

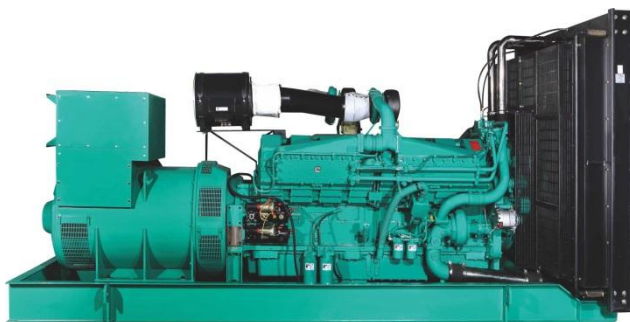
# DATA SHEET

DIESEL GENERATOR 440KW

MODEL#FDK-CC550E/H1

50HZ/1500RPM

CUMMINS MODEL: KTA19-G3A



## General Features:

- ♦ All qualified generator sets are subjected to a comprehensive performance test which includes 50% load, 70% load, 100% load, 110% load and to check, verify that all control systems, alarm and shut-down protection.
- ♦ Equipped with battery charger and 24V high performance maintenance-free lead-acid starting batteries and connecting cables.
- ♦ Stainless galvanized zinc plates with strong corrosion-proof.
- ♦ Vibration isolators between the engine/alternator and base frame.
- ♦ Equipped with industrial silencer and flexible exhaust hose.
- ♦ Designed to comply with ISO8528/GB2820.
- ♦ Powered by Cummins engine and coupled with Stamford alternator.
- ♦ Water jacket preheater, oil heater and double air cleaner, etc. are available.

## FDK Diesel Generator Set Data

Genset Model	FDK-CC550/H1
Prime Power	400KW/500KVA
Standby Power	440KW/550KVA
Output Frequency / Rated speed	50Hz/1500rpm
Rated Voltage	230V/400V

Engine Make	Cummins
Engine Model	KTA19-G3A
Alternator model	Stamford HCI544C
Control System	DSE7320
Phase	Three

(1) **Prime power:** The rating is available for an unlimited of annual operating hours in variable load applications, in accordance with ISO8528-1.A 10% overload is available for a period of 1 hour within 12-hour period of operation, in accordance with ISO 3046-1.

(2) **Standby power:** The rating is applicable for supplying emergency power in variable load applications for up to 200 hours per year in accordance with ISO8528-1. Overload is not allowed.

(3) **Rated voltage:** available with customer requirement.

## Engine Specifications (DETAILED in APPENDIX)

Engine Model	KTA19-G3A
Engine Manufacturer	Cummins (CCEC CHINA)
Cylinder quantity	6
Cylinder Arrangement	In-line
Cycle	4

Aspiration	Turbo-charged
Bore x Stroke (mm x mm)	159×159
Displacement	18.9L
Compression Ratio	13.9:1
Prime power / Speed (KW/RPM)	448/1500
Standby power/ Speed (KW/RPM)	504/1500



ISO9001:2008

FDK reserves the right to change the specifications and designs without notice.

Type Injection System	Direct injection Cummins PT	Fuel Consumption at 100% load (L/HOUR)	111 at 1500rpm
Piston Speed	7.9m/s	Starter motor	DC24V
Friction Energy Output	45kw	Low idle	675-775rpm
Total Lubrication System Capacity (L)	50	Coolant Capacity (L)	30L

**Alternator Specifications**

Alternator model	HCI544C	Number of phase	3
Alternator manufacturer	STAMFORD	Rated voltage	400V (Available with custom requirements)
Exciter type	Single bearing, Brushless, Self-excited	Power factor	0.8
Rated output prime power	500KVA	Voltage regulation NL-FL	≤±1%
Rated speed	1500 rpm	Insulation grade	H
Rated frequency	50Hz	Protection grade	IP23

**Alternator option: Leroy Somer, MECC, Marathon, Engga, Faraday****Control System DSE7320 (DETAILED in INSTRUCTION)**

DSE7320 is an advanced control module based on micro-processor, containing all necessary functions for protection of the genset and the breaker control. It can monitor the mains supply, breaker control and automatically start the engine when the mains are abnormal. Accurately measure various operational parameters and display all values and alarms information on the LCD. In addition, the control module can automatically shut down the engine and indicate the engine failure.

**FEATURES**

- ♦ Microprocessor control, with high stability and credibility.
- ♦ Monitoring and measuring operational parameters of the mains supply and genset.
- ♦ Indicating operation status, fault conditions, all parameters and alarms.
- ♦ Multiple protections; multiple parameters display, like pressure, temp. etc.
- ♦ Manual, automatic and remote work mode selectable.
- ♦ Real time clock for time and date display, overall runtime display, 250 log entries.
- ♦ Overall power output display.
- ♦ Integral speed/frequency detecting, telling status of start, rated operation, overspeed etc.
- ♦ Communication with PC via RS485 OR RS232 interface, using MODBUS protocol.

**Soundproof Enclosure Specification**

FDK silent generator is designed by professional acoustic engineers based on years of experience. Now we can make the noise of the generator less than 80-85dB(A) at 1m, or 70-75dB(A) at 7m, 60-65dB(A) at 15m.

**FEATURES**

- ♦ Multi-way air intake and exhaust guarantee the power performance of the generator.
- ♦ Large-scale impedance combined type silencer effectively reduce noise of the generator.
- ♦ Internal high performance rubber damper and flexible materials reduce vibration.
- ♦ Base mounted fuel tank supports the generator running for 8 hours.



ISO9001:2008

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**Optional**

Generator set	Alternator	Low environment Temp	ATS
<input type="checkbox"/> Open generator set <input type="checkbox"/> Silent generator set <input type="checkbox"/> Trailer generator set <input type="checkbox"/> ABB MCCB circuit breaker	<input type="checkbox"/> Stamford <input type="checkbox"/> Marathon <input type="checkbox"/> Mecc Alte <input type="checkbox"/> Leroy Somer <input type="checkbox"/> Farady <input type="checkbox"/> Engga	<input type="checkbox"/> Water heater <input type="checkbox"/> Oil heater <input type="checkbox"/> Battery heater	<input type="checkbox"/> CHINT <input type="checkbox"/> SCHNEIDER <input type="checkbox"/> ABB
Fuel system	Control system	Voltage	Synchronized system
<input type="checkbox"/> 12hrs base tank <input type="checkbox"/> 24hrs base tank <input type="checkbox"/> Dual wall base fuel tank <input type="checkbox"/> Outside fuel tank	<input type="checkbox"/> AMF function <input type="checkbox"/> ATS control cabinet <input type="checkbox"/> DSE7320 <input type="checkbox"/> DSE7510 <input type="checkbox"/> GU620A	<input type="checkbox"/> 415/240V <input type="checkbox"/> 400/230V <input type="checkbox"/> 380/220V <input type="checkbox"/> 220/127V <input type="checkbox"/> 200/115V	<input type="checkbox"/> CHINT Cabinet <input type="checkbox"/> SCHNEIDER Cabinet <input type="checkbox"/> DSE8610 Module <input type="checkbox"/> COMAQ Module <input type="checkbox"/> DEIF Module

**Dimension & Weight****Open**

Overall Size: L×W×H (mm)	3350×1280×1934
Weight (kg)	3940

**Soundproof Version**

Overall Size: L×W×H (mm)	4500×1600×2500
Weight (kg)	6080

**Sales Promises**

- ◆ FDK provides a full line of brand new and high quality products. Each and every unit is strictly factory tested before shipment.
- ◆ Quality warranty is according to our standard conditions: 12 months from BL date or 1000 running hours, whichever comes first.
- ◆ Service and parts are available from FDK or distributors in your location.
- ◆ FDK guarantee use **BRAND NEW & GENUINE MACHINE.**





**REFERENCE INFORMATION:**

563 kW @1800f/min

CONFIGURATION.....D193091D.X02

CPI NUMBER.....4153

507 kW @1800r/min

PERFORMANCE CURVE NUMBER.....FB4212

Type.....	4 Cycle , In-line , 6 Cylinder	
Aspiration.....	Turbocharged , Aftercooled	
Bore—in. (mm)×stroke—in. (mm).....	6.25×6.25	(159×159)
Displacement—in <sup>3</sup> (L).....	1150	(19)
Compression Ratio.....	13.9:1	
Dry Weight		
Fan Hub to Flywheel Engine —lb(kg).....	3725	(1690)
Radiator Cooled Engine —lb(kg).....	5900	(2676)
Wet Weight		
Fan Hub to Flywheel Engine —lb(kg).....	3880	(1760)
Radiator Cooled Engine —lb(kg).....	6300	(2858)
Moment of Inertia of Rotating Components (Excluding Flywheel) —lb <sub>m</sub> . ft <sup>2</sup> (kg•m <sup>2</sup> ).....	43	(1.82)
·With FW 4001 Flywheel —kg•m <sup>2</sup> (lb <sub>m</sub> . ft <sup>2</sup> ).....	7.16	(170.0)
·With FW 4006 Flywheel —kg•m <sup>2</sup> (lb <sub>m</sub> . ft <sup>2</sup> ).....	8.39	(199.0)
C.G. Distance From Front Face of Block—in(mm).....	23.6	(598)
C.G. Distance Above Crank Centerline—in(mm).....	9	(229)
Maximum Allowable Bending Moment at Rear Face of Block —N•m(lb.ft).....	2000	(907)
Firing Order.....	1-5-3-6-2-4	

Moment of Inertia About Roll Axis — lb·ft<sup>2</sup> (kg·m<sup>2</sup>)..... 1876 (79)

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).....	5	(127)

Maximum Allowable Intake Air Restriction With Heavy Duty Air Cleaner		
Clean Element —in. H <sub>2</sub> O (kPa).....	15	(3.73)
Clean Element —in. H <sub>2</sub> O (kPa).....	15	(3.73)
Intake Air Alarm Temperature (1500/1800 rpm)—°C(°F).....	82	(180)

Coolant Capacity		
After-cooler Only —U.S.Gal(L).....	6	(23)
With heat exchanger HX 6076 ( With out explanation tank) —U.S.Gal(L).....	53	(199)
With explanation tank & LTA—U.S.Gal(L).....	30	(112)

Maximum Coolant Friction Heat External to Engine @1800 rpm —PSI(kPa).....	10	(68.9)
@1500 rpm —PSI(kPa).....	10	(68.9)

Maximum Allowable Air Friction Across radiator — in. H<sub>2</sub>O (kPa)..... 0.5 (0.1)  
Minimum Raw Water Flow @ 90°F (32 °C) to Heat Exchanger With HX 6076 — GPM (L/mi) 108 (408.8)

**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:**

<http://www.peng-paul.com/nl/eng/Publish/design/>





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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).....	1.6	(6.1)
Maximum Raw water Inlet Friction —PSI(kPa).....	10	(254.0)
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) —°F(°C).....	160/150	(71/66)

## LUBRICATION SYSTEM

Oil Pressure		
@ Idle —PSI(kPa).....	20	(138)
@ Rated Speed —PSI(kPa).....	50-70	(345-483)
Oil Flow at Rated Speed —U.S.GPM(L/min).....	40	(151.4)
Maximum Allowable Oil Temperature —°F(°C).....	250	(121.0)
By-Pass Filter Capacity		
Spin-on Cartridge Type —U.S.Gal(L).....	0.7	(2.6)
Replaceable Element Type —U.S.Gal(L).....	2.9	(11.0)
Oil Pan Capacity (Option OP4019)		
High —U.S.Gal(L).....	10.0	(37.9)
Total System Capacity (Excluding By-Pass Filter) —U.S.Gal(L).....	22.3	(84.4)
Total System Capacity (Excluding By-Pass Filter) —U.S.Gal(L).....	13.2	(50.0)
Angularity 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).....		
Maximum allowable Restriction to PT Fuel Pump		
With Clean Fuel Filter —in.Hg(kPa).....	4	(13.55)
With Dirty Fuel Filter —in.Hg(kPa).....	9	(30.48)
Maximum Fuel Supply at Rated Power and Speed —lb/h(kg/h).....		
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 <sup>3</sup> /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.....	600	
·Cold Soak at 32~50°F(0~10°C) or Above—0°F CCA.....	640	
·Cold Soak at 0~32°F(-18~0°C) or Above—0°F CCA.....	900	



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## PERFORMANCE DATA

All data is based on the engine operating with idel 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 to 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.....	1800	1500	1800	1500
Idle Speed r/min.....	675-775	675-775	675-775	675-775
Gross Power Output BHP(kW).....	755(563)	675(504)	680(507)	600(448)
Brake Mean Effective Pressure PSI(kPa).....	287 (1978)	308(2125)	258(1781)	274(1889)
Piston Speed ft/min(m/s).....	1870(9.5)	1555(7.9)	1870(9.5)	1555(7.9)
Friction Horsepower BHP(kW).....	83(62)	54(40)	83(62)	54(40)
Intake Air FlowCFM( L/s).....	1517(716)	1226(579)	1455(687)	1126(531)
Exhaust Gas Flow CFM( L/s).....	3945(1862)	3398(1604)	3673(1734)	3039(1434)
Exhaust Gas Temperature °F(°C).....	939(504)	1034(557)	898(481)	1000(538)
Heat Rejection to Ambient BTU/min(kW).....	4522(80)	4108(72)	4050(0)	3645(64)
Heat Rejection to Coolant BTU/min(kW).....	22830(401)	20530(361)	20824(366)	18125(319)
Engine Water Flow L/s(U.S.GPM) @ 3psi.....	196(12.4)	162(10.2)	196(12.4)	162(10.2)

## Change Log

Date	Author	Change Description
2013/6/25	Jiang Li	Release