

2016 Porsche 919 Hybrid

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The 2016 Le Mans winning #2 Porsche 919 Hybrid was driven by Neel Jani, Marc Lieb and Romain Dumas

The third-generation 919 Hybrid (2016 MY) is powered by a turbocharged four-cylinder, two-litre petrol engine delivering almost 500 hp that drives the rear axle. The V4 engine, which is fully load-bearing, is turbocharged and features 4-valves per cylinder, DOHC, a Garrett turbocharger, direct fuel injection and an aluminium cylinder crankcase. In addition, the electric motor delivering more than 400 hp to the front axle. The latter is fed by two energy recovery systems. Converted braking and exhaust energy is temporarily stored in a liquid-cooled lithium-ion battery. Due to this, the 919 Hybrid is once again able to compete

in the so-called eight megajoule class.

Porsche 919 Hybrid Technical specs

Model	Porsche 919 Hybrid (2016)
Vehicle type	Le Mans Prototype, class LMP1
Monocoque	Composite fibre construction made of carbon fibres with a honeycomb aluminium core. The Monocoque has been developed in compliance with the LMP 2016 regulations and tested according to the 2016 FIA Crash and Safety Standards
On-board system battery	Lithium-ion battery
Engine	
Combustion engine	V4 engine with turbocharging, 4 valves per cylinder, DOHC, a Garrett turbocharger, direct fuel injection, aluminium cylinder crankcase, fully load-bearing
Engine management	Bosch MS5
Engine lubrication	Dry-sump lubrication with Mobil 1 motor oil
Displacement	2000 cc
Power	< 370 kW (< 500 hp)
Hybrid system	Accumulator type Lithium-ion battery with A123 Systems cells
Engine Generator Unit (EGU)	EGU on front axle, power > 400 hp

Drive/Power transmission

Drive type	Rear wheel drive, traction control (ASR), all-wheel drive via KERS on the front axle
Clutch	CFRP clutch
Transmission	Hydraulically activated 7-speed sequential racing transmission
Differential	Rear differential lock
Transmission housing	Hybrid construction in CFRP with titanium inserts and cast aluminium housing
Drive shafts	Constant-velocity sliding tripod universal joints



The #1 Porsche 919 Hybrid of Timo Bernhard, Mark Webber and Brendon Hartley crests the hill under the Dunlop Bridge during the 2016 Le Mans 24-Hour race

Chassis/Steering/Brakes

Steering	Hydraulically assisted rack-and-pinion steering
Chassis	Front and rear pushrod independent wheel suspension with adjustable shock absorbers
Brakes	Hydraulic dual-circuit brake system, light-alloy monobloc brake callipers, internally vented carbon fibre rear and front brake discs, brake force distribution settings can be set progressively by the driver
Rims	Forged magnesium wheels
Tyres	Michelin Radial, front and rear: 310/710-18

Weight/Volume

Length/Height/Width	4650 mm/1050 mm/1900 mm
Minimum weight	875 kg
Tank capacity	62.5 litres

Performance

Top speed	> 340 km/h (212.5 mph)
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From 0-100 km/h 2.2 seconds

From 0-200 km/h 4.8 seconds

Source: Porsche