



Innovation in refrigeration

The innovative refrigeration compressor BD Nano: reduced dimensions with maximum quietness and minimal energy consumption

Words editorial staff

Secop is a leading refrigeration compressor manufacturer specializing in DC solutions for battery-driven mobility, such as recreational vehicles (RVs), trucks, buses, boats, and medical applications such as vaccine transport. Since the 1970s, Secop has developed high-performance, reliable, and energy-efficient products for mobile cooling applications. Recently, a new DC compressor, the BD Nano, was launched to market. It is compact, quiet, and efficient, ideal for all mobility-related applications and refrigerators installed in electric vehicles.

We talked about it with Davide Cattana, Business Area Head Mobile Cooling, and Davide Frassati, Marketing and Business Development at Secop.

Aboutcamp BtoB – Can you briefly tell us about the company’s history and its commitment to this sector?

Davide Cattana – Secop is a historical brand in the refrigeration sector for storage and transportation solutions. Since 2000, we have been leaders in cooling solutions for recreational ve-

hicles, passenger cars, trucks, buses, boats, and portable boxes. Our compressors stand out for their high quality, proven performance, and premium durability and reliability. Secop compressors are specifically designed for mobile applications, not just adapted for this segment. Our commitment has always been to understand the usage of specific applications and support our customers’ needs.

Aboutcamp BtoB – The BD Nano is described as an innovative solution for RV refrigerators. What are the main technical features?

Davide Frassati – The BD Nano is compact and, at the same time, the most powerful compressor in its category. It has a height of 93 millimeters and a weight of 1.5 kg. It represents a 35% reduction in height and a 67% reduction in weight compared to its predecessor, which is still widely used in refrigerators and has been a market benchmark

for a long time. Despite the compact size, refrigerators equipped with the BD Nano compressor can achieve remarkable performance, such as a cooling capacity of up to 68 W and an efficiency of 1.54 W/W (ASHRAE LBP), which means low power consumption to preserve battery charge. The RV version is optimized for isobutane R600a, a natural refrigerant with a sustainable green solution with a low GWP (Global Warming Potential) and no environmental impact. The BD Nano guarantees low running noise and is specifically designed for automotive applications, which means silent refrigerators. It combines all the know-how from years of experience to provide such premium performance in a robust and reliable solution, and it is produced in a state-of-the-art manufacturing plant that can guarantee the highest automotive standards.

Aboutcamp BtoB – Why is the BD Nano considered the ideal choice for campers and caravans?

Davide Cattana – Refrigerator manufacturers gain design flexibility by hav-



Davide Cattana



Davide Frassati



ing more internal space for food and beverages. Reduced weight positively impacts the overall weight of the fitted vehicle. Moreover, the high efficiency helps battery consumption in stationary conditions, and the low noise eliminates the need for noise reduction solutions to ensure cabin comfort. Compared to absorption or three-way refrigerators, the BD Nano piston compressor offers premium cooling speed, which, according to several independent tests and reports, can reach a temperature below of 5°C in the fridge compartment in less than two hours. It's a game-changer for end users who previously had to wait up to 12 hours to reach this target temperature range in the fridge.

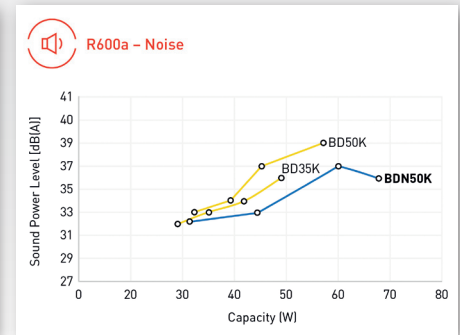
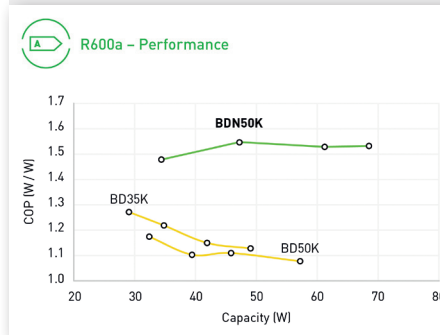
Aboutcamp BtoB – What are the other advantages of using a compressor fridge?

Daide Frassati – A refrigerator with the BD Nano can preserve food better and allows for the proper storage of medicines, not just food. And when it comes to vacations, a fridge that cools effectively lets users enjoy moments with fresh drinks. Other aspects relate to the management of the camper or caravan: with a compressor fridge, there's no need to worry about the position of the refrigerator, whether it is in the sun or shade, whereas with a three-way fridge, it's better to avoid exposing the cooling side to sunlight to prevent overheating. Additionally, three-way fridges are sensitive to vehicle inclination, a problem that doesn't exist with compressor fridges.

Aboutcamp BtoB – Energy efficiency has always been a key topic. How does the BD Nano help reduce energy consumption and extend battery life?

Daide Frassati – Thanks to an inno-

BD Nano vs. previous BD-P and BD Micro



novative design and advanced technologies used in its development, the BD Nano can cool the fridge quickly while consuming less energy. The BD Nano's efficiency allows users to extend battery life, reducing the need for frequent recharging and making increasingly common systems, such as photovoltaic panels, sufficient for several days of autonomy. The compressor was tested in a customer's fridge under real conditions, with food and drinks inside. The average current consumption measured was below 2.6 Amps, even during the initial cooling phase, which lasted less than two hours with a fully loaded fridge. To demonstrate battery autonomy during off-grid camping, the company conducted several tests in real-world conditions. One significant test involved measuring battery consumption over several days with the fridge set to a medium temperature level. The results were impressive, showing less than 40 Ah of consumption to maintain a stable internal temperature in both the main compartment and the freezer, comparable to a home refrigerator.

Aboutcamp BtoB – Reliability is essential for those traveling in campers or caravans. How does Secop ensure the robustness and durability of its compressors?

Daide Cattana – All our compressors are designed and tested to withstand extreme operating conditions. Secop has extensive experience designing premium mobile solutions and a proven track record of millions of reliable installations in automotive applications. We use high-quality materials and cutting-edge manufacturing processes to ensure our products are reliable and durable. The BD Nano is manufactured in an IATF 16949-certified facility, the only globally recognized quality management standard for the automotive supply chain. It also complies with ISO 16750, ensuring resistance to vibrations and increased stability during transport. Our team collaborates directly with customers to integrate our compressors into their systems, offering technical support and training to maximize system performance.

Aboutcamp BtoB – Lastly, a message for refrigerator and RV manufacturers and end users choosing your compressors: why choose Secop?

Daide Cattana – Choosing Secop means relying on a trustworthy partner with decades of experience in mobile cooling solutions, not just a compressor manufacturer. We offer high-quality products specifically designed for automotive and RV installations, and we support our partners in developing premium cooling solutions. We strongly believe in providing innovative solutions and premium support to ensure the fridge installed in the RV is a high-end product that offers the end user a reliable, top-performing experience with a clear focus on sustainability during outdoor trips.

