NANNI
QLS22T

> 17.7 KW (23.7 HP)

NOGVA

Engine specifications

Number of cylinders	4 in line
Displacement (cm^3)	2197
Bore and stroke (mm)	87 x92,4
Combustion system	Indirect (E-TVCS)
Rated rpm (rpm)	1500
Intake	Natural
Compression ratio	22:1
Injection order	1-3-4-2
Max pressure difference between cylinder	10%
Rotation	Counter clockwise (flywheel)

Combustion system

Fuel injection pump	In line, Type Bosch MD mini
Fuel feed pump	Mechanical
Injection pressure (MPa)	13,7
Governor	All speed mechanical
Injection Timing before TDC (°)	14,25

Lubrication system

Oil type	API-CF mini 15W40
Oil pan capacity (l)	7,5
Pressure at rated rpm (bar)	3 to 4,5
Lubrication system	Forced
Oil pump type	Trochoid
By-pass - Opening pressure (bar)	0,98
Oil filter type	Full flow - cartridge

Cooling system

Seawater pump	Bronze, Neoprene rotor
Seawater pump flow (l/min)	38
Coolant pump type	Coaxial alternator driven
Coolant capacity (l)	7,5
Exhaust manifold	Fresh water cooled
Max allowable back pressure (bar)	0,127
Max exhaust gas temperature (°C)	550

Valve train

Cold - Valve clearance intake (mm)	0,18 to 0,22
Cold - Valve clearance exhaust (mm)	0,18 to 0,22
Valve retraction (mm)	+0,05 to -0,15

Piston rings

Firing piston ring (mm)	0,30 to 0,45
Compression Ring (mm)	0,30 to 0,45
Oil ring (mm)	0,25 to 0,45

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Cylinder head

Surface flatness (mm)	< 0,05

Installation data

Exhaust connexion (mm)	50
Fuel inlet (mm)	8
Fuel outlet (mm)	8
Fuel pump - Max suction height	
Standard pump (m)	0.5
With add. electrical pump (m)	1.8
Sea Water pump connexion (mm)	25
Engine Operating Angle	15° continuous (30° maxi)

Air requirements

Combustion air at 25°C (m^3/h)	90
Flow for the evacuation of radiant heat (m^3/h)	322

Engine Electrical System

Engine alternator (V-A)	12 - 40
Battery recommended (Ah)	88
Starter motor (V-kW)	12 - 1,4

Generator characteristics

Brand	Leroy Somer
Model	LSAM42.3VS1
Insulation class	H
Phases	3
Standard protection	IP 23
Cos Ø	0,8
Rated voltage (V)	400
Frequency (Hz)	50
Max power* (kW)	17,7
Continuous power* (kW)	15,1
Max current per phase (A)	31,9
Continuous current per phase (A)	27,2
Standard AVR typ	R438
Voltage regulation	± 0,5%
Weight of the generator(kg)	121

* Continuous (COP) and maxi (PRP) power rating according to ISO 8528-1