

ITBr ///X4 | ITBr ///X2

01

ITBr ///X4

**The Flagship Diesel
CRDi Test Bench**

Specialist Service Station.
4 Injectors at Once. Every
CRDi System. One Pass.



The Benchmark Injector Test Bench.
Every CRDi System. Every OEM.
Every EU6 Technology.



ITBR //X2

The Dual-Station Diesel
CRDi Test Bench

The first 2-injector bench on the
market. Test Two. Repair Two.
Zero Idle Time.

02



03

ITBR-X Portable Tool Cart

Organized storage for adapters,
fittings, cables and injector clamping
sets, within arm's reach of the bench.



ITB | PLATFORM

ITBR-X4

ITBR-X2

SPECIALISTS SOLUTIONS

OVERVIEW

ITBr ///X4 | ITBr ///X2

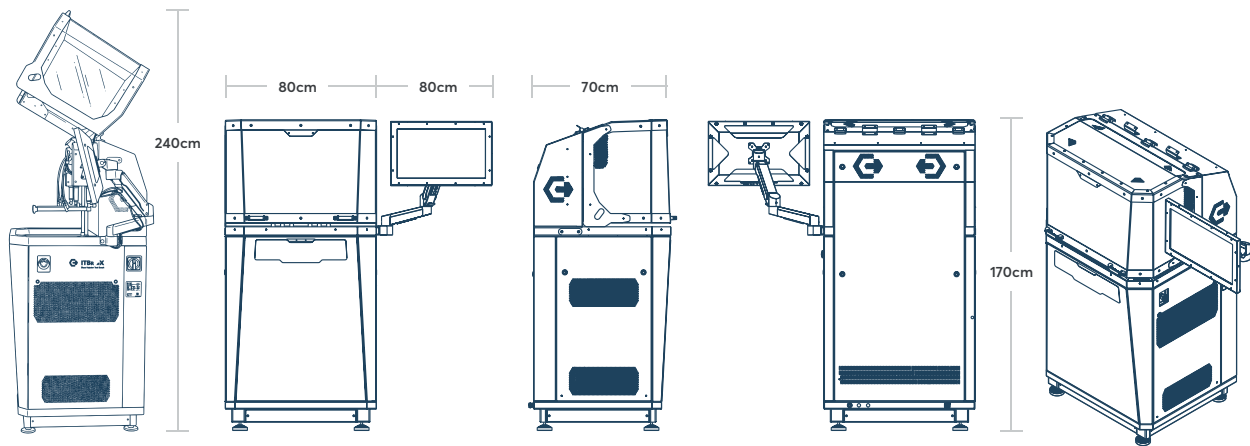
The Benchmark for Common Rail.
Every OEM. Every EU6.

The flagship specialist CRDi station. The market's most extensive coding capability, up to 3,000 bar, from passenger car to large-engine, with a built-in Test Plan Editor for OEMs and engineering labs.



SPECS & METRICS

Weight	385kg	Voltage	380-480 V - 3P+PE - 50/60 Hz	Current	20 A
--------	-------	---------	------------------------------	---------	------



TOTAL SYSTEM COVERAGE

- **All CRDi systems on one bench:** CRi · CRiN (all brands and types)
- **EU6 / EU7 testing standards.** Future-proof from day one
- The market's most extensive CRDi injector coding capability
- **Pressure up to 3,000 bar:** built for the highest-pressure CRDi platforms in production
- **Testing & coding time:** 6–12 min for 1 or 4 injectors respectively
- 11,000+ part numbers in the factory database, updated continuously
- **User database:** built-in Test Plan Editor. Made for OEMs, remanufacturers and engineering labs

ENGINEERED FOR PRECISION

- Integrated waste tank with injector flushing system
- Advanced closed-loop temperature control: EU6 / EU7 compliant
- Water or Air cooling system
- **Powered by CloudX:** every result encrypted, cloud-stored, GDPR-compliant, Industry 4.0 ready
- **AZO v3 operating system:** the most intuitive, user-friendly HMI on the market

OEM-AUTHORIZED. OEM-TRUSTED.

Authorized by Schaeffler / Continental and built to OEM testing standards across Bosch, Delphi, Denso, Stanadyne, Caterpillar, Liebherr, MTU, L'Orange Cummins, John Deere, Komatsu, Hino and Isuzu platforms. Additional authorizations pending.

AFTERMARKET-READY. INDUSTRY-CONNECTED.

CLOUDX REPAIR HUB. Certified third-party repair solutions, built to complement the market, not compete with it: hard-to-source parts, test plans not published by OEMs, and calibrations from approved specialists. Co-branded with our partners. OEM testing stays primary; the Repair Hub fills the gaps, optional, clearly marked, your choice.

ERGONOMICS

- All-round workspace access with transparent protective hood
- 22" industrial-grade Android HMI (fully adjustable)
- Fully adjustable Injector mounting designed for mass production: 4-station throughput
- HP-hose-free injector system (fully adjustable - coaxial)
- Intuitive cable and hose management
- Auxiliary racks and shelves (optional)



RKS

Approved third-party repair solutions that complement OEM testing. (page CZ17)

ITB | PLATFORM

ITBR-X4

ITBR-X2

SPECIALISTS SOLUTIONS

INJECTORS

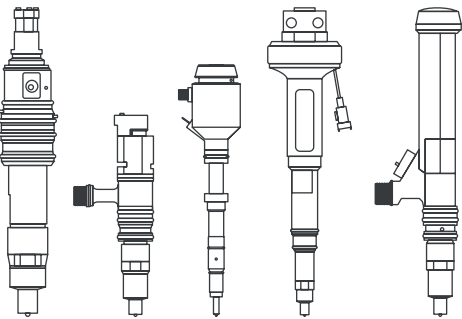
ITBr //X4 | ITBr //X2

CRDi · UNIVERSAL COMMON-RAIL DIESEL COVERAGE

Universal CRDi testing and coding for every major diesel injector platform in the global market, passenger car, light-duty, medium-duty, heavy-duty, off-highway and large-engine applications.



Mounting & Scanning
Injectors clamped on the HP-hose-free coaxial rail. QR-scan identification loads the correct test plan and component info automatically.



Brand	Families & Applications
Bosch	CRi1, CRi2, CRi3, CRiN1, CRiN2, CRiN3, CRiN4.2X, CRiN-LE, NCC/VCC
Delphi	F2P, F2E, F2R, F3P, F3E, C2i, C3i, C4i
Denso	G2, G3, G4 platforms – passenger car through heavy-duty
Schaeffler / Continental	Piezo CRi injectors – full coverage with CGL Blind-Lift
Caterpillar / Perkins	C4 / C6 and other Medium and Heavy-Duty CRDi
Cummins XPI	ISX15, X15, QSX15 – Heavy-Duty solenoid common rail
John Deere	PowerTech CR platforms – off-highway and agricultural
Komatsu / Hino / Isuzu	Off-Highway CR applications – full coverage
CRiN 4.2	Heavy commercial-vehicle injectors – full support
Large Engine CRiN	QSK, MTU, L'Orange and others

3,000 BAR

Maximum rail pressure
for testing the latest
generation of CRDi injectors.

Testing and coding time: 6-12 min

EU6 / EU7 testing standards

Future-proof from day one.

FEATURES

- Tested to OEM Standards: built to Bosch, Delphi, Denso, Caterpillar, Cummins procedures
- Database: 6,500+ part numbers, continuously online-updated
- OEM Authorized: Schaeffler / Continental
- Full injector coding: Bosch IQA/IMA/ISA/IMA4.2, Denso QR, Delphi C2i/C3i/C4i/F2x/F3x, Schaeffler / Continental IIC/IIC.2, Cummins XPI, CAT (TRM file), QSK
- Up to 9 multiple injections (pilot / main / post), fully configurable
- BIP actuation measurement for all heavy-duty solenoids
- Live response-time measurement for all injectors in real time
- Injector flushing feature, pre-installed

TESTS PERFORMED

- Electrical (Coil / Piezo)
- Insulation Test
- Back-Leak (Static / Dynamic)
- ISA Detection
- Volumetric Flow Measurement (All Operating Conditions)
- Nozzle Opening Pressure (aNOP)
- Nozzle Opening & Closing Response Time (RSP – eRSP)
- EU6 Technology Testing
- iART Testing
- VCC / NCC Technology
- DFI Mapping (Full Spectrum)
- CRG: Regeneration of All Piezo Stacks
- CGL: Piezo Actuator Gap Lift Measurement (OEM Method)
- NLT / LKT: Nozzle Leak Test
- Low Pressure Testing 0–10 bar
- Spray Pattern & Atomization Validation

New database and coding continuously updated for new EU6 applications.

Touch Screen

The 22" adjustable
Android HMI.

Live results, coding
and CloudX reports
at the operator's
eye level.



ITB | PLATFORM

ITBR-X4

ITBR-X2

SPECIALISTS SOLUTIONS

COMPONENTS

ITBR //X4 | ITBR //X2

FSC · FUEL-SYSTEM COMPONENTS

Integrated diagnostics for HP components: HP sensors.



ITBR-X2

Test 2. Repair 2.
The bench never waits.

While two injectors run their automated test plan, the operator disassembles, cleans and rebuilds the next two, one continuous cycle, no idle bench time. The throughput of a 4-station workflow, at 2-station investment.



ITB | PLATFORM

ITBR-X4

ITBR-X2

SPECIALISTS SOLUTIONS

FSC TEST CAPABILITIES

- **Sensor verification:** RDS / RPS curve plotting and tolerance check
- **Electrical tests:** resistance, insulation, current draw, response time

Why it matters:

Component failures are often misdiagnosed as an injector failure. Testing these components first saves the customer the cost of replacing the wrong part. The ITBR-X is integrated with FSC diagnostics.

