

Cummins Engine Company, Inc.

Engine Data Sheet

ENGINE MODEL : **KTA50-G3**

CONFIGURATION NUMBER : D283021DX02

DATA SHEET : DS-6250

DATE : 12Jan01

PERFORMANCE CURVE : FR-6250

INSTALLATION DIAGRAM

• Fan to Flywheel : 3626420

CPL NUMBER

• Engine Critical Parts List : 2227

GENERAL ENGINE DATA

Type	4-Cycle; 60° Vee; 16-Cylinder Diesel	
Aspiration	Turbocharged and Aftercooled	
Bore x Stroke	— in x in (mm x mm)	6.25 x 6.25 (159 x 159)
Displacement	— in ³ (liter)	3067 (50.3)
Compression Ratio		13.9 : 1
Dry Weight		
Fan to Flywheel Engine	— lb (kg)	11820 (5360)
Heat Exchanger Cooled Engine	— lb (kg)	12260 (5560)
Wet Weight		
Fan to Flywheel Engine	— lb (kg)	12485 (5662)
Heat Exchanger Cooled Engine	— lb (kg)	13085 (5934)
Moment of Inertia of Rotating Components		
• with FW 6009 Flywheel	— lb _m • ft ² (kg • m ²)	301 (12.7)
• with FW 6017 Flywheel	— lb _m • ft ² (kg • m ²)	515 (21.7)
Center of Gravity from Rear Face of Flywheel Housing (FH 6024)	— in (mm)	47.5 (1206)
Center of Gravity Above Crankshaft Centerline	— in (mm)	11.0 (279)
Maximum Static Loading at Rear Main Bearing	— lb (kg)	2000 (908)

ENGINE MOUNTING

Maximum Bending Moment at Rear Face of Block	— lb • ft (N • m)	4500 (6100)
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EXHAUST SYSTEM

Maximum Back Pressure @ Standby Power Rating	— in Hg (mm Hg)	2 (51)
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AIR INDUCTION SYSTEM

Maximum Intake Air Restriction		
• with Dirty Filter Element @ Standby Power Rating	— in H ₂ O (mm H ₂ O)	25 (635)
• with Clean Filter Element @ Standby Power Rating	— in H ₂ O (mm H ₂ O)	15 (381)

COOLING SYSTEM

Coolant Capacity — Engine Only	— US gal (liter)	42.5 (161)
Maximum Coolant Friction Head External to Engine — 1800 rpm	— psi (kPa)	15 (103) 耐壓參數2倍
— 1500 rpm	— psi (kPa)	10 (69)
Maximum Static Head of Coolant Above Engine Crank Centerline	— ft (m)	60 (18.3)
Standard Thermostat (Modulating) Range	— °F (°C)	180 - 200 (82 - 93) 散熱量
Minimum Pressure Cap (For Cooling Systems with less than 2 m [6 ft.] Static Head)	— psi (kPa)	14 (96)
Maximum Top Tank Temperature for Standby / Prime Power	— °F (°C)	220 / 212 (104 / 100)

LUBRICATION SYSTEM

Oil Pressure @ Idle Speed	— psi (kPa)	20 (138)
@ Governed Speed	— psi (kPa)	50 - 70 (345 - 483)
Maximum Oil Temperature	— °F (°C)	250 (121)
Oil Capacity with OP 6024 Oil Pan : High - Low	— US gal (liter)	40 - 32 (151 - 121)
Total System Capacity (Including Bypass Filter)	— US gal (liter)	46.7
Angularity of OP 6024 Oil Pan — Front Down		
— Front Up		
— Side to Side		

FUEL SYSTEM

Type Injection System	Direct Injection-Cummins PT	
Maximum Restriction at PT Fuel Injection Pump — with Clean Fuel Filter	— in Hg (mm Hg)	4.0 (102)
— with Dirty Fuel Filter	— in Hg (mm Hg)	8.0 (203)
Maximum Allowable Head on Injector Return Line (Consisting of Friction Head and Static Head)	— in Hg (mm Hg)	6.5 (165)
Maximum Fuel Flow to Injection Pump	— US gph (liter / hr)	165 (625)



ELECTRICAL SYSTEM

Cranking Motor (Heavy Duty, Positive Engagement).....	— volt	24
Battery Charging System, Negative Ground.....	— ampere	35
Maximum Allowable Resistance of Cranking Circuit.....	— ohm	0.002
Minimum Recommended Battery Capacity		
• Cold Soak @ 50 °F (10 °C) and Above.....	— 0°F CCA	1280
• Cold Soak @ 32 °F to 50 °F (0 °C to 10 °C).....	— 0°F CCA	1800
• Cold Soak @ 0 °F to 32 °F (-18 °C to 0 °C).....	— 0°F CCA	1800

COLD START CAPABILITY

Minimum Ambient Temperature for Aided (with Coolant Heater) Cold Start within 10 seconds.....	— °F (°C)	50	(10)
Minimum Ambient Temperature for Unaided Cold Start.....	— °F (°C)	45	(7)

PERFORMANCE DATA

- All data is based on:
- Engine operating with fuel system, water pump, lubricating oil pump, air cleaner and exhaust silencer; not included are battery charging alternator, fan, and optional driven components.
 - Engine operating with fuel corresponding to grade No. 2-D per ASTM D975.
 - ISO 3046, Part 1, Standard Reference Conditions of:

Barometric Pressure	: 100 kPa (29.53 in Hg)	Air Temperature	: 25 °C (77 °F)
Altitude	: 110 m (361 ft)	Relative Humidity	: 30%

Steady State Stability Band at any Constant Load.....	— %	+/- 0.25
Estimated Free Field Sound Pressure Level of a Typical Generator Set; Excludes Exhaust Noise; at Rated Load and 7.5 m (24.6 ft); 1800 rpm / 1500 rpm.....	— dBA	94.6 / 92.4
Exhaust Noise at 1 m Horizontally from Centerline of Exhaust Pipe Outlet Upwards at 45° — 1800 / 1500 rpm.....	— dBA	126 / 125

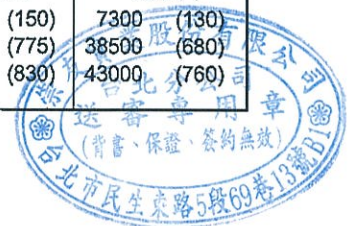
Governed Engine Speed.....	— rpm
Engine Idle Speed.....	— rpm
Gross Engine Power Output.....	— BHP (kW _m)
Brake Mean Effective Pressure.....	— psi (kPa)
Piston Speed.....	— ft / min (m / s)
Friction Horsepower.....	— HP (kW _m)
Engine Water Flow at Stated Friction Head External to Engine:	
• 4 psi Friction Head.....	— US gpm (liter / s)
• Maximum Friction Head.....	— US gpm (liter / s)

	STANDBY POWER		PRIME POWER UNLIMITED TIME	
	60 hz	50 hz	60 hz	50 hz
Governed Engine Speed.....	1800	1500	1800	1500
Engine Idle Speed.....	725 - 775	725 - 775	725 - 775	725 - 775
Gross Engine Power Output.....	1850 (1380)	1645 (1227)	1635 (1220)	1470 (1097)
Brake Mean Effective Pressure.....	265 (1827)	283 (1951)	235 (1620)	253 (1744)
Piston Speed.....	1875 (9.5)	1562 (7.9)	1875 (9.5)	1562 (7.9)
Friction Horsepower.....	225 (168)	155 (116)	225 (168)	155 (116)
Engine Water Flow at Stated Friction Head External to Engine:				
• 4 psi Friction Head.....	535 (33.7)	440 (27.8)	535 (33.7)	440 (27.8)
• Maximum Friction Head.....	470 (29.6)	400 (25.2)	470 (29.6)	400 (25.2)
Engine Data with Dry Type Exhaust Manifold 散熱量				
Intake Air Flow.....	3900 (1840)	3700 (1746)	3700 (1746)	3400 (1605)
Exhaust Gas Temperature.....	887 (475)	977 (525)	860 (460)	968 (520)
Exhaust Gas Flow.....	9100 (4295)	8500 (4011)	8400 (3964)	7900 (3728)
Air to Fuel Ratio.....	26.5 : 1	27.0 : 1	27.5 : 1	28.0 : 1
Radiated Heat to Ambient.....	10000 (176)	8500 (150)	8500 (150)	7300 (130)
Heat Rejection to Coolant.....	51000 (900)	44000 (775)	44000 (775)	38500 (680)
Heat Rejection to Exhaust.....	53000 (935)	48000 (845)	47000 (830)	43000 (760)

最終依現場尺寸訂製, 並符合以上資料數據

(約 1865mm X 1570mm X 90mm)

- N.A. - Data is Not Available
- N/A - Not Applicable to this Engine
- TBD - To Be Determined



CUMMINS ENGINE COMPANY, INC.

Columbus, Indiana 47202-3005

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