

Technical Engine Data

12V2000G83

Water charge air cooling (external);

60 Hz - 1.800/min

exhaust optimized (EPA I)



Operating method	Four stroke Diesel	Flywheel housing flange	SAE 0
Combustion system	Direct Injection	Flywheel interface	18"
Charging method	Exhaust turbo charger and Water charge air cooling (external);	Starter ring-gear teeth no.	160
Bore / Stroke	130 / 150 mm	Injection system	Electronically controlled high-pressure injection with singel injection pumps
Displacement, total	23.88 Liter		
Number of cylinders	12	Control / Monitoring	Electronic engine management system "MDEC"
Cylinder configuration	V - 90°	Number of turbo chargers	2
Compression ratio	14 : 1	Number of intercooler	1
Direction of rotation	left		

(viewed from flywheel side)

MTU-Application group				3D (ICFN)	3C (ICXN)	3B (ICXN)	3A (ICXN)
Power (ISO 3046)		kW	A	835	#NV	761	625
Mean piston speed		m/s	A	9.0	#NV	9.0	9.0
Mean effective pressure		bar	A	23.3	#NV	21.2	17.4
Engine weight (Engine in basic execution)	dry	kg	R	2570	#NV	2570	2570
	wet	kg	R	2760	#NV	2760	2760
Dimensions (Engine only)	length	mm	R	1755	#NV	1755	1755
	height	mm	R	1580	#NV	1580	1580
	width	mm	R	1775	#NV	1775	1775
Consumption							
Specific fuel consumption (be) (Tolerance +5% according to ISO 3046/1)	100% CP	g/kWh	G	197	#NV	201	212
	75% CP	g/kWh	R	210	#NV	211	217
	50% CP	g/kWh	R	216	#NV	217	223
Lube oil consumption (after run-in)			R	0.5	#NV	0.5	0.5
Capacity							
Engine oil capacity, initial filling (standard oil system)	total	Liter	R	77	#NV	77	77
	Oil pan capacity, dipstick mark min.	Liter	L	50	#NV	50	50
	Oil pan capacity, dipstick mark max.	Liter	L	67	#NV	67	67
Engine coolant capacity (without cooling equipment)		Liter	R	110	#NV	110	110
Intercooler coolant capacity		Liter	R	20	#NV	20	20
Heat dissipation							
Engine coolant dissipation	100% load	kW	R	365	#NV	325	275
Charge-air heat dissipation	100% load	kW	R	225	#NV	195	150
Radiation and convection heat, engine		kW	R	45	#NV	40	40
Starter system							
Electrical Starter (make Delco)							
Starter, rated voltage		V	R	24	#NV	24	24
Starter, rated power		kW	R	-	#NV	-	-
Starter, power requirement max.		A	R	1750	#NV	1750	1750
Starter, power requirement at firing speed		A	R	800	#NV	800	800
Recommended battery capacity	Lead-acid	Ah/20h	R	-	#NV	-	-
	NiCd	Ah/5h	R	-	#NV	-	-
Firing speed		1/min	R	100 - 120	#NV	100 - 120	100 - 120
Coolant pre-heating							
Preheating temperature (min.)		°C	R	32	#NV	32	32
Heater performance		kW	R	3	#NV	3	3

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Coolant system, Engine coolant circuit						
Coolant temperature (at engine outlet to cooling equipment)	°C	A	95	#NV	95	95
Coolant temperature after engine, alarm	°C	R	97	#NV	97	97
Coolant temperature after engine, shutdown	°C	L	102	#NV	102	102
Coolant antifreeze content, max. permissible	%	L	50	#NV	50	50
Cooling equipment: coolant flow rate	m ³ /h	A	58	#NV	58	58
Coolant pump: inlet pressure, min.	bar	L	0.4	#NV	0.4	0.4
Coolant pump: inlet pressure, max.	bar	L	1.52	#NV	1.52	1.52
Pressure loss in off-engine cooling system, max. permissible	bar	L	0.7	#NV	0.7	0.7
Cooling equipment: height above engine max. permissible	m	L	15.2	#NV	15.2	15.2
Cooling equipment: design pressure	bar	A	2.2	#NV	2.2	2.2
Coolant system, Charge-air coolant circuit						
Coolant temperature before intercooler (engine inlet)	°C	A	55	#NV	55	55
Coolant antifreeze content, max. permissible	%	L	50	#NV	50	50
Cooling equipment: coolant flow rate	m ³ /h	A	17	#NV	17	17
Pressure loss in off-engine cooling system max. permissible	bar	L	0.7	#NV	0.7	0.7
Cooling equipment: height above engine max. permissible	m	L	15.2	#NV	15.2	15.2
Cooling equipment: design pressure max. permissible	bar	A	2.2	#NV	2.2	2.2
Combustion air						
Combustion air volume flow	m ³ /s	R	1.0	#NV	1.0	0.8
Intake air depression	new filter	A	30	#NV	30	30
	limit value	L	50	#NV	50	50
Fuel system						
Fuel supply flow, max.	l/min	R	7.5	#NV	7.5	7.5
Fuel temperature, max.	°C	L	55	#NV	55	55
Fuel pressure at supply connection on engine, max. admissible	bar	L	+0.5	#NV	+0.5	+0.5
Fuel pressure at supply connection on engine, min. admissible	bar	L	-0.3	#NV	-0.3	-0.3
Exhaust system						
Exhaust volume flow	m ³ /s	R	2.8	#NV	2.6	2.1
Exhaust temperature after turbocharger	°C	R	600	#NV	580	570
Exhaust backpressure limit value	mbar	L	100	#NV	100	100
General operating data						
Recommended minimum continuous load	%	R	20	#NV	20	20
Engine mass moment of inertia, with standard flywheel	kgm ²	R	3.920	#NV	3.920	3.885
Noise emission						
(Free-field sound pressure level, 1m distance)						
Engine surface noise	dB(A)	R	101	#NV	101	100
Exhaust noise, unsilenced	dB(A)	R	116	#NV	116	113

A = Design value; G = Guaranteed value; R = Guideline value

L = Limit value, up to which the engine can be operated w/o change

#NV - Data not available

Reference conditions

	Standard	Power available up to
Intake air temperature	25°C	40°C
Site altitude above sea level	100 m	400 m
Charge-air coolant temperature	55°C	55°C

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Subject to modifications in the interest of technical progress.