.2 m long	**1625 I**

WÖHLER

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- MEASURING INSTRUMENTS FLUE GAS ANALYSIS
- MEASURING INSTRUMENTS LEAKAGE AND PRESSURE
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Wöhler Sweeping Tool Kit Carrier

APPLICATION

Ideal for transportation of sweeping tools

ADVANTAGES

- Comfortable Carrying
- Open-cut construction, flexible assembly
- Integrated soot drawer
- Durable aluminium construction
- Total weight 7.0 kg only
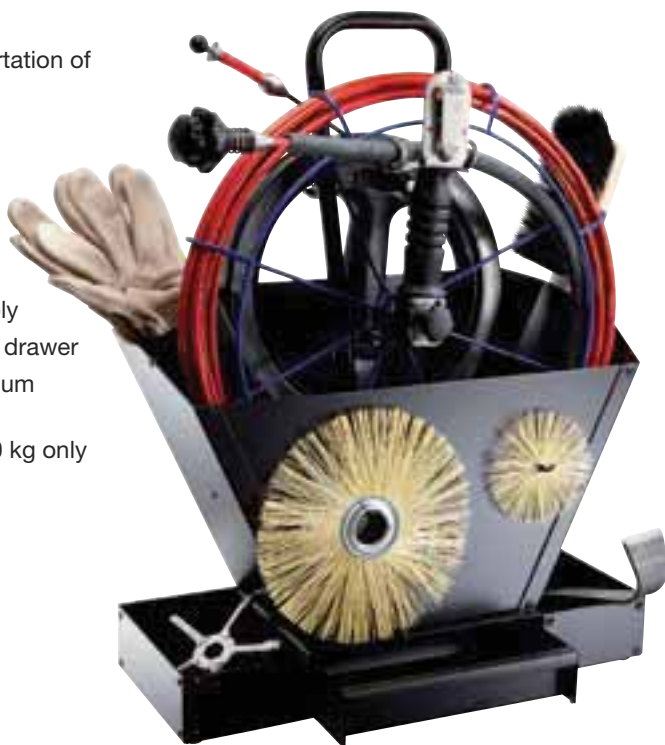
Digital Meter Counter

Wöhler Sweeping Tool Kit Carrier Professional Set

Scope of delivery:

| Wöhler Mini Viper S |
| Wöhler H 420 Viper M |
| Scraper |
| Mini star 10 cm PEK |
| Star 20 cm PEK |
| Hand broom |
| 1 pair work gloves |
| Soot door key |

Part no. 3830 0

Wöhler Sweeping Tool Kit Back Pack

APPLICATION

Ideal for transportation of sweeping tools

ADVANTAGES

- Comfortable carrying
- Cushioned back
- All on the back
- 2 large pockets
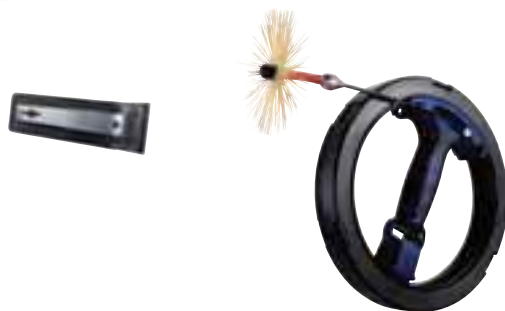
Wöhler Sweeping Tool Kit Back Pack Professional Set

Scope of delivery

| Wöhler Mini Viper S |
| Wöhler H 420 Viper M |
| Scraper |
| Mini star 10 cm PEK |
| Star 20 cm PEK |
| Tool backpack |

Part no. 4031 0

SWEEP INSTRUMENTS

WÖHLER

Wöhler Multi Key

ADVANTAGES

- Special self-adjusting 6 – 11 mm clean out door opener
- Square steel cone 6 –10 mm
- Butterfly key
- Compact for your pocket
- 150 g light weight

Wöhler Multi Key
Scope of delivery:

Wöhler Multi Key
bit holder
four bits

Part no. 3232 I

PUPPETS	Part no.
Mini Chimney Sweeper Puppets, colored 144 pieces in a bag	**4111 I**
Mini Chimney Sweeper Puppets, black 500 pieces in a bag	**411 I**

BRUSHES	Part no.
Wöhler Hand Brush Wood	**2060 I**
Wöhler Hand Brush Plastic	**2061 I**

CHIMNEY CLEAN OUT DOOR	Part no.
Wöhler Chimney Clean Out Door pack of 2 pcs.	**1790 R**

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SF 300 Dust Collector

TECHNICAL DATA

Throughput with hose Ø 200 mm
approx. 1.000 m³/h air

Motor
Typ .... EMG Single phase-
Asynchronousmotor ECS 7IG
2-A1AA
Pressure .... 230 V
Frequency .... 50 Hz
Nominal power .... 0.55 kW

Operating Environment
Protection class .... IP 54
Insulation class .... F

Operating Temperature . -35 °C to +40 °C

Dimension Vacuum Blower
90 x 41 x 46 cm

Weight Vacuum Blower
29 kg

APPLICATION

For simple and effective cleaning of ventilation lines up to 300 mm Ø. The Dust Collector creates strong negative pressure to extract dirt and dust particles directly during the cleaning process.

ADVANTAGES

- Can be used in vertical and horizontal position
- Easy to transport
- Simple set up
- Simultaneous connection of 2 hoses possible
- Hose extension for hard to reach vents

**SF 300 Dust Collector
Set with 5 m hose Ø 200 mm**
Scope of delivery:

SF 300 Dust Collector and 5 m hose Ø 200 mm with integrated filter incl. adaptor

Part no. 6190 O

ACCESSORIES	Part no.
Replacement Hose for SF 300 Dust Collector	
Ø 200 mm, 5 m long	**6191 X**
Ø 160 mm, 5 m long	**6192 K**
Adapter Ø 160 mm / Ø 100 mm for SF 300 Dust Collector	**6198 K**
Adapter Ø 200 mm / Ø 160 mm for SF 300 Dust Collector	**6199 K**
Hose bag for SF 300 Dust Collector for each one hose Ø 200 mm and Ø 160 mm, 5 m long	**6193 O**
Prefilter (filter class F5) for SF 300 Dust Collector	**6194 K**
Microfilter (filter class F7) for SF 300 Dust Collector	**6195 K**

ACCESSORIES	Part no.
Sealing element set round Contains 4 sealing elements (without hole), diameters from Ø 110 mm to Ø 330 mm	**7522 J**
Sealing element set rectangular Contains 5 sealing elements (without hole), diameters from Ø 120 x 120 to 390 x 390 mm	**7523 J**
Wöhler Soot Door Sealing for openings of 95 - 190 mm Ø and from 95 x 95 mm to 190 x 290 mm; with an adapter for vacuum cleaner hose 36, 38 and 42 mm Ø	**3380 I**
Wöhler DC 410^{FLOW} Pressure Differential & Flowmeter Wöhler DC 410^{FLOW} PressureDifferential & Flow Meter, batteries, battery charger, S-Tube probe, Special Wall Temperature probe, 2 capillary hoses,	**9282 J**
Ladder protection for every kind of ladder, just clamp it between the rungs	**141 0**
Universal Box Wöhler DP 23 / DP 600 for Wöhler DP 23/DP 600, Thermal Fast Printer, Sealing Set Type P and Type N and sealing elements	**50784 0**
Wöhler FA 430 Fan Anemometer NEW incl. CO_2-Measurement Wöhler FA 430, fan, 4 x AAA batteries, plastic carrying case	**4147 I**
Wöhler TA 420 Thermoanemometer includes: Wöhler TA 420 with telescope tube, 4 batteries 1,5 V Typ AA plastic case	**4605 I**
Accu Compressor comes with 3 different adaptors, pressure control valve, adapter cable for 12 V car supply and 220 V charger	**7460 K**
Soot scraper for oven pipes 100 cm long, foldable handle with semicircle rubber	**6097 I**
Set of clamps 4 pieces	**7524 I**
Dräger mask X-plore 2100 incl. 5 particle filters	**3765 I**
Filter for mask X-plore 2100 filter class 882 FMP3D / P100, 20 pieces	**3223 K**
Dräger mask X-plore 1710 filtering half mask EN 143 / EN 149 conform, filter class FFP1 NR D, big pack with 20 pieces	**1364 I**

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Wöhler Compressed Air Cleaning – Standard Set

APPLICATION
Appropriate for small, round ventilation pipes up to 125 mm Ø.

ADVANTAGES
- Backwards rotating helicopter nozzle causes a forward moving
- Easy operation
- Cleaning of pipes up to 7 m possible

Wöhler Compressed Air Cleaning Standard Set
Scope of delivery:

compressed air hose 7 m
stop value
Wöhler backwards rotating helicopter nozzle
plastic case

Part no. 7560 I

Wöhler Compressed Air Cleaning – Professional Set

TECHNICAL DATA

Pneumatic Viper
Weight .... 2.160 kg (incl. hose 10 m)
Braking effect .... adjustable break

Compressed-air hose
Length .... 10 m
Gain .... GRP-barrel

Viper Cage
Diameter .... 42 cm
Material .... stainless plastic coated

Digital Distance Measurement
Measuring Unit .... meter or feet (m or ft)
Resolution 0.1
Battery .... 3.6 V Longterm-Lithium-Battery

Demands on a connecting compressor unit
Pressure .... up to 10 bar
Output power .... 250 l/min
Boilercontent .... 50 l

APPLICATION
Appropriate for round and angular ventilation pipes

ADVANTAGES
- Easy operation of the Pneumatic Viper due to the belt holder
- Appropriate for small and big pipes
- Extension possible due to the hose reel

Wöhler Compressed Air Cleaining Professional Set
Scope of delivery:

Wöhler DH 420 Pneumatic Viper with 10 m compressed air GRP hose incl. stop value and compressor connection
compressed air hose reel with 20 m hose
Wöhler compressed air whip with 7 ends 50 cm long
Wöhler backwards rotating helicopter nozzle
guidance roller ball
XXL-alu case

Part no. 7570 I

SWEEP INSTRUMENTS

Wöhler DH 420 Pneumatic Viper

Digital Meter Counter

APPLICATION

The ideal instrument for cleaning ventilation pipes

ADVANTAGES

- Easy operation due to the belt holder – you have free hands!
- Cleaning of 10 m pipes possible
- Due to the glass fiber reinforced plastic the hose can be pushed easily

**Wöhler DH 420 Pneumatic Viper
10 m compressed air hose**
Scope of delivery:

GRP hose incl. stop value and compressor connection

Part no. 7580 I

ACCESSORIES		Part no.
	Wöhler Roller guide ball Compressed Air Cleaning for guiding the Wöhler DH 420 Pneumatic Viper in angular shaped ventilation pipes	**7552 I**
	Wöhler helicopter nozzle backwards rotating appropriate for compressed air cleanin for persistant contamination in small ducts	**7556 I**
	Wöhler helicopter nozzle forwards rotating appropriate for compressed air cleaning for persistant contamination in small ducts	**7557 I**
	Wöhler Compressed Air Whip with 7 ends inside Ø 2.0 mm, 50 cm long, particular suitable for bigger pipe diameters	**7562 I**
	Hose Reel -20 m hose Compressed Air Cleaning incl. 1.5 m connecting hose and adapter plug	**7565 I**
	Wöhler Sealing Set Ventilation includes: sealing bladder size 3 for 100 – 250 mm Ø and size 5 for 200 – 400 mm Ø, with release valve	**7506 O**
	Wöhler TA 420 Thermoanemometer includes: Wöhler TA 420 with telescope tube, 4 batteries 1,5 V Typ AA plastic case	**4605 I**
	Wöhler FA 430 Fan Anemometer NEW incl. CO_2-Measurement Wöhler FA 430, fan, 4 x AAA batteries, plastic carrying case	**4147 I**
	Air Flow Funnel K 75 for Wöhler A 600 / TA 420 range 30-750 m³/h size 300 x 300 x 370 mm	**53793 I**
	Aluminium Case XXL 48 x 27 x 48 cm	**5824 J**

Wöhler Rotary Viper Vent
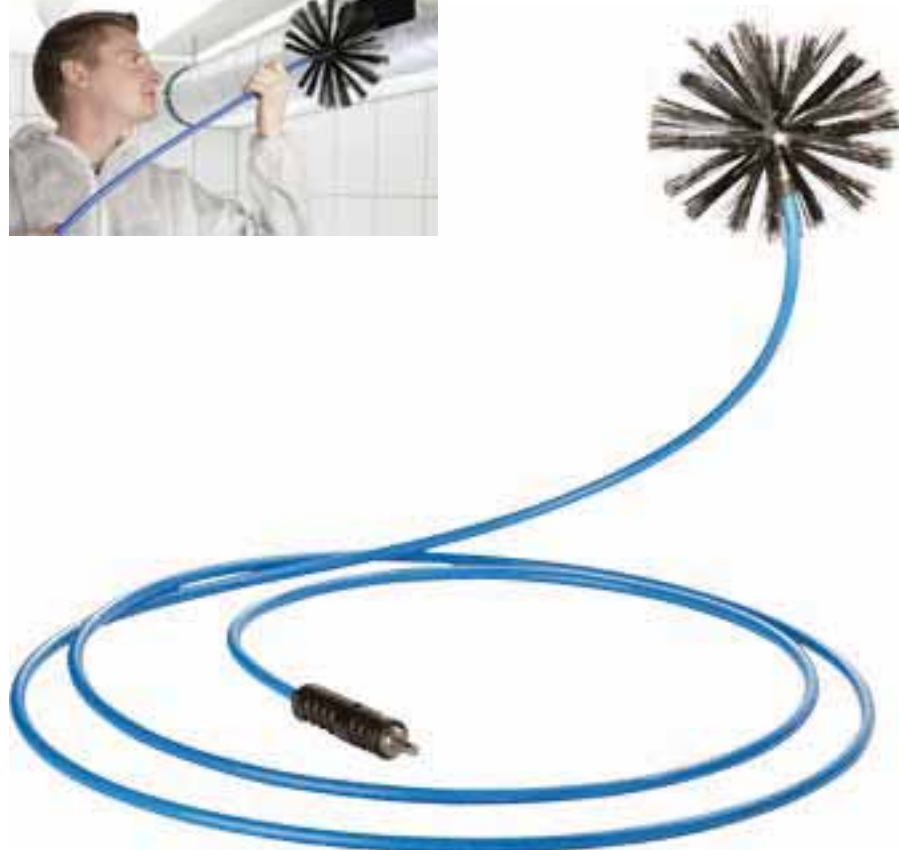
ADVANTAGES

- CW/CCW rotation
- Due to a small end piece also applicable for smaller bends
- Very light weight 1.3 kg
- Extremely flexible shaft
- Can be operated with battery driven drill

APPLICATION

Effective cleaning of dryer vents, duct and piping

**Wöhler Rotary Viper Vent
1.5 m**
Scope of delivery:
Wöhler Rotary Viper Vent 1.5 m long

brush head perlon Ø 18 cm

Part no. 4882 I

**Wöhler Rotary Viper Vent
3 m**
Scope of delivery:
Wöhler Rotary Viper Vent 3 m long

brush head perlon Ø 18 cm

Part no. 4867 I

**Wöhler Rotary Viper Vent
5 m**
Scope of delivery:
Wöhler Rotary Viper Vent 5 m long

brush head perlon Ø 18 cm

Part no. 4832 I

**Wöhler Rotary Viper Vent
10 m**
Scope of delivery:
Wöhler Rotary Viper Vent 10 m long

brush head perlon Ø 18 cm

Part no. 4866 I

**Wöhler Rotary Viper Vent
Set, 5 m**
Scope of delivery:
Wöhler Rotary Viper Vent 5 m long

brush head perlon Ø 18 cm

brush head perlon Ø 25 cm

threaded brush perlon Ø 30 cm

Part no. 7511 I

Wöhler H 420 Viper M

Digital Meter Counter

GRP Push Head for mounting stars

TECHNICAL DATA
Cage diameter.................. 42 cm
Width.............................. 11 cm
Weight .... 2 kg incl. 15 m GRP rod
Freewheel brake.............. precisely adjustable
resolution meter counter ... 0.1 m

APPLICATION
Perfect tool for cleaning flue gas systems, chimneys of up to 250 mm Ø as well as ducts and pipework

ADVANTAGES
- Digital meter counter
- Precisely adjustable brake (DGBM patented)
- Integrated holder for up to 2 stars
- Belt clip for sweeping and carrying
- For push head brushes, stars and sponges
- Very light weight

**Wöhler H 420 Viper M
15 m, with digital meter counter**
Scope of delivery:

GRP Rod 7 mm Ø, 15 m long, with stainless steel end pieces M10

quick change star holder to hold stars

GRP push head for mounting stars (without stars)

Part no. 3770 I

**Wöhler H 420 Viper M
20 m, with digital meter counter**
Scope of delivery:

GRP Rod 7 mm Ø, 20 m long, with stainless steel end pieces M10

quick change star holder to hold stars

GRP push head for mounting stars (without stars)

Part no. 3790 I

ACCESSORIES	Part no.
GRP Rod Repair Kit with stainless steel endpiece, screws and allen wrench 7 mm Ø	**3696 K**
GRP Rod PA-coat with length marking with stainless steel endpiece M10 internal thread	
7 mm Ø, 15 m long	**7015 I**
7 mm Ø, 20 m long	**7020 I**
Brush Head Perlon Thread M10	
18 cm Ø	**1466 G**
25 cm Ø	**7102 G**
Threaded Brush Set Perlon 20 - 35 cm Ø, M10 thread 1 x Ø 20 cm, 2 layers 1.2 mm, 1 x Ø 25 cm, 2 layers 1.2 mm, 1 x Ø 30 cm, 2 layers 1.2 mm, 1 x Ø 35 cm, 3 layers 2 mm	**5529 G**

I. SCOPE OF TERMS AND CONDITIONS

1. All business transactions entered into between Wöhler Messgeräte Kehrgeräte GmbH (hereinafter referred to as "Seller") and the buyer are subject to the following General Terms and Conditions as amended at the time of the purchase order.

2. We only deliver to business customers.

3. Our offering of goods in the Internet and in our catalogue does not constitute a binding offer in the legal sense. Upon placing an order, you make us an offer which we then accept either by explicitly confirming the order or by delivering the goods.

II. DELIVERY, SHIPPING COSTS AND PASSAGE OF RISK

1. We deliver the goods at the buyer's expense to the delivery address specified by the buyer.

2. Within Germany we charge € 3.90 per order (to Austria 6,90 €) for deliveries shipped by our parcel service. If the buyer desires shipment by a different carrier, the shipping fee will be offered individually.

3. Deliveries outside Germany will be handled in accordance to DAP (Incoterms 2010).

4. Shipping and packaging costs for bulky goods (e.g. chimney tops, dust catchers, tube winders) will be specified at request.

III. PRICES AND TERMS OF PAYMENT

1. All prices, including any instalment rates, are quoted in Euros and do not include VAT at the legal rate and shipping costs.

2. If after conclusion of the contract it becomes apparent that our claim to payment is jeopardized by the buyer's inability to pay, we may refuse to duly perform and may fix the buyer a deadline for payment concurrently with delivery or provision of security. If the deadline fixed expires without result, we are entitled to rescind the contract. The requirement to fix a deadline may be dispensed with if the buyer definitely and in earnest refuses to pay or if special circumstances justify immediate cancellation of the contract, having regard to both parties' interests.

IV. RESERVATION OF OWNERSHIP

1. We retain title to all goods delivered by us until full payment of the purchase price. In the event of seizure or any other intervention by third parties, the buyer shall immediately inform us in writing.

2. The buyer is entitled to resell the purchased goods in the ordinary course of business; provided, however, the buyer hereby assigns to us all claims in the amount of the total invoice amount (including VAT) against his customers or third parties which accrue to the buyer from the resale of the goods, regardless of whether such goods have been resold without or after further processing.

3. The buyer retains its right to collect such claims even after the assignment.

4. This does not affect our own right to collect the claims ourselves. We agree that we will not collect such claims provided that the buyer meets his payment obligations on the basis of any consideration collected, that the buyer does not default on payment and that no petition in bankruptcy is been filed against the buyer and that the buyer does not suspend payment. If any of the above does occur, we are entitled to demand that the buyer notifies us of the claims assigned and of the identity of the relevant debtors, that the buyer provides us with all details necessary for collection, that the buyer hands over the relevant documents and informs the debtors (third parties) of such assignment.

5. We undertake to release any securities due to us at the buyer's request to the extent that the realisable value of our securities exceeds the claims to be secured by more than 10%; provided, however, that we are entitled to select the securities to be released.

V. WARRANTY AND LIABILITY

1. In case of new goods the warranty period is one year as of delivery of the goods to the first buyer. The warranty covers all manufacturing and material defects. Second-hand goods, wear parts and consumables (e.g. rechargeable batteries, sensors, filters), damages due to abnormal use or normal wearing are not covered by warranty.

2. The removal of defects falls to the manufacturer or an authorized Wöhler service point. The removal does not cause a warranty extension. Costs for packaging and transport as well as advanced services (calibration and checking) are not covered by warranty.

3. This limitation of liability does not apply to damages for injury to life, body and health for which the Seller is culpably responsible and/or to damage or loss caused intentionally or through gross negligence or fraudulence on the part of the Seller and/or if the Seller has made any warranties with regard to the nature of the goods and/or where claims under the Product Liability Act are concerned.

4. The liability for damage or loss of legal interests other than life, body and health is excluded insofar as such damage or loss has not been caused by intentional or grossly negligent behaviour on the part of the Seller or the Seller's legal representatives or vicarious agents and provided that such conduct does not constitute violation of substantial covenants. This exclusion of liability does not apply where claims under the Product Liability Act are affected.

5. All warranty claims expire if the products serial number is intentionally manipulated, erased or made illegible or if repairs and or adjustments have been carried out from unauthorized third parties.

6. Please use our service order form for all warranty claims and include it to the parcel, together with a proof of purchase.

VI. PLACE OF PERFORMANCE, PLACE OF JURISDICTION AND GOVERNING LAW

1. The principal place of business of Woehler Messgeräte Kehrgeräte GmbH is the place of performance and exclusive jurisdiction for deliveries and payments and for any disputes arising between the Seller and the buyer out of any contracts entered into between them.

2. Any contracts between the buyer and the Seller are governed by the law of the Federal Republic of Germany. The United Nations Convention on Contracts for the International Sale of Goods as of April 11, 1980 (CISG) does not apply hereto. The Incoterms 2010 of the International Chamber of Commerce at Paris apply.

3. In the event that any of the provisions of the contract made with the buyer, including these Standard Terms and Conditions, is or becomes invalid, then this shall not affect the validity of the other provisions.

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www.wohler-international.com

WÖHLER

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