



Committing to the future

testo 350-MARITIME

Portable Emission Analyzer with Germanischer Lloyd (GL) Type Approval
for compliance with MARPOL 73/78 Annex VI, NO_x Technical Code and MEPC.103(49)



O₂

CO

CO₂

NO_x

(SO₂)



Flue gas emissions from ship diesel engines

Fast and easy measurement for compliance with MARPOL Annex VI and NOx Technical Code

The type approved testo 350-MARITIME is the first, portable emission analyzer in the world developed for measurements of flue gas emissions subject to MARPOL Annex VI and the MEPC.103(49) guideline.

testo 350-MARITIME is featured with the following type approval certificate:

Germanischer Lloyd (GL)-type approval certificate No 59 488 – 08 HH subject to MARPOL 73/78 Annex VI, NOx Technical Code and MEPC.103103(49)-guideline

The flue gas sampling is operated via a specially designed gas sampling probe, which can easily be mounted with the help of a flange. The type approved and hard-wearing electro-chemical gas sensors (ECS) record the concentrations of the flue gas components O₂, CO and NOx (NO + NO₂ separately) highly accurate and long-term stable. CO₂ is recorded via a type approved IR-measuring principle. To cope with the rough requirements at sea the entire emission analyzer including accessories is stored in a robust protection case.

The emission analyzer testo 350-MARITIME provides the following benefits:

- Easy fitting of the sampling probe
- Operational readiness – directly after switching-on
- Easy and fast replacement of gas sensors due to pre-calibrated „plug & play“- gas sensors
 - high availability of testo 350-MARITIME
 - reduced cost of ownership
- Easy & comfortable transportation in the rugged protection case with trolley function
- High reliability due to measuring operation inside the protection case

Exhaus gas analyzer
testo 350-MARITIME



The applications of testo 350-MARITIME at a glance

On-board verification survey subject to NOx Technical Code

testo 350-MARITIME is applicable to measure gaseous emission components such as O₂, CO, CO₂ and NOx as one system component for the following operations:

- Periodical surveys and intermediate surveys onboard Direct Measurement and Monitoring method respective
- onboard Simplified Measurement Method

for instance if any adjustment or modification has been proceeded on an engine.

Inspection of NOx limit values stipulated in MARPOL Annex VI

- for governmental NOx-control measurements onboard

NOx-measurement as verification in regions with local or national legislation

- e.g. proof of NOx-reduction measures subject to the NOx Tax in Norway



Gas sampling probe with probe pre-filter

Installation flange for gas sampling probe

Technical data testo 350-MARITIME

Parameter	Measuring range	Accuracy
°C, flue gas	-40 up to 1000°C	max. ±5 K
O ₂	0 ... 25 Vol%	Meets and exceeds the requirements of NOx Technical Code as Type approved by GL
CO	0 ... 3000 ppm	
NO	0 ... 3000 ppm	
NO ₂	0 ... 500 ppm	
SO ₂	0 ... 3000 ppm	
CO ₂ (IR)	0 ... 40 Vol%	
P _{abs}	600 ... 1150 hPa	±5 hPa at 22 °C ±10 hPa at -5°C up to 45°C

Storage temperature	-10°C up to 50°C
Operation temperature	5°C up to 50°C
Power supply	11 ... 40 V DC or 110 ... 230 V AC 50/60 Hz buffer battery NiMH 8,4V/4,5Ah
Electrical power consumption	max. 40 W
Max. positive pressure / flue gas	50 hPa
Max. negative pressure / flue gas	-200 hPa
weight (system including case)	appr. 17 kg
dimensions (case)	56,5 x 45,5 x 26,5 cm



The complete kit inside the handy trolley:



Emission Analyzer testo 350-MARITIME fitted with: O₂, CO, CO₂- (IR), NO and NO₂, gas preparation, integrated rechargeable battery pack and measuring data memory

Control-Unit testo 350-MARITIME

Connection cable (2 m) between analyzer and Control Unit

Flue gas sampling probe with probe shaft prefilter

Mounting flange for gas sampling probe

Robust protection case with trolley function

Cable with battery clamps and adapter for connection to testo 350-MARITIME

Germanischer Lloyd (GL)-certificate nr. 59 488 - 08 HH

Order Nr. 0563 3500

Optional:

Standard ambient climate probe (temperature and relative humidity)
Order.-Nr. 0636 9740

Connection cable to ambient climate probe, length 1,5 m
Order.-Nr. 0430 0143

* SO₂-measuring on request



Anschlüsse im Koffer integriert



Praktischer Trolley

For further information contact.

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Germanischer Lloyd (GL) - Certificate

