

S450-1 MARINE INJECTOR TEST BENCH

08/21



The **S450-1** has been designed to enable the performance testing of larger high pressure diesel fuel injectors as found in rail, marine and power generation applications.

The **S450-1** is air operated, eliminating operator fatigue and is designed to carry out all standard tests:

- **Nozzle opening pressure**
- **Chatter test (atomization)**
- **Spray pattern**
- **Seat leakage**
- **Back-leak.**



A variable pumping rate allows for critical analysis of nozzle spray form and line pressure can be held to enable stable pressure dry seat testing.

During atomization the large illuminated spray chamber with built in fume extraction system offers a clear view of the nozzle tip.

The S450-1 is supplied with a dual scale analogue pressure gauge and the Merlin S500-2 digital display injector opening pressure monitor and integral printer.

The S500-2 has been designed for accurate performance testing, production line testing and quality over checking of diesel fuel injectors and nozzles.

Individual test results can be recorded on the S500-2's built-in printer.

The robust self-draining horizontal worktable will accommodate the largest of injectors. Quick release V-clamps secure the injector in the working position and if required, special mountings can be manufactured to customer requirements.

TEST EQUIPMENT - Tel: +44 (0) 1772 694185

UK SALES - Tel: +44 (0) 1772 694130

EXPORT SALES - Tel: +44 (0) 1772 694133

EMAIL: testequipment@merlindiesel.com



www.merlindiesel.com



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The Merlin S450 is capable of testing some of the largest injectors in the marine industry.

The sheer scale of ocean going vessels is enormous and the power needed to generate propulsion requires a super size engine and fuel injection system.

Some injectors can be several feet in length and the S450 is easily capable of accommodating these units.

Pictured to the right is a standard medium size L'Orange marine injector underneath a Bosch common rail offering.

Below it shows you the difference between one of the larger marine nozzles compared with an automotive example.



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S450-1 Specifications

PUMPING UNIT:	Air operated hydraulic pump unit supplied by normal workshop air supply
PRESSURE RANGE:	0-10000 psi (0-700 bar) or 0-15000 psi (0-1000 bar) depending on model
DISPLAY:	S500-2 Monitor , dual scale analogue pressure gauge
FLOW CONTROL VALVE:	Provides full to minimum flow for critical testing
HIGH PRESSURE TEST PIPES:	M22 x 1.5 M14 x 1.5 other pipes available M24 x 1.5, M27 x 1.5, M30 x 1.5
SPRAY CHAMBER:	Illuminated chamber, safety switch door operation
FUME EXTRACTION:	Variable rate air operated extraction system
FUEL TANK:	100 litres Capacity
FILTRATION:	Replaceable cartridge spin-on element (5 micron rating)
AIR SUPPLY:	6.2 – 6.9 bar required
ELECTRICAL SUPPLY:	220/240v/1PH/50 Hz customer specifications on request
CALIBRATION FLUID:	Shell Calibration Fluid 4113, now S9365.
WORK TABLE:	The standard V-clamps will accommodate T, U and V size
DIMENSIONS	
HEIGHT:	1360mm
LENGTH:	1325mm
WIDTH:	850mm
WEIGHT:	250kg

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