

DISCS, CALIPERS AND MASTER CYLINDERS: LET'S FIND OUT THE DETAILS OF BREMBO BRAKING SYSTEMS FOR MOTOGP, MOTO2 AND MOTO3

For the eighth season running, Brembo will supply all MotoGP riders, each with a customized offer. New caliper in Moto2, new solutions in Moto3

Stezzano (Italy), 21 March, 2023 – Thanks to the experience accumulated in 47 world championships in the premier class (MotoGP and 500) during which bikes with Brembo brakes have won 34 World Rider Championships, 35 World Constructor Championships and won more than 500 GPs with leading teams, **Brembo will supply customized braking systems in 2023 to all 22 riders taking part in the forthcoming 22nd MotoGP Championship**, a class introduced in 2002 to replace the prestigious 500.

The 11 teams have decided once again to rely on the high performance, reliability and safety guaranteed by Brembo parts. These include brake calipers, carbon discs, brake master cylinders, clutch pumps and pads.

For the 2023 season, Brembo's wide range of technical solutions will allow each rider to customise the braking system to best suit their individual riding style, the track and race strategy.

Brembo braking system in MotoGP: facts and technical details

All the riders in the grid will use the **GP4, the 4-piston caliper dedicated to the MotoGP championship launched in 2020**. This monobloc aluminum caliper is machined from a solid piece of aluminium and features a radial attachment and four. The GP4 design includes external fins as well as other innovative features, which combine to create a caliper with an anti-drag system designed to increase torque during braking.

It works by generating a force which supplements that created by the hydraulic pressure of the brake fluid on the pistons. This means the rider gets greater benefit from applying the same pressure to the brake lever.

Meanwhile, a spring device on the anti-drag system reduces the residual torque and stops the pads and discs coming into contact with each other, which result in the bike slowing down.

Regarding discs instead, **Brembo provides teams with a wide range of carbon brake discs: five different diameters with each available in two High Mass and Standard material specifications, for a total of ten solutions.**

The majority of riders are expected to go for 340 mm diameter discs, split between High and Standard Mass. However, some teams will continue to use both types of 320 mm diameter discs.

The range also boasts the two ventilated disc options that have a diameter of **340 mm and 355 mm, respectively, deserve special attention: the latter is the most recent**

innovation introduced at Brembo starting with the 2022 championship. These are two solutions designed specifically for bikes on circuits that are very tough on braking system, such as Spielberg, Motegi, Sepang or Buriram.

The thickness of the discs, regardless of diameter, is 8mm, while the weight varies between 1kg and 1.4kg depending on the diameter and specification used.

Overall, between front wheel and rear wheel, **the MotoGP braking system weighs about 5.5kg.**

The operating temperature of the carbon disc must be between 250° and 850°.

Brembo points out that carbon provides a triple advantage: a reduction in unsprung mass, a constant friction coefficient from start to finish, and an absence of the residual torque issues that can be associated with steel discs.

Brembo's participation in Moto2 and Moto3 confirmed with its SBS Friction and J.Juan brands

After the tests held in Portimao, **Brembo confirms its presence as a leader of braking systems also in the minor categories of MotoGP.**

The Bergamo-based company will supply 100% of the teams with calipers, about 50% steel discs, 80% with Brembo pads, 90% with Brembo master cylinders and just under 30% with Marchesini wheels to the 15 Moto2 and 14 Moto3 teams that will compete in 2023.

For the Moto2 championship, Brembo presents the new four-piston finned caliper, with design and technology derived from MotoGP and which, together with the two-piston Moto3 caliper - also finned - presented in the 2021 championship, completes and renews the family of finned calipers for the three competitions. As for **discs, in both Moto2 and Moto3 teams** will have a dual choice depending on the strictness of the circuit: finned steel disc or standard, with an operating temperature that must remain between 100° and 650° in both classes.

The Moto3 disc is about 0.5kg, while the Moto2 disc weighs 1.3kg, almost three times as much then as the smaller series disc.

Overall, between front wheel and rear wheel, the Moto2 braking system weighs about 6kg while the Moto3 braking system is closer to 4.5kg.

SBS Friction and J.Juan, the two brands that have been part of the Brembo Group since 2021, are also supplying some of the Moto2 and Moto3 teams. Specifically, SBS Friction is a leader in developing, producing and distributing aftermarket brake pads and friction materials for motorcycles, scooters, ATV/UTVs, cars and industrial applications, while J.Juan is a leader in developing and producing metal-braided brake hose and brake system components for the motorcycle industry.

Marchesini wheels

For the 2023 season, **8 out of 11 teams are using Marchesini-forged magnesium wheels.** Marchesini wheels have either Y 5 or 7 spokes for the front and 7 spokes for the rear. Wheels from Marchesini, part of the Brembo Group, are lighter which brings advantages when accelerating, changing direction and – most critically – when entering a bend and applying the brakes, taking corners at high roll angles (up to 60°) and when exiting a bend on full throttle, when the bike is tilted.

About Brembo SpA

Brembo leads the world in the design and production of high-performance braking systems and components for top-flight manufacturers of cars, motorbikes and commercial vehicles. Founded in 1961 in Italy, Brembo has a long-standing reputation for providing innovative solutions for OEMs and aftermarket. Brembo also competes in the most challenging motorsport championships in the world and has won over 600 titles.

Guided by its strategic vision – “Turning Energy into Inspiration” – Brembo’s ambition is to help shape the future of mobility through cutting-edge, digital and sustainable solutions.

With about 15,000 people across 15 countries, 30 production and business sites, 8 R&D centers and with a turnover of € 3,629 million in 2022, Brembo is the trusted solution provider for everyone who demands the best driving experience.

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