



Enriching Lives

# Kirloskar Green Gensets

## R Series

Liquid Cooled Silent Gensets



20 to 82.5 kVA



Salient Features of Genset

### ■ Customized Product Range

- Ready to use gensets in R Series are available in the range from 20 to 82.5 kVA.
- R Series gensets are powered by most efficient liquid cooled engines.
- Custom built to ensure your exact power needs.
- Synchronization option available with electronic governing for running the R Series gensets in parallel operation to ensure optimum usage of generator sets capacity in varying load patterns.

### ■ Smart Aesthetics

- State - of - the - art competitive design.
- Compact in size with smaller footprint – saves money on installation / space.
- Aesthetically superior and fully integrated weather proof acoustic enclosure.
- Dynamic design with highest quality workmanship acoustics with PU based UV resistant powder coating for superior finish and durability.

### ■ Highest Reliability

- Superior reliability ensuring un-interrupted, continuous quality power for smooth operation.
- Electronic governor with isochronous and synchronous governing for reliable, stable and paralleling operations as optional feature.
- Exceedingly rugged and durable design.
- Lowest lifecycle cost of ownership.
- Safety against operation on low lub oil, high coolant temperature, over speed, low fuel level, weak battery, low voltage, over load and high frequency.
- State - of - the - art technology for trouble free operations in low / high ambient temperature, high humidity and high altitudes.
- State - of - the - art – compact – Micro-processor based fully configurable genset controller with LCD display, events logging and optional AMF feature.

### ■ Unmatched Performance

- Low fuel and lub oil consumption ensuring excellent fuel economy and lowest operating cost.
- Low noise and vibration levels.
- High fuel efficiency at part operating loads.
- Long operating life K-cool super plus coolant for better engine cooling/ corrosion free coolant galleries.
- K-oil Super for best lubrication performance and engine life.

### ■ Environment Friendly

- The power to preserve, save environment and the earth – Kirloskar Green Power Ideas.
- Gensets conforms to lowest noise pollution norms as laid down by MOEF / CPCB.
- Genset Engine conforms with the latest stringent MOEF exhaust emission norms and international emission standards.
- 100% Bio-diesel compatibility with 100% power option.

### ■ Maintenance friendly design and Ease of Operation

- Ready to use – connect, distribute and use product.
- Dynamic, high performance and weather proof modular design ensuring lowest maintenance cost.
- Easy serviceability for routine, preventive, predictive maintenance, replacement and overhauls.
- Ensures longer maintenance intervals in its class.
- Easy availability of spare parts and wide spread service network across the Nation.
- Minimum cost for maintenance, spares & services, ensuring lowest operating cost.
- Smart genset control system for closely monitoring, metering and protection of the engine and genset performance.
- Competitive Annual Maintenance Contracts through Nationwide network of authorised service dealerships.
- Close looped Nationwide CRM network for before in time services.
- Single window services for complete genset.
- Pan India single point AMC options.



## Standard Features

### ■ Engine



- Efficient liquid cooled technology
- Offering a comprehensive range with power output range covering from 20 to 82.5 kVA
- 2, 3 and 4 cylinder compact configurations
- Most compact, extremely robust and rugged design
- 500 Hours of longer lub-oil change period
- Lowest fuel consumption in it's class
- Complies with latest emission norms of MOEF
- 100% Bio-diesel compatibility option with 100% power for lower emission

### ■ Alternator



- Most efficient, CE certified Kirloskar Green Alternator
- Compact design with sealed bearings for longer life and lesser maintenance
- Best in class efficiency
- Positive voltage build-up
- Special windings to reduce harmonics
- Electronic AVR
- High short circuit current capacity up to 300%, ensuring controlled regulation even at variable loads
- Well balanced rotating components and lowest vibration levels
- Epoxy gel coating to suit various environment conditions
- CT fitted alternators as option for better performance and safety

### ■ KG 934 Genset Controller



- State - of - the - art, compact Micro-processor based fully configurable genset operating, monitoring, metering and protection control system with LCD display
- Complete safety for gensets on operating faults
- Real time and event logging facility for performance monitoring
- AMF option in the controller with control for Mains and DG Set circuit breakers
- User friendly operating systems on manual, auto and test modes with soft touch buttons
- Provision for additional digital inputs and digital outputs
- Compatibility for remote monitoring, remote start-stop and BMS options

### ■ Acoustic Enclosure



- Smart, standardized and dynamic Kirloskar Green Power Ideas modular design for optimum performance and ease of serviceability
- Aesthetically designed weather proof, sound proof acoustic enclosure meeting stringent and latest MOEF noise pollution norms
- PU Based powder-coated enclosure, manufactured on high-tech special purpose CNC machines to ensure highest quality on fit-form-finish-function and durability
- Specially designed with adequate air flow to operate at full load, even at 50 deg. C air inlet temperature
- Noise and thermal Insulation material conforms to UL94, HF1 class for flammability
- Green passivated / black ionized corrosion / rust resistant hardware for manufacturing to withstand salt Spray and corrosion test as per ASTM B-117
- Designed for low noise, high reliability, lowest vibrations and user friendly ready to use installations

### ■ Optionals



- Remote start, remote monitoring and BMS
- Auto mains failure panel
- Cold starting aid
- Synchronization and parallel operations of multiple gensets
- Bio-diesel compatibility
- Special air filtration system for dusty atmosphere
- Facility for external agency inspection as per custom and IS standards
- PMG for non-linear load conditions
- Power house design support with load pattern study

# Overall Specifications of R Series Genset

Range 20 to 82.5 kVA

## DG Set Specifications

Parameters	Unit	Genset Model						
		KG20WS4	KG25WS5	KG30WS	KG40WS	KG50WS	KG62.5WS2	KG82.5WS2
Prime Rating at 0.8 pf	kVA (kW)	20 (16)	25 (20)	30 (24)	40 (32)	50 (40)	62.5 (50)	82.5 (66)
Voltage	V	415	415	415	415	415	415	415
Frequency	Hz	50	50	50	50	50	50	50
Overall Dimensions with canopy (L x W x H)	mm	2050 x 950 x 1220	2380 x 950 x 1230	2380 x 950 x 1230	2650 x 1050 x 1605	3350 x 1190 x 1650	3240 x 1140 x 1585	3240 x 1140 x 1585
Dry Weight of genset with canopy (Aprox)	kg.	925	1100	1250	1520	1500	1900	1950
Electrical starting system	Volt-DC	12 V	12 V	12 V	12 V	12 V	12 V	12 V
Battery Capacity	Ah	1 x 88	1 x 88	1 x 88	1 x 100	1 x 100	1 x 100	1 x 100
DG set Noise level as per CPCB Norms	dBA	< 75	< 75	< 75	< 75	< 75	< 75	< 75

## Engine Specifications

Parameters	Unit	Engine Model						
		2R1040	3R1040	3R1040	4R1040	4R1190	4R1040T	4R1040TA
Rated output (Prime rating as per ISO 3046)	kW (hp)	20.6 (27)	30.9 (42)	30.9 (42)	41.2 (56.1)	45.6 (62)	61 (83)	77.2 (105)
No. of cylinder	Nos.	2	3	3	4	4	4	4
Bore x Stroke	mm	105x120	105x120	105x120	105x120	110x125	105x120	105x120
Aspiration		NA	NA	NA	NA	NA	T	TA
Governing Class as per ISO 3046		M3	M3	M3	M3	M3	M3	M3
SFC at 75% load*	(g/Hp-hr)	157	157	157	155	156	156	150
SFC at 100% load*	(g/Hp-hr)	174.9	158	158	155	153	155	151
Lub oil Consumption*	LPH	0.015	0.015	0.015	0.035	0.035	0.04	0.05
Lub oil change period**	hrs	500	500	500	500	500	500	500
Lub oil Sump capacity	Ltrs	4.5	7.5	7.5	9.5	9.5	9.5	9.5
Engine coolant capacity	Ltrs	10	12	12	18	18	24	24

## Alternator Specifications

Parameters	Unit	Alternator Model						
		KG 184A	KG 184B	KG 184C	KG 184E	KG 204D	KG 224A	KG 224D
Rating	kVA	20	25	30	40	50	62.5	82.5
Insulation Class		H	H	H	H	H	H	H
Protection		IP23	IP23	IP23	IP23	IP23	IP23	IP23
Time to built up rated voltage at rated RPM	sec	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5	≤ 5
Alternator Efficiency at 75% load	%	88.5	89.8	90.5	90.8	90.8	91.8	92.5
Alternator Efficiency at 100% load	%	87.1	88.8	89	89.2	89.7	91	91.4
Voltage Regulation	%	1% with 4% Engine Governing	1% with 4% Engine Governing	1% with 4% Engine Governing	1% with 4% Engine Governing	1% with 4% Engine Governing	1% with 4% Engine Governing	1% with 4% Engine Governing
Wave form Distortion at No load & at Non-distorting balance linear Load	%	< 1.8 & < 4	< 1.8 & < 4	< 1.8 & < 4	< 1.8 & < 4	< 1.8 & < 4	< 1.8 & < 4	< 1.8 & < 4
Permissible transient voltage dip at full load 0.8 pf lag***	%	< 18	< 18	< 18	< 18	< 18	< 18	< 18

In view of continuous product updation and design changes, all above specifications and dimensions are subject to change without prior notice.

### Notes :

- Genset ratings as per ISO 8528 performance class is G2.
- Prime Power Rating is the maximum power available continuously for a variable electrical load for unlimited number of hours per year under standard operating conditions.
- For the site conditions other than standard operating conditions, consult KOEL for available prime power.
- \*+5 % tolerance as per ISO 3046. For LPH calculation specific gravity of diesel is considered as 0.845.
- All canopy dimensions have tolerance of ± 50 mm.
- \*\* First oil change at 50 hours.
- Single phase genset option available upto 40 kVA.
- \*\*\*Permissible transient % voltage dip at full load 0.8 pf lag (alternator tested alone) as per IS 4722.

