

**Technical Engine Data**  
**12V4000 G23**  
**Water charge air cooling (external);**  
**50 Hz - 1.500/min**  
**Fuel optimized**



<b>Operating method</b>	Four stroke Diesel	<b>Flywheel housing flange</b>	SAE 00
<b>Combustion system</b>	Direct Injection	<b>Flywheel interface</b>	21"
<b>Charging method</b>	Exhaust turbo charger and Water charge air cooling (external);	<b>Starter ring-gear teeth no.</b>	182
<b>Bore / Stroke</b>	170 / 210 mm	<b>Injection system</b>	Common Rail System with electronically controlled high pressure injection
<b>Displacement, total</b>	57,2 Liter	<b>Control / Monitoring</b>	Electronic Engine Management System "ADEC"
<b>Number of cylinders</b>	12	<b>Engine Protection</b>	Engine Site Condition Management System "ESCM"
<b>Cylinder configuration</b>	V - 90°	<b>Number of intercooler</b>	1
<b>Compression ratio</b>	16,5 : 1	<b>Number of Turbocharger</b>	4
<b>Direction of rotation</b> (viewed from flywheel side)	left		

MTU-Application group					3D (ICFN)	3B (ICXN)
Power (ISO 3046)		kW	A		1575	1420
Mean piston speed		m/s	A		10,5	10,5
Mean effective pressure		bar	A		22,0	19,9
Engine weight (Engine in basic execution)		dry kg	R		6200	6200
		wet kg	R		-	-
Dimensions (Engine only)		length mm	R		see installation drawing	see installation drawing
		height mm	R			
		width mm	R			
<b>Consumption</b>						
Specific fuel consumption (be)	100% CP	g/kWh	G		193	192
(Tolerance +5% according to ISO 3046/1)	75% CP	g/kWh	R		194	195
	50% CP	g/kWh	R		201	203
Lube oil consumption (after run-in)			R		-	-
<b>Capacity</b>						
Engine oil capacity, initial filling (standard oil system)	total	Liter	R		260	260
Oil pan capacity, dipstick mark min.		Liter	L		160	160
Oil pan capacity, dipstick mark max.		Liter	L		200	200
Engine coolant capacity (without cooling equipment)		Liter	R		160	160
Intercooler coolant capacity		Liter	R		40	40
<b>Heat dissipation</b>						
Engine coolant dissipation	100% load	kW	R		580	540
Charge-air heat dissipation	100% load	kW	R		260	200
Radiation and convection heat, engine		kW	R		75	75
<b>Starter system</b>						
Electrical Starter						
Starter, rated voltage		V	R		24	24
Starter, rated power		kW	R		2 x 7,5	2 x 7,5
Starter, power requirement max.		A	R			
Starter, power requirement at firing speed		A	R			
Recommended battery capacity	Lead-acid	Ah/20h	R			
	NiCd	Ah/5h	R			
Firing speed		1/min	R		80 - 120	80 - 120
<b>Coolant pre-heating</b>						
Preheating temperature (min.)		°C	R		32	32
Heater performance		kW	R		9	9

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<b>Coolant system, Engine coolant circuit</b>				
Coolant temperature (at engine outlet to cooling equipment)	°C	A	100	100
Coolant temperature after engine, alarm	°C	R	102	102
Coolant temperature after engine, shutdown	°C	L	104	104
Coolant antifreeze content, max. permissible	%	L	50	50
Cooling equipment: coolant flow rate	m <sup>3</sup> /h	A	56	56
Coolant pump: inlet pressure, min.	bar	L	0,4	0,4
Coolant pump: inlet pressure, max.	bar	L	1,5	1,5
Pressure loss in off-engine cooling system, max. permissible	bar	L	0,7	0,7
Cooling equipment: height above engine max. permissible	m	L	15,2	15,2
Cooling equipment: design pressure	bar	A	2,5	2,5
<b>Coolant system, Charge-air coolant circuit</b>				
Coolant temperature before intercooler (engine inlet)	°C	A	55	55
Coolant antifreeze content, max. permissible	%	L	50	50
Cooling equipment: coolant flow rate	m <sup>3</sup> /h	A	29	29
Pressure loss in off-engine cooling system max. permissible	bar	L	0,7	0,7
Cooling equipment: height above engine max. permissible	m	L	15,2	15,2
Cooling equipment: design pressure max. permissible	bar	A	2,5	2,5
<b>Combustion air</b>				
Combustion air volume flow	m <sup>3</sup> /s	R	1,8	1,6
Intake air depression	mbar	A	15	15
Intake air depression new filter limit value	mbar	L	50	50
<b>Fuel system</b>				
Fuel supply flow, max.	l/min	R	25	25
Fuel temperature, max.	°C	L	55°C	55°C
Fuel pressure at supply connection on engine, max. admissible	bar	L	1,5	1,5
Fuel pressure at supply connection on engine, min. admissible	bar	L	-0,1	-0,1
<b>Exhaust system</b>				
Exhaust volume flow	m <sup>3</sup> /s	R	4,5	4,0
Exhaust temperature after turbocharger	°C	R	460	455
Exhaust backpressure limit value	mbar	L	85	85
<b>General operating data</b>				
Recommended minimum continuous load	%	R	20	20
Engine mass moment of inertia, with standard flywheel	kgm <sup>2</sup>	R	19,95	19,95
<b>Noise emission</b> (Free-field sound pressure level, 1m distance)				
Engine surface noise	dB(A)	R	-	-
Exhaust noise, unsilenced	dB(A)	R	-	-

A = Design value; G = Guaranteed value; R = Guideline value  
L = Limit value, up to which the engine can be operated w/o change  
- = 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	70°C

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