

Diesel Generator set 2806 series Engine P850-1 770KVA- 850kVA 50 Hz



Description

This FG Wilson commercial generator set is a fully integrated power generation system, providing optimum performance, reliability, and versatility for stationary Standby, Prime Power, and Continuous duty applications.

Features

FG Wilson engine - Rugged 4- cycle industrial diesel delivers reliable power, fuel optimized and fast response to load changes.

Permanent Magnet Generator (PMG) - Offers enhanced motor starting and fault clearing short circuit capability.

Alternator - Several alternator sizes offer selectable motor starting capability with low reactance 2/3 pitch windings, low waveform distortion with non-linear loads and fault clearing short-circuit capability.

Cooling system – Standard integral set-mounted radiator system, designed and tested for rated ambient temperatures, simplifies facility design requirements for rejected heat.

Control system - Standard DSE7410 electronic control provides total system integration including remote start/stop, precise frequency and voltage regulation, alarm and status message display, protection, output metering, auto-shutdown.

Enclosures - Optional weather-protective and sound-attenuated enclosures are available.

Warranty and service - Backed by a comprehensive warranty and worldwide distributor network.

circuit breaker - Optional 3 or 4 pole motorized circuit breaker available.

ISO 8528-5 – Refer to factory for site and configuration specific transient performance classification

Generator set specifications

Output Ratings

	Prime	Standby
400/230V, 50Hz	770 KVA	850 KVA
	616 KW	680 KW

Performance class	Genset models have been tested in accordance with ISO 8528-5.
Voltage regulation, no load to full load	± 0.5%
Electromagnetic Compatibility Performance	Fuel optimized

Engine specifications

Ratings and Performance Data

Engine Make	Perkins	
Engine Model	2806TTAG5	
Alternator Make	Leroy somer	
Alternator Model	LL7224L	
Control Panel	DSE7410	
Base Frame	Heavy Duty Fabricated Steel	
Circuit Breaker Type	1250A, 3P MCCB	
Frequency	50 Hz	
Engine Speed: RPM	rpm	1500
Fuel Tank Capacity:	liters (US gal)	N/A

Engine Technical Data

No. of Cylinders	6	
Alignment	In-line	
Cycle	4	
Bore	mm (in)	145 (5.7)
Stroke	mm (in)	183 (7.2)
Induction	TURBOCHARGED AIR TO AIR CHARGE COOLED	
Cooling Method	WATER	
Governing Type	ELECTRONIC	
Governing Class	ISO 8528	
Compression Ratio	14.0:1	
Displacement	L (cu. in)	18.1 (1104.5)
Moment of Inertia:	kg m ² (lb/in ²)	3.59 (12268)
Voltage	24	
Ground	Negative	
Battery Charger	50	
Engine Weight Dry	kg (lb)	2361 (5205)
Engine Weight Wet	kg (lb)	2477 (5461)

Engine Performance Data

Engine Speed	rpm	1500
Gross Engine Power Prime	kW (hp)	677 (908)
Gross Engine Power Standby	kW (hp)	746 (1000)
BMEP Prime	kPa (psi)	2987 (433.2)
BMEP Standby	kPa (psi)	3292 (477.4)

Fuel system

- I Mechanically actuated electronically controlled unit fuel injectors with full authority electronic control
- I Governing to ISO 8528-5 class G2 with isochronous capability
- I Replaceable fuel filter elements with primary filter/water separator
- I Fuel cooler

Fuel Filter	Replaceable Element			
Recommendation fuel	Class A2 Diesel			
Fuel Consumption at	110%	100%	75%	50%
50 Hz Prime l/hr.	179.9	160.3	117.6	80.9
50 Hz standby l/hr.	-	179.9	130.3	88

Cooling system

- I Gear-driven circulating pump
- I Mounted belt-driven pusher fan
- I Radiator incorporating air-to-air charge cooler, (supplied loose)
- I System designed for ambient up to 50°C
- I Low coolant level switch

		50 Hz
Cooling System Capacity	L (US gal)	109.5 (28.9)
Water Pump Type:		Centrifugal
Heat Rejected to Water & Lube Oil: Prime	kW (Btu/min)	186 (10578)
Heat Rejected to Water & Lube Oil: Standby	kW (Btu/min)	205 (11658)
Heat Radiation to Room*: Prime	kW (Btu/min)	130.7 (7433)
Heat Radiation to Room*: Standby	kW (Btu/min)	143.1 (8138)
Radiator Fan Load:	kW (hp)	27.6 (37)
Radiator Cooling Airflow:	m ³ /min (cfm)	853 (30123)
External Restriction to Cooling	Pa (in H ₂ O)	125 (0.5)

*: Heat radiated from engine and Alternator

Air System (at 50 Hz)

Air Filter Type		Non-Canister
Combustion Air flow Prime	m ³ /min	58
Combustion Air Flow Standby	m ³ /min	62
Max. Combustion Air Intake Restriction	kPa	3.7

Lubricating System

Oil Filter Type:		Spin-On, Full Flow
Total Oil Capacity:	l (US gal)	68 (18)
Oil Pan Capacity:	l (US gal)	56 (14.8)
Oil Type:		API CH4 / CI4
Oil Cooling Method:		WATER

Exhaust system

Maximum Allowable Back Pressure:	kPa (in Hg)	8.5 (2.5)
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Exhaust Gas Flow: Prime	m ³ /min (cfm)	132 (4662)
Exhaust Gas Flow: Standby	m ³ /min (cfm)	142 (5015)
Exhaust Gas Temperature: Prime	°C (°F)	464 (867)
Exhaust Gas Temperature: Standby	°C (°F)	474 (885)

Alternator Physical Data

No. Of bearings		1
Insulation Class		H
Winding Pitch		2/3
Winding Code		6S
Wiers		6
IP		IP23
Excitation System		AREP
AVR Model		R450M

Alternator Operating Data

Overseed	rpm	2250
Voltage Regulation (steady State)	%	±0.5
Wave Form NEMA= TIF	%	50
Wave form=THF	%	2
Total Harmonic content LL/LN	%	4
Radio Interference		EN61000-6
Radiant Heat	KW	36.1

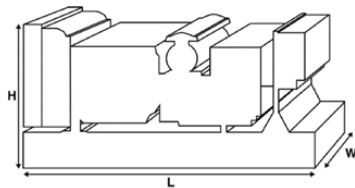
Alternator Performance Data

Voltage Code		415/240V	400/230V	380/220V
Motor Starting capability*	KVA	2268	2117	1924
Short Circuit capacity**	%	300	300	300
Reactances	Xd	2.971	3.198	3.544
	X'd	0.145	0.156	0.173
	X''d	0.123	0.123	0.138

*Based on 30% voltage dip at 0.4 power factor

** With optional independent excitation system (PMG / AUX winding)

Dimensions (Open Set)



Length mm	4130
Width mm	1690
Height mm	2570

Control Panel Specification Data

DSE 7410



Key Features

- Configurable power-up mode
- MPU fail delay
- Enhanced graphical user

Key Benefits

- 132 x 64-pixel ratio display for clarity
- Real-time clock provides

Specifications

- continuous voltage rating 8V to 35V continuous
- Able to survive 0 V for 50 mS,

- interface
- Drag & drop advanced PLC editor
- MSC ID within PLC GenComm override
- 4-Line back-lit LCD text display
- Five key menu navigation
- Front panel editing with PIN protection
- 11 configurable inputs
- 8 configurable outputs
- Flexible sensor inputs
- 3 Configurable timers and alarms
- Configurable event log (250)
- Integral PLC editor
- CAN and Magnetic Pick-up/Alt. sensing
- Fuel usage monitor and low fuel alarms
- kW protection
- Reverse power (kW) protection
- Power monitoring (kW.h, kV Ar, kV A h, kV Ar h)
- Fully configurable via DSE Configuration Suite PC software
- accurate event logging
- Set maintenance periods can be configured to maintain optimum engine performance
- Built-in-ethernet communications provides advanced remote monitoring
- Modules can be integrated into building management systems (BMS) using MODBUS
- increased input and output expansion capability via DSENet
- IP65 rating (with supplied gasket) offers increased resistance to water ingress
- Data logging to assist with fault finding
- PLC editor allows user configurable functions to meet specific application requirements
- License-free PC software
- providing supply was at least 10 V before dropout and supply recovers to 5 V. This is achieved without the need for internal batteries
- Maximum operating current 260 mA at 12 V, 130 mA at 24
- charge fail 0 V to 35 V
- output A (fuel) 15A DC at supply voltage
- output B (start) 15A DC at supply voltage
- output C&D 8A DC at supply voltage
- Output E to J 2 A DC at supply voltage
- BUS 15V to 333V AC L-N
- MPU ± 0.5 to 70V

Codes or standards compliance may not be available with all model configurations – consult factory for availability.

ISO 8528	This generator set has been designed to comply with ISO 8528 standards.
ISO 3046	This generator set performance and test methods comply with ISO 3046
BS 5000	This generator set comply with the British standards used for engine and generators
IEC 60034	This generator performance complies with the international standard for rotating electrical machines