



GENERAL INFORMATION

The hydrogen-powered rotary engine KKM650H2 from Wankel SuperTec GmbH combines the advantages of a Wankel engine with enormous potential of hydrogen as an energy source of the future. Thanks to its compact design, CO₂-neutrality when operated with hydrogen, multi-fuel capability, low vibration level, excellent power-to-weight ratio, long service life and low total operating costs, KKM650H2 is the perfect power train for various applications.

The engine is developed on the basis of the Mazda RX8 power train and is available in two versions. The KKM651H2 with a single rotor achieves 19 kW at a speed of 4,000 rpm, while the twin rotor KKM652H2 can provide twice the power at the same speed.

ALREADY AVAILABLE AS A PROTOTYPE

MAJOR ADVANTAGES

MULTI-FUEL



The KKM650H2 can run on hydrogen, natural gas as well as on gasoline. When integrated into a PV / wind power electrolysis system, this allows uninterrupted operation even if there is not enough hydrogen available.

CO₂-FREE OPERATION



There are virtually no CO₂-emissions when operated with hydrogen.

UNDEMANDING TO H₂-QUALITY



Unlike fuel cells, the KKM650H2 can be operated with cheaper hydrogen of low purity, which results in lower total cost of ownership.

LOW VIBRATION LEVEL



Due to its non-oscillating, but rotating pistons, the KKM650H2 generates very little vibrations. This allows a high level of user comfort even without complex damping.

LONG LIFETIME



Rotary engines contain few moving parts, which makes them reliable, durable and easy to maintain.

SMALL SIZE & LIGHT WEIGHT



Due to their design, rotary engines are lighter and more compact than classic reciprocating piston drives, which leads to an exceptional power-to-weight ratio and very little space requirement.

TECHNICAL DATA FOR HYDROGEN OPERATION

Engine Type		KKM651H2	KKM652H2
max power	at 4,000 rpm	19 kW	38 kW
	at 3,000 rpm	15 kW	30 kW
max torque	at 4,000 rpm	45 Nm	90 Nm
	at 3,000 rpm	48 Nm	96 Nm
fuel consumption	at 4,000 rpm	110 g/kWh	110 g/kWh
	at 3,000 rpm	100 g/kWh	100 g/kWh
mechanical efficiency	at 4,000 rpm	27 %	27 %
	at 3,000 rpm	30 %	30 %
weight		70 kg	140 kg
dimensions (L-W-H)		340-590-570 mm	460-590-570 mm

