

## Product Information

### G 1690 O<sub>2</sub>-Analyser / Oxygen Measuring Instrument



#### Accurately measure oxygen concentration in air and gas mixtures!

- modern and functional- in pocket size
- waterproof IP65 and IP67
- comfortable air adjustment at push of button
- 3-line display with backlight / overhead display at the push of a button
- long-life and maintenance-free sensor
- sport diver version "T":  
with MOD calculation for Nitrox
- robust, long battery life
- Made in Germany

### Characterisitcs

The G 1690 deliberately focuses on the essential functions of measurement technology for reliable measurement of oxygen concentration in gases. Essential for the reliability and longevity are the sensors used, GOEL 370 and GOEL 381, especially suitable for wet environments.

The instruments also impress with their ergonomics, water protection and display illumination.

Thus, the G 1690 is an inexpensive and precise submersible gas meter, but is also an inexpensive but at the same time high-quality entry for many other oxygen measurements - for example, for protective gas measurements.

Note: The device serves as an additional control. It does not replace a measuring device with approval or safe methods for creating gas mixtures!

### Technical Data

Measuring ranges	Oxygen concentration:
<b>G 1690-35 / G 1690T-35:</b>	0.0 ... 100.0 vol. % O <sub>2</sub> , recommended for 0.2 ... 35 % vol. % O <sub>2</sub> (reduced precision beyond)
	Standard for gas at sport diving, protection gases at raised CO <sub>2</sub> levels and may more
<b>G 1690-MAX / G 1690T-MAX:</b>	0.0 ... 100.0 vol. % O <sub>2</sub> (also for values ≤0.2 and above 36 vol. % O <sub>2</sub> ) e.g. for inert gases with lowest O <sub>2</sub> content or high-percentage oxygen mixtures with low CO <sub>2</sub> content
	Resolution 0.1 vol. % O <sub>2</sub>
<b>G 1690T-XXX:</b>	Sport diver variant:
	MOD-calculation for Nitrox up to 36%
	0..+169 ft. MOD Resolution 1 ft.
	0..+60 m MOD Resolution 1 m

Sensor:	
Connections:	Thread M16x1, 3.5 mm audio plug socket
Max. pressure:	±0.25 bar difference at sensor membrane 0.6 ... 1.75 bar absolute
Response time:	90% in < 10 sec., depending on temperature

Precision adjusted to ambient air, constant conditions for measurement, sufficient measurement duration:

Variants	G 1690(T)-35:	Sensor GOEL 370
	< 35 vol. % O <sub>2</sub> :	-0.2 ... +0.35 vol. % O <sub>2</sub>
	35...100 vol. % O <sub>2</sub> :	not specified
		Sensor life time at 20.9 vol. % O <sub>2</sub> ca 2 years

Variants	G 1690(T)-MAX:	Sensor GOEL 381
	< 35 vol. % O <sub>2</sub> :	± 0.25 vol. % O <sub>2</sub>
	35...100 vol. % O <sub>2</sub> :	± 2% * (value - 20.9 vol. % O <sub>2</sub> )
		Sensor life time at 20.9 vol. % O <sub>2</sub> >3 years

Sensor cable:	0.95 m, audio plug, elastic sensor protector
Measuring rate	ca. 1 per second
Nominal temperature	25 °C
Working ambient	0..+45 °C; recommended 5..+30 °C: optimized temperature compensation in this range
	0..+95 % r.H. (short time condensing)
Storage temp.	-20..+50 °C
Display	3-line with battery status indicator, Backlight, protected by shatterproof screen, overhead display at the push of a button
Operation	4 long-life keys, easy to operate
Power supply	2*AA batteries (included), operating time > 3000 h 4 level battery status indicator, Low battery indication: "BAT LO". Auto power off function, configurable
Housing	break proof ABS, screw locked bat. compartment
Protection rate	IP65 / IP67, Sensor IP54
Dimensions	108 x 54 x 28 mm (H x W x D) excl. sensor
Weight	ca. 175 g incl. sensor



Hand free for instrument with universal valve adapter GZ 5826 (option or within set „-DIVE“)

**Product Information**

**Scope of supply**

- Handheld with sensor (except –GL)
- Flow-Diverter ESA 369, T-piece ZOT 369
- 2xAA Batteries
- Manual
- Additional accessories depending on Set-Option



Flowdiverter ESA 369

T-Piece ZOT 369 for connection to Ø 22mm hoses

**Ordering Code**

G 1690  -  -  -

**1. Version**

Device with fix mounted cable and sensor protection sleeve, exchangeable sensor

Device with fix mounted cable and sensor protection sleeve, exchangeable sensor, MOD-calc.

T NITROX

**2. Sensor**

GOEL 370: 0 ... 100 Vol.-% O<sub>2</sub>, recommended 0.2 ... 35 Vol.-% O<sub>2</sub> (beyond reduced precision)

GOEL 381: 0 ... 100 Vol.-% O<sub>2</sub> (also for values <=0.2 and >35 % Vol.-% O<sub>2</sub>)

-GL Without sensor

**3. Set-Option**

-00 Instrument, battery, manual, ESA 369 + ZOT 369 Not -GL

-SET Instrument, battery, manual, ESA 369 + ZOT 369, suitcase GKK 252 Not -GL

-DIVE Instrument, battery, manual, suitcase GKK 252, scuba tank adapter ESA 369 + ZOT 369 + GZ 5826 Not -GL

-00 Instrument, battery, manual Only -GL

-SET Instrument, battery, manual, suitcase GKK 252 Only -GL

**4. Delivery state**

-00 Ready to run

-CAN Sensor packaged in can, not mounted

**Accessories**

**Standard spare parts:**

- Replacement sensor GOEL 370 Art.no. 601490



- Replacement sensor GOEL 381 Art.no. 610035

- Spare batteries 2x AA GB-AA-2 Art.no. 479249

- Tube adapter / flowdiverter ESA 369 Art.no. 603058

- T-piece to plug on ESA 369 ZOT 369 Art.no. 603094

**Generic gas measurement:**

- Flow adapter, M16x1 inside thread with 6/4 mm hose connection GZ-11 Art.no. 603144

- Gas sampling pump GS 150 Art.no. 610005

**Accessories for scuba diving**

- Combi adapter for compressed air (G5/8) and Nitrox DIN M26 GZ 5826 Art.no. 482473



GZ 5826 on ZOT 369 T-piece

**Additional accessories:**

- Protection bag, leather, belt-clip: ST-G1000, Art.no. 611373

- Metal-clip self-adhesive for G1000 - series: GCLIP1000, Art.no. 475820

- G 1000 table base and wall suspension: G1000\_BASE Art.no. 481885

- Case with punched lining for universal application GKK 252 Art.no. 601056



GKK 252 with G 1690

Corresponds to ordering code „-SET

**Product Information**

**Standard Order Articles**

- O<sub>2</sub>-Analyser, CO<sub>2</sub>-proof, recommended 0.2..35 %  
G1690-35 Art.no. 482286
- O<sub>2</sub>-Analyser, 0..100 %  
G1690-MAX Art.no. 482459
- O<sub>2</sub>-Analyser, MOD-function, recommended 0.2..35 %  
G1690T-35 Art.no. 482716
- O<sub>2</sub>-Analyser, MOD-function, 0..100 %  
G1690T-MAX Art.no. 485479
- O<sub>2</sub>-Analyser, MOD-function, 0..100 %, suitcase GKK  
252, scuba tank adapter GZ 5826, sensor in can  
G1690T-MAX-DIVE-CAN Art.no. 482448