

# PANIGALE V4 R





## The sound of Excellence

The Panigale V4 R brings the performance, technology and prestige of the Ducati World Superbike Team to the road. The letter "R" has always been used to signal those models constructed using the same technologies as Ducati race bikes. With 221 HP and weighing in at 193 kg, the V4 R offers the best weight/power ratio among 1000 cc super sports bikes: 0.87 kg/HP, or rather 1.15 HP driving every kg of the bike at maximum power, for impressive acceleration. The Ducati V4 R engine is born to race: 4 cylinders on two 90° V-shaped banks, Desmodromic and with a single counter-rotating transverse crankshaft. Exceptional figures, which become even more surprising with the mounting of the Ducati Performance full-racing exhaust by Akrapovič (available as an accessory), which brings maximum power to 234 HP (174 kW) at 15,500 rpm. The Desmosedici Stradale R engine stands out for its 998 cc size, in order to fall within Superbike regulation limits, and its small, lightweight dry clutch that replaces the wet of the Panigale V4. Developed in synergy with Ducati Corse, the racing soul of the Panigale V4 R is clear to see, from its aerodynamic design to the chassis complete with Öhlins componentry, from its performance to the sound of the Desmosedici Stradale R engine.



Discover the Panigale V4 R

## First-rate performance



The 90° V4 engine of the Panigale V4 R can deliver 221 HP (162 kW) at 15,250 rpm and maximum torque of 112 Nm at 11,500 rpm with the limiter set at 16,000 rpm (16,500 rpm in sixth gear). The Desmosedici Stradale R derives from the 1103 cc V4 of the Panigale V4 but a number of significant technical modifications have brought its performance closer to that of engines used by Ducati in MotoGP and SBK.

The use of lightweight components and typical racing solutions have boosted maximum power and torque, despite the engine size having been reduced by 105 cc. The exceptional performance of this road-going engine,

the most powerful ever built by Ducati, defines the unique character of the Desmosedici Stradale R. It is a true racing engine, with fierce engine torque delivery and an instantaneous response upon twisting the throttle. To reduce the engine size while retaining the same maximum bore as the 1103 cc engine (81 mm), the stroke has been reduced (from 53.5 to 48.4 mm), thanks to a new forged steel crankshaft that is 1100 grams lighter.

Also new are the moulded aluminium pistons with single compression ring plus oil ring, as well as the four titanium piston rods that make for a weight saving of 100 g each. The dedicated profiles of the Desmodromic system's



four camshafts make for greater lift of the valves (the intake valves are in titanium), which are equipped with titanium half-cones, a solution only seen on race engines.

The heads too are new, the larger intake ducts the result of a dedicated fluid-dynamics study. The Desmosedici Stradale R breathes thanks to four new oval throttle bodies complete with butterfly valves, aerodynamic in profile, the equivalent diameter of which has been increased by 4 mm (56 mm in total), connected to air horns of variable height in order to optimise cylinder intake at any engine speed. The intake system also incorporates a

high permeability air filter. The unique firing order of the Ducati V4, known as Twin Pulse, remains unchanged, to guarantee the Panigale V4 R excellent "mechanical" traction when accelerating out of the turn, similar to that of the MotoGP Desmosedici, with which it shares the unmistakable exhaust "sound".

Like the MotoGP engines, where the only thing that counts is maximum performance, the Panigale V4 R engine also adopts a dry clutch. The V4 R mounts a STM EVO-SBK clutch with billet aluminium basket, **with 9 drive plates and 9 friction driving plates**, 138 mm in diameter.



With respect to a wet clutch with the same characteristics, the dry clutch is more compact and lightweight, has a smaller external diameter and can use springs to lock the more pliable discs. It therefore allows for reduced engine width in correspondence with the clutch side crankcase and a reduction in the clutch group's moment of inertia.

A light clutch that is smaller in diameter means less resistance when varying its speed and, being "dry", it is not subject to the brake-effect generated by the lubricant (in which the wet clutch is immersed and turns), thus improving bike acceleration. In terms of track use, where the slightest details make a big difference, the small, lightweight dry clutch also has a positive effect on bike handling, with less forces resulting from the gyroscopic effect. In addition, it ensures a more effective anti-wheelie action even during aggressive shifting and increased engine fluidity during all off-throttle phases, through certain turns for example.

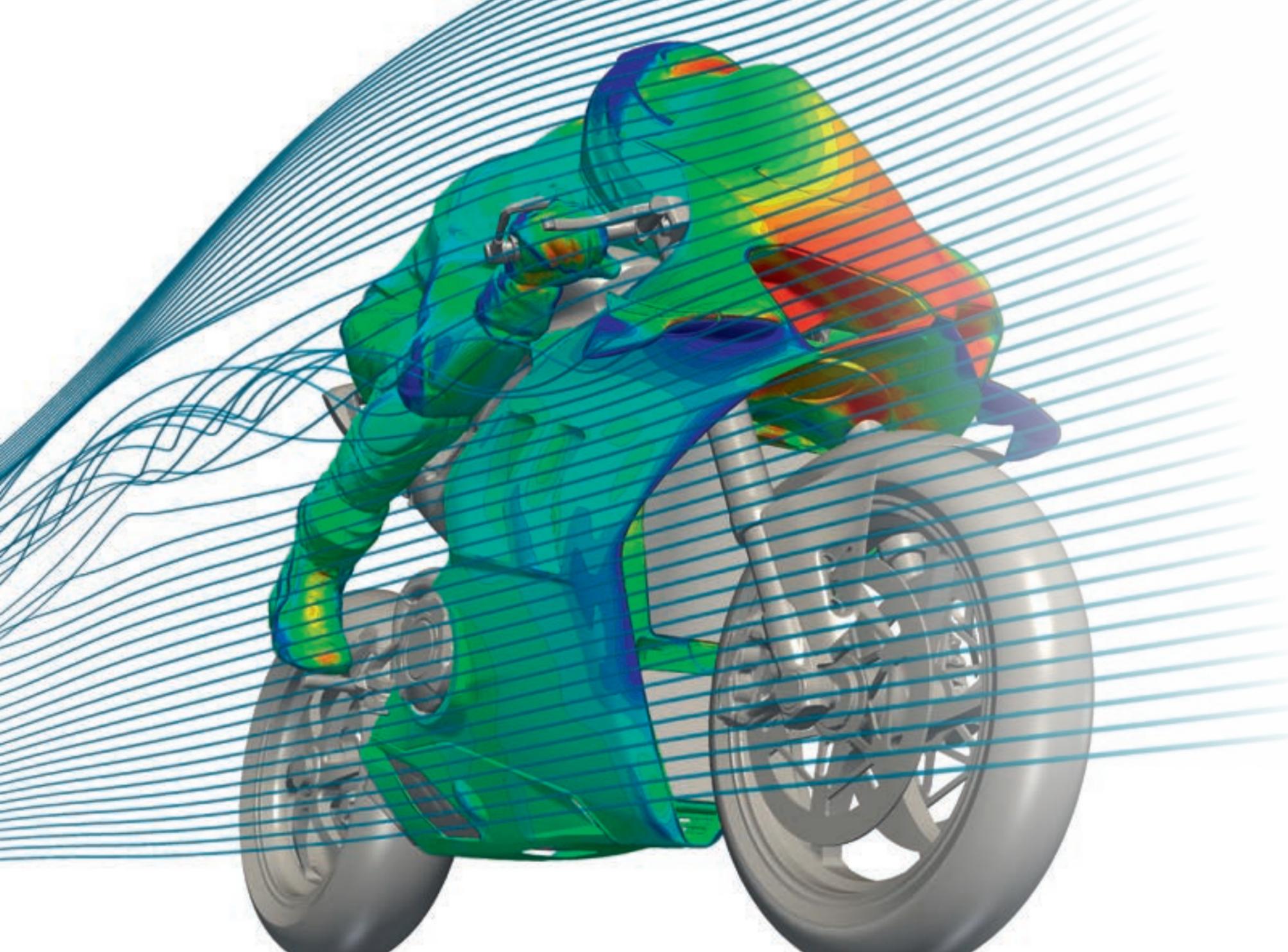
Added to this is the possibility to personalise the degree of "mechanical" engine braking by choosing between the secondary springs available in the Ducati Performance accessories catalogue. The dust resulting from dry clutch disc wear is not released into the lubrication circuit, another factor that contributes to the 12,000 km or 12-month maintenance interval, and 24,000 km Desmo Service. The "mechanical" sound of the dry clutch, present on Ducati models that have become a part of motorcycle history and from which the Panigale V4 R inherits the craving to use the best available technology, was, and continues to be thrilling music to the ears of the most passionate Ducatisti.



## Chassis at the service of performance

The chassis of the Panigale V4 R has been optimised for racing. The "Front Frame" satisfies stiffness targets set by Ducati Corse thanks to special structural intervention, while the Öhlins suspension is a professional mechanical unit, replacing the semi-active event-based suspension of the Panigale V4 S in light of the specialist track use of the V4 R. The Panigale V4 R mounts the Öhlins NPX 25/30 pressurised fork with 43 mm diameter and and TiN treated stems, and the Öhlins TTX36 shock at the rear. The Öhlins steering damper also does away with electronic adjustment in favour of a mechanical system. With respect to a traditional system, the pressurised system reduces the risk of oil cavitation to a minimum, for better absorption of any unevenness, guaranteeing stability and support during braking which, for the rider, means greater feeling at the front. The chassis modifications are rounded out with a swing-arm pivot that can be positioned according to four levels.

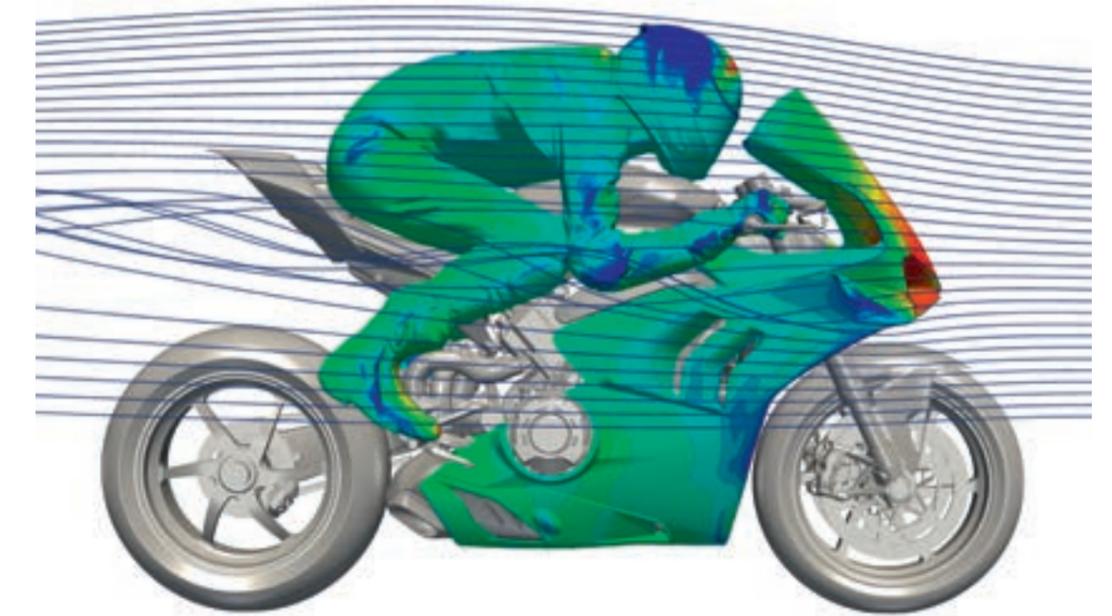




## Racing aerodynamics

The Panigale V4 R stands out for its race-inspired livery with visible aluminium fuel tank, its carbon fibre components and its total black wheels in Marchesini forged aluminium. What really characterises the Panigale V4 R though is its aerodynamics package, developed by Ducati Corse in collaboration with the Ducati Style Centre. This involves a larger and more protective fairing that ensures greater aerodynamic penetration, lateral air extractors that optimise working temperatures during race use, and carbon fibre aerodynamic appendages derived from the GP16.

The aerodynamic appendages, together with the specific design of the fairing, increase vertical load at the wheel (+30 kg overall at the front at 270 km/h) without affecting top speed: greater load means less front wheel "floating" at high speeds and less chance of wheelieing, as well as greater stability during braking, corner entry and through the turn. This dynamic behaviour allows for a faster lap time because it reduces electronic control intervention so that the rider brakes later, heading into the turn.



+30 kg (42%) of vertical load at the front wheel at 270 km/h

- Greater aerodynamic protection
- Greater stability at high speeds
- Greater stability on entering and exiting the turn
- Greater sensitivity at the front wheel
- Less tendency to wheelie
- Less tendency for the front wheel to lock during braking
- No impact on top speed

# MotoGP electronics

The Panigale V4 R is equipped with a latest-generation electronics package that controls all riding phases, based on the use of the 6-axis inertial platform (6D IMU – Inertial Measurement Unit) and revised in terms of its intervention logic, to best suit professional riders. The electronic control package for the Panigale V4 R includes: Cornering ABS EVO, Ducati Traction Control (DTC) EVO 2 with a new MotoGP-derived algorithm, Ducati Slide Control (DSC), Ducati Wheelie Control (DWC) EVO, Ducati Power Launch (DPL), Ducati Quick Shift up/down (DQS) EVO 2, Engine Brake Control EVO (EBC) EVO.

The Ducati Traction Control (DTC) EVO 2 methodology significantly improves management of corner exit power thanks to a new “predictive” control strategy. Acting not only on the instantaneous rear spin value, but also on its variation, it intercepts any loss of grip more quickly, also reducing any spikes in slippage to ensure more rapid and regular intervention. All of this translates into heightened vehicle stability on exiting the corner, even when grip levels are less than ideal, as well as greater acceleration and better performance over both a flying lap and long runs.



The Ducati Quick Shift up/down (DQS) EVO 2 reduces upshift times, allowing for more sports-oriented shifting at high load, beyond 10,000 rpm, typical of track use, as well as increasing stability when shifting while accelerating on an angle.

The operating parameters of each control are associated by default with the three Riding Modes of the Panigale V4 R. The electronics package also includes the Pit Limiter (PIT) that, once inserted, automatically limits the speed of the bike along pit lane, the Ducati Lap Timer GPS (DLT GPS), integrated into the dash and offering advanced functions such as the identification and display of intermediate times, and the Ducati Data Analyser+ (DDA+), a telemetry system similar to those used in competition.

# PANIGALE V4R



Engine	Desmosedici Stradale 90° V4, rearward-rotating crankshaft, 4 Desmodromically actuated valves per cylinder, liquid-cooled
Displacement	998 cc
Power*	162kW (221 hp) @15,250 rpm - 174 kW (234 hp) @ 15,500 rpm with full-racing exhaust
Torque*	112 Nm (83 lb-ft) @ 11,500 rpm - 119 Nm (88lb-ft) @ 11,750 rpm with full-racing exhaust

Frame	Aluminum alloy "Front Frame" with modified stiffness
Front suspension	Fully adjustable Ø 43 mm Öhlins NPX25/30 pressurized fork with TiN treatment.
Front tyre	Pirelli Diablo Supercorsa SP 120/70 ZR17
Rear suspension	Fully adjustable Öhlins TTX36 unit. Aluminium single-sided swingarm. Adjustable pivot position +/- 3 mm
Rear tyre	Pirelli Diablo Supercorsa SP 200/60 ZR17
Front brake	2 x Ø 330 mm semi-floating discs, radially mounted Brembo Monobloc Stylema® (M4.30) 4-piston callipers with Cornering ABS EVO
Rear brake	Ø 245 mm disc, 2-piston calliper with Cornering ABS EVO

Dry weight	172 kg (379 lb)
Kerb weight**	193 kg (425 lb)
Seat height	830 mm (32.7 in)
Fuel tank capacity	16 l (4.23 US gal)

**Emissions and consumption\*\*\***  
Standard Euro 4 - Emissions CO<sub>2</sub> 175 g/km - consumptions 7,3 l/100 km

\* US/Canada/Mexico: 153 kW (209 hp) @ 13,250. \*\* The weights in running order are considered with all operating fluids, standard equipment and the fuel tank filled to 90% of its useful capacity (UE regulation no. 168/2013).  
\*\*\* Only for countries where Euro 4 standard applies.



1 Tank in brushed aluminium 2 Fully adjustable Öhlins TTX36 shock 3 Pit Limiter activation key (PIT)

**Standard equipment** Riding Modes, Power Modes, Cornering ABS EVO, Ducati Traction Control (DTC) EVO 2, Ducati Wheelie Control (DWC) EVO, Ducati Slide Control (DSC), Engine Brake Control (EBC) EVO, Auto tyre calibration, Ducati Power Launch (DPL), Ducati Quick Shift (DQS) up/down EVO 2, Full LED headlight with Daytime Running Light (DRL), GPS module, Lap Timer EVO, PIT limiter, Ohlins steering damper, Lithium battery, Rapid control selection, Turn signal auto-off, Marchesini forged aluminium wheels, Carbon heat shield and front mudguard, High-permeability air filter, Ducati Data Analyser+ (DDA+). Ready for: Ducati Multimedia System (DMS), anti-theft system. Additional equipment: Aluminium mirror hole cover, Licence plate removal kit.

# Apparel & accessories



Racing configuration:  
full racing Ducati Performance exhaust by Akrapovič,  
mirror hole covers and set with cover for removing  
number plate holder.

Max power	234 hp
Dry weight	165,5 kg (365 lb)
Power/weight ratio	1.41

**Ducati Corse C4**  
Racing suit  
Available also in the SuMisura  
programme

**Ducati Corse V3**  
Full-face helmet

**Ducati Corse C3**  
Racing boots

**Ducati Corse C3**  
Leather gloves

**Ducati Corse |D |air® C2**  
Racing suit  
Available only in the  
SuMisura programme

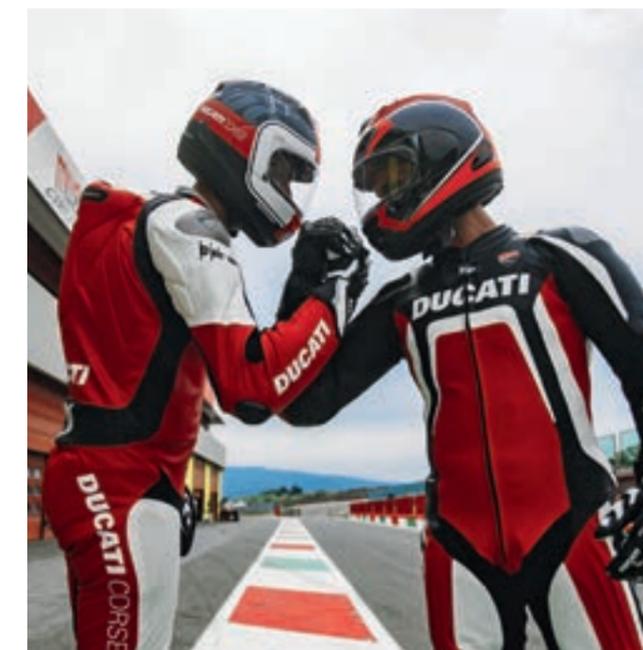
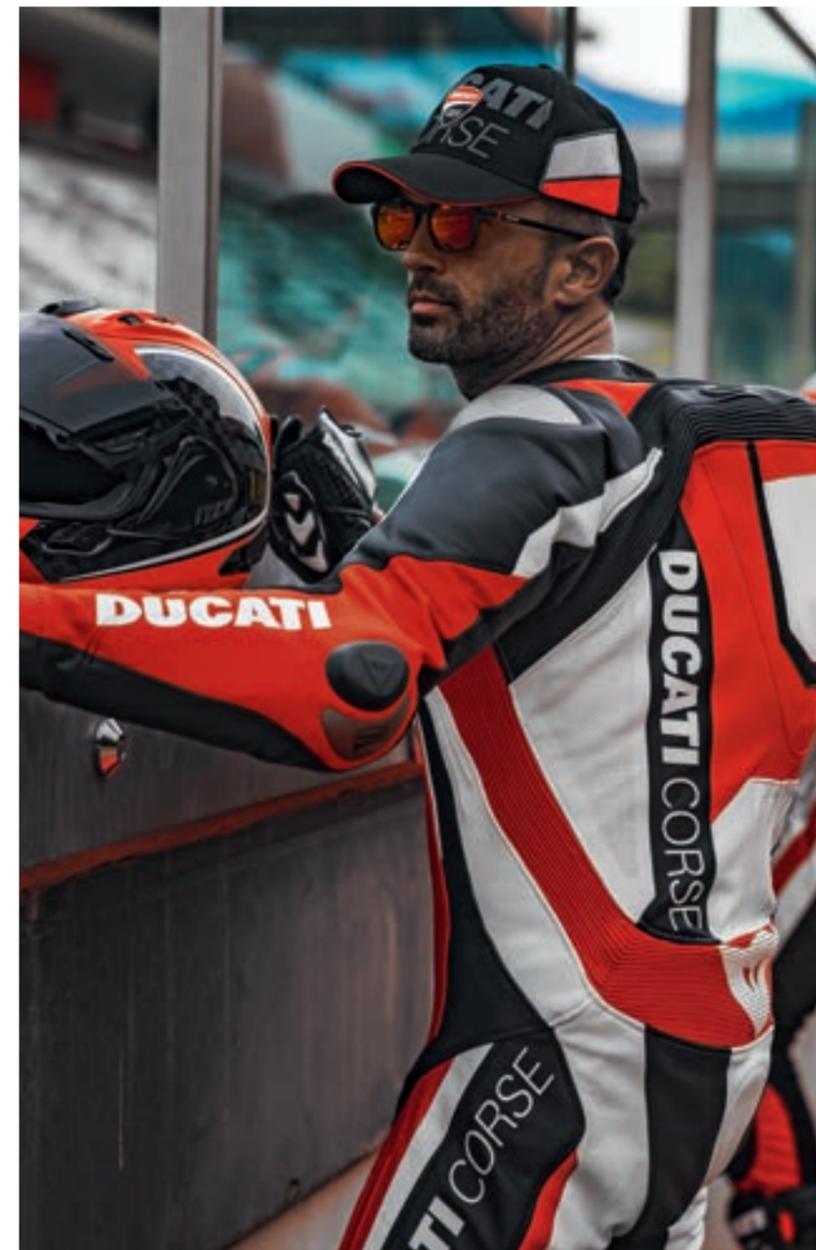
**Ducati Corse Carbon 2**  
Full-face helmet

**Dovizioso**  
Sunglasses

**Ducati Corse Power**  
Cap

**Ducati Corse |D |air® K1**  
Racing suit  
Available only in the  
SuMisura programme

Ducati Apparel Collection designed by  
**Drudi Performance**





Ducati Corse Carbon 2  
Full-face helmet

Ducati Corse |D |air® C2  
Racing suit  
Available only in the  
SuMisura programme

Ducati Corse C3  
Leather gloves



1 Brake lever protection



2 Billet aluminium tank cap



3 Complete titanium exhaust assembly



4 Carbon swingarm guard



## Safety as standard



The continuous work that Ducati carries out in terms of design, research and development serves to ensure cutting edge bikes characterised by maximum active safety levels. A commitment that involves the definition of increasingly advanced technological systems to increase the rider's level of control, such as the Ducati Safety Pack (DSP) that, for Panigale V4 R, includes ABS and Ducati Traction Control (DTC). Equipment that optimises the bike's dynamic performance in both braking and acceleration and that offers numerous levels of adjustment with three different intervention levels for the ABS and eight for the Ducati Traction Control (DTC).

## More value to your passion



### Ever Red Extended Warranty

With Ever Red, the quality and reliability of the Ducati brand remain your inseparable travelling companions over time. Ever Red is the exclusive Ducati warranty extension programme. With its activation you can continue to feel protected for 12 or 24 months beyond the expiration of the Ducati Warranty (24 months). Ever Red includes roadside assistance for the entire coverage period and no mileage limits. In this way you can ride for all the kilometres you want, even abroad, enjoying your Ducati without any worries.

To find out if the Ever Red extension is available in your country and for further information contact your Ducati dealer or visit [ducati.com](http://ducati.com).

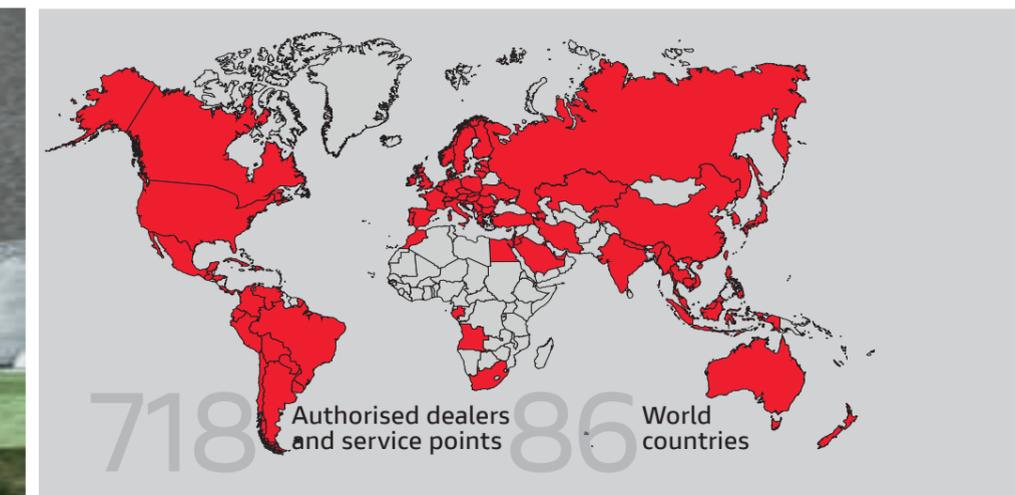
## Endless excitement



In designing each bike, Ducati constantly strives to ensure maximum reliability while reducing service costs. A commitment that has seen the intervals for the main Desmo Service, in which valve clearance is checked and adjusted if necessary, to be extended to 24,000 km for the Panigale V4 R. Even the simplest of checks, such as the Oil Service, are extended to 12,000 km or 12 months. A considerable interval for such high performance engines, which only confirms the high quality standards adopted in terms of material selection and R&D processes. Ducati continuously invests in the technical training of its dealers. The specific skills offered by the official Ducati Service network ensure that all those operations needed to keep every Ducati in perfect condition are thoroughly executed, while advanced equipment such as the Ducati Diagnosis System allows the software on each Ducati to be updated with the latest releases, ensuring that the electronics continue to perform at the maximum level.

\*Equal to 15,000 miles

## Always by your side



One of Ducati's main goals is to offer every Ducatista the chance to enjoy unlimited and safe travel all over the world. To achieve this aim, Ducati offers a "fast delivery" original spares service, with delivery in 24/48 hours across 85% of the areas in which it operates. With a distribution network that covers more than 86 countries, thanks to 718 official Dealers and Service Points\*, choosing a Ducati means you can travel worry free and in total freedom, wherever the road may take you, and count on support from our extensive Dealer network that ensures Ducati quality and professionalism is always close at hand.

\*Information updated as of July 2019

 This product is designed exclusively for race bikes ridden on a closed racetrack. Its use on public roads is forbidden by law.

 For racing use only. The product marked with this symbol can only be used on competition vehicles. Use outside a competition track of motorcycles equipped with this product is prohibited by law. Verify any further restrictions with the relevant race course. Motorcycles equipped with this accessory are prohibited from operating on public roads.

**A** Anodized

 Red

**M** Matt

 Black

**F** Tinted

 Silver

**T** Clear

**PG** Phantom Gray

**SWS** Star White Silk

 This accessory is not approved for road circulation.

**JPN** This accessory cannot be used/sold in Japan.

**OK** Accessory type-approved for road use.

**JPN** Japan.

 Type-approved silencer according to Regulation (EU) No. 168/2013 of 15/01/2013

**EU** European.



ducati.com

Riding a motorcycle is the most exciting way to enjoy the road, and offering the utmost safety to the motorcyclist is Ducati's commitment. Ducati bikes are increasingly easy to handle, reliable and better equipped to guarantee maximum safety and enhance riding pleasure. Technical clothing is made with more and more advanced materials for adequate protection and increased visibility. The safety of motorcyclists is Ducati's commitment. For more information visit the safety section of the Ducati site ([www.ducati.com](http://www.ducati.com)).

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Actual fuel consumption may vary based on many factors, including but not limited to riding style, maintenance performed, weather conditions, surface characteristics, tyre pressure, load, weight of the rider and the passenger, accessories.

Ducati indicates the dry weight of the motorcycle excluding battery, lubricants and coolants for liquid-cooled models. The weights in running order are considered with all operating fluids, standard equipment and the fuel tank filled to 90% of its useful capacity (UE regulation no. 168/2013). For more information visit [www.ducati.com](http://www.ducati.com). November 2019.

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