



2018-19

**WDS**



**Explore Workshop  
Diagnostic & Service  
Solutions**

## Welcome to an Innovation Driven World

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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 and manufacturing Diesel and Gasoline Injector 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

**03**

Company Profile

**06**

WDS. Explore  
Workshop Diagnostic  
& Service Solutions

**08**

DS1R / DS2R

**10**

UIPR-S

**12**

GD1R

**14**

GS8 / GS4

**17**

ECMR

**20**

ES3

**21**

DI.2

**22**

FST / FST-HF





**“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 production plant in Athens, Greece and a constantly growing global network in every continent. Recently, the company expanded in Germany by establishing its global headquarters and business administration.

Through a wide range of innovative products, including injector test benches for Diesel and Gasoline 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 **VDO Authorized** global partner for Diesel Specialists to Diagnose and Service CRDi systems, holding the unique technology to correctly control with Energy and accurately test VDO EU5 Common Rail Injectors.

### **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.

### 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 and products. in developing advanced technologies and products.

### Our Customers

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

**Innovation is the key to continuous growth and competitive advantage**





### **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 65 countries. The products are trusted internationally for their world class quality. Carbon Zapp takes pride in consistently delivering premium products and reliable customer services.







## **Explore Workshop Diagnostic & Service Solutions**

Innovative, Compact and Affordable Solutions  
for every Workshop to Test and Service  
All Types of Diesel & Gasoline Fuel Injection  
Systems. CRDi - EUi - EUP - GDi

**Diesel Common Rail**

**Diesel Heavy Duty**

**Gasoline Direct Injection GDi**

**Gasoline Fuel Injection**

**Engine & Exhaust Servicing**

**Fuel Injection Tools & Extractors**

**Diagnostic Fuel Injection Tools**

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## **DS1R / DS2R**

Common Rail Revolutionary testing solutions for BOSCH, DELPHI, DENSO and VDO. All types Piezo, Solenoid & Dual-Solenoid actuators. Affordable Solutions for every workshop to easily test and quickly diagnose major failures on all Types and Makes of Diesel CRDi's in the Market today.

**Standalone Air Driven Bench**

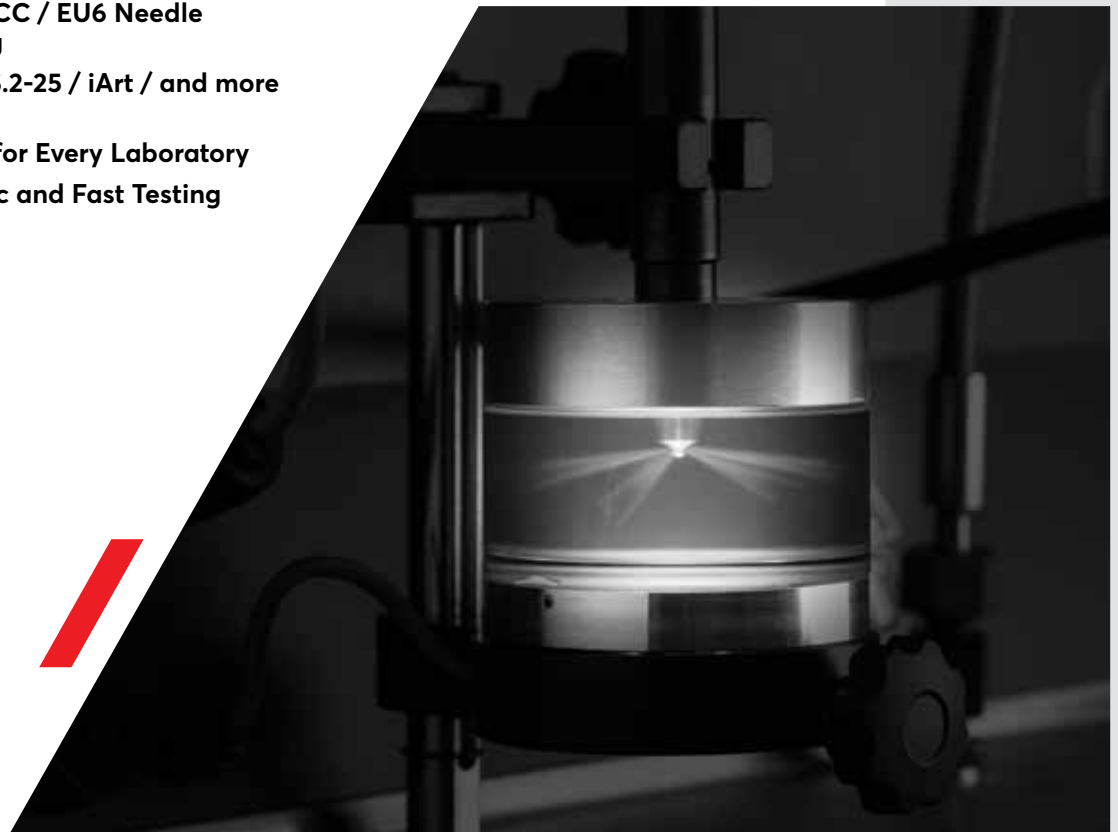
**High Pressures 2200 bar**

**NVcT: VCC / NCC / EU6 Needle  
Control Testing**

**CRS.3-27 / CRS.2-25 / iArt / and more  
EU6 Capable...**

**Compact Size for Every Laboratory**

**Fully Automatic and Fast Testing**



**Diesel Common Rail**

High Pressure Testing up to 2200Bar (EU6) with only 6.5 Bar Air supply input

Controls NEW Generation CRI3-25 and CRI3-27 injectors with NCC and VCC technology

EU5 and EU6 systems testing [Denso I-Art (6-pin), VDO, etc...]

VDO CR injectors (EU5) testing only with approved Energy Control by **VDO**

Injector Coding with the use of Z-CODr (optional)

Manual Operation. Dual System Flushing/Cleaning capability

Nozzle reaction time measurement for all systems via RSP sensor

Efficient Working Area with Protective Hood fully opening

The fastest and easiest clamping of injectors in the market

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

Fast testing phase through a 8" Touchscreen HMI with AZO software

CRDi Piezo Stack Regeneration function

Blue Limits Diagnosis for Specialists Service

Static Electronic Mass Measuring Sensor (DFAP) Acc: 0.6%FS, Accurate and Repeatable Measurement with Differential Absolute Pressure Technology (DS1R)

Accurate illuminated Volumetric Tubes Measurement with auto-drain function. resolution 0.5ml, accuracy  $\pm 1\text{ml}/65\text{ml}$  (DS2R)



Compact Diesel Common Rail Test Bench for 1 CRi(N) / 1 CRiN 4.2 solenoid or piezo testing in under 10 min. Electronic Measurement with DFAP Technology 12 min.



Compact Diesel Common Rail Test Bench for 1 CRi(N) /1 CRiN 4.2 solenoid or piezo Volumetric Tubes Measurement in 15-20 min



**Diesel Heavy Duty**

# **UIPr-S**

Standalone air driven unit capable to easily diagnose major faults on all Makes & Types of Unit Injection Systems (EUI / EUP).



Fully Automatic and fast testing phase through an 8" Touchscreen HMI with AZO software

Standalone Test Bench for 1 EUI/EUP Diesel Injector. 10min testing phase

Blue Limits Diagnosis for Specialists Service

Cummins ISX / Scania HPI and Cummins QSK Test Plans

Nozzle reaction time measurement for all systems via RSP sensor (optional)

Actuator Valve measurement via RSP/BIP sensor (optional)

Electronic Static Mass Measurement (DFAP)

Piezo, Solenoid & Dual-Solenoid actuators





**Heavy Duty, Industrial,  
Marine and Passenger  
Car UIS Applications**

Delphi E3/E1, Delphi, DAF SmartPump /Injector), Scania HPI/Cummins ISX, Cummins QSK, Volvo (Bosch & Delphi), John Deere, Scania/Yanmar, Iveco, VW PDE, All CAT's, Cummins Celect, Detroit Diesel, Cummins, MB Actros, MB Atego, Mack, DAF, and more...

**Heavy Duty Solutions  
EUI/EUP Systems**

A complete range of EUI/EUP adapter kits, cams, rods, wiring harnesses and more are available. New systems are being continuously released for Smart injector/pumps and more.

**Service Tools**

Assembly / Disassembly  
and repair tools  
for Diesel Common Rail  
Injectors Extractors  
for Diesel Injectors  
(CRDi-EUI-EUP-HEUi)

**Gasoline Direct Injection GDi**

## **GD1R**

The Affordable GDi Service Bench is available for every Workshop to test and thoroughly Diagnose all Faults on Gasoline Direct Injectors. GDi Systems require high pressure testing to truly diagnose operation faults.

**High Pressure Testing up  
to 450Bar (EU6 / EU7 prospect)  
with only 5 Bar Air supply input**



**Gasoline Direct Injection GDi**

Compact Gasoline DIRECT Injector GDi Test Bench for 1 solenoid or piezo injector in under 7min.

High Pressure Testing up to 450Bar (EU6 / EU7 prospect) with only 5 Bar Air supply input

Automatic/ Manual and fast testing phase through an 8" Touchscreen HMI with AZO software

Low Pressure testing for 1 conventional MPFi or Racing application injectors 0-10Bar

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

Controls NEW Generation High Pressure GDi with multiple Step Current profiles

LPG for Heavy Duty Applications (Trucks, Commercial Vehicles)

VDO / Siemens GDi injectors (EU5) testing only with approved Energy Control by **VDO**

Nozzle reaction time measurement for all systems via RSP sensor

Efficient Working Area with Protective Hood fully opening

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 Service

Electronic Static Mass Measurement (DFAP)

Ultrasonic cleaning function

The fastest and easiest clamping of injectors in the market



**Gasoline Fuel Injection**

# GS8 / GS4

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



Bench for Testing & Ultrasonic Cleaning up to 8 Fuel Injectors

Bench for Testing & Ultrasonic Cleaning up to 4 Fuel Injectors



- Manual Function
- Electronic Pressure Control 0-10Bar
- Dynamic & Static iVM
- Manual-iRF function
- Injector Leak Test function

DISPLAY SCREEN



- 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"



iRF



ULTRASONIC BATH

**Gasoline Fuel Injection****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  $\pm 1\text{ml}/130\text{ml}$

**ECMR (Optional Unit)**

Gasoline Injection System Electronic Control Module for Activating and Controlling all Types and Makes of actuators (solenoid and piezo) utilizing an 8" touchscreen HMI with AZO software and database. Compact Actuator and Control Module for 4 GDi Piezo Injectors and NEW Generation High Pressure GDi with multiple Step Current profiles

**iSPC**

Illuminated Spray Pattern Chamber used for visual diagnosis of correct injection

**Ultrasonic Cleaning**

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

**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 850Bars

**Service & Repair**

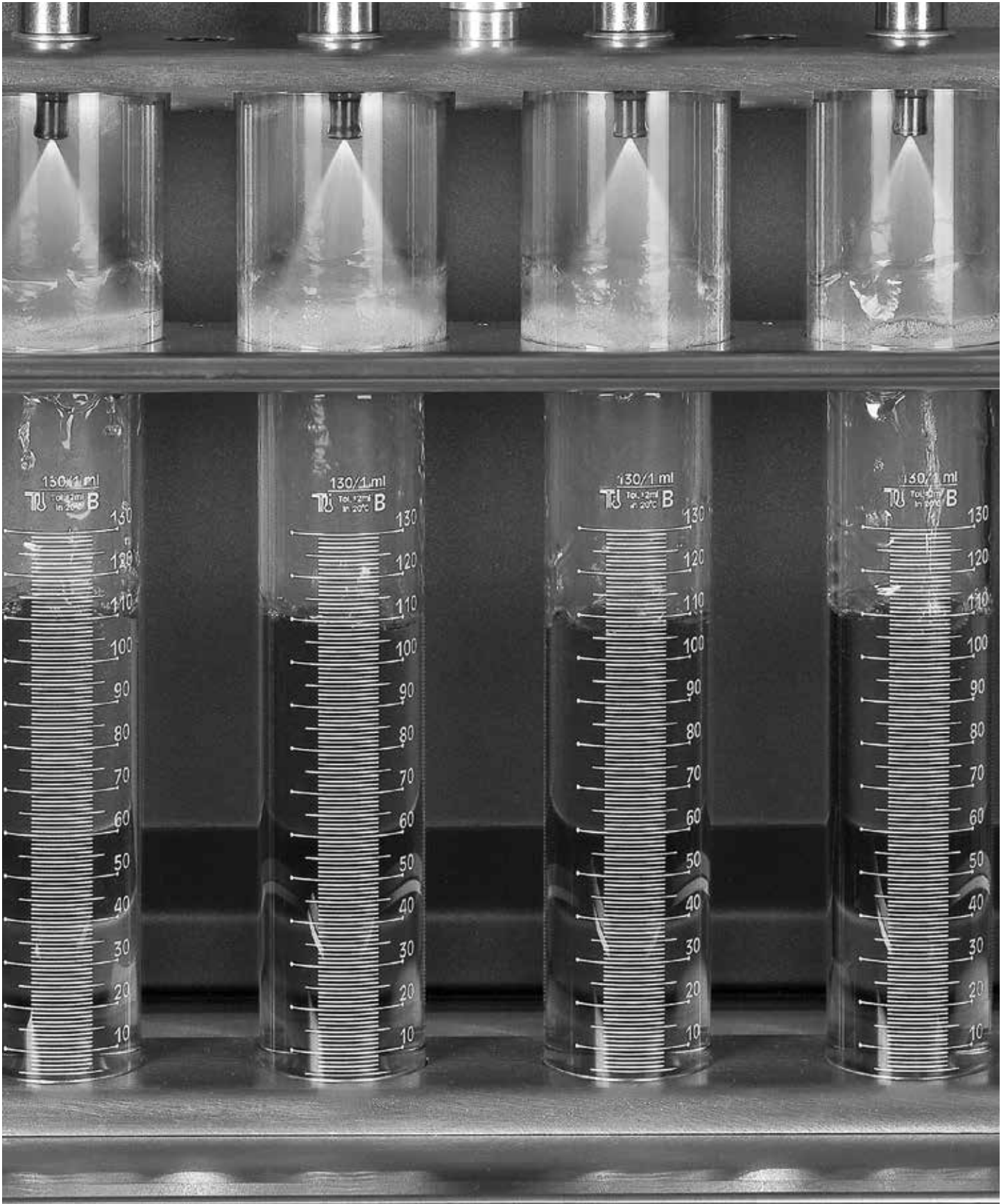
Increased exhaust emissions  
 Reduced engine performance (Power, Torque)  
 Increased fuel consumption  
 Poor drive-ability situations  
 Direct injection systems failure (Leaks, Pressure drop)  
 Rough idle and periodic stall of the engine  
 Conditions that lead to long-term catalytic converter damage  
 Extended engine start-up MIL  
 - check engine light-up

**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



**Gasoline Fuel Injection**



**Diesel Common Rail**  
**Gasoline Direct Injection GDi**

## **ECMR**

Diesel & Gasoline Injection System Electronic Control Module for Activating and Controlling all Types and Makes of actuators (solenoid and piezo) utilizing an 8" touchscreen HMI with AZO software and database.

**new**

Compact Actuator and Control Module for 4 GDi - 4 CRi(N) - 2 CRiN 4.2 - (1 CRp - 1EUI - 1 EUP)\* - 1 HEUI

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

Controls NEW Generation CRi3-25 and CRi3-27 injectors with NCC and VCC technology

EU5 and EU6 systems testing [Denso I-Art (6-pin), VDO, etc...]

Controls NEW Generation High Pressure GDi with multiple Step Current profiles

VDO CR injectors (EU5) testing only with approved Energy Control by **VDO**

Injector Coding with the use of Z-CODr (optional)

CRDi Piezo Stack Regeneration function

Blue Limits Diagnosis for Specialists Service



*\*Future Optional Update*

# Extras/optionals

## Adapters Kit

### CRDi Solutions

A complete range of CRIN adapters kits for Heavy Duty applications are available. Commercial, Industrial, Marine applications and continuously being updated and released.



### Direct Injection Solutions

A complete range of adapters\* for All Makes and Types GD-I and Top-Feed Conventional Injectors are available



## Tools

### SRC-505

Gasoline injector screen filter extractor tool



### GV3-4100

Injector puller kit suitable for gasoline direct injection engines (VAG-FSI and others)



## Fuel Injection Solutions MARINE

### E-TEC Kit \*

Complete Rail Kit specially designed for adaptation to E-TEC / FICHT Injectors

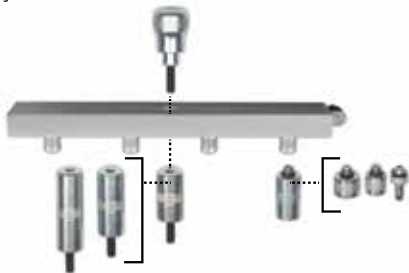


**Gasoline Fuel Injection**

**Fuel Injection Solutions**

**Standard Kit [GSx-10 units]**

Fuel Rail & Adapters for all Makes and Types of Top-Feed and G-DI Injectors



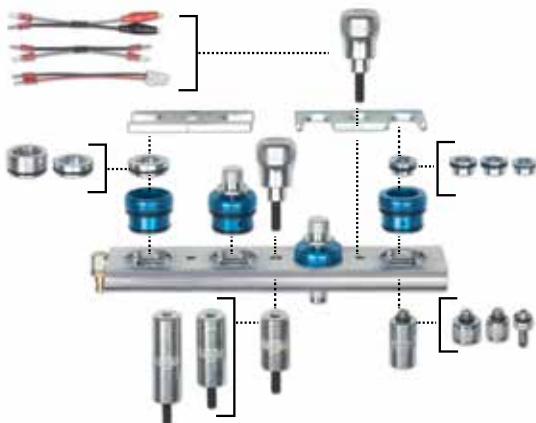
**TBI Kit \* [GSx-10 units]**

Fuel Rail & Adapters for all Makes and Types of Throttle Body and Side-Feed Injectors



**Exclusive Kit [GSx-20/30 units]**

Complete set of Fuel Rail & Adapters, designed for Easy and Fast adaptation to all Makes and Types of Top-Feed, G-Di and Side-Feed Injectors



**Ultrasonic Devices**

Ultrasonic Baths are available at sizes up to 120L featuring:

- 42KHz frequency
- Sweep technology\*
- Degas function\*,
- Controlled Heater and more...



**Oils & Fluids**

1. Diesel Injector Calibration Oil (ISO4113)
2. Gasoline Injector Calibration Oil (Exxsol 40/60 equivalent)
3. Ultrasonic Solvent (Concentrated) 4L|20L|208L
4. Diesel / Gasoline Injector Cleaning Detergent 2L|25L"

**Portable stand**

Compact, lightweight, robust with accessories cabinet



## ES3

# Diesel & Gasoline Engine, 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"

### 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
- Carburated Engines

- 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



## DI.2

# DPF & Intake Manifold Treatment Unit

### Benefits

De-Carbonizing of Intake Manifold  
and throttle body

DPF Cleaning without disassembling

User-Friendly, On-Display guide with  
language localization

Automatic Pressure adjustment  
and Operation Cycle

Use of External Tank

Adaptability to all makes and models

Portable, Lightweight and Robust unit



### 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\*



### 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 and Non-Combustible environmental friendly detergent. Application programmable duty-cycle software integrated





## **FST / FST-HF**

Diesel & Gasoline  
Fuel System Tester

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



### **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

### **PIMK-010**

Piezo CRDi Backflow Pressure Tester

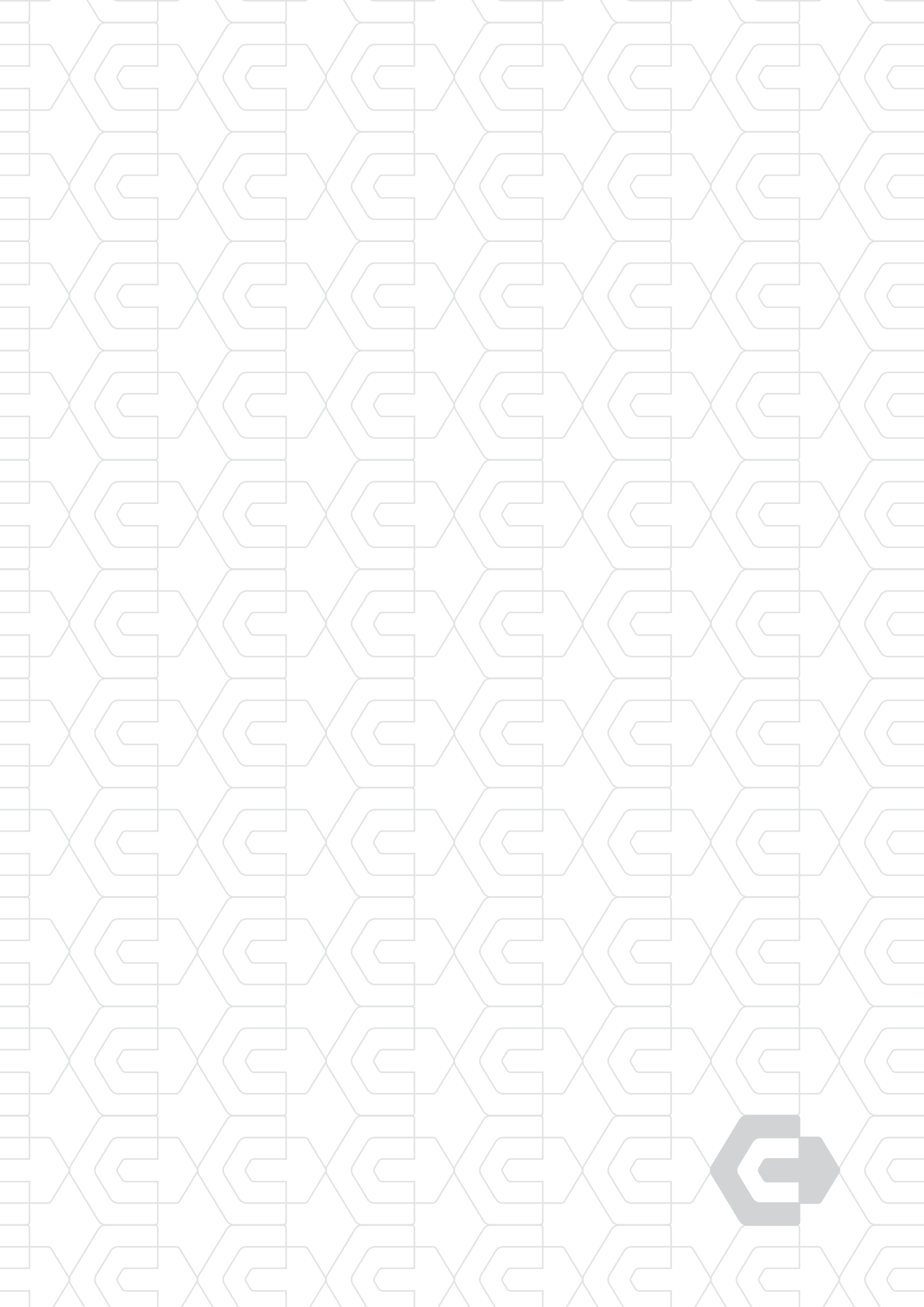
#### **DIAGNOSIS**

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)







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