

Engine Specification Sheet



Model	Ratings HP (kW) @ Rated speed rpm		
	1470	1760	2100 (2090 for FM)
CH12-128-E (UL)	688 (513)	744 (555)	759 (566)
CH12-128-E (FM)	680 (507)	744 (555)	762 (568)

ENGINE SPECIFICATIONS		
Basic Engine	DOOSAN	
Type	4 Cycle; V-type; water cooled; 12 Cylinder	
Aspiration	Turbocharged +Water Cooled	
Bore and Stroke	mm×mm	128x142
Displacement	L	21.927
Compression Ratio	14.6:1	
Rotation Viewed from flywheel	Counter Clockwise	
Dry Weight Approx.	kg	1884
Dimension Approx. (L*W*H)	mm	1935*1350*1850
Crankshaft Centerline Height	mm	565
Oil Capacity	L	40
Coolant Capacity - Engine + Heat Exchanger	L	68



MODEL CH12-128-E

Engine Equipment	Standard	Optional	
Air Cleaner	Drip proof	N/A	
Alternator	24V-DC, 45Amps with BeltGuard	N/A	
Coupling	Bare Flywheel	N/A	
Engine Heater	220V-AC	110V-AC	
Exhaust Flex Connection	2*DN100	N/A	
Exhaust Protection	Metal Guard	N/A	
Flywheel Housing	SAE 1	N/A	
Flywheel Power Take Off	SAE 14	N/A	
Fuel Connections	Flexible hoses according ISO 15540	N/A	
Fuel Filter	Full flow, cartridge type	N/A	
Governor, Speed	Constant speed, mechanical	N/A	
Heat Exchanger	Shell and Tube Type	N/A	
Instrument Panel	Build on Engine	N/A	
Junction Box	Integrated in control panel	N/A	
Lube Oil Cooler	Jacket Water Cooled	N/A	
Lube Oil Filter	Full flow, cartridge type	N/A	
Lube Oil Pump	Gear Driven, Gear Type	N/A	
Manual Start Control	Dual Manual Start Contactors	N/A	
Overspeed Control	Electronic instrument panel, test on instrument panel	N/A	
Raw Water Cooling Loop w/ Alarms	Galvanized	Seawater (All 316 SS)	
Raw Water Solenoid Operation	Automatic from Fire Pump Controller and from Engine Instrument Panel (for Horizontal Fire Pump Applications)	N/A	
Run - Stop Control	On Instrument Panel with Control Position Warning Light	N/A	
Starters	24V-DC, 7KW	N/A	
Throttle Control	Adjustable speed control	N/A	
Water Pump	Centrifugal Type, Gear Driven	N/A	
All data is based on the engine operating with fuel system, lubricating oil pump, air cleaner, and alternator; not included are compressor, fan, optional equipment, and driven components.;Data is based on operation at SAE standard J1394 conditions of 300ft (91.4m) altitude, 29.61 in.(752mm) Hg dry barometer, and 77°F (25°C) intake air temperature, using 0# diesel fuel follow the standard GB 252-2011.			
Altitude above which output should be Limited		m (ft.)	91 (300)
Correction Factor per 305m.(1,000ft.) above Altitude Limit		3%	
Temperature above which output should be Limited		°C (°F)	25 (77)
Correction Factor per 5.6°C (10°F) above Temperature Limit		1%	
Remark:			
1.All data certified within 5%; 2.TBD - To Be Determined; 3.N/A - Not Applicable;			



Engine Data Sheet

Engine Model	CH12-128-E	Date	2019/10/9
Drawing No.	CH12-128-E.00	Performance Curve No.	C12128
Rated Power	759 HP @2100 RPM	Reference No.	14DS001E
	566 KW @ 2100 RPM	Version	A

GENERAL ENGINE DATA			
Type	4 Cycle; V-type; water cooled; 12 Cylinder		
Aspiration	Turbocharged +Water Cooled		
Bore and Stroke	mmxmm	128x142	
Cylinder Liner Type	<input checked="" type="checkbox"/> Wet <input type="checkbox"/> Dry		
Displacement	L	21.927	
Compression Ratio	14.6:1		
Firing Order	1-12-5-8-3-10-6-7-2-11-4-9		
Combustion System	Direct Injection		
Rotation Viewed from front of engine	CW		
Valves Per Cylinder	Intake :1 Exhaust :1		
Valves lashes at cold	Intake	mm (inch)	0.25
	Exhaust	mm (inch)	0.35
Ignition Type	Compression(Diesel)		
Charge Air Cooling Type	Raw Water		
Dry Weight Approx.	kg	1884	
Dimension Approx. (L*W*H)	mm	1935*1350*1850	
Flywheel/ Flywheel House Dimension	14"/ SAE 1		
Torque at rated RPM	N.m	2576	

EXHAUST SYSTEM			
Exhaust Gas Temp. at max. rating/power	°C	555	
Exhaust Gas Flow at Max. output	m³/h	7890	
Max. Allowable Back Pressure	kpa	10	
Minimum Exhaust Pipe Diameter	DN	100	

AIR INTAKE SYSTEM			
Air Cleaner Type	Dry Type		
Air Flow at Max. output	m³/h	4566	
Air Inlet Restriction Dirty	kpa	6	
Air Inlet Restriction Clean	kpa	2	

LUBRICATION SYSTEM			
Oil Capacity	L	40	
Max. Sump Oil Temp.	°C	120	
Normal Operating Oil Pressure Range	bars	3~6	
Oil Pressure at Idle	bar	>1	

COOLING SYSTEM			
Coolant Capacity - Engine + Heat Exchanger	L	68	
Thermostat Range	Start Open	°C	71
	Full Open	°C	85
Coolant Pressure Cap	bar	0.9	
Max. Engine Coolant Temp.	°C	98	
Engine Coolant Flow at Full Load	m³/h	42	
Raw Water Cooling Capacity	m³/h	28	



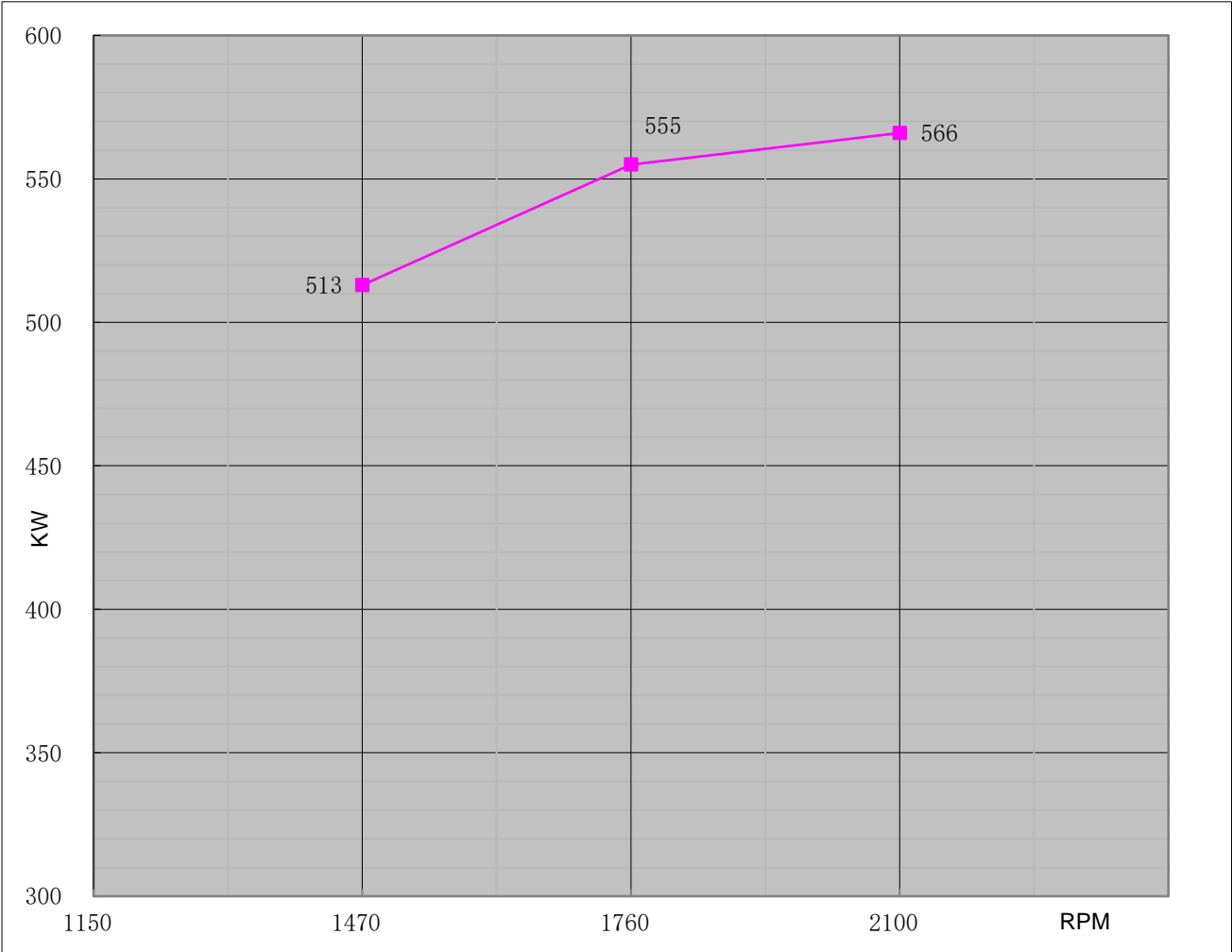
Engine Data Sheet

Raw Water Pressure		bar	2
Min. Raw Water Temp.		°C	15.6
Raw Water Pipe Size	Raw Water Inlet	G1 1/2"	
	Raw Water Outlet	G2"	
HEATER SYSTEM			
Wattage		W	4500
Voltage AC		V	220
ELECTRICAL SYSTEM-DC			
System Voltage(Nominal)		V	24
Starter motor		Kw	7
Recommended Battery Capacity		AH	200
Cold Cranking Amperes @ -18°C (0°F)		CCA	1000
Reserve Capacity (RC)		Min	407
Charging Alternator Output		Amps	45
Max. Starter Cranking Amps @4.5°C (0°F)		Amps	550
Min. Cranking Speed Required for Unaided Cold Start		rpm	165
FUEL SYSTEM			
Injection Pump			
Injection Advance Angle		°	18
Minimum Supply line Size		mm	12
Minimum Return line Size		mm	12
Fuel Management Control		Mechanical	
Max. Fuel Consumption		g/kw,h	240
Idle Speed		rpm	800
Max. Governed Speed		rpm	2310
Maximum allowable fuel height above fuel pump		m	3
Governed Speed Rate		%	<10
Engine Performance Data			
Estimated free field soud pressure level at 1 meter with full-load governed speed(Includes Noise from: exhaust;: Cooling System and Driven Components)		dBa	108
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DIESEL ENGINE

Engine Model		CH12-128-E		Curve No.		C12128	Date	2019/9/10
Displacement	21.93 L	Aspiration		Turbocharged+Water cooled		Power Standard		UL/FM
Bore	128 mm	Cylinder Qty.		12		566 KW @ 2100 r/min		
Stroke	142 mm	Fuel System		V-Type; Mechanical		759 HP @ 2100 r/min		



Torque		
Speed	Torque	
RPM	N-m	lb-ft.
1150		
1470	3331	2456
1760	3009	2219
2100	2576	1899

Output Power		
Speed	Output Power	
RPM	KW	HP
1150		
1470	513	688
1760	555	744
2100	566	759

Fuel Consumption		
Speed	Consumption	
RPM	g/KW-HR	lb/BHP-HR
1150		
1470	195	0.321
1760	200	0.329
2100	220	0.362