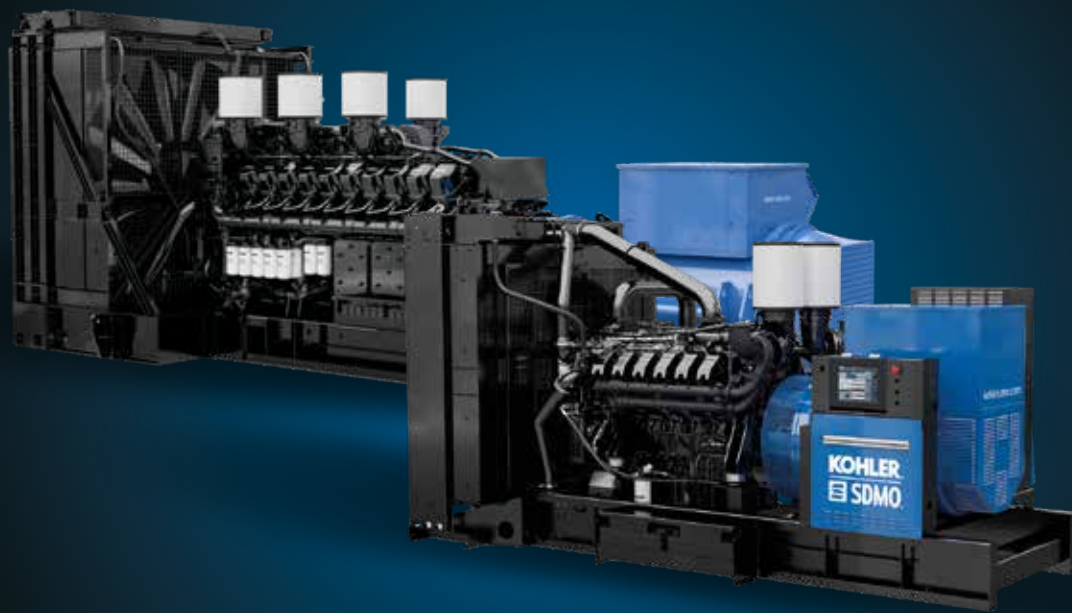


INDUSTRIAL RANGE KD SERIES

800 - 4500KVA | 50HZ

800 - 4000KWE | 60HZ

MK-PP-KD-DO-EN-201



KOHLER[®]
IN POWER. SINCE 1920.

HIGH PERFORMANCE IN A WIDE RANGE OF SECTORS



DATA CENTERS



HEALTHCARE
FACILITIES



OIL & GAS



INDUSTRY



MINING



WASTE AND WATER
TREATMENT



TRANSPORT



CONSTRUCTION



TELECOMMUNICATIONS



DEFENSE



IPP
(INDEPENDENT POWER
PRODUCERS)

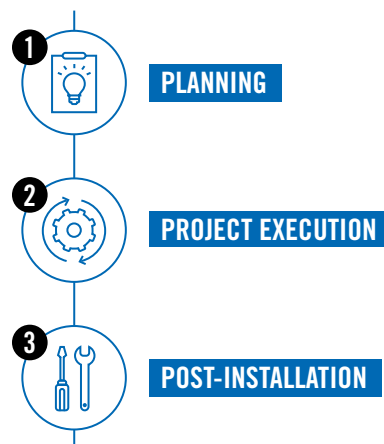




LET OUR EXPERTS TAKE CARE OF YOUR PROJECT

Each project submitted to KOHLER follows a proven process, from planning to the post-installation maintenance. A succession of pre-established steps mastered by all our teams provides you with a guarantee of flawless efficiency.

From planning the design and choice of equipment to final testing and commissioning, we have one goal: to offer you reliable power systems, precisely designed to your specifications. Great flexibility in manufacturing, extreme rigor during testing, meticulous precautions during commissioning—everything is done to provide you with a solution adapted to your activity and your budget.



Your power plant has been custom designed, manufactured and tested by a team of experienced engineers. Your dedicated representative coordinates all the steps in your project with each stakeholder, monitors performance quality and works to finalize your project right up to commissioning, all within the agreed deadlines.



NEW GENERATION KOHLER ENGINES DEDICATED TO HIGH POWER GENERATING SETS

Engines dedicated to generating sets with the highest power density on the market: a KOHLER exclusive. Our global team of engineers has developed a range of sleek, compact engines offering unrivaled performance. Designed specifically for generating sets, this range combines the highest power with superior efficiency.

These engines are manufactured in France and Switzerland in factories offering the highest level of quality, where each product is tested under rigorous operating conditions. The range comprises two K135 and K175 engine blocks which cover a wide power range: from 644 to 4290 kWm.

CONCENTRATED POWER

KOHLER diesel engines offer **the best power/compactness/consumption ratio on the market**, guaranteeing **optimal performance at low operating costs**. This efficiency results from the perfect compatibility between the injection system and the engine control unit (ECU).

OPTIMAL CONTROL OF THE INJECTION SYSTEM

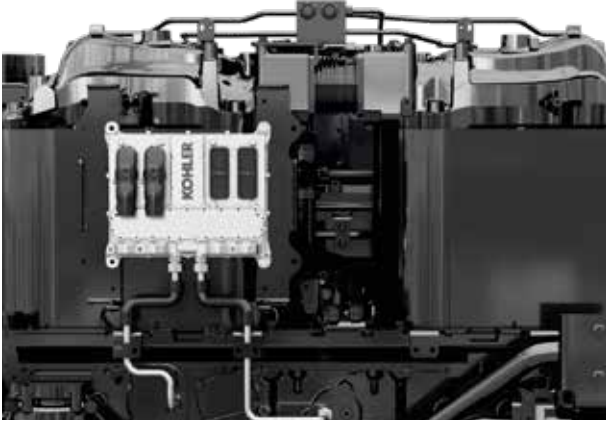
The high-pressure common rail fuel injection system reaches **an injection pressure of 2200 bar**. The higher this pressure, the more finely the fuel is vaporized ensuring more efficient ignition, combustion and exhaust. In conjunction with the other components, our system provides **advanced engine performance and optimal efficiency**.

OPTIMIZED VIBRATIONS AND SOUND LEVEL

Thanks to its **rigid architecture and its optimized combustion**, our engine operates smoothly with a low sound level and minimal vibrations, even under extreme operating conditions. Less friction and vibrations means better reliability, greater strength, a **longer service life and minimized fuel consumption**.

A ROBUST, RELIABLE DESIGN

The materials have been selected for their high-tech qualities and strength. The products are therefore **highly robust**, even for the most demanding projects.



A SLEEK, MODULAR DESIGN

The use of components common to all models means **stock is rationalized, maintenance facilitated and training simplified**.

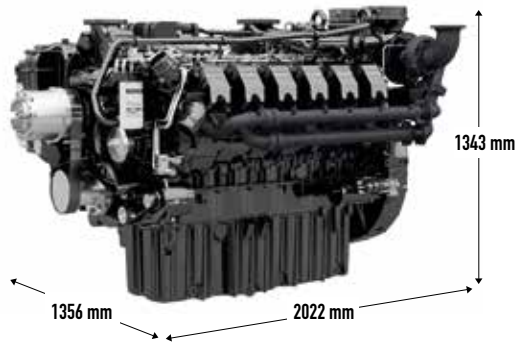
A sleek, minimal design ensures better accessibility to components for optimized maintenance. It all helps to reduce costs.



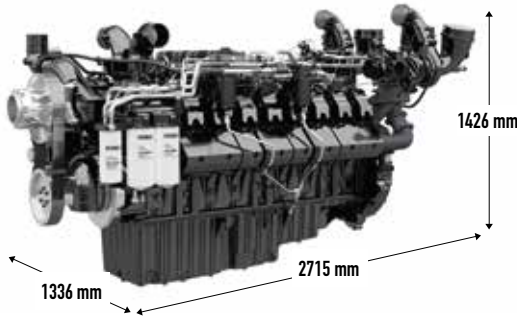
THE RANGE OF KOHLER DIESEL ENGINES

K135

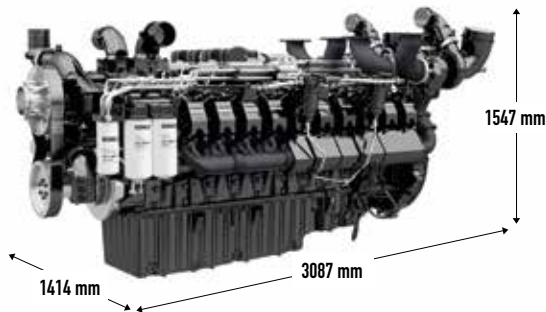
KD27V12



KD36V16

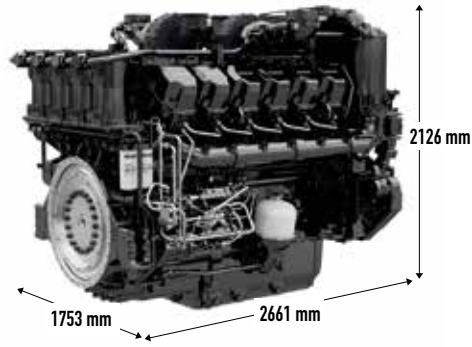


KD45V20

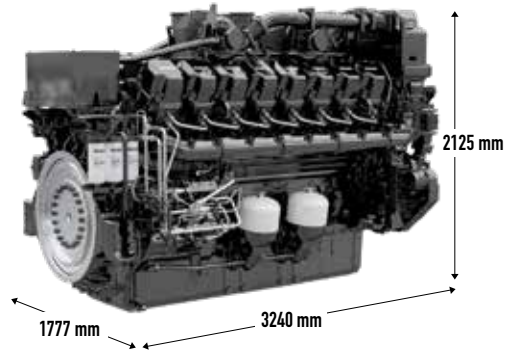


K175

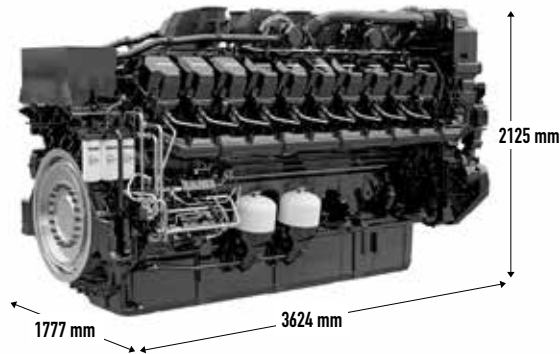
KD62V12



KD83V16



KD103V20

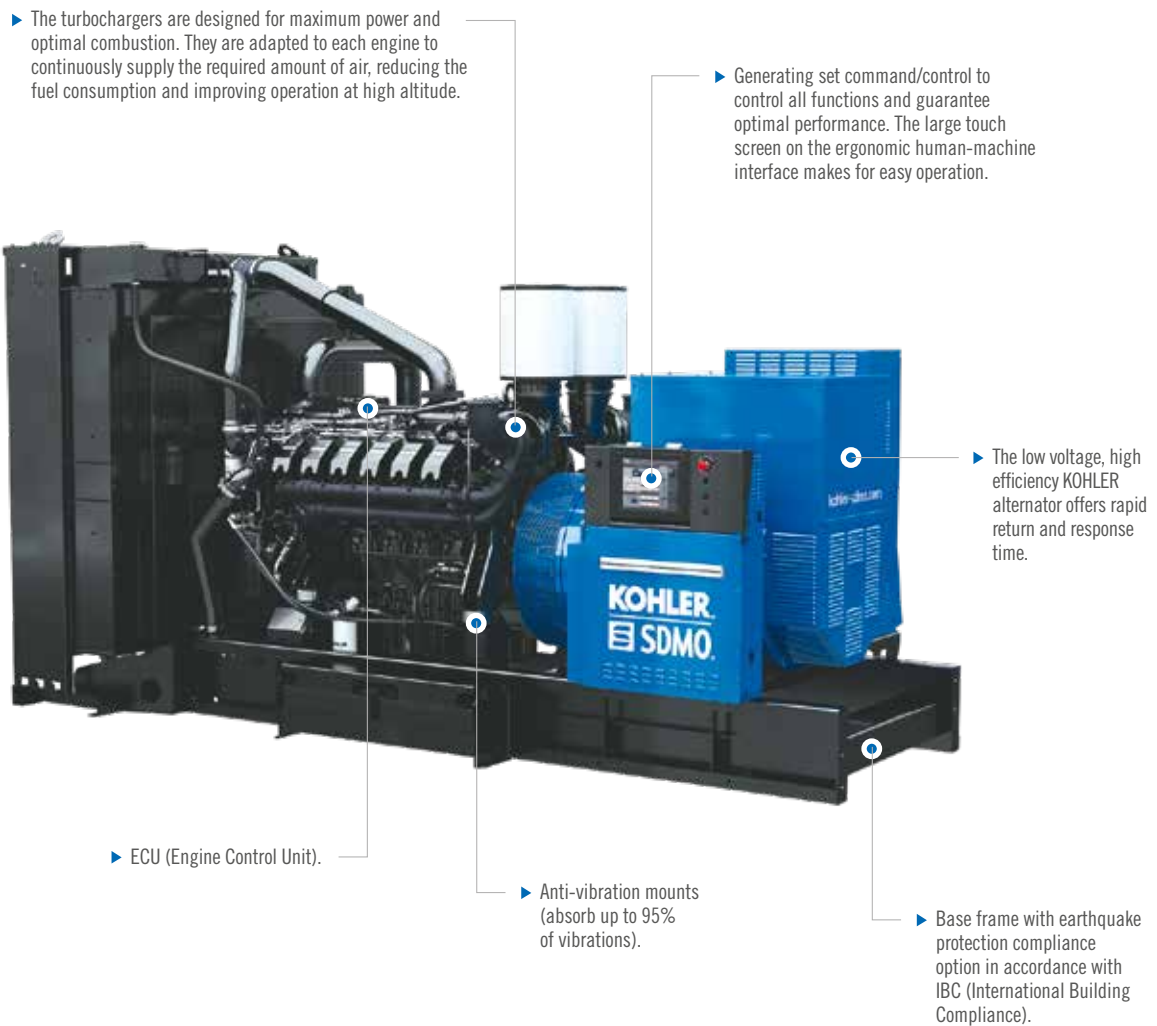


ENGINES	SERIES K135			SERIES K175		
	KD27V12	KD36V16	KD45V20	KD62V12	KD83V16	KD103V20
Number of cylinders	12	16	20	12	16	20
Cylinder arrangement	90° V	90° V	108° V	60° V	60° V	60° V
Cycles	4 cycles	4 cycles	4 cycles	4 cycles	4 cycles	4 cycles
Bore (mm)	135	135	135	175	175	175
Stroke (mm)	157	157	157	215	215	215
Total cubic capacity (L)	27	36	45	62	83	103
Engine power (kWm)	644-1114	1007-1450	1007-1910	1562-2700	2421-3490	3280-4290
Speed (rpm)	1500-1800	1500-1800	1500-1800	1500-1800	1500-1800	1500-1800
Injection pressure (bar)	2200	2200	2200	2200	2200	2200
Emissions certifications	EPA Tier 2: compliant at 50 Hz, certified at 60 Hz					

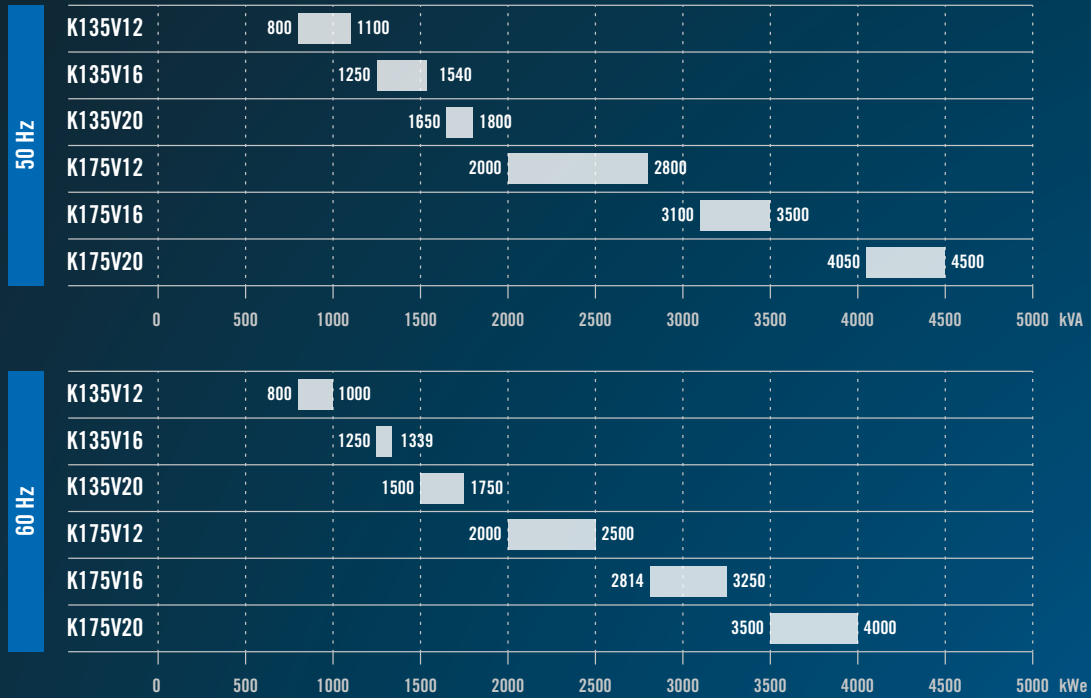
THE KD SERIES RANGE OF GENERATING SETS

The KD SERIES range of stand-by generating sets runs from 800 to 4500 kVA at 50 Hz and from 800 to 4000 kWe at 60 Hz. The range offers the highest power level on the market in its category.

- ▶ The flexibility and modularity of KD SERIES generating sets make this the ideal range for tailored power solutions, perfectly suited to your applications.
- ▶ Common rail injection with electronic control enables optimization of both fuel consumption and emissions.
- ▶ Emissions Optimized Versions conform to EPA Tier 2 requirements at 50 Hz and are EPA Tier 2 certified at 60 Hz.
- ▶ KD SERIES generating sets are available with DCP power for data centers.
- ▶ These products comply with the G3 performance class as a result of their response to load impacts.
- ▶ The KD SERIES range includes a large number of options and accessories: control/command, enclosures and containers, fuel tanks, silencers, circuit breakers, etc.
- ▶ A design that meets American standards is available on request (NFPA110, IBC, UL etc.).



▶ AVAILABLE POWER FOR THE RANGE



▶ An innovative cylinder head design enabling better circulation of fuel, more efficient combustion and optimized exhaust gas emission flow.

▶ The innovative common rail injection system enables injection at a pressure up to 2200 bar for maximum efficiency.



▶ Circuit breaker unit offering easy connection for your low voltage power cables.

▶ Coolant system designed to give full power up to ambient temperatures of 50 °C.

KD SERIES K135

FROM 800 TO 1800 KVA STAND-BY AT 50 HZ (800 TO 1750 KWE AT 60 HZ)

Major strengths:

- ▶ Latest-generation engine technology
- ▶ The best fuel consumption in its category
- ▶ A more compact design
- ▶ A large power range covered by a single product family
- ▶ A direct-fit radiator for a small footprint and a complete solution
- ▶ Superior transient response
- ▶ A design that optimizes performance at high temperature
- ▶ Enclosure installation possible up to 1500 kVA standby and in 20-foot container up to 1800 kVA stand-by
- ▶ Low sound level

▶ SPECIFICATIONS 50 HZ

GENERATING SETS		KD800	KD900	KD1000	KD1100	KD1250	KD1400	KD1500	KD1650	KD1800
kVA Cos Φ 0.8	PRP ⁽²⁾	727	818	909	1000	1136	1291	1400	1500	1636
	DCP ⁽³⁾	800	900	1000	1100	1250	1420	1540	1650	1800
	ESP ⁽⁴⁾	800	900	1000	1100	1250	1420	1540	1650	1800
Standard Voltage ⁽¹⁾		400V	400V	400V	400V	400V	400V	400V	400V	400V
Cons. 3/4 (L/h)	Consumption Optimization Variant in PRP	110	121	130	142	155	190	191	223	239
	Emissions Optimization Variant in ESP	125	138	149	165	182	224	227	260	277
Engine	Engine type	KD27V12	KD27V12	KD27V12	KD27V12	KD36V16	KD36V16	KD36V16	KD45V20	KD45V20
	CC (qty and configuration)	12V	12V	12V	12V	16V	16V	16V	20V	20V
	Total cubic capacity (L)	27	27	27	27	36	36	36	45	45
Open version	Dim. ⁽⁵⁾	L (m)	4.19	4.19	4.19	4.19	4.67	4.67	5.09	5.09
		W (m)	1.50	1.50	1.72	1.72	1.90	1.90	2.12	2.12
		H (m)	2.28	2.28	2.28	2.28	2.38	2.38	2.38	2.48
Enclosure	M427	77	77	77	78	-	-	-	-	-
	M428	-	-	-	-	79	79	79	-	-
20-foot container	ISO 20 SI	75	75	77	77	82	82	82	88	88
	ISO 20 SSI	66	66	68	68	76	76	76	72	72

⁽¹⁾ See the datasheets for details of the voltages available for each model

⁽²⁾ PRP: prime power available continuously with variable load for an unlimited time in accordance with ISO 8528-1

⁽³⁾ DCP: Data Center Continuous Power, applies to data center installations where a reliable power infrastructure is available. The DCP is the power which the generating set can provide continuously for an unlimited number of hours, in accordance with the requirements of the Uptime Institute Tier III and Tier IV and standard ISO 8528-1.

⁽⁴⁾ ESP: standby power available for emergency use under variable load, in accordance with ISO 8528-1, no overload available under this service

⁽⁵⁾ The dimensions apply to a generating set specified in the price list, without options



KD1100 ▶ OPEN VERSION



M428 ▶ SOUNDPROOFED VERSION



ISO20SI ▶ SOUNDPROOFED VERSION

▶ SPECIFICATIONS 60 HZ

GENERATING SETS		KD800-U	KD900-U	KD1000-U	KD1250-U	KD1350-U	KD1500-U	KD1600-U	KD1750-U	
kWe ISO 8528 ⁽²⁾	PRP ⁽³⁾	727	818	909	1136	1218	1364	1454	1591	
	DCP ⁽⁴⁾	800	900	1000	1250	1339	1500	1600	1750	
	ESP ⁽⁵⁾	800	900	1000	1250	1339	1500	1600	1750	
Standard Voltage ⁽¹⁾		480V	480V	480V	480V	480V	480V	480V	480V	
Cons. 3/4 (L/h)	Consumption Optimization Variant in PRP	142	155	171	214	229	262	276	303	
	Emissions Optimization Variant in ESP	167	186	204	251	265	311	330	360	
Engine	Engine type	KD27V12	KD27V12	KD27V12	KD36V16	KD36V16	KD45V20	KD45V20	KD45V20	
	CC (qty and configuration)	12V	12V	12V	16V	16V	20V	20V	20V	
	Total cubic capacity (L)	27	27	27	36	36	45	45	45	
Open version	Dim. ⁽⁶⁾	L (m)	4.19	4.19	4.19	4.75	4.75	5.20	5.20	5.20
		W (m)	1.72	1.72	1.90	2.12	2.12	2.12	2.10	2.12
		H (m)	2.28	2.28	2.28	2.48	2.47	2.47	2.47	2.47
Enclosure	M427	82	82	82	-	-	-	-	-	
	dB(A)@7m	82	82	82	-	-	-	-	-	
20-foot container	ISO 20 SI	79	79	81	83	84	93	93	93	
	ISO 20 SSI	71	71	73	74	75	79	79	79	
	dB(A)@7m	71	71	73	74	75	79	79	79	

⁽¹⁾ See the datasheets for details of the voltages available for each model

⁽²⁾ ISO 8528: power expressed in accordance with the legislation in force

⁽³⁾ PRP: prime power available continuously with variable load for an unlimited time in accordance with ISO 8528-1

⁽⁴⁾ DCP: Data Center Continuous Power, applies to data center installations where a reliable power infrastructure is available. The DCP is the power which the generating set can provide continuously for an unlimited number of hours, in accordance with the requirements of the Uptime Institute Tier III and Tier IV and standard ISO 8528-1.

⁽⁵⁾ ESP: standby power available for emergency use under variable load, in accordance with ISO 8528-1, no overload available for this service

⁽⁶⁾ The dimensions apply to a generating set specified in the price list, without options

KD SERIES K175

FROM 2000 TO 4500 KVA STAND-BY AT 50 HZ (2000 TO 4000 KWE AT 60 HZ)

Major strengths:

- ▶ Latest-generation engine technology
- ▶ The best specific fuel consumption in its category
- ▶ A more compact design
- ▶ A large power range covered by a single product family
- ▶ Separate cooling for smoother installation
- ▶ Up to 3500 kVA in our CPU container, the best-performing containers on the market in terms of sound level and accessibility for operation and maintenance
- ▶ A design adapted to the most demanding applications and environments

▶ SPECIFICATIONS 50 HZ

GENERATING SETS			KD2000	KD2250	KD2500	KD2800	KD3100	KD3300	KD3500	KD4000	KD4500
kVA Cos Φ 0,8	PRP ⁽²⁾		1818	2045	2273	2545	2818	3000	3182	3680	4090
	DCP ⁽³⁾		2000	2250	2500	2800	3100	3300	3500	4050	4500
	ESP ⁽⁴⁾		2000	2250	2500	2800	3100	3300	3500	4050	4500
Standard Voltage ⁽¹⁾			400V	400V	400V	400V	400V	400V	400V	11KV	11KV
Cons. 3/4 (L/h)	Consumption Optimization Variant in PRP		271	299	327	365	414	439	463	⁽⁶⁾	⁽⁶⁾
	Emissions Optimization Variant in ESP		321	358	402	457	489	520	555	⁽⁶⁾	⁽⁶⁾
Engine	Engine type		KD62V12	KD62V12	KD62V12	KD62V12	KD83V16	KD83V16	KD83V16	KD103V20	KD103V20
	CC (qty and configuration)		12V	12V	12V	12V	16V	16V	16V	20V	20V
	Total cubic capacity (L)		62	62	62	62	83	83	83	103	103
Open version	Dim. ⁽⁵⁾	L (m)	4.16	4.16	4.38	4.62	5.32	5.32	5.32	6.69	6.78
		W (m)	2.10	2.10	2.10	2.10	1.96	1.96	1.96	2.25	2.25
		H (m)	2.58	2.57	2.57	2.57	2.48	2.70	2.70	2.73	2.73
40-foot container	CPU 40 SI	dB(A)@ 7m	78	78	78	78	-	-	-	-	-
	CPU 40 SSI	dB(A)@ 7m	72	72	72	72	-	-	-	-	-
45-foot container	CPU 45 SI	dB(A)@ 7m	-	-	-	-	82	82	82	-	-
	CPU 45 SSI	dB(A)@ 7m	-	-	-	-	76	76	76	-	-
Walkin enclosure	SI	dB(A)@ 7m	-	-	-	-	77	77	77	77	77
	SSI	dB(A)@ 7m	-	-	-	-	67	67	67	67	67

⁽¹⁾ See the datasheets for details of the voltages available for each model

⁽²⁾ PRP: prime power available continuously with variable load for an unlimited time in accordance with ISO 8528-1

⁽³⁾ DCP: Data Center Continuous Power, applies to data center installations where a reliable power infrastructure is available. The DCP is the power which the generating set can provide continuously for an unlimited number of hours, in accordance with the requirements of the Uptime Institute Tier III and Tier IV and standard ISO 8528-1.

⁽⁴⁾ ESP: standby power available for emergency use under variable load, in accordance with ISO 8528-1, no overload available under this service

⁽⁵⁾ The dimensions apply to a generating set specified in the price list, without options

⁽⁶⁾ To be confirmed



KD4500 ▶ OPEN VERSION



CPU40/CPU45 ▶ SOUNDPROOFED VERSION



WALKIN ENCLOSURE ▶ SOUNDPROOFED VERSION

► SPECIFICATIONS 60 HZ

GENERATING SETS		KD2000-U	KD2250-U	KD2500-U	KD2800-U	KD3000-U	KD3250-U	KD3500-U	KD4000-U	
kWe ISO 8528 ⁽²⁾	PRP ⁽³⁾	1818	2046	2273	2558	2727	2954	3180	3640	
	DCP ⁽⁴⁾	2000	2250	2500	2814	3000	3250	3500	4000	
	ESP ⁽⁵⁾	2000	2250	2500	2814	3000	3250	3500	4000	
Tension standard ⁽¹⁾		480V	480V	480V	480V	480V	480V	13.8KV	13.8KV	
Cons. 3/4 (L/h)	Consumption Optimization Variant in PRP	348	384	425	489	516	554	(7)	(7)	
	Emissions Optimization Variant in ESP	434	501	569	604	652	722	753	870	
Engine	Engine type	KD62V12	KD62V12	KD62V12	KD83V16	KD83V16	KD83V16	KD103V20	KD103V20	
	CC (qty and configuration)	12V	12V	12V	16V	16V	16V	20V	20V	
	Total cubic capacity (L)	62	62	62	83	83	83	103	103	
Open version	Dim. ⁽⁶⁾	L (m)	4.16	4.16	4.38	5.32	5.32	5.32	8.13 ⁽⁸⁾	8.19 ⁽⁸⁾
		W (m)	2.10	2.10	2.10	1.96	1.96	1.96	3.17 ⁽⁸⁾	3.17 ⁽⁸⁾
		H (m)	2.57	2.57	2.57	2.70	2.48	2.70	3.45 ⁽⁸⁾	3.45 ⁽⁸⁾
40-foot container	CPU 40 SI	dB(A)@ 7m	80	80	80	-	-	-	-	
	CPU 40 SSI	dB(A)@ 7m	74	74	74	-	-	-	-	
Walkin enclosure	SI	dB(A)@ 7m	-	-	-	80	80	80	80	
	SSI	dB(A)@ 7m	-	-	-	70	70	70	70	

⁽¹⁾ See the datasheets for details of the voltages available for each model

⁽²⁾ ISO 8528: power expressed in accordance with the legislation in force

⁽³⁾ PRP: prime power available continuously with variable load for an unlimited time in accordance with ISO 8528-1

⁽⁴⁾ DCP: Data Center Continuous Power, applies to data center installations where a reliable power infrastructure is available. The DCP is the power which the generating set can provide continuously for an unlimited number of hours, in accordance with the requirements of the Uptime Institute Tier III and Tier IV and standard ISO 8528-1.

⁽⁵⁾ ESP: standby power available for emergency use under variable load, in accordance with ISO 8528-1, no overload available for this service

⁽⁶⁾ The dimensions apply to a generating set specified in the price list, without options

⁽⁷⁾ To be confirmed

⁽⁸⁾ Dimensions with radiator

SCOPE OF SUPPLY

MODULAR GENERATING SETS, AN ADAPTED RESPONSE

For each of its generating sets, KOHLER-SDMO offers a large range of options to facilitate maintenance operations, enhance user safety and provide solutions for specific user requirements and demanding environments.

		SERIES K135	SERIES K175
Engine	4 stroke water-cooled diesel engine	•	•
	Electronic regulation	•	•
	Standard air filter	•	•
	Air filter for dusty environments	0 ⁽¹⁾	0
	Pre-lubrication pump	X	0
	Double starter	0	0
Alternator	IP 23 single bearing alternator, T° class =H, insulation class H/H	•	• ⁽⁴⁾
	Anti-condensation heater	0	0
	Type D impregnation	•	•
	Type R impregnation	0	0
	CT coupling	0 ⁽²⁾	0 ⁽²⁾
	Oversized alternator	0	0
Generating set	CE compliance of the command/control unit	•	•
	Mechanically welded base frame with anti-vibration dampers	•	•
	High-efficiency vibration damping	0	• ⁽⁵⁾
Lubrication	Automatic oil make up with tank	0	0
	Oil centrifuging system	X	0
	Oil drainage pump	•	•
Cooling	Protective grille for fan and rotating parts	•	X
	Vertical air cooler supplied separately	X	0
	Kit for assembling the air cooler on the unit	X	0
	Protective grille for radiator core	0	X
	Motorized damper (electric valves)	X	0
Exhaust	Exhaust compensators with clamps	•	•
	Protective grille for hot parts	0	X
	9 dB(A) silencer supplied separately	0	0
	29 dB(A) silencer supplied separately	0	0
	40 dB(A) silencer supplied separately	0	0
Starting	24 V charging alternator and starter	•	•
	Starter batteries	0	0
	Battery isolating switch	0	0
Fuel	Generating set without fuel tank	• ⁽³⁾	•
	500-liter base frame fuel tank	0	X
	1035-liter base frame fuel tank, enclosed version	• ⁽⁶⁾	X
	500-liter tank, container version	•	•
	1000-liter tank, container version	0	X
	1500-liter tank, container version	0 ⁽⁷⁾	X
	Separate fuel tank on 500-liter container	0	0
	Separate fuel tank on 1000-liter container	0	0
	Retention container level alarm	0	0
	Automatic fuel filling kit (1 pump)	0	0
	Automatic fuel filling kit (2 pumps)	0	0
	Diesel separator pre-filter	•	•
	Fuel cooler	X	•

• As standard
X Not available
0 Optional

⁽¹⁾ Contact us concerning versions in ISO20 containers
⁽²⁾ CT coupling not necessary with APM802
⁽³⁾ Except enclosed generating sets
⁽⁴⁾ Except KD4000, KD4500, KD3500-U and KD4000-U (bi-level)

⁽⁵⁾ Except KD2000, KD2250
⁽⁶⁾ Up to KD1500 and KD1000-U
⁽⁷⁾ Up to KD1100 and KD1000-U

1 DIESEL SEPARATOR PRE-FILTER

This is a filter enabling water contained in the diesel to be removed, thereby improving the engine's protection.

2 AIR FILTER FOR DUSTY ENVIRONMENTS

These dry air filters have removable and interchangeable cartridges for dusty environments; these cartridges can be removed and cleaned with an air gun, if required. This option is required when the generating set is used in dusty environments.

3 OVERSIZED ALTERNATOR

For installations with significant electrical constraints, this option ensures improved performance.

4 IMPREGNATION

- ▶ Type D: for tropical type environments with relative humidity > 95%, outside coastal areas
- ▶ Type R: for harsh industrial environments with humidity > 95% and coastal environments

5 SILENCER ON OPEN VERSION

For "open" version generating sets, a choice of three reduction levels is available to meet the constraints of various installations: 9 dB(A), 29 dB(A) and 40 dB(A).

6 OIL CENTRIFUGE (ONLY FOR K175 SERIES)

This allows the maintenance interval to be increased from 500 hours to 1500 hours (depending on the oil quality).

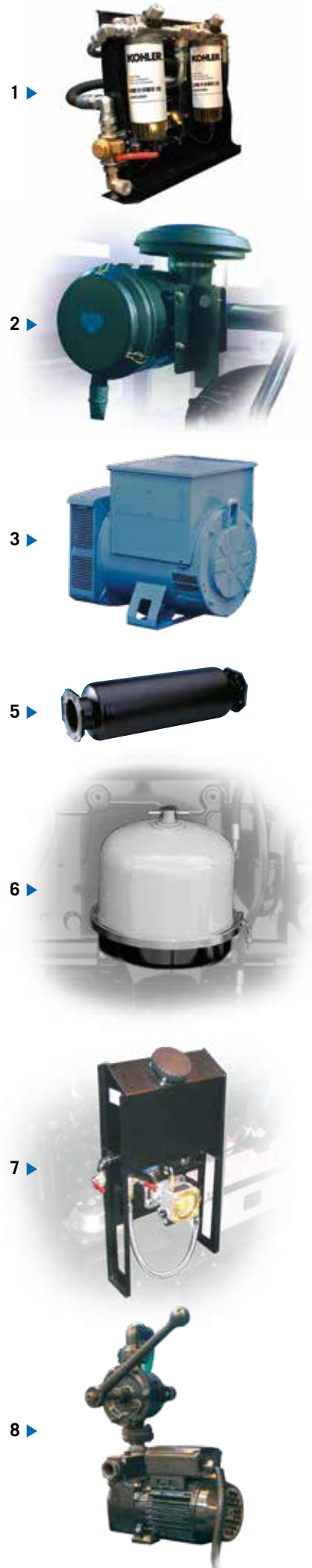
7 AUTOMATIC OIL MAKE UP WITH TANK

Automatic oil make up system enabling a constant oil level to be maintained in the crankcase during operation. It comprises a new oil reserve, an oil level regulator and a hose and valve assembly mounted on the generating set's base frame.

8 AUTOMATIC FUEL FILLING KIT

This kit allows the fuel tank to be automatically filled from an external storage tank, which enables extended use of the generating set. This option is therefore particularly suited to remote sites. The kit comprises:

- ▶ One or two electric pump(s) with automatic control governed by a gage with level contacts
- ▶ a stand-by manual pump.



CONTAINERS

A VERSATILE RANGE OF SOUNDPROOFED CONTAINERS

You are faced with numerous installation constraints. Our containers can be adapted to meet all your needs. Thanks to their standard dimensions, they are easy to transport. Our turnkey containers have an integrated fuel tank which means they are ready to run. Their coolant system, with an integrated silencer and sound traps, provides a highly economical solution.

ISO CONTAINERS

ISO containers are adapted to emergency applications with no harsh environmental constraints.

Available in 20- and 40-foot High Cube versions



CSC* certified



Adapted to standard environments

CPU CONTAINERS

CPU type containers are designed to be adapted to the most demanding environments. Robust and modular, they are specially conceived to meet the very stringent constraints of production applications.

Available in 40- and 45-foot High Cube versions



40-foot version is CSC certified*



Double maintenance door



Harsh environments (heat, dust)

WALKIN ENCLOSURES

Directly inspired by our data center customers, KOHLER walkin enclosures combine performance, reliability, strength, safety, modularity and competitiveness.



Mission critical applications (Data Centers)

PRODUCT PLUS POINTS

- ▶ Flexible integration
- ▶ Available in Silent and Super Silent versions



PRODUCT PLUS POINTS

- ▶ Low sound level
- ▶ Simplified maintenance
- ▶ No loss of power up to 40 °C
- ▶ Accessibility of the command/control and power supply devices
- ▶ Short production lead times
- ▶ Available in Silent and Super Silent versions



PRODUCT PLUS POINTS

- ▶ Optimal sound reduction
- ▶ Maximum interior accessibility for maintenance
- ▶ Very fast installation on site with your pre-connected, pre-tested options
- ▶ Wide range of options or specific adaptations to meet your needs



*CSC: the International Convention for Safe Containers (CSC) is a regulation which ensures that containers used for transporting goods retain the specifications required to "...maintain a high level of safety of human life in the handling, storage and transport of containers" over time.



STANDARD EQUIPMENT AND OPTIONS FOR CONTAINERS

		SILENT		SUPER SILENT	
		ISO20 SI	CPU40 SI / CPU45 SI	ISO20 SSI	CPU40 SSI / CPU45 SSI
Generating set	Complies with CSC certification	•	• ⁽⁶⁾	•	• ⁽⁶⁾
	Base member	•	•	•	•
	Starter motor, charging alternator	•	•	•	•
	Batteries filled with electrolyte	0	0	0	0
	Standard air filter	•	•	•	•
	Oil drainage pump	•	•	•	•
Filtration	Reinforced fuel filtration	X	0	X	0
	Air filter for dusty environments	X	0	X	0
Container specifications	High performance 30 dB(A) silencer	• ⁽¹⁾	• ⁽²⁾	• ⁽¹⁾	• ⁽²⁾
	Floor	Steel sheet	Steel sheet	Steel sheet	Steel sheet
	Number of side doors	2	3 + 2 double	2	3 + 2 double
	Galvanized air outlet rain grille	0	X	0	X
	Air outlet protective rain grille	•	•	•	•
	Safety lighting and shut-off valve	0	0	0	0
	Exhaust outlet on clamp	0	0	0	0
	RAL 9010 white painted finish for container	•	•	•	•
	Special color from list	0	0	0	0
Power cable outlet on lower section	•	•	•	•	
Fuel	Retention container under genset assembly	•	•	•	•
	500-liter base frame fuel tank	•	X	•	X
	Tank on 500-liter container	X	•	X	•
	Tank on 1000-liter container	X	0	X	0
	1500-liter base frame tank ⁽⁴⁾	0	X	0	X
	Automatic fuel filling kit 1 pump	•	•	•	•
	Automatic fuel filling kit 2 pumps	X	0	X	0
Command/control units	CE compliance of the control unit	•	•	•	•
	M80-D central console	•	•	•	•
	APM403 central console	0	0	0	0
	APM802 central console	0	0	0	0
	Control unit under console	X	0	X	0
Dimensions	Length (m)	6.06 ⁽⁵⁾	12.19 / 13.72	6.06 ⁽⁵⁾	12.19 / 13.72
	Width (m)	2.44	2.44	2.44	2.44
	Height (m)	2.90	2.90 ⁽³⁾	2.90	2.90 ⁽³⁾

• As standard
X Not available
0 Optional

⁽¹⁾ Inside the container

⁽²⁾ On the roof of the container, not available on CPU 45

⁽³⁾ Excluding silencer

⁽⁴⁾ Up to 1100 kVA only

⁽⁵⁾ Length without Super Silent option. With this option, allow for separate transportation of baffles

⁽⁶⁾ Only in 40-feet

CONTROL UNITS

M80-D, APM403, APM802: A KOHLER-SDMO EXCLUSIVE

KOHLER-SDMO offers a unique range of specific control units: M80-D, APM403 and APM802.

These control units offer a wide range of possibilities, from simplified running to management of the most complex parallel operations, and can be adapted to suit every need. This modularity is made even easier by the fact that each optional peripheral device (air cooler, daily service tank, oil make up, etc.) has its own protection.

For power plants, separate control boxes may be used in place of the control units. Please do not hesitate to contact us.

COMPARISON OF THE 3 CONTROL UNITS

SPECIFICATIONS	M80-D	APM403	APM802
DISPLAY			
Frequency	X	•	•
Phase to neutral voltages	X	•	•
Phase to phase voltages	X	•	•
Currents	X	•	•
Active/reactive/apparent power	X	•	•
Power factor	X	•	•
Mains power detection	X	•*	•
Battery voltage:	•	•	•
Battery current	X	0	0
Start-up delay	X	•	•
Fuel level	X	•	•
Oil pressure	•	•	•
Coolant temperature	•	•	•
Oil temperature	•	•	•
Total working hours counter	•	•	•
Partial working hours counter	X	•	•
Total active/reactive energy meter	X	•	•
Generating set speed	•	•	•
FAULT INFORMATION (fault or alarm)			
Min/max alternator voltage time delay	X	•	•
Min/max alternator frequency	X	•	•
Min/max battery voltage	X	•	•
Overload and/or short circuit	X	•	•
Active/reactive power return	X	X (S) / • (P)	•
Oil pressure	•	•	•
Coolant temperature	•	•	•
Speed too high	•	•	•
Underspeed	X	•	•
Low fuel level	X	•	•
Emergency stop fault	X	•	•
Non-starting fault	X	•	•
Charging alternator fault	X	•	•
Differential relay activation fault	X	•	•
General alarm	X	•	•
General fault	X	•	•
Sound alarm	X	0	•
Fully compatible with SAE J1939	•	•	•

SPECIFICATIONS	M80-D	APM403	APM802
OPERATION			
Power ON	X	0	X
Manual genset starting	X	•	•
Automatic genset starting	X	•	•
Genset shut down	X	•	•
Emergency stop	•	•	•
Menu navigation using color touch screen	X	X	•
Speed adjustment	•	0** / •*	•
Voltage adjustment	X	0** / •*	•
Controller redundancy	X	X	0
Dual frequency	•	•	0
Delayed start programming	X	•	•
Multilingual using pictograms	•	X	X
Multilingual text	•	•	•
CONNECTIVITY			
MODBUS TCP/IP	X	0	•
RS 485 interface (mdBUS RTU protocol)	X	•	•
SNMP protocol	X	•	•
Local web access	X	•	•
Remote web access	X	0	0
USB port (config. and software downloading)	X	•	•
Remote control HMI	X	X	•
PARALLEL OPERATION			
Under load	X	•*	•
Stopped	X	X	•
Power plant continuity in case of inter controller communication fault	X	•*	•
Power plant wattmeter control	X	•*	•
Temporary parallel operation of grid Out/ Return	X	•*	•
Power plant parallel operation to grid (temporary, permanent, etc.)	X	X	•
GENERAL			
Downloading of a customized configuration via USB port	X	•	•
Recovery of the firmware config.+ existing settings via USB port	X	•	•

• As standard — X Not available — 0 Optional — * APM403P — ** APM403S

CONTROL UNITS

THE M80-D

DUAL-FUNCTION CONTROL UNIT

The M80-D can be used as a terminal block for connection and as an instrument panel with a highly intuitive LCD screen giving an overview of your generating set's basic parameters. It is equipped with an emergency stop button and a customer terminal block, and has CE conformity.

The screen can display all of the engine's physical values:

- ▶ oil pressure
- ▶ coolant temperature
- ▶ oil temperature
- ▶ engine speed
- ▶ battery voltage
- ▶ charge air temperature
- ▶ fuel consumption
- ▶ etc.

The M80-D also records several events to facilitate diagnostics.



CONTROL UNITS

APM403, INTUITIVE, SIMPLE AND CONNECTED

DESCRIPTION OF THE APM403*



*APM403P

ADVANTAGES OF THE APM403

FLEXIBLE CONFIGURATION

- ▶ Technical solution which can be broken down for multi configuration – SOLO or PARALLEL OPERATION applications (up to 8 generating sets)
- ▶ Specific application variables can be customized.

FLEXIBLE COMMUNICATION TOOLS

- ▶ Remote configuration and supervision thanks to the WEBSUPERVISOR application (optional)
- ▶ Standard communication tools:
 - CAN USB Host, USB device, RS485
 - SNMP, MODBUS protocol
- ▶ Optional:
 - 4G, Ethernet, GPRS, Airgate
 - TCP/IP protocol

FOCUS

▶ APM403S



The APM403S is dedicated to SOLO operation only. No grid electrical measurements or associated circuit breaker control.

INTUITIVE NAVIGATION AND SIMPLIFIED OPERATION OF THE GENERATING SET OR POWER PLANT

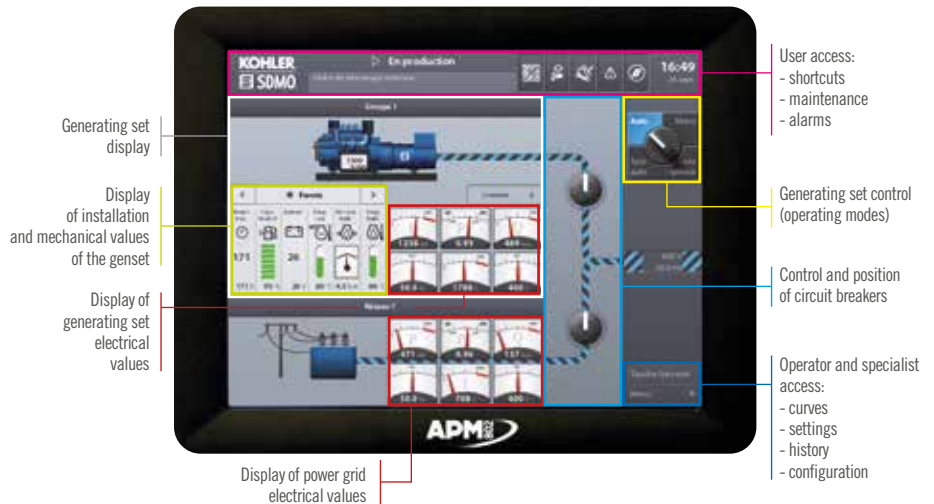
- ▶ Multilingual support
- ▶ Simple, intuitive configuration specific to operating scenarios

CONTROL UNITS

APM802, DEDICATED TO POWER PLANT MANAGEMENT

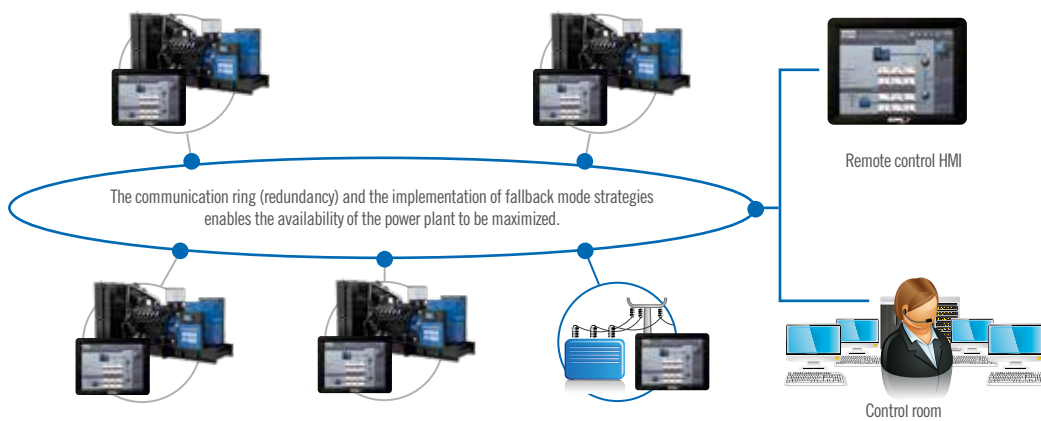
Fully developed by KOHLER, the APM802 command/control system is specifically designed for operating and monitoring power plants for hospitals, data centers, banks, the oil and gas sector, industries, IPP, rental, mining, etc.

The Human-Machine Interface, designed in collaboration with a company specializing in interface design, facilitates operations via its large touch screen. The pre-configured system for power plant applications features a brand new customization function which complies with the international standard IEC 61131-3.



THE APM802 FOR ENHANCED COMMUNICATIONS

Communication via the APM802 guarantees a high level of equipment availability and facilitates the remote control of the HMI to enhance its use. Additionally, various connections can be made via the Ethernet, using fiber optics or combined with copper wire. For full control of risk management, the system communications are separate from the external communications.



INTUITIVE AND ERGONOMIC TO USE

The ergonomics of the APM802 has been carefully designed in conjunction with users to ensure optimum user comfort. The operator is guided through how to operate the product according to their access level, making it easy to get started and reducing the risk of errors.

THE POWER MODULES

AIPR & VERSO ATS

AIPR

Each low-voltage generating set may be supplied with a protection unit. This unit is mounted on the base frame with connection cables to the alternator. This AIPR function is also adapted for containers.

		AIPR
WITH MANUAL CONTROL ON THE FRONT		
3-pole open circuit breaker		0
4-pole open circuit breaker		0
MOTORIZED CONTROL OPTION ⁽¹⁾		
With 3 or 4-pole open circuit breaker only		0
Voltage 400 V and 480 V		•
Auxiliary unit option ⁽²⁾		0
Large range power connection bus bars		• ⁽³⁾
Command/control connection terminal block		•
Protection rating		IP20
Dimensions (without air cooler unit)	height (mm)	1260
	width (mm)	683
	depth (mm)	365
Dimensions (with air cooler unit)	height (mm)	1664
	width (mm)	683
	depth (mm)	365
Dimensions (unit with connection from above)	height (mm)	1883
	width (mm)	683
	depth (mm)	365

(1) The motorized control comprises: a closing electromagnet, a transmitting coil and an AC motor

(2) The auxiliary unit is mounted above the main unit. It is used for the power connections of generating set auxiliaries, e.g.: air cooler/fan output.

(3) Standard at the bottom and optional at the top

• As standard

0 Optional



VERSO

In industrial applications, the transfer of the main source to the replacement source is crucial to the running of your installations. The Verso 200 is the perfect solution for this situation from **800 A to 3200 A**.

VERSO 200			
Ratings (A)	800, 1000, 1250	1600	2000, 2500, 3200
Type	Three phase		
Nominal voltage/frequency	127/230 V/50-60 Hz - 230/400 V/50-60 Hz		
Configuration	Auto-configuration of voltage/frequency min/max and configurable thresholds		
Display and setting	By LCD – Supplied with manually operated key – Can be padlocked in manual mode		
Voltage drop tolerated	30% of the nominal voltage @400 V		
Protects against a change in the phase rotation direction	0		
Lightning arrester	0		
EJP pack (for France only)	•		
Confirmation of mains return	0		
Protection rating	IP55		
Inputs/outputs	3 configurable dry contact inputs/2 configurable relay outputs		
Dimensions (h x l x d) in mm	2000 x 800 x 695	2000 x 1000 x 695	2000 x 1000 x 895

• As standard

0 Optional



≥ 800 A



KEY POINTS KOHLER®



SOUND LEVELS OPTIMIZED AND CERTIFIED

Optimized and certified sound levels. Measurements:

- ▶ conducted using acoustic intensimetry (the most accurate method on the market)
- ▶ conducted in a laboratory accredited by COFRAC (the French official accreditation body)



ROBUST BASE FRAMES AND HIGH-QUALITY ENCLOSURES

A high-quality enclosure protects the generating set's components whilst enabling it to run under the most extreme conditions (high temperatures, dusty or sandy environments, etc.). KOHLER base frames and enclosures are designed in France, and their suppliers selected according to very strict criteria.



POWER MAINTAINED EVEN IN EXTREME CONDITIONS

Our engineering department ensures the coolant systems are adapted perfectly, so that maximum power can be provided, even at high temperatures.



QUALITY OF THE ELECTRICITY PRODUCED

A high quality current, in voltage and frequency in compliance with the ISO 8528-5 standard, provides a high starting and loading capacity for critical applications.



QUALITY TESTS AND ANALYSES

Each KOHLER generating set is prototyped in the laboratory and tested in production, to ensure it operates exactly as it should.



PROTECTING INSTALLATIONS AND INDIVIDUALS

KOHLER is developing solutions on a daily basis to further enhance the safety of the generating set and its users (modular management of neutral connections, precision circuit breakers, engine preheating, etc.).



APPROVED BY THE STRICTEST STANDARDS

KOHLER does not compromise when it comes to the quality of its products and their compliance with standards. They are designed to meet even more demanding criteria than those set by the directives.



SMALL SPACE REQUIREMENTS HIGH PERFORMANCE

The footprint of a generating set, in both surface area and volume, is key to ensuring its integration, regardless of space constraints. Thanks to their innovative engineering, KOHLER generating sets pack big performance into a compact frame.

KOHLER[®]
IN POWER. SINCE 1920.



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