

ROCKEN TECH TEST BENCHES FOR DIESEL FUEL INJECTION PUMPS



Rocken Tech test benches are available in 7.5kW (10hp), 11kW (15hp) and 15kW (20hp), 18.5kW (25ph), 22kW (30hp) and 37kW (50hp). They have been recognized in compliance with the ISO 4008, ISO9001 and 2000 regulations for testing and calibrating in line and rotary diesel fuel injection pumps.

The test benches can perform testing for pumps such as BOSCH in line type K, M, MW, A, B, BV, P(ZU,ZW,ZM), and BOSCH rotary distributor injection pumps EP/VA, EP/VM, VE,...F..., other pump types include I, II, III, K, P7, BQ, etc. To accommodate the new technologies in the industry, all existing and new Rocken Tech test benches now are capable of testing EUI and common rail systems. However a separated (or independent) test kit with cam box is required to perform the test. Also the test benches are future bio-diesel user friendly for any pumps that suitable for the fuels.

Major Functions for standard model RT20S series:

- Check the injection pump's tightness
- Capable of measuring individual cylinder in different revolution with pre-selection of the stroke numbers
- Check each line's injection timing and starting point of injection
- Check the intervention of the speed regulators
- Measure the pressure of the feed pump
- Check the pneumatic regulators of the in line and distributor injection pumps
- Measure rotary distributor pump's body internal pressure
- Check of the solenoid valve (DC 12/24V)

Specifications for standard models:

SPECIFICATIONS		
Dragging power	hp	20-50 (15-37kw)
Length x height x width	mm	2050 x 1650 x 960
Weight	lbs	1985 (900 kg) for basic model
Primary motor		
Type		Three-phase, 4-poles
Voltage	Volt	380/220 AC
Frequency	Hz	50/60
Speed range	rpm	0-4000
Revolution counter range	rpm	0-9999
Stroke counter range	n	1-9999
External DC supply 12v	A	6
External DC supply 24v	A	3
Center distance height	mm	125
I SO drive shaft coupling	mm	120 (vary per model type)
Measurement points (cylinders)	N	12
Graduated tubes capacity	cm ³	45, 150, or (specify) 260
Fuel tank capacity	gal	13.2 - 26.5 (100 L) (varies)
Feeding pump	gal/min	2.1
Advanced angle measurement (optional)	degree	0-180
Control rack travel measurement (optional)	mm	0-30
Low pressure	bar	0-6
High pressure	bar	0-60
Air pressure	bar	0-2.5
Pump internal pressure	bar	0-16
Vacuum	bar	-1-0
Temperature range	C	0-99.9 (32-211.7F)
Heater power	hp	2.72 (2 kw)
Temperature regulating range	C	30-65 (86-149F)
Test oil cooling		Heat exchanger
Color of test bench		Standard blue (or custom)

Major Features for advanced models RT20A series:

- Automatic measuring and digital control of spray volume and times - accuracy 0.02ml
- Computer display of fuel quantity collection for 12 elements - Optional
- Check each line's injection timing and starting point of injection
- Drive Speed control from 0-9999 rpm with preset selections
- Display and control fuel temperature and pressure $40^{\circ}\text{C} \pm 1^{\circ}$
- Display lube oil pressure
- Checking advanced angle – accuracy 0.1°
- Control rack travel 50 mm, accuracy 0.01mm with curved diagram display
- Checking air pressure
- Display dynamic phasing angle and emergency shut off of every cylinder
- Automatic recording and printing data and curves of pump for post process evaluations
- Optional needle lift equipment
- DC supply output: 12V and 24V
- Computer data recording, network searching, and printing

Major functions for advanced models:

- 1) Computer input, amend, save and print the standard pump test data.
- 2) Test, detect, computer display and control of the fuel oil (return) temperature.
- 3) Computer measure, display, control and (10) preset drive motor speed.
- 4) Manual / automatic control motor speed and rotations.
- 5) Computer display and control of the oil injection volumes and times.
- 6) Dynamic computer display speed, oil temperature, air pressure and rack travel via manual input, (optional computer input is available)
- 7) Computer display standard relation curve and actual testing curve between rack travel and presetting speed dynamically.
- 8) Dynamically setting up test parameters on screen.





Model **RTEFC12** is a computerized fuel measuring and collection system with separated graphic display/indicators for up to 12 injectors (cylinders). This is an add-on kit designed to replace the traditional glass graduate tubes and can be attached on any models of Rocken Tech test stands.

Detachable Unit Injector Test Kit

To be seated on a RT20S test stand with enhanced drive motor and fuel system



This simulator is designed to test the functionality of UPS injection pumps (Unit Pump System) and Injectors-Pump (EUI). It is composed by two units:

- 1) A mechanical unit, to be installed on the test Bench. It can accommodate two different components; one to test the UPS and the second to test the EUI (with one system be installed at a time).
- 2) A separated electronic device EPD (electronic piloting device) that contains software able to pilot both systems. The electronic device pilots the solenoid of the UPS or EUI. By using this device the operator can set the injection time, the number of strokes and read the real pressure.

It tests one unit injector at a time, and the sprayed fuel will be collected via test bench's glass graduate measuring tubes.

Some unit injectors require custom fitter (or spacer) as per application variations.

Optional support and peripheral equipments available:

- 1) Additional normal consumable/wearable spare parts including additional high pressure fuel lines, extra coupling, electrical fuses, hand tools and other parts for estimated extended operation period needs.
- 2) Additional ISO test injectors with different (or higher) pressures.
- 3) Pump fixtures (holders).
- 4) Optional manual gauges (tools) and dial meter for advanced angle and control rack travel distance.
- 5) Optional multimedia computer system (other than standard), such as with higher speed mother board, DVD R/RW, 17" flat color screen monitor, and larger format laser printer, additional RS 232 ports for testing data and recording.
- 6) Injector needle lifting, injector end and pump end pressure testing equipment.
- 7) User manuals including maintenance programs for mechanic, electrical and electronic equipment – free of charge.
- 8) Optional completed version of post-processing analysis and evaluation software (such as National Instrument's LabView) to be integrated in the system.
- 9) Optional mobile trolley for housing PC and peripherals.
- 10) Extended warranty (other than standard 12-month provision).
- 11) Optional independent test kit for testing common rail systems including computerized testing parameter readings.
- 12) Optional independent test kit with cam box for testing EUI systems including computerized testing parameter readings.

Note: Standard accessories include 12 test injectors, a series of high pressure fuel lines, and other spare parts and tools will be shipped with the test bench free of charge.

Contact information:

Rocken Tech Products

229 McNear Cir.

Petaluma, CA 94952 USA

Tel: 707-658-1915 Fax: 415-704-3107

Email: rockentech@yahoo.com

Website: www.rocken-tech.com