



Press Information

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Mercedes-AMG EQE: New all-electric performance sedan from Affalterbach

The new Mercedes-AMG EQE with battery-electric drive

Affalterbach. Mercedes-AMG is consistently pushing ahead with the Future of Driving Performance and expanding its product portfolio with battery-electric performance models. New to the range is the Mercedes-AMG EQE sedan, which is based on the electric-exclusive Mercedes architecture of the luxury and premium class (EVA2). AMG-specific solutions – particularly reflected in the areas of drive, suspension, brakes, sound, exterior and interior design, and equipment – ensure a dynamic and emotively appealing AMG driving experience.

"With the new model, we are expanding our range with a purely electrically powered performance vehicle and are thus addressing additional target groups. The AMG EQE focuses on sportiness and impressive driving dynamics. And that's not the end of our Future of Driving Performance: After performance hybrids and all-electric AMG derivatives based on EVA2, stand-alone AMG electric vehicles will follow in the not too distant future. These are based on AMG.EA, our new, completely in-house-developed platform," says Philipp Schiemer, Chairman of the Board of Management of Mercedes-AMG GmbH.

"The compact format of the EQE forms the perfect starting point for realizing a highly agile and very emotional driving experience with our AMG-specific solutions. This applies in particular to the areas of drive, chassis, brakes and, above all, sound. This ensures that our customers can also look forward to our brand's hallmark Driving Performance in our second all-electric model series," says Jochen Hermann, Chief Technical Officer of Mercedes-AMG GmbH.

The new Mercedes-AMG EQE offers a performance-oriented drive concept with two electric motors. The powerful electric drivetrain (eATS), with a motor on each of the axles, also offers fully variable all-wheel drive, which optimally transmits the drive power to the asphalt under all driving conditions. The AMG EQE produces an impressive power output of 677 hp and 738 lb-ft with the RACE START with boost function feature, included with the standard AMG DYNAMIC PLUS Package.

	AMG EQE Sedan
Maximum output (without/with RACE START with boost function)	617 hp/ 677 hp

Mercedes-Benz AG | 70546 Stuttgart | T +49 711 17 0 | F +49 711 17 2 22 44 | dialog@mercedes-benz.com | www.mercedes-benz.com

Mercedes-Benz AG, Stuttgart | Registered Office and Registry Court: Stuttgart; HRB No.: 762873

Chairman of the Supervisory Board: Bernd Pischetsrieder

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

More information on the official fuel consumption and the official specific CO₂ emissions of new passenger cars can be found in the "Leitfaden über den Kraftstoffverbrauch, die CO₂-Emissionen und den Stromverbrauch neuer Personenkraftwagen" [Guide on the fuel economy, CO₂ emissions and power consumption of all new passenger car models], which is available free of charge at all sales outlets and from Deutsche Automobil Treuhand GmbH at www.dat.de.

Maximum torque (without/with RACE START with boost function)	701 lb-ft/ 738 lb-ft
Acceleration 0-60 mph (without/with RACE START with boost function)	3.4 / 3.2 seconds (min. 70% state-of-charge; est.)
Top speed (electronically limited)	149 mph

AMG SOUND EXPERIENCE: emotional sound spectrum for a unique driving experience

Mercedes-AMG models have always stood for emotionality. The vehicle sound has always been an important part of the hallmark AMG driving experience – including all-electric AMG Performance vehicles. The sound system creates a unique sound experience with the help of special speakers, a bass actuator and a sound generator. There are "Authentic" and optional "Performance" sound programs available for selection. Both are available in three variants each: "Balanced", "Sport" and "Powerful". The tonality and intensity of this exclusive AMG SOUND EXPERIENCE is tuned to the current driving status, selected drive program or driver's preference, both inside and out.

AMG-specific electric motors for perfectly balanced Driving Performance

The AMG-specific electric motors at the front and rear axles are permanently excited synchronous motors (PSM). The decided emphasis on performance is already evident in the output and torque values. In addition, the electric motors are characterized by an optimal balance of power increase, efficiency and noise comfort. The AMG EQE uses AMG-specific electric motors with adapted windings and laminations, higher currents and a specific inverter. This enables higher engine speeds and even more power, which is particularly noticeable during acceleration and at top speed.

The electric motor on the rear axle is particularly powerful thanks to its six-phase design, based on two windings with three phases each. The stator with pull-in winding ensures a particularly strong magnetic field.

Added to this is the highly resilient thermal concept, which allows repeated acceleration maneuvers with consistently high performance. The centerpiece of the sophisticated design is the water lance in the shaft of the rotor, which cools it. Other AMG-specific cooling elements in the cooling circuit include special ribs on the stator and the needle-shaped pin-fin structure on the inverter, which is made of high-performance ceramics. In addition, there is the transmission oil heat exchanger: In addition to cooling, the oil is also preheated during cold starts to increase efficiency.

New battery generation with a capacity of 90.6 kWh

The new Mercedes-AMG EQE model is equipped with a powerful 328-volt high-performance drive battery manufactured using the latest lithium-ion technology. It has a usable energy content of 90.6 kWh and consists of ten modules with a total of 360 pouch cells. The battery management system is also tuned specifically for AMG. In the Sport and Sport+ drive programs the focus is on performance, in the Comfort drive program the focus is on operating range. The battery generation is characterized by a high energy density and has a high charging capacity. Another new feature is the possibility to install updates for the battery management system over-the-air for continuous improvements over the life cycle. The AMG EQE also features an AMG-specific wiring harness adapted to the higher performance capability. A major advancement in sustainability has been achieved in the cell chemistry: the cobalt content is reduced to ten percent. The optimized active material consists of nickel, cobalt and manganese in a ratio of 8:1:1.

Quick charging times through intelligent thermal management

Another advantage of the new battery generation is the quick charging times. The energy storage system can charge with up to 170 kW at fast charging stations with direct current. Thanks to the onboard charger, the electrified AMG can be conveniently charged at home or at public charging stations with alternating current.

In addition, there are intelligent charging programs that can be activated automatically depending on the location. Functions such as battery-saving charging make operations even more efficient.

The efficient thermal management also plays a part in shortening charging times. If Navigation with Electric Intelligence is activated, the battery is preheated or cooled while driving to reach the optimal temperature for fast charging at the charging point. The desired temperature range of the battery is achieved with the aid of the cooling circuit and a PTC (Positive Temperature Coefficient) booster heater integrated into it.

The battery design aims to ensure the optimum battery operating temperature under all operating conditions. The aluminum extrusions of the battery frame have defined cavities through which the coolant flows. All in all, the intelligent temperature and charging management ensures that high charging currents can be maintained for a long time.

The battery also stands out for its durability. The ECO Charging function makes a significant contribution to this: the intelligent control reduces the battery load during charging, and thus slows down the natural ageing process of the battery. Customers can also benefit from the "charging interruption" function: the charging process can be paused at freely selectable times to use cheaper off-peak electricity at a later time, for example. The battery certificate stands for the long service life of the high-voltage batteries.

Intelligent recuperation for efficient energy recovery

The battery can also be charged through efficient energy recovery using recuperation. The recuperation power reaches up to 260 kW¹. The driver can adjust the level of recuperation in three stages via switches on the steering wheel, and receive situation-optimized support from ECO Assist. Here, one-pedal driving and combined braking to a standstill are possible in recuperation levels D and D-. In D^{Auto}, up to 5 m/s¹ deceleration is achieved, 3 m/s¹ of which is due to recuperation (2 m/s² via the AMG high-performance brake system). With the help of the Driver Assistance Package, deceleration to detected vehicles ahead is automatic until they come to a standstill, for example at traffic lights.

AMG Performance 4MATIC+ variable all-wheel drive

The power of the engines is brought to the road by the standard-fit AMG Performance 4MATIC+ variable all-wheel drive. In contrast to previous usage, the "+" in 4MATIC+ stands not only for the variable all-wheel drive but for the entire additional performance and sportiness that the AMG EQE offers. The system continuously distributes drive torque between the front and rear axles depending on the driving situation: compared to a mechanical all-wheel drive system, the electric-specific system ensures a significantly faster response. The torque is checked 160 times per second and adjusted if necessary. The torque distribution depends on the selected drive program: in "Comfort" mode the focus is on maximum efficiency, while in "Sport" and "Sport+" the torque is more rear-biased for greater lateral dynamics.

AMG RIDE CONTROL+ suspension with adaptive adjustable damping

The AMG RIDE CONTROL+ air suspension with adaptive adjustable damping is based on a four-link front axle and multilink rear suspension. Both are optimized with AMG-specific wheel carriers, suspension links and anti-roll bars with higher rigidity. It corresponds in its basic features to the suspension of the AMG EQS and the AMG GT Four-Door Coupe, but its setup has been adapted for the AMG EQE. The rear axle carrier is connected to the body shell with 50 percent stiffer bearings and reduced bearing clearance to create even more direct road contact. The AMG engineers have specifically tuned all components to meet the special requirements of AMG customers. This applies to ride comfort as well as driving dynamics.

The adaptive adjustable damping uses two pressure limiting valves. These continuously variable control valves located outside the damper allow the damping force to be adjusted even more precisely to different

¹ This value refers to the electrical power fed into the electric battery due to recuperation. It can be achieved under optimal environmental conditions, depending on, among other things, state of charge and temperature. Deviations are possible.

driving conditions and drive programs: one valve independently controls the rebound phase while the other independently controls the compression phase. This technology makes it possible to increase comfort, while also creating sportier driving dynamics.

The suspension control unit analyzes data – including data from the acceleration and wheel path sensors – to adjust the damping force for each wheel in a few milliseconds to suit the situation. AMG developers were able to significantly increase the spread between sportiness and comfort by, among other things, widening the spread between minimum and maximum damping force characteristics as well as providing even greater flexibility in characteristic mapping. By using two adjustment valves, the damper is able to provide damping force adjustment across the full range of wheel vibrations. Thanks to the special design of the valves, the damper reacts quickly and sensitively to changing road surfaces and driving conditions.

Efficiency also feeds into the intelligent driving level control, which enables better aerodynamics and lower power consumption. In the S and S+ drive programs, the Mercedes-AMG EQE drives at the low level (0.6”) from 0 mph. In drive program C, speed-dependent control takes place with lowering from 78 mph and raising from 50 mph.

Rear axle steering as standard

The Mercedes-AMG EQE is equipped with rear axle steering as standard. The steering angle of up to 3.6 degrees promotes agile handling. The interaction between front axle and rear axle steering is designed to achieve agile response with little steering effort when driving in town or on country roads. At speeds below 37 mph, the rear wheels steer in the opposite direction to the front wheels. This makes the Mercedes-AMG EQE maneuverable, light-footed and nimble. The effect is particularly impressive when making a turn, changing direction quickly and maneuvering slowly. At speeds above 37 mph, the rear wheels steer in the same direction as the front wheels. The resulting virtually extended wheelbase offers increased handling stability and driving safety at high speeds, during fast lane changes or sudden evasive maneuvers.

For an individual driving experience: AMG DYNAMIC SELECT drive programs

The driving characteristics can be changed by the driver at the touch of a button to suit the situation or their own preferences. This is made possible by the five AMG DYNAMIC SELECT drive programs "Slippery", "Comfort", "Sport", "Sport+" and "Individual". The programs cover a broad spectrum from high comfort to pronounced sportiness. Important parameters such as drive and performance characteristics, suspension settings, AMG DYNAMICS with, among other things, steering torque characteristics, and AMG SOUND EXPERIENCE are included in the selected drive program accordingly. The maximum drive power can be selected through the Sport+ drive program, or in all drive programs via kick-down. In the other drive programs (except Sport+), the maximum power is adjusted to increase efficiency and reduce consumption.

	AMG EQE
Slippery	50% output (=308 hp)
Comfort	80% output (=493 hp)
Sport	90% output (=555 hp)
Sport+	100% output (=617 hp)
RACE START with boost function	110% power (=677 hp)

The driver can also pre-select the basic suspension setup via the AMG DYNAMIC SELECT drive programs: at the touch of a button, the driving style varies from maximum dynamics in "Sport+" mode to smooth gliding in the "Comfort" setting. In addition, the tuning can be adjusted in three stages independently of the drive programs via a dedicated button.

Depending on the drive program, the central drive control unit automatically activates different de-rating and cooling strategies: in "Sport" and "Sport+", the cooling system is activated sooner and the cooling capacity is increased to maintain delivered power for longer. The driver has the option of even more driving pleasure – for example on dedicated race tracks – by using the ESP OFF function.

AMG high-performance brake system

The AMG high-performance brake system with six-piston brake calipers and 16.3"x1.3" brake discs on the front axle delivers first-class deceleration values with high resistance to fading and excellent durability. The rear axle has single-piston brake calipers and 14.9"x0.87" brake discs. The optional AMG ceramic high-performance compound brake system uses even larger brake discs measuring 17.3"x1.6" at the front (only in conjunction with 21" wheels). Another high-tech feature is the intelligent i-Booster brake booster. It ensures that the brake system combines electric recuperation with the hydraulic brake highly efficiently. For that really authentic driving experience, the i-Booster is specially tuned to the characteristic AMG pedal feel and AMG brake system.

AMG SOUND EXPERIENCE: unique sound experience with a wide bandwidth

With the AMG SOUND EXPERIENCE, AMG is giving a new voice to electric mobility – a soundtrack for outside and inside that emotionally enhances the dynamic driving experience. Like the drive programs, the acoustic composition has a wide bandwidth: in the standard basic version "Authentic", the customer can regulate the sound and its intensity depending on the driving status and the selected drive program. The hallmark AMG driving sounds are generated with the help of additional hardware, including special speakers, a bass actuator and a sound generator.

Using the AMG steering wheel buttons or the central display, the driver can select the sound characteristics "Balanced", "Sport" and "Powerful" in any drive program. During RACE START, the vehicle produces a unique sound to match the dynamic acceleration.

The standard AMG DYNAMIC PLUS Package also includes the AMG SOUND EXPERIENCE "Performance", which creates an even more emotional soundscape. In addition to the drive sounds, it also includes most of the event sounds – fitting sounds for all vehicle functions that emit a sound. This includes locking the vehicle, as well as starting and stopping the motor. The program even simulates the click of the indicators, because many drivers are unwilling to do so without the familiar sound. A new feature is the AMG-specific event sound that is heard when the vehicle is locked. The event sounds can be deactivated at any time via the multimedia system settings – separately for the exterior and interior.

Exterior design with characteristic AMG features

With its one-bow lines and cab-forward design with fastback, the new Mercedes-AMG EQE model is clearly distinguishable from vehicles with combustion engines. The design philosophy is reflected in generously modelled surfaces, reduced joints and seamless transitions. The exterior design also picks up on characteristic AMG elements.

The AMG-specific black panel grille with hot-stamped vertical struts in chrome, integrated Mercedes star and "AMG" lettering characterizes the front view. The DIGITAL LIGHT headlamps feature a specific AMG projection when opening and closing the vehicle. The distinctive design idiom continues in the front bumper, which is painted in the vehicle color. This is contrasted by the front bumper in the typical AMG A-wing design, which is painted in high-gloss black and features chrome trim. The same look characterizes the front splitter in high-gloss black with chrome trim and flics and fins on the optical air intakes. In addition, there are air diffusers on the left and right in high-gloss black for an AIR CURTAIN effect. AMG side sill panels in high-gloss black, rear bumper in the vehicle color with an aerodynamically optimized diffuser, and larger rear spoiler round off the dynamic appearance. The measures improve the driving dynamics and efficiency: rear lift is reduced without significantly changing drag. All AMG light-alloy wheels are aerodynamically optimized.

Interior design with a particularly sporty touch

The interior is also dominated by style-defining AMG features. Here the new model offers a sporty ambience, including AMG seats with individual graphics and special seat covers in MB-Tex with microfiber and red decorative topstitching. Alternatively, seat upholstery in Nappa leather is optionally available, also with AMG-specific seat graphics. In addition, there are AMG badges on the backrests of the front seats and embossed AMG emblems in the front head restraints.

Numerous other details underline the independent style of the interior:

- Instrument panel and beltlines in space grey MB-Tex with red topstitching
- Door center panels and also transition from center console to instrument panel in black microfiber with red topstitching
- AMG Performance steering wheel in Nappa leather, with flattened lower section, perforated in the grip area with silver-colored aluminum paddles for setting various recuperation levels, in addition to standard AMG Drive Unit steering wheel buttons
- AMG sports pedals, AMG floor mats and door sill trims with AMG lettering (illuminated with exchangeable cover)

The AMG Performance steering wheel with its striking twin-spoke design and seamlessly integrated buttons combines visual stability with lightness. The steering wheel rim, which is flattened at the bottom and covered in Nappa leather, can be heated. The standard AMG Drive Unit steering wheel buttons impress with brilliant displays and allows important driving functions and drive programs to be controlled without having to take your hands off the steering wheel. The menus on the left steering wheel button can be individually supplemented, exchanged or reduced. For this, there is a list in the Multimedia Touchscreen Display with more than 15 information and setting options, allowing for direct selection for the steering wheel buttons.

The MBUX infotainment system offers a range of additional AMG functions that emphasize the performance character. This is particularly true of the distinctive displays in the instrument cluster, as well as the multimedia display and the head-up display. Quick access to the AMG DYNAMIC SELECT drive programs is provided by the corresponding direct-entry button in the center console.

AMG DYNAMIC PLUS Package with dynamic driving extras

The standard AMG DYNAMIC PLUS Package, combines driving dynamics extras – including the powerful boost for RACE START, the increase in maximum speed to 149 mph, and the emotional AMG SOUND EXPERIENCE "Performance". Sounds composed especially for this sound world – for charging or infotainment functions, for example – round off the AMG experience.

The driving dynamics deliver what the sound promises: if the temperature and state of charge are suitable, the maximum power and torque for RACE START with boost function can be briefly increased. The Mercedes-AMG EQE needs just 3.2 seconds to sprint from 0 to 60 mph (est.). The onboard bass actuator and speakers make the power of the electric motors clear even when stationary, and provide an emotionally charged sound backdrop to match the high acceleration. The AMG-specific graphics in the displays visually underscore the driving performance. The AMG Sound Experience can also be deactivated at any time via the settings of the multimedia system, and separately for the outside and inside.

Further options for even more dynamism

Numerous AMG options enhance the dynamic impression if required. These include design features such as the AMG Night Package with elements in black and black chrome, red brake calipers, or AMG carbon-fiber trim elements. The high-performance electric sedans can also be further refined in terms of driving dynamics, for example with the AMG ceramic high-performance compound brake system. There is also a choice of aerodynamically optimized 20- and 21-inch AMG light-alloy wheels.

AMG TRACK PACE, the virtual race engineer, is also optionally available: the software is part of the MBUX infotainment system and permanently records more than 80 vehicle-specific data (i.e. speed, acceleration), for example while driving on a race track. On top of this, lap and sector times are displayed, as well as the respective difference from a reference time. Because specific display elements are shown in green or red, drivers are able to identify them at a glance, without reading numbers to see whether they are currently faster or slower than the best time. The data is displayed on the multimedia display, in the instrument cluster and on the optional head-up display.

Predictive route planning and efficient driving with Electric Intelligence

As far as Navigation with Electric Intelligence is concerned, the name says it all. The sophisticated system plans the fastest and most convenient route, including charging stops, based on numerous factors and reacts dynamically to traffic jams or a change in driving style. Electric Intelligence plans a fast and convenient route in advance, including charging stops, based on numerous factors such as the calculated energy demand. The system includes all relevant data in the calculation, from topography and route to driving speed and heating and cooling requirements.

With Electric Intelligence, the new AMG EQE is able to react dynamically to traffic situations on the planned route. The AMG vehicle records traffic jams and road closures, as well as changes in energy demand. For its calculations the system uses information from the cloud, which it combines with onboard data.

The planned route can be edited individually. For example, the customer can set the additional reserve at the destination and at the charging station (SoC, State of Charge) – ten percent SoC is standard. If the "Charge at destination" function is selected, the set reserve may be undercut until the destination is reached. MBUX indicates whether the available battery capacity is sufficient to drive back to the starting point without charging.

Further options for individual route planning:

- The route calculation prefers manually added charging stations along the route
- The driver can exclude suggested charging stations
- The estimated charging costs per charging stop are calculated

If the destination or charging station cannot be reached with the selected settings, MBUX informs you ahead of time thanks to the "Active range monitoring" with a message to activate the ECO driving functions.

Comprehensive safety concept: Battery is crash-protected in the underbody

The battery sits in a crash-protected area in the underbody, embedded in the body shell structure including an extruded aluminum profile on the side. During extrusion, a heated block of metal is pushed through the dies and turns into an endless section, which is then cut to fit. This makes highly complex profiles that are precisely tailored to the requirements possible. The housing with energy absorbing structures at the front and side as well as a rigid, double-walled base plate provide additional protection for the modules. In addition, there is a separate, multi-level safety system for everyday operation. This includes, for example, temperature, voltage or insulation monitoring. If a fault occurs, the battery switches off. Crash monitoring when stationary (during DC charging) is also standard.

Materials cycle

The components weigh over 175 lbs and are made of resource-saving materials (recycled and renewable raw materials). A new yarn made of regenerated nylon is sewn into the floor coverings of the all-electric AMG model. One ton of this yarn saves over 6.5 tons of CO₂ compared to new material. The steel for the vehicle body consists of 80 percent secondary steel, most of which is obtained from recycled steel scrap.

After use in the vehicle, a second life is also possible for the batteries: for example, in an energy bank operated by Mercedes-Benz Energy GmbH. Together with its partners, the company has already brought three large-scale energy banks with a total of around 50 MWh of energy from automotive battery systems into the German electricity grid. The first 2nd-life battery storage system was connected to the grid in October 2016 in Lünen, Westphalia.

Technical data

		AMG EQE Sedan
Electric motors	Type	Two permanently excited synchronous motors (PSM)
Maximum output (without/with RACE START with boost function)	hp	617 / 677
Maximum torque (without/with RACE START with boost function)	lb-ft	701 / 738
Drive system layout		AMG Performance 4MATIC+ Variable All-Wheel Drive
Acceleration 0-60 mph (without/with RACE START with boost function)	s	3.4 / 3.2 (est.)
Top speed (electronically limited)	mph	149
Battery energy content, usable	kWh	90.6
Rated voltage	Volts	328

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About Mercedes Benz

Mercedes-Benz USA (MBUSA), headquartered in Atlanta, is responsible for the distribution, marketing and customer service for all Mercedes-Benz products in the United States. MBUSA offers drivers the most diverse lineup in the luxury segment with 15 model lines ranging from the sporty GLA SUV to the flagship S-Class and the Mercedes-AMG GT Black Series. MBUSA is also responsible for Mercedes-Benz Vans in the U.S. More information on MBUSA and its products can be found at www.mbusa.com and www.mbvans.com.

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Contacts:

Michael Minielly	Michael.minielly@mbusa.com
Andrew Brudnicki	Andrew.Brudnicki@mbusa.com