

MTBR

SPECIALIST SOLUTIONS

Diesel Injection Systems

Innovative, compact and professional
solutions for every workshop to test
& service Diesel Injection Systems

MTBR

The Innovative Standalone Solution for the Diesel Specialist, capable to test every Automotive, Commercial, Industrial and Marine Injection System available in the market today.

Standalone Motor Driven Bench

High Pressures 2800 bar

**NVcT: VCC / NCC / EU6 Needle
Control Testing**

**CRS.3-27 / CRS.2-25 / iArt / And more
EU6 Capable...**

Compact Size for Every Laboratory

All Around 240o work access

Fully Automatic and Fast Testing

Testing & Coding of All Types / Makes



The revolution in Test Benches
In the Service World



MTBR

High Pressure Testing up to 2800Bar (EU6)

Controls NEW Generation CRi3-25 and CRi3-27 injectors with NCC and VCC technology

EU5 and EU6 systems testing [Denso I-Art (6-pin), VDO, etc...]

Injector Coding VDO IIC, Delphi C2i/C3i, Bosch IMA/ISA and Denso QR

VDO CR injectors (EU5) testing only with approved Energy Control by **VDO**

4 CRi/CRiN solenoid or piezo and up to 2 CRiN 4.2 injectors

Nozzle reaction time measurement for all systems via RSP sensor

Actuator Valve measurement via RSP/BIP sensor

All Makes/Types of CR pump. Special Applications CP4/ CAT/ CB18/ CB28/ CP2 etc...

Connects to any Cambox. Automatic function with complete database and test plans (Coding*) with the Hartridge HK-1400A Cambox powered by Carbon Zapp

Compact and robust Unit. 240° Efficient Working Area with Protective Hood fully opening

Controls all Types and Makes of Injectors & Pumps. Includes OEM Database and Test Plans

Connects to Carbon Zapp's HEUI-KIT.M2 solution for testing up to 4 HEUI's

Fully Automatic and fast testing phase through a 15" Touchscreen HMI with AZO software

CRDi Piezo Stack Regeneration function

Blue Limits Diagnosis for Diesel Specialists

Dynamic Electronic Mass (BK) Measurement (CRDi, HEUI, EUI/EUP)

Static Electronic Mass (DFAP) Measurement (CRp)

SPAR: Piezo Stack Filler after repair & re-Assembly (optional)

CGL: EU6 Piezo Stack Air Gap Measurement for SVC evaluation (future update - optional)

Internal cooling system (No water connection needed)

Emergency Stop function (Instantaneous electric brake)



Technical data

Input frequency	50/60 Hz
Number of phases	3 P/PE
Speed range	0 – 6,500 rpm 12.5HP
Powerful Motor with thermal protection	-
Maximum operating ambient temperature	50°C
Base to axis center height	125 mm
High Pressure system Max Pressure	2800 Bar
Supply pump pressure	10 – 800 kPa
Test oil tank	38 L
Waste Oil tank	15 L
Dimensions (W x D x H) Weight	750 x 700 x 1610 mm 465 kg



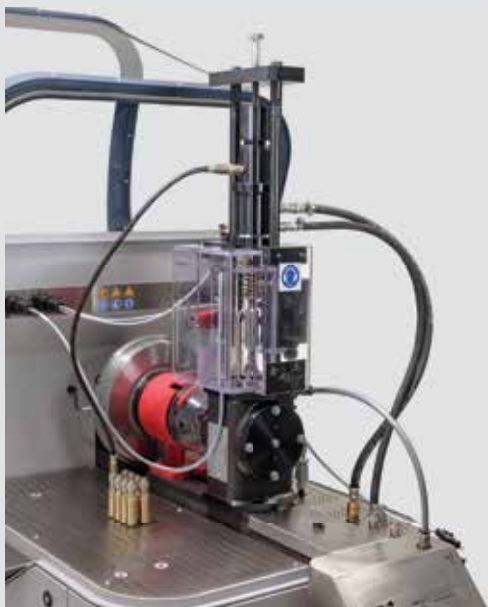
CRDi

Fully test automatically 4 CRi/CRiN (CRiN 4.2) solenoid & piezo injectors And CR pumps up to 2800bar. For all types and Makes.



CRp

All Makes/Types of CR pump. Special Applications CP4/ CAT/ CB18/ CB28/ CP2 etc



Cambox HK-1400A

Affordable yet full of features, The HK-1400A is highly accurate, robust, flexible and user friendly. The essential choice for any diesel workshop wanting to increase their EUI and EUP capability.



HEUi.Kit.M2

Test up to 4 HEUi injectors with a database and not comparatively. High and Low Pressure oil supply, return and HP oil overflow distribution. A wide variety of adapters is available. Comprehensive HEUi Applications in the market with test plans and database included.



CZ Technologies

Tests Performed

R2LC

Electrical actuator test for $k\Omega/\mu F$, $\Omega/\mu H$

CFL

Check For internal and external Leaks

NLT

High Pressure Nozzle Leakage

LKT

Static Back Leakage (Overflow) measurement

aNOP

Automatic Nozzle Opening Pressure

iVM (FL, PL, EM, LL, PI)

Injector Volume Measurements (full-load, part-load, emissions, low-load, pre/post-injection.)

iVM-aDFi

Injector Volume Measurement Performance Ramp (multiple testpoints slope / different Pressure points)

RSP

Injector Nozzle Response Time

BIP [EUI / EUP systems]

Injector / Pump Control Valve Response Time for Unit Injection Systems

SPR

Dynamic Spray Test performed in all testing conditions up to 2800Bar

Extra Tests

High pressure Control Valve operation (DRV, IMV, VCV, PCV, etc...) High Pressure Sensor reaction, High Pressure relief safety valve operation CR Pump flow limiter valve operation (ZME, IMV, SCV.)

MIM

Multiple Injection Metering (up to 8 fully programmable delay and overlap times)

Features

AZO Software

Advanced Android based HMI/PC, Wi-Fi printing, sharing, syncing, software/ hardware & database updating, via USB or Wi-Fi, Real-time Oscilloscope and CSV data export

Reports

Easy fail-track color report for each component tested. Single-page Quick report or Multi-page Analytic reporting

aMACC Flushing / Cleaning function

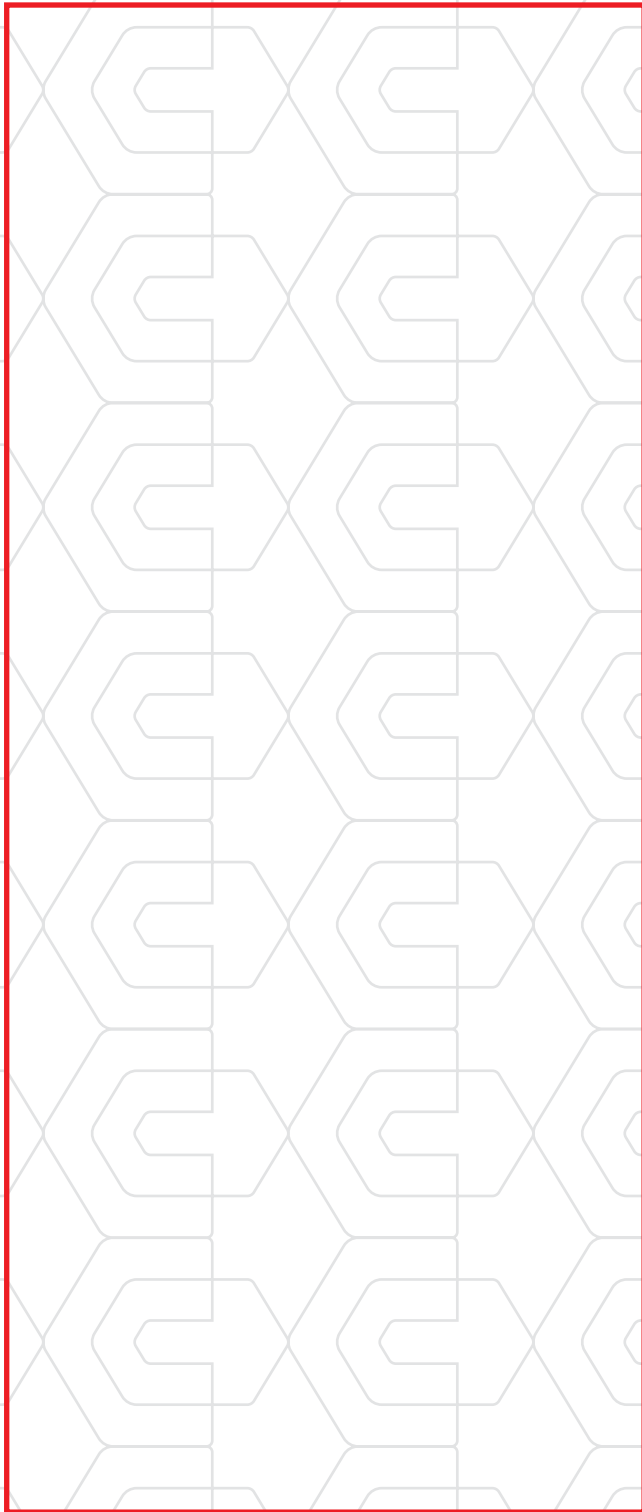
Automatic chemical treatment and flushing of the injector before testing under high pressure and using a specially formulated detergent

RSP / BIP

Response Sensor (RSP) adaptable to all Injector Nozzles

Response Sensor (BIP) adaptable to all Control Valves [EUI/EUP].

Precise measurement of Control Valve & Nozzle reaction time to easily diagnose a slow acting injector, a retarded injection event, poor engine performance and emissions issues."



1. BK



2. DFAP

Electronic Measurement

1. Dynamic Electronic Mass Measuring Sensor (BK). Ramp function capable for aDFI function, Injector Coding Capable, Acc:0.2%FS, repeatability: 0.05%. Fast and Accurate Measurement with Coriolis technology
2. Static Electronic Mass Measuring Sensor (DFAP) Acc: 0.6%FS, Accurate and Repeatable Measurement with Differential Absolute Pressure Technology