

The Universal B-Series Continuous Quality Power

The Legend Continues

Makers of the world famous Atomic-4 and pioneers in premium marine diesel propulsion, Universal has struck again with its latest release, the Universal B-Series.

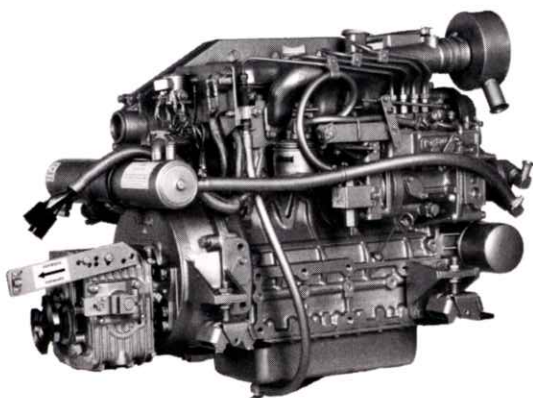
The B-Series is powered by the latest advancements in diesel engine design. Some of the benefits from these advancements include cleaner emissions, reduced noise levels, and increased horsepower at lower RPMs. All B-Series engines are naturally aspirated and deliver high low-end torque. All of which produce some of the most quiet and durable marine engines currently available.

The new M-50B is a suggested replacement for the aging Westerbeke Four-99; Four-107, Four-108, W-40, W-46, and W-50 engines now in service.

Universal holds a large inventory of spare parts for your engine including easy-to-buy spare parts kits and gasket sets tailored to your particular engine.

Parts and service are available worldwide. Universal engines can be serviced by over 600 authorized dealers strategically located in major navigable waterways in the United States and Canada, as well as in over 50 countries worldwide.

It's easy to see why Universal is as popular today as it was 100 years ago. Stop by your local Universal Distributor or Dealer today to learn more about the latest in Universal Marine Power.

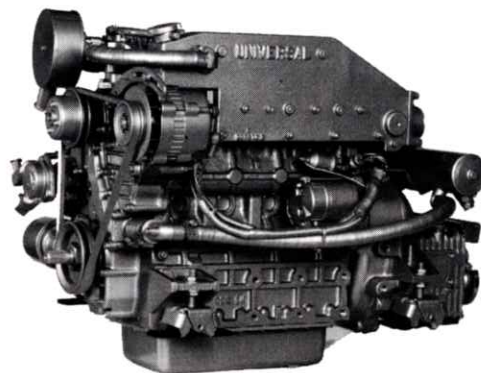


M-50B
Diesel Engine

Unit Dimensions

Length	36.0" (914.4 mm)
Width	21.8" (553.7 mm)
Height	26.8" (680.7 mm)
Weight	529 lbs. (240.0 kg)

*See other side for more dimension information
Photographs may show optional equipment.*

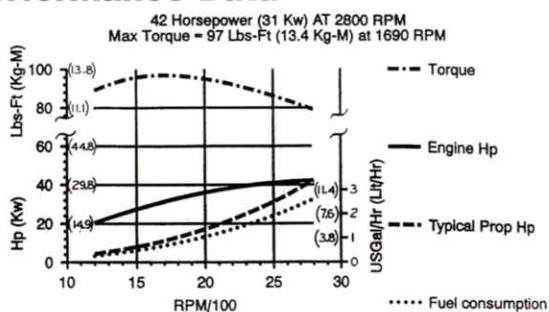


M-50B
Diesel Engine

Many features are standard equipment

- Fresh water cooling
- Engine prewired to plug-in connector
- Self-bleeding fuel system
- 12 volt, 51 ampere alternator
- Coolant recovery tank
- Throttle and shift control brackets
- Low oil pressure and high water temperature alarms
- Gear-driven sea water pump
- Transmission with 1.9:1 reduction
- Glow plug cold starting aid
- Engine matched four point adjustable mounts
- Lube oil drain hose
- Circuit breaker protected electrical system
- Operator's Manual and Parts List

Performance Data



Universal recommends a propeller that will allow the engine to turn 2800 RPM underway at full throttle

Specifications

Number of cylinders	4 Cylinder vertical in-line
Cycles	4 Cycle
Displacement	113.32 cu. in. (1.857 liters)
Bore and stroke	3.15" x 3.64" (80 mm x 92.4 mm)
Compression ratio	23:1
Maximum angle of installation	Not to exceed 14 deg.
Maximum angle of rotation	Not to exceed 25 deg.
Crankshaft, direction of rotation	Counterclockwise as viewed from flywheel end
Propeller shaft, direction of rotation	Right hand - Std. Trans..
Dry weight	529 lbs. (240 kg)
Combustion system	Spherical type
Aspiration	Naturally aspirated
Lubrication system	Forced lubrication by gear pump
Coolant capacity	12 qts. (11.4 liters)
Starting aid	12 Volt sheathed type glow plug
Engine stop	Manual
Fuel injection pump	Bosch type
Governor	Centrifugal type
Injectors	Throttle type
Fuel filter	Full flow, spin-on element
Lube oil filter	Full flow, spin-on element
Lubricant capacity	10.5 qts. (9.9 liters)
Fuel transfer pump	Electrical
Fuel supply and return piping	1/8" ID (3.18 mm) minimum 3/8" ID (9.52mm) maximum
Starting motor	12 volt, solenoid, actuated shift
Battery charging alternator	51 ampere (12 volts)
Cold cranking amps	152 amps at 68°F (20°C)
Electrical system	12 volts DC, negative ground

Construction - Engine Components

Cylinder head	Cast iron
Cylinder block	Cast iron
Crankshaft	Forged crankshaft, five main bearings
Valves	Overhead, rotating type
Fuel System	Self bleeding fuel system
Intake system	Filtered air intake for noise reduction
Cooling system	Fresh water-cooled with heat exchanger
Exhaust manifold	Cast iron

Standard Equipment

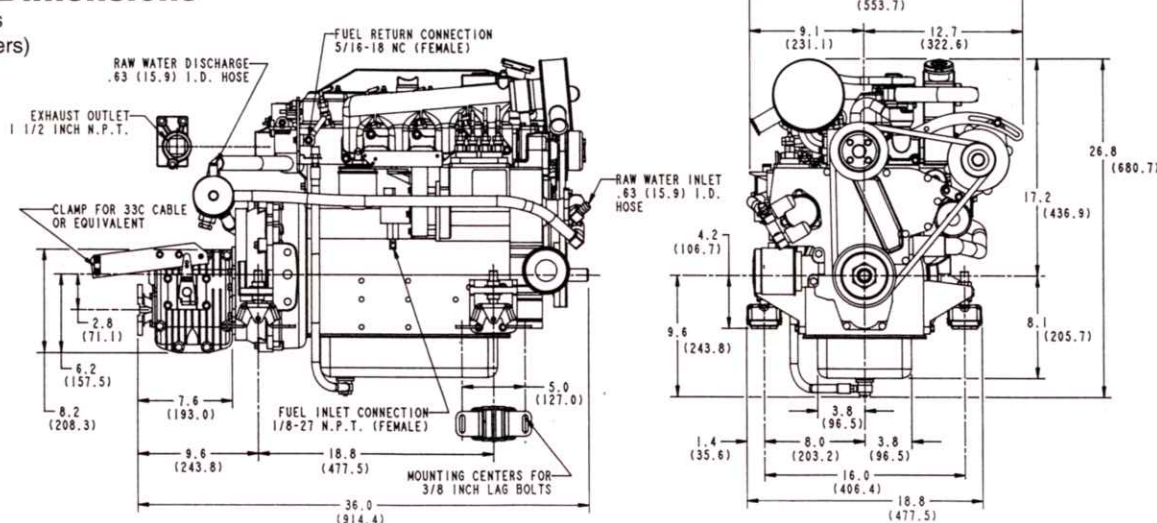
Standard gear ratio	1.9:1
Mounting centers	16.0"
Flexible mounts	Engine matched adjustable fail safe neoprene type
Domestic hot water connection	
Coolant recovery tank	
Battery charging alternator	51 amp, 12 volt
Starting aid	Glow Plugs
Control brackets	Throttle and shift
Prewired Engine	
Gear-driven sea water pump	
Lube oil drain hose	
Oil fill	Top
Circuit breaker protected electrical system	
Operator's Manual and Parts List	

Optional Equipment

Captain panel with alarm (tachometer with lights)	
Admiral panel with alarms (tachometer with gauges)	
Dual station senders	
Other gear ratios	Consult local Distributor
Hydraulic transmissions	Consult local Distributor
Remote expansion tank	
Muffler and fittings	
"A" and "B" on board spare parts kits	
Alternator, 72 amp single output	
Anti-siphon valve for overboard cooling discharge water	
Technical Manual	
Exhaust connection (45 deg., 90 deg., elbows, risers)	
Propeller shaft couplings (rigid/flexible) - available standard sizes	

Basic Dimensions

inches
(millimeters)



Drawings are for reference only and should not be used for installation. Detailed installation drawings are available upon request.