

# FEATURES

Features that separate the best from the rest.

## Engine Block

- Lugger 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.
2. Spin-on fuel filter with drain.
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. T, 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