

# FEATURES

Features that separate the best from the rest.

## Engine Block

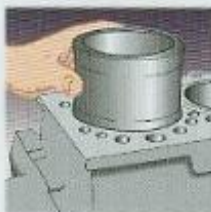
- Lugged four or six cylinder, inline, liquid cooled, overhead valve marine diesels based on industrial blocks.
- Four cycle and direct injection give fuel efficiency and quiet operation.
- Balanced forged-steel crankshaft.

- Replaceable, liquid cooled cylinder liners for long life and low rebuild costs.
- Cast-iron cylinder head with steel alloy valves.

- Replaceable valve seats and valve rotators on most models.
- Three ring aluminum alloy pistons with iron ring inserts.
- Keystone piston ring reduces carbon buildup under light loads.

- For smooth operation, four cylinder models have two gear-driven, counter-rotating balancing shafts.

- Six cylinder models have torsional crankshaft vibration dampers.



## Fuel System

- 1. Distributor-type injection pump has automatic pressure adjustment.

- Small diameter injectors with exclusive edge filter design.
- Electric fuel rack solenoid assures positive, quick engine shutdowns.

- 2. Spin-on fuel filter with drain.

- Diaphragm-type, mechanically driven fuel transfer pump with manual priming handle.

- 3. Flexible fuel lines routed to fuel manifold for easy installation.



Spin-on fuel filter

## Lubrication System

- Positive displacement oil pump.
- 4. Full flow, spin-on oil filter.
- Oil spray piston cooling reduces crown temperature for longer life.

- 5. Freshwater oil cooler reduces heat and thermal breakdown of oil.
- Large capacity oil pan.

- 6. Valve cover recycles crankcase oil vapors for a cleaner engine room. Cast aluminum construction reduces valve noise.

- 7. Lube oil drain system for quick, clean oil changes.

## Cooling System

- Freshwater cooling system has two thermostats for safety and quicker warm-ups.

- 8. Unit mounted expansion tank with brass filler neck for easy filling.

- 9. Cast-iron exhaust manifold. Double pass freshwater flow for even temperature control and fast warm-up. No hot spots.

- Engine is available in heat exchanger or keel cooled configuration.

- 10. Heat exchanger cooling includes: Axial driven Jabsco-type seawater pump. Easy-clean, tube-type heat exchanger is cupro-nickel for long life.

- Zinc anode electrolysis protection.

## Intake and Exhaust System

- 11. I, TH and QT models are turbocharged to increase output. Turbochargers are freshwater cooled for safety.

- 12. Dry air filter silences intake noise.

- 13. Wet (shown) and dry exhaust elbows are optional.



## DC Electrical System

- 14. Negative ground, 12 volt system with DC circuit breaker, battery charging alternator with regulator and starter motor.

- Remote mount S-3B control panel with enclosure has VDO instruments: engine hour meter, coolant temperature gauge, oil pressure gauge, DC voltage meter, start-stop switch, preheat and shutdown bypass switch.



- Reliable relay-based DC logic makes system easy to troubleshoot



and repair. No "black-box" electronics to fail. Relays make multiple panel installations quick and simple.

- Engine and panel are prewired and have terminal strips.
- Safety shutdown system protects engine in event of oil pressure loss or high coolant temperature.
- 24 volt systems, isolated ground systems and additional panels are available options.

## AC Generator

- 15. Direct coupled, single bearing, 12 lead reconnectable AC generator. Maintenance free brushless design.

- Generators meet or exceed ABS standards with class F/H or H insulation, accessible diodes, oversized ball bearings, marine grade shafts and conservative heat rise ratings.

- Engines and generators are torsionally matched for long life.

- Automatic voltage regulator gives response to electrical load changes. Voltage is regulated to  $\pm 0.25\%$  over the entire range from no load to full load. Clean power protects your equipment and promotes motor life.



## Special Equipment

- 16. Welded steel base frame with drip pan. Easy to mount and keep clean. Aluminum base frames are available.

- 17. Beltguard protects operator.

- Centerbonded anti-vibration mounts isolate set for smooth operation.
- Sparkling white Imron® polyurethane paint protects your set and provides better service visibility.
- Operator's and parts manuals are standard. Workshop manuals are available.



Complete product support documentation