



Diesel Generating Sets

60
Hz

Model: **KYC2281**

INDUSTRIAL RANGE

Powered by Cummins



Generating Rates

POWER RATING		STANDBY	PRIME
POWER	KVA	2500	2281
	KW	2000	1825
Rated Speed	R.P.M	1800	
Standard Voltage	V	480	
Available Voltages	V	480/277-440/254-220/127-208/120	
Rated at power factor	Cos Phi	0.8	

Ambient conditions of reference: 1000 mbar, 25°C, 30% relative humidity. Power according to ISO 3046 normative.

P.R.P. Prime Power - ISO 8528 : prime power is the maximum power available during a variable power sequence, which may be run for an unlimited number of hours per year, between stated maintenance intervals. The permissible average power output during a 24

Standby Power (ISO 3046 Fuel Stop power): power available for use at variable loads for limited annual time (500h), within the following limits of maximum operating time: 100% load 25h per year – 90% load 200h per year. No overload available. Applicable i



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Engine Specifications 1800 r.p.m.

ENGINE		STANDBY		PRIME
Rated Output	kW	2000		1825
Manufacturer		Cummins		
Model		QSK60-G6		
No. of Cylinders and Build		4 Cycle; In-line; 16 Cylinder Diesel		
Aspiration and Cooling		Natural Aspiration		
Bore/Stroke	mm	159 x 190		
Cooling system		Water-cooled		
Total Coolant Capacity	L	242.0		
Engine Speed/Frequency	rpm/Hz	1800/60HZ		
Starting System		24V		
Displacement	L	60.2		
Lubricant system Capacity	L	280		
Battery Voltage / Capacity		24VDC		
Governing Type	Type	Mechanical		
Air Filter	Type	Dry		
Fuel Consumption	Load of prime power	100%	75%	50%
	L/h	466	356	247

ENGINE--Industrial 4 stroke cooled diesel engine complete with air,fuel and oil filters,electric starting and charging equipment,engine protection against low water level.

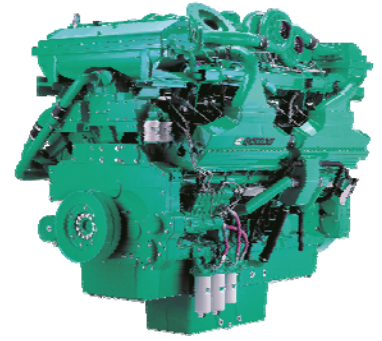
COOLING--Radiator and colling fan complete with protection guards,designed to cool engine at specified output in air temperatures upto 45 °C,radiators suitable for higher temperatures are available.Low water level protection fitted as standard.

ELECTRICAL SYSTEM--12V upto.Axial type starter motor,battery charging alternator,high capacity lead acid battery,and battery tray mounted on the generator base frame,and heavy duty interconnecting cable with terminations.

EXHAUST SYSTEM--Heavy duty industrial exhaust silencer with flexible piping.

QSK60-G6

Emissions Compliance:
EPA NSPS Stationary Emergency Tier 2



> Specification sheet



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Description

The QSK60 is a V 16 cylinder engine with a 60 litre displacement. This Quantum series utilizes sophisticated electronics and premium engineering to provide outstanding performance levels, reliability and versatility for Standby, Prime and Continuous Power applications.



This engine has been built to comply with CE certification.



This engine has been designed in facilities certified to ISO9001 and manufactured in facilities certified to ISO9001 or ISO9002.

Features

Cummins High Pressure Injection (HPI) PT full authority electronic fuel system. The HPI PT fuel system is managed by a G-Drive Governor Control System (GCS) controller, which is provided for off-engine mounting in the genset control panel. The Quantum Control has a specific fuel system board to interface with the HPI-PT fuel system and provides an Engine Protection package giving greater customer flexibility and cost effective alternatives in the control design and the benefits of Full Authority electronic control.

CTT (Cummins Turbo Technologies) HX82/HX83 turbo-charging utilizes exhaust energy with greater efficiency for improved emissions and fuel consumption.

Low Temperature After-cooling - Two-pump Two-loop (2P2L)

Ferrous Cast Ductile Iron (FCD) Pistons - High strength design delivers superior durability.

G-Drive Integrated Design - Each component has been specifically developed and rigorously tested for G-Drive products, ensuring high performance, durability and reliability.

Service and Support - G-Drive products are backed by an uncompromising level of technical support and after sales service, delivered through a world class service network.

1800 rpm (60 Hz Ratings)

Gross Engine Output			Net Engine Output			Typical Generator Set Output					
Standby	Prime	Base	Standby	Prime	Base	Standby (ESP)		Prime (PRP)		Base (COP)	
kWm/BHP			kWm/BHP			kWe	kVA	kWe	kVA	kWe	kVA
2180/2923	1975/2648	1740/2333	2120/2843	1937/2598	1702/2282	2000	2500	1825	2281	1633	2042

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www.cumminsgdrive.com

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General Engine Data

Type	4 cycle, Turbocharged, After-cooled
Bore mm	159
Stroke mm	190
Displacement Litre	60.2
Cylinder Block	Cast iron, 16 cylinder
Battery Charging Alternator	55A
Starting Voltage	24V
Fuel System	Direct injection Cummins HPI
Fuel Filter	Spin on fuel filters with water separator
Lube Oil Filter Type(s)	Spin on full flow filter
Lube Oil Capacity (l)	280
Flywheel Dimensions	SAE 0

Coolpac Performance Data

Cooling System Design	2 pump - 2 loop
Coolant Ratio	50% ethylene glycol; 50% water
Coolant Capacity (l)	242.0
Limiting Ambient Temp (°C)**	50.0
Fan Power (kWm)	45.0
Cooling System Air Flow (m ³ /s)**	38.2
Air Cleaner Type	Dry replaceable element with restriction indicator

** @ 13 mm H₂O

Ratings Definitions

Emergency Standby Power (ESP):

Applicable for supplying power to varying electrical load for the duration of power interruption of a reliable utility source. Emergency Standby Power (ESP) is in accordance with ISO 8528. Fuel Stop power in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Limited-Time Running Power (LTP):

Applicable for supplying power to a constant electrical load for limited hours. Limited-Time Running Power (LTP) is in accordance with ISO 8528.

Prime Power (PRP):

Applicable for supplying power to varying electrical load for unlimited hours. Prime Power (PRP) is in accordance with ISO 8528. Ten percent overload capability is available in accordance with ISO 3046, AS 2789, DIN 6271 and BS 5514.

Base Load (Continuous) Power (COP):

Applicable for supplying power continuously to a constant electrical load for unlimited hours. Continuous Power (COP) in accordance with ISO 8528, ISO 3046, AS 2789, DIN6271 and BS 5514.

Weight & Dimensions

Length	Width	Height	Weight (dry)
mm	mm	mm	kg
4123	2494	3296	9685

Fuel Consumption 1800 rpm (60 Hz)

%	kWm	BHP	L/ph	US gal/ph
Standby Power				
100	2180	2922	521	137.5
Prime Power				
100	1975	2647	466	123.1
75	1481	1985	356	94.0
50	987	1324	247	65.3
25	494	662	144	38.1
Continuous Power				
100	1740	2332	412	108.7

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Alternator Technical Specifications

ALTERNATOR BRAND		STAMFORD
Model		PI734F
Exciter System		Self-excited, brushless
Poles	Num	4
Cooling Fan		Cast alloy aluminum
Bearing		Single, double shielded
Windings		100% copper
Connection Type		Reconnectable
Insulation Type	Class	Class H
Pitch		2/3
Amortisseur Winding		Full
Voltage Regulator		A.V.R. (Electronic)
Steady Voltage Precision		± 1%
Underspeed Protection		Standard
Overexcitation Protection		IP23
TIF (1960 Weightings)		<50

ALTERNATOR--Brushless, self exciting, self regulation, screen protected, drip proof rated in accordance with IEC60034. Voltage regulation maintained within $\pm 0.5\%$ from no load to full load. between 0.8 lagging and unity. All standard voltages available



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Control Panel Technical Specifications



DSE Genset



DSE6110

AUTO START & AUTO MAINS FAILURE CONTROL MODULES

FEATURES

DSE6110



KEY FEATURES

- Back-lit text LCD display
- Front panel editing
- LED and LCD alarm indication
- Power Save mode
- CAN and Magnetic Pick-up/Alt. versions available (specify on ordering)
- PC and front panel configuration
- 6 Digital inputs
- 3 Analogue inputs
- 6 Outputs (4 configurable on Magnetic Pick-up/Alt., 6 configurable on CAN version)
- Configurable timers and alarms
- Alternative configuration
- Event Log(10)
- Remote Start input
- 3 Phase generator monitoring

- Current Monitoring and protection
- Battery voltage monitoring
- Engine pre-heat
- Hours counter
- Comprehensive shutdown or warning on fault condition

KEY BENEFITS

- Hours counter provides accurate information for monitoring and maintenance periods
- User-friendly set-up and button layout

- Multiple engine parameters are monitored simultaneously
- Module can be configured to suit individual applications
- Compatible with a wide range of CAN engines
- Tier 4 engine support
- Uses DSE Configuration Suite PC software for simplified configuration
- IP65 rating (with optional gasket) offers increased resistance to water ingress
- Licence-free PC software

SPECIFICATION

DC SUPPLY

CONTINUOUS VOLTAGE RATING
8 V to 35 V Continuous

CRANKING DROPOUTS

Able to survive 0 V for 50 mS, providing supply was at least 10 V before dropout and supply recovers to 5 V. This is achieved without the need for internal batteries. LEDs and backlight will not be maintained during cranking.

MAXIMUM OPERATING CURRENT

178 mA at 12 V, 95 mA at 24 V

MAXIMUM STANDBY CURRENT

88 mA at 12 V, 50 mA at 24 V

CHARGE FAIL/EXCITATION RANGE

0 V to 35 V

MAINS (UTILITY) DSE6120 ONLY

VOLTAGE RANGE
15 V - 333 V AC (L-N)

FREQUENCY RANGE

3.5 Hz to 75 Hz

OUTPUTS

OUTPUT A (FUEL)
2 A DC at supply voltage

OUTPUT B (START)
2 A DC at supply voltage

AUXILIARY OUTPUTS C, D, E & F
2 A DC at supply voltage

GENERATOR

VOLTAGE RANGE
15 V - 333 V AC (L-N)

FREQUENCY RANGE

3.5 Hz to 75 Hz

MAGNETIC PICK UP

VOLTAGE RANGE
+/- 0.5 V to 70 V

FREQUENCY RANGE

10,000 Hz (max)

DIMENSIONS

OVERALL
215 mm x 158 mm x 42 mm
8.5" x 6.2" x 1.6"

PANEL CUT-OUT

182 mm x 137 mm
7.2" x 5.4"

MAXIMUM PANEL THICKNESS

8 mm
0.3"

STORAGE TEMPERATURE RANGE

-40 °C to +85 °C



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Generating Sets Standard Features

Three phase four wire, output voltage 480V/277V, 60HZ, between 0.8 lagging, protection capability according with the standard of NAME1 and IP23.

General Features:

- Composed of Perkins diesel engine and Stamford or Leroy Somer alternator
- Oil and fuel filter fitted, water separator
- Lube-oil drain valve fitted
- Electric Starter Charge motor 12
- V.D.C Water-cooled
- 8-hours operation base tank
- Auto start
- Optional soundproof and weatherproof canopy
- 3 pole MCCB Delixi breaker
- Operation & Maintenance manual
- Special Integrated Steel Base tank and sprayed overall in gloss enamel paint

Voltage Regulation:

- Voltage regulation maintained within $\pm 0.5\%$
- Between 0.8 and 1.0 lagging and unity
- From no load to full load
- At speed droop variation upto 4.5%

Frequency Adjustable Ratio:

- Change load from 0-100%, within 1.0% (electric speed regulator), within 4.5% (mechanical speed regulator)

Frequency Undulation:

- load from 0-100%, frequency undulation within 0.25%
- No load wire volts max undulation ration\ within 1.8%
- Three Phrase balanced load in the order of 5%
- Effect factor of Telecom
- TIF better than 50
- THF to IEC60034 Part 40 better than 2%



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Soundproofed Version Features

Robust Corrosion Resistant Construction

- Black finish stainless steel lock and hinges
- Body made from steel components treated with polyester powder coating

Excellent Access for Maintenance

- Two large doors on each side
- Radiator fill access plate
- lube oil and cooling water drains pipes to exterior of the enclosure

Security and Safety

- Control panel viewing window in a lockable access door
- Emergency stop push button (red) mounted on enclosure interior
- Cooling fan and battery charging alternator fully guarded
- Exhaust silencing system totally enclosed for operator safety





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Generating Sets other Features

Generating Sets Optional Features

- Low fuel level alarm shutdown
- Automatic Fuel Filling System
- Engine oil feeding and drain pump
- Auto Transfer Switch(ATS)
- Parallel control panels
- Circuit Breaker MCCB & ACB
- Remote Control Panel
- weatherproof/soundproof
- Canopy Trailer type Gensets

Quality Standards

- ISO9001:2000,ISO14000,ISO3046
- ISO8528 BS4999
- BS5514,AS1359,ICE34
- CE Compliance

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