

Universally applicable, efficient and durable

New EC motor for refrigeration technology

Whether in refrigerated display cases, refrigerated shelves and bottle coolers in the commercial food sector, a motor that operates almost without interruption must be extremely economical, efficient, durable and quiet. The new iQ-one EC motor from ebm-papst meets all these requirements and can also be combined with an aerodynamically optimized fan impeller.

Fans are now indispensable in supermarkets, as compact refrigerated cabinets can only operate with their help. A few years ago, shaded-pole motors were still the standard for driving the fans, as they are economical, robust and durable. However, their poor efficiency levels can no longer be tolerated today.

Easy replacement and efficient fan solution

In addition to the energy-saving fans already established on the market for refrigeration technology, ebm-papst has now developed the new iQ-one EC motor, which enables an output power of up to 5 watts for easy like-for-like replacement of existing Q or shaded-pole motors. Compared to conventional Q motors, it has a high motor efficiency level of 50% and operates at full power with low noise characteristics. It is designed for all typical supply voltages and can therefore be used worldwide. The iQ-one can be combined with different fan impellers of sizes 154, 172 and 200 mm. It is an efficient fan solution for a wide range of applications, especially with the aerodynamically optimized fan impellers in sizes 172 and 200 mm. Particularly in supermarkets, where many fans operate continuously, the potential energy savings are especially high.

Also suitable for natural refrigerants

A further major issue with regard to refrigerated cabinets is the refrigerant used. Modern refrigerants must be safe for the environment and have a low global warming potential, whilst at the same time providing good refrigeration performance. Regulation (EU) 517/2014, also known as the Fluorinated Gas Regulation, has been in force since January 1, 2015. Alongside ammonia and CO₂, natural refrigerants such as isobutane, propane, and propene are becoming increasingly popular as an ecological alternative to (partially) halogenated refrigerants. When malfunctions occur, however, the non-toxic hydrocarbons can form readily explosive mixtures with air. As standard, the new iQ-one EC motor meets the European standards EN 60335-2-24 (household appliance standard - Particular requirements for refrigerating appliances, ice-cream appliances and ice makers) and EN 60335-2-89 (household appliance standard - Particular requirements for commercial refrigerating appliances and ice-makers) in order to provide a safe cooling solution in this sector.

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Image: New iQ-one motor from ebm-papst for use in refrigeration technology (left with aerodynamically optimized fan impellers, right without)

Photo 1 ebm-papst
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About ebm-papst

The ebm-papst Group, a family-run company headquartered in Mulfingen/Germany, is the world's leading manufacturer of fans and drives. Since the technology company was founded in 1963, it has continuously set the global industry standard with its core competences in motor technology, electronics, digitization and aerodynamics. With over 20,000 products in its portfolio, ebm-papst provides the best energy-efficient, intelligent solution for virtually every ventilation or drive-engineering task.

In fiscal year 2020/21, the "hidden champion" generated revenues of € 2.129 billion. The group employs roughly 15,000 people at 29 production sites (in Germany, China and the USA, to name but a few) and in 51 sales offices worldwide. ebm-papst sets the benchmark with their fan and drive solutions which are used in almost all industries, such as ventilation, air conditioning and refrigeration, heating, automotive, information technology, mechanical engineering, household appliances, intralogistics and medical engineering.

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