

Technical Engine Data

20V4000 G23

Water charge air cooling (external);

50 Hz - 1.500/min

Fuel optimized

Operating method	Four stroke Diesel	Flywheel housing flange	SAE 00
Combustion system	Direct Injection	Flywheel interface	21"
Charging method	Exhaust turbo charger and Water charge air cooling (external);	Starter ring-gear teeth no.	182
Bore / Stroke	170 / 210 mm	Injection system	Common Rail System with electronically controlled high pressure injection
Displacement, total	95,4 Liter	Control / Monitoring	Electronic Engine Management System "ADEC"
Number of cylinders	20	Engine Protection	Engine Site Condition Management System "ESCM"
Cylinder configuration	V - 90°	Number of intercooler	1
Compression ratio	16,5 : 1	Number of Turbocharger	2
Direction of rotation (viewed from flywheel side)	left		

MTU-Application group					3D (ICFN)	3B (ICXN)
Power (ISO 3046)		kW	A		2420	2200
Mean piston speed		m/s	A		10,5	10,5
Mean effective pressure		bar	A		20,3	18,5
Engine weight (Engine in basic execution)		dry kg	R		9640	9640
		wet kg	R		-	-
Dimensions (Engine only)		length mm	R		see installation drawing	see installation drawing
		height mm	R			
		width mm	R			
Consumption						
Specific fuel consumption (be)	100% CP	g/kWh	G		193	195
(Tolerance +5% according to ISO 3046/1)	75% CP	g/kWh	R		199	201
	50% CP	g/kWh	R		210	213
Lube oil consumption (after run-in)			R		-	-
Capacity						
Engine oil capacity, initial filling (standard oil system)	total	Liter	R		390	390
Oil pan capacity, dipstick mark min.		Liter	L		245	245
Oil pan capacity, dipstick mark max.		Liter	L		340	340
Engine coolant capacity (without cooling equipment)		Liter	R		205	205
Intercooler coolant capacity		Liter	R		55	55
Heat dissipation						
Engine coolant dissipation	100% load	kW	R		970	870
Charge-air heat dissipation	100% load	kW	R		350	300
Radiation and convection heat, engine		kW	R		105	105
Starter system						
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
Coolant pre-heating						
Preheating temperature (min.)		°C	R		32	32
Heater performance		kW	R		9	9

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Coolant system, Engine coolant circuit				
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 ³ /h	A	83	83
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
Coolant system, Charge-air coolant circuit				
Coolant temperature before intercooler (engine inlet)	°C	A	55	55
Coolant antifreeze content, max. permissible	%	L	50	50
Cooling equipment: coolant flow rate	m ³ /h	A	30	30
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
Combustion air				
Combustion air volume flow	m ³ /s	R	2,7	2,6
Intake air depression	new filter	mbar	15	15
	limit value	mbar	50	50
Fuel system				
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
Exhaust system				
Exhaust volume flow	m ³ /s	R	7,3	6,8
Exhaust temperature after turbocharger	°C	R	530	500
Exhaust backpressure limit value	mbar	L	85	85
General operating data				
Recommended minimum continuous load	%	R	20	20
Engine mass moment of inertia, with standard flywheel	kgm ²	R	34,67	34,67
Noise emission (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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