

CHONGQING CUMMINS ENGINE COMPANY LTD. ENGINE PERFORMANCE CURVE

CONFIGURATION D233020DX02 ENGINE MODEL: KTA38-G2A CUR

CURVE NUMBER: FR-6925

CPL No.: 3660

DATE: 2013/6/25

Displacement: 38L

(2300)

Aspiration: Turbocharged , Aftercooled Fuel System: Cummins PT

1007 kW(1350 BHP)@1800r/min

BoreXStroke: 159X159mm Compress Ratio: 14.5:1 (6.25X6.25 in.) Fuel System: Cum
No. of Cylinder: V-12

896 kW(1200 BHP)@1500r/min

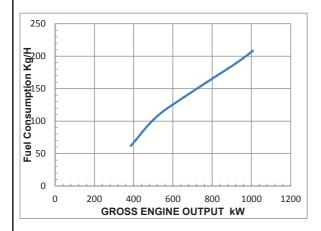
RATING

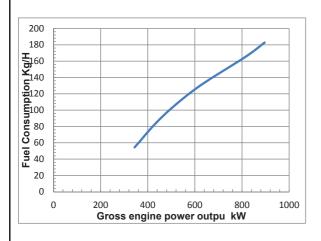
All data is based on the engine operating with fuel system, water pump, and 20 in. H2O(4.98kPa) inlet air restriction with 5.8 in.(147mm) inner diameter, and with 2 in. Hg(7kPa) exhaust restriction with 8 in.(203mm) inner diameter; not included are alternator, fan, optional equipment and driven components. 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

١	SPEED	STANDBY POWER		PRIME POWER		CONTINUOUS POWER	
ı	rpm	BHP	kW	BHP	kW	BHP	kW
ı	1800	1350	1007	1226	915		
ı	1500	1200	896	1090	813		

FUEL CONSUMPTION





OUTPUT POWER			CONSU	MPTION	BFSC	
%	BHP	kW	Lb/h	Lb/h Kg/h		Lb/BHP.h
			1800	RPM		
STNADB		1007	459	208	207	0.040
100	1350	1007	459	208	207	0.340
PRIME 100	1226	915	414	188	205	0.338
75	_	686		143	205 208	0.338
	920	515	315 234			
50	690			106	206	0.339
25	518	386	137	62	161	0.264
			1500	RPM		
STANDB	 V					
100	1200	896	403	183	204	0.336
PRIME	1200	000	400	100	204	0.000
100	1090	813	364	165	203	0.334
75	818	610	281	128	209	0.344
50	614	458	201	91	199	0.327
25	461	344	120	54	158	0.260
23	401		120	54	130	0.200

Curves shown above represent gross engine performance capabilites 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



POWER RATING APPLICATION GUIDELINES FOR GENERATOR DRIVE ENGINES

These guidelines have been foundlated to ensure proper application of generator drive engines in A.C. generator set installations. Generator drive engines are not designed for and shall not be used in variable speed D.C. generator set applications.

STANDBY POWER RATING is appliable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. Under no condition is an engine allowed to operate in parallel with the public utility at the standby Power rating.

This rating should be applied where reliable utility power is available. A standby rated engine should be sized for a maximum of an 80% average load factor and 200 hours of operation per year. This includes less than 25 hours per year at the Standby Power rating. Standby ratings should never be applied except in true emergency power outages. **Negotiated power** outages contracted with a utility company are not considered an emergency.

CONTINUOUS POWER RATING

Applicable for supplying utility power at a constant 100% load for an unlimited number of hours per year. No overload capability is available for this rating.

PRIME POWER RATING is applicable for supplying electric power in lieu of commercially purchased power. Prime Power applications must be in the form of one of the following two categories:

UNLIMITED TIME RUNNING PRIME POWER

Prime Power is available for an unlimited number of hours per year in a variable load application. Variable load shouled not exceed a 70% average of period of 250 hours.

The total operating time at 100% Prime Power shall not exceed 500 hours per year.

A 10% overload capability is available for aperiod of 1 hour within a 12 hour period of operation. Total operating time at the 10% overload power shall not exceed 25 hours per year.

LIMITED TIME RUNNING PRIME POWER

Prime Power is available for a limited number of hours in a non-variable load application. It is intended for use in situations where power outages are contracted, such as in utility power curtailment. Engines may be operated in parallel to the public utility up to 750 hours per year at power levels never to exceed the Prime Power rating. The customer should be aware, however, theat the life of any engine will be reduced by this constant high load operation. Any operation exceeding 750 hours per year at Prime Power rating should use the Continuous Power rating.

Reference Standards:

BS-5514 and DIN-6271 standards are based on ISO-3046.

Operation At Elevated Temperatrue And Altitude:

The engine may be operated at:

1800RPM up to 5,000 ft.(1,500m) and 104°F (40°C) without power deration. 1500RPM up to 5,000 ft.1,500m) and 104°F (40°C) without power deration. For sustained operation above these conditions, derate by 4% per 1,000ft. (300m), and 1% per 10°F (2% per 11°C).



CHONGQING CUMMINS ENGINE COMPANY LTD. **ENGINE DATA SHEET**

REFERENCE INFORMATION:

CINCINE MODEL (S). STAND_BY:

PRIME:

KTA38-G2A

1226 BH 915 kW @1800r/min

1350 BH 1007 kW @1800r/min

CONFIGURATION......D233020DX02

CPL NUMBER3660 PERFORMANCE CURVE NUMBER..... FR-6925

GENERALENGINE DATA		
Туре	4 Cycle , 6	0° Vee , 12 Cylind
Aspiration	Turbochar	ged , Aftercooled
Bore—in.(mm)×stroke—in.(mm)	6.25×6.25	(159×159)
Displacement—in ³ (L)	2300	(38)
Compression Ratio	14.5:1	
Dry Weight		
Fan Hub to Flywheel Engine —lb(kg)	8200	(3719)
Radiator Cooled Engine —lb(kg)	9625	(4366)
Wet Weight		
Fan Hub to Flywheel Engine —lb(kg)	8700	(3946)
Radiator Cooled Engine —lb(kg)	11030	(5003)
Moment of Inertia of Rotating Components (Excluding Flywheel) —lb _m .ft ² (kg•m ²)	94	(3.96)
·With FW 6001 Flywheel —kg•m²(lb _m .ft²)	10.45	(248.0)
·With FW 6011 Flywheel —kg•m²(lb _m .ft²)	20.78	(493.0)
C.G. Distance From Front Face of Block—in(mm)	31.5	(801)
C.G. Distance Above Crank Centerline—in(mm)	11	(279)
Maximum Allowable Bending Moment at Rear Face of Block —N•m(lb.ft)	2000	(907)
Firing Order		
	2R-5L-4R-	3L
ENGINE MOUNTING		
Moment of Inertia About Roll Axis —lb.ft²(kg•m²)		
EXHAUST SYSTEM		
Maximum Allowable Back Pressure (1500/1800 rpm) —in.Hg(kPa)	2.3/3	(7.8/10.2)
Maximum Allowable Back Pressure —in.Hg(kPa)	3	(10)
Exhaust Pipe Size Normally Acceptable —in(mm)	6	(152)
AIR INDUCTION SYSTEM		
Maximum Allowable Intake Air Restriction With Heavy Duty Air Cleaner		
Clean Element —in.H ₂ O(kPa)	15	(3.73)
Clean Element —in.H ₂ O(kPa)	15	(3.73)
Intake Air Alarm Temperature (1500/1800 rpm)—°C(°F)	82	(180)
COOLING SYSTEM		
Coolant Capacity		
With heat exchanger HX 4073 (With out explantion tank) —U.S.Gal(L)	18	(66)
With explantion tank & LTA—U.S.Gal(L)	30	(112)
Maximum Coolant Friction Heat External to Engine @1500 rpm —PSI(kPa)	7	(48.3)
@1500 rpm —PSI(kPa)	10	(68.9)
Minimum Raw Water Flow @ 90°F(32°C) to Heat Exchanger With HX 4073—GPM(L/mir 54	(204.4)



CHONGQING CUMMINS ENGINE COMPANY LTD. ENGINE DATA SHEET

Maximum Raw Water Inlet Pressure @ Heat Exchanger HX 6076 —PSI(kPa) 50 (344.7) Maximum Allowable Top Tank Temperature (Stand_byPrime) —"F(°C) 220/212 (104/100) Standard Thermostat (modulating) Range — "F(°C) 205 (96.1) 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) Minimum Allowable Inlital Fill Time —min. 5 (18.9) Maximum Allowable Inlital Fill Time —min. 5 (71/66) Maximum Allowable Coolant Expansion Space —% of System Capacity. 5 (71/66) LUBRICATION SYSTEM 2 (2 (31.8) (71/66) (18.9) Oil Pan Seas East Speed —PSI(kPa) 2 (2 (2 (31.8) (31.8) (31.8)	Maximum Raw Water Inlet Pressure @ Heat Exchanger HX 4073—PSI(kPa)	. 50	(344.7)
Standard Thermostat (modulating) Range—"F(℃)	Maximum Raw Water Inlet Pressure @ Heat Exchanger HX 6076 —PSI(kPa)	. 50	(344.7)
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 Allowable Fill Rate —U.S.GPM(Umin) 5 (18.9) Maximum Allowable Initial Fill Time —min 5 Image: Cool of the Cool of the Cool of Temperature at Limited Situation (Stand_by/Prime) — 160/150 (71/66) Maximum Allowable Inlet Coolant Temperature at Limited Situation (Stand_by/Prime) — 160/150 (71/66) Maximum Allowable Inlet Coolant Temperature at Limited Situation (Stand_by/Prime) — 160/150 (71/66) Maximum Allowable Inlet Coolant Temperature at Limited Situation (Stand_by/Prime) — 160/150 (71/66) Maximum Allowable Inlet Coolant Temperature at Limited Situation (Stand_by/Prime) — 160/150 (71/66) Glide —PSI(kPa) 20 (138) @ Rated Speed —PSI(kPa) 45-65 (310-448) Oil Flow at Rated Speed —U.S.GPM(Umin) 45-65 (310-448) Oil Flow at Rated Speed —U.S.GPM(Umin) 22 X 0.7 (2 X 2.6) Replaceable Element Type —U.S.Gal(L) 2 X 0.7 (2 X 2.6) Replaceable Element Type —U.S.Gal(L) 2 X 0.7 (2 X 2.6) </td <td>Maximum Allowable Top Tank Temperature (Stand_by/Prime) —°F(°C)</td> <td>. 220/212</td> <td>(104/100)</td>	Maximum Allowable Top Tank Temperature (Stand_by/Prime) —°F(°C)	. 220/212	(104/100)
Minimum Coolant Makeup Capacity —U.S.Gal(L) 6.3 (23.8) Maximum Raw water Inlet Friction —PSI(kPa) 10 (254.0) Minimum Allowable Fill Rate —U.S.GPM(L/min) 5 (18.9) Maximum Allowable Inlital Fill Time —min 5 (71.66) Minimum Allowable Locolant Expansion Space —% of System Capacity 5 Maximum Allowable Inlital Fill Time —min 5 Minimum Allowable Inlital Fill Time —min 5 Maximum Allowable Coolant Expansion Space —% of System Capacity 5 Maximum Allowable Dil Temperature at Limited situation (Stand_byPrime) — 160/150 (71/66) LUBRICATION SYSTEM 20 (138) Øl 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 250 (212.0) 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 0.7 (2 X 2.6) Replaceable Element Type —U.S.Gal(L) 40.0 (151.4) Total System Capacity (Excl	Standard Thermostat (modulating) Range— °F(°C)	. 180-200	(82-93)
Maximum Raw water Inlet Friction —PSI(kPa)	Maximum Allowable Coolant Temperature — $^{\circ}F(^{\circ}C)$	205	(96.1)
Minimum Allowable Fill Rate —U.S.GPM(L/min) 5 (18.9) Maximum Allowable Initial Fill Time —min 5 Minimum Allowable Initial Fill Time —min 5 Minimum Allowable Initial Fill Time —min 5 Maximum Allowable Inlet Coolant Temperature at Limited situation (Stand_by/Prime) — 160/150 (71/66) LUBRICATION SYSTEM 20 (138) 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 250 (2 × 2.6) Replaceable Element Type —U.S.Gal(L) 2 × 2.9 (2 × 11.0) Oil Pan Capacity (Option OP6024) 40.0 (151.4) High —U.S.Gal(L) 40.0 (151.4) 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) 45.0 (170.3) Total System System. Cummin Preserve Capacity (Excluding By-Pass Filter) 40.0 (135.1) <td>Minimum Coolant Makeup Capacity —U.S.Gal(L)</td> <td>. 6.3</td> <td>(23.8)</td>	Minimum Coolant Makeup Capacity —U.S.Gal(L)	. 6.3	(23.8)
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) — 160/150 (71/66) LUBRICATION SYSTEM 0 (138) ⊙il Pressure ② (148) 45-65 (310-448) ⊙il Plos at 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 5pin-on Cartridge Type —U.S.Gal(L). 2 X 2.9 (2 X 11.0) Oil Pan Capacity (Option OP6024) 40.0 (151.4) High —U.S.Gal(L). 45.0 (170.3) 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) Angularty of Standard Oil Pan (Option OP Front Down. 50° FFILEL SYSTEM Fuel Injection System. Cummins PT Maximum Fuel Consumption at Maximum Rated Output and Speed —Ib/h(kg/h). 4 (13.55) Maximum Fuel Supply at Rat	Maximum Raw water Inlet Friction —PSI(kPa)	10	(254.0)
Minimum Allowable Coolant Expansion Space —% of System Capacity 5 Maximum Allowable Inlet Coolant Temperature at Limited situation (Stand_by/Prime) — 160/150 (71/66) LUBRICATION SYSTEM Value —PSI(kPa) 20 (138) ② Idle —PSI(kPa) 20 (138) (310-448) ③ Idle —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 2× 2.9 (2× 2.6) Replaceable Element Type —U.S.Gal(L) 2× 2.9 (2× 1.0) Oil Pan Capacity (Option OP6024) 40.0 (151.4) High —U.S.Gal(L) 45.0 (170.3) Total System Capacity (Excluding By-Pass Filter) —U.S.Gal(L) 35.7 (135.1) Angularty of Standard Oil Pan (Option OPFornt Down 30° FUEL SYSTEM Fuel Injection System Cummins PT Maximum Fuel Consumption at Maximum Rated Output and Speed —Ib/h(kg/h) (13.55) Maximum Fuel Consumption at Maximum Rated Output and Speed —Ib/h(kg/h) 10 (33.86) Maximum Fuel Supply at Rated Power and Speed —Ib/h(kg/h)	Minimum Allowable Fill Rate —U.S.GPM(L/min)	. 5	(18.9)
Maximum Allowable Inlet Coolant Temperature at Limited situation (Stand_by/Prime) — 160/150 CUBRICATION SYSTEM	Maximum Allowable Initial Fill Time —min	5	
LUBRICATION SYSTEM Oil Pressure ② (ble —PSI(kPa)	Minimum Allowable Coolant Expansion Space —% of System Capacity	5	
Oil Pressure 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 350 (2 × 2.6) Replaceable Element Type —U.S.Gal(L). 2 × 0.7 (2 × 2.6) Replaceable Element Type —U.S.Gal(L). 2 × 2.9 (2 × 11.0) Oil Pan Capacity (Option OP6024) 40.0 (151.4) High —U.S.Gal(L). 40.0 (170.3) Total System Capacity (Excluding By-Pass Filter) —U.S.Gal(L). 35.7 (135.1) Angularty of Standard Oil Pan (Option OP 35.7 (135.1) Front Down. 30° FUEL SYSTEM Cummins PT Maximum Fuel Consumption at Maximum Rated Output and Speed —Ib/h(kg/h). Cummins PT Maximum Fuel Consumption at Maximum Rated Output and Speed —Ib/h(kg/h). 4 (13.55) With Clean Fuel Filter —in.Hg(kPa). 4 (13.55) With Dirty Fuel Filter —in.Hg(kPa). 7 (22) Maximum Rule Supply at Rated Power and Speed —Ib/h(kg/h). 7 (22) Less Check Valves —in.Hg(kPa). 3 (8) Minimum Allowable Fuel Tank Vent Capability —ft³/h (L/h) 15 (425)	Maximum Allowable Inlet Coolant Temperature at Limited situation (Stand_by/Prime) —	- 160/150	(71/66)
@ Idle —PSI(kPa)	LUBRICATION SYSTEM		
@ 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 250 (121.0) Spi-Pass Filter Capacity 2 × 0.7 (2 × 2.6) Replaceable Element Type —U.S.Gal(L). 2 × 2.9 (2 × 11.0) Oil Pan Capacity (Option OP6024) 40.0 (151.4) High —U.S.Gal(L). 40.0 (151.4) 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) Angularty of Standard Oil Pan (Option OP 30° Front Down. 7 Fruel LaySTEM Cummins PT Maximum Euel Consumption at Maximum Rated Output and Speed —Ib/h(kg/h). Cummins PT Maximum Bullowable Restriction to PT Fuel Pump 4 (13.55) With Dirty Fuel Filter —in.Hg(kPa). 4 (13.55) With Dirty Fuel Filter —in.Hg(kPa). 10 (33.86) Maximum Allowable Injector Return Line Restriction With Clean Fuel Filter —in.Hg(kPa). 7 (22) L	Oil Pressure		
Oil Flow at Rated Speed —U.S.GPM(L/min)	@ Idle —PSI(kPa)	. 20	(138)
Maximum Allowable Oil Temperature —°F(°C)	@ Rated Speed —PSI(kPa)	. 45-65	(310-448)
By-Pass Filter Capacity 2 X 0.7 (2 X 2.6) Replaceable Element Type —U.S.Gal(L)	Oil Flow at Rated Speed —U.S.GPM(L/min)	. 124	(469.4)
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 OP6024) 40.0 (151.4) High —U.S.Gal(L) 40.0 (151.4) 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) Angularty of Standard Oil Pan (Option OP Front Down 30° FUEL SYSTEM Fuel Injection System Cummins PT Maximum Fuel Consumption at Maximum Rated Output and Speed —lb/h(kg/h) Cummins PT Maximum Bulowable Restriction to PT Fuel Pump 4 (13.55) With Dirty 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) Haximum 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 —ft³/h (L/h) 15 (425) (With 2.5 in. Hg (63 mm Hg) or Less Back P	Maximum Allowable Oil Temperature —°F(°C)	250	(121.0)
Replaceable Element Type —U.S.Gal(L) 2 X 2.9 (2 X 11.0) Oil Pan Capacity (Option OP6024) (151.4) High —U.S.Gal(L) 40.0 (151.4) 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) Angularty of Standard Oil Pan (Option OP Front Down 30° 7 (170.3) FUEL SYSTEM Cummins PT Maximum Consumption at Maximum Rated Output and Speed —Ib/h(kg/h) Cummins PT Maximum Blowable 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 —Ib/h(kg/h) 3 (8) Maximum Allowable Injector Return Line Restriction 7 (22) Less Check Valves —in.Hg(kPa) 7 (22) Less Check Valves —in.Hg(kPa) 3 (8) Minimum Allowable Fuel Tank Vent Capability —ft³/h (L/h) 15 (425) (With 2.5 in. Hg (63 mm Hg) or Less Back Pressure) 4 (425) Starter (Heavy, Anode)—Volt. 24 Battary Recharge System, Negative ground—A <td>By-Pass Filter Capacity</td> <td></td> <td></td>	By-Pass Filter Capacity		
Oil Pan Capacity (Option OP6024) 40.0 (151.4) High —U.S.Gal(L)	Spin-on Cartridge Type —U.S.Gal(L)	2 X 0.7	(2 X 2.6)
Oil Pan Capacity (Option OP6024) 40.0 (151.4) High —U.S.Gal(L)	Replaceable Element Type —U.S.Gal(L)	2 X 2.9	(2 X 11.0)
High — U.S.Gal(L)	Oil Pan Capacity (Option OP6024)		,
Total System Capacity (Excluding By-Pass Filter) —U.S.Gal(L)		. 40.0	(151.4)
Angularty of Standard Oil Pan (Option OP Front Down	Total System Capacity (Excluding By-Pass Filter) —U.S.Gal(L)	. 45.0	(170.3)
Front Down. 30° FUEL SYSTEM Fuel Injection System. Cummins PT Maximum Fuel Consumption at Maximum Rated Output and Speed —lb/h(kg/h). Cummins PT Maximum allowable Restriction to PT Fuel Pump 4 (13.55) 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). With Check Valves —in.Hg(kPa). Maximum Allowable Injector Return Line Restriction 7 (22) Less Check Valves —in.Hg(kPa). 7 (22) Less Check Valves —in.Hg(kPa). 3 (8) Minimum Allowable Fuel Tank Vent Capability —ft³/h (L/h) 15 (425) (With 2.5 in. Hg (63 mm Hg) or Less Back Pressure) Starter (Heavy, Anode) —Volt. 24 Battary Recharge System, Negative ground—A. 35 Maximum Allowable Resistance of Starting Circuit—Ω. 0.002 Minimum Recommended Battary Capacity 0.002 **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	Total System Capacity (Excluding By-Pass Filter) —U.S.Gal(L)	. 35.7	(135.1)
FUEL SYSTEM Fuel Injection System	Angularty of Standard Oil Pan (Option OP		
Fuel Injection System	Front Down	. 30°	
Maximum Fuel Consumption at Maximum Rated Output and Speed —lb/h(kg/h).Maximum allowable Restriction to PT Fuel Pump4 (13.55)With Clean Fuel Filter —in.Hg(kPa)	FUEL SYSTEM		
Maximum allowable Restriction to PT Fuel PumpWith Clean Fuel Filter —in.Hg(kPa)	Fuel Injection System	. Cummins PT	
With Clean Fuel Filter —in.Hg(kPa)	Maximum Fuel Consumption at Maximum Rated Output and Speed —lb/h(kg/h)		
With Dirty Fuel Filter —in.Hg(kPa)	Maximum allowable Restriction to PT Fuel Pump		
Maximum Fuel Supply at Rated Power and Speed —lb/h(kg/h).Maximum Allowable Injector Return Line Restriction7(22)With Check Valves —in.Hg(kPa)	With Clean Fuel Filter —in.Hg(kPa)	4	(13.55)
Maximum Allowable Injector Return Line Restriction7(22)With Check Valves —in.Hg(kPa)	With Dirty Fuel Filter —in.Hg(kPa)	. 10	(33.86)
$\begin{tabular}{lllllllllllllllllllllllllllllllllll$	Maximum Fuel Supply at Rated Power and Speed —lb/h(kg/h)		
Less Check Valves —in.Hg(kPa)	Maximum Allowable Injector Return Line Restriction		
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	With Check Valves —in.Hg(kPa)	7	(22)
(With 2.5 in. Hg (63 mm Hg) or Less Back Pressure) Starter (Heavy, Anode)—Volt	Less Check Valves —in.Hg(kPa)	. 3	(8)
Starter (Heavy, Anode)—Volt	Minimum Allowable Fuel Tank Vent Capability —ft³/h (L/h)	. 15	(425)
Battary Recharge System, Negative ground—A	(With 2.5 in. Hg (63 mm Hg) or Less Back Pressure)		
Maximum Allowable Resistance of Starting Circuit— Ω .0.002Minimum Recommended Battary 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	Starter (Heavy, Anode)—Volt		24
Minimum Recommended Battary Capacity ·Cold Soak at 50°F(10°C) or Above—0°F CCA	Battary Recharge System, Negative ground—A		35
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	Maximum Allowable Resistance of Starting Circuit— Ω .		0.002
Cold Soak at 32~50°F(0~10°C) or Above—0°F CCA	Minimum Recommended Battary Capacity		
	·Cold Soak at 50°F(10°ℂ) or Above—0°F CCA		1200
·Cold Soak at 0~32°F(-18~0°C) or Above—0°F CCA	·Cold Soak at 32~50°F(0~10 °C) or Above—0°F CCA		1280
	·Cold Soak at 0~32°F(-18~0℃) or Above—0°F CCA		1800



CHONGQING CUMMINS ENGINE COMPANY LTD. ENGINE DATA SHEET

PERFORMANCE DATA

All data is based on the engine operating with ruel system, water pump, lubricating oil pump, air cleaner, and muffler, not included are alternator, compressor, fan, optional equipment and driven components. Data repressents gross engine performance capabilities obtained and corrected in accordance with SAE J1349 conditions fo 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 potice.

TRAILCE	STAND_BY		PRIME	
	60 Hz	50 Hz	60 Hz	50 Hz
Engine Speed r/min	1800	1500	1800	1500
Idle Speed r/min	725-775	725-775	725-775	725-775
Gross Power Output BHP(kW)	1350(1007)	1200(896)	1226(915)	1090(813)
Brake Mean Effective Pressure PSI(kPa)	257(1769)	274(1889)	233(1607)	249(1714)
Piston Speed ft/min(m/s)	1870(9.5)	1555(7.9)	1870(9.5)	1555(7.9)
Friction Horsepower BHP(kW)	170(127)	115(86)	170(127)	115(86)
Intake Air FlowCFM(L/s)	2940(1388)	2260(1067)	2800(1322)	2120(1001)
Exhaust Gas Flow CFM(L/s)	7645(3608)	6345(2995)	7115(3358)	5845(2759)
Exhaust Gas Temperature °F(°C)	872(467)	970(521)	856(458)	945(507)
Heat Rejection to Ambient BTU/min(kW)	8175(144)	7380(130)	7470(0)	6665(117)
Heat Rejection to Coolant BTU/min(kW)	34840(613)	31200(549)	31720(558)	28080(494)
Engine Water Flow L/s(U.S.GPM) @ 4psi	390(24.6)	310(19.6)	390(24.6)	310(19.6)

Chanvge Log

Date Author Change Description

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