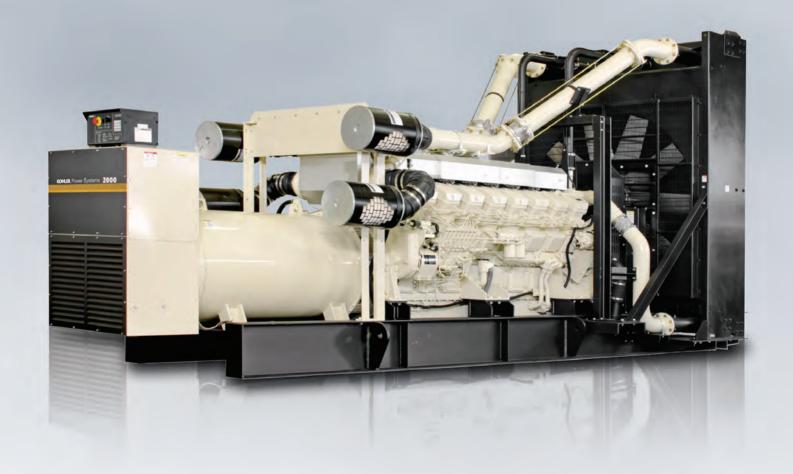
# INDUSTRIAL POWER



# **TOTAL SYSTEM INTEGRATION.**EVERYTHING WORKS TOGETHER.

Reliability of power systems is critical. Your business depends on it. At Kohler, we build industrial power systems that are proven to work because total system integration is engineered in from the start.

For more than 90 years, Kohler has earned a global reputation as a pure power expert — in large part to our strict quality standards. Our power systems are equipped with Kohler innovation, including generators, transfer switches, switchgear and controllers. Enduring the industry's toughest testing process, including transient power testing, cooling sound and more, every part is built to work with the entire system and perform in the most demanding environments before they are shipped out.

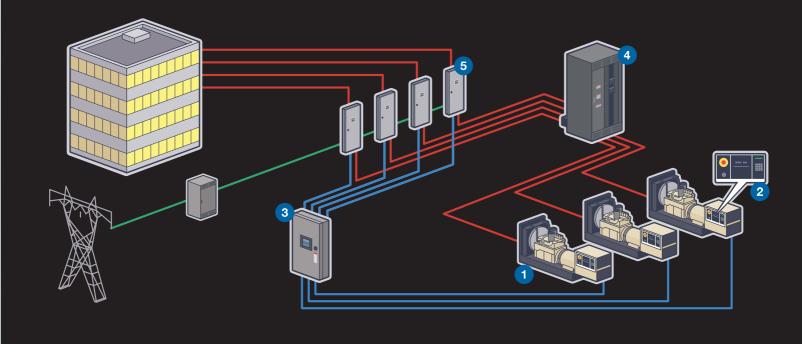
Our power systems are built for nearly every application, powering everything from gas stations to hotels and hospitals, as well as military operations and airports. So you can be rest assured that our products will work when you need them most.

# DEPENDABLE POWER AND PERFORMANCE TRIED, TESTED AND PROVEN TO WORK.

Critical power applications are part of every industry; protecting them starts with reliable KOHLER® generators, available in diesel, natural gas and LP gas configurations. Our diesel models deliver dependable power to a wide range of output requirements. From small-load residential and business to heavy industry, every KOHLER generator is engineered to provide maximum power, performance, flexibility and fuel efficiency.

Today, Kohler provides integrated solutions to streamline the specifying process. Our industrial generators are diesel-fueled models — ranging from 5.5 kVA to 3,300 kVA @ 50 Hz (7 kW to 3,200 kW @ 60 Hz) complete with electronic controls and automatic transfer switches. To help cater to unique installation environments, we also offer a range of accessories, including controls, silencers, enclosures, fuel tanks and block heaters.

Disclaimer: Information in this publication represents product data available at the time of print. Kohler reserves the right to change this publication and the products represented without notice and without any obligation or liability.







Our full suite of generator sets are made to power all of your applications (simple to complex) and are available in a range of sizes up to 3300 kVA (3200 kW). And you can customize them any way you like with a variety of accessories.

#### **DECISION-MAKER® 6000 Controller**



Our most advanced controller, the Decision-Maker 6000 enables load sharing and synchronization for up to eight generator sets in the Kohler Decision-Maker paralleling system. In conjunction with the master control panel, the Decision-Maker 6000 is the brain of the system.

#### **Master Control Panel**



Responsible for generator set and load management, the master control panel handles load add/shed; number of generator sets online; and also monitors electrical and mechanical loads along with event logging and alarms.



#### **Power Distribution Switchboard**

This equipment provides the connection for the generator sets to create the overall power output required. It also accommodates the motor-operated breakers for each generator and load breakers needed to meet the customer's demands.





The ATS intelligently selects the power source and transfers loads. Kohler offers a wide range of transfer switches including standard transition, closed transition and bypass to meet all applications and requirements.





# KOHLER SERVICE AND SUPPORT THE HELP YOU NEED. ANY TIME, ANYWHERE.

Anybody can claim to offer an unrivaled level of support, but it is another thing to deliver on that promise. Today, Kohler's distribution network spans across multiple sales offices in countries throughout the Asia Pacific region.

Unlike other generator manufacturers, Kohler certified distributors and dealers specialize in power. This means our service network can be called on for anything related to your generator and its components.

With Kohler, you enjoy world-class service and support from a global service network.



#### **KOHLER POWER SYSTEMS**

- 1 Kohler, Wisconsin Corporate Headquarters and Manufacturing Facility
- (2) France - Regional Headquarters for EMEA
- 3 Singapore - Manufacturing Facility and

Regional Headquarters for Southeast Asia (including Taiwan, Hong Kong & Bangladesh), North

Asia & Australasia

4 India - Manufacturing Facility and

Regional Headquarters for

South Asia

- 5 China - Manufacturing Facility and Headquarters for China
- Regional Sales Offices, Dealers and Distributors

#### **SDMO** (Kohler-Owned)

- 6 France Headquarters and Three Manufacturing Facilities
- 7 Brazil Manufacturing Facility
- Regional Sales Offices, Dealers and Distributors

## **REOZM SERIES GENERATORS**

BRED FOR THE TOUGHEST JOBS ON EARTH.

810-2500 kVA 648-2000 kW

# PACKED WITH POWER, ENGINEERED FOR TOTAL PERFORMANCE

The need for constant and stable power in today's business environment is vital to keep operations up and running with minimal disruption. Power reliability is required to ensure maximum uptime and provide total peace of mind.

The REOZM-series generators offer total, reliable and continuous power, accepting one-step full rated load. Incorporating Kohler's innovative technology, the REOZM range enables a seamless integration that allows versatile system configurations for dependable performance and uptime reliability.

#### STANDARD FEATURES

#### **TESTED AND APPROVED**

KOHLER generators meet tough industry testing and quality standards (UL, CSA, IBC, NFPA).

#### **RAPID RESPONSE**

Our generator sets enable a faster response in powering up to deliver quality power during voltage and frequency changes.

#### **EASY INSTALLATION**

Our quickest install ever – large stub-up areas; easy access to fuel, load and exhaust locations.

#### (1) EMISSION-CERTIFIED

EPA-certified, industrial-grade 60 Hz engines to meet Tier 2 emission requirements

#### **2) HIGH-AMBIENT COOLING**

Designed to meet your extreme operating conditions

#### (3) KOHLER PMG ALTERNATORS

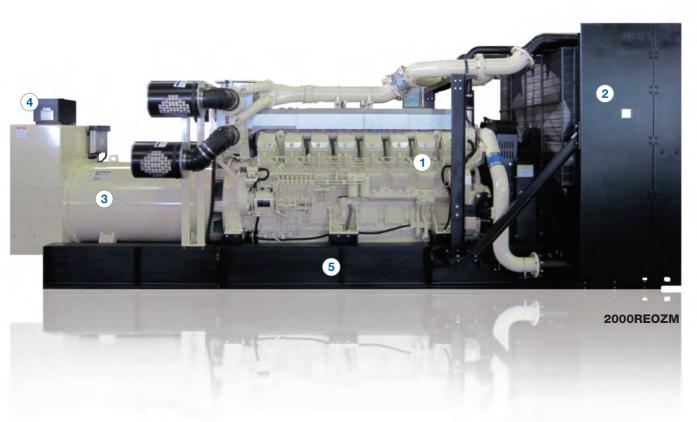
Provide advanced short circuit capability and meet NEMA MG 1, IEEE and ANSI standards

#### 4 KOHLER DECISION-MAKER® CONTROLS

Available with a variety of controls – basic, advanced and paralleling

#### (5) OPTIONS AND ACCESSORIES

Improved motor-starting alternators, heavyduty air cleaners, enclosures, fuel tanks, block heaters, multiple circuit breakers and more



# STANDARD FEATURES AND ACCESSORIES

Engine	
Four-stroke water-cooled diesel engine	Standard
Electronic governor	Standard
Air cleaner, dry	Standard
Air cleaner, heavy duty	Option
Air cleaner restriction indicator	Option
Oil filter	Standard
Block heater, 220/240 V	Option
Alternator	
Single-bearing alternator, insulation class H	Standard
Drip-proof construction	Standard
Permanent magnet-excited generator (PMG)	Standard
Reactive droop compensator	Option
Generator Set	
Structural skid in solid mount	Standard
Decision-Maker 550 controller	Standard
Decision-Maker 6000 controller	Option
KOHLER cream beige color	Standard
Line circuit breaker	Option
Oil drain extension	Standard
Spring isolator	Option
Residential silencer	Option
Flexible exhaust connector	Option

Cooling System	<u>,                                      </u>
Unit mount radiator for 40°C ambient	Standard
Unit mount radiator for 50°C ambient	Option
Protection guard for fan and revolving parts	Standard
Low coolant level shutdown (unit-mounted radiator models only)	Standard
Radiator core protective grill	Standard
Starting System	
Charging alternator and starter motor voltage	24 V
Battery (24 V)	Option
Battery rack and cables	Option
Battery charger	Option
Diesel Fuel System	
Fuel filter	Standard
Flex fuel lines (installed)	Option
Flex fuel lines (loose)	Option
Literature	
Operator and installation literature	Standard
General maintenance literature kit	Option
Overhaul literature kit	Option
Production literature kit	Option

N/A = Not Available

#### **TECHNICAL SPECIFICATIONS**

	810 kVA-2500 kVA THREE-PHASE GENERATOR SETS (50 Hz) Specifications @ 1500 rpm, 240/416 V, P.f:0.8								
Generator Set kVA kVA kW kW Fuel Consul						kW kW Fuel Consumption Unhoused Vers		sion <sup>(5)</sup>	
Model <sup>(1)</sup>	Prime Power <sup>(3)</sup>	Standby Power <sup>(4)</sup>	Prime Power <sup>(3)</sup>	Standby Power <sup>(4)</sup>	Prime 75% L/h	Standby 75% L/h	Dimensions L x W x H, m	Weight kg <sup>(6)</sup>	
800REOZM	830	910	664	728	131	144	4.18 x 1.72 x 2.00	6500	
1000REOZM	1065	1165	852	932	165	180	4.63 x 2.05 x 2.23	8800	
1250REOZM	1270	1385	1016	1108	196	213	5.10 x 2.23 x 2.23	11310	
1500REOZM	1505	1650	1204	1320	237	258	5.77 x 2.21 x 2.51	13200	
1600REOZM	1600	1725	1280	1380	258	283	5.77 x 2.21 x 2.51	13300	
1800REOZM	1805	1975	1444	1580	277	302	5.93 x 2.21 x 2.51	14000	
2000REOZM	2044	2250	1635	1800	309	338	6.49 x 2.22 x 2.51	15300	
2250REOZM	2225	2438	1780	1950	368	399	6.45 x 2.23 x 2.51	16800	

648 kW-2000 kW THREE-PHASE GENERATOR SETS (60 Hz) Specifications @ 1800 rpm, 277/480 V, P.f:0.8								
Generator Set kVA kVA kW kW Fuel Consumption Unhoused Version <sup>(5)</sup>								sion <sup>(5)</sup>
Model <sup>(2)</sup>	Prime Power <sup>(3)</sup>	Standby Power <sup>(4)</sup>	Prime Power <sup>(3)</sup>	Standby Power <sup>(4)</sup>	Prime 75% L/h	Standby 75% L/h	Dimensions L x W x H, m	Weight kg <sup>(6)</sup>
800REOZM	913	1013	730	810	162	177	4.18 x 1.72 x 2.00	6500
1000REOZM	1156	1275	925	1020	194	211	4.63 x 2.05 x 2.23	8800
1250REOZM	1444	1563	1155	1250	241	263	5.10 x 2.23 x 2.23	11310
1500REOZM	1694	1869	1355	1495	276	301	5.77 x 2.21 x 2.51	13200
1600REOZM	1850	2038	1480	1630	295	321	5.77 x 2.21 x 2.51	13300
2000REOZM	2273	2500	1818	2000	348	381	6.49 x 2.22 x 2.51	15300

- 1) Also available in 230/400 V and 220/380 V.
- 2) Also available in 220/380 V.
- 3) Prime power ratings apply to installations where utility power is unavailable or unreliable. At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528/1, overload power accordance with ISO 3046-1, BS 5514, AS 2789 and DIN 6271.
- Standby power ratings apply to installations served by utility source. The standby rating is applicable to varying loads for the duration of power outage.
  There is no overload capability for this rating.
  Ratings are in accordance with ISO 3046-1, BS 5514, AS 2789 and DIN 6271.
- 5) The dimensions and weights apply to an unhoused generator set without options.
- 6) Wet weight, without fuel.

## KOHLER® DECISION-MAKER® CONTROLS

TECHNOLOGY SO ADVANCED, IT'S EASY.

At Kohler, we don't do one size fits all. With our Decision-Maker controls, we design custom packages, tailored to your needs – from basic controls to multiple generator paralleling.

Plus, Kohler makes each controller easy to operate with userfriendly displays and keypad functions. And if that weren't enough, our complete line of Decision-Maker controllers features advanced network communications for remote monitoring as well as adjustable parameters to accommodate your specific application.

#### **STANDARD FEATURES**

#### **TESTED AND APPROVED**

Our controls meet NFPA, UL and CE standards,

#### **INTEGRAL VOLTAGE REGULATOR**

KOHLER controls deliver precise voltage regulation (+/-0.25%) to protect your sensitive equipment from poor power quality.

#### **SEAMLESS SYSTEM INTEGRATION**

Every controller works with our automatic transfer switches and switchgear for complete system integration.

#### **ALTERNATOR PROTECTION**

This must-have technology protects the alternator from thermal overload.

#### **REMOTE COMMUNICATIONS**

#### **MONITOR SOFTWARE**

Monitors and controls generator sets and transfer switches from your personal computer.

#### POWERSCAN<sub>TM</sub>

Provides system monitoring around the clock using wireless technology to send messages to your phone, fax and email.

#### **REMOTE ANNUNCIATOR**

Offers an economical solution for remote annunciation of faults and status conditions for NFPA-110 compliance.

1 EMERGENCY STOP BUTTON

Turns off generator set immediately

**2** CONTROL BUTTONS

Control synchronizing breakers and generator set operation (Off/Auto/Run)

(3) STATUS INDICATORS

Display generator set mode, breaker and synchronization status

(4) DIGITAL ALPHA/NUMERIC DISPLAY

Displays faults, warnings, codes and metering

**5** KEY SWITCH

Secures your program settings

(6) PUSH-BUTTON KEYPAD

Sets custom parameters, displays menus, resets faults and more













	Docision	Decision-
MODEL	Decision- Maker <sub>®</sub> 550	Maker 6000
GENERAL	Advanced	Paralleling
Integral voltage regulator	X	X
Digital 3-phase sensing voltage regulator	х	х
Integral alternator thermal overload protection	х	х
Engine diagnostics	Х	x
Engine starting aid	Х	Х
Cyclic cranking	Х	x
Event and data logging	Х	x
Programming access via laptop	х	х
Time delay engine start and cool down	х	х
Key switch	Х	Х
USER INTERFACE		
Alphanumeric digital display	Х	Х
Emergency stop (local and remote)	х	х
Auto/remote start	Х	x
Start/stop and fault reset	Х	x
Fault messaging and lamp	Х	x
Alarm silence and test lamp	Х	x
Exercise function	Х	Χ
Digital or analog inputs and outputs	х	х
ENGINE STATUS AND CONDITION		
Oil pressure/temperature	Х	х
Coolant temperature	Х	Х
Engine speed	Х	x
Number of starts	Х	Х
Battery voltage	Х	Х
ALTERNATOR STATUS AND CONDITION		
Voltage, L-L and L-N for all phases	Х	Х
Current/frequency for all phases	Х	Х
Total kW/kVA and KVAR	Х	Х
kWh	Х	Х
Power factor	Х	Х
Per phase kW/kVA and KVAR	Х	Х

MODEL	Decision- Maker 550	Decision- Maker 6000
ENGINE PROTECTION – SHUTDOWN/INDICATION	Advanced	Paralleling
High engine coolant temperature	×	X
Low coolant level	x	×
Low oil pressure	×	×
Overcrank	x	Х
High/low/weak battery voltage	×	х
High/low fuel level	x	Х
Overspeed	×	х
Low fuel	×	х
ALTERNATOR PROTECTION – SHUTDOWN/INDICATION		
Over- and under- voltage/frequency	х	x
Overcurrent	x	Х
Locked rotor	×	х
Reverse power/var	x	х
PARALLELING		
Synchronizer	-	х
Real and reactive load sharing	-	x
First on logic	-	х
Circuit breaker control	-	х
Base load control	-	x
Var/power factor control	-	x
COMMUNICATIONS		
Local and remote area network capability	х	х
Monitoring software	0	0
CODES AND STANDARDS		
NFPA-110, Level 1	Х	х
UL 508 / UL 2200-certified	Х	х
CE-compliant	Х	Х

KEY	
Standard	х
Option	0
Not Available	_

## **AUTOMATIC TRANSFER SWITCHES**

FORGET THE FORECAST. WE HAVE YOU COVERED.

Bridging the gap between loss of utility and standby power is no small task, which is why KOHLER<sub>®</sub> automatic transfer switches are essential to KOHLER power systems.

Kohler's latest generation of transfer switches – featuring MPAC $_{\odot}$  controllers – are loaded with technology to ensure transfer of power from the utility to the generator set and back. When the grid fails, power is transferred to the standby system. And then it's back to business as usual.

#### **STANDARD FEATURES**

#### **MULTIPLE APPLICATIONS**

Find the perfect option. Our transfer switches are available in standard, bypass and service entrance configurations with open, programmed and closed transition operating modes, 30-4000 amps.

#### **SEAMLESS SYSTEM INTEGRATION**

Sit back and relax. Our transfer switches easily interface with KOHLER Decision-Maker® controllers.

#### **ADVANCED COMMUNICATIONS**

Each ATS comes loaded with technology. Ethernet and Modbus communications capabilities are standard.

#### **CERTIFIED PACKAGES**

Available packages are UL-listed, CSA- and IBC-certified.

# (1) CERTIFIED ENCLOSURES Meet NEMA Type 1, 3R, 12 a

Meet NEMA Type 1, 3R, 12 and 4X enclosure standards

#### **2** BYPASS OPERATION

Eliminates interruption to the loads during maintenance

#### (3) MPAC DIGITAL CONTROLLER

Provides a full array of features including communications, I/O, load management and other advanced functionality

#### (4) HEAVY-DUTY CONTACTOR

Choose from any breaker, specific breaker and current limiting fuse rated mechanisms

#### **5** AVAILABLE ACCESSORIES

Anti-condensation heater, voltage surge suppressor, line-to-neutral voltage monitoring, seismic certification and more















MPAC 1000 MPAC 1500

KOHLER PRODUCT SERIES				
Comparison Features				
Intended application	Light Commercial	Commercial, Light Industrial	Industrial	Industrial, Mission Critical Power
Controller	MPAC 500	MPAC 1000	MPAC 1500	MPAC 1500
Ampere sizes available	100-400 A	30 - 4000 A	40-1000 A	30-4000 A
Phases available	Single	Single or Three	Single or Three	Single or Three
Pole counts available	2	2, 3 or 4	2, 3 or 4	2, 3 or 4
Low voltage	220-240 V	115-600 V	115-480 V	115-600 V

Product Type				
Open transition transfer switch	Yes	Yes	Yes	Yes
Service entrance rated transfer switch	Yes	-	-	Yes
Power transfer load center	Yes	-	-	-
Delayed transition transfer switch	-	-	Yes	Yes
Closed transition transfer switch	-	-	-	Yes
Bypass isolation transfer switch	-	-	-	Yes
Delayed transition bypass isolation	-	-	-	Yes
Closed transition bypass isolation	-	-	-	Yes

Withstand and Close-On Ratings					
WCR - specific breaker	10-65 kA	10-65 kA	30-65 kA	22-100 kA	
WCR – any breaker	-	10-50 kA	-	10-100 kA	
WCR - current limiting fuses	-	100-200 kA	100-200 kA	100-200 kA	
Short-time withstand rating	-	-	-	36-65 kA	

#### **Southeast Asia Headquarters**

Kohler Power Systems - Singapore 7 Jurong Pier Road Singapore 619159 Tel: +65 6264 6422

Fax: +65 6264 6455

Sales inquiries: sales.sg@kohler.com

#### **Regional Sales Offices**

## S.E. Asia, Taiwan, Hong Kong & Bangladesh

Kohler Power Systems - Singapore 7 Jurong Pier Road Singapore 619159 Tel: +65 6264 6422

Fax: +65 6264 6455

Email: sales.sg@kohler.com

#### Australasia

Kohler Power Systems - Australia C/O P O Box 324, Highgate South Australia 5063 Tel: +61 439 338 166 Fax: +61 8 8338 6424

Email: bob.morgan@kohler.com

#### **North Asia**

Kohler Power Systems - Japan SBS Hills-II, No. 53 4-10-3, Yoga, Setagaya-Ku Tokyo 158-0097 Japan

Tel: +81 3 6807 1730 Fax: +81 3 3708 4377 Email: kawasaki@kohler.co.jp

Kohler Power Systems - Korea Room 1809 LG Twintel 2 157-3 Samsung-Dong Gangnam-gu Seoul 135-090 South Korea Tel: +82 2 563 9266

Fax: +82 2 563 9730

Email: chanusohn@kohler.com

SPEC YOUR JOB AT KOHLERPOWER.COM.SG

For more information on the complete range of Kohler products, please contact us at +65 6264 6422 or visit KohlerPower.com.sg/Industrial





Printed in Singapore G12-313 07/14 © 2014 by Kohler Co.