



CHONGQING CUMMINS ENGINE COMPANY LTD. ENGINE PERFORMANCE CURVE

CONFIGURATION D232003CX02	ENGINE MODEL: KT38-P830	CURVE NUMBER: FR-4212	PL No.: 0901 DATE: 2017/4/14
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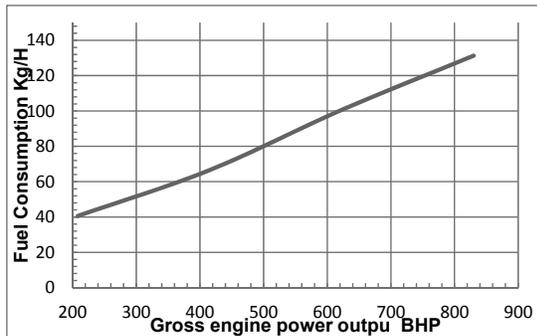
Displacement: 38L (2300)	Aspiration: Turbocharged ,	RATING	
BoreXStroke: 159X159mm (6.25X6.25 in.)	Fuel System: Cummins PT	()/min	
Compress Ratio: 15.5:1	Emission:	619(830)1500r/min	

All data is based on the engine operating with fuel system, water pump, and 20 in. H₂O(4.98kPa) inlet air restriction with 5.8 in.(147mm) inner diameter, and with 2 in. Hg(7kPa) exhaust restriction with 8 in.(203mm) inner diameter; not included are alternator, fan, optional equipment and driven components. Coolant flows and heat rejection data based on coolant as 50% ethylene glycol/50% water. All data is subject to change without notice.

GROSS ENGINE POWER OUTPUT

SPEED rpm	STANDBY POWER		PRIME POWER		CONTINUOUS POWER	
	BHP	kW	BHP	kW	BHP	kW
1800	-	-	-	-	-	-
1500	830	619	-	-	-	-

FUEL CONSUMPTION



	OUTPUT POWER		CONSUMPTION		BFSC	
	%	BHP	Lb/h	Kg/h	g/kW.h	Lb/BHP.h
1500RPM						
STANDBY						
100	830	619	289	131	212	0.348
75	623	464	222	101	217	0.356
50	415	310	147	67	215	0.353
25	208	155	89	41	261	0.429

Curves shown above represent gross engine performance capabilities obtained and corrected in accordance with SAE J1995 conditions of 29.61 in. Hg(100kPa) barometric pressure [300ft.(91m) altitude] 77deg F (25 deg C) inlet temperature, and 0.30 in. Hg(1kPa) water vapor pressure with No.2 diesel fuel.

TECHNICAL DATA DEPT.

CERTIFIED WITHIN 5%

CHIEF ENGINEER

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Maximum Raw Water Inlet Pressure @ Heat Exchanger HX 6076 —PSI(kPa).....	50	(344.7)
Maximum Allowable Top Tank Temperature (Stand_by/Prime) —°F(°C).....	220/212	(104/100)
Standard Thermostat (modulating) Range— °F(°C).....	180-200	(82-93)
Maximum Allowable Coolant Temperature —°F(°C).....	205	(96.1)
Minimum Coolant Makeup Capacity —U.S.Gal(L).....	6.3	(23.8)
Maximum Raw water Inlet Friction —PSI(kPa).....	10	(254.0)
Maximum Raw water Pump Suction —ft.(m).....	15	(4.6)
Maximum Raw water Pump head —ft.(m).....	67	(20.5)
Minimum Allowable Fill Rate —U.S.GPM(L/min).....	5	(18.9)
Maximum Allowable Initial Fill Time —min.....	5	
Minimum Allowable Coolant Expansion Space —% of System Capacity.....	5	
Maximum Allowable Inlet Coolant Temperature at Limited situation (Stand_by/Prime) —°F160/150		(71/66)

LUBRICATION SYSTEM

Oil Pressure		
@ Idle —PSI(kPa).....	20	(138)
@ Rated Speed —PSI(kPa).....	45-65	(310-448)
Oil Flow at Rated Speed —U.S.GPM(L/min).....	124	(469.4)
Maximum Allowable Oil Temperature —°F(°C).....	250	(121.0)
By-Pass Filter Capacity		
Spin-on Cartridge Type —U.S.Gal(L).....	2 X 0.7	(2 X 2.6)
Replaceable Element Type —U.S.Gal(L)	2 X 2.9	(2 X 11.0)
Oil Pan Capacity (Option OP6023)		
High —U.S.Gal(L).....	30.0	(113.6)
Total System Capacity (Excluding By-Pass Filter) —U.S.Gal(L).....	45.0	(170.3)
Total System Capacity (Excluding By-Pass Filter) —U.S.Gal(L).....	35.7	(135.1)
Angularly of Standard C		
Front Down.....	30°	

FUEL SYSTEM

Fuel Injection System.....	Cummins PT	
Maximum Fuel Consumption at Maximum Rated Output and Speed —lb/h(kg/h).....	(324)	147
Maximum allowable Restriction to PT Fuel Pump		
With Clean Fuel Filter —in.Hg(kPa).....	4	(13.55)
With Dirty Fuel Filter —in.Hg(kPa).....	10	(33.86)
Maximum Fuel Supply at Rated Power and Speed —lb/h(kg/h).....	(972)	441
Maximum Allowable Injector Return Line Restriction		
With Check Valves —in.Hg(kPa).....	7	(22)
Less Check Valves —in.Hg(kPa).....	3	(8)
Minimum Allowable Fuel Tank Vent Capability —ft ³ /h (L/h)	15	(425)
(With 2.5 in. Hg (63 mm Hg) or Less Back Pressure)		
Starter (Heavy, Anode)—Volt.....		24
Battery Recharge System,Negative ground—A.....		35
Maximum Allowable Resistance of Starting Circuit—Ω.....		0.002
Minimum Recommended Battery Capacity		
·Cold Soak at 50°F(10°C) or Above—0°F CCA.....		1200
·Cold Soak at 32~50°F(0~10°C) or Above—0°F CCA.....		1280
·Cold Soak at 0~32°F(-18~0°C) or Above—0°F CCA.....		1800

CHONGQING CUMMINS ENGINE COMPANY LTD.
CHONGQING, CHINA

All Data is Subject to Change Without Notice- consult the following Cummins intranet site for most recent data:
WWW.CUMMINS.COM



CHONGQING CUMMINS ENGINE COMPANY LTD. ENGINE DATA SHEET

PERFORMANCE DATA

All data is based on the engine operating with fuel system, water pump, lubricating oil pump, air cleaner, and muffler, not included are alternator, compressor, fan, optional equipment and driven components. Data represents gross engine performance capabilities obtained and corrected in accordance with SAE J1349 conditions for 29.61 in Hg(100 kPa) barometric pressure[300ft. (90 m) altitude], 77°F (25 °C) inlet air temperature, and 0.30 in. Hg (1kPa) water vapor pressure with No. 2 diesel fuel or a fuel corresponding to ASTM D2. All data is subject to change without notice.

	STAND_BY		PRIME	
	60 Hz	50 Hz	60 Hz	50 Hz
Engine Speed r/min.....		1500		
Idle Speed r/min.....		675-775		
Gross Power Output BHP(kW).....		830(619)		
Brake Mean Effective Pressure PSI(kPa).....		189(1305)		
Piston Speed ft/min(m/s).....		1555(7.9)		
Friction Horsepower BHP(kW).....		115(86)		
Intake Air FlowCFM(L/s).....		1849(873)		
Exhaust Gas Flow CFM(L/s).....		5350(2525)		
Exhaust Gas Temperature °F(°C).....		1017(547)		
Heat Rejection to Ambient BTU/min(kW).....		5960(105)		
Heat Rejection to Coolant BTU/min(kW).....		24481(430)		

Change Log	
Date	Change Description
2017/4/13	Draft