



Ramcast Rotor Casting

HIGHER RPMS & TEMPS

Aerospace Quality Rotor Casting

Ramco's experience in refining and verifying our casting process, coupled with high demand, lead us to develop our proprietary casting process RAMCAST for aerospace and applications that demand ultra-high quality rotor castings. We designed the process, designed a custom machine to carry it out, and built the machine in-house.

We are the only company in the world with this process.



Lower Porosity Levels

RAMCAST allows motor designers to push past the limits of conventional rotor casting capabilities with higher RPM's and temperatures. Our process produces castings with lower porosity levels within the end ring and connection of the end ring to the bars.



Reduced Stray Load Losses

In conventional casting processes, the clamp force of the machine is applied directly to the lamination stack. Inconsistencies in stack lengths vary the amount of force applied, which directly results in deformed end laminations and shunted lamination insulation.

Our process adjusts for each individual lamination stack length, allowing for less force and stray load loss reduction. With RAMCAST, expensive lamination coatings can be utilized to their full potential.



Aluminum & Copper Rotors

The RAMCAST process was designed to handle both Aluminum and Copper casting alloys. State of the art melting equipment is used to cast several different alloys.

Contact us at ramcoelectricmotors.com or give us a call to talk about expected conductivity levels for standard cast alloys.

Why Choose RAMCAST?

Cast Aluminum Rotors

(up to 228 mm OD, 20.4 kg of Alloy)
pour weight

Cast Copper Rotors

(up to 228 mm OD, 8.2 kg. of Alloy) pour weight

Ultra-low Porosity for Dense Castings
(compared to conventionally-cast rotors)

Tighter Dimensional Tolerances

Structurally Sound Cast End Rings
(allow motors to run at higher speeds
with stack lengths up to 304 mm)

Higher Efficiency Rotors

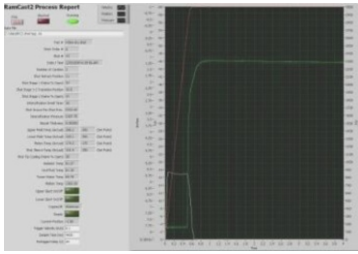
Lower Stray Load Losses

Process Capabilities

Expert Rotor Casting Evaluation

Data Collection & Record Retention





Data Collection & Record Retention

The RAMCAST process utilizes high speed data acquisition software to closely monitor each rotor casting. For every rotor, all data is compiled and electronically stored for virtually endless record retention. After initial process refinement, the "recipe" is frozen and changes are not made without customer approval.



Rotor Casting Evaluation

Ramco has become an expert at rotor casting evaluation. Conventional casting techniques make it easy to spot defects due to their increased porosity size and quantity. RAMCAST rotors have to be inspected using a much more refined inspection technique. Each individual bar can be inspected to find minute defects that are normally overlooked by our competitors. Ramco can provide detailed evaluations of competitor supplied rotors to help customers during the transition to Ramco's RAMCAST process.



Process Capabilities

The RAMCAST process was designed with flexibility in mind. Only top-shelf components were used resulting in a reliable consistent process. Current machine capacities are:

Rotor OD = 25.4 mm - 228 mm (Maximum OD depends on desired casting quality)
 Stack lengths up to 304 mm (depends on end ring configuration)
 AL Weight ~ 20.4 kg pour weight
 CU Weight ~ 8 kg

Ramco has a complete cell equipped to turn rotors into finished rotor shaft assemblies.

Ramco Electric Motors, a division of Arnold Magnetic Technologies, manufactures electric motors and related components for use in industrial, military, and aerospace applications. We remain a leader in our niche of the electric motor industry. Our competent, trained staff are committed to engineering solutions together with our customers and ensuring their satisfaction. Ramco is registered with ITAR and maintains ISO 9001:2015 and AS9100D quality certifications.

Call us today with your requirements.

Contact Ramco

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