

GTBR //X

The Dedicated Gasoline GDi Test Bench

Specialist Service Station. Every GDi System. EU6 Ready. One Bench.



Authorized Solution for
Schaeffler / Continental



CloudX AZO

CTBR //X | HTBR //X | GTBR //X

Complete CRDi, HEUi and GDi coverage for service specialists



CTBR //X

The Compact Diesel
CRDi Test Bench
Bench-top Specialist
Service Station.
Compact Footprint. Full CRDi
Capability.



HTBR //X

The Dedicated Diesel
HEUi Test Bench
Specialist Service Station.
Every HEUi System. Every
Generation. One Bench.



GTBR //X

The Dedicated Gasoline
GDi Test Bench
Specialist Service Station.
Every GDi System. EU6 Ready.
One Bench.



- 01. Portable stand with drawer + shelf:
the essentials within reach.
- 02. Multi-drawer Portable stand:
organized adapters and fittings storage.
- 03. Open-shelf Portable stand: fast
mid-test access.
- 04. Side-mounted Ultrasonic bath:
pre-test cleaning.

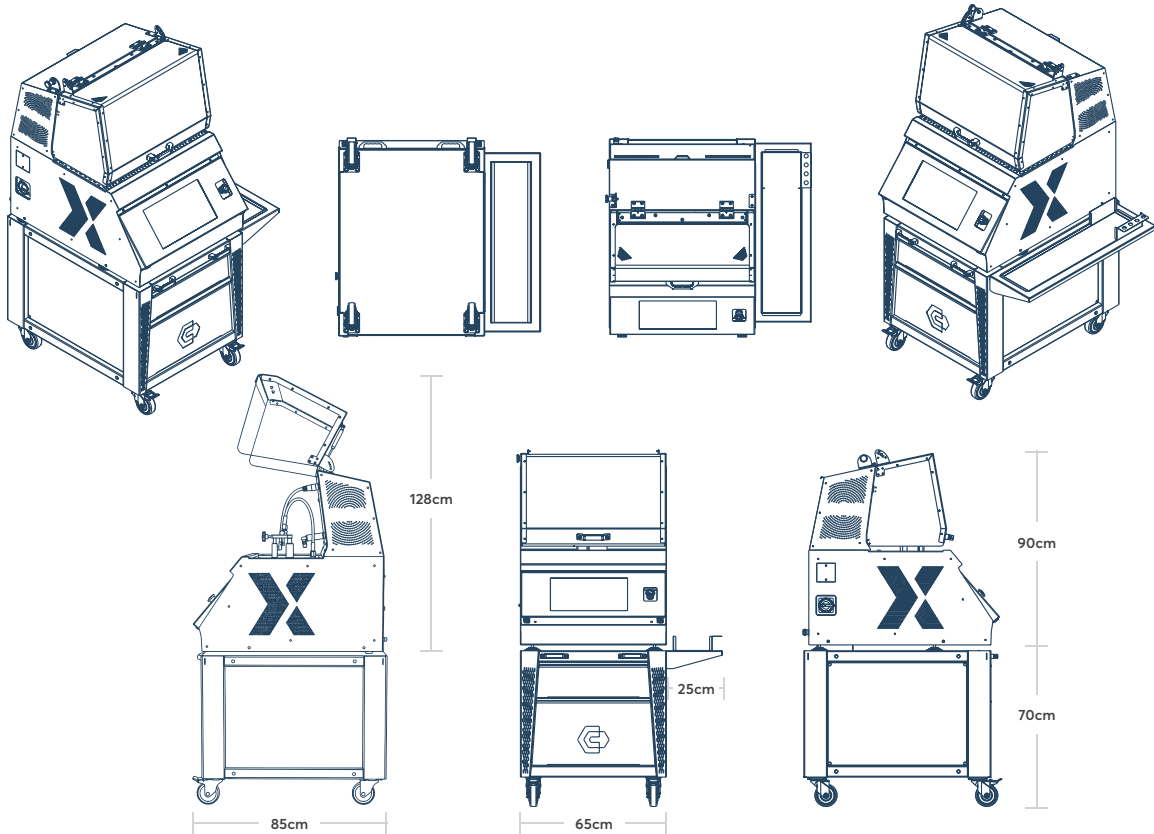
OVERVIEW

CTBR //X | HTBR //X | GTBR //X



SPECS & METRICS

Weight	165kg	Voltage	100-240 V · 1P+PE · 50/60 Hz	Current	16 A
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TOTAL SYSTEM COVERAGE

- **CTBR-X Diesel Injectors:** CRI · CRiN (all brands and types)
- **GTBR-X Gasoline Injectors:** GDi · EFi / MPFi · conventional injectors
- **HTBR-X HEUI Injectors:** Caterpillar, Ford Power Stroke, Navistar / International, Isuzu, Perkins

ENGINEERED FOR PRECISION

- Ergonomic illuminated working area: fast injector mounting
- Spring-loaded injector holder, fully adjustable height
- Advanced air-cooling system: long-term nonstop operation
- **Powered by CloudX:** every result encrypted, cloud-stored, GDPR-compliant, Industry 4.0 ready
- **AZO v3 operating system:** Android-powered, intuitive HMI

OEM-AUTHORIZED. OEM-TRUSTED.

Approved activation signal by Schaeffler / Continental and built to OEM testing standards.

ERGONOMICS

- Bench-top compact footprint: no dedicated floor space
- Single-phase power: no three-phase installation required
- 15.6" Android-powered HMI
- Easy injector mounting, mess-free working compartment
- Optional portable ergonomic machine stand
- Easily accessible filters and waste port
- Intuitive cable and hose management

Authorized Solution for
Schaeffler / Continental



CloudX AZO



CTB | PLATFORM

CTBR-X

HTBR-X

GTBR-X

SPECIALISTS SOLUTIONS

GDi INJECTORS

GTBR //X

GDi Injectors. One Pass. Full Coding.

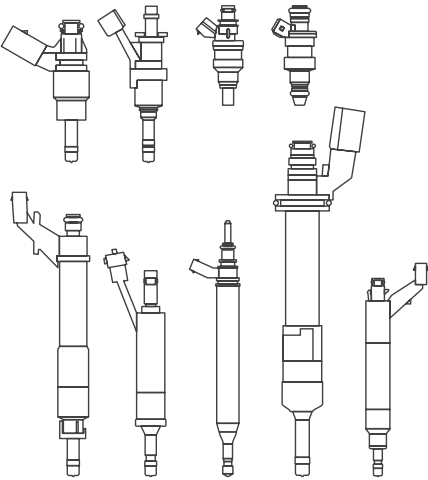
The dedicated gasoline GDi service station. Test and code 4 injectors at once, from legacy MPFi to the newest EU6 & piezo, up to 1,200 bar.

Brand	Families & Applications
Bosch HDEV	Solenoid GDi – HDEV 1.x / 5.x / 6.x – VW, Audi, BMW, Mercedes, Ford
Denso	Toyota, Lexus, Mazda – full GDi platform coverage
Delphi	GM Ecotec, Ford EcoBoost – solenoid GDi
Schaeffler / Continental	Piezo and solenoid – Mercedes, PSA, BMW (Energy Control)
Hitachi-HTC	Nissan, Infiniti, Honda – full GDi coverage
Magneti Marelli	Fiat, Alfa Romeo, Maserati – solenoid GDi
Siemens / VDO (Legacy)	Older EU5 platforms with approved Energy Control
Conventional EFI / MPFi	All brands – port-injection legacy coverage
Other	Gasoline outboard motors (marine) · Alternative-fuel engines · Racing application injectors

Pressure up to 1,200 bar
full GDi operating envelope from MPFi to the latest EU6 piezo.

Database 750+ part numbers
in the factory database, updated continuously

All EU6 technologies
Energy-Controlled and Volume-Metering GDi types



GDI · GASOLINE DIRECT INJECTION
Universal testing and coding for every major Gasoline Direct Injection platform in the global market.

- FEATURES
- Tested to OEM Standards
 - Testing and coding time: 5–7 min for 4 injectors
 - Full GDi injector coding: Siemens / VDO and newer EU6
 - Pressurized reverse flushing
 - Dynamic ultrasonic-cleaning support
 - External GDi HP-pump control on conventional test bench (optional)

- TESTS PERFORMED
- Electrical (coil / piezo)
 - Insulation
 - Volumetric flow (all conditions)
 - Back-leak (static / dynamic)
 - Nozzle Leak Test (NLT)
 - Opening & closing response time (RSP – eRSP)
 - Spray pattern & atomization
 - Energy-Controlled and Volume-Metering GDi tests
 - Reverse flushing at 35 bar (GDi)

Applications: Gasoline passenger cars — all major GDi platforms · Gasoline light-duty vehicles · Gasoline outboard motors (marine) · Alternative-fuel engines · Racing application injectors



01 Side-mounted Ultrasonic bath.
42 kHz sweep ultrasonic cleaning with degas and controlled heater. Engineered cleaning before flow and spray testing.



CTB | PLATFORM

CTBR-X

HTBR-X

GTBR-X

SPECIALISTS SOLUTIONS

AZO

The intelligence inside every Carbon Zapp machine.

Every Carbon Zapp X-Series bench is driven by AZO, the software platform at the heart of the machine's powerful touchscreen HMI. AZO turns complex injection diagnostics into a guided, fully automatic process: select the component, mount it, and let the machine run the complete OE-level test plan, from actuation and leak checks to dynamic precision flow measurement and coding. The result is expert-level diagnosis, delivered consistently, regardless of who is operating the bench.



AZO on the X-Series touchscreen HMI: one interface for every test, every system, every brand.

Built for the operator.

Fully automatic testing.

Guided sequences take the component from mounting to final verdict in minutes, with no guesswork. Live actuation signals for advanced analysis and R&D work.

Fast by design.

Complete test cycles measured in minutes, not hours, e.g. **4 Bosch CRDi injectors tested and coded in 8–10 minutes, Delphi C4i in 10–15 minutes, 4 GDi injectors tested and coded in 8–10 minutes; pumps in 5–15 minutes.**

Clear, sellable reports.

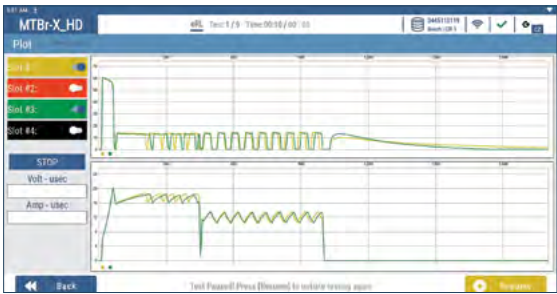
Color-coded pass/fail results per component, a single-page quick report for the customer or a multi-page analytic report for the specialist. Pick your slots with a tap, print or share on the spot, tablet-easy, workshop-fast, and simply incomparable to anything else in the market.

Real-time oscilloscope.

Live actuation signals for advanced analysis and R&D work.



The fail-track color report, results your customer understands at a glance.



The live oscilloscope view, every actuation, every microsecond.



Every connection, mapped on screen: numbered points, exact part numbers and adapters for each component, mount, connect and test with zero guesswork.

One database. Every system.

Complete OE & CZ database.

Test plans for all makes and types, continuously updated:

- CRDi** - Common Rail Diesel Injectors
- CRp** - Common Rail Diesel Pumps
- EUi/EUp** - Electronic Unit Injectors & Pumps
- HEUi** - Hydraulic Electronic Unit Injectors
- GDi** - Gasoline (High & Low Pressure) Injectors
- GDP** - Gasoline Rotary & Piston High Pressure Pumps
- Marine & Large Engine components**

Your tests, your rules.

User-defined test plans and developer-level customization alongside the factory database, shared to all your Carbon Zapp machines effortlessly.

Machine self-diagnosis.

AZO continuously monitors all the critical points of the bench, sensors, pressures, actuation circuits, and reports the machine's own health before it can affect your results.

Always connected.

On-board Wi-Fi and LAN connectivity for updates, printing, sharing and the live CloudX link.

Always current.

Software and database updates delivered over the air, powered by CloudX (see next spread).

CloudX

Your machines, beyond the workshop walls.

CloudX is Carbon Zapp's IoT cloud platform the natural extension of AZO. Every connected bench becomes part of a secure cloud environment where data, updates, features and support flow both ways. Fully Industry 4.0 compliant, CloudX means the machine you buy today keeps gaining capabilities tomorrow, without a single technician visit.

What CloudX does for your business

Live updates.

Database and software updates arrive online, automatically, your bench always tests to the latest specifications.

Complete cloud backup.

Machine data, settings and test history safely mirrored in the cloud, recover everything in minutes.

Features on demand.

Activate new capabilities instantly, online, forever or on a Pay-As-You-Go basis, and invest only when the work demands it.

Remote monitoring & reports.

Check machine status and generate, file and print test reports from anywhere, on any device.

Fleet management.

Run one bench or twenty: manage every machine, user and location from a single account.

Smart maintenance.

Notifications on your phone for oils, filters and service intervals, before downtime finds you.

24/7

Machine visibility from any device

1 Account

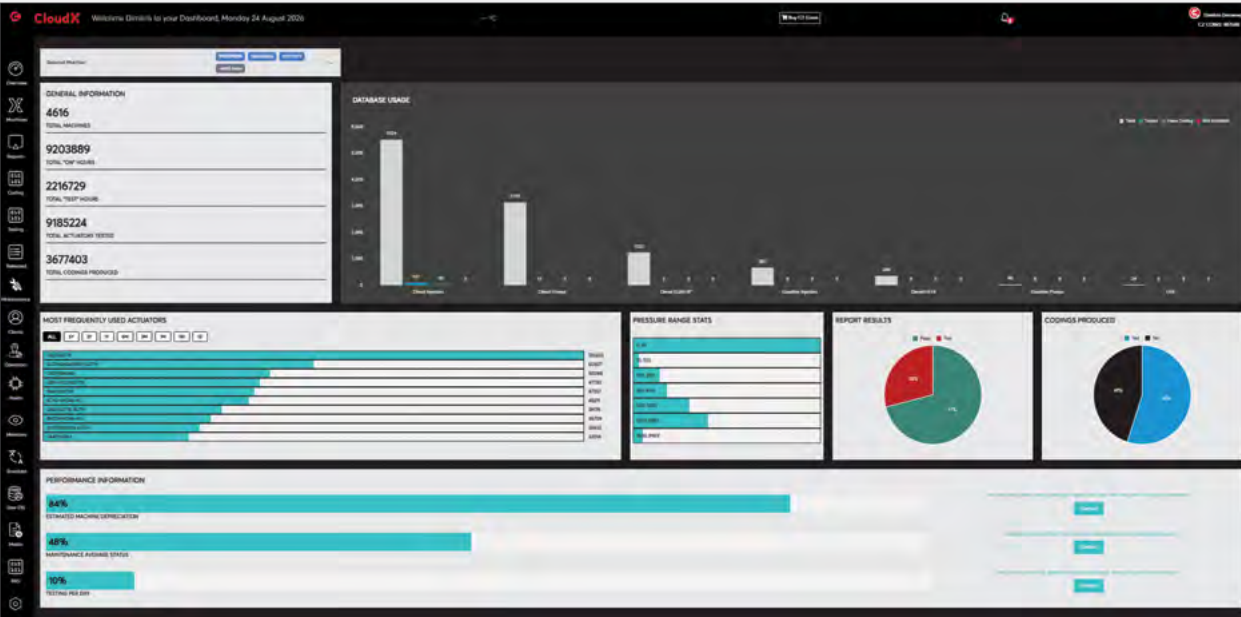
Your entire machine fleet

Minutes

To activate a new feature online



CloudX
is Carbon Zapp IoT Cloud
computing Platform.



The CloudX overview at cloudx.carbonzapp.com Your job in numbers.

The screenshot shows the 'MACHINES' dashboard with a table of machine data. The table has columns for Active status, Machine ID, Status, Tablet Version, SW Version, Test Hours, Reports, Last Sync, User, Country, Company, and Warranty. The table lists several machines with their respective details.

Active	Machine	Status	Tablet Version	SW Version	Test Hours	Reports	Last Sync	User	Country	Company	Warranty
	07BL4-K (S/N: 00030434)	PCB - Board in connected	V71	3.0.6	1438.3	237	07/13 21/03/2026	dev@carbonzapp.com	Greece	Carbon Zapp	Warranty Expires 01/09/2030
	02N-W-GR (LP (S/N: 00000000)	made a change: TABLET from 34307894:030020070 to C200000048:Machine S/N: 010000003	V71	3.1.1.5	844.4	23	12/18 30/06/2025	dev@carbonzapp.com	Greece	Carbon Zapp	Warranty Expires 01/09/2030
	HTB-K (S/N: 123456789)	FW Update Completed	V12	3.5.2.4	101.4	88	07/13 21/03/2026	dev@carbonzapp.com	Greece	Carbon Zapp	Warranty Expires 01/09/2030
	CRU-2-K (S/N: 00244331)	Software Update Complete 3.5.2.6.0	V71	3.0.6	1072.8	248	07/13 25/03/2026	dev@carbonzapp.com	Greece	Carbon Zapp	Warranty Expires 01/09/2030
	D5-X (S/N: 010370001)	Maintenance on DDL - ISO is Overdue. Please replace immediately!	V71	3.5.2.0	669.1	27	11/43 18/03/2026	dev@carbonzapp.com	Greece	Carbon Zapp	Warranty Expires 01/09/2030
	HTB-D-HD (S/N: 888888888)	PCB - Board in connected	V13	3.0.3	1184.2	247	14/07 30/03/2026	dev@carbonzapp.com	Greece	Carbon Zapp	Warranty Expires 01/09/2030
	020A-K (S/N: 987654321)	SW Download Completed	V71	3.0.4	245.4	3	07/13 21/03/2026	dev@carbonzapp.com	Greece	Carbon Zapp	Warranty Expires 01/09/2030

The CloudX fleet dashboard at cloudx.carbonzapp.com Every machine, status and info in one secure view.

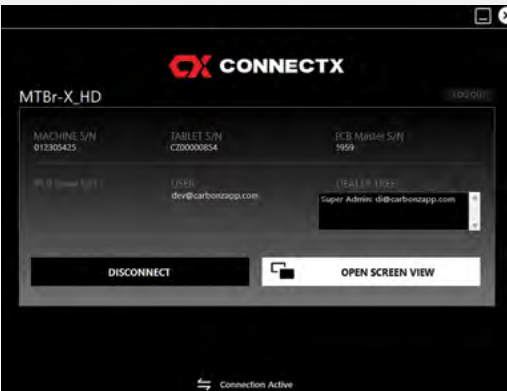


EXPERT FEATURES

CloudX unlocks three expert-level extensions
ConnectX, API Integration and the Repair Kit Solution (RKS).



A ConnectX session in progress: the machine's screen, live, wherever support happens to be.



ConnectX

Support at the speed of a click.

ConnectX gives authorized eyes and hands on the machine, remotely and per account. When something needs attention, whether a question, a setting or a fault, Carbon Zapp support, your distributor or your own fleet manager can securely connect to the bench and act immediately. No travel, no waiting, no lost workdays.

Instant troubleshooting.

Direct remote assistance from the Carbon Zapp factory or your local distributor, right on the machine screen.

Fleet control.

Fleet managers reach any machine in their network to monitor, adjust, update or resolve, from anywhere.

Per-account access.

Connections are permission-based and tied to accounts: you decide who can reach which machine.

Minimum downtime.

Most issues are resolved in a single remote session. The bench is back to testing the same day.



API Integration

Your test data, in your business systems.

Test data shouldn't stop at the bench. The CloudX API bridges your machines to your own IT environment, so results, reports and machine information flow automatically into the systems your business already runs on: ERP, workshop management, quality and warranty platforms.

Automated workflows.

Test results attach themselves to job cards, invoices and warranty files. No re-typing, no lost paperwork.

Built for scale.

Ideal for remanufacturers, OE service networks and multi-site operations with existing infrastructure.

Secure by design.

Data travels over the same secure cloud environment that powers CloudX.



From the test chamber to your ERP: one connected data path, no manual steps.



Repair Kit Solution

The authorized channel

For kit providers

Deploy to your network.

Publish your repair kits, data and test plans directly to your authorized workshops through CloudX.

Control who buys.

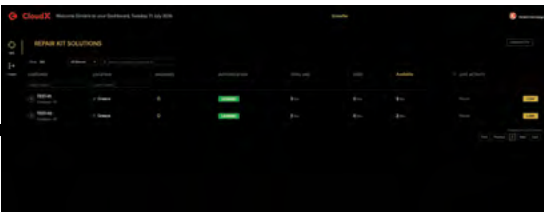
Entitlements are managed per user: only your authorized network can access and purchase your kits.

Protect your brand.

Every kit is diagnosed and validated on a Carbon Zapp bench, against your specifications. Quality and warranty stay in your hands.

A complete, branded solution.

From kit deployment to the final test report, the whole workflow carries your brand, a professional, consistent outcome across your entire network.



The RKS area in CloudX: providers publish, workshops access, and every kit is tested the authorized way.

For workshops

Genuine kits, on the bench.

Access authorized repair kits with the matching test plans, right where the work happens.

No more parts hunting.

Become an authorized workshop with any of the available providers for your systems, the right kit is always one click away.

Certified results.

Diagnosis and post-repair testing follow the provider's approved procedure, every repair leaves with proof.

One machine. One platform. The complete ecosystem.

AZO runs the test. CloudX connects the machine. ConnectX keeps it running. The API brings the data home. RKS closes the loop between component, kit and certified repair. Together, they turn a Carbon Zapp bench into a business platform.



Built to Move the Industry Forward.

From advanced testing equipment and connected intelligence to technical expertise and global support, Carbon Zapp brings every solution together in one complete ecosystem.

Let's Connect and Discover Future Opportunities.



Scan the QR Code
and easily download
the Product Catalog
to your phone.



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Scan and Explore
Complete CZ Solutions