

MERLIN

DIESEL SYSTEMS LTD



AUTOMOTIVE PRODUCT RANGE



- COMMON RAIL TEST EQUIPMENT
- AUTOMOTIVE
- MARINE
- RAIL
- POWER GENERATION
- HEAVY DUTY INDUSTRIAL
- SPECIAL TOOLS
- CALIBRATION SERVICE
- TEST INJECTORS
- INJECTORS TEST PIPES
- MOUNTING BRACKETS AND FLANGES
- ENGINE VALVE RE-FACING MACHINES
- ULTRASONIC CLEANING TANKS
- DEGREASING TANKS
- TEST BENCH SPARES
- TACHOMETERS
- ELECTRONIC GOVERNOR TEST EQUIPMENT



Automotive Fuel Pump Test Stands



MM SERIES TEST STANDS

8 OR 12 CYLINDER
GRADUATE METERING
7.5, 10 OR 15hp
(5.5, 7.5, 11.0kW)
AC INVERTOR DIRECT DRIVE
(FACTORY FITTED OPTIONS)
D7 BUILT-IN VARIABLE
DC SUPPLY P28 BUILT-IN
LUBE OIL SUPPLY.



EM8-10 TEST STANDS

10HP (7.5kw)
AC INVERTOR DRIVE
PC CONTROLLED, DIRECT DRIVE
ELECTRONIC FUEL METERING,
DIGITAL PRESSURE DISPLAYS,
THERMAL IMAGE PRINTER,
TURBO BOOST, ELECTRONIC HEATER
COOLER 0-24, VARIABLE DC SUPPLY,
FUEL SUPPLY & BACK LEAK TEMP.



S608-1 MOBILE ELECTRONIC CALIBRATING RIG

8 CYLINDER PC CONTROLLED
ELECTRONIC METERING UNIT
WITH ACCESSORY KITS FOR
CONNECTION TO VARIOUS
TEST STANDS.

Where applicable, we include 'S' type test injectors and anti-backlash coupling as standard delivery. Basic in-line and rotary pump mounting kits and brackets for flange, base and cradle mounted fuel injection pumps are available at additional cost. Please refer to the Merlin tools and test accessories catalogue, which is available upon request.



GMS SERIES TEST STANDS

12 CYLINDER GRADUATE METERING
15, 20, OR 30hp (11,15, 23.5kW)
DC THYRISTOR DRIVE
DUAL BED HEIGHT FACILITY, AIR BOOST, HEATER/COOLER,
OIL LUBE, 0-24V DC SUPPLY X 2.



CVM SERIES TEST STANDS

12 CYLINDER COLOUR VIDEO METERING
15, 20 OR 30hp (11,15,23.5kW)
DC THYRISTOR DRIVE
DUAL BED HEIGHT FACILITY, AIR BOOST, HEATER/COOLER,
OIL LUBE, 0-24V DC SUPPLY X 2, DYNAMIC PHASING, DATA LINK.



Cummins Test Equipment

P2 PTG

MOBILE FLOW-PANEL FOR ALL CUMMINS PT TYPE FUEL PUMPS. SUITABLE FOR USE WITH ANY TEST STAND OF MINIMUM 5hp.

16328

CUMMINGS/GM COMPARATOR WITH OPTIONAL 'K' CAM KIT.



PTG 620-AC

FOR CUMMINS "PT" PUMPS. AC INVERTOR ELECTRONIC DRIVE. TWIN TUBE FLOW METER RANGE 10-2800 lb/hour. COMPLETE WITH PUMP MOUNTING FLANGE, DRIVE COUPLING, HOSES, DIGITAL TACHO, HEATER/COOLER.



Automotive Injector Testing Equipment

S400 INJECTOR TESTER



MANUALLY OPERATED
700 BAR (10,000 PSI)
ANALOGUE GAUGE.

S400A INJECTOR TESTER



AIR OPERATED
WITH
S500-1 MONITOR
(700 BAR TRANSDUCER)
AND PRINTER.

S500-1R OPENING PRESSURE MONITOR (RETRO-FIT KIT)



700 BAR TRANSDUCER, INCLUDES
PRINTER AND CONVERSION KIT
FOR EXISTING INJECTOR TESTER.

S400-5 DIGITAL INJECTOR TESTER



MANUALLY OPERATED
WITH BUILT-IN
S500-1 OPENING
PRESSURE MONITOR
(700 BAR TRANSDUCER)
AND PRINTER.

S31 PORTABLE INJECTOR TESTER



SUPPLIED WITH
SPRAY ARRESTOR
AND QUICK
ACTION PIPE.

S425A 2-STAGE INJECTOR TESTER



AIR OPERATED,
FOR TESTING
2-SPRING AND
CONVENTIONAL
INJECTORS,
WITH S500 MONITOR
AND PRINTER.





MM8-15CR Common Rail Test Stand

- Stand alone common rail test bench
- Can also be used as a conventional test bench if required.
- Graduate Metering
- 15hp AC Inverter Drive
- S3000 specification as retro-fit kit

S400A-CR Injector Tester

- Comparative testing of common rail injectors
- Air operated S400A
- Integrated S300-1 system tester
- Integrated C302 twin calibration unit
- Also a conventional injector tester
- Optional cabinet available

This system provides a simple effective method of flow-testing common rail injectors using test equipment from our product range.

The system consists of two test machines, Merlin models S400A and S300-1, plus a new twin tube calibrator for measuring delivery and back-leak flows.

When the modified Merlin S300-1 Common Rail Injector System is used in conjunction with the Merlin S400A Injector Tester, a common rail injector can be operated sufficiently to observe the nozzle spray pattern and measure the back-leak time.

The injector is then repositioned into a holder in the spray chamber from where delivery and back-leak flows are measured, over a set count and at a set air supply pressure, on the Merlin C402 Calibration Unit.

Maximum rating is 700 bar, this is considered acceptable for the type of testing for which this unit is designed and will identify most faults with these injectors.



S300-1 Common Rail Injector System

- Common rail injector system tester
- One unit for the following systems:
- Bosch
- Delphi
- Denso
- Siemens(VDO)
- Piezo function

The MERLIN S300-1 is a single unit designed to test both electro-hydraulic and piezo type injectors.

With common rail injectors the duration of the applied pulse along with the rail pressure determines the amount of fuel injected into the cylinder. The S300-1 can generate pulses suitable to drive piezo injectors as well as conventional solenoid types. Pulse duration and repetition rate are adjustable to simulate a range of operating conditions.

The Merlin S300-1 is designed to operate Bosch, Delphi, Denso and Siemens series of automotive common rail injectors and, when used in conjunction with a Merlin S400A or S425A air operated injector tester, a common rail injector can be operated sufficiently to observe the nozzle spray pattern and measure the back-leak time.

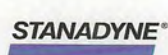
Can also be used with manually operated injector testers.

Specification details:

- Injector excitation voltage: 85 - 135V DC
- Pulse width range: 0.5 - 3.0ms
- Repetition rate: 0.75 - 14Hz
- Injector type selection: Via front control panel
- Fault detection: Injector short circuit, injector open circuit, incorrect injector type connected.

No calibration required.
Supplied complete with electrical mains cable, connection cable with 4 adaptor cables to suit Bosch, Denso, Delphi, Piezo and general purpose applications.

Shipping details: L21 x W30 x H15cm Weight: 10kg



COMMON RAIL TEST SOLUTIONS

A range of common rail test equipment manufactured in the UK by Merlin Diesel Systems Ltd.

Suitable for testing Bosch CP1, CP1H, CP1K, CP3, Delphi, Denso and Siemens systems



3000EM Common Rail Test Stand

Stand alone common rail test bench
Electronic fuel metering
15hp AC Inverter Drive
12.1" LCD Display
S3000 specification as retro-fit kit
(minus mobile cabinet)

S3000 Common Rail Retro-fit Kit Cost effective option utilising existing bench

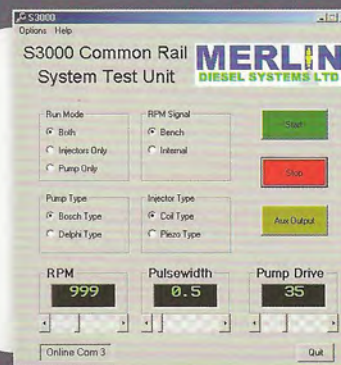
• Drives up to four injectors.



- Suitable for both piezo operated and electro-hydraulic injectors.
- Suitable for SCV (e.g. Delphi) or PCV (e.g. Bosch) type DRV valves.
- Auxiliary switched output (e.g. for third vane disable on certain pumps).
- Sequential injector drive, i.e. fuel delivery shots are timed as in a conventional mechanical pump.
- Gives complete control of rail pressure, injector pulse width and pulse frequency via simple front panel controls.
- Digital displays for injector pulse width and frequency, DRV valve drive percentage and rail pressure.
- Automatic detection of short or open circuit injectors, as well as detection of the wrong type connected.
- Microprocessor based for extreme timing accuracy and having the ability to be controlled via a PC using the built in serial interface.



The Merlin S3000 Common Rail Retro-Fit kit can be mounted on various test benches such as Bosch 515, Hartridge 1100MK2 and HA2500 as shown in this illustration



Can be operated remotely via this control panel utility when installed on PC/Laptop

S3000 Standard equipment includes:-

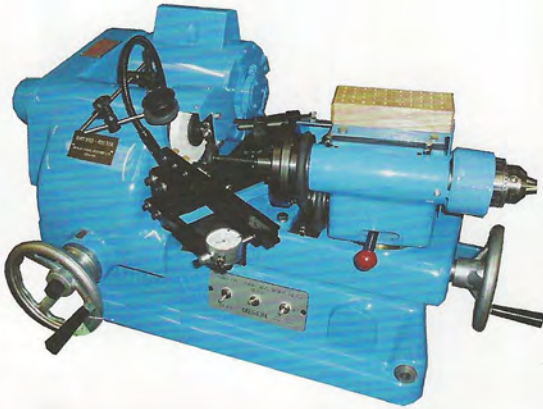
- Interlocked Safety Enclosure
- Merlin common rail assembly with 2000 bar transducer
- CR Flexi HP Pipes
- CP3 Fuel Pump
- Injector nozzle connectors
- Delphi Leak-off connections
- Bosch Leak-off connections
- Pump mounting plate
- Adaptor cables
- Test data with on-going updates
- Mobile Cabinet



Some of the accessories included in the S3000 retro-fit kit



Injector Reconditioning Equipment



NR3B SERVICEMASTER

INJECTOR RECONDITIONING
MACHINE, BENCHMODEL

NR3C INCLUDES CABINET

NR3B ATTACHMENTS
B-8424 STONE TIP
DRESSING TOOL



T016-212

**BOOST CONTROL
UNIT**

FOR SETTING
INJECTION PUMP
BOOST PRESSURE
COMPENSATORS



T012-007

ROTARY DRIVE KIT

UNIVERSAL KIT
FOR MOUNTING
VARIOUS ROTARY
PUMP TYPES



T016-210

**PNEUMATIC
GOVERNOR
TESTER**

FOR CHECKING
VACUUM HOLDING
ON ALL PNEUMATIC
TYPE GOVERNORS



AUTOLAP 200

AUTOMATIC NOZZLE
RE-SEATING MACHINE
COMPLETE WITH 6MM LONG
AND SHORT NOZZLE
ADAPTORS AND
CUTTING FLUID



S11 A

UNIVERSAL NOZZLE FLUSHER

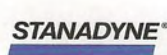
ACCOMODATES MOST NOZZLE
DESIGNS WITHOUT THE NEED FOR
SPECIAL ADAPTORS



T021-011

NOZZLESCOPE

FOR INSPECTION OF
NOZZLE SEATS



TOOL KITS



FULL RANGE AVAILABLE, INCLUDING COMMON RAIL TOOL KITS

ELECTRONIC GOVERNOR TEST KITS



ELECTRONIC GOVERNOR TEST KITS BOSCH VE/HDK ILLUSTRATED, BOSCH IN-LINE ALSO AVAILABLE

TACHO/SHOTCOUNT



TACHO/SHOTCOUNT KITS FOR BOSCH & HARTRIDGE BENCHES

T016-214



T016-214 NIPPLE FORMER, 8MM COLLETS ALSO AVAILABLE

S200 ADVANCE DISPLAY UNIT



FOR CHECKING AUTOMATIC ADVANCE ON VARIOUS ROTARY PUMPS, ALSO CONTROL ROD OPENING ON IN-LINE PUMPS

TO32-500 TACHOMETER



OPTICAL TACHOMETER, REFLECTIVE TAPE AND BATTERIES INCLUDED



ULTRASONIC BENCH TOP CLEANING TANKS

SUPPLIED COMPLETE WITH BASKET AND LID.

- TO41-250 2.5 LTRS CAPACITY DIGITAL CONTROL
- TO41-251 2.5 LTRS CAPACITY NON-DIGITAL CONTROL
- TO41-450 4.5 LTRS CAPACITY DIGITAL CONTROL
- TO41-451 4.5 LTRS CAPACITY NON DIGITAL CONTROL
- TO41-1250 12.5 LTRS CAPACITY DIGITAL CONTROL
- TO41-2250 25.0 LTRS CAPACITY DIGITAL CONTROL
- TO41-3000 30.0 LTRS CAPACITY DIGITAL CONTROL



SOLVENT DEGREASING TANKS

P29/31
ELECTRIC MOTOR DRIVEN FLOOD WASH GUN

P 29/32
AIR MOTOR PUMP DRIVEN FLOOD WASH GUN

Cleaning Equipment



Merlin Diesel Systems Ltd

Our test equipment division manufactures Merlin diesel fuel injection test equipment, cleaning tanks and engine valve re-facing machines.

The product range covers automotive, marine, rail and power generation applications and includes test equipment for electronic unit injectors, common rail injectors and electronic governed fuel pumps.

Ultrasonic cleaning tanks, tachometers, service tools and test bench spares, plus a comprehensive selection of reconditioned test equipment complement the range.

MERLIN

DIESEL SYSTEMS LTD

PARTS DIVISION

MERLIN DIESEL SYSTEMS PARTS DIVISION SUPPLY DIESEL INJECTION SPARE PARTS AND COMPLETE UNITS FOR DELPHI, BOSCH, ZEXEL, DENSO, YANMAR, STANADYNE AND WOODWARD APPLICATIONS. THESE INCLUDE NOZZLES, FUEL PUMPS, INJECTORS, LIFT PUMPS, FILTERS AND GLOW PLUGS.

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ILLUSTRATIONS AND TECHNICAL DATA ARE NON-BINDING. SUBJECT TO CHANGE AS A RESULT OF TECHNOLOGICAL PROGRESS.

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