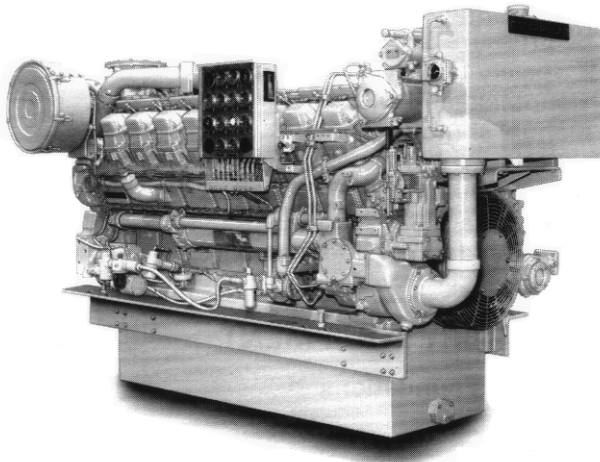




Marine Engine

3516

1195 bkW @ 1200 rpm
1603 bhp @ 1200 rpm



Shown with
Accessory Equipment

SPECIFICATIONS

V-16, 4-Stroke-Cycle-Diesel

Bore—mm (in).....	170 (6.7)
Stroke—mm (in).....	190 (7.5)
Displacement—L (cu in).....	69.0 (4210)
Rotation (from flywheel end).....	ccw or cw
Compression Ratio.....	13.0:1
Capacity for Liquids—L (U.S. gal)	
Cooling System.....	384 (101.4)
Lube Oil System (refill).....	830 (219.3)
Oil Change Interval — hrs.....	1000
Engine Weight, Net Dry	
(approx) — kg (lb).....	8029 (17 700)

STANDARD ENGINE EQUIPMENT

Air Inlet System

corrosion resistant coated aftercooler core, regular duty air cleaner with service indicator, dual turbochargers, 152 mm (6 in) OD straight connection

Control System

RH 3161 governor, air-fuel ratio control, pneumatic speed control, remote and positive locking governor control

Cooling System

auxiliary fresh water pump for keel cooled engines only, centrifugal, non-self-priming auxiliary sea water pump for heat exchanger engines only, expansion tank, gear driven centrifugal jacket water pump, keel cooling connections for keel cooled engines only, oil cooler, thermostats and housing with 92° C (198° F) full open temperature

Exhaust System

air-shielded watercooled exhaust manifolds and dual turbochargers, 203 mm (8 in) ID round flanged outlet

Flywheels & Flywheel Housings

SAE No. 00 flywheel (183 teeth), SAE No. 00 flywheel housing,

Fuel System

RH fuel filter with service indicators, fuel transfer pump

Instrumentation

RH instrument panel with gauges for engine oil pressure, engine water temperature, fuel pressure, oil filter differential pressure, service meter, tachometer

Lube System

top mounted crankcase breather, deep sump oil pan, RH oil filler, RH oil filter with service indicator, RH oil level gauge, gear type oil pump

Mounting System

ledge type engine length rails, 203 mm x 203 mm (8 in x 8 in) angle

Power Takeoffs

accessory drive on standard rotation engines: upper RH, lower LH; on opposite rotation engines: upper and lower RH, upper and lower LH; two-sided front housing

Protection System

oil pressure and water temperature alarm contactors, RH manual shutoff

General

lifting eyes, Caterpillar yellow paint, vibration damper and guard

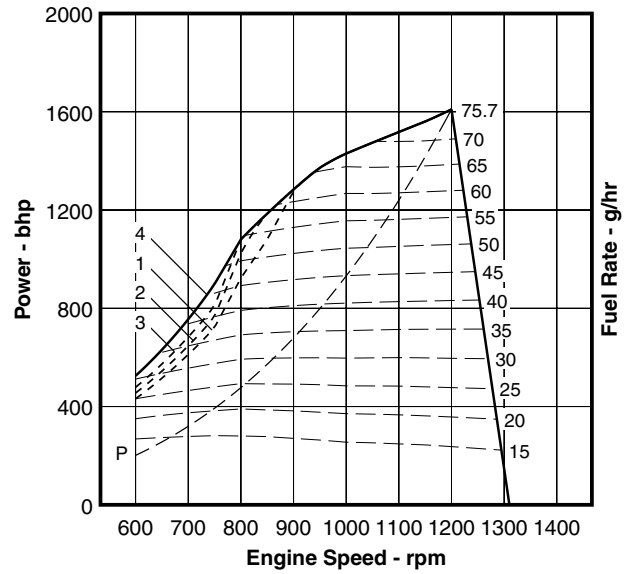
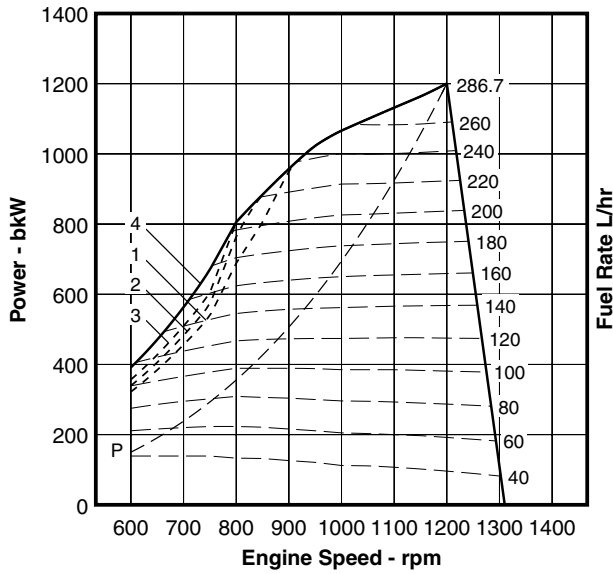
Power produced at the flywheel will be within standard tolerances up to 50° C (122° F) combustion air temperature measured at the air cleaner inlet, and fuel temperature up to 52° C (125° F) measured at the fuel filter base. Power rated in accordance with NMMA procedure as crankshaft power. Reduce crankshaft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



PERFORMANCE CURVES

A Rating — DM2004-05

Aftercooler Temperature 82° C (180° F)



1195 kW

SI Metric

1603 hp

English

Performance Data

Performance Data

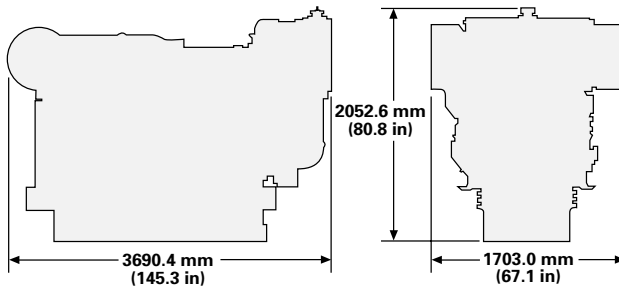
	Engine Speed rpm	Engine Power kW	BSFC g/kW-h	Fuel Rate L/h	Boost Press kPa Gauge	Intake Air Flow m³/min	Exh Manif Temp °C	Exh Gas Flow m³/min
Zone Limit	1200	1200.5	201	288.1	214.9	101.1	486	225.5
Curve: 1	1000	1066.3	202	256.9	185.7	72.2	552	178.1
	800	688.3	216	177.1	98.7	43.1	595	118.3
	600	322.1	244	93.8	32.0	18.7	591	53.4
Zone Limit	1200	1200.5	201	288.1	214.9	101.1	486	225.5
Curve: 2	1000	1066.3	202	257.2	185.7	72.2	552	178.1
	800	763.7	210	190.9	100.0	43.4	597	119.2
	600	339.4	232	93.8	32.0	18.7	591	53.4
Zone Limit	1200	1200.5	201	288.1	214.9	101.1	486	225.5
Curve: 3	1000	1066.3	203	257.3	185.7	72.2	552	178.1
	800	805.5	206	198.2	100.0	43.4	597	119.2
	600	356.8	221	93.8	32.0	18.7	591	53.4
Zone Limit	1200	1200.5	201	288.1	214.9	101.1	486	225.5
Curve: 4	1000	1066.3	203	257.3	185.7	72.2	552	178.1
	800	805.5	207	198.3	100.0	43.4	597	119.2
	600	391.6	201	93.8	32.0	18.7	591	53.4
Prop Demand	1200	1200.5	201	288.1	214.9	101.1	486	225.5
Curve: P	1100	924.7	201	221.8	152.8	73.0	482	167.4
	1000	694.7	206	170.4	98.0	52.5	492	126.0
	900	506.4	212	127.7	60.5	39.5	471	94.3
	800	355.7	218	92.3	36.6	28.8	421	65.6
	700	238.3	228	64.8	19.7	20.6	363	43.4
	600	150.1	238	42.6	8.9	12.9	275	23.9

	Engine Speed rpm	Engine Power hp	BSFC lb/hp-h	Fuel Rate gph	Boost Press in.Hg Gauge	Intake Air Flow cfm	Exh Manif Temp °F	Exh Gas Flow cfm
Zone Limit	1200	1610	.331	76.1	63.6	3568	907	7957
Curve: 1	1000	1430	.332	67.9	55.0	2548	1025	6285
	800	923	.355	46.8	29.2	1521	1103	4175
	600	432	.402	24.8	9.5	660	1095	1884
Zone Limit	1200	1610	.331	76.1	63.6	3568	907	7957
Curve: 2	1000	1430	.333	67.9	55.0	2548	1025	6285
	800	1024	.345	50.4	29.6	1531	1107	4206
	600	455	.381	24.8	9.5	660	1095	1884
Zone Limit	1200	1610	.331	76.1	63.6	3568	907	7957
Curve: 3	1000	1430	.333	68.0	55.0	2548	1025	6285
	800	1080	.339	52.4	29.6	1531	1107	4206
	600	478	.363	24.8	9.5	660	1095	1884
Zone Limit	1200	1610	.331	76.1	63.6	3568	907	7957
Curve: 4	1000	1430	.333	68.0	55.0	2548	1025	6285
	800	1080	.340	52.4	29.6	1531	1107	4206
	600	525	.330	24.8	9.5	660	1095	1884
Prop Demand	1200	1610	.331	76.1	63.6	3568	907	7957
Curve: P	1100	1240	.331	58.6	45.2	2576	900	5907
	1000	932	.338	45.0	29.0	1853	917	4446
	900	679	.348	33.7	17.9	1394	879	3328
	800	477	.358	24.4	10.8	1016	789	2315
	700	320	.375	17.1	5.8	727	685	1531
	600	201	.391	11.3	2.6	455	526	843

Brake Mean Effective Pressure 1740 kPa
 Heat Rejection to Coolant (total) 844 kW
 Heat Rejection to Aftercooler 178 kW
 Heat Rejection to Exhaust (total) 921 kW
 Heat Radiation to Atmosphere From Engine 109 kW

Brake Mean Effective Pressure 252 psi
 Heat Rejection to Coolant (total) 47997 Btu/min
 Heat Rejection to Aftercooler 10123 Btu/min
 Heat Rejection to Exhaust (total) 52376 Btu/min
 Heat Radiation to Atmosphere From Engine 6199 Btu/min

DIMENSIONS



RATING DEFINITIONS AND CONDITIONS

A RATING – For heavy-duty service in vessels such as freighters, tugboats, bottom drag trawlers, and deep river towboats where the engine is operated at rated load and speed up to 100% of the time without interruption or load cycling.

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. Ratings are valid for air cleaner inlet temperatures up to and including 50° C (122° F) and for sea water temperatures up to and including 42° C (108° F) at sea level.

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). Fuel consumption shown with all oil, fuel, and water pumps, engine driven. For a “without pumps” condition, deduct approximately 0.5% for each pump not engine driven.

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.

TMI Reference No.: DM2004-05

Materials and specifications are subject to change without notice.

The International System of Units (SI) is used in this publication.

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