

#### Data sheet

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testo 316-EX



# Gas leak detectors

For a quick overview

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testo 316-Ex



## Gas leak testing

Over and over again, devastating explosions and fires are caused by leaky gas pipelines. However, even smaller leaks in the gas pipelines, some of which cannot be detected by odour, lead directly to higher consumption and, in the long run, increase the risk of accidents.




## How do leaks occur?

Leaks can be caused, for example, by hairline cracks (cracks which are hardly identifiable with the naked eye) in the pipelines. The often used hemp sealant can also, after many years of use, become leaky.

## Fast testing

Thanks to technological developments, it is today possible to use a test instrument to carry out a gas pipeline test (leak quantity test) in a very short time. If a leak is determined, the site of the gas leak can be identified very quickly and reliably with the help of the gas leak detector.

## Overview Testo gas leak detectors

Measuring instrument	testo 317-2	testo 316-1	testo 316-2	testo gas detector	testo 316-EX
	<b>The convenient gas leak detector for beginners</b>	<b>The detector for leaks in natural gas pipes</b>	<b>The gas leak detector with integrated pump for fast check measurements</b>	<b>Gas detector</b>	<b>Gas detector with EX-protection</b>
					
Measuring range					
Methane	100 to 20.000 ppm CH <sub>4</sub>	100 to 10,000 ppm CH <sub>4</sub>	10 ppm to 4,0 Vol. % CH <sub>4</sub>	10 to 999 ppm CH <sub>4</sub> 0,1 to 4,4 Vol. % CH <sub>4</sub>	1 ppm to 2.5 Vol. % CH <sub>4</sub>
Propane	50 to 10.000 C <sub>3</sub> H <sub>8</sub>	–	10 ppm to 1,9 Vol. % C <sub>3</sub> H <sub>8</sub>	10 to 999 ppm C <sub>3</sub> H <sub>8</sub> 0,1 to 1,9 Vol. % C <sub>3</sub> H <sub>8</sub>	1 ppm to 1.0 Vol. % C <sub>3</sub> H <sub>8</sub>
Hydrogen	–	–	10 ppm to 4,0 Vol. % H <sub>2</sub>	10 to 999 ppm H <sub>2</sub> 0,1 to 4,0 Vol. % H <sub>2</sub>	1 ppm to 2.0 Vol. % H <sub>2</sub>
Lower response thresholds	100 ppm CH <sub>4</sub> 50 C <sub>3</sub> H <sub>8</sub>	100 ppm	10 ppm	10 ppm	–
1st alarm limit	10.000 ppm CH <sub>4</sub> 5000 C <sub>3</sub> H <sub>8</sub> (20% LEL)	from 200 ppm CH <sub>4</sub> (LED yellow)	200 ppm CH <sub>4</sub> 100 ppm C <sub>3</sub> H <sub>8</sub> 200 ppm H <sub>2</sub>	–	–
2nd alarm limit	–	from 10.000 ppm CH <sub>4</sub> (LED red)	10.000 ppm CH <sub>4</sub> 5.000 ppm C <sub>3</sub> H <sub>8</sub> 10.000 ppm H <sub>2</sub>	–	–
Resolution	–	–	–	1 ppm / 0,1 Vol. %	1 ppm / 0,1 Vol. %
Display	8 segment trend display	LED (3 colour)	18 segment bar display	ppm display	–
Battery life	4 h (LR03)	> 5 h	6 h	> 8 h	to 10 h
Other features	audible signal	Semi-conductor sensor	Earphone socket	· extendable probe · Inherently safe sensor according to DMT	Protection class IP54 EU guideline 94/9/EG (ATEX) 2004/108/EG EX-protection II 2G EEx ib IIC T1 (Ex Zone 1)

# The convenient gas leak detector for beginners

## testo 317-2

testo 317-2 gas leak detector including case with belt clip and wrist strap and batteries

Part no. 0632 3172



Highly practical gas leak detector for fast checks on gas pipe connections, with visual bar display.

- Optical bar display
- Sensor self-test after switching on
- Rising alarm tone with increasing gas concentration
- Continuous tone when alarm threshold is exceeded
- Audible confirmation of readiness to operate
- Battery monitoring with optical display

### Sensor types

	Methane	Propane
Measuring range	100 to 20.000 ppm CH <sub>4</sub>	50 to 10.000 C <sub>3</sub> H <sub>8</sub>
Lower response thresholds	100 ppm CH <sub>4</sub>	50 C <sub>3</sub> H <sub>8</sub>
1st alarm limit	10.000 ppm CH <sub>4</sub> (20% LEL)	5000 C <sub>3</sub> H <sub>8</sub> (20% LEL)

### General technical data

Storage temperature	-20 to +50 °C
Operating temperature	-5 to +45 °C
Battery type	2 batteries type micro AAA 1.5 V (LR03)
Battery life	4 h (LR03)
Weight	< 300 g
Display	8 segment trend display

t90	< 5 s
Heat-up time	60 s
Other features	audible signal (85 dB(A))

# The detector for leaks in natural gas pipes

## testo 316-1

testo 316-1 electronic gas leak detector with flexible probe and battery

Part no. 0632 0316



The testo 316-1 gas leak detector quickly detects even the smallest leaks.

- Flexible measurement probe for inaccessible pipes
- TopSafe case protects from dirt and impact (optional)
- Audible alarm if limit value is exceeded
- Optical alarm

Sensor types

	Methane
Measuring range	100 to 10,000 ppm CH <sub>4</sub>
Lower response thresholds	100 ppm
1st alarm limit	from 200 ppm CH <sub>4</sub> (LED yellow)
2nd alarm limit	from 10.000 ppm CH <sub>4</sub> (LED red)

General technical data

Storage temperature	-20 to +50 °C
Operating temperature	+4 to +45 °C
Oper. humidity	0 to 95 %RH
Battery type	9V block battery
Battery life	> 5 h
Weight	Approx. 300 g
Dimensions	190 x 57 x 42 mm (without sensors)

Display	LED (3 colour)
t90	< 5 s
Heat-up time	< 30 s
Other features	Semi-conductor sensor

Accessories for measuring instrument testo 316-1

	Part no.
testo 316-1 TopSafe; protection case, incl. stand, protects from dirt and impact	0516 0189

# The gas leak detector with integrated pump for fast check measurements

### testo 316-2

testo 316-2 electronic gas leak detector with flexible measurement probe, mains charger and earphones

Part no. 0632 3162



The testo 316-2 is extremely user-friendly and ideally suited to fast check measurements thanks to its integrated pump, its optical presentation of the gas concentrations detected, and the integrated rechargeable battery.

- Optical and audible alarm with bar display for increasing and dangerous gas concentrations
- Trend display shows maximum leakage
- Integrated pump
- Flexible measurement probe for inaccessible places
- Earphone connection for secure leakage localization in loud surroundings
- High duration of use thanks to rechargeable battery

Sensor types

	Methane	Propane	Hydrogen
Measuring range	10 ppm to 4,0 Vol. % CH <sub>4</sub>	10 ppm to 1,9 Vol. % C <sub>3</sub> H <sub>8</sub>	10 ppm to 4,0 Vol. % H <sub>2</sub>
Lower response thresholds	10 ppm	10 ppm	10 ppm
1st alarm limit	200 ppm CH <sub>4</sub>	100 ppm C <sub>3</sub> H <sub>8</sub>	200 ppm H <sub>2</sub>
2nd alarm limit	10.000 ppm CH <sub>4</sub>	5.000 ppm C <sub>3</sub> H <sub>8</sub>	10.000 ppm H <sub>2</sub>

General technical data

Storage temperature	-25 to +60 °C
Operating temperature	-5 to +50 °C
Oper. humidity	20 to 80 %RH
Battery type	NiMH battery
Battery life	6 h
Weight	348 g
Dimensions	190 x 57 x 42 mm (without sensors)

Display	18 segment bar display
t90	< 2 s
Heat-up time	60 s
Other features	Earphone socket

Accessories for measuring instrument testo 316-2


	Part no.	
Mains unit 12V / DC / 300 mA	0554 1093	
Case for secure storage of measuring instrument	0516 0191	

# Gas detector

### testo gas detector

testo gas detector incl. flexible probe extension, rechargeable battery and mains unit for mains operation and battery recharging, with calibration protocol

Part no. 0632 0323



Testo's gas detector is a multi-range gas detector for the gas types methane, propane and hydrogen. Gas concentrations are measured by the semi-conductor sensor in the ppm range and are shown in the display with a resolution of 1 ppm.

- Audible signals if approaching lower explosion limit
- Continuous tone and warning in display if explosion limit is reached
- Flexible probe extension for difficult-to-access points

### Sensor types

	Methane	Propane	Hydrogen
Measuring range	10 to 999 ppm CH <sub>4</sub> 0,1 to 4,4 Vol. % CH <sub>4</sub>	10 to 999 ppm C <sub>3</sub> H <sub>8</sub> 0,1 to 1,9 Vol. % C <sub>3</sub> H <sub>8</sub>	10 to 999 ppm H <sub>2</sub> 0,1 to 4,0 Vol. % H <sub>2</sub>
Lower response thresholds	10 ppm	10 ppm	10 ppm
Resolution	1 ppm / 0,1 Vol. %	1 ppm / 0,1 Vol. %	1 ppm / 0,1 Vol. %

### General technical data

Storage temperature	-25 to +70 °C
Operating temperature	-15 to +40 °C
Battery type	NiMH battery, 1600 mAh
Battery life	> 8 h
Weight	320 g
Dimensions	190 x 40 x 28 mm
Display	ppm display

t90	2-3 s
Heat-up time	40 s
Other features	· extendable probe · Inherently safe sensor according to DMT

# Gas detector with EX-protection

## testo 316-EX

testo 316-EX, electronic gas leak detector with EX-protection, incl. batteries, cases, Allen key and calibration protocol

Part no. 0632 0336



Proof of gas and leakage localization on gas pipes and installations in indoor and outdoor areas

The testo 316-EX, which conforms to the guideline 94/9/EG (ATEX), is a multi-range gas detector with Ex protection for the gases methane, propane and hydrogen. The gas concentrations are measured by the semi-conductor sensor in the ppm range and are shown in the display with a resolution of 1ppm.

- Flexible measurement probe for inaccessible pipes
- 1 ppm resolution on display
- Indicator suppression for comfortable locating of the leak
- 94/9/EG (ATEX) conform

### Sensor types

	Methane	Propane	Hydrogen
Measuring range	1 ppm to 2.5 Vol. % CH <sub>4</sub>	1 ppm to 1.0 Vol. % C <sub>3</sub> H <sub>8</sub>	1 ppm to 2.0 Vol. % H <sub>2</sub>
Trigger threshold	1 ppm	1 ppm	1 ppm
Resolution	1 ppm / 0,1 Vol. %	1 ppm / 0,1 Vol. %	1 ppm / 0,1 Vol. %

### General technical data

Storage temperature	-10 to +50 °C
Operating temperature	-10 to +40 °C
Oper. humidity	20 to 80 %RH (not condensed)
Voltage supply	2 x 1,5 V (Mignon) / AA Type permitted for use in areas with danger of explosion: Camelion Plus Alkaline LR6 (see order data, order no. 0515 0316)
Battery life	to 10 h
t <sub>90</sub>	14 s

Weight	Approx. 200 g
Dimensions	135 x 45 x 25 mm
Protection class	IP54
EU guideline	94/9/EG (ATEX) 2004/108/EG
EX-protection	II 2G EEx ib IIC T1 (Ex Zone 1)

### Accessories for measuring instrument testo 316-EX

### Part no.

Spare battery Camelion Plus Alkaline LR6 (AA), 1.5 V / 2600 mAh	0515 0316	
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