

**Technical Engine Data**  
**12V2000G83**  
**Air charge air cooling;**  
**60 Hz - 1.800/min**  
**exhaust optimized (EPA I)**



<b>Operating method</b>	Four stroke Diesel	<b>Flywheel housing flange</b>	SAE 0
<b>Combustion system</b>	Direct Injection	<b>Flywheel interface</b>	18"
<b>Charging method</b>	Exhaust turbo charger and Air charge air cooling;	<b>Starter ring-gear teeth no.</b>	160
<b>Bore / Stroke</b>	130 / 150 mm	<b>Injection system</b>	Electronically controlled high-pressure injection with singel injection pumps
<b>Displacement, total</b>	23.88 Liter	<b>Control / Monitoring</b>	Electronic engine management system "MDEC"
<b>Number of cylinders</b>	12	<b>Number of turbo chargers</b>	2
<b>Cylinder configuration</b>	V - 90°	<b>Number of intercooler</b>	1
<b>Compression ratio</b>	14 : 1		
<b>Direction of rotation</b>	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	2490	#NV	2490	2570
	wet	kg	R	2660	#NV	2660	2660
Dimensions (Engine only)	length	mm	R	1755	#NV	1755	1755
	height	mm	R	1580	#NV	1580	1580
	width	mm	R	1775	#NV	1775	1775
<b>Consumption</b>							
Specific fuel consumption (be) (Tolerance +5% according to ISO 3046/1)	100% CP	g/kWh	G	198	#NV	202	212
	75% CP	g/kWh	R	209	#NV	211	217
	50% CP	g/kWh	R	216	#NV	217	224
Lube oil consumption (after run-in)			R	0.5	#NV	0.5	0.5
<b>Capacity</b>							
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	90	#NV	90	90
Intercooler coolant capacity		Liter	R	-	#NV	-	-
<b>Heat dissipation</b>							
Engine coolant dissipation	100% load	kW	R	380	#NV	340	285
Charge-air heat dissipation	100% load	kW	R	190	#NV	170	130
Radiation and convection heat, engine		kW	R	45	#NV	40	40
<b>Starter system</b>							
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
<b>Coolant pre-heating</b>							
Preheating temperature (min.)		°C	R	32	#NV	32	32
Heater performance		kW	R	3	#NV	3	3

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<b>Coolant system, Engine coolant circuit</b>						
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 <sup>3</sup> /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
<b>Coolant system, Charge-air coolant circuit</b>						
Coolant temperature before intercooler (engine inlet)	°C	A	0	#NV	0	0
Coolant antifreeze content, max. permissible	%	L	0	#NV	0	0
Cooling equipment: coolant flow rate	m <sup>3</sup> /h	A	0	#NV	0	0
Pressure loss in off-engine cooling system max. permissible	bar	L	-	#NV	-	-
Cooling equipment: height above engine max. permissible	m	L	0	#NV	0	0
Cooling equipment: design pressure max. permissible	bar	A	0	#NV	0	0
<b>Combustion air</b>						
Combustion air volume flow	m <sup>3</sup> /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
<b>Fuel system</b>						
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
<b>Exhaust system</b>						
Exhaust volume flow	m <sup>3</sup> /s	R	2.8	#NV	2.6	2.1
Exhaust temperature after turbocharger	°C	R	605	#NV	585	575
Exhaust backpressure limit value	mbar	L	100	#NV	100	100
<b>General operating data</b>						
Recommended minimum continuous load	%	R	20	#NV	20	20
Engine mass moment of inertia, with standard flywheel	kgm <sup>2</sup>	R	3.920	#NV	3.920	3.885
<b>Noise emission</b>						
(Free-field sound pressure level, 1m distance)						
Engine surface noise	dB(A)	R	-	#NV	-	-
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.