Nederlands Meetinstituut

EC-type examination certificate

Number **T10067** revision 1
Project number 610569

Issued by	NMi Certin B.V. Hugo de Grootplein 1 3314 EG Dordrecht The Netherlands Notified Body number 0122
In accordance with	The Metrologiewet (Stb. 2006, 137) as Dutch implementation of Directive 2004/22/EC on measuring instruments (MID).
Manufacturer	Autec Hefbruggen B.V. Vlasakker 11 3417 XT Montfoort The Netherlands
In respect of	A model of an **Exhaust Gas Analyzer**. Manufacturers mark or name : Autest Type : MS 805
Characteristics	Electromagnetic environment class E2 Temperature range +5 °C / +40 °C In the description number T10067 revision 1 further characteristics are described.
Valid until	31 July 2017
Description and documentation	The instrument is described in the description number T10067 revision 1 and documented in the documentation folder T10067-1, appertaining to this EC-type examination certificate.
Remarks	This revision replaces the earlier version, except for the documentation folder.

Dordrecht, 6 September 2007
NMi Certin B.V.

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Parties concerned can lodge objection against this decision, within six weeks after the date of submission, to the general manager of NMi (see "Regulation objection and appeal against decisions of NMi")

INSPECTION
RvA I 122

1 General information about the exhaust gas analyzer

All properties of the exhaust gas analyzer, whether mentioned or not, may not be in conflict with the legislation.

1.1 Essential parts

Description	Drawing number	Rev.	Remarks
Block diagram	2.3.1 Block diagram	--	
Base module board	Me0171A.pcb Me0171.LIS	-- --	Component layout Parts list, 2 pages
Display board	Me0170.pcb Me0170.LIS	-- --	Component layout Parts list, 1 page
Block diagram Sibench 3K	2.1.18 Block diagram	--	
Siemens Sibench 3K	2.1.20.5 Base plate	-- --	Component layout inclusive parts list

Oxygen sensor		
Manufacturer	Type	Remarks
Teledyne	R22A	
City Technology	AO2	

1.2 Essential characteristics

Measuring ranges:

Gas component	Display range	Resolution
CO	0 – 14.00 % vol	0.01 % vol
CO_2	0 – 18.00 % vol	0.01 % vol
O_2	0 – 25.00 % vol	0.01 % vol
HC	0 – 9999 ppm vol	1 ppm vol

- Software:

Software version	Checksum	Remarks
User Interface board ME0170 Boot: v1.0 Legal: v1.4	 A873 8902	
Gas Module board ME0171 Boot: v1.1 Legal: v1.3	 034A 52A5	
Gas bench: 18630	-	displayed on printout only

The software version and identification number will be displayed after pressing the keys [shift] and [esc.] simultaniously.

- Calibration period, 12 months;

- Functions:
  - Lambda calculation;
  - PEF value in display after pressing the keys [shift] and [span] simultaniously;
  - (Semi) automatic zero setting;
  - Automatic calibration device;
  - Drift compensation;
  - Low flow signaling;

- Protections:
  - Warm-up time;
  - Control of automatic devices;
  - Detection of HC residue (automatic after switching pump on or activated by pressing the keys [zero] and [aux] simultaniously);
  - Leak-test (activation by pressing the keys [span] and [pump] simultaniously);
  - Control of O_2 channel;
  - Detection of adjustments that are necessary;
  - Software sealing for the gascalibration (calibration date, which can be recalled by pressing the [shift] and [enter] keys simultaniously).

- Parameters:
  - Warm-up time : max 5 min
  - Temperature range : +5 °C / +40 °C
  - Minimal flow : 6 l/min

- Power supply voltage 115 – 240 VAC, 50 Hz.

1.3 Essential shapes

The exhaust gas analyzer is built according to the drawings:
- Front view, drawing number 1.3 Front view of the instrument;
- Rear view, drawing number 1.4 Rear view of the instrument.

Markings:
- The markings have to fulfill the requirements stated in the legislation.
- The data plate is fixed to the exhaust gas analyzer and secured against removal by sealing or will be destroyed when removed.
- Near the display the inscriptions belonging to the function as exhaust gas analyzer must be present.

To secure components that may not be dismantled or adjusted by the user, the exhaust gas analyzer has to be secured in a suitable manner on the locations indicated in the drawing:
- Sealing, drawing number T10067-01A.

The securing component has to bear either:
- A mark of the manufacturer laid down in an approved quality system by a Notified Body, or;
- A mark of a Notified Body.

1.4 Conditional parts

- Power supply, manufacturer Q-TEC, type ADT-300;
- User manual;
- Pump, manufacturer Microvood, type 43170;
- Filters, manufacturer Balston;
- Gas probe, see drawing number 2.2.8 Gas Probe.

The exhaust gas analyzer may be equipped with one or more of the following protective interfaces that have not to be secured:
- RS232 (3x).
- Interface for hand terminal

1.5 Non-essential parts

- Display;
- Keyboard;
- Internal printer;
- Integrated revolution counter based on induction clamp;
- Integrated oil temperature meter;
- Optional NO_x sensor.

The exhaust gas analyzer may be connected to non-essential devices, for example but not limited to external printers, second display's, etc. provided that:
- They do not present primary data;
- They do not lead to an instrument having other essential characteristics than those fixed by this type-examination document.

2 Approval conditions, seals and verification marks

See chapter 1.2, essential characteristics and 1.3, essential shapes.