

# CR819 EUI EUP HEUI COMMON RAIL DIESEL INJECTOR FUEL INJECTION PUMP TEST BENCH

(Standard configuration 11KW+380V 3 phase)





1. Machine dimension (L\*W\*H):178\*115\*156 cm

2. Packing dimension (L\*W\*H):185\*120\*170 cm

# TECHNICAL PARAMETERS

1.Main motor speed:	0-4000 r / min can be adjustable
2.Motor power:	11KW/15KW/18.5KW/22KW optional
3.Fuel Injector open	12V, 80V, 150V Control accuracy:
4.Voltage Control range:	phase adjustment
5.Injector opening	0-1000HZ Control accuracy: 1HZ
6.Frequency Control:	0-65535us
7.Fuel injector hold time control:	0-1000 times
8.Delivery oil count control accuracy:	1 times
9.Fuel pressure control	0-2400bar
10.Control accuracy:	1bar
11.Electronic power:	380V /220V three phase ; 220V single phase
12.Product size:	178*115*156
13.Weight:	906kg(including cam box);690kg(excluding cam box)

# PRODUCT DETAILS



control Panel



Flow sensors



Frequency converter



Motor



Cooling fan



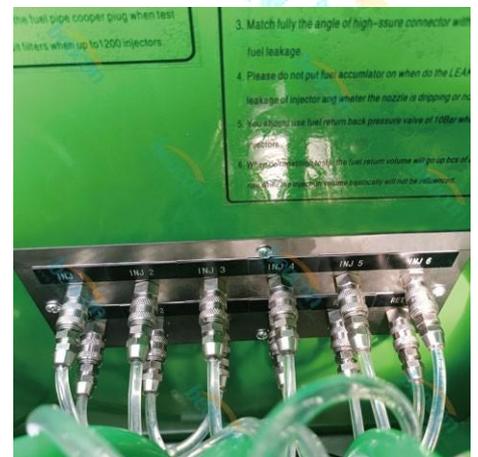
Distribution panel



Diesel tank



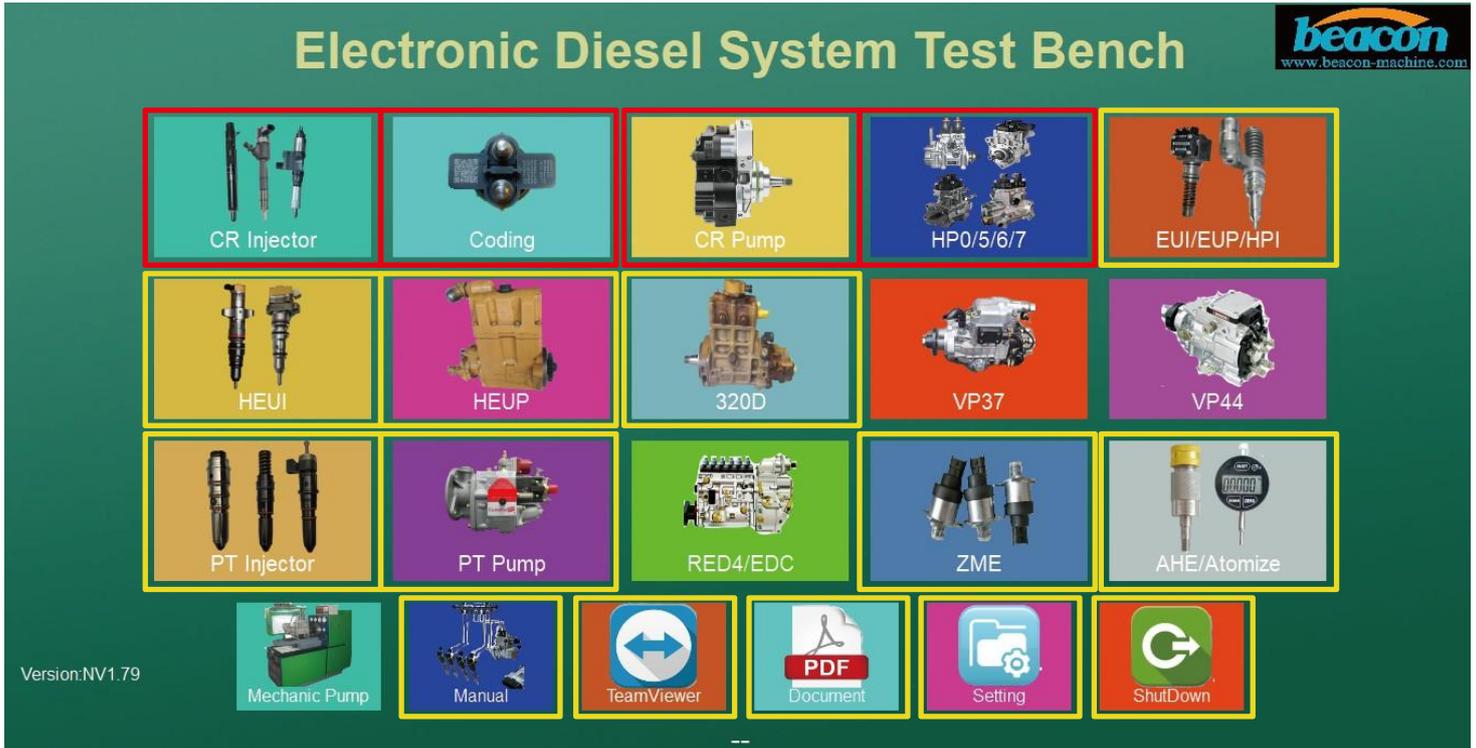
The electromagnetic valve



Wiring harness panel

# DIESEL COMMON RAIL SYSTEM SOFTWARE PART

## 1. Main interface



Basic function       Optional function

1.1 CR Injector

1.2 Coding

1.3 CR Pump

1.4 HP0/5/6/7

1.5 EUI/EUP/HPI

1.6 HEUI

1.7 HEUP

1.8 320D

1.9 VP37

1.10 VP44

1.11 PT Injector

1.12 PT Pump

1.13 RED4/EDC

1.14 ZME

1.15 AHE/Atomize

1.16 Mechanic Pump

1.17 Manual

1.18 TeamViewel

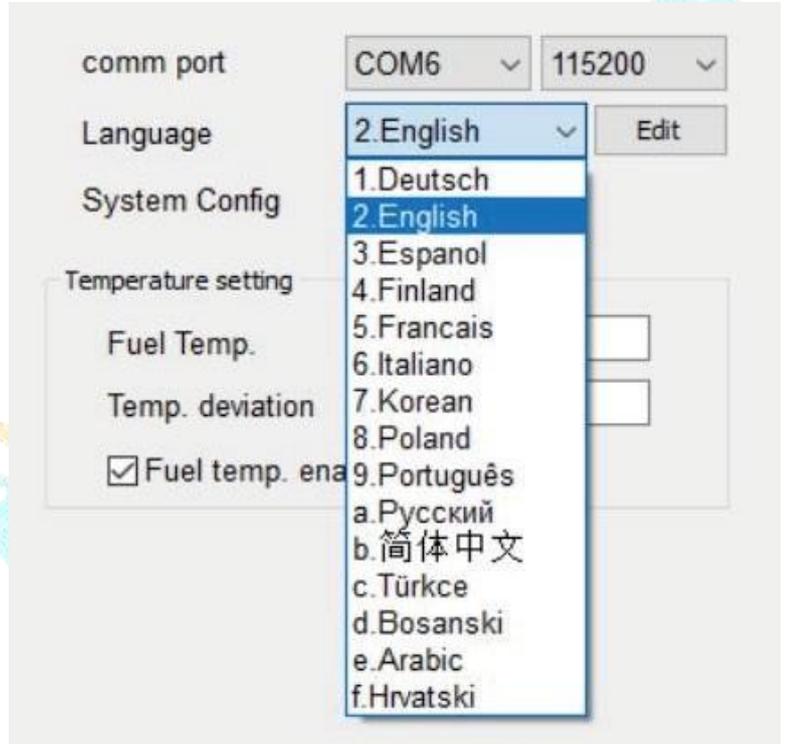
1.19 Document

1.20 Setting

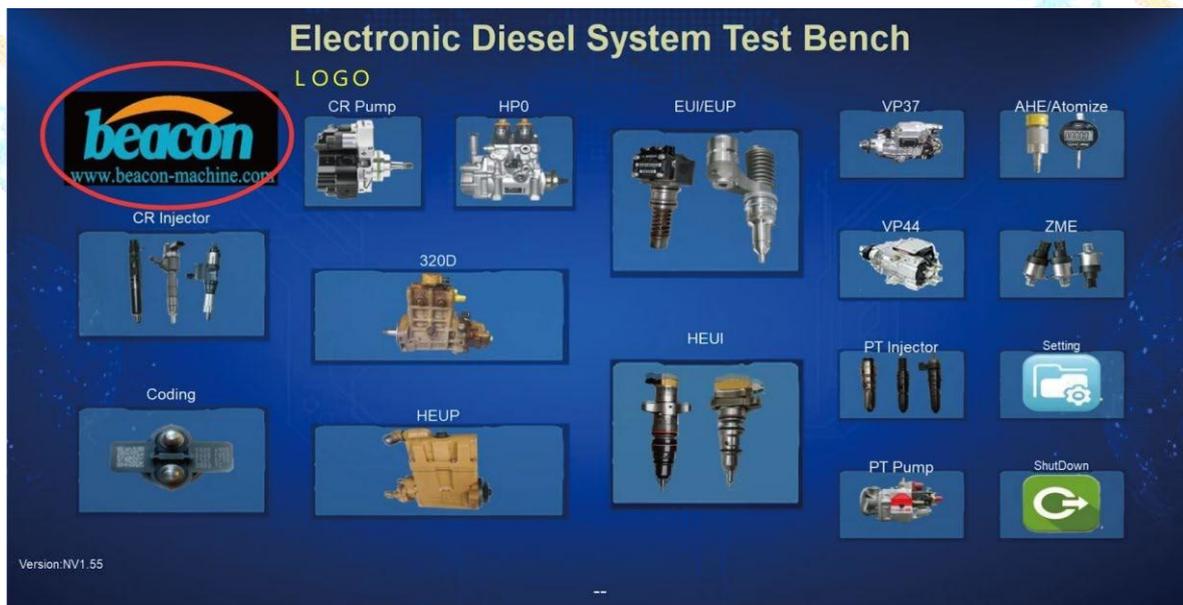
1.21 ShutDown

## 2. How many languages are there in the control system?

**Software supports 15 languages**, including Chinese, English, Spanish, Finnish, French, Italian, Korean, Polish, Portuguese, Russian, Simplified Chinese, Turkish, Bosnian, Araba, and Croatian.



Note: Other main interface options and **customer LOGO** can be customized.



# BASIC FUNCTION

1. 11KW 380V 3 phase
2. Common rail injector + piezoelectric injector
3. Common rail pump
4. Denso HP0 pump
5. Injector coding

## 1. Common rail injectors test

(The latest system has 7543 injectors data, including Bosch 2493, Denso 4287, Siemens 171, Delphi 449, Carter 17, Cummins 54, MTU 19)

The software interface shows a search function for injectors. On the left, there is a 'Type-PN' input field and a list of manufacturers including Bosch, Denso, Siemens, Delphi, Caterpillar, BYC, Cummins, LongBeng, Yu Chai, XinFeng, ChongQing, and L'ORANGE. A magnifying glass icon is used to search for a specific injector. Below the search icon are fields for 'Valve Number', 'Nozzle Number', and 'Replacement Part Number', along with a 'Code Adjust' button. On the right, a table displays the search results, showing columns for 'Type-PN', 'Maker', and 'Version'. A message above the table states 'There are 7543 part numbers'. The table lists various injector part numbers and their corresponding manufacturers, with the entry '3498 095000-5320 Denso Manufacturer' highlighted in blue.

Type-PN	Maker	Version
3483	Denso	Manufacturer
3484	Denso	Manufacturer
3485	Denso	Manufacturer
3486	Denso	Manufacturer
3487	Denso	Manufacturer
3488	Denso	Manufacturer
3489	Denso	Manufacturer
3490	Denso	Manufacturer
3491	Denso	Manufacturer
3492	Denso	Manufacturer
3493	Denso	Manufacturer
3494	Denso	Manufacturer
3495	Denso	Manufacturer
3496	Denso	Manufacturer
3497	Denso	Manufacturer
3498	Denso	Manufacturer
3499	Denso	Manufacturer

The software interface displays the 'Injector Test' screen. It features a grid of control buttons for various test parameters, including flow rate (Q<sub>inj</sub>, Q<sub>Ret</sub>), inductance, and response time (T<sub>Response</sub>). The screen also shows a list of test results for different injectors, such as WARM, LEAK, VL, VL(R), EM, LL, VE, VE(R), and VE 2, each with associated numerical values and status indicators. A 'Report' button is visible at the bottom right of the interface.

## 2. Can print test report.

The logo of the test report can be changed or put yours

### TEST REPORT

---

Servicer: \_\_\_\_\_ Tester: \_\_\_\_\_  
 Tel: \_\_\_\_\_ Fax: \_\_\_\_\_  
 Address: \_\_\_\_\_

---

Repairer: \_\_\_\_\_ Customer: \_\_\_\_\_  
 Tel: \_\_\_\_\_ Fax: \_\_\_\_\_  
 Address: \_\_\_\_\_

---

Date: 07.04.2023 17:46

**Part Number: 0445010012**      **Maker: Bosch**  
 Serial Number: SN

Step	P_rail (Mpa)	I_ZME (A)	Q_pump (L/H)	Q_Real (L/H)	Assess
Max Power	100.0	0.40	46.7±4.6	2.8	×
No Flow	100.0	1.60	1.0±1.0	0.8	✓
Max Power	135.0	0.40	44.8±4.1	2.7	×

## 3. Piezo injector test

### Injector Test

1 SN

2

3

4

5

6

**/min**

600

50

0

**mm3/H**

150.0

150.0

0.0

**mm3/H**

0.0

0.0

0.0

**MPa**

100.0

1.0

100.0

**BIP μS**

600

500

0

**μF**

--

--

0

**S**

30

0

30

**V**

24.0

0.0

--

**μS**

750

1000

0

**°C**

40.0

2.0

20.0

**A**

I\_Pump 0.00

I\_Drv 0.00

JLL% 0.00

**%**

80

FWD

REV

Open

Close

+

**Q\_Inj**

300.0

mm3/H

0.0

**Q\_Ret**

35.0

mm3/H

0.0

**Capacitance**

4.2

μF

1.7

**T\_Response**

1100.0

μS

100.0

**WARM** 150.0(0.0-300.0) 0

**BACK** 30.0(10.0-50.0)(R) 0

**MAX** 77.0(70.3-83.7) 0

**EM** 34.0(28.4-39.6) 0

**LL** 3.4(2.4-4.4) 0

**VE** 2.7(0.7-4.7) 0

Keyboard F1

Help F2

Set F3

Fast Test F4

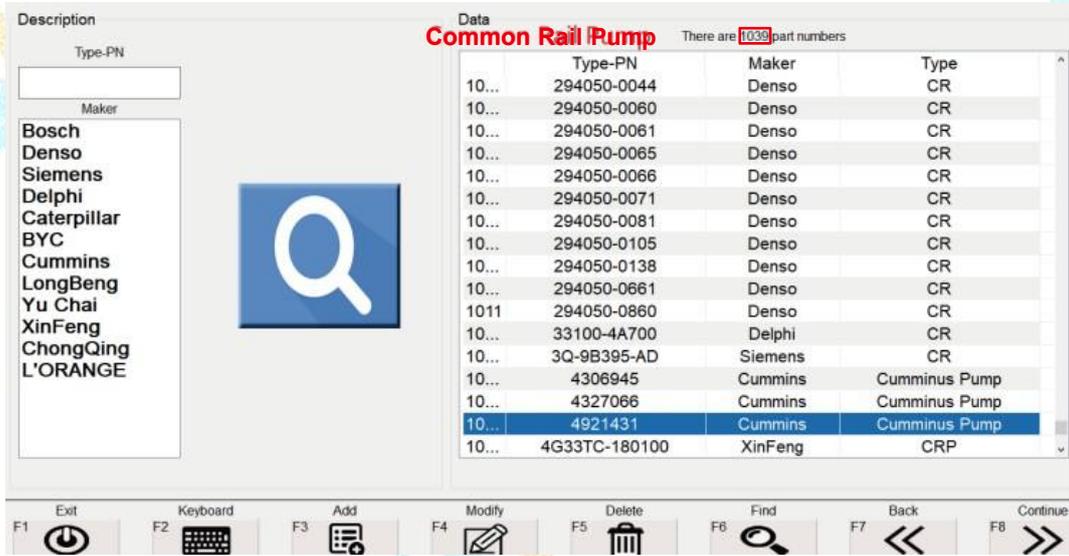
Normal Test F5

Stop F6

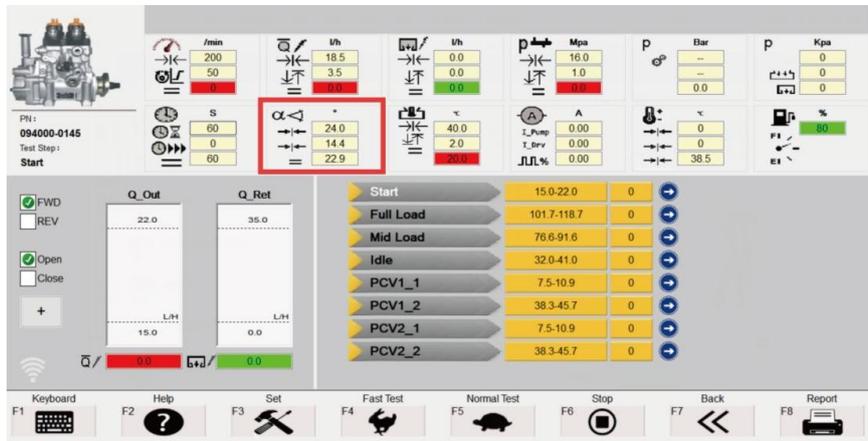
Back F7

Report F8

## 4. Common rail pump test



## 5. Denso HP0 pump test



## 6. Calibration code

(4185 codes (Bosch 1174, Denso 2375, Siemens 160, Delphi 438, Cummins 28))

**Injector Coding**

Type-PN

Maker

- Bosch
- Denso
- Siemens
- Delphi
- Caterpillar
- BYC
- Cummins
- LongBeng
- Yu Chai
- XinFeng
- ChongQing
- L'ORANGE

Data

There are **4185** part numbers

	Type-PN	Maker	Version
1	0060-0180-0280M	Denso	Manufacturer
2	00SMS-TEST	Siemens	User
3	01U00412	Denso	Manufacturer
4	023 09S17053..	Denso	Manufacturer
5	023 09S17053..	Denso	Manufacturer
6	02C2S40004	Siemens	User
7	03L130277B	Siemens	Manufacturer
8	03L130277S	Siemens	Manufacturer
9	03P130277	Delphi	User
10	03U01595-0221..	Denso	Manufacturer
11	0445110002	Bosch	Manufacturer
12	0445110003	Bosch	Manufacturer
13	0445110004	Bosch	Manufacturer
14	0445110005	Bosch	Manufacturer
15	0445110006	Bosch	Manufacturer
16	0445110007	Bosch	Manufacturer
17	0445110008	Bosch	Manufacturer

Calibration injector

F1 Exit   F2 Keyboard   F3 Add   F4 Modify   F5 Delete   F6 Find   F7 Back   F8 Continue

- Bosch IQA / IMA / IS
- Denso 16/22/24/26/28/30/32QR
- Delphi I2C / I3C
- Siemens IIC
- Cummins XPI

**Bosch 6 bit**      **Bosch 7 bit/ISA**

**Bosch 8 bit**      **Bosch 9 bit**      **Bosch 10 bit**

Bosch IQA/IMA/ISA

**Denso 16QR**      **Denso 22QR**

**Denso 24QR**      **Denso 26QR**      **Denso 30QR**

Denso 16/22/24/26/28/30/32QR

**I2C**

C21    C31  
16      20

**Delphi C2I/C3I**

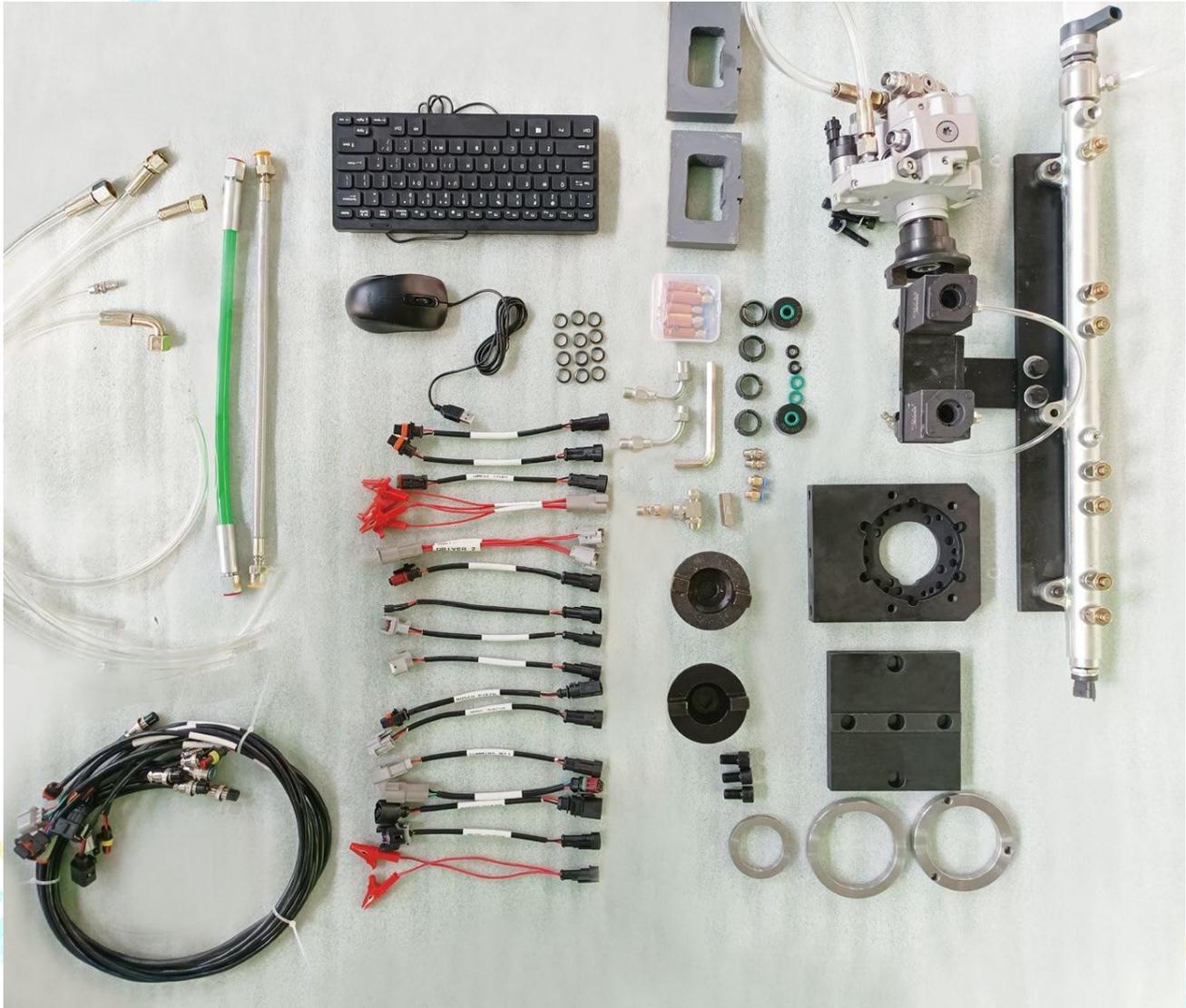
8SH7BWA

**Bosch IMA-7**

**Denso 30QR**

**Delphi C3I**

# ACCESSORIES INCLUDED WITH STAND FUNCTIONS



# OPTIONAL FUNCTION

## 1. Test EUI EUP

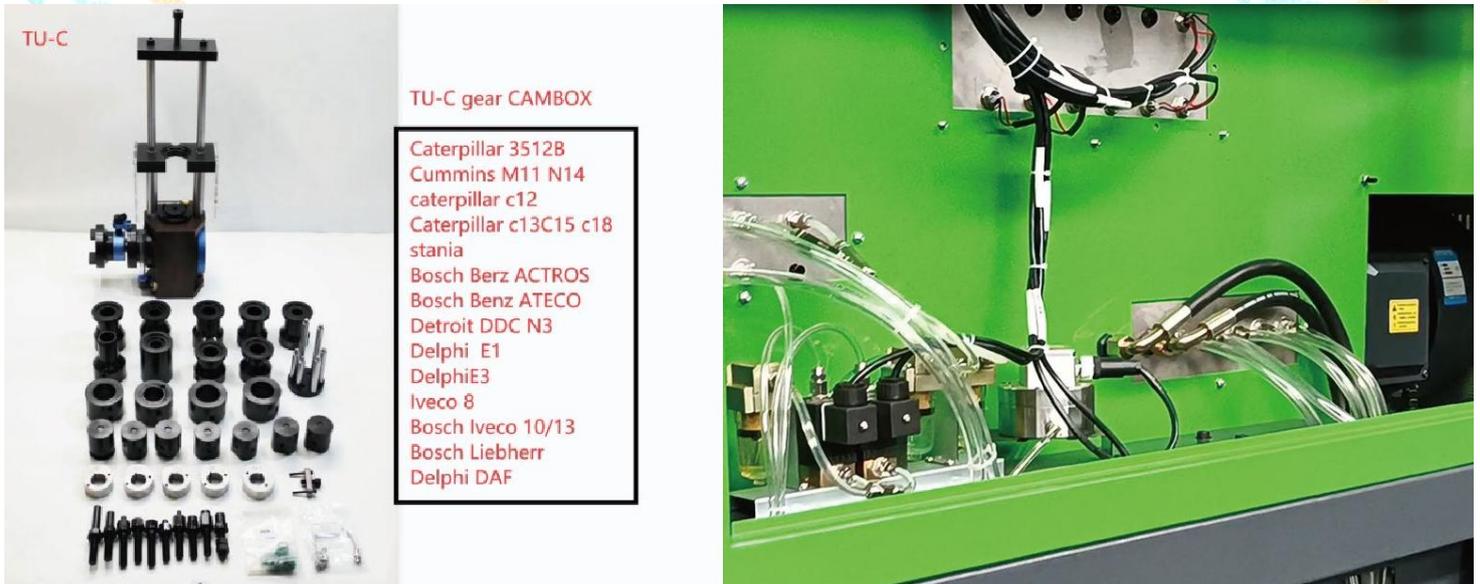
### 1.1 Test EUI EUP with TU-A cam box



### 1.2 Test EUI EUP with TU-B cam box



### 1.3 Test EUI EUP with TU-C cam box



### 1.4 Test EUI EUP with TU-D cam box



## 1.5 Test EUI EUP with TU-E cam box



## 2.1. Test HEUI CAT C7 C9 3126B&3116

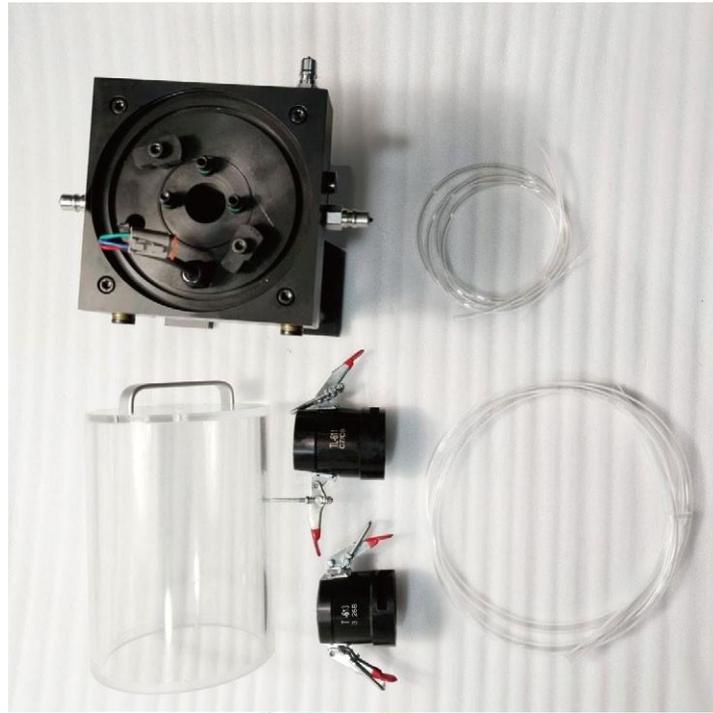
Part Number: **10R7224**  
Test Step: **LEAK**

<b>rpm</b>	800	<b>mm3/H</b>	0.0	<b>mm3/H</b>	15.0	<b>MPa</b>	25.0	<b>BIP</b>	3000	<b>μH</b>	0
	50		0.0		15.0		1.0		1900		0
	800		0.0		0.0		25.0		--		0
<b>S</b>	60	<b>U</b>	24.0	<b>t</b>	0	<b>°C</b>	40.0	<b>°C</b>	45.0	<b>%</b>	80
	0	<b>Boost</b>	0.9	<b>n/min</b>	0		2.0		5.0		80
	60	<b>R(Ω)</b>	0.00		0.00		20.0		38.5		

	Q_Inj	Q_Ret	Inductance	Response
	35.0	30.0	8000.0	4900.0
	mm3/H	mm3/H	μH	μS
	0.0	0.0	500.0	1100.0
	0.0	0.0	0	-

	Inject	Return
LEAK	0.0-0.0	0 0.0-30.0(R)
VL	108.1-131.9	0 410.0-610.0(R)
LL	38.1-51.9	0 295.0-395.0(R)
VE	2.3-8.7	0 350.0-430.0(R)
START	14.0-31.0	0 225.0-325.0(R)

Graphics F1 | Help F2 | Set F3 | Fast Test F4 | Normal Test F5 | Stop F6 | Back F7 | Report F8



C7 C9 3126B&3116 Accessories

## 2.2 Test HEUI(6 types of adapters)



2.1 CAT 3126A

2.2 CAT3412E

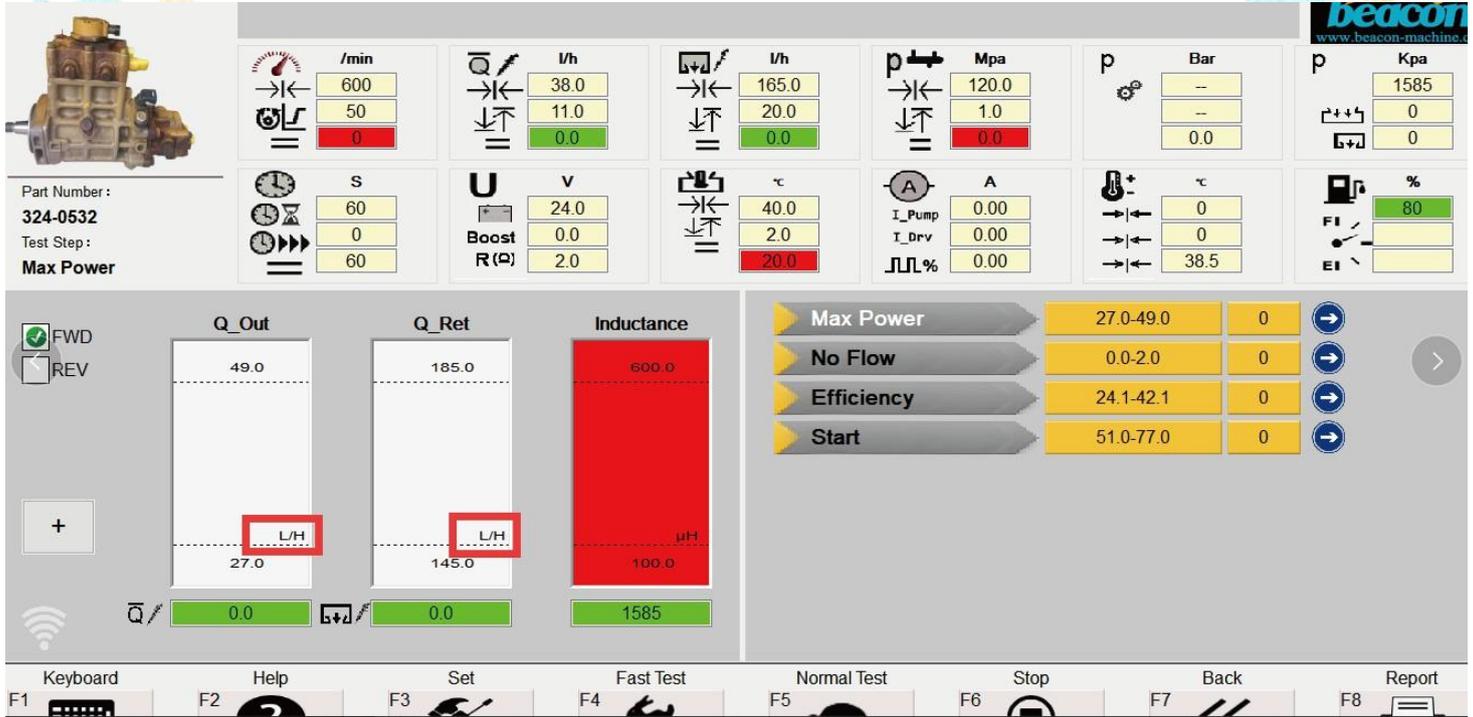
2.3 NAVISTAR

2.4 ISUZU

2.5 Ford G2.8& Ford 6.0

2.6 Ford G2.9

### 3. Test CAT 320D pump



Need with this Accessories

## 4. Test CAT C7 C9 pump

**Description**

Type-PN

Maker

- Bosch
- Denso
- Siemens
- Delphi
- Caterpillar
- BYC
- Cummins
- LongBeng
- Yu Chai
- XinFeng
- ChongQing
- L'ORANGE

**Data**

There are 10 part numbers

	Type-PN	Maker	Type
1	186-3410	Caterpillar	HEU PUMP
2	204-4945	Caterpillar	HEU PUMP
3	254-4355	Caterpillar	HEU PUMP
4	254-4357	Caterpillar	HEU PUMP
5	319-0675	Caterpillar	HEU PUMP
6	319-0677	Caterpillar	HEU PUMP
7	319-0812	Caterpillar	HEU PUMP
8	476-8766	Caterpillar	HEU PUMP
9	HEU-Pump-L	Caterpillar	HEU PUMP
10	HEU-Pump-R	Caterpillar	HEU PUMP

F1 Exit    F2 Keyboard    F3 Add    F4 Modify    F5 Delete    F6 Find    F7 Back    F8 Continue



**Need with this Accessories**

## 5. Test 2 injectors at the same time

(2 injectors testing system + additionally add 1 flow sensor + 1 high-pressure oil pipe + 2 solenoid valves + 2 filter elements + 1 filter + 1 double injector clamp)

**Injector Test**

Part Number: 28397569  
Test Step: WARM

<input checked="" type="checkbox"/> 1 SN	/min	mm <sup>3</sup> /H	mm <sup>3</sup> /H	MPa	BIP μS	μH
<input type="checkbox"/> 2	600	150.0	0.0	100.0	800	--
<input type="checkbox"/> 3	50	150.0	0.0	1.0	600	--
<input type="checkbox"/> 4	0	0.0	0.0	100.0	0	0
<input type="checkbox"/> 5	S	U V	t μS	°C	I_Pump A	%
<input type="checkbox"/> 6	30	24.0	1000	40.0	0.00	80
	0	Boost	1000	2.0	I_Drv 0.00	
	30	R(Ω)	0	20.0	JLL% 0.00	

<input type="checkbox"/> FWD	<input checked="" type="checkbox"/> REV	<input checked="" type="checkbox"/> Open	<input type="checkbox"/> Close
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Q_Inj	Q_Ret	Inductance
300.0	35.0	500.0
mm <sup>3</sup> /H	mm <sup>3</sup> /H	μH
0.0	0.0	30.0

WARM	150.0(0.0-300.0)	0	0
LEAK	35.0(0.0-70.0)(R)	0	0
VL	60.0(52.5-67.5)	0	0
VL(R)	45.0(23.0-67.0)(R)	0	0
EM	20.0(15.8-24.2)	0	0
LL	5.2(2.1-8.3)	0	0
VE	1.6(0.3-2.9)	0	0

Buttons: F1 Graphics, F2 Help, F3 Set, F4 Fast Test, F5 Normal Test, F6 Stop, F7 Back, F8 Report

## 6. Test 4 injectors at the same time

(4 injector test system + 3 additional flow sensors + 3 high-pressure oil pipes + 6 solenoid valves + 6 filter elements + 3 filters + 1 four-injector fixture)

**Injector Test**

Part Number: 0445110010  
Test Step: WARM

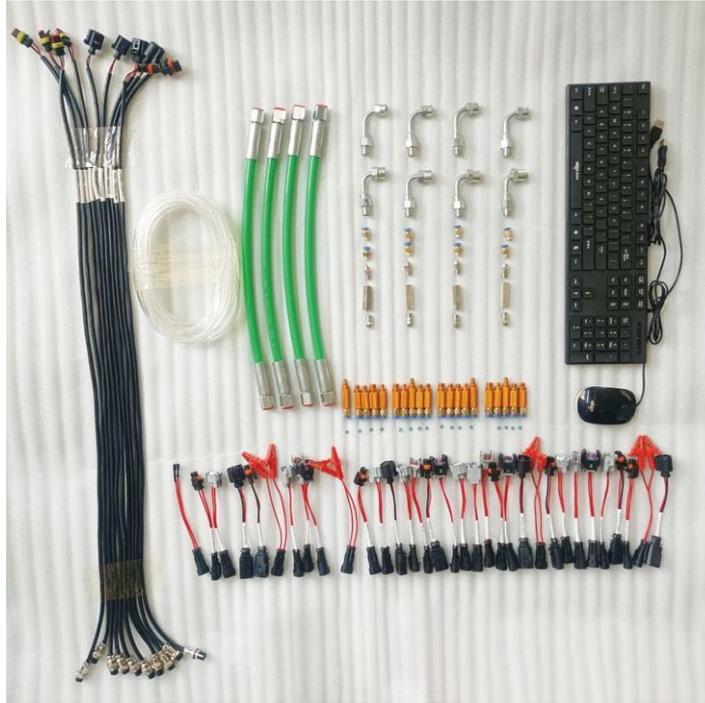
<input checked="" type="checkbox"/> 1 SN	/min	mm <sup>3</sup> /H	mm <sup>3</sup> /H	MPa	BIP μS	μH
<input type="checkbox"/> 2	600	150.0	0.0	100.0	800	--
<input type="checkbox"/> 3	50	150.0	0.0	1.0	600	--
<input type="checkbox"/> 4	0	0.0	0.0	100.0	0	0
<input type="checkbox"/> 5	S	U V	t μS	°C	I_Pump A	%
<input type="checkbox"/> 6	30	24.0	1000	40.0	0.00	80
	0	Boost	1000	2.0	I_Drv 0.00	
	30	R(Ω)	0	20.0	JLL% 0.00	

<input type="checkbox"/> FWD	<input checked="" type="checkbox"/> REV	<input checked="" type="checkbox"/> Open	<input type="checkbox"/> Close
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Q_Inj	Q_Ret	Inductance
300.0	35.0	600.0
mm <sup>3</sup> /H	mm <sup>3</sup> /H	μH
0.0	0.0	100.0

WARM	150.0(0.0-300.0)	0	0	0	0
LEAK	35.0(0.0-70.0)(R)	0	0	0	0
VL	50.9(46.9-54.9)	0	0	0	0
VL(R)	30.0(5.0-55.0)(R)	0	0	0	0
EM	18.8(16.3-21.3)	0	0	0	0
LL	4.7(3.1-6.3)	0	0	0	0
VE	1.5(0.3-2.7)	0	0	0	0
VE(R)	5.0(3.0-7.0)(R)	0	0	0	0
VE 2	3.0(0.3-5.7)	0	0	0	0

Buttons: F1 Graphics, F2 Help, F3 Set, F4 Fast Test, F5 Normal Test, F6 Stop, F7 Back, F8 Report



Need with this Accessories

## 7. Test 6 injectors at the same time

(6 injector test system + 5 additional flow sensors + 5 high-pressure oil pipes + 10 solenoid valves + 10 filter elements + 5 filters + 1 six-injector fixture)

**Injector Test**

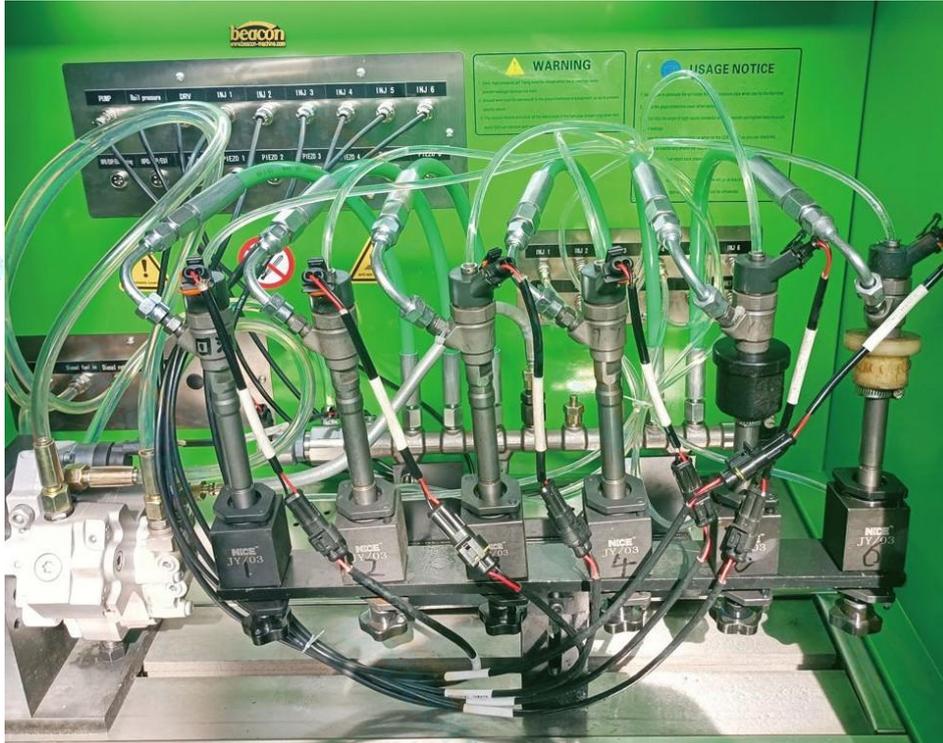
Part Number: 095000-2586  
Test Step: WARM

1	SN	/min	mm3/H	mm3/H	MPa	BIP	μS	μH
<input checked="" type="checkbox"/>		600	150.0	0.0	100.0	800	--	--
<input type="checkbox"/>		50	150.0	0.0	1.0	600	--	--
<input type="checkbox"/>		0	0.0	0.0	100.0	0	0	0
<input type="checkbox"/>		S	V	μS	°C	A	%	
<input type="checkbox"/>		30	24.0	1000	40.0	I_Pump 0.00	80	
<input type="checkbox"/>		0	Boost	1000	2.0	I_Drv 0.00		
<input type="checkbox"/>		30	R (Ω)	0	20.0	JLL% 0.00		

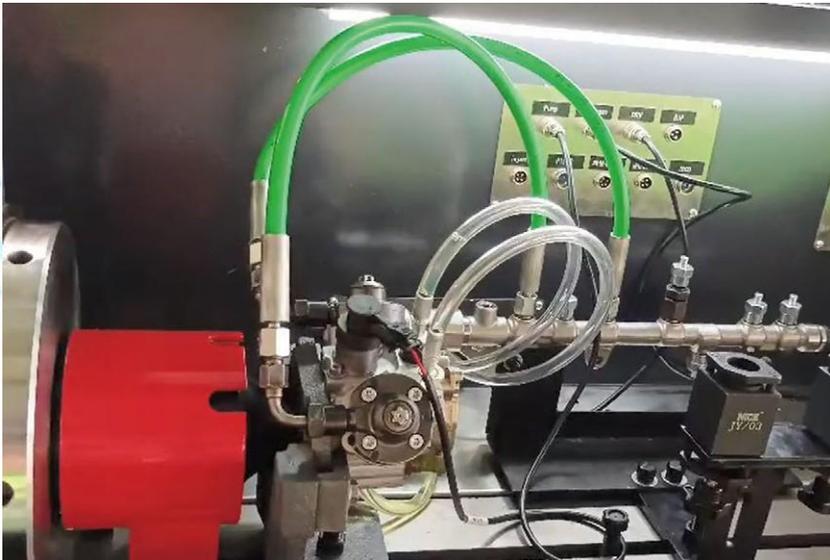
  

	Q_Inj	Q_Ret	INJ 1	INJ 2	INJ 3	INJ 4	INJ 5	INJ 6
WARM	300.0	35.0	0	0	0	0	0	0
LEAK			0	0	0	0	0	0
Back			0	0	0	0	0	0
Max			0	0	0	0	0	0
TL			0	0	0	0	0	0
LL			0	0	0	0	0	0
VE			0	0	0	0	0	0

Graphics | Help | Set | Fast Test | Normal Test | Stop | Back | Report



## 8. Test CP4 pump



Need with this Accessories

## 9. Test Cummins PT injector (This function must be equipped with TU-C/D/E cam box)

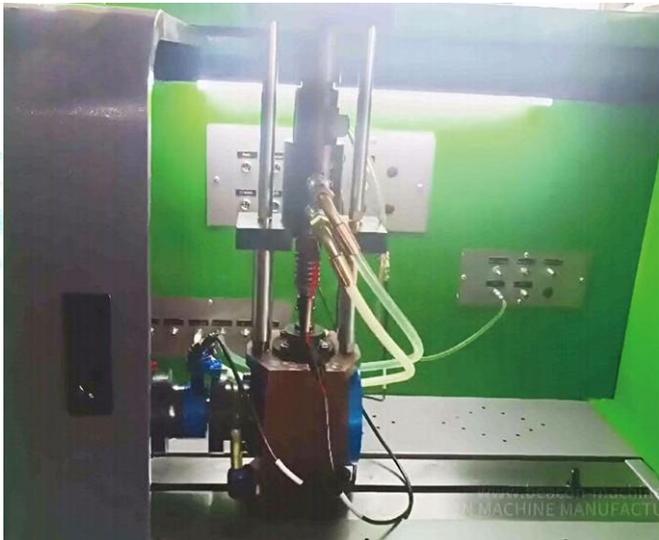
Part Number: 3077760  
Test Step: Start

<b>/min</b>	<b>mm3</b>	<b>l/h</b>	<b>α</b>	<b>BIP</b> (μS)	<b>μH</b>
400	161.0	150.0	1185	0	0
50	15.0	50.0	4562	0	0
0	0.0	0.0	0	0.0	0
<b>S</b>	<b>U</b>	<b>%</b>	<b>°C</b>	<b>°C</b>	<b>°C</b>
30	24.0	80	40.0	40	40
0	Boost 0.0		2.0	2	1
30	R(Ω) --		20.0	0.0	0.0

<b>Q_Inj</b>	<b>Q_Ret</b>	<b>Inductance</b>	<b>T_Response</b>
176.0	200.0	15000.0	10000.0
mm3/H	L/H	μH	μS
146.0	100.0	300.0	200.0
0.0	0.0	0	0

<b>Start</b>	146.0-176.0	0
<b>Mid Load</b>	190.3-215.7	0
<b>Full Load</b>	228.5-257.5	0
<b>Idle</b>	32.5-49.5	0

Control Buttons: F1 Graphics, F2 Help, F3 Set, F4 Fast Test, F5 Normal Test, F6 Stop, F7 Back, F8 Report



Need with this Accessories

# 10. Test Cummins PT Pump

**Part Number:** FC9039-3655648  
**Test Step:** MANUAL

	/min	200
		50
		0

	l/h	750.0
		750.0
		0.0

	l/h	0.0
		0.0
		0.0

	S	60
		0
		60

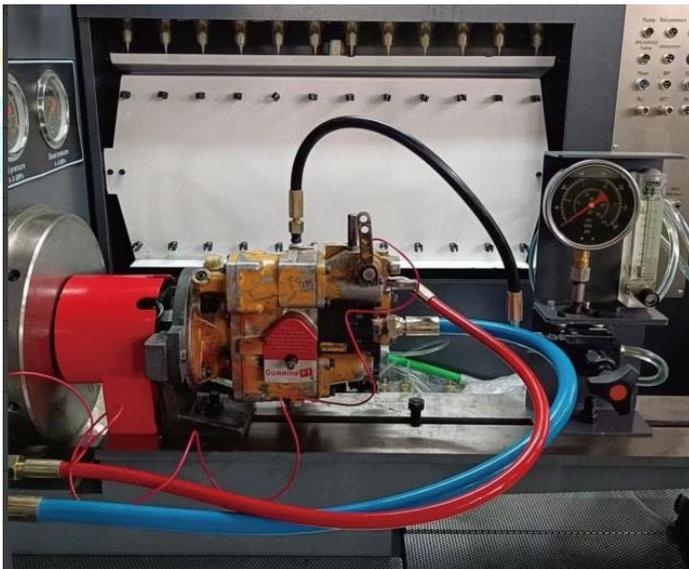
	V	24.0
<b>Boost</b>		0.0
<b>R (Ω)</b>		0.0

	°C	40.0
		2.0
		20.0

**Q\_Out** 1500.0 L/H

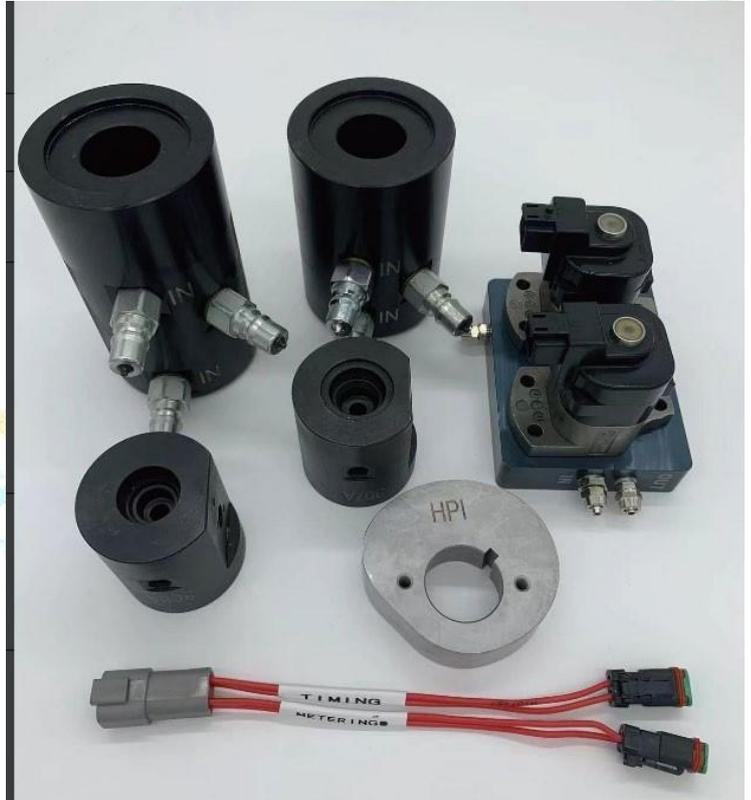
**MANUAL** 0.0-1500.0 0

**Graphics** F1 **Help** F2 **Set** F3 **Fast Test** F4 **Normal Test** F5



**Need with this Accessories**

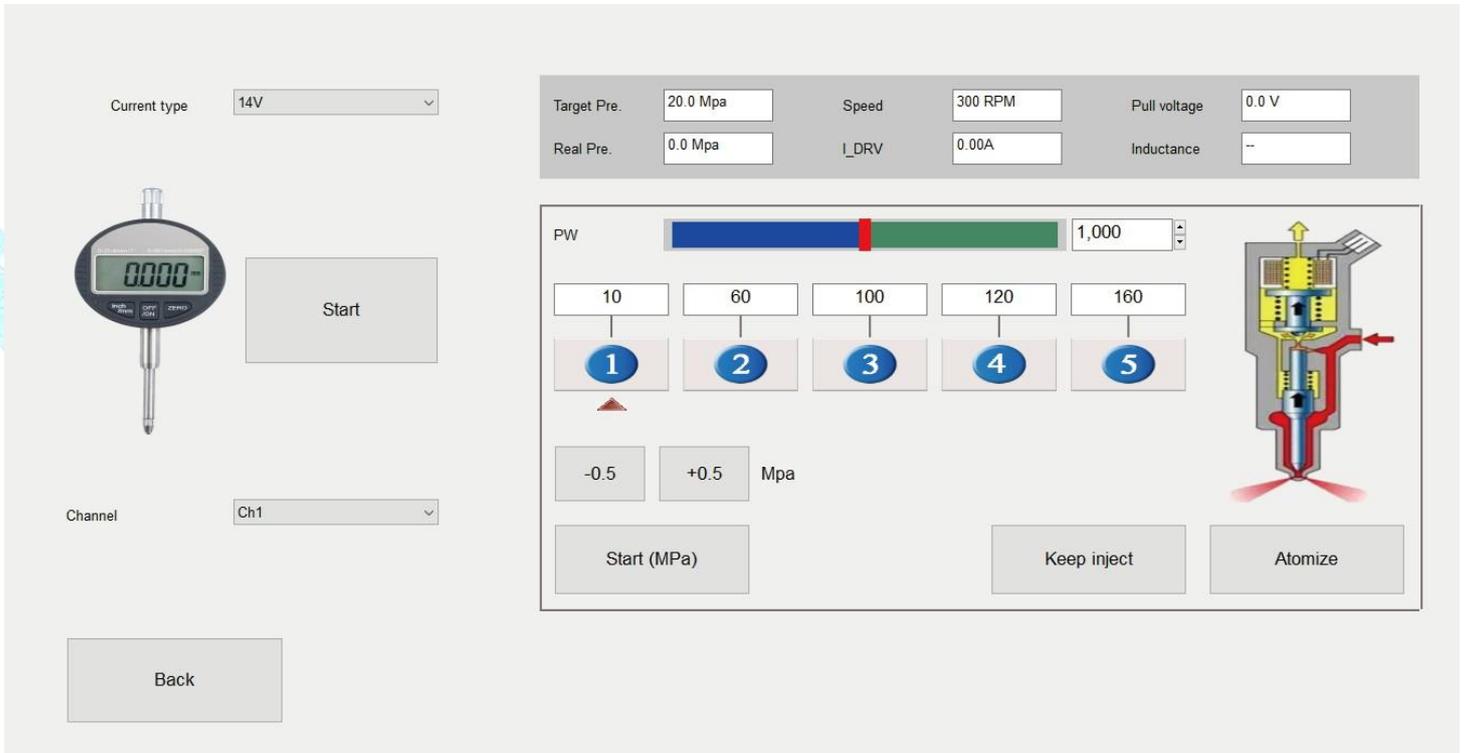
# 11. Test Cummins HPI Q60 X15 injector (This function must be equipped with TU-C/D/E cam box)



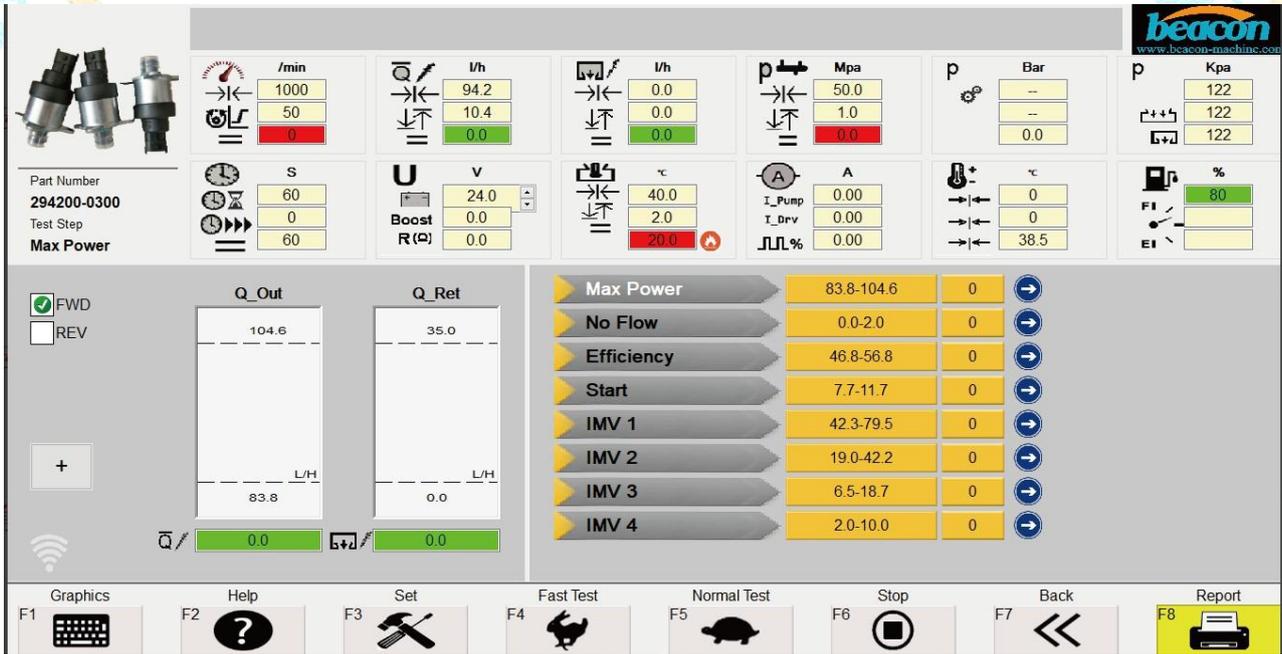
Need with this Accessories



## 12. AHE injector dynamic stroke (with Bosch 110, 120 stroke measuring tool + dial indicator)



### 13. Test ZME

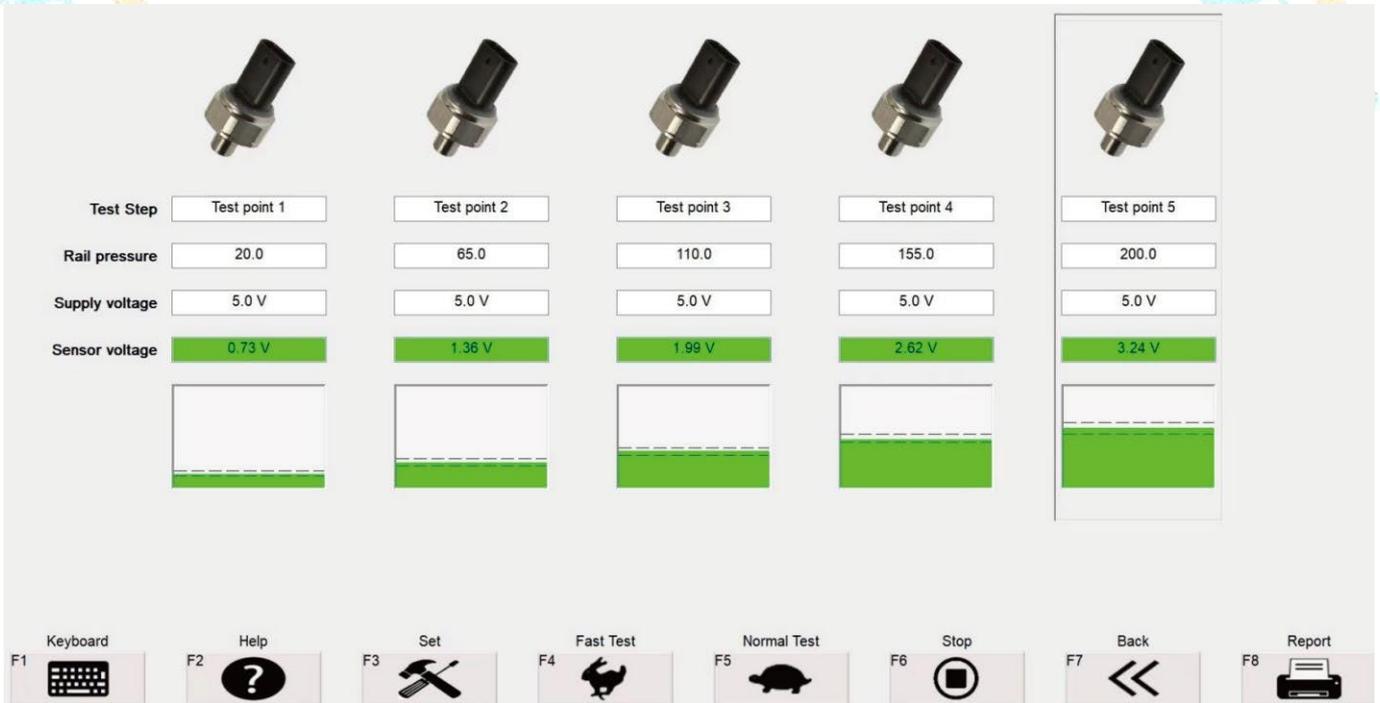


### 14. Delphi E3 double pulse control system

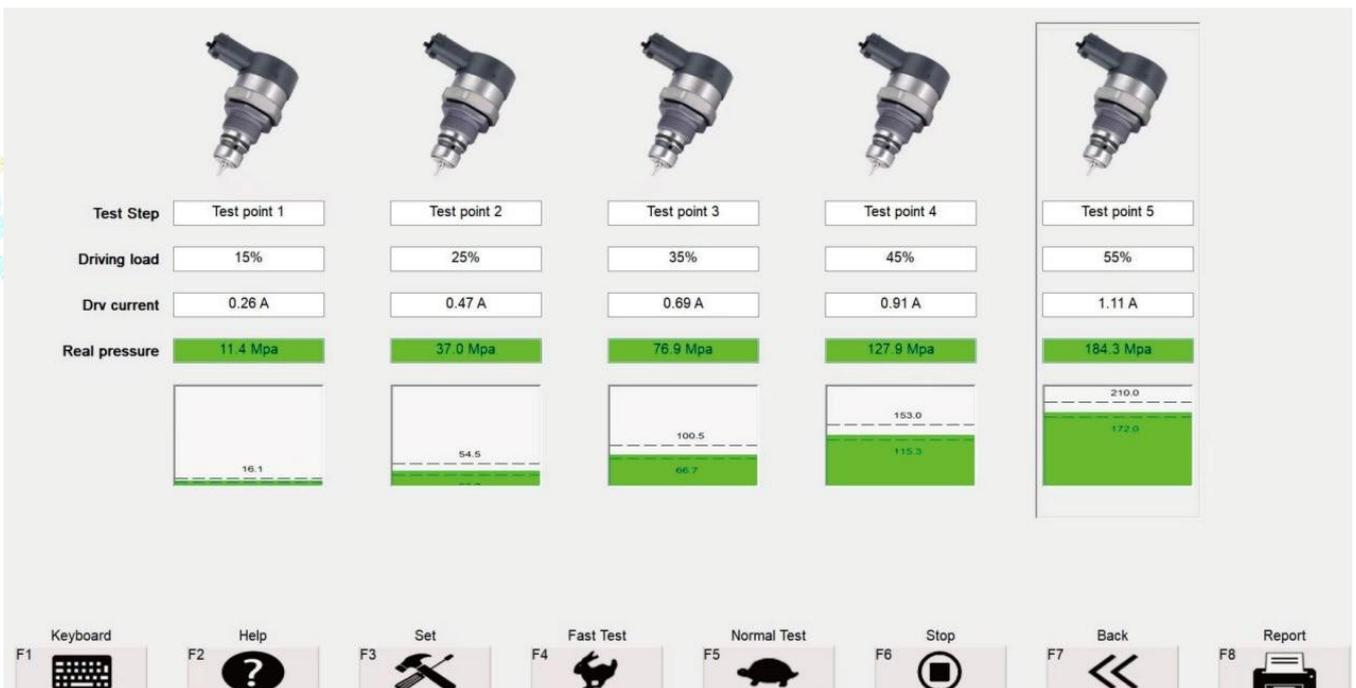
### 15. Test MTU L'ORANGE Injector



## 16. Test Rail pressure sensor



## 17. Test DRV/HPV



## 18. Test Solenoid valve



## 19. Test Bosch 4 pins injector

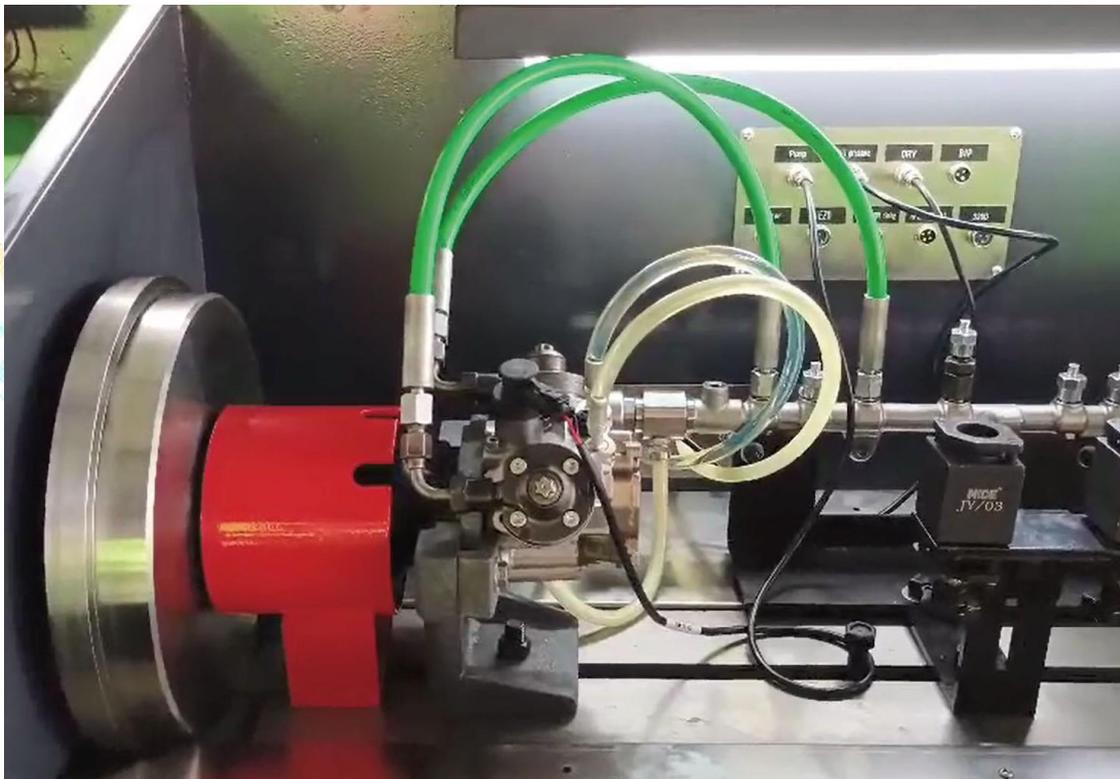


## 20. Test XPI injector



**Add this accessories**

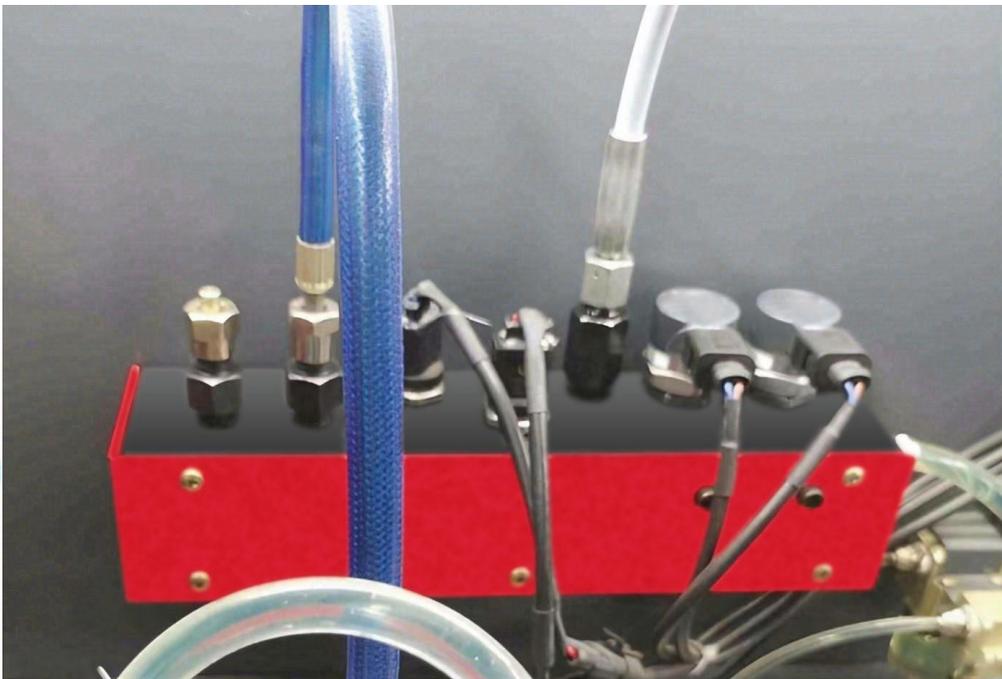
## 21. Replace with Bosch CP4 pump to reach 2800 bar



## 22. Test DENSO HP5 Pump accessories



## 23. Actualice 2 DRV+ 2 sensors



## 24. Air conditioning forced cooling



# CR819 PACKING FOR DELIVERY

## PLYWOOD CASE PACKAGING



Finished product



Wrapping machine



Plywood case packaging



Shipping

# DELIVERY TIME WARRANTY PERIOD

## 1. Machine delivery time

3-4 weeks

## 2. Warranty period

2.1 One-year warranty + lifetime technical support.

2.2 If non-human damage occurs within one year, accessories will be replaced free of charge.

2.3 If there is any man-made damage, the accessories will be replaced at the ex-factory price.