SU103N

Type	Rated RPM	Ratings (kW/PS)	
		Gross Engine Output	Net Engine Output
-U	3000	17.9/24.3	17.2/23.4
-U1	3000	16.4/22.3	15.7/21.3

◎ GENERAL ENGINE DATA

► Engine Model	SU103N
► Engine Type	3-Cycle, In-line, Diesel, Water cooled, N/A
► Bore x stroke	Ø75 x 76 mm
► Displacement	1.007 liters
► Compression ratio	21:1
► Rotation	Counter clockwise viewed from Flywheel
► Firing order	1-2-3
► Injection timing	18˚ BTDC
► Dry weight	101kg (with Fan)
► Dimension (L x W x H)	513 x 482 x 553 mm
► Flywheel housing	SAE No.5
► Flywheel	Clutch No.7-1/2
► Number of teeth on flywheel	98

◎ ENGINE MOUNTING

► Max. Bending Moment at Rear Face to Block	-

◎ EXHAUST SYSTEM

► Max. Back Pressure	9.8kPa

◎ COOLING SYSTEM

Water circulation by centrifugal pump on engine.

► Cooling method	Fresh water forced circulation
► Coolant capacity (Engine Only)	1.6 liters
► Coolant flow rate	liters / min
► Pressure Cap	90kPa
► Water Temperature	
-. Maximum for standby and Prime	110℃
-. Before start of full load	40℃
► Water pump	Centrifugal type driven by belt

This is normally attained after a running period of about 100 hours and Image shown may not be actual engine.

► Thermostat Type and Range	Wax – pellet type Opening temp. 82℃ , Full open temp. 95℃
► Cooling fan	Suction type, Polypropylene, Dia : Ø315mm, 5 blade
► Max. external coolant system restriction	Not Available

◎ LUBRICATION SYSTEM

Force-feed lubrication by gear pump

► Lub. Method	Fully forced pressure feed type
► Oil pump	Gear type driven by crank-shaft gear
► Oil filter	Full flow, cartridge type
► Oil capacity	Max. 3.8 liters
► Lub oil pressure	Idle Speed : Min 70 kPa Governed Speed : Min 245kPa
► Maximum oil temperature	121℃
► Angularity limit	Front down 30 deg , Front up 30 deg Side to side 30 deg
► Lubrication oil	SAE 10W-30 or SAE 15W-40(Above -10℃)

◎ FUEL SYSTEM

Bosch type in-line pump

► Injection pump	K-type mini pump
► Governor	Mechanical centrifugal + Woodward APECS 4800
► Speed drop	-
► Feed pump	Diaphragm type pump
► Injection nozzle	Throttle type
► Opening pressure	14.7 ~ 15.7Mpa
► Fuel filter	Full flow, cartridge type
► Maximum fuel inlet restriction	-
► Maximum fuel return restriction	-
► Fuel feed pump capacity	24 liters / hr
► Used fuel	Diesel fuel oil

◎ ELECTRICAL SYSTEM

► Battery Charging Alternator	12V x 75A alternator
► Voltage regulator	Built-in type IC regulator
► Starting motor	12V x 1.7 kW
► Battery Voltage	12V
► Battery Capacity	64AH(recommended)
► Starting aid (Option)	Glow plug

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◎ VALVE SYSTEM

► Type	Overhead valve type	
► Number of valve	Intake 1, exhaust 1 per cylinder	
► Valve lashes at cold	Intake 0.15mm , Exhaust 0.15mm	
► Valve timing	Open	Close
-. Intake valve	8 deg. BTDC	38 deg. ABDC
-. Exhaust valve	44 deg. BBDC	8 deg. ATDC

◎ PERFORMANCE DATA

► Governed Engine speed	rpm	3000	3000
► Engine Idle Speed	rpm	1350	1350
► Over speed limit	rpm	3200	3200
► Gross Eng. Power	kW	17.9	16.4
	PS	24.3	22.3
► BMEP	Mpa	7.24	6.64
► Mean Piston Speed	m/s	7.6	7.6
► Friction Power	kW	-	-
	PS	-	-
► Specific fuel consumption	L/hr	5.7	5.7
► Fan Power	kW	-	-
► Sound Pressure at 1m from the each side of Cylinder Block (Without Fan)	dB(A)	-	-

The all data and the specific fuel consumption are based on ISO 3046/1, Standard reference conditions are in accordance with 298 K(25° Celsius) air temperature, 100kPa(1000mbar) air pressure, 60% relative humidity, 110m(361ft) altitude.

Operation At Elevated Temperature And Altitude: The engine may be operated at :

1800 rpm & 1500rpm up to 750~ 1000m and 30°C without power deration

For sustained operation above these conditions, derate by 3% per 304m , and 2% per 11 °C

Engine Data with Dry Type Exhaust Manifold

► Intake Air Flow	㎥/min	1.47	1.47
► Exh. gas temp. after turbo.	°C	500	500
► Exhaust Gas Flow	㎥/min	1.53	1.53
► Heat Rejection to Exhaust	kW	-	-
► Heat Rejection to Coolant	kW	-	-
► Heat Rejection to Intercooler	kW	-	-
► Radiated Heat to Ambient	kW	-	-
► Cooling water circulation	L/min	-	-
► Cooling fan air flow	㎥/min	-	-

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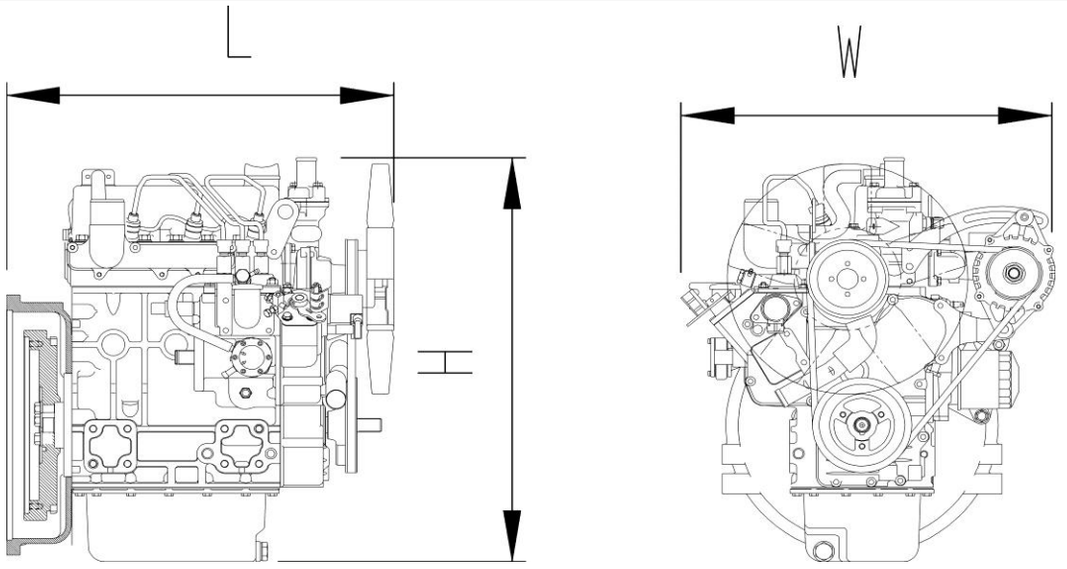
◆ ENGINE DIMENSION



Designation	Length(L)	Width(W)	Height(H)	Dry weight
Value	513mm	482mm	553mm	101kg

◆ CONVERSION TABLE

in. = mm x 0.0394
PS = kW x 1.3596
psi = kg/cm2 x 14.2233
in3 = lit. x 61.02
hp = PS x 0.98635
lb = kg x 2.20462
kW = Kcal/sec x 0.239
lb/ft = N.m x 0.737
U.S. gal = lit. x 0.264
kW = 0.2388 kcal/s
lb/PS.h = g/kW.h x 0.00162
cfm = m3 /min x 35.336
Mpa = Pa x 1000 = bar x 10

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