
Use Case

Evaporating and condensing units: programmable reliable motors you can count on

Executive summary

ECR[®] 2 motors are programmable and dual voltage. This flexibility enables their use in virtually any system, substantially reducing your maintained SKUs. ECR 2's 99.97% reliability and internal system protection capabilities ensure systems remain operational in the most challenging environments.

Challenges

Today's evaporator and condensing unit manufacturers must operate more efficiently to maximize profitability.

Your customers each require different performance specifications from your products, and this often requires you to stock many different motor SKUs for specific RPMs, voltages, and power ratings. Not only is this expensive but it presents multiple points of failure that could bring production to a halt.

How can manufacturers be both efficient and flexible to offer the maximum value for their customers?



Universal ECR 2 minimizes required SKUs and is programmable



The **ECR 2** is an electronically commutated motor (ECM) that accepts input voltage from 70-264V. It can be factory programmed to three discrete speed settings from 300-1800 RPM in either direction, or with timed operations.

This flexibility allows various 5" to 8" fan blades to operate utilizing a single SKU. Further programming, done either in factory production or in the field via a mobile device, enables many different customizable parameters to meet numerous diverse product requirements.

The ECR 2 "universal" motor capabilities greatly reduce the SKUs that manufacturers must stock.

OEMs that switched to ECR 2 have reported SKU reductions of up to 57:1

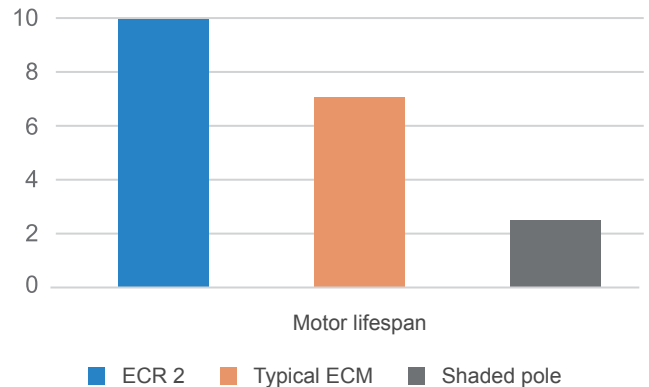
Universal ECR 2 minimizes required SKUs

The ECR 2 is exceptionally quiet with noise levels of 37dBA which is as quiet as your computer's fan. It is also approved for some ATEX applications and offers a food grade rated housing.

AoFrio knows that your brand's reputation depends on the quality and reliability of the products you use. That's why every ECR 2 built has an average lifespan over 300% longer than typical motors. This saves service calls, customer downtime, and protects your hard-earned reputation.

The ECR 2 also has a unique algorithm that protects the refrigeration system and preserves food quality. While most motors stop during overload conditions, ECR 2 motors continue operation by automatically reducing speed so airflow circulates within the refrigeration system. This reduces the chance of equipment damage, improves temperature control, and protects products in overload conditions.

Average lifespan by motor type



AoFrio, trusted around the world



With a presence in six continents, AoFrio has developed a reputation for providing real, trusted technology that meets the needs of the most challenging condenser and evaporator applications. We are relentlessly focused around saving OEMs time and money, and are passionate about being the easiest, most flexible company to work with on the planet.

We believe that by sincerely collaborating with our OEM partners and placing our technology in every location, we will ensure a sustainable future with safe foods, beverages, and medicines for our families and future generations. We invite you to learn more about how AoFrio can partner with you and build a better world together.

Specifications	
Input voltage range	70-264V, 50-60Hz (all models)
Output power range	0-13W
Speed range	300-1800 RPM
Max. input power	20.5W
Max. input current	0.10A (@230V), 0.20A (@115V)
Power factor	Up to 0.95 depending on load and voltage
EMC protection	4000V (per EN61000-6-2)
Noise	SWL 37 dBA @ 1300 RPM (per ISO1680)
Insulation class	Class A (105°C)
Thermal protection	Electronic protection. Locked rotor and automatic thermal derating also included
Refrigerant compatibility	HFC, CO2 and hydrocarbon (per IEC 60335-2-89 Annex BB)
ATEX (EX)	IEC 60079-7 Group 2, Category 3G
IP rating	IP67
Operating temp. range	-30°C to +50°C (-22°F to +122°F)
Storage temp. range	-40°C to +80°C (-40°F to +176°F)
Weight	0.54kg (1.2lb)
Approvals	