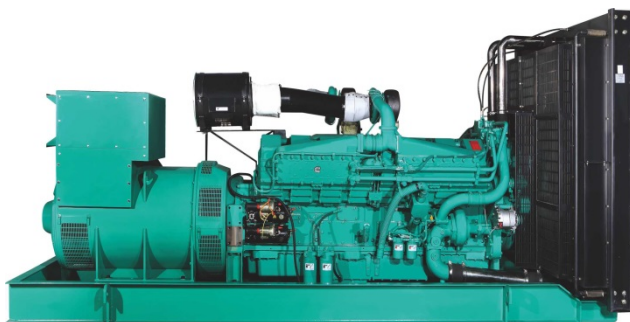


## DATA SHEET

DIESEL GENERATOR 600KW  
MODEL#FDK-CC600/H2  
60HZ/1800RPM  
CUMMINS MODEL: KTAA19-G6A



### 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-CC600/H2 |
| Prime Power                    | 540KW/675KVA |
| Standby Power                  | 600KW/750KVA |
| Output Frequency / Rated speed | 60Hz/1800rpm |
| Rated Voltage                  | 230V/400V    |

|                  |                  |
|------------------|------------------|
| Engine Make      | Cummins          |
| Engine Model     | KTAA19-G6A       |
| Alternator model | Stamford HCI544E |
| 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         | KTAA19-G6A              |
| Engine Manufacturer  | Cummins<br>(CCEC CHINA) |
| Cylinder quantity    | 6                       |
| Cylinder Arrangement | In-line                 |
| Cycle                | 4                       |

|                               |               |
|-------------------------------|---------------|
| Aspiration                    | Turbo-charged |
| Bore x Stroke (mm x mm)       | 159x159       |
| Displacement                  | 18.9L         |
| Compression Ratio             | 13.0:1        |
| Prime power / Speed (KW/RPM)  | N.A.          |
| Standby power/ Speed (KW/RPM) | 664/1800      |



ISO9001:2008

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

|                                       |                                |   |               |
|---------------------------------------|--------------------------------|---|---------------|
| Type Injection System                 | Direct injection<br>Cummins PT | Fuel Consumption at 100% load<br>(L/HOUR) | 161at 1800rpm |
| Piston Speed                          | 9.5m/s                         | Starter motor                             | 24V           |
| Friction Energy Output                | 63kw                           | Low idle                                  | 675-775rpm    |
| Total Lubrication System Capacity (L) | 50                             | Coolant Capacity (L)                      | 30L           |

## Alternator Specifications

|                          |  |                          |   |
|--------------------------|--|--------------------------|---|
| Alternator model         | HCI544E                                    | Number of phase          | 3   |
| Alternator manufacturer  | STAMFORD                                   | Rated voltage            | 440V (Available with custom requirements) |
| Exciter type             | Single bearing, Brushless,<br>Self-excited | Power factor             | 0.8                                       |
| Rated output prime power | 681KVA                                     | Voltage regulation NL-FL | ≤±1%                                      |
| Rated speed              | 1800 rpm                                   | Insulation grade         | H   |
| Rated frequency          | 60Hz                                       | 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

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

## Optional

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

## Dimension & Weight

### Open

|                             |                |
|-----------------------------|----------------|
| Overall Size:<br>LxWxH (mm) | 3200x1280x1950 |
| Weight (kg)                 | 3800           |


### Soundproof Version

|                             |                |
|-----------------------------|----------------|
| Overall Size:<br>LxWxH (mm) | 5100x1800x2350 |
| Weight (kg)                 | 5600           |

## 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.**



|   |   |                    |                   |                      |                   |           |
|---|---|--------------------|-------------------|----------------------|-------------------|-----------|
|  | <b>ChongQing Cummins Engine Company, Inc.</b><br><b>Engine Data Sheet</b> |                    |                   | <b>ENGINE SERIES</b> | <b>D19</b>        |           |
|   |   |                    |                   | <b>ENGINE MODEL</b>  | <b>KTAA19-G6A</b> |           |
|   | <b>PERFORMANCE CURVE</b>  | <b>C- CQ6061</b>   | <b>CPL NUMBER</b> | Dry manifold N/A     | <b>DATA SHEET</b> | DS-CQ6061 |
|   | <b>CONFIGURATION NUMBER</b>   | <b>D193091DXCQ</b> |                   | wet manifold CQ409   | <b>SHEET</b>      | <b>5</b>  |

## INSTALLATION DIAGRAM

- Engine:
- Engine With Radiator :

## GENERAL ENGINE DATA

Type ..... 4 Cycle; In-line; 6 Cylinder Diesel  
Aspiration..... Turbocharged and Air to Air Aftercooled  
Bore x Stroke..... — in x in (mm x mm) 6.25 x 6.25 (159 x 159)  
Displacement ..... — in<sup>3</sup> (liter) 1150 (18.9)  
Compression Ratio..... 13.0 : 1  
Dry Weight  
Engine(with wet manifold)..... — lb (kg) 4195 (1905)  
Wet Weight  
Engine(with wet manifold)..... — lb (kg) 4355 (1977)  
Moment of Inertia of Rotating Components  
• with FW 4001 Flywheel ..... — lb m • ft<sup>2</sup> (kg • m<sup>2</sup>) 170 (7.2)  
• with FW 4006 Flywheel ..... — lb m • ft<sup>2</sup> (kg • m<sup>2</sup>) 199 (8.4)  
Center of Gravity from Rear Face of Flywheel Housing (FH 4018) ..... — in (mm) 28.4 (721)  
Center of Gravity above Crankshaft Centerline..... — in (mm) 9.0 (229)  
Firing Order..... — 1-5-3-6-2-4

## ENGINE MOUNTING

Maximum Bending Moment at Rear Face of Block ..... — lb • ft (N • m) 1000 (1356)

## EXHAUST SYSTEM

Maximum Back Pressure at Standby Power Rating ..... — in Hg (kPa) 3 (10)

## AIR INDUCTION SYSTEM

Maximum Intake Air Restriction

- with Dirty Filter Element ..... — in H<sub>2</sub>O (kPa) 25 (6.23)
- with Normal Duty Air Cleaner and Clean Filter Element..... — in H<sub>2</sub>O (kPa) 10 (2.49)
- with Heavy Duty Air Cleaner and Clean Filter Element..... — in H<sub>2</sub>O (kPa) 15 (3.74)

## CHARGE AIR COOLING SYSTEM


- Maximum intake manifold temperature at 25 deg C ( F ) ambient.....— 120 (deg F) 49 (deg C)
- Maximum allowable pressure drop across charge air cooler and OEM CAC piping (IMPD) ..... — 5 (inHg) 17(kPa)

## COOLING SYSTEM

Coolant Capacity — Engine Only(with wet manifold) ..... — US gal (liter) 8.0 (30)  
Maximum Coolant Friction Head External to Engine — 1800 rpm..... — psi (kPa) 10 (69)  
— 1500 rpm..... — psi (kPa) 8 (55)  
Maximum Static Head of Coolant Above Engine Crank Centerline..... — ft (m) 60 (18.3)  
Standard Thermostat (Modulating) Range..... — °F (°C) 180 - 200 (82 - 93)  
Minimum Pressure Cap..... — psi (kPa) 10 (69)  
Maximum Top Tank Temperature for Standby / Prime Power ..... — °F (°C) 220 / 212 (104 / 100)

## LUBRICATION SYSTEM

Oil Pressure @ Idle Speed..... — psi (kPa) 20 (138)

|   |   |                    |                   |                      |                   |           |
|---|---|--------------------|-------------------|----------------------|-------------------|-----------|
|  | <b>ChongQing Cummins Engine Company, Inc.</b><br><b>Engine Data Sheet</b> |                    |                   | <b>ENGINE SERIES</b> | <b>D19</b>        |           |
|   |   |                    |                   | <b>ENGINE MODEL</b>  | <b>KTAA19-G6A</b> |           |
|   | <b>PERFORMANCE CURVE</b>  | <b>C- CQ6061</b>   | <b>CPL NUMBER</b> | Dry manifold N/A     | <b>DATA SHEET</b> | DS-CQ6061 |
|   | <b>CONFIGURATION NUMBER</b>   | <b>D193091DXCQ</b> |                   | wet manifold CQ409   | <b>SHEET</b>      | <b>5</b>  |

@ Governed Speed ..... — psi (kPa) 50 - 70 (345 - 483)  
 Maximum Oil Temperature..... — °F (°C) 250 (121)  
 Oil Capacity with OP 4019 Oil Pan : High - Low ..... — US gal (liter) 10 - 8.5 (38 - 32)  
 Total System Capacity (Including Bypass Filter)..... — US gal (liter) 13.2 (50)  
 Angularity of OP 4019 Oil Pan — Front Down ..... 30°  
 — Front Up ..... 30°  
 — Side to Side..... 30°

### FUEL SYSTEM

Type Injection System..... Direct Injection Cummins PT  
 Maximum Restriction at PT Fuel Injection Pump  
 — with Clean Fuel Filter ..... — in Hg (kPa) 4.0 (13.3)  
 — with Dirty Fuel Filter ..... — in Hg (kPa) 8.0 (26.7)  
 Maximum Allowable Head on Injector Return Line (Consisting of Friction Head and Static Head).....  
 — in Hg (kPa) 6.5 (22)  
 Maximum Fuel Flow to Injection Pump..... — US gph (liter / hr) 64 (242)

### 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 600  
 • Cold Soak @ 32 °F to 50 °F (0 °C to 10 °C)..... — 0°F CCA 640  
 • Cold Soak @ 0 °F to 32 °F (-18 °C to 0 °C)..... — 0°F CCA 900

### PERFORMANCE DATA

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 (25 ft); 1800 rpm / 1500 rpm ..... — dBA  
 Exhaust Noise at 1 m Horizontally from Centerline of Exhaust Pipe Outlet Upwards at 45°; — dBA

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%

|   |   |             |            |                    |            |           |
|---|---|-------------|------------|--------------------|------------|-----------|
|  | <b>ChongQing Cummins Engine Company, Inc.</b><br><b>Engine Data Sheet</b> |             |            | ENGINE SERIES      | D19        |           |
|   |   |             |            | ENGINE MODEL       | KTAA19-G6A |           |
|   | PERFORMANCE CURVE   | C- CQ6061   | CPL NUMBER | Dry manifold N/A   | DATA SHEET | DS-CQ6061 |
|   | CONFIGURATION NUMBER  | D193091DXCQ |            | wet manifold CQ409 | SHEET      | 5         |

| Engine Performance Data  | STANDBY POWER |             | PRIME POWER |       |
|--|---------------|-------------|-------------|-------|
|  | 60 hz         | 50 hz       | 60 hz       | 50 hz |
| Governed Engine Speed—rpm  | 1800          | 1500        | N/A         | N/A   |
| Engine Idle Speed—rpm  | 675-775       | 675-775     |             |       |
| Gross Engine Power Output—kWm(BHP)                               | 664 (890)     | 610 (818)   |             |       |
| Brake Mean Effective Pressure—kPa(PSI)                           | 2330 (338)    | 2568 (372)  |             |       |
| Piston Speed—m/s (ft/min)  | 9.5 (1875)    | 7.9 (1562)  |             |       |
| Friction Horsepower—kWm(BHP)                                     | 63 (85)       | 45 (60)     |             |       |
| Engine Water Flow at Stated Friction Head<br>External to Engine: |               |             |             |       |
| • 3 psi Friction Head—L/min(U.S.GPM)                             | 12.4 (196)    | 10.2 (162)  |             |       |
| •Maximum Friction Head-L/min(U.S.GPM)                            | 11.0 (175)    | 9.1 (145)   |             |       |
| <b>Engine Data with Dry Type Exhaust Manifold</b>                |               |             |             |       |
| Intake Air Flow—L/s(CFM)   |               |             |             |       |
| Exhaust Gas Temperature—°C(° F)                                  |               |             |             |       |
| Exhaust Gas Flow—L/s(CFM)  |               |             |             |       |
| Radiated Heat to Ambient—kW(BTU/min)                             |               |             |             |       |
| Heat Rejection to Coolant—kW(BTU/min)                            |               |             |             |       |
| Heat Rejection to Exhaust—kW(BTU/min)                            |               |             |             |       |
| Fan coolant Air Flow—L/s(CFM)                                    |               |             |             |       |
| <b>Engine Data with Wet Type Exhaust Manifold</b>                |               |             |             |       |
| Intake Air Flow—L/s(CFM)   | 768 (1627)    | 750 (1590)  |             |       |
| Exhaust Gas Temperature—°C(° F)                                  | 670 (1238)    | 584 (1083)  |             |       |
| Exhaust Gas Flow—L/s(CFM)  | 2093 (4434)   | 2054 (4355) |             |       |
| Radiated Heat to Ambient—kW(BTU/min)                             | 76 (4326)     | 66 (3757)   |             |       |
| Heat Rejection to Coolant—kW(BTU/min)                            | 479 (27264)   | 419 (23849) |             |       |
| Heat Rejection to Exhaust—kW(BTU/min)                            | 376 (21402)   | 329 (18727) |             |       |

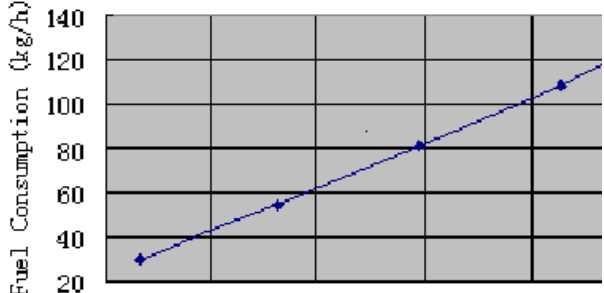
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|---|---|--------------------|----------------------|--------------------|-------------------|-----------|
|  | <b>ChongQing Cummins Engine Company, Inc.</b><br><b>Engine Data Sheet</b> |                    | <b>ENGINE SERIES</b> | <b>D19</b>         |                   |           |
|   |   |                    | <b>ENGINE MODEL</b>  | <b>KTAA19-G6A</b>  |                   |           |
|   | <b>PERFORMANCE CURVE</b>  | <b>C- CQ6061</b>   | <b>CPL NUMBER</b>    | Dry manifold N/A   | <b>DATA SHEET</b> | DS-CQ6061 |
|   | <b>CONFIGURATION NUMBER</b>   | <b>D193091DXCQ</b> |                      | wet manifold CQ409 | <b>SHEET</b>      | <b>5</b>  |

Type ..... 4 Cycle; In-line; 6 Cylinder Diesel  
Displacement ..... — in<sup>3</sup> (liter) 1150 (18.9)  
Aspiration..... Turbocharged and Air to Air Aftercooled  
Bore x Stroke..... — in x in (mm x mm) 6.25 x 6.25 (159 x 159)  
Fuel System.....PT(G)-EFC  
Standby Power/Rate Speed.....610kW/1500r/min

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 Speed<br>RPM | Standby Power |     | Prime Power |     |
|---------------------|---------------|-----|-------------|-----|
|                     | kWm           | BHP | kWm         | BHP |
| 1500                | 610           | 818 |             |     |


| FUEL CONSUMPTION  |                      |     |                  |        |          |
|---|----------------------|-----|------------------|--------|----------|
| Engine Performance Data @ 1500 RPM  | OUTPUT POWER         |     | FUEL CONSUMPTION |        |          |
|   | %                    | BHP | kWm              | kg./hr | Liter/hr |
| <p>Fuel Consumption (1500 rpm)</p>  <p>Gross Engine Power Output-KWm</p> | <b>STANDBY POWER</b> |     |                  |        |          |
|   |                      | 818 | 610              | 127.1  | 149.5    |
|   |                      | 706 | 527              | 108.6  | 127.8    |
|   |                      | 530 | 395              | 80.9   | 95.2     |
|   |                      | 353 | 263              | 54.3   | 63.9     |
|   |                      | 177 | 132              | 29.8   | 35.0     |
|   | 0                    | 0   |                  |        |          |

**CONVERSIONS:**

Data shown above represent gross engine performance capabilities obtained and corrected in accordance with ISO-3046 conditions of 100 kPa (29.53 in Hg) barometric pressure [110 m (361 ft) altitude], 25 °C (77 °F) air inlet temperature, and relative humidity of 30% with No. 2 diesel or a fuel corresponding to ASTM D2. See reverse side for application rating guidelines.

The fuel consumption data is based on No. 2 diesel fuel weight at 0.85 kg/litre (7.1 lbs/U.S. gal).



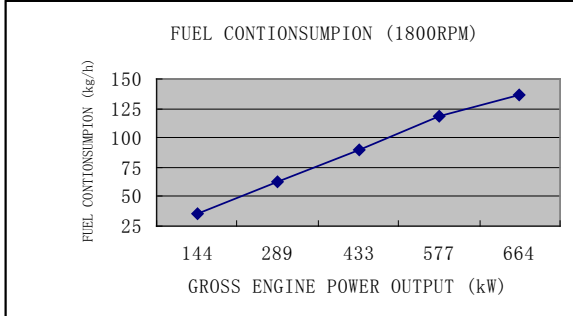
|   |   |                    |                      |                    |                   |           |
|---|---|--------------------|----------------------|--------------------|-------------------|-----------|
|  | <b>ChongQing Cummins Engine Company, Inc.</b><br><b>Engine Data Sheet</b> |                    | <b>ENGINE SERIES</b> | <b>D19</b>         |                   |           |
|   |   |                    | <b>ENGINE MODEL</b>  | <b>KTAA19-G6A</b>  |                   |           |
|   | <b>PERFORMANCE CURVE</b>  | <b>C- CQ6061</b>   | <b>CPL NUMBER</b>    | Dry manifold N/A   | <b>DATA SHEET</b> | DS-CQ6061 |
|   | <b>CONFIGURATION NUMBER</b>   | <b>D193091DXCQ</b> |                      | wet manifold CQ409 | <b>SHEET</b>      | <b>5</b>  |

Type ..... 4 Cycle; In-line; 6 Cylinder Diesel  
Displacement ..... — in<sup>3</sup> (liter) 1150 (18.9)  
Aspiration..... Turbocharged and Air to Air Aftercooled  
Bore x Stroke..... — in x in (mm x mm) 6.25 x 6.25 (159 x 159)  
Fuel System.....PT(G)-EFC  
Standby Power/Rate Speed..... 664kW/1800r/min

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 Speed<br>RPM | Standby Power |     | Prime Power |     |
|---------------------|---------------|-----|-------------|-----|
|                     | kWm           | BHP | kWm         | BHP |
| 1800                | 664           | 890 |             |     |

| FUEL CONSUMPTION   |                      |     |                  |        |          |
|--|----------------------|-----|------------------|--------|----------|
| Engine Performance Data @ 1800 RPM   | OUTPUT POWER         |     | FUEL CONSUMPTION |        |          |
|  | %                    | BHP | kWm              | kg./hr | Liter/hr |
|  <p style="text-align: center;">Gross Engine Power Output-KWm</p> | <b>STANDBY POWER</b> |     |                  |        |          |
|  |                      | 890 | 664              | 137    | 161.2    |
|  |                      | 773 | 577              | 119    | 140.0    |
|  |                      | 580 | 433              | 90.5   | 106.5    |
|  |                      | 387 | 289              | 62.3   | 73.3     |
|  |                      | 193 | 144              | 35     | 41.2     |
|  | 0                    | 0   |                  |        |          |

**CONVERSIONS:**

Data shown above represent gross engine performance capabilities obtained and corrected in accordance with ISO-3046 conditions of 100 kPa (29.53 in Hg) barometric pressure [110 m (361 ft) altitude], 25 °C (77 °F) air inlet temperature, and relative humidity of 30% with No. 2 diesel or a fuel corresponding to ASTM D2. See reverse side for application rating guidelines.

The fuel consumption data is based on No. 2 diesel fuel weight at 0.85 kg/litre (7.1 lbs/U.S. gal).