

In-depth diagnostics for increasing requirements.



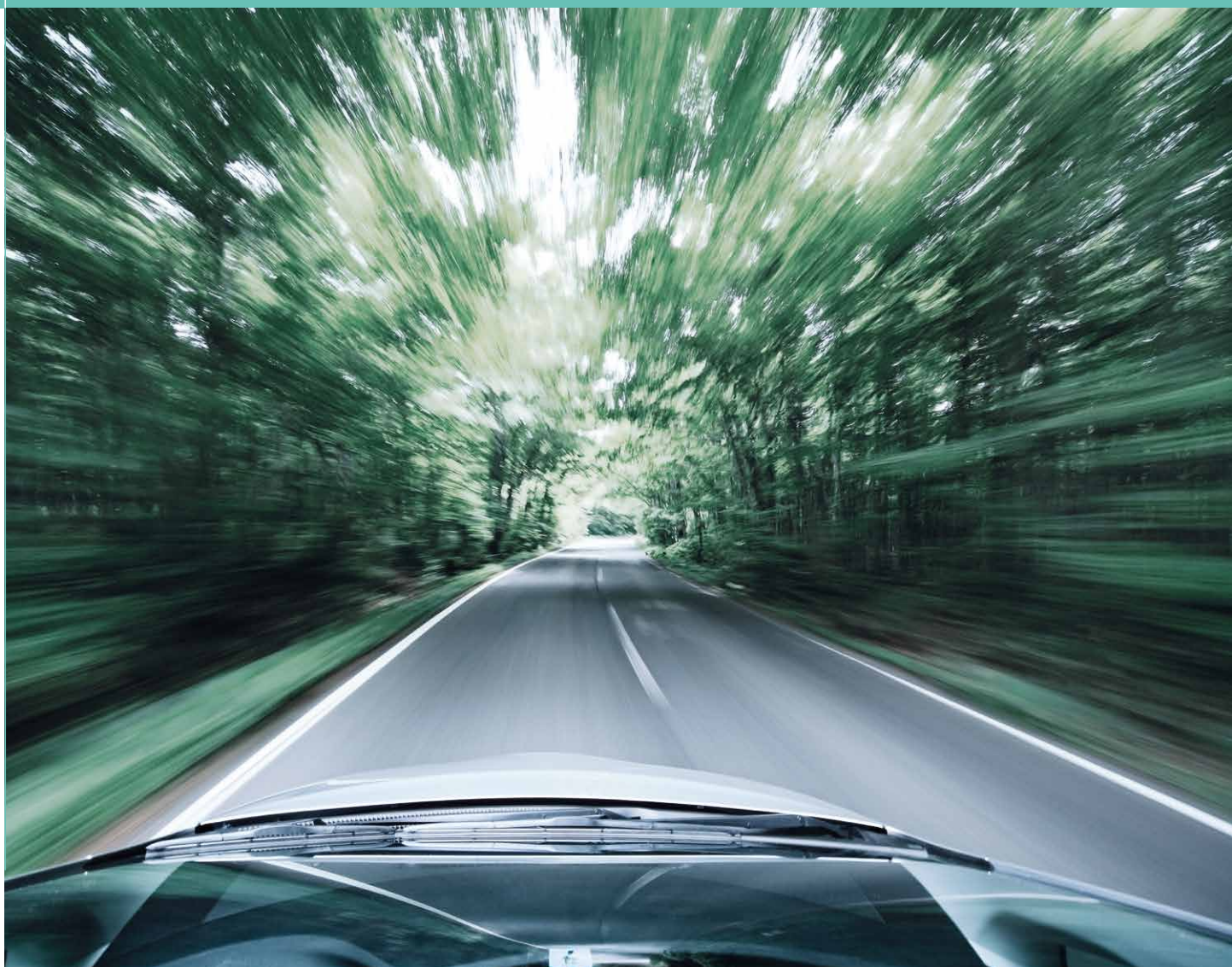
AVL DiTEST MDS
MODULAR DIAGNOSTIC SYSTEM
The revolution in vehicle diagnostics



Modular solutions are added value for workshops.

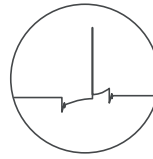
AVL DiTEST MDS – FLEXIBLE UND EFFICIENT DIAGNOSTICS.

People striving for success need top-class performance. In this, your partner for exhaust and diagnostic technology will support you with top-class solutions. This is where AVL DiTEST comes into play – with the pit lanes' darling: MDS. The modular diagnostic system solution adapting to its assignment and not vice versa. Use MDS to read out and delete error codes or go even deeper into diagnostics and detect error causes more precisely and quicker. This is pure added value. The proverbial safety when handling hybrid vehicles is priceless, but provided for by MDS. Just as the exact measurement and examination of emission values – we are very skilled in the field of gasoline and diesel engines.





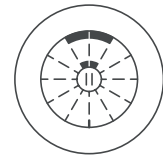
Control unit
diagnostics



Automotive
measurement



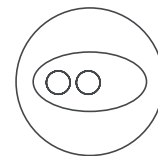
High-voltage
instrumentation



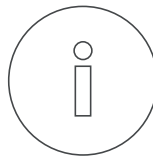
AU & Official emission
measurement



EOBD for reading out
the auxiliary variables



Exhaust emission
analysis



Information
system



THE STATIONARY WORLD OF DIAGNOSTICS ADEQUATE TO EVERY TASK AND REQUIREMENT

MDS – from AVL DiTEST – is the magic bullet for workshops and their exhaust gas and diagnostic systems: a robust, nimble trolley forms the basis for the MDS modular system: resourceful components connected to each other according to the order – there is enough space. Thanks to the ample work surface and multi-functional storage space for PC, printer, probes, and cables. Everything has a designated space; clearness and order are called for.

MODULARITY – THE KEY TO QUICK SUCCESS

The best at first: when purchasing MDS, you will get what you want. Not less, rather more. Since it is possible to network individual modules due to the modular concept of AVL DiTEST. Your requirements are combined to an overall system – MDS saves nerves, space, and hard cash. Emission stations of the basic series can be expanded adeptly to savvy diagnostic stations overnight. The suitable engine and component tester is practically available to you at the touch of a button and ready for connection.



THE FUNCTIONS OF THE MODULAR WORLD IN AVL DiTEST MDS

It's your choice – the following list shows how it is done: all functions are configured according to your wishes and exactly in accordance with your requirements. Get started, select individual modules, combinations, or the entire solution.



Diagnostic interface
AVL DiTEST MDS 105



Exhaust measurement diesel
AVL DiSMOKE 480



Exhaust measurement gasoline
AVL DiTEST GAS 2301



Automotive measurement
AVL DiTEST Scope 1400/1200



High-voltage instrument
AVL DiTEST HV Safety 2000



EOBD communication
AVL DiTEST OBD 1000



PERFECTLY FITTING COMBINATIONS

PERFECT MOBILITY – AVL DiTEST MDS 418

You want to conduct exhaust measurements at different locations? Then you need a device that is light, handy, and nevertheless robust and that is characterized by low set-up times. AVL DiTEST MDS 418 is an exhaust instrument specifically designed for this application. Due to its design, it is invincible regarding mobility, robustness, and efficiency.



EMISSIONS TESTING AND MUCH MORE – AVL DiTEST MDS 450

AVL DiTEST MDS is a modular exhaust and diagnostic system that can be configured specifically in accordance with your requirements in the workshop. AVL DiTEST MDS 450 is a top product of AVL DiTEST regarding exhaust measurement. It is invincible regarding flexibility, robustness, and efficiency.



THE ALL-ROUNDER FOR YOUR WORKSHOP – AVL DiTEST MDS 650

Built on sophisticated modules, AVL DiTEST MDS 650 takes up every challenge in the state-of-the-art workshop. AVL DiTEST MDS 650 contains the modules exhaust instrumentation, control unit diagnostics auto-motive measurement, information system and much more. A robust, flexible system carrier with large screen forms the basis for AVL DiTEST MDS 650. Thanks to an ample work surface with multi-functional stowage space for PC, printer, sensors, and cables.

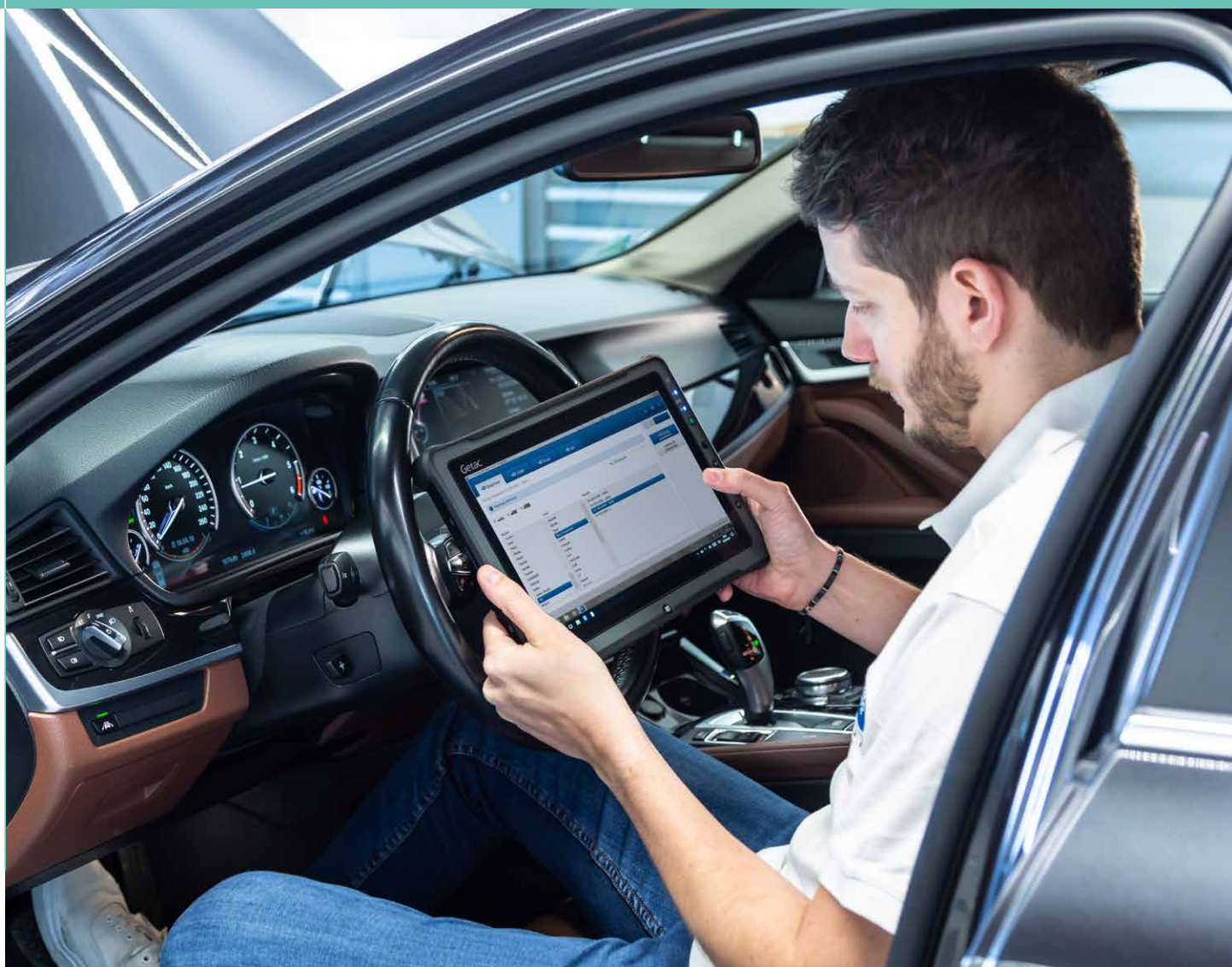


One for all – everything for everyone, quick and easy.

AVL DITEST XDS 1000 DIAGNOSTIC SOFTWARE FOR WORKSHOPS, VALUERS AND EXPERTS

If you want to maintain, repair, analyse or assess vehicles, you need a quick and reliable tool in order to diagnose the vehicle systems. AVL DiTEST diagnostic devices have been specially optimised for these applications. The software offers easy handling and sophisticated user guidance. This saves time and reduces costs for training and repair work.

At the service desk or during assessment of damage, all systems built into the vehicle and their fault memory can be read out within a few minutes in order to obtain a quick overview of possible technical (problematic) changes to the vehicle. The daily maintenance and repair work required in the workshops for passenger and commercial vehicles can be completed reliably thanks to the comprehensive function database. The AVL DiTEST XIS PRO also provides a professional information system in order to retrieve additional manufacturer-specific information.



COMPLETE COVERAGE – MAXIMUM DEPTH

The prevailing pluralism of brands regarding vehicles is a true challenge and requires comprehensive vehicle and diagnostics know-how. Therefore, the more know-how about vehicle brands and systems can be retrieved in a workshop, the more secure the utilization will be. Thus, the more intelligent the diagnostics systems, the better for the business! The secret of the AVL DiTEST equipment: one of the world's largest vehicle databases – for personal cars, light and heavy commercial vehicles, and trailers – in only one diagnostic system.

The new AVL DiTEST XDS 1000 diagnostic solution impresses with superior vehicle coverage – from Alfa Romeo to Wabco – and functional, professional scope of testing. Perform the most difficult diagnoses in a correct, quick, and safe manner – that is what we are skilled at.

Diagnostic functions of the AVL DiTEST XDS 1000 Workshop Diagnostics

- › read and delete error codes
- › measurements
- › actuator tests
- › parametrisation
- › coding
- › service reset
- › initial setting

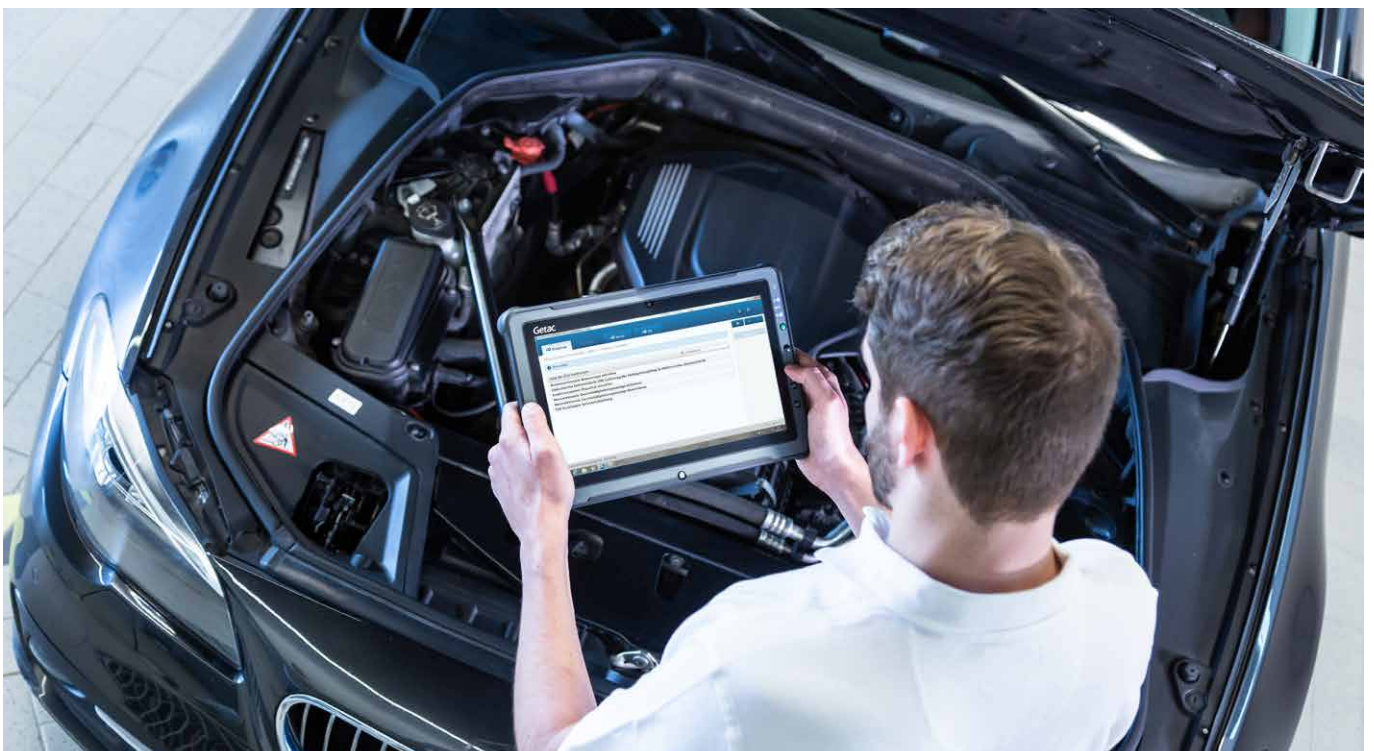


DIAGNOSTIC INTERFACE – AVL DiTEST VCI 1000

With a coverage giving pleasure and technology taking care of the work: testing of engine, safety, and comfort electronics. Covering a broad range from ABS to ignition timing.

HANDHELD DIAGNOSTIC SYSTEM – AVL DiTEST MDS DRIVE 188

Impact-resistant, water- and dustproof, the handheld tool is perfect for rough workshop applications.

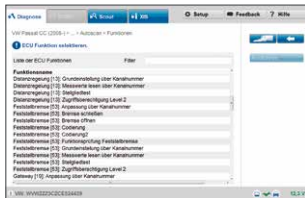




With the first click: select the vehicle



With the second click: perform the complete scan



With the third click: select the required function

REVOLUTIONARY USER GUIDANCE – WITH 3 CLICKS TO THE GOAL

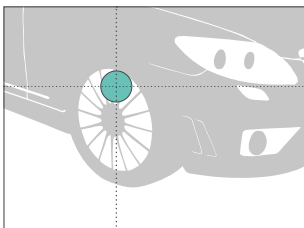
Given the large number of control units per vehicle and regarding the appropriate scope of testing, only one thing counts today: staying on top of things. Therefore, XDS 1000 will support you with helpful functions and simple user interface as of now. This saves time, money, and nerves. This is because AVL DiTEST XDS 1000 allows for performing a quick vehicle check even during the acceptance meeting with the customer. The revolutionary quick vehicle selection makes this possible!

Finally: the fully automatic system and control unit detection facilitates the day-to-day work significantly: with only one click, all vehicle systems are checked automatically for control unit data, error status, and supported functions using XDS 1000. In doing so, the new Intelligent-Guide-System guides the user through the diagnostic procedure in three steps and indicates operating errors or shortcuts.

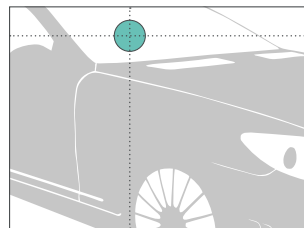
Upon quick complete scan, all error codes can be read out or deleted – with only one click. Browse all vehicle functions for the required test simultaneously in real time. The time consuming search in different control units is no longer applicable. The adept filtration of measured values, as well as the graphic interpretation allow for a quick and professional analysis of each error cause.

1, 2 OR 3? DIAGNOSTICS IN ANY CASE AND FOR ANY EVENTUALITY.

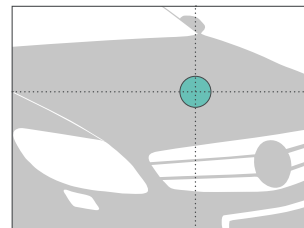
Regardless of whether responsible multi-brand workshop, committed panel beater, or quick "fast fitters". Everybody can rely on XDS 1000 from AVL DiTEST in good conscience and full confidence. The revolutionary product program convinces with a unique field of application bringing everybody further than yesterday and helping everybody.



Number 1 – the multi-brand workshop: here, XDS 1000 from AVL DiTEST provides masterful assistance for diagnostic work on state-of-the-art brake systems regarding the ventilation of the brakes and the replacement of the brake pads, for example.



Number 2 – the body shop: XDS 1000 keeps its eyes peeled and exactly checks that the rain/light sensor is adjusted absolutely precisely during the performance of bodywork.



Nummer 3 – der „Fast-Fitter“: Damit unter der Haube alles mit rechten Dingen zugeht und zum Beispiel Ladekurven nach dem Batterietausch korrekt sind, dafür sorgt einmal mehr XDS 1000 von AVL DiTEST.

HIGH-SPEED DIAGNOSTICS – COMPREHENSION INCLUDING OVERVIEW.

- › AVL DiTEST AutoScan – unique complete vehicle scan
- › automatic identification of the engine code
- › automatic detection of diesel/gasoline vehicles
- › filtration of functions and measured values in real time
- › definable TOP functions without control unit selection



Practical: effortless identification of control units

VOLLAUTOMATISCHE ASSISTENTEN – INTELLIGENT GUIDE SYSTEM

- › automatic VIN and mileage read-out
- › permanent status display of the vehicle connection
- › continuous on-board voltage control



Impressive: graphic representation of measured values

XIS UND SCOUT

- › obtain additional information for diagnostics and repair work
- › have the expert system support you during troubleshooting



Exemplary: find and detect diagnostics connector



The law under control: achieving success faster.

HIGH-SPEED EXHAUST MEASUREMENT – FOR GASOLINE AND DIESEL ENGINES

Always at hand and always ready to use. Uncomplicated, quick, and intuitive regarding the measurement. These features characterize AVL DiTEST MDS. Achieving more by means of modularity; that is the promise of MDS to its customers, because: the shortest cycle times and the most precise measurements allow for gainful prospects. Face the future – indulge yourself in an insight with the technology leader for exhaust and diagnostic technology. Be surprised by the versatility in AVL DiTEST exhaust instrumentation: developed for real professionals and real challenges.



TOP-CLASS TECHNOLOGY: EXHAUST MEASUREMENT SYSTEMS IN PERFECTION

The following is the motto of AVL DiTEST in the field of exhaust measurement: our devices must facilitate the work, reduce the time required, and comply with the latest standards in the workshop and in the test centers. This makes the difference and economy.

THE REASONS FOR THIS SPEAK FOR THEMSELVES:

- › **most efficient application and operation** – clear, quick, self-explanatory
- › **investment protection and return** – **exhaust emission test device as cash cow**: quicker measurement availability, quickest procedure, highest equipment availability, no downtimes, low maintenance effort, can be extended with new functions and applications due to its modular design
- › **only the best of everything** – robust design, durable materials, solid workmanship – the finest technology on the inside
- › **latest, future-proof technology** – prepared for future requirements for hardware and software (e.g. statutory requirements, highly precise opacity measurement, revolutionary measurement technologies, etc)



EXHAUST MEASUREMENT DIESEL – AVL DiSMOKE 480

Opacimeter. Module for measuring diesel emissions.

PRODUCT ADVANTAGES:

- › compact, light-weight and low-maintenance turbidity measuring chamber
- › wireless signal connection using Bluetooth
- › patented linearity test; automatic inspection of the operational readiness without filter test
- › only one probe for all commercial vehicle or personal car exhaust diameters
- › extremely short warm-up time, quick response times



MOBILE EXHAUST MEASUREMENT AVL DiTEST GAS 2301 UND AVL DiSMOKE 480

The stable, portable unit is at home on the road: Highly flexible regarding its use and quickly ready to operate.



EXHAUST MEASUREMENT GAS-O LINE – AVL DiTEST GAS 2301

4 gas and 5 gas instrument. For measuring gasoline emissions: HC, CO, CO₂, O₂ and Lambda. Optional extension to NOx.

PRODUCT ADVANTAGES:

- › highly precise IR measuring chamber according to OIML R99 class 00
- › can be used in the event of extreme condensate formation
- › optional NOx measurement
- › very low need for maintenance, calibration once a year
- › sophisticated service concept
- › MID approval



SPEED AND OIL TEMPERATURE MEASUREMENT AVL DiTEST AUX 2000

Universal, integrated speed and oil temperature measurement for gasoline and diesel engines and also for vehicles without OBD interface. In doing so, AVL DiTEST AUX 2000 builds upon the tried and tested technology of DiSpeed 492.

CLEAR, QUICK, AND SELF-EXPLANATORY.

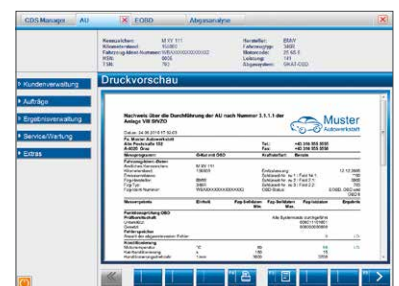
Get an idea of how easy and quick an exhaust emission test can be: you will be guided efficiently and unambiguously through the procedure from customer data collection via the implementation up to the result protocol.



Including customer and vehicle management



Performance of the exhaust emission test – simple user guidance



Result protocol including company logo for customer loyalty



EOBD COMMUNICATION: AVL DiTEST OBD 1000/VCI 1000

By means of simple connection to the standardized EOBD interface of the vehicle, the auxiliary variables required for the exhaust emission test (e.g. speed and oil temperature) can be read out quickly. Therefore, it is not necessary to use an oil temperature probe and an engine speed device for state-of-the-art vehicles.

Certainly the right decision.

AVL DiTEST HV SAFETY 2000 – COME TO THE SAFE SIDE

In the near future, every workshop will have to deal with a significant number of hybrid and electrically powered vehicles. Different studies prove that approx. High-voltage systems also carry a high safety risk. Guaranteeing the safety and reliability of high-voltage systems within the vehicles is one of the assignments to be performed in the future.

The processes of checking the insulation strength of high-voltage systems and the on-board insulation monitor are basic tests for each maintenance and repair activity regarding high-voltage vehicles. For test organizations, these measurements are becoming more and more important, since the insulation strength is subject to a certain process of ageing.



ALL IN ONE

Developed specifically for the automotive industry, AVL DiTEST HV Safety 2000 – the high-voltage measurement module – guarantees the verification of all safety requirements for DC-HV circuits in the vehicle. AVL DiTEST HV Safety 2000 is the first „all in one“ device able to perform measurements according to UNECE R100. It supports the requirements of a measurement with 1 ampere and this exclusively using the standard USB port, without any additional power supply or batteries.

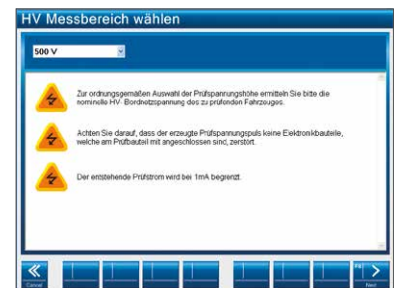
ALL INNOVATIONS AT ONE GLANCE:

- › menu-guided measurement of the de-energized condition in DC circuits with continuous documentation
- › active insulation resistance measurement utilising integrated test voltage generator
- › integrated voltmeter up to 1,000V DC
- › equipotential bonding measurement according to UNECE R100
- › resistance, diode and capacitance measurement
- › guided diagnostics and measurement procedure
- › power supply via USB interface
- › can be calibrated for reproducible accuracy

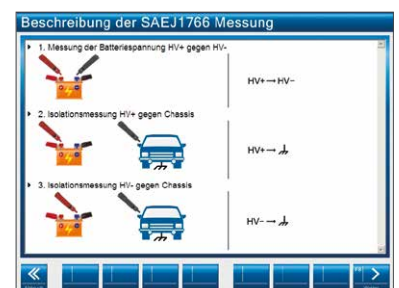
The device is used in the workshop in order to be able to safely measure on the high-voltage systems of electrically powered and hybrid vehicles. The user benefits from being able to conduct a diverse range of measurements using just one convenient device: de-energized condition in DC circuits, insulation resistance, equipotential bonding conductor resistance. AVL DiTEST HV Safety 2000 offers a safe working environment for all users.



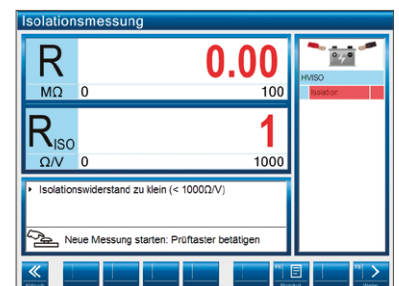
Menu-guided measurement, most comprehensive documentation



Measuring without any errors – automatic pre-setting



Maximum safety for human beings and the vehicle – menu-guided test instructions



Everything in view at all times – workshop-compatible presentation of the test conditions and measured results

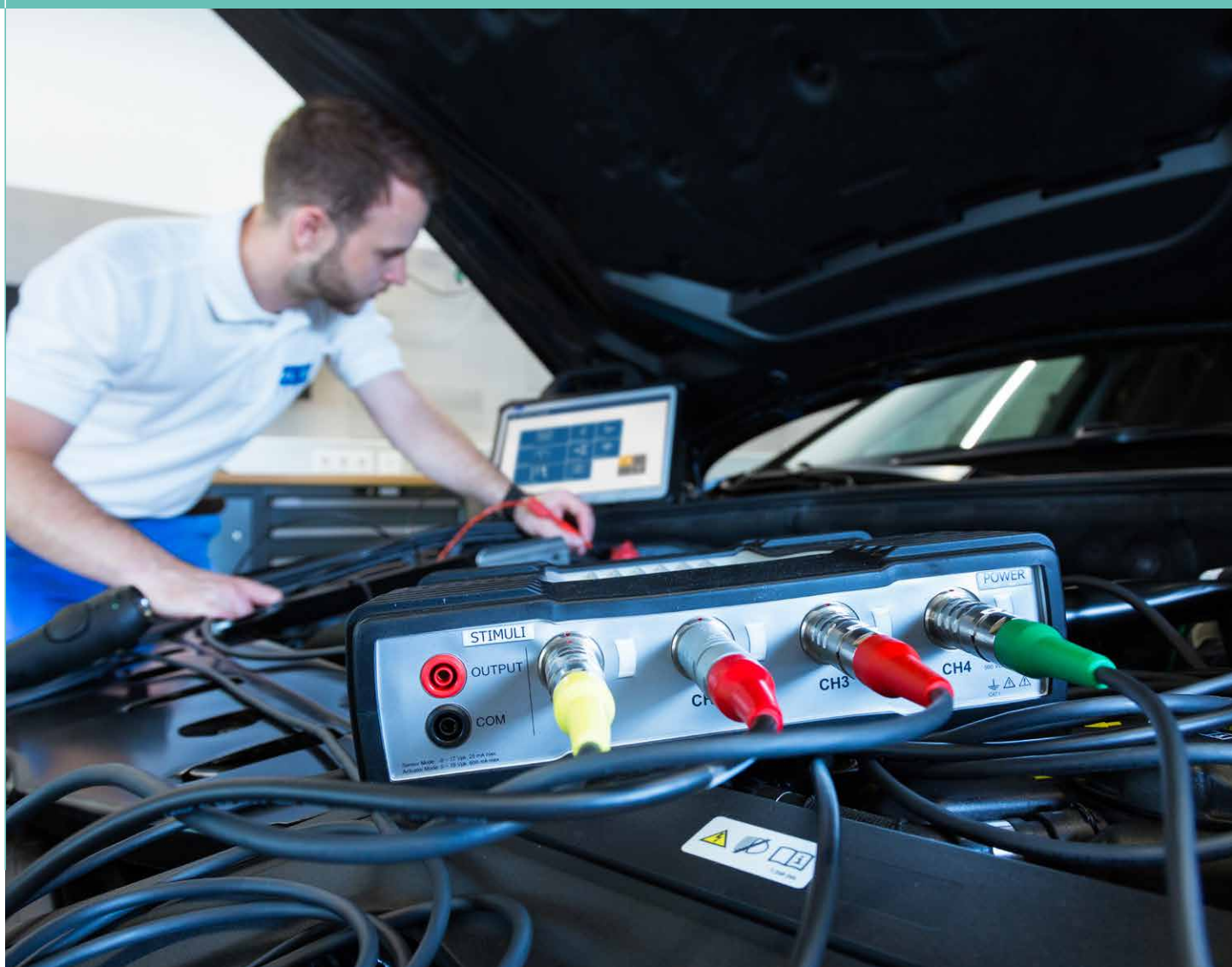


Quality assurance and obligation to produce proof under control – comprehensive logging and documentation

The quickest way to reliable results.

AVL DiTEST SCOPE – AUTOMOTIVE MEASUREMENT DEVICES

The number of electronic components in motor vehicles has multiplied over the last 15 years; they have become essential to the overall functioning of today's vehicles. Analysing these components is a complex and challenging task – the AVL DiTEST Scope 1200 and 1400 are the ideal precision measurement devices for the job. They guide the user through a professional fault diagnostics process in three simple steps. Being able to locate faults precisely saves time and materials, because it allows you to pinpoint and replace only the faulty parts. AVL DiTEST – the best way to quickly and reliably detect vehicle faults. Multi-brand diagnostics with clear added value.



THE BEST WAY TO VISUALISE ELECTRICAL SIGNALS IN THE WORKSHOP

- › Vehicle electrical systems (starter, battery, generator, other electrical devices, wiring harness, light systems)
- › Bus systems (FlexRay, CAN, LIN)
- › Sensors (voltage, power and frequency-based – pressure, airflow, power), actuator systems (electric drive systems, valves, pumps)

INTELLIGENT MEASUREMENTS SAVING YOU TIME, MONEY & STRESS.

AVL DiTEST Scope – these intelligent workshop measurement systems enable fast and professional fault diagnostics by examining electronic components to clearly identify the cause of any fault. Their robust technology and wide range of accessories guarantee precise measurements for all engine types and electronic vehicle components. Thanks to the device's user-friendly input and operating software staff can use the digital, high-resolution two/four-channel Scope module for automotive signal measurements without any additional training. The AVL DiTEST Scope is a reliable and highly accurate device for your measuring needs.

STATE-OF-THE-ART HARDWARE:

- › galvanic isolation between the measurement unit and PC prevents short circuiting
- › differential measurement channels mean channels operate without cross-interference
- › stimuli generator for active signal application
- › active probe supply with colour guide aids connection of sensor cables
- › automatic zero adjustment and de-magnetisation (degaussing)
- › guaranteed five-year measurement accuracy without the need for calibration
- › automotive sensors
- › tough and ultra-light magnesium housing with rubber protectors for challenging workshop environments

SOPHISTICATED SOFTWARE:

- › intuitive and easy to use
- › over 400 pre-configured measurement functions – obtain reliable results quickly and easily
- › automatic sensor recognition with colour guide ensures correct settings and connections
- › step-by-step instructions included for all measurements, complete with connection guides and detailed descriptions
- › conclusive display and evaluation of curves thanks to automatic
- › measurement range configuration
- › direct reference curve comparison for immediate measurement review
- › curve recording function for logging signals

AVL DiTEST SCOPE – PRODUCT PACKAGES

Each measurement device has been specially developed for demanding day-to-day tasks in the workshop:

- › robust, waterproof and dust-proof
- › impact resistant
- › oil and acid-proof.



AVL DiTEST SCOPE 1200

- › Two differential, galvanically separated measurement channels
- › Bandwidth (10 MHz) and measurement frequency (40 MS/s) remains constant on any channel
- › Voltage measurement from 0–600 V DC (no probes needed)
- › Voltage measurement from 1 mA to 1800 A DC
- › Resistance measurement from 0.1 Ω to 10 M Ω
- › SPI for synchronous serial data buses
- › Resolution: Scope: 14 bit, digital multimeter: 16 bit
- › Active probe supply with colour guide



AVL DiTEST SCOPE 1400

- › Four differential, galvanically separated measurement channels
- › Bandwidth (10 MHz) and measurement frequency (40 MS/s) remains constant on any channel
- › Voltage measurement from 0–600 V DC (no probes needed)
- › Voltage measurement from 1 mA to 1800 A DC
- › Resistance measurement from 0.1 Ω to 10 M Ω
- › SPI for synchronous serial data buses
- › Resolution: Scope 14 bit, digital multimeter 16 bit
- › Active probe supply with colour guide
- › Signal generator: max. 600mA, 18V, up to 10kHz



COMPONENT PARTS

- › Current probe I1800
- › Current probe I100
- › Pressure sensor: -1 bar to 100 bar
- › Temperature sensor: -20°C to 200°C
- › Multisense 1000
- › Trigger probe
- › kV clip
- › DPM 800 pressure spark plug and pressure glow plug
- › Accelerometer
- › Flux Gate current probe – for highly-accurate mA measurements

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