



Nederlands Meetinstituut

EC-type examination certificate

Number **T10077** revision 0
Project number 701555
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Issued by NMI Certin B.V.
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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 Test Equipment Nederland B.V.
Rijksstraatweg 45
1396 JD Baambrugge
The Netherlands

In respect of A model of an **Exhaust Gas Analyzer**.
Type : Innova 500

Characteristics Accuracy class 0
Electromagnetic environment class E2
Temperature range +5 °C / +40 °C

In the description number T10077 revision 0 further characteristics are described.

Valid until 3 July 2017

Description and documentation The instrument is described in the description number T10077 revision 0 and documented in the documentation folder T10077-1, appertaining to this EC-type examination certificate.

Dordrecht, 3 July 2007
NMI Certin B.V.

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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	2007/0226/01	0	
Processor board I500_7V1	07052101 & 07052102 INNOVA_500.SCH	-- PEP	Component layout Parts list, 7 pages
Entree board I500E1V1	07052103 I500E1V1.SCH	-- PEP	Component layout Parts list, 1 page
Entree board I500E2V1	07052104 & 07052105 I500E2V1.SCH	-- PEP	Component layout Parts list, 1 page
Block diagram Horiba BE-150	Fig 3 Block Diagram	--	
Horiba BE-150 gas bench	V1014384	A	
PCB Horiba BE-150 BE-CPU-01	07090301 & 07090302 BE-CPU-01	-- --	Component layout Parts list, 3 pages
PCB Horiba BE-150 BE-LSC-02	07090303 & 07090304 BE-LSC-02	-- --	Component layout Parts list, 1 page
PCB Horiba BE-150 BE-PRE-02	07090305 & 07090306 BE-PRE-02	-- --	Component layout Parts list, 2 pages

EMC protection measures:

- Power supply filter, Manufacturer Schaffner, type FN280;
- Ferrite ring on the cable from the oxygen sensor to the gasbench PCB;
- Metal EMC shield behind processor board I500_7V1;
- Chassis connected with PE.

Oxygen sensor		
Manufacturer	Type	Remarks
Teledyne	R22	
Envitec	Oxyplus A	

1.2 Essential characteristics

Measuring ranges:

Gas component	Display range	Resolution
CO	0 – 10 % vol	0.01 % vol
CO ₂	0 – 20 % vol	0.1 % vol
O ₂	0 – 25 % vol	0.1 / 0.01 % vol
HC	0 – 10000 ppm vol	1 ppm vol

Software specification (refer to WELMEC guide 7.2):

- Software type P;
- Risk Class B;
- Extension S (Extensions D, L and T are not applicable).

Software version	Checksum	Remarks
4.00	7b90	

The software version and identification number will be displayed at startup.

- Calibration period, 12 months;
- Functions:
 - Lambda calculation;
 - PEF value in display;
 - (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);
 - Leak-test;
 - Monitoring of O₂ channel;
 - Detection of adjustments that are necessary;
 - Hardware sealing for the gas calibration.
- Parameters:
 - Warm-up time : 10 min
 - Temperature range : +5 °C / +40 °C
 - Minimal flow : 4 l/min
- Power supply voltage 230 VAC, 50 Hz.

1.3 Essential shapes

The exhaust gas analyzer is built according to the drawings:

- Front Innova 500, drawing number 07052130;
- Rear Innova 500, drawing number 07052108.

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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 of the Innova 500, drawing number 07080901.

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 ASTEC, type LPT60 series;
- User manual;
- Pump, manufacturer Rietschle-Thomas, type 5002 F / 5010 V;
- Filters, manufacturer Headline, type 25-35-100C and 25-30-60K;
- Gas probe, see drawing number 2007/0220/03.

The exhaust gas analyzer may be equipped with one or more of the following protective interfaces that have not to be secured:

- RS232 (3x);
- USB;
- PS2 for keyboard.

1.5 Non-essential parts

- Display;
- Keyboard;
- Internal printer;
- Integrated revolution counter based on induction clamp or piezo;
- Integrated oil temperature meter;
- Integrated multimeter.

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.