

Technical data:



Rolls-Royce

Application: Marine Auxiliary

<b>Engine data:</b>			<b>Cooling water data:</b>		
Number of cylinders	-	12	Two-stage charge air cooler:		
Cylinder bore	mm	320	-Low temp. stage:		
Piston stroke	mm	400	-temp. at inlet, max	°C	37
Rated power (MCR), engine	kW	5760	-water flowrate, normal	m³/h	90
Rated active power, generator	kW	5585	-water flowrate, max	m³/h	108
Generator efficiency	-	0,97	-High temp. stage:		
Rated output, electric with COS(phi) = 0,8	kVA	6980	-water flowrate, normal	m³/h	108
Mean effective pressure	bar	24,9	Jacket water system:		
Rated speed	RPM	720	-pump capacity	m³/h	108
Mean piston speed	m/s	10	-normal stop/shut-down	bar	1.0
Displacement	l	386	-water quantity, engine block	l	750
<b>Fuel oil data:</b>			-Temp. at engine outlet		
Specific fuel consumption	g/kWh	183	-normal	°C	90
Fuel consumption at MCR	l/h	1275	-alarm, temp. high	°C	95
Fuel feed pump capacity	l/h	5900	-shut-down, temp. high	°C	98
Daytank, 24hrs operation	m	31	-temp. rise in engine, max	°C	7,1
<b>Nozzle oil data:</b>			-incl. high temp. ca-cooler	C	18,4
Nozzle oil	-	SAE 40	-Expansion tank:		
Pressure normal (+- 0,2)	bar	2.0	-volum, single-engined	l	300
Alarm, pressure low	bar	1.0	-volum, multi-engined	l	500
Temp, normal (+- 5)	C	90	-height above engine	m	3-10
<b>Start air data:</b>			<b>Air data:</b>		
Start air pressure, max./min.	bar	30/20	Turbochargertype	ABB	TPS-61F33
Air consumption per. start	m³	1,5	Charge air cooler type	-	RR12V3240B
No of starts, 500l receiver	-	7	Air consumption	m³/h	30100
No of starts, 250l receiver	-	3	Air consumption	kg/h	39000
<b>Lubrication data:</b>			Charge air pressure	bar	3,2
Lubrication oil	-	SAE 40	Charge air temperature:		
Main pump capacity	m³/h	76	-normal	°C	55-60
Priming pump capacity	m³/h	13	-alarm, temp high	C	65
Lub. oil pressure			Turbochargers speed alarm		
-normal	bar	4-5	rpm		
-alarm, pressure low	bar	2,5	<b>Exhaust data:</b>		
-shut-down, pressure low	bar	1,7	Mass flow	kg/h	40000
Lub. oil temp engine inlet			Volume flow, afterturbine	m³/h	68600
-normal	°C	60	Temp, aftercylinder	°C	375
-alarm, temp high	C	70	Temp, afterturbine	C	325
Spec. lub. oil consumption	g/kWh	0,8	Back pressure, max	mmWG	300
Lub. oil consumption	kg/h	4,6	Part load data:		
Crankcase, lub. oil volume			-Mass flow, 90% load	kg/h	37600
-high level	l	3400	-Temp, afterturbine	C	315
-low level	l	3000	-Mass flow, 80% load	kg/h	34400
<b>Jacket water waste heat recovery:</b>			-Temp, afterturbine	C	315
Waste heat, 100% load	MJ/h	8325	-Mass flow 50% load	kg/h	22300
Waste heat, 80% load	MJ/h	5840	-Temp, afterturbine	C	340
Waste heat, 50% load	MJ/h	2995	<b>Heat dissipation:</b>		
<b>Lubrication data:</b>			Lubrication data:		
Lub. oil cooler			Lub. oil cooler		
Cooling water data:			Cooling water data:		
Low temp. stage			Low temp. stage		
High temp. stage			High temp. stage		
Jacket water cooler:			Jacket water cooler:		
-Heat dissipation, engine			-Heat dissipation, engine		
-incl. high temp. ca-cooler			-incl. high temp. ca-cooler		
Ventilation data:			Ventilation data:		
Radiation engine			Radiation engine		
Radiation generator (IP23)			Radiation generator (IP23)		

Engine power definition is according to ISO 3046-1  
 However the engine ratings are valid for the following reference conditions:  
 Air inlet temperature max. 45 °C  
 Air inlet temperature min. 0 °C  
 Charge air low temp. fresh water inlet temp. max. +37°C  
 Relative humidity 60%

Specific fuel oil consumption is measured on testbed according to ISO 3046-1, using diesel oil with a net heating value of 42.7 MJ/kg and no engine-driven pumps.  
 With engine-driven pumps, add 1g/kWh for each pump.  
 Spec. lub. oil consumption is for guidance only.

NOTE! Due to continuous development, some data may change.

NOx according to Tier 2 of Annex VI of MARPOL 73/78



Application: Marine Auxiliary

<b>Engine data:</b>			<b>Cooling water data:</b>		
Number of cylinders	-	9	Two-stage charge air cooler:		
Cylinder bore	mm	320	-Low temp. stage:		
Piston stroke	mm	400	-temp. at inlet, max	°C	37
Rated power (MCR), engine	kW	4320	-water flow rate, normal	m <sup>3</sup> /h	50
Rated active power, generator	kW	4190	-water flow rate, max	m <sup>3</sup> /h	58
Generator efficiency	-	0,97	-High temp. stage:		
Rated output, electric with COS(phi) = 0,8	kVA	5235	-water flow rate, normal	m <sup>3</sup> /h	36
Mean effective pressure	bar	24,9	Jacket water system:		
Rated speed	RPM	720	-pump capacity	m <sup>3</sup> /h	81
Mean piston speed	m/s	10	-normal stop/shut-down	bar	1.0
Displacement	l	289	-water quantity, engine block	l	370
<b>Fuel oil data:</b>			-Temp. at engine outlet		
Specific fuel consumption	g/kWh	183	-normal	°C	90
Fuel consumption at MCR	l/h	955	-alarm, temp. high	°C	95
Fuel feed pump capacity	l/h	4030	-shut-down, temp. high	°C	98
Day tank, 24hrs operation	m <sup>3</sup>	23	-temp. rise in engine, max	°C	7,1
<b>Nozzle oil data:</b>			-incl. high temp. ca-cooler		
Nozzle oil	-	SAE 40	-Expansion tank:	°C	13,8
Pressure normal (+- 0,2)	bar	2.0	-volum, single-engined	l	300
Alarm, pressure low	bar	1.0	-volum, multi-engined	l	500
Temp, normal (+- 5)	°C	90	-height above engine	m	3-10
<b>Start air data:</b>			<b>Air data:</b>		
Start air pressure, max./min.	bar	30/20	Turbocharger type	ABB	TPL-67C33
Air consumption per. start	m <sup>3</sup>	2	Charge air cooler type	-	RR9L3240B
No of starts, 500l receiver	-	4	Air consumption	m <sup>3</sup> /h	22600
No of starts, 250l receiver	-	2	Air consumption	kg <sup>3</sup> /h	29300
<b>Lubrication data:</b>			Charge air pressure		
Lubrication oil	-	SAE 40	Charge air temperature:	bar	3,2
Main pump capacity	m <sup>3</sup> /h	65	-normal	°C	55-60
Priming pump capacity	m <sup>3</sup> /h	13	-alarm, temp high	°C	65
Lub. oil pressure	-	-	Turbocharger speed alarm		
-normal	bar	4-5		rpm	29216
-alarm, pressure low	bar	2,5	<b>Exhaust data:</b>		
-shut-down, pressure low	bar	1,7	Mass flow	kg/h	30100
Lub. oil temp engine inlet	-	-	Volume flow, after turbin	m <sup>3</sup> /h	51600
-normal	°C	60	Temp, after cylinder	°C	375
-alarm, temp high	°C	70	Temp, after turbine	°C	325
Spec. lub. oil consumption	g/kWh	0,8	Back pressure, max	mmWG	300
Lub. oil consumption	kg/h	3,5	Part load data:		
Crankcase, lub. oil volume	-	-	-Mass flow, 90% load	kg/h	27800
-high level	l	4500	-Temp, after turbine	°C	320
-low level	l	3850	-Mass flow, 80% load	kg/h	25200
<b>Jacket water waste heat recover y:</b>			-Temp, after turbine	°C	320
Waste heat, 100% load	MJ/h	4685	-Mass flow 50% load	kg/h	16100
Waste heat, 80% load	MJ/h	3395	-Temp, after turbine	°C	355
Waste heat, 50% load	MJ/h	1800	<b>Heat dissipation:</b>		
			Lubrication data:		
			Lub. oil cooler		
			Cooling water data:		
			Low temp. stage		
			High temp. stage		
			Jacket water cooler:		
			-Heat dissipation, engine		
			-incl. high temp. ca-cooler		
			Ventilation data:		
			Radiation engine		
			Radiation generator (IP23)		

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