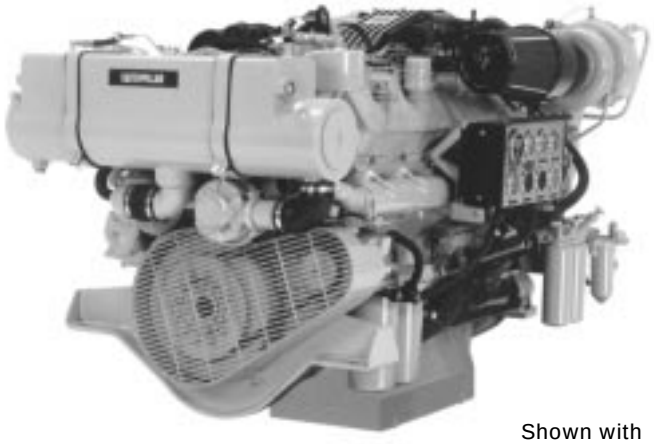
CATERPILLAR®

Marine Engine 3412C

559-858 bkW/750-1150 bhp
2100-2300 rpm

Fast Craft Ratings

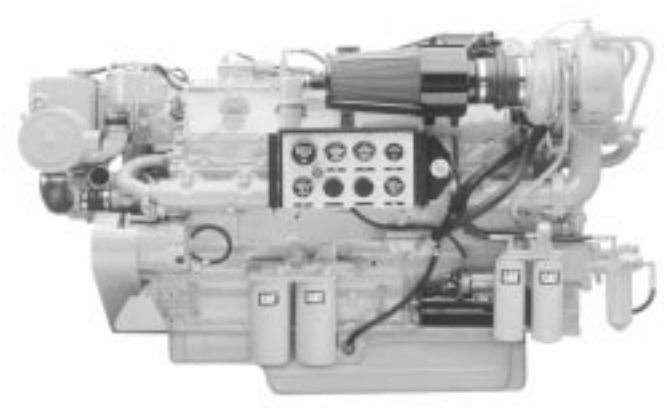


Shown with Accessory Equipment

High Performance Engine

CATERPILLAR® ENGINE SPECIFICATIONS

V-12, 4-Stroke-Cycle Diesel
Bore — mm (in) 137 (5.4)
Stroke — mm (in) 152 (6.0)
Displacement — L (cu in) 27 (1649)
Rotation (from flywheel end) . . Counterclockwise
Compression Ratio 14.1:1
Capacity for Liquids — L (U.S. gal)
  Cooling System (engine only) 83 (22)
  Lube Oil System (refill) 72 (19.0)
  Oil Change Interval
    Standard Sump (fuel) 19 000 (5000)
Engine Weight, Net Dry
  (approx) — kg (lb) 2313 (5100)
Governor . . . . . Electronic
Flywheel and Housing . . . . . SAE 1



High Performance/Side Access Engine

CATERPILLAR® ENGINE SPECIFICATIONS

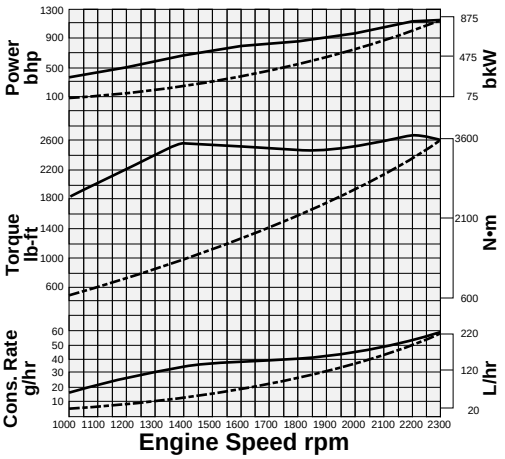
V-12, 4-Stroke-Cycle Diesel
Bore — mm (in) 137 (5.4)
Stroke — mm (in) 152 (6.0)
Displacement — L (cu in) 27 (1649)
Rotation (from flywheel end) . . Counterclockwise
Compression Ratio 14.1:1
Capacity for Liquids — L (U.S. gal)
  Cooling System (engine only) 83 (22)
  Lube Oil System (refill) 136 (36)
  Oil Change Interval
    Deep Sump (fuel) 38 000 (10 000)
Engine Weight, Net Dry
  (approx) — kg (lb) 2313 (5100)
Governor . . . . . Electronic
Flywheel and Housing . . . . . SAE 0

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.

CATERPILLAR ENGINE FACILITIES ISO 9001 CERTIFIED

PERFORMANCE CURVES

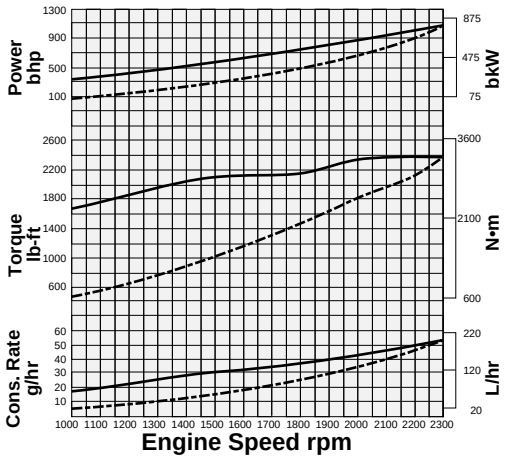
D Rating – 2300 rpm
858 bkW (1150 bhp) 1166 mhp



Prop Demand Curve Data					Max Power Curve Data			
Speed rpm	Power bkW	Torque N•m	Fuel Cons g/kW-hr	Fuel Rate L/hr	Power bkW	Torque N•m	Fuel Cons g/kW-hr	Fuel Rate L/hr
2300	858	3560	218	222.6	858	3560	218	222.6
2200	751	3257	212	189.3	836	3629	213	212.2
2000	564	2692	208	139.8	717	3423	206	176.2
1800	411	2181	212	103.8	632	3353	203	152.7
1600	289	1723	221	76.1	578	3450	209	144.1
1400	193	1319	232	53.5	514	3506	217	132.7
1200	122	969	243	35.2	377	3000	214	96.2
1000	71	673	254	21.4	262	2502	210	65.5
Speed rpm	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
2300	1150	2626	.358	58.8	1150	2626	.358	58.8
2200	1006	2402	.348	50.0	1121	2677	.350	56.1
2000	756	1986	.342	36.9	962	2525	.339	46.5
1800	551	1609	.348	27.4	848	2473	.333	40.3
1600	387	1271	.363	20.1	775	2545	.344	38.1
1400	259	973	.381	14.1	689	2586	.356	35.1
1200	163	715	.399	9.3	506	2213	.352	25.4
1000	95	496	.418	5.7	351	1845	.345	17.3

D RATING – Planing hull vessels such as offshore patrol boats, customs, police, and some fire and fishing boats. Also used for bow and stern thrusters.

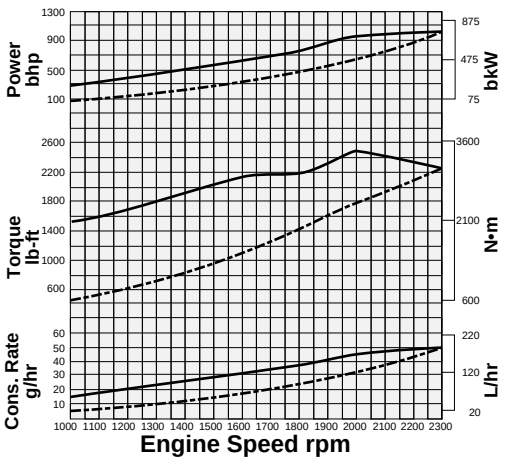
C Rating – 2300 rpm
783 bkW (1050 bhp) 1065 mhp



Prop Demand Curve Data					Max Power Curve Data			
Speed rpm	Power bkW	Torque N•m	Fuel Cons g/kW-hr	Fuel Rate L/hr	Power bkW	Torque N•m	Fuel Cons g/kW-hr	Fuel Rate L/hr
2300	783	3251	216	201.3	783	3251	216	201.3
2200	685	2974	211	172.3	751	3260	211	189.2
2000	515	2458	209	128.4	668	3190	207	164.7
1800	375	1991	214	95.9	552	2929	207	136.0
1600	264	1573	224	70.3	491	2931	211	123.4
1400	177	1204	234	49.3	412	2807	220	107.8
1200	111	885	245	32.5	308	2450	230	84.4
1000	64	615	258	19.8	237	2260	232	65.5
Speed rpm	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
2300	1050	2398	.355	53.2	1050	2398	.355	53.2
2200	919	2194	.347	45.5	1007	2404	.347	50.0
2000	690	1813	.344	33.9	896	2353	.340	43.5
1800	503	1468	.352	25.3	740	2160	.340	35.9
1600	353	1160	.368	18.6	658	2162	.347	32.6
1400	237	888	.385	13.0	552	2070	.361	28.5
1200	149	653	.403	8.6	413	1807	.378	22.3
1000	86	454	.424	5.2	317	1667	.382	17.3

C RATING – Vessels such as ferries, harbor tugs, fishing boats moving at higher speeds out and back (e.g. lobster, crayfish, and tuna), offshore service boats, and also displacement hull yachts and short trip coastal freighters where engine load and speed are cyclical.

C Rating – 2300 rpm
746 bkW (1000 bhp) 1014 mhp



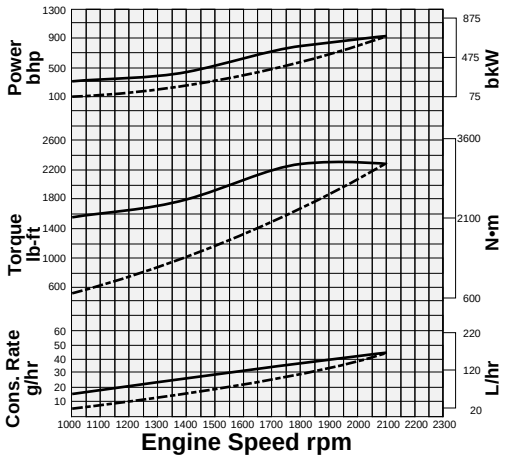
Prop Demand Curve Data					Max Power Curve Data			
Speed rpm	Power bkW	Torque N•m	Fuel Cons g/kW-hr	Fuel Rate L/hr	Power bkW	Torque N•m	Fuel Cons g/kW-hr	Fuel Rate L/hr
2300	746	3097	215	190.7	746	3097	215	190.7
2200	653	2834	211	164.1	730	3169	211	183.5
2000	491	2342	210	122.9	709	3385	207	174.7
1800	358	1897	216	92.0	552	2928	207	135.9
1600	251	1499	225	67.4	491	2930	211	123.4
1400	168	1148	235	47.2	382	2605	220	99.9
1200	106	843	247	31.2	286	2273	229	77.9
1000	61	586	260	19.0	220	2097	237	62.0
Speed rpm	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate G/hr	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate G/hr
2300	1000	2284	.353	50.4	1000	2284	.353	50.4
2200	876	2090	.347	43.4	979	2337	.347	48.5
2000	658	1727	.346	32.5	951	2497	.340	46.2
1800	480	1399	.355	24.3	740	2160	.340	35.9
1600	337	1106	.370	17.8	658	2161	.347	32.6
1400	226	847	.387	12.5	512	1921	.361	26.4
1200	142	622	.406	8.2	383	1676	.376	20.6
1000	82	432	.427	5.0	294	1547	.389	16.4

C RATING – Vessels such as ferries, harbor tugs, fishing boats moving at higher speeds out and back (e.g. lobster, crayfish, and tuna), offshore service boats, and also displacement hull yachts and short trip coastal freighters where engine load and speed are cyclical.

- **Prop Demand ----------- 3.0 Exponent**
- **Engine Performance Parameters: Power +/- 3%; Specific Fuel Consumption +/- 3%; Fuel Rate +/- 5%**

PERFORMANCE CURVES

B Rating – 2100 rpm
690 bkW (925 bhp) 938 mhp

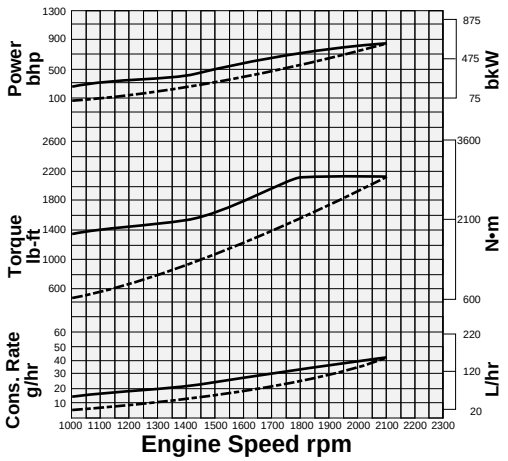


Prop Demand Curve Data					Max Power Curve Data			
Speed rpm	Power bkW	Torque N•m	Fuel Cons g/kW-hr	Fuel Rate L/hr	Power bkW	Torque N•m	Fuel Cons g/kW-hr	Fuel Rate L/hr
2100	690	3138	208	170.7	690	3138	208	170.7
2000	596	2846	207	147.4	657	3138	207	161.9
1800	435	2305	211	109.1	591	3138	206	145.4
1600	305	1821	219	79.8	472	2814	211	118.6
1400	205	1395	231	56.2	360	2454	220	94.2
1200	129	1025	242	37.1	287	2286	229	78.4
1000	75	712	252	22.4	226	2159	238	64.2

Speed rpm	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
2100	925	2314	.341	45.1	925	2314	.341	45.1
2000	799	2099	.341	38.9	881	2314	.340	42.8
1800	583	1700	.346	28.8	793	2314	.339	38.4
1600	409	1343	.361	21.1	632	2075	.347	31.3
1400	274	1029	.379	14.8	482	1810	.361	24.9
1200	173	756	.397	9.8	385	1686	.376	20.7
1000	100	525	.415	5.9	303	1592	.391	17.0

B RATING – Vessels such as midwater trawlers, purse seiners, crew and supply boats, ferries, and towboats where locks, sandbars, and curves dictate frequent slowing, and engine load and speed are constant with some cycling.

B Rating – 2100 rpm
634 bkW (850 bhp) 862 mhp

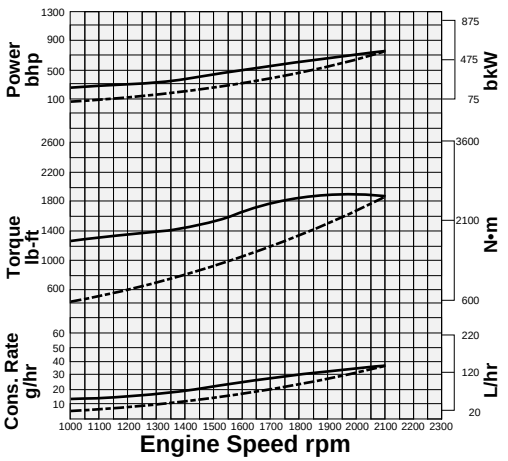


Prop Demand Curve Data					Max Power Curve Data			
Speed rpm	Power bkW	Torque N•m	Fuel Cons g/kW-hr	Fuel Rate L/hr	Power bkW	Torque N•m	Fuel Cons g/kW-hr	Fuel Rate L/hr
2100	634	2883	208	157.0	634	2883	208	157.0
2000	548	2615	208	136.0	604	2883	207	149.1
1800	399	2118	213	101.3	540	2865	208	133.7
1600	280	1674	222	74.2	406	2421	213	102.8
1400	188	1281	233	52.1	309	2110	220	81.3
1200	118	941	243	34.3	247	1966	228	67.3
1000	69	654	255	20.8	195	1857	233	54.1

Speed rpm	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate g/hr
2100	850	2126	.342	41.5	850	2126	.342	41.5
2000	734	1929	.342	35.9	810	2126	.341	39.4
1800	535	1562	.350	26.8	724	2113	.341	35.3
1600	376	1235	.365	19.6	544	1786	.350	27.2
1400	252	945	.382	13.8	415	1556	.362	21.5
1200	159	694	.400	9.1	331	1450	.375	17.8
1000	92	482	.420	5.5	261	1370	.384	14.3

B RATING – Vessels such as midwater trawlers, purse seiners, crew and supply boats, ferries, and towboats where locks, sandbars, and curves dictate frequent slowing, and engine load and speed are constant with some cycling.

B Rating – 2100 rpm
559 bkW (750 bhp) 761 mhp



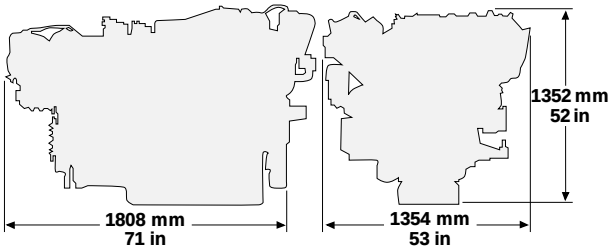
Prop Demand Curve Data					Max Power Curve Data			
Speed rpm	Power bkW	Torque N•m	Fuel Cons g/kW-hr	Fuel Rate L/hr	Power bkW	Torque N•m	Fuel Cons g/kW-hr	Fuel Rate L/hr
2100	559	2542	209	139.0	559	2542	209	139.3
2000	483	2306	211	121.2	532	2542	209	132.5
1800	352	1868	216	90.8	479	2542	209	119.5
1600	247	1476	226	66.5	375	2240	214	95.7
1400	166	1130	236	46.6	286	1953	222	75.8
1200	104	830	248	30.8	229	1819	230	62.7
1000	60	576	261	18.8	180	1718	234	50.1

Speed rpm	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate G/hr	Power bhp	Torque lb-ft	Fuel Cons lb/bhp-hr	Fuel Rate G/hr
2100	750	1875	.344	36.8	750	1875	.344	36.8
2000	648	1701	.346	32.0	714	1875	.343	35.0
1800	472	1378	.356	24.0	642	1875	.344	31.6
1600	332	1089	.371	17.6	503	1652	.352	25.3
1400	222	833	.388	12.3	384	1440	.365	20.0
1200	140	612	.407	8.1	307	1342	.378	16.6
1000	81	425	.428	5.0	241	1267	.384	13.2

B RATING – Vessels such as midwater trawlers, purse seiners, crew and supply boats, ferries, and towboats where locks, sandbars, and curves dictate frequent slowing, and engine load and speed are constant with some cycling.

- **Prop Demand ––––––– 3.0 Exponent**
- **Engine Performance Parameters: Power +/- 3%; Specific Fuel Consumption +/- 3%; Fuel Rate +/- 5%**

DIMENSIONS



RATING DEFINITIONS AND CONDITIONS

Ratings are based on SAE J1228/ISO8665 standard conditions of 100 kPa (29.61 in Hg) and 25° C (77° F). These ratings also apply at ISO3046/1, DIN6271, 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/liter (7.001 lbs/U.S. gal).

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