

Image may not reflect actual engine

STANDARD EQUIPMENT

Air Inlet System

Corrosion-resistant, separate circuit aftercooler core (air side); regular duty air cleaner; dual turbochargers, 152 mm (6 in.) OD

Cooling System

Non-self-priming centrifugal auxiliary sea water pump, gear driven centrifugal jacket water pump, auxiliary fresh water pump, expansion tank, oil cooler, thermostats and housing with 92°C (198°F)

Exhaust System

Dry, gas tight manifolds with thermo-laminated heat shields; dual turbochargers with watercooled bearings and thermo-laminated heat shields; vertical exhaust outlet, 203 mm (8 in.) round flanged outlet

Flywheel and Flywheel Housing

SAE No. 00 (183 teeth)

Fuel System

RH fuel filter with service indicators, fuel transfer pump, Electronic Unit Injector (EUI) fuel system

Instruments

RH instrument panel with oil pressure, water temperature, and fuel pressure gauges; system DC voltage gauge; air inlet restriction gauge; exhaust temperature gauges; fuel and oil filter differential pressure gauges; service meter; tachometer; instantaneous fuel consumption; 4-position start-stop

Lube System

Top-mounted crankcase breather, RH oil filter and oil level gauge, gear-type oil pump, deep sump oil pan

Mounting System

Engine length mounting rails, 254 mm (10 in.), C-channel

Power Take-Offs

Lower RH and LH accessory drive, two-sided front housing

General

Vibration damper and guard, Caterpillar yellow paint, lifting eyes

SPECIFICATIONS

V-12, 4-Stroke-Cycle-Diesel

Displacement 51.8 L (3158 cu. in.)
Bore 170 mm (6.7 in.)
Stroke 190 mm (7.5 in.)
Aspiration Turbocharged-Aftercooled
Governor Electronic
Engine Weight, Net Dry (approx) . . 6532 kg (14400 lb)
Capacity for Liquids
Cooling System (engine only) . . 289.3 L (76.4 U.S. gal)
Lube Oil System 613 L (162 U.S. gal)
Oil Change Interval 1000 hr
Caterpillar® DEO 10W30 or 15W40
Rotation (from flywheel end) ccw or cw

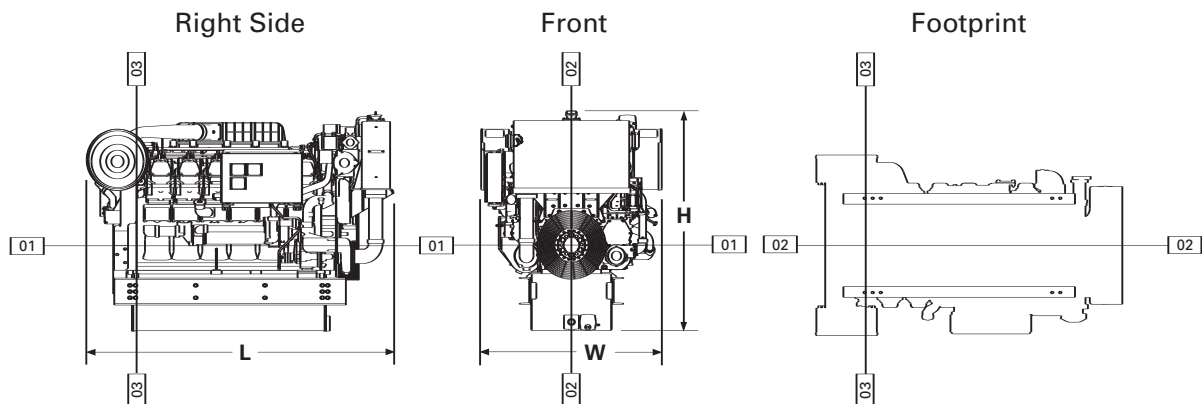
ACCESSORY EQUIPMENT

24V 60 amp alternator
24V electric prelube pump
24V electric starting motor
Air inlet overspeed shutoffs
Air starting motor
Auxiliary drive pulley and shaft
Crankshaft pulleys
Customer Communications Module — CCM
Dual jacket water heater
Duplex fuel filter
Duplex oil filter
Exhaust elbow, flange, flexible fitting
Front enclosed clutch
Front stub shafts
Fuel priming pump
Generator — 880 to 1360 ekW, air filter, bearing temperature detectors, low voltage extension box, RFI filter, voltage regulator (auto, digital, manual)
Heat exchanger
Instrument panel extension harness — 8M or 16M
Keel cooling connections
Load sharing module
Premium instrument panel
Premium wiring harness
Program relay control module
Pyrometer and thermocouples
Pyrometer extension harness — 8M or 16M
Radiator cooling conversion
Self priming auxiliary sea water pump
Shutoff and alarm contactors for oil pres. and water temp.
Spare parts kit
Standard sump oil pan
Sump pump
Upper RH accessory drives
Vibration isolators

PERFORMANCE DATA

Turbocharged-Aftercooled
DM4593-00 Aftercooler Temperature 30°C (86°F)

933 bkW (.8 pf) 1251 bhp			
% load	bkW	Lph	gph
100	921	225.8	59.7
75	690	167.5	44.2
50	463	113.3	29.9
25	238	62.5	16.5



DIMENSIONS*

	mm	in.		mm	in.	
Overall Length	2890.2	113.8				
Length from front to rear face of block	2420.0	95.3				
Length from rear face of block to back of engine	470.2	18.5				
Overall Height	2073.8	81.7				
Height from crankshaft centerline to top of engine	1267.1	49.9				
Height from crankshaft centerline to bottom of rails	806.7	31.8				
Overall Width	1703.0	67.1				
Width from crankshaft centerline to port side (left side)	851.5	33.5				
Width from crankshaft centerline to starboard side (right side)	851.5	33.5				
			Front	Rear		
			mm	in.	mm	in.
Customer mounting hole diameter	23.8	0.9	23.8	0.9		
Width from crankshaft centerline to side	444.5	17.5	444.5	17.5		
Length from rear face of block to mounting hole	1758.0	69.2	65.7	2.6		
	1834.2	72.2	141.9	5.6		
			10.5	0.4		

*Illustrations and dimensions from drawing: 190-3913.

RATING CONDITIONS

Engine Performance Parameters

Power.....	±3%
Specific Fuel Consumption	±3%
Fuel Rate.....	±5%

Ratings are based on SAE J1228/ISO8665 standard conditions of 100 kPa (29.61 in. Hg), 25°C (77°F), and 30% relative humidity. These ratings also apply at ISO3046/1, DIN6271/3, and BS5514 conditions of 100 kPa (29.61 in. Hg), 27°C (81°F), and 60% relative humidity.

Fuel rates are based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/L (7.001 lb/U.S. gal).

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for additional information.

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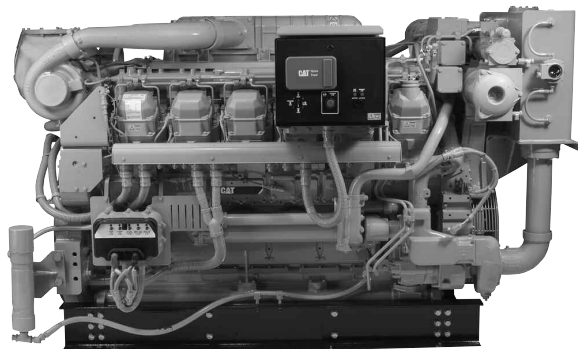


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STANDARD EQUIPMENT

Air Inlet System

Corrosion-resistant, separate circuit aftercooler core (air side); regular duty air cleaner; dual turbochargers, 152 mm (6 in.) OD

Cooling System

Non-self-priming centrifugal auxiliary sea water pump, gear driven centrifugal jacket water pump, auxiliary fresh water pump, expansion tank, oil cooler, thermostats and housing with 92°C (198°F)

Exhaust System

Dry, gas tight manifolds with thermo-laminated heat shields; dual turbochargers with watercooled bearings and thermo-laminated heat shields; vertical exhaust outlet, 305 mm (12 in.) round flanged outlet

Flywheel and Flywheel Housing

SAE No. 00 (183 teeth)

Fuel System

RH fuel filter with service indicators, fuel transfer pump, Electronic Unit Injector (EUI) fuel system

Instruments

RH instrument panel with oil pressure, water temperature, and fuel pressure gauges; system DC voltage gauge; air inlet restriction gauge; exhaust temperature gauges; fuel and oil filter differential pressure gauges; service meter; tachometer; instantaneous fuel consumption; 4-position start-stop

Lube System

Top-mounted crankcase breather, RH oil filter and oil level gauge, gear-type oil pump, deep sump oil pan

Mounting System

Engine length mounting rails, 254 mm (10 in.), C-channel

Power Take-Offs

Lower RH and LH accessory drive, two-sided front housing

General

Vibration damper and guard, Caterpillar yellow paint, lifting eyes

SPECIFICATIONS

V-12, 4-Stroke-Cycle-Diesel

Displacement 51.8 L (3158 cu. in.)
Bore 170 mm (6.7 in.)
Stroke 190 mm (7.5 in.)
Aspiration Turbocharged-Aftercooled
Governor Electronic
Engine Weight, Net Dry (approx) . . 6532 kg (14400 lb)
Capacity for Liquids
Cooling System (engine only) . . 289.3 L (76.4 U.S. gal)
Lube Oil System 613 L (162 U.S. gal)
Oil Change Interval 1000 hr
Caterpillar® DEO 10W30 or 15W40
Rotation (from flywheel end) ccw or cw

ACCESSORY EQUIPMENT

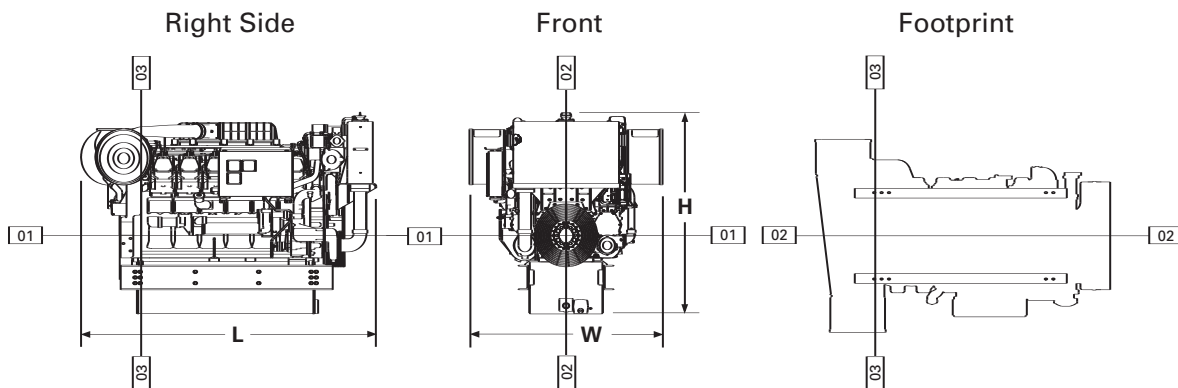
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Air inlet overspeed shutoffs
Air starting motor
Auxiliary drive pulley and shaft
Crankshaft pulleys
Customer Communications Module — CCM
Dual jacket water heater
Duplex fuel filter
Duplex oil filter
Exhaust elbow, flange, flexible fitting
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Generator — 880 to 1360 kW, air filter, bearing temperature detectors, low voltage extension box, RFI filter, voltage regulator (auto, digital, manual)
Heat exchanger
Instrument panel extension harness — 8M or 16M
Keel cooling connections
Load sharing module
Premium instrument panel
Premium wiring harness
Program relay control module
Pyrometer and thermocouples
Pyrometer extension harness — 8M or 16M
Radiator cooling conversion
Self priming auxiliary sea water pump
Shutoff and alarm contactors for oil pres. and water temp.
Spare parts kit
Standard sump oil pan
Sump pump
Upper RH accessory drives
Vibration isolators

PERFORMANCE DATA

Turbocharged-Aftercooled

DM4596-00 Aftercooler Temperature 30°C (86°F)

1020 bkW (.8 pf) 1368 bhp			
% load	bkW	Lph	gph
100	1017	241.7	63.9
75	760	187.5	49.5
50	508	132.4	35.0
25	259	77.3	20.4



DIMENSIONS*

	mm	in.		
Overall Length	3038.6	119.6		
Length from front to rear face of block	2420.0	95.3		
Length from rear face of block to back of engine	618.6	24.4		
Overall Height	2073.8	81.7		
Height from crankshaft centerline to top of engine	1267.1	49.9		
Height from crankshaft centerline to bottom of rails	806.7	31.8		
Overall Width	1988.0	78.3		
Width from crankshaft centerline to port side (left side)	994.0	39.1		
Width from crankshaft centerline to starboard side (right side)	994.0	39.1		
	Front	Rear		
	mm	in.	mm	in.
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	1834.2	72.2	141.9	5.6
			10.5	0.4

*Illustrations and dimensions from drawing: 125-6279.

RATING CONDITIONS

Engine Performance Parameters

Power.....	±3%
Specific Fuel Consumption	±3%
Fuel Rate.....	±5%

Ratings are based on SAE J1228/ISO8665 standard conditions of 100 kPa (29.61 in. Hg), 25°C (77°F), and 30% relative humidity. These ratings also apply at ISO3046/1, DIN6271/3, and BS5514 conditions of 100 kPa (29.61 in. Hg), 27°C (81°F), and 60% relative humidity.

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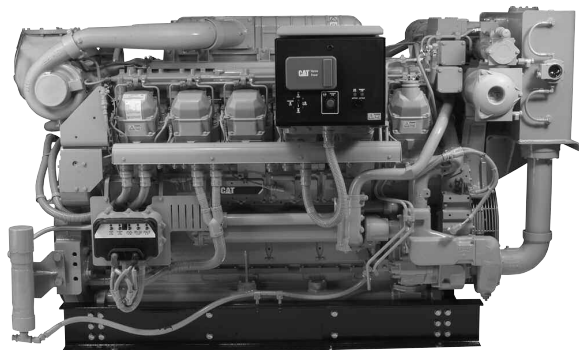


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STANDARD EQUIPMENT

Air Inlet System

Corrosion-resistant, separate circuit aftercooler core (air side); regular duty air cleaner; dual turbochargers, 152 mm (6 in.) OD

Cooling System

Non-self-priming centrifugal auxiliary sea water pump, gear driven centrifugal jacket water pump, auxiliary fresh water pump, expansion tank, oil cooler, thermostats and housing with 92°C (198°F)

Exhaust System

Dry, gas tight manifolds with thermo-laminated heat shields; dual turbochargers with watercooled bearings and thermo-laminated heat shields; vertical exhaust outlet, 203 mm (8 in.) round flanged outlet

Flywheel and Flywheel Housing

SAE No. 00 (183 teeth)

Fuel System

RH fuel filter with service indicators, fuel transfer pump, Electronic Unit Injector (EUI) fuel system

Instruments

RH instrument panel with oil pressure, water temperature, and fuel pressure gauges; system DC voltage gauge; air inlet restriction gauge; exhaust temperature gauges; fuel and oil filter differential pressure gauges; service meter; tachometer; instantaneous fuel consumption; 4-position start-stop

Lube System

Top-mounted crankcase breather, RH oil filter and oil level gauge, gear-type oil pump, deep sump oil pan

Mounting System

Engine length mounting rails, 254 mm (10 in.), C-channel

Power Take-Offs

Lower RH and LH accessory drive, two-sided front housing

General

Vibration damper and guard, Caterpillar yellow paint, lifting eyes

SPECIFICATIONS

V-12, 4-Stroke-Cycle-Diesel

Displacement 51.8 L (3158 cu. in.)
Bore 170 mm (6.7 in.)
Stroke 190 mm (7.5 in.)
Aspiration Turbocharged-Aftercooled
Governor Electronic
Engine Weight, Net Dry (approx) . . 6532 kg (14400 lb)
Capacity for Liquids
Cooling System (engine only) . . 289.3 L (76.4 U.S. gal)
Lube Oil System 613 L (162 U.S. gal)
Oil Change Interval 1000 hr
Caterpillar® DEO 10W30 or 15W40
Rotation (from flywheel end) ccw or cw

ACCESSORY EQUIPMENT

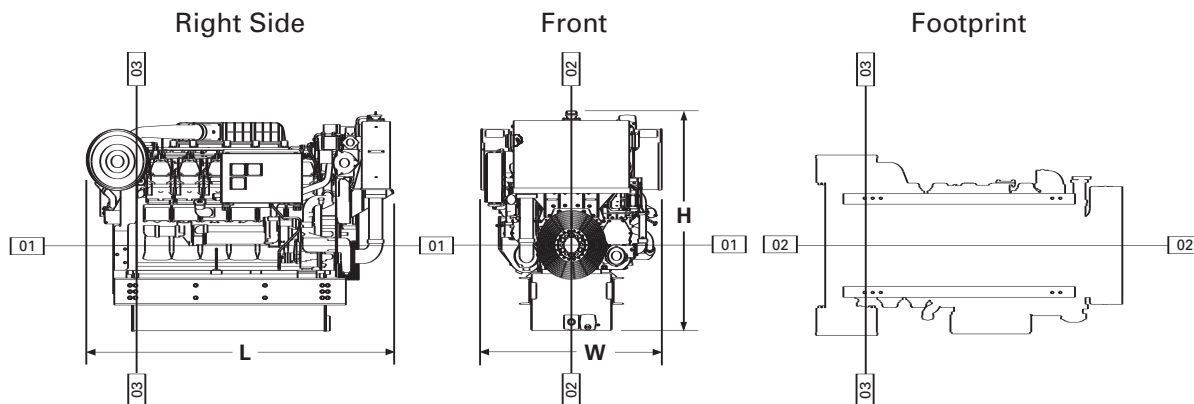
24V 60 amp alternator
24V electric prelube pump
24V electric starting motor
Air inlet overspeed shutoffs
Air starting motor
Auxiliary drive pulley and shaft
Crankshaft pulleys
Customer Communications Module — CCM
Dual jacket water heater
Duplex fuel filter
Duplex oil filter
Exhaust elbow, flange, flexible fitting
Front enclosed clutch
Front stub shafts
Fuel priming pump
Generator — 880 to 1360 kW, air filter, bearing temperature detectors, low voltage extension box, RFI filter, voltage regulator (auto, digital, manual)
Heat exchanger
Instrument panel extension harness — 8M or 16M
Keel cooling connections
Load sharing module
Premium instrument panel
Premium wiring harness
Program relay control module
Pyrometer and thermocouples
Pyrometer extension harness — 8M or 16M
Radiator cooling conversion
Self priming auxiliary sea water pump
Shutoff and alarm contactors for oil pres. and water temp.
Spare parts kit
Standard sump oil pan
Sump pump
Upper RH accessory drives
Vibration isolators

PERFORMANCE DATA

Turbocharged-Aftercooled

DM4594-00 Aftercooler Temperature 30°C (86°F)

1102 bkW (.8 pf) 1478 bhp			
% load	bkW	Lph	gph
99	1064	260.3	68.8
74	798	198.4	52.4
49	536	138.6	36.6
25	277	78.4	20.7



DIMENSIONS*

	mm	in.		mm	in.	
Overall Length	2890.2	113.8				
Length from front to rear face of block	2420.0	95.3				
Length from rear face of block to back of engine	470.2	18.5				
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Height from crankshaft centerline to top of engine	1267.1	49.9				
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			Front	Rear		
			mm	in.	mm	in.
Customer mounting hole diameter	23.8	0.9	23.8	0.9		
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Length from rear face of block to mounting hole	1758.0	69.2	65.7	2.6		
	1834.2	72.2	141.9	5.6		
			10.5	0.4		

*Illustrations and dimensions from drawing: 190-3913.

RATING CONDITIONS

Engine Performance Parameters

Power.....	±3%
Specific Fuel Consumption	±3%
Fuel Rate.....	±5%

Ratings are based on SAE J1228/ISO8665 standard conditions of 100 kPa (29.61 in. Hg), 25°C (77°F), and 30% relative humidity. These ratings also apply at ISO3046/1, DIN6271/3, and BS5514 conditions of 100 kPa (29.61 in. Hg), 27°C (81°F), and 60% relative humidity.

Fuel rates are based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/L (7.001 lb/U.S. gal).

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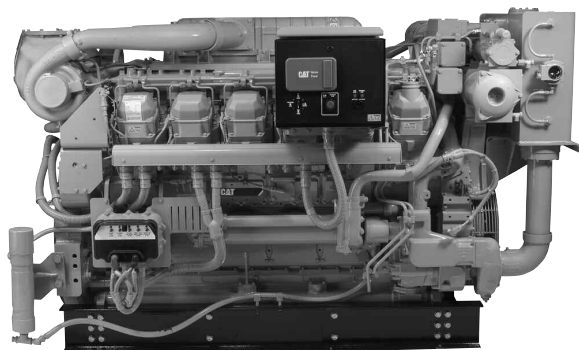


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STANDARD EQUIPMENT

Air Inlet System

Corrosion-resistant, separate circuit aftercooler core (air side); regular duty air cleaner; dual turbochargers, 152 mm (6 in.) OD

Cooling System

Non-self-priming centrifugal auxiliary sea water pump, gear driven centrifugal jacket water pump, auxiliary fresh water pump, expansion tank, oil cooler, thermostats and housing with 92°C (198°F)

Exhaust System

Dry, gas tight manifolds with thermo-laminated heat shields; dual turbochargers with watercooled bearings and thermo-laminated heat shields; vertical exhaust outlet, 305 mm (12 in.) round flanged outlet

Flywheel and Flywheel Housing

SAE No. 00 (183 teeth)

Fuel System

RH fuel filter with service indicators, fuel transfer pump, Electronic Unit Injector (EUI) fuel system

Instruments

RH instrument panel with oil pressure, water temperature, and fuel pressure gauges; system DC voltage gauge; air inlet restriction gauge; exhaust temperature gauges; fuel and oil filter differential pressure gauges; service meter; tachometer; instantaneous fuel consumption; 4-position start-stop

Lube System

Top-mounted crankcase breather, RH oil filter and oil level gauge, gear-type oil pump, deep sump oil pan

Mounting System

Engine length mounting rails, 254 mm (10 in.), C-channel

Power Take-Offs

Lower RH and LH accessory drive, two-sided front housing

General

Vibration damper and guard, Caterpillar yellow paint, lifting eyes

SPECIFICATIONS

V-12, 4-Stroke-Cycle-Diesel

Displacement 51.8 L (3158 cu. in.)
Bore 170 mm (6.7 in.)
Stroke 190 mm (7.5 in.)
Aspiration Turbocharged-Aftercooled
Governor Electronic
Engine Weight, Net Dry (approx) . . 6532 kg (14400 lb)
Capacity for Liquids
Cooling System (engine only) . . 289.3 L (76.4 U.S. gal)
Lube Oil System 613 L (162 U.S. gal)
Oil Change Interval 1000 hr
Caterpillar DEO 10W30 or 15W40
Rotation (from flywheel end) ccw or cw

ACCESSORY EQUIPMENT

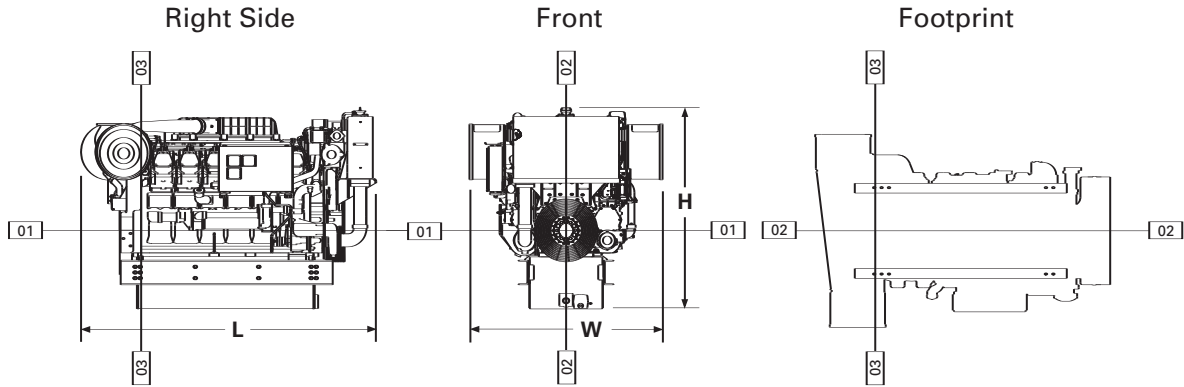
24V 60 amp alternator
24V electric prelube pump
24V electric starting motor
Air inlet overspeed shutoffs
Air starting motor
Auxiliary drive pulley and shaft
Crankshaft pulleys
Customer Communications Module — CCM
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Duplex oil filter
Exhaust elbow, flange, flexible fitting
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Front stub shafts
Fuel priming pump
Generator — 880 to 1360 ekW, air filter, bearing temperature detectors, low voltage extension box, RFI filter, voltage regulator (auto, digital, manual)
Heat exchanger
Instrument panel extension harness — 8M or 16M
Keel cooling connections
Load sharing module
Premium instrument panel
Premium wiring harness
Program relay control module
Pyrometer and thermocouples
Pyrometer extension harness — 8M or 16M
Radiator cooling conversion
Self priming auxiliary sea water pump
Shutoff and alarm contactors for oil pres. and water temp.
Spare parts kit
Standard sump oil pan
Sump pump
Upper RH accessory drives
Vibration isolators

PERFORMANCE DATA

Turbocharged-Aftercooled

DM4598-01 Aftercooler Temperature 30°C (86°F)

1125 bkW (.8 pf) 1509 bhp			
% load	bkW	Lph	gph
100	1119	276.8	73.1
75	837	214.9	56.8
50	561	153.7	40.6
25	288	93.0	24.6



DIMENSIONS*

	mm	in.		mm	in.	
Overall Length	3038.6	119.6				
Length from front to rear face of block	2420.0	95.3				
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Engine Performance Parameters

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Fuel Rate	±5%

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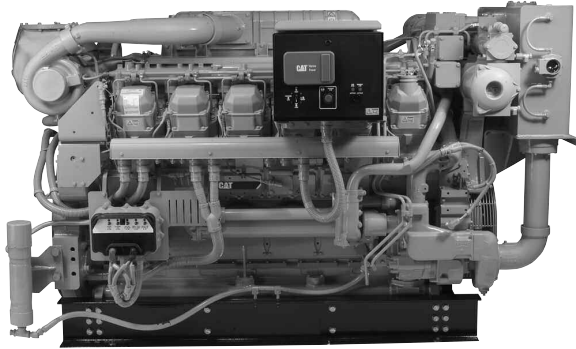


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Rotation (from flywheel end) ccw or cw

ACCESSORY EQUIPMENT

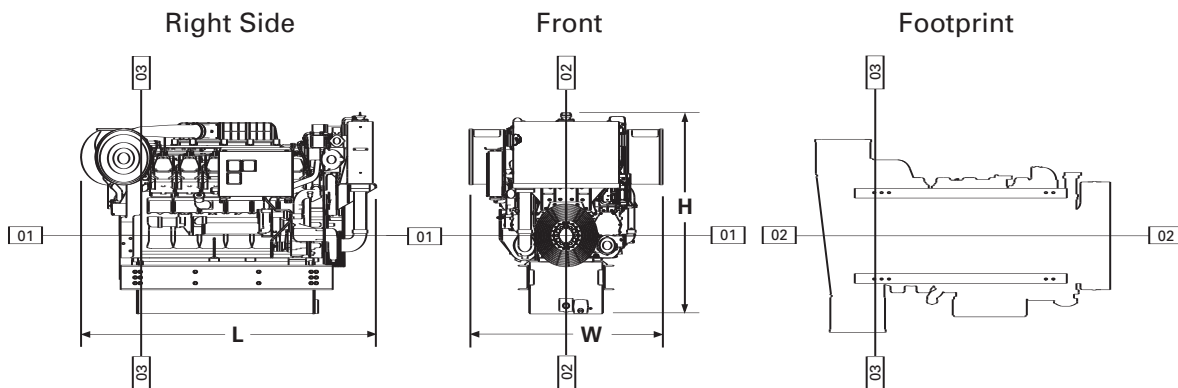
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Crankshaft pulleys
Customer Communications Module — CCM
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Shutoff and alarm contactors for oil pres. and water temp.
Spare parts kit
Standard sump oil pan
Sump pump
Upper RH accessory drives
Vibration isolators

PERFORMANCE DATA

Turbocharged-Aftercooled

DM4597-00 Aftercooler Temperature 30°C (86°F)

1424 bkW (.8 pf) 1910 bhp			
% load	bkW	Lph	gph
100	1418	342.4	90.5
75	1060	263.9	69.7
50	708	186.3	49.2
25	361	109.0	28.8



DIMENSIONS*

	mm	in.		mm	in.	
Overall Length	3038.6	119.6				
Length from front to rear face of block	2420.0	95.3				
Length from rear face of block to back of engine	618.6	24.4				
Overall Height	2073.8	81.7				
Height from crankshaft centerline to top of engine	1267.1	49.9				
Height from crankshaft centerline to bottom of rails	806.7	31.8				
Overall Width	1988.0	78.3				
Width from crankshaft centerline to port side (left side)	994.0	39.1				
Width from crankshaft centerline to starboard side (right side)	994.0	39.1				
			Front	Rear		
			mm	in.	mm	in.
Customer mounting hole diameter	23.8	0.9	23.8	0.9		
Width from crankshaft centerline to side	444.5	17.5	444.5	17.5		
Length from rear face of block to mounting hole	1758.0	69.2	65.7	2.6		
	1834.2	72.2	141.9	5.6		
			10.5	0.4		

*Illustrations and dimensions from drawing: 125-6279.

RATING CONDITIONS

Engine Performance Parameters

Power	±3%
Specific Fuel Consumption	±3%
Fuel Rate	±5%

Ratings are based on SAE J1228/ISO8665 standard conditions of 100 kPa (29.61 in. Hg), 25°C (77°F), and 30% relative humidity. These ratings also apply at ISO3046/1, DIN6271/3, and BS5514 conditions of 100 kPa (29.61 in. Hg), 27°C (81°F), and 60% relative humidity.

Fuel rates are based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/L (7.001 lb/U.S. gal).

Additional ratings may be available for specific customer requirements. Consult your Caterpillar representative for additional information.

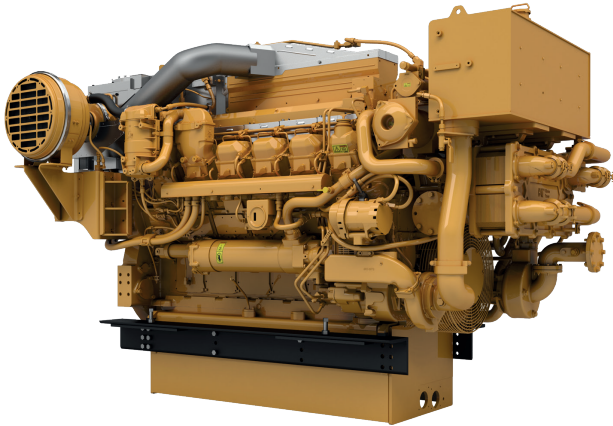
Performance data is calculated in accordance with tolerances and conditions stated in this specification sheet and is only intended for purposes of comparison with other manufacturers' engines. Actual engine performance may vary according to the particular application of the engine and operating conditions beyond Caterpillar's control.

CAT, CATERPILLAR, their respective logos, "Caterpillar Yellow" and the POWER EDGE trade dress, as well as corporate and product identity used herein, are trademarks of Caterpillar and may not be used without permission.

3512E

MARINE AUXILIARY/DIESEL ELECTRIC PROPULSION ENGINE

1550 ekW (1632 bkW) @ 1800 rpm



3512E Marine Auxiliary/DEP Engine
U.S. EPA Tier 4 Final / IMO III

ENGINE SPECIFICATIONS

Configuration:

Vee 12, 4-stroke-cycle diesel

Governor

Electronic (A5 ECM)

Emissions

U.S. EPA Tier 4 Final certified
IMO III emissions certified
(SCR required)
IMO II-III switchable

Refill Capacity

Lube Oil System w/ oil filter change:
613 L (162 gal)/1000 hrs pan

Oil Change Interval

1000 hrs

Rated Engine Speed

1800 rpm

Cooling

Heat exchanger or keel cooled

Bore x Stroke

170 mm x 215 mm
6.69 in x 8.46 in

Flywheel Housing

SAE No. 00 with SAE No. 00 flywheel
(183 teeth)

Displacement

58.6 Liter / 3574 cu in

Rotation

Counterclockwise from flywheel end

Aspiration

Turbocharged-aftercooled
aspiration

FEATURES AND BENEFITS

- Utilizes SCR Technology to enable U.S. EPA Tier 4 Final emission regulations compliance while lowering operational costs
- Utilizes closed loop air assisted DEF dosing control strategy that delivers:
 - Highest efficiency mixing and control to lower operational costs
 - Extends emissions useful life
 - Ensures compliance
 - Flexible to urea quality
- Advanced engine combustion design process utilizing optimum configurations and cylinder geometry for maximum engine efficiency
- Enhanced control of fuel injection optimized through crank timing and the latest A5 ECM technology
- Optimal fuel injector nozzle geometry and electronic injection control for improved fuel delivery
- Strengthened cylinder heads and valves for increased durability and peak cylinder pressure capability resulting in higher engine duty cycle capability
- Industry-leading warranty coverage for factory packaged components
- Global dealer network for service in any location

STANDARD ENGINE EQUIPMENT

- Corrosion-resistant aftercooler core
- Dual A5 engine control modules with electronic unit injection and low pressure fuel system
- Dual turbochargers with water-cooled bearings and heat shields
- Vibration damper and guard
- Meets SOLAS regulations
- Duplex Fuel and Oil Filtration
- Auxiliary fresh water pump
- Gear Driven, centrifugal jacket water pump with 40% more capacity

OPTIONAL ATTACHMENTS

- Plate-type heat exchanger with integrated SCAC and JW Water expansion tanks
- Special appearance packages with chrome covers
- Marine society certifications
- Power take-off
- Certified marine alarm and protection safety system
- Standard instrument panel with color touchscreen display
- Mounting rails and trunnion mount options
- Engine mounted fuel cooler (SCAC Water Cooled)
- Sea water pump with 25% more capacity for cooling auxiliary vessel equipment
- Closed crank case ventilation
- Optional air shutoff available

RATING DEFINITION AND CONDITIONS

Typical applications: For vessels operating with generator sets that provide power to the propulsion systems. All ratings are Prime Ratings according to ISO 8528-1 for unlimited usage per year at a load factor of $\leq 70\%$. 10% overload capability is required for a maximum of 1 hour out of every 12 and a maximum of 25 hours total per year.

Ratings are based on SAE J3046 and J1349 standard conditions of 100 kPa (29.61 in Hg) and 25°C (77°F). These ratings also apply at ISO8665, ISO3046-1:2002E, DIN6271-3, and BS5514 standard conditions of 100 kPa (29.61 in Hg), 27°C (81°F), and 60% relative humidity.

Fuel rates are based on fuel oil of 35° API [16°C (60°F)] gravity having an LHV of 42 780 kJ/kg (18,390 Btu/lb) when used at 29°C (85°F) and weighing 838.9 g/liter (7.001 lbs/U.S. gal.).

Marine Auxiliary Engines are mainly used as generator set engines; however, they can be used for electrically driven pumps, winches, conveyors, thrusters, when it is specified. Engines can be radiator cooled or heat exchanger/keel cooled.

TECHNICAL DATA

3512E Auxiliary/Diesel Electric Propulsion Engine

CONSTANT SPEED FUEL & DEF CONSUMPTION (1800 RPM, 60 Hz)

% Power	Brake Specific Fuel Consumption					DEF Consumption 32.5 % Concentration		DEF Consumption 40 % Concentration	
	ekW	bhp	lb/bhp-hr	bkW	g/bkW-hr	Gal/hr	Liters/hr	Gal/hr	Liters/hr
100	1550	2189	0.333	1632	198.5	5.5	20.9	4.2	15.8
90	1395	1967	0.333	1467	198.4	4.9	18.7	3.7	14.1
80	1240	1749	0.333	1304	198.4	4.5	17.0	3.4	12.8
70	1085	1530	0.333	1141	198.9	4.1	15.5	3.1	11.7
60	930	1313	0.338	979	201.8	3.6	13.5	2.7	10.2
50	775	1097	0.347	818	207.3	3.0	11.2	2.2	8.4
40	620	882	0.362	658	216.2	2.3	8.7	1.7	6.6
30	465	668	0.388	498	231.5	1.6	6.2	1.2	4.7

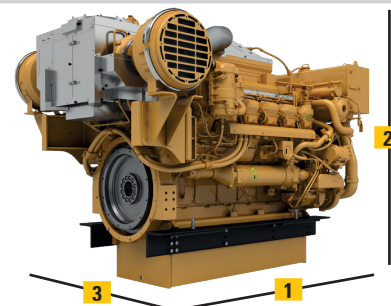
- ISO 3046/1 fluid consumption tolerance of -0/+5%
- Reference 32.5% DEF density of 1.0895 kg/L
- Reference 40% DEF density of 1.1120 kg/L

Consult your local Cat® dealer to create a customized engine TCO (Total Cost of Ownership) analysis specific to your vessel as well as for IMO II optimized performance data.

DIMENSIONS & WEIGHT

	Length (1)	Height (2)	Width (3)	Engine dry weight
min.	104.2 in/2646 mm	91.9 in/2335 mm	71.2 in/1808 mm	18,025 lb/8,176 kg
max.			81.9 in/2081 mm	

Note: Do not use these dimensions for installation design. See general dimension drawings for detail.



CLEAN EMISSIONS MODULE (CEM)

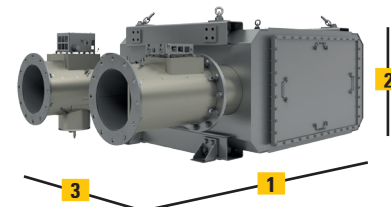
Dimensions & Weight				
Model	Length (1)	Height (2)	Width (3)	Weight
12 Brick Z-Flow	3453.6 mm 135.97 in	1012.4 mm 39.86 in	1627.2 mm 64.06 in	1253.6 kg 2763.7 lb
12 Brick U-Flow	2712.0 mm 106.77 in	1012.4 mm 39.86 in	1627.2 mm 64.06 in	1261.5 kg 2783.3 lb
Dosing Cabinet	948.6 mm 37.35 in	534.5 mm 21.05 in	477.3 mm 18.79 in	---

The 3512E engine requires Selective Catalyst Reduction (SCR) technology. The easy-to-install Cat® SCR System is an exhaust gas aftertreatment solution compliant with U.S. EPA Tier 4 Final / IMO III emission standards.

- Proven technology to meet U.S. EPA Tier 4 Final / IMO III emission standards
- IMO II-III switchable calibrations available
- Maintains engine efficiency, durability and reliability
- Easy to install with minimum impact to vessel design
- Compact package from one single source
- Available for new builds and retrofits
- For detailed dimensions and installation requirements, please refer to latest revision of A&I guide LEBM0023.

Clean Emissions Module (CEM)

Available in U-flow configurations (shown) and Z-flow configurations.



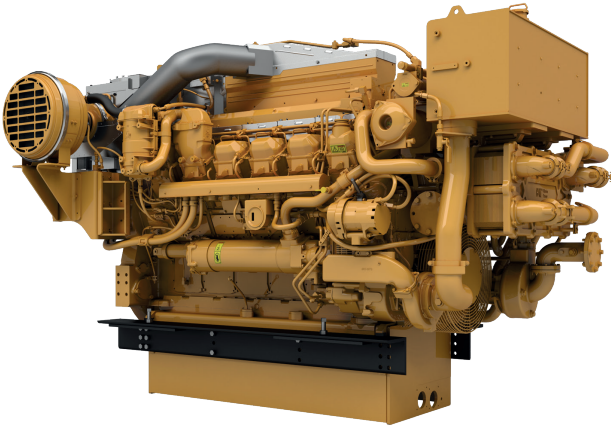
Dosing Cabinet



3512E

MARINE AUXILIARY/DIESEL ELECTRIC PROPULSION ENGINE

1700 ekW (1789 bkW) @ 1800 rpm



3512E Marine Auxiliary/DEP Engine
U.S. EPA Tier 4 Final / IMO III

ENGINE SPECIFICATIONS

Configuration:

Vee 12, 4-stroke-cycle diesel

Emissions

U.S. EPA Tier 4 Final certified
IMO III emissions certified
(SCR required)
IMO II-III switchable

Rated Engine Speed

1800 rpm

Bore x Stroke

170 mm x 215 mm
6.69 in x 8.46 in

Displacement

58.6 Liter / 3574 cu in

Aspiration

Turbocharged-aftercooled
aspiration

Governor

Electronic (A5 ECM)

Refill Capacity

Lube Oil System w/ oil filter change:
613 L (162 gal)/1000 hrs pan

Oil Change Interval

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Flywheel Housing

SAE No. 00 with SAE No. 00 flywheel
(183 teeth)

Rotation

Counterclockwise from flywheel end

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OPTIONAL ATTACHMENTS

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90	1530	2158	0.333	1609	198.5	5.4	20.6	4.1	15.5
80	1360	1918	0.333	1430	198.4	4.8	18.2	3.6	13.7
70	1190	1678	0.333	1251	198.5	4.4	16.5	3.3	12.5
60	1020	1440	0.335	1074	199.8	3.9	14.7	2.9	11.1
50	850	1203	0.342	897	204.2	3.3	12.4	2.5	9.3
40	680	968	0.355	722	212.1	2.6	9.7	1.9	7.3
30	510	732	0.379	546	225.9	1.8	7.0	1.4	5.2

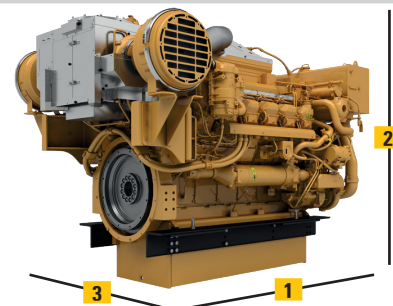
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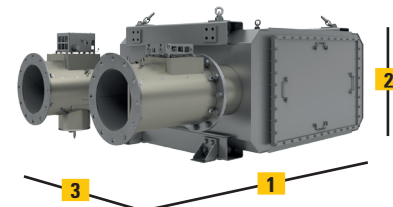
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Clean Emissions Module (CEM)

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Dosing Cabinet

