



## IMPROVED VENTILATION FOR BREMBO BRAKE DISCS

**Lighter weight, greater resistance to thermal cracking and less brake pad wear are the benefits of the new design for the brake disc ventilation chamber**

Brembo introduces the latest addition to its family of pillar venting technologies, employing pillars that dramatically improve the cooling performance of the system. Even though they don't reach the 1200° Celsius of a Formula 1 car, the braking systems on street cars can also overheat – a drawback potentially causing thermal cracks to appear on the surface of the disc.

The new ventilation system is characterised by a pillar structure designed specifically for each individual system. The pillars are arranged in three bands on the braking platform. They increase resistance to thermal cracking by up to 30%, guaranteeing a longer disc lifespan. There is a different pillar structure on every band of the disc, designed to achieve the optimum benefit from the dynamic flow of air.

The improved air flow also contributes to a drop in operational temperature of up to 30%, ensuring a longer life for the brake pads.

Another important advantage is a reduction in the weight of the disc, which can be up to 10%. This decreases both fuel consumption and emissions of pollutants and, most importantly, the reduction in unsprung weight increases performance, driving comfort and handling.

This new ventilation system is the result of two years of dedicated research by Brembo at its Kilometro Rosso site, where it has been tailored to the specific needs of individual braking systems.

For a quarter of a century Brembo has concentrated its research on the shape of the ventilation chamber. One of the first results was the development of the PVT (Pillar Venting Technology) ventilation system in the mid-1980s, which was initially applied to the Lancia Thema. For this the traditional lugs were replaced by a series of pillars to improve both the safety of the system and the life of the disc.

To satisfy the growing number of requests from the market, in 2004 Brembo designed and patented the T Pillar, primarily for use on Iveco heavy-weight vehicles. As the name suggests, the outer pillars are characterised by their T-shape and have proved to be particularly effective on heavy-weight commercial and industrial vehicles.

In 2010, Brembo innovated further with the introduction of Star Pillar ventilation which employs star-shaped pillars to disperse the heat better, once again reducing the risk of thermal shock of the disc and guaranteeing longer pad life.

The new ventilation system presented by Brembo today represents a further significant step in the evolution of brake disc ventilation – all in the interest of enhanced safety.

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