

Engine Specification Sheet



Model	Ratings HP (kW) @ Rated speed rpm	
	1470	1760
CH12-159-EB	909(678)	1080 (805)

ENGINE SPECIFICATIONS		
Basic Engine	Chongqing Cummins	
Type	4 Cycle; V-Type; water cooled; 12 Cylinder	
Aspiration	Turbocharged +Water Cooled	
Bore and Stroke	mm×mm	159x159
Displacement	L	38
Compression Ratio	14.5:1	
Rotation Viewed from flywheel	Counter Clockwise	
Dry Weight Approx.	kg	4575
Dimension Approx. (L*W*H)	mm	2550*1475*1756
Crankshaft Centerline Height	mm	650
Oil Capacity	L	135
Coolant Capacity - Engine + Heat Exchanger	L	160



MODEL CH12-159-EB

Engine Equipment	Standard	Optional	
Air Cleaner	Drip proof	N/A	
Alternator	24V-DC, 70Amps with Belt Guard	N/A	
Coupling	Bare Flywheel	N/A	
Engine Heater	220V-AC	110V-AC	
Exhaust Flex Connection	2*DN150	N/A	
Exhaust Protection	Metal Guard	N/A	
Flywheel Housing	SAE 0	N/A	
Flywheel Power Take Off	SAE 18	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,2* 8.9KW	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	CH12-159-EB	Date	2021/12/29
Drawing No.	CH12-159-EB.00	Performance Curve No.	C12159B
Rated Power	1080 HP @1760 RPM	Reference No.	14DS001E
	805 KW @ 1760 RPM	Version	A
GENERAL ENGINE DATA			
Type		4 Cycle;V-Type; water cooled; 12 Cylinder	
Aspiration		Turbocharged +Water Cooled	
Bore and Stroke		mm×mm	159x159
Cylinder Liner Type		<input checked="" type="checkbox"/> Wet	<input type="checkbox"/> Dry
Displacement		L	38
Compression Ratio		14.5:1	
Firing Order		1R-6L-5R-2L-3R-4L-6R-1L-2R-5L-4R-3L	
Combustion System		Direct Injection	
Rotation Viewed from front of engine		CW	
Valves Per Cylinder		Intake :2 Exhaust :2	
Valves lashes at cold	Intake	mm	0.36
	Exhaust	mm	0.69
Ignition Type		Compression(Diesel)	
Charge Air Cooling Type		Raw Water	
Dry Weight Approx.		kg	4575
Dimension Approx. (L*W*H)		mm	2550*1745*1756
Flywheel/ Flywheel House Dimension		18"/ SAE 0	
EXHAUST SYSTEM			
Exhaust Gas Temp. at max. rating/power		°C	487
Exhaust Gas Flow at Max. output		m³/h	12024
Max. Allowable Back Pressure		kpa	10
Minimum Exhaust Pipe Diameter		DN	2x150
AIR INTAKE SYSTEM			
Air Cleaner Type		Dry Type	
Air Flow at Max. output		m³/h	4558
Air Inlet Restriction Dirty		kpa	6.2
Air Inlet Restriction Clean		kpa	3.7
LUBRICATION SYSTEM			
Oil Capacity		L	135
Max. Sump Oil Temp.		°C	120
Normal Operating Oil Pressure Range		bars	3.1~4.5
Oil Pressure at Idle		bar	1.38
COOLING SYSTEM			
Coolant Capacity - Engine + Heat Exchanger		L	160
Thermostat Range	Start Open	°C	82
	Full Open	°C	93
Coolant Pressure Cap		bar	0.9
Max. Engine Coolant Temp.		°C	96
Engine Coolant Flow at Full Load		m³/h	94
Raw Water Cooling Capacity		m³/h	25
Raw Water Pressure		bar	2



Engine Data Sheet

	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	2x4500
	Voltage AC		V	220
ELECTRICAL SYSTEM-DC				
	System Voltage(Nominal)		V	24
	Starter motor		Kw	2x8.9
	Recommended Battery Capacity		AH	200
	Cold Cranking Amperes @ -18°C (0°F)		CCA	1000
	Reserve Capacity (RC)		Min	407
	Charging Alternator Output		Amps	70
	Max. Starter Cranking Amps @4.5°C (0°F)		Amps	620
	Min. Cranking Speed Required for Unaided Cold Start		rpm	200
FUEL SYSTEM				
	Injection Pump			
	Injection Advance Angle		°	IC (-4.67 ~ -4.78mm)
	Minimum Supply line Size		mm	19
	Minimum Return line Size		mm	16
	Fuel Management Control		Mechanical	
	Max. Fuel Consumption		g/kw,h	205
	Idle Speed		rpm	650
	Max. Governed Speed		rpm	1936
	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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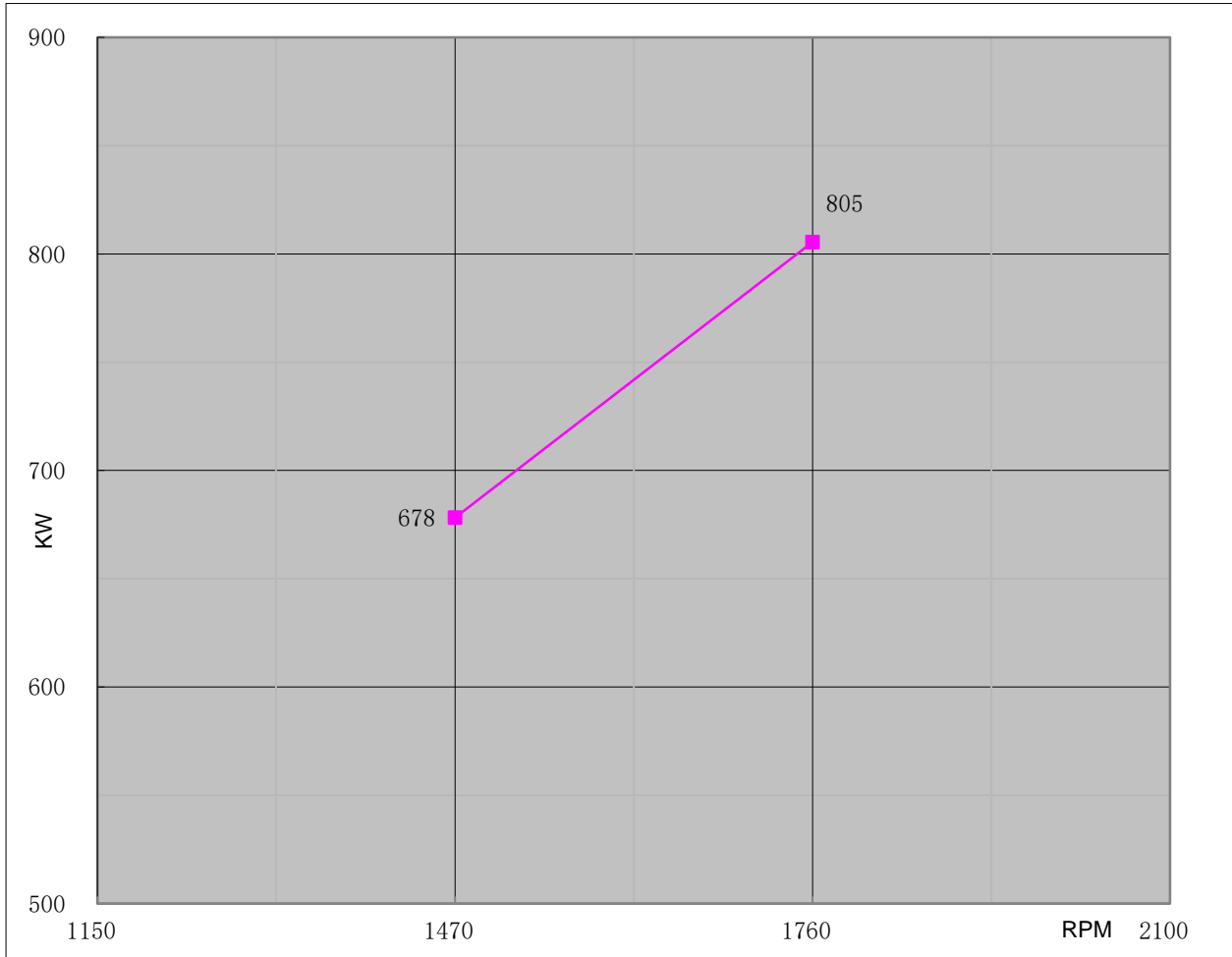
Remark:

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- 3.N/A - Not Applicable;



Performance Curve

Engine Model		CH12-159-EB		Curve No.		C12159B	Date	2021/12/29
Displacement	38.00	L	Aspiration	Turbocharged+Water cooled		Power Standard		UL/FM
Bore	159	mm	Cylinder Qty.	12,V-Type		805	KW @ 1760	r/min
Stroke	159	mm	Fuel System	Mechanical		1080	HP @ 1760	r/min



Torque		
Speed	Torque	
RPM	N-m	lb-ft.
1150		
1470	4406	3249
1760	4371	3223
2100		

Output Power		
Speed	Output Power	
RPM	KW	HP
1150		
1470	678	909
1760	805	1080
2100		

Fuel Consumption		
Speed	Consumption	
RPM	g/KW-HR	lb/BHP-HR
1150		
1470	205	0.337
1760	205	0.337
2100		

REV: A