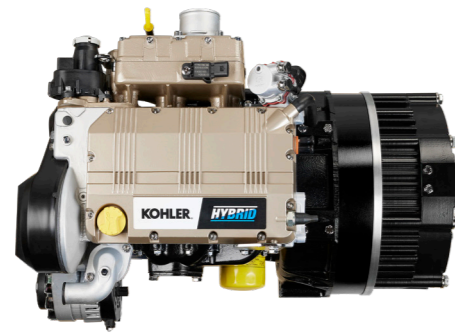


# KOHLER® K-HEM

The KOHLER® Hybrid Solution | 19<sup>+</sup> kW

## K-HEM 1003



MODEL		K-HEM 1003
GROSS POWER @ RPM	max kW (hp)	18.0 + 15.0 Peak Electric @ 3000 (24.1 + 19.0 Peak Electric @ 3000)
PEAK TORQUE @ RPM (Nm)		60 + 57 (Peak Electric) @ 2200
MAX ELECTRIC POWER AT INVERTER OUT - Peak		315 A / 15 kW (2 minutes)
MAX ELECTRIC POWER AT INVERTER OUT - Cont		270 A / 13 kW (1 hour)
ARCHITECTURE		3-cylinder + E-machine
INTAKE		Naturally Aspirated
INJECTION		Indirect Mechanical + e-governor
VALVES		2 per cylinder
DISPLACEMENT	(cc)	1028
DRY WEIGHT	kg (lb)	131 (289)
EMISSION COMPLIANCE DIESEL ENGINE		EU Stage V
ELECTRIC MACHINE VOLTAGE		48V DC
AC/DC INVERTER		Included
SYSTEM ECU		Included



**KOHLER**  
IN POWER. SINCE 1920.

For more information, contact your KOHLER product supplier.  
Kohler Co. reserves the right to make modifications without prior notice.

[KOHLERENGINES.COM](http://KOHLERENGINES.COM)

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**HYBRID**

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**Kohler hybrid solution optimizes the use of multiple energy sources to provide quiet, compact and efficient power for today's advanced applications.**

## WHAT IS IT?

K-HEM stands for KOHLER Hybrid Energy Module and is a full hybrid, diesel-electric power unit. The combustion engine is an 18 kW peak-power, coupled at the main PTO with an electric machine, that can work as generator as well as motor. Such configuration is called **Parallel Hybrid** and in its **Booster** version is capable of generating electric energy to be stored in battery, as well as adding this energy as electric power to the mechanic power.

In its **Versatile** configuration, a clutch is placed between the diesel engine and the electric machine, allowing for the combustion engine to be switched off and for the power unit to work on electric power only, for as long as the battery allows. The diesel engine kicks back in to recharge the battery, making the power unit completely self-sufficient in case an electric grid is not available.

## K-HEM BOOSTER VERSION

### RIGHT SIZE

- K-HEM allows you to downsize the diesel engine, while maintaining the same level of maximum power of larger engines.

### BETTER RESPONSE

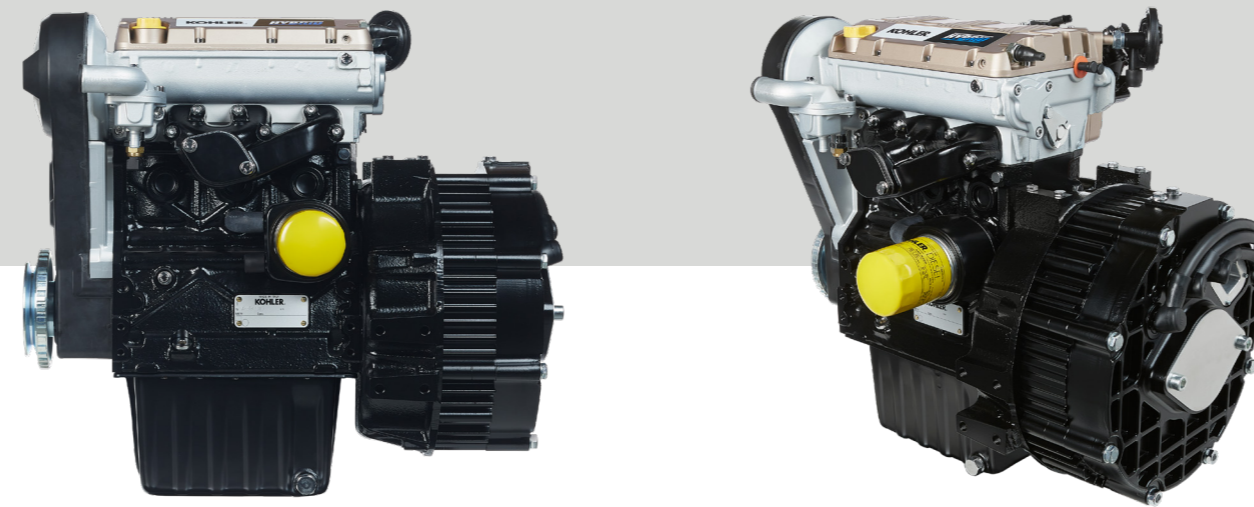
- Electric power improves the transients.
- Improved user experience.

### ENERGY RECOVERY

- Application allowing, K-HEM can also recharge the battery in energy recovery mode.

### LOWER COST OF OWNERSHIP

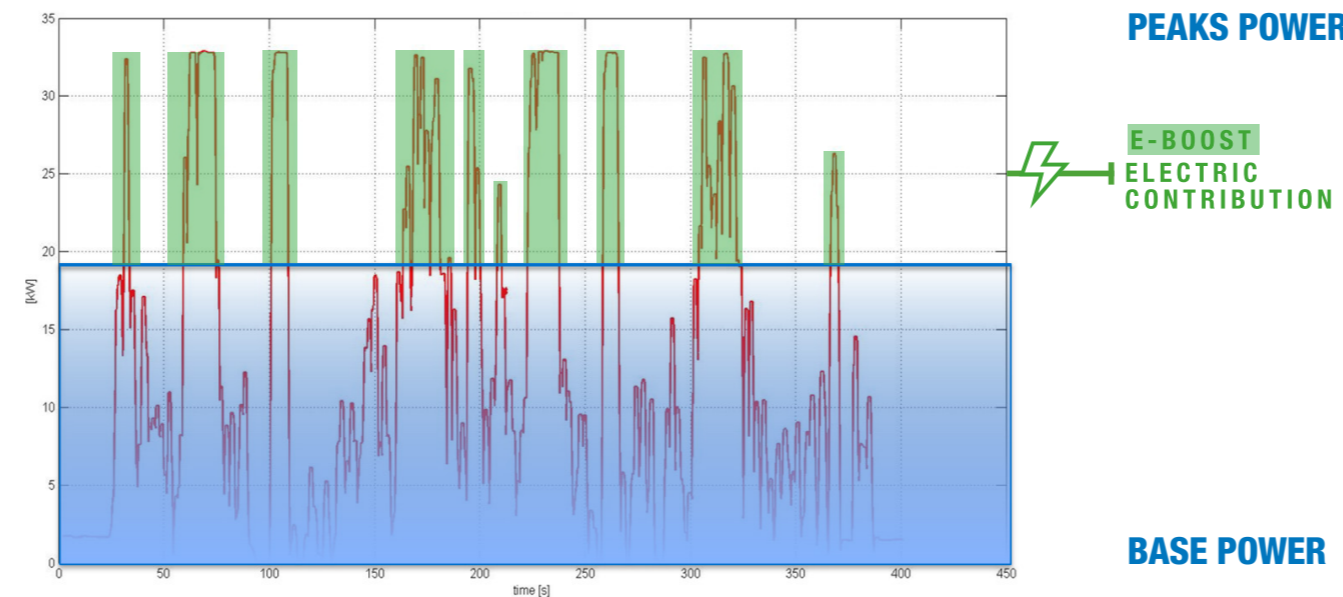
- Improved fuel economy for cyclic loads.
- Better power management.
- No aftertreatment costs (no DPF).



K-HEM 1003  
Booster Configuration

## HOW DOES IT WORK?

The electric machine can recharge the battery while the Diesel engine is working at average power.



### BATTERY

Although Kohler doesn't include the battery in the scope of supply of K-HEM 19+ kW, the OEM is assisted by us in battery sizing and definition.

## VERSATILE CONFIGURATION

In its **Versatile** configuration, K-HEM 19+ kW grants the following additional benefits:

### ZERO EMISSION MODE

The electric machine can supply electric power to the vehicle while the combustion engine is turned off.

### VEHICLE SIMPLIFICATION

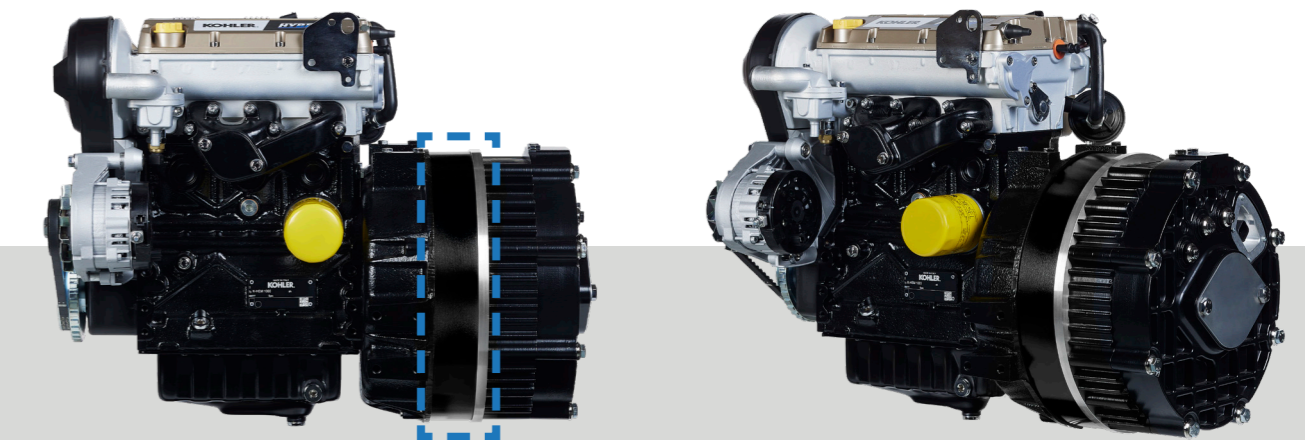
Redundancy of configuration, such as bi-fuel machines, can be avoided and therefore complexity and cost for components can be reduced.

### RANGE SIMPLIFICATION

K-HEM 19+ kW Versatile can cover various uses and types of duty, allowing for the OEM to keep a single model in the range, rather than the traditional combustion and the bi-fuel or electric.

### INCREASED EFFICIENCY

The possibility of working in only electric mode gives way to further possibilities, such as switching from hydraulic to electric motors/actuators, thus gaining in efficiency.



K-HEM 1003  
Versatile Configuration

For the **Versatile** version, charging power can be even higher than average and close to peak power (depending on settings).

K-HEM 19+ kW **Versatile** can also work as an electric vehicle if battery size allows it. The diesel engine can work as a charger only, or add mechanical power when the electric power alone is not enough.