

INNOVATION DRIVEN



///

Engineering Solutions for Tomorrow's Mobility

CloudX™
CARBON ZAPP TECHNOLOGY

Product Catalog 2022-23



Engineering Solutions for Tomorrow's Mobility

**We always strive
for excellence
and innovation**

Carbon Zapp is dedicated in manufacturing Automotive Injection Service Solutions, providing a worldwide sales network, investing constantly in R&D and offering efficient support. With today's exponential increase in the automotive industry, Carbon Zapp offers solutions for a healthier, less polluted environment, specializing in designing & manufacturing Diesel and Gasoline Injection Service Benches, that have become a standard for major OE's and general workshops.

As a global supplier to diverse users, with broad knowledge in the automotive industry and through teamwork and skillful personnel, Carbon Zapp is able to support your corporate vision and fulfill your market's needs.

Let's make together the first step towards future and success!

Nikolaos Pantazis

Managing Director
International Business

Dimitrios Pantazis

Managing Director
Manufacturing

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Our Statement

"We have earned our position to the global market because of our commitment to quality products and well known customer service. If we fail to provide satisfaction to our customers, we forfeit our right to their business. Carbon Zapp's Management and staff loyalty to this business makes it a win-win situation"

**Bill Pantazis,
Founder of Carbon Zapp**

Our Company

Carbon Zapp was founded in 1989 by Bill Pantazis. As a leading manufacturer of Automotive Injection Service Equipment and Tools, Carbon Zapp has its Headquarters and Production Plant in Athens, Greece and a constantly growing global network in every continent. Recently, the company expanded in Germany by establishing its OEM business administration offices.

Through a wide range of innovative products, including injector and pump test benches for Diesel and Gasoline High Pressure injection systems, Engine service equipment and tools, Carbon Zapp offers high quality equipment and customer service to automotive dealers, workshops and educational institutions, as well as for specialized developers, remanufacturers and most major automotive OE's. Carbon Zapp uses over 35% of its profits to update existing products with newer technological advancements and aims to provide simpler methods and tools for a safer environment.

Carbon Zapp today is the Authorized global partner for Diesel Specialists to Diagnose and Service CRDi systems, holding the unique technology to correctly control with Energy and accurately test Continental / VDO systems.

Our Mission

Carbon Zapp aims to provide user friendly, compact and time saving solutions to a wide range of operators, focusing in the automotive injection systems.

BUILDING WHAT'S NEXT FOR THE AUTOMOTIVE INJECTION SERVICE, TODAY!



Our Customers

Diesel Service Centers
Auto Workshops /Dealerships
Automotive Aftermarket OEM's
Parts Remanufacturers
Automotive OE's
Developers

Innovation Driven Company

"Innovation" is the key to continuous growth and competitive advantage. Carbon Zapp "Drives" its research team to keep a high ambition level and work on their research, development and technical skills.

On an annual basis, the company invests more than 35% of its profits on research and development for upgrading existing and implementing new products. Carbon Zapp has fostered an extensive group of intellectual property and talented personnel throughout the years. Strategic agreements and world-class component suppliers have contributed in developing advanced technologies & products.

We Provide Authorized
Solutions for Continental/VDO





Support

At Carbon Zapp, customer satisfaction is a major priority. The staff offers the best service to increase customer trust, earn their loyalty and built their respect. The key to this success is to acknowledge the customers' needs and listen to them.

Global Sales Network

With a logistics center in Athens, Greece, Carbon Zapp can effectively export its products globally in all 5 continents and over 85 countries. The products are trusted internationally for their world class quality and unique capabilities. Carbon Zapp takes pride in consistently delivering premium products and reliable customer services.



**Let's Connect and Discover
Future Opportunities.**



CloudX is CarbonZapp 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

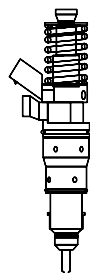
- IoT Cloud computing Platform. Industry 4.0 Complaint
- Live Online Updates of Database and supporting new requests from clients
- Remote Operation and Status Report of Client Bench
- Generating remote reports for handling, printing, filling and organizing from machine database
- Instant Activation of Features on a pay-as-you-go basis
- Multiple machines management
- Complete machine cloud back-up
- Instant troubleshooting via X-Connect directly from CZ Factory
- Notifications on Client smart devices for machine maintenance tasks like Oils, Filters, Service, and more

INDEX BY SYSTEM

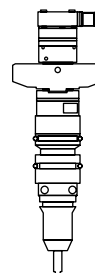
Explore our complete range of Automotive Injection Service Solutions both for Specialist and Workshops thought the supporting Systems & find your next best match.



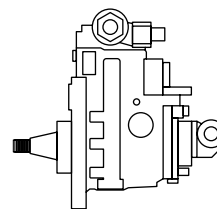
CRDi



EUI/EUP



HEUI



CRP

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SPECIALISTS	14-23	MTBR-X	•	•	•	•
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	28-33	ITB.1R-X	•			
	34-37	CRU.2R-X	•			
	38-39	DGFR-X	•			
	42-47	ETBR-X	•	•	•	•
	48-53	HTBR-X			•	
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CRDi
Common Rail Diesel Injectors

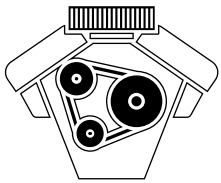
EUI
Electronic Unit Injectors

EUP
Electronic Unit Pumps

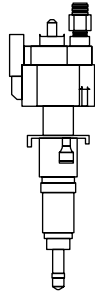
HEUI
Hydraulic Electronic Unit Injectors

CRp
Common Rail Diesel Pumps

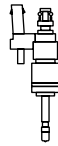
Engine
Diagnostic and Service Solutions



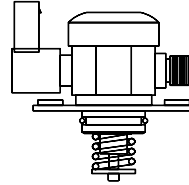
ENGINE



GDi INJECTORS



EFi INJECTORS



GDi PUMPS



CONTINENTAL \ VDO

DIESEL/GASOLINE	GASOLINE			AUTHORIZED	MACHINES
	•		•	•	MTBR-X
			•		PTBR-X
	•			•	ITB.4R-X
	•			•	ITB.1R-X
				•	CRU.2R-X
	•			•	DGFR-X
	•	•	•		ETBR-X
					HTBR-X
	•		•		GTB.4R-X
	•				GDU.4R-X
					DSR-X
					DS2R-A
	•	•			GDR-X
	•	•			GS4
	•	•			GS8
•					ES.3
•					FST
•					FST-HF
•					HP-G2500
•					HP-G250
•					CRPT-110
•					CRMK-110
•					PIMK-010
•					DIT-062

GDi
Gasoline Direct Injectors
EFi
Electronic Fuel Injectors

GDi Pumps
Gasoline Direct Injection
HP Pumps

Continental /VDO
Authorized Solutions for EU3, EU4
and EU5 Diesel Injectors

Index By Product

Browse our catalog by Product and find your next best match for all your needs through Carbon Zapp's new full improved XSeries benches, a complete range of Automotive Injection Service Solutions both for Specialists and Workshops.



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SPECIALISTS

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PTBR-X
SPECIALISTS

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ITB.4R-X
SPECIALISTS

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ITB.1R-X
SPECIALISTS

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CRU.2R-X
SPECIALISTS

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DGFR-X
SPECIALISTS

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ETBR-X
SPECIALISTS

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GDU.4R-X
SPECIALISTS

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WORKSHOPS

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DS2R-A
WORKSHOPS

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GDR-X
WORKSHOPS

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GS4
WORKSHOPS

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GS8
WORKSHOPS

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ES.3
WORKSHOPS

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FST/FST-HF
WORKSHOPS

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HP-G2500
WORKSHOPS

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HP-G250
WORKSHOPS

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CRPT-110
WORKSHOPS

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CRMK-110
WORKSHOPS

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PIMK-010
WORKSHOPS

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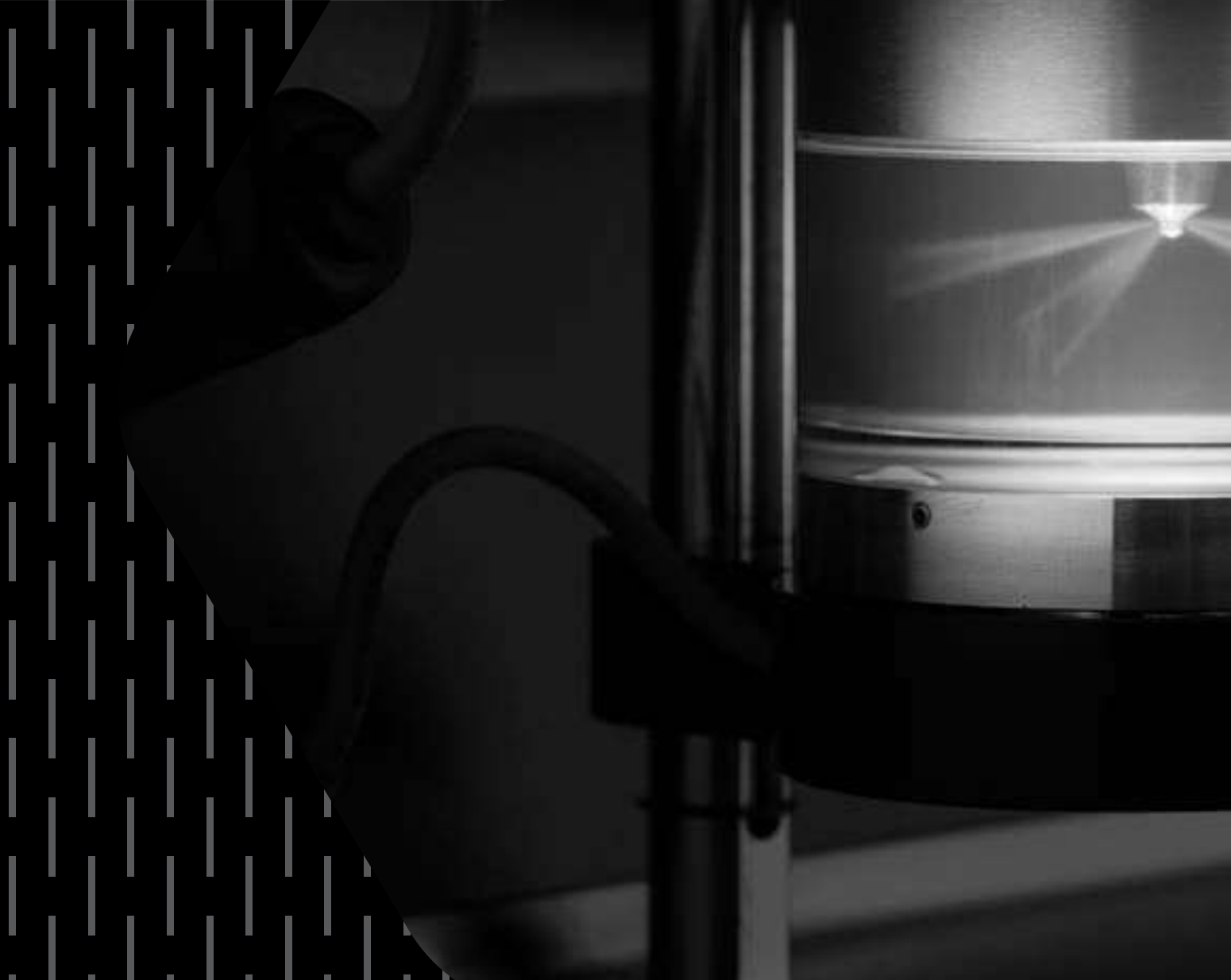


DIT-062
WORKSHOPS

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SPECIALISTS 

**Discover Diesel & Gasoline
Specialists Solutions**



Innovative, Compact and Professional Solutions
for every Diesel Specialist Workshop to Test
and Service All Makes and Types of Heavy Duty,
Light Duty and Passenger Car Fuel Injection Systems.



CRDi

Common Rail Diesel Injectors



EUi

Electronic Unit Injectors

EUp

Electronic Unit Pumps

HEUi

Hydraulic Electronic Unit Injectors

CRp

Common Rail Diesel Pumps

Engine

Diagnostic and Service Solutions

GDi

Gasoline Direct Injectors

EFi

Electronic Fuel Injectors

GDi Pumps

Gasoline Direct Injection HP Pumps

MTBR //X

Diesel System Test Bench

X Series 2022

The Preferred Diesel Specialists Solution

The Comprehensive Solution for Every Advanced Diesel Service Center



CloudX™

Details on page 06

Authorized Solution for Continental/VDO



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

SPECIALISTS

CRDi

EUi/EUP

HEUi

CRP

ENGINE

GDi

EFI

GDi Pumps

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 etc.)

[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, F2E, F2P, F2R Injectors pumps 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

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

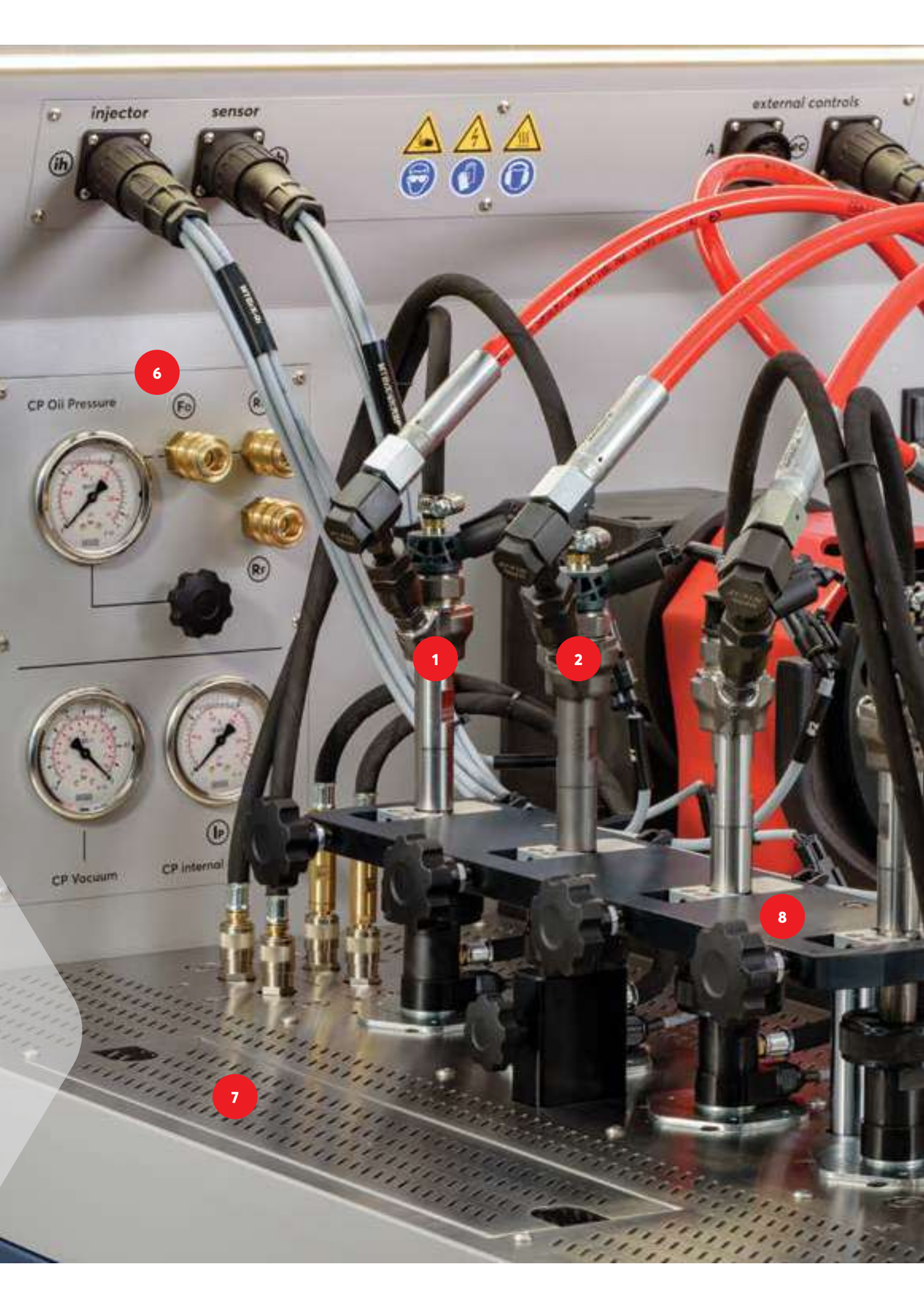
- 6-10 minutes testing and coding* time per injector
- Capable for all EU6 technologies
- Expandable to Future Systems

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



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**



injector

sensor

external controls



6

CP Oil Pressure



Fp

Rp

Rr

1

2



lp

CP Vacuum

CP Internal

8

7



SPECIALISTS

CRDi

EUi/EUP

HEUi

CRP

ENGINE

GDi

EFi

GDi Pumps

MTBR //X

Diesel System Test Bench

- 1** DIESEL CRDi TESTING & CODING
- 2** GASOLINE GDI INJECTOR TESTING & CODING
- 3** GASOLINE GDI PUMP TESTING
- 4** DIESEL UNIT INJECTION SYSTEMS TESTING/CAMBOX
- 5** DIESEL CR PUMP TESTING
- 6** LOW SUPPLY PRESSURE/ SUCTION PERFORMANCE
- 7** EASILY ACCESSIBLE FILTERS & WASTE AREA
- 8** HEUi TESTING & CODING

Detailed information on next page



1 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.



4 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.



2 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.



3 Gasoline GDI Pump Testing

The New MTBRIX 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.

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

SPECIALISTS

CRDi

EUi/EUP

HEUi

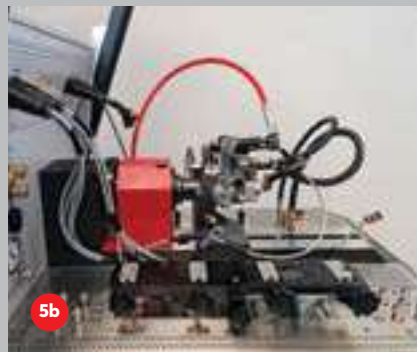
CRP

ENGINE

GDi

EFi

GDi Pumps



5 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.

SPECIALISTS



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.



6 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 [CRp-iP3 KIT]



7 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.

MTBR-X Points

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



SPECIALISTS

CRDi

EUi/EUP

HEUi

CRP

ENGINE

GDi

EFi

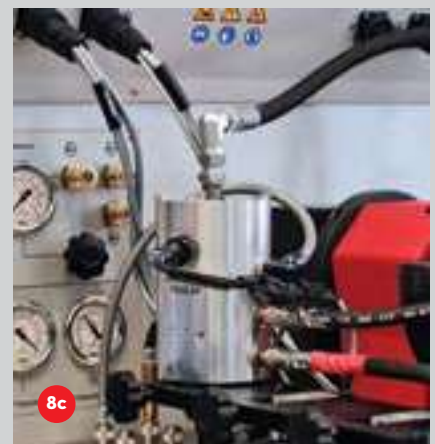
GDi Pumps



8a



8b



8c

8 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 overflow at different loads to optimally diagnose faults and characterize the injector to generate the correct trim file for coding.

8a. CAT 3126/Navistar measuring the discharge and overflow at different loads.

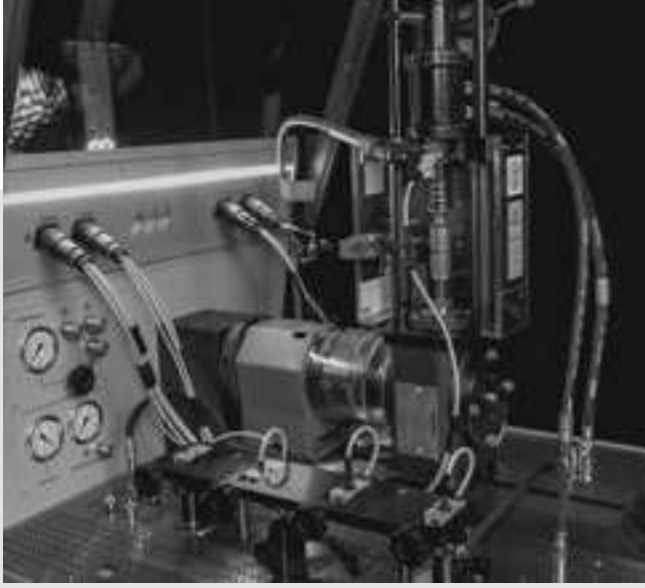
8b. CAT 3408/3412 measuring the discharge and overflow at different loads.

8c. Ford Power Stroke 6.0L / 7.3L* Efficiently controlling the dual solenoid control poppet valve we measure the discharge and overflow at different loads.

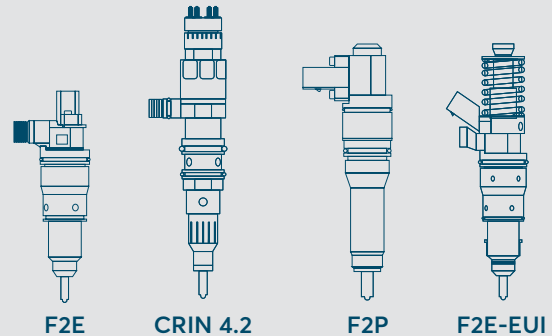
8d. Isuzu Trooper. Medium load HEUI injectors available in less countries in the world are also able to be fully tested with the New MTBR-X.(not shown in picture)



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



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, F2E/ F2P/ F2R* 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 (optional kits available)



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

	Part Number	MTBRX-A [CZ-008713] MTBRX-W[CZ-008783]
	Cooling Type Standalone Add-On	[A / W] ● -
TYPE	Test Bench Simulator / Controller Service / Diagnostic Unit	● - -
USER LEVEL	Diesel / Gasoline Specialists Workshop / Garage Test Slots [injectors / Pumps]	● - [4 / -]
SYSTEMS / [TESTING MINUTES]	CRDi / Smart Injectors [1 / 4] GDi Injectors [1 / 4] CR Pumps [1] GDi Pumps [1] EUI / EUP / Smart EUP [1] HEUI [1 / 4] Gasoline Injectors [1 / 4] LPG / CNG Injectors [1 / 4] Gasoline /Other Engines Diesel Engines Gasoline/Diesel Fuel Systems	● / [-/9] ● / [-/6'] ● / [6'] □ / [6] □ / [8] □ / [-/12] □ / [3/8] □ / [3/8] - - -
APPLICATIONS	Passenger Car / HEV / PHEV Motorcycles Racing (Gasoline) Light Duty Medium Duty Heavy Duty / Industrial Marine EV (Electric Vehicles)	● □ □ □ □ □ □ -
FEATURES	CloudX - (Page 06) Coding Capability for Passenger Car / Light Duty Coding Capability for Medium/Heavy Duty Authorized Solutions	□ □ □
MEASUREMENT SENSORS	XKM BK DFM500 DFM50 Volumetric Tubes	4 - 1 - -
SYSTEM PRESSURE	Max (BAR) Source Source Power (HP)	2800 MOTOR 18
CHARACTERISTICS	Response Sensor Response Sensor HD Pressurized Return Hoses / PIRV's Exclusive Return Hoses Kit Spray Chamber Heavy Duty Injector Adapters & Fittings Heavy Duty Pump Adapters & Fittings Exclusive Electrical Connectors Mains Power 50/60Hz /1-Phase 100-250VAC Mains Power 50/60Hz /3-Phase/PE 380-480VAC Air-Supply (Bar / L/min) Water Cooling (requires connection) Air Cooling Tank Capacity [testing / flushing] HMI (Inches) Touchscreen Flushing / MACC Protective Cover Calibration Oils Ultrasonic Bath	□ □ ○ ● ○ ○ □ □ □ ○ - - - - - - - - - - ● [45 / 15] 15 ● ● □ / - ● ○ ○
PACKAGING	Width (mm) Depth (mm) Height (mm) Weight (kg)	1160 1530 1790 717

CRDi
EUI/EUP
HEUI
CRP
ENGINE
GDi
EFI
GDi Pumps

MEASUREMENT SENSORS
 XKM [Dynamic Meas. Sensor]: High Accuracy: ± 0.1%, Exceptional Repeatability ±0.05%,
 Measur. Range: 1-1000ml/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
 Volumetric Tubes [Static Analog Measurement]: Accuracy: 1ml, Measurement range: 0.5-65ml

APPLICATIONS
 Passenger Car / Motorcycles: Volumes up to 120mm³/H
 Light Duty: Volumes up to 200mm³/H
 Medium Duty: Volumes up to 300mm³/H
 Heavy Duty: Volumes up to 650mm³/H
 Marines: Volumes up to 1500mm³/H

EXPLANATIONS
 ● : Capable / Standard Equipped
 □ : Capable / Optionals required
 ○ : Optional
 - : N/A
 -A: Air Cooling
 -W: Water Cooling

PRESSURE SOURCES
 A: Air High Pressure Pump
 M: Air Motor Drive High Pressure CR Pump
 E: External Pressure coming from another Test Bench or external source
 Electri Pump: Fuel Injection system or Industrial Application
 Electrical Pump 12VDC
 --: No Pressure Source

PTBR //X

Diesel System Test Bench

The Comprehensive Diesel Specialists Solutions

for Testing Diesel Common Rail and Gasoline GDi Pumps

2800 Bar

Standalone Diesel CR & Gasoline GDi Pump Test Bench for Specialists



CloudX™

Details on page 06

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

SPECIALISTS

CRDi

EUI/EUP

HEUi

CRP

ENGINE

GDi

EFI

GDi Pumps

Overview of the New PTBR-X

Precise, repeatable and rapid Diesel & Gasoline High Pressure Pump 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 etc.)



Setting the Standard for Diesel & Gasoline High Pressure Pumps Test Benches

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



1 Gasoline GDI Pump Testing

The New PTBR-X 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.



2 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 [CRp-iP3 KIT]



3 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.

3a: 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 **PTBR-X** is specifically designed to efficiently test these systems.

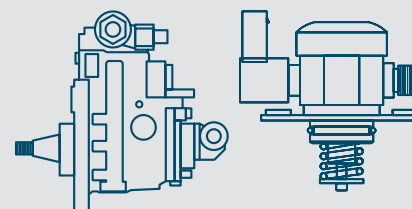
3b / 3c: EU6 Generation Common Rail Pump testing:

- 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 **PTBR-X** advanced electronics and modern technology provides this unique testing capability for today's and next generation CR

Features

- Xtremely Fast Testing Times without any Compromise
- New Design for every Service Station
- Optimized Working Area to reduce Pump Set-up Times
- 2800Bar Operating Pressure
- EU6 Systems Testing CloudX



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

	Part Number	PTBRX-A [CZ-008715] PTBRX-W [CZ-008785]
	Cooling Type	[A / W]
	Standalone	●
	Add-On	-
TYPE	Test Bench	●
	Simulator / Controller	-
	Service / Diagnostic Unit	-
USER LEVEL	Diesel / Gasoline Specialists	●
	Workshop / Garage	-
	Test Slots [injectors / Pumps]	[- / 1]
SYSTEMS / [TESTING MINUTES]	CRDi / Smart Injectors [1 / 4]	-
	GDi Injectors [1 / 4]	-
	CR Pumps [1]	● / [6]
	GDi Pumps [1]	○ / [6]
	EUI / EUP / Smart EUP [1]	-
	HEUI [1 / 4]	-
	Gasoline Injectors [1 / 4]	-
	LPG / CNG Injectors [1 / 4]	-
	Gasoline /Other Engines	-
	Diesel Engines	-
	Gasoline/Diesel Fuel Systems	-
APPLICATIONS	Passenger Car / HEV / PHEV	●
	Motorcycles	-
	Racing (Gasoline)	□
	Light Duty	●
	Medium Duty	□
	Heavy Duty / Industrial	□
	Marine	□
FEATURES	EV (Electric Vehicles)	-
	CloudX - (Page 06)	-
	Coding Capability for Passenger Car / Light Duty	-
	Coding Capability for Medium/Heavy Duty	-
	Authorized Solutions	-
MEASUREMENT SENSORS	XKM	-
	BK	-
	DFM500	1
	DFM50	1
	Volumetric Tubes	-
SYSTEM PRESSURE	Max (BAR)	2800
	Source	MOTOR
	Source Power (HP)	18
CHARACTERISTICS	Response Sensor	-
	Response Sensor HD	-
	Pressurized Return Hoses / PIRV's	-
	Exclusive Return Hoses Kit	-
	Spray Chamber	-
	Heavy Duty Injector Adapters & Fittings	-
	Heavy Duty Pump Adapters & Fittings	□
	Exclusive Electrical Connectors	○
	Mains Power 50/60Hz /1-Phase 100-250VAC	-
	Mains Power 50/60Hz /3-Phase/PE 380-480VAC	●
	Air-Supply (Bar / L/min)	-
	Water Cooling (requires connection)	-
	Air Cooling	●
	Tank Capacity [testing / flushing]	[45 / 15]
	HMI (Inches)	15
	Touchscreen	●
	Flushing / MACC	□ / -
	Protective Cover	●
	Calibration Oils	○
	Ultrasonic Bath	○
PACKAGING	Width (mm)	1160
	Depth (mm)	1530
	Height (mm)	1790
	Weight (kg)	717

CRDi
EUI/EUP
HEUI
CRP
ENGINE
GDi
EFI
GDi Pumps

MEASUREMENT SENSORS
 XKM [Dynamic Meas. Sensor]: High Accuracy: ± 0.1%, Exceptional Repeatability ±0.05%, Measur. Range: 1-10000ml/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
 Volumetric Tubes [Static Analog Measurement]: Accuracy: 1ml, Measurement range: 0.5-65ml

APPLICATIONS
 Passenger Car/Motorcycles: Volumes up to 120mm³/H
 Light Duty: Volumes up to 300mm³/H
 Medium Duty: Volumes up to 650mm³/H
 Heavy Duty: Volumes up to 650mm³/H
 Marines: Volumes up to 1500mm³/H

EXPLANATIONS

- : Capable / Standard Equipped
- : Capable / Optionals required
- : Optional
- : N/A

- A: Air Cooling
- W: Water Cooling

PRESSURE SOURCES
 Air: Air Driven High Pressure Pump
 Motor: Motor Driven High Pressure CR Pump
 External: Pressure coming from another Test Bench or external source
 Electrical: Pressure coming from another Test Bench or external source
 Electrical Pump 12V/DC
 ---: No Pressure Source

ITB4R //X

Diesel System Test Bench

The Optimum Diesel Specialists CRDi Solution

The Professional's Service Station for All Types and Makes CRDI systems.

2800 Bar

Standalone Diesel CRDi Test Benches for Specialists. Available in 2 models for 4 / 1 injectors



ITB.4R-X

Authorized Solution for Continental/VDO



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

SPECIALISTS

CRDi

EUI/EUP

HEUI

CRP

ENGINE

GDi

EFI

GDi Pumps

Overview of the New ITB.4R-X

Precise, repeatable and rapid Diesel Injectors Testing

[1 / 4] Injector(s) Testing & Coding*

- 6-12 minutes testing and coding* time for 1 or 4 injectors respectively
- CRi / CRiN injectors (All Brands and Types).
- Capable for all EU6 technologies such as VCC and NCC technology, iART, PCRS5,
- XPI, F2E, F2P, F2R Injectors pumps and more...
- CRIN 4.2 Heavy Commercial-Vehicle injectors
- Large Diesel Engine CRiN injector (QSK, MTU, L 'Orange, etc...)

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



ITB.1R-X

CloudX™

Powerful innovations at your fingertips with Carbon Zapp CloudX computing Platform. Take complete control over your service benches with cloud-based Apps, business intelligence (BI) services and database management systems over a secure Internet connection.

Details on page 06

A Revolution in CRDi Test Benches

Our qualified team, know-how and pioneering thinking developed the New Powerful ITBR-X Generation

ITBR-X Points



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

ITB4R //X

Diesel System Test Bench



SPECIALISTS

CRDi

EUI/EUP

HEUi

CRP

ENGINE

GDi

EFI

GDi Pumps

1 Working Area

Ergonomic & easily accessible illuminated working space. Fast mounting for all types of Injectors.

2 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.

3 Machine Interface

New CloudX based AZOV3 software features speed, connectivity and expandability in a user friendly environment.

4 Easily accessible drawer and connection ports.

5 Functional use of test oil tank enhances maintenance.

Tank extends to fill-up, drain and clean.



AZO SOFTWARE



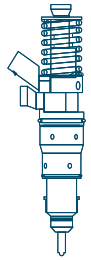
CRIN 4.2



F2E



F2P



F2E-EUI

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 to reduce Injector 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, Cum- mins*, John Deere, ISUZU*, HINO*, KOMATSU*, F2 Smart EUI/ EUP EU6 Technology*, F2P/ F2E/ E1/ E3/ DAF/ Smart Pump 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

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.

Easily accessible filters and 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.

Advanced water-cooling or air-cooling system to optimize long term nonstop operation at all environmental conditions.

Live Response Time Measurement for all injectors

BIP Actuation Measurement for all Heavy-Duty type solenoids



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 flushing feature pre-installed (optional kit available)

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

		ITB4R-X	ITB1R-X
	Part Number	ITB.4RX-A [CZ-008721] ITB.4RX-W [CZ-008771]	ITB.1RX-A [CZ-008719] ITB.1RX-W [CZ-008799]
	Cooling Type	[A / W]	[A / W]
	Standalone	●	●
	Add-On	-	-
TYPE	Test Bench	●	●
	Simulator / Controller	-	-
	Service / Diagnostic Unit	-	-
USER LEVEL	Diesel / Gasoline Specialists	●	●
	Workshop / Garage	-	-
	Test Slots [injectors / Pumps]	[4 / -]	[1 / -]
SYSTEMS / [TESTING MINUTES]	CRDi / Smart Injectors [1 / 4]	● / [-/9]	● / [-/6]
	GDi Injectors [1 / 4]	-	-
	CR Pumps [1]	-	-
	GDi Pumps [1]	-	-
	EUI / EUP / Smart EUP [1]	-	-
	HEUI [1 / 4]	-	-
	Gasoline Injectors [1 / 4]	-	-
	LPG / CNG Injectors [1 / 4]	-	-
	Gasoline /Other Engines	-	-
	Diesel Engines	-	-
	Gasoline/Diesel Fuel Systems	-	-
APPLICATIONS	Passenger Car / HEV / PHEV	●	●
	Motorcycles	-	-
	Racing (Gasoline)	-	-
	Light Duty	●	●
	Medium Duty	□	□
	Heavy Duty / Industrial	□	□
	Marine	□	□
	EV (Electric Vehicles)	-	-
FEATURES	CloudX - (Page O6)	□	□
	Coding Capability for Passenger Car / Light Duty	□	□
	Coding Capability for Medium/Heavy Duty	□	□
	Authorized Solutions		
MEASUREMENT SENSORS	XKM	4	2
	BK	-	-
	DFM500	-	-
	DFM50	-	-
	Volumetric Tubes	-	-
SYSTEM PRESSURE	Max (BAR)	2800	2800
	Source	MOTOR	MOTOR
	Source Power (HP)	4.8	4.8
CHARACTERISTICS	Response Sensor	□	□
	Response Sensor HD	□	□
	Pressurized Return Hoses / PIRV's	○	○
	Exclusive Return Hoses Kit	●	●
	Spray Chamber	○	○
	Heavy Duty Injector Adapters & Fittings	□	□
	Heavy Duty Pump Adapters & Fittings	-	-
	Exclusive Electrical Connectors	○	○
	Mains Power 50/60Hz /1-Phase 100-250VAC	-	●
	Mains Power 50/60Hz /3-Phase/PE 380-480VAC	●	-
	Air-Supply (Bar / L/min)	-	-
	Water Cooling (requires connection)	●	-
	Air Cooling	-	●
	Tank Capacity [testing / flushing]	[30 / -]	[30 / -]
	HMI (Inches)	15	15
	Touchscreen	●	●
	Flushing / MACC	□ / -	□ / -
	Protective Cover	●	●
	Calibration Oils	○	○
	Ultrasonic Bath	○	○
PACKAGING	Width (mm)	920	920
	Depth (mm)	1160	1160
	Height (mm)	1870	1870
	Weight (kg)	380	337

CRDi
EUI/EUP
HEUI
CRP
ENGINE
GDi
EFI
GDi Pumps

MEASUREMENT SENSORS
 XKM [Dynamic Meas. Sensor]: High Accuracy; ± 0.1%; Exceptional Repeatability ±0.05%
 BK [Dynamic Meas. Sensor]: Range: 1-1000ml/min
 DFM50 [Dynamic Measurement Sensor]: Accuracy ± 1%; Repeatability 0.5%; Measurement range: 5-500l/min
 DFM500 [Dynamic Measurement Sensor]: Accuracy ± 1%; Repeatability 0.5%; Measurement range: 0.5-50l/min
 Volumetric Tubes [Static Analog Measurement]: Accuracy: 1ml, Measurement range: 0.5-65ml

APPLICATIONS
 Passenger Car: Motorcycles: Volumes up to 120mm³/H
 Light Duty: Volumes up to 200mm³/H
 Medium Duty: Volumes up to 300mm³/H
 Heavy Duty: Volumes up to 650mm³/H
 Marines: Volumes up to 1500mm³/H

EXPLANATIONS
 ● : Capable / Standard Equipped
 □ : Capable / Optionals required
 ○ : Optional
 - : N/A
 -A: Air Cooling
 -W: Water Cooling

PRESSURE SOURCES
 Air: Air Driven High Pressure Pump
 Motor: Motor Driven High Pressure CR Pump
 External: Pressure coming from another test Bench or external source
 Electr Pump: Fuel Injection system or Industrial Application
 Electrical Pump 12VDC
 -: No Pressure Source

CRU2R //X

Diesel System Test Bench

The Affordable Diesel Specialists CRDi Solution

Service Station for All Makes Passenger Car, Light and Medium Duty CRDi systems.

2500 Bar

Standalone Air-Driven Test Bench for 1 Diesel CRDi Injector.



Authorized Solution for Continental/VDO



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

SPECIALISTS

CRDi

EUI/EUP

HEUi

CRP

ENGINE

GDi

EFi

GDi Pumps

Overview of the CRU2.R-X

Precise, repeatable and rapid Diesel Injectors Testing

[1] Injector Testing & Coding*

- 6-12 minutes testing and coding* time per injector
- CRi / CRiN injectors (All Brands and Types).
- Capable for all EU6 technologies such as VCC and NCC technology, iART, PCRS5, XPI and more...

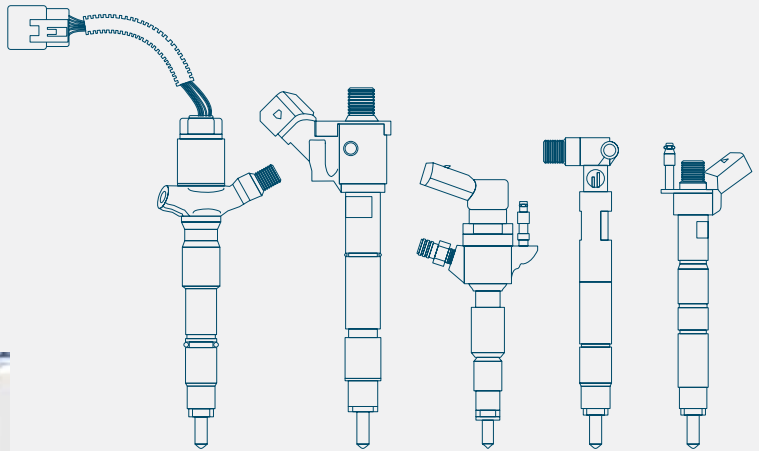
**CGL - Authorized Continental / VDO "Blind-Lift"
Measurement of Piezo-Stack**



CloudX™

Details on page 06

CRDi Test Bench for Diesel Specialists & Workshops

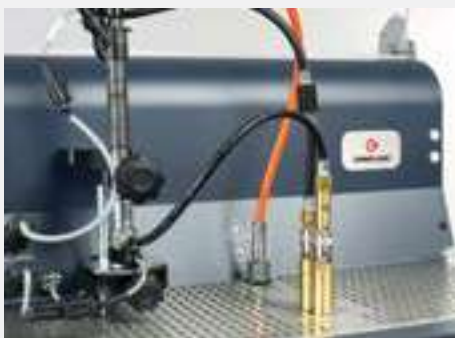


Passenger & Light Duty Systems

AZO SOFTWARE



TESTING WITH ILLUMINATED
SPRAY CHAMBER.



TESTING WITH RESPONSE MEASUREMENT
CHAMBER FOR CODING.

Features

- A Continental/VDO Authorized Test Bench
- Xtremely Fast Testing Times without any Compromise
- Modern Design for every Service Station
- Optimized Working Area to reduce Injector Set-up Times
- 2500Bar 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
- Off-Highways CR applications testing and coding* (John Deere, Komatsu, Hino, Isuzu)
- Cummins XPI*, Caterpillar-Perkins C4/C6 and other Medium-Duty testing and coding

Diesel CRDI testing and 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.
- Advanced self air-cooling system to optimize long term nonstop operation at all environmental conditions.
- Live Response Time Measurement for all injectors
- BIP Actuation Measurement for all Heavy-Duty type solenoids
- Adaptability for every type of Diesel Injectors in the market
- Continuous Database updates and new Software capabilities to meet the market needs.
- Android Powered 10 HMI with unlimited flexibility and connectivity competencies.
- Injector flushing feature pre-installed (optional kit available)

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

Technical Data

	Part Number	(CZ-008728)
TYPE	Standalone	●
	Add-On	-
USER LEVEL	Test Bench	●
	Simulator / Controller	-
	Service / Diagnostic Unit	-
SYSTEMS / [TESTING MINUTES]	Diesel / Gasoline Specialists	●
	Workshop / Garage	●
	Test Slots [injectors / Pumps]	[1 / -]
APPLICATIONS	CRDi / Smart Injectors [1 / 4]	● / [8]
	GDi Injectors [1 / 4]	-
	Gasoline Injectors [1 / 4]	-
	LPG / CNG Injectors [1 / 4]	-
FEATURES	Passenger Car / HEV / PHEV	●
	Motorcycles	-
	Racing (Gasoline)	-
	Light Duty	●
	Medium Duty	□
	Heavy Duty / Industrial	-
	Marine	-
MEASUREMENT SENSORS	CloudX - (Page 06)	□
	Coding Capability for Passenger Car / Light Duty	□
	Coding Capability for Medium/Heavy Duty	-
SYSTEM PRESSURE	Authorized Solutions	
	XKM	-
	BK	1
CHARACTERISTICS	Volumetric Tubes	-
	Max (BAR)	2500
PACKAGING	Source	AIR
	Response Sensor	□
PACKAGING	Response Sensor HD	-
	Pressurized Return Hoses / PIRV's	○
	Exclusive Return Hoses Kit	●
	Spray Chamber	○
	Heavy Duty Injector Adapters & Fittings	-
	Heavy Duty Pump Adapters & Fittings	-
	Exclusive Electrical Connectors	○
	Mains Power 50/60Hz /1-Phase 100-250VAC	●
	Mains Power 50/60Hz /3-Phase/PE 380-480VAC	-
	Air-Supply (Bar / L/min)	-
	Water Cooling (requires connection)	6.5 / 350
	Air Cooling	●
	Tank Capacity [testing / flushing]	[4 / -]
	HMI (Inches)	10
	Touchscreen	●
	Flushing / MACC	-
	Protective Cover	●
	Calibration Oils	○
	Ultrasonic Bath	○
	PACKAGING	Width (mm)
Depth (mm)		770
Height (mm)		800
Weight (kg)		63

MEASUREMENT SENSORS
 XKM [Dynamic Meas. Sensor]: High Accuracy: ± 0.1%, Exceptional Repeatability ±0.05%
 Measur. Range: 1-1000ml/min
 Volumetric Tubes [Static Analog Measurement]: Accuracy: 1ml | Measurement range: 0.5-65ml

APPLICATIONS
 Passenger Car / Motorcycles: Volumes up to 120mm³/H
 Light Duty: Volumes up to 300mm³/H
 Medium Duty: Volumes up to 300mm³/H
 Heavy Duty: Volumes up to 650mm³/H
 Marines: Volumes up to 1500mm³/H

EXPLANATIONS
 ● : Capable / Standard Equipped
 ○ : Capable / Optionals required
 □ : Optional
 - : N/A
 -A: Air Cooling
 -W: Water Cooling

PRESSURE SOURCES
 Air: Air Driven High Pressure Pump
 Motor: Motor Driven High Pressure CR Pump
 Electric: Electric Driven From Analog Test Bench or external source
 Electric Pump: Fuel Injection system or Industrial Application
 Electrical Pump 12VDC
 --: No Pressure Source

SPECIALISTS

CRDi
EUI/EUP
HEUi
CRP
ENGINE
GDi
EFI
GDi Pumps

DGFR 

Diesel System Test Bench

Diesel CRDi & Gasoline GDi Flushing Bench

Flushing / Cleaning and Servicing bench for up to 4 injectors.

Features

A Continental/VDO Proposed Flushing Bench

- Xtremely Fast Flushing Times
- New Design for every Service Station
- Optimized Working Area to reduce Injector Set-up Times
- 1000Bar Operating Pressure
- EU6 Systems Capable
- CloudX Capabilities
- Off-Highways CR applications operation (John Deere, Komatsu, Hino, Isuzu)
- Cummins XPI, Caterpillar-Perkins C4/C6 and other Medium-Duty operation

Diesel CRDi / Gasoline GDi Injector Flushing Bench

- Ergonomic, Fast and Easy Injector Clamping device to minimize mounting times.
- Fully Adjustable height for all types of CRDi / GDi injectors.
- Utilizes a spring-loaded injector holder to ease the operation of the user.
- Advanced self air-cooling system to optimize long term nonstop operation at all environmental conditions.
- Adaptability for every type of Diesel Injectors in the market
- Android Powered 10" HMI with unlimited flexibility and connectivity competencies.

**Authorized Solution
for Continental/VDO**



**New database is continuously being updated to new EU6 applications*



SPAR

Diesel System Test Bench

CZ Piezo Stack Filler, Air remover and Stack Activator is the only automatic solution to assure optimum servicing and operation of Piezo injectors today after being serviced by Diesel Specialists.

Automatic and easy operation for 4 Piezo injectors at once

Connects directly at the return port (backleak)

Only needs single phase 100-250Vac

Lightweight and portable solution

Connects to any Carbon Zapp Test Bench for use of appropriate Test Plans

High Flow Vacuum Power 10KPa and Pressure of 100KPa

Automatic Start / Stop function

Adaptability to all types of Piezo injectors

SPECIALISTS

CRDi

EUI/EUP

HEUI

CRP

ENGINE

GDi

EFI

GDi Pumps

DGFR //X

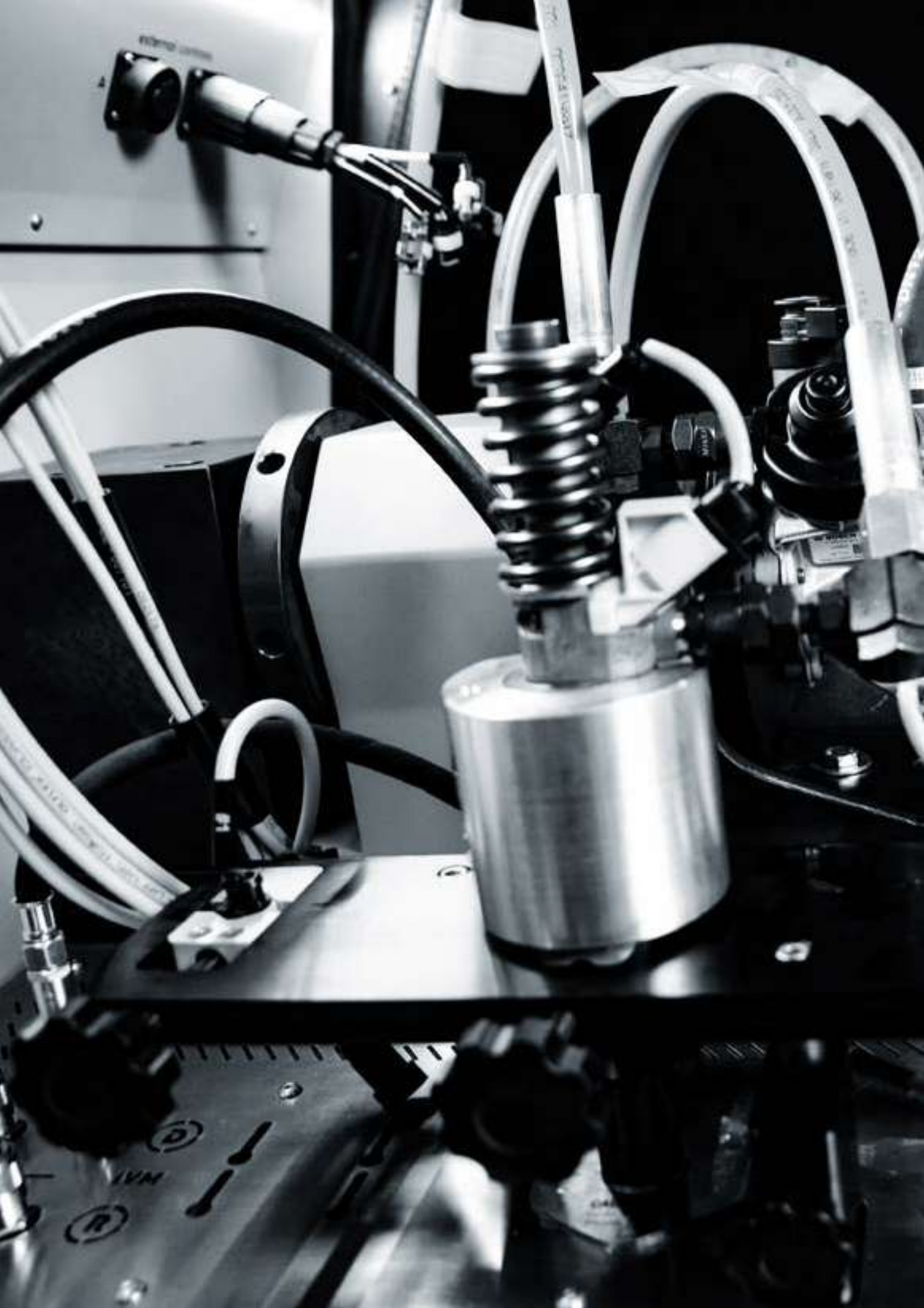
Technical Data

	Part Number	(CZ-008747)	
	Standalone	●	
	Add-On	-	
TYPE	Test Bench	●	
	Service / Diagnostic Unit	-	
USER LEVEL	Diesel / Gasoline Specialists	●	
	Workshop / Garage	○	
	Test Slots [injectors / Pumps]	[4 / -]	
SYSTEMS / [TESTING MINUTES]	CRDi / Smart Injectors [1 / 4]	●	
	GDi Injectors [1 / 4]	●	
	CR Pumps [1]	-	
	GDi Pumps [1]	-	
	EUI / EUP / Smart EUP [1]	-	
	HEUI [1 / 4]	-	
	Gasoline Injectors [1 / 4]	-	
	LPG / CNG Injectors [1 / 4]	-	
	Gasoline/Diesel Fuel Systems	-	
APPLICATIONS	Passenger Car / HEV / PHEV	●	
	Motorcycles	-	
	Racing (Gasoline)	-	
	Light Duty	●	
	Medium Duty	-	
	Heavy Duty / Industrial	-	
	Marine	-	
SYSTEM PRESSURE	Max (BAR)	1000	
	Source	AIR	
	Source Power (HP)	-	
CHARACTERISTICS	Response Sensor	-	
	Response Sensor HD	-	
	Pressurized Return Hoses / PIRV's	-	
	Exclusive Return Hoses Kit	□	
	Spray Chamber	-	
	Heavy Duty Injector Adapters & Fittings	□	
	Heavy Duty Pump Adapters & Fittings	-	
	Exclusive Electrical Connectors	□	
	Mains Power 50/60Hz /1-Phase 100-250VAC	●	
	Mains Power 50/60Hz /3-Phase/PE 380-480VAC	-	
	Air-Supply (Bar / L/min)	●	
	Water Cooling (requires connection)	-	
	Air Cooling	●	
	Tank Capacity [testing / flushing]	[4 / -]	
	HMI (Inches)	10	
	Touchscreen	●	
	Flushing / MACC	●	
	Protective Cover	●	
	Calibration Oils	○	
	Ultrasonic Bath	○	
PACKAGING	Width (mm)	660	
	Depth (mm)	770	
	Height (mm)	800	
	Weight (kg)	63	

APPLICATIONS
 Passenger Car/ Motorcycles: Volumes up to 120mm³/H
 Light Duty: Volumes up to 200mm³/H
 Medium Duty: Volumes up to 300mm³/H
 Heavy Duty: Volumes up to 650mm³/H
 Marines: Volumes up to 1500mm³/H

PRESSURE SOURCES
 Air: Air Driven High Pressure Pump
 Motor: Motor Driven High Pressure CR Pump
 External: Pressure coming from another Test Bench or external source
 Electr. Pump: Fuel Injection system or Industrial Application
 Electrical Pump 12VDC
 ---: No Pressure Source

EXPLANATIONS
 ● : Capable / Standard Equipped
 □ : Capable / Optionals required
 ○ : Optional
 - : N/A



STANDARD CONNECTION

ATKINS Primary

ATKINS Primary

IVM

®

®



**We always strive
for Excellence
and Innovation**

ETBR //X

Injector & Pump Control Bench Extension Module

The Revolutionary Simulator that provides the unique capability to Modernize every Test Bench out in the Market and test all Makes and Types of Fuel Systems

The Optimized Test Bench Simulator for every Fuel System.

Overview to the New ETBRX

Precise and repeatable 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 etc.)

[4] Injectors Testing & Coding*

6-12 minutes testing and coding* time per injector

CRi / CRiN / GDi injectors (All Brands and Types).

Capable for all EU6 technologies such as VCC and NCC technology, iART, PCRS5,

XPI, F2E, F2P, F2R Injectors pumps and more...

CRIN 4.2 Heavy Commercial-Vehicle injectors (max. 2 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

[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



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

**CRDi - GDi – CRp
- GDp - EUi - EUp
and HEUi systems.**

CloudX™

Powerful innovations at your fingertips with Carbon Zapp CloudX computing Platform. Take complete control over your service benches with cloud-based Apps, business intelligence (BI) services and database management systems over a secure Internet connection.

Details on page 06

SPECIALISTS

CRDi

EUi/EUP

HEUi

CRP

ENGINE

GDi

EFi

GDi Pumps

Conventional Test Bench
(EPS625 or similar)



BCR.1



BCR.4



ETBR-X

Injector holder (1 / 4) injectors, with Common-Rail, Pressure Control and protective hood, ready to mount on a conventional bench

Detailed information on next page

ETBR //X

Injector & Pump Control Bench Extension Module

Expandable and Fully Configurable Modular Unit for Every Diesel and Gasoline Specialist.

Electrical and Hydraulic connectors, fittings and adapters are available for all Systems in the Market.



ETBR-X Points

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

SPECIALISTS

CRDi

EUi/EUP

HEUi

CRP

ENGINE

GDi

EFi

GDi Pumps



- 1 • 0, 1 or 4 Injectors Measuring Ports
• Actuate 1-4 Injectors / Components
• Measure Response time for 1-4 injectors
- 2 • External Control of any Test Bench.
• Connect With Cambox for Operation.
- 3 • Measure up to 1 Pump
• Post Measurement Oils return back to Test Bench Tank.
- 4 HMI - 10" Touchscreen with CloudX Based AZO.V3 Software.
- 5 WiFi, USB and Ethernet Connectivity
- 6 Emergency STOP
- 7 Drain Pan with Waste Port



Build your ETBR-X according to your Testing Needs now and Upgrade it Anytime in the Future on your own.

AZO SOFTWARE



The unique, compact & Universal solution for every Test Bench in the market to operate with the latest technology Diesel and Gasoline Systems.

Features

- Control Unit for Every Test Bench in the Market
- Compact Size Attachment for Every Laboratory
- Expandable and Modular Apparatus
- Pressure Control up to 2800 bar
- Up to EU6 System Technologies Capable
- Semi-Automatic Operation of Cambox
- Operating, Measuring & Coding of All Types & Makes
- IoT Cloud computing Platform - Industry 4.0 Compliant
- The Diesel Specialists Affordable Choice

Characteristics

- Xtremely Fast Testing Times without any Compromise
- New Design for every Service Station
- Optimized Working Area
- EU6 Systems Testing and Coding*
- CloudX Capabilities
- Coding capability for all brands and types available in the market today. Bosch, Denso, Delphi, CAT, Cummins*, John Deere, ISUZU*, HINO*,KOMATSU*, E1/ E3/ DAF/ Smart Pump, F2E/ F2P/ F2R* 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
- 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 and Gasoline Injectors in the market (optional)
- Continuous Database updates and new Software capabilities to meet the market needs.
- Android Powered 10" HMI with unlimited flexibility and connectivity competencies.

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

	Part Number	(CZ-008297)
	Standalone	-
	Add-On	●
TYPE	Test Bench	-
	Simulator / Controller	●
	Service / Diagnostic Unit	-
USER LEVEL	Diesel / Gasoline Specialists	●
	Workshop / Garage	○
	Test Slots [injectors / Pumps]	[4/1]
SYSTEMS / [TESTING MINUTES]	CRDi / Smart Injectors [1 / 4]	● / [-/16]
	GDi Injectors [1 / 4]	-
	CR Pumps [1]	● / [6]
	GDi Pumps [1]	○ / [6]
	EUI / EUP / Smart EUP [1]	□ / [8]
	HEUI [1 / 4]	□ / [-/12]
	Gasoline Injectors [1 / 4]	□ / [-/8]
	LPG / CNG Injectors [1 / 4]	□ / [-/8]
	Gasoline /Other Engines	-
	Diesel Engines	-
	Gasoline/Diesel Fuel Systems	-
	APPLICATIONS	Passenger Car / HEV / PHEV
Motorcycles		□
Racing (Gasoline)		□
Light Duty		□
Medium Duty		□
Heavy Duty / Industrial		□
Marine		□
EV (Electric Vehicles)		-
FEATURES	CloudX - (Page 06)	□
	Coding Capability for Passenger Car / Light Duty	□
	Coding Capability for Medium/Heavy Duty	□
	Authorized Solutions	-
MEASUREMENT SENSORS	XKM	1
	BK	-
	DFM500	1
	DFM50	-
	Volumetric Tubes	-
SYSTEM PRESSURE	Max (BAR)	2800
	Source	EXTERNAL
	Source Power (HP)	-
CHARACTERISTICS	Response Sensor	□
	Response Sensor HD	□
	Pressurized Return Hoses / PIRV's	□
	Exclusive Return Hoses Kit	□
	Spray Chamber	□
	Heavy Duty Injector Adapters & Fittings	□
	Heavy Duty Pump Adapters & Fittings	□
	Exclusive Electrical Connectors	□
	Mains Power 50/60Hz /1-Phase 100-250VAC	●
	Mains Power 50/60Hz /3-Phase/PE 380-480VAC	-
	Air-Supply (Bar / L/min)	-
	Water Cooling (requires connection)	-
	Air Cooling	●
	Tank Capacity [testing / flushing]	[- / -]
	HMI (Inches)	10
	Touchscreen	●
	Flushing / MACC	-
	Protective Cover	-
	Calibration Oils	○
	Ultrasonic Bath	○
PACKAGING	Width (mm)	450/510
	Depth (mm)	460/600
	Height (mm)	1030/570
	Weight (kg)	50/23

CRDi
EUI/EUP
HEUI
CRP
ENGINE
GDi
EFI
GDi Pumps

MEASUREMENT SENSORS
 XKM (Dynamic Meas. Sensor): High Accuracy, ± 0.1%, Exceptional Repeatability ±0.05%, Measure. Range: 1-1000ml/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
 Volumetric Tubes (Static Analog Measurement): Accuracy: 1ml, Repeatability: 0.5-65ml

APPLICATIONS
 Passenger Car/ Motorcycles: Volumes up to 120mm³/H
 Medium Duty: Volumes up to 300mm³/H
 Heavy Duty: Volumes up to 650mm³/H
 Marines: Volumes up to 1500mm³/H

EXPLANATIONS
 ● : Capable / Standard Equipped
 ○ : Optional required
 □ : Optional
 - : N/A
 -A: Air Cooling
 -W: Water Cooling

PRESSURE SOURCES
 Air-Driven High Pressure Pump
 Motor-Driven High Pressure CR Pump
 Electric Fuel Injection from another Test Bench or external source
 Electric Fuel Injection from system or Industrial Application
 Electrical Pump 12VDC
 --: No Pressure Source

HTBR //X

Diesel System Test Bench

The Optimum Diesel Specialists HEUI Solution

The Professional's Service Station for All Types and Makes HEUI systems.

#carbonzappXseries



The New **HTBR-X** is a unique Standalone Diesel Hydraulic Electronic Unit Injector Test Bench capable to thoroughly Test, Service and Code* every possible HEUI in the market today

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

SPECIALISTS

CRDi

EUI/EUP

HEUi

CRP

ENGINE

GDi

EFI

GDi Pumps

Overview of the New HTBR-X

Precise, repeatable and rapid Diesel HEUi Injectors Testing

[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

400 Bar
Standalone
Diesel HEUi
(1 Injector)
Test Bench
For Specialists

CloudX™

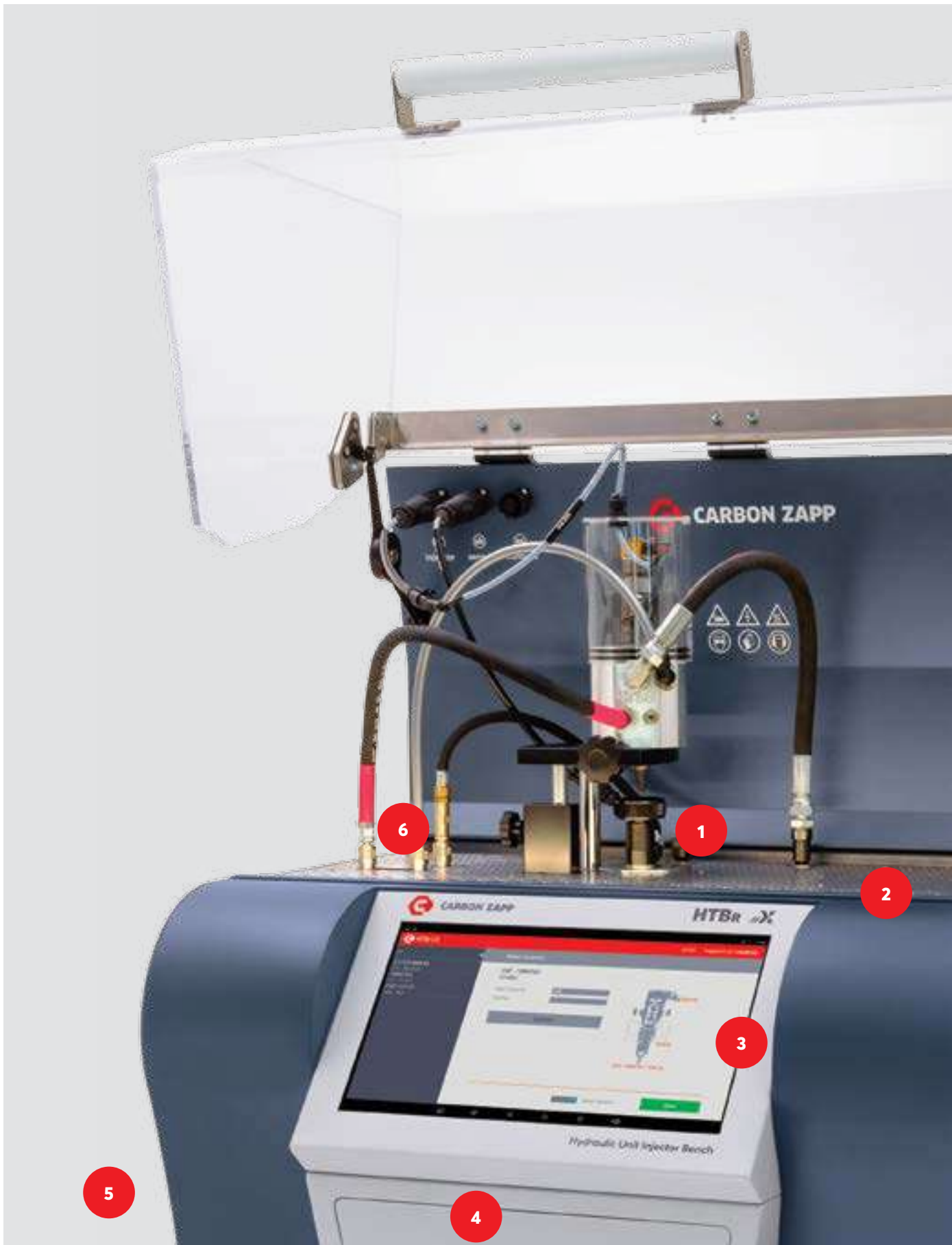
Details on page 06



A Revolution in HEUi Test Benches

Our qualified team, know-how and pioneering thinking developed the New Powerful HTBR-X Generation

HTBR-X Points



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

SPECIALISTS



SPECIALISTS

CRDi

EUi/EUP

HEUi

CRP

ENGINE

GDi

EFi

GDi Pumps

HTBR //X

Diesel System Test Bench

1 Working Area

Ergonomic & easily accessible illuminated working space. Fast mounting for all types of Injectors.

2 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.

3 Machine Interface

New CloudX based AZOV3 software features speed, connectivity and expandability in a user friendly environment.

4 Easily accessible drawer and connection ports.

5 Functional use of test oil tank enhances maintenance.

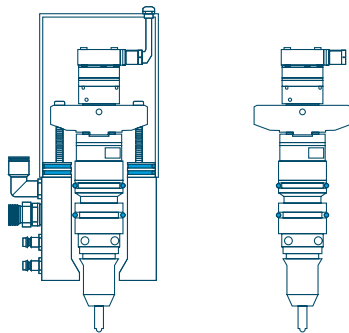
Tank extends to fill-up, drain and clean.
(View detailed image on page 30)

6 Actual Dynamic measurement of the injector overflow



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

AZO SOFTWARE



HEUI Technologies

Systems

CAT C7/C9

CAT 7.3L/3126

CAT 3408/3412

FORD POWER STROKE

ISUZU TROOPER

Features

Xtremely Fast Testing Times without

any Compromise

New Design for every Service Station

Optimized Working Area to reduce Injector Set-up Times

400Bar Operating Pressure

All Systems Testing and Coding

CloudX Capabilities

Coding capability for CAT C7/C9*

Diesel HEUI testing and coding*

Ergonomic, Fast and Easy Injector Clamping device to minimize mounting times.

Fully Adjustable height for all types of injectors.

Utilizes a spring-loaded injector holder to ease the operation of the user.

Easily accessible filters and 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.

Advanced water-cooling or air-cooling system to optimize long term nonstop operation at all environmental conditions.

Live Response Time Measurement for all injectors

Capable to automatically measure the BIP of the solenoid actuator

Adaptability for every type of Diesel HEUI 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 flushing feature pre-installed (optional kit available)

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

	Part Number	HTBRX-A [CZ-008722] HTBRX-W [CZ-008862]
	Cooling Type	[A / W]
	Standalone	●
	Add-On	-
TYPE	Test Bench	●
	Simulator / Controller	-
	Service / Diagnostic Unit	-
USER LEVEL	Diesel / Gasoline Specialists	●
	Workshop / Garage	-
	Test Slots [injectors / Pumps]	[1 / -]
SYSTEMS / [TESTING MINUTES]	CRDi / Smart Injectors [1 / 4]	-
	GDi Injectors [1 / 4]	-
	CR Pumps [1]	-
	GDi Pumps [1]	-
	EUI / EUP / Smart EUP [1]	-
	HEUI [1 / 4]	● / [6]
	Gasoline Injectors [1 / 4]	-
	LPG / CNG Injectors [1 / 4]	-
	Gasoline /Other Engines	-
	Diesel Engines	-
	Gasoline/Diesel Fuel Systems	-
APPLICATIONS	Passenger Car / HEV / PHEV	-
	Motorcycles	-
	Racing (Gasoline)	-
	Light Duty	●
	Medium Duty	●
	Heavy Duty / Industrial	●
	Marine	-
	EV (Electric Vehicles)	-
FEATURES	CloudX - (Page 06)	□
	Coding Capability for Passenger Car / Light Duty	-
	Coding Capability for Medium/Heavy Duty	○
	Authorized Solutions	-
MEASUREMENT SENSORS	XKM	1
	BK	-
	DFM500	-
	DFM50	-
	Volumetric Tubes	-
SYSTEM PRESSURE	Max (BAR)	400
	Source	MOTOR
	Source Power (HP)	4.8
CHARACTERISTICS	Response Sensor	□
	Response Sensor HD	□
	Pressurized Return Hoses / PIRV's	-
	Exclusive Return Hoses Kit	-
	Spray Chamber	○
	Heavy Duty Injector Adapters & Fittings	□
	Heavy Duty Pump Adapters & Fittings	-
	Exclusive Electrical Connectors	○
	Mains Power 50/60Hz /1-Phase 100-250VAC	●
	Mains Power 50/60Hz /3-Phase/PE 380-480VAC	-
	Air-Supply (Bar / L/min)	-
	Water Cooling (requires connection)	-
	Air Cooling	●
	Tank Capacity [testing / flushing]	[30 / -]
	HMI (Inches)	15
	Touchscreen	●
	Flushing / MACC	□ / -
	Protective Cover	●
	Calibration Oils	○
	Ultrasonic Bath	○
PACKAGING	Width (mm)	920
	Depth (mm)	1160
	Height (mm)	1870
	Weight (kg)	380

CRDi
EUI/EUP
HEUI
CRP
ENGINE
GDi
EFI
GDi Pumps

MEASUREMENT SENSORS
 XKM [Dynamic Meas. Sensor]: High Accuracy: ± 0.1%; Exceptional Repeatability ±0.05%.
 Measur. Range: 1-1000ml/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
 Volumetric Tubes [Static Analog Measurement]: Accuracy: 1ml, Measurement range: 0.5-65ml

APPLICATIONS
 Passenger Car / Motorcycles: Volumes up to 120mm3/H
 Light Duty: Volumes up to 200mm3/H
 Medium Duty: Volumes up to 300mm3/H
 Heavy Duty: Volumes up to 650mm3/H
 Marines: Volumes up to 1500mm3/H

EXPLANATIONS

- : Capable / Standard Equipped
- : Capable / Optionals required
- : Optional
- : N/A
- A: Air Cooling
- W: Water Cooling

PRESSURE SOURCES
 Air: Air Driver Pressure Pump
 Motor: Motor Driven High Pressure CR Pump
 External: Pressure coming from another Test Bench or external source
 Electric Pump: Fuel Injection system or Industrial Application
 Electrical Pump 12VDC
 --: No Pressure Source

GTB4R //X

Gasoline System Test Bench

The Optimum Gasoline Specialists GDi Solution

The Professional's Service Station for All Types and Makes GDi systems.

The New GTB4R-X is a unique Standalone Gasoline Direct Injector Test Bench capable to thoroughly Test, Service and Code every possible GDi in the market today.

The machine's Innovative technology is already in compliance with all EU6 standards and requirements, meantime is prepared for future upgrades.



#carbonzappXseries

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

SPECIALISTS

CRDi

EUI/EUP

HEUi

CRP

ENGINE

GDi

EFi

GDi Pumps

Overview of the New GTB.4R-X

Precise, repeatable and rapid Gasoline Injectors Testing

[4] Injectors Testing & Coding*

- 5-7 minutes testing and coding* time for 4 injectors
- GDi injectors (All Brands and Types)
- Conventional Gasoline EFi Injectors
- Capable for all EU6 technologies
- Coding Capable for all Types of GDi's (Energy Controlled or Volume Metering types)
- Flushing and Servicing options for GDi injectors
- External Control and Measurement for GDi High Pressure Pumps operating on a Conventional Test Bench**



CloudX™

Details on page 06

1200 Bar

**4 GDi Injectors.
Capable for all
EU6 Technologies**

A Revolution in GDi Test Benches

Our qualified team, know-how and pioneering thinking developed the New Powerful **GTB.4R-X**

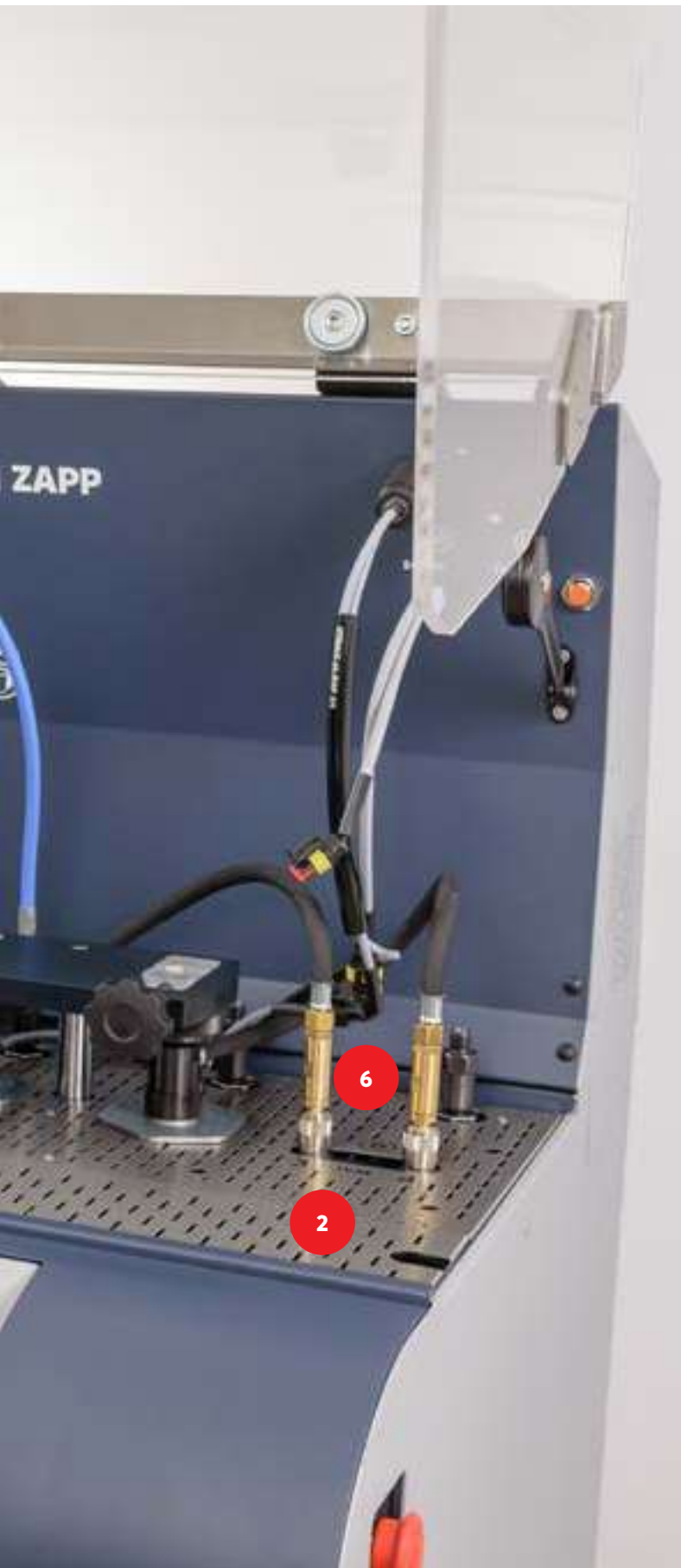
** : Future upgrade expected Q1/2023.

GTB4R-X Points



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

4



SPECIALISTS

CRDi

EUI/EUP

HEUi

CRP

ENGINE

GDi

EFi

GDi Pumps

GTB4R //X

Gasoline System Test Bench

1 Working Area

Ergonomic & easily accessible illuminated working space. Fast mounting for all types of Injectors.

2 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.

3 Machine Interface

New CloudX based AZOV3 software features speed, connectivity and expandability in a user friendly environment.

4 Easily accessible drawer and connection ports.

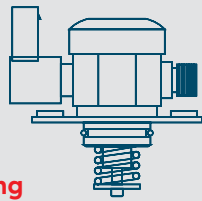
(View detailed image on page 30)

5 Functional use of test oil tank enhances maintenance.

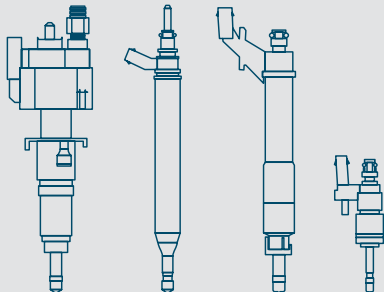
Tank extends to fill-up, drain and clean.
(View detailed image on page 30)

6 Actual Dynamic measurement of the injector overflow

AZO SOFTWARE



**GDi Pump testing
on a conventional bench
as an external control**



EU6 Technologies

Applications

Gasoline Passenger cars
Gasoline Light Duty vehicles
Gasoline Outboard motors
Alternative Fuels engines

Features

Xtremely Fast Testing Times without
any Compromise
New Design for every Service Station
Optimized Working Area to reduce
Injector Set-up Times
1200Bar Capable Test Bench
EU6 Systems Testing and Coding

CloudX Capabilities

Gasoline GDi testing and coding

Ergonomic, Fast and Easy Injector Clamping device to minimize mounting times.

Fully Adjustable height for all types of GDi and EFi injectors.

Utilizes a spring-loaded injector holder to ease the operation of the user.

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.

Advanced Testing capability for all brands and types available in the market today. Bosch, Denso, Delphi, Continental /VDO, Hitachi-HTC, Magneti Marelli and more added every day...

Coding capability for Siemens/ VDO and for the newer* generation EU6 available in the market today.

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

Adaptability for every type of Gasoline 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.

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

	Part Number	GTB.4RX-A [CZ-008737] GTB.4RX-W [CZ-008787]
	Cooling Type	[A / W]
	Standalone	●
	Add-On	-
TYPE	Test Bench	●
	Simulator / Controller	-
	Service / Diagnostic Unit	-
USER LEVEL	Diesel / Gasoline Specialists	●
	Workshop / Garage	○
	Test Slots [injectors / Pumps]	[4/ 1]
SYSTEMS / [TESTING MINUTES]	CRDi / Smart Injectors [1 / 4]	-
	GDi Injectors [1 / 4]	● / [-/6]
	CR Pumps [1]	-
	GDi Pumps [1]	□ / [5]
	EUI / EUP / Smart EUP [1]	-
	HEUI [1 / 4]	-
	Gasoline Injectors [1 / 4]	□
	LPG / CNG Injectors [1 / 4]	□
	Gasoline /Other Engines	-
	Diesel Engines	-
	Gasoline/Diesel Fuel Systems	-
APPLICATIONS	Passenger Car / HEV / PHEV	●
	Motorcycles	●
	Racing (Gasoline)	●
	Light Duty	●
	Medium Duty	-
	Heavy Duty / Industrial	-
	Marine	-
	EV (Electric Vehicles)	-
FEATURES	CloudX - (Page 06)	□
	Coding Capability for Passenger Car / Light Duty	□
	Coding Capability for Medium/Heavy Duty	-
	Authorized Solutions	-
MEASUREMENT SENSORS	XKM	4'
	BK	-
	DFM500	-
	DFM50	-
	Volumetric Tubes	-
SYSTEM PRESSURE	Max (BAR)	1200
	Source	MOTOR
	Source Power (HP)	4',8
CHARACTERISTICS	Response Sensor	□
	Response Sensor HD	-
	Pressurized Return Hoses / PIRV's	-
	Exclusive Return Hoses Kit	-
	Spray Chamber	○
	Heavy Duty Injector Adapters & Fittings	-
	Heavy Duty Pump Adapters & Fittings	-
	Exclusive Electrical Connectors	○
	Mains Power 50/60Hz /1-Phase 100-250VAC	●
	Mains Power 50/60Hz /3-Phase/PE 380-480VAC	-
	Air-Supply (Bar / L/min)	-
	Water Cooling (requires connection)	-
	Air Cooling	●
	Tank Capacity [testing / flushing]	[30 / -]
	HMI (Inches)	15
	Touchscreen	●
	Flushing / MACC	□ / -
	Protective Cover	●
	Calibration Oils	○
	Ultrasonic Bath	○
PACKAGING	Width (mm)	920
	Depth (mm)	1160
	Height (mm)	1870
	Weight (kg)	352

CRDi
EUI/EUP
HEUI
CRP
ENGINE
GDi
EFI
GDi Pumps

MEASUREMENT SENSORS
 XKM [Dynamic Meas. Sensor]: High Accuracy: ± 0.1%, Exceptional Repeatability ±0.05%.
 Measur. Range: 1-1000ml/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
 Volumetric Tubes [Static Analog Measurement]: Accuracy: 1ml, Measurement range: 0.5-65ml

APPLICATIONS
 Passenger Car: Motorcycles: Volumes up to 120mm³/H
 Light Duty: Volumes up to 200mm³/H
 Medium Duty: Volumes up to 300mm³/H
 Heavy Duty: Volumes up to 650mm³/H
 Marines: Volumes up to 1500mm³/H

EXPLANATIONS

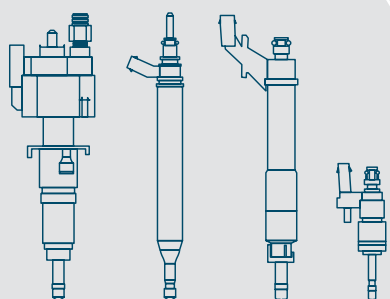
● : Capable / Standard Equipped
 □ : Capable / Optionals required
 ○ : Optional
 - : N/A

-A: Air Cooling
 -W: Water Cooling

PRESSURE SOURCES
 Air: Air Driven High Pressure Pump
 Motor: Motor Driven High Pressure CR Pump
 External: Pressure coming from another Test Bench or external source
 Electr. Pump: Fuel Injection system or Industrial Application
 Electrical Pump 12VDC
 -: No Pressure Source

GDU4R //X

Gasoline System Test Bench



**EU3 > EU6
Technologies**

**The professional solution for
workshops to test & service
Gasoline Direct Injection Systems.**

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

Overview of the GDU.4R-X

Precise & repeatable Gasoline Injectors Testing

[4] Injectors Testing & Coding*

- 20 minutes testing and coding* time for 4 injectors
- GDi injectors (All Brands and Types)
- Conventional Gasoline EFi Injectors
- Capable for all EU6 technologies
- Coding Capable for all Types of GDi's (Energy Controlled or Volume Metering types)
- Flushing and Servicing options for GDi injectors

SPECIALISTS

CRDi

EUI/EUP

HEUi

CRP

ENGINE

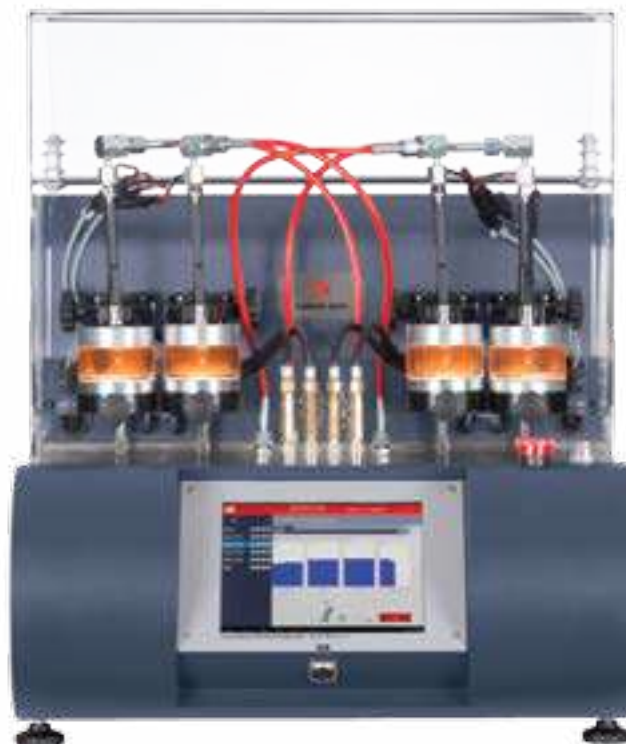
GDi

EFi

GDi Pumps

650 Bar

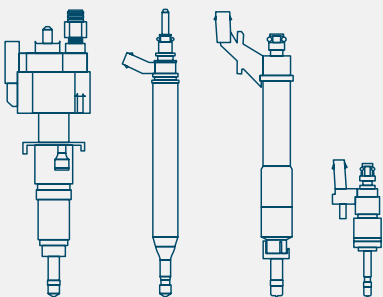
**4 GDi Injectors
Capable**



Gasoline Direct Injection (GDi) requires high pressure testing to truly diagnose injector operation faults.



AZO SOFTWARE



EU3 > EU6 Technologies

Features

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

Low Pressure Testing for Conventional MPFi or Racing application Injectors 0-10Bar

Controls NEW Generation High Pressure GDi with multiple Step Current profiles

LPG for Heavy Duty Applications (Trucks, Commercial Vehicles)

Continental / Siemens GDi injectors (EU5) testing only with approved Energy Control

Nozzle reaction time measurement for all systems via RSP sensor

Dual System - Flushing / Cleaning system using detergents and Ultrasonics

Efficient Working Area with Protective Hood fully opening

The fastest and easiest clamping of injectors in the market

Fully Automatic and fast testing phase through a 10" Touchscreen HMI with AZO software

GDi Piezo Stack Regeneration function. The only way to correct GDi Piezo injectors after Cleaning them internally and reverse flushing them

Reverse flushing adapter and function with 25Bar pressure

Blue Limits Diagnosis for Specialists

Dynamic Electronic Mass (BK) Measurement

Prepared for Future Injector Coding

Emergency Safety Stop function

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

SPECIALISTS

CRDi
EUI/EUP
HEUI
CRP
ENGINE
GDi
EFI
GDi Pumps

GDU4R //X Technical Data

	Part Number	(CZ-008726)
	Standalone	●
	Add-On	-
TYPE	Test Bench	●
	Simulator / Controller	-
	Service / Diagnostic Unit	-
USER LEVEL	Diesel / Gasoline Specialists	●
	Workshop / Garage	○
	Test Slots [injectors / Pumps]	[4 / -]
SYSTEMS / [TESTING MINUTES]	CRDi / Smart Injectors [1 / 4]	-
	GDi Injectors [1 / 4]	● / [-/10]
	Gasoline Injectors [1 / 4]	□
	LPG / CNG Injectors [1 / 4]	□
APPLICATIONS	Passenger Car / HEV / PHEV	●
	Motorcycles	●
	Racing (Gasoline)	●
	Light Duty	●
	Medium Duty	-
	Heavy Duty / Industrial	-
	Marine	-
FEATURES	CloudX - (Page 06)	□
	Coding Capability for Passenger Car / Light Duty	□
MEASUREMENT SENSORS	XKM	-
	BK	1
	Volumetric Tubes	-
SYSTEM PRESSURE	Max (BAR)	650
	Source	AIR
CHARACTERISTICS	Response Sensor	□
	Response Sensor HD	-
	Spray Chamber	○
	Exclusive Electrical Connectors	○
	Mains Power 50/60Hz /1-Phase 100-250VAC	●
	Mains Power 50/60Hz /3-Phase/PE 380-480VAC	-
	Air-Supply (Bar / L/min)	● / (6.5/300)
	Air Cooling	●
	Tank Capacity [testing / flushing]	[5 / -]
	HMI (Inches)	10
	Touchscreen	●
	Flushing / MACC	-
	Protective Cover	●
	Calibration Oils	○
	Ultrasonic Bath	○
PACKAGING	Width (mm)	660
	Depth (mm)	770
	Height (mm)	800
	Weight (kg)	76

EXPLANATIONS

- : Capable / Standard Equipped
- : Capable / Optionals required
- : Optional
- : N/A

MEASUREMENT SENSORS
XKM [Dynamic Meas. Sensor], High Accuracy: ± 0.1%, Exceptional Repeatability ±0.05%,
Measur. Range: 1-1000ml/min
Volumetric Tubes [Static Analog Measurement]: Accuracy: 1ml, Measurement range: 0.5-65ml

APPLICATIONS
Passenger Car / Motorcycles: Volumes up to 120mm³/H
Light Duty: Volumes up to 200mm³/H
Medium Duty: Volumes up to 300mm³/H
Heavy Duty: Volumes up to 650mm³/H
Marines: Volumes up to 1500mm³/H

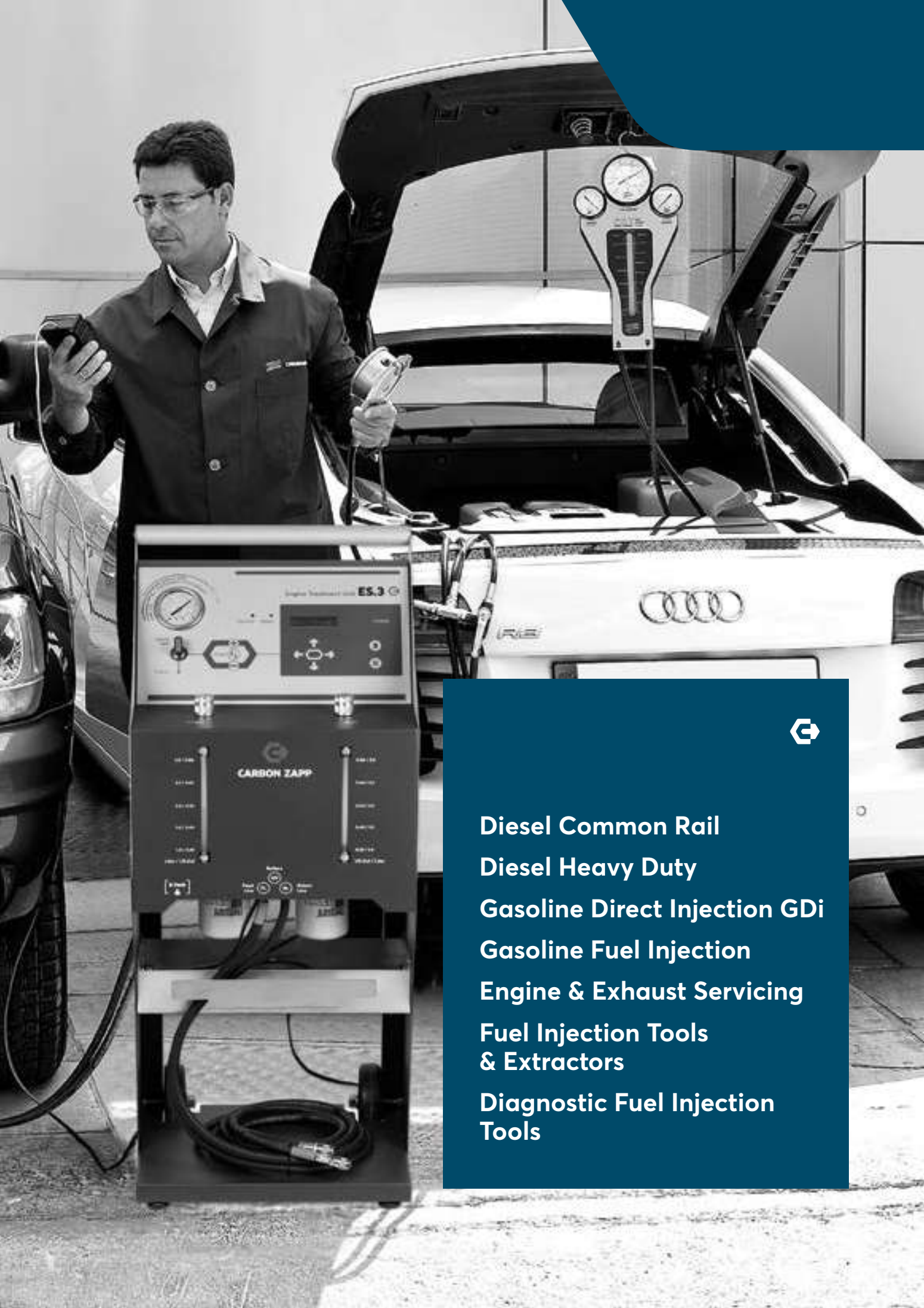
PRESSURE SOURCES
Air: Air Driven High Pressure Pump
Water: Motor Driven High Pressure CR Pump
External: Pressure coming from another test Bench or external source
Electrical Pump 12VDC
---: No Pressure Source

WORKSHOPS 

**Explore Workshop Diagnostic
& Service Solutions**

Passenger Car and Light Duty Types





Diesel Common Rail
Diesel Heavy Duty
Gasoline Direct Injection GDi
Gasoline Fuel Injection
Engine & Exhaust Servicing
Fuel Injection Tools
& Extractors
Diagnostic Fuel Injection
Tools

DSR //X

Diesel Common-Rail Injector Test Bench

The Affordable Diesel CRDi Workshop Solution

Advanced Diesel CRDi Test Bench, to diagnose cars and light duty vehicles of All Makes

Overview of the New DSR-X

Fast, Accurate and Reliable Diesel CRDi Injector Testing

[1] Injector Testing

6-12 minutes testing time per injector

- CRi (All Brands and Types).
- Capable for all EU6 technologies such as VCC and NCC technology, iART, PCRS5 and more...
- CRIN Light Duty Vehicle injectors
- 1 Medium Duty CRDi injector

2000 Bar

Standalone Air-Operated Diesel CRi Test Bench For Workshops

CloudX™

Details on page 06



Features

Xtremely Fast Testing Times without any Compromise

New Design for every Service Station

Optimized Working Area

EU6 Systems Testing

CloudX Capabilities

IoT Cloud computing Platform - Industry 4.0 Complaint

Live Response Time Measurement at every test plan

Adaptability for every type of Diesel CRDi's in the market (optional)

Ergonomic, Fast and Easy Injector Clamping device to minimize mounting times.

Continuous Database updates and new Software capabilities to meet the market needs.

Android Powered 10" HMI with unlimited flexibility and connectivity competencies.

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

WORKSHOPS

CRDi

EUI/EUP

HEUi

CRP

ENGINE

GDi

EFI

GDi Pumps



DSR //X

Technical Data

	Part Number	(CZ-008729)
	Standalone	●
	Add-On	-
TYPE	Test Bench	●
	Simulator / Controller	-
USER LEVEL	Service / Diagnostic Unit	-
	Diesel / Gasoline Specialists	○
SYSTEMS / [TESTING MINUTES]	Workshop / Garage	●
	Test Slots [injectors / Pumps]	[1 / -]
	CRDi / Smart Injectors [1 / 4]	● / [11]
APPLICATIONS	GDi Injectors [1 / 4]	-
	Gasoline Injectors [1 / 4]	-
	LPG / CNG Injectors [1 / 4]	-
	Passenger Car / HEV / PHEV	●
FEATURES	Motorcycles	-
	Racing (Gasoline)	-
	Light Duty	●
	Medium Duty	-
	Heavy Duty / Industrial	-
	Marine	-
MEASUREMENT SENSORS	CloudX - (Page 06)	□
	Coding Capability for Passenger Car / Light Duty	-
	Coding Capability for Medium/Heavy Duty	-
	Authorized Solutions	-
SYSTEM PRESSURE	XKM	1
	BK	-
	Volumetric Tubes	-
CHARACTERISTICS	Max (BAR)	2000
	Source	AIR
PACKAGING	Response Sensor	□
	Response Sensor HD	-
	Pressurized Return Hoses / PIRV's	○
	Exclusive Return Hoses Kit	●
	Spray Chamber	○
	Heavy Duty Injector Adapters & Fittings	-
	Heavy Duty Pump Adapters & Fittings	-
	Exclusive Electrical Connectors	○
	Mains Power 50/60Hz /1-Phase 100-250VAC	●
	Mains Power 50/60Hz /3-Phase/PE 380-480VAC	-
	Air-Supply (Bar / L/min)	6.5/ 250
	Air Cooling	●
	Tank Capacity [testing / flushing]	[4 / -]
	HMI (Inches)	10
	Touchscreen	●
	Flushing / MACC	-
	Protective Cover	●
Calibration Oils	○	
Ultrasonic Bath	○	
PACKAGING	Width (mm)	440
	Depth (mm)	670
	Height (mm)	810
	Weight (kg)	40

MEASUREMENT SENSORS
 XKM [Dynamic Meas. Sensor], High Accuracy: ± 0.1%, Exceptional Repeatability ±0.05%,
 Measur. Range: 1-1000ml/min
 Volumetric Tubes [Static Analog Measurement]: Accuracy: 1ml, Measurement range: 0.5-65ml

APPLICATIONS
 Passenger Car/ Motorcycles: Volumes up to 120mm³/H
 Light Duty: Volumes up to 200mm³/H
 Medium Duty: Volumes up to 300mm³/H
 Heavy Duty: Volumes up to 650mm³/H
 Marines: Volumes up to 1500mm³/H

EXPLANATIONS

● : Capable / Standard Equipped
 □ : Capable / Optionals required
 ○ : Optional
 - : N/A

PRESSURE SOURCES
 Air: Air Driven High Pressure Pump
 Motor: Motor Driven High Pressure CR Pump
 External: Pressure coming from another test Bench or external source
 Electrical: Pressure coming from another test Bench or external source
 Electrical Pump 12VDC
 ---: No Pressure Source

DS2R-A

Diesel Common-Rail Injector
Basic Test Bench



The Affordable Semi-Automatic Volumetric Tube Diesel CRDi Workshop Solution

Standard Diesel CRDi Test Bench to diagnose cars
and light duty vehicles of All Makes

Overview of the New DS2R-A

The Standard Diesel CRDi Injector Testing

[1] Injector Testing

20-25 minutes testing time per injector

- CRi (All Brands and Types).
- Capable for all EU6 technologies
- CRIN Light Duty Vehicle injectors

2000 Bar

**Standalone Air-Operated
Diesel CRi Test Bench
For Workshops**



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

WORKSHOPS

CRDi
EUI/EUP
HEUi
CRP
ENGINE
GDi
EFI
GDi Pumps

Features

Optimized Working Area
Volumetric Tube Measurement for Discharge and Overflow
Semi-Automatic Operation of the Unit
Manual Pressure control
Intuitive Software – Step by Step Progress
CloudX Capabilities
IoT Cloud computing Platform - Industry 4.0 Complaint

Live Response Time Measurement at every test plan (optional)
Adaptability for every type of Diesel CRDi's in the market (optional)
Ergonomic, Fast and Easy Injector Clamping device to minimize mounting times.
Continuous Database updates and new Software capabilities to meet the market needs.
Android Powered 8' HMI with unlimited flexibility and connectivity competencies.

DS2R-A Technical Data

	Part Number	(CZ-008730)
	Standalone	●
	Add-On	-
TYPE	Test Bench	●
	Simulator / Controller	●
	Service / Diagnostic Unit	-
USER LEVEL	Diesel / Gasoline Specialists	○
	Workshop / Garage	●
	Test Slots [injectors / Pumps]	[1 / -]
SYSTEMS / [TESTING MINUTES]	CRDi / Smart Injectors [1 / 4]	● / [15]
	GDi Injectors [1 / 4]	-
	Gasoline Injectors [1 / 4]	-
	LPG / CNG Injectors [1 / 4]	-
APPLICATIONS	Passenger Car / HEV / PHEV	●
	Motorcycles	-
	Racing (Gasoline)	-
	Light Duty	●
	Medium Duty	-
	Heavy Duty / Industrial	-
	Marine	-
FEATURES	CloudX - (Page 06)	-
	Coding Capability for Passenger Car / Light Duty	-
	Coding Capability for Medium/Heavy Duty	-
	Authorized Solutions	-
MEASUREMENT SENSORS	XKM	-
	BK	-
	Volumetric Tubes	2
SYSTEM PRESSURE	Max (BAR)	2000
	Source	AIR
CHARACTERISTICS	Response Sensor	□
	Response Sensor HD	-
	Pressurized Return Hoses / PIRV's	○
	Exclusive Return Hoses Kit	●
	Spray Chamber	○
	Heavy Duty Injector Adapters & Fittings	-
	Heavy Duty Pump Adapters & Fittings	-
	Exclusive Electrical Connectors	○
	Mains Power 50/60Hz /1-Phase 100-250VAC	●
	Mains Power 50/60Hz /3-Phase/PE 380-480VAC	-
	Air-Supply (Bar / L/min)	6.5/ 250
	Air Cooling	●
	Tank Capacity [testing / flushing]	[4 / -]
	HMI (Inches)	8
	Touchscreen	●
	Flushing / MACC	-
	Protective Cover	●
	Calibration Oils	○
	Ultrasonic Bath	○
PACKAGING	Width (mm)	660
	Depth (mm)	770
	Height (mm)	800
	Weight (kg)	46

MEASUREMENT SENSORS
 XKM [Dynamic Meas. Sensor]: High Accuracy, ± 0.1%, Exceptional Repeatability ±0.05%, Measur. Range: 1-1000ml/min
 Volumetric Tubes [Static Analog Measurement]: Accuracy: 1ml, Measurement range: 0.5-65ml

APPLICATIONS
 Passenger Car/ Motorcycles: Volumes up to 120mm³/H
 Light Duty: Volumes up to 200mm³/H
 Medium Duty: Volumes up to 600mm³/H
 Heavy Duty: Volumes up to 650mm³/H
 Marines: Volumes up to 1500mm³/H

EXPLANATIONS

●: Capable / Standard Equipped
 □: Capable / Optionals required
 ○: Optional
 -: N/A

PRESSURE SOURCES
 Air: Air Driven High Pressure Pump
 Motor: Motor Driven High Pressure CR Pump
 External: Pressure coming from another test Bench or external source
 Electrical: Pressure coming from another test Bench or external source
 Electrical Pump 12VDC
 --: No Pressure Source



Gasoline Direct Injector Test Bench

The Affordable Gasoline GDi Workshop Solution

Advanced Gasoline GDi Test Bench to diagnose and service faults for All makers

Overview of the New GDR-X

Fast, Accurate and Reliable Gasoline GDi Injector Testing

[1] Injector Testing

5-7 minutes testing time per injector

- GDi (All Brands and Types)
- Capable for all EU6 technologies
- Capable for GDi Piezo (with Energy Controlled Signal)



450 Bar

**Standalone Air-Operated
Gasoline GDi Test Bench
For Workshops**



Features

- Xtremely Fast Testing Times without any Compromise
- New Design for every Service Station
- Optimized Working Area
- Pressurized Reverse Flush for Injectors
- Optimized Actuation Software for Ultrasonic Cleaning
- CloudX Capabilities
- IoT Cloud computing Platform - Industry 4.0 Complaint
- Live Response Time Measurement at every test plan
- Adaptability for every type of Gasoline GDi's in the market (optional)
- Ergonomic, Fast and Easy Injector Clamping device to minimize mounting times.
- Continuous Database updates and new Software capabilities to meet the market needs.
- Android Powered 10" HMI with unlimited flexibility and connectivity competencies.

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



WORKSHOPS

CRDi
EUI/EUP
HEUi
CRP
ENGINE
GDi
EFi
GDi Pumps



Technical Data

	Part Number	(CZ-008727)
	Standalone	●
	Add-On	-
TYPE	Test Bench	●
	Simulator / Controller	-
	Service / Diagnostic Unit	-
USER LEVEL	Diesel / Gasoline Specialists	○
	Workshop / Garage	●
	Test Slots [injectors / Pumps]	[1 / -]
SYSTEMS / [TESTING MINUTES]	CRDi / Smart Injectors [1 / 4]	-
	GDi Injectors [1 / 4]	● / [5]
	Gasoline Injectors [1 / 4]	□
	LPG / CNG Injectors [1 / 4]	□
APPLICATIONS	Passenger Car / HEV / PHEV	●
	Motorcycles	●
	Racing (Gasoline)	-
	Light Duty	-
	Medium Duty	-
	Heavy Duty / Industrial	-
	Marine	-
FEATURES	CloudX - (Page 06)	□
	Coding Capability for Passenger Car / Light Duty	-
MEASUREMENT SENSORS	XKM	1
	BK	-
	Volumetric Tubes	-
SYSTEM PRESSURE	Max (BAR)	450
	Source	AIR
CHARACTERISTICS	Response Sensor	□
	Response Sensor HD	-
	Spray Chamber	○
	Exclusive Electrical Connectors	○
	Mains Power 50/60Hz /1-Phase 100-250VAC	●
	Mains Power 50/60Hz /3-Phase/PE 380-480VAC	-
	Air-Supply (Bar / L/min)	● / (6.5/200)
	Air Cooling	●
	Tank Capacity [testing / flushing]	[5 / -]
	HMI (Inches)	10
	Touchscreen	●
	Flushing / MACC	-
	Protective Cover	●
	Calibration Oils	○
	Ultrasonic Bath	○
PACKAGING	Width (mm)	440
	Depth (mm)	670
	Height (mm)	810
	Weight (kg)	42

MEASUREMENT SENSORS
 XKM [Dynamic Meas. Sensor], High Accuracy: ± 0.1%, Exceptional Repeatability ±0.05%,
 Measur. Range: 1-1000ml/min
 Volumetric Tubes [Static Analog Measurement]: Accuracy: 1ml, Measurement range: 0.5-65ml

APPLICATIONS
 Passenger Car/ Motorcycles: Volumes up to 120mm³/H
 Light Duty: Volumes up to 200mm³/H
 Medium Duty: Volumes up to 300mm³/H
 Heavy Duty: Volumes up to 650mm³/H
 Marines: Volumes up to 1500mm³/H

EXPLANATIONS

● : Capable / Standard Equipped
 □ : Capable / Optionals required
 ○ : Optional
 - : N/A

PRESSURE SOURCES
 Air: Air Driven High Pressure Pump
 Motor: Motor Driven High Pressure CR Pump
 External: Pressure coming from another Test Bench or external source
 Electrical: Pressure coming from another Test Bench or external source
 Electrical Pump 12V/DC
 ---: No Pressure Source

GS4 / GS8

Gasoline System Test Bench

The efficient, cost-effective and proven workshop solution to bench test and service every gasoline fuel injector

Systems Tested

- Solenoid Direct Injectors (G-Di, FSI...)
- Multi-Port Fuel Injectors (MPFi / SPFi)
- Racing Application Injectors*
- Central-Port Fuel Injectors (CSFI / CPFI)
- Throttle Body Injectors (TBI / CFI)
- Continuous Injection Injectors (K-Jetronic),
- Marines Application Injectors (E-TEC / FICHT)
- Motorcycle Application Injectors (Racing*)
- LPG & Alternative fuels Injectors



Ultrasonic Cleaning
Baths Available at sizes up to 120L*
featuring: 42KHz frequency
Sweep technology*
Degas function*,
Controlled Heater and more...



Bench for Testing & Ultrasonic Cleaning up to 8 Fuel Injectors

- Fully Automatic Function
- Electronic Pressure Control 0-10Bar
- Racing Injectors Capable*
- Dynamic & Static iVM
- Auto-iRF function
- Injector Leak Test function
- User-Friendly Design
- Language Localization



Bench for Testing & Ultrasonic Cleaning up to 4 Fuel Injectors

*Optional Upgrade

Features

iVM: Injection Volume Metering

Precise graduated led illuminated tubes are used for efficient diagnosis of uneven flow rates and weak or defective nozzle springs. Automatic drainage after each test resolution 1ml, accuracy ±1ml/130ml

iSPC

Illuminated Spray Pattern Chamber used for visual diagnosis of correct injection

iRF

Injector Reverse Flush Device used to remove all dirt remained inside injector body after cleaning with the use of Ultrasonics

eRSO

Electrical Resistance, Short Circuit & Open Circuit Test

0-10 Bar

Testing Capability of All Types of Injectors up to 10Bars Maximum.

GD Units are available for High Pressure Direct Injectors up to 1200Bars

Service & Repair

Increased exhaust emissions

Reduced engine performance (Power, Torque)

Increased fuel consumption

Poor drive-ability situations

Direct injection systems failure (Leaks, Pressure drop)

Rough idle and periodic stall of the engine

Conditions that lead to long-term catalytic converter damage

Extended engine start-up MIL - check engine light-up

WORKSHOPS

CRDi

EUI/EUP

HEUi

CRP

ENGINE

GDi

EFi

GDi Pumps

GS8 / GS4 Technical Data

		GS8	GS4
	Part Number	(CZ-008350)	(CZ-008347)
	Standalone Add-On	● -	● -
TYPE	Test Bench Service / Diagnostic Unit	● -	● -
USER LEVEL	Diesel / Gasoline Specialists Workshop / Garage Test Slots [injectors / Pumps]	○ ● [8/ -]	○ ● [4/ -]
SYSTEMS / [TESTING MINUTES]	CRDi / Smart Injectors [1 / 4] GDi Injectors [1 / 4] Gasoline Injectors [1 / 4] LPG / CNG Injectors [1 / 4]	- ● ● ●	- ● ● ●
APPLICATIONS	Passenger Car / HEV / PHEV Motorcycles Racing (Gasoline) Light Duty Medium Duty Marine	● ● ● - - □	● ● ● - - □
MEASUREMENT SENSORS	XKM BK Volumetric Tubes	- - 8	- - 4
SYSTEM PRESSURE	Max (BAR) Source Spray Chamber Mains Power 50/60Hz /1-Phase 100-250VAC Mains Power 50/60Hz /3-Phase/PE 380-480VAC Tank Capacity [testing / flushing] HMI (Inches) Touchscreen Protective Cover Calibration Oils Ultrasonic Bath	10 ELECTR. PUMP ● ● - [4 / -] LCD - - ○ ●	10 ELECTR. PUMP ● ● - [4 / -] LCD - - ○ ●
PACKAGING	Width (mm) Depth (mm) Height (mm) Weight (kg)	660 770 800 52	500 440 680 39

MEASUREMENT SENSORS
XKM [Dynamic Meas. Sensor], High Accuracy: ± 0.1%, Exceptional Repeatability: ±0.05%,
Measur. Range: 1-1000ml/min
Volumetric Tubes [Static Analog Measurement]: Accuracy: 1ml, Measurement range: 0.5-65ml

APPLICATIONS
Passenger Car/ Motorcycles: Volumes up to 120mm³/H
Light Duty: Volumes up to 200mm³/H
Medium Duty: Volumes up to 300mm³/H
Heavy Duty: Volumes up to 650mm³/H
Marines: Volumes up to 1500mm³/H

EXPLANATIONS

● : Capable / Standard Equipped
□ : Capable / Optionals required
○ : Optional
- : N/A

PRESSURE SOURCES
Air: Air Driven High Pressure Pump
Motor: Motor Driven High Pressure CR Pump
External: Pressure coming from another test Bench or external source
Electr. P.: Pressure coming from another test Bench or external source
Electrical Pump 12VDC
---: No Pressure Source

ES.3

Gasoline System Test Bench

Diesel & Gasoline Engine De-Carbonizing Unit.

DPF & Intake Manifold Treatment Unit

Benefits

- Exhaust emissions reduction more than 70%
- De-Carbonization of the combustion chamber
- De-Carbonization of the catalytic converter
- De-Carbonizing of Intake Manifold and throttle body
- DPF Cleaning without disassembling
- Maximum restoration of engine's performance
- Reduction of fuel consumption

Features

- Common-Rail system cleaning
- High Pressure pump conditioning
- Optimum fuel combustion gain
- Blocked valves and piston rings release
- Improved idle-speed stability
- Fading of engine knocking
- Prevention of long-term expensive repairs
- User-Friendly, On-Display guide with language localization
- Automatic Pressure adjustment and Operation Cycle
- Use of External Tank/Dual-Tank system
- Adaptability to all makes and models
- Portable, Lightweight and Robust unit



Systems

- Common-Rail and Conventional Diesels
- Gasoline Direct Injection (G-Di, FSI, HPI, CGI etc.)
- Conventional Fuel Injection (MPFI / TBI / CIS)
- LPG and Alternative fuels
- Carbureted Engines

*Optional Upgrade

Detergents

The environmental friendly ES Series Detergents for Decarbonizing the engine activates the inert carbon molecules, resins, dust varnish and gums that accumulate inside the engine components, and burns them with the combustion process.



Adapters

Exclusive fuel system adapters kit available for all types of engine configurations*



WORKSHOPS

CRDi

EUI/EUP

HEUi

CRP

ENGINE

GDi

EFI

GDi Pumps



DPF.01

Diesel Particulate Filter Cleaning Adapter Kit. Use of Non-Combustible environmental friendly detergent to efficiently clean Particulate Matter, Carbon Soot, Ash, Organic materials and Sulfates.

Application programmable duty-cycle software integrated



IMC.01

Intake Manifold Cleaning Adapter Kit & Non-Combustible environmental friendly detergent. Application programmable duty-cycle software integrated

ES3 Technical Data

	Part Number	(CZ-008354)
	Standalone	●
	Add-On	-
TYPE	Test Bench	-
	Service / Diagnostic Unit	●
USER LEVEL	Diesel / Gasoline Specialists	○
	Workshop / Garage	●
	Gasoline /Other Engines	●
	Diesel Engines	●
	Gasoline/Diesel Fuel Systems	●
APPLICATIONS	Passenger Car / HEV / PHEV	●
	Motorcycles	●
	Racing (Gasoline)	●
	Light Duty	●
	Medium Duty	●
	Heavy Duty / Industrial	●
	Marine	●
SYSTEM PRESSURE	Max (BAR)	10
	Source	ELECTR. PUMP
	Mains Power 50/60Hz /1-Phase 100-250VAC	12VDC
	Mains Power 50/60Hz /3-Phase/PE 380-480VAC	-
	Tank Capacity [testing / flushing]	[6 / -]
	HMI (Inches)	LCD
	Touchscreen	-
	Ultrasonic Bath	-
PACKAGING	Width (mm)	410
	Depth (mm)	410
	Height (mm)	1030
	Weight (kg)	33

EXPLANATIONS

● : Capable / Standard Equipped
 □ : Capable / Optionals required

○ : Optional
 - : N/A

FST / FST-HF

Diesel & Gasoline System Test



Diagnosis

- Incorrect fuel pressure
- Incorrect system fuel flow Plugged fuel filter
- Faulty fuel pump
- Plugged fuel pump inlet strainer Faulty fuel pump check valve
- Leaky fuel injectors
- Incorrect operation of the fuel pressure regulator Fuel foaming and/or contamination
- Restrictions in supply/ return fuel lines
- Intake manifold vacuum fluctuation
- Exhaust back-pressure for testing DPF & Catalytic Converter
- Turbo-boost pressure operation
- Adaptability for all Makes, Models and Types

Features

- Compact, Portable and Robust tool for use in the workshop
- High flow capability for Racing and Performance applications[FST-HF]
- Easy readable analog gauges: Fuel Pressure, Manifold Vacuum, Exhaust Back-Pressure
- Durable and clear analog flow tube Spill-free quick connectors
- Easy hook for mounting on engine hood

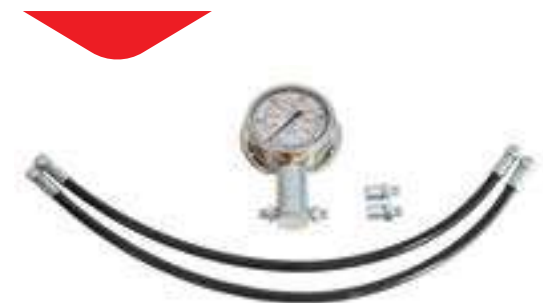


HP-G2500

Common-Rail Gauge

FEATURES

- New Common Rail Injection Systems
- Up to 2500Bar
- Compact & Portable
- Dynamic & Static tests
- Adaptable to all CRDi Systems



HP-G250

High Pressure Gauge

FEATURES

- Conventional Diesel Systems
- GDi Gasoline Fuel Systems
- Up to 250Bar
- Compact & Portable
- Dynamic & Static tests
- Adaptable to all DI & G-Di Systems*

*Optional Upgrade



CRPT-110

Digital Common Rail Pressure Tester

DIAGNOSIS

CRDi system operating pressure
CRDi system leaking

FEATURES

- Easy Operation / Robust design
- Adaptability to All Makes sensors
- Operation Range 0-2000 Bar
- Measurement resolution of 1 bar
- Indication for defective pressure sensor
- Fault detection indicated by a red warning LED
- Automatic shut-off after 1 minute
- Power supply by 9 V battery (standalone unit)



CRMK-110

Common Rail Injectors Backflow Kit for All Injector Makes

DIAGNOSIS

CRDi Excessive Back-Leak

FEATURES

- Test kit for checking the return flow volumes from Common-Rail Injectors
- Plexiglass robust container with graduated scales for easy comparison
- Metal chain hook to hold tester in upright position of the engine hood
- Set of backleak connectors for BOSCH, VDO, DELPHI and DENSO injectors

WORKSHOPS

CRDi

EUI/EUP

HEUi

CRP

ENGINE

GDi

EFI

GDi Pumps



PIMK-010

Piezo CRDi Backflow Pressure Tester

DIAGNOSIS

Piezo CRDi return pressure
Piezo injector proper operation

FEATURES

- Transparent Plexiglass tester to permit view of any air pockets which may be present in the fuel
- Interchangeable vacuum gauge on the test unit for further testing capabilities
- Adaptability for most injectors in the market
- Pressure relief valve for safe removing from engine
- Adaptable to BOSCH (15 Bar gauge) and VDO, DELPHI & DENSO (+3 Bar gauge)



DIT-062

High Pressure Injector Leakage Tester

FEATURES

- Up to 600Bar
- Compact Static tests adaptable to all Di and GDi injectors



Welcome
to an Innovation
Driven World

Product Catalog



Scan CZ Digital
Product Catalog

AUTHORISED DISTRIBUTOR



Trusted People. Innovative Solutions.

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