dieselland
equipment for diesel

PRODUCT CATALOG 2026 | 2027



EQUIPMENT FOR TEST AND DIESEL REPAIR FUEL EQUIPMENT

Test benches, specialized tools, repair complexes, equipment, electronic devices for CR, UIS, UPS, injection pump systems

dieselland.eu

06.01.2026

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TRIUMF

TRIUMF benches are manufactured with the possibility of retrofitting with a hardware and software complex for encoding Bosch, Delphi, Denso injectors. To encode the Delphi injectors, a device is additionally installed, which allows to create a vacuum in the backleak line of the injector. The set of the vacuum creating device is a gear pump, a venturi tube and an electric motor. The device is installed on the bulkhead, which is located in the lower part of the bench above the cooling unit.

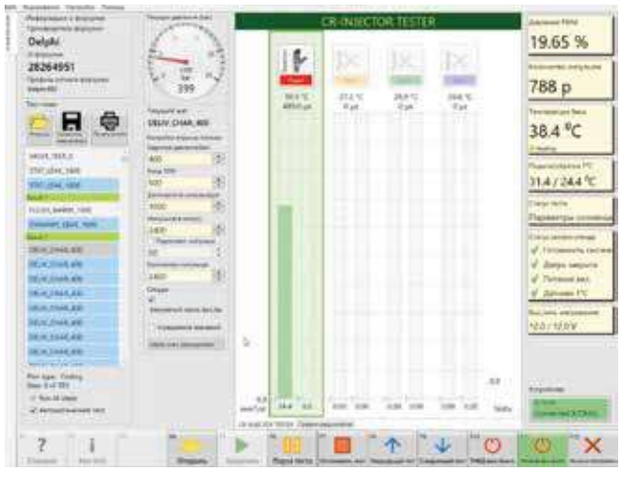
- The software allows you to code injectors BOSCH isa / ima cod, Delphi C2i / C3i / C4i*, Denso, VDO Siemens.
- Working pressure up to 1800 bar. It is possible to increase the working pressure to 2400 bar.
- The stand is produced with the following characteristics of the main drive:
  - TRIUMF 4 kW 380 V
  - TRIUMF 5,5 kW 380 V

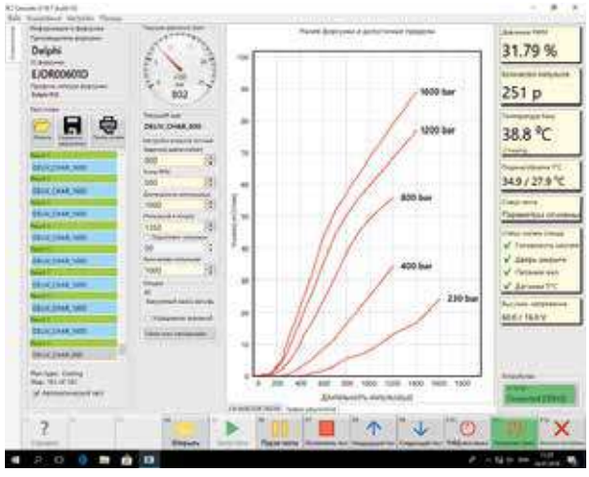
* coding Delphi C4i in the stand TRIUMF 5,5 kW 380 V



TRIUMF

Software «CASCADE»





The software has a user-friendly interface. The program contains built-in test plans for testing and coding Bosch, Delphi, Denso, Siemens (VDO) injectors. Functions for creating new test plans, editing built-in ones, as well as creating targets for Delphi C2i, C3i, C4i injectors are available. The results and progress of testing are displayed in graphical form and saved to a file and sent to print.

The stand is equipped with a modern system of thermal stabilization test liquids in the tank, which includes:

1. Two radiators with forced air cooling for the backflow line from the injection pump and the backflow line from the pressure accumulator (rail).
2. Pressure accumulator with cooling. The rail cooling line includes an individual air-cooled radiator and a circulation pump.
3. Independent refrigeration unit with air heat exchanger.
4. Three individual thermal controllers for controlling radiator fans.
5. Tubular electric heater with a power of 1000 W for heating the test liquid in the tank.

- Operating pressure up to 2400 bar.
- The pressure is controlled by two regulators.
- The stand has an electronic measurement system with the ability to check four injectors at the same time.
- The stand is equipped with a frequency converter.

TRIUMF

STAND EQUIPMENT



DL-CAU001

Cable for BOSCH injectors (universal)



DL-CAU002

Cable for Delphi (C2i, C3i)



DL-CAU003

Cable for Delphi (C3i)



DL-CAU004

Cable for BOSCH, SIEMENS



DL-CAU005

Cable for BOSCH



DL-CAU007

Cable for truck injectors



DL-CAU006

Universal cable for truck injectors



DL-CAU09

Cable for connecting the pressure sensor



DL-CAU10

Cable for connecting the pressure regulator

TRIUMF

STAND EQUIPMENT



DL-24CRM

Set of fittings for reverse draining CR injectors



DL-UNI50343

Nozzles for sprayers nozzles Ø= 9 mm (1 pc.)



DL-UNI50083

Adapter straight with M14 on M12 for tube (4 pcs.)



DL-CR10015

Nozzle holder frame with cups **(DL-UNI50342)** for sprayers 7 mm (4 pcs.) and clamping sleeves

DL-UNI31019 Ø=17 (4pcs.)
DL-UNI31020 Ø=18,9 (1pc.)
DL-UNI31021 Ø=19,2 (1pc.)
DL-UNI31022 Ø=21 (1pc.)
DL-UNI31231 Ø=21,4 (1pc.)



D-OCDE

Reverse set drain nozzle Denso (4 pcs.)



DL-54127

Leg (foot with regulating bolt) (4 pcs.)



DL-CR50162

Stubs on RAIL (4 pcs.)



DL-UNI30497

Stub instead regulator pressure (1 pc.)



DL-TVD41414

High pressure pipes M14xM14x400mm (4 pcs.)



Door key (4 pcs.)

TRIUMF

OPTIONAL EQUIPMENT AND ACCESSORIES



DL-MOK

Adapter-coupling with check valve Ø 6 mm
Connecting holes Ø 6 mm x Ø 6 mm
Length with clamps = 37 mm
Length without clamps = 33 mm
Diameter = 1.15 mm



DL-MOK-K

Quick-connect coupling with check valve, Ø 6 mm
Connection holes: Ø 6 mm x Ø 6 mm
Length with clamps = 49 mm
Length without clamps = 45 mm
Diameter = 13.8 mm



DL-MOK-KS

Quick-connect coupling with check valve Ø 6 mm
Connecting holes Ø 6 mm x Ø 6 mm
Length with clamps = 42.6 mm
Length without clamps = 37.3 mm
Diameter = 12.5 mm



DL-CR50120

Delphi injector back-up valve for coding (response time)



DL-CR50406

Back-up valve for DELPHI coding, thread G 1/8″



DL-CR50136

Return flow pressure valve for testing BOSCH electromagnetic injectors on a test bench



DL-CR50210

Return pressure valve for testing SIEMENS piezo injectors on a test bench



DL-CR50177

Return pressure valve for piezo injectors Bosch

TRIUMF

OPTIONAL EQUIPMENT AND ACCESSORIES



DL-CR50013

Universal adapter for CR truck injectors (Bosch, Denso, Delphi Smart) for connecting the supply and return lines with 0°, 4°, and 13° angles.



DL-CR50140

Universal adapter for Denso CR truck injectors, including Volvo 21952974 for connecting the supply and return lines.

TRIUMF

OPTIONAL EQUIPMENT AND ACCESSORIES

ADAPTERS FOR CHECKING TRUCK INJECTORS

							
DL-002 **DL-CR31046**	**DL-003** **DL-CR31821**	**DL-004A** **DL-CR30848**	**DL-005N** **DL-CR31048**	**DL-006** **DL-CR31440**	**DL-007** **DL-CR31044**	**DL-008** **DL-CR31045**	**DL-009** **DL-CR31439**
BOSCH MAN Ø 29мм	DAF Euro 7 (PACCAR)	BOSCH RENAULT Ø 32мм	CUMMINS	DENSO Ø 27мм	DENSO Ø 23,5мм	BOSCH MAN Ø 26мм	BOSCH VOLVO Ø 28мм
							
DL-010 **DL-CR31047**	**DL-011** **DL-CR30985**	**DL-012** **DL-CR30036**	**DL-013** **DL-CR30968**	**DL-014** **DL-UNI30038**	**DL-015** **DL-CR30822**	**DL-016** **DL-CR31486**	**DL-016U** **DL-CR31806**
CUMMINS	SIEMENS VDO FORD	CRIN BOSCH SISU Ø 26,6мм	DELPHI SMART INJECTOR	DENSO	DENSO Ø 18,5 мм Caterpillar, Perkins	SCANIA 2/4 pin	SCANIA 2/4 pin
							
DL-017 **DL-UNI30037**	**DL-018** **DL-CR30595**	**DL-019** **DL-CR30804**	**DL-020** **DL-CR30596**	**DL-021** **DL-CR31565**	**DL-022** **DL-CR31566**	**DL-023** **DL-CR31567**	**DL-024** **DL-CR31620**
BOSCH DEUTZ Ø 21,5мм	CURSOR 9	BOSCH MTU	SCANIA 4 PIN	BOSCH CRIN3 0445124015	Caterpillar 3809888	Delphi Smart injector Mersedes	DAF-SMART injector
							
DL-025 **DL-CR31625**	**DL-026** **DL-CR31626**	**DL-027** **DL-CR31698**	**DL-028** **DL-CR31759**	**DL-029** **DL-CR31793**	**DL-030** **DL-CR30818**	**DL-031** **DL-CR31040**	**DL-032** **DL-CR31430**
DELPHI CRIN DAF EURO 6 SMART INJ	CUMMINS	BOSCH	FORD	BOSCH 0445120247	BOSCH ЯМЗ-530	BOSCH 0445120303	BOSCH 0445120134
							
DL-033 **DL-CR31479**	**DL-034** **DL-CR31538**	**DL-035** **DL-CR31561**	**DL-036** **DL-CR31563**	**DL-037** **DL-CR50304**	**DL-038** **DL-CR31606**	**DL-039** **DL-CR31738**	**DL-040** **DL-LR31785**
DENSO	DENSO 1211 11L1063(095000-121)	DENSO	Delphi A9362187 Mersedes Actros Euro 6	MB Actros	5296723 DENSO	CAT Ø 28мм	Lorang Ø 26,5мм x Ø 23мм
DL-041 **DL-CR31861**	**DL-042** **DL-CR31900**	**DL-043** **DL-CR31969**					
CUMMINS-XPI 4307475	BOSCH DHIM, Doosan, Yuchai	BOSCH 0445120471					

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TRIUMF

OPTIONAL EQUIPMENT AND ACCESSORIES

DL-UNF20420L

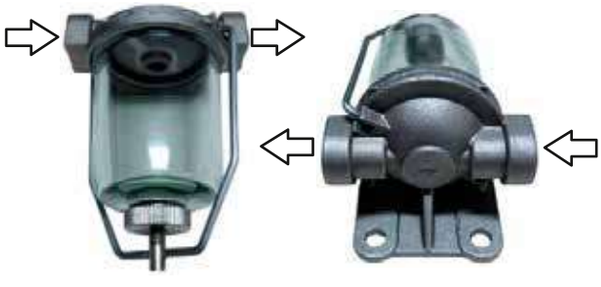
A set of sediment filters for testing injectors on a TRIUMF test bench.
These filters are designed for pre-cleaning injectors before testing them on a test bench.



Delivery set:

1. **DL-UNF20300L** Sedimentation filter (entrance on the left) – 2 pcs.
2. **DL-UNI31427** Adapter 1/8”xM14x1.5mm – 4 pcs.
3. **34-RL010602** Quick adapter straight Ø 6x1/4” – 2 pcs.
4. **34-RL310602** Quick corner adapter Ø 6x1/4” – 2 pcs.
5. **DL-UNI31399** Splitter ¼” – 1 pc.

Please note!
All items are also sold separately.



DL-UNF20420L

Filter-sump (inlet on the left)
The filter includes:

1. Inlet and outlet openings M14x1.5mm
2. Mounting holes Ø 8mm



DL-UNI31399

¼” Splitter
Connected to the splitter:

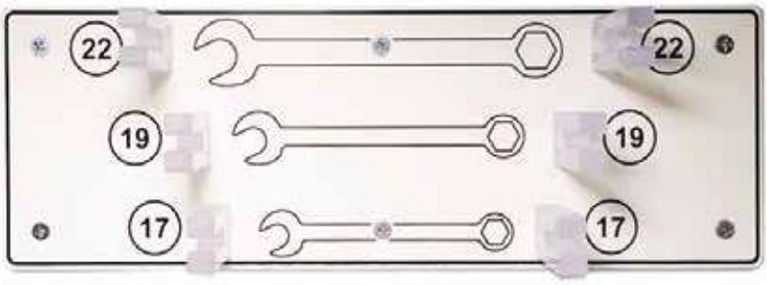
1. **34-RL010802** Two quick-release adapters Ø 8 mm (at the ends)
2. **34-RL310601** Two quick-fit corner adapters Ø 6 mm (on the ends)

TRIUMF

OPTIONAL EQUIPMENT AND ACCESSORIES

DL-UNI01792

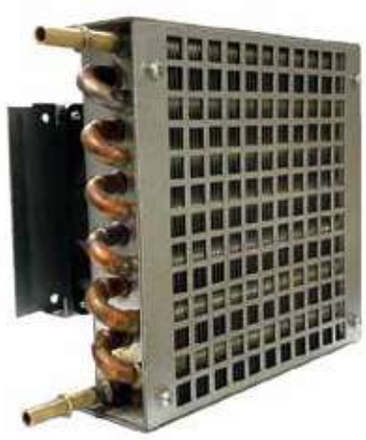
A set of open-end and ring-end wrenches for the TRIUMF test bench.
The wrenches are conveniently and securely held directly
in the test bench's test compartment.



Delivery set:

1. **DL-TRF50244** Key holder
2. **DL-UNI31217** Open-end wrench 19x19mm - 1 pc.
3. **DL-UNI31219** Open-end wrench 19x19мм -1 pc.
4. **DL-UNI31222** Open-end wrench 22x22мм -1 pc.

Please note!
All keys are also sold separately.



DL-ORV6

Air defense radiator for the pressure accumulator of TRIUMF test rigs

DL-HEUI0037

TRIUMF 0-8 bar low pressure test kit for HEUI unit injectors

24-DBK-06L	3-way valve 3/8"	1 pc
26-04020-06	Coupling 3/8"	1 pc
13-VMP-06	Safety relief valve (SRV) 3/8"	1 pc
DL-UNI20024	SRV mounting bracket to FTO with two M6 x 16mm screws	1 pc
13-VRFB04	Restrictor 1/4"	1 pc
DL-UNI31316	Stainless steel washer 50 x 22mm "OILSUPPLY" (FUELSUPPLY)	1 pc
041616005	Thrust washer, hole diameter 22mm	1 pc
DL-UNI30020	1/4" x 8mm nipple (drain from PC into tank)	1 pc
DL-UNI30859	3/8" x 8mm nipple (drain from PC into tank)	1 pc
DL-UNI30530	3/8" x 3/8" nipple (3-way valve - 2 pcs., PC - 1 pc.)	3 pcs
DL-UNI30363	3/8" Banjo Bolt	2 pcs
DL-UNI30365	1/4" Banjo Bolt	1 pc
12-03-005	Female Banjo nipple Ø 14mm (1/4")	1 pc
34-MA16-08-14	8mm x 1/4" quick connector	2 pcs
DL-UNI31036	Special nipple 3/8" x 3/8" x 1/8" for supply	1 pc
DL-UNI31024	Special nipple 3/8" x 3/8" for return drain	1 pc
A50051-06-06	Angle nipple 3/8" x 8mm for special Fittings	2 pcs
DL-UNI20016	Manometer bracket	1 pc
12-TG63-010	Flanged pressure gauge 0-10 bar	1 pc
DL-UNI30613	Manometer coupling 1/4" x 1/8"	1 pc
34-MA12-04-18	Quick adapter Ø 4mm x 1/8"	1 pc
34-PTFE-04-250	PVC tube 4mm x 250mm for pressure gauge	1 pc

TRIUMF

OPTIONAL EQUIPMENT AND ACCESSORIES

P1331012019-850	PVC tube, 8mm x 850mm, for draining from the throttle body to the tank	1 pc
TI-1ZTX-06-090	High-pressure fuel line, 3/8" x 3/8" L=90cm	1 pc
18-806-008-173	Injection pump, Ø 8mm, L=173cm (PC-Special Fitting "OilSupply")	1 pc
18-806-008-155	Injection pump, Ø 8mm, L=155cm (Throttle-Special Fitting "OilReturn")	1 pc
18-806-008-105	Injection pump, Ø 8mm, L=105cm (PC-Tank)	1 pc
DL-UNI20021	Washer with "FUELSUPPLY" inscription	1 pc
DL-UNI20022	Washer with "FUELRETURN" inscription	1 pc
0540159	15mm clamps	8 pcs
004636	M3 x 6mm screw for mounting the pressure gauge	3 pcs
0046435	M4 x 35mm screw	6 pcs
0083645	M6 x 45mm screw + washer + nut for mounting the PC	2 set
D-GM1504AN	Rubber-metal washer 1/4" for banjo bolts on the throttle	2 pcs
D-GM1506AN	3/8" rubber washer for the 3-way valve	4 pcs

ATTENTION!
Low-pressure fuel lines (LPF) may be supplied in a single 433cm length.

TRIUMF

OPTIONAL EQUIPMENT AND ACCESSORIES

DL-HEUI0037

TRIUMF 0-8 bar low pressure test kit for HEUI unit injectors









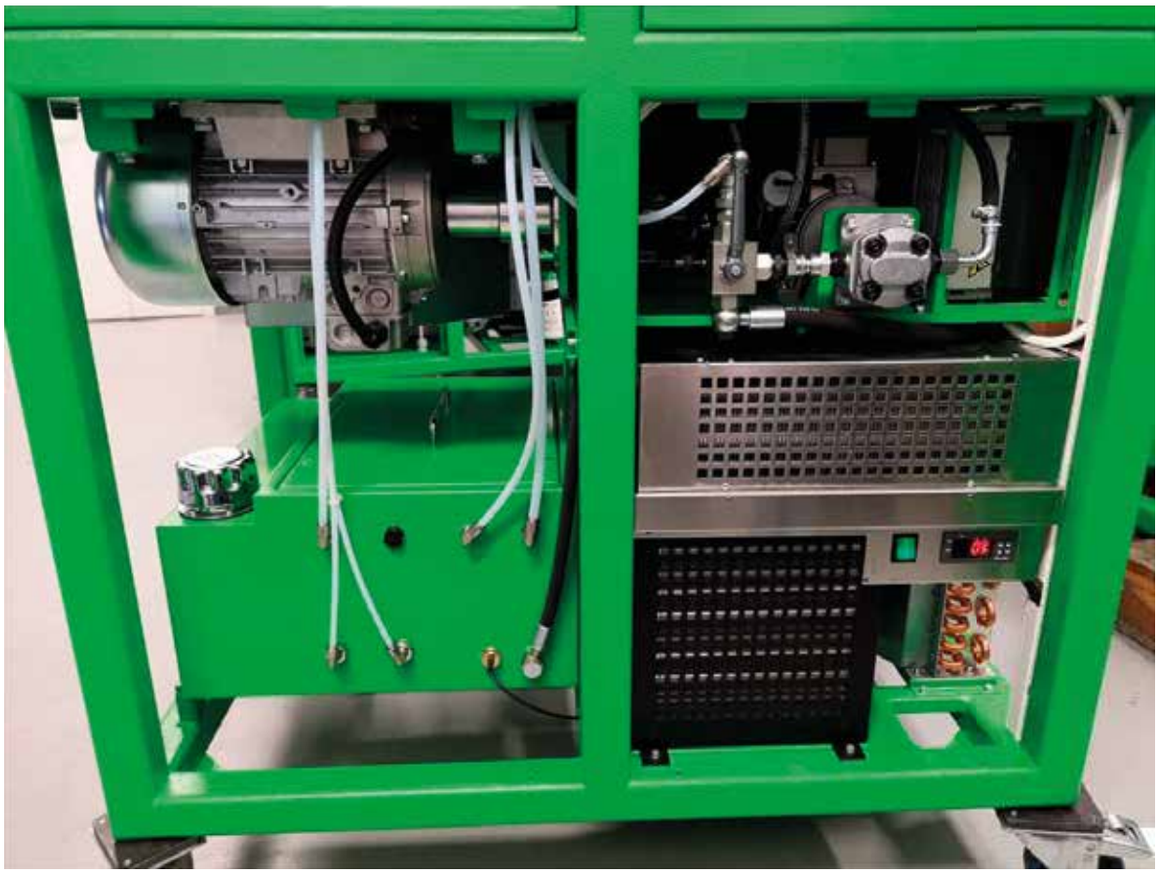
TRIUMF

OPTIONAL EQUIPMENT AND ACCESSORIES

DL-HEUI0037

TRIUMF 0-8 bar low pressure test kit for HEUI unit injectors





TRIUMF OPTIONAL EQUIPMENT AND ACCESSORIES

HEUI UNIT INJECTOR TESTING KIT

HEUI CATERPILLAR 3126B,
CATERPILLAR 3126E и FORD 1998-2003
DIESEL 7.3 FUEL INJECTOR 128-6601,
AD1831489C1 (INTERNATIONAL)



The equipment includes:

1. **DL-HEUI50223** Adapter for installing pump injectors



HEUI CATERPILLAR C7-C9



The equipment includes:

1. **DL-HEUI50221** Adapter for installing pump injectors



2. **DL-HEUI50240** Set of hydraulic hoses and turbocharger 400 mm 14x14 mm
3. **DL-HEUI50219** Adapter holder with clamping bar
4. **DL-HEUI50230** Adapter cable for connecting a pump-injector
5. **DL-UNI50084** Angle adapter M14



Please note: All equipment components are sold separately.

CRUIS

The **CRUIS** stand allows you to perform procedures related to testing and checking Common-Rail injectors from manufacturers such as Bosch, Denso, Delphi, VDO (Siemens), Cummins, AZPI, as well as HEUI Caterpillar unit injectors installed on diesel engines of light and medium-sized automobiles, including high-speed engines of cars and trucks, buses, agricultural machinery and tractors.

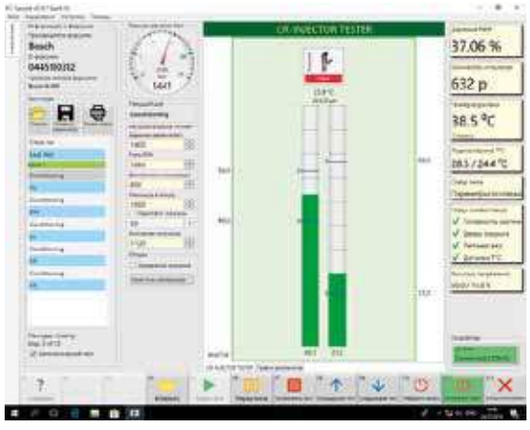
- The software allows coding BOSCH isa / ima cod, Delphi C2i / C3i / C4i*, Denso, VDO Siemens injectors.
- Stand working pressure up to 2400 bar.
- The stand is produced with the following characteristics of the main drive:
  - CRUIS 4 kW 380 V,
  - CRUIS 5.5 kW 380 V,
  - CRUIS 4 kW 220 V

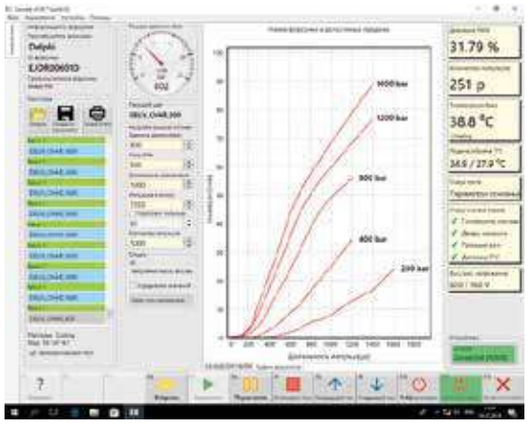
* Delphi C4i coding in CRUIS 5.5 kW 380 V
When installing additional equipment, the CASCADE program allows you to test HEUI unit injectors.



CRUIS

Software «CASCADE»





The stand has a low noise level.
When starting the high-pressure pump, its smooth spin-up is ensured due to the use of a Schneider frequency converter in the stand.

The design of the CR test stand and the elements of its equipment meet the requirements of international standards in terms of static and dynamic parameters of ISO 4008/1 and ISO 4008/2.

For coding Delphi injectors, a device is used that allows creating a vacuum in the injector backflow line. The set of the device that creates a vacuum includes a gear pump, a venturi tube and an electric motor. The device is installed at the bottom of the stand next to the refrigeration unit. Also, in the working (test) area at the top right, a pressure gauge is installed that measures the vacuum with an electrovalve providing vacuum access to the nozzle. In this case, the vacuum is regulated by a throttle valve installed under the monitor on the left. When coding Delphi injectors in the CRUIS stand, a sensor is used that determines the injection start time.

The program with test plans is included in the package. Software updates that include new test plans are released twice a year and are provided free of charge.

For thermal stabilization of the test liquid in the tank, the following are used:

1. two radiators with forced air cooling for the backflow line from the injection pump and the backflow line from the pressure accumulator (rail).
2. independent refrigeration unit with air heat exchanger.
3. tubular electric heater 1000 W

Operating pressure up to 1800 bar. It is possible to increase the working pressure up to 2400 bar.

The stand has an electronic measurement system with the ability to check one nozzle.

CRUIS

STAND EQUIPMENT



DL-CAU001

Cable for BOSCH injectors (universal)



DL-CAU002

Cable for Delphi (C2i, C3i)



DL-CAU003

Cable for Delphi (C3i)



DL-CAU004

Cable for BOSCH, SIEMENS



DL-CAU005

Cable for BOSCH



DL-CAU007

Cable for truck injectors



DL-CAU006

Universal cable for truck injectors



DL-CAU09

Cable for connecting the pressure sensor



DL-CAU10

Cable for connecting the pressure regulator

CRUIS

STAND EQUIPMENT



A set of backflow nipples for CR injectors (BOSCH, DENSO, DELPHI, SIEMENS)



DL-TVD41414

High-pressure hose
M14 x M14 x 400 mm (1 pc.)



Door keys
(4 pcs.)



DL-UNI50083

Straight adapter from M14 to M12 for tube (1 pc.)



DL-UNI30497

Pressure regulator plug (1 pc.)



DL-CR50162

Rail plug (1 pc.)



DL-UNI31011

Clamping sleeves
Ø17; Ø18.9; Ø19.2;
Ø21 and Ø21.4



DL-UNI50343

Насадка на распылитель форсунки Ø=9 мм (1 шт.)



DL-54127

Leg (foot with regulatory bolt) (4 pcs.)

ADDITIONAL EQUIPMENT AND COMPONENTS



DL-CR50015

Encoding sensor
Ø=7mm (1 pc.)





DL-UNI50273

A handle for easy movement of the stand.
Two handles are included.

CRUIS

OPTIONAL EQUIPMENT AND ACCESSORIES



DL-MOK

Adapter-coupling with check valve Ø 6 mm
Connecting holes Ø 6 mm x Ø 6 mm
Length with clamps = 37 mm
Length without clamps = 33 mm
Diameter = 1.15 mm



DL-MOK-K

Quick-connect coupling with check valve, Ø 6 mm
Connection holes: Ø 6 mm x Ø 6 mm
Length with clamps = 49 mm
Length without clamps = 45 mm
Diameter = 13.8 mm



DL-MOK-KS

Quick-connect coupling with check valve Ø 6 mm
Connecting holes Ø 6 mm x Ø 6 mm
Length with clamps = 42.6 mm
Length without clamps = 37.3 mm
Diameter = 12.5 mm



DL-CR50120

Delphi injector back-up valve for coding (response time)



DL-CR50406

Back-up valve for DELPHI coding, thread G 1/8″



DL-CR50136

Return flow pressure valve for testing BOSCH electromagnetic injectors on a test bench



DL-CR50210

Return pressure valve for testing SIEMENS piezo injectors on a test bench



DL-CR50177

Return pressure valve for piezo injectors Bosch

CRUIS

OPTIONAL EQUIPMENT AND ACCESSORIES



DL-CR50013

Universal adapter for CR truck injectors (Bosch, Denso, Delphi Smart) for connecting the supply and return lines with 0°, 4°, and 13° angles.



DL-CR50140

Universal adapter for Denso CR truck injectors, including Volvo 21952974 for connecting the supply and return lines.

CRUIS

OPTIONAL EQUIPMENT AND ACCESSORIES

ADAPTERS FOR CHECKING TRUCK INJECTORS

							
DL-002 **DL-CR31046**	**DL-003** **DL-CR31821**	**DL-004A** **DL-CR30848**	**DL-005N** **DL-CR31048**	**DL-006** **DL-CR31440**	**DL-007** **DL-CR31044**	**DL-008** **DL-CR31045**	**DL-009** **DL-CR31439**
BOSCH MAN Ø 29мм	DAF Euro 7 (PACCAR)	BOSCH RENAULT Ø 32мм	CUMMINS	DENSO Ø 27мм	DENSO Ø 23,5мм	BOSCH MAN Ø 26мм	BOSCH VOLVO Ø 28мм
							
DL-010 **DL-CR31047**	**DL-011** **DL-CR30985**	**DL-012** **DL-CR30036**	**DL-013** **DL-CR30968**	**DL-014** **DL-UNI30038**	**DL-015** **DL-CR30822**	**DL-016** **DL-CR31486**	**DL-016U** **DL-CR31806**
CUMMINS	SIEMENS VDO FORD	CRIN BOSCH SISU Ø 26,6мм	DELPHI SMART INJECTOR	DENSO	DENSO Ø 18,5 мм Caterpillar, Perkins	SCANIA 2/4 pin	SCANIA 2/4 pin
							
DL-017 **DL-UNI30037**	**DL-018** **DL-CR30595**	**DL-019** **DL-CR30804**	**DL-020** **DL-CR30596**	**DL-021** **DL-CR31565**	**DL-022** **DL-CR31566**	**DL-023** **DL-CR31567**	**DL-024** **DL-CR31620**
BOSCH DEUTZ Ø 21,5мм	CURSOR 9	BOSCH MTU	SCANIA 4 PIN	BOSCH CRIN3 0445124015	Caterpillar 3809888	Delphi Smart injector Mersedes	DAF-SMART injector
							
DL-025 **DL-CR31625**	**DL-026** **DL-CR31626**	**DL-027** **DL-CR31698**	**DL-028** **DL-CR31759**	**DL-029** **DL-CR31793**	**DL-030** **DL-CR30818**	**DL-031** **DL-CR31040**	**DL-032** **DL-CR31430**
DELPHI CRIN DAF EURO 6 SMART INJ	CUMMINS	BOSCH	FORD	BOSCH 0445120247	BOSCH ЯМЗ-530	BOSCH 0445120303	BOSCH 0445120134
							
DL-033 **DL-CR31479**	**DL-034** **DL-CR31538**	**DL-035** **DL-CR31561**	**DL-036** **DL-CR31563**	**DL-037** **DL-CR50304**	**DL-038** **DL-CR31606**	**DL-039** **DL-CR31738**	**DL-040** **DL-LR31785**
DENSO	DENSO 1211 11L1063(095000-121)	DENSO	Delphi A9362187 Mersedes Actros Euro 6	MB Actros	5296723 DENSO	CAT Ø 28мм	Lorang Ø 26,5мм x Ø 23мм
DL-041 **DL-CR31861**	**DL-042** **DL-CR31900**	**DL-043** **DL-CR31969**					
CUMMINS-XPI 4307475	BOSCH DHIM, Doosan, Yuchai	BOSCH 0445120471					

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OPTIONAL EQUIPMENT AND ACCESSORIES

DL-UNF20420L

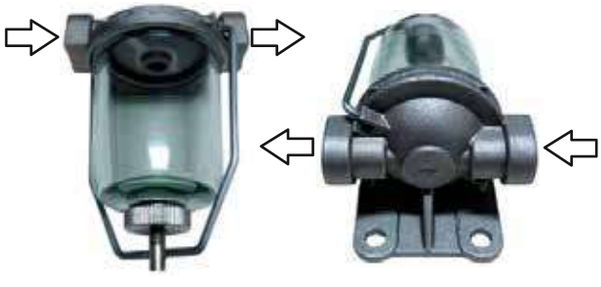
A set of sediment filters for testing injectors on a TRIUMF test bench.
These filters are designed for pre-cleaning injectors before testing them on a test bench.



Delivery set:

1. **DL-UNF20300L** Sedimentation filter (entrance on the left) – 2 pcs.
2. **DL-UNI31427** Adapter 1/8”xM14x1.5mm – 4 pcs.
3. **34-RL010602** Quick adapter straight Ø 6x1/4” – 2 pcs.
4. **34-RL310602** Quick corner adapter Ø 6x1/4” – 2 pcs.
5. **DL-UNI31399** Splitter ¼” – 1 pc.

Please note!
All items are also sold separately.



DL-UNF20420L

Filter-sump (inlet on the left)
The filter includes:

1. Inlet and outlet openings M14x1.5mm
2. Mounting holes Ø 8mm



DL-UNI31399

¼” Splitter
Connected to the splitter:

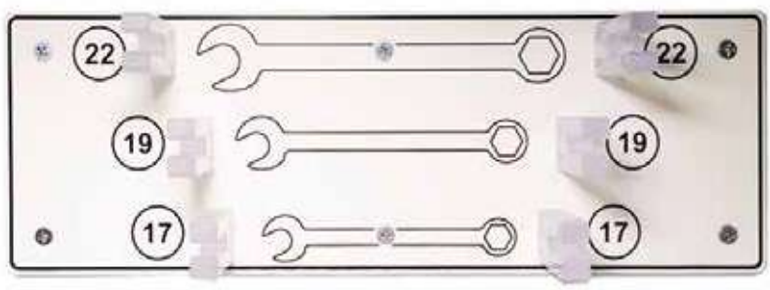
1. **34-RL010802** Two quick-release adapters Ø 8 mm (at the ends)
2. **34-RL310601** Two quick-fit corner adapters Ø 6 mm (on the ends)

CRUIS

OPTIONAL EQUIPMENT AND ACCESSORIES

DL-UNI01792

A set of open-end and ring-end wrenches for the TRIUMF test bench.
The wrenches are conveniently and securely held directly
in the test bench's test compartment.



Delivery set:

1. **DL-TRF50244** Key holder
2. **DL-UNI31217** Open-end wrench 19x19mm - 1 pc.
3. **DL-UNI31219** Open-end wrench 19x19мм -1 pc.
4. **DL-UNI31222** Open-end wrench 22x22мм -1 pc.

Please note!
All keys are also sold separately.



DL-ORV6

Air defense radiator for the pressure accumulator of TRIUMF test rigs

DL-HEUI0038

CRUIS 0-8 bar low pressure test kit for HEUI unit injectors

24-DBK-06L	3-way valve 3/8"	1 pc
26-04020-06	Coupling 3/8"	1 pc
13-VMP-06	Relief valve (RV) 3/8"	1 pc
DL-UNI20023	Bracket for mounting RV to FTO (filter) bracket	1 pc
13-VRFB04	Orifice 1/4"	1 pc
DL-UNI31316	Stainless steel washer 50 x 22 mm "OILSUPPLY" (FUELSUPPLY)	1 pc
041616005	Thrust washer Ø hole 22mm	1 pc
DL-UNI30020	1/4" x 8mm nipple (drain from PC into tank)	1 pc
DL-UNI30859	3/8" x 8mm nipple (drain from PC into tank)	1 pc
DL-UNI30530	3/8" x 3/8" nipple (3-way valve - 2 pcs., PC - 1 pc.)	3 pcs
DL-UNI30363	3/8" Banjo Bolt	2 pcs
DL-UNI30365	1/4" Banjo Bolt	1 pc
12-03-005	Female Banjo nipple Ø 14mm (1/4")	1 pc
34-MA16-08-14	8mm x 1/4" quick connector	2 pcs
DL-UNI31036	Special nipple 3/8" x 3/8" x 1/8" for supply	1 pc
DL-UNI31024	Special nipple 3/8" x 3/8" for return drain	1 pc
A50051-06-06	Angle nipple 3/8" x 8mm for special Fittings	2 pcs
DL-UNI20015	Manometer bracket	1 pc
12-TG63-010	Flanged pressure gauge 0-10 bar	1 pc
DL-UNI30613	Manometer coupling 1/4" x 1/8"	1 pc
34-MA12-04-18	Quick adapter Ø 4mm x 1/8"	1 pc
34-PTFE-04-250	PVC tube 4mm x 250mm for pressure gauge	1 pc

CRUIS

OPTIONAL EQUIPMENT AND ACCESSORIES

P1331012019-850	PVC tube, 8mm x 850mm, for draining from the throttle body to the tank	1 pc
TI-1ZTX-06-015	High-pressure fuel line, 3/8" x 3/8" L=15cm	1 pc
18-806-008-104	Injection pump, Ø 8mm, L=104cm (PC-Special Fitting "OilSupply")	1 pc
18-806-008-075	Injection pump, Ø 8mm, L=75cm (Throttle-Special Fitting "OilReturn")	1 pc
18-806-008-037	Injection pump, Ø inner.8mm, L=37cm (PC-Tank)	1 pc
DL-UNI20021	Washer with "FUELSUPPLY" inscription	1 pc
DL-UNI20022	Washer with "FUELRETURN" inscription	1 pc
0540159	15mm clamps	8 pcs
004636	M3 x 6mm screw for mounting the pressure gauge	3 pcs
0089416	M4 x 16mm screw for mounting special fittings	6 pcs
0083645	M6 x 45mm screw + washer + nut for mounting the PC	2 set
D-GM1504AN	Rubber-metal washer 1/4" for banjo bolts on the throttle	2 pcs
D-GM1506AN	3/8" rubber washer for the 3-way valve	4 pcs

ATTENTION!
Low-pressure fuel lines (LPF) may be supplied in a single 216 cm section.

CRUIS

OPTIONAL EQUIPMENT AND ACCESSORIES

DL-HEUI0038

CRUIS low-pressure test kit for 0-8 bar HEUI unit injectors





CRUIS

OPTIONAL EQUIPMENT AND ACCESSORIES

DL-HEUI0038

CRUIS low-pressure test kit for 0-8 bar HEUI unit injectors





CRUIS

OPTIONAL EQUIPMENT AND ACCESSORIES

DL-HEUI0038

CRUIS low-pressure test kit for 0-8 bar HEUI unit injectors









CRUIS

OPTIONAL EQUIPMENT AND ACCESSORIES

HEUI UNIT INJECTOR TESTING KIT

HEUI CATERPILLAR 3126B,
CATERPILLAR 3126E и FORD 1998-2003
DIESEL 7.3 FUEL INJECTOR 128-6601,
AD1831489C1 (INTERNATIONAL)



The equipment includes:

1. **DL-HEUI50223** Adapter for installing pump injectors



HEUI CATERPILLAR C7-C9



The equipment includes:

1. **DL-HEUI50221** Adapter for installing pump injectors



2. **DL-HEUI50240** Set of hydraulic hoses and turbocharger 400 mm 14x14 mm
3. **DL-HEUI50219** Adapter holder with clamping bar
4. **DL-HEUI50230** Adapter cable for connecting a pump-injector
5. **DL-UNI50084** Angle adapter M14



Please note: All equipment components are sold separately.

CR-Test4E

The test bench **CR-Test4E** allows checking the following equipment of the COMMON RAIL system: BOSCH, DENSO, DELPHI nozzles, (SIEMENS optional), BOSCH, DENSO, DELPHI, SIEMENS pumps (CP1, CP2, CP3, HP2, HP3, DFP1, DFP3, DFP6, HP3, HP4), regulators and pressure sensors. The operating pressure of the test is up to 1800 bar. At the request of the customer,there is possibility to increase the working pressure to 2200 bar. Test bench is equipped with an electronic measuring system. Test bench includes a software with built-in test plans.

CR-Test-4E - test stand for Common Rail (CR) injectors and pumps with an electronic measurement system (simultaneous testing of up to 4 injectors); The performance of the CR injection pump is checked using a two-channel flow meter.

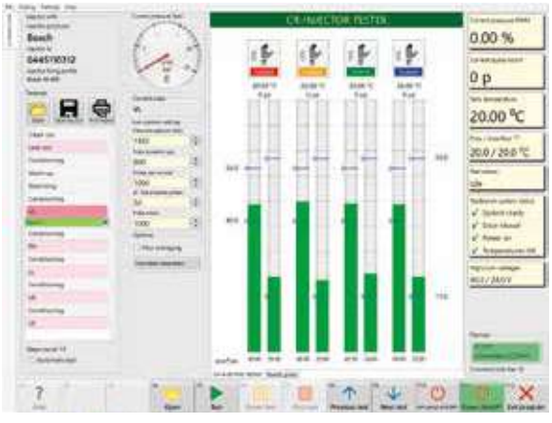


CR-Test4E

Software

«CASCADE»

The complex includes software
software for testing CR injectors



«DieselTest»

The complex includes software
pump testing software

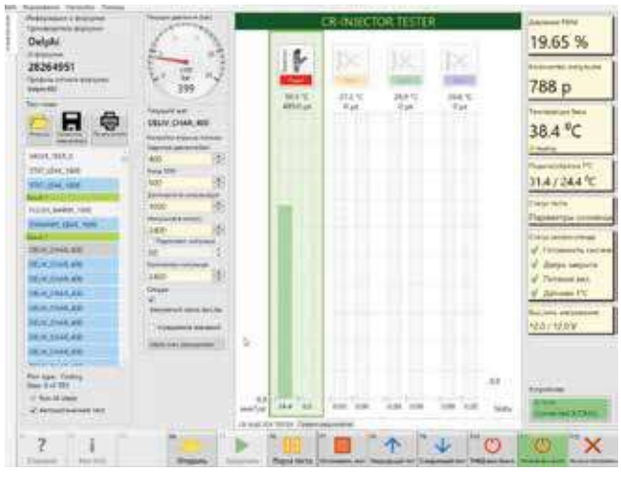


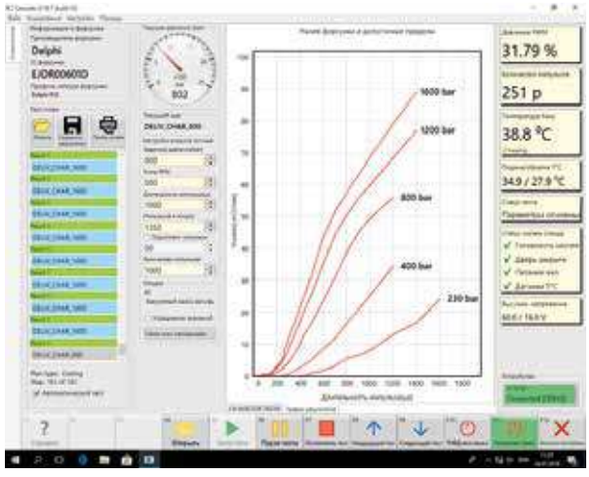


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CR-Test4E

Software «CASCADE»





The software has a user-friendly interface. The program contains built-in test plans for testing and coding Bosch, Delphi, Denso, Siemens (VDO) injectors. Functions for creating new test plans, editing built-in ones, as well as creating targets for Delphi C2i, C3i, C4i injectors are available. The results and progress of testing are displayed in graphical form and saved to a file and sent to print.

The stand is equipped with a modern system of thermal stabilization test liquids in the tank, which includes:

1. Two radiators with forced air cooling for the backflow line from the injection pump and the backflow line from the pressure accumulator (rail).
2. Pressure accumulator with cooling. The rail cooling line includes an individual air-cooled radiator and a circulation pump.
3. Independent refrigeration unit with air heat exchanger.
4. Three individual thermal controllers for controlling radiator fans.
5. Tubular electric heater with a power of 1000 W for heating the test liquid in the tank.

- Operating pressure up to 2400 bar.
- The pressure is controlled by two regulators.
- The stand has an electronic measurement system with the ability to check four injectors at the same time.
- Drive motor power for checking high pressure fuel pump - 11 kW
- Drive motor power for checking injectors - 5.5 kW
- The stand is equipped with frequency converters.

CR-Test4E

STAND EQUIPMENT



A fluid flow meter
for simultaneously testing
one to four injectors.
Mounted on a test bench.



FMDE-520

Liquid flow meter
for pumps, 2-channel.
Mounted on a test bench.



PTC-2520

Pump controller.
Mounted on a test bench.



Injector controller.
Mounted on a test bench.

CR-Test4E

STAND EQUIPMENT



DL-24CRM

A set of backflow nipples for CR injectors



DL-UNI50343

Spray nozzles
Ø= 9 mm (1 pc.)



DL-UNI50083

Straight adapter from M14 to M12 for tube (4 pcs.)



DL-TVD61414 High pressure tube M14xM14x600мм – 2 pc

DL-TVD51414 High pressure tube M14xM14x500мм – 5 pcs



D-OCDE

Denso Injector Backflow Kit (4 pcs.)



DL-54127

Leg (foot with regulatory bolt) (4 pcs.)



DL-CR50162

Rail plugs (4 pcs.)



DL-UNI30497

Pressure regulator plug (5 pcs.)



DL-UNI50088

Angle adapter M14 x M14 (2 pcs.)



Door keys (4 pcs.)

CR-Test4E

STAND EQUIPMENT



DL-CR10015

Nozzle holder frame with cups
(**DL-UNI50342**) for 7 mm nozzles - 4 pcs
and clamping sleeves

DL-UNI31019 Ø=17 (4 pcs.)
DL-UNI31020 Ø=18,9 (1 pc)
DL-UNI31021 Ø=19,2 (1 pc)
DL-UNI31022 Ø=21 (1 pc)
DL-UNI31231 Ø=21,4 (1 pc)



DL-CR30522KIT

RAIL 1 pressure accumulator (distribution)
with 3 pressure regulators for testing
CR injectors and pumps.
Mounted on a test bench.



DL-CR31257

RAIL 2 pressure accumulator
for testing injectors and pumps with cooling
(for 2 pressure regulators)
Mounted on a test bench.



DL-CR31053KIT

RAIL 3 pressure accumulator
for 3 pressure regulators
(with cooling)
for pump testing.
Mounted on a test bench.

CR-Test4E

STAND EQUIPMENT



DL-FMDE064

Hose for measuring fuel injection pump flow from the pressure accumulator to the radiator inlet fitting (RAIL –CR PUMP FM1) ø12x3/8x200 mm with a bolt, Banjo fitting, and 2 gaskets. 1 pc.



DL- FMDE025

A set of two hoses for connecting the "CR PUMP FM1" and "CR PUMP FM2" front panel fittings to the "IN1" and "IN2" fittings of the "FMDE" flow measurement controller. (The hoses are installed on the stand.) The kit includes:

- Hose 3/8x3/8x250mm - 1 pc.
- Hose 3/8x3/8x350mm - 1 pc.



DL- FMDE045

A set of two hoses for connecting the "OUT 1" and "OUT 2" fittings of the "FMDE" flow measurement controller to the drain fittings of the test bench tank. (The hoses are installed on the test bench.)
The kit includes:

- Hose 3/8x3/8x1550 mm - 1 pc.
- Hose 3/8x3/8x1550 mm - 1 pc.



DL-1CP2304

A set of 5 hoses for pumps SR1, SR2, SR3. The set includes:

- Hose ø12x3/8x700mm - 1 pc.
- Hose ø12x3/8x800mm - 1 pc.
- Hose ø12x3/8x850mm - 1 pc.
- Hose ø12x3/8x900mm - 1 pc.
- Hose 3/8x3/8x1250mm - 1 pc.



DL-2UMS004

A set of 7 hoses for various connections. The set includes:

- Universal hose Ø8x3/8x1000 mm. 3 pcs.
- Universal hose Ø10x3/8x1000 mm. 4 pcs.

CR-Test4E

STAND EQUIPMENT

Set of fittings for connection

DL-KUK0040



The set includes:

- Cone fitting 3/8"x10 mm – 4 pcs.;
- Cone fitting 3/8"x8 mm – 3 pcs.;
- Clamp Ø15 - 7 pcs.;
- Clamp Ø10 - 7 pcs.;
- Banjo fitting Ø16 mm x 10 mm – 2 pcs.;
- Banjo fitting Ø14 mm x 10 mm – 2 pcs.;
- Banjo fitting Ø12 mm x 8 mm – 2 pcs.;
- Banjo bolt M16 – 2 pcs.;
- Banjo M14 bolt – 2 pcs.;
- Banjo M12 bolt – 6 pcs.;
- Ø12 mm gasket – 16 pcs.;
- Ø14 mm gasket – 12 pcs.;
- Ø16 mm gasket – 12 pcs.;
- Ø21 mm (1/2") gasket – 1 pc.;
- Plastic nipple for VDO (Siemens) pumps – 1 pc.
- 1/2"x3/8" nipple – 1 pc.;
- M16x1.5x3/8" nipple – 1 pc.
- M12xM16 adapter (1.5 mm pitch) - 4 pcs.
- M12xM14 adapter (1.5 mm pitch) - 4 pcs.
- Adapter M12xM12vn (pitch 1.5 mm) - 4 pcs.

CR-Test4E

STAND EQUIPMENT



0 281 002 842

Bosch pressure sensor
(2 pcs.) for Rail,
mounted on a stand



0 281 002 494

Bosch pressure regulators
(5 pcs.) on rail,
mounted on a stand



DL-CAU001

Cable for BOSCH injectors (universal)



DL-CAU002

Cable for Delphi (C2i, C3i)



DL-CAU003

Cable for Delphi (C3i)



DL-CAU004

Cable for BOSCH, SIEMENS



DL-CAU005

Cable for BOSCH



DL-CAU007

Cable for truck injectors



DL-CAU006

Universal cable for truck injectors



DL-CAU09

Cable for connecting the pressure sensor



DL-CAU10

Cable for connecting the pressure regulator

CR-Test4E

STAND EQUIPMENT



DL-UNI50008

Pump mounting bracket, standard Bosch 125 mm. Mounted on a stand.



DL-UNI50433

125mm bracket with 3 mounting holes and stops at the front



DL-UNI50434

125mm bracket with three mounting holes and stops at the rear

FLANGES



DL-UNI30428

Fuel injection pump mounting flange 107 mm CP-3



DL-UNI30465

Mounting flange for CR fuel injection pump (BMW, RENAULT, MB, Peugeot)



DL-UNI30464

Mounting flange for CR (MB) high-pressure fuel pump

COUPLINGS



DL-CR31251

24mm cone coupling for CR SR-3 high-pressure fuel pump



DL-CR31271

17mm cone coupling for testing CR pumps and VE high-pressure fuel pumps



DL-CR31269

19mm cone coupling for testing CR pumps and VE high-pressure fuel pumps

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CR-Test4E

OPTIONAL EQUIPMENT AND ACCESSORIES

DL-CR50378 KIT FOR TESTING FUEL INJECTION PUMPS CP3-4 MAN, KAMAZ, Bosch

FLANGES



DL-UNI30474

Фланец крепления для ТНВД MAN CP3 MAN, аналог Bosch 1685720258



DL-UNI30884

Фланец крепления для ТНВД MAN КАМАЗ CP3.4, аналог Bosch 1685720312

COUPLINGS



DL-CR31248

Муфта шлицевая (11 шлиц.) для проверки насосов MAN CR CP-3

DL-CR50379 FUEL PUMP TESTING KIT CP2 RENAULT, MA3, BOSH

FLANGES



DL-UNI30886

Fuel injection pump mounting flange 107 mm CP2 Bosch 0445020036 (Renault).



DL-CR31833

Flange for fuel injection pump CP-2 BOSCH 0445020116

COUPLINGS



DL-CR31594

K35 coupling for connecting to a MAZ SR2 high-pressure fuel pump test bench



Mounts to the flange of the expansion joint. Compatible with BOSCH EPS-815, CR-Test 4E, CR-Test 2P test benches and compatible mounting hardware.



DL-CB230016

Cone coupling with flange connection Ø 30 mm Cam Box2, Renault fuel injection pump

CR-Test4E

OPTIONAL EQUIPMENT AND ACCESSORIES

DL-CR50380 KIT OF EQUIPMENT FOR TESTING CUMMINS KAMAZ WITH FUEL PUMP BOSCH AND AZPI



DL-CR31145

80mm mounting flange for fuel injection pump CR CP3S3 Bosch 0445020060



DL-UNI31739

Fuel injection pump mounting flange AZPI A-08-013-10, 708, BOSCH 0445020224



DL-CR50427

KAMAZ 54901 Fuel Injection Pump Test Kit K5 0445020338 (Flange Mount)



DL-CR50426 *

Fuel injection pump test kit KAMAZ 54901 K5 0445020338 (slotted mount)

Delivery set:

- **DL-CR31145** Flange – 1 pc.
- **DL-UNI31739** Flange – 1 pc.
- **DL-CR50427** Fuel injection pump test kit - 1 pc.
- **DL-CR50426** Fuel injection pump test kit - 1 pc. *

***** *The kit is supplied for stands with a splined drive coupling.***

DL-CR50137 A KIT OF EQUIPMENT FOR CHECKING AND REPAIRING FUEL FUEL PUMP CR CP4 BOSCH



Delivery set:

- **DL-CR30861** Flange – 1 pc.
- **DL-CR30862** Flange – 1 pc.
- **DL-UNI50083** Adapter – 1 pc.
- **DL-UNI50084** Adapter – 2 pcs.
- **DL-UNI30980** Screw M16x1 – 3 pcs.
- **DL-CR31003** Socket head for pump valve CP4 – 1pc.

EQUIPMENT KIT FOR FUEL PUMP 0 445 025 604 BOSCH CB28 (D245 EURO-4) MMZ EURO-4



DL-CR31972

Mounting flange for fuel injection pump 0 445 025 604 BOSCH CB28 (D245 EURO-4) MMZ EURO-4



DL-CR31973

24 mm cone coupling for high-pressure fuel pump 0 445 025 604 BOSCH CB28 (D245 EURO-4) MMZ EURO-4



DL-CR31974 *

24 mm cone coupling with mounting tabs 0 445 025 604 fuel injection pump BOSCH CB28 (D245 EURO-4) MMZ EURO-4.

Delivery set:

- **DL-CR31972** Flange – 1 pc.
- **DL-CR31973** Flange – 1 pc.
- **DL-CR31974** Coupling – 1 pc. *

***** *The kit is supplied for stands with a splined drive coupling.***

dieselland equipment for diesel

CR-Test4E

OPTIONAL EQUIPMENT AND ACCESSORIES

FUEL PUMP TOOLING KIT **CUMMINS P4954200**



DL-CR31766

Flange coupling
for CUMMINS P4954200
high-pressure fuel pump
To connect the CUMMINS
P4954200 high-pressure fuel pump,
DL-CR31765 is also required.



DL-CR31778

Splined coupling
with tabs for the Cummins
P4954200 high-pressure fuel pump
To connect the Cummins
P4954200 high-pressure fuel pump,
a flange is also required.
DL-CR31765



DL-CR31765

Mounting flange for CUMMINS
P4954200 fuel injection pump

CR INJECTION PUMP TESTING EQUIPMENT **BOSCH**

FLANGES



DL-UNI30887

Flange for installing
a high-pressure fuel pump
CRCP3 Mercedes, (Analog
SIRINI AAE001-03)



DL-CR31228 (CP383)

Mounting flange for CR fuel injection
pump BOSCH 0445010091 MB Sprinter,
Viti, Viano 2.1L. 2006 and later.
Bore size: 50 mm.



DL-CR31165

Fuel injection pump mounting
flange BOSCH CR/CP1H3
60mm For example,
BOSCH fuel injection pump
0445010223 (Renault
Megane 2012)



DL-CR31513

Flange for mounting on a bench
CR CP3S3/K140/40-789S high-
pressure fuel pump
BOSCH 0445020125
Bore 107 mm

COUPLINGS



DL-CR31416

Bosch 0445010512 CR / CP4S1 Fuel Injection Pump Coupling
The coupling has grooves for the pump coupling splines and
a centering cone. It is attached to the expansion joint flange.
Compatible with BOSCH EPS-815, CR-Test 4E,
CR-Test 2P test stands and compatible mounts.

CR-Test4E

OPTIONAL EQUIPMENT AND ACCESSORIES

DENSO CR FUEL PUMP TESTING KIT

FLANGES / SUPPORTS



DL-CR31607

Flange for high-pressure fuel pump
DENSO HP0
094000-0635



DL-CR50266

Angle stand for mounting the CR DENSO 097300-0023 fuel injection pump during testing on a test bench.





DL-CR50151

A set of supports for mounting Denso HP0 pumps on a stand

Delivery set:

- **DL-CR31094** Support – 2 pcs.
- **DL-UNI30090** Profile bolt – 2 pcs.
- M14 nut – 2 pcs.
- 14mm washer – 2 pcs.
- 14mm lock washer – 2 pcs.

COUPLINGS



DL-UNI31029

DL-UNI31029 coupling for Denso fuel injection pumps
(includes UNI31030 insert with a 10 mm groove).
Compatible with BOSCH EPS-815, CR-Test 4E,
CR-Test 2P test benches and their compatible mounting hardware.

CR DELPHI FUEL PUMP TESTING TOOL

FLANGES





DL-CR31150

A flange for mounting on a CR DELPHI high-pressure fuel pump stand with a 50 mm mounting diameter and mounting holes located perpendicular to the plane of the mounting hole.





DL-CR30866

A flange for mounting on a CR DELPHI high-pressure fuel pump stand with a 50 mm mounting diameter and three mounting holes: two perpendicular to the mounting hole plane, and one parallel to it.

dieselland equipment for diesel

CR-Test4E

OPTIONAL EQUIPMENT AND ACCESSORIES

CR INJECTION PUMP TESTING EQUIPMENT **DELPHI**

COUPLINGS



DL-CR31669

Flange coupling for CR Delphi high-pressure fuel pump 28384347
Mounts to the expansion joint flange.
Compatible with BOSCH EPS-815, CR-Test 4E,
CR-Test 2P test stands and their associated mounting hardware.

CR INJECTION PUMP TESTING EQUIPMENT **Siemens (VDO) Contienental**

SUPPORTS



DL-CR50159

Mounting stand for SIEMENS fuel injection pumps



DL-CR50267

Angle stand for mounting the Siemens CR fuel injection pump during bench testing.

COUPLINGS



DL-CR31480

22 mm cone coupling for testing CR Siemens (VDO) pumps.
Mounts to the expansion joint flange.
Compatible with BOSCH EPS-815, CR-Test 4E,
CR-Test 2P test stands and compatible mounting hardware.

FLANGES



DL-CR31560

C50 flange for mounting on a Continental high-pressure fuel pump stand
2802002037101

CR-Test4E

OPTIONAL EQUIPMENT AND ACCESSORIES

UNIVERSAL EQUIPMENT FOR CHECKING HIGH-PRESSURE FUEL PUMP CR

FLANGES



DL-CR30860

Mounting flange for CR fuel injection pump DENSO HP2, HP3. VDO-Siemens VW 1.6 (Continental A2C59517053)



DL-CR30466

68 mm mounting flange for CR fuel injection pumps Renault Megane, Delphi Siemens VDO, Land Rover, Range Rover V8, and VE fuel injection pumps



DL-UNI31207

A universal flange with a 50 mm diameter mounting hole, without mounting holes. Designed for making mounting holes for pumps with a 50 mm mounting diameter.



DL-UNI31208

A universal flange with a 60 mm diameter mounting hole, without mounting holes. Designed for making mounting holes for pumps with a 60 mm diameter mounting hole.

COUPLINGS



DL-UNI31025

Coupling for Bosch SR1 fuel injection pumps, Siemens VDO Continental fuel injection pumps
For Bosch SR1 (MB) high-pressure fuel pumps (includes UNI31028 insert with an 8 mm groove) and for Siemens VDO high-pressure fuel pumps (includes UNI31027 insert with a 9 mm groove). Can be used on Bosch test stands instead of coupling 1685702090.

Suitable for BOSCH EPS-815, CR-Test 4E, CR-Test 2P test stands and compatible mountings.



DL-CR31558 (K23)

23 mm cone coupling for Bosch and Siemens VDO Continental CR fuel injection pumps
The mount is located on the expansion joint flange.
Suitable for CR-Test, BOSCH EPS-815, and compatible mounts.
Compatible CR fuel injection pumps:
- Continental A2C59517053
- BOSCH CR/CP4HS2 0445010637
- BOSCH CR/CP4S2 0445010611
- BOSCH CR/CP4S1 0445010506

All elements of the set are sold separately.

CR-Test4E

OPTIONAL EQUIPMENT AND ACCESSORIES



DL-MOK

Adapter-coupling with check valve Ø 6 mm
Connecting holes Ø 6 mm x Ø 6 mm
Length with clamps = 37 mm
Length without clamps = 33 mm
Diameter = 1.15 mm



DL-MOK-K

Quick-connect coupling with check valve, Ø 6 mm
Connection holes: Ø 6 mm x Ø 6 mm
Length with clamps = 49 mm
Length without clamps = 45 mm
Diameter = 13.8 mm



DL-MOK-KS

Quick-connect coupling with check valve Ø 6 mm
Connecting holes Ø 6 mm x Ø 6 mm
Length with clamps = 42.6 mm
Length without clamps = 37.3 mm
Diameter = 12.5 mm



DL-CR50120

Delphi injector back-up valve for coding (response time)



DL-CR50406

Back-up valve for DELPHI coding, thread G 1/8″



DL-CR50136

Return flow pressure valve for testing BOSCH electromagnetic injectors on a test bench



DL-CR50210

Return pressure valve for testing SIEMENS piezo injectors on a test bench



DL-CR50177

Return pressure valve for piezo injectors Bosch

CR-Test4E

OPTIONAL EQUIPMENT AND ACCESSORIES



DL-CR50013

Universal adapter for CR truck injectors (Bosch, Denso, Delphi Smart) for connecting the supply and return lines with 0°, 4°, and 13° angles.



DL-CR50140

Universal adapter for Denso CR truck injectors, including Volvo 21952974 for connecting the supply and return lines.

CR-Test4E

OPTIONAL EQUIPMENT AND ACCESSORIES

ADAPTERS FOR CHECKING TRUCK INJECTORS

							
DL-002 **DL-CR31046**	**DL-003** **DL-CR31821**	**DL-004A** **DL-CR30848**	**DL-005N** **DL-CR31048**	**DL-006** **DL-CR31440**	**DL-007** **DL-CR31044**	**DL-008** **DL-CR31045**	**DL-009** **DL-CR31439**
BOSCH MAN Ø 29мм	DAF Euro 7 (PACCAR)	BOSCH RENAULT Ø 32мм	CUMMINS	DENSO Ø 27мм	DENSO Ø 23,5мм	BOSCH MAN Ø 26мм	BOSCH VOLVO Ø 28мм
							
DL-010 **DL-CR31047**	**DL-011** **DL-CR30985**	**DL-012** **DL-CR30036**	**DL-013** **DL-CR30968**	**DL-014** **DL-UNI30038**	**DL-015** **DL-CR30822**	**DL-016** **DL-CR31486**	**DL-016U** **DL-CR31806**
CUMMINS	SIEMENS VDO FORD	CRIN BOSCH SISU Ø 26,6мм	DELPHI SMART INJECTOR	DENSO	DENSO Ø 18,5 мм Caterpillar, Perkins	SCANIA 2/4 pin	SCANIA 2/4 pin
							
DL-017 **DL-UNI30037**	**DL-018** **DL-CR30595**	**DL-019** **DL-CR30804**	**DL-020** **DL-CR30596**	**DL-021** **DL-CR31565**	**DL-022** **DL-CR31566**	**DL-023** **DL-CR31567**	**DL-024** **DL-CR31620**
BOSCH DEUTZ Ø 21,5мм	CURSOR 9	BOSCH MTU	SCANIA 4 PIN	BOSCH CRIN3 0445124015	Caterpillar 3809888	Delphi Smart injector Mersedes	DAF-SMART injector
							
DL-025 **DL-CR31625**	**DL-026** **DL-CR31626**	**DL-027** **DL-CR31698**	**DL-028** **DL-CR31759**	**DL-029** **DL-CR31793**	**DL-030** **DL-CR30818**	**DL-031** **DL-CR31040**	**DL-032** **DL-CR31430**
DELPHI CRIN DAF EURO 6 SMART INJ	CUMMINS	BOSCH	FORD	BOSCH 0445120247	BOSCH ЯМЗ-530	BOSCH 0445120303	BOSCH 0445120134
							
DL-033 **DL-CR31479**	**DL-034** **DL-CR31538**	**DL-035** **DL-CR31561**	**DL-036** **DL-CR31563**	**DL-037** **DL-CR50304**	**DL-038** **DL-CR31606**	**DL-039** **DL-CR31738**	**DL-040** **DL-LR31785**
DENSO	DENSO 1211 11L1063(095000-121)	DENSO	Delphi A9362187 Mersedes Actros Euro 6	MB Actros	5296723 DENSO	CAT Ø 28мм	Lorang Ø 26,5мм x Ø 23мм
DL-041 **DL-CR31861**	**DL-042** **DL-CR31900**	**DL-043** **DL-CR31969**					
CUMMINS-XPI 4307475	BOSCH DHIM, Doosan, Yuchai	BOSCH 0445120471					

CR-Test4E

OPTIONAL EQUIPMENT AND ACCESSORIES

HEUI Unit Injector Testing Kit

HEUI CATERPILLAR 3126B,
CATERPILLAR 3126E и FORD 1998-2003
DIESEL 7.3 FUEL INJECTOR 128-6601,
AD1831489C1 (INTERNATIONAL)



The equipment includes:

1. **DL-HEUI50223** Adapter for installing pump injectors



HEUI CATERPILLAR C7-C9



The equipment includes:

1. **DL-HEUI50221** Adapter for installing pump injectors



2. **DL-HEUI50240** Set of hydraulic hoses and turbocharger 400mm 14x14mm
3. **DL-HEUI50219** Adapter holder with clamping bar
4. **DL-HEUI50230** Adapter cable for connecting a pump-injector
5. **DL-UNI50084** Angle adapter M14



Please note: All equipment components are sold separately.

CR-Test4E
CR-JET-4EM

ADDITIONAL EQUIPMENT AND COMPONENTS

DL-KD020

DELPHI INJECTOR CODING DEVICE FOR THE CR-TEST-4E AND CR-JET-4EM



Delivery set:

1. Control valve
2. Vacuum gauge
3. *Pressure accumulator (Rail)
4. Coding sensor
5. Back-up valve for Delphi injectors
6. Venturi tube
7. Signal amplifier
8. Connecting tube ⌀ 6 mm
9. Adjustment valve
10. Electric motor ~230 V 50 Hz
11. Coupling
12. Bracket
13. Vacuum pump
14. Tee with nipple
15. Connecting hose ⌀ 8 mm
16. Connecting hose ⌀ 10 mm

** on additional order*

CR-Test4E
CR-Test-2P

ADDITIONAL EQUIPMENT AND COMPONENTS

DL-UNF20400

Set of filters and sediment collectors for testing fuel injection pumps
at the CR-TEST-4E and CR-TEST-2P stands



Delivery set:

1.	**DL-UNF20300L**	Sedimentation filter (entrance on the left) – 2 pcs.
2.	**DL-UNI50211**	Extended adapter 3/8” x M14 x 1.5 mm – 2 pcs.
3.	**DL-UNI31161**	Shortened adapter 3/8” x M14 x 1.5 mm – 2 pcs.
4.	**DL-UNI50213**	Filter mounting bracket.

DL-UNF20410

Set of sediment filters for testing injectors
at the CR-TEST-4E stand

Designed for preliminary cleaning of injectors before testing them on a test bench.



Delivery set:

1.	**DL-UNF20300L**	Sedimentation filter (inlet on the left) – 1 pc.
2.	**DL-UNF20300R**	Sedimentation filter (entrance on the right) – 1 pc.
3.	**DL-UNI31427**	Adapter 1/8” x M14 x 1.5mm – 4 pcs.
4.	**34-RL020602**	Quick-connect straight adapter Ø 6x1/4” – 2 pcs.
5.	**34-RL310602**	Quick corner adapter Ø 6x1/4” – 2 pcs.
6.	**DL-UNI50212**	Filter mounting bracket.
7.	**DL-UNI30090**	Mounting bolt with nut M14.

CR-Test4E
CR-Test-2P

ADDITIONAL EQUIPMENT AND COMPONENTS



DL-CR31497

Adapter for measuring pressure of the CR booster pump

Please note: The adapter is supplied without tube connectors and a pressure gauge!

DL-CR31497KIT

CR booster pump pressure measurement adapter kit

Delivery set:

1.	**DL-SP09570**	L-shaped "quick" adapter M5 x 4mm
2.	**DL-SP09580**	Female nipple 1/4" x 4mm for pressure gauge
3.	**DL-P1002**	Flexible PVC tube, diameter 4 mm (100 cm)
4.	**D-12-TV63-016**	16 bar pressure gauge with 1/4" lower connection



DL-ORV9

Air defense radiator for testing MAN fuel injection pumps on CR-TEST-2P/ CR-TEST-4E stands

Set of split bushings (main) for installing injectors

1.		**DL-UNI31019**	bushing with internal Ø 17 mm
2.		**DL-UNI31020**	bushing with interna Ø 18,9 mm
3.		**DL-UNI31021**	bushing with interna Ø 19,2 mm
4.		**DL-UNI31022**	bushing with interna Ø 21 mm
5.		**DL-UNI31031**	bushing with interna Ø 21,4 mm

ATTENTION! All bushings are sold separately.

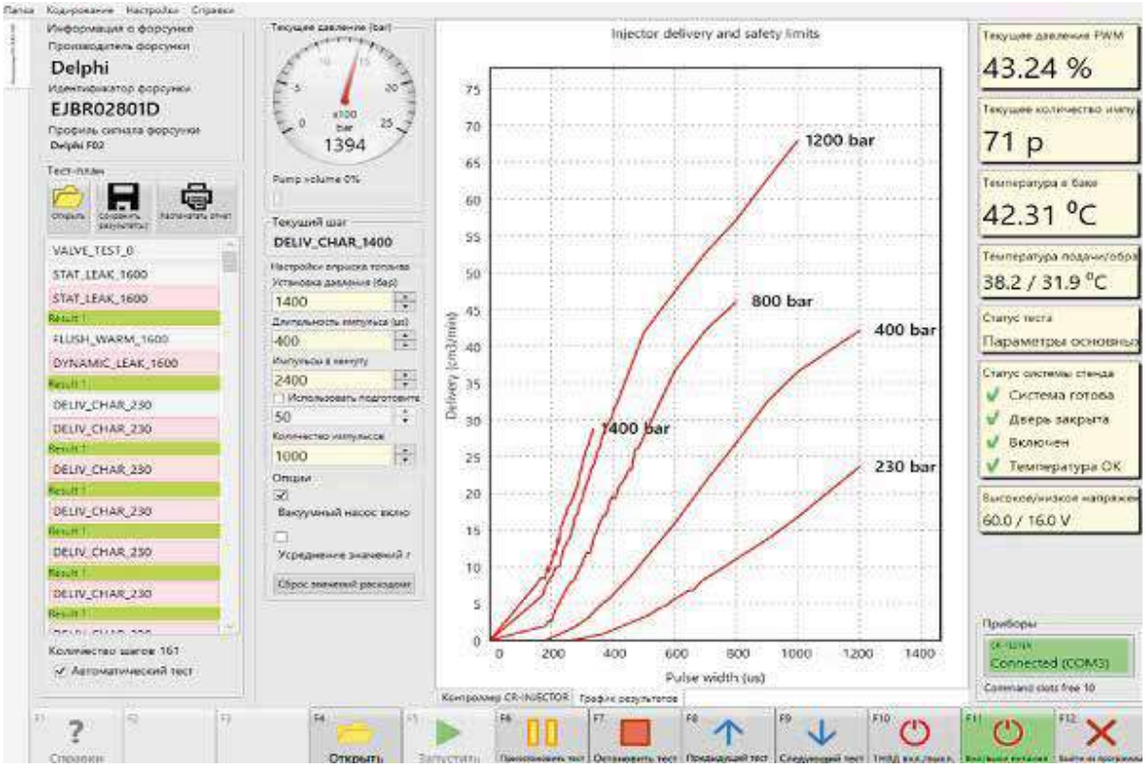
A set of split bushings (additional) for installing injectors

1.		**DL-UNI31015**	bushing with interna Ø 24 mm
2.		**DL-UNI31016**	bushing with interna Ø 25 mm
3.		**DL-UNI31017**	bushing with interna Ø 26 mm

ATTENTION! All bushings are sold separately.

C4i-CODE
DELPHI C4i Injector Coding

Software for the CASCADE program, allowing
coding of DELPHI C4i injectors on CRUIS, TRIUMF, CR-Test-4E,
and CR-Jet test benches



CR-Test2P

The **CR-Test2P** test bench is designed for testing Common Rail pumps.

The bench tests BOSCH, DENSO, DELPHI, and SIEMENS pumps (CP1, CP2, CP3, HP2, and HP3). System pressure is up to 1800 bar. The pressure can be increased to 2200 bar. Measurements are performed using an electronic measurement system. A software program with test plans is included.

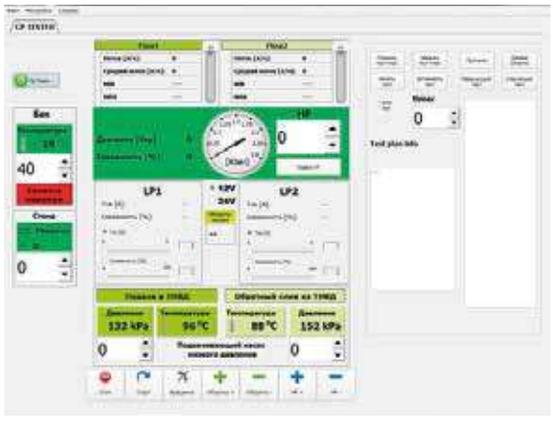
CR-Test-2P – a test bench for CR pumps with a 2-channel electronic measurement unit.



CR-Test2P

Software







CR-Test2P

STAND EQUIPMENT



FMDE-520

Liquid flow meter
for pumps, 2-channel.
Mounted on a test bench.



PTC-2520

Pump controller.
Mounted on a test bench.



DL-TVD61414 High-pressure hose M14 x M14 x 600 mm for SR2 pumps – 2 pcs.

DL-TVD51414 High-pressure hose M14 x M14 x 500 mm for SR1, SR3 pumps - 1 pc.

0 281 002 842 Bosch Rail pressure relief valve, installed on a stand



DL-CR31053

RAIL 3 pressure accumulator with 3 pressure regulators (with cooling) for pump testing.
Mounted on a test bench.



0 281 002 494

Bosch pressure regulators on rail (3 pcs), mounted on a stand



0 281 002 842

Bosch pressure sensor on Rail, mounted on a stand



DL-54127

Leg (foot with regulatory bolt) (4 pcs.)



Door keys (4 pcs.)

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CR-Test2P

STAND EQUIPMENT



DL-FMDE014

Hose for measuring fuel injection pump flow from the pressure accumulator to the radiator inlet fitting (RAIL–CR PUMP FM1), ø 12 x 3/8 x 900 mm, with bolt, Banjo fitting, and 2 gaskets. – 1 pc.



DL-FMDE024

A set of two hoses for connecting from the "COOLER OUT1" and "COOLER OUT2" ports on the front panel to the "IN1" and "IN2" ports on the "FMDE" flow measurement controller. (The hoses are installed on the stand.)

The kit includes:

- Hose ø 3/8 x 3/8 x 700 mm – 1 pc.
- Hose ø 3/8 x 3/8 x 800 mm – 1 pc.



DL-1CP2304

A set of 5 hoses for pumps SR1, SR2, SR3. The set includes:

- Hose ø 12 x 3/8 x 700 mm – 1 pc.
- Hose ø 12 x 3/8 x 800 mm – 1 pc.
- Hose ø 12 x 3/8 x 850 mm – 1 pc.
- Hose ø 12 x 3/8 x 900 mm – 1 pc.
- Hose ø 3/8 x 3/8 x 1250 mm – 1 pc.



DL-2UMS004

A set of 7 hoses for various connections. The set includes:

- Universal hose Ø 8 x 3/8 x 1000 mm – 3 pcs.
- Universal hose Ø 10 x 3/8 x 1000 mm – 4 pcs.

CR-Test2P

STAND EQUIPMENT

Set of fittings for connection

DL-KUK0040



The set includes:

- Cone fitting 3/8"x10 mm – 4 pcs.;
- Cone fitting 3/8"x8 mm – 3 pcs.;
- Clamp Ø13 - 7 pcs.;
- Clamp Ø15 - 7 pcs.;
- Banjo fitting Ø16 mm x 10 mm – 2 pcs.;
- Banjo fitting Ø14 mm x 10 mm – 2 pcs.;
- Banjo fitting Ø12 mm x 8 mm – 2 pcs.;
- Banjo bolt M16 – 2 pcs.;
- Banjo M14 bolt – 2 pcs.;
- Banjo M12 bolt – 6 pcs.;
- Ø12 mm gasket – 16 pcs.;
- Ø14 mm gasket – 12 pcs.;
- Ø16 mm gasket – 12 pcs.;
- Ø21 mm (1/2") gasket – 1 pc.;
- Plastic nipple for VDO (Siemens) pumps – 1 pc.
- 1/2"x3/8" nipple – 1 pc.;
- M16x1.5x3/8" nipple – 1 pc.
- M12xM16 adapter (1.5 mm pitch) - 4 pcs.
- M12xM14 adapter (1.5 mm pitch) - 4 pcs.
- Adapter M12xM12vn (pitch 1.5 mm) - 4 pcs.

CR-Test2P

STAND EQUIPMENT



DL-CAU018

Pressure sensor connection cable



DL-CAU019

Cable for connecting
the LP-2 pressure regulator



DL-CAU020

Cable for connecting
the HP-3 pressure regulator



DL-UNI50008

Pump mounting bracket,
standard Bosch 125 mm.
Mounted on a stand.



DL-UNI50433

125mm bracket with 3
mounting holes and
stops at the front



DL-UNI50434

125mm bracket
with three mounting holes
and stops at the rear

FLANGES



DL-UNI30428

Fuel injection pump mounting flange
107 mm CP-3



DL-UNI30465

Mounting flange for CR fuel injection
pump (BMW, RENAULT, MB, Peugeot)



DL-UNI30464

Mounting flange for CR (MB)
high-pressure fuel pump

COUPLINGS



DL-CR31251

24mm cone coupling for
CR SR-3 high-pressure fuel pump



DL-CR31271

17mm cone coupling for testing CR
pumps and VE high-pressure fuel pumps



DL-CR31269

19mm cone coupling for testing CR
pumps and VE high-pressure fuel pumps

CR-Test2P

ADDITIONAL EQUIPMENT FOR THE STAND

DL-CR50378 CP3-4 Fuel Pump Test Kit for MAN, KAMAZ, and Bosch

FLANGES



DL-UNI30474

Mounting flange for MAN CP3 fuel injection pump MAN, equivalent to Bosch 1685720258



DL-UNI30884

Fuel injection pump mounting flange MAN KAMAZ CP3.4, similar to Bosch 1685720312

COUPLINGS



DL-CR31248

Splined coupling (11 splines) for testing MAN CR CP-3 pumps

DL-CR50379 A KIT OF EQUIPMENT FOR CHECKING FUEL PUMP CP2 RENAULT, MAZ, BOSH

FLANGES



DL-UNI30886

Fuel injection pump mounting flange 107 mm CP2 Bosch 0445020036 (Renault).



DL-CR31833

Flange for CP-2 fuel injection pump BOSCH 0445020116

COUPLINGS



DL-CR31594

K35 coupling for connection to a test bench MAZ SR2 high-pressure fuel pump



The mounting is done to the expansion joint flange. Compatible with BOSCH EPS-815, CR-Test 4E, CR-Test 2P test stands and compatible mountings.



DL-CB230016

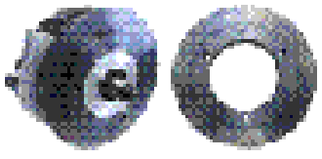
Cone coupling with flange connection
Ø 30 mm
Cam Box2, Renault fuel injection pump

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CR-Test2P

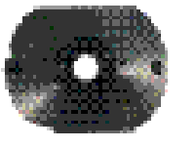
ADDITIONAL EQUIPMENT FOR THE STAND

DL-CR50380 KIT OF EQUIPMENT FOR TESTING CUMMINS KAMAZ WITH FUEL PUMP BOSCH AND AZPI



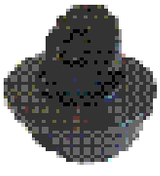
DL-CR31145

Blank mounting flange for the injection pump CR-TF353 Bosch 0445023000



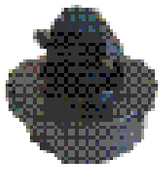
DL-UNI31739

Fuel injector pump mounting flange AZPI A-3CC-0.703. BOSCH 3149020221



DL-CR50427

KAMAZ 6401 Fuel Injection Pump Test Kit: KT 7448007338 (Flange unit 1)



DL-CR50426 *

Fuel injection pump test kit KAMAZ 5497 KAMAZ 6520 (splined coupl)

Delivery set:

- DL-CR31145 Flange – 1 pc
- DL-UNI31739 Flange – 1 pc
- DL-CR50427 Fuel injection pump test kit – 1 pc
- DL-CR50426 Fuel injection pump test kit – 1 pc *

**** The kit is supplied for stands with a splined drive coupling.***

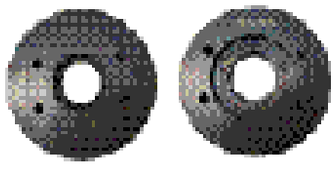
DL-CR50137 A KIT OF EQUIPMENT FOR CHECKING AND REPAIRING FUEL FUEL PUMP CR CP4 BOSCH



Delivery set:

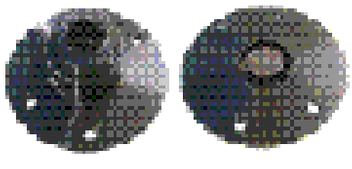
- DL-CR30001 Flange – 1 pc
- DL-CR30002 Flange – 1 pc
- DL-UNI50003 Adapter – 1 pc.
- DL-UNI50004 Adapter – 2 pcs.
- DL-UNI50005 Screw M16x1 – 3 pcs.
- DL-CR31003 Socket head for pump valve CP1 – 1pc.

EQUIPMENT KIT FOR FUEL PUMP 0 445 025 604 BOSCH CB26 (D245 EURO-4) MMZ EURO-4



DL-CR31972

Mounting flange for fuel injection pump 0 445 025 604 BOSCH CB26 (D245 EURO-4) MMZ EURO-4



DL-CR31973

Drive connecting for high pressure fuel pump 0 445 025 604 BOSCH CB26 (D245 EURO-4) MMZ EURO-4



DL-CR31974 *

Splined coupling with mounting plate 0 445 025 601 for injection pump BOSCH CB26 (D245 EURO-4) MMZ EURO-4

Delivery set:

- DL-CR31972 Flange – 1 pc.
- DL-CR31973 Flange – 1 pc.
- DL-CR31974 Coupling – 1 pc. *

**** The kit is supplied for stands with a splined drive coupling.***

CR-Test2P

ADDITIONAL EQUIPMENT FOR THE STAND

CUMMINS P4954200 FUEL PUMP TOOL KIT



DL-CR31766

Flange coupling
for CUMMINS P4954200
high-pressure fuel pump
To connect the CUMMINS
P4954200 high-pressure fuel pump,
DL-CR31765 is also required.



DL-CR31778

Splined coupling
with tabs for the Cummins
P4954200 high-pressure fuel pump
To connect the Cummins
P4954200 high-pressure fuel pump,
a flange is also required.
DL-CR31765



DL-CR31765

Mounting flange for CUMMINS
P4954200 fuel injection pump

BOSCH CR FUEL PUMP TESTING TOOL

FLANGES



DL-UNI30887

Flange for installing
a high-pressure fuel pump
CRCP3 Mercedes, (Analog
SIRINI AAE001-03)



DL-CR31228 **(CP383)**

Mounting flange for CR fuel injection
pump BOSCH 0445010091 MB
Sprinter, Viti, Viano 2.1L. 2006 and
later. Bore size: 50 mm.



DL-CR31165

Fuel injection pump mounting
flange BOSCH CR/CP1H3
60mm For example, BOSCH
fuel injection pump
0445010223 (Renault
Megane 2012)



DL-CR31513

Flange for mounting on a bench
CR CP3S3/K140/40-789S high-pressure
fuel pump
BOSCH 0445020125
Bore 107 mm

COUPLINGS



DL-CR31416

Bosch 0445010512 CR / CP4S1 Fuel Injection Pump Coupling
The coupling has grooves for the pump coupling splines and
a centering cone. It is attached to the expansion joint flange.
Compatible with BOSCH EPS-815, CR-Test 4E, CR-Test 2P
test stands and compatible mounts.

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equipment for diesel

CR-Test2P

ADDITIONAL EQUIPMENT FOR THE STAND

DENSO CR Fuel Pump Testing Kit

FLANGES / SUPPORTS



DL-CR31607

Flange for high-pressure fuel pump DENSO HP0 094000-0635



DL-CR50266

Angle stand for mounting the CR DENSO 097300-0023 fuel injection pump during testing on a test bench.



DL-CR50151

A set of supports for mounting Denso HP0 pumps on a stand

Package Contents:

- **DL-CR31094** Support – 2 pcs.
- **DL-UNI30090** Profile Bolt – 2 pcs.
- M14 Nut – 2 pcs.
- 14mm Washer – 2 pcs.
- 14mm Grover – 2 pcs.

COUPLINGS



DL-UNI31029

DL-UNI31029 coupling for Denso fuel injection pumps
(includes UNI31030 insert with a 10 mm groove).

Compatible with BOSCH EPS-815, CR-Test 4E, CR-Test 2P test benches and their compatible mounting hardware.

CR **DELPHI** FUEL PUMP TESTING TOOL

FLANGES





DL-CR31150

A flange for mounting on a CR DELPHI high-pressure fuel pump stand with a 50 mm mounting diameter and mounting holes located perpendicular to the plane of the mounting hole.





DL-CR30866

A flange for mounting on a CR DELPHI high-pressure fuel pump stand with a 50 mm mounting diameter and three mounting holes:
two perpendicular to the mounting hole plane, and one parallel to it.

CR-Test2P

ADDITIONAL EQUIPMENT FOR THE STAND

CR **DELPHI** FUEL PUMP TESTING TOOL

COUPLINGS



DL-CR31669

Flange coupling for CR Delphi high-pressure fuel pump 28384347
Mounts to the expansion joint flange.
Compatible with BOSCH EPS-815, CR-Test 4E,
CR-Test 2P test stands and their associated mounting hardware.

SIEMENS (VDO) CONTINENTAL CR FUEL PUMP TESTING KIT

SUPPORTS



DL-CR50159

Mounting stand for SIEMENS fuel injection pumps



DL-CR50267

Angle stand for mounting the Siemens CR fuel injection pump during bench testing.

COUPLINGS



DL-CR31480

22 mm cone coupling for testing CR Siemens (VDO) pumps.
Mounts to the expansion joint flange.
Compatible with BOSCH EPS-815, CR-Test 4E,
CR-Test 2P test stands and compatible mounting hardware.

FLANGES



DL-CR31560

C50 flange for mounting on a Continental high-pressure fuel pump stand
2802002037101

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CR-Test2P

ADDITIONAL EQUIPMENT FOR THE STAND

UNIVERSAL EQUIPMENT FOR CHECKING HIGH-PRESSURE FUEL PUMP CR

FLANGES



DL-CR30860

Mounting flange for CR fuel injection pump DENSO HP2, HP3. VDO-Siemens VW 1.6 (Continental A2C59517053)



DL-CR30466

68 mm mounting flange for CR fuel injection pumps Renault Megane, Delphi Siemens VDO, Land Rover, Range Rover V8, and VE fuel injection pumps



DL-UNI31207

A universal flange with a 50 mm diameter mounting hole, without mounting holes. Designed for making mounting holes for pumps with a 50 mm mounting diameter.



DL-UNI31208

A universal flange with a 60 mm diameter mounting hole, without mounting holes. Designed for making mounting holes for pumps with a 60 mm diameter mounting hole.

COUPLINGS



DL-UNI31025

Coupling for Bosch SR1 and Siemens VDO Continental fuel injection pumps
for Bosch SR1 (MB) fuel injection pumps (includes UNI31028 insert with an 8 mm groove) and for Siemens VDO fuel injection pumps (includes UNI31027 insert with a 9 mm groove). Can be used on Bosch test benches instead of coupling 1685702090.

Suitable for BOSCH EPS-815, CR-Test 4E, CR-Test 2P test benches and compatible mountings.



DL-CR31558 (K23)

23 mm cone coupling for Bosch and Siemens VDO Continental CR fuel injection pumps
Mounts to the expansion joint flange.
Compatible with CR-Test, BOSCH EPS-815, and compatible mounts.
Compatible CR fuel injection pumps:
- Continental A2C59517053
- BOSCH CR/CP4HS2 0445010637
- BOSCH CR/CP4S2 0445010611
- BOSCH CR/CP4S1 0445010506

All elements of the set are sold separately.

ADDITIONAL EQUIPMENT FOR STANDS



DL-USN0021

Universal stand for CR pumps

Delivery set:
- 1 rotary stand
- 6-piece set of flanges for mounting CR pumps
- 4-piece set of pump holder plates



ADDITIONAL EQUIPMENT FOR STANDS





DL-ORV2

Radiator-fan type cooling rack.

ORV2 external heat exchangers are designed for additional temperature adjustment of the brake fluid. They can be connected to various streams with pressures up to 0.4 MPa.

- Number of radiators: 2
- Connection nipples: M14x1.5
- Power voltage: ~220V 50Hz
- Power consumption: 20 W (0.23A; 0.5A max)
- Dimensions: width 500, height 770, depth 370 (mm)
- Total weight: net ~24 kg, gross ~30 kg



DL-MSP

Mobile oil station for stands

- Operating pressure: 0-10 bar
- Flow rate at 3 bar: 150 liters/hour
- Fine filter: 10 microns
- Tank: 20 liters
- Power supply: 380 V 50 Hz
- Power consumption: 0.37 kW
- Dimensions: width 300, height 800, depth 420 mm
- Total weight: net ~54 kg, gross ~60 kg

ADDITIONAL EQUIPMENT FOR STANDS



CRS Calibrol

Calibration fluid for diesel fuel equipment

CRS Calibrol Calibration Fluid
(20-liter plastic canister)
Is a test oil for testing injectors and pumps of diesel fuel injection systems.

CRS Calibrol is a low-viscosity calibration fluid with very tight viscosity tolerances.
It offers exceptional protection against wear and corrosion, as well as low foaming.



DL-SRS020

SRS calibration fluid

ISO 4113-CV-AW (VS 15665-OL-CV),
20-liter canister.

Used in test rigs for testing CR injectors, unit injectors, and PLD sections.

ADDITIONAL EQUIPMENT AND COMPONENTS FOR STANDS



DL-TVD–S

High Pressure Tube
1000x14x14 1800 Bar



DL-TVD–K

High Pressure Tube

DL-TVD-K1000 (1000x14x14 2500 Bar)
DL-TVD-K830 (830x14x14 2500 Bar)
DL-TVD-K700 (700x14x14 2500 Bar)



DL-TVD–B

High Pressure
Tube
800x14x14 2500 Bar



DL-TVD–G

High Pressure
Tube
650x14x14 2500Bar



DL-TVD

High Pressure Tube for stands and equipment:

DL-TVD31212 (300x12x12), **DL-TVD31214** (300x12x14), **DL-TVD31414** (300x14x14),
DL-TVD41212 (400x12x12), **DL-TVD41214** (400x12x14), **DL-TVD41414** (400x14x14),
DL-TVD51212 (500x12x12), **DL-TVD51214** (500x12x14), **DL-TVD51414** (500x14x14),
DL-TVD61212 (600x12x12), **DL-TVD61214** (600x12x14), **DL-TVD61414** (600x14x14)



DL-TVD-M

High pressure metal tube

DL-TVD-M81412	(800)	M14xM12
DL-TVD-M81414	(800)	M14xM14
DL-TVD-M61412	(600)	M14xM12
DL-TVD-M61414	(600)	M14xM14



DL-CR14P2000

2000 Bar pressure gauge



DL-CR50015

Coding sensor

ADDITIONAL EQUIPMENT AND COMPONENTS FOR STANDS



DL-MOK

Adapter-coupling with check valve Ø 6 mm
Connecting holes Ø 6 mm x Ø 6 mm
Length with clamps = 37 mm
Length without clamps = 33 mm
Diameter = 1.15 mm



DL-MOK-K

Quick-connect coupling with check valve, Ø 6 mm
Connection holes: Ø 6 mm x Ø 6 mm
Length with clamps = 49 mm
Length without clamps = 45 mm
Diameter = 13.8 mm



DL-MOK-KS

Quick-connect coupling with check valve Ø 6 mm
Connecting holes Ø 6 mm x Ø 6 mm
Length with clamps = 42.6 mm
Length without clamps = 37.3 mm
Diameter = 12.5 mm



DL-CR50120

Delphi injector back-up valve for coding (response time)



DL-CR50406

Back-up valve for DELPHI coding, thread G 1/8″



DL-CR50136

Return flow pressure valve for testing BOSCH electromagnetic injectors on a test bench



DL-CR50210

Return pressure valve for testing SIEMENS piezo injectors on a test bench



DL-CR50177

Return pressure valve for piezo injectors Bosch

ADDITIONAL EQUIPMENT AND COMPONENTS FOR THE TRIUMF, CRUIS, CR-TEST-4E, AND CR-JET-4EM TEST STANDS

Retrofitting CRUIS, TRIUMF, and CR-Jet test rigs with 5.5 kW electric motors



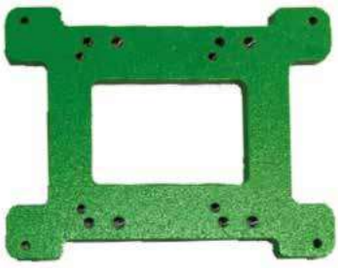
1.	**DL-EDF0055**	5.5 kW Flanged Electric Motor
2.	**DL-UNI50277**	5.5 kW Electric Motor Mounting Bracket for TRIUMF and CR-Jet Test Stands
	DL-UNI31521	5.5 kW Electric Motor Mounting Bracket for the CRUIS Test Stand
3.	**DL-UNI31444**	Engine coupling for fuel injection pump
	DL-UNI31502	Engine coupling for fuel injection pump
4.	**DL-UNI31449**	Fuel injection pump mounting collar to electric motor
5.	**DL-MUP0060**	Polyurethane expansion joint
6.	**DL-UNI31443**	Fuel injection pump coupling
	DL-UNI31520	Fuel injection pump coupling
7.	**DL-UNI31459**	Fuel injection pump flange
8.	**ТНВД 020139**	High-pressure fuel pump BOSCH 0445020139

ADDITIONAL EQUIPMENT AND COMPONENTS FOR STANDS TRIUMF, CRUIS , CR-TEST-4E И CR-JET-4EM



DL-EDF0055

Flanged electric motor 5.5 kW



DL-UNI50277

5.5 kW Electric Motor Mounting Bracket
for TRIUMF and CR-Jet stands

DL-UNI31521

5.5 kW Electric Motor Mounting Bracket
for CRUIS Test Stands



DL-UNI31444

Engine coupling for fuel injection pump

DL-UNI31502

Engine coupling for fuel injection pump



DL-UNI31449

Mounting collar for fuel injection pump to electric motor



DL-MUP0060

Polyurethane compensating insert



DL-UNI31443

Coupling for fuel injection pump

DL-UNI31520

Coupling for fuel injection pump



DL-UNI31459

Flange for fuel injection pump



ТНВД 020139

BOSCH 0445020139 high-pressure fuel pump

CR-JET-4E STAND UPGRADE KIT.
CASCADE SOFTWARE INSTALLATION

DL-KMS-JET **List of modernization components:**

- Electronics / Mounting Kit
- Delphi Piezo Sensor for Cascade Software
- Personal Computer / PC Installation Accessories
- Frequency Converter / Frequency Converter Control Software / Mounting Kit
- Vacuum System / Mounting Kit
- Mounting Elements for Frequency Converter and Vacuum Pump
- Vacuum Control Unit / Mounting Kit
- Vacuum Monitoring Unit
- 2400 Bar Pressure Upgrade / Hydraulic Kit



Cascade software has a user-friendly interface. It includes built-in test plans for testing and coding Bosch, Delphi, Denso, and Siemens (VDO) injectors. You can create new test plans, edit existing ones, and create targets for Delphi C2i, C3i, and C4i injectors. Test results and progress are displayed graphically, saved to a file, and printed.

Cascade software allows coding of BOSCH isa/ima cod, Delphi C2i/C3i/C4i*, Denso, and VDO Siemens injectors.
The stand operates at pressures up to 2400 bar.

*Delphi C4i coding is available as an optional extra.

PUMP TEST.02

Equipment for testing high-pressure Common Rail pumps





The kit includes:

1.The PTC-2520 device is designed to provide user-programmable control signals to Common Rail fuel injection pump pressure regulators to test their performance.

2. The FMDE-520 device is designed to measure Common Rail fuel injection pump performance via two channels.

3. A wheeled instrument stand for convenient operation.

4. A set of adapter cables.

5. Fine fluid filters (2 pcs.)

6. Software.









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CR-TESTER . CRT-5040





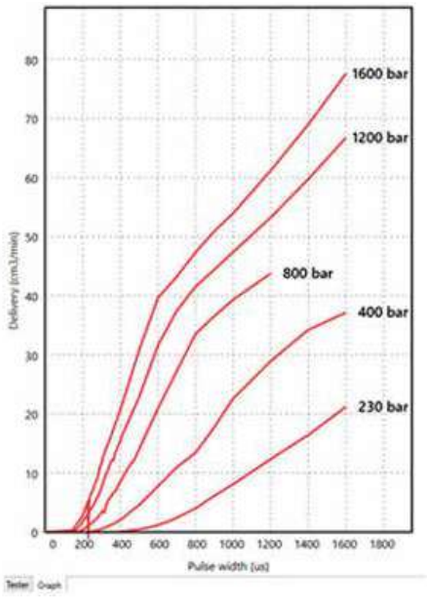
A 4-channel device for testing Bosch, Denso, Delphi, and Siemens VDO Common Rail injectors with a cable kit.

The device can be connected to the **FLAGMAN-FLOW** measuring system, which can generate correction codes for Delphi C2i/C3i, BOSCH, and DENSO injectors.

The **CR-TESTER CRT-5040** device features functions for controlling the metering unit shutter, stopping the fuel injection pump, measuring and controlling tank temperature, measuring the return temperature of the tested injectors, measuring injection start time, and more.

The kit is computer-controlled via the CASCADE software.







FLAGMAN-FLOW

8-channel CR injector dosage measurement unit for the CR-TESTER device. CRT-5040

Computer-controlled kit via CASCADE software.



FLAGMAN-FULL

CR Injector Test Kit

The **FLAGMAN-FULL** system is designed for testing Common Rail injectors from Bosch, Denso, Delphi, and Siemens VDO on a test bench.

Measurements are made using the 8-channel, beakerless **FLAGMAN-FLOW** system. A hardware and software package for injector coding can be added.

The system is computer-controlled via the CASCADE software.



FLAGMAN-CODE (FLAGMAN-CODE-L)

CR Injector Test Kit

The **FLAGMAN-CODE** kit is designed for testing Common Rail injectors from Bosch, Denso, Delphi, and Siemens VDO on a test bench.

Measurements are made using the **FLAGMAN-FLOW** 8-channel, beakerless system. The kit consists of a **FLAGMAN-FLOW** measuring unit and a **CR-TESTER CRT-5040** controller. The kit is also equipped with a vacuum generation system for coding Deiphi C2i and C3i injectors. The kit is computer-controlled via the CASCADE software.

The FLAGMAN-CODE-L kit includes hardware for mounting the injectors on a test bench.



DL-CR50015

Coding sensor - optional



FLAGMAN-CODE

CR Injector Test Kit

The **FLAGMAN-FULL** system is designed for testing Common Rail injectors from Bosch, Denso, Delphi, and Siemens VDO on a test bench.

Measurements are made using the FLAGMAN-FLOW 8-channel, beakerless system. The system consists of a FLAGMAN-FLOW measuring unit and a CR-TESTER CRT-5040 controller. The system is also equipped with a vacuum generation system for coding Deiphi C2i and C3i injectors. The system is computer-controlled via the CASCADE software.



DL-CR50015

Coding sensor - optional

FLAGMAN-CODE delivery set

FLAGMAN-FLOW Beakerless Measuring Unit	1 pc
CR-TESTER CRT-5040 Controller	1 pc
Vacuum Generation System	1 set
Software	1 pc
Data Sheet (technical description, operating instructions)	1 pc
Connecting cable set for the FLAGMAN-FLOW measuring unit and CR-TESTER controller. CRT-5040	1 set
Injector cable extension: "Injector" socket - 1.5 m	1 pc
Injector adapter cable	1 set
High-pressure regulator adapter cable	1 pc
Low-pressure regulator adapter cable	1 pc
Pressure sensor adapter cable	1 pc
220 V power cable	1 pc
Connectors for making your own cables into sockets: "Protection", "TanktC", "RegtC", "Cycle", "Pump", "Inverter", "Rpm"	1 pc
Temperature sensor for monitoring the fluid temperature in the tank: "TanktC" socket	1 pc
Temperature sensors for measuring the brake fluid return temperature	4 pcs
Reed switch for connecting the protective screen: "Protection" socket	1 pc
3 A fuse	1 pc
Connecting pipes	1 set



FLAGMAN-CODE-L

CR Injector Test Kit

The **FLAGMAN-FULL** system is designed for testing Common Rail injectors from Bosch, Denso, Delphi, and Siemens VDO on a test bench.

Measurements are made using the **FLAGMAN-FLOW** 8-channel, beakerless system. The system consists of a FLAGMAN-FLOW measuring unit and a CR-TESTER CRT-5040 controller. The system is also equipped with a vacuum generation system for coding Deiphi C2i and C3i injectors. The system is computer-controlled via the CASCADE software.



DL-CR50015

Coding sensor - optional

FLAGMAN-CODE-L delivery set

FLAGMAN-FLOW Beakerless Measuring Unit		1 pc
CR-TESTER CRT-5040 Controller		1 pc
Vacuum Generation System		1 set
Software		1 pc
Data Sheet (technical description, operating instructions)		1 pc
Connecting cable set for the FLAGMAN-FLOW measuring unit and CR-TESTER controller. CRT-5040		1 set
Injector cable extension: "Injector" socket - 1.5 m		1 pc
Injector adapter cable		1 set
High-pressure regulator adapter cable		1 pc
Low-pressure regulator adapter cable		1 pc
Pressure sensor adapter cable		1 pc
220 V power cable		1 pc
Connectors for making your own cables into sockets: "Protection", "TanktC", "RegtC", "Cycle", "Pump", "Inverter", "Rpm"		1 set
Temperature sensor for monitoring the fluid temperature in the tank: "TanktC" socket		1 pc
Temperature sensors for measuring the brake fluid return temperature		4 pcs
Reed switch for connecting the protective screen: "Protection" socket		1 pc
3A fuse		1 pc
Connecting pipes		1 set
DL-CR10015	Injector holder frame	1 pc
DL-CR10025	Injector holder bracket assembly	1 pc
DL-CR10006	Protective glass (6mm) or DL-CR10010 Protective glass (10mm)	1 pc

CR-Active



The **CR-Active** signal activator is designed to supply a control signal to the Common Rail injector solenoid valve, along with a cable set.
It is used to measure valve lift when measuring the magnetic gap of Common Rail injectors. Two kit options are available: basic and complete. The complete kit, in addition to the signal activator and cable set, includes an injector stand, a set of measuring probes and adapters, and a measuring indicator head.

CR-NeXT



The **CR-NeXT** device is a Common Rail injector solenoid valve actuator. It is designed to send a control signal to the Common Rail injector solenoid valve.
It is primarily used to measure valve lift when measuring the magnetic gap of Common Rail injectors.

MONICA CTV-08



The **MONICA CTV-08** device is designed for measuring the actuation current of common rail injector solenoid valves.
The device has two connectors for connecting the signal cable and the power cable. The measurement is initiated by pressing the "Enter" button. Once a flashing dot appears on the display, the device is ready for a new measurement. The measurement can also be reset by pressing the "Reset" button.

PTC-2520 CP TESTER



A device for testing and testing high-pressure fuel pumps of the Common Rail system with a set of cables.

FMDE-520



A device for testing the performance of Common Rail fuel pumps from various manufacturers, including Bosch, Delphi, Denso, Siemens, and Cummins, on a test bench.
It features a two-channel flow meter (pump feed and return) in various modes, with digital information displayed on a backlit LCD display.

CRISTINA

The **CRistina** complex is designed for assembling COMMON RAIL BOSCH, DELPHI, and DENSO injectors using technology that allows for the calculation and selection of all necessary adjustment elements.

The system's hardware and software not only accurately measures the required dimensions but also diagnoses the injector solenoid's condition by measuring the winding's resistance and inductance. The system's operating software contains a detailed database of installation dimensions for most common COMMON RAIL injectors and a complete visualization of the assembly process, eliminating assembly errors and significantly reducing repair time. To eliminate measurement errors, the CRistina system's design allows for precise and rigid positioning of the injector body, eliminating vibration and uncontrolled movement of the measured element relative to the measuring device.





CRistina-PIEZO



This device is designed to test the piezo injector of a piezoelectric package. It reliably identifies all piezoelectric package faults. It identifies problems that similar devices or test benches fail to detect. The device was developed for assembling Siemens injectors, but is also compatible with Bosch injectors.

Device capabilities:

- Sending a signal to activate the injector on a hand press
- Measuring the resistance of the piezoelectric unit
- Testing for breakdown on the housing
- Measuring the capacitance of the piezoelectric unit
- Measuring the smooth movement of the piezoelectric unit



PR-TESTER.V05

Electronic pressure gauge
2-channel

DL-UNI20061 **Delivery set for measuring pressure via 2 CHANNELS:**

1. **DL-UNI20065** Electronic pressure gauge
2. **DL-UNI20071** Adapter cable main for 2-channel connection – 1 pc.
3. **DL-UNI20072** Adapter cable for pressure sensor BOSCH type 1 – 2 pcs.
4. **DL-UNI20073** Adapter cable for pressure sensor BOSCH type 2 – 2 pcs.
5. **DL-UNI20074** DELPHI pressure sensors – 2 pcs.
6. **DL-UNI20075** Universal adapter cable for pressure sensor – 2 pcs.
7. Charger
8. Passport



PR-TESTER.V05

Electronic pressure gauge
2-channel

DL-UNI20060 **Delivery set for measuring pressure via 1 CHANNEL:**



1. **DL-UNI20065** Electronic pressure gauge
2. **DL-UNI20070** Adapter cable main for 1-channel connection – 1 pc.
3. **DL-UNI20072** Adapter cable for pressure sensor BOSCH type 1 – 1 pc.
4. **DL-UNI20073** Adapter cable for pressure sensor BOSCH type 2 – 1 pc.
5. **DL-UNI20074** DELPHI pressure sensors – 1 pcs.
6. **DL-UNI20075** Universal adapter cable for pressure sensor – 1 pcs.
7. Charger
8. Passport



DL-UNI20065 **PR-TESTER.V05**

Electronic pressure gauge with charger
Electronic pressure gauge with charger



DL-UNI20077

Adapter cable for the BOSCH 1500 bar pressure sensor



DL-UNI21030

Mounting bracket for an electronic pressure gauge



DL-UNI30237

Pressure gauge stem (fitting) G1/2 with M12 x 1.25 mm nut

DL-UNI30445

Pressure gauge stem (fitting) M20 x 1.5 mm with M12 x 1.25 mm nut



DL-CR10058
DL-CR10059
DL-CR10060

1500 bar pressure sensor

DL-UNI20065 PR-TESTER.V05

Electronic pressure gauge suitable for hand presses:



DL-RP420 **(without pressure sensor)**

DL-RP425 **(with pressure sensor 1500 bar)**

RP 400 Manual Injector Testing Press with DL-UNI20065 Electronic Pressure Gauge

Delivery set:

- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for RP 425) 1500 bar – 1 pc.



DL-RP520 **(without pressure sensor)**

DL-RP525 **(with pressure sensor 1500 bar)**

ZECA Manual Injector Tester with Electronic Pressure Gauge DL-UNI20065

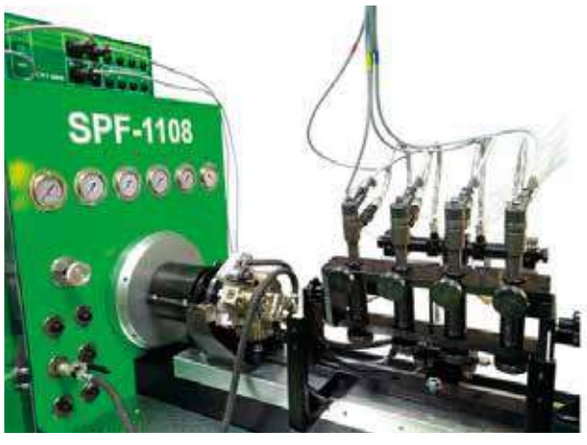
Delivery set:

- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for RP 525) 1500 bar – 1 pc.

BASIC EQUIPMENT KITS FOR TESTING CR INJECTORS

USING A GRADUATED MEASURING UNIT, AS WELL AS THE POSSIBILITY OF CONNECTING TO THE FLAGMAN-MUFI-CR ELECTRONIC MEASURING UNIT AND UPGRADING WITH THE FLAGMAN CODE CODING SYSTEM.





DL-CR10030

Basic tool kit for testing CR injectors with the CR-TESTER CRT-5040 controller and
The basic tool kit is designed for testing Common Rail injectors
from various manufacturers (Bosch, Denso, Delphi, VDO (Siemens), Cummins, Caterpillar, AZPI).
The **DL-CR10030** kit is equipped with a **DL-CR00088** high-pressure fuel pump with an operating pressure of **1800 Bar.**

DL-CR10031

Basic kit for testing CR injectors with controller
CR-TESTER CRT-5040 without CP3 injection pump kit **DL-CR00088**

DL-CR10020

Basic equipment kit for testing CR injectors without a controller
CR-TESTER CRT-5040

DL-CR10021

Basic kit for testing CR injectors without a controller
CR-TESTER CRT-5040 and CP3 fuel injection pump **DL-CR00088**

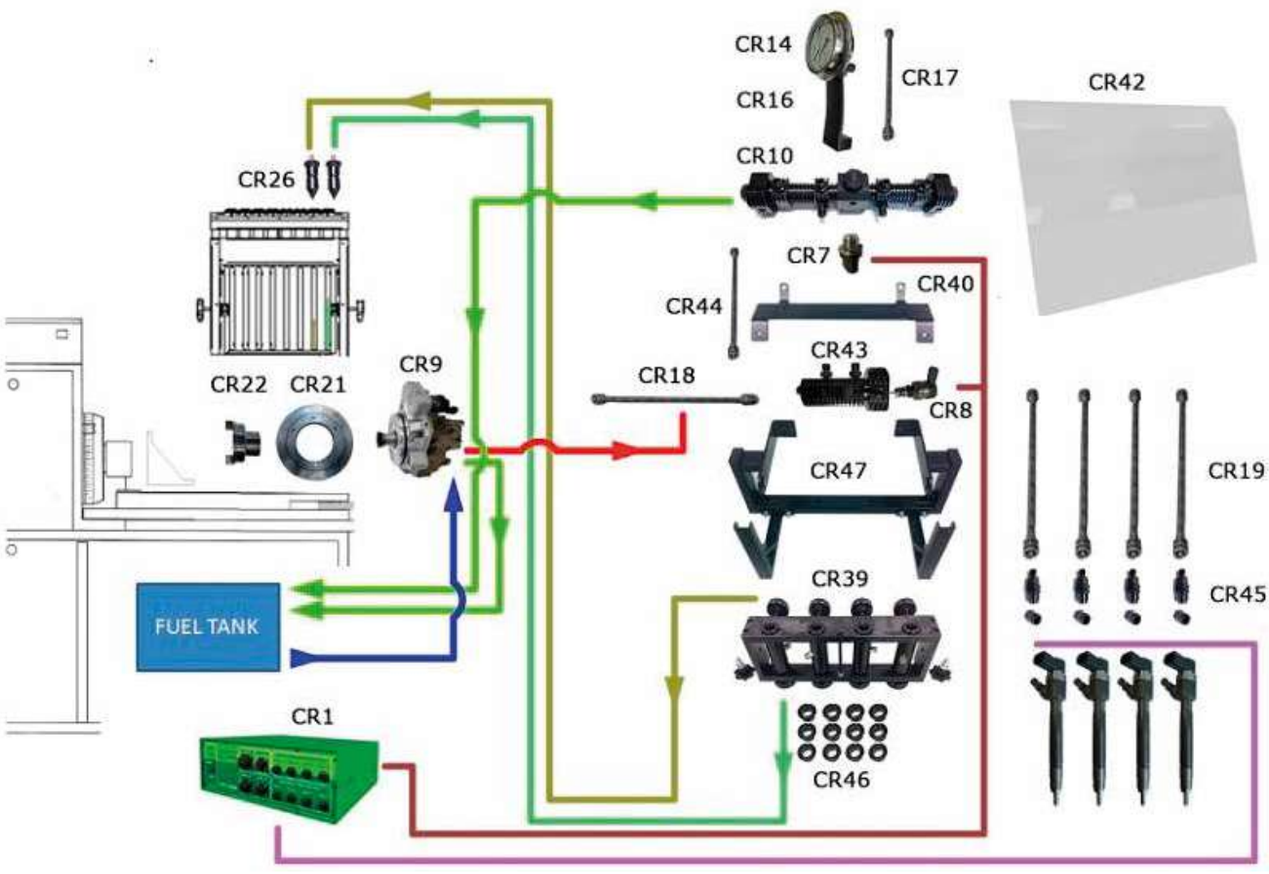
DL-CR00139

The **DL-CR00139** high-pressure fuel pump kit is designed for a 2400 bar operating pressure and is available as a separate order. When installing the **DL-CR00139** as part of the basic kit, the pressure sensor and regulator must be replaced with 2400 bar and 2200 bar pressure regulators, respectively.

BASIC EQUIPMENT KITS FOR TESTING CR INJECTORS

DL-CR10030 Basic Kit for Testing Common Rail Injectors with the CR-tester CRT-5040 Controller and High-Pressure Fuel Pump. This basic kit is designed for testing Common Rail injectors from various manufacturers (Bosch, Denso, Delphi, VDO (Siemens), Cummins, Caterpillar, AZPI).

The **DL-CR00139** High-Pressure Fuel Pump Kit is designed for operating pressures of 2400 bar or 2200 bar and is available upon separate order. When installing the DL-CR00139 in the basic kit, the pressure sensor and regulator must be replaced with a 2400 bar or 2200 bar pressure regulator, respectively.



DL-CR10030

КОМПЛЕКТ БАЗОВОЙ ОСНАСТКИ ДЛЯ ПРОВЕРКИ ФОРСУНОК CR

CR1	Common Rail Injector Test Controller	**CRT-5040**	1 pc
	1800 bar Pressure Sensor	**DL-CR10050**	1 pc
CR7	*2200 bar Pressure Sensor	**DL-CR10052**	1 pc
	*2400 bar Pressure Sensor	**DL-CR10053**	1 pc
	1800 bar Pressure Regulator	**DL-CR10051**	1 pc
CR8	*2200 bar Pressure Regulator	**DL-CR10054**	1 pc
	*2700 bar Pressure Regulator	**DL-CR10055**	1 pc
CR43	Small Rail Pressure Accumulator	**DL-CR30180**	1 pc
CR10	Rail Pressure Accumulator for 2 Regulators	**DL-CR30181**	1 pc
CR43	*Rail Pressure Accumulator for 2 Regulators with Cooling	**DL-CR30188**	1 pc
CR32	*Relief Valve for 1800 bar Pressure Accumulator	**DL-CR10056**	1 pc
CR32	*Relief Valve for 2400 bar Pressure Accumulator	**DL-CR10057**	1 pc
CR30	M14 Plug	**DL-UNI50271**	4 pcs
CR19	High-pressure tubes M14 x 14 x 400 mm / M12 x 14 x 400 mm for injectors	**DL-TVD41414** **DL-TVD41214**	4 pcs
CR17	High-pressure hose M14 x 14 x 300 mm for pressure gauge	**DL-TVD31414**	1 pc
CR44	High-pressure hose M14 x 14 x 300 mm for rail connection	**DL-TVD31414**	1 pc
CR45	Adapter from M14 to M12 / M12 to M12	**DL-UNI50083** **DL-UNI50087**	4 pcs
CR39	Injector holder frame	**DL-CR10015**	4 sets
CR46	Set of bushings **DL-UNI31019** -Ø 17 (4 pc.); **DL-UNI31020** -Ø 18,9 (1 pc); **DL-UNI31021** -Ø 19,2 (1 pc); **DL-UNI31022** -Ø21 (1 pc.) и **DL-UNI31231** -Ø 21,4(1 pc)	**DL-UNI50161**	1 set
CR24	Glass clamp for 9 mm spray nozzles	**DL-UNI50343**	2 pcs
CR47	Bracket – holder of the injector frame	**DL-CR10025**	1 pc
CR29	TEFLON tube for connecting injectors, diameter 6 mm	**P1004**	16 m
CR31	Plug instead of RD	**DL-UNI30497**	2 pcs
CR32	A plug instead of a safety valve	**DL-CR30493**	1 pc
CR36	DENSO backflow connection kit: banjo fitting, M8 x 1 mm bolt, 2 copper washers.	**DL-CR20060**	4 sets

CR38	Return connection for "rail" (12 mm banjo + M12 bolt + rubber-metal washers)	**DL-CR20062**	2 sets
CR35	A set of fittings for measuring the backflow of fuel from injectors	**DL-24CRM**	1 set
CR40	Rail Holder on Frame	**DL-CR10028**	1 pc
CR41	Rail and Frame Mounting Kit	**DL-CR20063**	1 set
CR42	Protective Cover (Plexiglas) + 2 Holder Brackets	**DL-CR10006**	1 pc
CR26	Foam Defoamers	**DL-UNI30156**	8 pcs
CR28	Quick-Connect Adapters for Foam Defoamers	**34-RL310602**	8 pcs
CR14	Pressure Gauge 0-2500 bar	**DL-CR14P2500**	1 pc
CR15	1/2" X M14 Adapter (for Pressure Gauge)	**DL-UNI30287**	1 pc
CR16	Pressure Gauge Holder Bracket	**DL-KM2500**	1 pc

Fuel injection pump kit CP3 DL-CR00088 1800 Bar

CR9	SR-3 1800 Bar Fuel Pump	**DL-CR10088**	1 pc
CR18	High-pressure hose M14 x 14 x 400 mm for fuel pump	**DL-TVD51414**	1 pc
CR21	Adapter for mounting pump on bracket (diameter 107 mm)	**DL-UNI30428**	1 pc
CR22	Coupling for connecting pump to drive	**DL-M24/DL-M19**	1 pc
CR34	Rubber hose, diameter 8 mm, for supplying fuel to the pump	**D-18-806-008**	2,4 m
CR38	Fitting (12 mm banjo + M12 bolt + rubber-metal washers) for fuel pump	**DL-CR20062**	1 set
—	13 mm clamps for 8 mm diameter rubber hoses	**DL-CR20066**	4 pcs
—	M12x1.5 cone fitting, for 8 mm diameter hose	**DL-UNI30112**	3 pcs
—	Rubber-metal washer, M12	**D-GM1537AN**	5 pcs

***Injection pump kit CP3 DL-CR00139 2400 Bar**

CR9	SR-3 2400 Bar Fuel Pump	**DL-CR10139**	1 pc
CR18	High-pressure hose M14 x 14 x 400 mm for fuel pump	**DL-TVD51414**	1 pc
CR21	Adapter for mounting pump on bracket (107 mm diameter)	**DL-UNI30428**	1 pc
CR22	Coupling for connecting pump to drive	**DL-M24**	1 pc
CR34	Rubber hose, 8 mm diameter, for supplying fuel to the pump	**D-18-806-008**	2 m
CR38	Fitting (12 mm banjo + M12 bolt + rubber-metal washers) for fuel pump	**DL-CR20062**	2 sets
—	13 mm clamps for 8 mm diameter rubber hoses	**DL-CR20066**	4 pcs
—	M12x1.5 cone fitting, for 8 mm diameter hose	**DL-UNI30112**	3 pcs
—	Rubber-metal washer, M12	**D-GM1537AN**	5 pcs

** on additional order*

CR INJECTOR TEST KITS



DL-CR10000

Basic CR tooling kit
with CR-Tester and SR-3
high-pressure fuel pump

DL-CR10001

CR Toolkit
(without pump, without CR-Tester)

DL-CR10000 COMMON RAIL BASIC EQUIPMENT KIT

Electronic part:

CR1	4-channel signal simulator CR-Tester	1 pc
CR2	Cable set (basic)	1 pc.
CR3	Adapter connector (plug) for connecting threaded injectors	1 pc
CR4	Adapter connector for connecting Delphi injectors	1 pc
CR5	Adapter connector for connecting MB injectors	1 pc
CR6	Adapter connector for connecting BMW injectors	1 pc
CR7	Pressure sensor (0281002921 -1800 bar)	1 pc
CR8	Pressure regulator (0281002494)	1 pc

Mechanical part:

CR9	Fuel injection pump (CP3) BOSCH	1 pc
CR10	"Rail" for 4 injectors on 2 RD	1 pc
CR11	Fitting for "Rail" M14xM14 in a set with gaskets	5 pcs
CR12	Fitting for "Rail" M14xM12 (M14) in a set with gaskets	1 pc
CR14	Pressure gauge 0-2500 bar D-CR14P2500	1 pc
CR15	Adapter for pressure gauge	1 pc
CR16	Bracket-holder for pressure gauge	1 pc
CR17	High-pressure pipes M14 x M12 (M14) x 300 mm for pressure gauge	1 pc
CR18	High-pressure pipes M12 x M12 (M14) x 300 mm for fuel injection pump	1 pc
CR19	High-pressure pipes M14xM14 x300 mm for injectors	4 pcs
CR20	Straight adapter M14 to M12 high-pressure hose	4 pcs
CR21	Pump bracket adapter (Ø107 mm)	1 pc
CR22	Pump coupling for drive	1 pc
CR23	Adapter for BOSCH-DENSO injectors	4 pcs
CR24	Adapter for DELPHI injectors	4 pcs
CR25	Clamp (injector receiver) for 7 mm injector nozzles	4 pcs
CR26	Foam suppressors	8 pcs
CR27	1/8" quick-connect adapters (Ø6 mm angled)	4 pcs
CR28	1/4" straight quick-connect adapters (Ø6 mm)	8 pcs
CR29	PVC drain tube Ø 6 mm	16 m
CR30	M14 plug for Rail	4 pcs
CR31	Plug instead of RD	1 pc
CR32	Plug instead of relief valve	1 шт.
CR33	M12 plug instead of Rail return connection	1 шт.
CR34	8mm PVC hose for supplying fuel to the pump	1,5 m
CR35	Return connection for BOSCH injectors	4 pcs
CR36	Return connection for DENSO injectors	4 pcs
CR37	Bolts for DENSO injector return connections	4 pcs
CR38	Return connection for Rail (12mm banjo + M12 bolt + washers)	2 sets
CR39	Injector holder frame	1 pc
CR40	Rail holder bracket on frame	1 pc
CR41	Fastening kit for Rail and frame	1 pc
CR42	Protective cover	1 set



DL-12CRM

A set of flasks for measuring backflow of CR injectors



DL-24CRM

A set of flasks with adapters for measuring backflow of CR injectors



DL-36CRM

Adapter kit for connecting the backflow of CR injectors

DL-80CRM A set of fittings for measuring fuel backflow from CR injectors



The set includes:

1	DL-6015168	Fitting for FORD injectors (Siemens VDO)	4 pcs
2	DL-6015188	Fitting for FORD Transit (Siemens VDO)	4 pcs
3	DL-60151111	Fitting for BOSCH Piezo injectors	4 pcs
4	DL-6015166	Fitting for SIEMENS VDO injectors	4 pcs
5	DL-GSDE	L-shaped fitting with clamp for Denso injectors	4 pcs
6	DL-OCDE	Banjo fitting for Denso injectors	4 pcs
7	DL-6015195	Fitting for DELPHI injectors	4 pcs
9	DL-6015130	Fitting for DELPH injectors	4 pcs
10	DL-6015161	Fitting for SIEMENS injectors	4 pcs
11	DL-KLB01	Fitting with clamp for BOSCH injectors	4 pcs
12	DL-SMS01	Long clamp for SIEMENS fitting	4 pcs
13	DL-SMS02	Medium clamp for SIEMENS fitting	4 pcs
14	DL-SMS03	Standard clamp for SIEMENS fitting	4 pcs

1



DL-6015168

Injector nipple FORD (Siemens VDO)

2



DL-6015188

Fitting for FORD Transit (Siemens VDO)

3



DL-60151111

Штуцер для форсунок BOSCH Piezo

4



DL-6015166

Fitting for FORD Transit (Siemens VDO)

5



DL-GSDE

L-shaped nipple with a bracket for Denso injectors

6



DL-OCDE

Banjo fitting for Denso injectors

7



DL-6015195

Fitting for DELPHI injectors

8



DL-6015130

Fitting for DELPHI injectors

9



DL-6015161

Injector nipple SIEMENS

10



DL-KLB01

BOSCH injector nipple with clamp

11



DL-SMS01

Long clamp for SIEMENS nipple clamp

12



DL-SMS02

Medium clamp for SIEMENS nipple clamp

13



DL-SMS03

Standard clamp for clamping the fitting SIEMENS

DL-90CRM

A set of fittings for measuring fuel backflow from CR injectors



The set includes:

1	**DL-6015168**	Fitting for FORD injectors (Siemens VDO)	4 pcs
2	**DL-6015188**	Fitting for FORD Transit (Siemens VDO)	4 pcs
3	**DL-60151111**	Fitting for BOSCH Piezo injectors	4 pcs
4	**DL-6015166**	Fitting for SIEMENS VDO injectors	4 pcs
5	**DL-GSDE**	L-shaped fitting with clamp for Denso injectors	4 pcs
6	**DL-OCDE**	Banjo fitting for Denso injectors	4 pcs
7	**DL-6015195**	Fitting for DELPHI injectors	4 pcs
8	**DL-6015130**	Fitting for DELPH injectors	4 pcs
9	**DL-6015161**	Fitting for SIEMENS injectors	4 pcs
10	**DL-KLB01**	Fitting with clamp for BOSCH injectors	4 pcs
11	**DL-6015181**	Fitting for SIEMENS injectors	4 pcs
12	**DL-6015193**	Fitting for 0445110550 (BOSCH) injectors	4 pcs
13	**DL-SMS01**	Long clamp for SIEMENS fitting	4 pcs
14	**DL-SMS02**	Medium clamp for SIEMENS fitting	4 pcs
15	**DL-SMS03**	Standard clamp for SIEMENS fitting	4 pcs

1



DL-6015168

Injector nipple
FORD (Siemens VDO)

2



DL-6015188

Fitting for FORD
Transit (Siemens VDO)

3



DL-60151111

BOSCH Piezo Injector
Nozzle Connector

4



DL-6015166

Injector nipple
SIEMENS VDO

5



DL-GSDE

L-shaped nipple with
a bracket for Denso
injectors

6



DL-OCDE

Banjo fitting for
Denso injectors

7



DL-6015195

Fitting for
DELPHI injectors

8



DL-6015130

Fitting for
DELPHI injectors

9



DL-6015161

Injector nipple
SIEMENS

10



DL-KLB01

BOSCH injector
nipple with clamp

11



DL-6015181

Injector nipple
SIEMENS

12



DL-6015193

Injector nipple
0445110550 (BOSCH)

13



DL-SMS01

Long clamp for
SIEMENS nipple clamp

14



DL-SMS02

Medium clamp for
SIEMENS nipple clamp

15



DL-SMS03

Standard clamp
for clamping the fitting
SIEMENS

DL-100CRM A set of fittings for measuring fuel backflow from CR injectors



The set includes:

1	**DL-6015168**	Fitting for FORD injectors (Siemens VDO)	4 pcs
2	**DL-6015188**	Fitting for FORD Transit (Siemens VDO)	4 pcs
3	**DL-60151111**	Fitting for BOSCH Piezo injectors	4 pcs
4	**DL-6015166**	Fitting for SIEMENS VDO injectors	4 pcs
5	**DL-GSDE**	L-shaped fitting with clamp for Denso injectors	4 pcs
6	**DL-OCDE**	Banjo fitting for Denso injectors	4 pcs
7	**DL-6015195**	Fitting for DELPHI injectors	4 pcs
8	**DL-6015130**	Fitting for DELPH injectors	4 pcs
9	**DL-6015161**	Fitting for SIEMENS injectors	4 pcs
10	**DL-KLB01**	Fitting with clamp for BOSCH injectors	4 pcs
11	**DL-6015181**	Fitting for SIEMENS injectors	4 pcs
12	**DL-6015193**	Fitting for injectors 0445110550 (BOSCH)	4 pcs
13	**DL-CR31256**	Fitting for Denso injectors M8 x 1mm	4 pcs
14	**DL-CR31312**	Fitting for Denso injectors M8 x 1.25mm	4 pcs
15	**DL-CR31254**	Fitting for Denso injectors	4 pcs
16	**DL-CR31255**	Denso injector connector	4 pcs
17	**DL-SMS01**	Long clamp for Siemens connector	4 pcs
18	**DL-SMS02**	Medium clamp for Siemens connector	4 pcs
19	**DL-SMS03**	Standard clamp for Siemens connector	4 pcs

1



DL-6015168

Injector nipple
FORD (Siemens VDO)

2



DL-6015188

Fitting for FORD
Transit (Siemens VDO)

3



DL-60151111

BOSCH Piezo Injector
Nozzle Connector

4



DL-6015166

Injector nipple
SIEMENS VDO

5



DL-GSDE

L-shaped nipple with
a bracket for Denso
injectors

6



DL-OCDE

Banjo fitting for
Denso injectors

7



DL-6015195

Fitting for
DELPHI injectors

8



DL-6015130

Fitting for
DELPHI injectors

9



DL-6015161

Injector nipple
SIEMENS

10



DL-KLB01

BOSCH injector
nipple with clamp

11



DL-6015181

Connector for
SIEMENS injectors

12



DL-6015193

Injector nipple
0445110550 (BOSCH)

13



DL-CR31256

Denso Injector Fitting
M8 x 1mm

14



DL-CR31312

Denso injector nipple
M8 x 1.25mm

15



DL-CR31254

Denso injector nipple

16



DL-CR31255

Denso injector nipple

17



DL-SMS01

Long clamp
for clamping
SIEMENS fittings

18



DL-SMS02

Medium clamp
for clamping
SIEMENS fittings

19



DL-SMS03

Standard clamp
for clamping
SIEMENS fittings

DL-120CRM A set of fittings for measuring fuel backflow from CR injectors



The set includes:

1	DL-6015168	Fitting for FORD injectors (Siemens VDO)	4 pcs
2	DL-6015188	Fitting for FORD Transit (Siemens VDO)	4 pcs
3	DL-60151111	Fitting for BOSCH Piezo injectors	4 pcs
4	DL-6015166	Fitting for SIEMENS VDO injectors	4 pcs
5	DL-GSDE	L-shaped fitting with a clamp for Denso injectors	4 pcs
6	DL-OCDE	Banjo fitting for Denso injectors	4 pcs
7	DL-6015195	Fitting for DELPHI injectors	4 pcs
8	DL-7247800	Fitting for DELPHI injectors	4 pcs
9	DL-7271100	Fitting for DELPHI injectors	4 pcs
10	DL-6015130	Fitting for DELPH injectors	4 pcs
11	DL-6015161	Fitting for SIEMENS injectors	4 pcs
12	DL-KLB01	Fitting with a clamp for BOSCH injectors	4 pcs
13	DL-6015181	Fitting for SIEMENS injectors	4 pcs
14	DL-6015193	Fitting for injectors 0445110550 (BOSCH)	4 pcs
15	DL-CR31256	Fitting for Denso injectors M8 x 1mm	4 pcs
16	DL-CR31312	Fitting for Denso injectors M8 x 1.25 mm	4 pcs
17	DL-CR31254	Nipple for Denso injectors	4 pcs
18	DL-CR31255	Nipple for Denso injectors	4 pcs
19	DL-SMS01	Long clamp for Siemens nipple	4 pcs
20	DL-SMS02	Medium clamp for Siemens nipple	4 pcs
21	DL-SMS03	Standard clamp for Siemens nipple	4 pcs

1



DL-6015168

Injector nipple
FORD (Siemens VDO)

2



DL-6015188

Fitting for FORD
Transit (Siemens VDO)

3



DL-60151111

BOSCH Piezo Injector
Nozzle Connector

4



DL-6015166

Injector nipple
SIEMENS VDO

5



DL-GSDE

L-shaped nipple with
a bracket for Denso
injectors

6



DL-OCDE

Banjo fitting for
Denso injectors

7



DL-6015195

Fitting for
DELPHI injectors

8



DL-7247800

Fitting for
DELPHI injectors

9



DL-7271100

Fitting for
DELPHI injectors

10



DL-6015130

Fitting for
DELPHI injectors

11



DL-6015161

Connector for
SIEMENS
injectors

12



DL-KLB01

BOSCH injector
nipple with clamp

13



DL-6015181

Connector for
SIEMENS injectors

14



DL-6015193

Injector nipple
0445110550
(BOSCH)

15



DL-CR31256

Denso Injector
Fitting M8 x 1mm

16



DL-CR31312

Denso injector nipple
M8 x 1.25mm

17



DL-CR31254

Denso injector
nipple

18



DL-CR31255

Denso injector
nipple

19



DL-SMS01

Long clamp
for clamping
SIEMENS fittings

20



DL-SMS02

Medium clamp
for clamping
SIEMENS fittings

21



DL-SMS03

Standard clamp
for clamping
SIEMENS fittings

Universal adapter for CR truck injectors (Bosch, Denso, Delphi Smart) for connecting the supply and return lines with inlet angles of 0°, 4°, and 13°.

DL-CR50013



The set includes:

DL-CR30219	Adapter housing
DL- CR50035	Holder bracket with nipple and fitting for backflow
DL- CR30419	Backflow nozzle for Delphi Smart CR injectors
DL- CR30238	Extended nipple for supply connection
DL- CR30225	Standard nipple for supply connection
DL- CR30661	Backflow nozzle for Bosch CR injectors 0445120147, 0445120098
DL- CR30269	Nipple with fitting for backflow of Delphi, Smart, Denso injectors Bosch 0445120147, 0445120098
D-27-200078	O-ring for backflow nozzle (2 pcs.)
	3mm Allen key.



Repair kit for universal adapter

1.	**D-27-026000**	Sealing rubber ring – 1 pc.
2.	**D-27-026210**	Sealing rubber ring – 1 pc.
3.	**D-27-200078**	Sealing rubber ring – 4 pcs.



DL-CR31758

Ø 7.8 mm adapter for VDO GK2Q-9K546-AC injector return lines

Delivery set:

Adapter — 1 pc; Side clamp — 1 pc;
Ø6 mm corner adapter — 1 pc

EXAMPLES OF USING THE UNIVERSAL ADAPTER DL-CR50013





Installation in the Bosch 0445120218 injector adapter with a direct "0°" connection.

Used:

- **DL-CR30219** Adapter body (wide shelf facing the sprayer)
- **DL-CR30225** Standard connection for the supply
- **DL-CR50035** Bracket holder with connection and fitting for the return drain





Installation in the Bosch 0445120067 injector adapter with a 13° inlet angle.

Used:

- **DL-CR30219** Adapter body (wide shelf facing the sprayer)
- **DL-CR30238** Extended connection for supply
- **DL-CR50035** Bracket holder with connection and fitting for return flow
- Hex key for fixing the adapter housing rotating base at 13°

ПРИМЕРЫ ИСПОЛЬЗОВАНИЯ УНИВЕРСАЛЬНОГОА ДАПТЕРА DL-CR50013





Installation in the injector adapter
Bosch 0445120147, 0445120098 with a direct "0°" connection.

Used:

- **DL-CR30219** Adapter body (wide shelf toward the sprayer)
- **DL-CR30661** Backflow nozzle
- **DL-CR30225** Standard connection for supply
- **DL-CR30269** Shortened connection with backflow fitting





Installation in a Denso injector adapter with a 0° approach angle.

Used:

- **DL-CR30219** Adapter body (wide shelf facing the sprayer)
- **DL-CR30225** Standard connection for supply
- **DL-CR30269** Shortened connection with a fitting for return flow

ПРИМЕРЫ ИСПОЛЬЗОВАНИЯ УНИВЕРСАЛЬНОГОА ДАПТЕРА DL-CR50013





Installation in a Delphi Smart injector adapter with a direct "0°" connection.

Used:

- **DL-CR30219** Adapter body (wide shelf toward the sprayer)
- **DL-CR30225** Standard connection for supply
- **DL-CR30419** Nozzle backflow nozzle
- **DL-CR30269** Shortened nozzle with backflow fitting

Adapter for Denso CR truck injectors, including Volvo 21952974 for connecting the supply and return lines

DL-CR50140









The set includes:

1. **DL-CR31031** Adapter housing
2. **DL-CR30225** Feed nipple
3. **DL-CR50035** A bracket with a nipple and a fitting for backflow

ADAPTERS FOR CHECKING TRUCK INJECTORS



DL-001 (UIS31524)

**Adapter for testing mechanical injectors
for PLD sections of MB ACTROS and MB ATEGO
Included in delivery:**

Adapter – 1 piece, side connection – 1 piece, fitting – 1 piece



DL-002 (DL-CR31046)

**Adapter for truck injectors
Bosch 0445120098, 0445120147 MAN Ø 29mm
Included:**

Adapter – 1 piece, side nozzle – 1 piece, fitting – 1 piece



DL-003 (DL-CR31821)

**DAF Euro 7 (PACCAR) Injector Test Adapter
Includes:**

1 adapter, 1 side connector, 1 fitting



DL-004A (DL-CR30848)

**Adapter for Renault truck injectors Ø 32mm
0445120020, 0445120019, 0445120003, 0445120004
Included:**

Adapter – 1 piece, side nozzle – 1 piece, fitting – 1 piece



DL-005N (DL-CR31048)

**Adapter for truck injectors
CUMMINS Be110/162 kW;
KAMAZ 11TS 150/133 kW, 20TS 207 kW, 25TS 207 kW
0445120123
Included in delivery:**

Adapter – 1 pc., side nozzle – 1 pc., fitting – 1 pc.



DL-006 (DL-CR31440)

**Adapter for truck injectors
DENSO Ø 27mm
Included:**

Adapter – 1 pc., side nozzle – 1 pc., fitting – 1 pc.

ADAPTERS FOR CHECKING TRUCK INJECTORS



DL-07 (DL-CR31044)

Adapter for truck injectors
DENSO Ø 23.5 mm
Included:

Adapter – 1 piece, side connector – 1 piece,
fitting – 1 piece



DL-08 (DL-CR31045)

Adapter for MAN truck injectors, Ø 26 mm
Included:

adapter – 1 piece, side nozzle – 1 piece,
fitting – 1 piece



DL-09 (DL-CR31439)

Adapter for truck injectors
MAN Ø 28 mm (Volvo) 0445120044
Included in delivery:

adapter – 1 pc., side nozzle – 1 pc.,
fitting – 1 pc.



DL-010 (DL-CR31047)

Adapter for truck injectors
CUMMINS 0445120121, 0445120125
Included:

adapter – 1 pc., side connector – 1 pc.,
fitting – 1 pc.



DL-011 (DL-CR30985)

Adapter for connecting the return line of truck injectors
SIEMENS VDO FORD
Included in delivery:

adapter – 1 piece, side connection – 1 piece,
fitting – 1 piece

ADAPTERS FOR CHECKING TRUCK INJECTORS



DL-012 (DL-CR30036)

Adapter for truck injectors
Bosch 0445120063
Included:
1 adapter, 1 side nozzle, 1 fitting



DL-013 (DL-CR30968)

Adapter for truck injectors
Delphi Smart
Included:
1 adapter, 1 side nozzle, 1 fitting



DL-014 (DL-CR30038)

Adapter for connecting the return line of truck injectors
Denso 24mm
Included in delivery:
1 adapter, 1 side connector, 1 fitting



DL-015 (DL-CR30822)

Return line adapter for truck injectors
Denso 18.5mm, Caterpillar, Perkins
Included:
Adapter – 1 piece, side connection – 1 piece, fitting – 1 piece



DL-016 (DL-CR31486)

Adapter for connecting the return line of Scania 2/4-pin truck injectors
Included in delivery:
Adapter – 1 piece, side connector – 1 piece, fitting – 1 piece



DL-016U (DL-CR31806)

Extended adapter for Scania Ø40.5 mm (2 and 4 pins)
Extended for easy installation in Dieselland test stands
Included in delivery:
1 adapter, 1 side connector, 1 fitting



DL-017 (DL-UNI30037)

Return line adapter for fuel injectors
Bosch 0445120066
Included:
Adapter – 1 piece, side connection – 1 piece, fitting – 1 piece

ADAPTERS FOR CHECKING TRUCK INJECTORS



DL-018 (DL-CR30595)

Adapter for connecting the return line of Cursor 9 truck injectors
Included in delivery:
adapter – 1 pc., side connector – 1 pc., fitting – 1 pc.



DL-019 (DL-CR30804)

Adapter for connecting the return line of Bosch MTU truck injectors
Includes:
1 adapter, 1 side connector, 1 fitting



DL-020 (DL-CR30596)

MB 4PIN Truck Injector Return Line Connection Adapter
Included:

Adapter – 1 piece, side connector – 1 piece, fitting – 1 piece



DL-021 (DL-CR31565)

BOSCH Injector Test Adapter
CRIN3 0445124015
Includes:
1 adapter, 1 side connector, 1 fitting



DL-022 (DL-CR31566)

Adapter for testing truck injectors
Caterpillar 3809888
Included:
adapter – 1 pc., side connector – 1 pc., fitting – 1 pc.



DL-023 (DL-CR31567)

Adapter for testing truck injectors
Delphi Smart injector Mercedes
Included in delivery:
1 adapter, 1 side connector, 1 fitting



DL-024 (DL-CR31620)

Adapter for connecting the backflow of injectors
CR DAF-SMART injector (DAF-1826007)
Included in delivery:
Adapter – 1 piece, side connection – 1 piece, fitting – 1 piece

ADAPTERS FOR CHECKING TRUCK INJECTORS



DL-025 (DL-CR31625)

**Adapter for connecting the backflow of injectors
DELPHI CRIN DAF EURO 6 SMART INJ
Included in delivery:
Adapter – 1 piece, side connection – 1 piece,
Fitting – 1 piece**



DL-026 (DL-CR31626)

**Adapter for connecting the supply and return lines
of CUMMINS D26 injectors
Includes:
adapter – 1 piece, side connection – 1 piece,
fitting – 1 piece**



DL-027 (DL-CR31698)

**Adapter for truck injectors
Bosch 0445120086, 0445120087, 0445120127, 0445120265,
0445120266, 0445120389, 0445120391, 0445120412, 0445120462,
0445120474, 0445120524, 0445120526, 0445120527, 0445120531,
0445120562, 0445120571, 0445120580.
Included in delivery:
adapter – 1 pc., side nozzle – 1 pc.
Fitting – 1 pc.**



DL-028 (DL-CR31759)

**Adapter for truck injectors
Ford 0445120025, 0445120135, 0445120168, 0445120500
Included:
Adapter – 1 pc., Side connector – 1 pc.,
Fitting – 1 pc.**



DL-029 (DL-CR31793)

**Adapter for truck injectors
Common Rail 0445120247
Included:
Adapter – 1 pc., side nozzle – 1 pc.,
fitting – 1 pc.**



DL-030 (DL-CR30818)

**Adapter for truck injectors
Bosch 0445120178 YaMZ-530
Included:
Adapter – 1 pc., side nozzle – 1 pc.,
fitting – 1 pc.**

ADAPTERS FOR CHECKING TRUCK INJECTORS



DL-031 (DL-CR31040)

Adapter for connecting the injector backflow
Bosch 0445120303
Included:
Adapter – 1 piece, side connector – 1 piece,
fitting – 1 piece



DL-032 (DL-CR31430)

Bosch Injector Backflow Adapter 0445120134
Included:
1 adapter, 1 side connector, 1 fitting



DL-033 (DL-CR31479)

DENSO 7140 Truck Injector Return Line Adapter
08S02953 33800-52000
Included:
1 adapter, 1 side connector, 1 fitting



DL-034 (DL-CR31538)

Injector Backflow Adapter
DENSO 1211 11L1063 (095000-121)
Included:
adapter – 1 pc., side nipple – 1 pc.,
fitting – 1 pc.



DL-035 (DL-CR31561)

Injector Backflow Adapter
DENSO 2300/3100 07T00365 (5213417 Komatsu)
Includes:
adapter – 1 pc., side nipple – 1 pc.,
fitting – 1 pc.



DL-036 (DL-CR31563)

Injector Test Adapter
Delphi A9362187 Mercedes Actros Euro 6
Included:
adapter – 1 pc., side connector – 1 pc.,
fitting – 1 pc.

ADAPTERS FOR CHECKING TRUCK INJECTORS



DL-037 (DL-CR50304)

Adapter for testing 4-pin MB Actros injectors
Included in delivery:
1 adapter, 1 side connector, 1 fitting



DL-037KIT (DL-CR50304KIT)

MB Actros 4-Pin
Injector Test Kit 0445120303

Delivery set:

- **DL-037** Adapter for fixing a 4-pin MB Actros injector - 1 pc.
- **DL-SHL02037** Backflow hose 20 mm x 150 mm for a test bench - 1 pc.
- **DL-ADS04020** Adapter cable with 2 connectors - 1 pc.
- **DL-UNI31616** Fitting with external threads G1/4 to G1/8 - 1 pc.
- **34-GU11-21-0014** Quick-release fitting G1/4″, male - 1 pc.
- **DL-34-N3-213B** Fitting Ø 6 mm x 1/8″ - 1 pc.
- **D-GM1537AN** Rubber-metal washer Ø 12 mm - 1 pc.
  Rubber-metal washer Ø 10 mm - 2 pcs.



DL-038 (CR31606)

DENSO Injector Adapter 5296723
Included in delivery:
1 adapter, 1 fitting



DL-039 (DL-CR31738)

Adapter for connecting a CAT d28 injector (J73 6102300 04G11250)
Includes:
1 adapter, 1 fitting



DL-040 (DL-LR31785)

Adapter for connecting a Lorang Ø26.5 to Ø23 nozzle
Included in delivery:
1 adapter, 1 fitting



DL-CR30429 (DL-EA)

Side connection for cargo adapters



DL-CR50303

Supply nipple for the cargo adapter assembly (nipple + bushing + nut+ copper washer)



DL-CR30972

Supply nipple for cargo adapter

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-041 (DL-CR31861)

CUMMINS-XPI 4307475 Return Line Connection Adapter
Included:
1 adapter, 1 fitting



DL-042 (DL-CR31900)

Adapter for BOSCH DHIM, Doosan, and Yuchai truck injectors
Included:
1 adapter, 1 fitting



DL-043 (DL-CR31969)

Adapter for injector 0445120471 (Weichai engine)
Included:
1 adapter, 1 fitting



DL-K7 (DL-CR30161)

Fuel stream catcher (coil receiver) for injector nozzles (nozzle attachment) Ø7 mm
Included in delivery:
coil receiver – 1 pc., fitting – 1 pc., retaining screw – 1 pc.



DL-K9 (DL-CR30505)

Fuel stream catcher (coil receiver) for injector nozzles (nozzle attachment) Ø9 mm
Included in delivery:
coil receiver – 1 pc., fitting – 1 pc., locking screw – 1 pc.



DL-UNI30156 (DL-PG)

quid Defoamer
cluded:
defoamer, 1 fitting.



DL-MOK

Adapter-coupling with check valve Ø 6 mm
Connecting holes Ø 6 mm x Ø 6 mm
Length with clamps = 37 mm
Length without clamps = 33 mm
Diameter = 1.15 mm



DL-MOK-K

Quick-connect coupling with check valve, Ø 6 mm
Connection holes: Ø 6 mm x Ø 6 mm
Length with clamps = 49 mm
Length without clamps = 45 mm
Diameter = 13.8 mm



DL-MOK-KS

Quick-connect coupling with check valve Ø 6 mm
Connecting holes Ø 6 mm x Ø 6 mm
Length with clamps = 42.6 mm
Length without clamps = 37.3 mm
Diameter = 12.5 mm

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-CR10028 DL-KD (CR40)

Rail Bracket DL-CR30181KIT, DL-CR30522KIT from the CR-equipment kit



DL-ASB (CR23)

**Adapter-cup for Bosch injectors
CR-equipment edge**



DL-ASD (CR24)

**Adapter-cup for Delphi injectors
to the CR-mounted frame**



DL-RF (CR39)

Frame - holder for injectors



DL-CR10015 DL-RFJ

Nozzle holder frame with cups for 7 mm nozzles (DL-UNI50342) - 4 pcs. and clamping sleeves

DL-UNI31019	internal Ø 17 mm – 4 pcs.
DL-UNI31020	internal Ø 18,9 mm – 1 pc.
DL-UNI31021	internal Ø 19,2 mm – 1 pc.
DL-UNI31022	internal Ø 21 mm – 1 pc.
DL-UNI31031	internal Ø 21,4 mm – 1 pc.

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-UNI31011

A set of split bushings (main) for installing injectors

DL-UNI31019	internal Ø 17 mm
DL-UNI31020	internal Ø 18,9 mm
DL-UNI31021	internal Ø 19,2 mm
DL-UNI31022	internal Ø 21 mm
DL-UNI31031	internal Ø 21,4 mm

Please note: All bushings are also sold separately.



DL-UNI31013

A set of split bushings for installing injectors

DL-UNI31015	internal Ø 24 mm
DL-UNI31016	internal Ø 25 mm
DL-UNI31017	internal Ø 26 mm

Please note: All bushings are also sold separately.



DL-UNI50342

Cup clamp for 7 mm spray nozzles



DL-UNI50343

Cup clamp for 9 mm spray nozzles

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-CR50302

Single-channel injector holder frame

Included in the delivery:

DL-UNI31019	internal Ø 17 mm – 1 pc.*
DL-UNI31020	internal Ø 18,9 mm – 1 pc
DL-UNI31021	internal Ø 19,2 mm – 1 pc
DL-UNI31022	internal Ø 21 mm – 1 pc
DL-UNI31031	internal Ø 21,4 mm – 1 pc
DL-SZR	7 mm spray nozzle clamp cup*

* mounted on a frame holder



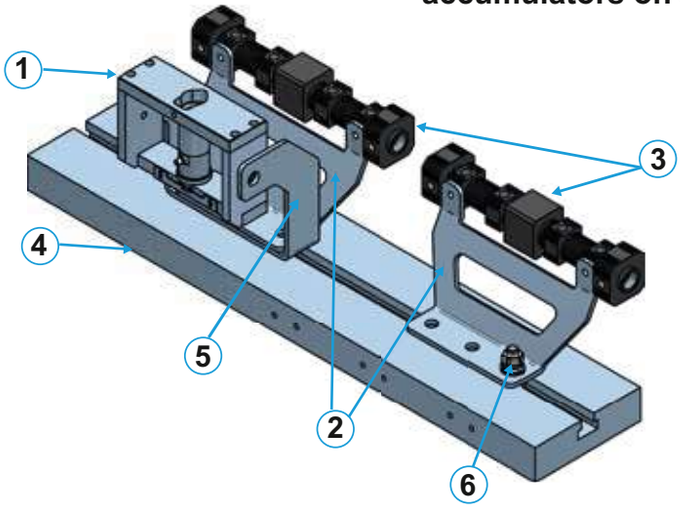
DL-UNI21032

Single-channel injector frame bracket



Single-channel injector holder frame with bracket assembly

An example of installing a nozzle holder, brackets, and pressure accumulators on a test bench plate



1	**DL-CR50302**	Injector holder frame for one channel
2	**DL-CR10028**	Rail Bracket DL-CR30181KIT, DL-CR30522KIT, DL-CR31053KIT
3		Pressure Accumulator: DL-CR30181KIT, DL-CR30522KIT, DL-CR31053KIT
4	**DL-SPN30535**	Mounting plate of the stand
5	**DL-UNI21032**	Single-channel injector frame bracket
6	**DL-UNI30089**	T-slot bolt

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-CR10025 DL-KDRJ

Bracket – holder of the injector frame

Package Contents:
- Frame (1 pc.)
- Intermediate bracket (2 pcs.)
- Protective glass bracket (2 pcs.)

(Can be welded to the frame)
- Additional pressure accumulator holder bracket

(Can be welded to the frame)



DL-CR10026

Side mounting bracket for pressure accumulators (Rail)

The bracket is secured with M8x25 bolts to the support plate in the test rig's test section, or to a structure performing a similar function.

Used for mounting pressure accumulators (Rail): DL-CR30181, DL-CR30522, and DL-CR31053.

Note! Bolts and nuts are not included!



DL-CR10027

Pressure Accumulator Bracket (Rail)

Applicable to the following pressure accumulators:

DL-CR30181KIT	For 2 pressure regulators
DL-CR30522KIT	For 3 pressure regulators
DL-CR31053KIT	Cooled rail for 3 pressure regulators

Installation of some drives from various vehicles is possible.



It is installed as standard on the CR-TEST 4E, CR-TEST-2P, and SPF series test stands manufactured by Dieselland.

For installation on other test stands, two M10 threaded holes must be drilled on the side of the plate in a convenient location.

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-CR10029

Pressure Accumulator Bracket (Rail)

Applicable to the following pressure accumulators:

DL-CR30181KIT	For 2 pressure regulators
DL-CR30522KIT	For 3 pressure regulators
DL-CR31053KIT	Cooled rail for 3 pressure regulators

Installation of some drives from various vehicles is possible.



Can be installed on any stand.
To install, secure the bracket to the top of the stand plate with one or two bolts. One or two bolts are pre-installed in the plate's T-slot. The number of bolts is determined manually or depends on the bracket's placement. For example, when mounted longitudinally on the stand plate, it is possible to secure the bracket with one or two bolts, while for transverse mounting, only one bolt is required. The bracket is inserted through the holes onto the bolts and secured to the plate with nuts.

ATTENTION!
Bolts and nuts are not included!



DL-CR10006

6mm thick polycarbonate protective glass.
The protective glass is mounted on DL-CR10011 or DL-CR-10025 brackets.

Package contents:
1 protective glass. 2 U-shaped handles.



DL-CR10010

8 mm thick polycarbonate protective glass.
The protective glass is mounted on DL-CR10011 or DL-CR-10025 brackets.
Included in delivery:
1 protective glass. 2 U-shaped handles.



DL-CR10011

Bracket kit for installing protective barriers
Installed directly on the stand plate with the DL-CR10006 and DL-CR10010 polycarbonate protective barriers.

Package includes:
Protection mounting brackets – 2 pcs.
Wing nuts for securing the protective barrier – 2 pcs.

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-CR30181KIT (for 2 regulators)

Pressure accumulator (Rail) for testing CR injectors and pumps on a bench

The rail has openings for:
- connecting a pressure sensor M18x1.5
- connecting a pressure regulator M24x1.5 (2 holes)
- connecting a return drain M12x1.5 (4 holes)
- supplying fluid to the rail M14x1.5 (2 holes)
- draining fluid from the rail M14x1.5 (4 holes)
- connecting a safety valve M20x1.5
- relieving pressure in case of excess pressure Ø 3 mm. or M5
- mounting a pressure gauge M6 (2 blind holes)
- mounting a rail M8 (2 or 4 blind holes).

Delivery set:

1.	DL-CR30181	ramp (Rail) – 1 pc,
2.	DL-UNI30218	M14x1.5 nipple in a set with washers and gaskets SHP15084 – 6 pcs.
3.	DL-UNI50271	plug with internal thread M14x1.5 – 5 pcs,
4.	DL-UNI30497	plug instead of pressure regulator – 2 pcs.,
5.	DL-CR30493	Plug instead of a safety valve M20x1.5 – 1 pc.
6.	DL-SHP15084	pressure sensor washer
7.	DL-UNI30162	M18x1.5 plug instead of a pressure sensor



DL- CR30522KIT (for 3 regulators)

Pressure accumulator (Rail) for testing CP1, CP2, CP3, CP4, Delphi, Denso pumps and CR injectors on a bench

The rail has openings for:
- connecting a pressure sensor M18x1.5
- connecting a pressure regulator M24x1.5 (3 holes)
- connecting a return drain M12x1.5 (5 holes)
- supplying fluid to the rail M14x1.5 (2 holes)
- draining fluid from the rail M14x1.5 (2 holes)
- connecting a safety valve M20x1.5
- relieving pressure in case of excess pressure Ø3mm. or M12x1.5
- mounting a pressure gauge M6 (2 blind holes)
- mounting a rail M8 (2 or 4 blind holes).

Delivery set:

1.	DL- CR30522	ramp (Rail) – 1 pc,
2.	DL-UNI30218	M14x1.5 nipple in a set with washers and gaskets SHP15084 – 6 pcs.
3.	DL-UNI50271	plug with internal thread M14x1.5 – 5 pcs,
4.	DL-UNI30497	plug instead of pressure regulator – 3 pcs.,
5.	DL-CR30493	Plug instead of a safety valve M20x1.5 – 1 pc.
6.	DL-SHP15084	pressure sensor washer
7.	DL-UNI30162	M18x1.5 plug instead of a pressure sensor

EQUIPMENT FOR TESTING PUMPS AND INJECTORS





DL-CR30777KIT

**Pressure accumulator (Rail) for testing CR injectors,
BOSCH CP1, CP2, CP3, CP4 pumps, various types
of Delphi, Denso, Siemens fuel injection pumps, and other CR pumps.
(Mounting holes at 90° from the fittings.)**

The rail has threaded holes for:
- connecting a pressure sensor (M18x1.5)
- connecting a pressure regulator (M24x1.5)
- connecting a backflow drain (1 hole M12x1.5)
- supplying and discharging fluid from the rail (2 holes)

for M14x1.5 fittings
- fastening the rail (M8) (2 blind holes)
- an additional fitting made integral with the rail (M14x1.5)

Delivery set:

1. **DL-CR30777** ramp (Rail) – 1 pc.
2. **DL-UNI30218** M14x1.5 nipple in a set with washers and gaskets SHP15084 – 2 pcs.
3. **DL-UNI30497** Pressure regulator plug – 1 pc.
4. **DL-UNI50271** Plug with internal thread M14x1.5 – 2 pcs.





DL-CR30180KIT

**Pressure accumulator (Rail) for testing CP1, CP2, CP3, CP4,
Delphi, Denso pumps and CR injectors**

The rail has threaded holes for:
- connecting a pressure regulator (M24x1.5)
- connecting a return drain (1 hole M12x1.5)
- supplying and draining fluid from the rail (2 holes)

for M14x1.5 fittings
- attaching the rail (M8) (2 blind holes)
- fitting-nipple (M14x1.5)

Delivery set:

1. **DL-CR30180** Rail – 1 pc.
2. **DL-UNI30218** M14x1.5 nipple with washers and gaskets in a set SHP15084 – 2 pcs.
3. **DL-UNI30497** Pressure regulator plug – 1 pc.
4. **DL-UNI50271** Plug with internal thread M14x1.5 – 2 pcs.

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-CR30526KIT

Pressure accumulator (Rail) for testing CP1, CP2, CP3, CP4, Delphi, Denso pumps and CR injectors with a pressure sensor.
(Mounting holes are 180° off the fittings.)

The rail has threaded holes for:
- connecting a pressure sensor (M18x1.5)
- connecting a pressure regulator (M24x1.5)
- connecting a backflow drain (1 hole M12x1.5)
- supplying and discharging fluid from the rail (2 holes) for M14x1.5 fittings
- securing the rail (M8) (2 blind holes)

Delivery set:

1. **DL-CR30526** Rail – 1 pc.
2. **DL-UNI30218** M14x1.5 nipple with washers and gaskets in a set SHP15084 – 2 pcs.
3. **DL-UNI30497** Pressure regulator plug – 1 pc.
4. **DL-UNI50271** Plug with internal thread M14x1.5 – 2 pcs.



DL-CR30878KIT

Pressure accumulator (Rail) for testing pumps CP1, CP2, CP3, CP4, Delphi, Denso, and CR injectors with a pressure sensor.
(Mounting holes at 90° from the fittings.)

The rail has threaded holes for:
- connecting a pressure sensor (M18x1.5)
- connecting a pressure regulator (M24x1.5)
- connecting a backflow drain (1 hole M12x1.5)
- supplying and discharging fluid from the rail (2 holes) for M14x1.5 fittings
- securing the rail (M8) (2 blind holes)

Delivery set:

1. **DL-CR30878** Rail – 1 pc.
2. **DL-UNI30218** M14x1.5 nipple with washers and gaskets in a set SHP15084 – 2 pcs.
3. **DL-UNI30497** Pressure regulator plug – 1 pc.
4. **DL-UNI50271** Plug with internal thread M14x1.5 – 2 pcs.

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-CR30479KIT

Pressure accumulator (Rail) for testing CR pumps and injectors under the pressure regulator and relief valve.

The rail has threaded holes for:
- connecting a pressure regulator M24x1.5 (1 hole)
- connecting a return drain M12x1.5 (1 hole)
- supplying and draining fluid from the rail M14x1.5 (3 holes)
- connecting a safety valve M20x1.5
- relieving pressure in case of excess pressure M12x1.5
- mounting a pressure gauge M6 (2 blind holes)
- mounting a rail M8 (4 blind holes)

ATTENTION!
Pressure regulators and pressure sensor are not included in the delivery kit!
The pressure sensor is connected via an M14xM18 adapter fitting.

Delivery set:

1. **DL-CR30479** ramp (Rail) – 1 pc.
2. **DL-UNI30218** M14x1.5 nipple with washers and spacers SHP15084 – 3 pcs.
3. **DL-UNI30497** Plug in place of the pressure regulator – 1 pc.
4. **DL-UNI50271** Plug with internal thread M14x1.5 – 3 pcs.
5. **DL-UNI30796** Special adapter nipple for the pressure sensor M14xM18 – 1 pc.
6. **DL-UNI30493** Plug in place of the relief valve – 1 pc.
7. **22-HS-06** Banjo bolt nipple M12x1.5 for connecting the backflow, hole next to the pressure regulator – 1 pc.
8. **22-RSN-06** Banjo nipple Ø12mm x 8mm (herringbone) for connecting the backflow – 1 pc.
9. **D-GM1537AN** Rubber-metal washer Ø12mm, installed on plug DL-UNI30636, banjo bolt 22-HS-06, and similar parts to ensure a tight connection – 2 pcs.

*Instead of the Ø12mm x 8mm banjo fitting 22-RSN-06, an M12″ x 8″ fitting 34-R0608 can be used. M12 x 1.5″ fitting allows for backflow through a P1006 Teflon tube.



DL-CR50269

DL-CR30180 Pressure Accumulator Mounting Bracket (RAIL)

Also suitable for pressure accumulators
DL-CR30479, DL-CR30526, DL-CR30878, DL-CR30777



DL-CR50268

DL-CR30188 Pressure Accumulator Holder Bracket (RAIL)

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-CR30188KIT

A pressure accumulator (rail) for testing SR1, SR2, SR3, SR4, Delphi, Denso pumps, and CR injectors. The rail has cooling channels for improved thermal stabilization during testing of Common Rail injectors and pumps.



The rail has threaded holes for:
- connecting a pressure sensor (M18x1.5)
- connecting a pressure regulator
- connecting a backflow drain (1 hole M12x1.5)
- connecting a hose or tube for rail cooling (Ø8mm)
- supplying and draining fluid from the rail (3 holes for M14x1.5 fittings)
- fastenings, 4 blind holes M8.

Delivery set:

1.	**DL-CR30188**	Rail – 1 pc.
2.	**DL-UNI30218**	M14x1.5 nipple with washers and gaskets SHP15084 – 3 pcs.
3.	**DL-UNI30497**	Pressure regulator plug – 1 pc.
4.	**DL-UNI50271**	M14x1.5 internal thread plug – 2 pcs.
5.	**DL-UNI30293**	1/8"x8 nipple (herringbone) for connecting the cooling hoses – 2 pcs.
6.	**DL-UNI30162**	M18x1.5 pressure sensor plug – 1 pc.

DL-CR31068KIT

A pressure accumulator (rail) for testing SR1, SR2, SR3, SR4, Delphi, Denso pumps, and CR injectors. The rail features cooling channels for improved thermal stabilization during testing of CR injectors and pumps.





The rail has threaded holes for:
- connecting a pressure sensor (M18x1.5)
- connecting a pressure regulator
- connecting a backflow drain (1 hole M12x1.5)
- a relief valve
- a hose or tube connection (8mm diameter)
- supply and outlet of fluid from the rail (3 holes for M14x1.5)
- fastenings, 4 blind holes M8

Delivery set:

1.	**DL-CR31068**	Rail – 1 pc.
2.	**DL-UNI30218**	M14x1.5 fitting with washers and gaskets in a set SHP15084 – 3 pcs.
3.	**DL-UNI30497**	Pressure regulator plug – 1 pc.
4.	**DL-UNI50271**	M14x1.5 female thread plug – 1 pc.
5.	**DL-UNI30293**	1/8"x8" fitting (herringbone) for connecting the cooling hoses – 2 pcs.
6.	**DL-UNI30162**	M18x1.5 pressure sensor plug – 1 pc.

EQUIPMENT FOR TESTING PUMPS AND INJECTORS





DL-CR31053KIT

A pressure accumulator with 3 regulators and cooling for testing CR fuel injection pumps.

Delivery set:

1. **DL-CR31053** Rail – 1 pc.
2. **DL-UNI30151** Pressure regulator plug – 3 pcs.
3. **DL-UNI30162** M18x1.5 pressure sensor plug – 1 pc.
4. **34-R0608M12X1.5** M12"x8" nipple for backflow - 3 pcs.
5. **34-RL0408** Elbow fitting 8mmx8mm for backflow - 2 pcs.
6. **34-RL0508** Tee fitting 8mmx8mmx8mm for backflow - 1 pc.
7. **P1006** Teflon tube d.8mmx180mm - 2 pcs.
8. **22-HS-06** Banjo bolt nipple M12x1.5 for connecting the backflow hose - 1 pc.
9. **22-RSN-06** Banjo nipple Ø12mmx8mm (herringbone) for connecting the backflow hose - 1 pc.
10. **D-GM1537AN** Rubber-metal Washer Ø12mm - 2 pcs
11. **DL-UNI30636** Plugs in the return drain channels - 2 pcs
12. **DL-UNI30293** Fitting 1/8"x8 (herringbone) for connecting cooling hoses - 2 pcs
13. **DL-UNI30218** High-pressure fitting M14 (1.5) x M14 (1.5) in a set with SHP15084 washers and gaskets - 2 pcs
14. **DL-UNI50271** Plug for high-pressure fitting - 2 pcs
15. **DL-SHP15084** Washer and gasket for pressure sensor - 1 pc







DL-UNI30828KIT

Bosch high-pressure filter adapter for testing CP2-CP4 pumps.
The adapter is installed in one of the two M14x1.5 holes in the rail.
Used with pressure accumulators (rails)
DL-CR31053, DL-CR30181, and DL-CR30522

The adapter has threaded holes:

- For a filter with a special M18x1.5 fitting (1 hole)
- For fluid supply M14x1.5 (2 holes on top)
- For connecting a pressure sensor M18x1.5 (1 hole)
- For connecting a safety valve M20x1.5 (1 hole)
- For pressure relief in case of excess pressure M5 (1 hole)

Delivery set:

1. **DL-UNI30828** Adapter housing - 1 pc.,
2. **DL-UNF21100** High-pressure filter - 1 pc.,
3. **DL-UNI30871** Special fitting for high-pressure filter M14xM18 - 1 pc.,
4. **DL-UNI30218** Fitting M14x1.5 - 2 pcs.,
5. **DL-SHP15084** Sealing washer - 3 pcs.,
6. **DL-UNI50271** Plug M14x1.5 - 1 pc.,
7. **34-RL01006M5** Straight fitting Ø 6 mm x M5 or 34-RL3106M5 angular fitting Ø 6 mm x M5.,
8. **DL-SHP15084** Washer-gasket for pressure sensor - 1 pc.

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-CR31049KIT

Pressure accumulator (rail) for testing injectors and cooled pumps (for 3 pressure regulators)

Pressure accumulator (rail) for testing
CP1, CP2, CP3, CP4, Delhi, Denso pumps and CR injectors
The rail has cooling channels for improved thermal stabilization during testing of Common Rail injectors and pumps.



Delivery set:

1. **DL-CR31049** HPressure accumulator for 3 pressure regulators
2. **DL-CR30497** Plug (M24x1.5mm) in place of the pressure regulator - 2 pcs.
3. **DL-UNI30162** Plug (M18x1.5mm) in place of the pressure sensor - 1 pc.
4. **DL-UNI30056** Fitting (1/2"x8mm) for cooling - 2 pcs.
5. **DL-UNI30020** Fitting (1/4"x8mm) for the return drain outlet from the pressure regulator - 3 pcs.
6. **DL-UNI31478** Fitting (M18x1.5mm x M14x1.5mm) for the turbojet engine - 3 pcs.
7. **DL-UNI50271** Plug for DL-UNI31478 fitting - 1 pc.
8. **DL-UNI30203** Cooling channel plugs (1/8") - 4 pcs.
9. **DL-UNI30635** Plug (M12x1.5) for rubber-metal washer - 1 pc.

ATTENTION! Regulators and pressure sensor are not included!

DL-UNI21042 Bracket-holder for pressure accumulator



DL-CR31514 Drain strip

Designed for use with the main pressure accumulator (rail) with three pressure regulators installed. This drain rail facilitates the connection of the drain hoses.

The **DL-CR31049** pressure accumulator is normally drained from each pressure regulator (PR). When using this rail, drainage occurs from a single fitting.



DL-CR31528 Drain strip

Designed for use with the main pressure accumulator (rail) with two pressure regulators installed. This drain rail facilitates the connection of drain hoses.

Normally, the **DL-CR31049** pressure accumulator drains from each pressure regulator (PR). When using this rail, drainage occurs from a single fitting.

EQUIPMENT FOR TESTING PUMPS AND INJECTORS





DL-CR31257KIT

Pressure accumulator (rail) for testing injectors and pumps with cooling (for 2 pressure regulators)

The rail has threaded holes for:

- connecting a pressure sensor (M18x1.5)
- connecting a pressure regulator (2 M24x1.5mm holes)
- connecting backflow fittings and plugs (4 1/8" holes)
- fittings for connecting a hose or tube for rail cooling and plugs (5 1/4" holes)
- high-pressure fluid supply and outlet from the rail (2 M24x1.5mm holes)
- high-pressure fluid supply and outlet from the side of the rail (2 M14x1.5mm holes)
- rail mounting (4 M8 blind holes)

Delivery set:

1.	**DL-CR31257**	Pressure accumulator for 2 pressure regulators
2.	**DL-CR30497**	Plug (M24x1.5mm) instead of pressure regulator (1 pc.)
3.	**DL-UNI30162**	Plug (M18x1.5mm) instead of pressure sensor (1 pc.)
4.	**DL-UNI30020**	Fittings (1/4"x8mm) for brake fluid inlet and outlet for cooling (2 pcs.)
5.	**DL-UNI30202**	Plug (1/4") for cooling channel (3 pcs.)
5.	**DL-UNI30293**	Fitting (1/8"x8mm) for return drain from RD (1 pc.)
6.	**DL-UNI30203**	Plug (1/8") for rubber gasket in return drain channel (1 pc.)
7.	**DL-UNI31082**	Plug (1/8") slotted in the return drain channel from the ends of the rail (2 pcs.)
6.	**DL-UNI31041**	Fitting (M24x1.5mm x M14x1.5mm) for the HPD (1 pc.)
7.	**DL-UNI31039**	Plug (M24x1.5mm) for the HPD channel (1 pc.)
8.	**DL-UNI31535**	Fitting (M14x1.5 x M14x1.5mm) for the HPD (2 pcs.)
9.	**DL-UNI50271**	Plug for the DL-UNI31535 fitting (1 pc.)

ATTENTION!
Regulators and pressure sensor not included!

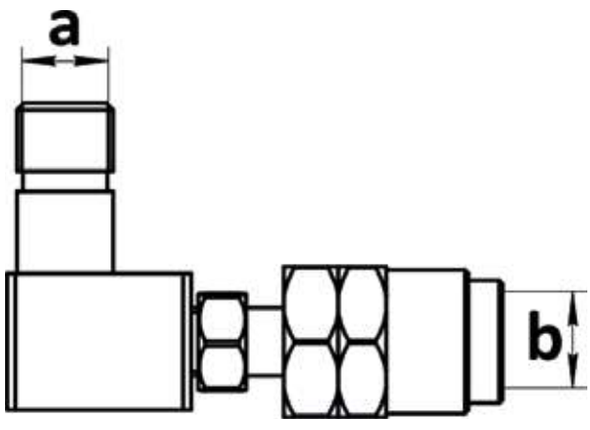


DL-UNI21041

Bracket-holder for pressure accumulator

EQUIPMENT FOR TESTING PUMPS AND INJECTORS

ANGLE ADAPTERS



Article	a (mm)	b (mm)
DL-UNI50278	M14 x 1,5	M14 x 1,5
DL-UNI50279	M14 x 1,5	M12 x 1,5
DL-UNI50280	M14 x 1,5	M16 x 1
DL-UNI50281	M14 x 1,5	M16 x 1,5
DL-UNI50282	M14 x 1,5	M18 x 1,5

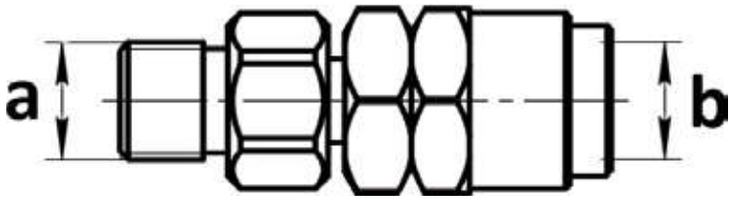


DL-UNI50283	M12 x 1,5	M14 x 1,5
DL-UNI50284	M12 x 1,5	M12 x 1,5
DL-UNI50285	M12 x 1,5	M16x1
DL-UNI50286	M12 x 1,5	M16x1,5
DL-UNI50287	M12 x 1,5	M18 x 1,5



EQUIPMENT FOR TESTING PUMPS AND INJECTORS

STRAIGHT ADAPTERS



Article	a (mm)	b (mm)
DL-UNI50288	M14 x 1,5	M14 x 1,5
DL-UNI50289	M14 x 1,5	M12 x 1,5
DL-UNI50290	M14 x 1,5	M16 x 1
DL-UNI50291	M14 x 1,5	M16 x 1,5
DL-UNI50292	M14 x 1,5	M18 x 1,5

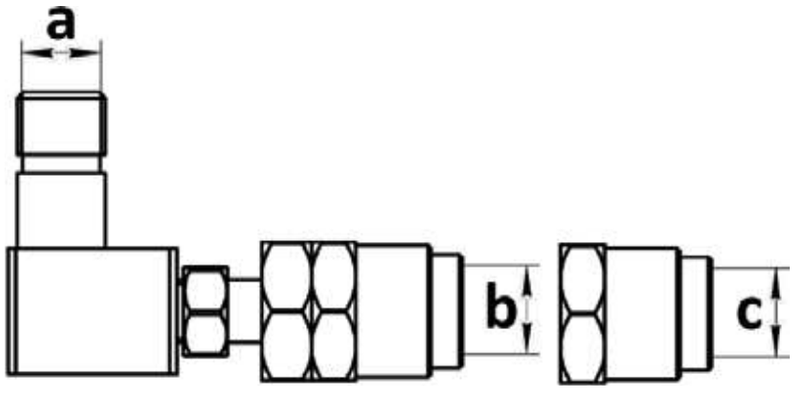


DL-UNI50293	M12 x 1,5	M14 x 1,5
DL-UNI50294	M12 x 1,5	M12 x 1,5
DL-UNI50295	M12 x 1,5	M16 x 1
DL-UNI50296	M12 x 1,5	M16 x 1,5
DL-UNI50297	M12 x 1,5	M18 x 1,5



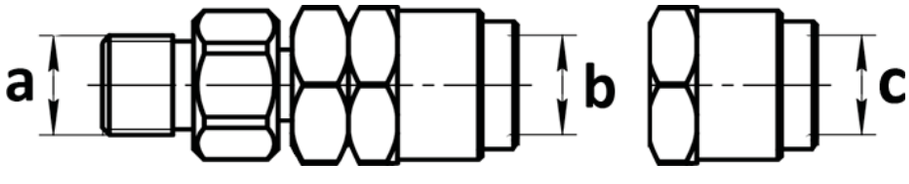
EQUIPMENT FOR TESTING PUMPS AND INJECTORS

ANGLE ADAPTERS WITH REPLACEMENT NUT



Article	a (mm)	b (mm)	c (mm)	
DL-UNI50084	M14 x 1,5	M12 x 1,5	M14 x 1,5	
DL-UNI50088	M12 x 1,5	M12 x 1,5	M14 x 1,5	

STRAIGHT ADAPTERS WITH REPLACEMENT NUT



Article	a (mm)	b (mm)	c (mm)	
DL-UNI50083	M14x1,5	M12x1,5	M14x1,5	
DL-UNI50087	M12x1,5	M12x1,5	M14x1,5	

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-UNI30980

Replacement nut from M16x1.0 to M18x1.5 for Bosch CR injector 0445120303(MB)



DL-UNI30981

Replacement nut from M16x1.5 to M18x1.5 for Bosch CP4 CR pumps 0445010637, 0445010506, 0445010512.



DL-UNI31398

Replacement nut from M18x1.5 to M18x1.5 for connection to the BOSCH EPS-815 / EPS-708 pressure accumulator











DL-UNI50175

Extended straight adapter
M14xM12 (1.5mm pitch) with internal cone

Used for installation on a pressure accumulator

Can be installed for testing
BOSCH PIEZO injectors.

EQUIPMENT FOR TESTING PUMPS AND INJECTORS





DL-UNI50055

Thread adapter
M14x1.5mm to M12x1.5mm
Included in delivery
adapter – 1 pc.





DL-UNI50056

Thread adapter
M12x1.5mm to M14x1.5mm
Included in delivery
adapter – 1 pc.





DL-UNI50276

Adapter from M14x1.5mm
thread to M14x1.5mm thread
Included in delivery: 1 adapter



DL-CR50121

DL-UNF2110 High Pressure Filter Adapter
Installs in place of the standard fitting in the pressure accumulator (Rail)
DL-CR30479, DL-CR30180, DL-CR30181, DL-CR30188, DL-CR30522, DL-CR30526.
Package Contents:
DL-CR30834 Adapter M14x1.5 (Male) x M18x1.5 (Female) - 1 pc.
Adapter body with M14x1.5 thread - 1 pc.

ATTENTION! The BOSCH DL-UNF2110 high pressure filter is not included in the package and must be ordered separately.



DL-CR50372

High-pressure filter adapter for turbochargers
Features a 60° cone on both ends for connecting conical high-pressure pipes from various manufacturers.
Has M14x1.5 x M14x1.5 connection threads.

Included in delivery:
DL-CR31757 adapter M14x1.5 (Male) x M18x1.5 (Female) - 1 pc.
DL-CR30835 adapter M14x1.5 (Male) x M18x1.5 (Male) - 1 pc.

ATTENTION! The BOSCH DL-UNF2110 high-pressure filter is not included in the delivery set and must be ordered separately!
This filter is recommended for installation in the high-pressure fuel system of diesel engines, in the high-pressure line from the fuel pump to the rail.

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-CR50374

High-pressure filter adapter for turbochargers
Features a 60° cone on both ends for connecting conical high-pressure pipes from various manufacturers.
Has M14x1.5 x M14x1.5 connecting threads.

Included in delivery:
DL-CR31757 adapter M14x1.5 (Male) x M18x1.5 (Female) - 1 pc.
DL-CR30835 adapter M14x1.5 (Male) x M18x1.5 (Male) - 1 pc.
BOSCH DL-UNF2110 high-pressure filter - 1 pc.

This filter is recommended for installation in the high-pressure line of diesel engines (injection pump ↔ Rail).



DL-UNI50363

3/8" Female x 3/8" Male Positioning Adapter

Included:
Adapter – 1 pc.
O-ring 27-014400 (8.1 x 1.6 mm) – 1 pc.



DL-UNI30650

Relief valve adapter for
pressure accumulator (Rail) DL-CR30188, DL-CR30180

Included in delivery:
Adapter – 1 pc.



DL-UNI30796

Adapter from M14 to M18 thread for installing a pressure sensor in pressure accumulators
DL-CR30479, DL-CR30180

Included in delivery: adapter – 1 pc.



DL-CR14014

Angle adapter from M14x1.5mm thread to M14x1.5mm thread. Convenient for connecting to high-pressure pumps, pressure accumulators (rails), and injectors.

Included in delivery: 1 adapter.



DL-CR14012

Angle adapter from M14x1.5mm thread to M12x1.5mm thread. Convenient for connecting to high-pressure pumps, pressure accumulators (rails), and injectors.

Included in delivery: 1 adapter.

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-UNI30287

Adapter with a G1/2" female thread for a 2000 bar pressure gauge. It has a M14x1.5 mm connection thread with a 60° cone for the high-pressure tube (HPT).

Included in delivery:
adapter – 1 pc.



DL-UNI30508

Adapter with M20x1.5mm internal thread for a 2500 bar pressure gauge. It has an M14x1.5mm connection thread with a 60° cone for the high-pressure tube (HPT).

Included in delivery:
adapter – 1 pc.



DL-SM

Pressure gauge washer



DL-CR14P2000

2000 bar pressure gauge



DL-CR14P2500

2500 bar pressure gauge

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-KM2000

Pressure gauge bracket for 2000 bar.
For rail DL-CR30181 and DL-CR30522

Included in delivery:
- bracket
- clamping bar
- M6x60 bolt, nuts, washers – 2k
- bolt M6x45, washers – 2k



DL-KM3000

2000 bar pressure gauge bracket
for mounting on the bench plate.

Included in delivery:
- Bracket
- Profile bolt with nut, washer, and lock washer
- Clamping plate
- M6x60mm bolt with nut, washer, and lock washer – 2 sets



DL-KM2500

2500bar pressure gauge bracket.

For DL-CR30181 and DL-CR30522 rails

Included in delivery:
- Main bracket
- Pressure gauge mounting ring
- M6x45 bolt, washers – 2 sets
- M6x30 bolt, washers – 2 sets
- M6x10mm bolt – 3 pcs.



DL-KM3500

2500bar pressure gauge bracket
for mounting on the bench plate

Included in delivery:
- Main bracket
- Pressure gauge mounting ring
- Profile bolt with nut, washer, and lock washer
- M6 x 30mm bolt with washer and lock washer – 2 sets
- M6 x 10mm bolt – 3 pcs.

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-CR10045

150 bar pressure sensor for compression tester DL-UNI20008



DL-CR10046

250 bar pressure sensor for compression tester DL-UNI20008



DL-CR10058

Bosch 1500 bar pressure sensor



DL-CR10059

Bosch 1500 bar pressure sensor



DL-CR10060

Bosch 1500 bar pressure sensor



DL-CR10050

Bosch 1800 bar pressure sensor



DL-CR10061

Bosch 1800 bar pressure sensor



DL-CR10052

Bosch 2200 bar pressure sensor



DL-CR10053

Bosch 2400 bar pressure sensor



DL-CR10062

Bosch 2400 bar pressure sensor



DL-CR10063

Bosch 2400 bar pressure sensor

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-CR10051

Bosch 1800 bar pressure regulator



DL-CR10064

Bosch 1800 bar pressure regulator



DL-CR10065

Bosch 1800 bar pressure regulator



DL-CR10054

Bosch 2200 bar pressure regulator



DL-CR10055

Bosch 2700 bar pressure regulator



DL-CR50344

30mm wrench for tightening the pressure regulator



DL-CR10056

Bosch 1800 bar pressure relief valve



DL-CR10066

Bosch 1800 bar pressure relief valve



DL-CR10057

Bosch 2400 bar pressure relief valve

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-MOK

Adapter-coupling with check valve Ø 6 mm
Connecting holes Ø 6 mm x Ø 6 mm
Length with clamps = 37 mm
Length without clamps = 33 mm
Diameter = 1.15 mm



DL-MOK-K

Quick-connect coupling with check valve, Ø 6 mm
Connection holes: Ø 6 mm x Ø 6 mm
Length with clamps = 49 mm
Length without clamps = 45 mm
Diameter = 13.8 mm



DL-MOK-KS

Quick-connect coupling with check valve Ø 6 mm
Connecting holes Ø 6 mm x Ø 6 mm
Length with clamps = 42.6 mm
Length without clamps = 37.3 mm
Diameter = 12.5 mm



DL-CR50120

Delphi injector back-up valve for coding (response time)



DL-CR50406

Back-up valve for DELPHI coding, thread G 1/8″



DL-CR50136

Return flow pressure valve for testing BOSCH electromagnetic injectors on a test bench



DL-CR50210

Return pressure valve for testing SIEMENS piezo injectors on a test bench



DL-CR50177

Return pressure valve for piezo injectors Bosch

EQUIPMENT FOR TESTING PUMPS AND INJECTORS







DL-CR50204

A pressure gauge kit for testing the return pressure of BOSCH Piezo injectors.

Testing is performed on the vehicle.
The pressure gauge is installed in a device with a hook that secures it above the engine compartment (e.g., under the hood).

Using this kit with the **DL-CR50177** pressure gauge valve allows you to monitor the correct operation of this valve when testing BOSCH Piezo injectors on a test bench.

Delivery set:

1.	**D-12-TV63-016**	Pressure gauge 0-16 bar
2.	**DL-CR31311**	Special adapter fitting for pressure gauge
3.	**DL-CR31310**	A nipple with a rubber seal for connection to the vehicle's return line.
4.	**DL-CR31285**	A fitting with a locking screw for installation in the backflow fitting of the injector
5.	**34-RL0506**	Tee with quick-release couplings 6 mm
6.	**34-RL010601**	Straight quick-release fitting 1/8x6mm – 2 pcs.
7.	**DL-CR50246**	Hanging bracket for installation in a suspended state
8.	**D-P1004**	Teflon tube – 100 cm

ATTENTION! Valve DL-CR50177 is not included in the delivery kit!

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-UNI30218

M14x1.5 x M14x1.5 nipple for pressure accumulator (Rail)



DL-UNI31498

M14x1.5 x M12x1.5 nipple for pressure accumulator (Rail)



DL-CR30493

Plug with external thread M20 x 1.5 instead of a pressure relief valve for a pressure accumulator (Rail)



DL-UNI30159

Heat-treated plug with external thread M24x1.5
in place of the pressure regulator for the pressure accumulator (Rail)



DL-UNI30162

Plug with external thread M18x1.5 instead of pressure sensor for pressure accumulator (Rail)



DL-UNI30636

Plug with external thread M12x1.5 for drain hole in pressure accumulator (Rail)



DL-UNI30529

Plug with external thread M14x1.5



DL-UNI50271 (CR30)

Plug with internal thread M14x1.5 for fitting
DL-UNI30218 for pressure accumulator (Rail)



DL-UNI50275

Plug with internal thread M12x1.5 for fitting
DL-UNI3021 for pressure accumulator (Rail)

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-UNI30003

Fitting M14x1.5 X M14x1.5 cone 60° for connecting two turboprop engines.



DL-UNI31589

Fitting M14x1.5 x M12x1.5 cone 60° for connecting two turboprop engines.



DL-UNI31592

Fitting M12x1.5 x M12x1.5 cone 60° for connecting two turboprop engines.



DL-UNI50312

A set of fittings and plugs for high-pressure fuel lines (HP)

Delivery set:

DL-UNI30003 Adapter for connecting tubes M14x1.5 x M14x1.5 mm. Conical on both ends for a tight fit with the tube cone.
DL-UNI31589 Adapter for connecting M14x1.5 x M12x1.5 mm tubes. Conical on both ends for a tight fit.
DL-UNI31592 Adapter for connecting M12x1.5 x M12x1.5 mm tubes. Conical on both ends for a tight fit.
DL-UNI31590 Plug M12x1.5 cone 60°
DL-UNI31591 Plug M14x1.5 cone 60°



DL-UNI31591

Plug M14x1.5 cone 60° for turbojet



DL-UNI31590

Plug M12x1.5 cone 60° for turbojet



DL-UNI50085

Adapter with external cone thread K 1/4 X K 1/4



DL-UNI50086

Adapter with external cone thread K 3/8 X K 3/8



DL-UNI50389

Adapter with external cone thread K 1/2 X K 1/2

EQUIPMENT FOR TESTING PUMPS AND INJECTORS



DL-TVD–S

High Pressure Tube
1000x14x14 mm, 1800 Bar



DL-TVD–K1000

High Pressure Tube 1000x14x14 mm
2500 Bar



DL-TVD–K830

High Pressure Tube 840x14x14 mm
2500 Bar



DL-TVD–K700

High Pressure Tube 700x14x14 mm
2500 Bar



DL-TVD–G

High Pressure Tube
650x14x14 mm, 2500 Bar



DL-TVD-M

High pressure metal tube

DL-TVD-M81412	(800)	M14xM12
DL-TVD-M81414	(800)	M14xM14
DL-TVD-M61412	(600)	M14xM12
DL-TVD-M61414	(600)	M14xM14



DL-TVD

High Pressure Tube for stands and equipment:

TVD31212 (300x12x12), TVD31214 (300x12x14), TVD31414 (300x14x14),
TVD41212 (400x12x12), TVD41214 (400x12x14), TVD41414 (400x14x14),
TVD51212 (500x12x12), TVD51214 (500x12x14), TVD51414 (500x14x14),
TVD61212 (600x12x12), TVD61214 (600x12x14), TVD61414 (600x14x14)

DL-CR50149

Комплект дооснащения стендов CR-Jet на давление 2400 бар



The set includes:

1. Rail plug – 4 pcs.
2. Plug instead of pressure regulator
3. Pressure sensor 2400 bar
4. Pressure regulator 2400 bar
5. Rail bracket
6. 1/8" x 1.5 fir-tree fitting – 2 pcs.
7. Quick adapter fitting M12x1.5 – 2 pcs.
8. Elbow fittings 8x8 – 2 pcs.
9. Fitting M14x M14 (pitch 1.5) – 4 pcs.
10. Teflon tube Ø 8 mm
11. Rail with cooling
12. Flange Ø 107 mm
13. Hose Ø 8 mm
14. Banjo 14.5x8 mm, banjo bolt M14x1.5 (for supplying brake fluid to the high-pressure fuel pump)
15. Rubber-metal gasket M14x1.5 – 2 pcs.
16. M14x1.5 nipple for backflow from the fuel injection pump
17. 14x1.5 rubber-metal gasket
18. M12x1.5 nipples – 3 pcs. (two for the fuel injection pump and one for draining from the rail)
19. M12 rubber-metal gasket
20. 13 mm clamp – 3 pcs.
21. Fuel injection pump

DL-CR50149

Retrofit kit for CR-Jet test benches for 2400 bar pressure without fuel injection pump

CRISTINA

The CRistina complex is designed for assembling COMMON RAIL BOSCH, DELPHI, and DENSO injectors using technology that allows for the calculation and selection of all necessary adjustment elements.

The system's hardware and software not only accurately measures the required dimensions but also diagnoses the injector solenoid's condition by measuring the winding's resistance and inductance.

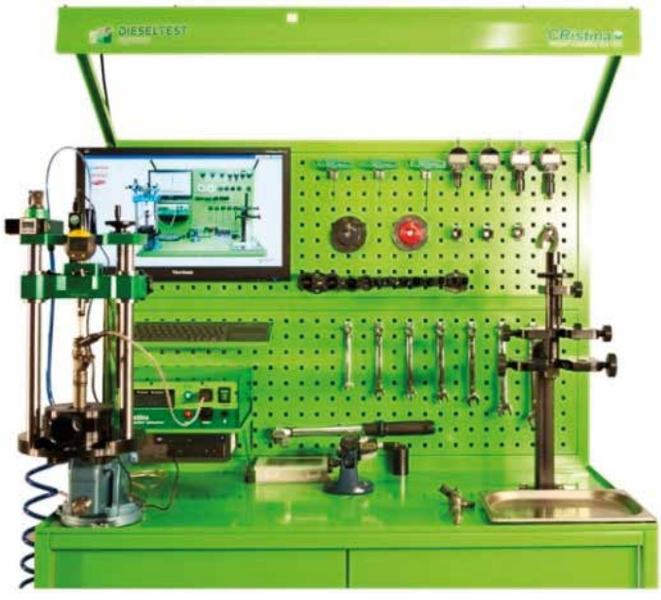
The system's software contains a detailed database of installation dimensions for most common COMMON RAIL injectors and a complete visualization of the assembly process, which helps avoid assembly errors and significantly reduce repair time.

To eliminate measurement errors, the CRistina system's design allows for precise and rigid positioning of the injector body, eliminating vibration and uncontrolled movement of the measured element relative to the measuring device.

Available in the following variants:

- **CRISTINA-BASE**
- **CRISTINA-BASE-F**
- **CRISTINA-FULL**
- **CRISTINA-PROF**
- **CRISTINA-PROF-FULL**
- **CRISTINA-SPECIAL**





CRISTINA-BASE

Delivery set:

1. **DL-CRN005** Tripod for measuring and adjusting injector parameters 1 set
2. **DL-KIP025** Digital indicator measuring head
3. **DL-KIP0028** Communication device for the measuring head
4. **DL-CRN50094** Set of measuring probes and adapters
5. **DL-CRN50099** A set of 4 adapters for measuring the clearances of BOSCH and DENSO injectors
6. **DL-CRistina** Valve stroke actuator with a set of cables including:
   - 220V power cable – 1 pc.
   - Main solenoid connection cable – 1 pc.
   - Adapter cable for passenger car injector – 1 pc.
   - Adapter cable for truck injector – 1 pc.
7. CRistina software
8. **DL-PASSCRistina** Passport (technical description, operating instructions)

NOTE: The special workbench table is not included.



CRISTINA-BASE-F

Delivery set:

1. **DL-CRN005** Tripod for measuring and adjusting injector parameters 1 set
2. **DL-ST01** Clamp for disassembling and assembling injector elements and measuring its parameters.
3. **DL-KIP025** Digital indicator measuring head
4. **DL-KIP0028** Communication device for the measuring head
5. **DL-CRN50094** Set of measuring probes and adapters
6. **DL-CRN50099** A set of 4 adapters for measuring the clearances of BOSCH and DENSO injectors
7. **DL-CRistina** Injector control signal activator in a large housing with a set of cables including:
   - 220V power cable – 1 pc.
   - Main solenoid connection cable – 1 pc.
   - Adapter cable for passenger car injector – 1 pc.
   - Adapter cable for truck injector – 1 pc.
8. PC with monitor and keyboard
9. CRistina software
10. **DL-PASSCRistina** Passport (technical description, operating instructions)

NOTE: The special workbench table is not included.



CRISTINA-FULL

Delivery set:

1. **DL-CRN005** Tripod for measuring and adjusting injector parameters 1 set
2. **DL-KIP025** Digital indicator measuring head
3. **DL-KIP0028** Communication device for the measuring head
4. **DL-CRN50094** Set of measuring probes and adapters
5. **DL-CRN50099** A set of 4 adapters for measuring the clearances of BOSCH and DENSO injectors
6. **DL-CRistina** Valve stroke actuator with a set of cables including:
   - 220V power cable – 1 pc.
   - Main solenoid connection cable – 1 pc.
   - Adapter cable for passenger car injector – 1 pc.
   - Adapter cable for truck injector – 1 pc.
7. PC with monitor and keyboard
8. CRistina software
9. **DL-PASSCRistina** Passport (technical description, operating instructions)
10. **DL-125** Vice L=125mm
11. **CR-NEXT-ST01** A special workbench with two drawers included:
    - Table with two drawers
    - Perforated wall for tool storage
    - Lighting ramp with two holders
    - Shelf for PC
    - Shelf for signal generator





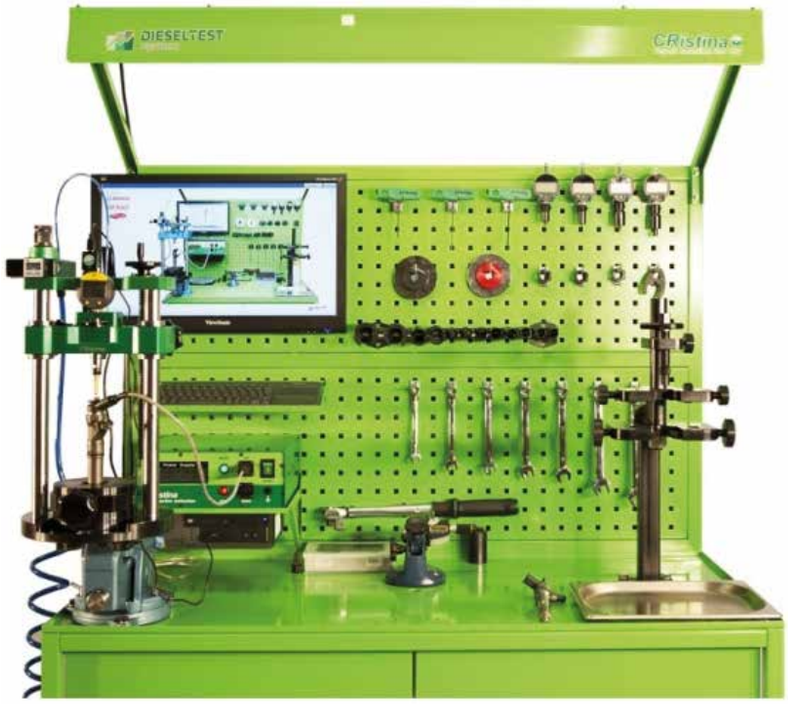
CRISTINA-PROF

Delivery set:

1. **DL-CRN005** Tripod for measuring and adjusting injector parameters 1 set
2. **DL-KIP025** Digital indicator measuring head
3. **DL-KIP0028** Communication device for the measuring head
4. **DL-CRN50094** Set of measuring probes and adapters
5. **DL-CRN50099** A set of 4 adapters for measuring the clearances of BOSCH and DENSO injectors
6. **DL-CRistina** Valve stroke actuator with a set of cables including:
   - 220V power cable – 1 pc.
   - Main solenoid connection cable – 1 pc.
   - Adapter cable for passenger car injector – 1 pc.
   - Adapter cable for truck injector – 1 pc.
7. CRistina software
8. **DL-PASSCRistina** Passport (technical description, operating instructions)
9. **D-MV200UM** Electron microscope
10. **D-07147122** Torque wrench 1/2" 20-100 Nm
11. **DL-CR50104** Support ring kit
12. **DL-UNI30390** CR injector solenoid removal key with 30mm hexagon.
13. **DL-UNI30389** CR injector solenoid removal key with 29mm hexagon.
14. **DL-UNI30435** CR injector solenoid removal key with 28 mm twelve-sided socket.
15. **DL-UNI30434** CR injector solenoid removal key with 27mm twelve-sided socket.
16. **DL-UNI50046** A 3-prong wrench for removing the nut in the electronic part of DENSO injectors.
17. **DL-UNI30545** Siemens DL-UNI30545 injector electronic nut removal tool
18. **DL-UNI50050** A set of wrenches for removing the nozzle nut (14mm, 15mm, 17mm, 19mm hex keys, 16mm and 17.5mm octagon keys, and a 27mm wrench)
19. **DL-CR30561** Key for dismantling the Bosch CR injector multiplier nut, 10 mm hex.
20. **DL-UNI31010** Key for removing the nut in the electronic part of Bosch injectors, 10 mm.

21. **DL-UNI31012** Key for removing the nut in the electronic part of Bosch injectors, 12 mm.
22. **DL-AP2** Set of 2 antimagnetic tweezers.
23. **DL-08CR5-244** Adjusting washers 55 pcs.
24. **DL-09CR5-219** Adjusting washers 55 pcs.
25. **DL-11CR5-236** Adjusting washers 55 pcs.
26. **DL-12CR5-230** Adjusting washers 130 pcs.
27. **DL-16CR5-232** Adjusting washers 60 pcs.
28. **DL-18CR5-271** Adjusting washers 55 pcs.
29. **DL-19CR5-273** Adjusting washers 55 pcs.
30. **DL-25CR5-288** Adjusting washers 55 pcs.
31. **DL-28CR5-287** Adjusting washers 110 pcs.

NOTE: The special workbench table is not included.



CRISTINA-PROF-FULL

Delivery set:

1. **DL-CRN005** Tripod for measuring and adjusting injector parameters 1 set
2. **DL-KIP025** Digital indicator measuring head
3. **DL-KIP0028** Communication device for the measuring head
4. **DL-CRN50094** Set of measuring probes and adapters
5. **DL-CRN50099** A set of 4 adapters for measuring the clearances of BOSCH and DENSO injectors
6. **DL-CRistina** Valve stroke actuator with a set of cables including:
   - 220V power cable – 1 pc.
   - Main solenoid connection cable – 1 pc.
   - Adapter cable for passenger car injector – 1 pc.
   - Adapter cable for truck injector – 1 pc.
7. CRistina software
8. **DL-PASSCRistina** Passport (technical description, operating instructions)
9. **D-MV200UM** Electron microscope
10. **D-07147122** Torque wrench 1/2" 20-100 Nm
11. **DL-CR50104** Support ring kit
12. **DL-UNI30390** CR injector solenoid removal key with 30mm hexagon.
13. **DL-UNI30389** CR injector solenoid removal key with 29mm hexagon.
14. **DL-UNI30435** CR injector solenoid removal key with 28 mm twelve-sided socket.
15. **DL-UNI30434** CR injector solenoid removal key with 27mm twelve-sided socket.
16. **DL-UNI50046** A 3-prong wrench for removing the nut in the electronic part of DENSO injectors.
17. **DL-UNI30545** Siemens DL-UNI30545 injector electronic nut removal tool
18. **DL-UNI50050** A set of wrenches for removing the nozzle nut (14mm, 15mm, 17mm, 19mm hex keys, 16mm and 17.5mm octagon keys, and a 27mm wrench)
19. **DL-CR30561** Key for dismantling the Bosch CR injector multiplier nut, 10 mm hex.
20. **DL-UNI31010** Key for removing the nut in the electronic part of Bosch injectors, 10 mm.

21. **DL-UNI31012** Key for removing the nut in the electronic part of Bosch injectors, 12 mm.
22. **DL-AP2** Set of 2 antimagnetic tweezers.
23. **DL-08CR5-244** Adjusting washers 55 pcs.
24. **DL-09CR5-219** Adjusting washers 55 pcs.
25. **DL-11CR5-236** Adjusting washers 55 pcs.
26. **DL-12CR5-230** Adjusting washers 130 pcs.
27. **DL-16CR5-232** Adjusting washers 60 pcs.
28. **DL-18CR5-271** Adjusting washers 55 pcs.
29. **DL-19CR5-273** Adjusting washers 55 pcs.
30. **DL-25CR5-288** Adjusting washers 55 pcs.
31. **DL-28CR5-287** Adjusting washers 55 pcs.
32. **DL-125** Vice L=250 mm
33. **CR-NEXT-ST01** A special workbench with two drawers included:
    - Table with two drawers
    - Perforated wall for tool storage
    - Lighting ramp with two holders
    - Shelf for PC
    - Shelf for signal generator
34. PC with monitor and keyboard
35. **DL-KIP010** Digital measuring head 0.01 mm, stroke 12.7 mm (1 pc.)
36. **DL-KIP011** Digital measuring heads 0.001 mm, stroke 12.7 mm (2 pcs.)
37. **DL-KIP012** Digital measuring head 0.001 mm, stroke 25.4 mm (1 pc.)
38. **DL-ST-01** Clamp for disassembling and assembling injectors.



CRISTINA-SPECIAL

Delivery set:

1. **DL-CRN005** Tripod for measuring and adjusting injector parameters 1 set
2. **DL-KIP025** Digital indicator measuring head
3. **DL-KIP0028** Communication device for the measuring head
4. **DL-CRN50094** Set of measuring probes and adapters
5. **DL-CRN50099** A set of 4 adapters for measuring the clearances of BOSCH and DENSO injectors
6. **DL-CRistina** Valve stroke actuator with a set of cables including:
   - 220V power cable – 1 pc.
   - Main solenoid connection cable – 1 pc.
   - Adapter cable for passenger car injector – 1 pc.
   - Adapter cable for truck injector – 1 pc.
7. CRistina software
8. **DL-PASSCRistina** Passport (technical description, operating instructions)
9. **D-MV200UM** Electron microscope
10. **D-07147122** Torque wrench 1/2" 20-100 Nm
11. **DL-CR50104** Support ring kit
12. **DL-UNI30390** CR injector solenoid removal key with 30mm hexagon.
13. **DL-UNI30389** CR injector solenoid removal key with 29mm hexagon.
14. **DL-UNI30435** CR injector solenoid removal key with 28 mm twelve-sided socket.
15. **DL-UNI30434** CR injector solenoid removal key with 27mm twelve-sided socket.
16. **DL-UNI50046** A 3-prong wrench for removing the nut in the electronic part of DENSO injectors.
17. **DL-UNI30545** Siemens DL-UNI30545 injector electronic nut removal tool
18. **DL-UNI50050** A set of wrenches for removing the nozzle nut (14mm, 15mm, 17mm, 19mm hex keys, 16mm and 17.5mm octagon keys, and a 27mm wrench)
19. **DL-CR30561** Key for dismantling the Bosch CR injector multiplier nut, 10 mm hex.
20. **DL-UNI31010** Key for removing the nut in the electronic part of Bosch injectors, 10 mm.

21. **DL-UNI31012** Key for removing the nut in the electronic part of Bosch injectors, 12 mm.
22. **DL-AP2** Set of 2 antimagnetic tweezers.
23. **DL-08CR5-244** Adjusting washers 55 pcs.
24. **DL-09CR5-219** Adjusting washers 55 pcs.
25. **DL-11CR5-236** Adjusting washers 55 pcs.
26. **DL-12CR5-230** Adjusting washers 130 pcs.
27. **DL-16CR5-232** Adjusting washers 60 pcs.
28. **DL-18CR5-271** Adjusting washers 55 pcs.
29. **DL-19CR5-273** Adjusting washers 55 pcs.
30. **DL-25CR5-288** Adjusting washers 55 pcs.
31. **DL-28CR5-287** Adjusting washers 110 pcs.
32. **DL-125** Vice L=125 mm
33. **CR-NEXT-ST01** A special workbench table with two drawers included:
    - Desk with two drawers
    - Perforated wall for tool storage
    - Lighting ramp with two holders
    - Shelf for PC
    - Shelf for signal generator
34. PC with monitor and keyboard
35. **DL-KIP010** Digital measuring head 0-12.7 mm, 0.01 µm (1 pc.)
36. **DL-KIP011** Digital measuring head 0-12.7 mm, 0.001 µm (2 pcs.)
37. **DL-KIP012** Digital measuring head 0-25.4 mm, 0.001 µm (1 pc.)
38. **DL-ST-01** Clamp for disassembling and assembling injectors
39. **DL-CRN50113** Set of angle gauges for checking the tightening of the nozzle nut
40. **D-1012020001** Stainless steel bath
41. **DL-M035** Digital micrometer
42. **DL-M040** Micrometer stand
43. **D-07147120** Torque wrench 1/4"-1/2" with a force of 1-25 Nm
44. **DL-TX10** T-shaped key Tx10
45. **DL-TX25** T-shaped key 2.5 mm
46. **DL-TX30** T-shaped key 3 mm

47.	**DL-UNI31113**	13 mm hexagon socket wrench
48.	**DL-UNI31114**	14mm hexagon socket wrench
49.	**DL-UNI31115**	15 mm hexagon socket wrench
50.	**DL-UNI31119**	19 mm hexagon socket wrench
51.	**DL-CR50052**	Device for filling the hydraulic compensator of the Bosch piezo injector.
52.	**DL-UNI50043**	Universal fixture for clamping CR injectors in a vice.
53.	**DL-UNI50032**	Universal fixture for clamping CR DENSO injectors in a vice.
54.	**DL-1219KIT**	Set of open-end wrenches 10 mm,12 mm,13 mm,14 mm,15 mm,17 mm,19 mm
55.	**DL-UNI30776**	1/4" to 1/2" adapter for torque wrench

For an additional fee: DL-UNI31117 Hex key, extended, 17 mm.





DL-CRN50134

Tabletop stand for CR-CRistina tripod

Delivery set:

- **CRN30918** base – 1 pc.
- **CRN30919** stand – 4 pcs.
- **DIN912** M8x25 Allen bolt – 8 pcs.





DL-1019KIT

Set of open-end and ring spanners:

Included in delivery:

- **DL-UNI31210** - 10 mm
- **DL-UNI31212** - 12 mm
- **DL-UNI31213** - 13 mm
- **DL-UNI31214** - 14 mm
- **DL-UNI31215** - 15 mm
- **DL-UNI31217** - 17 mm
- **DL-UNI31219** - 19 mm



DL-PNP08

Pneumatic press
for pressing in the restrictor sleeve
and magnetic gap adjusting washer of Bosch
Common Rail injectors with a pressure range of 0-8 bar.

Delivery set:

- pneumatic press
- **DL-CRN30914** adapter
- **DL-CRN30921** pusher
- **DL-CRN30915** adapter
- **DL-CRN30920** pusher



DL-CRN30915
adapter

DL-CRN30920
Pneumatic press pusher



DL-CRN30914
adapter

DL-CRN30921
Pneumatic press pusher



DL-CRNRLS02

Adapter kit for a pneumatic press

Delivery set:

- **DL-CRN30914** adapter
- **DL-CRN30921** pusher
- **DL-CRN30915** adapter
- **DL-CRN30920** pusher

DL-CRTOOLKIT-22 CR injector repair tool kit



1	**DL-CR50104**	Removal/installation kit for the support ring
2	**DL-UNI30390**	CR injector solenoid removal tool with a 30 mm hexagon
3	**DL-UNI30389**	CR injector solenoid removal tool with a 29 mm hexagon
4	**DL-UNI30435**	CR injector solenoid removal tool with a 28 mm bi-lateral hexagon
5	**DL-UNI30434**	CR injector solenoid removal tool with a 27 mm bi-lateral hexagon
6	**DL-UNI50046**	3-prong wrench for removing the nut in the electronic part of Denso injectors
7	**DL-UNI30545**	Wrench for removing the nut in the electronic part of Siemens injectors
8	**DL-UNI50050**	Set of wrenches for removal: 14, 15, 17, 19 mm hexagons, 16, 17.5 mm octagons, and a 27 mm wrench for a torque handle
9	**DL-CR30561**	Bosch CR injector multiplier nut removal tool, hexagon 10 mm Bosch Injector
10	**DL-UNI31010**	Electronic Nut Removal Wrench
11	**DL-UNI31012**	12 mm Bosch Injector Electronic Nut Removal Wrench
12	**DL-AP2**	Set of 2 DL-AP2 Antimagnetic Tweezers
13	**DL-UNI31110**	T-Shaped Wrench Tx10
14	**DL-UNI31125**	T-Shaped Wrench 2.5 mm
15	**DL-UNI31130**	T-Shaped Wrench 3 mm
16	**DL-UNI31113**	13 mm Allen Key
17	**DL-UNI31114**	14 mm Allen Key
18	**DL-UNI31115**	15 mm Allen Key
19	**DL-UNI31119**	19 mm Allen Key
20	**DL-CR50052**	Bosch Piezo Injector Compensator Filler Tool
21	**DL-UNI50043**	Universal Clamping Tool for CR Injectors
22	**DL-UNI50032**	Universal Clamping Tool for Denso CR Injectors

DL-CRTOOLKIT-12 CR injector repair tool kit



1	**DL-CR50104**	Removal/installation kit for the support ring
2	**DL-UNI30390**	CR injector solenoid removal tool with a 30 mm hexagon
3	**DL-UNI30389**	CR injector solenoid removal tool with a 29 mm hexagon
4	**DL-UNI30435**	CR injector solenoid removal tool with a 28 mm bi-lateral hexagon
5	**DL-UNI30434**	CR injector solenoid removal tool with a 27 mm bi-lateral hexagon
6	**DL-UNI50046**	3-prong wrench for removing the nut in the electronic part of Denso injectors
7	**DL-UNI30545**	Wrench for removing the nut in the electronic part of Siemens injectors
8	**DL-UNI50050**	Set of wrenches for removal: 14, 15, 17, 19 mm hexagons, 16, 17.5 mm octagons, and a 27 mm wrench for a torque handle
9	**DL-CR30561**	Bosch CR injector multiplier nut removal tool, hexagon 10 mm wrench for
10	**DL-UNI31010**	removing the nut in the electronic part of Bosch injectors
11	**DL-UNI31012**	12 mm wrench for removing the nut in the electronic part of Bosch injectors
12	**DL-AP2**	Set of 2 DL-AP2 antimagnetic tweezers



DL-DEN00090

**Set of wrenches
for repairing DENSO injectors**

Delivery set:

1	**DL-CR31715**	DENSO Nozzle Nut Wrench 5471 08K125157032
2	**DL-CR31668**	27mm extended 1/2 wrench for installing/removing solenoids of DENSO injectors
3	**DL-CR31667**	27mm 1/2 wrench for installing/removing solenoids of DENSO injectors
4	**DL-CR31093**	Wrench for removing solenoids of DENSO, CAT, PERKINS injectors
5	**DL-CR31095**	Wrench for installing/removing inner ring-nut of Denso, CAT, Perkings injectors
6	**DL-CR31092**	7/8 Allen key for installing/removing inner ring nut of solenoid of CR Denso injectors. 1/2" Square Drive
7	**DL-UNI30460**	14mm Allen Key with Flange
8	**DL-UNI50046**	Three-Pin Key for Disassembling and Assembling Denso Injectors
9	**DL-UNI30382**	27mm Allen Key with Square Hole for Torque Handle or 1/2" Wrench



DL-DEN00100

**A set of wrenches and tools
for repairing DENSO injectors**

Delivery set:

1	**DL-CR31715**	DENSO Nozzle Nut Wrench 5471 08K125157032
2	**DL-CR31668**	27mm extended 1/2 wrench for installing/removing solenoids of DENSO injectors
3	**DL-CR31667**	27mm 1/2 wrench for installing/removing solenoids of DENSO injectors
4	**DL-CR31093**	Wrench for removing solenoids of DENSO, CAT, PERKINS injectors
5	**DL-CR31095**	Wrench for installing/removing inner ring-nut of Denso, CAT, Perkings injectors
6	**DL-CR31092**	Hex key 7/8 for installing/removing the inner ring nut of the solenoid of CR Denso injectors. 1/2" Square Drive
7	**DL-UNI30460**	14mm Allen Key with Flange
8	**DL-UNI50046**	Three-Pin Key for Disassembling and Assembling Denso Injectors
9	**DL-UNI50032**	Universal Vise Clamp for Denso CR Injectors
10	**DL-UNI30382**	27mm Allen Key with Square Hole for Torque Handle or 1/2" Wrench

DL-DEN00110

**A set of wrenches and tools
for repairing DENSO injectors**





Delivery set:

1	**DL-CR31715**	DENSO Nozzle Nut Wrench 5471 08K125157032
2	**DL-CR31668**	27mm extended 1/2 wrench for installing/removing solenoids of DENSO injectors
3	**DL-CR31667**	27mm 1/2 wrench for installing/removing solenoids of DENSO injectors
4	**DL-CR31093**	Wrench for removing solenoids of DENSO, CAT, PERKINS injectors
5	**DL-CR31095**	Wrench for installing/removing inner ring-nut of Denso, CAT, Perkings injectors
6	**DL-CR31092**	Hex key 7/8 for installing/removing the inner ring nut of the solenoid of CR Denso injectors. 1/2" Square Drive
7	**DL-UNI30460**	14mm Allen Key with Flange
8	**DL-UNI50046**	Three-Pin Key for Disassembling and Assembling Denso Injectors
9	**DL-UNI50032**	Universal Vise Clamp for Denso CR Injectors
10	**DL-CR50245**	DENSO CR Injector Filter Removal and Installation Kit
11	**DL-UNI30382**	27mm Allen Key with Square Hole for Torque Handle or 1/2" Wrench

CRN-50250 Set of probes and adapters

DL-CRN50099 Set of adapters for injectors:



DL-CRN30027



DL-CRN30028

Needle Stroke Adapter
BOSCH, Excess Stroke Adapter
BOSCH CRI 2.0/2.2



DL-CRN30029



DL-CRN30030

BOSCH Magnetic Gap Adapter CRI 1,
CRI 2.0/2.2, CRIN 1/1.6.



DL-CRN30031



DL-CRN30032

Magnetic gap adapter for injectors
BOSCH CR1 2.1



DL-CRN30033



DL-CRN30034

Injector Overrun Adapter
Denso

DL-CRN50094 Set of measuring probes:



DL-CRN50113 **Set of angle gauges for checking the tightening of the nozzle nut**

Delivery set:



DL-CRN50107

Angle gauge for injectors with a nozzle nut diameter of 17 mm

Angle range: 0° – 360°



DL-CRN50110

Angle gauge for injectors with a nozzle nut diameter of 19 mm

Angle range: 0° – 360°



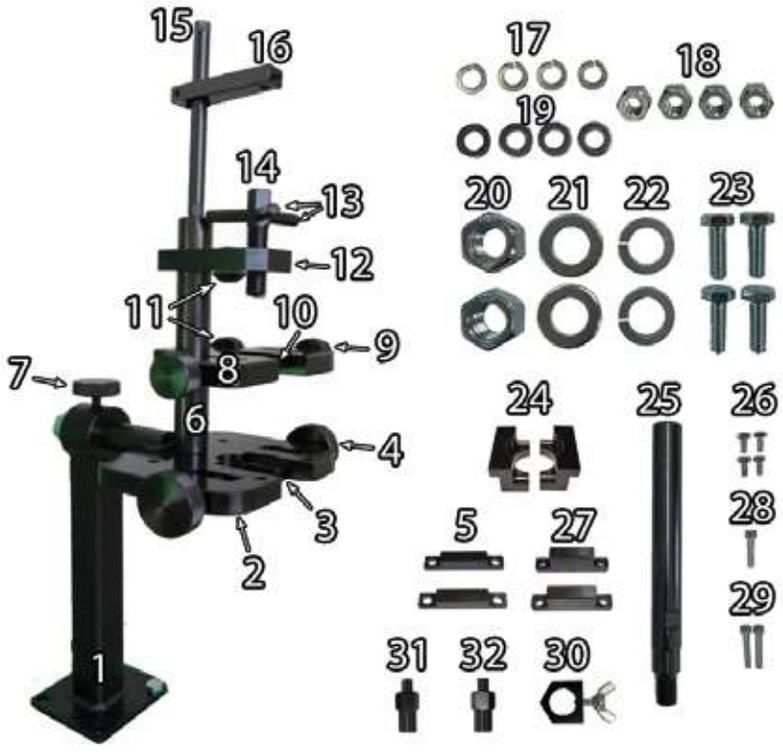
DL-CRN50108

Angle gauge for injectors with a nozzle nut diameter of 21 mm

Angle range: 0° – 360°



All protractors are also sold separately.



DL-ST01

Clamp for disassembling and assembling CR injectors and truck unit injectors

Delivery set:

1.	**STD50115**	Stand – 1 pc.	**18.**	–	Nut M10 – 4 pcs.
2.	**STD50116**	Large Vise – 1 pc.	**19.**	–	Washer 10.5x20x2 – 4 pcs.
3.	**STD30586**	Large Vise Clamp – 2 pcs.	**20.**	–	Nut M20 – 2 pcs.
4.	**STD30569**	Large Vise Locking Handle – 2 pcs.	**21.**	–	Washer 21x37x3 – 2 pcs.
5.	**STD30498**	Replaceable Clamping Foot – 2 pcs.	**22.**	–	Grover 20 – 2 pcs.
6.	**STD30540**	Guide Post – 1 pc.	**23.**	–	Bolt M10x30 – 4 pcs.
7.	**STD30846**	Locking Handle, Ø 50 mm – 1 pc.	**24.**	**STD30752**	Replaceable clamping tab
8.	**STD50117**	Small Vise – 1 pc.			for Denso injectors – 2 pcs.
9.	**STD30500**	Small Vise Handle – 2 pcs.	**25.**	**STD30873**	Sight pin – 1 pc.
10.	**STD30563**	"V" Clamping Handle for	**26.**	**Screw M4x8**	– 4 pcs.
		Small Vise – 2 pcs.	**27.**	**STD31172**	Replaceable clamping tab
11.	**STD30468**	Locking Handle, Ø 35 mm – 2 pcs.			(with increased height) – 2 pcs.
12.	**STD30610**	Bracket – 1 pc.	**28.**	–	Screw M4x16 – 1 pc.
13.	**STD30811**	Clamp Screw Handles – 3 pcs.	**29.**	–	Screw M4x20 – 2 pcs.
14.	**STD30810**	Clamp Screw – 1 pc.	**30.**	**STD30874**	Sight for protractor – 1 pc.
15.	**STD30812**	Axle – 1 pc.	**31.**	**STD30147**	Stop Ø9 mm, for clamping
16.	**STD30813**	Holder – 1 pc.			screw pos. 14 – 1 pc.
17.	–	Grover Washer, 10mm – 4 pcs.	**32.**	**STD30148**	Stop Ø7 mm, for clamping
					screw pos. 14 – 1 pc.

SPARE PARTS FOR CLAMP DL-ST01



DL-STD30498

Replaceable presser foot (standard) (set of 2)





DL-STD31172

Replaceable presser foot (with increased height) (set of 2)



DL-STD30586

Large vice jaw



DL-STD30563

V-shaped clamp for small vices



DL-STD30752

Replacement pressure pad for Denso injectors (set of 2)



ADDITIONAL EQUIPMENT FOR CLAMP DL-ST01

DL-STD50072 KIT

Set of holders for single pump sections (PLD sections) and Audi/VW unit injectors (DL-STD50070 K, DL-STD50071 K)



DL-STD50070 K

Single Pump Section Holder Set (PLD Sections)

Included in delivery:

1	STD-50077	AT holder
2	STD-50078	AC holder
3	STD-30671	bar
4	STD-30672	stand
5	STD-30673	stop
6	screw GOST 11738-84 M10x60 - 2 pcs.	



DL-STD50071 K

Unit injector holder kit Audi/VW

Included in delivery:

1	STD-50009	VW2.0 clamp
2	STD-50010	VW1.9 clamp
3	STD-30656	bar
4	STD-30657	post - 2 pcs.
5	STD-30678	stop
6	STD-30658	bolt
7	STD31245	shortened post UIS - 2 pcs.



DL-STD30874

Sight for an angle meter



DL-STD30873

Axis under the sight



DL-CR50341

A bracket with an adapter for measuring the valve stroke of BOSCH piezo injectors is used during their assembly.

The kit includes:
DL-CR31201 adapter
DL-CR31206 measuring probe.



DL-CR50340

The adapter bracket for measuring the valve stroke of BOSCH piezo injectors is used during their assembly.

DL-CR31201 adapter
DL-CR31206 feeler gauge are not included in the delivery kit.



ADDITIONAL EQUIPMENT FOR CLAMP DL-ST01





DL-STD50206

AUDI/VW 1.9 unit injector holder
for adjusting the solenoid on a clamp
ST-01/ST-02





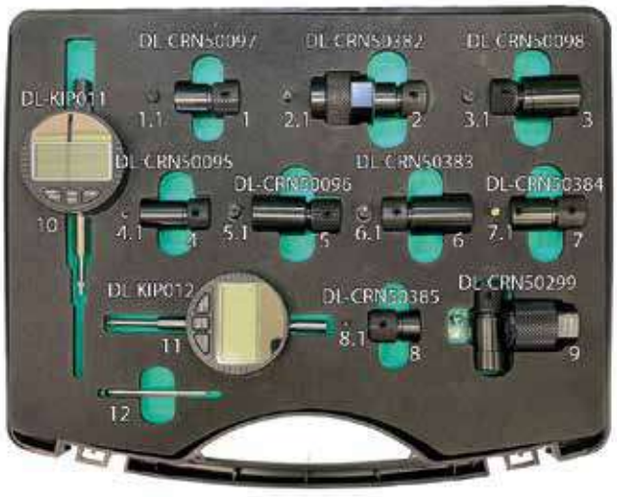


DL-STD50207

AUDI/VW 2.0 unit injector holder
for adjusting the solenoid on a clamp
ST-01/ST-02



DL-CRN50091 A set of adapters with measuring probes and digital indicators



A set of adapters with digital indicators for measuring mounting clearances and the stroke of the injector needle and valve of CR injectors.

The kit consists of nine adapters complete with measuring probes, two digital indicators, and Allen keys.

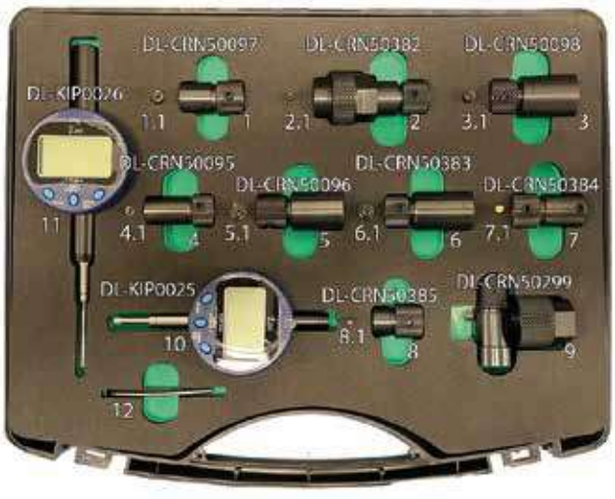
The set includes:

1. **DL-CRN50097** — **DL-CRN30031** adapter with **DL-CRN30032** feeler gauge for measuring the magnetic gap of BOSCH CRI 2.1 injectors
2. **DL-CRN50382** — **DL-CRN50089** adapter with **DL-CRN30708** feeler gauge for measuring the valve lift for BOSCH CRI 1, CRI 2.0/2.2, CRIN 1/1.6 injectors
3. **DL-CRN50098** — **DL-CRN30033** adapter with **DL-CRN30034** feeler gauge for measuring excess lift for Denso injectors
4. **DL-CRN50095** — **DL-CRN30027** adapter with feeler gauge **DL-CRN30028** for measuring the stroke of the BOSCH injector needle, excess stroke adapter BOSCH CRI 2.0 / 2.2
5. **DL-CRN50096** - Adapter **DL-CRN30029** with a measuring probe **DL-CRN30030** for measuring the magnetic gap for BOSCH CRI 1, CRI 2.0 / 2.2, CRIN 1 / 1.6, excess stroke adapter BOSCH CRI 2.0 / 2.2
6. **DL-CRN50383** - Adapter **DL-CRN3070** 5 with a measuring probe **DL-CRN30706** for measuring the valve stroke for BOSCH CRI 2.1 injectors indirect measurement
7. **DL-CRN50384** - Adapter **DL-CRN30707** with a measuring probe **DL-CRN50007** for measuring the valve stroke for BOSCH CRI 2.1 injectors, direct measurement
8. **DL-CRN50385** — **DL-CRN30709** adapter with **DL-CRN30710** measuring probe for measuring the nozzle spring and anchor spring for BOSCH injectors
9. **DL-CRN50299** — **DL-CRN50299** * adapter, uses **DL-CRN30708** * measuring probe No. 2.1 for measuring the valve stroke and excess stroke of BOSCH CRIN 2, CRIN 3 injectors
10. **DL-KIP0011** Digital indicator 0-12.7 mm, 0.001 mm
11. **DL-KIP0012** Digital indicator 0-25.4 mm, 0.001 mm
12. Allen keys: L-shaped 2.5 mm, L-shaped 1.5 mm
13. **DL-ORG50091** Organizer in a container

ATTENTION! Adapter No. 9 — DL-CRN50299 uses measuring probe 2.1 — DL-CRN30708.

Kit components are also supplied separately.

DL-CRN50092 Adapter kit for measuring clearances, needle stroke, and valve travel of CR injectors



A set of adapters with digital indicators (PC-compatible) for measuring mounting clearances and the stroke of the injector needle and valve of CR injectors.

The kit consists of nine adapters complete with measuring probes, two digital indicators, and Allen keys.

The set includes:

1. **DL-CRN50097** — **DL-CRN30031** adapter with **DL-CRN30032** feeler gauge for measuring the magnetic gap of BOSCH CRI 2.1 injectors
2. **DL-CRN50382** — **DL-CRN50089** adapter with **DL-CRN30708** feeler gauge for measuring the valve lift for BOSCH CRI 1, CRI 2.0/2.2, CRIN 1/1.6 injectors
3. **DL-CRN50098** — **DL-CRN30033** adapter with **DL-CRN30034** feeler gauge for measuring excess lift for Denso injectors
4. **DL-CRN50095** — **DL-CRN30027** adapter with feeler gauge **DL-CRN30028** for measuring the stroke of the BOSCH injector needle, excess stroke adapter BOSCH CRI 2.0 / 2.2
5. **DL-CRN50096** - Adapter **DL-CRN30029** with a measuring probe **DL-CRN30030** for measuring the magnetic gap for BOSCH CRI 1, CRI 2.0 / 2.2, CRIN 1 / 1.6, excess stroke adapter BOSCH CRI 2.0 / 2.2
6. **DL-CRN50383** - Adapter **DL-CRN30705** with a measuring probe **DL-CRN30706** for measuring the valve stroke for BOSCH CRI 2.1 injectors indirect measurement
7. **DL-CRN50384** - Adapter **DL-CRN30707** with a measuring probe **DL-CRN50007** for measuring the valve stroke for BOSCH CRI 2.1 injectors, direct measurement
8. **DL-CRN50385** — **DL-CRN30709** adapter with **DL-CRN30710** measuring probe for measuring the nozzle spring and anchor spring for BOSCH injectors
9. **DL-CRN50299** — **DL-CRN50299** * adapter, uses **DL-CRN30708** * measuring probe No. 2.1 for measuring the valve stroke and excess stroke of BOSCH CRIN 2, CRIN 3 injectors
10. **DL-KIP0025** Digital indicator with PC connectivity, 0-12.7 mm, 0.001 mm
11. **DL-KIP0026** Digital indicator with PC connectivity, 0-25.4 mm, 0.001 mm
12. Allen keys: L-shaped 2.5 mm, L-shaped 1.5 mm
13. **DL-ORG50091** Organizer in a container

ATTENTION! Adapter No. 9 — DL-CRN50299 uses measuring probe 2.1 — DL-CRN30708.

Kit components are also supplied separately.



DL-CRN50299

Adapter for measuring valve lift and excess lift for CRIN 2/3 injectors

Included in delivery:

DL-CR31555	Adapter housing — 1 pc
DL-CR31527	Adapter nut — 1 pc
DL-CRN30708	Measuring probe — 1 pc
DL-CR31556	Anchor retaining sleeve — 1 pc



DL-CRN50299KIT

Valve lift and overtravel measurement kit CRIN 2 / CRIN 3with detachable and non-detachable anchors

Delivery set:

- **DL-KIP012** Digital Indicator Head — 1 pc
- **DL-CR31555** Adapter Housing — 1 pc
- **DL-CR31527** Adapter Nut — 1 pc
- **CRN30708** Measuring Probe — 1 pc
- **DL-CR31556** Locking Sleeve with Goujon — 1 pc
- 2.5mm Allen Key for Fixing the Measuring Head — 1 pc
- 1.5mm Allen Key for Fixing the Sleeve — 1 pc

Please note! The items listed are for the **DL-CRN50091** kit. Other higher-quality and more expensive dial gauges may also be used. The CIGs have the same measuring range (0-25.4 mm stroke and 0.001 mm resolution). For example, **DL-KIP021, DL-KIP026**, and **DL-KIP031**. All of these are available as separate orders.



DL-CRN50388

CAT C6.6 Injector Clearance Measurement Kit (320-0677)

The adapter kit includes:

DL-CRN31767	Adapter — 1 pc
DL-CRN30030	Measuring Probe — 1 pc



DL-CRN31767

Adapter for measuring injector clearances CAT C6.6 (320-0677)



DL-CR31745

CAT C6.6 Injector Anchor Plate Removal Tool



DL-CR50311KIT

A kit with a CIG for measuring the height of washers and springs of CRI1/CRI2 injectors

DL-CR31586	Base — 1 pc
DL-CR31583	Spring Height Measuring Adapter — 1 pc
DL-CR31584	Ahe Washer Height Measuring Adapter — 1 pc
DL-CR31585	Rls Washer Height Measuring Adapter — 1 pc
DL-KIP0036	Washer and Spring Height Measuring Adapter — 1 pc
DL-CRN30033	Digital Measuring Indicator

with 0.001 mm Accuracy and 25 mm Stroke — 1 pc



DL-CR50311

A set of tools and an adapter for measuring the height of CRI1/CRI2 washers and springs.

Delivery set:

DL-CR31586	Base — 1 pc
DL-CR31583	Spring Height Measuring Adapter — 1 pc
DL-CR31584	Ahe Washer Height Measuring Adapter — 1 pc
DL-CR31585	Rls Washer Height Measuring Adapter — 1 pc
DL-CRN30033	Washer and Spring Height Measuring Adapter — 1 pc



DL-CR50306

A set of tools for measuring the height of CRI1/CRI2 injector washers and springs.

Delivery set:

DL-CR31586	Base — 1 pc
DL-CR31583	Spring Height Measuring Adapter — 1 pc
DL-CR31584	Ahe Washer Height Measuring Adapter — 1 pc
DL-CR31585	Rls Washer Height Measuring Adapter — 1 pc



DL-CR50408

Scania CIG installation and valve adjustment kit 188 15 65

Delivery set:

DL-CR31796	Adapter — 1 pc
DL-CRN30028	Measuring probe — 1 pc



DL-CR31796

Adapter for installing the CIG and adjusting the SCANIA valve 188 15 65



DL-UNI20150 CRISTINA - PIEZO

This device is designed to test piezo injectors and the piezo pack. It reliably identifies all piezo pack faults, identifying issues that similar devices or test benches miss.

This device was developed for assembling Siemens injectors, but is also compatible with Bosch injectors.

Device capabilities:

1. Sending a signal to activate the injector on a hand press
2. Measuring piezoelectric unit resistance
3. Testing for breakdown to the housing
4. Measuring piezoelectric unit capacitance
5. Measuring piezoelectric unit smooth movement

Package contents:

1. CRistina-PIEZO signal generator
2. Cable set for the CRistina-PIEZO signal generator
   - 220V power cable
   - Main connection cable to the piezoelectric unit
   - Universal adapter cable
   - Adapter cable with alligator clips
   - Grounding cable
3. Data sheet (technical description, operating instructions)

ATTENTION! Additional accessories may be included with the device.



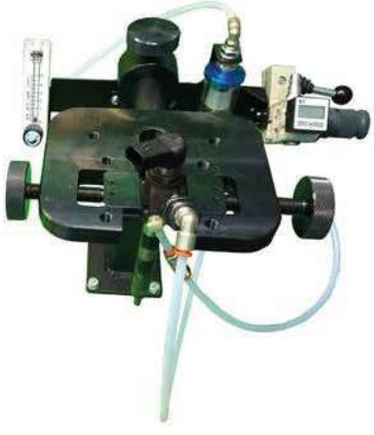


DL-UNI20050 CRISTINA - PIEZO

This device is designed to test piezo injectors and the piezo pack. It reliably identifies all piezo pack faults, identifying issues that similar devices or test benches miss.

This device was developed for assembling Siemens injectors, but is also compatible with Bosch injectors.







DL-CR50157

Device capabilities:

1. Sends a signal to activate the injector on a hand press
2. Measures piezoelectric unit resistance
3. Tests for breakdown to the housing
4. Measures piezoelectric unit capacitance
5. Measures piezoelectric unit smooth operation

Included in delivery:

1. CRistina-Piezo Controller
2. PiezoST-04 Injector Clamp
3. Mounting Bracket
4. Air Flow Meter
5. Air Filter
6. Air Distribution Valve
7. Air Reducer
8. Electronic Pressure Gauge
9. Tubing Set
10. 6mm Quick Connector
11. Set of 2 backflow nipples for Siemens VDO injectors
12. **DL-CR50157** Adapter set for measuring the valve stroke of the Siemens VDO CR injector
13. Adapter M12x1.5x 1/8"
14. Datasheet (technical description, operating instructions)

ATTENTION! Additional accessories may be included with the device.

Differs from the DL-UNI20050F kit in that it has a less complete set of adapters for injectors.

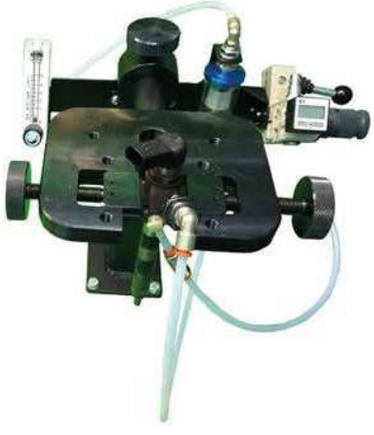


DL-UNI20050F CRISTINA - PIEZO

This device is designed to test piezo injectors and the piezo pack. It reliably identifies all piezo pack faults, identifying issues that similar devices or test benches miss.

This device was developed for assembling Siemens injectors, but is also compatible with Bosch injectors.







DL-CR50165

Device capabilities:

1. Sends a signal to activate the injector on a hand press
2. Measures piezoelectric unit resistance
3. Tests for breakdown to the housing
4. Measures piezoelectric unit capacitance
5. Measures piezoelectric unit smooth operation

Included in delivery:

1. CRistina-Piezo Controller
2. PiezoST-04 Injector Clamp
3. Mounting Bracket
4. Air Flow Meter
5. Air Filter
6. Air Distribution Valve
7. Air Reducer
8. Electronic Pressure Gauge
9. Tubing Set
10. 6mm Quick Connector
11. Set of 2 backflow nipples for Siemens VDO injectors
12. **DL-CR50165** Adapter set for measuring the valve stroke of the Siemens VDO CR injector
13. Adapter M12x1.5x 1/8"
14. Datasheet (technical description, operating instructions)

ATTENTION! Additional accessories may be included with the device.

Differs from the DL-UNI20050 kit by a more complete set of adapters for injectors.



DL-UNI20051 Set with CRistina-PIEZO

Siemens / VDO CR piezo injector repair kit (without injector clamp or acoustic test). This device is designed to test piezo injectors in a piezoelectric unit. It reliably identifies all piezoelectric unit faults and detects problems that similar devices or test benches cannot detect.

This device was developed for assembling Siemens injectors, but is also compatible with Bosch injectors.





Device capabilities:

1. Sends a signal to activate the injector on a hand press
2. Measures piezoelectric unit resistance
3. Tests for breakdown to the housing
4. Measures piezoelectric unit capacitance
5. Measures piezoelectric unit smooth operation

Included in delivery:

1. CRistina-Piezo controller
2. Mounting bracket
3. Air flow meter
4. Air filter
5. Air distribution valve
6. Air pressure regulator
7. Electronic pressure gauge
8. Tube set
9. 6mm quick-connect coupling
10. Set of 2 backflow fittings for Siemens VDO injectors
11. Adapter M12x1.5x1/8"
12. Datasheet (technical description, operating instructions)

ATTENTION! Additional accessories may be included with the device.

ДОПОЛНИТЕЛЬНАЯ КОМПЛЕКТАЦИЯ К CRISTINA-PIEZO



DL-UNI20054 **ACOUSTIC BOARD**

Acoustic test kit for the CRISTINA - PIEZO device

The kit includes:

1. Microphone in a plastic housing
2. Clamp for securing the microphone to the injector housing
3. Acoustic test board for installation inside the CRISTINA-PIEZO device
4. Set of connecting wires
5. Set of standoffs and bolts for mounting the board
6. Assembly instructions.

DL-UNI20052



Repair kit for CR Siemens VDO injectors (without CRistina-Piezo controller).

Package Contents:
1. PiezoST-04 Injector Clamp
2. Accessories Holder
3. Air Flow Meter
4. Air Filter
5. Air Distribution Valve
6. Air Pressure Regulator
7. Electronic Pressure Gauge
8. Tubing Set
9. 6mm Quick Connector
10. Set of 2 Backflow Relief Fittings for Siemens Injectors
11. M12x1.5 x 1/8" Adapter

DL-UNI20053



UNI20053 Siemens VDO CR Injector Repair Kit (without CRistina-Piezo controller and ST-04 clamp)

Delivery set:
1. Equipment holder bracket.
2. Air flow meter.
3. Air filter.
4. Air distribution valve.
5. Air pressure regulator.
6. Electronic pressure gauge.
7. Set of tubes.
8. 6mm quick-connect coupling.
9. Set of 2 fittings for Siemens VDO injector backflow.
10. M12x1.5 x 1/8" adapter.

ADDITIONAL! *Kits **DL-UNI20051, DL-UNI20052**, and **DL-UNI20053** require an adapter kit with a **DL-CR50157** 6-position measuring head or a **DL-CR50165** 8-position measuring head.*





DL-CR50146

A set of adapters without an indicator head for measuring the parameters of the Siemens VDO CR injector.

Delivery set:

1.	**DL-CR31079**	Adapter for testing the piezoelectric package.
2.	**DL-CR50147**	Adapter (housing with nut) for measuring valve stroke.
3.	**DL-CR31177**	Measuring probe
4.	**D-7153136**	2 mm Allen key



DL-CR50157

A set of adapters with an indicator head for measuring the parameters of a VDO Siemens CR injector.

Delivery set:

1.	**DL-CR31079**	Adapter for testing the piezoelectric package.
2.	**DL-CR50147**	Adapter (housing with nut) for measuring valve stroke.
3.	**DL-CR31177**	Measuring probe
4.	**D-7153136**	2mm Allen key
5.	**DL-KIP002**	Mechanical measuring indicator head with accuracy of 0.001mm, stroke 5mm

6. Organizer





DL-CR50165

A set of adapters with an indicator head for measuring the valve stroke of all Siemens VDO CR injectors.

Delivery set:

1.	**DL-CR31079**	Adapter for measuring the piezoelectric injector parameters of the new type M25x1
2.	**DL-CR31179**	Adapter for measuring the piezoelectric injector parameters of the old type M27x1
3.	**DL-CR31080**	Adapter body for measuring the injector valve stroke
4	**DL-CR31081**	Adapter body nut for measuring the valve stroke of the new type M25x1 injectors
5.	**DL-CR31178**	Adapter body nut for measuring the valve stroke of the new type M27x1 injectors
6.	**D-7153136**	2mm Allen key
7.	**DL-KIP002**	Mechanical measuring indicator 0.001mm stroke 5mm
8.	**DL-CR31177**	Measuring probe
9.	Organizer	

DL-CR50166

Adapter kit without indicator head for measuring valve stroke for all types of Siemens CR VDO injectors.

The kit is identical to the **DL-CR50165**, excluding the indicator mechanical measuring head.



DL-CR50168

A set of adapters and keys for repairing CR VDO Siemens injectors

Delivery set:

1. **DL-CR50165** **A set of adapters with an indicator head for measuring the valve stroke of all Siemens VDO CR injector types.**

1.	**DL-CR31079**	Adapter for measuring the piezoelectric injector parametersof the new type M25x1
2.	**DL-CR31179**	Adapter for measuring the piezoelectric injector parameters of the old type M27x1
3.	**DL-CR31080**	Adapter body for measuring the injector valve stroke
4	**DL-CR31081**	Adapter body nut for measuring the valve stroke of the new type M25x1 injectors
5.	**DL-CR31178**	Adapter body nut for measuring the valve stroke of the new type M27x1 injectors
6.	**D-7153136**	2mm Allen key
7.	**DL-KIP002**	Mechanical measuring indicator 0.001mm stroke 5mm
8.	**DL-CR31177**	Measuring probe
9. Organizer		

2. **DL-CR50163** **Key for installing/removing the piezoelectric unit of CR injectors VDO Siemens.**



The extended base of this wrench ensures convenient use with VDO Siemens CR injectors. It eliminates obstructed areas of the injector and facilitates piezoelectric unit adjustment. Wrench mounting dimensions:

a) 25mm hexagon for piezoelectric unit
b) 1/2" square for torque wrench

3. DL-CR50164 Key for installing/removing the piezoelectric unit of CR injectors VDO Siemens.



The extended base of this wrench allows for convenient use with VDO Siemens CR injectors. It eliminates obstructed areas of the injector and facilitates piezoelectric unit adjustment. Wrench mounting dimensions:

a) 27mm hexagon for piezoelectric unit
b) 1/2" square for torque wrench

4. DL-UNI30545 SIEMENS injector multiplier nut installation/removal key



SIEMENS injector multiplier nut installation/removal key



DL-CR30843

A socket wrench for easy and safe removal of the piezo injector tube (27 mm socket).

Prevents damage to the injector backflow nipple.



DL-RP430

Manufacturer: ZECA (Italy)
Injector spray testing chamber (aspirator)
Allows visual inspection of the performance of diesel injectors without any risk to health.
The device collects the working fluid for reuse.



DL-RP400

Manual injector tester with mechanical pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Mechanical pressure gauge – 1 pc.
- Connecting tube – 2 pcs.



DL-RP410 **(without pressure sensor)**

DL-RP415 **(with pressure sensor 1500 bar)**

Handheld injector tester with electronic pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for RP 415) 1500 bar – 1 pc.



DL-RP420 **(without pressure sensor)**

DL-RP425 **(with pressure sensor 1500 bar)**

Handheld injector tester with a 2-channel electronic pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for RP 425) 1500 bar – 1 pc.



DL-RP430

Manufacturer: ZECA (Italy)
Injector spray testing chamber (aspirator)
Allows visual inspection of the performance of diesel injector nozzles without risk to health.
The device collects the working fluid for reuse.



DL-RP500

Manufacturer: ZECA (Italy)
Manual injector testing press with mechanical pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Mechanical pressure gauge – 1 pc.
- Connecting tube – 2 pcs.



DL-RP510 **(without pressure sensor)**

DL-RP515 **(with pressure sensor 1500 bar)**

ZECA manual injector testing press with electronic pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for RP 515) 1500 bar – 1 pc.



DL-RP520 **(without pressure sensor)**

DL-RP525 **(with pressure sensor 1500 bar)**

ZECA manual injector testing press with 2-channel electronic pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for RP 525) 1500 bar – 1 pc.



DL-UNI20150

CRistina-PIEZO Device
This device is designed for testing piezoelectric injectors and piezoelectric packs.
Device capabilities:
- Sends a signal to activate the injector using a hand press
- Measures piezoelectric pack resistance
- Tests for breakdown to the housing
- Measures piezoelectric pack capacitance
- Measures piezoelectric pack smooth movement

ATTENTION! Hand press not included!



MP-250 SASH

Machine for fast and precise repair of the valve seat of the BOSCH Common Rail injector multiplier.

The restoration is achieved by the reciprocating and rotating action of a grinding tool in a special abrasive medium on the seat of the damaged injector valve.

Available in 2 versions:

- **MP-250 SASH-Z** with collet chuck
- **MP-250 SASH-S** with self-clamping chuck.

- **Vibration mechanism in a protective housing.**
- **Screw-type table height adjustment.**
- **Compact design.**

Delivery set:

- **MPS30515** 120° Lapping Stone – 5 pcs.
- **MPS30516** 124° Lapping Stone – 5 pcs.
- ASM 7/5(k) diamond lapping paste
- ASM 5/3(k) diamond lapping paste
- ASM 3/2(k) diamond lapping paste
- **DL-MPZ30336** Electromagnetic injector valve holder



A set of lapping diamond pastes for the MP-250 machine **DL-ACM3(K) KIT**



DL-ACM75K	Lapping paste diamond fraction 7/5 microns, 25 g.
DL-ACM53K	Lapping paste diamond fraction 5/3 microns, 25 g.
DL-ACM32K	Lapping paste diamond fraction 3/2 microns, 25 g.



DL-MPS31241

BOSCH Piezo Injector Nozzle Housing Holder

Used to restore the nozzle housing of BOSCH piezo injectors. Suitable for use with the MP-250 SASH lapping machine.

Application:
Suitable for BOSCH piezo injectors, 0445115 series



DL-MPS31240 **Lapping stone of medium softness (SM)**

For restoring the nozzle body of BOSCH CR piezo injectors.
60-degree sharpening angle.
Example: BOSCH CR 04455115



DL-MPS31250 **Medium-hardness lapping (MH)**

For restoring the nozzle body of BOSCH CR piezo injectors.
Sharpening angle: 60 degrees.
Example: BOSCH CR 04455115



DL-MPS31322 **Elbor lapping stone of increased hardness (PT)**

For restoring the nozzle body of BOSCH CR piezo injectors.
60-degree sharpening angle.
Example: BOSCH CR 04455115



DL-MPS31291

Lapping tool for restoring the pressure regulator valve of CR CP-1 pumps

The restoration is performed using the MP-250 SASH injector valve lapping machine.



DL-MPS31705

64-degree lapping tool for regrinding the nozzle body of Caterpillar injectors.



DL-MPS31704

Caterpillar Injector Nozzle Housing Holder

The restoration is carried out by processing on the lapping machine MP-250



DL-CR31199

BOSCH CR piezo injector valve seat holder during its restoration

- Suitable for BOSCH 0445115 piezo injectors
- Adapted for the SASH MP-250 lapping machine
- Can also be used with machines from other manufacturers, similar to the SASH MP-250.







DL-MPS50173

A set of lapping tools for restoring the BOSCH Piezo injector valve

The set includes lapping tools with different angles:
1. DL-MPS31220 (angle 77 degrees) – 7 pcs.
2. DL-MPS31221 (angle 127 degrees) – 7 pcs.

ATTENTION!
All grinders are also sold separately!

КОМПЛЕКТУЮЩИЕ К СТАНКУ MP-250



DL-MPS50033	Self-clamping chuck assembly for the MP-250S	1 pc
DL-MPS30341	Axle (Shaft Ø12) for the MP-250S	1 pc
DL-MPS30298	Chuck body for the MP-250S	1 pc
DL-MPS30299	Chuck cover for the MP-250S	1 pc
DL-MPS30297	Grip for the MP-250S	2 pcs
DL-MPS30364	Chuck cover (protective) for the MP-250S	1 pc
DL-MPS30338	Washer for the plastic cover for the MP-250S	1 pc
DL-MPS30337	Top washer for the MP-250S	1 pc



DL-MPS30364

Protective casing for the cartridge



DL-MPS30297

Grip for MP-250S



DL-MPZ30506

Plastic cover
for MP-250S and MP-250Z



DL-MPS30337

Upper washer for MP-250S



DL-MPS30338

Washer for plastic cover
for MP-250S



DL-ACM3(K) KIT

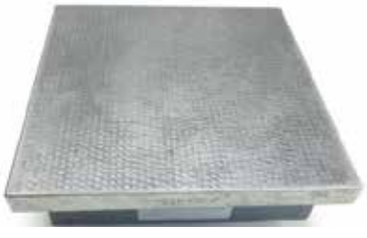
A set of diamond lapping pastes for the MP-250 machine

DL-ACM75K	Diamond lapping paste. Coarse grain size 7.5 microns, 25 g.
DL-ACM53K	Diamond lapping paste. Medium grain size 5/3 μm, 25 g.
DL-ACM32K	Diamond lapping paste. Fine grain size 3/2 μm, 25 g.



DL-CR50112

A set of lapping tools for restoring the valve seat of CR injectors



D-261106

Lapping plate
Size: 250x250 mm



D-261108

Lapping plate
Size: 400x400 mm



DL-UNI50270

A set of washers for grinding.
The set includes two washers with different diameters.
It is recommended to grind on a special lapping plate.



DL-UNI31635

Holder for lapping spacers and valves for Bosch Piezo injectors

TOM-2

Sharpening machine for dressing lapping wheels.



- The sharpening lap can be adjusted to two positions (left and right).
- Power supply: 230 V, 50 Hz.
- Electric motor power: 120 W.
- Electric motor speed: 2950 min-1.
- Shaft speed with lap: 500 min-1.
- Sharpening stone diameter: 125 mm.
- Adjustable sharpening angle.
- Compact.

TOM-2 Additional equipment and components



DL-UNI20212

Abrasive stone with grain 36

- Outer diameter 125 mm
- Inner diameter 12.7 mm
- Thickness 16 mm
- Processing speed 35 m/s



DL-UNI20213

Abrasive stone with grain 60

- Outer diameter 125 mm
- Inner diameter 12.7 mm
- Thickness 16 mm
- Processing speed 40 m/s



DL-UNI20214

Abrasive stone with grain 80

- Outer diameter 125 mm
- Inner diameter 32 mm
- Thickness 10 mm
- Processing speed 40 m/s



DL-UNI20215

Abrasive stone with grain 120

- Outer diameter 125 mm
- Inner diameter 12.7 mm
- Thickness 16 mm
- Processing speed 40 m/s



DL-UNI20218

Abrasive stone with grain 230

- Outer diameter 125 mm
- Inner diameter 12.7 mm
- Thickness 16 mm
- Processing speed 40 m/s



DL-UNI20220

Abrasive stone with grain 400

- Outer diameter 125 mm
- Inner diameter 12.7 mm
- Thickness 16 mm
- Processing speed 40 m/s

TOM-5

A sharpening machine for dressing laps and other rotating bodies





Maximum transverse travel	+/- 50 mm
Maximum longitudinal travel	+/- 50 mm
Work carriage rotation angle	270°
Electronic protractor type	Absolute
Abrasive stone grit	100 grit
Power supply voltage	~220 V ± 15%
Main drive electric motor power	0.2 kW
Maximum machine power consumption	0.3 kW
Electric motor RPM	0–12000
Drive shaft RPM	0–2000
Dimensions (Depth x Width x Height), mm	335x250x300
Dimensions with lamp (Depth x Width x Height), mm	335x250x450
Machine weight (net), kg	22

TOM-5 Additional equipment and components



DL-UNI20224

Abrasive stone with grain 80

- Outer diameter 50 mm
- Inner diameter 13 mm
- Height 32 mm
- Processing speed 35 m/s



DL-UNI20225

Abrasive stone with grain 100

- Outer diameter 125 mm
- Inner diameter 12.7 mm
- Thickness 16 mm
- Processing speed 35 m/s



DL-UNI20226

Abrasive stone with grain 200

- Outer diameter 125 mm
- Inner diameter 12.7 mm
- Thickness 16 mm
- Processing speed 35 m/s



DI-CR50174 Комплект для восстановления форсунок BOSCH PIEZO



Комплект поставки:

1.	**DL-CR50160**	Струбцина для выпрессовкии запрессовки штифтов сердечника клапана форсунок.
2.	**DL-CR31199**	Держатель седла клапана пьезо форсунок BOSCH CR при его восстановлении.
3.	**DL-CR50169**	Адаптер для измерения хода клапана форсунок BOSCH пьезо
4.	**DL-MPS31220**	Притир 77 градусов (6шт.)
5.	**DL-MPS31221**	Притир 127 градусов (6шт.)
6.	**DL-CR50209-15**	Цанговый патрон держатель клапана пьезофорсунок BOSCH.
7.	**DL-CR31204**	Пластина N1 для восстановления клапана форсунки CR BOSCH Piezo
8.	**DL-CR31205**	Пластина N2 для восстановления клапана форсунки CR BOSCH Piezo
9.	**DL-KIP002**	Индикаторная измерительная головка часового типа.



DL-CR50160

Clamp for pressing out and pressing in the valve core pins of CR piezo BOSCH injectors.

Suitable for BOSCH piezo injectors, 0445115 series.



DL-CR50169

Adapter for measuring valve stroke of BOSCH piezo injectors
Suitable for BOSCH piezo injectors 0445115

Included in the package:
1. Adapter DL-CR31201
2. Measuring probe DL-CR31206

ATTENTION!
The measuring probe is not included in the package!



DL-CR50340

Bracket for BOSCH piezo injector valve stroke measurement adapter
Bracket for BOSCH piezo injector valve stroke measurement adapter, used during assembly. Adapter **DL-CR31201** and feeler gauge **DL-CR31206** are not included in the package.



DL-CR31204

Lapping plate No.1 for rebuilding the BOSCH Piezo CR injector valve

DL-CR31205

Lapping plate No.2 for rebuilding the BOSCH Piezo CR injector valve



A collet chuck is used to hold the valve of a BOSCH piezo injector for restoring its geometry by grinding. Collet chucks are classified by accuracy:

DL-CR50209-5	Collet chuck runout 1-5 μm
DL-CR50209-10	Collet chuck runout 6-10 μm
DL-CR50209-15	Collet chuck runout 6-10 μm



A collet chuck is used to hold the valve of a BOSCH piezo injector for restoring its geometry by grinding. Collet chucks are classified by accuracy:

DL-CR50405-5	Collet chuck runout 1-5 μm
DL-CR50405-10	Collet chuck runout 6-10 μm
DL-CR50405-15	Collet chuck runout 11-15 μm



DL-HK50259

Universal tool for filling hydraulic compensators from BOSCH Piezo and pressing/unpressing pins from SIEMENS / BOSCH Piezo

The first purpose is to fill the hydraulic compensator of BOSCH Piezo injectors. The second purpose is to remove and press in the valve core pins of BOSCH 0445115 Common Rail Piezo injectors. The third purpose is to remove and press in the valve core pins of SIEMENS Common Rail injectors. In both cases, an extended cartridge with a hole is used. In the third case, a short cartridge without a hole is used.

Delivery set:

Universal attachment — 1 pc.
Extended cartridge — 1 pc.
Short cartridge — 1 pc.



DL-CR50052

A tool for filling hydraulic compensators for Bosch piezo injectors.

It consists of two parts:
a body with guides and a clamp.

DL-GR7500 Sharpening machine for straightening spray needles.



The **DL-GR7500** machine is used for sharpening spray gun needles and other rotating objects. The machine is controlled using PWM controllers.

The spindle and workpiece speeds are adjusted using rotary knobs located on the control panel.

The brightness of the lower workpiece illumination is adjusted using the rotary knob located at the top of the control panel.

The control panel features a main power switch for the machine and three power switches for each electric motor and the lower illumination lamp.

On the rear of the machine, there is a 220-volt power supply connector, two 220-volt sockets, and a 12-volt port for connecting a monitor.

On the front of the machine, there is a 12-volt port for connecting the electric motor power supply for the rotating object drive.

The **DL-GR7500** sharpening machine can be used with the DL-UNI20025 or DL-UNI200230 kit, which includes:

- Industrial electron microscope
- Tripod holder, overhead illumination, and monitor.

For angle measurement, the DL-GR1080 angle meter, with a minute accuracy, or the DL-GR1090 angle meter, with a second accuracy, can be installed as an optional accessory on the machine.

DL-GR7400

Sharpening machine for sprayer needles with rotation speed indicators.

The rotation speed (RPM) is displayed as a percentage.



The **DL-GR7400** machine is used for sharpening spray gun needles and other rotating parts. It is controlled using PWM controllers.

The spindle and workpiece speeds are adjusted using rotary knobs located on the control panel.

The brightness of the lower workpiece illumination is adjusted using the rotary knob located at the top of the control panel.

The control panel features a main power switch for the machine and three power switches for each electric motor and the lower illumination lamp.

On the rear of the machine, there is a 220-volt power supply connector, two 220-volt sockets, and a 12-volt port for connecting a monitor.

On the front of the machine, there is a 12-volt port for connecting the electric motor power supply for the rotating part drive.

The **DL-GR7400** sharpening machine can be used with the DL-UNI20025 or DL-UNI200230 kit, which includes:

- Industrial electron microscope
- Tripod holder, overhead illumination, and monitor.

For angle measurement, the DL-GR1080 angle meter, with a minute accuracy, or the DL-GR1090 angle meter, with a second accuracy, can be installed as an optional accessory on the machine.

DL-GR7300

Sharpening machine for sprayer needles with RPM indicators.



The **DL-GR7300** machine is used for sharpening spray gun needles and other rotating parts. The machine is controlled using PWM controllers.

The machine is controlled using PWM controllers.

The spindle and workpiece speeds are adjusted using rotary knobs located on the control panel.

The brightness of the lower workpiece illumination is adjusted using the rotary knob located at the top of the control panel.

The control panel features a main power switch for the machine and three power switches for each electric motor and the lower illumination lamp.

On the rear of the machine, there is a 220-volt power supply connector, two 220-volt sockets, and a 12-volt port for connecting a monitor.

On the front of the machine, there is a 12-volt port for connecting the electric motor power supply for the rotating part drive.

The **DL-GR7300** sharpening machine can be used with the DL-UNI20025 or DL-UNI200230 kit, which includes:

- Industrial electron microscope
- Tripod holder, overhead illumination, and monitor.

For angle measurement, the DL-GR1080 angle meter, with a minute accuracy, or the DL-GR1090 angle meter, with a second accuracy, can be installed as an optional accessory on the machine.

ADDITIONAL EQUIPMENT AND COMPONENTS FOR GR-7300, GR-7400, AND GR-7500 SHARPENING MACHINES

DL-UNI20025

A set with an industrial microscope, extended stand, illumination, and monitor.

The microscope has a clear image and high resolution.



Technical data:

1. Microscope magnification: 8x-130x
2. Working distance: 50-200 mm
3. Monitor connection via HDMI/VGA ports
4. Microscope size (width x length): 40 mm x 115 mm

Package contents:

1.	**DL-UNI20016**	Industrial electronic microscope with power supply (HDMI/VGA/AV).
2.	**DL-UNI20019**	DL-UNI20019 Extended microscope stand
3.	**DL-UNI20018**	DL-UNI20018 LED microscope lamp
4.	**DL-UNI20021**	DL-UNI20021 Monitor
5.	**DL-UNI20022**	DL-UNI20022 Special monitor stand

ATTENTION! All included accessories are also sold separately!



ADDITIONAL EQUIPMENT AND COMPONENTS FOR GR-7300, GR-7400, AND GR-7500 SHARPENING MACHINES

DL-UNI20030

A set with an industrial microscope, extended stand, illumination, and monitor.

The microscope has a clear image and high resolution.



Technical specifications:

1. Microscope magnification: 8x-130x
2. Working distance: 50-200 mm
3. Monitor connection via ports: HDMI/VGA
4. Microscope dimensions (width x length): 40 mm x 115 mm

Package contents:

1. **DL-UNI20010** Industrial electronic microscope with power supply (HDMI/USB/AV).
2. **DL-UNI20019** Extended microscope stand
3. **DL-UNI20018** LED microscope lamp
4. **DL-UNI20021** Monitor
5. **DL-UNI20022** Special monitor stand.

ATTENTION! All included accessories are also sold separately!



ADDITIONAL EQUIPMENT AND COMPONENTS FOR GR-7300, GR-7400, AND GR-7500 SHARPENING MACHINES

DL-UNI20026

A set with an industrial microscope, extended stand, illumination, and monitor.

The microscope has a clear image and high resolution.



Technical specifications:

1. Microscope magnification: 5x-100x
2. Working distance: 50-170 mm
3. Monitor connection via ports: HDMI
4. Microscope size (width x length): 40 mm x 115 mm

Delivery set:

1. **DL-UNI20013** Industrial electronic microscope with power supply and illumination lamp (HDMI/USB).
2. **DL-UNI20019** 2. DL-UNI20019 Extended microscope stand
3. **DL-UNI20021** 3. DL-UNI20021 Monitor
4. **DL-UNI20022** 4. DL-UNI20022 Special monitor stand.

ATTENTION! All included accessories are also sold separately!



ADDITIONAL EQUIPMENT AND COMPONENTS FOR GR-7300, GR-7400, AND GR-7500 SHARPENING MACHINES

DL-UNI20027

A set with an industrial microscope, extended stand, illumination, and monitor.

The microscope has a clear image and high resolution.



Technical specifications:

1. Microscope magnification: 10x-180x
2. Working distance: 100-150 mm
3. Monitor connection via ports: HDMI
4. Microscope dimensions (width x length): 40 mm x 115 mm

Package contents:

1. **DL-UNI20014** Industrial electronic microscope with power supply (HDMI/USB/AV).
2. **DL-UNI20019** Extended microscope stand
3. **DL-UNI20018** LED microscope lamp
4. **DL-UNI20021** Monitor
5. **DL-UNI20022** Special monitor stand.

ATTENTION! All included accessories are also sold separately!



DL-UNI20031

Microscope kit HDMI USB 1080P FHD 48MP x 200

The microscope offers clear images and high resolution.
Objective: 200X magnification C-mount



Specifications:

1. Photo/video recording
2. Additional functions: adding guide lines, image freeze, mirror display, image rotation, digital zoom
3. Body: aluminum alloy
4. Sensor: Panasonic
5. Sensor resolution: 48 MP
6. Frame rate: 1920*1080 / 60 fps
7. Outputs: USB, HDMI, TF card, IR sensor for remote control
8. Power: DC-12V / 1A
9. Maximum TF card capacity: 64G
10. HDMI image resolution: 8168*6128 4:3 (50MP) 8168*4592 16:9 (37MP) (for TF card)
11. USB image resolution: 1920*1080 (for PC USB)
12. Video Resolution: 1920*1080/60 fps for HDMI, 1920*1080/30 fps, 1280*720/30 fps, 640*480/30 fps, 320*240/30 fps for USB
13. Video Format: MP4
14. Image Format: JPG
15. Remote Control
16. Language Support: Russian, Chinese, English, French, Spanish, Portuguese, German, Italian, Japanese
17. Lens: 200X C-Mount
18. Working Distance: 95 mm (maximum working distance 16 cm)
19. Zoom Ratio: 6.5:1

Package Contents:

1.	**DL-UNI20023**	Industrial electronic microscope with power supply (HDMI/USB/AV).
2.	**DL-UNI20019**	Extended microscope stand
3.	**DL-UNI20018**	LED microscope lamp
4.	**DL-UNI20021**	Monitor
5.	**DL-UNI20022**	Special monitor stand

ATTENTION! ***All included accessories are also sold separately!***

ADDITIONAL EQUIPMENT AND COMPONENTS FOR GR-7300, GR-7400, AND GR-7500 SHARPENING MACHINES



DL-UNI20200

Abrasive stone with grain size 400



DL-UNI20201

Abrasive stone with grain size 200



DL-UNI20202

Abrasive stone with grain size 100

ADDITIONAL EQUIPMENT AND COMPONENTS FOR GR-7300, GR-7400, AND GR-7500 SHARPENING MACHINES



DL-UNI20203

320-grit abrasive stone with a conical profile



DL-UNI20204

230-grit abrasive stone with a conical profile



DL-NG50260

A device for dressing abrasive stones at an angle



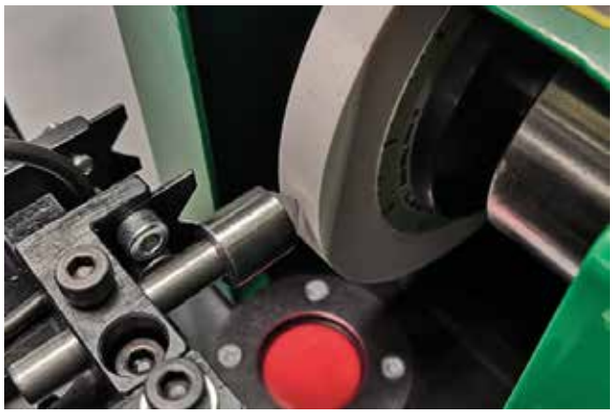


ADDITIONAL EQUIPMENT AND COMPONENTS FOR GR-7300, GR-7400, AND GR-7500 SHARPENING MACHINES



DL-GR60007

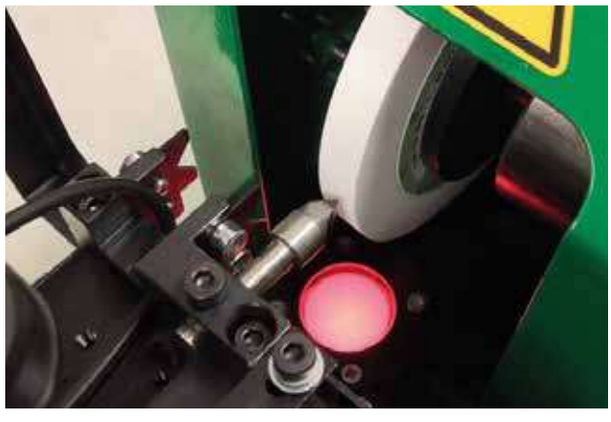
Diamond pencil for sharpening abrasive stones (standard)





DL-GR60008

Diamond pencil for sharpening abrasive stones (reinforced)





DL-NG31309

Editing pencil abrasive wheel (needle-shaped)



DL-GR1050

Stone holder (mandrel)



DL-GR1060

Stone balancing axle (Stone and holder not included)

dieselland equipment for diesel

ADDITIONAL EQUIPMENT AND COMPONENTS FOR GR-7300, GR-7400, AND GR-7500 SHARPENING MACHINES



DL-GR1070

Balancing device
(Stone and holder not included)





DL-NG50196

Stone remover with mandrel from spindle cone.



DL-NG50194

Drive pulley set for
GR-7300, GR-7400, GR-7500 machines.
Material: Polyurethane

Included in the package:

1. **DL-NG31264** Pulley Ø15x3 for the injector needle
2. **DL-NG31264-01** Pulley Ø15x4 for the injector needle
3. **DL-NG31264-02** Pulley Ø15x5 for the piezo injector valve holder
4. **DL-NG31196** Pulley Ø15x7 for lapping

Please note: ***All pulleys are also sold separately!***

ADDITIONAL EQUIPMENT AND COMPONENTS FOR GR-7300, GR-7400, AND GR-7500 SHARPENING MACHINES





DL-GR1080

Angle measuring kit

Delivery set:

1. Electronic protractor
2. Protractor bracket
3. Protractor shaft NG31249
4. Set of 3 M4 screws

Specifications:

1. Measurement range: 0-360 degrees
2. Division value: 0.1 degree
3. Accuracy: +/- 0.2 degrees
4. Error: 0.1 degree
5. Battery: 3V CR20032
6. Battery life: 1 year



DL-NG31263

60 degree angle setting gauge





DL-NG31253

A holder for the valve (pin) of a Bosch piezo injector for grinding

ADDITIONAL EQUIPMENT AND COMPONENTS FOR GR-7300, GR-7400, AND GR-7500 SHARPENING MACHINES





DL-GR1090

High-Precision Angle Measurement Kit

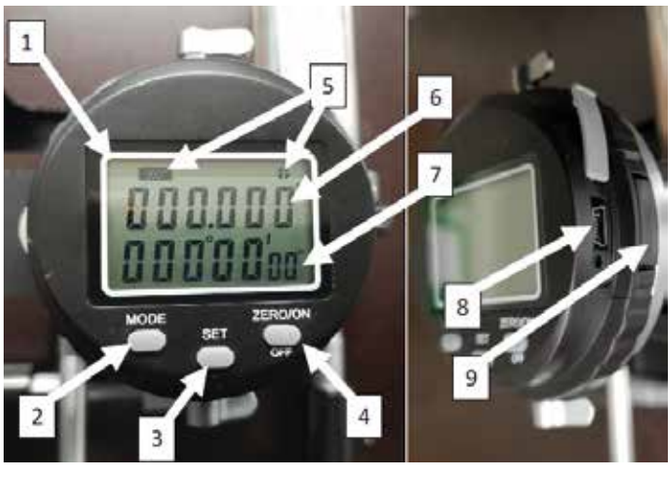
Included in the package:

1. Electronic protractor
2. Protractor bracket
3. NG50205 protractor shaft
4. 2 M4 screws

Technical Specifications:

1. Measurement range: 0-360 degrees
2. Division: 0.005 degrees (10 seconds)
3. Accuracy: +/- 0.2 degrees
4. Error: 0.08 degrees (±30 seconds)
5. Operating temperature range: 0 ÷ 40°C
6. Battery: 3V CR20032
7. Battery life: 1 year

Two lines simultaneously display the measurement value in decimal degrees (upper line) and in seconds (lower line).



1. Display
2. "MODE" button
3. "SET" button
4. "ZERO / ON-OFF" button
5. Display of the selected measurement range (360º, 180º x 2, 90º x 4)
6. Display of the angle in decimal fractions of a degree.
7. Display in degrees, minutes, and seconds.
8. USB port
9. Retractable battery compartment

ADDITIONAL EQUIPMENT AND COMPONENTS FOR GR-7300, GR-7400, AND GR-7500 SHARPENING MACHINES



DL-NG50201

Prisms with electric motor assembly

Included in delivery:

1. **DL-NG50200** Prism Assembly
2. **DL-NG31189** Platform
3. **DL-NG50199** Electric Motor Assembly
4. **DL-NG31246** Pencil Holder for Dressing (without pencil)
5. **DL-NG31309** Pencil for Dressing
6. **DL-NG31290** Stop Extension Bracket
7. **DL-NG31183** Stop Bracket Standard



DL-NG50200

Prisms with holder assembly



DL-NG31189

A mounting platform for prisms, an electric motor, and a bracket with a pencil for straightening stone.



DL-NG50199

12-volt electric motor 1000 rpm in a protective casing with mounting bracket and pulley.



DL-NG31866

GR Machine Tool Stop Extension
This extension allows you to install long parts in the machine tool for subsequent grinding.



DL-NG31246

Pencil holder for dressing abrasive stone (without pencil).
DL-NG31309 Pencil for dressing abrasive wheel.



DL-NG31290

An extension stop for installing long parts for grinding.



DL-NG31183

Workpiece support bracket with standard length

dieselland equipment for diesel

GM-08

Surface grinding machine with a lower movable work table.

Designed for grinding adjusting washers, nozzle ends, and other fuel system components.

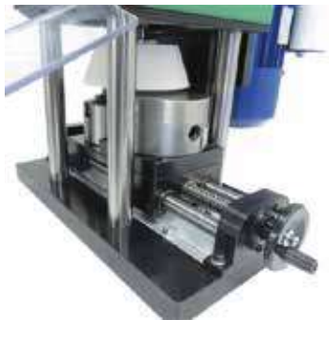




Technical specifications:

Electric motor power	0.37 kW
Division value	1 μm
Stone stroke	35 mm
Height/length/width	505 / 370 / 340 mm
Power supply voltage	~220 V ±15%
Parallelism tolerance of the workpiece surface	0.002-0.004 mm
Weight	60 kg







GM-08 PREMIUM

Surface grinding machine with movable worktable

Designed for grinding adjusting shims, nozzle cases and other parts of fuel equipment







Technical specifications:

Motor power	0,37 kW
Scale	1 micron
Vertical movement of the wheel	25 mm
Stone Turns	4300 rpm
Cartridge revolutions	150 rpm
Grit	80 grit
Height / length / width	505/370/340 mm
Horizontal movement	115 mm
Chuck working diameter	2-22 mm
Tolerance of parallelism of the surface of the workpiece	0,002-0,004 mm
Supply voltage	V ~220 B ±15%
Weight, net/gross	69 kg /75 kg

SPARE PARTS AND COMPONENTS FOR THE GM-08 SURFACE GRINDING MACHINE



DL-UNI20205

Sharpening stone for GM-08, straight, 20mm bore diameter, 100mm outer diameter, 80 grit

DL-UNI20206

Sharpening stone for GM-08, straight, 20mm bore diameter, 100mm outer diameter, 60 grit

DL-UNI20207

Sharpening stone for GM-08, straight, 20mm bore diameter, 100mm outer diameter, 40 grit



DL-UNI20208

Sharpening stone for GM-08, conical, seat diameter 32 mm, outer diameter 125 mm, 80 grit



DL-GM50248

Stone holder mandrel for upgraded GM-08 machines



DL-GM31280

Drive shaft with a tapered fit for a mandrel for upgrading GM-08 machines manufactured before April 2020.



DL-GM50263

Stone remover with a mandrel from a cone shaft.

dieselland equipment for diesel



DL-CR50167

CR Injector Holder Block Set for Vise

The block is heat-treated, significantly increasing its service life.

Delivery set:

DL-CR31054	Universal vice block with groove sizes of 11, 12, 13, and 19 mm for installing BOSCH and DELPHI CR injectors. (analog BOSCH 0986612786, analog SIRINI AB0122-01)
DL-CR31055	Universal vice block with groove sizes of 14, 16, and 20 mm for installing CR injectors for Volvo, Fiat Ducato, and BMW (analog SIRINI AB0122-02)
DL-CR31056	Universal vice block with groove sizes of 15, 17, 18, and 22 mm for installing CR injectors (analog SIRINI AB0122-03)
DL-CR31158	Universal vice block with groove sizes of 13, 15, 18, and 22 mm for installing injectors CR PIEZO SIEMENS and BOSCH



DL-CR50158

A set of CR injector holder blocks for a vice.
The blocks are heat-treated, significantly increasing their service life.

Delivery set:

DL-CR31054	Universal vice block with groove sizes of 11, 12, 13, and 19 mm for installing BOSCH and DELPHI CR injectors (analogous to BOSCH 0986612786, analogous to SIRINI AB0122-01)
DL-CR31055	Universal vice block with groove sizes of 14, 16, and 20 mm for installing CR injectors for Volvo, Fiat Ducato, and BMW (analogous to SIRINI AB0122-02)
DL-CR31056	Universal vice block with groove sizes of 15, 17, 18, and 22 mm for installing CR injectors (analogous to SIRINI AB0122-03)





DL-CR31054

Universal vice block with slot sizes of 11, 12, and 13.19 mm for installing BOSCH and DELPHI CR injectors. (Similar to BOSCH 0986612786, Similar to SIRINI AV0122-01)
The block is heat-treated, which significantly increases its service life.





DL-CR31055

Universal vice-mounted block with slot sizes of 14, 16, and 20 mm for installing CR injectors for Volvo, Fiat Dukato, and BMW (similar to SIRINI AB0122-02)
The block is heat-treated, which significantly increases its service life.





DL-CR31056

Universal block for a vise
with slot sizes of 15, 17, 18, and 22 mm
for installing CR injectors
(similar to SIRINI AB0122-03)
The block is heat-treated, which significantly increases its service life.





DL-CR31058

Universal vice block
with slot sizes of 13, 15, 18, and 22 mm
for installing BOSCH and Siemens CR piezo injectors
The block has been heat-treated, which significantly increases its service life.



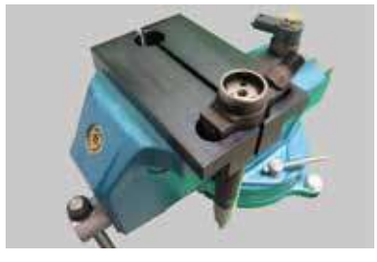


DL-UNI50043

Universal fixture for
clamping CR injectors in a vice

Clamps in two positions:
- nozzle facing up;
- nozzle facing down.





DL-UNI50032

Universal fixture for clamping CR Denso injectors in a vice.

Clamps in two positions:
- nozzle facing up;
- nozzle facing down.



DL-CR31093

Solenoid removal key for DENSO, CAT, and PERKINS injectors.
Key specifications:
1. Key has 12 edges.
2. Edge spacing is 27.5 mm.
3. 1/2" square drive.



DL-CR31927

A 27mm Allen key for adjusting the piezo injector assembly on a CR Siemens injector with a 27mm Allen key.



DL-CR31927

A 25mm Allen key for adjusting the piezo unit of Siemens CR injectors with a 25mm Allen key on the vehicle



DL-CR31667

27 mm 1/2" wrench for DENSO injector solenoid



DL-CR31668

Ключ удлинённый 27 мм 1/2 для электромагнита форсунок DENSO



DL-UNI50046

Three-prong wrench for disassembling and assembling Denso injectors. Kit includes:
- wrench;
- guide nut;
- punch;
- 3 additional pins.

The wrench has holes for knocking out broken or worn pins and installing new ones.



DL-CR31715

DENSO 5471 Nozzle Nut Wrench 08K125157032

DL-NG50109

A set of keys for installing/removing the nut in the electronic part of Bosch CR injectors.

Delivery set:

DL-CR30543	10-17 wrench for installing/removing the multiplier nut of BOSCH CR injectors, 10 mm hex key with an internal diameter of 7.5 mm for a 17 mm wrench
DL-CR30558	Wrench for installing/removing the nut in the electronic part of BOSCH CR injectors, 10 mm hex key with a 1/2" square for a torque wrench
DL-CR30561	Wrench for installing/removing the multiplier nut of BOSCH CR injectors, 10 mm hex key with an internal diameter of 7.5 mm for a torque wrench
DL-CR30393	Wrench for installing/removing the nut in the electronic part of Bosch CR injectors



DL-CR31827

Bosch 111 Series Injector Valve Nut Removal/Installer Wrench with Hole (0445111009)



DL-UNI50058

A 32-tooth wrench for installing/removing DELPHI injector nuts for trucks.



DL-CR30545

SIEMENS injector multiplier nut installation/removal key



DL-UNI30434

CR injector solenoid nut installation/removal wrench with 27 mm hexagon



DL-UNI30435

CR injector solenoid nut installation/removal wrench with 28 mm hexagon



DL-UNI30389

CR injector solenoid nut installation/removal key with 29 mm hex



DL-UNI30390

CR injector solenoid nut installation/removal key with 30 mm hex



DL-CR31092

7/8" Allen key for installing/removing the inner ring nut of the CR injector solenoid. 1/2" square drive.

dieselland
equipment for diesel



DL-UNI50050

A set of wrenches designed for tightening the nozzle nuts of CR injectors from any manufacturer (BOSCH, DELPHI, DENSO, SIEMENS).

Includes:
14, 15, 17, and 19 mm hex keys,
16 and 17.5 mm octagon keys,
and a 27 mm wrench for a torque handle.



DL-UNI30384

14 mm Allen key socket



DL-UNI30385

15 mm Allen key socket



DL-UNI30386

17 mm Allen key socket



DL-UNI30387

19 mm Allen key socket



DL-UNI30388

Socket wrench with internal octagonal socket
16 mm



DL-UNI30692

Socket wrench with internal octagonal socket
17,5 mm



DL-UNI30382

27mm Allen key with square hole for torque handle



DL-UNI50054

A set of wrenches designed for tightening the nozzle nuts of CR injectors from any manufacturer (BOSCH, DELPHI, DENSO, SIEMENS).

Includes:
14, 15, 17, and 19 mm hex keys with flanges,
16 and 17.5 mm octagon keys with flanges,
and a 27 mm wrench for a torque handle.



DL-UNI30460

14 mm Allen key with flange



DL-UNI30461

15 mm Allen key with flange



DL-UNI30459

16 mm Allen key with flange



DL-UNI30462

17 mm Allen key with flange



DL-UNI30691

17.5 mm internal octagon socket wrench with flange



DL-UNI30463

19 mm Allen key with flange



DL-UNI30382

27 mm Allen key with square hole for torque handle

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DL-CR50261

A set of wrenches for installing/removing the nozzle nut for BOSCH, VDO (Siemens) piezo injectors and BOSCH series 111



DL-UNI30461

15 mm Allen key with flange



DL-UNI31442

A 7-pronged wrench for installing/removing the nozzle nut for BOSCH 0445118 injectors.Uses a 27mm socket. Made of high-quality heat-treated tool steel.



DL-UNI30459

16 mm socket wrench with flange



DL-UNI31395

A nozzle wrench for installing/removing the nozzle nut for BOSCH 0445118 injectors. The wrench has 8 internal protrusions. Uses a 27mm socket. Made of high-quality heat-treated tool steel.



DL-UNI31394

This socket wrench is used for installing/removing the nozzle nut of VDO (SIEMENS) PCRs5 injectors. It has an internal hexagonal socket. It uses a 27mm socket.
It is made of high-quality heat-treated tool steel.



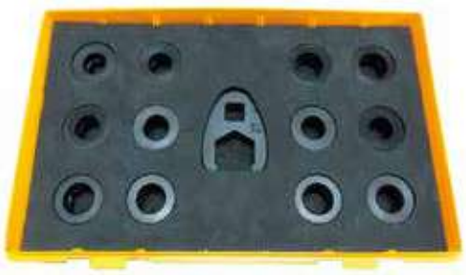
DL-UNI31435

A socket wrench for installing/removing the nozzle nut for BOSCH 111 series injectors. The wrench has 10 internal protrusions. Uses a 27mm wrench. Made of high-quality heat-treated tool steel. Durability guaranteed.



DL-UNI30382

27 mm Allen key with square hole for torque handle



DL-CR50262

A set of wrenches for installing/removing the nozzle nut of Common Rail injectors from BOSCH, VDO (Siemens), DENSO, and DELPHI for all types.



DL-UNI30460

14 mm Allen key with flange



DL-UNI30461

15 mm Allen key with flange



DL-UNI30462

17 mm Allen key with flange



DL-UNI30814

18 mm Allen key socket for BOSH electromagnetic injectors



DL-UNI30463

19 mm Allen key with flange



DL-UNI31442

A 7-pronged wrench for installing/removing the nozzle nut for BOSCH 0445118 injectors.
Uses a 27mm socket. Made of high-quality heat-treated tool steel.



DL-UNI31288

15 mm socket wrench with internal octagon for BOSH electromagnetic injectors

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DL-UNI30459

16 mm socket wrench with flange



DL-UNI30691

17.5 mm internal octagon socket wrench with flange



DL-UNI31395

A nozzle wrench for installing/removing the nozzle nut for BOSCH 0445118 injectors. The wrench has 8 internal protrusions. Uses a 27mm socket. Made of high-quality heat-treated tool steel.



DL-UNI31394

This socket wrench is used for installing/removing the nozzle nut of VDO (SIEMENS) PCRs5 injectors. It has an internal hexagonal socket. It uses a 27mm socket. It is made of high-quality heat-treated tool steel.



DL-UNI31435

A socket wrench for installing/removing the nozzle nut for BOSCH 111 series injectors. The wrench has 10 internal protrusions. Uses a 27mm socket. Made of high-quality heat-treated tool steel. Durability guaranteed.



DL-UNI30382

27 mm Allen key with square hole for torque handle

DL-CR50414

Keys set(16 pos) mounting/dismounting CR inj. nozzle nut

Application: BOSCH, DENSO, DELPHI, SIEMENS (VDO). Suitable for both electromagnetic and piezo injectors.





DL-UNI30382
27 mm
Foot-wrench for dynamometer handle 1/2" by 27mm



UNI 30460
14 mm
Wrench attachment with 6-sided socket 14 mm for DENSO injectors



UNI 30461
15 mm
Wrench attachment with 6-sided socket 15mm for SIEMENS/VDO and BOSCH 115/116 series piezo injectors and Delphi injectors



UNI 30462
17 mm
Wrench attachment with 6-sided socket 17 mm for BOSCH injectors



CR 30814
18 mm
Wrench attachment with 6 - sidedsocket1 8 m m for SCANIA 1881565 injectors



CR 30463
19 mm
Wrench attachment with 6-sided socket 19 mm for BOSCH injectors



CR 31442
Wrench attachment with 7-sided socket for BOSCH 118 series piezo injectors



CR 31288
15V mm
Wrench attachment with 8-sided socket 15 mm for BOSCH 0445120460 (GAZ) injectors



CR 30459
16 mm
Wrench attachment with 8-sided socket 16 mm for SIEMENS /VDO and BOSCH 116/117 series piezo injectors



UNI 30691
17,5 mm
Wrench attachment with 8-sided socket 17.5 mm for BOSCH, Fiat, Iveco injectors



CR 31394
Wrench attachment with 9-sided socket for SIEMENS/VDO PCRs5 piezo injectors



CR 31395
Wrench attachment with 8 internal protrusions for BOSCH 118 series piezo injectors



CR 31856
Wrench attachment with 9 internal protrusions for BOSCH 110/111 series injectors



CR 31435
Wrench attachment with 10 internal protrusions for BOSCH 111 series injectors



CR 31846
Wrench attachment with 12 internal protrusions for BOSCH 118 series piezo injectors



CR 31715
Wrench attachment with 12 internal protrusions for DENSO piezo injectors



DL-UNI50105

A set of 25, 27, 29, and 30 mm Allen keys with a square hole for a torque handle or a 1/2" wrench.



DL-UNI30803

24 mm Allen wrench with a square hole for a torque handle or a 1/2" wrench



DL-UNI30382

A 27 mm Allen wrench with a square hole for a torque handle or a 1/2" wrench



DL-UNI30541

A 29 mm Allen wrench with a square hole for a torque handle or a 1/2" wrench



DL-UNI30625

A 30 mm Allen wrench with a square hole for a torque handle or a 1/2" wrench



DL-CR30814

Nut wrench (18 mm) for installing/removing the CR SCANIA injector nozzle nut 1881565
The wrench has 6 edges and a width of 18 mm.



DL-CR30816

2V wrench for installing/removing the CR SCANIA injector solenoid nut (1881565)



DL-CR30815

16Z wrench for installing/removing the toothed nut for CR Scania injectors (1881565)



DL-CR50119

Scania CR Injector Disassembly/Assembly Wrench Set 1881565

The kit includes:
• DL-CR30814 Wrench
• DL-CR30815 Wrench
• DL-CR30816 Wrench



DL-CR30843

A wrench attachment for easy and safe removal of the piezo injector tube (27 mm wrench).
Prevents damage to the injector backflow nipple.



DL-CR31808

36.4 mm Allen key for 4-pin injectors BOSCH 0445120386



DL-CR31877

CR 0445120386 4-pin injector nozzle nut installation and removal tool with 12 grooves



DL-UIS30767

Adapter for testing Delphi Smart CR injectors (1725282).



DL-UNI50039

Wrench for installing/removing the nozzle nut Ø 20.9 mm for Delphi Smart injectors
(for a torque wrench)



DL-UNI50131

Wrench for installing/removing the nozzle nut Ø 25.8 mm for Bosch CR injectors
(for a torque wrench)



DL-UNI50386

BOSCH 0445120303 Ø31.2 mm Solenoid Nut Installation/Removal Wrench
BOSCH 0445120303 Ø31.2 mm Solenoid Nut Installation/Removal Wrench for 4-pin injectors



DL-CR31095

Wrench for installing/removing the inner nut ring of Denso, CAT, and Perkins injectors.



DL-CR50148

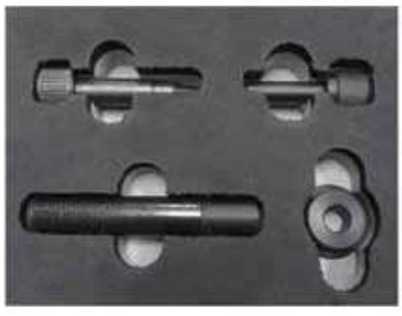
CRIN injector valve installation tool



DL-CR50154

CRIN injector multiplier valve removal tool M19 x 0.75mm

dieselland equipment for diesel



DL-CR50104

CR Injector O-Ring Removal and Installation Kit

DL-CR31553 Pusher (Ø 9.4 mm x 7.4 mm) for installing the sealing ring of the BOSCH CRIN 3-18 injectors
DL-CR30756 Guide bushing (Ø 10mm)
DL-CR30755 Valve pusher (Ø 15.5 mm)
DL-CR30753 O-ring remover
Organizer.



DL-CR50298

CR Injector O-Ring Removal and Installation Kit

DL-CR31553 Pusher (Ø 9.4 mm x 7.4 mm) for installing the sealing ring of the BOSCH CRIN 3-18 injectors
DL-CR30756 Guide bushing (Ø 10mm)
DL-CR30755 Valve pusher (Ø 15.5 mm)
DL-CR30754 Pusher (Ø 10mm x 7.6mm) for installing the sealing ring for BOSCH CRI injectors
DL-CR30753 O-ring remover
Organizer.

DL-CR50172

A set of tools for installing paronite rings on CRIN injectors

Delivery set:



DL-CR50153

Paronite ring installation tool for CRIN injectors
Collar outer diameter: 6.5 mm
Connecting thread: M18 x 0.75 mm
Similar to BOSCH 0986613648
Similar to SIRINI AAZ034-648



DL-CR50155

Paronite ring installation tool for CRIN injectors
Collar outer diameter: 7.5 mm
Connecting thread: M18 x 0.75 mm
Similar to BOSCH 0986613646
Similar to SIRINI AAZ034-646



DL-CR50170

Paronite ring installation tool for CRIN injectors
Collar outer diameter: 7.5 mm
Connecting thread: M17x1 mm
Similar to BOSCH 0986613640
Similar to SIRINI AAZ034-640

ATTENTION! ***All accessories are sold separately.***



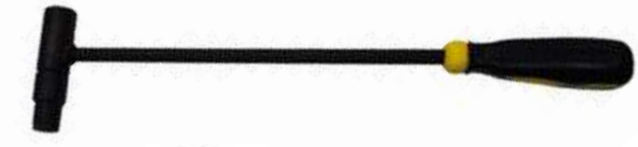
DL-CR50308

Adapter for pressing in sealing rings
for CRI1/CRI2 injectors
Consists of a **DL-CR31579** guide nut
and a **DL-CR31578** pusher.



DL-CR50305

CRI/CRIN1 Valve Seat Extractor (Collet)



DL-CR50317

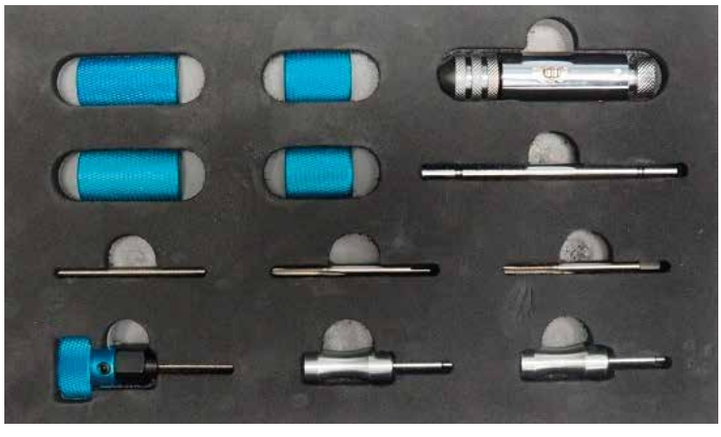
Injector needle extractor



DL-CR31745

CAT C6.6 Injector Anchor Plate Removal Tool

DL-CR50245 **DENSO CR Injector Filter Removal and Installation Kit**



Delivery set:

1. M14 adapter – 2 pcs.
2. M12 adapter – 2 pcs.
3. Collet chuck – 1 pc.
4. Collet chuck handle – 1 pc.
5. Threaded stud – 2 pcs.
6. Tap – 2 pcs.
7. Filter extractor – 1 pc.
8. Filter installation pusher – 1 pc.

DL-CR50300 **A set of cutters for cleaning engine injector seats for Delphi and Bosch**







Applicability:

- Bosch common rail Piezo
- Common rail Daily
- Volkswagen and Audi unit injectors
- Tector and Man injectors



D-07147122

1/2" Torque Wrench
25-100 Nm



D-07147121

3/8″ torque wrench



D-07147120

1/4" Torque Wrench
0-20 Nm



DL-UNI30776

Adapter with 1/4" internal square and 1/2" external square



DL-UNI31593

Adapter with 3/8" internal square and 1/2" external square



DL-UNI50327

Double-ended pneumatic puller for removing injectors from a car engine.

The kit includes two adapters for mounting the injectors: DL-CR30542 with M17x1 to M14x1.5 threads; DL-CR30984 with M20x1.5 to M14x1.5 threads.



DL-UNI50334

Single-ended pneumatic puller for removing injectors from a car engine

The kit includes two adapters for mounting injectors: DL-CR30542 with M17x1 to M14x1.5 threads; DL-CR30984 with M20x1.5 to M14x1.5 threads



DL-UNI50049

A puller for removing Bosch CR injectors from the engine head.

Injectors can be removed in two ways:
using a hydraulic jack or
using a slide hammer.



DL-CR50197

A puller (device for removing) BOSCH injectors from the engine.

Suitable for removing BOSCH injectors with an M17x1 internal thread and an M27x1 external thread.
Injectors can be removed in two ways:
using a hydraulic jack or
using a slide hammer.



DL-CR50337

SsangYong Kyron Fuel Injector Puller Kit

The puller consists of three parts: a housing, a nut, and a screw.
The kit also includes two spacers of different heights.



DL-CR30542

Internal puller for CR injectors with M17x1 and M14x1.5 threads



DL-CR31077

A puller for CR injectors with an M14x1.5 internal thread and an M14x1.5 external thread.



DL-CR30984

Internal puller for injectors CR Denso 23670-OR010 with thread M20x1 and M14x1.5



DL-CR30990

Internal puller for Siemens CR injectors with M25x1 and M14x1.5 threads



DL-UNI50060

Impact puller 340 mm long



DL-CR50336

Delphi Piezo Injector Puller, Peugeot 2.0, Mercedes OM651



DL-CR50059

Injector puller CR with M27x1 thread



DL-CR31600

Puller for removing DENSO injectors from the engine



DL-CR50387

Siemens injector puller on a Ford vehicle



D-CER50500

Ceramic Paste Non-Stick Paste in a 50g tube.



DL-UNI50062

Adapter for measuring compression in diesel engines (M12x1.5; stem L=175 mm).
Installed in place of the injector.
Pressure sensor not included.



DL-UNI20008

Diesel engine compression measurement kit.
The kit includes:
• DL-UNI50062 adapter – 1 pc.
• PR-tester – 1 pc.
• Pressure sensor cable – 1 pc.

The pressure sensor is not included.

**The appearance and package contents may change to improve the performance of the equipment.*



DL-UNI20000

Diesel engine compression test kit.
Kit includes:
• DL-UNI50062 adapter – 1 pc.
• PR-tester – 1 pc.
• Pressure sensor cable – 1 pc.
• 150 bar or 200 bar pressure sensor



DL-CR10045

150 bar pressure sensor for the DL-UNI20008 compression tester



DL-CR10046

250 bar pressure sensor for the DL-UNI20008 compression tester



DL-PR363

KDiesel Engine Compression Tester Kit
The kit includes:

• Recording Compression Tester — 1 pc.,
• Instructions — 1 pc.,
• Quick-release adapter M14x1.5 — 1 pc.,
• Adapter M14x1.5 — 1 pc.,
• M12x1.5 adapter — 1 pc.,
• Spare cards — 1 set,
• Case — 1 pc.



DL-WT04A3021

Fuel pressure measuring kit for low-pressure lines in diesel and gasoline engines.

Measurement range: 0-140 psi (0-10 bar)



DL-KIP0001

Mechanical watch-type measuring head
Specifications:
- Type – mechanical
- Stroke – 10 mm
- Resolution – 0.01 mm
- Repeatability – 0.01 mm



DL-KIP0002

Mechanical Dial Head
Specifications:
- Type – Mechanical
- Stroke – 5 mm
- Resolution – 0.001 mm
- Repeatability – 0.001 mm



DL-KIP0003

Mechanical Dial Head
Specifications:
- Type – Mechanical
- Stroke – 5 mm
- Resolution – 0.01 mm
- Repeatability – 0.02 mm



DL-KIP0004

Mechanical Dial Head
Specifications:
- Type – Mechanical
- Stroke – 10 mm
- Resolution – 0.01 mm
- Repeatability – 0.02 mm



DL-KIP0005

Mechanical Dial Head
Specifications:
- Type – Mechanical
- Stroke – 20 mm
- Resolution – 0.01 mm
- Repeatability – 0.03 mm



DL-KIP0006

Mechanical watch-type measuring head
Specifications:
- Type – mechanical
- Stroke – 30 mm
- Resolution – 0.01 mm
- Repeatability – 0.03 mm



DL-KIP0007

Mechanical Dial Head
Specifications:
- Type – Mechanical
- Stroke – 50 mm
- Resolution – 0.01 mm
- Repeatability – 0.04 mm



DL-KIP0008

Indicator Measuring Head
Specifications:
- Type – Mechanical
- Stroke – 25 mm
- Resolution – 0.01 mm
- Repeatability – 0.02 mm



DL-KIP0010

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 12.7 mm
- Resolution – 0.01 mm
- Repeatability – 0.01 mm
- Sleeve – 8 mm
- Automatic shut-off



DL-KIP0011

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 12.7 mm
- Resolution – 0.001 mm
- Repeatability – 0.004 mm
- Sleeve – 8 mm
- Automatic shut-off



DL-KIP0012

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 25 mm
- Resolution – 0.001 mm
- Repeatability – 0.004 mm
- Sleeve – 8 mm
- Automatic shut-off



DL-KIP0015 **Limit**

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 12.5 mm
- Resolution – 0.01 mm
- Repeatability – 0.03 mm
- Sleeve – 8 mm
- Automatic shut-off



DL-KIP0016 **Limit**

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 12.5 mm
- Resolution – 0.001 mm
- Repeatability – 0.004 mm
- Sleeve – 8 mm
- Automatic shut-off





DL-KIP0023 **Dieselland**

Communication key for the measuring head to the PC



DL-KIP0025 **Eee**

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 12.7 mm
- Resolution – 0.001 mm
- Repeatability – 0.002 mm
- Sleeve – 8 mm
- Automatic shut-off



DL-KIP0026 **Eee**

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 25 mm
- Resolution – 0.001 mm
- Repeatability – 0.004 mm
- Sleeve – 8 mm
- Automatic shut-off



DL-KIP0028 **Eee**

Communication key for the measuring head to the PC



DL-KIP0029 **SHAHE**

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 12.7 mm
- Resolution – 0.001 mm
- Repeatability – 0.002 mm
- Sleeve – 8 mm
- Automatic power-off
- PC connection via COM port (cable included)



DL-KIP030 **SHAHE**

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 12.7 mm
- Resolution – 0.001 mm
- Repeatability – 0.002 mm
- Sleeve – 8 mm
- Automatic shut-off



DL-KIP0031 **SHAHE**

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 25 mm
- Resolution – 0.001 mm
- Repeatability – 0.004 mm
- Sleeve – 8 mm
- Automatic shut-off



DL-KIP0032 **Eee**

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 50 mm
- Resolution – 0.001 mm
- Repeatability – 0.005 mm
- Sleeve – 8 mm
- Automatic shut-off



DL-KIP0034

Digital indicator measuring head with an accuracy of 0.01 mm, stroke 12.5 mm
Specifications:
- Type – Electronic
- Resolution – 0.01 mm
- Accuracy – 0.01 mm
- Large, high-contrast LCD display
- Carbide tip, thread – M2.5
- Sleeve – 8 mm
- Automatic power-off
- Body diameter – 60 mm



DL-KIP0035

Digital indicator measuring head with an accuracy of 0.001 mm, stroke 12.5 mm
Specifications:
- Type – Electronic
- Measurement range – 12.7 mm
- Resolution – 0.001 mm
- Accuracy – 0.002 mm
- Large, high-contrast LCD display
- Carbide tip, thread – M2.5
- Sleeve – 8 mm
- Automatic power-off
- Body diameter – 60 mm



DL-KIP0036

Digital indicator measuring head with an accuracy of 0.001 mm, 25 mm stroke
Specifications:
- Type – Electronic
- Measurement range – 25.4 mm
- Resolution – 0.001 mm
- Accuracy – 0.004 mm
- Large, high-contrast LCD display
- Carbide tip, thread – M2.5
- Sleeve – 8 mm
- Automatic power-off
- Body diameter – 60 mm



DL-KIP0037

Digital Thickness Gauge 0-12.7 mm, 0.001 mm
Specifications:
- Measurement range: 0-12.7 mm
- Resolution: 0.001 mm
- LCD display
- Automatic power-off
- Body diameter: 57 mm



DL-KIP0250

Magnetic stand for mounting the indicator measuring head

The stand's base is highly magnetic, allowing installation on both horizontal and vertical surfaces.

ATTENTION!
The measuring head is not included in the package!



DL-KIP0251

Magnetic stand for mounting the indicator measuring head

The stand's base is highly magnetic, allowing installation on both horizontal and vertical surfaces.

ATTENTION!
The measuring head is not included in the package!



DL-STC150

Digital caliper



DL-M030

(Limited quantity)
Digital Micrometer

Measurement range: 0-25mm
Measurement accuracy: 0.001mm



DL-M035

Digital micrometer

Measurement range: 0-25 mm
Measurement accuracy: 0.001 mm



DL-M040

D-SDM
Digital Micrometer Stand



D-DMTS-KIT

(Limited quantity)
DL-030 and DL-040 kit.
Tripod and digital micrometer



CR-NEXT-ST01

Specialized workbench with two drawers

Included:

- Table with two drawers
- Perforated wall for tool storage
- Lighting ramp with two holders
- PC shelf
- Signal generator shelf



D-KMD

A container for cleaning small parts in an ultrasonic bath.



D-1012020001

Stainless steel bathtub 320x260



D-101340001

Stainless steel bathtub 320x170



D-UV10

Ultrasonic bath 10-liter capacity



D-UV05

Ultrasonic bath 5-liter capacity



D-UV9.5K

Ultrasonic bath 9.5 liter capacity



D-UV9.5R

Ultrasonic bath
9.5 liter capacity



D-UV9.5R

Ultrasonic bath
5.7 liter capacity



DL-AP2

Set of 2 Antimagnetic Tweezers



0503-03

High-magnification lens with illumination



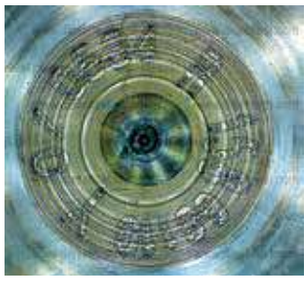
DL-MO

Optical microscope



DL-MV200UM

Digital microscope



DL-UNI20015

A set with an industrial microscope, stand, and illumination.

The microscope has a clear image and high resolution.







Technical specifications:

1. Microscope magnification: 8x-130x
2. Working distance: 50-200 mm
3. Monitor connection via ports: (HDMI/VGA)
4. Microscope dimensions (width x length): 40 mm x 115 mm

Package contents:

1. **DL-UNI20016** Industrial electronic microscope with power supply (HDMI/VGA).
2. **DL-UNI20017** Microscope stand
3. **DL-UNI20018** Microscope LED lamp.

ATTENTION! ***All accessories included in the package are also sold separately!***



DL-UNI20020

A set with an industrial microscope, extended stand, and illumination.

The microscope has a clear image and high resolution.



Technical specifications:

1. Microscope magnification: 8x-130x
2. Working distance: 50-200 mm
3. Monitor connection via ports: (HDMI/VGA)
4. Microscope dimensions (width x length): 40 mm x 115 mm

Package contents:

1. **DL-UNI20016** Industrial electronic microscope with power supply (HDMI/VGA).
2. **DL-UNI20019** Extended microscope stand
3. **DL-UNI20018** LED lamp for microscope.

ATTENTION! All accessories included in the package are also sold separately!



DL-UNI20025

A set with an industrial microscope, extended stand, illumination, and monitor.

The microscope has a clear image and high resolution.



Technical specifications:

1. Microscope magnification: 8x-130x
2. Working distance: 50-200 mm
3. Monitor connection via HDMI/VGA ports
4. Microscope dimensions (width x length): 40 mm x 115 mm

Package contents:

1. **DL-UNI20016** Industrial electronic microscope with power supply (HDMI/VGA/AV).
2. **DL-UNI20019** Extended microscope stand
3. **DL-UNI20018** LED lamp for microscope.
4. **DL-UNI20021** Monitor.
5. **DL-UNI20022** Special monitor stand on a stand.

ATTENTION! ***All accessories included in the package are also sold separately!***



DL-UNI20030

A set with an industrial microscope, extended stand, illumination, and monitor.

The microscope has a clear image and high resolution.



Technical specifications:

1. Microscope magnification: 8x-130x
2. Working distance: 50-200 mm
3. Monitor connection via HDMI/VGA ports
4. Microscope dimensions (width x length): 40 mm x 115 mm

Package contents:

1. **DL-UNI20010** Industrial electronic microscope with power supply (HDMI/USB/AV).
2. **DL-UNI20019** Extended microscope stand
3. **DL-UNI20018** LED lamp for microscope.
4. **DL-UNI20021** Monitor.
5. **DL-UNI20022** Special monitor stand on a stand.

ATTENTION! ***All accessories included in the package are also sold separately!***



DL-UNI20026

A set with an industrial microscope, extended stand, illumination, and monitor.

The microscope has a clear image and high resolution.



Technical specifications:

1. Microscope magnification: 5x-100x
2. Working distance: 50-170 mm
3. Monitor connection via HDMI ports
4. Microscope dimensions (width x length): 40 mm x 115 mm

Package contents:

1. **DL-UNI20013** Industrial electronic microscope with power supply and illumination lamp (HDMI / USB).
2. **DL-UNI20019** Extended microscope stand
3. **DL-UNI20021** Monitor
4. **DL-UNI20022** Special monitor stand on a stand.

ATTENTION! ***All accessories included in the package are also sold separately!***



DL-UNI20027

A set with an industrial microscope, extended stand, illumination, and monitor.

The microscope has a clear image and high resolution.



Technical specifications:

1. Microscope magnification: 10x-180x
2. Working distance: 100-150 mm
3. Monitor connection via HDMI ports
4. Microscope dimensions (width x length): 40 mm x 115 mm

Package contents:

1. **DL-UNI20014** Industrial electronic microscope with power supply (HDMI/USB/AV).
2. **DL-UNI20019** Extended microscope stand
3. **DL-UNI20018** LED lamp for microscope.
4. **DL-UNI20021** Monitor.
5. **DL-UNI20022** Special monitor stand on a stand.

ATTENTION! ***All accessories included in the package are also sold separately!***



DL-UNI20031 Microscope kit HDMI USB 1080P FHD 48MP x 200

The microscope offers clear images and high resolution.
Objective: 200X magnification C-mount



Specifications:

1. Photo/video recording
2. Additional functions: adding guide lines, image freeze, mirror display, image rotation, digital zoom
3. Body: aluminum alloy
4. Sensor: Panasonic
5. Sensor resolution: 48 MP
6. Frame rate: 1920*1080 / 60 fps
7. Outputs: USB, HDMI, TF card, IR sensor for remote control
8. Power: DC-12V / 1A
9. Maximum TF card capacity: 64G
10. HDMI image resolution: 8168*6128 4:3 (50MP) 8168*4592 16:9 (37MP) (for TF card)
11. USB image resolution: 1920*1080 (for PC USB)
12. Video resolution: 1920*1080/60 fps for HDMI, 1920*1080/30 fps, 1280*720/30 fps, 640*480/30 fps, and 320*240/30 fps for USB
13. Video format: MP4
14. Image format: JPG
15. Remote control
16. Language support: Russian, Chinese, English, French, Spanish, Portuguese, German, Italian, Japanese
17. Lens: 200X C-MOUNT
18. Working distance: 95 mm (maximum working distance 16 cm)
19. Zoom ratio: 6.5:1

Package contents:

1. **DL-UNI20023** **Industrial electronic microscope with power supply (HDMI/USB/AV).**
2. **DL-UNI20019** **Extended Microscope Stand**
3. **DL-UNI20018** **Microscope LED Lamp**
4. **DL-UNI20021** **Monitor**
5. **DL-UNI20022** **Special Monitor Holder on a Stand**

ATTENTION! ***All included accessories are also sold separately!***

DL-UNI20032

A set with an industrial microscope, extended stand, illumination, and monitor.

The microscope offers clear images and high resolution.
Objective: 180X magnification C-mount



Specifications:

1. Photo/video recording
2. Additional functions: adding guide lines, image freeze, mirror display, image rotation, digital zoom
3. Body: aluminum alloy
4. Sensor: Panasonic
5. Sensor resolution: 37.0 MP
6. Frame rate: 1920*1080 / 60 fps
7. Outputs: USB, HDMI, TF card, IR sensor for remote control
8. Power: DC-12V / 1A
9. Maximum TF card capacity: 64G
10. HDMI image resolution: 8168*6128 4:3 (50MP) 8168*4592 16:9 (37MP) (for TF card)
11. USB image resolution: 1920*1080 (for PC) USB)
12. Video resolution: 1920*1080 / 60 fps for HDMI, 1920*1080 / 30 fps 1280*720 / 30 fps 640*480 / 30 fps 320*240 / 30 fps for USB
13. Video format: MP4
14. Image format: JPG
15. Remote control
16. Language support: Russian, Chinese, English, French, Spanish, Portuguese, German, Italian, Japanese
17. Lens: 180X C-MOUNT
18. Working distance: 95 mm (maximum working distance 16 cm)
19. Zoom ratio: 6.5: 1

Package contents:

1. **DL-UNI20011** **Industrial electronic microscope with power supply (HDMI / USB / AV).**
2. **DL-UNI20019** **Extended Microscope Stand**
3. **DL-UNI20018** **Microscope LED Lamp**
4. **DL-UNI20021** **Monitor**
5. **DL-UNI20022** **Special Monitor Holder on a Tripod**

ATTENTION! ***All included accessories are also sold separately!***



DL-UNI20017

Tripod holder for a microscope



DL-UNI20019

Extended stand holder for microscope



DL-UNI20022

Monitor holder on a tripod
Mounting diameter: 25mm.



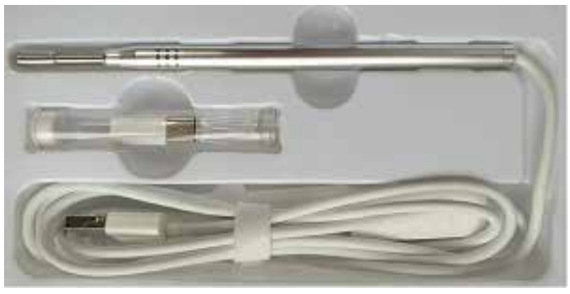
DL-UNI20021

Monitor

Package Contents:
1. Monitor
2. HDMI Cable
3. BNC Cable
4. AV Cable
5. Remote Control
6. Power Supply
7. Bracket
8. VGA Cable
9. Gasket







DL-UNI20012

3.9 mm endoscope camera

Specifications:
1. Camera resolution: 1.0 megapixel (FHD)
2. Field of view: 70°
3. Diameter: 3.9 mm
4. Length of the thin part: 25 mm
5. Overall length: 140 mm
6. Backlight: 6 high-brightness LEDs
7. Waterproof housing
8. Two types of connection ports: USB/Type-C
9. Adjustable backlight
10. Ability to save photos
11. Ability to install software on a phone or PC



DL-UNI20100

Control stand for injector and fuel injection pump test benches

Advantages of this stand:
The stand can be moved along the floor on locking wheels.

A PC with a keyboard and monitor, or a laptop, can be installed on the stand.
At the bottom of the stand is a shelf for a printer, which is covered by a door with polycarbonate glass.

The protective printer door slides inside the stand, providing additional access to the printer.

The middle section of the stand has two shelves for mounting control devices for various fuel systems.

Easy access to all equipment installed on this control stand is provided.

Specifications:
- Rack weight: 80 kg
- Overall dimensions (width x depth x height): 500 x 500 x 1600 mm
- Load capacity: 160 kg



DL-RP400

Manual injector tester with mechanical pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Mechanical pressure gauge – 1 pc.
- Connecting tube – 2 pcs.



DL-RP410 **(without pressure sensor)**

DL-RP415 **(with pressure sensor 1500 bar)**

Handheld injector tester with electronic pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for **RP 415**) 1500 bar – 1 pc.



DL-RP420 **(without pressure sensor)**

DL-RP425 **(with pressure sensor 1500 bar)**

Handheld injector tester with a 2-channel electronic pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for **RP 425**) 1500 bar – 1 pc.



DL-RP430

Manufacturer: ZECA (Italy)
Injector spray testing chamber (aspirator)
Allows visual inspection of the performance of diesel injector nozzles without risk to health. The device collects the working fluid for reuse.

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DL-RP500

Manufacturer: ZECA (Italy)
Manual injector testing press with mechanical pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Mechanical pressure gauge – 1 pc.
- Connecting tube – 2 pcs.



DL-RP510 **(without pressure sensor)**

DL-RP515 **(with pressure sensor 1500 bar)**

ZECA manual injector testing press with electronic pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for RP 515) 1500 bar – 1 pc.



DL-RP520 **(without pressure sensor)**

DL-RP525 **(with pressure sensor 1500 bar)**

ZECA manual injector testing press with 2-channel electronic pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for RP 525) 1500 bar – 1 pc.

PUMP TEST.02

Equipment for testing high-pressure Common Rail pumps



The kit includes:

1. The **PTC-2520** device is designed to provide user-programmable control signals to Common Rail fuel injection pump pressure regulators to test their performance.

2. The **FMDE-520** device is designed to measure Common Rail fuel injection pump performance via two channels.

3. A wheeled instrument stand for convenient operation.

4. A set of adapter cables.

5. Fine fluid filters (2 pcs.)

6. Software.









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4 EQUIPMENT AND TOOLS for testing and repairing common rail pumps



PTC-2520 CP TESTER

A device for testing and testing high-pressure fuel pumps of the Common Rail system with a set of cables.







FMDE-520

A device for testing the performance of Common Rail fuel pumps from various manufacturers, including Bosch, Delphi, Denso, Siemens, and Cummins, on a test bench.

It features a two-channel flow meter (pump feed and return) in various modes, with digital information displayed on a backlit LCD display.







DL-USN0021 **(ST-03)**

Universal stand for CR pumps

DL-USN0021 (ST-03) Delivery Set:
1. Swivel Stand – 1 pc.
2. Set of 6 CR Pump Mounting Flanges
3. Set of 4 Pump Mounting Plates

DL-USN0021CR (ST-03CR) Delivery Set:
1. Swivel Stand – 1 pc.
2. Set of 6 CR Pump Mounting Flanges

ATTENTION!
Holder plates for CR and rotary injection pumps are also sold separately!





DL-USN0021 **(ST-03)**

Universal stand for CR pumps

DL-USN0021 (ST-03) Delivery Set:
1. Swivel Stand – 1 pc.
2. Set of 6 CR Pump Mounting Flanges
3. Set of 4 Pump Mounting Plates

DL-USN0021CR (ST-03CR) Delivery Set:
1. Swivel Stand – 1 pc.
2. Set of 6 CR Pump Mounting Flanges

ATTENTION!
Holder plates for CR and rotary injection pumps are also sold separately!







DL-CR30866

A flange for mounting on a CR DELPHI high-pressure fuel pump stand with a 50 mm mounting diameter and three mounting holes: two of which are perpendicular to the plane of the mounting hole, and one parallel to it.





DL-CR31150

Flange for mounting on a CR DELPHI high-pressure fuel pump stand with a 50 mm bore diameter and mounting holes perpendicular to the bore plane.





DL-CR31228 (CP383)

Mounting flange for CR fuel injection pump BOSCH 0445010091 MB Sprinter, Viti, Viano 2.1L. 2006 and later.
Bore size: 50 mm.





DL-CR31513

Flange for mounting on a bench CR CP3S3/K140/40-789S high-pressure fuel pump BOSCH 0445020125
Bore 107 mm





DL-CR50266

Angle stand for mounting the CR DENSO 097300-0023 fuel injection pump during testing on a test bench.

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COUPLINGS



DL-UNI50132

Compensating coupling with clamping jaws and reinforced plate pack



DL-UNI50139

Compensating coupling with flange connection and reinforced plate pack (similar to Bosch 1686401024)



DL-CR31953

Adapter from flange to splined coupling



DL-CB230016

Cone coupling with flange connection Ø 30 mm
Cam Box2, high-pressure fuel pump



DL-CB130139

Cone coupling Ø 30 mm
Cam Box2, high-pressure fuel pump



DL-CR31594

K35 coupling for connecting to the SR2 MAZ high-pressure fuel pump test bench.
It is mounted to the expansion joint flange.
Suitable for BOSCH EPS-815, CR-Test 4E, CR-Test 2P test benches and compatible mounting hardware.



DL-M22 **(UNI31481)**

Cone coupling Ø 22 mm
for CR high-pressure fuel pumps



DL-CR31480

22 mm cone coupling for testing CR Siemens (VDO) pumps.
Mounts to the expansion joint flange.
Compatible with BOSCH EPS-815, CR-Test 4E, CR-Test 2P test stands and compatible mounting hardware.



DL-M23 **(UNI30917)**

Cone coupling Ø 23 mm for Continental A2C59517053, Bosch CR fuel injection pumps CP4HS2 0445010637, CP4S2 0445010611, CP4S1 0445010506



DL-CR31558 (K23)

23 mm cone coupling for Bosch and Continental CR fuel injection pumps
Mounts to the expansion joint flange.
Compatible with CR-Test, BOSCH EPS-815, and compatible mounts.
Compatible CR fuel injection pumps:

- Continental A2C59517053
- BOSCH CR/CP4HS2 0445010637
- BOSCH CR/CP4S2 0445010611
- BOSCH CR/CP4S1 0445010506



DL-M24 (UNI30127)

Cone coupling Ø 24 mm
for CRCP-3 high-pressure
fuel pump model 044502088



DL-M24L (CR31098)

Extended coupling Ø 24 mm
for DENSO HP0 fuel injection pumps



DL-CR31251

24mm cone coupling for CR SR-3 high-pressure fuel pumps
Mounts to the expansion coupling flange.
Compatible with BOSCH EPS-815, CR-Test 4E, CR-Test 2P test stands and compatible mounting hardware.



DL-MS8

Splined coupling for
CR high-pressure
fuel pumps
(for MV, spline 8x18)



DL-MS9

Splined coupling for CR fuel
injection pump (for Renault)
9x20 spline



DL-UNI31025

Coupling for Bosch SR1 fuel injection pumps
(includes UNI31028 insert with an 8 mm groove) and for VDO fuel injection pumps (includes UNI31027 insert with a 9 mm groove). Can be used on Bosch test benches instead of coupling 1685702090. Compatible with BOSCH EPS-815, CR-Test 4E, CR-Test 2P test benches and compatible mountings.



DL-MS10D

Splined coupling for
CR Denso fuel injection



DL-MS10S

Splined coupling for Siemens
Peugeot Boxer 2.2
high-pressure fuel pump,
10x21.6 spline



DL-UNI31029

DL-UNI31029 coupling for Denso fuel injection pumps
(includes UNI31030 insert with a 10 mm groove).
Compatible with BOSCH EPS-815, CR-Test 4E, CR-Test 2P test benches and compatible mounts.

DL-MS11

Splined coupling for CR MAN
high-pressure fuel pumps (11 splines)



DL-CR31248

Splined coupling (11 splines) for CR-MANN high-pressure fuel pumps
Mounts to the expansion joint flange.
Compatible with BOSCH EPS-815, CR-Test 4E,
CR-Test 2P test benches and compatible mounts.

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DL-M17

Cone coupling Ø 17 mm
for CR and VE high-pressure fuel pumps



DL-CR31271

17mm cone coupling for testing CR pumps and VE high-pressure fuel pumps
Mounts to the expansion joint flange. Compatible with BOSCH EPS-815, CR-Test 4E, CR-Test 2P test benches and compatible mounts.



DL-M19

Cone coupling Ø 19 mm
for CR pumps and VE high-pressure fuel pumps



DL-CR31269

19mm cone coupling for testing CR pumps and VE high-pressure fuel pumps
Mounts to the expansion joint flange.
Compatible with BOSCH EPS-815, CR-Test 4E, CR-Test 2P test benches and compatible mounting hardware.



DL-CR31956

Flange coupling for THBD BOSCH 0445010170, 0445010233, 0986437044



DL-CR31703

Clamping jaw coupling for CR fuel injection pumps Delphi 28384347



DL-CR31669

Flange coupling for CR Delphi high-pressure fuel pump 28384347
Mounts to the expansion joint flange.
Compatible with BOSCH EPS-815, CR-Test 4E, CR-Test 2P test stands and compatible mounting hardware.



DL-MS4 **(DL-CR30955)**

Coupling for Bosch fuel injection pump 0445010512
The coupling has grooves for the pump connector splines and a cone for centering.



DL-CR31416

Bosch 0445010512 CR / CP4S1 Fuel Injection Pump Coupling
The coupling has grooves for the pump coupling insert splines and a cone for centering. It is attached to the flange of the expansion joint. Compatible with BOSCH EPS-815, CR-Test 4E, CR-Test 2P test stands and compatible mounts.



DL-CR50137

Fuel injection pump repair kit for the CR CP4 Bosch.
Included:

- **DL-CR30861** Flange – 1 pc.
- **DL-CR30862** Flange – 1 pc.
- **DL-UNI50083** Adapter – 1 pc.
- **DL-UNI50084** Adapter – 2 pcs.
- **DL-UNI30980** Nut M16x1 – 3 pcs.
- **DL-CR31003** Socket head for CP4 pump valve – 1 pc.



DL-CR50151

A set of supports for mounting Denso HP0 pumps on a stand.
Included in delivery:

- **DL-CR31094** Support – 2 pcs.
- **DL-UNI30090** Profile bolt – 2 pcs.
- M14 nut – 2 pcs.
- 14mm washer – 2 pcs.
- 14mm lock washer – 2 pcs.



DL-CR50315

A device for hanging the plunger of pump assemblies for BOSCH CP2 Common Rail pumps.



DL-CR50156

Clamp kit for assembling the CP3 high-pressure fuel pump (Similar to SIRINI AZ0128-427)
Included in delivery:

- **DL-CR50152** clamp – 3 pcs.



DL-CR50307

Clamp for disassembling the CR CP3 high-pressure fuel pump metering valve
Included in delivery:

- **DL-CR31580** clamp body — 1 pc
- **DL-CR31582** clamp slider — 1 pc
- **DL-CR31581** clamp axle — 1 pc
- Pins — 2 pcs
- Grooved fixing bolt — 1 pc



DL-CR31003

Bosch CR CP4 high-pressure fuel pump valve installation/ removal socket with 1/2" torque wrench.



DL-CR31868

Socket wrench for installing/removing the bypass valve for the Bosch CR CP4 fuel injection pump (0445010790).



DL-CR31869

Socket wrench for installing/ removing the bypass valve of the DENSO CR fuel injection pump



DL-CR31676

Fitting plate
Used with fittings DL-CR31683 for testing CP1 MB pumps



DL-CR50364

Set of fittings with a clamp for testing the CP1 high-pressure fuel pump
Included in delivery:

- **DL-CR31683** Fitting, diameter 8 mm — 2 pcs,
- **DL-CR31676** Mounting plate — 1 pc,
- **D-27-013700** O-ring — 2 pcs.



DL-CR31865

Key for the fuel injection pump plug DENSO HP2 / HP3 / HP4



DL-CR50198

CR CP-3 fuel injection pump pressure measurement adapter.
Installed in place of the metering unit.
Included:
● Adapter body – 1/8" barb fitting
for hose with Ø10mm internal diameter

ATTENTION! ***The quick-connect fitting is not included in the delivery and must be ordered separately.***



DL-CR31497

CR Booster Pump Pressure Gauge Adapter

WARNING! *The adapter is supplied without the tube fittings and pressure gauge!*



DL-CR31497KIT

CR Booster Pump Pressure Measurement Adapter Kit

Included:

- **DL-SP09570** M5x4mm L-Shaped Quick Connector
- **DL-SP09580** 1/4"x4mm Female Pressure Gauge Connector
- **DL-P1002** Flexible PVC Tubing, 4mm Diameter (100cm)
- **D-12-TV63-016** 16 Bar Pressure Gauge with 1/4" Lower Connector

ADDITIONAL KIT FOR ADAPTER DL-CR31497



D-12-TV63-010

Pressure gauge 0÷10bar, Ø63 with a 1/4" fitting at the bottom

D-12-TV63-016

Pressure gauge 0÷16 bar, Ø63 with a 1/4" fitting at the bottom



34-RL3104M5

Angle adapter
M5 x Ø4 mm with collet

34-RL3106M5

Angle adapter
M5 x Ø6 mm with collet



34-RL020402

Adapter with internal thread
G1/4" x Ø4mm with collet

34-RL020602

Adapter with internal thread
G1/4" x Ø6mm with collet



34-RL0104M5

Straight adapter
M5 x Ø 4 mm with collet

34-RL0106M5

Straight adapter
M5 x Ø 6mm with collet



34-RA30-4,5-M5

Straight adapter
M5 x Ø 6mm with collet



34-MC130614

Adapter with internal
thread G1/4" x Ø 6 mm
with union nut



34-MC2306M5C

Set of M5 banjo fittings with
union nut for tubing
Ø 6mm x Ø 4mm



DL-MSDE

Set of banjo fittings
M5 x Ø4 mm



DL-R1001

Fuel hose
Ø inner 4 mm



DL-P1002

PVC pipe
Outer diameter 4 mm

DL-P1004

Teflon tube
Outer diameter 6 mm



DL-CR50246

Pressure gauge mounting bracket.
Designed as a hook
and clamp for the pressure gauge
holder. Used with pressure gauges
of the **D-12-TV63** series.

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DL-UNI50264

3/8" x 8 mm nipple

Designed for the following equipment:

1. CR-Test, SPF, SPN, DORPAT test benches
2. FMDE device (2-channel liquid flow meter)
3. "PUMP-TEST.02" equipment for testing CR high-pressure pumps

The nipple has a 3/8" thread and is designed for an 8 mm diameter hose







DL-UNI50265

3/8" x 10 mm nipple

Designed for the following equipment:

1. CR-Test, SPF, SPN, DORPAT test benches
2. FMDE device (2-channel liquid flow meter)
3. "PUMP-TEST.02" equipment for testing CR high-pressure pumps

The nipple has a 3/8" thread and is designed for a 10 mm diameter hose



DL-UNI50126

5 micron liquid filter with 3/8" outlets



DL-UNI50047

5-micron liquid filter with 10-mm fittings (herringbone)

DORPAT Multi-Cam11

The test bench is designed for testing pump injectors and pump sections.

The DORPAT Multi-Cam11 test rig can be used for fuel injection systems on any light- and medium-duty diesel engines, including high-speed engines in passenger cars, buses, trucks, and agricultural tractors with UIS (unit injector system) and UPS (unit pump system) fuel injection systems.
The rigs are manufactured with a power output of 11 kW.

Measurements are performed electronically.



DORPAT Multi-Cam11 STAND KIT

2CB20001	CamBox CB	1 pc
DL-CB230016	CamBox2 Drive Coupling	1 pc
DL-CB230010	Spray Nozzle Bracket	1 pc
	M10 Bolt, L=106mm, M10 Bolt, L=56mm for Spray Nozzle Bracket	1 set
DL-CB230012	Spray Nozzle Ø 9mm	1 pc
DL-CB230022	Nozzle Retainer Clip	1 pc
DL-CB230046, DL-CB230047, DL-CB230048, DL-CB230049	Sealing washers nozzle	1 set
DL-CB230013	Camshaft position lock	2 pcs
DL-CB230084	H=7 mm Ø20 mm spacer for installing a clamp for a passenger car NF	2 pcs
DL-CB230109	Spherical pusher screw for a unit injector	1 pc
DL-CB230134	Short spherical pusher screw for a unit injector	1 pc
DL-CB230135	Internal pusher screw for a unit injector	1 pc
DL-CB230043	Pusher screw with nut for pump sections M12x1.25	1 pc
DL-CB20151	Clamp adapter #0151 for Audi / VW1.9 unit injectors	1 pc
DL-CB20152	Clamp adapter #0152 for Audi / VW2.0 unit injectors	1 pc
DL-CB20124	Clamp adapter #0124 for Volvo FH12, Iveco, Bosch unit injectors	1 pc
DL-CB20148	Clamp adapter #0148 for Volvo FH12, Delphi E3 unit injectors	1 pc
DL-CB20140	Clamp adapter #0140 for Scania unit injectors	1 pc
DL-CB20129	Adapter clamp #0129 for MBActros unit injectors	1 pc
DL-CB201333	Adapter clamp #0133 for MBAtego unit injectors	1 pc
DL-CB20144	Adapter clamp #0144 for DAF, MAK, and Renault unit injectors	1 pc
DL-CB20123	Adapter clamp No. 0123 for pump-injector sections No. 0129, 133, 144	1 pc
DL-CB20100	Adapter clamp #0100 for installing an indicator head	1 pc
DL-UNI30035	Adapter clamp nipple M14x1.5x1/4"	16 pcs
1/4MBSPF04	Hydraulic quick coupler "male" 1/4"	2 pcs
D-GM1538AN	Rubber-metal gasket ØM14	20 pcs
D-GM1504AN	Rubber-metal gasket Ø1/4"	20 pcs
DL-UIS0920B	Universal adapter cable for Bosch injector	1 pc
DL-UIS0921D1	Adapter cable for Delphi E3 4-pin injector	1 pc

DORPAT Multi-Cam11 STAND KIT

DL-UIS0922D2	Adapter cable for Delphi E3 4-pin type 2 injectors	1 pc
DL-UIS0923D	Adapter cable for Delphi 2-pin injectors	1 pc
DL-UIS0924V	Adapter cable for VW injectors	1 pc
DL-CB250001	Adjustable gauge for setting unit injector preload	1 pc
	Supply hose 3/8" x 1/4" x 750mm 34-K2-212D - quick adapter "female" Ø 1/4" (1 pc.)	1 set
	Backflow drain hose 3/8" x 1/4" x 700mm 34-K2-212D - quick adapter "female" Ø 1/4" (1 pc.)	1 set
	Banjo bolt 1/4" (2 pcs.) + Banjo bolt M14x1.5 (2 pcs.)	1 set
	Quick adapter from the spray nozzle to the measuring tube. 1/8" sx 1/8" vUNI30081	1 pc
DL-UNI50138	Flexible Teflon measuring tube in steel braid for flow measurement	1 pc
P1004	Teflon tube Ø 6mm x 1500mm	1 pc
34-RL020602	Quick adapter Ø 6mm x 1/4"	1 pc
D1530075	Flywheel handle	1 pc
	Shock-absorbing feet (4 pcs.) + Door key (4 pcs.)	1 set
	Manufacturer's test plan program (1 pc.)	1 pc
	Compensation spring (red, L=76mm) for plunger stroke of 10-12mm	1 pc
DL-CB230169	Pusher for compensation spring (red, L=76mm)	1 pc
DL-UNI31222	22mm open-end wrench	1 pc

DORPAT Multi-Cam11

STAND KIT



DL-UIS0920B

Cable for BOSCH injectors (universal)



DL-UIS0921D1

Cable for Delphi E3 4-pin injectors



DL-UIS0923D

Cable for Delphi 2-pin injectors



DL-UIS0924V

Cable for VW injectors



DL-UIS0922D2

Cable for Delphi E3 4-pin injectors
Type II

DORPAT Multi-Cam11

STAND KIT



DL-CB20124

Injector Clamp for Volvo FH12, Iveco, Bosch
0414701004, 0414701006, 0414701013, 0414701014, 0414701015, 0414701021, 0414701022, 0414702002, 0414702003, 0414702005, 0414702006, 0414702007, 0414702009, 0414702010, 0414702012, 0414702013, 0414702014, 0414702015

to Cam Box 2 DORPAT stands
Included: 1 clamp, 2 fittings, 4 rubber-metal gaskets.



DL-CB20148

Volvo FH12, Delphi E3 Injector Clamp for DORPAT Cam Box 2

Included in delivery: 1 clamp, 2 fittings, 4 rubber-metal gaskets.



DL-CB2 0151

Injector Clamp Audi / VW 1.9
0414720002, 0414720003, 0414720005, 0414720007, 0414720008, 0414720009, 0414720013, 0414720014, 0414720015, 0414720016, 0414720018, 0414720028, 0414720029, 0414720030, 0414720033, 0414720034, 0414720035, 0414720036, 0414720037, 0414720038, 0414720039, 0414720201, 0414720204, 0414720206, 0414720208, 0414720209, 0414720210, 0414720213, 0414720214, 0414720215, 0414720216, 0414720217, 0414720220, 0414720221, 0414720222, 0414720223, 0414720224, 0414720225, 0414720226, 0414720227, 0414720228, 0414720229, 0414720230, 0414720231, 0414720232, 0414720301, 0414720302, 0414720303, 0414720304, 0414720305, 0414720306, 0414720307, 0414720308, 0414720309, 0414720310, 0414720311, 0414720312, 0414720313, 0414720314
for DORPAT Cam Box 2
Includes: clamp – 1 pc., fitting – 2 pcs., rubber-metal gasket – 4 pcs., clamp – 1 pc., locking screw – 1 pc.



DL-CB20152

Audi / VW 2.0 Injector Clamp
0414720401, 0414720402, 0414720403, 0414720404

for DORPAT Cam Box 2

Included in delivery: 1 clamp, 2 fittings, 4 sealing washer, 2 locking screws.

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DORPAT Multi-Cam11

STAND KIT



DL-CB20140

Scania Injector Clamp
0414701017, 0414701018, 0414701019, 0414701020, 0414701030, 0414701032, 0414701035, 0414701036, 0414701037, 0414701038, 0414701040, 0414701042, 0414701043, 0414701044, 0414701045, 0414701069, 0414700002, 0414701005, 0414701007, 0414701008, 0414701016
for Cam Box 2 DORPAT stands
Included: 1 clamp, 2 fittings,
4 rubber-metal gaskets.



DL-CB20129

Mercedes Actros PLD Clamp
0414799005, 0414799007, 0414799009, 0414799010, 0414799011, 0414799015, 0414799016, 0414799018, 0414799021, 0414799023, 0986445002

for DORPAT Cam Box 2
Included in delivery: clamp – 1 pc., nipple – 2 pcs., rubber-metal gasket – 4 pcs.



DL-CB20133

Mercedes Atego PLD Clamp
0414799003, 0414799006, 0414799008, 0414799012, 0414799013, 0414799014, 0414799017, 0414799019, 0414799022, 0986445003

for DORPAT Cam Box 2
Included in delivery: clamp – 1 pc., nipple – 2 pcs., rubber-metal gasket – 4 pcs.



DL-CB20144

Clamp for PLDDAF, MAK, Renault
0414755005, 0414755006, 0414755007, 0414755008, 0414755014, 0414755015, 0414755016, 0414755017, 0414755018

for Cam Box 2 of DORPAT test bench
Included in delivery: clamp – 1 pc., nipple – 2 pcs., rubber-metal gasket – 4 pcs.

DORPAT Multi-Cam11

STAND KIT



DL-CB20100

Adapter clamp for the indicator head for the DORPAT Cam Box 2 stand

Included in delivery: clamp – 1 pc.



DL-CB20123D

Adapter clamp for PLD sections of unit injectors 0129, 0133, 0144, 0145 to Cam Box 2 of the DORPAT test bench

Included in delivery: clamp – 1 pc.



DL-UNI31222

22 mm open-end wrench

DORPAT Multi-Cam11

ADDITIONAL EQUIPMENT



DL-CB20125KIT

Caterpillar C12 unit injector testing and inspection kit for the DORPAT CamBox 2 test bench.

Package contents:
- **DL-CB20125** adapter clamp – 1 pc.
- **CB230276** injector pusher (for C13)
- **CB230289** sealing washer
- **CB230282** nozzle nozzle
- 2 adapter nipples
- 4 rubber-metal gaskets

Injector not included.



DL-CB20126KIT

Test and inspection kit for Caterpillar C15, C13 (CAT2490713) Perkins unit injectors for the DORPAT CamBox 2 test bench.
Included:
- **DL-CB20126** adapter clamp – 1 pc.
- **CB230294** injector pusher (for C15)
- **CB230276** injector pusher (for C13)
- **CB230289** sealing washer
- **CB230282** nozzle nozzle
- **CB230283** retaining clip
- 2 adapter nipples
- 4 rubber-metal gaskets

Not included.



DL-CB20127

Detroit PLD Clamp (Bosch)
0414750003, 0414750004
for Cam Box 2

Included in delivery:
clamp – 1 pc., nipple – 1 pc.,
rubber-metal gasket – 2 pcs.



DL-CB20128

Iveco 7.8L Injector Clamp

0414700002, 0414700003, 0414700004, 0414700005, 0414700006
for Cam Box 2
Included: 1 clamp, 2 fittings,
4 rubber-metal gaskets.

DORPAT Multi-Cam11

ADDITIONAL EQUIPMENT



DL-CB20130

Injector Clamp
0414703005, 0414703007
for Cam Box 2

Included: 1 clamp, 2 fittings, 4 rubber-metal gaskets.



DL-CB20131

Nissan UD Injector Clamp
0414701023, 0414701024, 0414701033, 0414701034
for Cam Box 2

Included: 1 clamp, 2 fittings, 4 rubber-metal gaskets.



DL-CB20136

Land Rover Discovery Injector Clamp (Delphi)
for Cam Box 2

Included: 1 clamp, 2 fittings, 4 rubber-metal gaskets.



DL-CB20137KIT

Caterpillar L10 Injector Clamp
for Cam Box 2

The kit includes:

- **DL-CB20137 Adapter Clamp**
- **CB230289 Sealing Washer**
- **CB230282 Nozzle Nozzle**
- 2 Adapter Fittings
- 4 Rubber-Metal Gaskets

Injector not included.

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DORPAT Multi-Cam11

ADDITIONAL EQUIPMENT



DL-CB20138KIT

Test and inspection kit for Detroit unit injectors 5234770-5235580 for the DORPAT CamBox 2 test bench.

Package contents:

- **DL-CB20138** adapter clamp – 1 pc.
- **CB230276** injector pusher – 1 pc.
- **CB230440** retaining clip – 1 pc.
- Adapter nipples – 2 pcs.
- Rubber-metal gaskets – 4 pcs.

Injector not included.



DL-CB20139KIT

Cummins 4DEC01L4061851 unit injector testing and inspection kit for the DORPAT CamBox 2 test bench.

Package contents:

- **DL-CB20139** adapter clamp – 1 pc.
- **CB230440** retaining clip – 1 pc.
- Adapter nipples – 2 pcs.
- Rubber-metal gaskets – 4 pcs.

Injector not included.



DL-CB20145

DELPHI PLD Clamp for DORPAT Cam Box 2

Included in delivery:
1 clamp, 2 fittings, 4 rubber-metal gaskets.



DL-CB20146

Injector Clamp Caterpillar L15 for DORPAT Cam Box 2

Included in delivery:
1 clamp, 2 fittings, 4 rubber-metal gaskets.

DORPAT Multi-Cam11

ADDITIONAL EQUIPMENT



DL-CB20146KIT

Caterpillar L15 Injector Clamp
for Cam Box 2
The kit includes:
- **DL-CB20146** Adapter Clamp
- **CB230289** Sealing Washer
- **CB230282** Nozzle Nozzle
- **CB230294** Injector Pusher
- **CB230283** Retainer Clip
- Adapter Fittings – 2 pcs.
- Rubber-metal gasket – 4 pcs.

Injector not included.



DL-CB20149

Bosch Injector Clamp
0414703004, 0414703008, 0414703009, 0414703013
for DORPAT Cam Box 2
Included: 1 clamp, 2 fittings, 4 rubber-metal gaskets.



DL-CB20153KIT

Bosch 0414703003 Unit Injector
Test and Check Kit for CamBox 2 DORPAT Bench.

Package Contents:
- **DL-CB20153** Adapter Clamp – 1pc;
- **CB230276** Injector Pusher – 1pc;
- Adapter Fittings – 2pcs;
- Rubber-to-Metal Gaskets – 4pcs.

Injector not included.



DL-CB20154KIT

CumminsHPI unit injector testing and inspection kit for the DORPAT CamBox 2 test bench.
Package contents:
- **DL-CB20154** adapter clamp – 1 pc.
- **CB230356** injector pusher – 1 pc.
- **CB230357** nozzle tip – 1 pc.
- **CB230355** valve holder – 1 pc.
- **CB220007** valve holder bracket – 1 pc.
- Timing valve – 1 pc.
- Metering valve – 1 pc.
- 2 steel-braided hoses
- 4 hose nipples
- 2 adapter nipples
- Rubber-metal gasket – 4 pcs.
- Nozzle clamp – 1 pc.

DORPAT Multi-Cam11

ADDITIONAL EQUIPMENT



DL-CB20155

Delphi E1 Injector Clamp (John Deere) for DORPAT Cam Box 2

Included in the kit: 1 clamp, 2 fittings, 4 rubber-metal gaskets.

Injector not included.



DL-CB20156

Clamp adapter for testing unit injectors CAT 3920206

Included in the kit: clamp – 1, clamp – 1 8x35 clamp fixing bolt – 2 fitting nipples – 2, rubber-metal gaskets – 4

Injector not included.



DL-CB20157

Test clamp adapter for Cummins unit injectors 3053124

Includes: 1 clamp, 2 fittings, 4 rubber-metal gaskets.

Injector not included.



DL-CB20158

Injector Adapter Clamp CUMMINS 4902827

Included in delivery:

DL-CB231672	Adapter Clamp No. 0158 — 1 pc;
DL-CB231675	Retaining Clip — 1 pc;
DL-CB230357	Spray Nozzle — 1 pc;
DL-UNI30035	Adapter Clamp Connector M14x1.5x1/4″ — 3 pcs;
D-GM1538AN	Rubber-to-Metal Gasket ØM14″ — 3 pcs;
D-GM1504AN	Rubber-to-Metal Gasket Ø1/4″ — 3 pcs.

The nozzle is not included.

DORPAT Multi-Cam11

ADDITIONAL EQUIPMENT



DL-CB2 50037

Injection sensor for Cummins HPI unit injectors



DL-CB250036KIT

Injection sensor (piezo)



DL-CB350348

Strain gauge for testing unit injectors



25-FPKM-04

Quick connector for adapter



25-FPKF-04

Hydraulic quick-connect connector 1/4" female

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ADDITIONAL EQUIPMENT



1680750120

Tube for test nozzle
to the DORPAT Multi-Cam stand



1688901119

Test injector for testing fuel systems
for the DORPAT Multi-Cam test bench

1688901118

Test injector for testing fuel systems
for the DORPAT Multi-Cam test bench



ISO-100-V5

0.5 mm nozzle



DL-UNI30229

Nozzle (with gaskets and nipple)
for the DORPAT Multi-Cam test bench

Included in delivery:

Nozzle – 1 pc., rubber-metal gaskets – 2 pcs.,

Connecting nipple – 1 pc.

CAM-BOX1 FORCE

Basic kit for testing unit injectors and individual pumps
(UI / UP SYSTEM).

The kit includes:

1. CAMBOX 1
2. UIS-TESTER MultiCAM controller



CAMBOX 1

Mechanical part for testing unit injectors.

The basic version comes with a clamp for Volvo FH12 unit injectors and some Iveco injectors from Bosch. Clamps for other injectors are available upon request.



UIS-TESTER MultiCAM

The controller is an electronic component for testing unit injectors.

A device for testing and verifying the performance of unit injectors (UIS) and individual high-pressure fuel pumps (pump sections) with high-pressure solenoids (UPS).

CAM-BOX1

EQUIPMENT



Crankcase Protective Cover

Included in the CAM-BOX1 kit:
- 3 crankcases



Injector Nozzle

Included in the CAM-BOX1 kit:
- Nozzle – 3 pcs.
- Fitting – 3 pcs.



Threaded plunger

Included in the CAM-BOX1 kit:
- 1 spherical plunger
- 1 concave plunger



Pen holder

Included in the CAM-BOX1 kit:
- Pen – 1 pc.



Guides for mounting Cam Box on a stand

Included in the CAM-BOX1 kit:
- Guide bushings – 2 pcs.

CAM-BOX1

EQUIPMENT



Clamp for Volvo FH12 and some Iveco injectors from Bosch
CB0124-01

Included in the CAM-BOX1 kit:
- Clamp – 1 pc.



Hose Kit for Adapter-Clamp

Included in the CAM-BOX1 kit:

- Pressure valve – 1 pc.,
- Banjo bolt – 1 pc.,
- Banjo nipples – 2 pcs.,
- Washers – 4 pcs.



Injector clamp

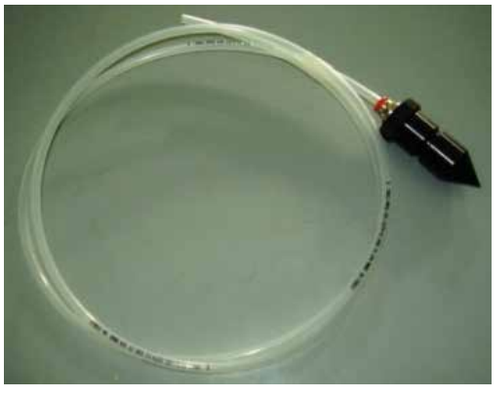
Included in the CAM-BOX1 kit:
- Clamp – 1 pc.



Spray Gun Kit

Included in the CAM-BOX1 kit:

- Spray Gun Holder – 1 pc.,
- Spray Gun Adapter – 1 pc.,
- Fitting – 1 pc.



Flooding Kit

Included in the CAM-BOX1 kit:

- 1 x defoamer
- 1 x fitting
- 1 x 6mm x 1.5m PVC tube

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CAM-BOX1



KV

Camshaft
for Land Rov, Iveco Cur, VW
Included in delivery:
- Camshaft – 1 pc.



VW

Adapter for Audi / VW
Included:
- 2 adapters (2 options),
- Nozzle tip,
- Fitting – 1,
- Side nipple – 1,
- Clamp – 1,
- Mounting bolt – 1



CB 0136-01 LR

Injector Clamp
Land Rover Discovery
Included in delivery:
- Clamp – 1 pc.
- Fitting – 1 pc.
- Clamp – 1 pc.
- Nozzle tip
ø=7 mm – 1 pc.



CB0140-01 SC

Injector Clamp
Scania
Included in delivery:
- Clamp – 1 pc.
- Pusher – 1 pc.



CB0148-01500 HP

Injector Clamp
Volvo 500HP, Delphi
Included in delivery:
- Clamp – 1 pc.



CB0147-01 JD

Injector Clamp
John Deere Delphi
Included in delivery:
- Clamp – 1 pc.

ADDITIONAL EQUIPMENT



MU

Pump flange coupling
for high-pressure fuel
injection pumps, PE pumps,
and CAM BOXes
Included in delivery:
- Coupling – 1 pc.
- Lock washer – 1 pc.
- Locking nut – 1 pc.



CB 0128-01 IVECO

Clamp for Iveco 7.8L
Included in delivery:
- Clamp – 1 pc.
- Side connection – 1 pc.



CB 0129-01 ACT

Injector Clamp
Mersedes Actros
Included in delivery:
- Clamp – 1 pc.
- Adapter AZ0309-01 – 1 pc.
- Side nipple
DL-EA – 1 pc.



CB0133-01 AT

Injector Clamp
Mersedes Atego
Included in the kit:
- Clamp – 1 pc.
- Adapter AZ0309-01 – 1 pc.
- Side nipple
DL-EA – 1 pc.



CB0144-01 DAF

Injector Clamp
Injector Clamp
DAF, MAK, Renault
Included in delivery:
- Clamp – 1 pc.
- Adapter AZ0309-02 – 1 pc.
- Side nipple – 1 pc.
- Injector receiver – 1 pc.
- Fitting – 2 pcs.

CAM-BOX1

ADDITIONAL EQUIPMENT



CB0146-01 CAT15

Injector Clamp
Caterpillar L15
Included in delivery:
- Clamp – 1 pc.,
- Clamp – 1 pc.,
- Nozzle tip with Ø "cone" – 1 pc.,
- Crankcase – 1 pc., Fitting – 1 pc.



CB0137-01 CAT10

Injector Clamp
Caterpillar L10
Included:
- Clamp – 1 pc.
- Nozzle tip Ø=10.5 mm – 1 pc.
- Fitting – 1 pc.



CB0138-01 DET

Injector Clamp
Detroit
Included:
- Clamp – 1 pc.
- Nozzle tip Ø=8.5 mm – 1 pc.
- Clamp – 1 pc.
- Fitting – 1 pc.



CB0139-01 CUM

Injector Clamp
Cummins
Included in delivery:
- Clamp – 1 pc.
- Nozzle tip for Ø=8.5 mm nozzle – 1 pc.
- Clamp – 1 pc.
- Fitting – 1 pc.



DL-CB230017

Flange for the RPM sensor
for CAM BOX1 and
CAM BOX2
- Flange – 1 pc.



DL-UNI50038

Encoder housing
for 5000 pulses
for CAM BOX1 and CAM BOX2
- Encoder housing — 1 pc.



PCIDS2ZNKW-M8-45-M8

RPM Sensor
for CAM BOX 1
Package Contents:
- Sensor – 1 pc.,
- Connecting cable – 1 pc.,
- Mounting Nut – 2 pcs.



DL-CBTS

Spherical tappet
to the rocker arm on
CAM BOX1



DL-CBT

Concave pushrod to the
rocker arm on CAM BOX1



0232103064

Speed sensor
for Cambox 1 and
Cambox 2

CAM-BOX 2 MASTER

A test kit for unit injectors and individual pumps (UI/UP SYSTEM).

The kit includes:

1. CAM-BOX 2 MECHANIC
2. UIS TESTER Multi-CAM controller



CAM-BOX 2 MECHANIC

Mechanical unit for testing unit injectors and pump sections.

A device for testing and performance testing of unit injectors (UIS) and individual high-pressure fuel pumps (pump sections) with high-pressure solenoid valves (UPS). The CAM-BOX2 MECHANIC includes an integrated inductive speed sensor and an angle sensor (encoder) that allow for reading RPM and angle data for testing modern EUI and EUP systems.



UIS TESTER Multi-CAM

Electronic component for testing unit injectors

A device for testing and verifying the performance of unit injectors (UIS) and individual high-pressure fuel pumps (pump sections) with high-pressure solenoids (UPS).

CAM-BOX 2 MECHANIC

EQUIPMENT



DL-CB2 0124

Clamp for Volvo FH12, Iveco, and Bosch injectors
0414700002, 0414701004, 0414701006, 0414701013, 0414701014, 0414701015, 0414701021, 0414701022, 0414702002, 0414702003, 0414702005, 0414702006, 0414702007, 0414702009, 0414702010, 0414702012, 0414702013, 0414702014, 0414702015



DL-CB230035

**Fittings Ø M14 (1.5) x 1/4" – 2 pcs.
with rubber-metal gasket – 4 pcs.**



DL-CB2 0123

**Adapter clamp
for PLD NF sections
0129, 0133, 0144**



DL-CB230022

Fixing bracket



DL-CB250061

**Test nozzle holder
to clamp-adapter**



DL-CB230010

**Nozzle bracket and nozzle
Ø 7 mm**

DL-CB230012

**Spray nozzle
Ø 9 mm**



**Bolt M10, L= 106 mm, bolt M10, L= 56 mm
for the spray nozzle bracket**



DL-CB2 0100

**Adapter clamp for
indicator head**



**DL-CB230046, CB230047,
CB230048, CB230049**

**Sealing washer
• Washer – 4 pcs.**



DL-CB230084

**Spacer bushing H=7 Ø 20
for installing passenger car NF (2 pcs.)**



DL-CB230189

**Spacer bushing H=5 Ø 12
for installing passenger car NF (2 pcs.)**



DL-CB230013

Locking pin (3 pcs)

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CAM-BOX 2 MECHANIC

EQUIPMENT



DL-CB230109,CB230134, DL-CB230135,DL-CB230043

Pusher screw (4 pcs)



DL-CB250001

Adjustable gauge for setting the preload of the unit injector



Banjo fitting, Banjo bolt, rubber-metal washers, and hose clamps (2 sets)



Pressure supply hose to the pump-nozzle, Ø 10x1000 mm





Backflow hose from the pump nozzle, Ø 10x1000 mm

DL-P1004

Teflon tube
Ø 6 mm x 1500 mm



DL-UNI30001

Nipple with fitting
Ø 6 mm x 1/8" for
Teflon tubing



DL-PG

Antifoam with
a 6mm x 1/4" fitting



DL-5358

Compensation spring
for passenger car fuel
injectors (red)



DL-UNI30090

Profile bolt
M14 x 44 mm with nut
and washers for fastening
Cam-Box (2 sets)



DL-CB230169

Pusher for
compensation
spring



Check valve drain 2.5 bar

CAM-BOX 2 MECHANIC

ADDITIONAL EQUIPMENT



DL-UNI50132

Compensating coupling with clamping jaws and reinforced plate pack



DL-UNI50139

Compensating coupling with flange connection and reinforced plate pack (similar to Bosch 1686401024)



DL-CB230016

Cone coupling with flange connection Ø 30 mm Cam Box2, high-pressure fuel pump



DL-CB130139

Cone coupling Ø 30 mm Cam Box2, high-pressure fuel pump



DL-CB230879

Mounting key for CAM-BOX couplings DL-CB130139 and DL-CB230016

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CAM-BOX 2 MECHANIC

ADDITIONAL EQUIPMENT



DL-CB20124

Clamp for Volvo FH12, Iveco, and Bosch injectors
0414701004, 0414701006, 0414701013, 0414701014, 0414701015, 0414701021, 0414701022, 0414702002, 0414702003, 0414702005, 0414702006, 0414702007, 0414702009, 0414702010, 0414702012, 0414702013, 0414702014, 0414702015

For DORPAT Cam Box 2
Included: 1 clamp, 2 fittings, 4 rubber-metal gaskets.



DL-CB20125KIT

Caterpillar C12 unit injector testing and inspection kit for the DORPAT CamBox 2 test bench.
Package contents:

- **DL-CB20125** adapter clamp – 1 pc.
- **CB230276** injector pusher (for C13)
- **CB230289** sealing washer
- **CB230282** nozzle nozzle
- 2 adapter nipples
- 4 rubber-metal gaskets

Injector not included.



DL-CB20126KIT

Test and inspection kit for Caterpillar C15, C13 (CAT2490713) Perkins unit injectors for the DORPAT CamBox 2 test bench.

Included:

- **DL-CB20126** adapter clamp – 1 pc.
- **CB230294** injector pusher (for C15)
- **CB230276** injector pusher (for C13)
- **CB230289** sealing washer
- **CB230282** nozzle nozzle
- **CB230283** retaining clip
- 2 adapter nipples
- 4 rubber-metal gaskets

Not included.



DL-CB20127

Detroit PLD Clamp (Bosch) 0414750003, 0414750004 for Cam Box 2

Included: Clamp – 1 pc., Fitting – 1 pc., Rubber-metal gasket – 2 pcs.

CAM-BOX 2 MECHANIC

ADDITIONAL EQUIPMENT



DL-CB20128

Iveco 7.8L Injector Clamp

0414700002, 0414700003, 0414700004, 0414700005, 0414700006 for Cam Box 2
Included: 1 clamp, 2 fittings, 4 rubber-metal gaskets.



DL-CB20129

Mercedes Actros PLD Clamp
0414799005, 0414799007, 0414799009, 0414799010, 0414799011, 0414799015, 0414799016, 0414799018, 0414799021, 0414799023, 0986445002

for DORPAT Cam Box 2
Included in delivery: clamp – 1 pc., nipple – 2 pcs., rubber-metal gasket – 4 pcs.



DL-CB20130

Injector Clamp
0414703005, 0414703007
for Cam Box 2

Included: 1 clamp, 2 fittings, 4 rubber-metal gaskets.



DL-CB20131

Nissan UD Injector Clamp
0414701023, 0414701024, 0414701033, 0414701034
for Cam Box 2

Included: 1 clamp, 2 fittings, 4 rubber-metal gaskets.



DL-CB20133

Mercedes Atego PLD Clamp
0414799003, 0414799006, 0414799008, 0414799012, 0414799013, 0414799014, 0414799017, 0414799019, 0414799022, 0986445003

for DORPAT Cam Box 2
Included in delivery: clamp – 1 pc., nipple – 2 pcs., rubber-metal gasket – 4 pcs.

CAM-BOX 2 MECHANIC

ADDITIONAL EQUIPMENT



DL-CB20136

**Land Rover Discovery Injector Clamp (Delphi)
for Cam Box 2**

Included: 1 clamp, 2 fittings, 4 rubber-metal gaskets.



DL-CB20137KIT

**Caterpillar L10 Injector Clamp
for Cam Box 2**

The kit includes:

- **DL-CB20137** Adapter Clamp
- **CB230289** Sealing Washer
- **CB230282** Nozzle Nozzle
- 2 Adapter Fittings
- 4 Rubber-Metal Gaskets

Injector not included.



DL-CB20138KIT

**Test and inspection kit for Detroit unit injectors
5234770-5235580
for the DORPAT CamBox 2 test bench.
Package contents:**

- **DL-CB20138** adapter clamp – 1 pc.
- **CB230276** injector pusher – 1 pc.
- **CB230440** retaining clip – 1 pc.
- Adapter nipples – 2 pcs.
- Rubber-metal gaskets – 4 pcs.

Injector not included.



DL-CB20139KIT

**Cummins 4DEC01L4061851 unit injector testing
and inspection kit for the DORPAT CamBox 2 test bench.
Package contents:**

- **DL-CB20139** adapter clamp – 1 pc.
- **CB230440** retaining clip – 1 pc.
- Adapter nipples – 2 pcs.
- Rubber-metal gaskets – 4 pcs.

Injector not included.

CAM-BOX 2 MECHANIC

ADDITIONAL EQUIPMENT



DL-CB20140

Scania injector clamp
0414701017, 0414701018, 0414701019, 0414701020, 0414701030, 0414701032, 0414701035, 0414701036, 0414701037, 414701038, 0414701040, 0414701042, 0414701043, 0414701044, 0414701045, 0414701069, 0414700002, 0414701005, 0414701007, 0414701008, 0414701016
to Cam Box 2 of the DORPAT stand
Delivery set: 1 clamp, 2 fittings, 4 rubber-metal gaskets.



DL-CB20144

Clamp for PLDDAF, MAK, Renault
0414755005, 0414755006, 0414755007, 0414755008, 0414755014, 0414755015, 0414755016, 0414755017, 0414755018
to Cam Box 2 of the DORPAT stand
Delivery set: 1 clamp, 2 fittings, 4 rubber-metal gaskets.



DL-CB20145

DELPHI PLD Clamp for DORPAT Cam Box 2
Included: 1 clamp, 2 fittings,
4 rubber-metal gaskets.



DL-CB20146

Injector Clamp Caterpillar L15 for DORPAT Cam Box 2
Included: 1 clamp, 2 fittings,
4 rubber-metal gaskets.



DL-CB20146KIT

Caterpillar L15 Injector Clamp
for Cam Box 2
The kit includes:
- **DL-CB20146** Adapter Clamp
- **CB230289** Sealing Washer
- **CB230282** Nozzle Nozzle
- **CB230294** Injector Pusher
- **CB230283** Retainer Clip
- Adapter Fittings – 2 pcs.
- Rubber-metal gasket – 4 pcs.

Injector not included.

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CAM-BOX 2 MECHANIC

ADDITIONAL EQUIPMENT



DL-CB20149

Bosch Injector Clamp
0414703004, 0414703008, 0414703009, 0414703013
for DORPAT Cam Box 2
Included: 1 clamp, 2 fittings, 4 rubber-metal gaskets.



DL-CB2 0151

Audi/VW 1.9 injector clamp
0414720002, 0414720003, 0414720005, 0414720007, 0414720008, 0414720009, 0414720013, 0414720014, 0414720015, 0414720016, 0414720018, 0414720028, 0414720029, 0414720030, 0414720033, 0414720034, 0414720035, 0414720036, 0414720037, 0414720038, 0414720039, 0414720201, 0414720204, 0414720206, 0414720208, 0414720209, 0414720210, 0414720213, 0414720214, 0414720215, 0414720216, 0414720217, 0414720220, 0414720221, 0414720222, 0414720223, 0414720224, 0414720225, 0414720226, 0414720227, 0414720228, 0414720229, 0414720230, 0414720231, 0414720232, 0414720301, 0414720302, 0414720303, 0414720304, 0414720305, 0414720306, 0414720307, 0414720308, 0414720309, 0414720310, 0414720311, 0414720312, 0414720313, 0414720314
For the DORPAT Cam Box 2 stand
Included in delivery: clamp – 1 pc., fitting – 2 pcs., rubber-metal gasket – 4 pcs., clamp – 1 pc., locking screw – 1 pc.



DL-CB20152

Audi / VW 2.0 Injector Clamp
0414720401, 0414720402, 0414720403, 0414720404
for DORPAT Cam Box 2
Included in delivery:
1 clamp, 2 fittings, 4 sealing washer, 2 locking screws.



DL-CB20153KIT

Bosch 0414703003 Unit Injector Test and Check Kit for CamBox 2 DORPAT Bench.
Package Contents:
- **DL-CB20153 Adapter Clamp – 1pc;**
- **CB230276 Injector Pusher – 1pc;**
- **Adapter Fittings – 2pcs;**
- **Rubber-to-Metal Gaskets – 4pcs.**

Injector not included.

CAM-BOX 2 MECHANIC

ADDITIONAL EQUIPMENT



DL-CB20154KIT

CumminsHPI unit injector testing and inspection kit for the DORPAT CamBox 2 test bench.
Package contents:

- **DL-CB20154** adapter clamp – 1 pc.
- **CB230356** injector pusher – 1 pc.
- **CB230357** nozzle tip – 1 pc.
- **CB230355** valve holder – 1 pc.
- **CB220007** valve holder bracket – 1 pc.
- Timing valve – 1 pc.
- Metering valve – 1 pc.
- 2 steel-braided hoses
- 4 hose nipples
- 2 adapter nipples
- Rubber-metal gasket – 4 pcs.
- Nozzle clamp – 1 pc.



DL-CB20155

Delphi E1 Injector Clamp (John Deere) for DORPAT Cam Box 2

Included in the kit: 1 clamp, 2 fittings, 4 rubber-metal gaskets.

Injector not included.



DL-CB20156

Clamp adapter for testing unit injectors CAT 3920206

Included in the kit: clamp – 1, clamp – 1
8x35 clamp fixing bolt – 2
fitting nipples – 2, rubber-metal gaskets – 4

Injector not included.



DL-CB20157

Test clamp adapter for Cummins unit injectors 3053124

Includes: 1 clamp, 2 fittings, 4 rubber-metal gaskets.

Injector not included.

CAM-BOX 2 MECHANIC

ADDITIONAL EQUIPMENT



DL-CB2 50037

Injection sensor for Cummins HPI unit injectors



DL-CB250036KIT

Injection sensor (piezo)



DL-CB20158

Injector Adapter Clamp CUMMINS 4902827

Included in delivery:

DL-CB231672	Adapter Clamp No. 0158 — 1 pc;
DL-CB231675	Retaining Clip — 1 pc;
DL-CB230357	Spray Nozzle — 1 pc;
DL-UNI30035	Adapter Clamp Connector M14x1.5x1/4″ — 3 pcs;
D-GM1538AN	Rubber-to-Metal Gasket ØM14″ — 3 pcs;
D-GM1504AN	Rubber-to-Metal Gasket Ø1/4″ — 3 pcs.

The nozzle is not included.



25-FPKM-04

Quick connector for adapter



25-FPKF-04

Hydraulic quick-connect connector 1/4" female



D-1324179

Pusher for Cam-Box2

CAMBAT-FLOW

Injection meter for pump-nozzles and pump sections of the UIS/UPS system (for UIS-Tester MULTICAM).







UIS-TESTER MultiCAM

The UIS-Tester MULTICAM device is designed to test and check the performance of unit injectors (UIS - Unit Injector System) and individual high-pressure fuel pumps with high-pressure electromagnetic valves (UPS - Unit Pump System).

CAMBAT-FULL

Equipment for testing and checking pump-nozzles and pump sections of the UIS/UPS system without mechanical parts.



The CAMBAT-FULL equipment includes:

1. A stand with a CAMBAT-FLOW measuring unit
2. A UIS-Tester MULTICAM unit-injector control unit for pump sections
3. A set of connecting cables for the injectors, measuring unit, etc.

CAMBAT-FULL-SET

Equipment for testing and checking pump-nozzles of pump sections of the UIS/UPS system with a mechanical part.



The CAMBAT-FULL-SET equipment includes:

1. A stand with a CAMBAT-FLOW measuring unit
2. A UIS-Tester MULTICAM unit injector and pump section control device
3. A set of connecting cables for the injectors, measuring unit, etc.
4. A mechanical part for testing unit injectors and pump sections
CAM-BOX MECHANIK



DL-ST02

A clamp for disassembling and assembling CR injector units with two stops for 7mm and 9mm diameter injectors.

Delivery set:

1. STD50115 Stand – 1 pc.
2. STD50116 Large Vise – 1 pc.
3. STD30498 Replacement Foot – 2 pcs.
4. STD30540 Guide Post – 1 pc.
5. STD50117 Small Vise – 1 pc.
6. STD30148 Ø 7 mm Stop – 1 pc.
7. STD30147 Ø 9 mm Stop – 1 pc.
8. STD30752 Replacement Foot – 2 pcs.
9. STD30610 Bracket – 1 pc.
10. STD30811 Handle – 3 pcs.
11. STD30810 Clamp Screw – 1 pc.
12. STD30813 Holder – 1 pc.
13. STD30812 Axle – 1 pc.
14. STD30468 Locking Pin – 3 pcs.
15. M4x8 DIN012 Screw – 4 pcs.
16. M4x16 DIN012 Screw – 1 pc.
17. M4x20 DIN012 Screw – 2 pcs.
18. M20 DIN034 Nut – 2 pcs.
19. 21x37x3 DIN0125 Washer – 2 pcs.
20. Grover 20 Din127 – 2 pcs.
21. Bolt M10x30 Din033 – 4 pcs.
22. Nut M10 Din034 – 4 pcs.
23. Washer 10.5x20x2 Din0125 – 4 pcs.
24. Grover 10 Din127 – 4 pcs.
25. Sight for protractor DL-STD30874
26. Axis for sight DL-STD30873
27. Clamp STD50010 VW1.9 – 1 pc.
28. Clamp STD50009 VW2.0 – 1 pc.

29-1. Shortened stand STD31245 – 2 pcs.
29-2. Extended Strut STD30657 – 2 pcs.

30. Stop STD30678 – 1 pc.
31. Bolt STD30658 – 1 pc.
32. Bar STD30656 – 1 pc.
33. Stop STD30673 – 1 pc.
34. AT Bracket STD50077 – 1 pc.
35. AC Bracket STD50078 – 1 pc.
36. Strut STD30672 – 1 pc.
37. Bar STD30671 – 1 pc.



Clamp-mounted installation of an AUDI/VW 1.9 unit injector



Installing a Scania U-shaped unit injector in a clamp



**Clamp-mounted
VOLVO Delphi 2- and 4-pin unit injectors**



**Installing a SCANIA U-shaped
unit injector in a clamp**



**Clamp installation
of the Delphi 082240354 pump section**



**Installation in a pump section clamp
DAF Bosch 0414755005**



**Installation in a clamp
of the ATEGO MB pump section**



**Installation in a clamp
of the MV ACTROS pump section**

ADDITIONAL EQUIPMENT FOR CLAMP DL-ST02





DL-STD50206

AUDI/VW 1.9 unit injector holder
for adjusting the solenoid on a clamp
ST-01/ST-02







DL-STD50207

AUDI/VW 2.0 unit injector holder
for adjusting the solenoid on a clamp
ST-01/ST-02





DL-UIS50144

Solenoid positioning key for BOSCH AUDI / VW 1.9 unit injectors

Included in delivery:

- Solenoid key
- Positioning key

Similar to BOSCH 0986610318



DL-UIS50195

Solenoid positioning key for BOSCH AUDI / VW 2.0 unit injectors

Included in delivery:

- Solenoid key
- Positioning key

Similar to BOSCH 0986610318



DL-UIS30745

(8-sided, 38 mm)
Wrench for installing/removing the solenoid nut for Bosch unit injector valves (Iveco, Scania, Volvo)



DL-UIS31438

(12-sided, 39 mm)
Wrench for installing/removing the solenoid nut for the Bosch (Volvo) unit injector valve



DL-UIS30693

Hex key for installing/removing the nozzle nut of the Audi/VW1.9 unit injector.
Applicability:
PDE-P1, PDE-P1.1, PDE-P1.3, PDE-P1.4



DL-UIS30724

Nozzle Nut Installation/Removal Wrench Audi/VW 2.0 TDI Bosch Unit Injectors
Applicability:
414720403, 0414720404



DL-UIS30725

Octagonal wrench for installing/removing the nozzle nut of the Audi/VW 1.9-5.0 PDE-P1.5 unit injector.
Applicability:
0414720309-2,5, 0414720359-2,5 , 0414720310-2,5, 0414720360-2,50414720305-5,0 , 0414720301-5,0 , 0414720311-5,0, 0414720361-5,0 0414720306-2,0 , 0414720302-2,0 , 0414720312-2,0 , 0414720362-2,0 0414720307-1,9 , 0414720303-1,9 , 0414720313-1,9 , 0414720363-1,9 0414720308-1,9 , 0414720304-1,9 , 0414720314-1,9 , 0414720364-1,9



DL-UIS30751

17mm Allen key for the nozzle nut for Audi/VW Siemens VDO (Piezo) unit injectors



DL-UIS30726

Wrench for installing/removing the solenoid nut for Audi/VW 2.0 unit injectors
Applicability:
0414720403, 0414720404



DL-UIS30733

Wrench for installing/removing the solenoid nut for Audi/VW 1.9 unit injectors
Applicability:
0414720029-0414720215





DL-UNI30667

29 mm Allen key for installing/removing AUDI/VW unit injector housing nuts
Applications:
0414720400, 0414720401, 0414720402, 0414720403, 0414720453, 0414720454





DL-UNI30668

30 mm octagonal wrench for installing/removing the VW Siemens injector housing nut



DL-UNI50011

Wrench for installing/removing nozzle nuts
Ø 27 mm for Volvo, Delphi, and Lucas injectors
(for a torque wrench)



DL-UNI50313

Wrench for installing/removing the nozzle nut
Ø 28 mm for Cummins 3053124 unit injectors
(for a torque wrench)



DL-UNI50127

Nozzle nut installation/removal wrench
Ø 29.4 mm for Caterpillar C12, C15 injectors
(for torque wrench)



DL-UNI50012

Wrench for installing/removing nozzle nuts
Ø 31.5 mm for Cummins (Scania) HPI injectors
(for a torque wrench)



DL-UNI50048

Nut installation/removal key
Ø 36.2 mm for Delphi PLD sections 1668325
(for torque wrench)



DL-UNI30763

Nozzle Nut Installation/Removal Wrench
Ø 32mm for Bosch Unit Injectors
Applicability:
0414701005, 0414701006, 0414701008, 0414702002, 0414702007, 0414702010, 0414703008



DL-UIS30880

Caterpillar injector adapter holder
C12, C15 in a vice

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DL-UIS50143

Valve Stroke Measurement Kit
for AUDI / VW BOSCH 1.9/2.0 Unit Injectors

Included in the package:

1. **DL-UIS31069** Double-Ended Clamp
2. **DL-UIS31070** Measuring Head Adapter
3. **DL-UIS31071** Thrust Washer
4. **DL-UIS31072** Verification Plate
5. **DL-CRN30503** Feeler Gauge

ATTENTION!
The measuring head is not included in the package!



DL-UIS30827

Adapter stand for an indicator
for measuring the air gap in the unit injector housing



DL-UIS50102

Adapter for the indicator
for measuring the stroke of the valve stem
of the BOSCH unit injector



DL-UIS50100

Wrench for installing/removing and adjusting
the solenoid nut of the unit injector
Audi/VW 1.9 TDI (Bosch) on a test bench.
Applicability: 0414720029 - 0414720215



DL-UIS50101

Key for installing/removing and adjusting
the solenoid nut of the unit injector
Audi / VW 2.0 TDI



DL-VW10SMFULL

A SET OF KEYS FOR DISASSEMBLING AND ASSEMBLING AUDI / VW PUMP-INJECTORS

1. **DL-UIS30667**

29mm Allen key for installing/removing the unit injector housing nut
Audi/VW 2.0, PDE-P2.
Applicable to: 0414720400 0414720401 0414720402 0414720403 0414720453 0414720454

2. **DL-UIS30668**

30 mm octagonal wrench for installing/removing the VW SIEMENS injector housing nut

3. **DL-UIS50100**

Wrench for installing/removing and adjusting the solenoid nut of the unit injector
Audi/VW 1.9-5.0 (Bosch) on a test bench.
Applicability: 0414720029-0414720215

4. **DL-UIS30726**

Audi/VW 2.0 Bosch unit injector solenoid nut installation/removal tool
Applicability: 0414720403 0414720404

5. **DL-UIS30725**

Octagonal wrench for installing/removing the unit injector nozzle nut
Audi/VW 1.9-5.0, PDE-P1.5.
Applicability: 0414720309-2,5 l. 0414720359-2,5 l. 0414720310-2,5 l.
0414720360-2,5 l.0414720305-5,0 l. 0414720301-5,0 l. 0414720311-5,0 l. 0414720361-5,0 l.
0414720306-2,0 l.0414720302-2,0 l. 0414720312-2,0 l. 0414720362-2,0 l. 0414720307-1,9 l.
0414720303-1,9 l.0414720313-1,9 l. 0414720363-1,9 l. 0414720308-1,9 l. 0414720304-1,9 l.
0414720314-1,9 l.0414720364-1,9 l.

6. **DL-UIS30693**

Hex key for installing/removing the unit injector nozzle nut
Audi/VW 1.9, PDE-P1, PDE-P1.1, PDE-P1.3, PDE-P1.4

7. **DL-UIS50101**

Key for adjusting the solenoid nut NF Audi / VW 2.0

8. **DL-UIS30733**

Audi/VW 1.9 TDI Bosch unit injector solenoid nut installation/removal tool
Applicability: 0414720029-0414720215

9. **DL-UIS30724**

Audi/VW 2.0 Bosch unit injector nozzle nut installation/removal key
Applicability: 0414720403 0414720404

10. **DL-UIS30751**

17mm Allen key for Audi/VW unit injector nozzle nut
Siemens VDO (Piezo)

11. **DL-UIS30757**

Twelve-sided key for mounting/dismounting the piezo element.



DL-VW2-SVDO

A SET OF TOOLS FOR DISASSEMBLING AND ASSEMBLING THE AUDI/VW SIEMENS VDO NF

1. **DL-UIS30668**

30 mm octagonal key for mounting/removing the housing nut of the VW Siemens pump-injector

2. **DL-UIS30751**

17mm octagonal wrench for the nozzle nut of the Audi/VW Siemens VDO (Piezo) unit injector

3. **DL-UIS30757**

Twelve-sided key for mounting/dismounting the Siemens VDO piezoelectric element



DL-VW PDE

TOOL KIT FOR DISASSEMBLING AND ASSEMBLING NF AUDI / VW1.9 PDE-P1.5

1. **DL-UIS50100**

Wrench for installing/removing and adjusting the solenoid nut of the unit injector Audi/VW 1.9-5.0 (Bosch) on a test bench.
Applicability: 0414720029-04147202152

2. **DL-UIS30733**

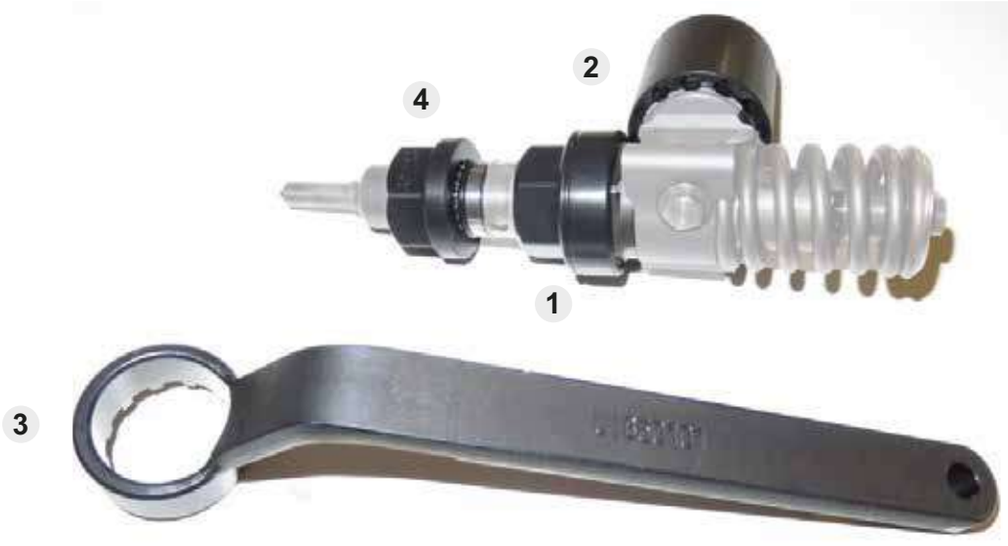
Audi/VW 1.9 TDI Bosch unit injector solenoid nut installation/removal tool.
Applicability: 0414720029-0414720215

3. **DL-UIS30725**

Octagonal key for mounting/dismounting the pump-injector nozzle nut Audi / VW 1,9-5,0 , PDE-P1,5.
Применяемость: 0414720309-2,5 l. 0414720359-2,5 l. 0414720310-2,5 l. 0414720360-2,5 l.0414720305-5,0 l. 0414720301-5,0 l. 0414720311-5,0 l. 0414720361-5,0 l. 0414720306-2,0 l.0414720302-2,0 l. 0414720312-2,0 l. 0414720362-2,0 l. 0414720307-1,9 l. 0414720303-1,9 l.0414720313-1,9 l. 0414720363-1,9 l. 0414720308-1,9 l. 0414720304-1,9 l. 0414720314-1,9 l.0414720364-1,9 l.

4. **DL-UIS30693**

Hex key for installing/removing the nozzle nut of the Audi/VW 1.9 unit injector PDE-P1 PDE-P1,1 PDE-P1,3 PDE-P1,4



DL-VW-PDE-2

AUDI/VW 2.0 NF DISASSEMBLY AND ASSEMBLY TOOL KIT

1. **DL-UIS30667**

   29 mm Allen key for installing/removing the unit injector housing nut
   Audi/VW 2.0, PDE-P2. Applicable to: 0414720400 0414720401 0414720402 0414720403 0414720453 0414720454

2. **DL-UIS30726**

   Audi/VW 2.0 Bosch unit injector solenoid nut installation/removal key.
   Applicability: 0414720403 0414720404

3. **DL-UIS50101**

   Key for adjusting the solenoid nut NF Audi / VW 2.0

4. **DL-UIS30724**

   Audi/VW 2.0 Bosch unit injector nozzle nut installation/removal key
   Applicability: 0414720403 0414720404



DL-UIS30590

Adapter for testing the injector section of Bosch unit injectors (Scania, Volvo, IVECO CURSOR TYPE 350).



DL-UIS30591

Adapter for testing the injector section of Bosch (Volvo) unit injectors.



DL-UIS30594

Adapter for testing the injector section of the Volvo 520 CV unit injectors.



DL-UIS30597

Adapter for testing the injector section of Delphi unit injectors (Volvo Tape A).



DL-UIS30598

Adapter for testing the injector section of Detroit unit injectors.



DL-UIS30606

Adapter for testing the injector section of Cummins L10-M11 unit injectors.



DL-UIS30627

Adapter for testing the injector section of the Volvo 460 2-tape unit injector, Scaniapumps.

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DL-UIS30631

Adapter for testing the injector section
of Cummins N14 EUI/PDE unit injectors.



DL-UIS30634

Adapter for testing the injector section
of EUI/PDE unit injectors for Audi, VW 2.0L



DL-UIS50082

Adapter for testing the injector section
for all types of EUI/PDE Audi and VW pumps
except EUI/PDE Audi and VW 2.0-liter units



DL-UIS30643

Adapter for testing the injector section
of the EUI/PDE unit injectors for the Iveco Stralis 500 HP.
0414703004, 0414703008, 0414703010.



DL-UIS30640

Adapter for testing the injector section
of Cummins unit injectors.



DL-UIS30635

Adapter for testing the injector section
of Volvo Delphi 4-PIN unit injectors.



DL-UIS50079

Injector testing adapter
for Audi and VW unit injectors. 04147203XX
for clamp-mounted assembly.



DL-UIS50081

Adapter for testing the injector section of Audi,
VW unit injectors 04147200XX, 04147202XX,
04147204XX, 04147206XX for assembly on a clamp.



DL-UIS30638

Adapter for testing the injector section
for Audi, VW 2.0L EUI/PDE unit injectors.
1 681 398 033 for mounting on a clamp.



DL-UIS30662

Adapter for testing the injector section of Audi,
VW Siemens VDO Piezo unit injectors
for clamp mounting.



DL-UIS30770

Adapter for testing the injector section
of EUI/PDE Nissan 440 unit injectors (M31x1).



DL-UIS31507

Adapter for testing the injector section
of EUI/PDE unit-injectors HYUNDAI 22880-84001 (M28x1)

ADAPTERS FOR CATERPILLAR



DL-UIS30789

Adapter for testing the injector section of the EUI/PDE unit injector HEUICAT 3126
The adapter has an M28x1 connection thread



DL-UIS30768

Adapter for testing the injector section of EUI/PDE unit injectors Caterpillar series 3500
The adapter has an M27x1.5 connection thread.



DL-UIS30769

Adapter for testing the injector section of EUI/PDE unit injectors Caterpillar Marino
The adapter has an M36x1.5 connection thread



DL-UIS30897

Adapter for testing the injector section of EUI / PDE unit injectors CAT C15, C16.
The adapter has an M33x1.5 connection thread.



DL-UIS31441

Adapter for testing the injector section of Caterpillar CAT C12 unit injectors. The adapter has an M28x1 connection thread.



DL-UIS31511

Adapter for testing the injector section of Caterpillar CAT C12 unit injectors. The adapter has an M28x1 connection thread.



DL-UIS31559

Adapter for testing the injector section of CAT M32 unit injectors.
The adapter has a connecting thread M32x1.5mm.
It has two holes for the nozzle pins.



DL-LR31788

Adapter for testing the injector section of Lorange injectors with M32x1 threads



DL-LR31787

Adapter for testing the injector section of Lorang injectors with M20 x 0.75 threads

АДАПТЕРЫ ДЛЯ CATTERPILLAR



DL-TRUKUSA-04CAT

A set of adapters for testing the injector section of unit injectors on American-made CATERPILLAR trucks.

- DL-UIS30789
- DL-UIS30768
- DL-UIS30769
- DL-UIS30897



DL-TRUKUSA-05CAT

A set of adapters for testing the injector section of unit injectors for American-made CATERPILLAR trucks.

- DL-UIS30789
- DL-UIS30768,
- DL-UIS30769
- DL-UIS30897
- DL-UIS31441



DL-TRUKUSA-06CAT

A set of adapters for testing the injector section of unit injectors for trucks manufactured in the United States by CATERPILLAR.

- DL-UIS30789
- DL-UIS30768
- DL-UIS30769
- DL-UIS30897
- DL-UIS31441
- DL-UIS31511



DL-TRUKUSA-07CAT

A set of adapters for testing the injector section of unit injectors for American-made CATERPILLAR trucks.

- DL-UIS30789
- DL-UIS30768
- DL-UIS30769
- DL-UIS30897
- DL-UIS31441
- DL-UIS31511
- DL-UIS31559

КОМПЛЕКТЫ АДАПТЕРОВ ДЛЯ ПРОВЕРКИ ФОРСУНОЧНОЙ ЧАСТИ



DL-TRUSA-04BR

A set of adapters for testing the injector section of truck unit injectors manufactured by CUMMINS and DETROIT.
(DL-UIS30598-DETROIT, DL-UIS30606-CUMMINS L10-M11, DL-UIS30631-CUMMINS N14, DL-UIS30640-CUMMINS)



DL-TRUKE-07BR

A set of adapters for testing the injector section of unit injectors in European vehicles.
(DL-UIS30590 - BOSCH (Scania, Volvo, Iveco Cursor), DL-UIS30591 - BOSCH (Volvo), DL-UIS30594 - Volvo 520CV, DL-UIS30597 - DELPHI (Volvo Tape A), DL-UIS30627 - (Volvo 460 Tape 2, Scania), DL-UIS30635 - DELPHI (Volvo 4 Pin), DL-UIS30643 - (Iveco Stralis 500HP)



DL-VW-4BR

A set of adapters for testing the injector section of AUDI/VW unit injectors of all types.
(DL-UIS50079-AUDI/VW 04147203XX, DL-UIS50081-AUDI/VW 04147200XX, 04147202XX, 04147204XX, 04147206XX, DL-UIS30638-EUI / PDE AUDI/VW 2,0 литра (ТИП2), DL-UIS30662-AUDI / VW SIEMENS VDO piezo)



DL-RP400

Manual injector tester with mechanical pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Mechanical pressure gauge – 1 pc.
- Connecting tube – 2 pcs.



DL-RP410 **(without pressure sensor)**

DL-RP415 **(with pressure sensor 1500 bar)**

Handheld injector tester with electronic pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for RP 415) 1500 bar – 1 pc.



DL-RP420 **(without pressure sensor)**

DL-RP425 **(with pressure sensor 1500 bar)**

Handheld injector tester with a 2-channel electronic pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for RP 425) 1500 bar – 1 pc.



DL-RP430

Manufacturer: ZECA (Italy)
Injector spray testing chamber (aspirator)
Allows visual inspection of the performance of diesel injector nozzles without risk to health.
The device collects the working fluid for reuse.



DL-RP500

Manufacturer: ZECA (Italy)
Manual injector testing press with mechanical pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Mechanical pressure gauge – 1 pc.
- Connecting tube – 2 pcs.



DL-RP510 **(without pressure sensor)**

DL-RP515 **(with pressure sensor 1500 bar)**

ZECA manual injector testing press with electronic pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for RP 515) 1500 bar – 1 pc.



DL-RP520 **(without pressure sensor)**

DL-RP525 **(with pressure sensor 1500 bar)**

ZECA manual injector testing press with 2-channel electronic pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for RP 525) 1500 bar – 1 pc.





DL-UIS50150

A set of diamond lapping tools and reamers for restoring the valve seat of BOSCH unit injectors.

Delivery set:

1. **DL-UIS1368063** Diamond conical lapping tool with pilot (L 136°) 80/63
2. **DL-UIS1364028** Diamond conical lapping tool with pilot (L 136°) 40/28
3. **DL-UISPA78063** Diamond reamer PA ⌀7 80/63
4. **DL-UISPA74028** Diamond reamer PA ⌀7 40/28
5. **DL-UIS50193** Split bushing guide puller
6. **DL-UIS50247** Diamond reamer shell puller
7. **DL-UNI30975** Lapping handle – 2 pcs.
8. **DL-UNI30978** Handle locking screw – 2 pcs.



Unit injector valve for VOLVO, SCANIA, IVECO:

- D-GR02X \ 136 \ 7,010
- D-GR02X \ 136 \ 7,015
- D-GR02X \ 136 \ 7,020
- D-GR02X \ 136 \ 7,025
- D-GR02X \ 136 \ 7,030
- D-GR02X \ 136 \ 7,035
- D-GR02X \ 136 \ 7,040
- D-GR02X \ 136 \ 7,045
- D-GR02X \ 136 \ 7,050
- D-GR02X \ 136 \ 7,055
- D-GR02X \ 136 \ 7,060
- D-GR02X \ 136 \ 7,070
- D-GR02X \ 136 \ 7,080



DL-UIS50256

Set of diamond lapping tools and reamers for restoring the seat of the BOSCH unit injector valve

Included in delivery:
1. Coarse conical diamond lapping tool (L 136°) – 1 pc.
2. Fine conical diamond lapping tool (L 136°) – 1 pc.
3. Pilot tools for conical diamond lapping tools – 2 pcs.
4. Diamond reamer – 1 pc.
5. Pilot tool for reamer – 1 pc.
6. Pilot tool handle – 1 pc.
7. Cap for pressing on reamer and lapping tools – 3 pcs.
8. NF valve bore cleaning brush – 1 pc.
9. Organizer – 1 pc.



DL-UIS50257

A set of diamond lapping tools and reamers for restoring the seat of the DETROIT unit injector valve

Included in the kit:
1. Coarse conical diamond lapping tool – 1 pc.
2. Fine conical diamond lapping tool – 1 pc.
3. Pilot tools for conical diamond lapping tools – 2 pcs.
4. Diamond reamer – 1 pc.
5. Pilot tool for reamer – 1 pc.
6. Pilot tool handle – 1 pc.
7. Cap for pressing on reamer and lapping tools – 3 pcs.
8. NF valve bore cleaning brush – 1 pc.
9. Organizer – 1 pc.



DL-UIS50255

Set of diamond lapping tools and reamers for restoring the seat of the BOSCH unit injector valve

Included in delivery:
1. Coarse conical diamond lapping tool (L 136°) – 1 pc.
2. Fine conical diamond lapping tool (L 136°) – 1 pc.
3. Pilot tools for conical diamond lapping tools – 2 pcs.
4. Diamond reamer – 1 pc.
5. Pilot tool for reamer – 1 pc.
6. Pilot tool handle – 1 pc.
7. Cap for pressing on reamer and lapping tools – 3 pcs.
8. NF valve bore cleaning brush – 1 pc.
9. Organizer – 1 pc.

EQUIPMENT AND TOOLS FOR CHECKING AND REPAIRING HEUI UNIT INJECTORS

HEUI CATERPILLAR 3126B,
CATERPILLAR 3126E and FORD 1998-2003
DIESEL 7.3 FUEL INJECTOR 128-6601,
AD1831489C1 (INTERNATIONAL)



The equipment includes:

1. **DL-HEUI50223** Adapter for installing pump injectors



HEUI CATERPILLAR C7-C9



Оснастка включает в себя:

1. **DL-HEUI50221** Adapter for installing pump injectors



2. **DL-HEUI50240** Set of hydraulic hoses and turbocharger 400mm 14x14mm
3. **DL-HEUI50219** Adapter holder with clamping bar
4. **DL-HEUI50230** Adapter cable for connecting a pump-injector
5. **DL-UNI50084** Angle adapter M14



Please note: All equipment components are sold separately.

EQUIPMENT AND TOOLS FOR CHECKING AND REPAIRING HEUI UNIT INJECTORS



DL-UNI50208

Injector nut wrench
for Caterpillar C7-C9 unit injectors.
Wrench diameter: 24 mm



DL-UIS30789

Adapter for testing the injector section EUI/PDE HEUICAT 3126 unit injector
The adapter has a connecting thread M28x1



DL-HEU50251

O-ring installation kit for HEUI CAT C7-C9 unit injectors



DL-HEUI31342

The upper part of the housing is for installing the pump-injector and supplying high pressure.



DL-HEU31332

Lower housing for low pressure supply



DL-HEU50227

Protective screen with cover made of polycarbonate.
(DL-HEU31333 Protective screen made of polycarbonate)
(DL-HEU31334 Protective screen cover)



DL-HEU31335

Conical pressure washer (2 pcs)

SPF: 708, 712, 1108, 1112, 1508, 1512

The test bench is designed for testing and adjusting with increased precision in-line fuel injection pumps, V-shaped fuel injection pumps, distributor-type fuel injection pumps with autonomous and forced lubrication systems, and a boost corrector from all domestic and major foreign manufacturers: BOSCH, LUCAS, ZEXEL, and NIPPON-DENSO.

With additional equipment, the test bench can be used to test and check the following:

- Common Rail injectors (BOSCH, DELPHI, DENSO, SIEMENS)
- Common Rail pumps (CP1, CP2, CP3) (BOSCH, DELPHI, DENSO)
- Pressure regulators and sensors for CR unit injectors of European and American vehicles
- Electronic pumps of the VE, VP, Zexel, and PE types.

The test benches are available with a capacity of 7.5 kW (SPF-308, SPF-712), 11 kW (SPF-1108, SPF-1112), and 15 kW (SPF-1508, SPF-1512).
The SPF-708, SPF-1108, and SPF-1508 test benches feature an 8-section measuring unit. The SPF-712, SPF-1112, and SPF-1512 stands have a 12-section measuring unit.

The stand is equipped with:

- an integrated personal computer
- a monitor
- a stand and booster pump control panel
- a protective enclosure with two polycarbonate doors
- a two-channel radiator-fan cooling unit



SPF STAND KIT



Flexible 3/8" hoses
L-105cm (2 pcs.)



14 mm tips
(2 pcs.)



12 mm tips
(2 pcs.)



Connecting hose
Ø 8 mm, L - 150 cm (1 pc.)



Connecting hose
Ø 10 mm, L - 150 cm (1 pc.)



Double-ended ratchet
wrench (1 pc.)



Leg (foot with adjustable
bolt) (4 pcs.)



Door key (4 pcs.)

ADDITIONAL EQUIPMENT AND COMPONENTS FOR HIGH-PRESSURE FUEL INJECTION PUMPS TEST STANDS



DL-MSP

Mobile oil station for test benches



Frequency converter for test benches:

- **2,2 кW**
- **4 кW**
- **5,5 кW**
- **7,5 кW**
- **11 кW**
- **15 кW**

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ADDITIONAL EQUIPMENT AND COMPONENTS FOR HIGH-PRESSURE FUEL INJECTION PUMPS TEST STANDS



MZK-45

45ml graduated cylinder (beaker) for fuel injection pump test benches
Length: 320mm
Diameter: 18mm
Scale: 0-150ml
Graduation: 0.2ml



MZK-260

260ml graduated cylinder (beaker) for fuel injection pump test benches
Length: 320mm
Diameter: 38mm
Scale: 0-260ml
Graduation: 2ml



MZK-150

150ml graduated cylinder (beaker) for fuel injection pump test benches
Length: 320mm
Diameter: 28mm
Scale: 0-150ml
Graduation: 1ml



SDMZ-38

Holder bracket
for MZK-260 (260 ml)



SDMZ-28

Holder bracket
for MZK-150 (150 ml)



SDMZ-18

Holder clip for MZK-45 (45ml)



DL-OHL

Refrigerator-
air conditioner for stands

ADDITIONAL EQUIPMENT AND COMPONENTS FOR HIGH-PRESSURE FUEL INJECTION PUMPS TEST STANDS



DL-UNI50132

Compensating coupling with clamping jaws and reinforced plate pack



DL-UNI50139

Compensating coupling with flange connection and reinforced plate pack (similar to Bosch 1686401024)



DL-CB230016

Cone coupling with flange connection Ø 30 mm Cam Box2, high-pressure fuel pump



DL-M24 **(UNI30127)**

Cone coupling Ø 24 mm for CRCP-3 high-pressure fuel pump model 044502088



DL-M24L **(CR31098)**

Extended coupling Ø 24 mm for DENSO HP0 fuel injection pumps



DL-MS8

Splined coupling for CR high-pressure fuel pumps (for MV, spline 8x18)



DL-MS9

Splined coupling for CR fuel injection pump (for Renault) 9x20 spline



DL-MS10D

Splined coupling for CR Denso fuel injection pumps, 10x23 spline



DL-MS10S

Splined coupling for Siemens Peugeot Boxer 2.2 high-pressure fuel pump, 10x21.6 spline



DL-MS11

Splined coupling for CR MAN high-pressure fuel pumps (11 splines)



DL-M17

Cone coupling Ø 17 mm for CR and VE high-pressure fuel pumps



DL-M19

Cone coupling Ø 19 mm for CR pumps and VE high-pressure fuel pumps



DL-M23 **(UNI30917)**

23mm cone coupling for Continental fuel injection pumps A2C59517053, Bosch CR CP4HS2 0445010637, CP4S2 0445010611, CP4S1 0445010506

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EQUIPMENT AND FITTINGS FOR ROTARY FUEL PUMP AND IN-LINE FUEL PUMP





DL-UNI50051-KIT

Test kit for VE-type fuel injection pumps

	Package Contents:
DL-UNI50051	6-Nozzle Holder Frame
DL-TVD–K700	Profile Frame Mounting Bolt
	Nozzle Mounting Screws – 6
	Nozzle Holder Mounting Screws – 2
	Foam Defoamers – 6
DL-PG(CR26)	6mm x 1/4" Fittings for Foam Defoamers – 6
34-RL020602	Nozzle Nozzles – 6
DL-UNI30452	6mm x 1/8" Fittings for Nozzles – 6
34-RL020601	6mm x 1/8" Fittings for Nozzles – 12m
34-RWN-06x04	6mm PVC Connection Tube



DL-TVD-M

High pressure metal tube

DL-TVD-M81412	(800)	M14xM12
DL-TVD-M81414	(800)	M14xM14
DL-TVD-M61412	(600)	M14xM12
DL-TVD-M61414	(600)	M14xM14

EQUIPMENT AND FITTINGS FOR ROTARY FUEL PUMP AND IN-LINE FUEL PUMP



DL-UNI30465

Mounting flange Ø 50/60 mm for VE and CR high-pressure fuel pumps (BMW, RENAULT, MB, Peugeot)



DL-CB130139

Cone coupling Ø 30 mm Cam Box2, high-pressure fuel pump



DL-CR30466

Mounting flange Ø 68 mm, for CR Renault Megane, Delphi Siemens VDO, Land Rover, Range Rover V8 and for VE fuel injection pumps



DL-M17

Cone coupling Ø 17 mm for CR pumps and VE high-pressure fuel pumps



DL-UNI30467

Mounting flange Ø 70 mm for VE high-pressure fuel pumps



DL-M19

Cone coupling Ø 19 mm for CR pumps and VE high-pressure fuel pumps



DL-UNI30521

Mounting flange Ø 105mm for injection pump MTZ-50, MTZ-80,MTZ-82, MTZ-825, T16, T25,T30, T40, SND-18, SND-17,SND-14.



DL-UNI50008

Pump mounting bracket, standard Bosch 125 mm. Mounted on a stand.



DL-UNI50433

125mm bracket with 3 mounting holes and stops at the front



DL-UNI50434

125mm bracket with three mounting holes and stops at the rear

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EQUIPMENT AND FITTINGS FOR ROTARY FUEL PUMP AND IN-LINE FUEL PUMP



DL-UNI30514

Set of supports for mounting in-line pumps on a stand

Bosch-Kamaz (similar to Bosch 1688030141)

Included in delivery:

- Supports – 2 pcs.
- Profile bolt – 2 pcs.
- Nuts – 2 pcs.
- Washers – 2 pcs.
- Spring washers – 2 pcs.



DL-UNI30525

Mounting bracket for MAN double-rack in-line pumps (similar to Bosch 1688030184)

Included in delivery:

- Mounting bracket – 1 pc.
- Profile bolt – 1 pc.
- Nut – 1 pc.
- Washer – 1 pc.
- Spring washer – 1 pc.



DL-UNI50353

Set of two UNI31707 supports for YAZDA in-line fuel injection pumps

Included in delivery:

- Supports — 2 pcs.

EQUIPMENT AND FITTINGS FOR ROTARY FUEL PUMP AND IN-LINE FUEL PUMP



DL-UNI50042

A device for measuring the rack stroke of BoschP in-line pumps (P7100, P8500).

Includes adapters:

- 18x1.5 (B, BV pumps)
- 20x1.5 (A pumps)
- 24x1.5 (P pumps)
- 24x1.5 (8500 pumps)



AAE388-0A

Comparator for P7000/8500 pumps
for determining the discharge start height.
24x1.5mm connection.



DL-UNI50040

Eccentric locking device for plungers
of BoschP in-line pumps (P7100, P7800).



DL-RD30765

A 28mm Allen key for repairing
mechanical injectors.



DL-RD30766

A 27mm Allen key for repairing
mechanical injectors.

EQUIPMENT AND FITTINGS FOR ROTARY FUEL PUMP AND IN-LINE FUEL PUMP



DL-UNI30786 (VP3)

Pump flange coupling for VP series fuel injection pumps (Opel)



DL-UNI30787 (VP4)

Pump flange coupling for VP series fuel injection pumps (Audi / VW, BMW, MB)



DL-UNI30788 (VP5)

Pump flange coupling for VP series fuel injection pumps (Ford)



DL-UNI30603 (VP6)

Pump flange coupling for VP series fuel injection pumps (Nissan Almera, Tino, Terano 3, Patrol 3.0)



DL-VPLO

Fuel injection pump support for the VP series, Opel



DL-VPLA

Fuel injection pump support for VP, Audi/VW, BMW, and MB series



DL-USN0021 **(ST-03)**

Universal stand for CR pumps

DL-USN0021 (ST-03) Delivery Set:
1. Swivel Stand – 1 pc.
2. Set of 6 CR Pump Mounting Flanges
3. Set of 4 Pump Mounting Plates

DL-USN0021CR (ST-03CR) Delivery Set:
1. Swivel Stand – 1 pc.
2. Set of 6 CR Pump Mounting Flanges

ATTENTION!
Holder plates for CR and rotary injection pumps are also sold separately!



CR TESTER . CRT-5040



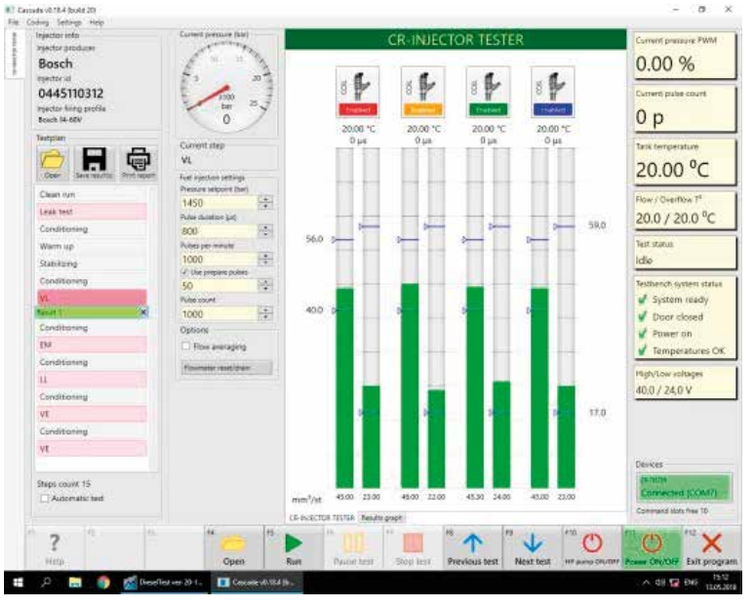


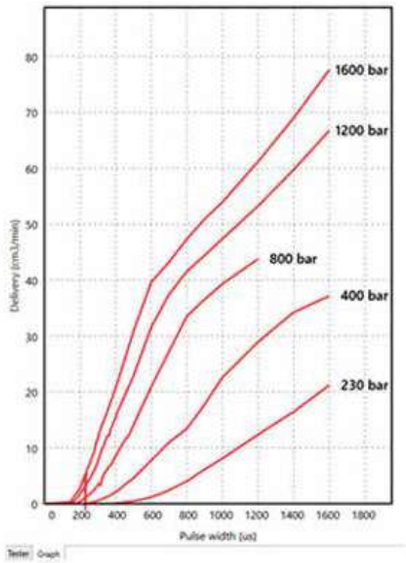
A 4-channel device for testing Bosch, Denso, Delphi, and Siemens VDO Common Rail injectors with a cable kit.

The device can be connected to the **FLAGMAN-FLOW** beakerless measurement system, which can generate correction codes for Delphi C2i/C3i, BOSCH, and DENSO injectors.

The **CR TESTER CRT-5040** device features functions for controlling the metering unit shutter, stopping the fuel injection pump, measuring and controlling tank temperature, measuring the return temperature of the injectors being tested, measuring injection start time, and more.

The kit is computer-controlled via the CASCADE software.







FLAGMAN-FLOW

8-channel CR injector dosage measurement unit for the CR-TESTER device. CRT-5040

Computer-controlled kit via CASCADE software.



FLAGMAN-FULL

CR Injector Test Kit

The FLAGMAN-FULL system is designed for testing Common Rail injectors from Bosch, Denso, Delphi, and Siemens VDO on a test bench.

Measurements are made using the 8-channel, beakerless FLAGMAN-FLOW system. A hardware and software package for injector coding can be added.

The system is computer-controlled via the CASCADE software.



FLAGMAN-CODE (FLAGMAN-CODE-L)

CR Injector Test Kit

The FLAGMAN-CODE kit is designed for testing Common Rail injectors from Bosch, Denso, Delphi, and Siemens VDO on a test bench.

Measurements are made using the FLAGMAN-FLOW 8-channel, beakerless system. The kit consists of a FLAGMAN-FLOW measuring unit and a CR-TESTER CRT-5040 controller. The kit is also equipped with a vacuum generation system for coding Deiphi C2i and C3i injectors. The kit is computer-controlled via the CASCADE software.

The FLAGMAN-CODE-L kit includes hardware for mounting the injectors on a test bench.



DL-CR50015

Coding sensor - *optional*



FLAGMAN-CODE

CR Injector Test Kit

The FLAGMAN-FULL system is designed for testing Common Rail injectors from Bosch, Denso, Delphi, and Siemens VDO on a test bench.

Measurements are made using the FLAGMAN-FLOW 8-channel, beakerless system. The system consists of a FLAGMAN-FLOW measuring unit and a CR-TESTER CRT-5040 controller. The system is also equipped with a vacuum generation system for coding Deiphi C2i and C3i injectors. The system is computer-controlled via the CASCADE software.



DL-CR50015

Coding sensor

FLAGMAN-CODE delivery set

FLAGMAN-FLOW Beakerless Measuring Unit	1 pc
CR-TESTER CRT-5040 Controller	1 pc
Vacuum Generation System	1 set
Software	1 pc
Data Sheet (technical description, operating instructions)	1 pc
Connecting cable set for the FLAGMAN-FLOW measuring unit and CR-TESTER controller. CRT-5040	1 set
Injector cable extension: "Injector" socket - 1.5 m	1 pc
Injector adapter cable	1 set
High-pressure regulator adapter cable	1 pc
Low-pressure regulator adapter cable	1 pc
Pressure sensor adapter cable	1 pc
220 V power cable	1 pc
Connectors for making your own cables into sockets: "Protection", "TanktC", "RegtC", "Cycle", "Pump", "Inverter", "Rpm"	1 set
Temperature sensor for monitoring the fluid temperature in the tank: "TanktC" socket	1 pc
Temperature sensors for measuring the brake fluid return temperature	4 pcs
Reed switch for connecting the protective screen: "Protection" socket	1 pc
3A fuse	1 pc
Connecting pipes	1 set
DL-CR50015 Injection start measurement sensor (for coding)	1 pc



FLAGMAN-CODE-L

CR Injector Test Kit

The FLAGMAN-FULL system is designed for testing Common Rail injectors from Bosch, Denso, Delphi, and Siemens VDO on a test bench.

Measurements are made using the FLAGMAN-FLOW 8-channel, beakerless system. The system consists of a FLAGMAN-FLOW measuring unit and a CR-TESTER CRT-5040 controller. The system is also equipped with a vacuum generation system for coding Deiphi C2i and C3i injectors. The system is computer-controlled via the CASCADE software.



DL-CR50015

Coding sensor - *optional*

FLAGMAN-CODE-L delivery set

FLAGMAN-FLOW Beakerless Measuring Unit		1 pc
CR-TESTER CRT-5040 Controller		1 pc
Vacuum Generation System		1 set
Software		1 pc
Data Sheet (technical description, operating instructions)		1 pc
Connecting cable set for the FLAGMAN-FLOW measuring unit and CR-TESTER controller. CRT-5040		1 set
Injector cable extension: "Injector" socket - 1.5 m		1 pc
Injector adapter cable		1 set
High-pressure regulator adapter cable		1 pc
Low-pressure regulator adapter cable		1 pc
Pressure sensor adapter cable		1 pc
220 V power cable		1 pc
Connectors for making your own cables into sockets: "Protection", "TanktC", "RegtC", "Cycle", "Pump", "Inverter", "Rpm"		1 set
Temperature sensor for monitoring the fluid temperature in the tank: "TanktC" socket		1 pc
Temperature sensors for measuring the brake fluid return temperature		4 pcs
Reed switch for connecting the protective screen: "Protection" socket		1 pc
3A fuse		1 pc
Connecting pipes		1 set
DL-CR10015	Injector holder frame	1 pc
DL-CR10025	Injector holder bracket assembly	1 pc
DL-CR10006	Protective glass (6mm) or DL-CR10010 Protective glass (10mm)	1 pc

CRISTINA

The **CRistina** complex is designed for assembling COMMON RAIL BOSCH, DELPHI, and DENSO injectors using technology that allows for the calculation and selection of all necessary adjustment elements.

The system's hardware and software not only accurately measures the required dimensions but also diagnoses the injector solenoid's condition by measuring the winding's resistance and inductance.

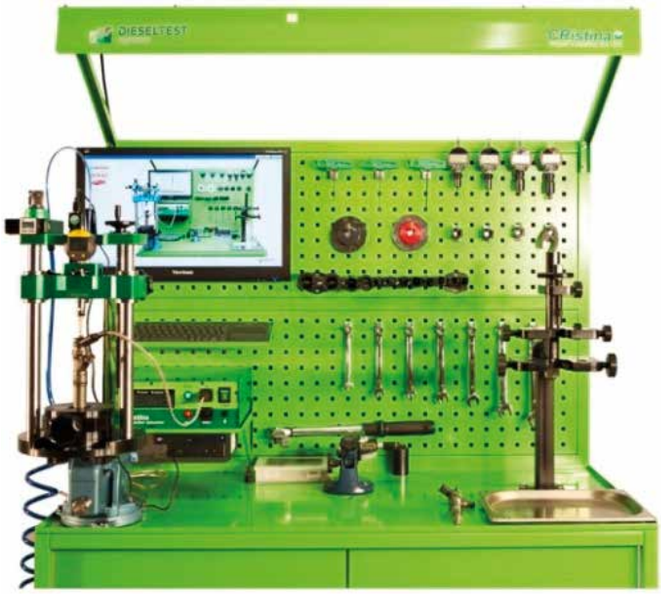
The system's software contains a detailed database of installation dimensions for most common COMMON RAIL injectors and a complete visualization of the assembly process, which helps avoid assembly errors and significantly reduce repair time.

To eliminate measurement errors, the CRistina system's design allows for precise and rigid positioning of the injector body, eliminating vibration and uncontrolled movement of the measured element relative to the measuring device.

Available in the following options:

- CRISTINA-BASE
- CRISTINA-BASE-F
- CRISTINA-FULL
- CRISTINA-PROF
- CRISTINA-PROF-FULL
- CRISTINA-SPECIAL







DL-UNI20150 CRISTINA - PIEZO

This device is designed to test piezo injectors and the piezo pack. It reliably identifies all piezo pack faults, identifying issues that similar devices or test benches miss.

This device was developed for assembling Siemens injectors, but is also compatible with Bosch injectors.

Device capabilities:

1. Sending a signal to activate the injector on a hand press
2. Measuring piezoelectric unit resistance
3. Testing for breakdown to the housing
4. Measuring piezoelectric unit capacitance
5. Measuring piezoelectric unit smooth movement

Package contents:

1. CRistina-PIEZO signal generator
2. Cable set for the CRistina-PIEZO signal generator
- 220V power cable
- Main connection cable to the piezoelectric unit
- Universal adapter cable
- Adapter cable with alligator clips
- Grounding cable

3. Data sheet (technical description, operating instructions)

ATTENTION! ***Additional accessories may be included with the device.***



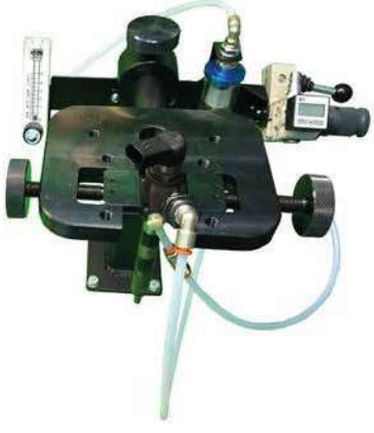
DL-UNI20050 CRISTINA - PIEZO



This device is designed to test piezo injectors and the piezo pack. It reliably identifies all piezo pack faults, identifying issues that similar devices or test benches miss.

This device was developed for assembling Siemens injectors, but is also compatible with Bosch injectors.







DL-CR50157

Device capabilities:

1. Sends a signal to activate the injector on a hand press
2. Measures piezoelectric unit resistance
3. Tests for breakdown to the housing
4. Measures piezoelectric unit capacitance
5. Measures piezoelectric unit smooth operation

Included in delivery:

1. CRistina-Piezo Controller
2. PiezoST-04 Injector Clamp
3. Mounting Bracket
4. Air Flow Meter
5. Air Filter
6. Air Distribution Valve
7. Air Reducer
8. Electronic Pressure Gauge
9. Tubing Set
10. 6mm Quick Connector
11. Set of 2 backflow nipples for Siemens VDO injectors
12. **DL-CR50157** Adapter set for measuring the valve stroke of the Siemens VDO CR injector
13. Adapter M12x1.5x 1/8"
14. Datasheet (technical description, operating instructions)

ATTENTION! ***Additional accessories may be included with the device.***

Differs from the **DL-UNI20050F** *kit in that it has a less complete set of adapters for injectors.*

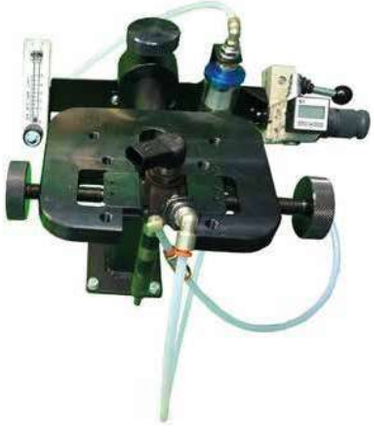


DL-UNI20050F CRISTINA - PIEZO

This device is designed to test piezo injectors and the piezo pack. It reliably identifies all piezo pack faults, identifying issues that similar devices or test benches miss.

This device was developed for assembling Siemens injectors, but is also compatible with Bosch injectors.







DL-CR50165

Device capabilities:

1. Sends a signal to activate the injector on a hand press
2. Measures piezoelectric unit resistance
3. Tests for breakdown to the housing
4. Measures piezoelectric unit capacitance
5. Measures piezoelectric unit smooth operation

Included in delivery:

1. CRistina-Piezo Controller
2. PiezoST-04 Injector Clamp
3. Mounting Bracket
4. Air Flow Meter
5. Air Filter
6. Air Distribution Valve
7. Air Reducer
8. Electronic Pressure Gauge
9. Tubing Set
10. 6mm Quick Connector
11. Set of 2 backflow nipples for Siemens VDO injectors
12. **DL-CR50165** Adapter set for measuring the valve stroke of the Siemens VDO CR injector
13. Adapter M12x1.5x 1/8"
14. Datasheet (technical description, operating instructions)

ATTENTION! ***Additional accessories may be included with the device.***

Differs from the **DL-UNI20050** *kit by a more complete set of adapters for injectors.*



DL-UNI20051 Set with CRistina-PIEZO

Siemens / VDO CR piezo injector repair kit (without injector clamp or acoustic test). This device is designed to test piezo injectors in a piezoelectric unit. It reliably identifies all piezoelectric unit faults and detects problems that similar devices or test benches cannot detect.

This device was developed for assembling Siemens injectors, but is also compatible with Bosch injectors.





Device capabilities:

1. Sends a signal to activate the injector on a hand press
2. Measures piezoelectric unit resistance
3. Tests for breakdown to the housing
4. Measures piezoelectric unit capacitance
5. Measures piezoelectric unit smooth operation

Included in delivery:

1. CRistina-Piezo controller
2. Mounting bracket
3. Air flow meter
4. Air filter
5. Air distribution valve
6. Air pressure regulator
7. Electronic pressure gauge
8. Tube set
9. 6mm quick-connect coupling
10. Set of 2 backflow fittings for Siemens VDO injectors
11. Adapter M12x1.5x1/8"
12. Datasheet (technical description, operating instructions)

ATTENTION! ***Additional accessories may be included with the device.***

ADDITIONAL ACCESSORIES FOR CRISTINA-PIEZO

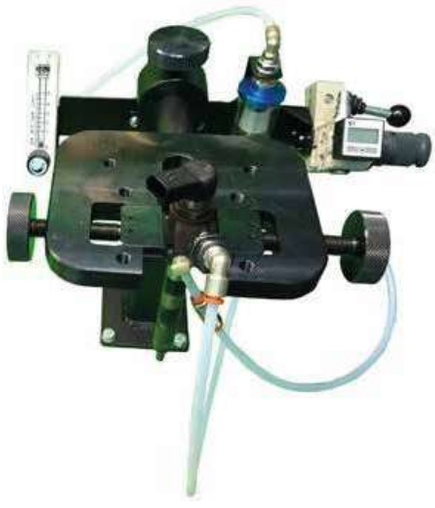


DL-UNI20054 **ACOUSTIC BOARD**

ACOUSTIC TEST KIT FOR THE CRISTINA - PIEZO DEVICE

The kit includes:
1. Microphone in a plastic housing
2. Clamp for securing the microphone to the injector housing
3. Acoustic test board for installation inside the CRISTINA-PIEZO device
4.Set of connecting wires
5. Set of standoffs and bolts for mounting the board
6. Assembly instructions.

ADDITIONAL ACCESSORIES FOR CRISTINA-PIEZO



DL-UNI20052

Siemens VDO CR Injector Repair Kit (without CRistina-Piezo controller)

Kit features:
1. Secure installation and fixation of injectors
2. Air supply via a push-button valve
3. Air pressure regulation via a pressure reducer
4. Air filtration to remove residual liquid in the injector
5. Convenient connection to the injector return line using the supplied fittings
6. Valve opening/closing control using a flowmeter

Package Contents:
1. PiezoST-04 Injector Clamp
2. Accessories Holder
3. Air Flow Meter
4. Air Filter
5. Air Distribution Valve
6. Air Pressure Regulator
7. Electronic Pressure Gauge
8. Tubing Set
9. 6mm Quick Connector
10. Set of 2 Fittings (DL-60151/61 and DL-60151/66) for Siemens Injector Backflow
11. M12x1.5x1/8" Adapter



DL-UNI20053

Siemens VDO CR Injector Repair Kit (excluding CRistina-Piezo controller and ST04 clamp)

Kit features:
1. Air supply via a push-button valve
2. Air pressure regulation via a pressure reducer
3. Air filtration to remove residual liquid from the nozzle
4. Convenient connection to the nozzle return line via the supplied fittings
5. Valve opening/closing control using a rotameter

Package Contents:
1. Mounting bracket.
2. Air flow meter.
3. Air filter.
4. Air distribution valve.
5. Air pressure regulator.
6. Electronic pressure gauge.
7. Tubing kit.
8. 6mm quick-connect coupling.
9. Set of 2 fittings (DL-60151/61 and DL-60151/66) for backflow of Siemens injectors.
10. M12x1.5x1/8" adapter.

ADDITIONAL ACCESSORIES FOR CRISTINA-PIEZO



DL-CR50165

Adapter kit with indicator head
for measuring the valve stroke of CR VDO injectors of all types Siemens

Delivery set:

1. **DL-CR31079** Adapter for measuring the parameters of the new type M25x1 piezoelectric injector package
2. **DL-CR31179** Adapter for measuring the parameters of the old type M27x1 piezoelectric injector package
3. **DL-CR31080** Adapter body for measuring the valve stroke of the injector
4. **DL-CR31081** Nut for the adapter body for measuring the valve stroke of the new type M25x1 injector
5. **DL-CR31178** Nut for the adapter body for measuring the valve stroke of the new type M27x1 injector
6. **D-7153136** Hex key 2 mm
7. **DL-KIP002** Mechanical measuring indicator head 0.001 mm stroke 5 mm
8. **DL-CR31177** Measuring probe
9. Organizer



DL-CR50157

A set of adapters with an indicator head for measuring the parameters of the Siemens VDO CR injector.

Delivery set:

1. **DL-CR31079** Adapter for testing the piezoelectric package.
2. **DL-CR50147** Adapter (housing with nut) for measuring valve stroke.
3. **DL-KIP002** Indicator measuring mechanical head with an accuracy of 0.001 mm, stroke 5 mm.
4. **D-7153136** Hex key, 2 mm.
5. **DL-CR31177** Measuring probe.
6. Organizer



DL-CR30545

SIEMENS injector multiplier nut installation/removal key



DL-CR50163

25mm wrench for installing/removing the piezo pack of Siemens VDO CR injectors.
Wrench mounting dimensions: a) 25mm Allen key for the piezo pack
b) 1/2" square drive for the torque wrench



DL-CR50164

27mm wrench for installing/removing the piezo pack of Siemens VDO CR injectors.
Wrench mounting dimensions: a) 27mm Allen key for the piezo pack
b) 1/2" square drive for a torque wrench

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CR-ACTIVE

The **CR-Active** signal activator is designed to send a control signal to the Common Rail injector electromagnetic valve. It is used to measure the valve stroke when measuring the magnetic gap of Common Rail injectors.













The basic delivery package includes:

- "CR-ACTIVE" signal generator – 1 pc.
- Power cable (2.1) 220V – 1 pc.
- Main cable (2.2) for connecting to the solenoid – 1 pc.
- Adapter cable (2.3) for passenger car injector – 1 pc.
- Adapter cable (2.4) for truck injector – 1 pc.
- Data sheet (technical description, operating instructions) – 1 pc.



DL-RLC41R

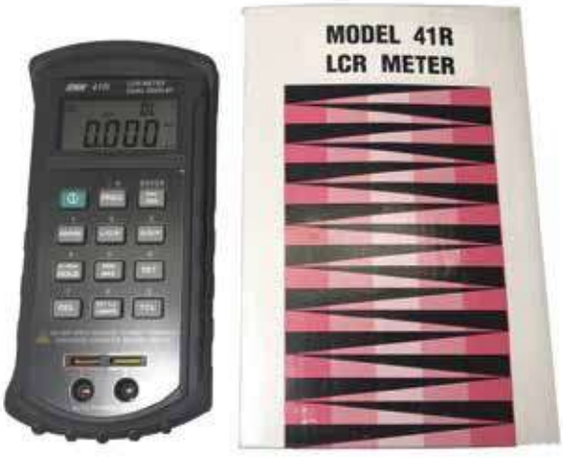
A device for measuring the capacitance of piezoelectric injectors.

Included in the package:

- LRC Meter 41R
- Set of measuring leads
- Communication cable
- Software disc
- Power supply









PUMP TEST.02

Equipment for testing high-pressure Common Rail pumps



The kit includes:

1. The **PTC-2520** device is designed to provide user-programmable control signals to Common Rail fuel injection pump pressure regulators to test their performance.

2. The **FMDE-520** device is designed to measure Common Rail fuel injection pump performance via two channels.

3. A wheeled instrument stand for convenient operation.

4. A set of adapter cables.

5. Fine fluid filters (2 pcs.)

6. Software.













PTC-2520 CP TESTER

A device for testing and testing high-pressure fuel pumps of the Common Rail system with a set of cables.





FMDE-520



A device for testing the performance of Common Rail fuel pumps from various manufacturers, including Bosch, Delphi, Denso, Siemens, and Cummins, on a test bench.

It features a two-channel flow meter (pump feed and return) in various modes, with digital information displayed on a backlit LCD display.





UIS TESTER Multi-CAM

The **UIS TESTER Multi-CAM** device is designed to test and check the performance of unit injectors (UIS - Unit Injector System) and individual high-pressure fuel pumps with high-pressure electromagnetic valves (UPS - Unit Pump System).

The **UIS TESTER Multi-CAM** device can be used to measure the response time of an electric valve. It also features automatic control of the measuring unit's electric drive, as well as the ability to independently update the firmware and adapt it to various CAMBOX configurations.

The UIS TESTER Multi-CAM device allows you to:

- **Set the high-pressure solenoid valve control signal;**
- **Measure the camshaft speed;**
- **Set the required number of cycles;**
- **Preset mode for 5 solenoid valve control modes;**
- **Set any solenoid valve advance angle.**



Package contents:

- UIS TESTER Multi-CAM device;
- Software with BOSCH test plans;
- Speed sensor; power cable;
- Adapter cable for connecting the speed sensor;
- Adapter cable for connecting BOSCH type 1 injectors;
- Adapter cable for connecting BOSCH type 2 injectors;
- Adapter cable for connecting DELPHI injectors;
- Universal adapter cable for injectors;
- Limit switch (reed switch) for the safety fence on the test bench;
- Connector for connecting the curtain control cable.



DL-UNI20001 PR-INDICATOR

Electronic pressure gauge for a hand press (instead of the standard one). The sensor thread in the indicator leg is M12x1.5.

Included in the package:
- Electronic pressure gauge with cable for a 1500 bar pressure sensor – 1 pc.
- Battery charger for the pressure gauge – 1 pc.

NB! The pressure sensor is not included in the package.



DL-UNI20002 PR-INDICATOR

Electronic pressure gauge with 1500 bar pressure sensor for a hand press (instead of the standard one).

Included in the package:
- Electronic pressure gauge with cable for 1500 bar pressure sensor – 1 pc.
- Battery charger for the pressure gauge – 1 pc.
- 1500 bar pressure sensor – 1 pc.



DL-RP410 **(without pressure sensor)**

DL-RP415 **(with pressure sensor 1500 bar)**

RP 400 Manual Injector Tester with Electronic Pressure Gauge

Delivery set:
- Mechanical press – 1 pc. • Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for RP 415) 1500 bar – 1 pc.



DL-RP510 **(without pressure sensor)**

DL-RP515 **(with pressure sensor 1500 bar)**

ZECA manual injector testing press with electronic pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for RP 515) 1500 bar – 1 pc.



DL-UNI20065 **PR-TESTER.V05**

Electronic pressure gauge with charger included.



DL-UNI20077

Adapter cable for the BOSCH 1500 bar pressure sensor



DL-UNI21030

Mounting bracket for an electronic pressure gauge



DL-UNI30237

Pressure gauge stem (fitting) G1/2 with M12 x 1.25 mm nut

DL-UNI30445

Pressure gauge stem (fitting) M20 x 1.5 mm with M12 x 1.25 mm nut



DL-CR10058
DL-CR10059
DL-CR10060

1500 bar pressure sensor

DL-UNI20065 PR-TESTER.V05

Electronic pressure gauge suitable for manual presses:



DL-RP420 **(without pressure sensor)**

DL-RP425 **(with pressure sensor 1500 bar)**

RP 400 Manual Injector Testing Press with DL-UNI20065 Electronic Pressure Gauge

Delivery set:

- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for RP 425) 1500 bar – 1 pc.



DL-RP520 **(without pressure sensor)**

DL-RP525 **(with pressure sensor 1500 bar)**

ZECA Manual Injector Tester with Electronic Pressure Gauge DL-UNI20065

Delivery set:

- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for RP 525) 1500 bar – 1 pc.



PR-TESTER.V05

Electronic pressure gauge
2-channel

DL-UNI20061 **Delivery set for measuring pressure via 2 CHANNELS:**

1. **DL-UNI20065** Electronic pressure gauge
2. **DL-UNI20071** Main adapter cable for 2-channel connection – 1 pc.
3. **DL-UNI20072** BOSCH pressure sensor adapter cable type 1 – 2 pcs.
4. **DL-UNI20073** Adapter cable for pressure sensor BOSCH type 2 – 2 pcs.
5. **DL-UNI20074** Adapter cable for DELPHI pressure sensor – 2 pcs.
6. **DL-UNI20075** Universal adapter cable for pressure sensor – 2 pcs.
7. Charger
8. Passport



PR-TESTER.V05

Electronic pressure gauge
1-channel

DL-UNI20060 **Delivery set for measuring pressure via 1 CHANNEL:**



1. **DL-UNI20065** Electronic pressure gauge
2. **DL-UNI20070** Main adapter cable for single-channel connection – 1 pc.
3. **DL-UNI20072** BOSCH pressure sensor adapter cable type 1 – 1 pcs.
4. **DL-UNI20073** Adapter cable for pressure sensor BOSCH type 2 – 1 pc
5. **DL-UNI20074** Adapter cable for DELPHI pressure sensor – 1 pcs
6. **DL-UNI20075** Universal adapter cable for pressure sensor – 1 pc
7. Charger
8. Passport



PR-TESTER.V03

A device for measuring fuel pressure in CR and FSI systems and for measuring air pressure and vacuum in pneumatic systems.

Package Contents:

- Blood Pressure Monitor – 1 pc.
- **DL-UNI20072** Adapter Cable for BOSCH Type 1 Pressure Sensor – 1 pc.
- **DL-UNI20075** Universal Adapter Cable for Pressure Sensor – 1 pc.
- Charger
- Data Sheet / User Manual / Warranty Card

Additional Adapter Cables
(not included in the basic package):
DL-UNI20073 Adapter Cable for BOSCH Type 2 Pressure Sensor
DL-UNI20074 Adapter Cable for DELPHI Pressure Sensor



DT-SCOPE

Oscilloscope attachment for measuring pressure in the Common Rail system



DL–UNI20009

CR system test kit

Delivery set:

DL-UNI30744	Tee – 1 pc.
DL-CR10050	Pressure sensor 1800 bar – 1 pc.
	or DL-CR10061, DL-CR10065 depending on availability
DL-TVD31414	14x14x300 VD Tube - 1 pc.
DL-TVD31214	12x14x300 VD Tube - 1 pc.
DL-UNI30218	14x14 Fittings - 2 pcs.
DL-UNI31498	12x14 Fitting - 1 pc.
DL-UNI30529	14x1.5 Plug - 1 pc.
DL-UNI30636	12x1.5 Plug - 1 pc.



DL-CR50310KIT

Adapter assembly for fuel system diagnostics

Delivery set:

DL-CR31557	Adapter body – 1 pc
DL-CR10056	Pressure relief valve1800 bar – 1 pc
DL-CR10050	Pressure sensor 1800 bar – 1 pc
DL-UNI30218	High-pressure fitting M14(1.5)xM14(1.5) in a set with a DL-SHP15084 washer-gasket – 1 pc
34-RL3106M5	L-shaped "quick" adapter – 1 pc
DL-P1002	PVC tube, 4 mm diameter, 30 cm



DL-UNI20006

CR System Test Kit

Included:

DL-UNI20005	PR tester (electric pressure gauge) – 1 pc
DL-CR10050	1800 bar pressure sensor – 1 pc

or **DL-CR10061, DL-CR10065** depending on availability

DL-UNI30744	Tee (for connecting the pressure sensor and high-pressure tube) – 1 pc.
DL-UNI30218	14x14 mm fittings – 2 pcs.
DL-UNI31498	12x14 mm fitting – 1 pc.
DL-TVD31414	14x14x300 mm high-pressure tube – 1 pc.
DL-TVD31214	12x14x300 mm high-pressure tube – 1 pc.
DL-UNI30529	M14x1.5 mm plug – 1 pc.
DL-UNI30636	M12x1.5 mm plug – 1 pc.



DL-UNI20007

CR System Test Kit

Included:

DL-UNI20005	PR tester (electronic pressure gauge) – 1 pc.
DL-CR10050	1800 bar pressure sensor – 1 pc. or **DL-CR10061, DL-CR10065** depending on availability
DL-UNI30744	Tee (for connecting the pressure sensor and high-pressure tube) – 1 pc.
DL-UNI30218	14x14 mm fittings – 2 pcs **DL-UNI31498** 12x14 mm fitting – 1 pc.
DL-TVD31414	14x14x300 mm high-pressure tube – 1 pc. **DL-TVD31214** 12x14x300 mm high-pressure tube – 1 pc.
DL-UNI30529	14x1.5 mm plug – 1 pc. **DL-UNI30636** 12x1.5 mm plug – 1 pc.
DL-12CRM	Backflow test vial set (for DL-UNI20007 only)
DL-24CRM	Backflow test adapter set (for DL-UNI20007 only)



DL-UNI30287

Adapter with a G1/2" female thread for a 2000 bar pressure gauge. It has a M14x1.5 mm connection thread with a 60° cone for the high-pressure tube (HPT).

Included in delivery:
adapter – 1 pc.



DL-UNI30508

Adapter with M20x1.5mm internal thread for a 2500 bar pressure gauge. It has an M14x1.5mm connection thread with a 60° cone for the high-pressure tube (HPT).

Included in delivery:
adapter – 1 pc.



DL-SM

Pressure gauge washer



DL-CR14P2000

2000 bar pressure gauge



DL-CR14P2500

2500 bar pressure gauge



DL-CR50246

Pressure gauge mounting bracket.
Designed as a hook and clamp for holding the pressure gauge.
Used with D-12-TV63 series pressure gauges.



DL-KM2000

Pressure gauge bracket for 2000 bar.
For rail DL-CR30181 and DL-CR30522

Scope of delivery:
- bracket
- clamping bar
- M6x60 bolt, nuts, washers – 2 sets
- bolt M6x45, washers – 2 sets



DL-KM3000

2000 bar pressure gauge bracket
for mounting on the bench plate.

Included:
- Bracket
- Profile bolt with nut, washer, and lock washer
- Clamping plate
- M6x60mm bolt with nut, washer, and lock washer – 2 sets



DL-KM2500

2500bar pressure gauge bracket.
For DL-CR30181 and DL-CR30522 rails

Included in delivery:
- Main bracket
- Pressure gauge mounting ring
- M6x45 bolt, washers – 2 sets
- M6x30 bolt, washers – 2 sets
- M6x10mm bolt – 3 pcs.



DL-KM3500

2500bar pressure gauge bracket
for mounting on the bench plate

Included in delivery:
- Main bracket
- Pressure gauge mounting ring
- Profile bolt with nut, washer, and lock washer
- M6 x 30mm bolt with washer and lock washer – 2 sets
- M6 x 10mm bolt – 3 pcs.

Anti-vibration pressure gauges with glycerin series D-12-TG63 and D-12TV63



D-12-TG63-1-0

Vacuum pressure gauge from 1-0 bar, Ø63 mm,
with a 1/4" flanged connection on the back

D-12-TG63-1-3

Vacuum pressure gauge from 1-3 bar, Ø63 mm,
with a 1/4" flanged connection on the back



D-12-TG63-01

0-1 bar pressure gauge, Ø63 mm
with a 1/4" flange-type fitting on the back

D-12-TG63-02,5

Pressure gauge 0÷2.5 bar, Ø63
with a 1/4" flange-type fitting on the back



D-12-TG63-004

Pressure gauge for 0–4 bar, Ø63 mm
with a 1/4" flanged connection on the back

D-12-TG63-006

Pressure gauge 0÷6 bar, Ø63 mm
with a 1/4" flange-type fitting on the back



D-12-TG63-010

Pressure gauge 0÷10 bar, Ø63 mm
with a 1/4" flanged connection on the back

D-12-TG63-016

Pressure gauge 0÷16 bar, Ø63 mm
with a 1/4" flanged connection on the back



D-12-TG63-025

Pressure gauge 0÷25 bar, Ø63 mm
with a 1/4" flanged connection on the back

D-12-TG63-040

Pressure gauge 0÷40 bar, Ø63 mm
with a 1/4" flanged connection on the back



D-12-TG63-060

Pressure gauge 0÷60 bar, Ø63 mm
with a 1/4" flanged connection on the back

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Anti-vibration pressure gauges with glycerin series D-12-TG63 and D-12TV63



D-12-TV63-1-0

Vacuum pressure gauge for pressures from –1 to 0 bar, Ø63 mm, with a 1/4" connection at the bottom

D-12-TV63-1-3

Vacuum pressure gauge for 1-3 bar, Ø63 mm, with a 1/4" connection at the bottom



D-12-TV63-01

Pressure gauge 0÷1 bar, Ø63 with a 1/4" connection at the bottom

D-12-TV63-02,5

Pressure gauge 0÷2.5 bar, Ø63 with a 1/4" connection at the bottom



D-12-TV63-004

Pressure gauge 0–4 bar, Ø63 mm with a 1/4" connection at the bottom

D-12-TV63-006

Pressure gauge 0–6 bar, Ø63 with a 1/4" connection at the bottom



D-12-TV63-010

Pressure gauge 0÷10 bar, Ø63 with a 1/4" connection at the bottom

D-12-TV63-016

Pressure gauge 0÷16 bar, Ø63 with a 1/4" connection at the bottom



D-12-TV63-025

Pressure gauge 0÷25 bar, Ø63 with a 1/4" connection at the bottom

D-12-TV63-040

Pressure gauge 0÷40 bar, Ø63 mm with a 1/4" connection at the bottom



D-12-TV63-060

Pressure gauge 0–60 bar, Ø63 mm with a 1/4" connection at the bottom

Anti-vibration pressure gauges with glycerin series D-12-TG100 and D-12TV100



D-12-TG100-1-0

Vacuum pressure gauge, Ø100 mm
with rear connection
-1 to 0 bar / -0.10 to 0 MPa

D-12-TG100-02,5

Pressure gauge, Ø100 mm with a 1/2″ rear connection
0 to 2.5 bar / 0 to 0.25 MPa

D-12-TG100-004

Pressure gauge, Ø100 mm with a 1/2″ rear connection
0 to 4 bar / 0 to 0.4 MPa

D-12-TG100-016

Pressure gauge, Ø100 mm with a 1/2″ rear connection
0 to 16 bar / 0 to 1.6 MPa

D-12-TG100-040

Pressure gauge, Ø100 mm with a 1/2″ rear connection
0 to 40 bar / 0 to 4 MPa



D-12-TV100-1-0

Vacuum pressure gauge, Ø100 mm
with a 1/2″ connection at the bottom
from –1 to 0 bar / from –0.10 to 0 MPa

D-12-TV100-02,5

Pressure gauge, Ø100 mm with a 1/2″ connection
at the bottom 0 to 2.5 bar / 0 to 0.25 MPa

D-12-TV100-004

Pressure gauge, Ø100 mm with a 1/2″ connection
at the bottom 0 to 4 bar / 0 to 0.4 MPa

D-12-TV100-016

Pressure gauge, Ø100 mm with a 1/2″ connection
at the bottom 0 to 16 bar / 0 to 1.6 MPa

D-12-TV100-040

Pressure gauge, Ø100 mm with a 1/2″ connection
at the bottom 0 to 40 bar / 0 to 4 MPa



DL-KIP0001

Mechanical watch-type measuring head
Specifications:
- Type – mechanical
- Stroke – 10 mm
- Resolution – 0.01 mm
- Repeatability – 0.01 mm



DL-KIP0002

Mechanical Dial Head
Specifications:
- Type – Mechanical
- Stroke – 5 mm
- Resolution – 0.001 mm
- Repeatability – 0.001 mm



DL-KIP0003

Mechanical Dial Head
Specifications:
- Type – Mechanical
- Stroke – 5 mm
- Resolution – 0.01 mm
- Repeatability – 0.02 mm



DL-KIP0004

Mechanical Dial Head
Specifications:
- Type – Mechanical
- Stroke – 10 mm
- Resolution – 0.01 mm
- Repeatability – 0.02 mm



DL-KIP0005

Mechanical Dial Head
Specifications:
- Type – Mechanical
- Stroke – 20 mm
- Resolution – 0.01 mm
- Repeatability – 0.03 mm



DL-KIP0006

Mechanical watch-type measuring head
Specifications:
- Type – mechanical
- Stroke – 30 mm
- Resolution – 0.01 mm
- Repeatability – 0.03 mm



DL-KIP0007

Mechanical Dial Head
Specifications:
- Type – Mechanical
- Stroke – 50 mm
- Resolution – 0.01 mm
- Repeatability – 0.04 mm



DL-KIP0008

Indicator Measuring Head
Specifications:
- Type – Mechanical
- Stroke – 25 mm
- Resolution – 0.01 mm
- Repeatability – 0.02 mm



DL-KIP0010

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 12.7 mm
- Resolution – 0.01 mm
- Repeatability – 0.01 mm
- Sleeve – 8 mm
- Automatic shut-off



DL-KIP0011

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 12.7 mm
- Resolution – 0.001 mm
- Repeatability – 0.004 mm
- Sleeve – 8 mm
- Automatic shut-off



DL-KIP0012

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 25 mm
- Resolution – 0.001 mm
- Repeatability – 0.004 mm
- Sleeve – 8 mm
- Automatic shut-off



DL-KIP0015 **Limit**

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 12.5 mm
- Resolution – 0.01 mm
- Repeatability – 0.03 mm
- Sleeve – 8 mm
- Automatic shut-off



DL-KIP0016 **Limit**

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 12.5 mm
- Resolution – 0.001 mm
- Repeatability – 0.004 mm
- Sleeve – 8 mm
- Automatic shut-off





DL-KIP0023 **Dieselland**

Communication key for the measuring head to the PC



DL-KIP0025 **Eee**

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 12.7 mm
- Resolution – 0.001 mm
- Repeatability – 0.002 mm
- Sleeve – 8 mm
- Automatic shut-off



DL-KIP0026 **Eee**

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 25 mm
- Resolution – 0.001 mm
- Repeatability – 0.004 mm
- Sleeve – 8 mm
- Automatic shut-off



DL-KIP0028 **Eee**

Communication key for the measuring head to the PC



DL-KIP0029 **SHAHE**

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 12.7 mm
- Resolution – 0.001 mm
- Repeatability – 0.002 mm
- Sleeve – 8 mm
- Automatic power-off
- PC connection via COM port (cable included)

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DL-KIP030 **SHAHE**

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 12.7 mm
- Resolution – 0.001 mm
- Repeatability – 0.002 mm
- Sleeve – 8 mm
- Automatic shut-off



DL-KIP0031 **SHAHE**

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 25 mm
- Resolution – 0.001 mm
- Repeatability – 0.004 mm
- Sleeve – 8 mm
- Automatic shut-off



DL-KIP0032 **Eee**

Indicator Measuring Head
Specifications:
- Type – Electronic
- Stroke – 50 mm
- Resolution – 0.001 mm
- Repeatability – 0.005 mm
- Sleeve – 8 mm
- Automatic shut-off



DL-KIP0034

Digital indicator measuring head with an accuracy of 0.01 mm, stroke 12.5 mm
Specifications:
- Type – Electronic
- Resolution – 0.01 mm
- Accuracy – 0.01 mm
- Large, high-contrast LCD display
- Carbide tip, thread – M2.5
- Sleeve – 8 mm
- Automatic power-off
- Body diameter – 60 mm



DL-KIP0035

Digital indicator measuring head with an accuracy of 0.001 mm, stroke 12.5 mm
Specifications:
- Type – Electronic
- Measurement range – 12.7 mm
- Resolution – 0.001 mm
- Accuracy – 0.002 mm
- Large, high-contrast LCD display
- Carbide tip, thread – M2.5
- Sleeve – 8 mm
- Automatic power-off
- Body diameter – 60 mm



DL-KIP0036

Digital indicator measuring head with an accuracy of 0.001 mm, 25 mm stroke
Specifications:
- Type – Electronic
- Measurement range – 25.4 mm
- Resolution – 0.001 mm
- Accuracy – 0.004 mm
- Large, high-contrast LCD display
- Carbide tip, thread – M2.5
- Sleeve – 8 mm
- Automatic power-off
- Body diameter – 60 mm



DL-KIP0037

Digital Thickness Gauge 0-12.7 mm, 0.001 mm
Specifications:
- Measurement range: 0-12.7 mm
- Resolution: 0.001 mm
- LCD display
- Automatic power-off
- Body diameter: 57 mm



DL-KIP0250

Magnetic stand for mounting the indicator measuring head

The stand's base is highly magnetic, allowing installation on both horizontal and vertical surfaces.

ATTENTION!
The measuring head is not included in the package!



DL-KIP0251

Magnetic stand for mounting the indicator measuring head

The stand's base is highly magnetic, allowing installation on both horizontal and vertical surfaces.

ATTENTION!
The measuring head is not included in the package!



DL-CVC525

Digital internal caliper
5-25 mm / 0.005 mm

Measurement range: 5-25 mm
Measurement accuracy: 0.005 mm



DL-STC150

Digital caliper



DL-M030

(Limited quantity)
Digital micrometer

Measurement range: 0-25 mm
Measurement accuracy: 0.001 mm



DL-M035

Digital micrometer

Measurement range: 0-25 mm
Measurement accuracy: 0.001 mm



DL-M040

D-SDM
Digital Micrometer Stand



D-DMTS-KIT

(Limited quantity)
DL-030 and DL-040 kit.
Tripod and digital micrometer

dieselland equipment for diesel



DL-UNI50062

Adapter for measuring compression in diesel engines (M12x1.5; rod L=175 mm).
Installed in place of the injector.
Pressure sensor not included.



DL-UNI20008

Diesel engine compression measurement kit.
The kit includes:
• DL-UNI50062 adapter – 1 pc.
• PR-tester – 1 pc.
• Pressure sensor cable – 1 pc.

The pressure sensor is not included.

**Appearance and package contents may vary to improve equipment performance*



DL-UNI20000

Diesel engine compression test kit.
Kit includes:
• DL-UNI50062 adapter – 1 pc.
• PR-tester – 1 pc.
• Pressure sensor cable – 1 pc.
• 150 bar or 200 bar pressure sensor



DL-CR10045

150 bar pressure sensor for the DL-UNI20008 compression tester



DL-CR10046

250 bar pressure sensor for the DL-UNI20008 compression tester



DL-PR363

Diesel Engine Compression Tester Kit
The kit includes:

• Recording Compression Tester — 1 pc.,
• Instructions — 1 pc.,
• Quick-release adapter M14x1.5 — 1 pc.,
• Adapter M14x1.5 — 1 pc.
• M12x1.5 adapter — 1 pc.,
• Spare cards — 1 set,
• Case — 1 pc.



DL-WT04A3021

Fuel pressure measuring kit for low-pressure lines in diesel and gasoline engines.

Measurement range: 0-140 psi (0-10 bar)



D-07147122

1/2" Torque Wrench 25-100 Nm



D-07147121

3/8″ torque wrench



D-07147120

1/4" Torque Wrench 0-20 Nm



DL-UNI30776

Adapter with 1/4" internal square and 1/2" external square



DL-UNI31593

Adapter with 3/8" internal square and 1/2" external square

dieselland equipment for diesel



DL-RP400

Manual injector tester with mechanical pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Mechanical pressure gauge – 1 pc.
- Connecting tube – 2 pcs.



DL-RP410 **(without pressure sensor)**

DL-RP415 **(with pressure sensor 1500 bar)**

Handheld injector tester with electronic pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for RP 415) 1500 bar – 1 pc.



DL-RP420 **(without pressure sensor)**

DL-RP425 **(with pressure sensor 1500 bar)**

Handheld injector tester with a 2-channel electronic pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for RP 425) 1500 bar – 1 pc.



DL-RP430

Manufacturer: ZECA (Italy)
Injector spray testing chamber (aspirator)
Allows visual inspection of the performance of diesel injector nozzles without risk to health. The device collects the working fluid for reuse.



DL-RP500

Manufacturer: ZECA (Italy)
Manual injector testing press with mechanical pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Mechanical pressure gauge – 1 pc.
- Connecting tube – 2 pcs.



DL-RP510 **(without pressure sensor)**

DL-RP515 **(with pressure sensor 1500 bar)**

ZECA manual injector testing press with electronic pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for RP 515) 1500 bar – 1 pc.



DL-RP520 **(without pressure sensor)**

DL-RP525 **(with pressure sensor 1500 bar)**

ZECA manual injector testing press with 2-channel electronic pressure gauge

Delivery set:
- Mechanical press – 1 pc.
- Connecting tube – 2 pcs.
- Electronic pressure gauge with cable – 1 pc.
- Battery charger – 1 pc.
- Pressure sensor (for RP 525) 1500 bar – 1 pc.

DL-CRN50113 Set of angle gauges for checking the tightening of the nozzle nut

Delivery set:



DL-CRN50107

Angle gauge for injectors with a nozzle nut diameter of 17 mm

Angle range: 0° – 360°



DL-CRN50110

Angle gauge for injectors with a nozzle nut diameter of 19 mm

Angle range: 0° – 360°



DL-CRN50108

Angle gauge for injectors with a nozzle nut diameter of 21 mm

Angle range: 0° – 360°



All protractors are also sold separately.



DL-UNF20113

Fine liquid filter with 3-micron housing for TRIUMF, CR-TEST, SPF, CR-JET, SPN(U), and DORPAT test benches



DL-UNF20103

3-micron fine liquid filter for TRIUMF, CR-TEST, SPF, CR-JET, SPN(U), and DORPAT test benches



DL-UNF20105

5-micron fine liquid filter for TRIUMF, CR-TEST, SPF, CR-JET, SPN(U), and DORPAT test benches



DL-UNF20110

10-micron fine liquid filter for TRIUMF, CR-TEST, SPF, CR-JET, SPN(U), and DORPAT test benches



DL-UNF20210

Fine liquid filter (long body) 10 µm for DORPAT stands



DL-UNF20124

3-micron fine liquid filter for CRUIS, CR-JAS, and CR-iXE test benches



DL-UNF24020

Liquid cleaning filter for TRIUMF, CRUIS, CR-JET stands (drain from the workbench)



DL-UNI50214

Filter housing with G¾" connection thread.
Features inlet and outlet with G½" threads.
Fits DL-UNF20113, DL-UNF20110, DL-UNF20103, DL-UNF20210



DL-UNI50215

Filter housing with M16x1.5mm connection thread.
Features inlet and outlet with G½" threads.
Suitable for DL-UNF20124



DL-UNI50338

Filter housing with a G3/4" connection thread (nipple) DL-UNI30741.
An M16x1.5 x M16x1.5 nipple (DL-UNI30520) can also be installed.
The housing has an inlet and outlet with M14x1.5 threads.



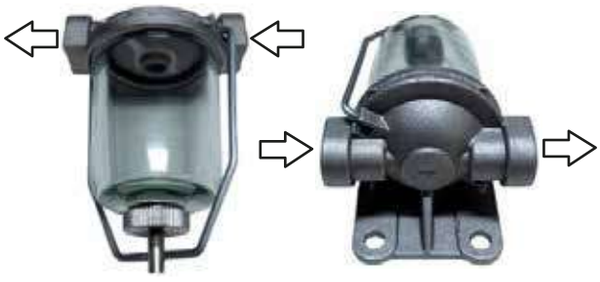
DL-UNI50339

Filter housing with M16x1.5 threaded connection (nipple) DL-UNI30520. Can also be installed with an M16x1.5 x G3/4" nipple DL-UNI30741.
The housing has an inlet and outlet with M14x1.5 threads.
Suitable for DL-UNF20124



DL-UNI31662

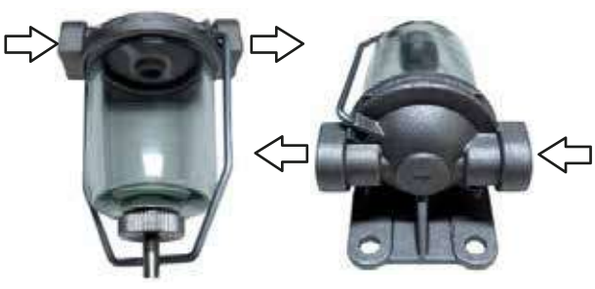
Filter housing with M16x1.5mm connection thread.
It has an inlet and outlet with M14x1.5mm threads.
A fitting can be installed to accommodate any filter diameter.
The filter fitting is custom-made.



DL-UNF20300R

Sediment filter (inlet on the right)
The filter includes:

1. Inlet and outlet openings M14x1.5mm
2. Mounting holes Ø 8mm



DL-UNF20300L

Filter-sump (inlet on the left)
The filter includes:

1. Inlet and outlet openings M14x1.5mm
2. Mounting holes Ø 8mm



DL-CR30051

15 micron liquid filter
with 1/8" outlets



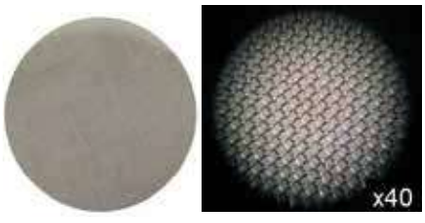
DL-UNI50126

15 micron liquid filter
with 3/8" outlets



DL-UNI50047

15-micron liquid filter
with 10-mm herringbone fittings



DL-SDF0410

15-µm mesh for filters
DL-UNI5026, DL-UNI50047, DL-CR30051



DL-UNI30828

Bosch high-pressure filter adapter
for testing CP1, CP2, CP3, and CP4 pumps.
Used with pressure accumulators (rails)
DL-CR31083, DL-CR30181, and DL-CR30522.
Can be installed in any convenient location on the rail.

The adapter has threaded holes:
- For a filter with a special M18x1.5 fitting (1 hole)
- For fluid supply M14x1.5 (2 holes on top)
- For connecting a pressure sensor M18x1.5 (1 hole)
- For connecting a safety valve
M20x1.5 (1 hole)
- For relieving pressure in case of excess pressure M5 (1 hole)



Included in delivery:
1. Adapter – 1 pc.
2. DL-UNF21100 high-pressure filter – 1 pc.
3. Conical fitting for high-pressure filter
M14xM18 – 1 pc.
4. Fittings M14x1.5 – 2 pcs.
5. Sealing washer – 3 pcs.
6. Plug M14x1.5 – 1 pc.
7. Fitting Ø 6mm x M5.



DL-CR50121

DL-UNF2110 High Pressure Filter Adapter
Installs in place of the standard fitting on the DL-CR30479,
DL-CR30180, DL-CR30181, DL-CR30188, DL-CR30522,
and DL-CR30526 Rail.

Included in delivery:
adapter – 1 pc.,
adapter body with M14x1.5 thread – 1 pc.

ATTENTION!
The DL-UNF2110 high pressure filter is not included
in the delivery set and must be ordered separately.



DL-UNF2110

High-pressure filter for pressure accumulators (Rail)
DL-CR30479, DL-CR30180, DL-CR30181, DL-CR30188,
DL-CR30522, DL-CR30526
Also used with adapter DL-CR50121



CRS Calibrol

Calibration fluid for diesel fuel equipment

CRS Calibrol Calibration Fluid
(20-liter plastic canister)
Is a test oil for testing injectors and pumps of diesel fuel injection systems.

CRS Calibrol is a low-viscosity calibration fluid with very tight viscosity tolerances.
It offers exceptional protection against wear and corrosion, as well as low foaming.



DL-SRS020

SRS calibration fluid

ISO 4113-CV-AW (VS 15665-OL-CV),
20-liter canister.

Used in test rigs for testing CR injectors, unit injectors, and PLD sections.





DL-PLP125

Lighting for stands
TRIUMF / CRUIS / CR-Test / DORPAT / CR-Jet

Technical specifications:

Overall dimensions	145x145 mm
Mounting hole size	125x125 mm
Power	9 W
Voltage	24 V

Comes complete with a power supply.

DL-PLP135

Lighting for stands
TRIUMF / CRUIS / CR-Test / DORPAT / CR-Jet

Technical specifications:

Overall dimensions	145x145 mm
Mounting hole size	135x135 mm
Power	9 W
Voltage	24 V

Comes complete with a power supply.

Fittings for connecting hydraulic and pneumatic systems



34-RL3104M5	Angle adapter M5 x Ø 4mm with collet
34-RL3106M5	Angle adapter M5 x Ø 6mm with collet
34-RL310401	Angle adapter 1/8" x Ø 4mm with collet
34-RL310601	Angle adapter 1/8" x Ø 6mm with collet
34-RL310801	Angle adapter 1/8" x Ø 8mm with collet
34-RL310602	Angle adapter 1/4" x Ø 6mm with collet
34-RL310802	Angle adapter 1/4" x Ø 8mm with collet
34-RL311002	Angle adapter 1/4" x Ø 10mm with collet
34-RL310803	Angle adapter 3/8" x Ø 8mm with collet
34-RL311003	Angle adapter 3/8" x Ø 10mm with collet



34-RL020402	Adapter with internal thread 1/4" x Ø 4 mm with collet
34-RL020602	Adapter with internal thread 1/4" x Ø 6 mm with collet
34-RL020401	Adapter with internal thread 1/8" x Ø 4 mm with collet
34-RL020601	Adapter with internal thread 1/8" x Ø 6 mm with collet



34-RL0306	Collet adapter with M13x1mm thread and two Ø6 x Ø6mm nuts
34-RL0306C	Collet adapter with M14 x 1mm thread and two Ø6 x Ø6mm nuts
34-RL0306E	Collet adapter with M15x1mm thread and two Ø6 x Ø6mm nuts
34-RL0304C	Collet adapter with M10x1mm thread and two Ø4 x Ø4mm nuts
34-RL0308C	Collet adapter with M16 x 1mm thread and two Ø8 x Ø8mm nuts
34-RL0310C	Collet adapter with M18x1mm thread and two Ø10 x Ø10mm nuts

Fittings for connecting hydraulic and pneumatic systems



34-RL01004M5	Straight adapter M5 x Ø 4mm with collet
34-RL01006M5	Straight adapter M5 x Ø 6mm with collet
34-RL020401	Straight adapter 1/8" x Ø 4mm with collet
34-RL020601	Straight adapter 1/8" x Ø 6mm with collet
34-RL010801	Straight adapter 1/8" x Ø 8mm with collet
34-RL020602	Straight adapter 1/4" x Ø 6mm with collet
34-RL010802	Straight adapter 1/4" x Ø 8mm with collet
34-RL011002	Straight adapter 1/4" x Ø 10mm with collet
34-RL010803	Straight adapter 3/8" x Ø 8mm with collet
34-RL011003	Straight adapter 3/8" x Ø 10mm with collet



34-RL0306B	Collet adapter Ø 6 x Ø 6 mm
34-RL0304B	Collet adapter Ø 4 x Ø 4 mm
34-RL0308B	Collet adapter Ø 8 x Ø 8 mm
34-RL0310B	Collet adapter Ø 10 x Ø 10 mm



34-RL0406	Elbow fitting with collet clamp Ø 6 mm
34-RL0408	Elbow fitting with collet clamp Ø 8 mm



34-RL0504	Tee adapter Ø 4 x Ø 4 x Ø 4 mm with collet
34-RL0506	Tee adapter Ø 6 x Ø 6 x Ø 6 mm with collet
34-RL0508	Tee adapter Ø 8 x Ø 8 x Ø 8 mm with collet
34-RL0510	Tee adapter Ø 10 x Ø 10 x Ø 10 mm with collet

Fittings for connecting hydraulic and pneumatic systems



DL-MOK

Adapter-coupling with check valve Ø 6 mm
Connecting holes Ø 6 mm x Ø 6 mm
Length with clamps = 37 mm
Length without clamps = 33 mm
Diameter = 1.15 mm



DL-MOK-K

Quick-connect coupling with check valve, Ø 6 mm
Connection holes: Ø 6 mm x Ø 6 mm
Length with clamps = 49 mm
Length without clamps = 45 mm
Diameter = 13.8 mm



DL-MOK-KS

Quick-connect coupling with check valve Ø 6 mm
Connecting holes Ø 6 mm x Ø 6 mm
Length with clamps = 42.6 mm
Length without clamps = 37.3 mm
Diameter = 12.5 mm



34-MC15-06-06

Adapter coupling with union nuts and two clamping nuts with
M10 x 1mm threads for Ø 6 x Ø 6mm tubing



34-MO15-06-06

Adapter coupling with union nuts and two clamping nuts with
M10 x 1mm threads for Ø 6 x Ø 6mm tubing (includes two sleeves)



25-FPKM-04

Hydraulic quick-connect connector 1/4" male



25-FPKF-04

Hydraulic quick-connect connector 1/4" female



Штуцеры "банджо" для гидравлических и пневматических соединений



DL-CR20062

Kit (12mm banjo nipple + M12 bolt + rubber and metal washers) for 8mm hose (zinc)



DL-CR20064

Kit (14 mm banjo nipple, M14 bolt, rubber and metal washers) for 8 mm hose (zinc)

Galvanized Coated Stud Bolts:



22-HS-06	Hydraulic banjo bolt M12x1,5mm
22-HS-08	Hydraulic banjo bolt M14x1,5mm
22-HS-10	Hydraulic banjo bolt M16x1,5mm
22-HS-13	Hydraulic banjo bolt M18x1,5mm
22-HZ-08	Hydraulic banjo bolt 1/4"
22-HZ-10	Hydraulic banjo bolt 3/8"
570RLP-08-08	Hydraulic banjo bolt 1/2"

Fittings-bolts with oxidized (black) coating:



DL-UNI30908	Banjo bolt nipple M16x1,5mm
DL-UNI30364	Banjo bolt nipple 1/4"
DL-UNI30363	Banjo bolt nipple 3/8"
DL-UNI30350	Banjo bolt nipple 1/2"

Banjo fittings with galvanized coating:



22-RSN-06	Banjo fitting Ø12mm, fir-tree 8mm
22-RSN-08-06	Banjo fitting Ø14mm, fir-tree 8mm
22-RSN-08	Banjo fitting Ø14mm, fir-tree 10mm
22-RSN-10	Banjo fitting Ø16mm, fir-tree 11-12mm
22-RSN-13	Banjo fitting Ø18mm, fir-tree 13-14mm

Adjusting washers for BOSCH Common Rail injectors





DL08CR-220 Bosch

ADJUSTER SET
DFK type CRI, CRIN
Ø = 3.5 x 5.3 mm,
H = 1.20-1.70 mm, Pitch = 0.02 mm,
24 sizes x 10 = 240 pcs





DL08CR5-244 Bosch

ADJUSTER SET
DFK type CRI, CRIN
Ø = 3.5 x 5.3 mm,
H = 1.20-1.70 mm, Pitch = 0.05 mm,
11 sizes x 10 = 110 pcs





DL09CR-219 Bosch

ADJUSTER SET
Ø = 10.5 x 15.7 mm,
H = 1.20-1.30 mm, Pitch = 0.01 mm,
11 sizes x 10 = 110 pcs





DL10CR-235 Bosch

ADJUSTER SET
AHE type CRIN1
Ø = 19Es 22mm,
H = 1.00-1.10mm, Pitch = 0.01mm
11 sizes x 10 = 110 pcs





DL11CR-236 Bosch

ADJUSTER SET
RLS type CRI-1 CRI-2.0 CRI-2.2,
AHE type CRI-2.1
Ø = 19 x 23.7 mm,
H = 1.00-1.10 mm, Pitch = 0.01 mm
11 sizes x 10 = 110 pcs

Adjusting washers for BOSCH Common Rail injectors





DL12CR-230 Bosch

ADJUSTER SET
VFK type CRI
Ø= 2.5 x 4.5 mm,
H=1.20-1.70 mm, Pitch = 0.02 mm
26 sizes x 10 = 260 pcs





DL12CR5-245 Bosch

ADJUSTER SET
VFK type CRI
Ø = 2.5 x 4.5 mm,
H = 1.20-1.70 mm, Pitch = 0.05 mm
11 sizes x 10 = 110 pcs





DL14CR-228 Bosch

ADJUSTER SET
VFK type CRIN
Ø = 2.3 x 4.2 mm,
H = 1.20-1.70 mm, Pitch = 0.02 mm
24 sizes x 10 = 240 pcs





DL14CR5-243 Bosch

ADJUSTER SET
VFK type CRIN
Ø = 2.3 x 4.2 mm,
H = 1.20-1.70 mm, Pitch = 0.05 mm
11 sizes x 10 = 110 pcs





DL15CR-240/2 Bosch

SET OF ADJUSTING WASHERS
Ø=5.76,
H=8.3-8.7 mm, Step = 0.02 mm,
21 size X 5 = 105 pcs

Adjusting washers for BOSCH Common Rail injectors





DL16CR-232 Bosch

ADJUSTER SET
DNH type CRI, CRIN
Ø = 2.25 mm,
H = 1.14-1.25 mm, Pitch = 0.01 mm
12 sizes x 10 = 120 pcs





DL17CR-269 Bosch

ADJUSTER SET
DFK type CRI, CRIN
Ø = 3.5 x 5.3 mm,
H = 0.90-1.90 mm, Pitch = 0.05 mm
21 sizes x 10 = 210 pcs





DL18CR-271 Bosch

ADJUSTER SET
CRI-1 CRI-2.0 CRI-2.2, AHE type CRI-2.1
Ø = 19 x 23.7 mm,
H = 0.90-1.00 mm, Pitch = 0.01 mm
11 sizes x 10 = 110 pcs





DL19CR-273 Bosch

ADJUSTER SET
RLS type CRIN-1
Ø = 19 mm Es 22 mm,
H = 0.90-1.00 mm, Pitch = 0.01 mm
11 sizes x 10 = 110 pcs





DL24CR-301 Bosch

ADJUSTER SET
RLS type CRIN-1
Ø = 19Es 22mm,
H = 1.30-1.40mm, Pitch = 0.01mm
11 sizes x 10 = 110 pcs

Adjusting washers for BOSCH Common Rail injectors





DL25CR-288 Bosch

ADJUSTER SET
AHE type CRIN1
Ø = 18 Es 22 mm,
H = 1.00-1.10 mm, Pitch = 0.01 mm
11 sizes x 10 = 110 pcs





DL26CR-283 Bosch

ADJUSTER SET
DNH type CRI, CRIN
Ø = 2.3 mm,
H = 0.95-1.13 mm, Pitch = 0.01 mm
19 sizes x 10 = 190 pcs





DL28CR-287 Bosch

ADJUSTER SET
AHE, RLS type CRIN2, CRIN3
Ø = 19.5 x 22.8 mm,
H = 1.34-1.76 mm, Pitch = 0.02 mm
22 sizes x 10 = 220 pcs





DL180CR-180 Bosch

ADJUSTER SET
Ø = 19 x 22 mm,
H = 1.20-1.30 mm,
Pitch = 0.01 mm
11 sizes x 10 = 110 pcs





DL376CR-376 Bosch

ADJUSTER SET
RLS type CRI, CRIN
Ø = 2.5 x 6.4 mm,
H = 1.00-1.20 mm, Pitch = 0.01 mm
21 sizes x 10 = 210 pcs

Adjusting washers for BOSCH Common Rail injectors





DL77CR-77 Bosch

ADJUSTER SET
DFK type CRI, CRIN
Ø = 3.5 x 5.3 mm,
H = 1.04-1.44 mm, Pitch = 0.02 mm
21 sizes x 10 = 210 pcs





DL88CR-88 Bosch

ADJUSTER SET
DFK type CRI, CRIN
Ø = 3.5 x 5.3 mm,
H = 1.46-1.86 mm, Pitch = 0.02 mm
21 sizes x 10 = 210 pcs





DL99CR-99 Bosch

ADJUSTER SET
AHE type CRI-1, CRI2.0, CRI2.2
Ø = 10.5 x 15.7 mm,
H = 1.12-1.23 mm, Pitch = 0.01 mm
12 sizes x 10 = 120 pcs





DL120CR-120 Bosch

ADJUSTER SET
VFK CRIN
Ø = 2.5 x 4.5 mm,
H = 1.70-1.90 mm, Pitch = 0.02 mm
11 sizes x 10 = 110 pcs





DL20CR-272 Bosch

ADJUSTER SET
VFK CRI
Ø= 2.40 x 5.30 mm,
H=1.72-1.90 mm, Pitch = 0.02 mm
10 sizes x 10 = 100 pcs

Adjusting washers for BOSCH Common Rail injectors





DL377CR-377 Bosch

ADJUSTER SET
RLS type CRI, CRIN
Ø = 2.5 x 6.4 mm,
H = 1.21-1.40 mm, Pitch = 0.01 mm
20 size x 10 = 200 pcs





DL22CR-222 Bosch

ADJUSTER SET
Ø = 4.4 x 7.7 mm,
H = 0.98-1.44 mm, Pitch = 0.02 mm
24 x 10 = 240 pcs

Adjusting washers for mechanical injectors





DL-460CRX-005 Bosh

SET OF ADJUSTING WASHERS
Ø= 8.3.5X3.0
H= 1.00-2.00 mm, Step 0.05 mm
21 size X 10 = 210 pcs

Adjusting washers for CR DENSO injectors





DL130CR-130 Denso

ADJUSTER SET
DENSO VFK
Ø= 3.0 x 5.75 mm,
H=1.10-2.00 mm, Pitch = 0.05 mm
19 sizes x 10 = 190 pcs





DL78CR-78 Denso

ADJUSTER SET
DENSO VFK
Ø= 3.0 x 6.75 mm
H=1.75-2.30 mm, Pitch = 0.05 mm
12 sizes x 10 = 120 pcs

Adjusting washers for CR DENSO injectors





DL54CR-343

ADJUSTER SET
Ø21.5 x 24.3
H = 1.20-1.72 mm, Pitch = 0.02 mm
27 x 10 = 270 pcs





DL55CR-344 Denso

ADJUSTER SET
DENSO VFK
Ø = 24.3 mm x 21.5 mm,
H = 1.50-1.72 mm, Pitch = 0.01 mm
23 sizes x 10 = 230 pcs





DL57CR-843 Denso

ADJUSTER SET
DENSO VFK
Ø = 4mm x 1.8mm,
H = 1.00-2.00mm, Pitch = 0.05mm
21 sizes x 10 = 210 pcs





DL70CR-DENSO

ADJUSTER SET
Ø = 23 x 21 mm,
H = 3.00-3.10 mm,
Pitch = 0.01 mm,
11 sizes x 10 = 110 pcs

Adjusting washers and adjusting elements for CR DELPHI injectors

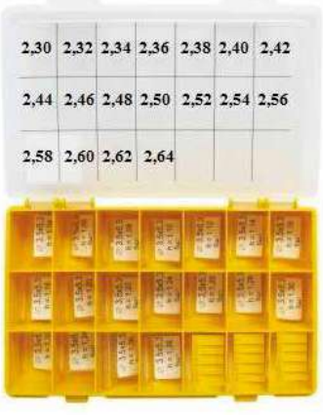




DL-378CR-SMART E3

DELPHI SMART E3 ADJUSTER SET
Ø outer = 4.3 mm,
Ø inner = 1.9 mm,
H = 1.15-1.70 mm,
Pitch = 0.05 mm
12 sizes x 10 = 120 pcs.
or 12 sizes x 5 = 60 pcs.

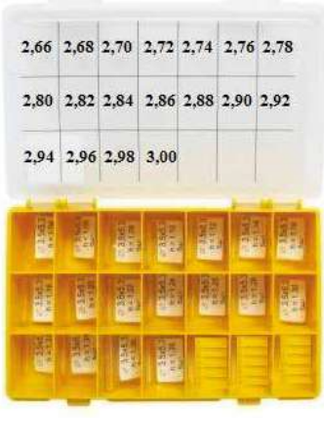




DL-600CR-DELPHI

ADJUSTMENT ELEMENT SET
Ø = 2.0 mm,
H = 2.30-2.64 mm,
Pitch = 0.02 mm
18 sizes x 10 = 180 pcs.





DL-601CR-DELPHI

ADJUSTMENT ELEMENT SET
Ø = 2.00 mm,
H = 2.66-3.00 mm,
Pitch = 0.02 mm
18 sizes x 10 = 180 pcs





DL-602CR-DELPHI

ADJUSTMENT ELEMENT SET
Ø = 2.0 mm,
H = 3.75-4.30 mm,
Pitch = 0.05 mm
11 sizes x 10 = 110 pcs.

Adjusting washers and adjusting elements for CR DELPHI injectors





DL-603CR-DELPHI

ADJUSTMENT ELEMENT SET
Ø = 2.00 mm,
H = 4.35-4.90 mm,
Pitch = 0.05 mm
12 sizes x 10 = 110 pcs

Adjusting washers for Common Rail VDO (SIEMENS) PIEZO injectors





DL-400CR-VDO

VDO (SIEMENS) ADJUSTING WASHERS SET
Ø outer = 18 mm, Ø inner = 14 mm,
H = 0.9-1.13 mm, Pitch = 0.01 mm
24 sizes x 10 = 240 pcs.
or 24 sizes x 5 = 120 pcs.





DL-410CR-VDO

VDO (SIEMENS) ADJUSTING WASHERS SET
Ø outer = 5.7 mm, Ø inner = 3 mm,
H = 1.00-2.00 mm, Pitch = 0.05 mm
24 sizes x 10 = 240 pcs.
or 24 sizes x 5 = 120 pcs.

Adjusting washers for Unit Injectors (UIS) and Single Pumps (PLD)





DL-723UIS

ADJUSTER SET
FOR UIS/UIP
Ø outer = 7.3 mm, Ø inner = 3.0 mm,
H = 0.30-0.58 mm, Pitch = 0.02 mm
15 sizes x 10 = 150 pcs.
or 15 sizes x 5 = 75 pcs.





DL-724UIS

ADJUSTER SET
FOR UIS/UIP
Ø outer = 7.3 mm, Ø inner = 3.0 mm,
H = 0.50-1.05 mm, Pitch = 0.05 mm
12 sizes x 10 = 120 pcs.
or 12 sizes x 5 = 60 pcs.





DL-725UIS

ADJUSTER SET
FOR UIS/UIP
Ø outer = 9.3 mm, Ø inner = 4.7 mm,
H = 0.40-0.80 mm, Pitch = 0.02 mm
21 sizes x 10 = 210 pcs.
or 21 sizes x 5 = 105 pcs.





DL-726UIS

ADJUSTER SET
FOR UIS/UIP
Ø outer = 8.3 mm, Ø inner = 4.7 mm,
H = 0.40-0.80 mm, Pitch = 0.02 mm
21 sizes x 10 = 210 pcs.
or 21 sizes x 5 = 105 pcs.

Adjusting washers for Unit Injectors (UIS) and Single Pumps (PLD)



DL-727UIS

ADJUSTERING SET
WASHERS FOR UIS/UIP
Ø outer = 5.0 mm, Ø inner = 2.5 mm,
H = 0.50-1.00 mm, Pitch = 0.02 mm 337
26 sizes x 10 = 260 pcs.
or 26 sizes x 5 = 130 pcs.



DL-728UIS

ADJUSTER SET
FOR UIS/UIP
Ø outer = 5.0 mm, Ø inner = 2.5 mm,
H = 0.50-1.05 mm, Pitch = 0.05 mm
12 sizes x 10 = 150 pcs.
or 12 sizes x 5 = 60 pcs.



DL-729UIS

ADJUSTER SET
FOR UIS/UIP
Ø outer = 4.3 mm, Ø inner = 1.9 mm,
H = 0.50-1.10 mm, Pitch = 0.05 mm
12 sizes x 10 = 120 pcs.
or 12 sizes x 5 = 60 pcs.



DL-730UIS

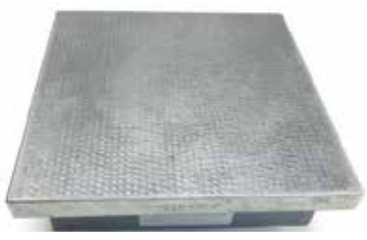
ADJUSTER SET
FOR UIS/UIP
Ø outer = 4.3 mm, Ø inner = 1.9 mm,
H = 1.10-1.50 mm, Pitch = 0.05 mm
9 sizes x 10 = 90 pcs.
or 9 sizes x 5 = 45 pcs.



DL-731UIS

ADJUSTER SET
FOR UIS/UIP
Ø outer = 4.3 mm, Ø inner = 1.9 mm,
H = 1.15-1.70 mm, Pitch = 0.05 mm
12 sizes x 10 = 120 pcs.
or 12 sizes x 5 = 60 pcs.

Инструмент и приспособления для шлифовки шайб и других деталей



D-261106

Lapping plate
Size: 250x250 mm



D-261108

Lapping plate
Size: 400x400 mm



DL-UNI50270

Washer Holder Set
for Grinding
The set includes two holders
with different diameters for washers.
It is recommended to grind
on a special lapping plate.



DL-UNI31635

Holder for lapping
spacers and valves
for Bosch Piezo injectors



DL-TS800PL

Плата тахосчетчика



DL-PTC700PL

Плата прибора PTC



DL-FMDE800PL

Плата расходомера FMDE



DL-CR500PL

Плата прибора Cristina



DL-CRP600PL

Плата прибора Cristina-Piezo



DL-AC400PL

Acoustic kit board



DL-CAS1200PL

CASCADE board



DL-CASP400PL

Piezo board CASCADE



DL-RPC160PL

Injector response time printed circuit board



DL-SHT180PL

Printed circuit board controlling the shutter of the measuring unit