SPECIFICATIONS

Thermodynamic cycle		Diesel 4 stroke
Air Feeding		TCA
Cylinders arrangement		4L
Bore x Stroke	millimeters	95.8 x 104
Total displacement	liters	3
Valves per cylinder	number	4
Cooling System		liquid
Direction of Rotation (viewed facing fly	wheel)	CCW
Engine management		electronic
Injection System		CR

WEIGHT AND DIMENSIONS

Dimensions (L x W x H)	mm	780 x 775 x 753
Dry Weight	Kg	330

DIMENSIONS CAN BE CHANGED ACCORDING TO ENGINE OPTIONS



IMAGES SHOWN ARE FOR ILLUSTRATION PURPOSE ONLY

Flywheel housing

STANDARD CONFIGURATION

Flywheel size	inch	8"
Air filter		rear side
Turbocharger	Waste 0	Sate (water cooled) Turbo with Aftercooler (TCA)
Heat excharger		tube type
Exhaust gas water mixer - Exhaus	t cooled elbow	-
Water charge tank		included
Fuel filter	number	1
Fuel prefilter		included (loose)
Fuel pump		included
Oil filter	number	1
Oil sump		aluminium
Oil vapours blowby circuit		front
Oil heat exchanger		built in the crankcase
Oil filler		on front cover
Starter		12V - 2.3kW
Alternator		12 V - 110 A
Engine stop device		by electronic central unit
Wiring harness		with EDC (Electronic Diesel Control)
Painting color		white "ICE"

ELECTRICAL SYSTEM

/oltage	V	12

NOT INCLUDED IN STANDARD CONFIGURATION

Battery - minimum capacity recommended	Ah	110 Ah
Battery - minimum cold cranking capacity recommended	Ah	800 Ah

Do you want to know more?

LEGEND

SAE 4

Arrangement	Air Handling	Turbocharger	Injection System	Exhaust System
L (in line)	TC (Turbocharged)	WG (Wastegate)	M (Mechanical)	EGR (Exhaust Gas Recirculation)
V (90° "V" configuration)	NA (Naturally Aspirated)	VGT (Variable Geometry Turbocharger)	CR (Common Rail)	SCR (Selective Catalytic Reduction)
	TCA (Turbocharged with aftercooler)	TST (Twin Stage Turbocharge)	EUI (Electronic Unit Injector)	
			MPI (Multi Point Injection)	

A1 High Performance Crafts. Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed setting - Maximum usage 300 hours per year.

A2/B1 Pleasure Commercial Vessels. Full throttle operation restricted within 10% of total use period. Cruising speed at engine rpm <90% of rated speed setting - Maximum usage 1000 hours per year.

B Light Duty: Full throttle operation restricted within 10% of use period. Cruising speed at engine rpm <90% of rated speed setting - Maximum usage 1500 hours per year.

C Medium Duty: Full throttle operation < 25% of use period. Cruising speed at engine rpm <90% of rated speed setting - Maximum usage 3000 hours per year. D Heavy Duty

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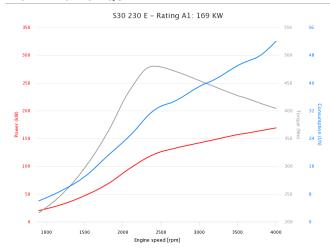
SPECIFICATION SUBJECT TO CHANGE WITHOUT NOTICE





RATING TYPE		A1
Maximum power [*]	kW (HP)	169 (230)
At speed	rpm	4000
Maximum no load governed speed at max rating	rpm	4280
Minimum idling speed	rpm	750
Mean piston speed at rated speed	m/s	13.9
BMEP at max power	bar	20.5
Specific fuel consumption (best value)	g/kWh @ rpm	252 @ 4000
IMO Marpol Tier 2 (IMO Annex VI Technical Code 2008)		✓
RCD Stage 2 (2013/53/EC)		✓
IWV Stage V (EU 2016/1628)		-
EPA Tier 3 Commercial		-
EPA Tier 3 Recreational		-
China GB I (GB15097-2016)		-
China GB II (GB15097-2016)		-
Oil consumption at max rating	(% of fuel cons.)	< 0.2
Minimum starting temperature without auxiliaries	°C	-10°
Oil and oil filter maintenance interval for replacement	hours	600

POWER & TORQUE



* Net Power at flywheel according to ISO 8665, after 50 hours running, Fuel Diesel EN 590. Power tolerance 5%.

LEGEND Arrangement Air Handling Turbocharger Injection System **Exhaust System** L (in line) TC (Turbocharged) WG (Wastegate) M (Mechanical) EGR (Exhaust Gas Recirculation) V (90° "V" configuration) SCR (Selective Catalytic Reduction) NA (Naturally Aspirated) CR (Common Rail) VGT (Variable Geometry Turbocharger) TCA (Turbocharged with aftercooler) EUI (Electronic Unit Injector) TST (Twin Stage Turbocharge)

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D Heavy Duty

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MPI (Multi Point Injection)

