

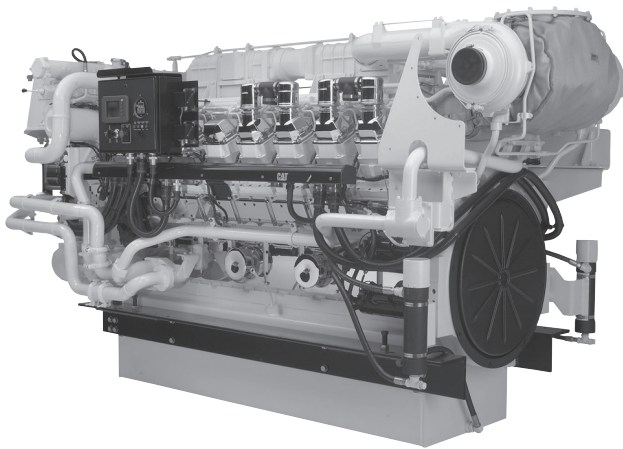


Image shown may not
reflect actual engine

SPECIFICATIONS

V-16, 4-Stroke-Cycle-Diesel

Emissions	IMO compliant
Displacement	78.08 L (4764.73 cu. in.)
Rated Engine Speed	1600 rpm
Bore	170.0 mm (6.69 in.)
Stroke	215.0 mm (8.46 in.)
Aspiration	Turbocharged-Aftercooled
Governor	ADEM™ A3
Cooling System	Heat Exchanger
Weight, Net Dry (approx)	10,447 kg (23,032 lb)
Refill Capacity	
Lube Oil System	810.1 L (214 gal)
Caterpillar Diesel Engine Oil 10W30 or 15W40	
Rotation (from flywheel end)	Counterclockwise
Flywheel and Flywheel Housing	SAE No. 00
Flywheel Teeth	183

STANDARD ENGINE EQUIPMENT

Air Inlet System

Corrosion-resistant separate circuit aftercooler core, power-core air cleaners with service indicator, dual turbochargers

Control System

Dual A3 engine control modules provide engine control and monitoring, rigid wiring harness with plug and run connectors on port and starboard sides

Cooling System

Separate circuit auxiliary fresh water pump, centrifugal non-self-priming auxiliary sea water pump, gear driven centrifugal jacket water pump, expansion tank, engine oil cooler, thermostats and housing

Exhaust System

Dry gas-tight exhaust manifolds with SOLAS compliant heat shields, dual turbochargers with water-cooled bearings and heat shields, modular pulse exhaust manifold, single exhaust outlet

Fuel System

Electronically controlled unit injectors, fuel filter with service indicators, fuel transfer pump, SOLAS compliant fuel connections with spill shield

Instrumentation

Engine-mounted instrument panel with Marine Power Display (MPD), four-position engine control switch, alarm horn, overspeed shutdown notification light, emergency stop notification light, secondary ECU "Ready" light, secondary ECU "Active" light, graphic display unit for analog or digital display of oil and fuel pressure, oil and fuel filter differential, system DC voltage, exhaust and water temperature, air inlet restriction, service meter, engine speed, fuel consumption (total and instantaneous)

Lube System

Pre-lube strategy, top-mounted dual crankcase breathers, oil filter with service indicators, oil level gauge, oil filler, gear-type oil pump

Mounting System

Mounting rails

Power Take-Offs

Accessory drives — upper RH, upper and lower LH; two-sided front housing

Protection System

A3 electronic control module with customer programmable engine derate strategies, engine alarms and diagnostics displayed on local and remote MPDs, emergency stop pushbutton, safety shutoff protection for oil pressure and water temperature, overspeed protection

General

Vibration damper and guard, Cat® yellow paint, lifting eyes

ISO Certification

Factory-designed systems built at Caterpillar ISO 9001:2000 certified facilities

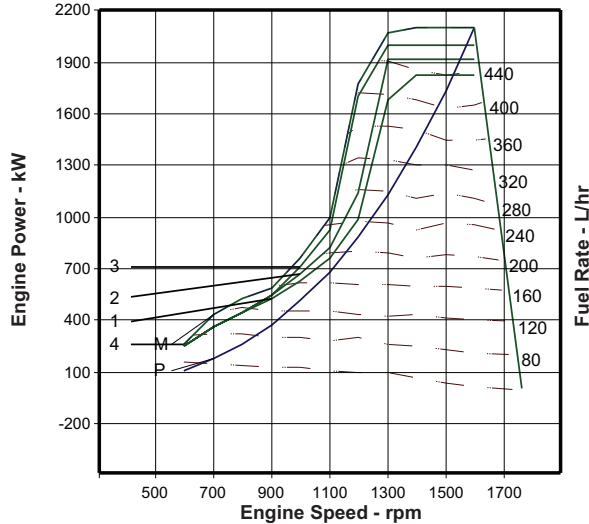
MARINE ENGINE PERFORMANCE

3516C HD TA

2855 mhp (2816 bhp) 2100 kW @ 1600 rpm

D Rating — DM9256-01

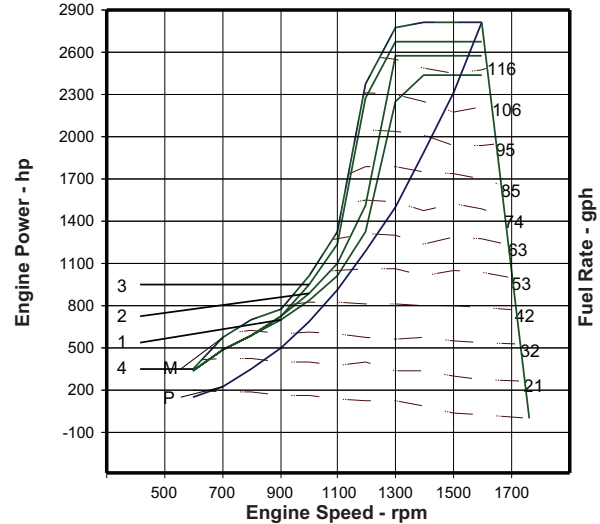
Aftercooler Temperature 43°C (109°F)



Performance Data

	Speed rpm	Engine Power kW	BSFC g/kW-hr	Fuel Rate L/hr	Boost Press kPa Gauge	Intake Air Flow m³/min	Exh Manif Temp °C	Exh Gas Flow m³/min
Zone Limit	1600	1825	200	434.8	202.7	158.1	571	397.0
Curve: 1	1300	1678	196	392.0	175.2	122.9	628	324.7
	1100	761	213	193.6	43.8	52.5	636	146.2
	900	530	223	140.9	19.4	35.6	638	98.6
	700	365	214	93.2	8.9	24.1	586	64.4
	600	254	213	64.4	4.2	20.3	481	49.6
Zone Limit	1600	1920	199	454.7	202.7	161.7	580	410.1
Curve: 2	1300	1920	193	442.4	175.2	136.4	639	362.1
	1100	821	212	207.7	43.8	55.0	657	156.6
	900	543	224	144.6	19.4	35.9	650	100.8
	700	365	214	93.2	8.9	24.1	586	64.4
	600	254	213	64.4	4.2	20.3	481	49.6
Zone Limit	1600	2000	199	473.2	218.7	165.2	591	423.2
Curve: 3	1300	2000	193	459.1	175.2	141.0	643	374.8
	1100	929	211	233.1	62.6	59.8	686	175.4
	900	543	224	144.6	20.3	35.9	650	100.8
	700	365	214	93.2	8.9	24.1	586	64.4
	600	254	213	64.4	4.2	20.3	481	49.6
Zone Limit	1600	2100	199	498.2	228.5	169.7	606	441.6
Curve: 4	1300	2069	192	473.5	227.0	145.0	646	385.9
	1100	993	210	248.2	70.7	62.9	699	186.7
	900	585	225	156.9	23.6	37.0	687	108.2
	700	434	223	115.4	12.8	25.0	694	73.8
	600	266	213	67.5	4.6	20.4	501	51.0
Max Power	1600	2100	199	498.2	228.5	169.7	606	441.6
Curve: M	1300	2069	192	473.5	227.0	145.0	646	385.9
	1100	993	210	248.2	70.7	62.9	699	186.7
	900	585	225	156.9	23.6	37.0	687	108.2
	700	434	223	115.4	12.8	25.0	694	73.8
	600	266	213	67.5	4.6	20.4	501	51.0
Prop Demand	1600	2100	199	498.2	228.5	169.7	606	441.6
Curve: P	1300	1126	204	274.2	96.2	87.1	598	227.3
	1100	682	215	175.1	36.0	49.3	604	132.6
	900	374	220	98.0	10.3	32.4	488	75.5
	700	176	221	46.4	2.0	23.1	310	42.5
	600	111	226	29.9	0.7	19.9	255	33.8

Brake Mean Effective Pressure 1844 kPa
Heat Rejection to Coolant (total) 631 kW
Heat Rejection to Aftercooler 485 kW
Heat Rejection to Exhaust (total) 1941 kW
Heat Rejection to Atmosphere from Engine 138 kW

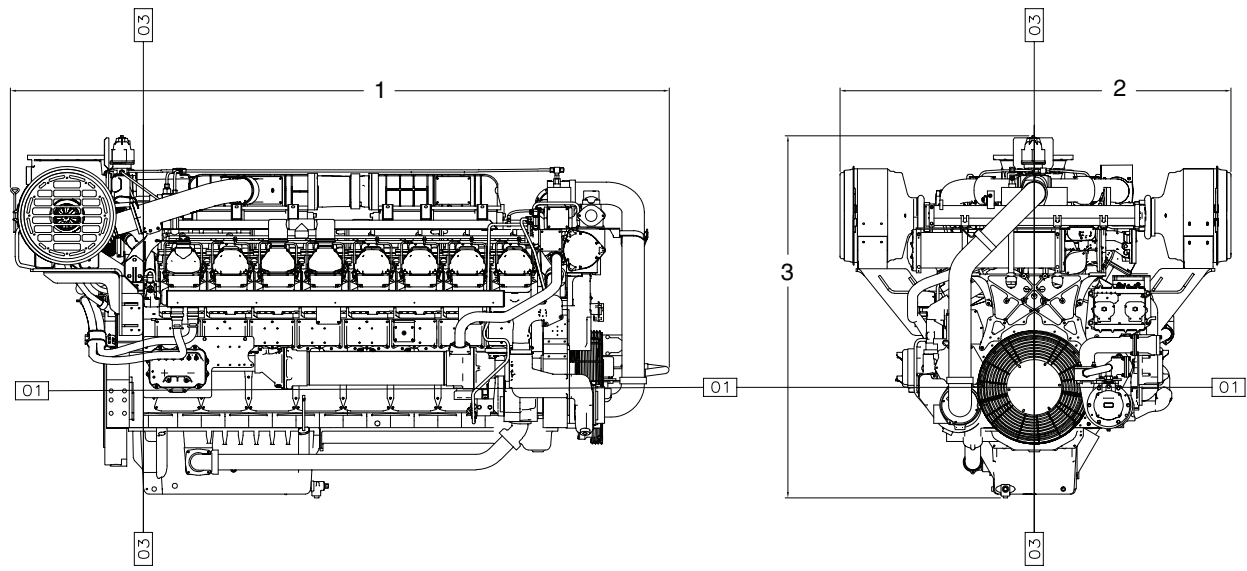


Performance Data

	Speed rpm	Engine Power hp	BSFC lb/hp-hr	Fuel Rate gph	Boost Press in-hg Gauge	Intake Air Flow cfm	Exh Manif Temp °F	Exh Gas Flow cfm
Zone Limit	1600	2447	.329	114.9	60.0	5583	1060	14020
Curve: 1	1300	2250	.322	103.6	51.9	4340	1162	11467
	1100	1021	.350	51.1	13.0	1854	1177	5163
	900	711	.367	37.2	5.7	1257	1180	3482
	700	489	.352	24.6	2.6	851	1087	2274
	600	341	.350	17.0	1.2	717	898	1752
Zone Limit	1600	2575	.327	120.1	60.0	5710	1076	14483
Curve: 2	1300	2575	.317	116.9	51.9	4817	1182	12787
	1100	1101	.349	54.9	13.0	1942	1215	5530
	900	728	.368	38.2	5.7	1268	1202	3560
	700	489	.352	24.6	2.6	851	1087	2274
	600	341	.350	17.0	1.2	717	898	1752
Zone Limit	1600	2682	.327	125.0	64.8	5834	1096	14945
Curve: 3	1300	2682	.317	121.3	64.4	4979	1189	13236
	1100	1246	.347	61.6	18.5	2112	1267	6194
	900	728	.368	38.2	6.0	1268	1202	3560
	700	489	.352	24.6	2.6	851	1087	2274
	600	341	.350	17.0	1.2	717	898	1752
Zone Limit	1600	2816	.327	131.6	67.7	5993	1123	15595
Curve: 4	1300	2775	.316	125.1	67.2	5121	1195	13628
	1100	1332	.345	65.6	20.9	2221	1290	6593
	900	784	.370	41.4	7.0	1307	1269	3821
	700	582	.367	30.5	3.8	883	1281	2606
	600	357	.350	17.8	1.4	720	934	1801
Max Power	1600	2816	.327	131.6	67.7	5993	1123	15595
Curve: M	1300	2775	.316	125.1	67.2	5121	1195	13628
	1100	1332	.345	65.6	20.9	2221	1290	6593
	900	784	.370	41.4	7.0	1307	1269	3821
	700	582	.367	30.5	3.8	883	1281	2606
	600	357	.350	17.8	1.4	720	934	1801
Prop Demand	1600	2816	.327	131.6	67.7	5993	1123	15595
Curve: P	1300	1510	.335	72.4	28.5	3076	1108	8027
	1100	915	.353	46.3	10.7	1741	1119	4683
	900	502	.362	25.9	3.1	1144	910	2666
	700	236	.363	12.3	0.6	816	590	1501
	600	149	.372	7.9	0.2	703	491	1194

Brake Mean Effective Pressure 267 psi
Heat Rejection to Coolant (total) 35885 btu/min
Heat Rejection to Aftercooler 27582 btu/min
Heat Rejection to Exhaust (total) 110384 btu/min
Heat Rejection to Atmosphere from Engine 7848 btu/min

DIMENSIONS



Engine Dimensions		
(1) Length to Flywheel Housing	1184.5 mm	46.63 in.
(2) Width	2159.7 mm	85.03 in.
(3) Height	2129.6 mm	83.84 in.
Weight, Net Dry (approx)	10,447 kg	23,032 lb

Note: Do not use for installation design.
See general dimension drawings
for detail (#310-9297).

RATING DEFINITIONS AND CONDITIONS

D Rating (Intermittent Duty)

Typical applications: For vessels operating at rated load and rated speed up to 16% of the time, or 2 hours out of 12, (up to 50% load factor). Typical applications could include but are not limited to vessels such as offshore patrol boats, customs boats, police boats, some fishing boats, fireboats, or harbor tugs. Typical operation ranges from 1000 to 3000 hours per year.

Power at declared engine speed is in accordance with ISO3046-1:2002E. Caterpillar maintains ISO9001:1994/QS-9000 approved engine test facilities to assure accurate calibration of test equipment. Electronically controlled engines are set at the factory at the advertised power corrected to standard ambient conditions. The published fuel consumption rates are in accordance with ISO3046-1.

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 Cat 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.

Power produced at the flywheel will be within standard tolerances up to 50°C (122°F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 52°C (125°F) measured at the fuel filter base. Power rated in accordance with NMMA procedure as crankshaft power. Reduce crankshaft power by 3% for propeller shaft power.

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