

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.

CTB | PLATFORM

CTBR-X

HTBR-X

GTBR-X

SPECIALISTS SOLUTIONS

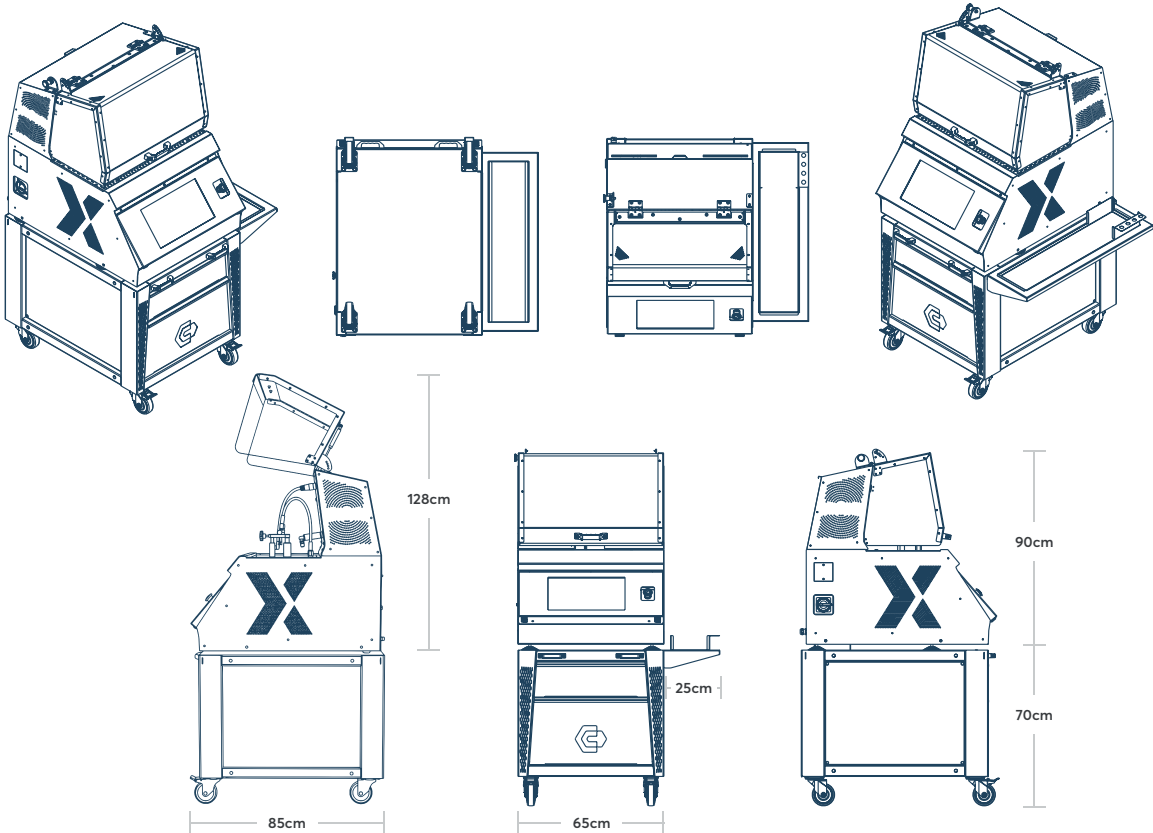
OVERVIEW

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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Authorized Solution for
Schaeffler / Continental



CloudX AZO

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

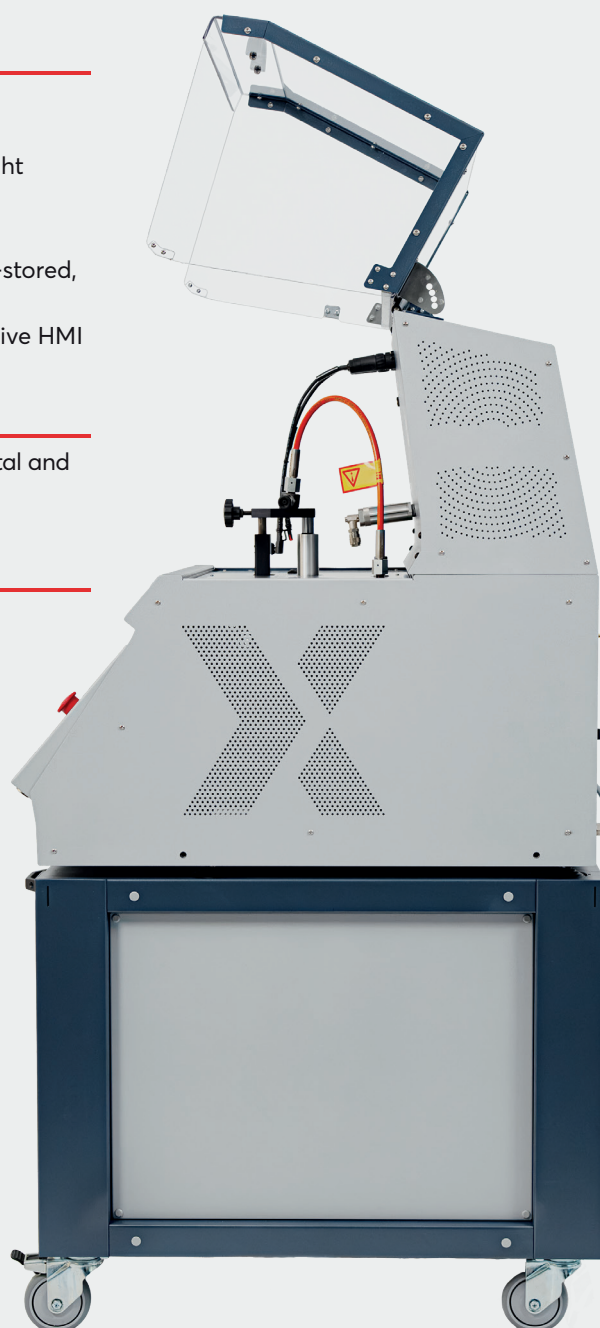
- Ergonomic illuminated working area: fast injector mounting
- Spring-loaded injector holder, fully adjustable height
- Advanced air-cooling system: long-term nonstop operation
- **Powered by CloudX:** every result encrypted, cloud-stored, GDPR-compliant, Industry 4.0 ready
- **AZO v3 operating system:**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



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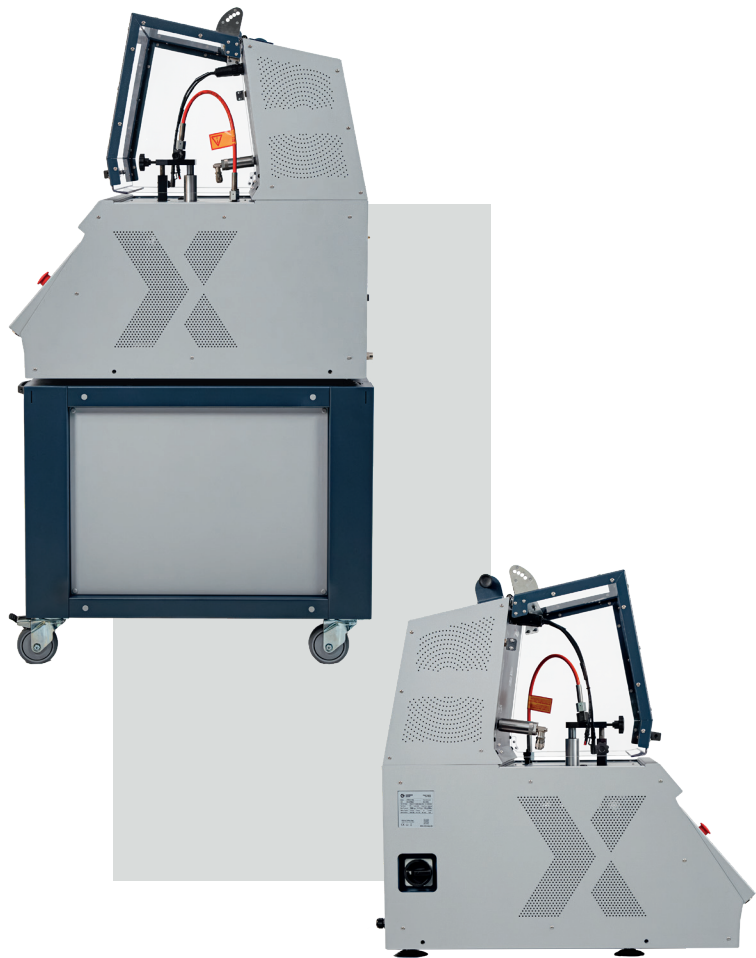
CRDi INJECTORS



Compact CRDi Power. Bench-Top Footprint.

Full common-rail testing and coding, every brand, up to 2,500 bar, every EU6 technology, in a compact bench-top that runs on single-phase power. No three-phase install, no dedicated floor space.

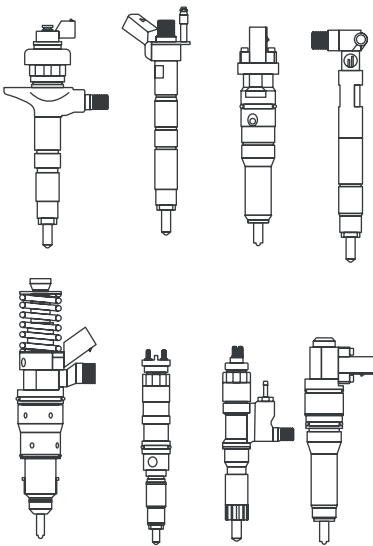
Brand	Families & Applications
Bosch	CRi1, CRi2, CRi3, CRiN1, CRiN2, CRiN3 – passenger car, light-duty, medium-duty
Denso	G2, G3, G4 platforms – passenger car and medium-duty
Delphi	DFI 1.x, 2.x, 3.x (C2i / C3i) – passenger car and light-duty
Schaeffler / Continental	Piezo CRi injectors – full coverage with CGL Blind-Lift
Heavy-Duty	XPI, F2X / F3X, CRIN 4.2



Pressure up to 2,500 bar

Database 4,500+ part numbers
continuously online-updated

EU6 technologies
VCC, NCC, iART, PCRS5





CRDi · COMMON-RAIL DIESEL INJECTORS

Universal CRDi injector testing and coding for every major diesel injector platform in production, passenger car, light-duty and medium-duty (Heavy-Duty via the Exclusive Version upgrade).

FEATURES

- Tested to OEM Standards
- Testing and coding time: 8–14 min
- **Heavy-Duty upgrade:** CRIN 4.2 (optional)
- Full injector coding: Bosch IQA/IMA, Denso QR, Delphi C2i/C3i, Schaeffler / Continental IIC, CAT (TRM)
- CGL: authorized Schaeffler / Continental "Blind-Lift" Measurement
- Measurement of piezo-stack
- Live response-time measurement at every test plan
- Single-phase 50/60 Hz VFD motor-driven: no air supply required

TESTS PERFORMED

- Electrical (coil / piezo)
- Insulation
- Back-leak (static / dynamic)
- Volumetric flow (all conditions)
- Nozzle opening pressure (aNOP)
- Opening & closing response time (RSP – eRSP)
- EU6 technology testing
- DFI mapping (full spectrum)
- NLT / LKT nozzle leak test
- Spray pattern & atomization
- RDS rail-pressure sensors (all brands)
- HP rails (without DRV)



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SPECIALISTS SOLUTIONS

HEUi INJECTORS

HTBR **X**

Every HEUI Generation. One Dedicated Bench.

From the legendary 7.3L Power Stroke to the latest CAT ACERT, the **HTBR-X** is the specialist's service station for every HEUI system on earth, G1 through G3.0, oil-activated, fully monitored.

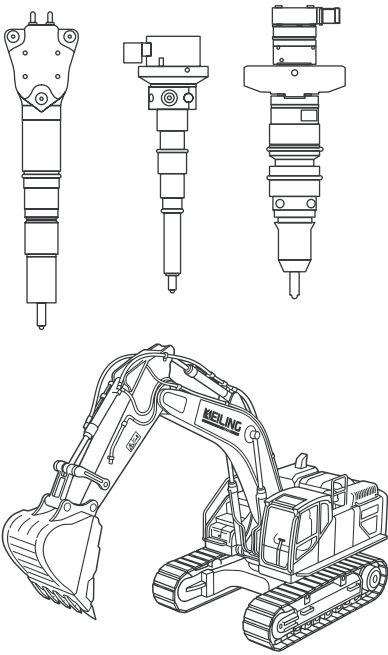
Brand	Families & Applications
Caterpillar	G1, G2 (3126, 3126B, 3126E), G2.8 (C7, C9), G3.0 (C7 ACERT, C9 ACERT) – heavy-duty truck, marine, generator
Navistar / International	G1 (T444E, DT466E), G2.9 (DT466, DT570, HT570, MaxxForce DT/9/10)
Ford Power Stroke	7.3L Power Stroke (1994–2003) – the legendary HEUI platform
Isuzu	Trooper – light-duty HEUI applications
Perkins	Industrial and agricultural HEUI platforms



Pressure up to 400 bar
full HEUI operating envelope

Database 350+ part numbers
continuously online-updated

CAT C7/C9
injector coding with TRM file





HEUI · HYDRAULIC ELECTRONIC UNIT INJECTORS

Complete HEUI coverage, G1 through G3.0: oil-activated injection testing with full hydraulic performance monitoring.

FEATURES

- Tested to OEM Standards
- **Testing & coding time:** 6–8 min per injector
- Dual-Coil HEUI injector testing
- Automatic NOP without injector disassembly
- Live BIP actuation measurement

TESTS PERFORMED

- Electrical (coil)
- Back-leak (static / dynamic)
- Volumetric flow (all conditions)
- Dynamic NOP (aNOP)
- Nozzle response time (RSP)
- Valve response time (aBIP)
- Intensifier piston leak test
- Multiple-injection profiles (pilots / mains / posts)
- DFI mapping (full spectrum)
- NLT / LKT nozzle leak test
- Spray pattern & atomization validation



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HTBR-X

GTBR-X

SPECIALISTS SOLUTIONS

GD*i* INJECTORS

GTBR *///X*

GD*i* Injectors. One Pass. Full Coding.

The dedicated gasoline GD*i* 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 GD <i>i</i> – HDEV 1.x / 5.x / 6.x – VW, Audi, BMW, Mercedes, Ford
Denso	Toyota, Lexus, Mazda – full GD <i>i</i> platform coverage
Delphi	GM Ecotec, Ford EcoBoost – solenoid GD <i>i</i>
Schaeffler / Continental	Piezo and solenoid – Mercedes, PSA, BMW (Energy Control)
Hitachi-HTC	Nissan, Infiniti, Honda – full GD <i>i</i> coverage
Magneti Marelli	Fiat, Alfa Romeo, Maserati – solenoid GD <i>i</i>
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

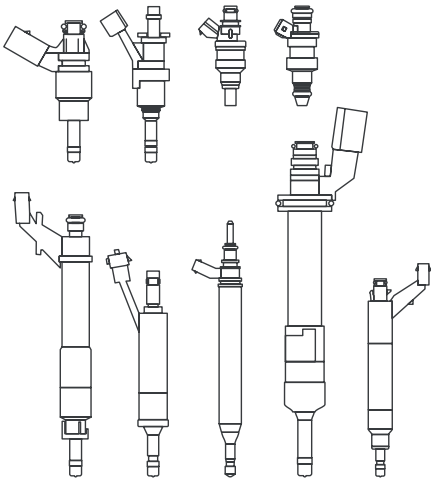
full GD*i* operating envelope
from MPFi to the latest EU6
piezo.

Database 750+
part numbers

in the factory database,
updated continuously

All EU6
technologies

Energy-Controlled and
Volume-Metering GD*i* 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