

160 - 250 kVA

*Celebrating*  
**30000**  
HHP GENSETS



EFFICIENCY HAS A NEW NAME  
**KOEL GREEN**

EFFICIENT

PRODUCTS



EFFICIENT

SERVICE



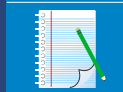
EFFICIENT

DELIVERIES



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SOLUTIONS



EFFICIENT

NETWORK



EFFICIENT

24X7 CARE



- INDIA'S **#1** GENSET BRAND
- 15 - 5200 kVA



EFFICIENCY. INTEGRATED

# 160 - 250 kVA

Prime Rating at rated rpm (as per ISO8528 ) <sup>1</sup>		kVA	160	180	200	250
		kW	128	144	160	200
Genset Model			KG1-160WS	KG1-180WS	KG1-200WS	KG1-250WS
Frequency		Hz	50	50	50	50
Power factor		lagging	0.8	0.8	0.8	0.8
Voltage		V	415 3Ø	415 3Ø	415 3Ø	415 3Ø
Governing class (As per ISO 8528 Part-V)			G3	G3	G3	G3
Noise level		dBA	< 75	< 75	< 75	< 75
Fuel Consumption*	At 100 % Load	Ltrs/hr	36.6	41.3	45.9	56.9
	At 75 % Load		27.7	30.9	34.4	42.6
	At 50 % Load		19.1	22.7	25.2	29.9
Fuel tank capacity		Ltrs	300	460	460	460
Weight of genset with canopy (approx.) <sup>^</sup>	Dry	Kg	2730	3900	3900	4010
	Wet	Kg	3010	4300	4300	4320
Overall dimensions of genset <sup>^</sup>	Length	mm	4000	4300	4340	4340
	Width	mm	1500	1740	1740	1740
	Height	mm	1915	1970	1970	1975
Electrical Battery starting voltage		Volts-DC	12	24	24	24

ENGINE						
Engine Model			6K1080TA G2	6SL1500TA G2	6SL1500TA G2	6SL1500TA G3
Rated output (Prime Continuous rating as per ISO 8528-1)	kW		147	183	183	228
	HP		200	248	248	310
No. of cylinder	Number		6	6	6	6
Cubic capacity <sup>2</sup>	Ltrs		6.48	8.86	8.86	8.86
Bore x Stroke	mm		105 x 125	118 x 135	118 x 135	118 x 135
Rated Speed	RPM		1500	1500	1500	1500
Aspiration	NA/TC/TA		TA	TA	TA	TA
Lube Oil change period	hrs.		500	500	500	500
Lube Oil Sump Capacity	Ltrs		18	27	27	27
Coolant Capacity	Ltrs		28	32	29.2	31.8

ALTERNATOR						
Insulation Class			Class H			
Ingression Protection			IP 23			
Alternator Efficiency (at 100% load) 0.8 pf**			93	93	93.5	93.6
Alternator Efficiency (at 75% load) 0.8 pf**			93.3	93.6	93.8	93.9
Permissible Voltage Dip at Full Load 0.8 pf Lag			≤ 20 %	≤ 20 %	≤ 20 %	≤ 19 %
Time Permitted to build up rated voltage at Rated RPM			< 1 sec provided engine reach the rated speed			
Short Circuit Ratio			0.518	0.53	0.545	0.45
Short Circuit Withstand Time		sec	3 times rated current for < 3 sec			
Overload Withstand Capacity		%	10% overload for one hour once in 12 hours & for 150% for 30 sec			

For intermediate ratings, kindly contact nearest KOEL office

## Notes

<sup>^</sup> Tolerances Apply

\*With 0.845 Specific Gravity of diesel ( 5 % Tolerance )

<sup>o</sup> These weight are for handling & transportation only

\*\* Efficiency of Alternator as per standards IS 4722 and IEC 34-1

For Site Conditions other than standard operating conditions consult KOEL for available prime power.

## Prime rating and Stand-by rating<sup>1</sup>



'Prime power' is designed for Unlimited hours, as compared to 'Emergency stand-by' designed for 200 hours in a year. Prime rated Gensets also permit 10% temporary overloading. Users need to carefully select the Genset rating to meet their requirement. KOEL offers Prime power as a standard offer. Contact KOEL for stand-by ratings.



## Engine capacity does matter<sup>2</sup>

Engine capacity (cc) plays a vital role in Genset performance. Higher engine capacity leads to a robust and stable Genset performance.

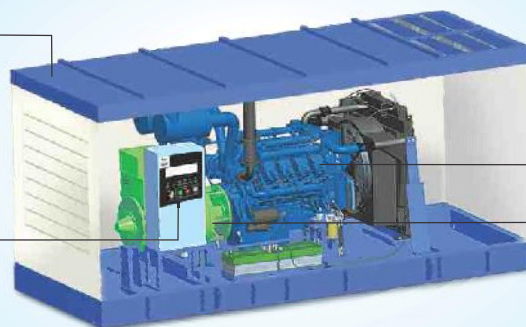
Higher engine capacity also enables the Genset to respond quickly & positively to sudden load additions.

## Canopy

- Ease of Access and Serviceability
- Aesthetically designed, weather and sound resistant enclosure
- Insulation conforms to UL94-HF1 class for flammability

## Controller

- Microprocessor based
- Graphical LCD display
- Best in class monitoring and diagnostic Capability
- Integrable with AMF, synchronization & communication configurations



## Engine

- O2E Series: Low emission, high efficiency engines
- Compact, Robust and Rugged Design
- 500 hours lube-oil change period
- Integral set - mounted radiator system, designed & tested for 50°C ambient temperature

## Alternator

- Best In Class Efficiency
- Special Windings to Reduce Harmonics
- Vacuum Pressure Impregnation and epoxy gel coating on the winding

## KOEL's approach to meet revised CPCB norms

Revised CPCB norms are aimed at protecting the environment by reducing Genset emissions and improving emission quality. These are some of the most stringent emission norms in the world.

To meet the new norms, KOEL R&D team had choice of multiple technologies. While selecting the technology, KOEL laid significant emphasis on long term needs of users viz:

- High reliability and durability of Gensets: Owing to extreme operating conditions in India, preference has been given to robust configurations, that have been running successfully for several years.
- Low running costs: An effort to reduce emissions tends to increase the running costs. KOEL has succeeded in achieving both in the same design, after persistent efforts.

- Optimized fuel efficiency as per actual usage: KOEL Green Gensets are tuned to provide maximum fuel efficiency in the most common operating band. At KOEL, we call it **O2E series** (Optimal Operating Efficiency).
- Affordable, On-site support: Proven technology ensures that product support is available close-by, without waiting for a specialist. KOEL team has taken special efforts to keep complex technologies at bay, which may require high on-site maintenance costs.

All this, while keeping the initial costs within the reach of a smart Genset buyer.

### Integrated



### Best-in-class Fuel Efficiency

KOEL Green Gensets offer a unique combination of CPCB norm compliance and enhanced fuel efficiency. Across the range, KOEL Green Gensets offer substantial savings in fuel cost.

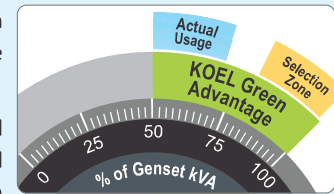
#### **O2E Series (Optimal Operating Efficiency):**

Genset ratings are selected based on the present load and future expansion. Fuel efficiency of most Gensets is optimized at the full rating of the Genset.

In practice, Gensets rarely get loaded to full capacity. Power demand variations across day & night, weekdays & weekends.

Summer & winter lead to an average 50-70% loading on the Gensets.

Considering this practical situation, KOEL has extended fuel efficiency optimization from 100%, right up to 50% of rated load.



Combination of best-in-class fuel efficiency & O2E provides a double advantage.

### Integrated



### Genset Controls at your finger-tips

There is no comfort like being in command. KOEL Green Gensets put the command in your hands. Micro-processor based Genset controllers display a host of Genset parameters and put all controls at your fingertips.

#### **Monitoring Features –**

- Phase Voltages & Currents, Frequency, Reverse power, Genset kVA , KW, kWh, KVA<sub>r</sub>, Power Factor, Canopy Temperature
- Lube oil Pressure, Engine Temperature, RPM, Run Hours, Number of starts, Fuel Level, Auto / Manual Stop
- Battery charge condition
- AMF feature

#### **Diagnostic Features –**

- Battery charging failure, Over/Under speed, Over Current, Over/Under Voltage, Over kW, Phase Seq., Phase missing, Mains Under voltage, Earth Fault trip, Fuel usage Alarm

- Low lube oil Pressure, High Engine Temperature, Low/High battery voltage, Low Fuel Level, Over Crank protection, Routine Maintenance indicator, Genset Test Facility, Mains Frequency

#### **Optional Features-**

- Modbus communication, Synchronization, Remote Monitoring



### Integrated



### Peace-of-mind Ownership

KOEL Green Gensets have always been preferred for their robust design and reliability over long usage life.

KOEL Green range carries the confidence of well-established and proven engine platforms. For compliance to revised CPCB

norms, KOEL has carefully selected those technologies which not only retain, but enhance Gensets durability and on-site serviceability.

Thus, KOEL Gensets offer you many years of trouble-free performance; backed by the assurance of prompt support. Peace-of-mind driven by product reliability and low cost of ownership.

# The Promise Behind The Product



## KOEL Green Brand

KOEL Green is the Genset brand of Kirloskar Oil Engines Ltd (KOEL), the flagship company of the century-old Kirloskar Group. KOEL Green is India's largest selling and most trusted Genset brand for over a decade. Providing back-up power solutions from 2.1 to 5200 kVA for diverse market sectors, "KOEL Green" has over 1 million Gensets in service across the globe.

## Research and Engineering

KOEL Gensets are designed and developed indigenously, using modern design & simulation technologies. KOEL's R&D team combines decades of application knowledge, global technology trends and emerging user expectations to develop best-in-class products for the target markets. The products are launched after extensive validation in world-class facilities.



## State-of-the-art Manufacturing

KOEL Green Gensets are manufactured at the state-of-the-art manufacturing facilities of KOEL and authorized GOEMs across India. Common design, modern infrastructure, trained manpower, stringent process controls and standardized material quality ensure that every KOEL Green Genset complies with the standards and meets KOEL's stringent quality norms.

## Sales Network

A well-trained network of authorized KG Dealers and GOEM Sales teams is spread across India to serve your requirements. KOEL offices at key locations provide further techno-commercial back-up. KOEL Sales teams are equipped to carry-out load study, Genset sizing and techno-commercial support. Installation and commissioning activities are also undertaken in line with KOEL's stringent guidelines.



## Service Network

As Genset cannot be driven to a Service Station, service has to come to your door-step. KOEL Green Gensets are supported by over 5000 trained Engineers and over 450 well-equipped service outlets throughout India. Standard and custom-made maintenance packages offer a total-peace-of-mind ownership experience. Service response time and quality is centrally monitored for cross-industry benchmarking and continual improvement. Customers just need to dial our toll free number and service will be available at the door step.

## 7 Easy steps for a happy Genset Ownership

- Insist on a load-study
- Select the Genset rating as per the load-study and with sufficient margin for future load expansion
- Apply site-selection guidelines carefully
- Insist on installation in line with KOEL Green guidelines
- Ensure adequate size and proper connection of cables
- Understand the Genset operation & maintenance procedures during commissioning
- Follow routine maintenance protocols through authorized KOEL Green service dealers

● Ahmedabad: 079-2692 9687/89 ● Bengaluru: 080-490 31130 ● Bhubaneswar: 0674-258 8047 ● Chennai: 044-237 44624 ● Delhi: 011-2871 5826  
 ● Guwahati: 0361-245 7616 ● Indore: 0731-3913100 ● Jaipur: 0141-2370007 ● Kochi: 0484-238 5757 ● Kolkata: 033-217 0858 ● Lucknow: 0522-274 1442  
 ● Ludhiana: 0161-254 6668/69 ● Meerut: 0121-240 1199 ● Mumbai: 022-6151 1234 ● Patna: 0612-222 0412 ● Pune: 020-2581 0341  
 ● Secunderabad: 040-275 34176/97

# KIRLOSKAR OIL ENGINES LIMITED

Laxmanrao Kirloskar Road, Khadki,  
Pune 411 003 INDIA.

[www.koelgreen.com](http://www.koelgreen.com)

