

**MTBR //X**

Diesel System Test Bench

Approved Activation  
Signal for 

**CloudX**

The Preferred Diesel  
Specialists Solution. The  
Comprehensive Solution  
for Every Advanced  
Diesel Service Center.



**INNOVATION DRIVEN**



**Engineering Forward  
Mobility Solutions!**

**MTBR //X**

Diesel System Test Bench

Authorized  
Solution for  
Continental/VDO

**CloudX****2800Bar+**

Standalone Diesel CRDi & GDI  
Test Benches for Specialists.  
Handles CR, HEUI, EUI/EUP, GDI  
injectors and pumps.

The Preferred Diesel  
Specialists Solution. The  
Comprehensive Solution  
for Every Advanced  
Diesel Service Center.

**Overview of the New MTBR-X**

Precise, repeatable and rapid Diesel & Gasoline  
Components Testing

**[1] Pump Testing**

- 5-15 minutes testing time per pump
- CRp / GDp Pump (All Brands and Types).
- Capable for all EU6 technologies with Sync Operation such as Denso HP5, Bosch CP4-EU6, VDO EU6 technology and more...
- Heavy-Duty CR pump (CPN5S2, CAT, Cummins HPO etc.)
- Testing of All brands and types PCV's [Pressure Control Valves]
- Testing of All brands and types VCV's [Volume Control Valves]
- Testing of All brands and types of RDS [Rail Pressure Sensors]
- Testing of all types of High Pressure Rails

**[4] Injectors Testing & Coding\***

- 6-12 minutes testing and coding\* time for 4 injectors
- CRi / CRiN / GDi injectors (All Brands and Types).
- Capable for all EU6 technologies such as VCC and NCC technology, iART, PCRS5,
- XPI, F2X and F3X systems and more...
- CRIN 4.2 Heavy Commercial-Vehicle injectors
- Large Diesel Engine CRiN injector (QSK, MTU, L 'Orange, etc...)

**[1] HEUi Testing & Coding\***

- 6-8 minutes testing and coding\* time per injector
- Dynamic and static measurement of the actual overflow
- Dual-Coil HEUi Injector testing capable
- Accurate and automatic measurement of the NOP without disassembling the injector

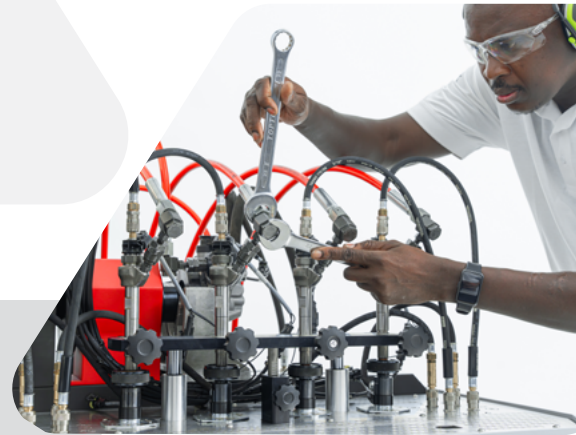
**[1] EUI/EUp Testing & Coding\* (requires HK1400A Cambox)**

- 6-10 minutes testing and coding\* time per injector
- Capable for all EU6 technologies
- Expandable to Future Systems

**CGL - Authorized Continental / VDO "Blind-Lift"  
Measurement of Piezo-Stack**

## SPECIALISTS

CRDi - EUi/EUP - HEUi - CRP  
ENGINE - GDi - EFi - GDi Pumps



**Setting the  
Benchmark  
for Test Benches**

→ Our expertise, experience & innovative thinking brought together a New Design, Advanced Hardware & Upgraded Software for our New **MTBR-X**

## SPECIALISTS

CRDi - EUI/EUP - HEUI - CRP  
ENGINE - GDi - EFi - GDi Pumps



- 01. DIESEL CRDI TESTING & CODING

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- 02. GASOLINE GDI INJECTOR TESTING & CODING

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- 03. DIESEL UNIT INJECTION SYSTEMS TESTING/CAMBOX

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- 04. GASOLINE GDI PUMP TESTING

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- 05. DIESEL CR PUMP TESTING

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- 06. LOW SUPPLY PRESSURE/ SUCTION PERFORMANCE

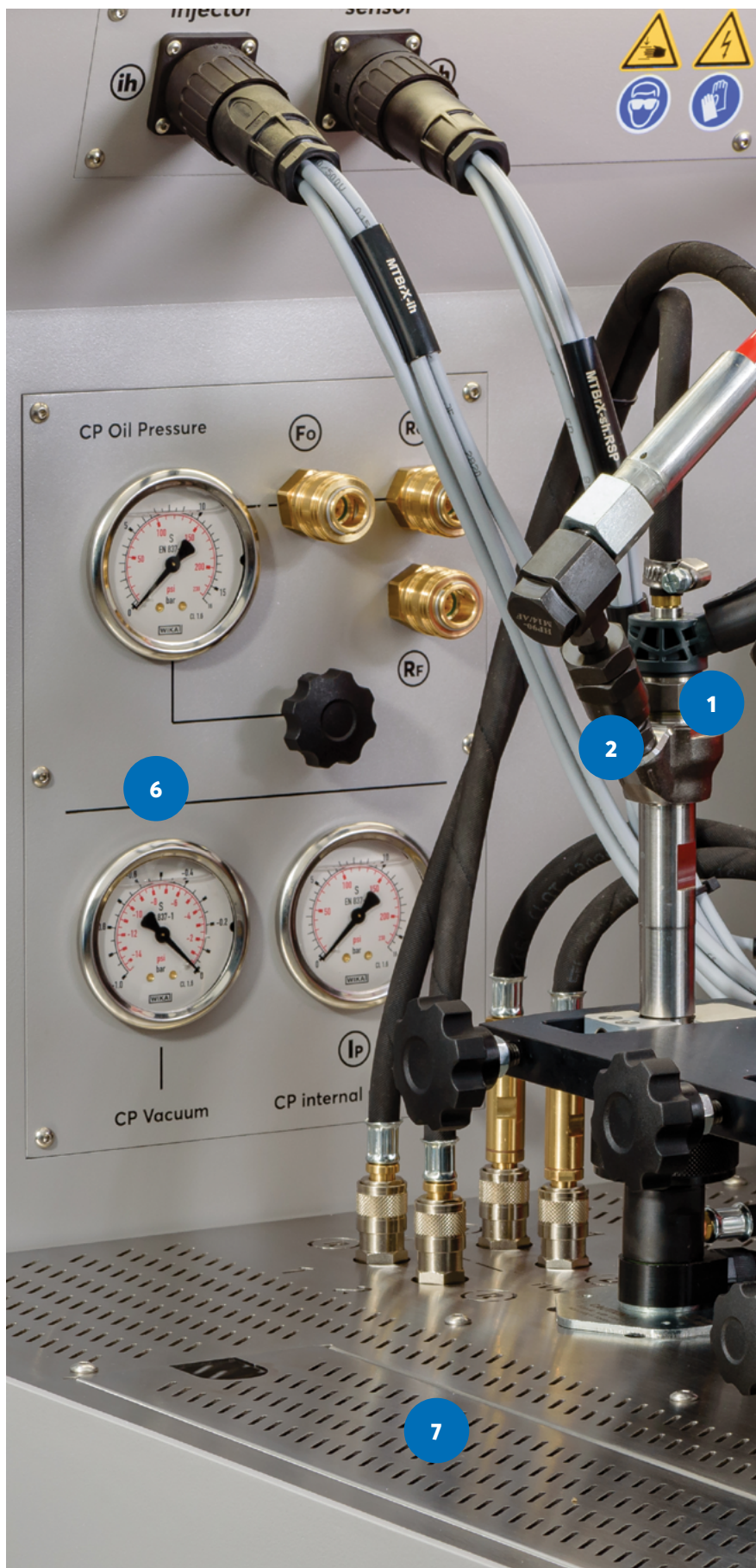
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- 07. EASILY ACCESSIBLE FILTERS & WASTE AREA

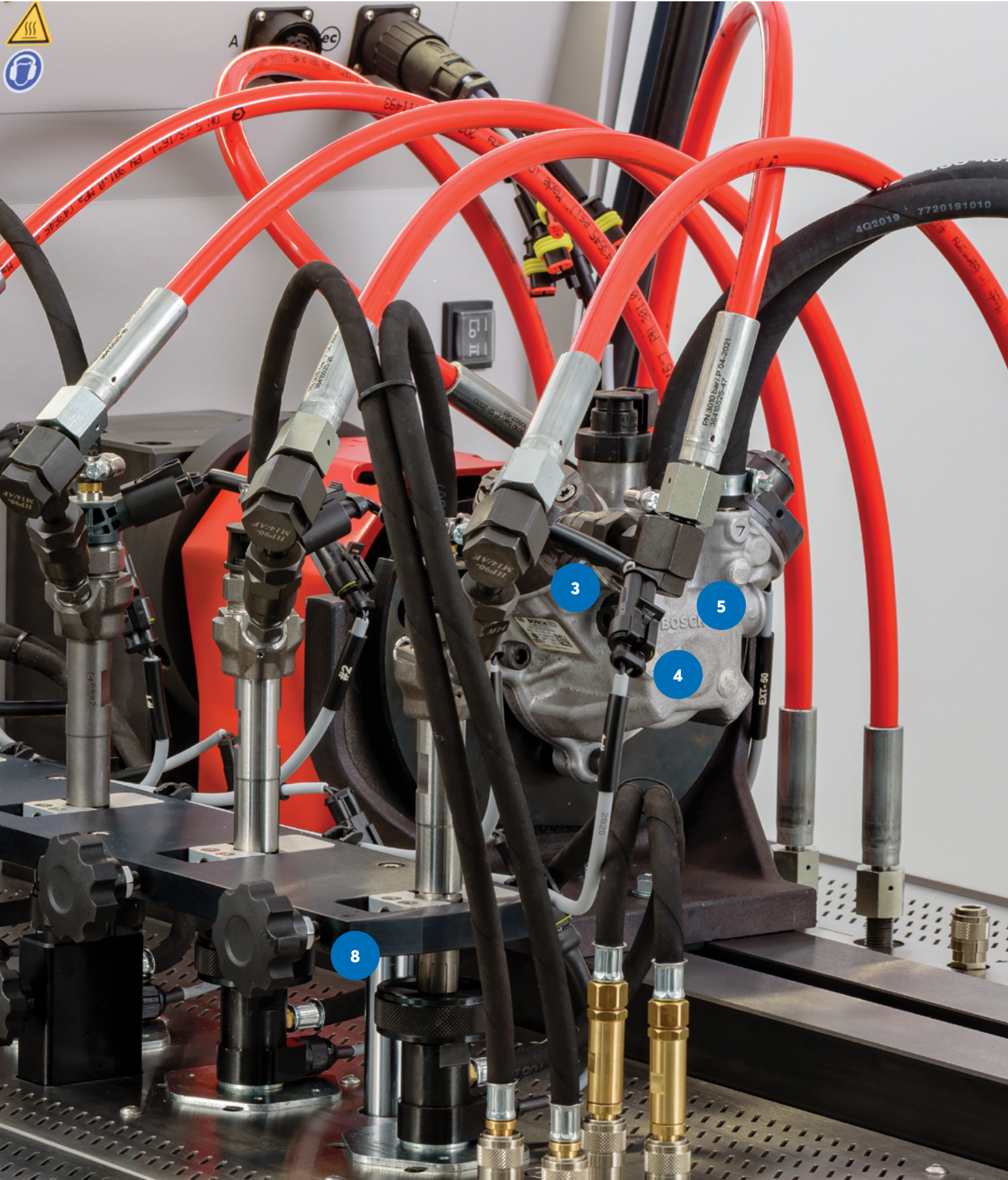
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- 08. HEUI TESTING & CODING

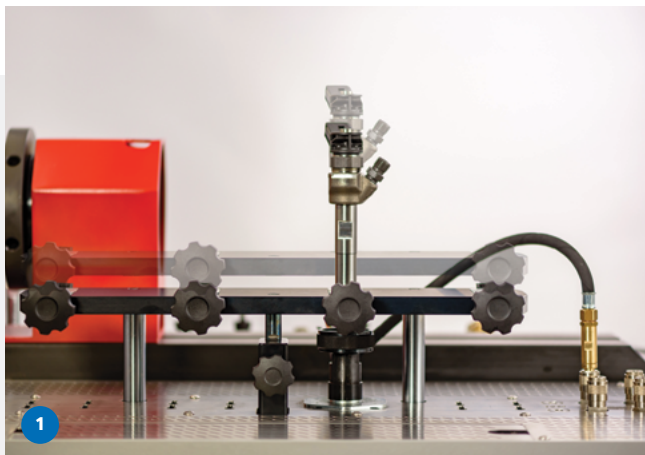
*Detailed information on next page*



\*New database and Coding is continuously being updated to new EU6 applications



## MTBR **X** → Points



**01.**

**Diesel CRDI Testing & Coding**

Ergonomic, Fast and Easy Injector Clamping device to minimize mounting times. Fully Adjustable height for all types of CR injectors. Utilizes a spring-loaded injector holder to ease the operation of the user.

**02.**

**Gasoline GDI Injector Testing and Coding**

Quick and Easy Injector Clamping device with adjustable height to fit all types of adapters for Gasoline Direct injectors. Unperceivable testing capabilities, adaptability, global database and coding for newer EU6 applications\* as well as for the widely available Siemens/VDO piezo injectors (for BMW) in the market today.

**03**

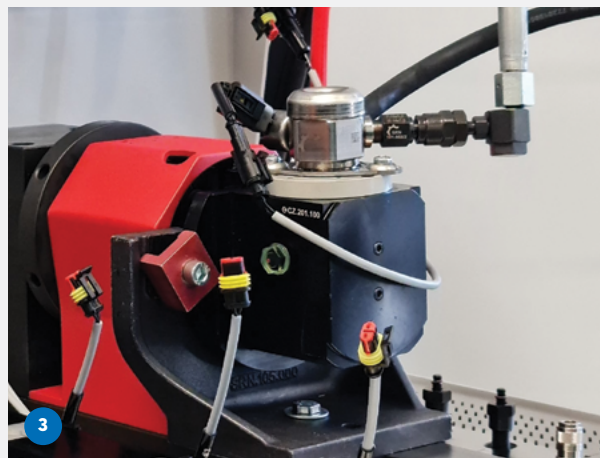
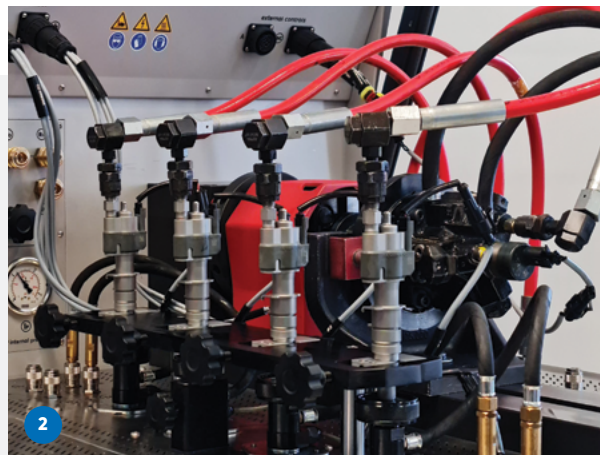
**Gasoline GDI Pump Testing**

The New MTBRX is the first machine in the world to fully test and diagnose faulty GDI (Gasoline Direct Injection) Pumps. Adaptability and operation for All Types and Makes.

**04.**

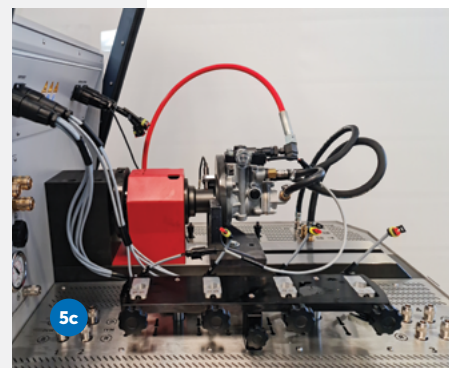
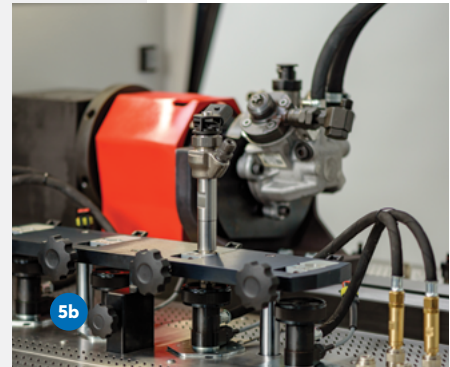
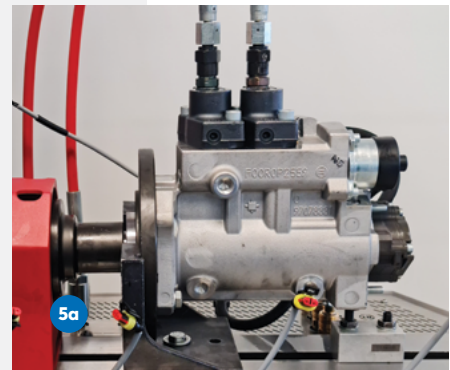
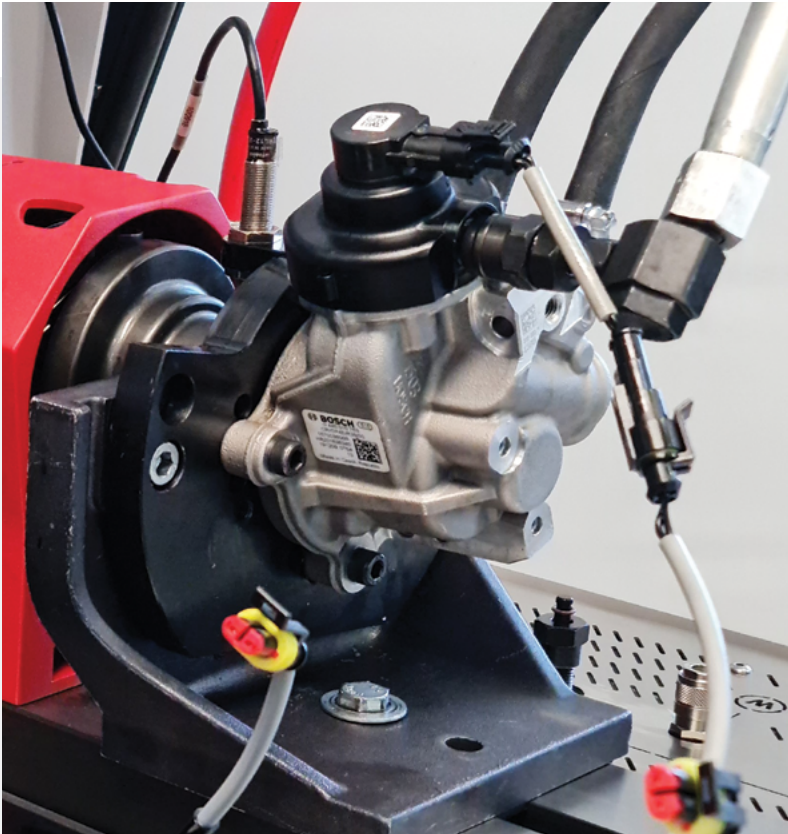
**Diesel Unit Injection Systems Testing/Cambox**

EUI and EUP testing and coding with OE standards is now made as simple as testing a CR injector. Smart Pumps and Injectors testing and coding (EU6) has never been so accurate, repeatable and correct. Hartridge's HK-1400A Base Cambox optimized and upgraded with our ingenuity to meet all the standards of today's revolution in Medium and Heavy Duty Diesel Unit Systems.



## SPECIALISTS

CRDi - EUi/EUP - HEUi - CRP  
ENGINE - GDi - EFi - GDi Pumps



### 05.

#### Diesel CR pump testing

A well proven pump coupling apparatus provides the flexibility needed for future upgrades, as well as the quick coupling and versatility for today's All-Makes CR pumps. Capable to test all EU6 Common Rail pumps with sync control valve function.

5a: CPN5S2 and other **Heavy-Duty** CR Pump applications require high Power, high Torque and responsive correction of the machine's power transfer through the transmission and flywheel. The New MTBR-X is specifically designed to efficiently test these systems.

5b / 5c: EU6 Generation Common Rail Pump testing:

- Denso HP5S/D, HP6, HP7,
- Bosch CP4 new Euro6,
- Continental /VDO new Euro6
- and every other Euro 6 CR Pumps that operate by timing correctly the discharge quantity control valve(s).

The New **MTBR-X** advanced electronics and modern technology provides this unique testing capability for today's and next generation CR pumps.

## MTBR **X** → Points

Capable to efficiently Diagnose and fully Calibrate all Makes and Types of CRDi's, EUI's, EUP's, HEUI's, CR-pumps, GDi-pumps and GDi injectors.



### 06.

#### Low Supply Pressure/Suction Performance

Measures the inlet pressure made by the supply pump or the vacuum produced by the pump itself. Important diagnostic information for many types of pumps and even for newest EU6 generation pumps.

### 07.

#### Easily Accessible Filters & Waste Area

Quick access to all inline filters for fast check-up and replacement located within your working area. A mess-free compartment to work at, continuously draining to the waste tank.



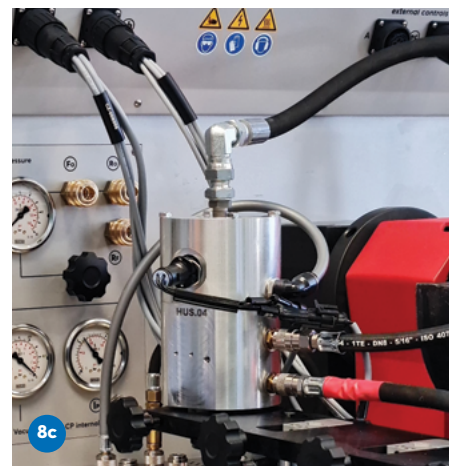
Scan to visit our YouTube channel and watch CZ Test Benches tutorials, training and product videos.





## SPECIALISTS

CRDi - EUi/EUP - HEUi - CRP  
ENGINE - GDi - EFi - GDi Pumps



### 08. HEUi testing and coding\*

Pre-order your MTBR-X ready to test and code\* HEUi injectors according to the OE standards. Adaptability and database available to test the majority and the diversity of injectors available in the world today. A unique capability of this add-on feature is to save space and cost from an additional standalone unit.

**8. CAT C7/C9 testing and coding\***. Measuring discharge and actual overflow at different loads to optimally diagnose faults and characterize the injector to generate the correct trim file for coding where applicable. Additional unique dynamic measurement of the NOP without disassembling the nozzle.

**8a. CAT C7/C9 testing and coding\***.

**8b. CAT 3126/Navistar.**

**8c. Ford Power Stroke 6.0L / 7.3L\***. Efficiently controlling the dual-solenoid control poppet valve .

**8d. Isuzu Trooper.**

# MTBR //X EXPANDING CAPABILITIES



Space saving, accessory organizers for everyday tasks. Increased productivity and uncluttered space.

01.  
**Desk & Harness Shelf**

02.  
**Hydraulic Hose Side Panel  
Pocket with Drain**



03.  
**CZ Base Trolley**

Ideal workshop organizer to fit most parts of the machine like harnesses, hoses, adapters, tools and flanges. Can be easily transformed to a Cambox and/or pump rack for easy transfer and storing.



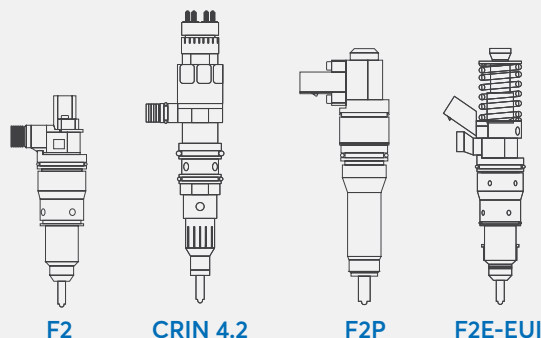
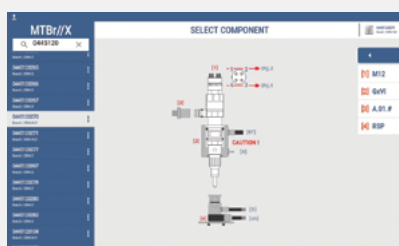
\*New database and Coding is continuously being updated to new EU6 applications



## SPECIALISTS

**CRDi - EUI/EUP - HEUI - CRP**  
**ENGINE - GDi - EFi - GDi Pumps**

### AZO SOFTWARE



## EU6 Technologies

### → Features

- A **Continental/VDO Authorized** Test Bench
- Xtremely Fast Testing Times without any Compromise
- New Design for every Service Station
- Optimized Working Area access [240o] & Component Set-up Times
- 2800Bar Operating Pressure
- EU6 Systems Testing and Coding\*
- CloudX** Capabilities
  - Coding capability for all brands and types available in the market today. Bosch, Denso, Delphi, Continental /VDO, CAT, Cummins\*, John Deere, ISUZU\*, HINO\*, KOMATSU\*, E1/ E3/ DAF/ Smart Pump, F2X and F3X (Beta) technologies and more added every day...
  - Off-Highways CR applications testing and coding (John Deere, Komatsu, Hino, Isuzu)
  - Cummins XPI\*, Caterpillar-Perkins C4/C6 and other Medium and Heavy-Duty testing and coding
  - Advanced water-cooling or air-cooling system to optimize long term nonstop operation at all environmental conditions.
  - Live Response Time Measurement at every test plan
  - BIP Actuation Measurement for all Heavy-Duty type solenoids (EUI & CR)
  - Adaptability for every type of Diesel Injectors in the market
  - Continuous Database updates and new Software capabilities to meet the market needs.
  - Android Powered 15.6' HMI with unlimited flexibility and connectivity competencies.
  - Injector & Pump flushing feature pre-installed

\*New database and Coding is continously being updated to new EU6 applications

# MTBR → SPECIFICATIONS

	DESCRIPTION	UNIT	MTBRX-A (CZ-008713)	MTBRX-W (CZ-008783)	
Machine Type	Cooling System	A / W	AIR	WATER	
Machine Dimensions	Length	mm	950	950	
	Width	mm	1300	1300	
	Height	mm	1610	1610	
Weight		kg	571	573	
HMI	Tablet Touchscreen	Inches	15	15	
Pressure Source	Type	Motor Driven High Pressure CR Pump			
Test Oil	Type	(DxL-ISO) ISO4113 Calibration Oil			
Test Oil for CPL / EZO	Type	Engine Oil (0W-40 / 10W-40 / 15W-50)			
EZO Oil Tank	Capacity	Liters	0.7	0.7	
CPL Oil Tank	Capacity	Liters	5	5	
Test Oil Tank	Capacity	Liters	44	44	
Flush Tank	Capacity	Liters	11	11	
Max Pressure	Pressure	Bar	2800	2800	
Max RPM	Max Revolutions Per Minute	RPM	4000	4000	
Max Pumps	Diesel Pumps	Slots	1	1	
	Gasoline Pumps	Slots	1	1	
Max Injectors	Test Injectors	Slots	4	4	
		Types	"4 CRI / 4 GDI / 1 HEUI / 1 EUJ-EUP"	"4 CRI / 4 GDI / 1 HEUI / 1 EUJ-EUP"	
LP Pump	Supply Pressure	Bar	0.1 / 5.4	0.1 / 5.4	
CP Vacuum	CP Vacuum Gauge	Bar	0 / -1	0 / -1	
CP IP	CP Internal Pressure Gauge	Bar	0 / 16	0 / 16	
CPL Pressure	CP Oil Pressure	Bar	0.1 / 8	0.1 / 8	
Air Supply	Pressure	Bar	-	-	
	Air Flow	Lt/ Min	-	-	
	Phases	Number	3P	3P	
Main Power Supply		TYPE	PE	PE	
	Voltage	VAC	380-480	380-480	
	Frequency	Hz	50/60	50/60	
	Current	Ampere	32	32	
Motor	Max Consumption	kVA (380V/480V)	21 - 26.6	21 - 26.6	
	Model	TYPE	AK132-4	AK132-4	
	POWER	RPM	RPM 50 / 60Hz	1450 / 1740	1450 / 1740
			KW 50 / 60Hz	13 / 15.6	13 / 15.6
		Connection Δ	HP 50 / 60Hz	17.5 / 21	17.5 / 21
			Ampere (50HZ)	400 V:24.4 A	400 V:24.4 A
	Ampere (60HZ)	480 V: 24.4A	480 V: 24.4A		
Max Input pressure	Bar	-	4		
Max Output Pressure	Bar	-	1Bar< Input Pressure		
Min Input Temperature	Celsius	-	5		
Max Input Temperature	Celsius	-	15		
Min Diameter In/Out Water Hose	mm	-	10		
Water Tank Capacity	Liters	-	17		
Max Water Flow	Lt / Min (4Bar)	-	4		
Min Water Output Temperature	Celsius	-	5		
Max Water Output Temperature	Celsius	-	65		
Delta T	Celsius	-	0-50		
Operating Temperature	Min / Max Room Temperature	Celsius	6 / 23	6 / 30	
	Max Cooling Efficiency "Debit" [27.2 liters of 5° C water in order to Cool Down the Test Oil from 43° C to 36° C (1.6 tank cycles)]	Tank Cycles	-	1.6	
IVM Sensors	Measurement Sensors	Type / Quantity	XKM / 4 *	XKM / 4 *	
IVM Sensors	Measurement Sensors	Type / Quantity	DFM500 / 1**	2/9/23	

→  
- : N/A  
A: Air Cooling  
W: Water Cooling  
**PRESSURE SOURCES**  
Motor: Motor Driven High Pressure CR Pump  
Electr. Pump: Fuel Injection system or Industrial Application Electrical Pump 12VDC

**MEASUREMENT SENSORS**  
XKM: Dynamic Measurement Sensor; High Accuracy: ± 0.1%, Exceptional Repeatability: ± 0.05%, Measur. Range: 1-1000mm<sup>3</sup>/min  
DFM 500: Dynamic Measurement Sensor; Accuracy: ± 1%, Repeatability: 0.5%, Measurement range: 5-500l/min  
DFM 50: Dynamic Measurement Sensor; Accuracy: ± 1%, Repeatability: 0.5%, Measurement range: 0.5-50l/min  
**APPLICATIONS**  
Passenger Car/ Motorcycles: Volumes up to 120mm<sup>3</sup>/H  
Light Duty: Volumes up to 200mm<sup>3</sup>/H  
Medium Duty: Volumes up to 300mm<sup>3</sup>/H  
Heavy Duty: Volumes up to 650mm<sup>3</sup>/H  
Marines: Volumes up to 1500mm<sup>3</sup>/H



# CloudX is Carbon Zapp IoT Cloud computing Platform.

**Powerful innovations at your fingertips  
with CZ CloudX computing Platform**

CZ CloudX computing technology Platform as a service (PaaS) is a complete environment in the cloud, with resources that enable clients the full control of their Bench with cloud based Apps access them over a secure Internet connection. With middleware, development tools, business intelligence (BI) services, database management systems and more.

CloudX allows clients to access live online updates of database, remote operation and status report of their bench. Generate remote reports for handling, printing, filling and organizing from machine database. Instant activation of features on a pay-as-you-go basis. Multiple machines management support. Complete machine cloud back-up and instant trouble shooting via X-Connect directly from CZ factory. Receive notifications on your smart devices for machine maintenance tasks like Oils, Filters, Service, and more.

Explore today new powerful innovations at your fingertips with CZ CloudX computing Platform.

## CloudX Features



IoT Cloud Platform Industry 4.0

Remote Operation and Status Report of Client Bench

Generating remote reports for handling, printing, filing and organizing from machine database

Multiple machines management

Instant Activation of Features on a pay-as-you-go basis

Notifications on Client smart devices for machine maintenance tasks like Oils, Filters, Service, and more

Complete machine cloud back-up

Instant troubleshooting via CX-Connex directly from CZ Factory

Live Online Updates of Database and supporting new requests from clients



**VIEW CZ Digital  
Product Catalog**



**Headquarters & Production**

**New Address**

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