

Saving Energy in European Supermarkets



BENEFITS

- Saves about €7,600 and 70,000 kWh annually¹
- Payback periods from less than 5 months

APPLICATIONS

- Commercial refrigerators, freezers and refrigerators-freezers

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The logo for Wellington features the word 'Wellington' in a green, serif font. A stylized grey arc above the 'l' suggests a globe or a circular path. A registered trademark symbol (®) is located to the right of the 'n'.

Saving Generation for the Next Generation

Saving Energy in European Supermarkets

High energy prices and supply concerns have become a main focus of environmental, political and economic debates across the European Union.

Supermarkets are the most energy intensive buildings in the commercial sector, and refrigeration is the largest component of supermarkets energy use². Because refrigeration alone accounts for half or more of the store total consumption³, the European Commission has initiated EU-wide legislation to target the vast energy saving potential of supermarkets and grocery stores. The legislation is going to establish energy efficiency requirements for commercial refrigerators and freezers⁴.

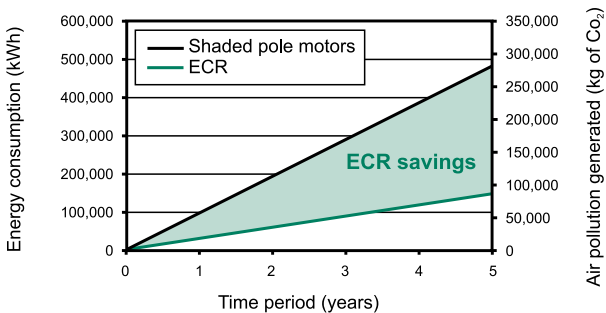
Energy savings

A “typical” European supermarket has about 200 shaded pole motors in commercial refrigerators and freezers running 100% of the time.

The efficiency rate of these motors is in the order of 18%. This means that 82% of their energy consumption is transferred as waste heat to the environment, and has to be removed or cooled down again by the refrigeration and air conditioning system, causing additional consumption of energy.

ECR motors instead have efficiency rates up to 65% that dramatically reduce motor direct energy consumption, and yield additional energy savings by producing minimal waste heat.

“Typical” European supermarket energy consumption. ECR vs shaded pole motors⁵



The ECR series allows supermarkets to significantly reduce their environmental impact, and transition to ecological products while lowering financial costs.

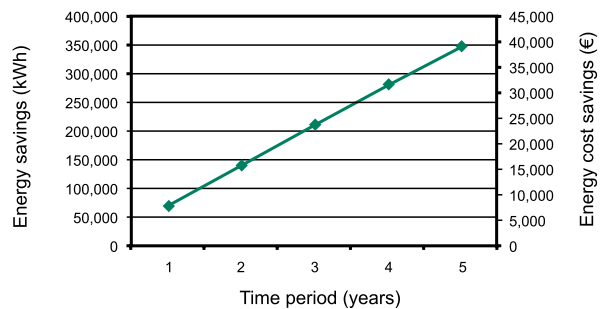
A “typical” European supermarket running ECR motors would reduce carbon emissions by about 230 tons over a five year period: the equivalent of taking 43 cars off the road⁶. For a supermarket chain, this means potentially saving hundreds of thousands of tons of carbon emissions, or taking the equivalent of tens of thousands of cars off the road.

Cost savings

ECR motors reduce the overall cost of energy for European supermarkets not only by reducing energy consumption, but also by providing significant demand charge savings.

In most EU member states, supermarket electricity charges are based on two measures: consumption and demand. Consumption charges are calculated based on how much electricity (kWh) a supermarket consumes in a month. Demand charges are based on peak electricity demand and often represent a significant percentage of a supermarket electricity bill.

“Typical” European supermarket savings with ECR motors⁷



Wellington’s ECR motors and fans were developed as energy saving replacements of shaded pole motors used in commercial refrigerators and freezers.

¹ For a “typical” European supermarket using 200 motors, running 100% of the time, and price of electricity 0.11 €/kWh.

² International Energy Agency (IEA). www.iea.org

³ IEA Annex 26: Advanced Supermarket Refrigeration/Heat Recovery Systems. www.iea.org

⁴ European Commission Directorate-General for Energy and Transport (DG TREN).

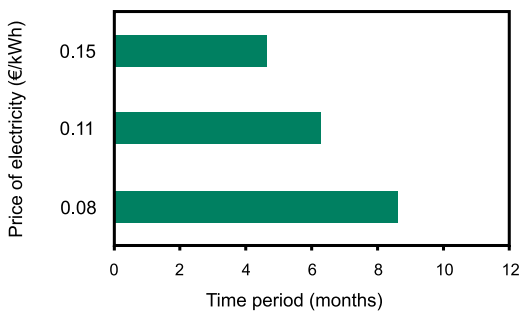
⁵ For a “typical” European supermarket using 200 motors, running 100% of the time.

Payback period

ECR motors and fans have very short payback periods due to:

- high direct motor energy savings
- waste heat savings
- demand charge savings
- low maintenance and service cost

ECR motors payback period⁸



With short payback periods and high energy savings the ECR series allows European supermarkets to lower financial costs while preserving energy.

Product features

ECR motors are electronically commutated (ECM), brushless DC motors. Top quality electronics and design make ECR motors extremely efficient, quiet and reliable.

Extremely low levels of noise and vibration are achieved with our unique low torque ripple motor design. In a supermarket, this means a significantly quieter environment.

Long design life and reliability are the result of Wellington's moisture proof patented design, and allow maintenance and service cost savings.

Drop in replacement of shaded pole motors

Our motors use the same mounting systems as shaded pole motors and are provided with a plug in connection for easy, fast replacement. They also fit the same fan blades and accessories as traditional shaded pole motors. ECR fans are available in all standard sizes and pitches.

ECR standard features make it easy to replace traditional shaded pole motors in new and existing commercial refrigerators and freezers, with no need for costly adjustments.



200 mm axial fan (shaded pole motor)



Drop in replacement



200 mm ECR axial fan

⁶ Energy Star energy savings calculator. www.energystar.gov

⁷ For a "typical" European supermarket using 200 motors, running 100% of the time, and price of electricity 0.11 €/kWh.

⁸ Payback period calculation includes reduced maintenance and service cost.

Wellington has made a strong commitment to providing standard and custom design solutions that will lower your financial costs while preserving key natural resources.

For information about our full line of products and our “Total Integration” custom design service, visit us on our website at www.wdtl.com, or contact a Wellington office near you.

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