

# Technical Data D7C TA

Version D7C-B TA

Rating 2, rated speed 1900 rpm

## General

In-line four stroke diesel engine with direct injection.

Number of cylinders		6
No of valves		2
Displacement, total	litres in <sup>3</sup>	7,15 436,0
Firing order		1-5-3-6-2-4
Rotational direction, viewed towards flywheel		Anti-clockwise
Bore	mm in	108 4,25
Stroke	mm in	130 5,12
Compression ratio		19
Compression pressure at 240 rpm	MPa	3 - 3,8
Maximum forward inclination under duty:	°	10
Max. intermittent backward tilt while running:	°	
Max. intermittent side tilt while running:	°	
Idling speed	rpm	750 ± 25
Rated speed	rpm	1900
Propeller selection range	rpm	1875-1925

	Rating	r/min	1000	1200	1500	1800	1900						
Crankshaft power 1), 5)	2	kW	61	100	142	163	169						
		hp	83	136	193	222	230						
Propellershaft power 1) (At full load)	2	kW	59	97	138	158	164						
		hp	80	132	187	215	223						
Propellershaft power at prop.load x <sup>2,5</sup>	2	kW	33	52	91	143	164						
		hp	45	71	123	195	223						
Propellershaft power at prop.load x <sup>3</sup>	2	kW	24	41	81	139	164						
		hp	33	56	110	189	223						
Torque at crankshaft 2)	2	Nm	582,5	795,8	904	864,7	849,4						
		lbf ft	430	587	667	638	626						
Mean piston speed	2	m/s	4,3	5,2	6,5	7,8	8,2						
		ft/s	14,2	17,1	21,3	25,6	27,0						
Effective mean pressure 2)	2	MPa	1,02	1,40	1,59	1,52	1,49						
		psi	148,6	203,0	230,6	220,6	216,7						
Max combustion pressure 2)	2	MPa			12,8	14,2	14,8						
		psi			1856	2060	2147						

## Lubricating system

Specific lubricating oil consumption.		g/kWh	Approx 0,3 % of fuel consumption
Max oil volume excl. filters at following inclination:	0 °	litres	16
Min oil volume excl. filters at following inclination:	0 °	litres	13
Max oil volume excl. filters at following inclination:	°	litres	
Min oil volume excl. filters at following inclination:	°	litres	
Max oil volume excl. filters at following inclination:	°	litres	
Min oil volume excl. filters at following inclination:	°	litres	

	Rating	r/min	1000	1200	1500	1800	1900						
Specific fuel consumption 2)	2	g/kWh	218	222	211	211	213,5						
		lb/hph	0,353	0,36	0,342	0,342	0,346						
Fuel consumption at prop. load x <sup>2,5</sup>	2	l/h	9	14	23	36	42						
		US gal/h	2,3	3,6	6,0	9,5	11,0						
Fuel consumption at prop. load x <sup>3</sup>	2	l/h	6	11	20	35	42						
		US gal/h	1,6	2,9	5,4	9,2	11,0						
Fuel consumption at full load	2	l/h	16	26	36	41	43						
		US gal/h	4,2	7,0	9,4	10,8	11,3						

1) ISO 3046, fuel temp 40°C.

ISO 8665 (=SAE J 1228=ICOMIA 28-83)

2) At power according to 1).

3) If reverse gear is used, 4% in heat rejection will be added for its oil cooler.

4) Acc. to ISO 3744

5) At installed back pressure

# Technical Data D7C TA

Version D7C-B TA

Rating 2, rated speed 1900 rpm

Intake and exhaust system	Rating	r/min	1000	1200	1500	1800	1900						
Specific exhaust heating effect in percent of crankshaft power	2	%			65	65	65						
Exhaust temperature (at the exhaust pipe connecting flange after the turbo charger?)	2	°C			415	350	350						
		°F			779	662	662						
Permitted back pressure in the exhaust line at rated speed. (Installed back pressure)		kPa								Max	7,5		
		psi									1,1		
		kPa								Min	0		
		psi									0		
Engine air consumption at 25°C / 77°F atmospheric pressure 100kPA and relative humidity 30%	2	m³/min			10,0	14,0	15,3						
		cu.ft./min			353,1	494,4	540,3						
Turbo charge pressure.	2	kPa			120	161	173						
		psi			17,4	23,4	25,1						
Exhaust gas flow (behind turbine)	2	m³/min			24	30	33						
		cu.ft./min			858,1	1074	1169						

Cooling system	Rating	r/min	1000	1200	1500	1800	1900						
Radiated heat in percent of crankshaft power.	2	%			5,2	5,3	5,3						
Heat rejection to after cooler in percent of crankshaft power.	2	%			12	19	21						
Cooling water heating effect incl. oil cooler in percent of crankshaft power 3).	2	%			75	71	71						
Total pumphead freshwater circulation pump.		kPa			59	85	95						
Highest permissible pressure drop in outer circuit at keel cooling.		kPa			21	31	35						
Sea water pump flow.		m³/h			5,0	6,8	7,3						
		foot³/h			177	240	258						
Cooling water circulation pump flow		m³/h			9,4	11,3	11,9						
		foot³/h			332	399	420						
Max permissible temperature on fresh water circulation outlet from the engine		°C								105			
		°F								221			
Coolant volume in engine with raw water.		litres								26			
		U.S. gal.								6,87			
Thermostat, start open at		°C								83			
		°F								181			
Thermostat, fully open at		°C								98			
		°F								208			

Emissions	Rating	r/min	1000	1200	1500	1800	1900						
Smoke at prop. load x <sup>2,5</sup>	2	BSU			0,4	0,3	0,3						
Smoke at prop. load x <sup>3</sup>	2	BSU			0,5	0,3	0,3						
Noise at full load	2	dBA			91	93	94						

1) ISO 3046, fuel temp 40°C.

ISO 8665 (=SAE J 1228=ICOMIA 28-83)

2) At power according to 1).

3) If reverse gear is used, 4% in heat rejection will be added for its oil cooler.

4) Acc. to ISO 3744

5) At installed back pressure