

**KOHLER®**  
**IN POWER. SINCE 1920.**

*SINCE*  
**POWER IS WHAT WE DO.**  
*1920*

# Kohler Power India

## Corporate Presentation

# What We Are

- Founded in 1873
- Headquarters: Wisconsin, USA
- Began with cast iron and steel implements for farmers
- One of oldest & largest privately-held companies in the World
- 55 + Plants across the Globe
- 35000+ Associates
- Long heritage of European craftsmanship dedicated to excellence

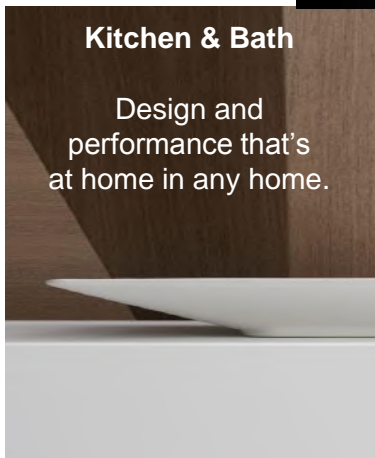


# Kohler Business Group



## Kitchen & Bath

Design and performance that's at home in any home.



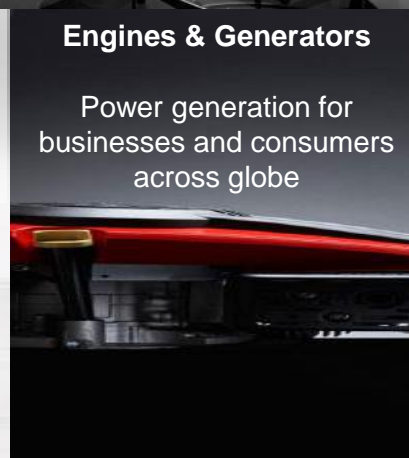
## Furniture & Tiles

Distinctive furnishings for discriminating designers, hoteliers and consumers



## Engines & Generators

Power generation for businesses and consumers across globe



## Golf & Resort Destinations

Award-winning hospitality and world-class golf courses designed to create memories of a lifetime



# Global Power Group

- Global manufacturer of Engines & Generators since 1920
- 3<sup>rd</sup> largest Generator company in the world
- Worldwide sales and service network
- Wide range of generators from 3.5kVA – 4200kVA designed for industrial, residential, marine, mobile and rental applications

**KOHLER**  
Power Systems

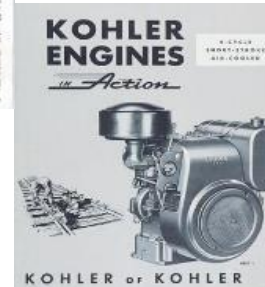
**KOHLER**  
Engines

**LOMBARDINI**  
A KOHLER COMPANY

**SDMO**

Uninterruptible  
**Power**  
Supplies Ltd  
A KOHLER COMPANY

**MAQUIGERAL**



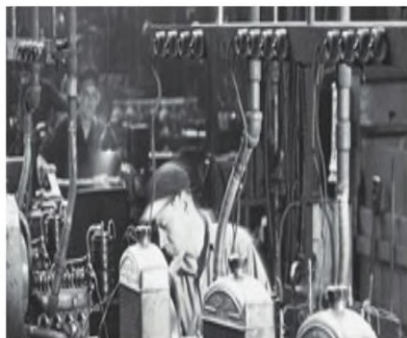
**KOHLER**  
IN POWER. SINCE 1920.

# Our History Speaks For Us !!!

Kohler Generators  
World War I – 1914



Kohler introduced the world's first  
automatic standby generator  
in 1920



Kohler Generators – Antarctic  
Exploration  
1929 & 1934



# Kohler Generator Manufacturing Facilities



Mosel, Wisconsin, USA



Brest, France



Changzhou, China



Sao Paulo, Brazil



Aurangabad, India



Singapore



# Kohler Power India

- Started in 1997
- Head Quartered in Pune
- State-of-the-art Manufacturing Plant in Aurangabad
- Regional Offices at Bangalore, Pune, Gurgaon & Kolkata
- Authorized Channel partners with Sales & Service across India & Nepal
- Central Parts Warehouse at Bangalore & Aurangabad
- Training facility at Pune, Aurangabad & Bangalore



# Market Segments

## Healthcare

Hospitals, Nursing Homes, etc

## Agriculture & Mining

High tech farming, tractors, mining, etc

## Industrial

Factories, Warehouses, etc

## Banking & Telecom

Banks, Telecommunications,  
Data centers, etc

## Government

Military camps,  
Fire stations, Police stations, Schools, etc

## Leisure & Recreation

Hotel, Clubs, Resorts,  
Restaurants, Bars, Stadium, etc

## Commercial

Offices, Shopping malls, Stock  
exchanges, etc

## Transportation

Airports, Rail Stations,  
Bus Stations, etc



# Product Portfolio - Engines

## Diesel engine range from 9.1 to 23.4 hp

- Designed at Italy & manufactured in the India plant
- Specially designed to be compact and fuel efficient
- Customizable for various applications – G-Drive, agricultural machinery, construction equipment, marine, etc.
- Compliant to India CPCB-II emissions, TREM III-A and Bureau of Indian Standards (BIS) durability requirements

# India Product Range – Engines



	Diesel KD440	Diesel KDW702	Diesel KDW1003
Power hp (kW)	9.1 (6.8)	15.4 (11.5)	23.4 (17.7)
Displacement cu in (cc)	27 (441)	41.9 (686)	62.7 (1028)
Bore in (mm)	3.4 (86)	3 (75)	3 (75)
Stroke in (mm)	3 (76)	3.1 (77.6)	3.1 (77.6)
No. of cylinders	1	2	3
Engine type	4 stroke	4 stroke, inline	4 stroke, inline
Cooling	Air cooled	Water cooled	Water cooled
Fuel injection	Direct injection	Indirect injection	Indirect injection
Peak Torque lbs. ft (Nm)	16.2 (22)	25 (34)	36.8 (50)
Compression Ratio	20.3:1	22.8:1	22.8:1
Dry Weight lbs (kg)	99.1 (45)	145.4 (66)	187.3 (85)
Oil Capacity U.S. quarts (L)	1.7 (1.6)	1.7 (1.6)	2.5 (2.4)
Emissions compliance	CPCB-II / TREM III-A, BIS certified	CPCB-II / TREM III-A, BIS certified	CPCB-II / TREM III-A, BIS certified
Dimensions L x W x H in	13.2 x 15.9 x 19.2	16.6 x 16.2 x 20.3	20.2 x 16.2 x 20.3

# Project References

<b>Business Segment</b>	Power generation (CPCB-II)
<b>Applications</b>	Towerlight, stationary genset, open frame for export
<b>Powered By</b>	15LD440, KDW702 & KDW1003
<b>Customers</b>	KOHLER, Mahindra Powerol, Sarja, Aska, Akshaypatra

<b>Business Segment</b>	Agriculture
<b>Applications</b>	Tractors
<b>Powered By</b>	KDW702 & KDW1003
<b>Customers</b>	KAMCO, Angel Farm



KK Series : 3.5 – 12.5 kVA



# Project References

<b>Business Segment</b>	Agriculture
<b>Applications</b>	Tillers & walk behind tractors
<b>Powered By</b>	15LD440
<b>Customers</b>	BCS, Monark, Southern Agro



<b>Business Segment</b>	Agriculture
<b>Applications</b>	Pumpset
<b>Powered By</b>	15LD440
<b>Customers</b>	Babolat, Ambala Coach, Firefly



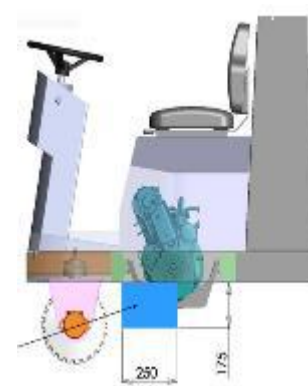


# Project References

<b>Business Segment</b>	Marine
<b>Applications</b>	Fishing boats
<b>Powered By</b>	15LD440
<b>Customers</b>	Mahindra Powerol



<b>Business Segment</b>	Industrial
<b>Applications</b>	Auxiliary power unit, hydraulic power pack, sweeping machine
<b>Powered By</b>	15LD440, KDW702, KDW1003
<b>Customers</b>	Bauer Compressor, Top Gear, Aquarius



# Project References

<b>Business Segment</b>	<b>Construction</b>
<b>Applications</b>	Reversible vibrating plates, walk behind roller
<b>Powered By</b>	15LD440
<b>Customers</b>	Atlas Copco (Dynapac), Jaypee India, Aquarius, Wacker India





# Product Portfolio - Gensets

## Genset product range from 3.5 kVA to 650 kVA

- Designed & assembled in India
- Specially designed to be small and compact
- Customizable with wide range of standard and special options
- Compliant to India CPCB-II emissions and noise requirements

# Product Range upto 650 kVA

## KK series



Model Name	kVA Rating	Phase	kWe	Current (Amp)	Engine BHP	Engine Model	Genset Dimension (mm)
KKN04 II	3.5	1	3.5	15.2	8.18	15LD440-GSI2	945 x 660 x 789 (Without wheels)
KKN05 II	5.0	3	4.0	17.4	8.18	15LD440-GSI2	945 x 660 x 789 (Without wheels)
	5.0	1	4.0	6.9	8.18	15LD440-GSI2	945 x 660 x 789 (Without wheels)
KK4 II	3.5	1	3.5	15.2	8.18	KD441-GSI2	960 x 660 x 789 (Without wheels)
KK5 II	5.0	1	4.0	17.4	8.18	KD441-GSI2	960 x 660 x 789 (Without wheels)
	5.0	3	4.0	6.9	8.18	KD441-GSI2	960 x 660 x 789 (Without wheels)
KK08 II	7.5	1	6.0	32.6	12.7	KDW702-GSI2	1450 x 800 x 1002
	7.5	3	6.0	10.4	12.7	KDW702-GSI2	1450 x 800 x 1002
KK10 II	10.0	1	8.0	43.5	20.1	KDW1003-GSI2	1750 x 850 x 1052
	10.0	3	8.0	13.9	20.1	KDW1003-GSI2	1750 x 850 x 1052
KK12.5 II	12.5	1	10.0	54.3	20.1	KDW1003-GSI2	1750 x 850 x 1052
	12.5	3	10.0	17.4	20.1	KDW1003-GSI2	1750 x 850 x 1052

# Product Range upto 650 kVA

## KE series



Model Name	kVA Rating	Phase	kWe	Current (Amp)	Engine BHP	Engine Model	Genset Dimension (mm)
KE15 II	15	1	12	65.2	24.8	G20 II	1997 x 950 x 1410
	15	3	12	20.9	24.8	G20 II	1997 x 950 x 1410
KE20 II	20	1	16	87	25.0	G20 II	1997 x 950 x 1410
	20	3	16	28	25.0	G20 II	1997 x 950 x 1410
KE25 II	25	1	20	109	42.0	G30 II	1997 x 950 x 1410
	25	3	20	35	42.0	G30 II	1997 x 950 x 1410
KE30 II	30	1	24	130	42.0	G30 II	1997 x 950 x 1410
	30	3	24	42	42.0	G30 II	1997 x 950 x 1410

# Product Range upto 650 kVA

## KT series



Model Name	kVA Rating	Phase	kWe	Current (Amp)	Engine BHP	Engine Model	Genset Dimension (mm)
KT40 II	40.0	3	32	55.6	63	497TC 76	2660 x 1050 x 1662
KT50 II	50.0	3	40	70.0	75.7	497TC 75	2660 x 1050 x 1662
KT63 II	62.5	3	50	86.2	89.8	497TC 74	2660 x 1050 x 1662

# Product Range upto 650 kVA

## KM series



Model Name	kVA Rating	Phase	kWe	Current (Amp)	Engine BHP	Engine Model	Genset Dimension (mm)
KM83 II	82.5	3	66	115.0	105	100kVA Mech CPCB-II	3200 x 1300 x 1710
KM100 II	100	3	80	139.0	128	100kVA Mech CPCB-II	3200 x 1300 x 1710
KM125 II	125	3	100	174.0	156	125kVA Mech CPCB-II	3400 x 1350 x 1713
KM140 II	140	3	112	194.7	199	160kVA Mech CPCB-II	3800 x 1350 x 1896
KM160 II	160	3	128	222.6	199	160kVA Elec CPCB-II	3800 x 1350 x 1896
KM180 II	180	3	144	250.5	221.2	180kVA Elec CPCB-II	4490 x 1390 x 2270
KM200 II	200	3	160	278.0	241.2	200kVA Elec CPCB-II	4490 x 1390 x 2270

# Product Range upto 650 kVA

## KVS series



Model Name	kVA Rating	Phase	kWe	Current (Amp)	Engine BHP	Engine Model	Genset Dimension (mm)
KVS320 II	320	3	256	445	373	TAD1351 GE	5060X1640X2493
KVS380 II	380	3	304	528	438	TAD1354 GE	5060X1640X2493
KVS500 II	500	3	400	695	585	TAD1651 GE	5060X1640X2493
KVS600 II	600	3	480	834	699	TWD1652 GE	6500X2000X2650 (Without Silencer)
KVS650 II	650	3	520	905	756	TWD1653 GE	6500X2000X2650 (Without Silencer)

# Features & Benefits

Features	Benefits
Built in breaker, fuel tank & battery	Connect & play for quick on site set up
Modular design	Easy access for maintenance
Sound enclosures comply to CPCB-II India requirement	Silent operations that reduce noise pollution
Availability of lifting & handling points	Mobility to facilitate easy transportation
Advanced controllers	Flexible and easy access to maintenance, dedicated to genset applications for optimal performance
Service access	Easy access to major service points
Versatility with KOHLER non-standard solutions	Flexible and creative customized solutions to meet customers' needs
Weather-proof enclosures	Suitable to work in any environment

# Product Portfolio - Gensets

## Genset product range above 700 kVA

- Designed & assembled in the Singapore / France / China plants
- Coupled with the latest design engine & alternator technology, controlled by the most advanced controller designed by Kohler
- Offers excellent step load acceptance, fuel economy, emissions compliance (CPCB-II) and reliability



# REOZM Series

- Using the latest generation heavy duty engines, designed for both prime and standby operation in very harsh environment
- Highly efficient electronic control systems which enable them to respond to strict stability requirements in terms of frequency, voltage and waveform
- Complies with ISO 8528-5, Class G3 requirements for transient performance
- Modular design enables quick and versatile customization to meet different project requirements and demands



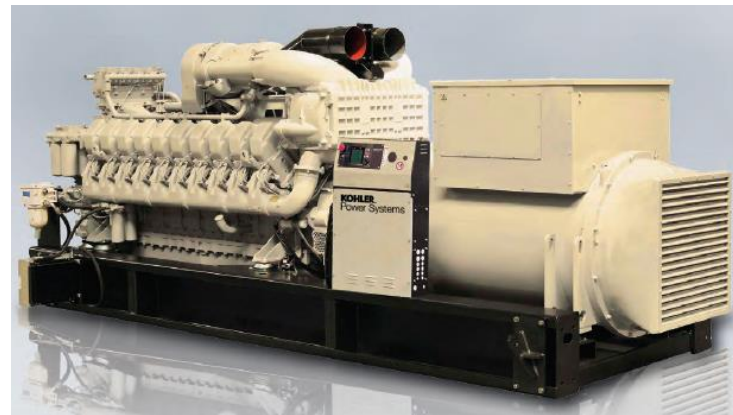
# Standard Features

- 905 kVA to 2500 kVA for 50 Hz
- 4P, brushless, permanent-magnet pilot exciter alternator
- Unit mounted radiator for 40°C ambient
- Electronic isochronous governor
- Standard duty air intake system
- Low height radiator option available



# Standard Features

- Class H alternator insulation
- Structural skid
- Oil drain extension
- Low coolant level shutdown (for radiator cool only)
- Unit mounted controller
- Customizable with endless options
- 1 step loading capability
- EPA Tier 1 certified (60 Hz Models)
- EPA Tier 2 certified available as Engineering Special model



# Features & Benefits

Features	Benefits
Complies to ISO8528-5, class G3 requirement for transient performance	Faster response to loading
Woodward ProAct II engine governor	Higher engine specifications allow faster response
PMG generator	Better motor starting capability and short circuit capability
Electronic isochronous governor	Precise frequency regulation
Digital solid state volts per hertz voltage regulator (with 0.25% no load to full load regulation)	Precise voltage regulation
Conforms to EPA Certification for 60 Hz	Cleaner emission to the environment
Versatility with KOHLER non-standard solutions	Flexible and creative customized solutions to meet customers' needs

# DEC550 Controller

- Compatible with all ECM and non-ECM engines, 12 or 24 volt
- User-friendly digital display and keypad for local view and adjustments
- Measurements in metric or English units
- Integrated voltage regulator provides 0.25% regulation
- Communicates directly with a personal computer via a network or modem configuration
- Built-in alternator thermal overload protection
- Supports Modbus protocol
- Meets NFPA-99 and NFPA-110



# DEC550 Controller - NFPA 110, Common Alarms

## Engine Functions:

- Over crank
- Low coolant temperature warning
- High coolant temperature warning
- High coolant temperature shutdown
- Low oil pressure shutdown
- Low oil pressure warning
- Low fuel (level or pressure) \*
- Low coolant level
- Over speed
- EPS supplying load
- High battery voltage \*
- Low battery voltage \*

## General Functions:

- Master switch not in auto
- Battery charger fault \*
- Lamp test
- Contacts for local and remote common alarm
- Audible alarm silence switch
- Remote emergency stop



# KD Series



- KD SERIES is the newest line of generators powered with our KOHLER Large Diesel Engines
- KD SERIES generating sets provide a wide range of power from 800 – 4200kVA (800 in 4000kWe) standby
- Ideal for every industrial power segment use and benefit from KOHLER's worldwide aftermarket parts and service network
- Developed over a 6-year period, each component was designed/tested to offer the best performance while maintaining high industry standards

# Kohler Global Product Value Proposition

## KD Series large diesel product developed to match customer needs

CUSTOMER NEEDS	KD SERIES PROPOSITION
Quality	<ul style="list-style-type: none"><li>Any product carrying the Kohler Brand is designed and built to highest available quality standards in the industry</li><li>The generator set and its components have been fully developed, prototype tested, factory built, and production-tested in our lab and factories in US and Europe</li></ul>
Reliability	<ul style="list-style-type: none"><li>After more than 50000 bench test hours over the last 6 years, we are able to offer a Global 3 year standard warranty on the KD SERIES product range, which is the strongest in the industry</li></ul>
High level of performances	<ul style="list-style-type: none"><li>Large range of power ratings and definitions, kW Density, Fuel Efficiency, Emission level requirements, high ambient conditions</li></ul>
Total Cost of Ownership	<ul style="list-style-type: none"><li>The new KD Series offer to the customer attractive acquisition cost moreover thanks to its fuel efficiency and extended service intervals and longer lifetime, the cost of ownership is a strong advantage of the range</li></ul>
Sales flexibility	<ul style="list-style-type: none"><li>Flexibility (Terms, Design) and Product Availability is an important value in KOHLER companies</li></ul>
Engineering Support	<ul style="list-style-type: none"><li>Ability to influence the spec, answer quickly, and customize the product</li><li>Offer fully turn key solutions to reduce installation costs and start-up issue</li></ul>
Service Infrastructure	<ul style="list-style-type: none"><li>Total service provider (Parts, Warranty, Support), The best Global Warranty (3yr standard) in the industry, extended service intervals, and longer engine life; all supported by Kohler's Global organization for local support</li></ul>
Single Source Solutions Brand Awareness	<ul style="list-style-type: none"><li>Innovation through vertical integration means one source for all your global needs from total solution provider to aftermarket parts and service</li></ul>



# Power Nodes Overview – Release Schedule

- Up to 2800kVA/2500kW will be market released in Q2, 2017
- Up to 3500kVA/3250kW will be market released by Q2 2018
- Up to 4200kVA/4000kW will be market released by Q4 2018

50,000 Test Hours to Date  
6 Years of Development  
3 Years of Testing

50 Hz		
Genset ESP (kVA)	Engine Model	Engine Series
800	KD27V12	K135
900		
1000		
1100		
1250	KD36V16	
1440		
1500		
1650	KD45V20	
1800		
2000		
2250	KD62V12	K175
2500		
2800		
3000		
3300	KD83V16	
3500		
3800		
4200	KD103V20	

# KD Series Competitive Advantages

## Revolutionary and Reliable Engine

Common Components  
Across Generators and  
Engines

**Cooling System:**  
50°C Ambient  
Cooling  
Modular Core  
Radiator

## Tested And Approved

Right Sized Turbo Chargers  
Low Combustion Air

Closed Crankcase Ventilation

Concentrated Power  
High kW Displacement  
Low Fuel Consumption

High Fuel Lift

## Smooth Running

### Alternator:

Fast Recovery and Response Time  
High Motor Starting Capabilities  
PMG Exciter System  
Multiple Options available at each  
node

High kW Density  
Smaller Footprint

## Ultimate Performance

Integrated  
Controls

# KD Series Warranty

	KPS		SDMO	
	ESP	PRP	ESP	PRP
<b>KD Series</b>	<b>3 YR/1000 HR</b>	<b>2 YR/8000 HR</b>	<b>3 YR/1000 HR</b>	<b>2 YR/8700 HR</b>
<b>MTU</b>	2 YR/3000 HR	2 YR/2000 HR	3 YR/1000 HR	
<b>CAT</b>	2 YR	1 YR	4 YR	
<b>Cummins</b>	2 YR	1 YR	2 YR/400 HR	
<b>FG Wilson</b>			3 YR/500 HR	1 YR or 2 YR/6000 HR
<b>KPS/SDMO Current</b>	1 YR/2000 HR	1 YR/2000 HR	2 YR/1000 HR	1 YR/2500 HR

The KD Series Global 3 year standard warranty will be the strongest in the industry

# Few Esteemed Customers In India



दिल्ली मेट्रो रेल कॉर्पोरेशन लिमिटेड  
DELHI METRO RAIL CORPORATION LTD.



THE LEELA  
PALACES HOTELS RESORTS



CISCO™

Infosys

SIEMENS

GVK BIO



patni

NIIT



Infrastructure Leasing & Financial Services Ltd.



VELANKANI



TATA

TATA CONSULTANCY SERVICES



شركة الرفدين للتجارة والبنوك  
AL RAFIDAIN CO. LTD.



JOHN DEERE



JPMorgan



TEXAS  
INSTRUMENTS



INDRAPRASTHA GAS LIMITED



Hotels Resorts  
and Palaces



HETERO  
Research is Development



THE WORLD BANK  
Working for a World Free of Poverty



WIPRO  
Applying Thought

# Thank You

