

C280-16

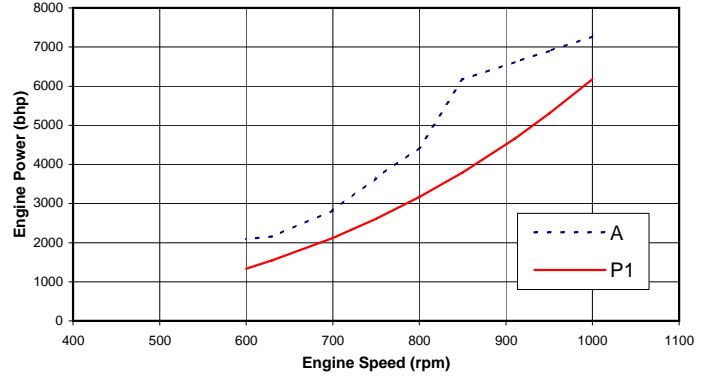
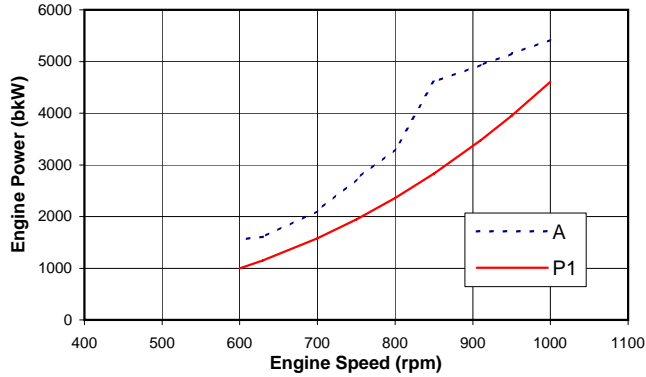
DIESEL ENGINE TECHNICAL DATA



RATED SPEED (RPM): 1000
 RATED POWER¹ (bkW): 5420
 BMEP @ 100% LOAD (kPa): 2201
 COMPRESSION RATIO: 13:1
 AFTERCOOLER WATER (°C): 32
 JACKET WATER INLET (°C): 90
 IGNITION SYSTEM: EUI
 FIRING PRESSURE, MAXIMUM (kPa): 17300

ENGINE RATING: **Marine MCR**
 CERTIFICATION⁵: IMO/EPA MARINE TIER II
 TURBOCHARGER PART #: 284-8276
 COMBUSTION: DI
 FUEL TYPE: Distillate
 EXHAUST MANIFOLD: DRY
 MEAN PISTON SPEED (m/s): 10

Engine Performance



ZONE LIMIT DATA

Engine Speed rpm	Power bkW	Fuel Cons ³ g/kW-hr	Fuel Rate L/hr	Boost Press kPa Gauge	Air Flow ⁴ cu m/Min	Exh Temp to Turbo C	Exh Stack Temp C	Exh Flow cu m/min
1000	5420	203	1312.7	271	546.9	543	373	1169.8
950	5149	203	1245.8	273	528.6	537	361	1110.1
910	4932	203	1193.8	263	499.8	543	370	1064.0
850	4607	204	1118.7	233	439.9	573	410	996.5
800	3302	210	827.1	135	306.2	585	460	745.7
750	2721	213	692.3	92	230.2	619	505	597.4
700	2105	219	550.7	55	168.5	638	536	456.1
630	1612	226	434.3	31	123.8	645	545	339.7
600	1559	228	423.5	28	114.6	668	561	321.2
500	1159	236	326.2	14	80.0	661	545	220.9

ZONE LIMIT DATA

Engine Speed rpm	Power bhp	Fuel Cons ³ lb/hp-hr	Fuel Rate gal/hr	Boost Press in Hg-Gauge	Air Flow ⁴ cfm	Exh Temp to Turbo F	Exh Stack Temp F	Exh Flow cfm
1000	7268	0.335	346.6	80	19312	1009	703	41310
950	6905	0.334	328.9	81	18666	999	682	39202
910	6614	0.334	315.2	78	17651	1009	697	37574
850	6178	0.335	295.4	69	15535	1063	770	35193
800	4428	0.346	218.4	40	10814	1085	859	26333
750	3649	0.351	182.8	27	8130	1146	941	21096
700	2823	0.361	145.4	16	5950	1181	997	16107
630	2162	0.372	114.7	9	4373	1194	1013	11997
600	2090	0.375	111.8	8	4047	1234	1041	11344
500	1554	0.389	86.1	4	2825	1222	1013	7803

PROPELLER DEMAND DATA

Optimum Load	Engine Speed rpm	Power bkW	Fuel Cons ³ g/kW-hr	Fuel Rate L/hr	Boost Press kPa Gauge	Air Flow ⁴ cu m/Min	Exh Temp to Turbo C	Exh Stack Temp C	Exh Flow cu m/min
(Curve P1)	1000	4608	208	1142.5	244	510.5	523	367	1080.8
	950	3951	210	989.0	207	462.1	526	375	988.5
	910	3472	208	861.0	165	387.4	531	398	859.8
	850	2830	211	711.8	107	283.9	551	442	673.5
	800	2359	214	601.8	73	219.2	571	475	545.6
	750	1944	218	505.2	49	172.5	584	496	442.1
	700	1581	222	418.3	32	138.6	579	495	355.1
	630	1152	227	311.8	17	103.6	532	453	251.1
	600	995	229	271.7	12	91.8	502	426	213.9
	500	576	235	161.4	3	63.9	383	320	125.7

PROPELLER DEMAND DATA

Optimum Load	Engine Speed rpm	Power bhp	Fuel Cons ³ lb/hp-hr	Fuel Rate gal/hr	Boost Press in Hg-Gauge	Air Flow ⁴ cfm	Exh Temp to Turbo F	Exh Stack Temp F	Exh Flow cfm
(Curve P1)	1000	6179	0.342	301.7	72	18030	974	693	38167
	950	5298	0.346	261.1	61	16318	978	707	34910
	910	4657	0.342	227.3	49	13681	988	749	30364
	850	3795	0.347	187.9	32	10027	1023	828	23786
	800	3164	0.352	158.9	22	7742	1059	887	19267
	750	2607	0.359	133.4	15	6091	1083	925	15612
	700	2120	0.366	110.4	10	4894	1074	923	12540
	630	1545	0.374	82.3	5	3660	990	848	8869
	600	1335	0.377	71.7	4	3242	936	798	7553
	500	772	0.387	42.6	1	2257	721	608	4440

Heat Rejection @ 100% Load and 25° C Air

Lube Oil Cooler	kW	(Btu/min)	567	(32289)
Jacket Water	kW	(Btu/min)	1074	(61104)
AfterCooler	kW	(Btu/min)	1561	(88832)
Total Heat Rejection to Raw Water	kW	(Btu/min)	3203	(182225)
Exhaust Gas ²	kW	(Btu/min)	4122	(234542)
Radiation	kW	(Btu/min)	262	(14908)

Notes

- 1 Ratings are based on ISO 3046/1 and SAEJ1995 Jan 90 standard reference conditions of 100 kPa, 25° C, and 30% relative humidity at the stated aftercooler water temperature.
- 2 Exhaust Heat rejection is based on fuel LHV and is not normally recoverable in total
- 3 At 100% load with pumps +/- 3%. Performance and fuel consumption are based on 35 API, 16°C fuel having a lower heating value of 42,780 kJ/kg used at 29°C with a density of 838.9 g/liter.
- 4 Air flows are shown for 25°C air inlet to the turbocharger and 32°C cooling water to the charge air cooler.
- 5 This engine's exhaust emissions are in compliance with the INTERNATIONAL MARINE ORGANIZATION'S (IMO) standard as described in REGULATION 13 of ANNEX VI of MARPOL 73/78 and ISO 8178 for measuring HC, CO, PM, and NOx.