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Performance and efficiency in a new combination: the Mercedes-AMG E 53 HYBRID 4MATIC+

- Combination of 3.0-litre six-cylinder and electric motor with 430 kW (585 hp) system output
- Hybrid system combines high performance, driving dynamics and efficiency
- Purely electric driving of up to over 100 kilometres possible
- Next range hybrid from Mercedes-AMG after GLE 53 HYBRID 4MATIC+

Schlieren. With the new Mercedes-AMG E 53 HYBRID 4MATIC+ as a saloon and estate, the performance and sports car brand from Affalterbach is presenting two further plug-in hybrid models. They combine outstanding performance and driving dynamics with a long electric range.

"The E-Class has been one of our most popular models for decades and we want to build on this with the new E 53 HYBRID. The vehicle offers typical AMG driving pleasure with excellent responsiveness, great driving dynamics and a sporty design. As a plug-in hybrid, the E 53 HYBRID combines mighty performance with efficiency. Thanks to the high electric range, many everyday journeys can be completed purely electrically. At the same time, the vehicle comes with extensive standard equipment, including fully variable all-wheel drive and active rear-axle steering. In this way, we offer our customers a vehicle that is perfect for their high demands." Michael Schiebe, CEO of Mercedes-AMG GmbH and Head of Business Units Mercedes-Benz G-Class & Mercedes-Maybach

The combination of the 3.0-litre six-cylinder in-line engine and the permanently excited E-synchronous machine generates a maximum system output of 430 kW (585 HP) [at RACE START: 450 kW/612 HP] and a maximum system torque of 750 Nm. The performance is correspondingly dynamic: acceleration from 0-100 km/h takes place in 3.8 seconds (saloon with RACE START, part of the optional AMG DYNAMIC PLUS package). The top speed is electronically limited to 280 km/h (saloon with optional AMG Driver's Package). Up to 140 km/h are possible purely electrically.

The 120-kW electric motor is integrated into the AMG SPEEDSHIFT TCT 9G transmission to save space. The high-power density of the hybrid power unit is achieved by the permanently excited internal rotor synchronous technology. The electric motor's maximum torque of 480 Nm is available from the first revolution and ensures high agility even when starting off. The traction battery with 400 volts has a gross capacity of 28.6 kWh and is installed in the rear under the trunk floor. The energy content that can be used every day is smaller at 21.22 kWh, as part of the energy is always reserved for boosting and thus high-

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The figures are provided in accordance with the German regulation "PKW-EnVKV" and apply to the German market only. Further information on official fuel consumption figures and the official specific CO_2 emissions of new passenger cars can be found in the EU guide "Information on the fuel consumption, CO_2 emissions and energy consumption of new cars", which is available free of charge at all sales dealerships, from DAT Deutsche Automobil Treuhand GmbH and at www.dat.de.

Board of Management: Ola Källenius, Chairman; Jörg Burzer, Renata Jungo Brüngger, Sabine Kohleisen, Markus Schäfer, Britta Seeger, Hubertus Troska, Harald Wilhelm

performance driving. Nevertheless, the high-voltage battery enables an electric range of up to over 100 kilometres.

A charger with 11 kW charging power is on board for charging with alternating current. In addition, a 60 kW DC fast charger for direct current is available upon request. This allows the battery to be charged from 10% to 80% in around 20 minutes. The recuperation power is up to 120 kW. In D_{Auto} mode, the system automatically selects the level of recuperation power depending on the traffic situation. If you want to influence the recuperation performance yourself, you can select it in three levels using rockers behind the steering wheel. In programme D-, the driver experiences the "one pedal feeling": If he or she takes his or her foot off the accelerator, the vehicle decelerates purely electrically to such an extent that the hydraulic foot brake is often not even needed.

The basis for the sporty and efficient drive is the proven AMG 3.0-litre in-line six-cylinder turbo engine. In the E 53 HYBRID 4MATIC+ it delivers 330 kW (449 hp). Compared to the previous version in the E 53 of the predecessor W213 series, this means an increase of 10 kW (14 hp). Numerous software and hardware measures contribute to increasing performance. This includes a new twin-scroll exhaust gas turbocharger with higher boost pressure (1.5 bar instead of the previous 1.1 bar). The update also includes newly programmed software, an additional front cooler, and a wheel arch cooler. The result: The 3.0-litre engine reacts spontaneously to accelerator pedal commands and thus offers a highly dynamic response.

Reinforced body shell with numerous stiffening measures

To account for the high dynamic potential of the drive train, the body shell has been revised with numerous stiffening measures. A strut brace between the front suspension strut mounts stiffens the front structure and enables increased lateral dynamics. The thrust field under the engine increases steering precision by reducing the torsion of the front end. It is connected to the longitudinal beams by additional struts. On the rear axle, additional struts from the side members to the rear ensure greater stability and driving precision.

AMG and hybrid-specific design elements

The new Mercedes-AMG E 53 HYBRID 4MATIC+ can be recognised by many special design elements. The AMG-specific radiator trim with vertical slats is illuminated as standard. Wider front fenders (plus eleven millimetres on each side compared to the Mercedes-Benz E-Class) make room for the larger track width on the front axle. The powerfully shaped outer air inlets, each with two vertical fins, and the central A-wing characterise the independent AMG front apron. The large central lower inlet directs the air to the additional AMG front cooler. There is also an external opening for the wheel arch cooler.

The side view is characterised by flowing modelled surfaces without beads or edges, right down to the recessed door handles. AMG-specific side skirt panels visually connect the two wheel arches. The light alloy wheels, which are almost flush with the body, emphasise power and dynamism. The flat, horizontally connected LED taillights with clear and striking graphics in the stylised Mercedes star signature are precisely embedded in the powerful rear. The arrangement gives the vehicle structure and underlines the overall width. The final touch is the AMG spoiler lip on the trunk lid (saloon) and the AMG rear apron with diffuser and two round double tailpipe trims on the left and right.

Hybrid-specific badges on the front fenders and rear indicate the electrified drive. The E 53 HYBRID 4MATIC+ comes with 19-inch light-alloy wheels as standard. Wheels with 20 inches and forged wheels with a diameter of 21 inches are also available as an option.

Exclusive trim, optional Superscreen with passenger monitor

The cockpit design impresses with a harmonious overall impression. As standard, there is an E-53-HYBRIDspecific, illuminated trim in grey open-pore ash wood with an AMG logo. The MBUX Superscreen with passenger monitor is available as an option. The MBUX multimedia system offers AMG-specific displays and features as well as the additional, exclusive menu content AMG Performance and AMG TRACK PACE (optional). Added to this are the hybrid-specific displays and functions. This includes the charging menu and displays in the instrument cluster and on the multimedia screen. These provide information about, among other things, the charge status and temperature of the high-voltage battery as well as the electric range.

Electrically adjustable AMG sports seats are on board as standard. The upholstery is covered in ARTICO manmade leather/MICROCUT microfibre with red contrasting topstitching and features a unique AMG seat graphic. The electrically adjustable AMG performance seats can be ordered as an option. The basic equipment includes the AMG performance steering wheel in Nappa leather with AMG steering wheel buttons.

Fully variable all-wheel drive AMG Performance 4MATIC+

The standard all-wheel drive provides optimal traction. It ensures high driving stability and driving safety on dry roads as well as on wet or snowy roads. An electromechanically controlled clutch distributes the driving force variably to the front and rear axles in each driving programme. This ensures maximum traction, driving dynamics and safety at all times and in all driving conditions.

Newly developed and tuned AMG RIDE CONTROL suspension with adaptive damping adjustment

The AMG development team developed and tuned the AMG RIDE CONTROL steel spring suspension with adaptive adjustable damping specifically for the requirements of the E 53 HYBRID 4MATIC+ with new hardware and software. It offers a balanced combination of adequate acoustic insulation for purely electric driving in combination with a very sporty character typical of AMG. The independent front axle has a larger track width than the Mercedes-Benz model. On the rear axle, the stiffer elastokinemetics of the rubber mounts, which connect the independent control arms with the axle support, ensure greater tracking and camber stability.

The steel suspension with a sporty spring-damper setup and adaptive two-valve adjustable damping combines high driving dynamics with very good ride comfort. The damping on each wheel adapts to the current driving situation and road conditions. This happens quickly and precisely via separate valves for the tension and compression directions in the dampers. The damper characteristic curve can be pre-selected in three levels: "Comfort", "Sport" and "Sport+", thus enabling a clearly noticeable differentiation between high long-distance comfort and sporty driving dynamics.

The software has also been reprogrammed. The tuning of the chassis, ESP®, the fully variable AMG Performance 4MATIC+ all-wheel drive and the steering, which is adapted to the hybrid drive, enables a balanced and safe, but also dynamic and confident driving experience.

The AMG high-performance sports brake system is based on internally ventilated brake discs measuring 370x36 millimetres on the front axle and four-piston fixed calipers. On the rear axle there are 360x26 millimetres with single-piston floating calipers.

A high-tech feature is the electromechanical brake booster. It ensures that the braking system efficiently combines electrical recuperation with the hydraulic brake. Depending on the driving situation and braking requirements, the vacuum-independent braking system automatically controls the flexible change between hydraulic braking and electrical recuperation. This means maximum recuperation performance can be achieved more frequently and over a longer period of time. The system variably reduces the braking power of the hydraulic brake, even with constant pedal pressure, to maintain a high level of recuperation performance as speed decreases. The driver does not notice this automatic change.

Standard active rear-axle steering combines stability and agility

Depending on the speed, the rear wheels steer either in the opposite direction of the front wheels (up to 100 km/h) or in the same direction (over 100 km/h). The system therefore enables both agile and stable driving behaviour. The toe angle change is 0.7 degrees (parallel steering) to 2.5 degrees (opposite steering).

AMG driving programmes with a wide spread

From efficient to dynamic: The AMG DYNAMIC SELECT driving programmes are tailored precisely to the drive technology of the plug-in hybrid. They adjust important parameters such as the response of the drive and transmission, the steering characteristic, the chassis damping or the sound. In addition to the well-known driving programmes "Comfort", "Sport", "Sport+", "Smoothness" and "Individual", two hybrid-specific driving programmes are added in the new Mercedes-AMG E 53 HYBRID 4MATIC+. "Electric" and "Battery Hold".

By default, the electrified 53 model starts silently in the "Electric" driving programme when the electric motor is switched on. The "Ready" icon in the instrument cluster signals that the vehicle is ready to drive. In "Electric", purely electric driving takes place with the 120 kW (163 hp) electric motor with a range of up to over 100 kilometres. If the charge level of the battery is too low or the driver requests more power in the meantime and overcomes the pressure point of the haptic accelerator pedal, the intelligent operating strategy switches automatically: the combustion engine starts and takes over the drive power as required.

In the "Battery Hold" driving programme, the combustion engine and electric motor run in a co-ordinated manner depending on the situation. The operating strategy keeps the battery charge level almost constant. The use of the electric motor is limited and optimised for low energy consumption. Recuperation balances the energy balance again. By simply changing the driving programme, drivers can decide when they want to fully use the battery charge again, for example for inner-city traffic.

AMG DYNAMIC PLUS package

For an even more emotional driving experience, the optional AMG DYNAMIC PLUS package bundles technical and visual equipment details.

- AMG performance steering wheel in Nappa leather/MICROCUT microfibre with steering wheel buttons for quick operation of the driving programmes and other driving dynamics settings.
- Larger high-performance composite brake system at the front with 390x36 mm brake discs and sixpiston fixed calipers.
- The brake calipers are painted red and visually underline the sporty character.
- The electronically controlled rear axle locking differential enables even better traction out of corners, greater driving stability and load distribution without loss of power in all driving conditions.
- Dynamic engine mounts enable a sporty or comfortable connection of the engine to the body. They consist of two interlocking cylinders connected to a magnetorheological fluid. They change their viscosity through a magnetic field. If the vibrations of the engine are to be transmitted to the body as little as possible in a comfort-oriented manner, the in-line six-cylinder is connected particularly softly. The magnet in the bearings is then switched off. If the engine is to be connected to the body as rigidly as possible for higher performance, the magnetic field is continuously increased, and the connection becomes stiffer. In the E 53 HYBRID 4MATIC+, the active bearings particularly optimise the spread between sportiness and comfort.
- With the RACE START function, the optimal sprint from a standstill is achieved. In RACE START, the drive technology pulls out all the stops to achieve the best possible acceleration. To do this, the software retrieves the full power of the electric motor (120 kW) and the combustion engine (330 kW) as well as the maximum torque in each case.

Special model "Edition 1" with extensive equipment

The new E 53 HYBRID 4MATIC+ can be ordered as an exclusive "Edition 1" in the exterior colours MANUFAKTUR alpine grey uni or MANUFAKTUR opalite white magno for one year from market launch. A foil with decorative stripes in black visually stretches the vehicle's sides. The 21-inch AMG forged wheels in cross-spoke design are painted matt black and accentuated with high-sheen rim flanges. The wheel hub caps have an "Edition" label in a laurel wreath. The black painted brake calipers with white AMG logos also match the dark look.

The AMG Exterior Night Package and the AMG Exterior Night Package II are also on board. Elements such as the front splitter and the beltline and window line trim strips are finished in high-gloss black. Together with the high-gloss black double tailpipe trim, strong contrasts result. In addition, there is the heat-insulating, dark-tinted glass for the rear window and the rear side windows. The AMG Night Package II includes elements in black chrome, namely the struts and surrounds of the radiator trim as well as the trim parts and badges on the front fenders. In addition, the door handles, the trim on the tailgate, the type plates, and the Mercedes star on the rear.

The AMG Carbon Exterior Package reinforces the dynamic visual impression. The exterior mirror housings have a carbon look. On the saloon, the spoiler lip on the trunk lid is made of carbon. The AMG tank cap in silver chrome with "AMG" lettering also emphasises the special status of the edition.

The interior is characterised by the contrast of black and yellow. The AMG Performance seats are very elegant with upholstery in black Nappa leather with yellow decorative stitching and "Edition 1" lettering in the front headrests. They follow the sporty look, as do the seat belts in yellow and the exclusive AMG carbon trim elements with yellow thread. The AMG Performance steering wheel in Nappa leather / MICROCUT microfibre with yellow decorative stitching and the AMG door sills with yellow illuminated "AMG" lettering go perfectly with this. The final touch is the exclusive "Edition 1" engraving in the centre console as well as specific AMG floor mats with yellow decorative stitching and "Edition 1" labelling. The MBUX Superscreen with passenger screen is also on board as standard.

To protect their valuable vehicle, every customer receives a tailor-made AMG Indoor Car Cover with the "Edition1" logo. With its breathable outer skin made of tear-resistant synthetic fibre fabric and the anti-static inner fabric made of flannel, it protects the vehicle from dust and scratches in the garage.

Data at a glance

		Mercedes-AMG E 53 HYBRID 4MATIC+ Saloon	Mercedes-AMG E 53 HYBRID 4MATIC+ Estate
Cylinder number/arrangement		6/R	6/R
Displacement	cm ³	2.999	2.999
System performance	kW/PS	430 /585 (for RACE START ¹ : 450 / 612)	430 /585 (for RACE START: 450 / 612)
System torque (Nm)	Nm	750	750
Rated power combustion engine	kW/PS	330 /449	330 /449
at	1/min	5,800-6,100	5,800-6,100
Rated torque combustion engine	Nm	560	560
at	1/min	2,200-5,000	2,200-5,000
Rated power electric motor	kW	120	120
Rated torque electric motor	Nm	480	480
Total battery capacity installed/usable	kWh	28.6/21.22	28.6/21.22
Acceleration 0-100 km/h ²	S	4.0/3.8	4.1/3.9
Top speed ³	km/h	250/280	250/275
Top speed electric	km/h	140	140
Energy consumption combined,	kWh/100 km	25.9-24.1 1.0-0.8	26.7-25.0 1.1-0.9
weighted Fuel consumption discharged battery combined, weighted	plus l/100 km l/100 km	9.2-8.6	9.5-8.8
CO ₂ -emissions combined, weighted	g/km	23-19	24-21
CO ₂ -class combined, weighted /discharged battery		B/G	B/G
Electric range (EAER, WLTP)	km	93-101	90-97

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 $^{^{1}\ \}mathrm{Part}$ of the optional AMG DYNAMIC PLUS package

 $^{^{\}rm 2}$ without/with optional AMG DYNAMIC PLUS package

³ electronically limited (without/with optional AMG Driver's Package)