

Engine Specification Sheet



Model	Ratings HP (kW) @ Rated speed rpm	
	1470 (UL) / 1460 (FM)	1760 (UL) / 1750 (FM)
CH12-128-EC (UL)	881 (657)	1010 (753)
CH12-128-EC (FM)	810 (604)	

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	15:1	
Rotation Viewed from flywheel	Counter Clockwise	
Dry Weight Approx.	kg	2150
Dimension Approx. (L*W*H)	mm	2290*1440*1760
Crankshaft Centerline Height	mm	565
Oil Capacity	L	40
Coolant Capacity - Engine + Heat Exchanger	L	70



MODEL CH12-128-EC

Engine Equipment	Standard	Optional
Air Cleaner	Drip proof	N/A
Alternator	24V-DC, 45Amps with Belt Guard	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-EC	Date	2020/3/31	
Drawing No.	CH12-128-EC.00	Performance Curve No.	C12128C	
Rated Power	1010 HP @ 1760 RPM	Reference No.	14DS001E	
	753 KW @ 1760 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		15:01		
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	2150	
Dimension Approx. (L*W*H)		mm	2290*1440*1760	
Flywheel/ Flywheel House Dimension		14"/ SAE 1		
Torque at rated RPM		N.m	4084	
EXHAUST SYSTEM				
Exhaust Gas Temp. at max. rating/power		°C	499	
Exhaust Gas Flow at Max. output		m³/h	10080	
Max. Allowable Back Pressure		kpa	6	
Minimum Exhaust Pipe Diameter		DN	150	
AIR INTAKE SYSTEM				
Air Cleaner Type		Dry Type		
Air Flow at Max. output		m³/h	3564	
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	2.5~6	
Oil Pressure at Idle		bar	>1	
COOLING SYSTEM				
Coolant Capacity - Engine + Heat Exchanger		L	70	
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	40	
Raw Water Cooling Capacity		m³/h	40	



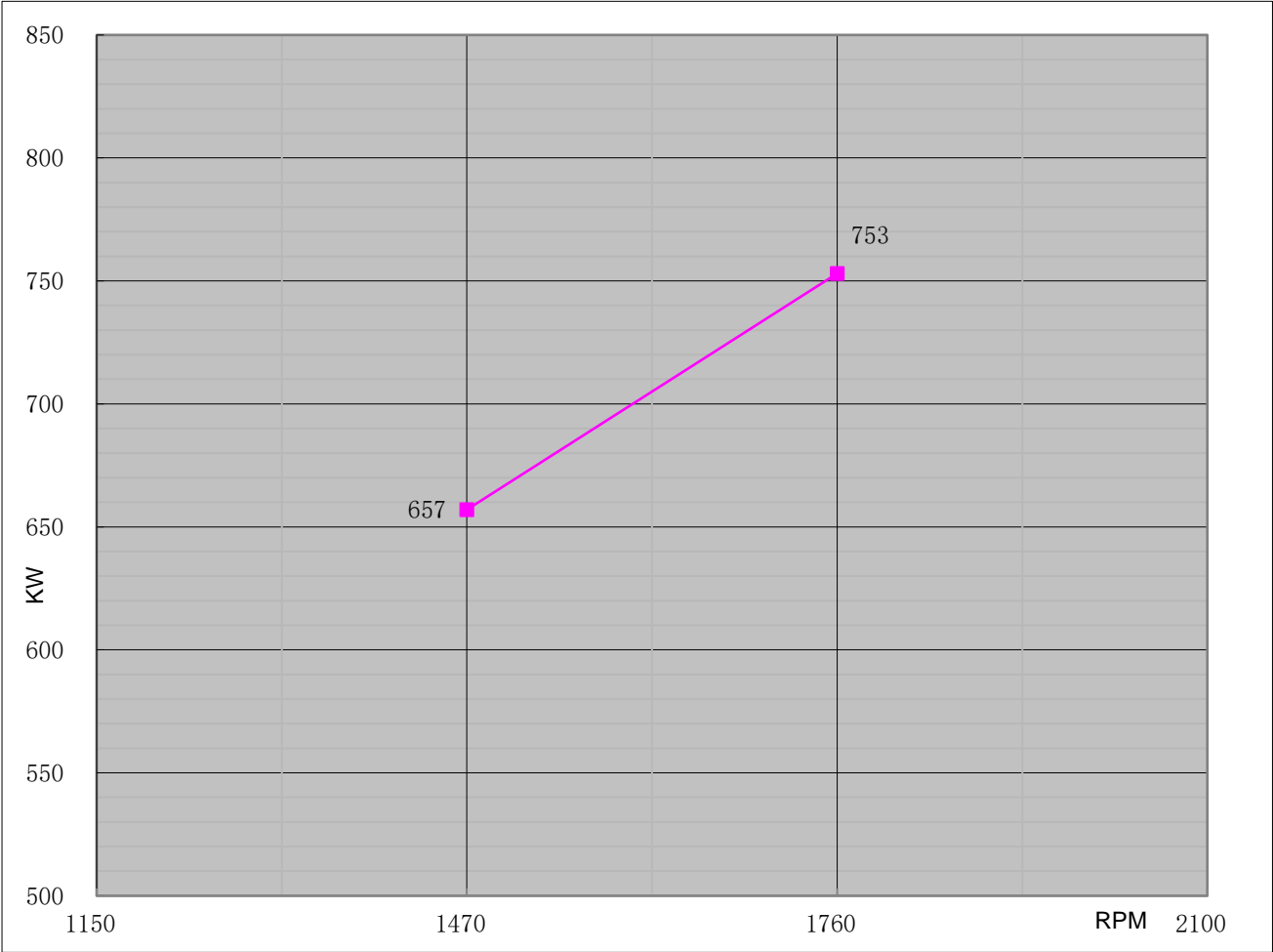
Engine Data Sheet

Raw Water Pressure		bar	2
Min. Raw Water Temp.		°C	15.6
	Raw Water Pipe Size	Raw Water Inlet	G2"
		Raw Water Outlet	G2 1/2"
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		°	21±1
Minimum Supply line Size		mm	12
Minimum Return line Size		mm	12
Fuel Management Control		Mechanical	
Max. Fuel Consumption		g/kw,h	210
Idle Speed		rpm	800
Max. Governed Speed		rpm	1980
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-EC		Curve No.		C12128C	Date	2020/2/28
Displacement	21.93	L	Aspiration	Turbocharged+Water cooled		Power Standard		UL/FM
Bore	128	mm	Cylinder Qty.	12		753	KW @ 1760	r/min
Stroke	142	mm	Fuel System	V-Type; Mechanical		1010	HP @ 1760	r/min



Torque		
Speed	Torque	
RPM	N-m	lb-ft.
1150		
1470	4270	3149
1760	4084	3012

Output Power		
Speed	Output Power	
RPM	KW	HP
1150		
1470	657	881
1760	753	1010

Fuel Consumption		
Speed	Consumption	
RPM	g/KW-HR	lb/BHP-HR
1150		
1470	205	0.337
1760	210	0.345