TEST BENCH FOR 4 CRDi's FULL- AUTOMATIC OPERATION CODING FUCTION

User's Manual

007935100770 007935100780 007935100790
007935100800 007935100810 007935100820
007935100830 007935100840 007935100850
007935100860 007935100870 007935100880
007935100890 007935100900 007935100910
007935100920 007935100930 007935100940
007935100950 007935100960 007950030815
007935101070

Magneti Marelli Aftermarket Spółka z.o.o.

Plac Pod Lipami 5, 40-476 Katowice

Tel.: + 48 (032) 6036107, Faks: + 48 (032) 603-61-08

e-mail: checkstar@magnetimarelli.com

www.magnetimarelli-checkstar.pl

General Information

Warning and Safety symbols

: CAUTION, High Pressures

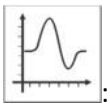

: CAUTION, Hot Surface(s)


: Always wear protective gloves


: Always wear protective goggles

Definition of Terms and Abbreviations

Throughout the manual symbols or abbreviations are used to describe a test, a function or something similar. Below is a list of the most commonly used:

-  : Symbol used for Testing Tank / Fluid / Fill Port / Drain Valve. Use only specified fluid in Specifications area of this manual.
-  : Symbol used for MACC (Cleaning) Tank / Fluid / Fill Port / Drain Valve. Use only specified fluid in Specifications area of this manual.
- 

: Symbol used for Hydraulic Oil Tank / Fluid / Fill Port / Drain Valve. Use only specified fluid in Specifications area of this manual. This tank is available only in HUIr units.
- 

: Injector Harness Connection. Use the provided harness(es) in the adapters kit. Some units have additional cables to connect on the main harness, and provide adaptability to other,

non-universal injector sockets. For multi slot units, the making 1/2/3/4 is used to denote the slot #.

- 

: Injector Sensor Connection. Use the provided harness(es) in the adapters kit. Some units have additional cables to connect to other sensors like BIP. For multi slot units, the making 1/2/3/4 is used to denote the slot #.
- 

: Port for measuring the Discharge Volume of the Injector/Component. For multi slot units, the making 1/2/3/4 is used to denote the slot #.
- 

: Port for measuring the Return Volume of the Injector/Component. For multi slot units, the making 1/2/3/4 is used to denote the slot #.

- : For multi slot units, the making 1/2/3/4 is used to denote the slot #.

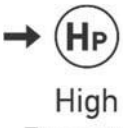
- : The Common Rail output port(s). Connect appropriate HP Hoses, approved by your Service Provider. Since it is a common rail, use HP Plugs to plug the unused ports in a multi slot machine.

- 

: The main are port for the machines. Always look in specifications to adhere hose diameter, lengths and compressor power and capacity.
- 

/ : Attachment port/cable, used to connect a main unit to the attachment unit.
- 

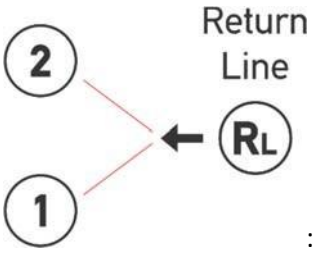
: Mains Power Supply Plug.

- 

: HUIr unit Hydraulic High Pressure Oil Port for connection to the HEUI Adapter port.

- 

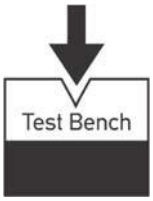
: HUIr unit Hydraulic Oil return port from the HEUI Adapter.

- 

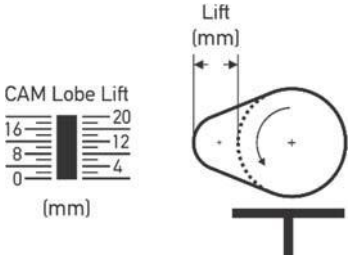
: Connect the Return Hose from the UI Adapter. Use Position 1 or 2 depending on the injector type. Pos.1: Regulated Return (Most commonly used), Pos.2: Free Return (VW PDE, CUMMINS, FORD POWERSTROKE).

- 

: Connect to the Feed port on the adapter of the UI injector. When 2 Ports on the adapter are horizontally aligned, the order is arbitrary, when the ports are vertical, the Port marked with a DOT is the Feed Port.



- : Return Port from TCCMr to the Main Test Bench Tank.



- : Use this indicator to adjust the CAM lift of the EUI Injector Plunger.

- 
: USB Port for connecting USB Stick/Drive, USB Printer, USB Mouse/Keyboard.

-

- Package version: Software version

- APK version: Application version
- ADB version: Database version MDB version: Machine version
  AVR version: Firmware version
- FPGA version: Hardware version
- TeamViewer QS: A portal for internet support
-  : Back button, goes back one step
-  : Provides screen specific option
- SLOT #: (On multi slot machines only) Activate/deactivate operation of specific slot
- MACC: Cleaning / Flushing Function
-  : Shows/Hides the the list of tests to be executed
- R2LC: Electrical Test of component
- aNOP: Automatic Nozzle Opening Pressure Test (RSP adapter needed)
- RSP: Response test. Measure the Delay from injector actuation to injection (RSP adapter needed)
- BIP: Solenoid Delay test. Measures the Delay from injector actuation to solenoid charge (BIP adapter needed)
- iVM: Dynamic Volume Metering test. Measure Discharge and/or Return Injection Volume
- LKT: Static Volume Measuring of Return Volume.
- mm3 VS mg: mm3 is Volume(V) and mg is Mass(m). Some machines have an advanced measuring unit that measure mass. An approximation volume to mass (as a dynamic, under HP pressure flow) would be “V=m/0.775”.
- TP: Test Plan, a set of parameters for a specific test, comprising of Strokes, Pulses, Pulse Width, Pressure etc.
- STRK: Strokes per minute.

Product Description

CRU.4R

Intended Use

This unit can automatically and fully Test up to 4 Common Rail Injectors simultaneously. It has the capability to fit SPR and RSP adapters on Common Rail injectors. In addition, it supports EUI (UIPR-A) and HEUI (HUIR-A) Attachment units, that can perform testing of these Pump-Injectors 1-by-1 and also use RSP and BIP adapters. This unit uses a Dynamic Mass Metering system and can do Coding on select injectors.

Front View

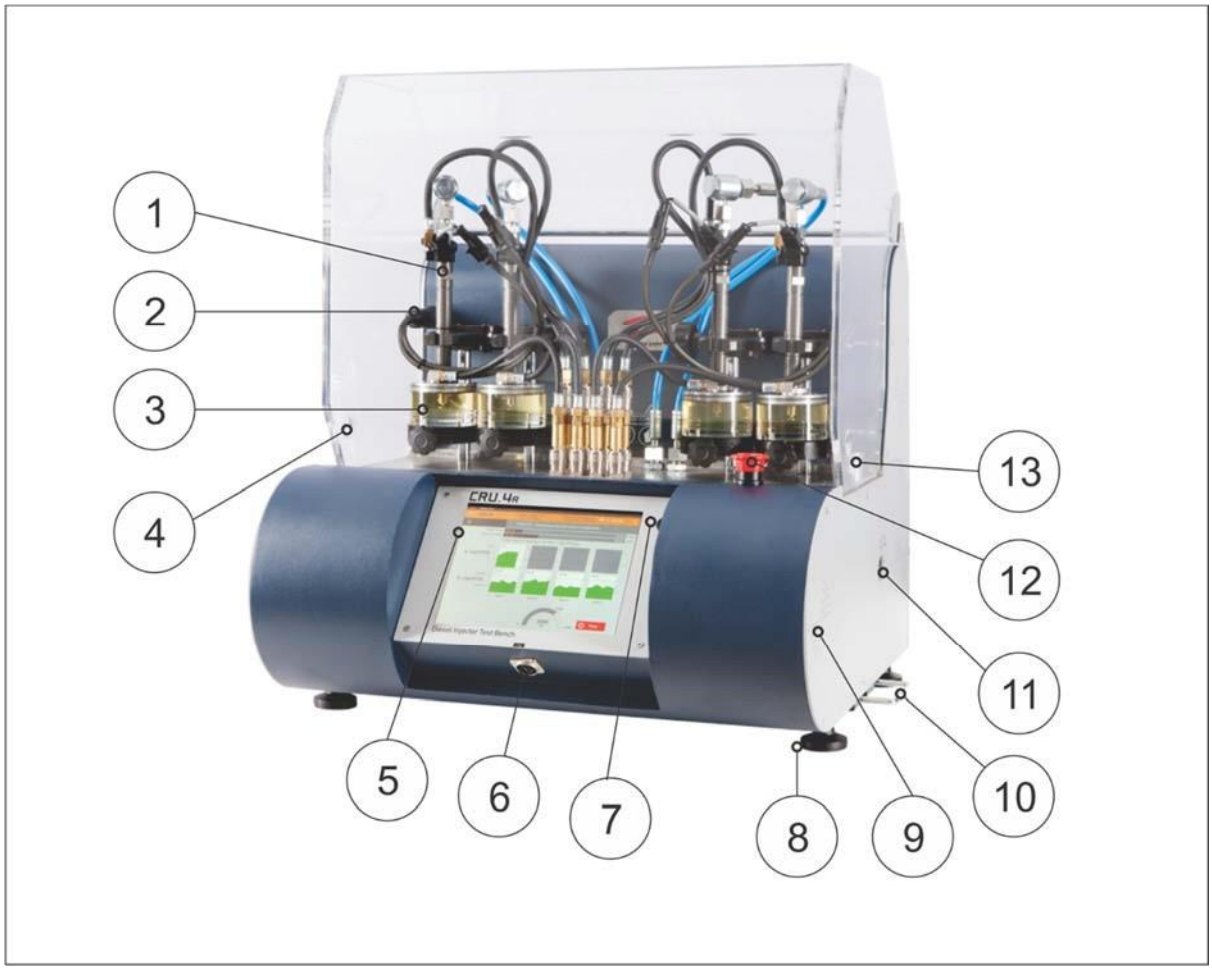


Figure: CRU.4R

1. *Diesel Injector (Not included)*
2. *Injector Harness Cables*
3. *Injector Clamp / Discharge Height Adjuster (iPSC mounted) with LED*
4. *Protective Hood*
5. *Control Panel / PC*
6. *USB Port*
7. *On/Off Switch for PC*
8. *Cushioned / Adjustable support pads*
9. *Air Vents*
10. *Carrying Handles*
11. *Test Oil level Indicator*
12. *Emergency Stop Switch*
13. *Test Oil Fill Port*

CRU.2R

Intended Use

This unit can and Clean up to 1 Common Rail Injector simultaneously. It has the capability to fit SPR and RSP adapters on Common Rail injectors. In addition, it supports EUI (UIPR-A) and HEUI (HUIR-A) Attachment units, that can perform testing of these Pump-Injectors 1by-1 and also use RSP and BIP adapters. This unit uses a Dynamic Mass Metering system and can do Coding on select injectors.

Front View

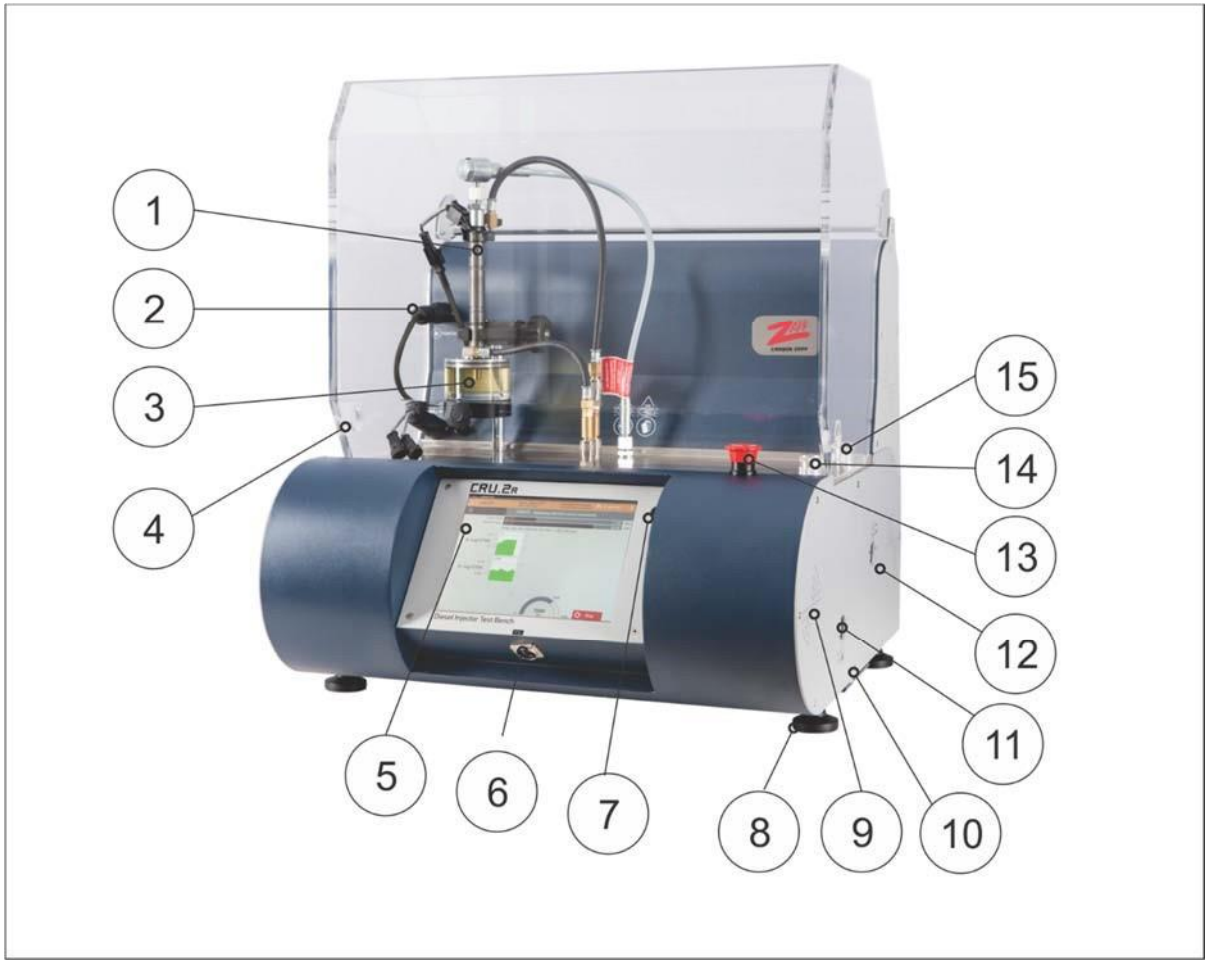


Figure: CRU.2R

1. *Diesel Injector (Not included)*
2. *Injector Harness Cables*
3. *Injector Clamp / Discharge Height Adjuster (iPSC mounted) with LED*
4. *Protective Hood*
5. *Control Panel / PC*
6. *USB Port*
7. *On/Off Switch for PC*
8. *Cushioned / Adjustable support pads*
9. *Air Vents*
10. *Carrying Handles*
11. *MACC level Indicator*
12. *Test Oil level Indicator*
13. *Emergency Stop Switch*
14. *MACC Fill Port*

15. *Test Oil Fill Port*

GDU.4R

Intended Use

This unit can up to 4 HP Gasoline Direct Injectors simultaneously. It has the capability to fit SPR and RSP adapters on Common Rail injectors. This unit uses a Dynamic Mass Metering system.

Front View

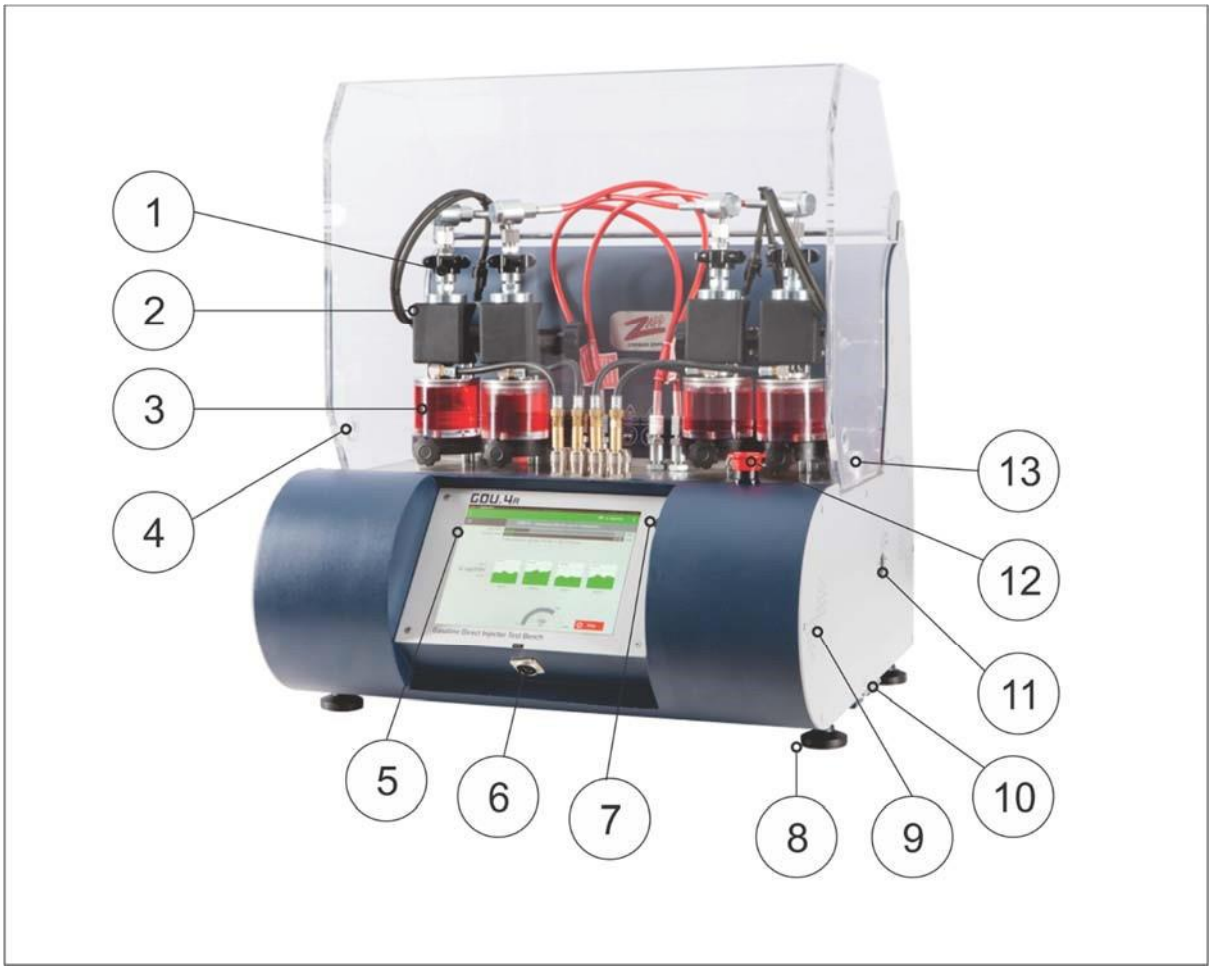


Figure: GDU.4R

1. *Gasoline Injector (Not included)*
2. *Injector Harness Cables*
3. *Injector Clamp / Discharge Height Adjuster (iPSC mounted) with LED*
4. *Protective Hood*
5. *Control Panel / PC*
6. *USB Port*
7. *On/Off Switch for PC*
8. *Cushioned / Adjustable support pads*
9. *Air Vents*
10. *Carrying Handles*
11. *Test Oil level Indicator*
12. *Emergency Stop Switch*
13. *Test Oil Fill Port*

GDU.2R

Intended Use

This unit can and Clean up to 1 HP Gasoline Direct Injector. It has the capability to fit SPR and RSP adapters on Common Rail injectors. This unit uses a Dynamic Mass Metering system.

Front View

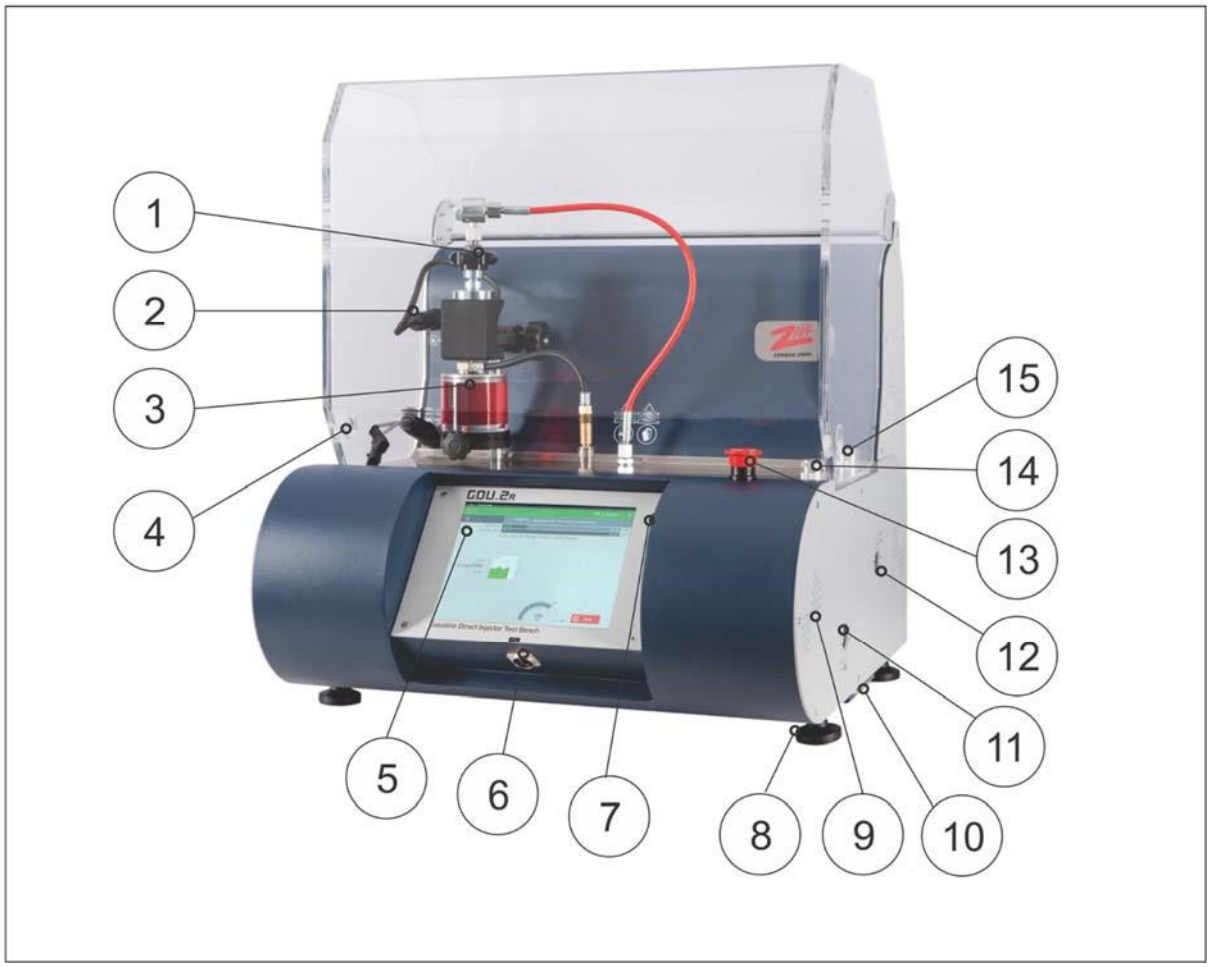


Figure: GDU.2R

1. *Gasoline Injector (Not included)*
2. *Injector Harness Cables*
3. *Injector Clamp / Discharge Height Adjuster (iPSC mounted) with LED*
4. *Protective Hood*
5. *Control Panel / PC*
6. *USB Port*
7. *On/Off Switch for PC*
8. *Cushioned / Adjustable support pads*
9. *Air Vents*
10. *Carrying Handles*
11. *MACC level Indicator*
12. *Test Oil level Indicator*
13. *Emergency Stop Switch*
14. *MACC Fill Port*
15. *Test Oil Fill Port*

DS-R

This unit can fully Test and Clean up to 1 Common Rail Injector. It has the capability to fit SPR and RSP adapters on Common Rail injector. In addition, it supports EUI (UIPR-A) and HEUI (HUIR-A) Attachment units, that can perform testing of these Pump-Injectors 1-by-1 and also use RSP and BIP adapters. This unit comes in an automatic (D) & semi-automatic (A) version and uses an Electronic Volumetric Measuring Unit or Volumetric Tubes for measuring the injected volume. User intervention is needed in the (A) units to complete the test for adjusting the Test Pressure and Entering the Volumetric Data.

Front View

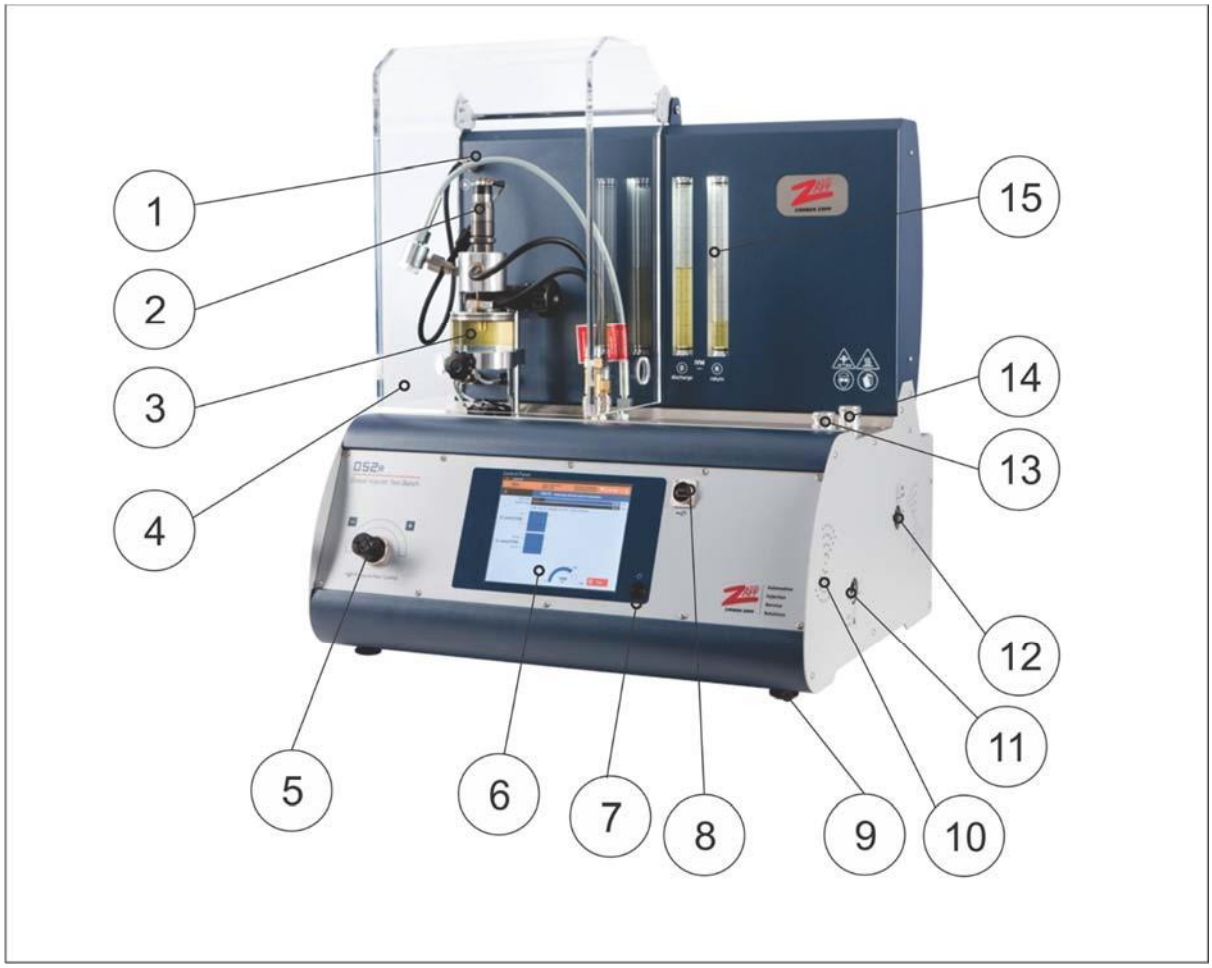


Figure: DS-R

1. *Injector Harness Cables*
2. *Diesel Injector (Not included)*
3. *Injector Clamp / Discharge Height Adjuster (iPSC mounted) with LED*
4. *Protective Hood*
5. *HP Knob for controlling the Pressure (Manual HP Machines only)*
6. *Control Panel / PC*
7. *On/Off Switch for PC*
8. *USB Port*
9. *Adjustable support pads*
10. *Air Vents*
11. *MACC level Indicator*
12. *Test Oil level Indicator*
13. *MACC Fill Port*

14. *Test Oil Fill Port*
15. *Volumetric Tubes (Non-Electronic Measuring unit machines only)*

DSF-

This unit can Clean and Flush up to 4 Common Rail Injectors simultaneously. In addition, it supports EUI (UIPR-A) and HEUI (HUIR-A) Attachment units, that can clean/flush these Pump-Injectors 1-by-1.

The Unit comes with 2 tanks for cleaning and flushing. *Front View*

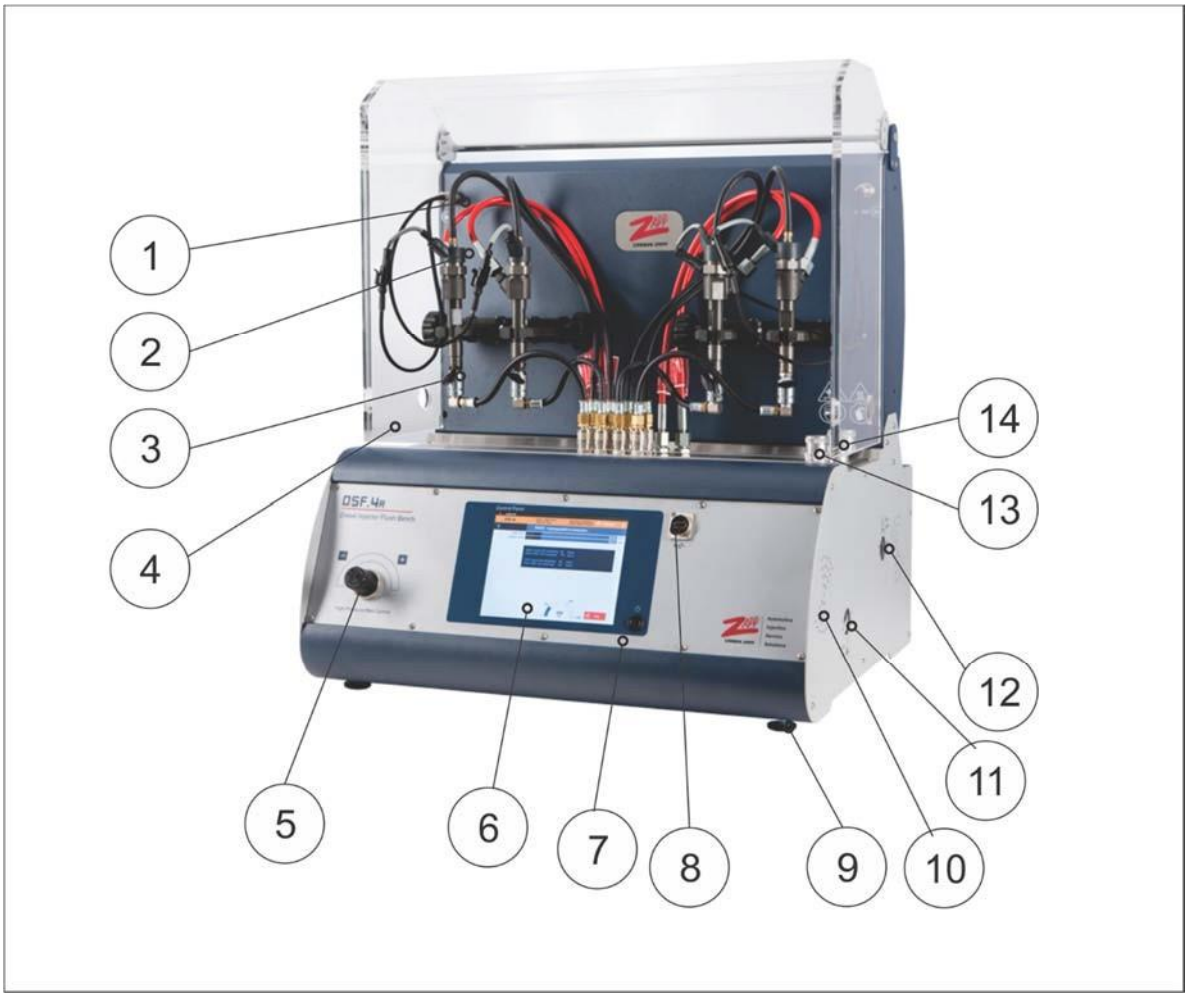


Figure: DSF-R

1. *Injector Harness Cables*
2. *Diesel Injector (Not included)*
3. *Injector Clamp (D-Adapt mounted)*
4. *Protective Hood*
5. *HP Knob for controlling the Pressure (Manual HP Machines only)*
6. *Control Panel / PC*
7. *On/Off Switch for PC*
8. *USB Port*
9. *Adjustable support pads*
10. *Air Vents*
11. *MACC level Indicator*
12. *Test Oil level Indicator*
13. *MACC Fill Port*
14. *Test Oil Fill Port*

GD-

This unit can fully Test and Clean up to 1 HP Gasoline Direct Injector. This unit comes in an automatic (D) & semi-automatic (A) version and uses an Electronic Volumetric Measuring Unit or Volumetric Tube for measuring the injected volume. User intervention is needed in the (A) units to complete the test for adjusting the Test Pressure and Entering the Volumetric Data *Front View*

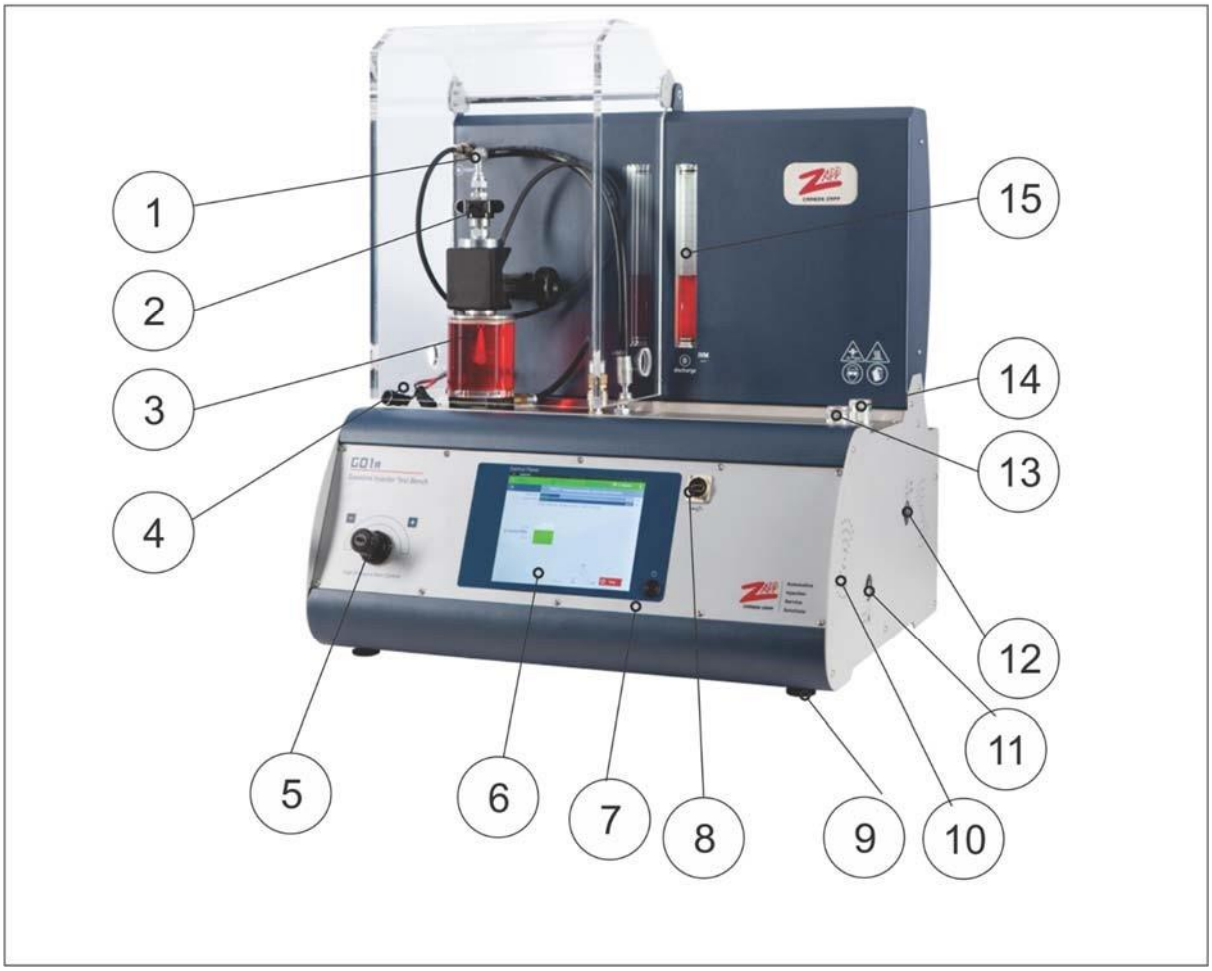


Figure: GD-R

1. *Injector Harness Cables*
2. *Gasoline Injector (Not included)*
3. *Injector Clamp / Discharge Height Adjuster (iPSC mounted) with LED*
4. *Protective Hood*
5. *HP Knob for controlling the Pressure (Manual HP Machines only)*
6. *Control Panel / PC*
7. *On/Off Switch for PC*
8. *USB Port*
9. *Adjustable support pads*
10. *Air Vents*
11. *MACC level Indicator*
12. *Test Oil level Indicator*
13. *MACC Fill Port*
14. *Test Oil Fill Port*
15. *Volumetric Tube (Non-Electronic Measuring unit machines only)*

UIP-

As an attachment to the main units CRU / DS, or as a standalone unit, it will provide the capability to Test and/or Clean EUI Injectors and Pumps.

Front View

Figure: UIP-R

1. *CAM securing lock*
2. *Protective Hood*
3. *Adapter Connections*
4. *Adjustable support pads*
5. *(LP) Low Pressure gauge*
6. *Test Oil level Indicator*
7. *MACC level Indicator*
8. *Injection Connections*
9. *Injector Clamp / Discharge Height Adjuster (iPSC mounted) with LED*
10. *EUI Injector (Not included)*
11. *Plunge ROD*
12. *CAM Adjuster (always use the headless screw to secure)*

HUI-

As an attachment to the main units CRU / DS, or as a standalone unit, it will provide the capability to Test and/or Clean HEUI Injectors.

Front View

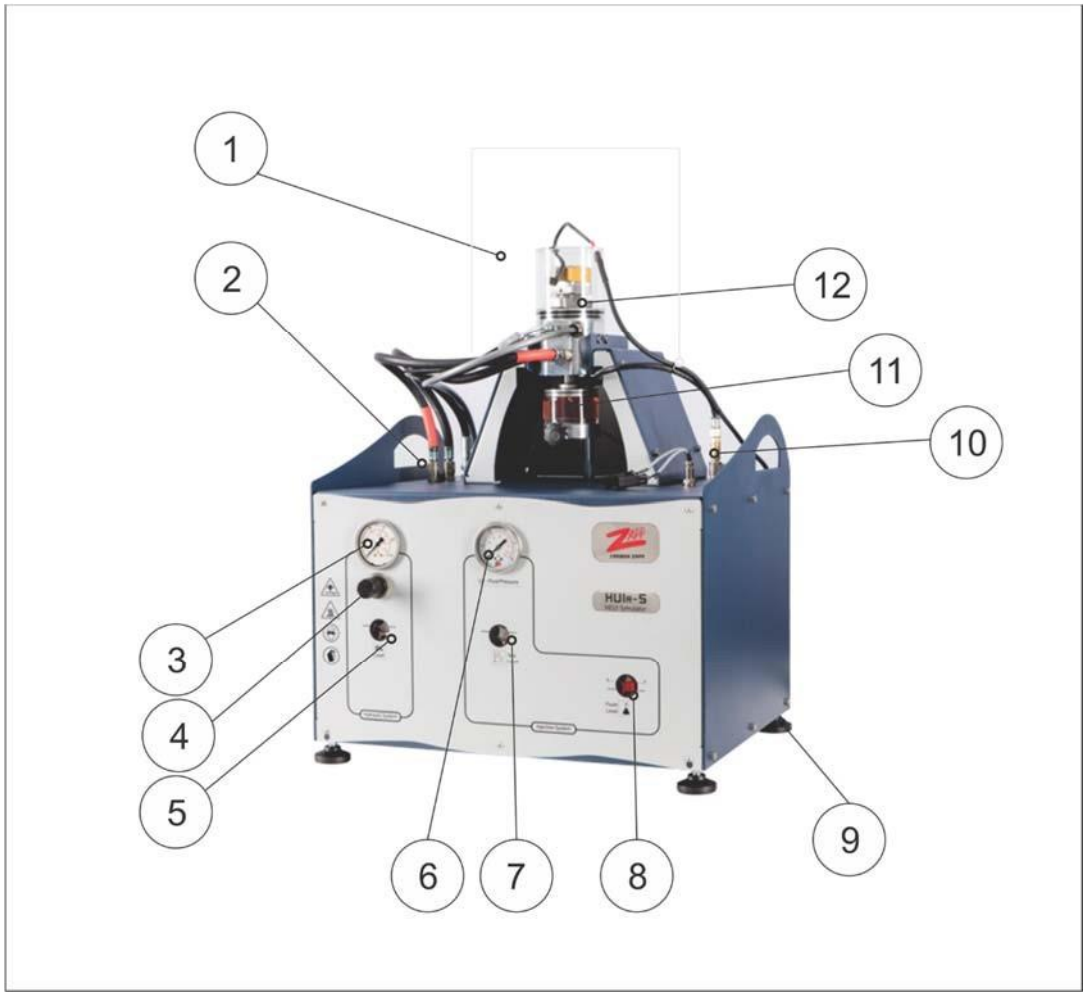


Figure: HUI-R

1. *Protective Hood*
2. *Adapter Connections*
3. *Hydraulic Oil Gauge*
4. *Hydraulic Oil Adjusting Knob (Adjust on each TP)*
5. *Hydraulic Oil level Indicator*
6. *(LP) Low Pressure gauge*
7. *Test Oil level Indicator*
8. *MACC level Indicator*
9. *Adjustable support pads*
10. *Injection Connections*
11. *Injector Clamp / Discharge Height Adjuster (iPSC mounted) with LED*
12. *HEUI Injector (Not included)*

TCCM-R

Intended Use

This Control Module, is capable of controlling many different units, UIPr-S and HUIr-S, but also generic 3-party Test Benches for Gasoline and Diesel Injectors and Pumps. It can also be used as a Injector simulator only.

It comes in many versions, and the connections and component capability change and are dependent on the specific version.

Front View

Figure: TCCM-R

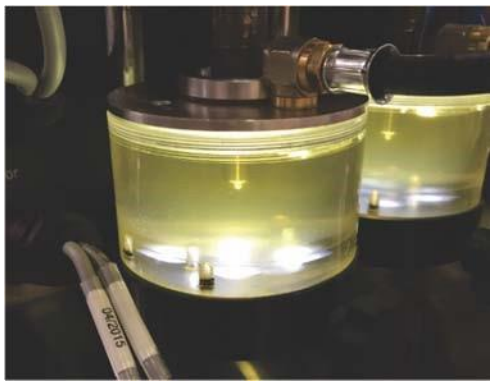
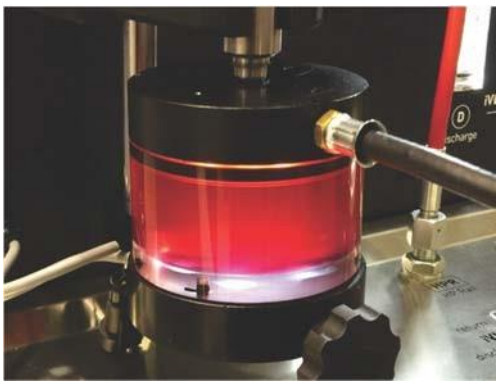
1. *Control Panel / PC*
2. *Adjustable support pads*
3. *On/Off Switch for PC*
4. *USB Port*
5. *Air Vents / Side Panel*
6. *Electrical and Hydraulic Connections*

Adapters

D-ADAPT

This is the standard adapter for Discharge of the injector.

SPR

This adapter is for visually checking the Spray of the injector (different for Gasoline and Diesel Injectors) on every TP, at pressures up to 2500bar. This adapter is optional. MACC feature should not be used with this adapter.

RSP

This adapter is for performing the RSP and aNOP Tests. This adapter is optional.

CRIN

Various adapters are available for CRIN (and other side-feed CR Injectors), for adapting on to the machine. These adapters are optional.

EUI

Various adapters are available for EUI /EUP (Injectors and Pumps), for adapting on to the machine. These adapters are optional.

HEUI

Various adapters are available for HEUI Injectors, for adapting on to the machine. These adapters are optional.

Commissioning

Installation

Once unpacked, install the unit on a steady, leveled bench that can support its weight. Some surrounding space should be free for better ventilation and maintenance.

Electrical Connections

INFO: Reference the Rating Plate on the rear of the unit, and technical specifications section.

1. Switch off the unit
2. Connect the power cord to the unit
3. Connect the other end of the cord to a live and grounded outlet.

Compressed Air Connections

INFO: Reference the Rating Plate on the rear of the unit, and technical specifications section.

ALWAYS: Adhere hose length and diameter, and compressor capacity according to the specifications.

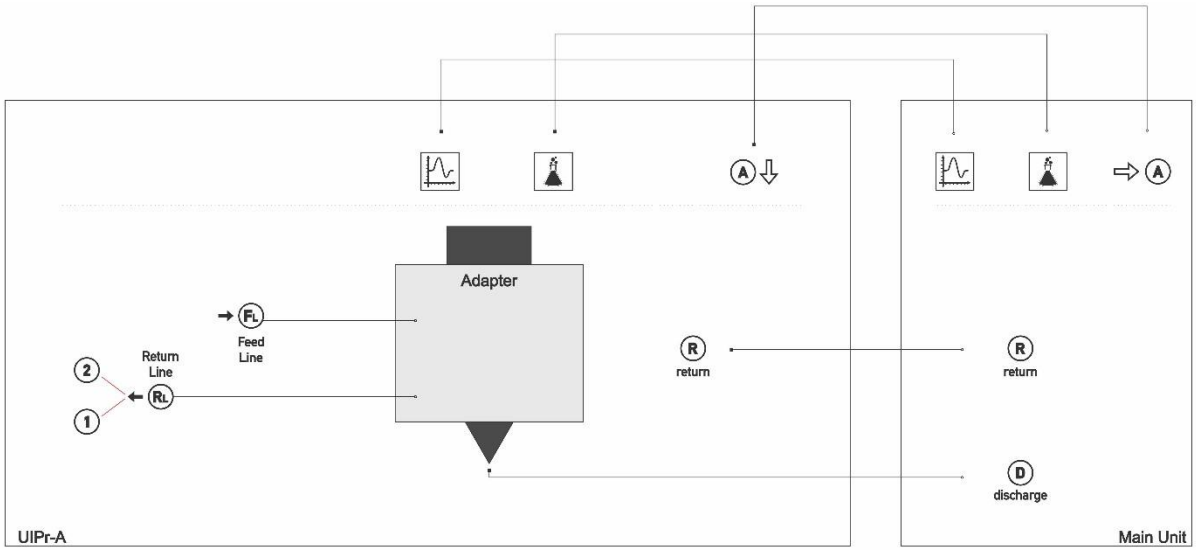
ALWAYS: Purify the air coming to the unit, so it is free of water, oil and particles.

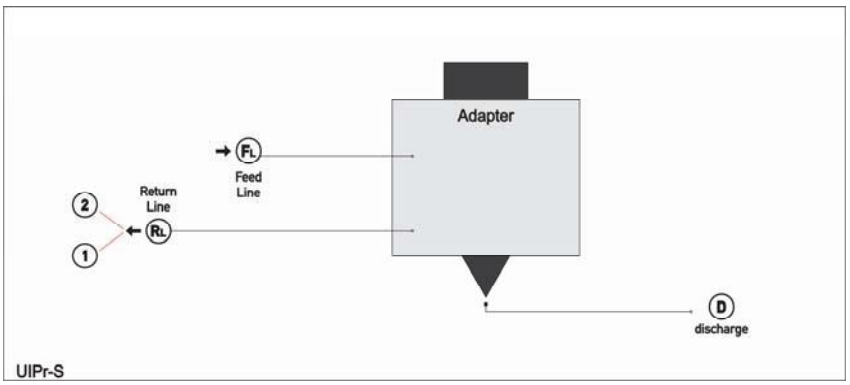
1. Close the air supply from the compressor
2. Connect the necessary hose connector (not in scope of delivery), on the rear of the machine (if required)
3. Connect and secure the Air Supply hose on the machine connector
4. Open the air supply from the compressor.

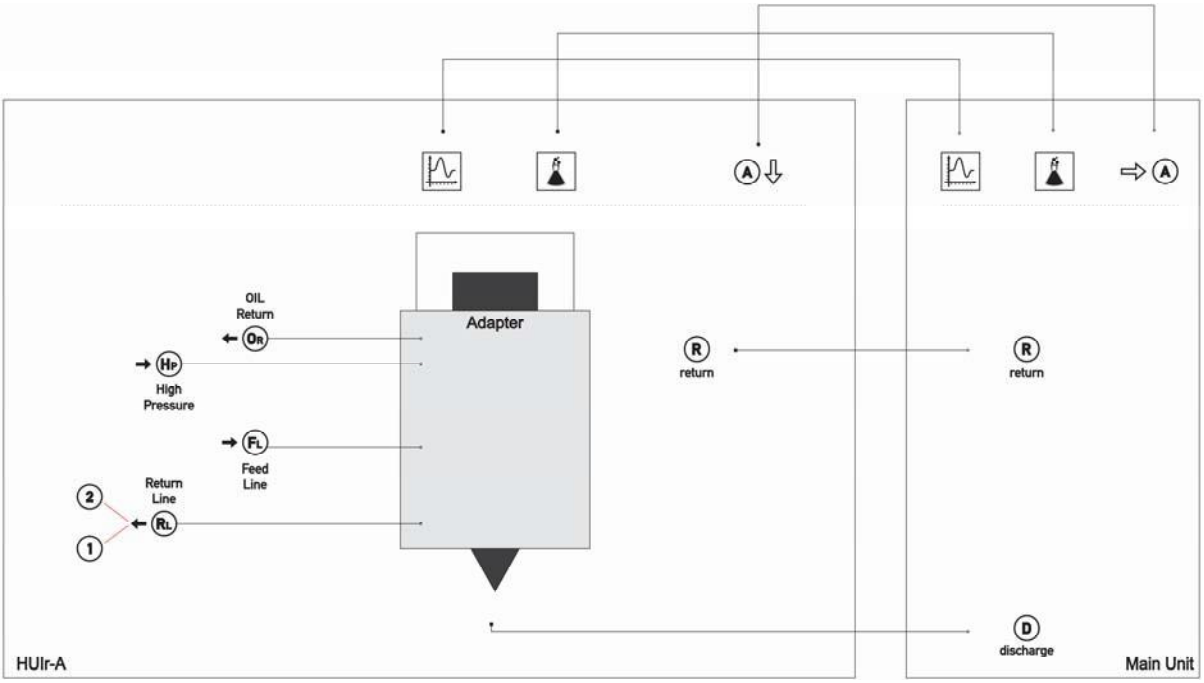
Attachment Unit Connections

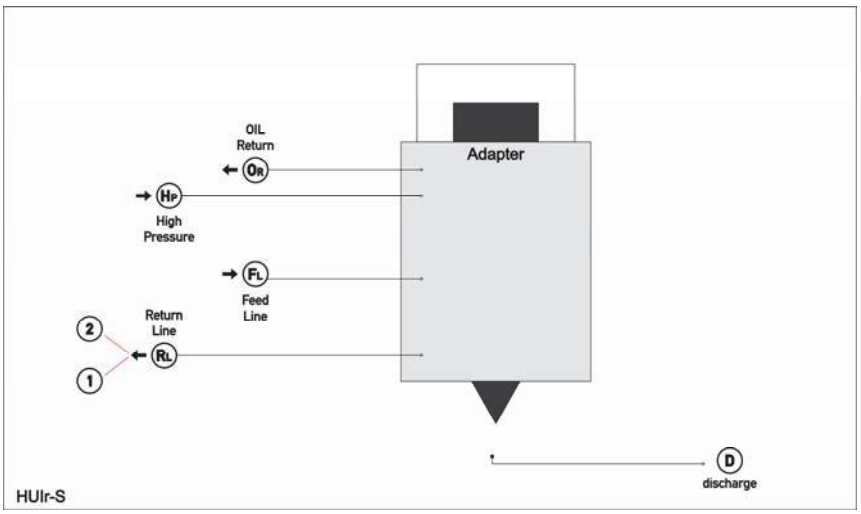
The Attachment units are usually self-powered and do not need to be connected to an external outlet. However, the Attachment unit need 1 or more connection to the main unit for Electrical signals and Hydraulic. The Electrical connections for Injector pulse, RSP and BIP use extension cables from the Main Unit.

A list of common connection diagrams is shown below:







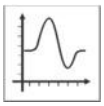


Filling the Tanks

All Tank ports are marked according to the type of fluid:

MACC: For Cleaning fluid (MACC Function)

TEST: For Calibration Test Oil



TEST.OIL: For Hydraulic High Pressure Oil (HEUI System), use ISO 4113

The procedure is the same for all types of Fluids:

1. Assure the correct filter is placed for this tank
2. Open the Cap for the Tank Port
3. Using the provided funnel, fill with the specific Oil on to the point Marked at the same tank level indicator
4. Close the tank port cap

After the first use, the level may drop, since the hydraulic system and filter will fill as well.

Tank Level Sensors

In addition to the external level indicators, the units are also equipped with electronic level sensors. In case the Test Oil level is low or the Cleaning (MACC) fluid level is High, the unit will STOP operation and popup a screen message.

Drain the Cleaning Fluid through the rear drain valve, or Add more Test Oil. You can monitor the level sensors in the Service Screen (Settings).

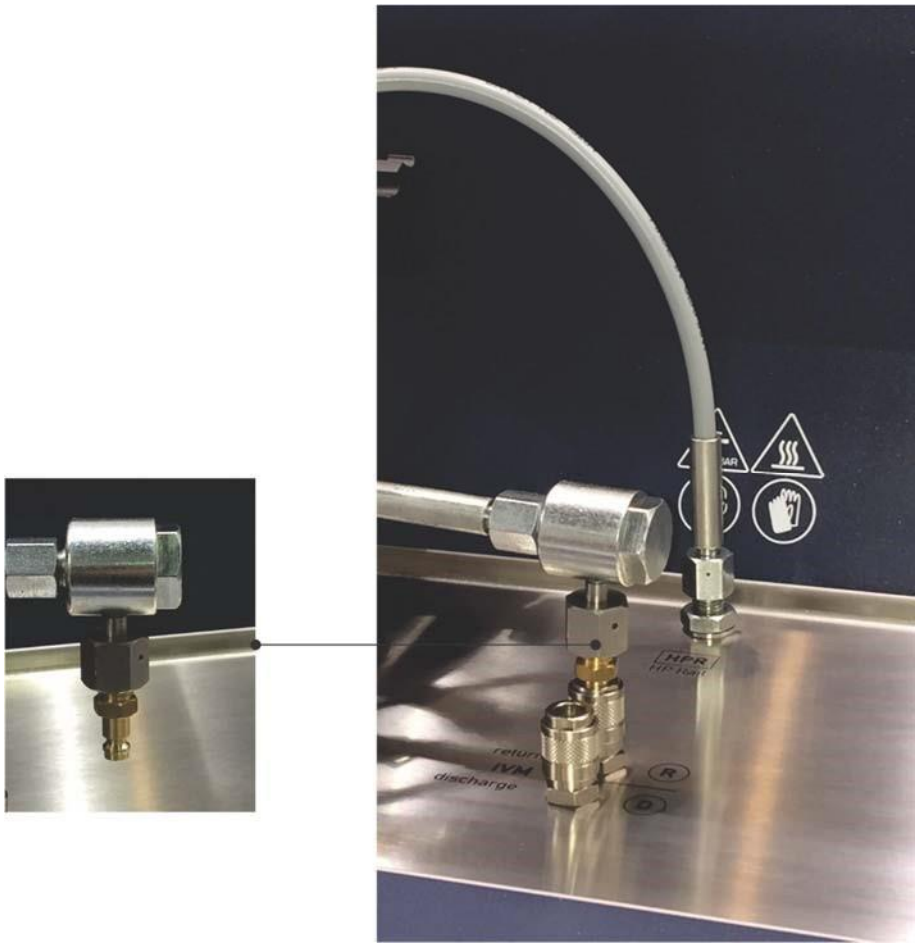
Degassing the system

When Changing a Filter or Fluid, it is necessary to perform a Hydraulic System Degas: Control Panel>>HOME>>Options>>Settings>>Machine>>HP Degas

This function will ensure that the hydraulic system is free of air.

This function should be repeated as many times necessary, if the user feels that the system is not air free. If the system is still with air after 5 times, contact your service provider.

Connection Info:



Filling the Spray Chamber

IMPORTANT: Only use Calibration Testing Oil with the spray chamber.

Use a Funnel to poor Calibration Testing Oil into the Spray Chamber. The Chamber should be as air free as possible.

Once the Spray Chamber is filled for the first time, it is necessary inject oil from an injector for at least 2 minutes at a rich TP in order to eliminate any air pockets and to maximize the efficiency of the measuring unit. The recommended way is in the “Connections and Leaks” screen, step 3/3.

ALWAYS: Empty the Spray chamber and renew the Oil when the Oil color becomes dark or dirty, or when notified by the Control panel.

Switch On/Off the Control Panel / PC

The PC is battery operated, and can be used even if there is no power to the machine.

Switch On the PC: Press the On/Off Switch **pressed for more than 7sec** until the PC Vendor Logo is displayed. Wait for a few seconds for the PC to boot.

Switch Off the PC: Press the On/Off Switch for a few seconds until the POWER OFF message is displayed. Select to Power Off or Reboot.

INFO: Although the PC can stay in Stand-By Mode a few days (Short Press the On/Off Switch), it is recommended to Power Off the PC to conserve battery and battery Life.

Software Setup

Language Selection

All the units are shipped with English as the Default Language. Please change the software locale to the desired by following these steps:

1. Switch On the machine
2. Power ON the PC (Hold the Power button unit the Manufacturer logo appears)
3. Wait for the system to Boot
4. Press the button AZO to run the software
5. Login as “Guest”
6. Goto HOME>>Options>>Settings>>Locale
7. Select the desired language.

Wi-Fi Setup

This PC system is WiFI and internet capable. It is recommended to connect the machine to the WiFi and use the following features:

1. Online Update (and notifications)
2. Wireless Printing Reports via Wifi
3. Synchronizing Reports with the PC (Via Dropbox)
4. Getting Instant support (Via TeamViewer)
5. Sending Report by Email

Steps on how to connect to a WIFI Network:

1. Switch On the machine
2. Power ON the PC (Hold the Power button unit the Manufacturer logo appears)
3. Wait for the system to Boot
4. Press the button AZO to run the software
5. Login as “Guest”
6. Goto HOME>>Options>>Settings>>Wi-Fi Settings
7. Select the desired Network
8. Enter the Credentials and connect.

Printer setup

The system is capable of connecting to many different Printers via WiFi, Bluetooth or USB (Only WiFi is provide free of cost).

To connect to the printer:

1. Assure the Printer is powered
2. Connect to the Printer and the Machine on the same WiFi network, or via USB/Bluetooth
3. Open the Printer Application from the Applications list and make the connection
4. Print a test page to verify correct operation.

Personal Data / Accounts

OWENER INFO

Go to HOME>>Options>>Settings>>Owner Info and enter the data for the owner of the machine. This data will be shown on the saved and printed report.

GMAIL

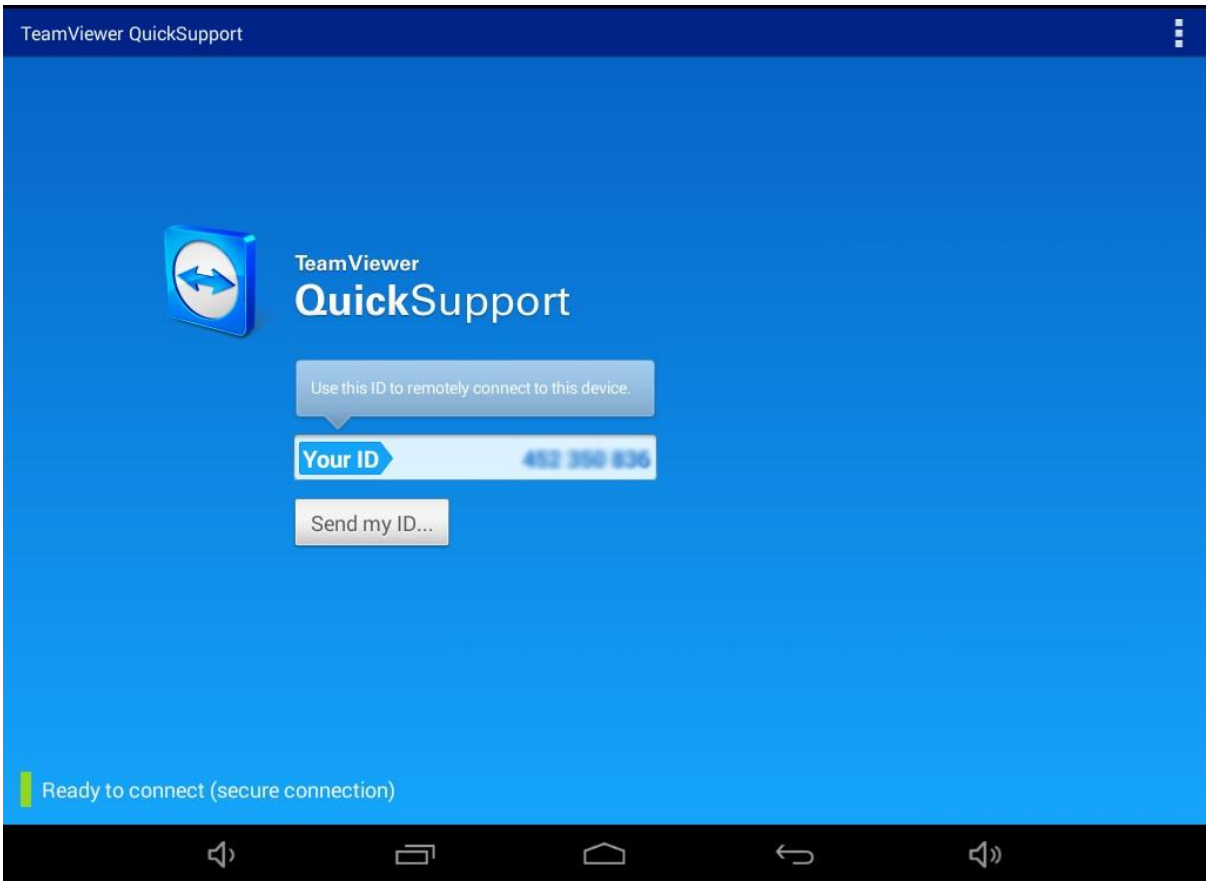
The saved reports can be shared also by Gmail, so long there is internet to the machine. Once this method is selected, the user can setup the Gmail and use it.

Dropbox

The saved reports can be shared also by Dropbox, so long there is internet to the machine. Once this method is selected, the user can setup the Dropbox and use it.

TeamViewer QC

Is a portal to provide service support to the unit from the internet. Once, selected HOME>>Options>>TeamViewer QC, give the 9 digit number to your service representative.



Connection to the PCB / DEMO Mode

The Software “AZO” is designed to run in DEMO Mode whenever there is no connection to the PCB Board or there is loss of power. Once power and connection is restored, the software will restart automatically. The iPSC Led will be lit when the connection is established and NOT in DEMO mode.

Software Orientation

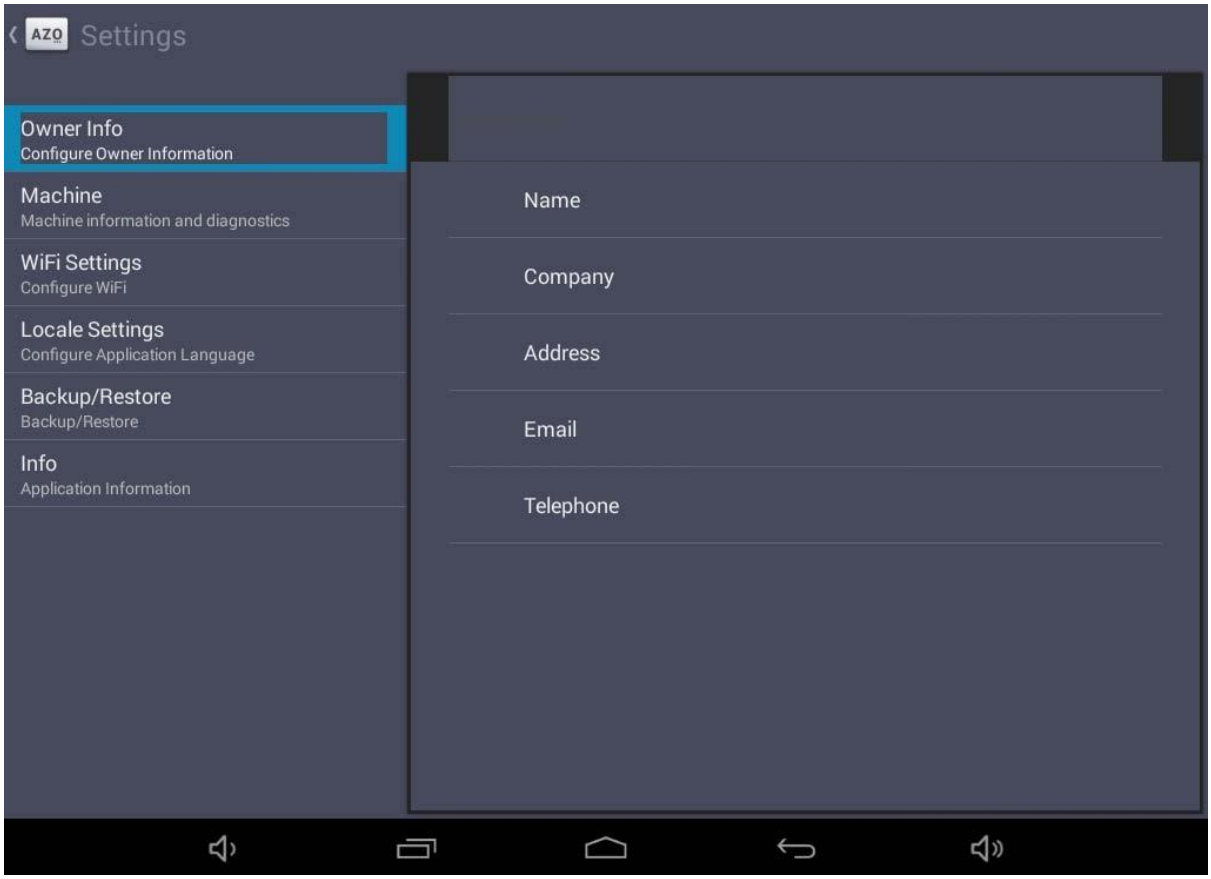
HOME

User Logins:

- **Guest** >> Logs in with basic rights.
- Username: **developer** / Password: **dev1010**

This is the startup screen of the Application, the HOME Screen. From here the user can access Start a new test, go into the system settings, logout, update the system, ask for remote support and access previously created report

SETTINGS

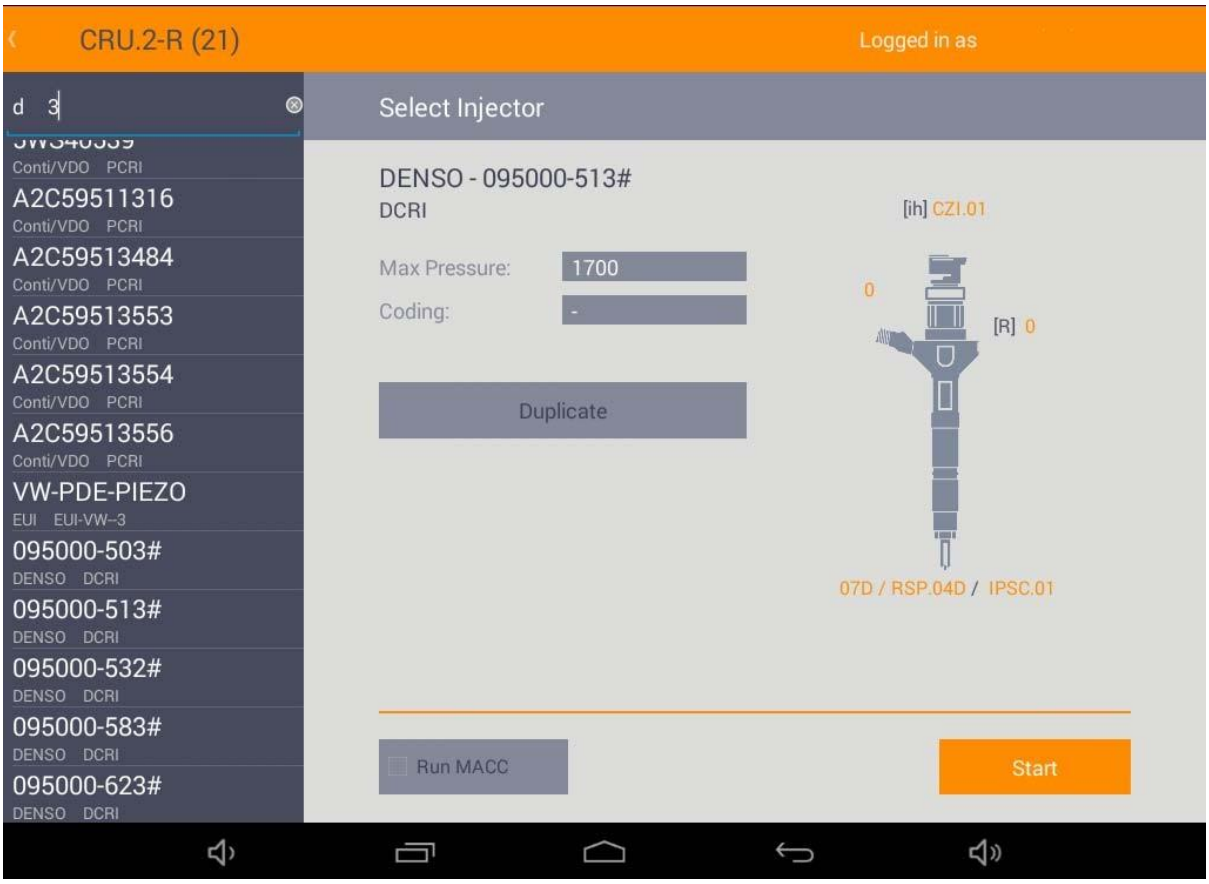


From the Settings screen, the user can edit the personal information of the machine, connect to a WiFi network, change the locale of the machine, backup/restore personal info, and other service settings.

MACHINE SELECTION

Used for TCCMr machines to select the Test Bench to be used.

INJECTOR/COMPONENT SELECTION

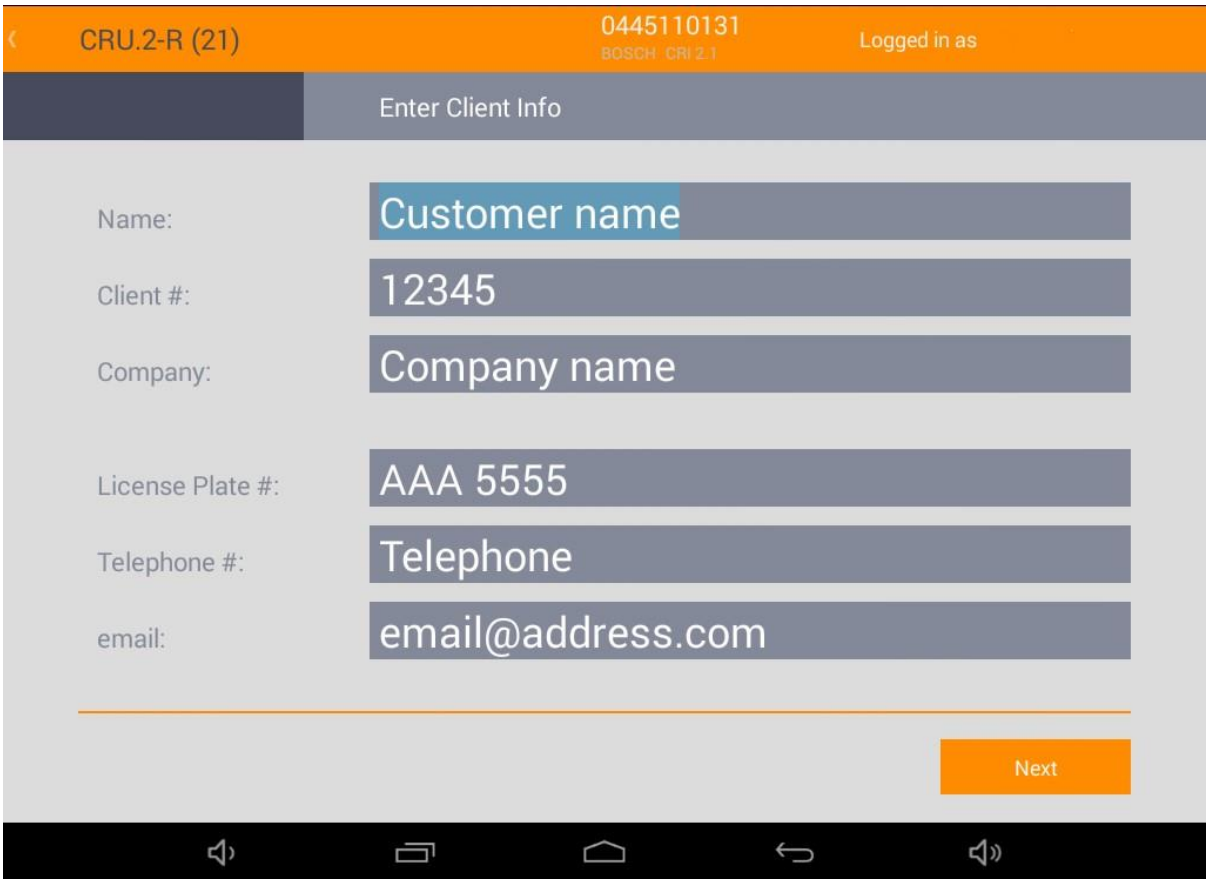


The user can either scroll through the components, or just search. The search option is divided by space character, so “d 3” (without the quotes) returns results that contain the letter d and also the number 3, in the fields of brand, type and part#.

Once a component has been selected, the Connection Information and a basic diagram of the type of the injector is shown on the right part of the screen, along with information, like the Brand, Types and Maximum Pressure. In addition, the user can select here if MACC (Cleaning) will be performed before testing.

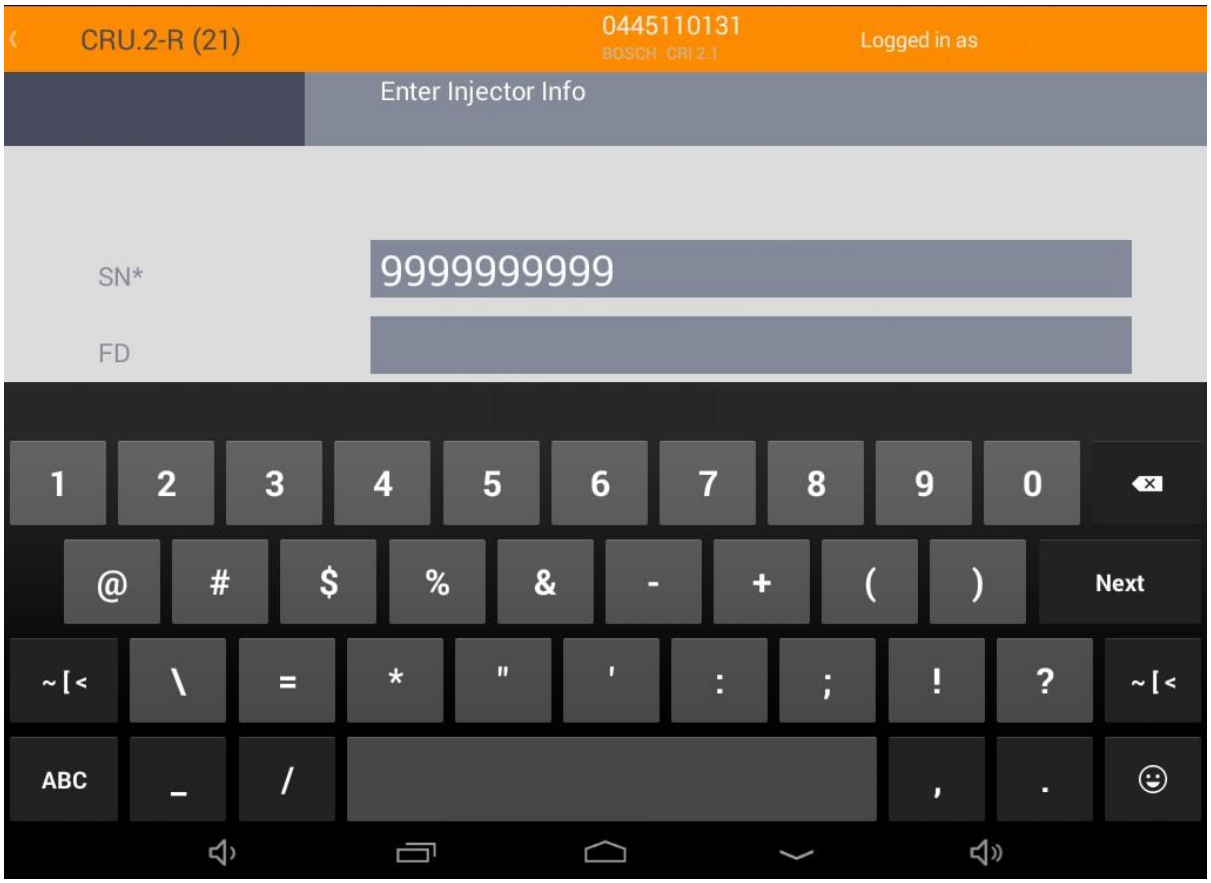
For Advanced users, there is an option to “Duplicate” the component information and edit its basic information. Further editing of TPs is done in the Specific Test Screen. Start Button selects this profile and continues for further data entry.

CUSTOMER DATA

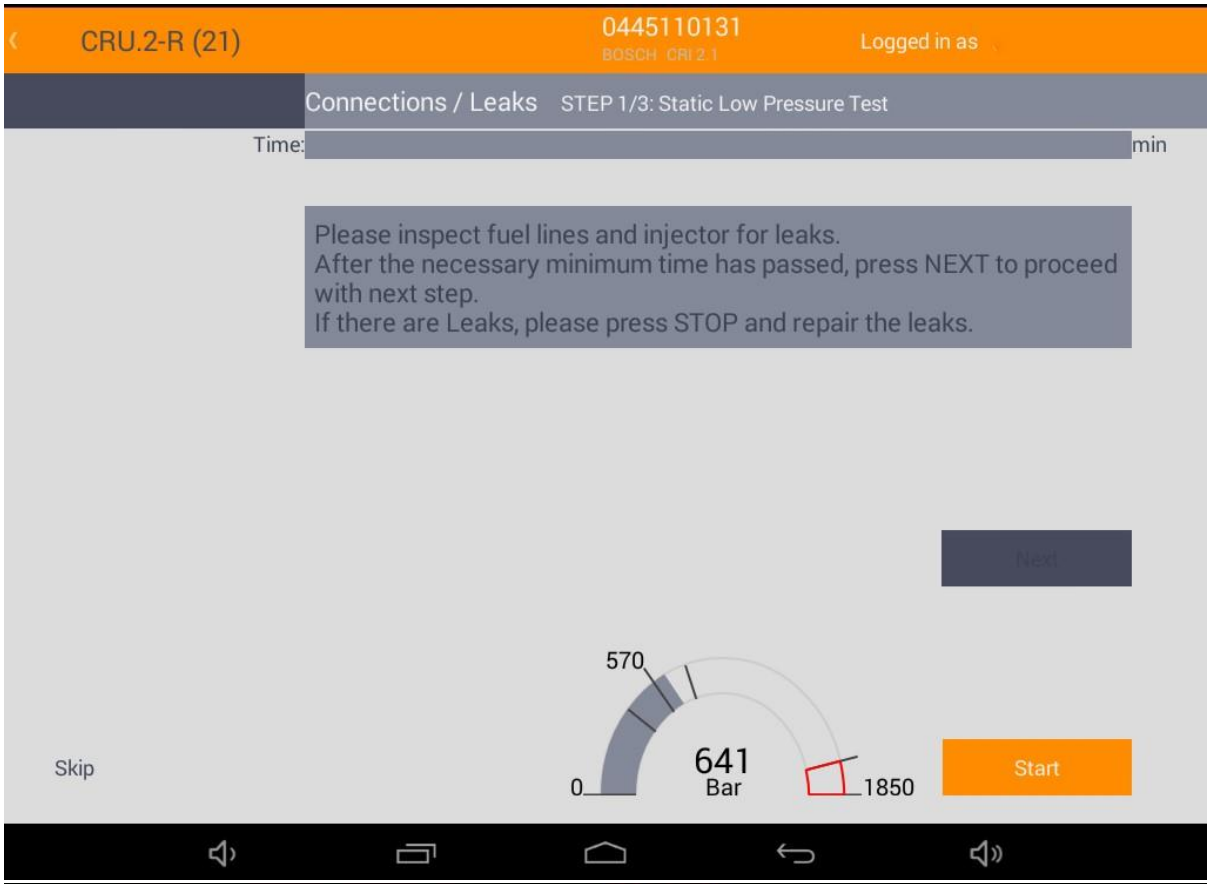


A screen to provide a point to enter the info of the client.

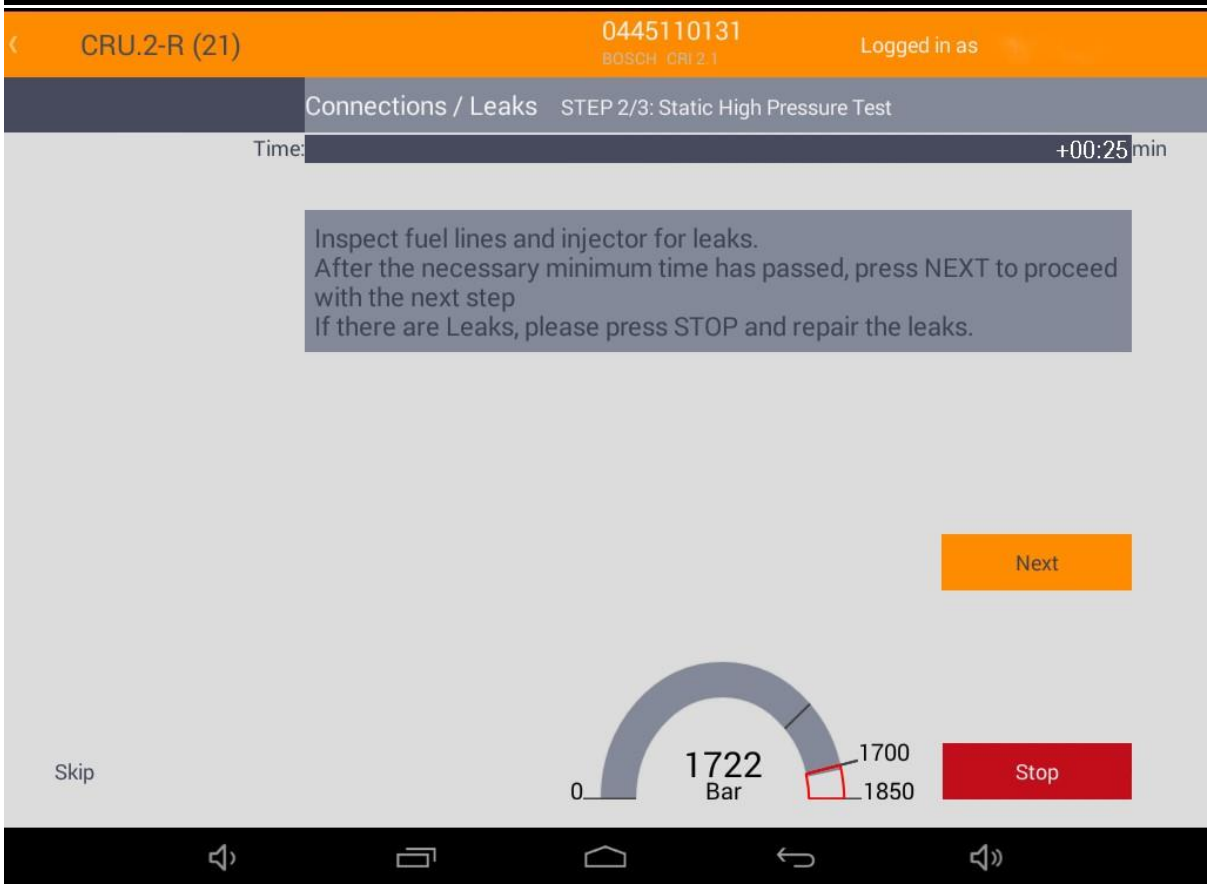
COMPONENT DATA

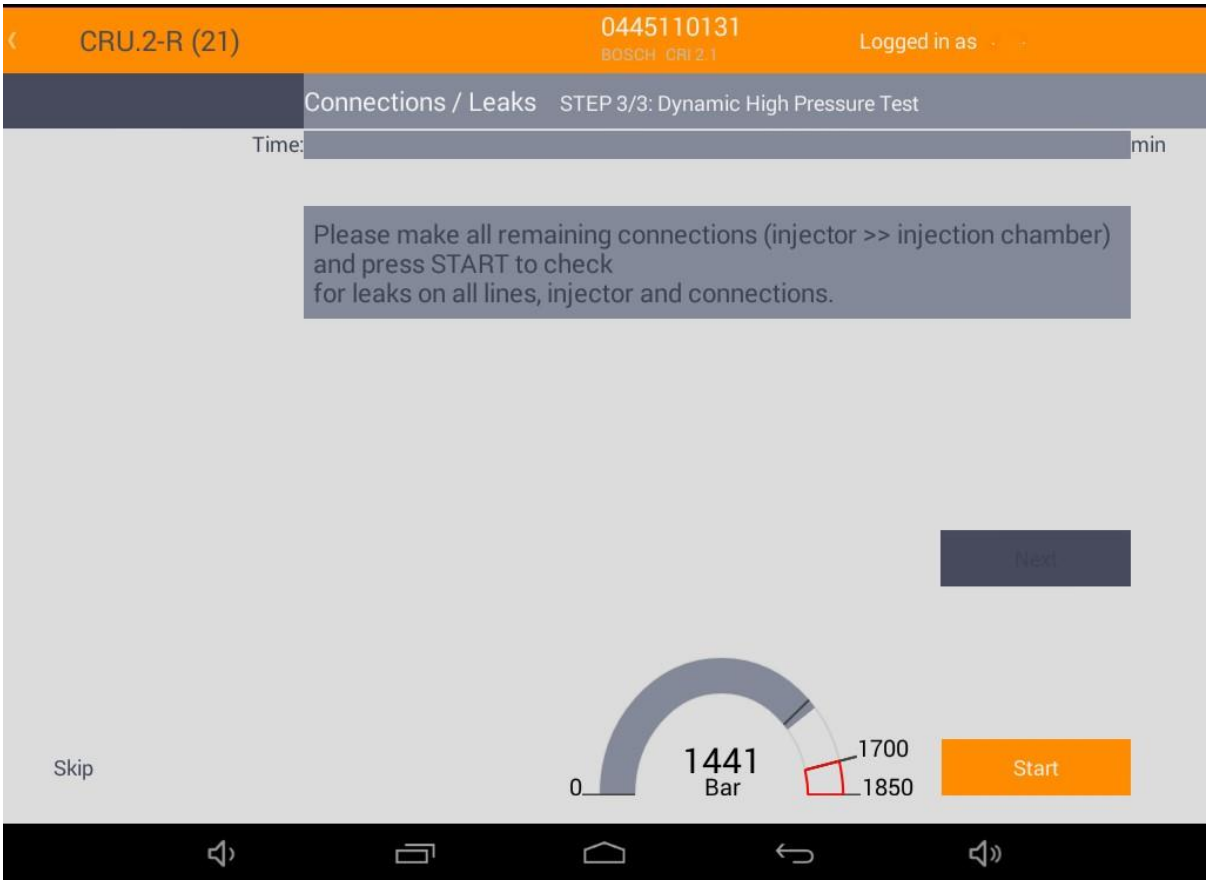


Once the required slots have been selected (multi Slot machines), it is mandatory to enter the Serial Number of the component, since this is the unique identification. Further, the user can also enter other info like Fabrication Data and/or existing Coding of the component. CFL 1/2/3




CRU.2-R (21)
0445110131
BOSCH CRI 2.1
Logged in as
Connections / Leaks
STEP 2/3: Static High Pressure Test
Time:
00:07
00:13
min
Inspect fuel lines and injector for leaks.
After the necessary minimum time has passed, press NEXT to proceed with the next step
If there are Leaks, please press STOP and repair the leaks.
Next
Skip
0
1768
Bar
1700
1850
Stop


CRU.2-R (21)
0445110131
BOSCH CRI 2.1
Logged in as
Connections / Leaks
STEP 2/3: Static High Pressure Test
Time:
+00:25
min
Inspect fuel lines and injector for leaks.
After the necessary minimum time has passed, press NEXT to proceed with the next step
If there are Leaks, please press STOP and repair the leaks.
Next
Skip
0
1722
Bar
1700
1850
Stop



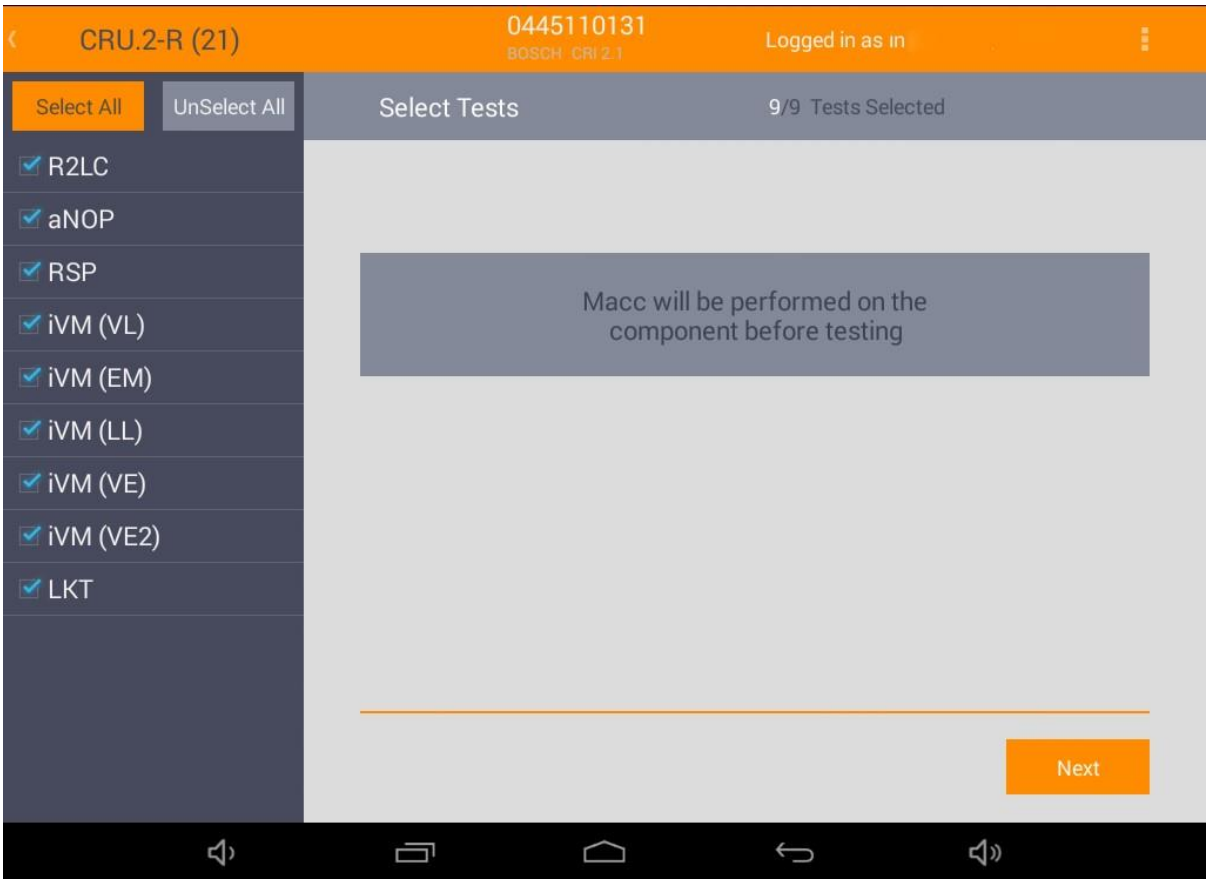
The Connection / Leaks screen, help the user with 3 steps to assure the following:

1. Correct connections
2. Component is capable of testing and it is not damaged severely
3. Machine is capable to test the component

Specifically, Step 1/3 applies a low pressure in order to diagnose basic, immediate leaks. Step 2/3 applies maximum component pressure to assure no leak is present. Step 3/3 applies the maximum pressure again but with the component operating, in order to check for machine capability, component operation and adapter leak. The last step can also be used to clear lines and adapters from air.

Advanced users can Skip these steps, although it is not advised for correct operation.

SELECT TESTS



In this screen, the user can select which Tests to perform. In addition, the user is informed if the MACC will also perform.

Consider unselecting RSP and NOP if there is no RSP Adapter installed.

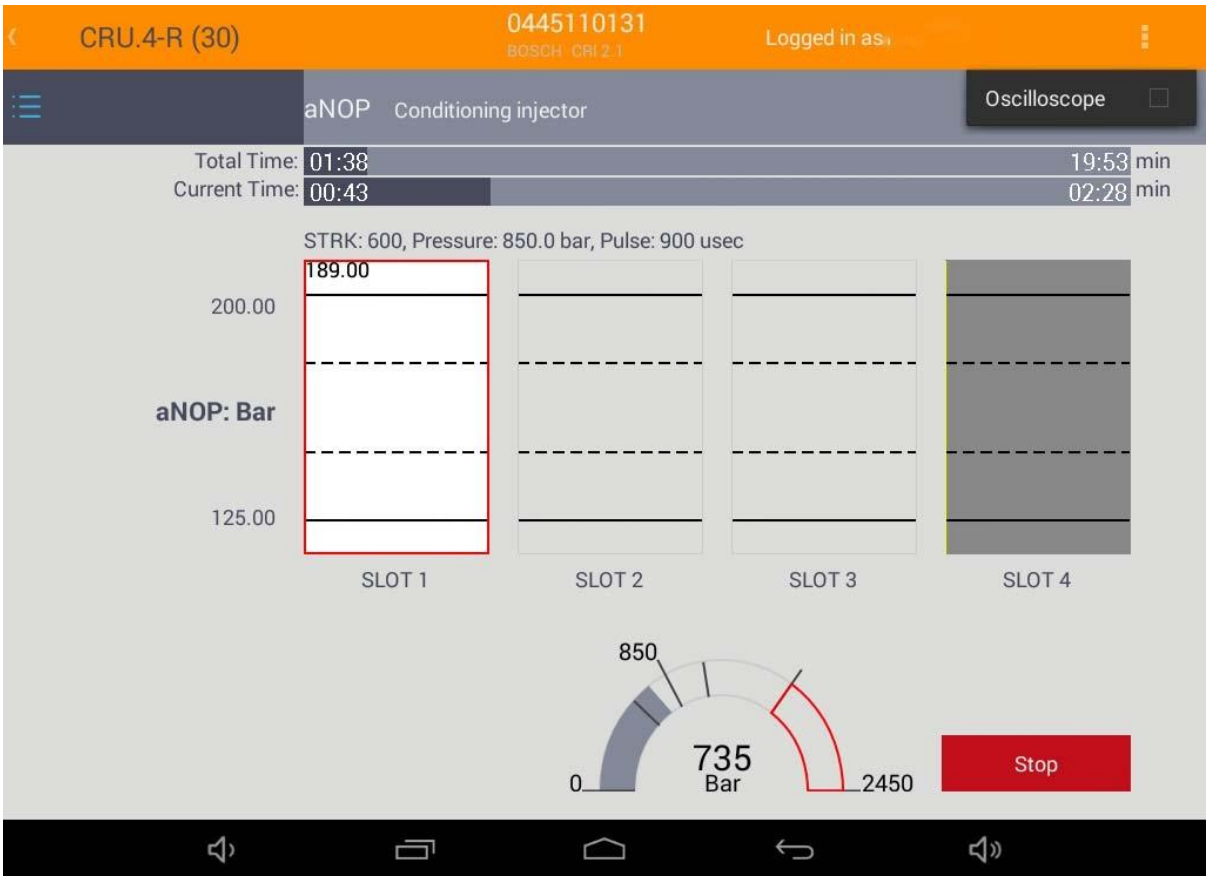
From the Options Button, the user can select to enter Manual Mode.

MACC

For about 15 minutes, the component(s) will Clean with MACC. After this process, the component and lines will automatically Flush with Test Oil, while wasting this Oil in the MACC Tank.

Once the MACC Step is over, the unit will automatically begin Testing the component(s).

TEST (###)



The Test screen is specific for each test, showing the Tanks for each Slot and Measurement, units and time of test.

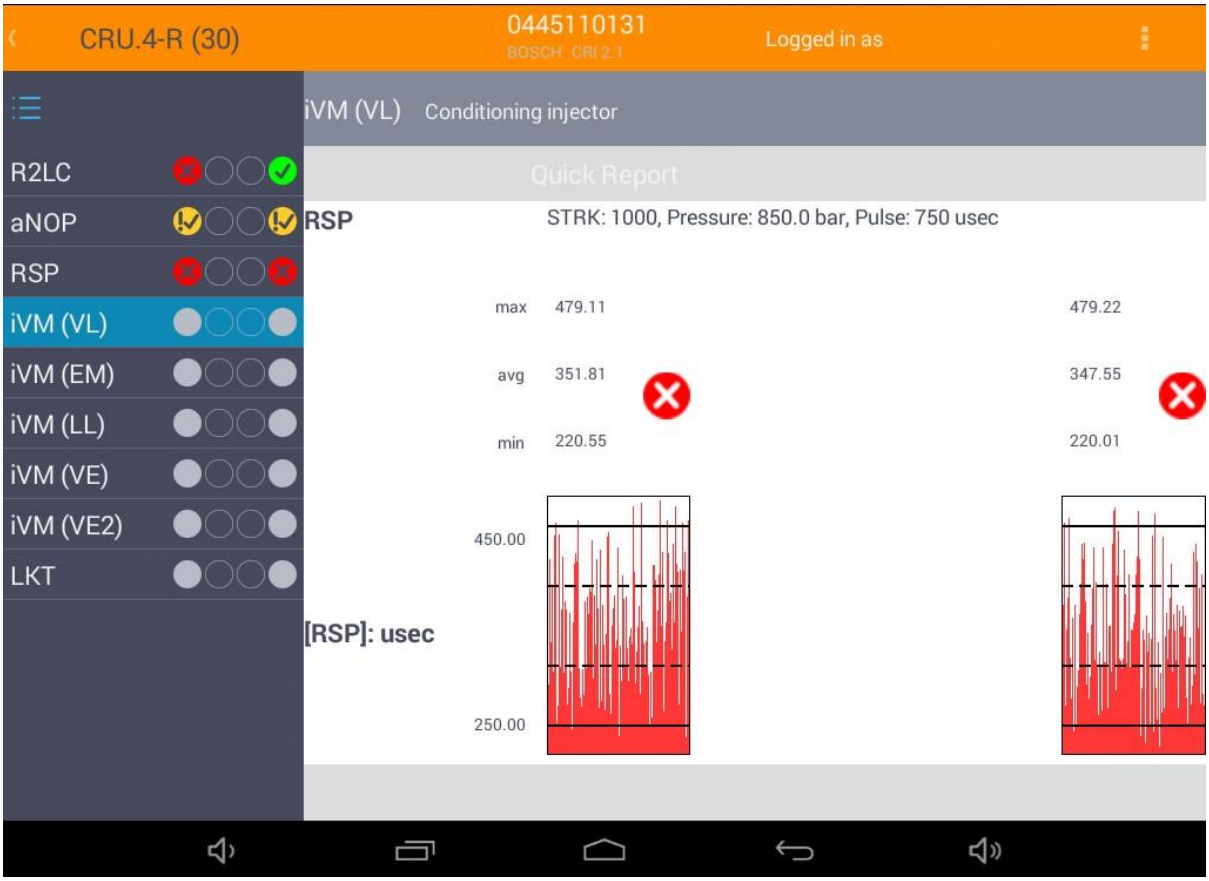
The Measurement Tank displays a History of measurements and depends on each test.

There are various result sates, depending on the result:

- Blue Color: Very Good Result
- Green Color: Good Result
- Yellow Color: Almost Fail Result
- Red Color: Fail Result
- Orange: Error

After Conditioning period, if the Pressure is outside the limits, there will be an error displayed.

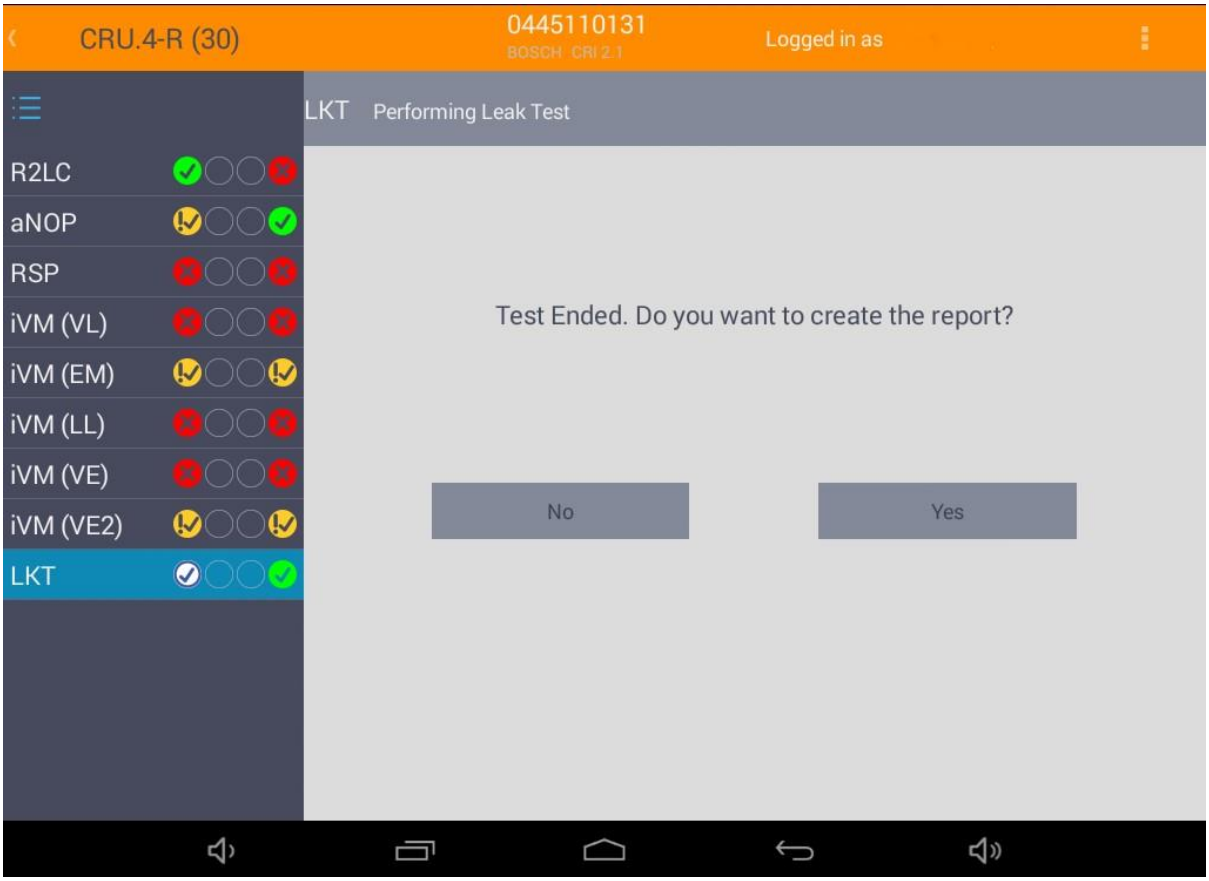
Advanced users can edit the test and save the changes, by pressing on the Options button and selecting “Edit Test”. Also a Live Oscilloscope can be shown from the same menu for even more diagnosis.



By pressing the Test List button a List of the tests will be shown.

By Long Pressing a Test with results, a Quick Report will be displayed.

When stopped, by pressing a test from the list, it will repeat it and/or jump directly to it by skipping the in between tests.



Once all the tests are finished, the software will ask to create a report or not.

If in Manual mode, this will never be displayed.

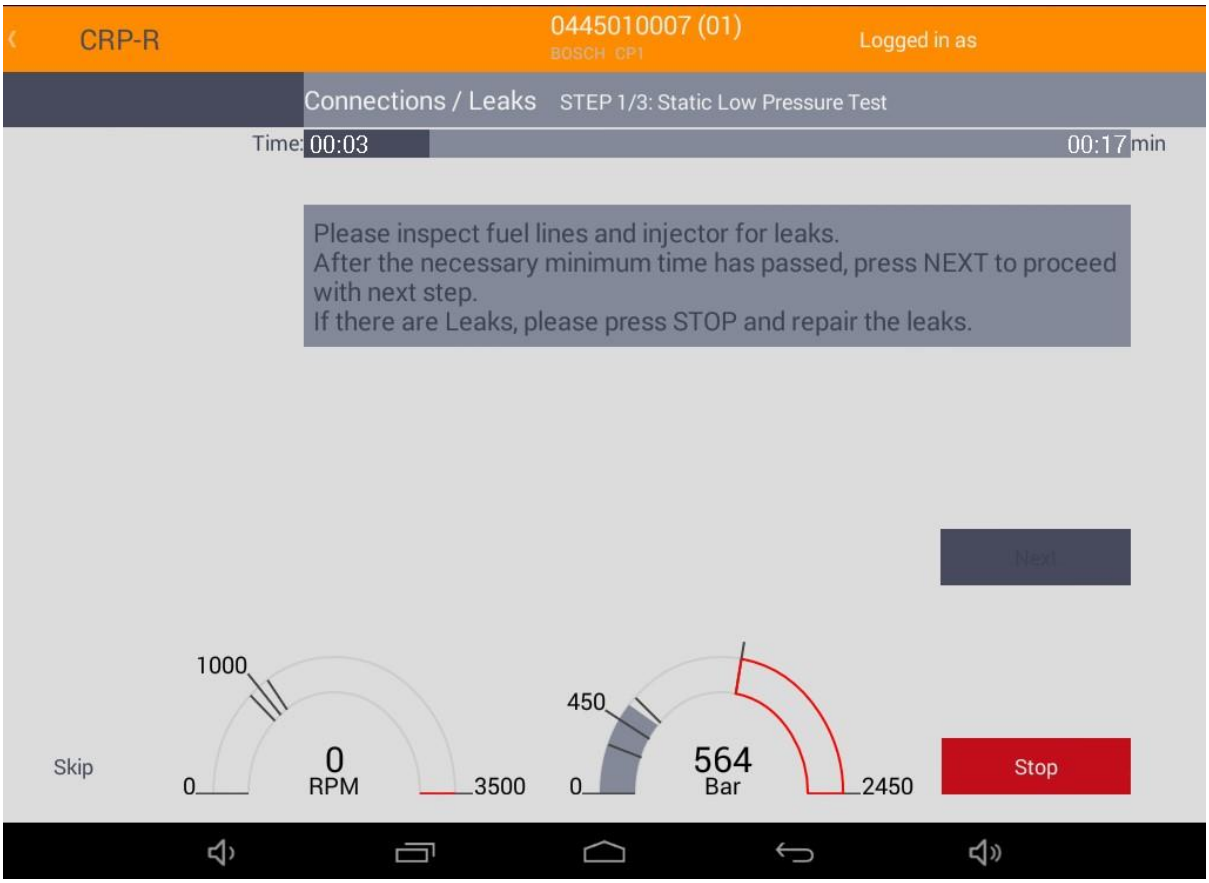
ADJUST HP

In some machines, the some options are not automatic, and therefore the user is responsible to adjusting the required pressure and/or feature to the TP.

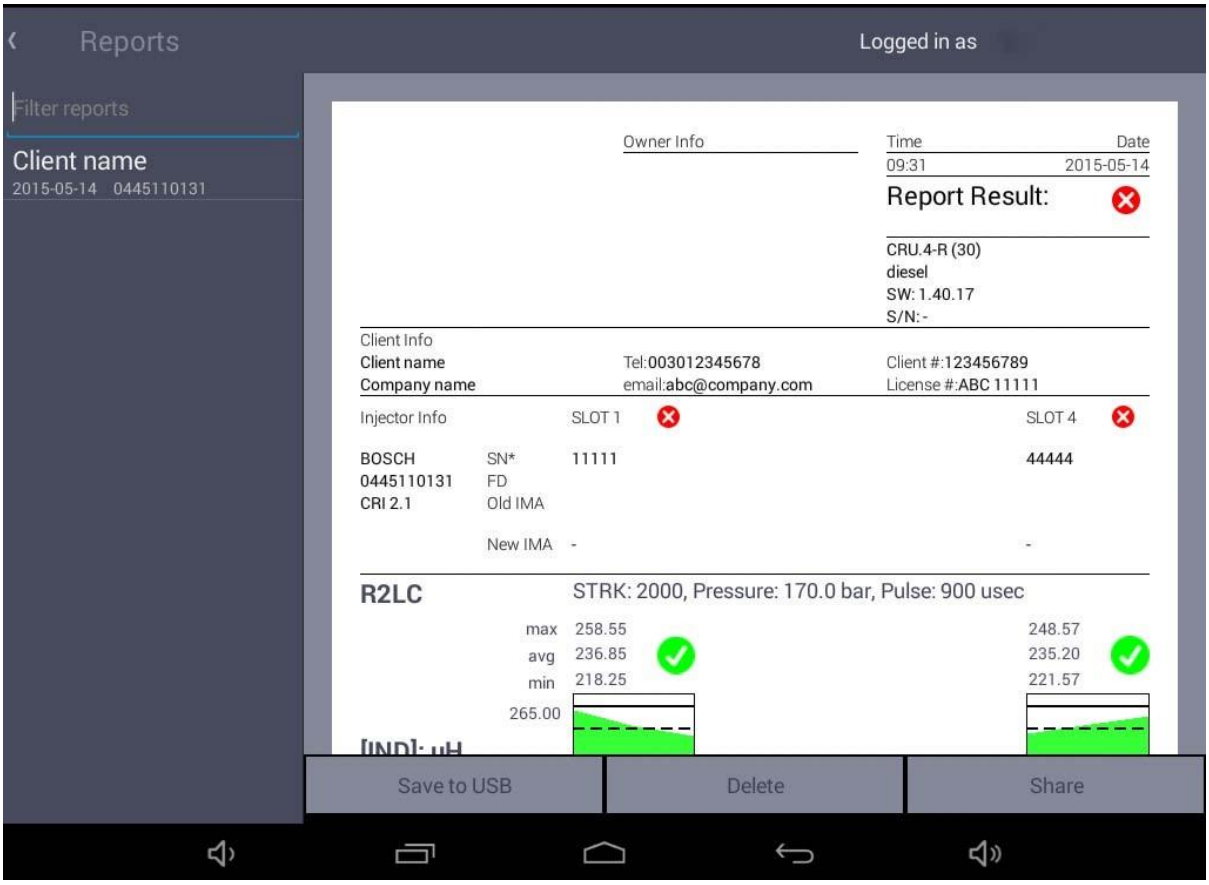
EUI

Some machines also have an RPM Meter (by proximity sensor), or Low Pressure hydraulic system. For the LP, no sensor is available, rather a Percentile of the maximum capacity, which is 10bar usually.

CRP


CRP-R
0445010007 (01)
BOSCH CP1
Logged in as
Connections / Leaks
STEP 1/3: Static Low Pressure Test
Time: 00:03
00:17 min
Please inspect fuel lines and injector for leaks.
After the necessary minimum time has passed, press NEXT to proceed with next step.
If there are Leaks, please press STOP and repair the leaks.
Next
1000
0
RPM
3500
450
564
Bar
2450
Skip
Stop

REPORTS

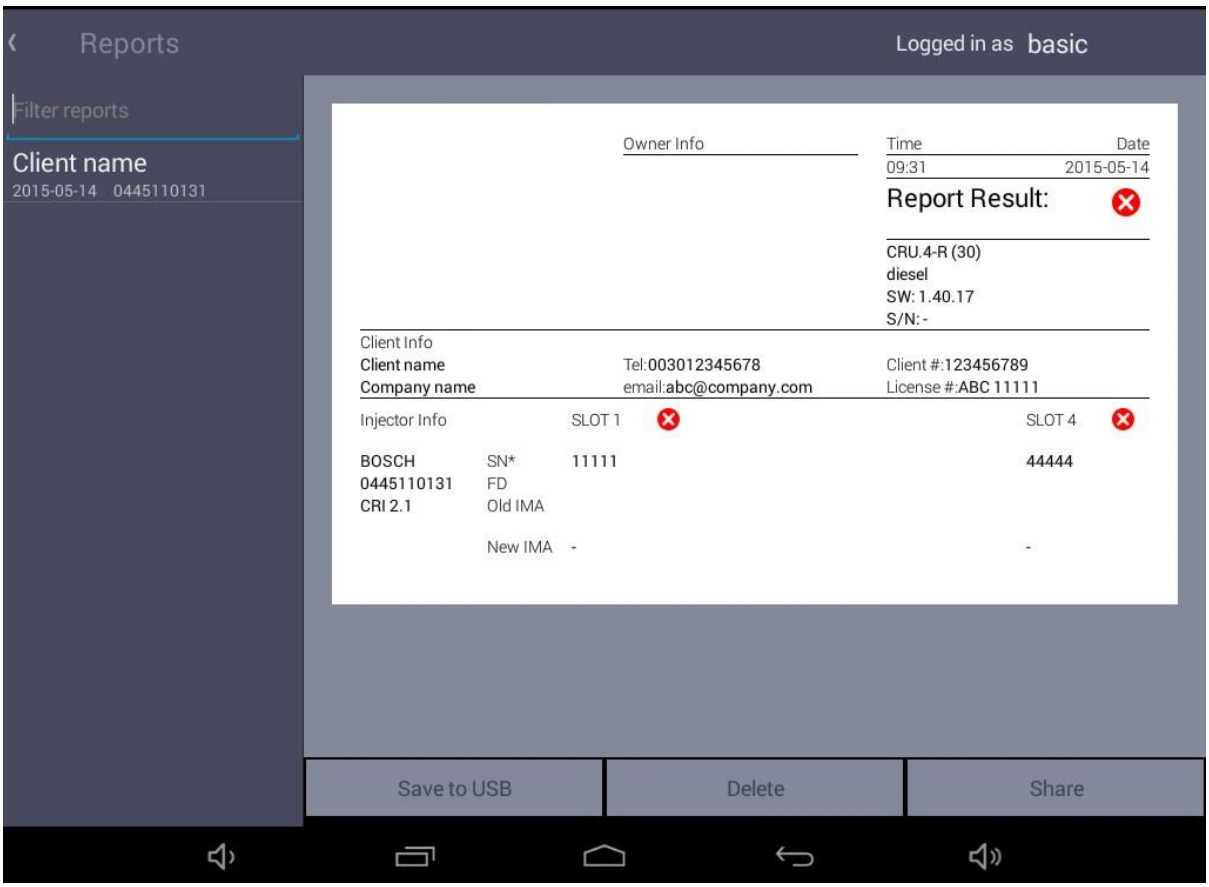

Reports
Logged in as
Filter reports
Client name
2015-05-14 0445110131
Owner Info
Time
09:31
Date
2015-05-14
Report Result:
CRU.4-R (30)
diesel
SW: 1.40.17
S/N: -
Client Info
Client name
Company name
Tel:003012345678
email:abc@company.com
Client #:123456789
License #:ABC 11111
Injector Info
SLOT 1
SLOT 4
BOSCH
0445110131
CRI 2.1
SN*
FD
Old IMA
New IMA
11111
44444
R2LC
STRK: 2000, Pressure: 170.0 bar, Pulse: 900 usec
max
avg
min
258.55
236.85
218.25
265.00
248.57
235.20
221.57
Save to USB
Delete
Share

When a Test cycle ends, or directly from HOME >> Reports, the user can access the system saved reports.

There are 3 options once a Report is selected:

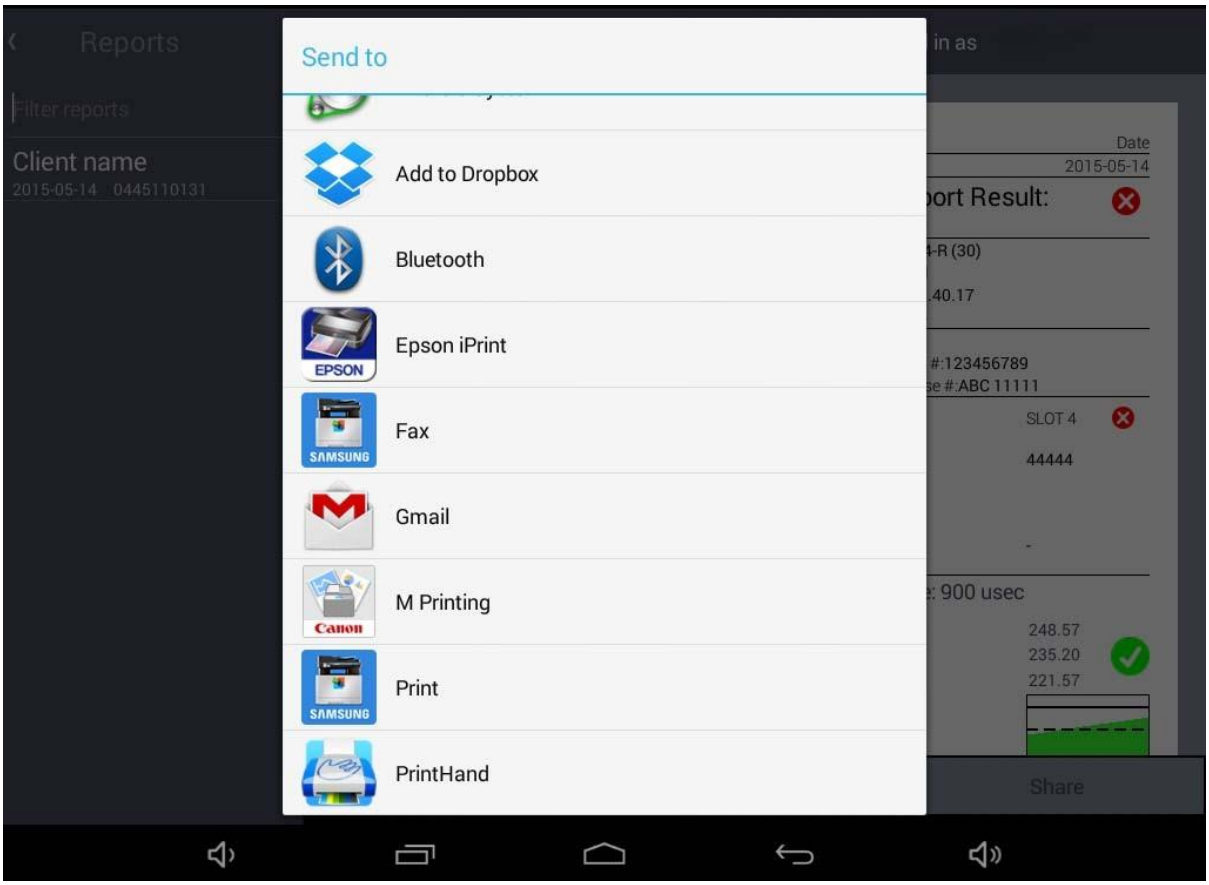
- Save to USB: A USB Drive need to be connected to the system. A PDF is saved on that medium with the name of the machine, component and date.
- Delete: This options completely deletes the report
- Share: Share provides a variety of options to share the report, including, but not limited to Printing, Emailing and saving to a Dropbox Folder.

REPORT VERSIONS

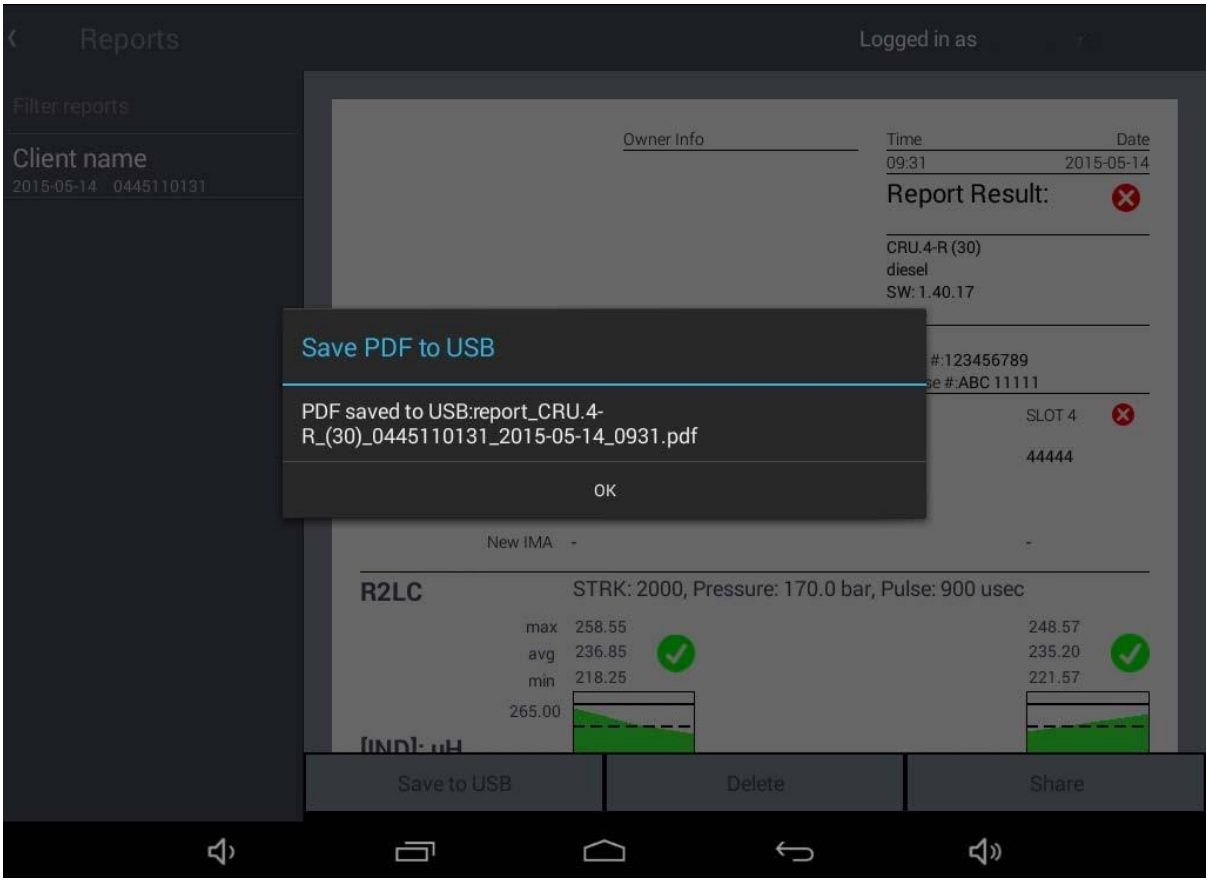


For Basic Users logged in as Guests.

SHARE



Save to USB



Operation

Before Testing

- Power On the unit and the PC.
- Use Ultrasonic Bath to clean the Injectors and/or Components thoroughly before installing on the machines.

IMPORTANT: FAILURE to clean the component before installing on the machine, could contaminate the hydraulic system and most probably fail the measuring unit, DRV Pressure Control or even the Solenoid Valves. Please note that Warranty is not covered if such contamination is the cause of failure.

Setting up the injector(s) / Pump

Use the provide adapters to fit the injector/component on the unit.

INFO: When performing MACC it is not possible to use the iPSC Adapter, only use the D-Adapt. The RSP adapter could be used, but failures from this procedure will void warranty.

INFO: When NOT using the RSP adapter, it is best to uncheck the tests RSP & aNOP from the list, since they cannot be performed.

INFO: Basic Information on adaptability is provide in the Injector/component selection screen.

INFO: Always use the “Connections / Leaks” screen to assure the injector is connected without leaks.

IMPORTANT: Always take care when connecting HP Hoses. The minimum pending radius is 90mm. Over-bending the hose my result in destroying the hose.

INFO: When using a multi-slot machine, it is possible to connect only specific slots, e.g. Slot-3. In this case the other slot Hoses should be blocked, using the Blind Adapter in the adapter’s kit.

INFO: It is recommended to use grease on the o-rings when installing injectors in adapters. This will avoid damaging the o-rings and will prolong their life.

INFO: Most machines use an adjustable elevation system to fit the D-adapt / RSP / iPSC adapters. Once these adapters are fitted, adjust its height and the fit the injector in the clamp and secure.

Cleaning and Testing the Injector(s)

Once all the components are installed on the unit, and all the connections have been correctly made, follow the Control Panel screen-by-screen in order Clean (MACC), Flush and Test the Component(s).

INFO: When MACC is selected, the machine will automatically perform MACC (apprx. 15 min), Flush the lines and component (approx. 1 min), and then start testing of the component automatically.

A complete test varies depending on machine and component, but can be estimated from 10-30 minutes.

Testing Procedure:

1. Select Machine (TCCMr units only)
2. Select the Injector/Component
    - Follow the connection instructions on-screen

3. Enter the Client Info
4. Enter the Injector/Component Info (Serial Number is Mandatory)
    - Activate/De-activate the required slots (Multi Slot Machines)
5. Follow the 3 Step Process to Check for Connections and Leaks
    - If a Leak is detected, Press STOP and repair
    - STEP 1/3: Low Pressure Static Test
    - STEP 2/3: MAX Pressure Static Test
    - STEP 3/3: MAX Pressure Dynamic Test (With Injection)
    - Once each step is completed, the Time Counter will go on until the user presses the NEXT button
6. Select the required Tests
    - For Advanced users, there is an option to select “Manual Mode” from the Top Right 3 dots option button
    - When performing ONLY MACC, please select only the R2LC as a test, since at least 1 test should be performed.
7. Once the Testing procedure is initiated, the software will follow the list of tests, beginning from the MACC
    - At any point during testing the user can select a test be long pressing on it to get a Quick Report
    - If the test is stopped, the user can select any test from the list and jump to that test, and therefore re-test or skip.
    - For Non-automatic machines, the user is responsible to adjust the Pressure (and also other parameters of the TP). For DS/GD Units where the HP is to be adjust manually, the user should adjust the HP Control Valve until the HP is slightly higher than the required pressure; the unit will then auto adjust the rest.
    - For Non-Electronic sensor machines, the user is responsible to enter the data on the screen
8. Once the Testing is completed, the user can create a report or terminate the test without a report. In addition, the user can select a test from the list in order to repeat it.
9. If the user selects to create a report, the software will go into the reports screen and preview the last report.
    - When creating a report, all reports are saved in the system
    - The user can either save the report on a USB drive, or Share via various system options, like:
        i. Gmail
        ii. Dropbox
        iii. Printer iv. Bluetooth
    - A delete option is also available
10. When returning, the software will jump to the HOME screen, and wait for a new set of instructions from the user.

Results and Reports

INFO: Coding for specific injectors is provide in the report, as long as all the tests are performed and PASS, and the Database in the manufacturers (not a user profile). Coding is only available for units using a Mass Measuring unit.

There are a few types of results and report styles, for easier diagnosis and client handling. Result

Colors:

- Blue: The value of the test is PASS and very good
- Green: The value of the test is PASS and within the operating limits
- Yellow: The value of the test is Almost Passing, the component will soon fail
- Red: The values of the test are FAIL
- Orange: There was an error and test good not complete.

Report Styles:

- Basic: Owner, Client and Component Info with a total result indication (single Page Report)
- Normal: Basic style, including specific test result (single Page Report)
- Expert / Developer: Normal style, including detailed history tanks and min/max/avg results. (Multi Page Report).

Maintenance

Regular Maintenance

- Check for Machine Leaks daily
- Check the Hoses and Cables for raptures or wear. Replace after 2 years or when not in good condition
- Change Filter and Fluids when the Control Panel reminds, or when the Fluid becomes Darker. (Note the Discharge and Return Hoses also have small filters, these filters are also to be replaced )
- Regularly change the screen filter in the Discharge and Return Hoses after a 10 injector tests.
  - Use Contact Spray for prolonging the life if the cable contacts.

Troubleshooting

Component	Problem	Solution
PC	Not Booting	Assure Machine is plugged in a power source and turned on. Switch the unit on/off
	Touch not working	Reboot the system (power on/off)
Pressure	Cannot Reach TP Pressure	• Assure there is enough liquid in the tanks • Assure there is enough Compressed air going into the machine. • Assure the hydraulic system is free of air (Degassed) • Use the Provided Plug to eliminate a failing injector factor. If the pressure cannot be reached again contact your service provider.
	Pressure on the screen gauge is erratic, and no actual pressure is present	The Software is in DEMO Mode. Reconnect Power to the machine / Check USB Connection
Injection	Injector not injecting	EUI Proximity sensor is not connected / Damaged
	Short Circuit / Open Circuit / Short to Ground	Wrong Injector Profile Selected: Select Correct Component
		Cable Damaged: Replace Cable
		Injector Damaged

Technical Specifications

CRU.4R	
Mains Supply	100-240 VAC / 1P / 50-60Hz (+/- 10%)
Compressed Air	6.5-10.0 bar / 650lt/min
Compressed Air Hose	<10m long / Internal Diameter >10mm
Rated Current / Fuse	5 A
Rated Power	300 Watt
Storage Temperature	-25 °C - +60°C
Operating Temperature	+5 °C - +45°C
Normal Operating Temperature	+10 °C - +40°C
Max Pressure (bar)	(2x): 1850 / (3x): 2450
Tightening Torque for High Pressure Connections	25 - 30 Nm
Clamping Diameter	17-32 mm
Test Oil Type / Capacity	ISO4113 / 3.5lt
Test Oil Filter	2 microns

Noise Emissions	<71.5dB(A)
Dimensions (W x D x H) / Weight	66 x 77 x 79 cm / 90kg

CRU.2R	
Mains Supply	100-240 VAC / 1P / 50-60Hz (+/- 10%)
Compressed Air	6.5-10.0 bar / 400lt/min
Compressed Air Hose	<10m long / Internal Diameter >10mm
Rated Current / Fuse	5 A
Rated Power	300 Watt
Storage Temperature	-25 °C - +60°C
Operating Temperature	+5 °C - +45°C
Normal Operating Temperature	+10 °C - +40°C
Max Pressure (bar)	(2x): 1850 / (3x): 2450
Tightening Torque for High Pressure Connections	25 - 30 Nm
Clamping Diameter	17-32 mm
Test Oil Type / Capacity	ISO4113 / 3.5lt
Test Oil Filter	2 microns
MACC Fluid Capacity	6.5lt
MACC Fluid Filter	8 microns
Noise Emissions	<71.5dB(A)
Dimensions (W x D x H) / Weight	66 x 77 x 79 cm / 70kg

DS-R	
Mains Supply	100-240 VAC / 1P / 50-60Hz (+/- 10%)
Compressed Air	7.5-10.0 bar / 400lt/min
Compressed Air Hose	<10m long / Internal Diameter >10mm
Rated Current / Fuse	5 A
Rated Power	300 Watt
Storage Temperature	-25 °C - +60°C
Operating Temperature	+5 °C - +45°C
Normal Operating Temperature	+10 °C - +40°C
Max Pressure (bar)	(1X): 1100 / (2x): 1850 / (3x): 2450
Tightening Torque for High Pressure Connections	25 - 30 Nm
Clamping Diameter	17-32 mm
Test Oil Type / Capacity	ISO4113 / 3.5lt
Test Oil Filter	2 microns
MACC Fluid Capacity	6.5lt
MACC Fluid Filter	8 microns
Noise Emissions	<71.5dB(A)

Dimensions (W x D x H) / Weight	66 x 77 x 79 cm / (x0): 50kg – (x1): 60kg

DSF-R	
Mains Supply	100-240 VAC / 1P / 50-60Hz (+/- 10%)
Compressed Air	3-10.0 bar / 300lt/min
Compressed Air Hose	<10m long / Internal Diameter >10mm
Rated Current / Fuse	5 A
Rated Power	300 Watt
Storage Temperature	-25 °C - +60°C
Operating Temperature	+5 °C - +45°C
Normal Operating Temperature	+10 °C - +40°C
Max Pressure (bar)	(1X): 1100 / (2x): 1850
Tightening Torque for High Pressure Connections	25 - 30 Nm
Clamping Diameter	17-32 mm
Test Oil Type / Capacity	ISO4113 / 3.5lt
Test Oil Filter	2 microns
MACC Fluid Capacity	6.5lt
MACC Fluid Filter	8 microns
Noise Emissions	<71.5dB(A)
Dimensions (W x D x H) / Weight	66 x 77 x 79 cm / 75kg

GDU.4R	
Mains Supply	100-240 VAC / 1P / 50-60Hz (+/- 10%)
Compressed Air	6.5-10.0 bar / 650lt/min
Compressed Air Hose	<10m long / Internal Diameter >10mm
Rated Current / Fuse	5 A
Rated Power	300 Watt
Storage Temperature	-25 °C - +60°C
Operating Temperature	+5 °C - +45°C
Normal Operating Temperature	+10 °C - +40°C
Max Pressure (bar)	(2x): 1850 / (3x): 2450
Tightening Torque for High Pressure Connections	25 - 30 Nm
Clamping Diameter	17-32 mm
Test Oil Type / Capacity	Calibration Oil / 3.5lt
Test Oil Filter	2 microns
Noise Emissions	<71.5dB(A)
Dimensions (W x D x H) / Weight	66 x 77 x 79 cm / 90kg

GDU.2R	
Mains Supply	100-240 VAC / 1P / 50-60Hz (+/- 10%)

Compressed Air	6.5-10.0 bar / 400lt/min
Compressed Air Hose	<10m long / Internal Diameter >10mm
Rated Current / Fuse	5 A
Rated Power	300 Watt
Storage Temperature	-25 °C - +60°C
Operating Temperature	+5 °C - +45°C
Normal Operating Temperature	+10 °C - +40°C
Max Pressure (bar)	(2x): 1850 / (3x): 2450
Tightening Torque for High Pressure Connections	25 - 30 Nm
Clamping Diameter	17-32 mm
Test Oil Type / Capacity	Calibration Oil / 3.5lt
Test Oil Filter	2 microns
MACC Fluid Capacity	6.5lt
MACC Fluid Filter	8 microns
Noise Emissions	<71.5dB(A)
Dimensions (W x D x H) / Weight	66 x 77 x 79 cm / 70kg

GD-R	
Mains Supply	100-240 VAC / 1P / 50-60Hz (+/- 10%)
Compressed Air	7.5-10.0 bar / 400lt/min
Compressed Air Hose	<10m long / Internal Diameter >10mm
Rated Current / Fuse	5 A
Rated Power	300 Watt
Storage Temperature	-25 °C - +60°C
Operating Temperature	+5 °C - +45°C
Normal Operating Temperature	+10 °C - +40°C
Max Pressure (bar)	(1X): 1100 / (2x): 1850 / (3x): 2450
Tightening Torque for High Pressure Connections	25 - 30 Nm
Clamping Diameter	17-32 mm
Test Oil Type / Capacity	Calibration Oil / 3.5lt
Test Oil Filter	2 microns
MACC Fluid Capacity	6.5lt
MACC Fluid Filter	8 microns
Noise Emissions	<71.5dB(A)
Dimensions (W x D x H) / Weight	66 x 77 x 79 cm / (x0): 50kg – (x1): 60kg

UIPr	
Compressed Air	6.5-10.0 bar / 300lt/min
Compressed Air Hose	<10m long / Internal Diameter >10mm
Storage Temperature	-25 °C - +60°C
Operating Temperature	+5 °C - +45°C
Normal Operating Temperature	+10 °C - +40°C
Max Pressure (bar)	10
Tightening Torque for High Pressure Connections	25 - 30 Nm
Test Oil Type / Capacity	ISO4113 / 3.5lt
Test Oil Filter	2 microns
MACC Fluid Capacity	6.5lt
MACC Fluid Filter	8 microns
Noise Emissions	<71.5dB(A)
Dimensions (W x D x H) / Weight	66 x 77 x 114 cm / 65kg

HUIr	
Compressed Air	6.5-10.0 bar / 300lt/min
Compressed Air Hose	<10m long / Internal Diameter >10mm
Storage Temperature	-25 °C - +60°C
Operating Temperature	+5 °C - +45°C
Normal Operating Temperature	+10 °C - +40°C
Max Pressure (bar)	300
Tightening Torque for High Pressure Connections	25 - 30 Nm
Test Oil Type / Capacity	ISO4113 / 3.5lt
Test Oil Filter	2 microns
MACC Fluid Capacity	6.5lt
MACC Fluid Filter	8 microns
Hydraulic Oil Type / Capacity	ISO4113 / 3.5lt
Hydraulic Oil Filter	2 microns
Noise Emissions	<71.5dB(A)
Dimensions (W x D x H) / Weight	66 x 77 x 79 cm / 50kg

TCCMr	
Mains Supply	100-240 VAC / 1P / 50-60Hz (+/- 10%)
Rated Current / Fuse	5 A
Rated Power	300 Watt
Storage Temperature	-25 °C - +60°C

Operating Temperature	+5 °C - +45°C
Normal Operating Temperature	+10 °C - +40°C
Dimensions (W x D x H) / Weight	60 x 44 x 54 cm / 20kg

Magneti Marelli Aftermarket Spółka z.o.o.

Plac Pod Lipami 5, 40-476 Katowice

Tel.: + 48 (032) 6036107, Faks: + 48 (032) 603-61-08

e-mail: checkstar@magnetimarelli.com

www.magnetimarelli-checkstar.pl