

# BUGATTI W16 MISTRAL: THE ULTIMATE ROADSTER



**Ever since the Veyron was introduced in 2005, the W16 engine has been the beating heart of every Bugatti. The roadgoing car that brings the W16 era to an end was always destined to be special: exclusive, elegant and powerful. It must be the very best of its kind. This is W16 Mistral: the ultimate roadster.**

Mate Rimac, Bugatti Rimac CEO, said: "For the final roadgoing appearance of Bugatti's legendary W16 engine, we knew we had to create a roadster. Well over 40% of all Bugatti vehicles ever created have been open-top in design, establishing a long lineage of performance icons that — to this day — are revered the world over. In the Chiron<sup>1</sup> era there had, to-date, been no roadster, so the introduction of W16 Mistral<sup>2</sup> continues this legacy, driven by enormous demand from our clients for an all-new way to experience the mighty performance of our iconic engine. The W16 Mistral opens the next chapter in the Bugatti roadster story, inspired by over a century of open top legends."

For a car as evocative and important as this, great consideration went into the badge it should wear. Far more than simply a development of the Chiron, the roadster needed a name associated with freedom, elegance and speed. Inspiration came from the mistral, a powerful

wind that blows from the Rhône River valley, through the chic towns of the Côte d'Azur in southern France and into the Mediterranean. And with the engine so central to this roadster's character, it stands side-by-side with this mighty wind: W16 Mistral.

Built around the definitive 1,600 PS incarnation of the W16 engine, first used in the Chiron Super Sport 300+<sup>3</sup>, the W16 Mistral offers performance unlike any open top car that has gone before. In its design and engineering it is completely bespoke; the existing monocoque is not simply cut off above the A-pillars to make way for the new open-top design but has been reengineered and reshaped to create a more rounded silhouette without compromising performance.

Achim Anscheidt, Bugatti Design Director, said: "We know the W16 Mistral will always have significance in the story of Bugatti, marking the last time that perhaps the greatest ever automotive powertrain is used in a roadgoing production car. We, as a design team, felt enormous pressure to deliver styling that immediately conveyed this landmark moment, drawing inspiration from some of the most beautiful roadsters in Bugatti history."

Their muse would be the 1934 Bugatti Type 57 Roadster Grand Raid, a sporting roadster that represents the pinnacle of elegant design. Marked out by its dual aerodynamic headrests, flowing backwards into the bodywork, and a cut down V-shaped windscreen, this particular Grand Raid — on display at the Louwman Museum in Den Haag — is effortlessly sophisticated with an understated sportiness. Finished in a duo-tone black and yellow livery, it would provide the perfect inspiration for this watershed moment in the Bugatti story.

The W16 Mistral debuts in colors inspired by the Bugatti Type 57 Roadster Grand Raid; a warm black with hints of truffle brown and subtle yellow accents throughout. Not only is it an homage to the iconic coachbuilt body, but also to Ettore Bugatti, who chose the black and yellow combination for many of his personal cars, including his Type 41 Royale. To enthusiasts of the brand, it is a timeless visual pairing.

The W16 Mistral captures the essence of the Grand Raid's V-shaped windscreen and evolves it into a modern-day work of art. A curving windscreen that seemingly wraps around the A-pillars, blending seamlessly into the side windows and creating a 'visor' effect that hints at the motorsport levels of performance W16 Mistral offers. The windscreen itself is a marvel of engineering, curved just enough to create the rounded visor design, without distorting the driver's vision.

The top line of the windscreen and side windows flows purposefully around the side air intakes. This character line then flows back underneath the side glass to shoot through all the way to the front horseshoe grill creating a new three-dimensional character for the famous Bugatti C-line introduced on Chiron. To keep the body side section slim, but also allow for optimum airflow to the W16, the oil cooler intakes on the side were deliberately separated from the engine air intakes, which now sit on the roof, just behind the occupants. The two-new roof-mounted engine air scoops are a nod to the Type 57 Roadster Grand Raid, as well as the first open top Bugatti of the modern era: the Veyron 16.4 Grand Sport. Tighter, more powerful and appearing to leap forwards, W16 Mistral exhibits an entirely different character.

Anscheidt continues: "To reflect the W16 Mistral's new character, we also totally reinvented its frontal appearance, in line with the vertical layout of our unique or few-off models like Divo<sup>4</sup> and La Voiture Noire<sup>5</sup>. It's immediately imbued with a sense of exclusivity; the vertically stacked headlights are completely bespoke and the famous horseshoe grille is reimaged to be much more three-dimensional; both deeper and wider. At the rear, we challenged ourselves to create

a striking but also more elegant iteration of Bolide's<sup>6</sup> X-theme taillight motif, which forever left its mark on the world of automotive design."

To design a car like the W16 Mistral requires careful practice of Bugatti's 'Form Follows Performance' design mantra, with each component penned not just to set new standards for beauty, but to also play a role in achieving completely new levels of performance.

Frank Heyl, Bugatti Deputy Design Director, said: "The headlights themselves are intricately shaped, incorporating a four-light signature that subtly nods to the W16 Mistral's four-wheel-drive and four turbochargers. But their three-dimensional surface also functions as an aerodynamic aid that funnels air through the light and out through the wheel arch to improve aerodynamic drag. The wider horseshoe grille allows the high temperature engine radiator to be fully fed purely from one intake, leaving the two side intakes to focus only on providing air to the intercoolers.

"The X-taillight, meanwhile, serves the function of venting the side oil coolers through ducts connecting the triangular negative space in between the X beams to the side radiators. Therefore, a pressure drop is created between the side intakes and the outlets at the back of the W16 Mistral which helps to manage the mid-temperature cooling circuit of the mighty W16 most effectively."

But the functional design highlights don't end there. The new ram induction air scoops behind the headrests were developed from the very beginning with stringent rollover tests in mind, so each is made from a bespoke carbon fiber structure that can support the whole weight of the car in case of a roll over. This new intake layout also enriches the driver's W16 experience, emphasizing the orchestra between the low down, mighty, rumbling 8-liter displacement intake noise at throttle on and the blow off valve whistle from the four turbo chargers at throttle lift. It is an unmatched aural sensation in the automotive world.

To develop incomparable levels of elegance and excitement, the W16 Mistral features the very latest engineering innovations. Bugatti's advanced composite materials are paired with cutting-edge titanium and aluminum 3D-printing to ensure striking design, ultimate performance and robust reliability. A detailed analysis of the W16 Mistral's dynamic stiffness allowed engineers to develop lightweight solutions that would ensure optimum handling and performance under the most extreme conditions.

The W16 Mistral's interior takes its lead from Chiron, carefully honed to deliver an experience that's both elegant and luxurious, but also functional enough to ensure all information is easily visible at up to 420 km/h. The dedication to material quality remains a hallmark of Bugatti design; advanced, lightweight titanium, aluminum components milled from a solid block and soft, blemish-free leathers. But in this swansong to the W16, there are also brand new design flourishes.

There is an intricate woven leather used on newly designed door panels, meticulously tested and produced to Bugatti quality standards with a vision of regular use over a hundred years into the future. And in a nod to the W16 Mistral's illustrious forebears, the gear shifter — machined from a solid block of aluminum — features a touch of wood and an amber insert with Rembrandt Bugatti's famous 'dancing elephant' sculpture locked within. Iterations of this sculpture adorned the bonnet of the legendary Type 41 Royale; the most luxurious roadster ever created.

Underneath the gargantuan side opening hood of the Royale was an ambitious 12.7-liter straight-eight engine, the likes of which the world had never seen before. And the W16 Mistral's engine is equally ambitious — the only W16 powertrain in automotive use today.

When Bugatti's last roadster, the Veyron 16.4 Grand Sport Vitesse set a world speed record of 254.04 mph (408.84 km/h) in 2013, its 8.0-liter quad-turbo W16 had 1,200 PS. The W16 Mistral has 1,600 PS, making use of the same power unit that propelled the Chiron Super Sport 300+ to a world-record-breaking speed of 304.773 mph in 2019. There can only be one goal in mind: to become the fastest roadster in the world once more.

Mate Rimac, Bugatti Rimac CEO, said: "The union of a roadster format and our W16 powertrain is absolute perfection. With the roof removed, and a pair of large air intakes directly behind your head feeding around 70,000 liters of air through the engine every minute at full bore, driving the W16 Mistral connects you to the intricate workings of this revolutionary powertrain like no other Bugatti to date.

"What we also continue with W16 Mistral is a legacy of Bugatti roadsters, each of them incomparable in design, performance and rarity, which stretches right back to the genesis of Bugatti. The Type 40, Type 41 Royale, Type 55 Roadster, Type 57 Roadster Grand Raid that inspired this car, or even the incredible elegance of the Type 57SC Corsica Roadster — Bugatti has always been associated with the purity of open top driving. So even though the legacy of the roadgoing W16 ends with the W16 Mistral, we continue the legacy of the roadster, first established by Ettore Bugatti more than a century ago."

Only 99 examples of the W16 Mistral will be built, priced at 5 million euros net, with deliveries due to begin in 2024. The entire production run of W16 Mistral is already sold out.

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<sup>1</sup>W16 Mistral: WLTP fuel consumption, l/100 km: low phase 40.7 / medium phase 21.9 / high phase 18.3 / extra high phase 17.6 / combined 21.8; CO2 emissions combined, g/km: 495; efficiency class: G