TEN

Catalogue 2022

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Company Profile

Dear reader,

Welcome to our new catalogue! We're sure it will provide you with a brief overview of our product range, and give you an impression of our company.

TEN Automotive Equipment develops and manufactures a comprehensive range of MOT Testing Equipment for the automotive industry. In over 40 years the company has grown from a 3-man service utility to a miltidivision, high-tech and global operation, currently seeking to expand it's horizons even further. Based in the Netherlands, near the capital of Amsterdam and the main airport Schiphol, we can proudly say "Made in Holland"!

Throughout the years TEN Automotive Equipment has built on its reputation for reliability in design and quality in manufacturing of exhaust emission analyzers and MOT testing equipment. With environmental issues forever becoming more of consequence and vehicle emissions testing being mandatory in most countries, TEN Automotive Equipment has become a leading manufacturer and supplier of MOT testing equipment all over the world.

TEN Automotive Equipment continues to develop and supply MOT Testing Equipments to major car & equipment manufacturers under license, as OEM in addition to its own brand name. The current range of equipment is marked and fully approved to MID and individual government legislative requirements in countries where vehicle Periodic Technical Inspection is mandatory. The company is ISO 9000:2015 certified and meets the highest quality standards.

We distinguish ourselves by a no nonsense attitude and short communication lines. We always think along with the client, to find solutions to overcome the challenges provided by our industry.

Sincerely,

Patrick Andriessen
Owner/Director

AEM
Particle Counter

The latest development of TEN Automotive Equipment is the AEM Particle Counter. With the most sophisticated technology, based on the DC Diffusing Charging, the AEM is able to detect the nanoparticles of a modern Euro 5 or Euro 6 diesel engine.

The emission of a properly functioning Euro 5 or 6 diesel engine is, partly due to the particle filter, very low. The emitted soot particles are very small, on average around 80 nm. They're invisible to the human eye. A particle counter (or PN meter) can detect these particles and thus indicate that the diesel vehicle still meets the regulations. This AEM particle counter is very advanced and has state-of-the-art techniques that are capable of detecting the small nanoparticles. The particles are indicated in #/cm3 (particles per cubic cm). A diesel engine with a properly functioning particle filter emits less than 20,000 particles. A diesel engine with a defective filter can emit millions of particles!

The unit is equipped with a bright display, showing you the results of the measurement directly. Besides, we have chosen to supply a build-in panel printer as a standard, offering to print-out the results right away. The operating of the machine is simple and correspond with the other TEN equipment by the 7 operating keys. The sample probe has a length of 2.85 mtr and is heated to avoid condensation. Optionally we are able to supply a Windows based software which offers you to show the measurement data on a PC. Communication can be done over Bluetooth, USB or RS232.

Specification

Power input:	220/240 Volt
Frequency:	50Hz
Max. Power:	<100 W
Display:	OLED
Particle size:	80 Nm
Measuring range:	5.000 – 5.000.000 #/cm3
Measurement accuracy:	25.000 #/cm3 of ± 25%
Response time:	<15 sec.
Measure frequency:	2 Hz
Warm-up time:	<10 min.
Weight:	ca. 8 kg
Temperature range:	5 – 40°C

Standard colors:

Red

Grey

INNOVA 500

Multigas Analyser

The INNOVA 500 is an excellent exhaust emission analyser incorporating the latest microcontroller technology in addition to designed to meet the highest standards and demands for tomorrow. The fully digital infrared gas bench technology provides rapid analysis of a vehicle's performance with pinpoint precision of the exhaust measurement.

The clear LED displays and the built-in printer make the INNOVA 500 the most user friendly analyser for mandatory vehicle emission testing and fault diagnosis of today.

The INNOVA 500 is by default equipped with test features such as an RPM and Oil temperature sensor for a complete and comprehensive diagnosis of petrol, LPG and CNG vehicle emissions. Test results can easily be analysed. The clear displays of the multigas analyser make it simple to operate, as it takes only a few minutes of the vehicle technician's time to complete a full emission test.

Features:
- 6 large LED displays
- 8 robust front keys
- Quick and easy operation
- Simple, step by step test routines
- Integrated thermal printer
- RPM and Oil temperature measurement
- OIML Class 0 accuracy
- CE approved

Also available as a 5 gas analyser with NOx sensor kit.

Specifications

CO:	0-10% Vol
HC:	0-20.000ppm Vol
CO^2:	0-20% Vol
O^2:	0-25% Vol
Lambda Calc.:	0,500-9,999
Oiltemp.:	0-150°C
RPM:	300-10.000
Power input:	AC 230 Volt
Frequency:	50Hz
Max. Power:	60 Watt

Key options:

LPA Smoke Meter

Easy Trolley

UBT 3000 RPM Adapter

INNOVA 2800

Multigas Analyser

The INNOVA 2800 is a high end exhaust emissions analyser incorporating the latest in digital technology and designed to meet the highest technical demands of tomorrow. The powerful PC system combined with fully digital infrared gas measuring technology provides rapid analysis of a vehicle's performance with pinpoint precision of exhaust measurement.

Along with the high resolution monitor, the qwerty keyboard and the A4 printer, the INNOVA 2800 is a very user friendly analyser for mandatory vehicle emissions testing of today.

The INNOVA 2800 is by default equipped with test features such as an RPM and Oil temperature sensor for a complete and comprehensive diagnosis of petrol, LPG and CNG vehicle emissions. The simple menu structured software and smart graphics presentation are among many features unique to this multi-gas exhaust emissions analyser. It is simple to operate, taking just a few minutes of the vehicle technican's time to complete a full emissions test.

Fully approved to internationally recognized OIML R99 Class 0 specifications the INNOVA 2800 boasts several vehicle manufactures recommendations. From conventional vehicles to the most advanced technology which may not yet be on the market the INNOVA 2800 embraces the leading edge in technology for now and for the future.

Specifications

CO:	0-10% Vol	Oiltemp.:	0-150°C
HC:	0-20.000 ppm Vol	RPM:	300-10.000
CO^2:	0-20% Vol	Power input:	AC 230 Volt
O^2:	0-25% Vol	Frequency:	50Hz
Lambda Calc.:	0,500-9,999	Max. Power:	60 Watt

By default:

Optional:

Note: Products may be different from image

BLACK BOX
Multigas Analyser

Black Box configuration
The INNOVA 2800 is controlled by a computer, of which earlier we described the complete units with PC, keyboard, printer and trolley. There's also the possibility to purchase the multigas analyser without PC, see below the INNOVA 2800 black box configuration.

INNOVA2800 Black Box
The INNOVA 2800 Black Box is the most advanced emissions analyser module for testing all types of petrol vehicles, with or without catalyst. The INNOVA 2800 module ensures that emission levels are measured quickly and accurately. The INNOVA 2800 is equipped with test features such as an RPM and Oil-temperature sensor for a complete and comprehensive diagnosis of petrol, LPG and CNG vehicle emissions. The simple menu structured software and smart graphics presentation are among many features unique to this multi-gas exhaust emissions analyser.

Fully approved to internationally recognized OIML R99 Class 0 specifications the INNOVA 2800 boasts several vehicle manufactures recommendations. From conventional vehicles to the most advanced technology which may not yet be on the market, the INNOVA 2800 embraces the leading edge in technology for now and for the future.

Standard features:
- 6 large LED displays
- 8 robust front keys
- Quick and easy operation
- Simple "step by step" test routines
- Integrated thermal printer
- RPM and Oil temperature measurement
- OIML Class 0 accuracy
- CE approved

Also available as a 5 gas analyser with NOx sensor kit.

Specifications

CO:	0-10% Vol
HC:	0-20.000 ppm Vol
CO^2:	0-20% Vol
O^2:	0-25% Vol
Lambda Calc.:	0,500-9,999
Oiltemp.:	0-150°C
RPM:	300-10.000
Power input:	AC 230 Volt
Frequency:	50Hz
Max. Power:	60 Watt

Optional:


Oil temperature


Sample probe


RPM clamp

LPA

High Resolution Smoke Meter

The LPA is a high resolution diesel smoke meter. The European Commission requires that new diesel vehicles comply with the European EURO 5 and 6 norm to reduce smoke particle emission in order to improve the air quality. Existing smoke meters have a resolution that is too low to measure emission levels of EURO 5 and 6 diesel vehicles. To the contrary, the high resolution of the LPA allows it to measure very low emission levels and detect DPF malfunctioning, or other engine systems failures that cause higher emissions.

Modern diesel vehicles have advanced exhaust systems that possess a DOC, wall-flow DPF and SRC to reduce up to 99.9% of the harmful emissions. To detect defects in one of these components, a measuring range of 0.5 m-1 in high resolution is required. No problem for the LPA.

The LPA is also a partial flow smoke meter. Reliable, robust and dynamic, following each acceleration without any problem. The LPA measures according to the light absorption principle. Equipped with an InGaN led, an accurate heating system to condition the smoke chamber and various sensors, the LPA ensures a precise measurement. The full aluminum chamber and other high quality components ensure a trouble free operation for passenger cars, light commercial vehicles and trucks.

Specifications

Dimensions:	420 x 250 x 450 mm (W x D x H)
Weight:	8 kg
Power:	90 - 250 Vac, 50 - 60Hz, Max. 200 W
Ambient temperature:	-10°C - 40°C
Measuring range:	0,00 - 99,99% HSU
	0.000 - 9.999 m-1
	0.0 - 850 mg/m3
Resolution:	0,01% HSU
	0.001 m-1
	0.1 mg/m3
Zero stability:	0.003 m-1
Static accuracy (filter):	<0.5%
Sample probe:	2 mtr, Ø10 mm (passenger cars)
	3.5 mtr, Ø27 mm (trucks)
Connectivity:	RS232, USB and Bluetooth

Optional:

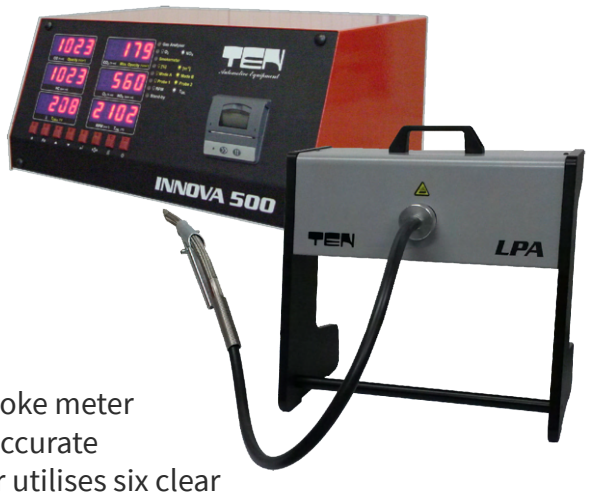
27mm LKW sample probe

Calibration filter

Tablet Version

EDA 500-2

High Resolution Smoke Meter



The LPA 500 (LPA with display unit) is a high performance smoke meter equipped with the latest digital technology, for a quick and accurate measurement of the emission from diesel engines. The tester utilises six clear LED-displays to show the analyzed values, with the thermal printer to provide a complete analysis of vehicle test results. Through the eight front keys the tester operates easily with simple step by step test routines, a small LED light up when you can use this key.

The LPA 500 is a high performance diesel engine analyser incorporating the very latest fully digital processing technology which can be used for passenger cars and heavy duty vehicles. This vehicles have a advanced exhaust system that possess a DOC, wall-flow DPF and SRC to reduce emissions. To detect defects in one of these components, a measuring range of 0.5 m-1 in high resolution is required. The LPA/LPA 500 has this measuring range.

The unique design and robust construction of the chamber creates a reliable smokemeter so you can measure without any problem. The LPA measures according to the light absorption principle. Equipped with an InGaN led, an accurate heating system to condition the smoke chamber and various sensors, the TEN smokemeter ensures a precise measurement. The full aluminium chamber and other A-quality components ensure a trouble free operation.

Specifications

Power:	90 - 250 Vac, 50 - 60Hz, Max. 200 W
Ambient temperature:	-10°C - 40°C
Measuring range:	0,00 - 99,99% HSU 0.000 - 9.999 m-1 0.0 - 850 mg/m3
Resolution:	0,01% HSU 0.001 m-1 0.1 mg/m3
Zero stability:	0.003 m-1
Static accuracy (filter):	<0.5%
Sample probe:	2 mtr Ø10 mm (passenger cars) 3.5 mtr Ø27 mm (trucks)
Connectivity:	RS232, USB and Bluetooth

DSE

Zero Emission Unit

The DSE zero emission unit can be used in combination with a LPA smokemeter. This very compact zero emission unit is developed to easily fulfill a measurement of a diesel vehicle in the workshop, without emissions in the garage environment. The DSE is equipped with four swivel wheels so the unit is easy to maneuver behind the car.

Because of health regulations, more and more diesel smoke emissions must be reduced in the garage environment. The DSE allows no diesel smoke particles to enter the garage environment; there is 'Zero Emission'.

The principle of this DSE emission unit is based on a gas-tight connection with the exhaust of the passenger car. To achieve gas-tight connection we use a extremely flexible funnel with one or two frontal openings depending on the exhaust of the vehicle. For cars with double pipes or with oval exhaust pipes we have a special funnel available.

Specifications

Vehicle category:	Passenger cars
Connection to fan:	Ø150mm
Minimum flow, fan:	800 m^3/h
Maximum flow, fan:	1100 m^3/h
Sample probe length:	Ø80mm, 2.5 m with funnel

Optional:

Funnel 45mm

Double Funnel 45mm

Funnel 65mm

NER-001

Zero Emission Unit

The NER is a portable zero emission unit to reduce diesel smoke emissions in the garage environment. Because of the smart design, the NER can be used for passenger and commercial (HTV) vehicles. The NER is used in combination with the INNOVA/LPA emission combi testers and secures a quick, accurate and safe smoke test.

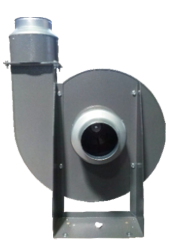
Because of new health regulations, more and more diesel smoke emissions must be reduced in the garage environment. With the help of the NER, no diesel smoke particles will enter the garage environment; there is 'Zero Emission'.

Its unique design allows the NER zero emission system to be used as a combi unit for passenger cars as well as for trucks. At the front panel of the NER you will find two grips for the mechanical valves. With these valves you can easily select the passenger car inlet or the truck inlet, depending on the vehicle to test.

The NER zero emission unit is an investment that saves money, time and health. Especially for technicians and inspectors in test centres where thousands and thousands of tests are performed every year, one can imagine how much pollution is generated inside these test centres. In a normal garage environment the Maximum Permitted Concentration (MPC) of black coal over 8 hours is 3.5 mg/m3. With the NER zero emission system you can avoid this pollution and create a cleaner and healthy test environment.

Specifications	
Minimal flow extraction:	1000 m^3/h
Minimal flow truck version:	2000 m^3/h
Extraction system connection:	ø 180 mm
Dimensions (L x W x H – excl. casters):	750 x 500 x 930 mm
Weight (excl. sample hoses):	30 kg
- Passenger car sample hose:	
Diameter hose and connection funnel:	ø 125 mm
Hose length:	2,5 m
- Truck sample hose:	
Diameter hose and connection funnel:	ø 180 mm
Hose length:	3,5 m

Optional:



Extraction fan

Thermal switch

Extraction hose

UBT 3000

RPM Adapter

The UBT 3000 is the latest type of electronic RPM adapter in the UBT series. The UBT 3000 incorporates a vibration sensor counter and battery/alternator signal counter in one compact and modern device.

The UBT 3000 is modern in design, extremely easy to operate and uses advanced technology. In the UBT two different technologies are combined: the battery / alternator ripple voltage and the engine vibration technology. The UBT 3000 actually comprises two electronic RPM counters in a new, compact device.

The measured engine speed is displayed on the integrated LCD display. The UBT 3000 can therefore be used for stand-alone presentation of the engine speed and oil temperature. However, if you use the UBT in conjunction with TEN emission equipment, the information is redirected by the connection lead to your tester, the INNOVA or EDA smoke meter.

The UBT has two membrane keys. They allow you to control the UBT simply and fast. One key to select the measure mode (ripple or vibration) and one key to set the number of cylinders.

Standard features:
- LCD display
- Two robust membrane keys
- Engine vibration sensor
- Battery clamps
- Cigarette lighter plug
- 12 volt dc adaptor
- Oil temperature sensor
- Connection lead for INNOVA or LPA smoke meter.

Standard delivered with:

Engine vibration sensor

Battery clamps

Cigarette lighter plug

COBRASCAN

EOBD Scan Tool

The CobraScan is a digital EOBD adaptor, designed to use as a simple PC Scantool or as a diagnostic interface connected to your TEN Emission tester or smoke meter. The CobraScan simply plugs into the vehicle's standard 16 pin EOBD socket to provide a live reading of engine rpm, oil temperature during an emission test and simultaneously displays any standard DTC (Diagnostic Trouble Code) stored in the vehicles ECU memory.

EOBD or European/Emission On Board Diagnosis is a standard form of vehicle diagnostics introduced in line with European Directive 98/69/EC to monitor and reduce emissions from cars. This means that through defined communication protocols the vehicle is able to send a comprehensive stream of vehicle data to external test equipment, such as fault code readers or exhaust emissions analysers.

The CobraScan is available in two different versions, one stand alone with display and a Cobrascan for connection with gas analyser, smoke meter or PC. Bluetooth is optional.

CobraScan with cable or bluetooth
The adapter can be easily connected to the TEN PC controlled multigas analyser or smokemeter. By default deliverded with cable and optionally bluetooth.

CobraScan HT
The CobraScan HT is a handheld version and works without support from a PC, laptop or TEN emission tester. The scan tool is supplied power through the EOBD connector on the car, a power adapter is unnecessary. The CobraScan HT mainly uses the arrow and enter keys to operate to choose which emission-related information must be displayed.

The CobraScan supports the following communication protocols:
- ISO 15765-4 (CAN)
- ISO 14230-4 (Keyword Protocol 2000)
- ISO 9141-2
- SAE J1850 PWM
- SAE J1850 VPW

Available versions:

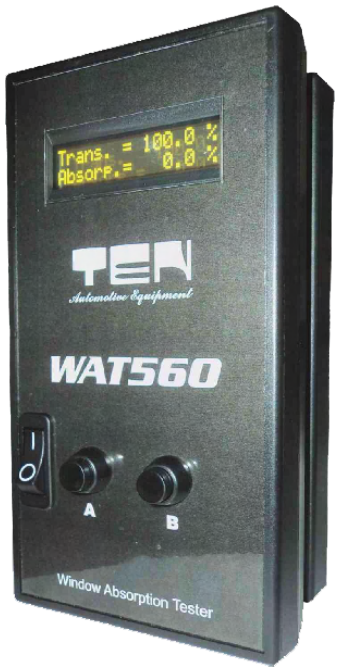
Stand-alone

With Bluetooth

With cable

WAT560

Window Absorption Tester



The WAT560 is a tester for measuring the visible light absorption or transmission of vehicle windows. More and more often the side windows and even the front screen of vehicles are equipped with protective film that absorbs more than 50% of visible light. During the night this can cause serious accidents due to poor visibility.

The WAT560 is a two piece absorbtion tester, consisting of a transmitter box placed at one side of the window and the receiver box at the other side. With the optional wireless BT connection you can receive the test data on your PC.

The WAT560 is wireless, accurate and easy to handle. Due to vacuum cups and a magnetic field, the WAT560 is secure and able to be placed at any location on the windows, side screens and frontscreens in private vehicles, trucks and tour buses. The WAT560 has a clear OLED display and is menu controlled. Specially for vehicle inspection the WAT560 stores the test sequence results in memory (left side, right side and front screen) in memory and transmits the results all at once to the PC through bluetooth.

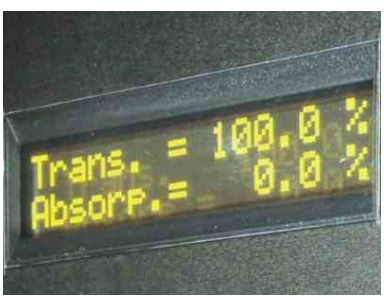
To ensure an accurate test result, the WAT560 is equipped with an automatic zero calibration and electronic calibration facility (0, 50 and 70% absorption). External optical filters can be used for certification.

Specifications

Power:	2 x 9 volt battery
Battery time:	5 hours / 12 hours
Low bat. ind.:	Yes
Dimensions:	2x 190x100x40 mm
Light:	Green led
Spectral peak:	560 nm
Display:	OLED 2x16 characters
Bluetooth:	Class I, 100 meters
Range:	0-100% absorption 100-0% transmission

On window

With vaccuum cups



OLED display

PTL 5002

Platform Brake Tester

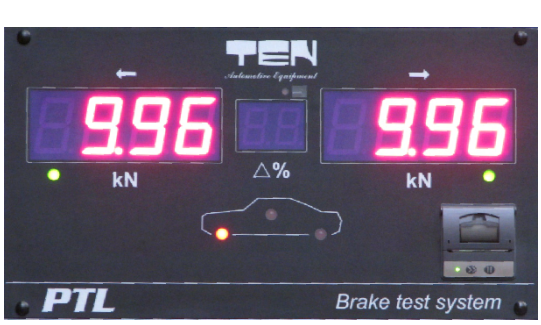
The PTL platform brake tester measures the brake force dynamically and individually for each wheel. These are the only values that represent the situation as it occurs in reality. Every PTL platform tester operates with a fully automated test sequence, no remote control is needed for testing. After each test, it is possible to print the results. From here further analysis of the brake system can be made.

The PTL console incorporates large LED displays for a clear and quick presentation of the results. optionally, an IR remote control and thermal printer are available. The platforms are made of solid steel and are fully galvanised. Due to the unique slide system of the platforms with polyamide rollers, the PTL needs minimum of maintenance. The PTL can be supplied with two (PTL 5002) or four platforms (PTL 5004).

With the last software update TEN included several new functions, such as the Automatic Test Sequence. The front, rear and parking brakes are tested during one procedure and the brake efficiency will be calculated automatically after entering the vehicle weight. The results can be printed with the optional available integrated thermal printer. The Vehicle Weight Indication has been introduced for an optimized test performance. Additionally, a special program has been implemented to test the Roll Resistance of a vehicle, making brake failures detectable in a split second. And, last but not least, the Automatic Transmission Detection.

Specifications

Dimensions display:	55x30x7cm
Max. vehicle weight:	5.000kg,
Dimensions plates:	150x50cm
Test speed:	5-10km/h,
Height brake plates:	46mm
Measuring range brake force	0 - 10.000 N
Power supply:	90-250Vac-40-50Hz
Punched T-bar grid.	



Optional:

Four platforms

Remote control

Pedal force sensor

PTL MOTO

Platform Brake Tester

The PTLm is a platform brake tester specially designed for motorcycles. The so called PTLm is a dynamic brake tester to measure the brake force of the front and rear brake of a motorcycle in real time. The PTLm is designed and produced with solid platforms, equipped with a special coating to reach the highest friction coefficient, even with wet tyres.

This brake platform is extremely user friendly and nearly free of any required service. The unique sliding construction with polyamide rollers will last for a long time.

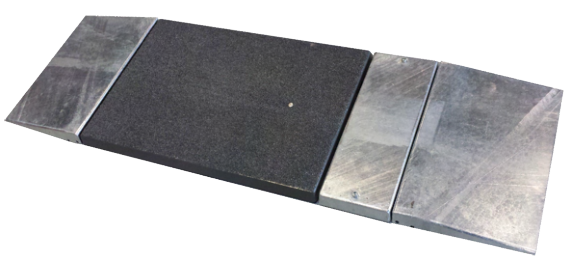
The Platform Brake Tester for motorcycles is equipped with a weighing scale, which gives the operator the opportunity to correlate the brake force to the weight of the motor cycle. This will result the brake efficiency value. The measured values will be presented on a digital display. Both brake forces of both the front and rear wheel will be presented. The display is equipped with the latest technology, realizing fast and a high accuracy of the measured values!

Installing the PTLm is easy and can be done by one technician. A smooth and flat workshop floor will increase the speed of installing the unit. The distance between the platform and the display unit can be chosen by the customer, as the cables have a length of 20 meter.

Specifications

Dimensions display:	55x30x7cm
Max. bike weight:	500kg
Dimension brake plate:	80x55cm
Dimension Weight plate:	20x55cm
Total dimensions:	172x55x4,6cm
Test speed:	5-10km/h
Height weight/brake plate:	46mm
Measuring range brake force:	0 - 10.000 N
Power supply:	90-250Vac-40-50Hz
Cover brake plate:	Epoxy grid.

Display Unit



Platform

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