



CARBON DISCS, NEW GP4 CALIPER AND MASTER CYLINDER: ALL BREMBO BRAKES TRENDS FOR THE 2020 MOTOGP WORLD CHAMPIONSHIP

Brembo brakes for all 2020 MotoGP riders, but each with a personalized approach. Important presence also in Moto2, Moto3 and MotoE.

Stezzano, 13th July 2020 - Brembo will supply for the fifth consecutive season all 22 MotoGP riders, that will start for the 19th season.

All 11 teams have decided again to choose the high performance, reliability and safety guaranteed by Brembo components: brake calipers, discs, brake master cylinders, friction master cylinders and pads.

Since the MotoGP class was introduced in 2002, all the 315 races have been won by bikes equipped with Brembo brakes. However, **Brembo's winning in the Championship dates back to 1995**, since that year all the races have been won by bikes equipped with its brakes. Besides, from 1978 to 2001, 185 additional races have been won by bikes with Brembo brakes in the 500 Class. This makes **the total of 500 victories in over 40 years of presence in the top level of motorcycle racing**. Brembo can also boast **31 MotoGP Riders World Championships and 32 Constructors World Championships**, won with the top MotoGP teams.

For 2020 season, **a wide range of technical solutions** will allow Brembo to guarantee each one of them the possibility to customize the braking system based on driving style, track features and race strategy, best combining the characteristics of the braking system components.

Brembo engineers, who work closely with the teams, expect the **braking torque to increase by 10% compared to last season**, with the introduction of the new caliper, numerous options related to brake discs, brake master cylinders and wheels. The 2020 MotoGP Championship will therefore be characterized by important innovations concerning the braking systems.

The new GP4 caliper

The 2020 MotoGP Championship will feature important innovations related to the braking system: after the Valencia test in 2019 and those in February in Sepang, will be **the official introduction of the GP4, the new monobloc aluminium caliper machined from a solid, with radial attachment to 4 pistons**. This caliper is distinguished from that used until last season thanks to an **extreme design that incorporates some of the stylistic features** recently used also on motorcycle calipers for road application and that introduces an **innovative technical solution: the new fins on the external body of the caliper**. A solution that ensures better and faster cooling of the caliper itself and, consequently, of the entire braking system. At the same time, the amount of fluid inside the brake system has been reduced, this will allow greater constancy and a decrease in the sponginess of the lever.

8 solutions of carbon brake discs

The majority of riders should choose **discs with a diameter of 340 mm**, dividing between **High Mass and Standard (low mass)**. Some teams instead, will continue to use Standard and High Mass discs with **320 mm diameter**.

Furthermore, for each format of brake disc and pad, two different carbon compounds are available differing for initial brake bite and resistance to high temperatures.

Overall, **riders have 8 different options available when choosing brake discs**: 4 disc geometries and each disc geometry has 2 material specifications (High Mass and Standard Mass).

Carbon ensures a triple advantage: a reduction of unsprung mass, an identical friction coefficient from the start to the finish line and an absence of residual torque issues that can come from the use of steel discs.

Focus on the braking's feeling

The types of brake master cylinders available for the teams differ in terms of wheelbase, in order to adapt both the race and the "reactivity" of the control as a function of the rider's feeling. In addition, each motorcycle features the **remote adjuster**, used by the rider's left hand to vary the position of the brake lever even while lapping the circuit.



According to Brembo, **more than one-third of MotoGP riders**, regularly use **the thumb master cylinder**. This technical solution, introduced by Brembo in the 90's to support Mick Doohan, allows the activation of the rear brake by pressing a special lever placed on the left semi-handlebar and actuated by the riders thumb.

Two variants of the thumb master cylinder systems are in use for the 2020 season: the most widespread features a **unique circuit of thumb master cylinder and pedal**, using a rear two-piston caliper. Instead, the alternative, features **two separate circuits**, each of which acts on two of the four pistons of the rear caliper. In the first option a system excludes the other, in the second they can act simultaneously.

Starting from 2019, the teams can also use **a variant of the classic thumb pump**, which is called **push & pull pump**. This new design is optimized to guarantee the maximum efficiency, it has a dual function and **can be operated both by the thumb or index**, depending on the rider's preference. The use of this pump with the index requires it to be mounted on the lever with a rotation of 180° compared to the use of the thumb: this increases the modulation and the grip on the lever during deceleration.

Marchesini wheels

Once again, in 2020 Marchesini forged magnesium wheels will be used by the majority of the riders competing in MotoGP, with **7 teams out of 11**. Marchesini wheels are at **Y 5-spoke or 7-spoke for the front** and at **7-spoke for the rear**. Marchesini wheels, a brand of Brembo Group, ensure weight savings for the motorcycles, favouring acceleration and handling while changing direction and during the most critical phases: in entry curve with pulled brakes, in cornering at high rolling angles (up to 60°) and in curve exit with open gas inclined motorbike.

Brembo supplies also Moto2 and Moto3

Brembo's commitment to the other two World Championships represents a further considerable effort: the company supplies about **100% of the 15 Moto2 and 16 Moto3 teams with calipers, 50% with steel discs, 75% with pads, 90% with master cylinders and just under 50% with Marchesini wheels**.

Leader of the electric

Brembo confirms its commitment in the **Fim MotoE World Cup**, the competition reserved to full electric two-wheelers. The company is the **sole supplier of the entire brake system** of the Energica Motor Company's 18 Ego Corsa, equipped with 336mm T-Drive steel discs, 4-piston monobloc aluminum calipers, radial pump and Z04 pads. **The Marchesini 7-spoke forged aluminum** rims complete Brembo's configuration for the electric motorcycles.

Brembo SpA

Brembo SpA is the world leader and acknowledged innovator of disc brake technology for automotive vehicles. Brembo supplies high performance brake systems for the most important manufacturers of cars, commercial vehicles and motorbikes worldwide, as well as clutches and other components for racing. Brembo is also a leader in the racing sector and has won more than 400 championships. Today the company operates in 14 countries on 3 continents, with 24 production and business sites, and a pool of over 10,800 employees, about 10% of whom are engineers and product specialists active in the R&D. 2019 turnover is € 2,591.7 million (12.31.2019). Brembo is the owner of the Brembo, Breco, AP, Bybre, and Marchesini brands and operates through the AP Racing brand.

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