

KOHLER® Engines

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KDI Power Unit: ready-to-use power

Cutting-edge, efficient and with low running costs: The KDI Power Unit range of engines developed by Kohler Engines for the power generation market represents a ready-to-use, versatile, high-output solution for both end users and OEMs alike.

Compact size, outstanding power density, low fuel consumption, noise and vibration, and excellent reliability: these are the distinctive characteristics of the Power Unit line of KDI Diesel engines.

Specifically developed by Kohler Engines for the power generation market, recently expanded with the addition of a new 3.4-litre model to the range.

KDI Power Unit is a "plug & play" solution which represents an effective answer for generator manufacturers looking for a complete high-performance drive system which can be easily implemented in their product range; thanks to the availability of a package of standard components and accessories. Due to its seamless installation, the KDI Power Unit line boasts a compact size and a light weight, particularly advantageous characteristics at all times, from the manufacturing to the logistical stages, but above all during operation.

Kohler Engines have engineered a complete, cutting-edge line for the low- and medium-power generator sector, covering a range of 20 to 60 KVA at 50 HZ (1500 rpm) and 20 to 70 KVA at 60 HZ (1800 rpm), respectively.

50 Hz @1500 r.p.m.

POWER	KDI1903M	KDI2504M	KDI2504TM-30	KDI2504TM-40 EU	KDI2504TM-40	KDI3404TM	KDI3404TM CAC
Stand-by Power (kW/HP)*	19,0 / 25,5	25,4 / 34,0	31,0 / 41,5	36,4 / 48,8	41,0 / 54,9	61,0 / 81,7	61,0 / 81,7
Prime power (kW/HP)*	17,3 / 23,1	23,1 / 30,9	28,2 / 37,8	33,1 / 44,3	37,3 / 49,9	55,4 / 74,3	55,4 / 74,3
Intermittent (Standby)(kVA)**	20,9	27,9	34,1	40,0	45,1	67,9	67,9
Continuous (Prime) (kVA)**	19,0	25,4	31,0	36,4	41,0	61,7	61,7
Emission compliance	Stage IIIA	Stage IIIA	Stage IIIA	Stage IIIA	not emitted	not emitted	Stage IIIA

60 Hz @1800 rpm

POWER	KDI1903M	KDI2504M	KDI2504TM	KDI3404TM CAC	
Stand-by Power (kW/HP)*	20,5 / 27,5	29,0 / 38,9	36,4 / 48,8	68,0 / 91,1	* Engine power rated according to ISO 3046 rules, after running period in ambient conditions of 20°C and 1 Bar. Power levels drop by 1% every 100 m altitude and by 2% every 5°C above +25°C. Fuel specification EN590. **Electrical power includes fan power absorption, typical alternator efficiency and a power factor (cos φ) of 0,8 Continuous (Prime) power can be overloaded of 10% for 1 h every 12 hours operation Intermittent (Standby) power cannot be overloaded. (1) for stationary + emergency applications EPA compliant.
Prime power (kW/HP)*	18,6 / 25,0	26,4 / 35,3	33,1 / 44,3	63,0 / 84,4	
Intermittent (Standby)(kVA)**	22,6	31,9	40,0	75,7	
Continuous (Prime) (kVA)**	20,5	29,0	36,4	70,1	
Emission compliance	Tier 3/Tier4 i ^{III}	Tier 3/Tier4 i ^{III}	Tier 3/Tier4 i ^{III}	Tier 3/Tier4 i ^{III}	

The main feature of the new Power Unit range offered by Kohler Engines is the highly innovative layout, born of a design philosophy which as well as making it virtually unique on the market offers end users significant operational advantages in addition to the manufacturing and logistical benefits.

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The main advantage from an engineering point of view, is the adoption of the direct mechanical injection system. This is true for both naturally aspirated and turbocharged engines and is in place of the traditional architecture which used a pre-chamber. This is still a prevalent option in this market segment, in particular for the lower power ratings. This choice, together with the four valves per cylinder, has not only allowed emissions legislation to be met, but also offers better, cleaner and more efficient combustion with lower fuel consumption.

The high power density which can be reached using this architecture allows KDI engines to obtain the same power outputs while using smaller displacements than those which have been required to date. This allows:

- End users to use machines with lower fuel consumption (up to 3% less than other direct injection engines) which are also more easily managed in mobile applications.
- OEMs to obtain significant reductions in generator dimensions for the same power output, quantifiable as between 15% and 30% smaller than the typical dimensions (with important effects both on manufacturing and transport costs, as more units can be transported in the same space).

The more efficient combustion also decreases the heat released by the engine, meaning lower cooling requirements. This allows the radiator and fan size to be reduced permitting the engine to be installed in even smaller units.

The special design used by the Kohler Engines Power Unit range, combined with innovations such as a more rigid engine block and optimised internal components, has also brought about significant reductions to operating noise. This is an important advantage for both manufacturers who can limit the soundproofing materials used, helping further reduce dimensions, and for end users, who can count on quieter machines to be used in any condition.

The ease of implementation of the Kohler Power Unit range of engines is further enhanced by the Plug & Play design, which takes form in the availability of a package of standard components and accessories. This has been specifically calibrated to provide a solution complete in every detail and ready for installation. The standard equipment includes:

- Radiator
- Cooling fan and protection grille
- Radiator mounting brackets
- Engine brackets

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- Air and fuel filters
- Electric fuel pump

For a range of engines designed for the power generation market, flexibility and versatility are the key factors. For this reason, the KDI family of engines has been developed in a differentiated manner by energy supply frequency and emissions standards in order to supply solutions to meet the requirements of all destination markets, but also with the addition of a series of optional extras and accessories which will allow OEMs to develop generation systems for use in the most wide-ranging sectors of application.

The outstanding reliability of engines, designed for a life-cycle of up to 10,000 hours and with operating intervals which can reach 1,000 hours, make the Power Unit range of engines an exceptionally high-performance and technologically advanced solution. This is achieved through high output and low running costs, characteristics that translate into clear operational advantages with the additional benefits of a service network available in every corner of the globe for the end user.

Media Relations:

Giacomo Galli
Sillabario srl
Via Amilcare Ponchielli 7
20129 Milan, Italy
Tel: +39 02 8739 9276
Mobile: +39 333 370 1412
giacomo.galli@sillabariopress.it

Contact info:

Nino De Giglio
Marketing and Communications Manager
EMEA Engines
Via Cav. del Lavoro A. Lombardini, 2
42124 Reggio Emilia, Italy
+39 0522 389268
nino.degiglio@kohler.com

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KOHLER Engines, leader mondiale nella produzione di motori Diesel e Benzina offre una completa gamma di prodotti fino a 100 kW.

Con sede principale a Kohler, WI (USA), KOHLER Engines offre una presenza globale con i suoi 4 Regional Headquarters (Kohler – USA, Reggio Emilia – Italy, Shanghai – Cina, Aurangabad – India); 7 stabilimenti produttivi (Reggio Emilia – Italia, Rieti – Italia, Martin – Slovacchia, Aurangabad – India, Kohler – USA, Hattiesburgh - USA, Chongqing, Yinxiang – Cina); 5 filiali commerciali (Lione – Francia, Barcellona – Spagna, Oxford – UK, Francoforte – Germania, Singapore) ed oltre 1700 punti di servizio tra distributori, centri d’assistenza vendita motori e ricambi presenti in tutto il Mondo.