

Diesel Engine Emission Tester (Opacimeter)

Model: MDO 2 Export



Quality control and certification
according to DIN EN ISO 9001



... so that you can
breathe easier

Competence in
Vehicle Safety

Diesel Engine Emission Tester (Opacimeter)

Model: MDO 2 Export



- ▶ Complies with the latest European regulations and guidelines for emission testing
- ▶ All emission-carrying parts (test chamber and probe) made of high-quality stainless steel
- ▶ Single testing and/or continuous testing
- ▶ Sturdy construction allows full throttle testing for engine adjustment work on dynamometer
- ▶ High-powered test chamber heating
- ▶ User-friendly menu-driven operation
- ▶ Graphic correlation of RPM graph to turbidity line



- ▶ Graphic and digital documentation of test results
- ▶ Serial interface RS 232 for connection of bar code reader, PC and various external reading devices

Compact MDO 2 Export ...



Fig. 2



Fig. 3

The MDO 2 Export diesel emission tester consists of 2 components: the opacimeter (testing unit) and the hand terminal (remote control) with data printer and digital display.

The MDO's compact design provides for convenient and easy testing. The opacimeter is placed near the exhaust pipe while the remote control, with printer, accompanies the examiner inside the vehicle.

The hand terminal has an integrated LCD for test result display, and the easy-to-read menu guides the operator through the statutory diesel emission test cycle as well as the instrument's other multiple programs. Graphic and digital test results are printed rapidly by the data printer. The keyboard can be used for entering vehicle data and for fetching target data from the chip card.

Using the RS 232 interface it is possible to connect a PC, a bar code reader or other databases.

Mobile MDO 2 Export ...

The MDO's compact and light-weight construction makes it ideal for mobile use. Testing outside of the workshop is quick and easy. The testing programs are designed in such a way that single acceleration testing as well as continuous testing under load can be performed. Even under extreme temperature conditions the high-powered test chamber heat-up is fast and efficient and the opacimeter is ready for use in no time flat.



Fig. 4



Fig. 5

To Fig. 4
Solution 1:
Truck probe 2 (27 mm)
with 3.5 meter hose
(standard length)

To Fig. 5
Solution 2:
230 V / 12 V / 24 V
Power supply via
cigarette lighter

Superior MDO 2 Export



Solution 3:

The MDO offers superior solutions to complicated technical questions. In addition, our extensive accessory list is particularly customer-oriented to take care of any special testing demands individual workshops or test stations may have. An organized, easy-to-read printout enables the tester to see an immediate overview of the test results.

Sample Printouts

The MDO offers more than the others. The test results are displayed graphically as well as numerically and printed out as such. See samples of original printouts to the right.

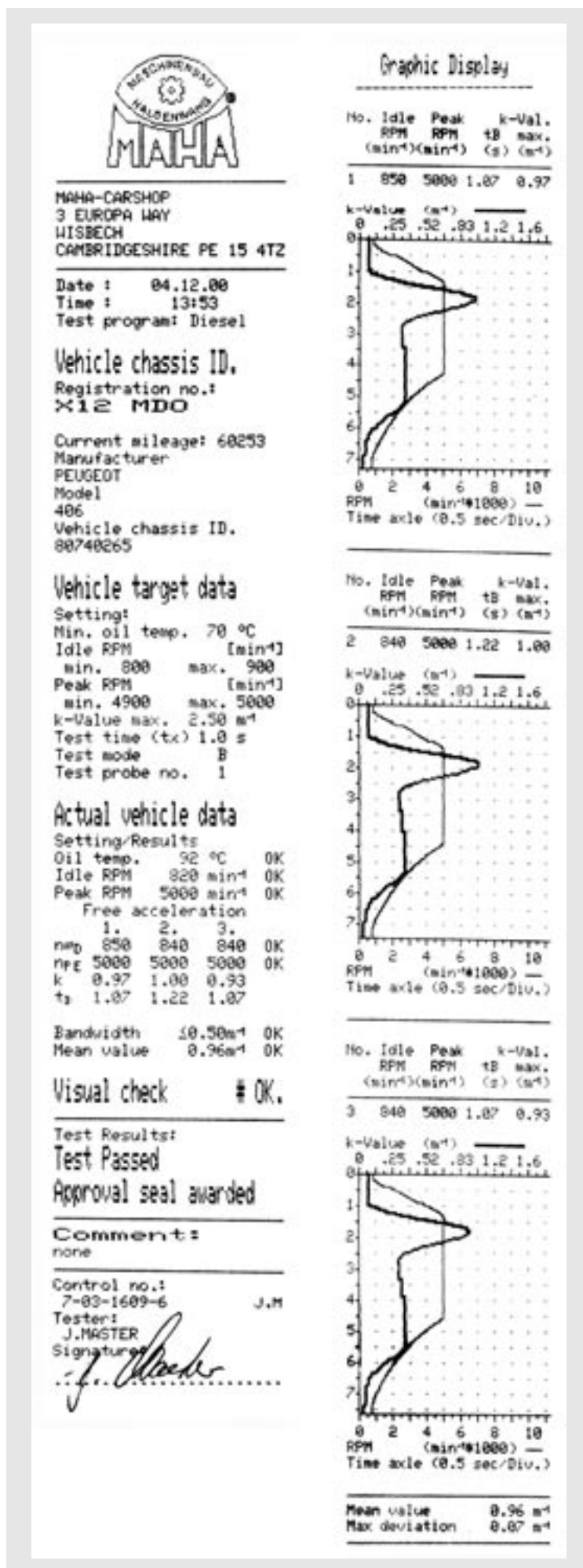
The Diesel Smoke Tester MDO 2 Export complies with ECE-R 24, ISO 3173, ISO/TC 22/SC 5 N 650 M provisions and guidelines and has been granted official approval as diesel emission tester for diesel powered vehicles (passenger cars and trucks) on 11/06/93 under certificate no. AU 0129305T10/2638.

On 31/01/95, the MDO 2 Export received PTB*-approval as shown by the following seal.

18.09

94.39

*(German Physical and Technical Official Testing Authorities)





Standard Equipment

Opacimeter

- Stainless steel construction with plastic casing
- Turbidity test chamber with measuring optics
- Power supply 230 V, RS 232 interface
- Test probe 1 with hose (1.5 m)

Hand Terminal

- Printer and control unit with LCD
- 5 m cable connecting opacimeter to hand terminal

Specifications

Opacimeter	
Testing principle	Absorption photometry
Length of the testing chamber	430 mm
Wave length of the emitter light	567 mm
External/Interior diameter of test chamber	28 / 25 mm
Heating time of test chamber	approx. 3 min.
Dimensions	550 x 245 x 240 mm
Weight	approx. 13 kg
Power supply	230 V / 50 Hz
Vehicle power supply (cigarette lighter)	12 / 24 V
Power consumption average/max.	110 / 130 W
Interface	RS 232 and MF2 keyboard

Hand Terminal	
Single-chip processor	Hitachi H8 / 532
LCD	2 x 16 digits
Turbidity testing range	0 - 100%
Absorption coefficient	0 m ⁻¹ - ∞
Dimensions (L x H x W)	245 x 65 x 120 mm
Weight	0.85 kg
Power supply via the opacimeter	12 V
Power consumption average / max.	250 / 500 mA
RPM sensor possibilities	Piezo clamp, Optical pick-up, Dynamo clamp W, RPM sound sensor, Diagnostic plug, TDC sensor, vehicle manufacturer specific, Vibration RPM sensor RPM VC 2

Accessories

- Sturdy carrying case for easy handling and storage of hand terminal, emission hose and probe, RPM sensor, spare roll of paper etc.
- Optical pick-up with reflective strips and holder
- TDC-clamp, vehicle manufacturer specific, upon request
- Diagnostic plug, vehicle manufacturer specific, upon request
- Piezo clamps in different sizes
- Exhaust probe with hose (length 3.5 m)
- Oil temperature sensor, max. 180° C
- Exhaust ventilating hose, upon request
- Utility bag for exhaust hose and test probe
- Probe for full throttle testing on dynos

Production program:

Testing Technology for Cars, Trucks, Vans, Motorcycles, Tractors, Fork-lifts and Aircraft · Roller-Brake Testers · Platform Brake Testers · Shock Absorber Testers · Side Slip Testers · Play Detectors · Roller Dynamometer for Performance and Function Testing · Air Conditioning Service Equipment · Speedometer and Tachograph Testers · Inspection and Wheel Alignment Scissor Lifts · Two- and Four-Post Lifts · Below Floor One and Two Cylinder Lifts · Computerized Vehicle Safety Testing Lane for Cars and Trucks · Headlight Testers · Diesel Engine Emissions Testers · 4/5 Motor Gas Tester for Otto Engines · Workshop Presses · Axle and Wheel Load Scales · Decelerometers · Brake Fluid Testers

Additional Services: Workshop design and planning · Training seminars for users and service technicians



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