

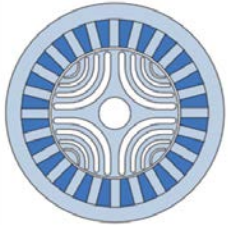


SynRM motor and drive package

Motor Summit 2012

Two new innovative motor and drive packages

The technology for variable speed applications



standard motor
+
special rotor



standard drive
+
new software



A new revolutionary
Drive Package!



The High Output SynRM package

- Powerful, yet highly compact motor with up to two frame sizes smaller than conventional induction motor without compromising efficiency
- Lighter and smaller motors enable cost effective machine designs

The IE4 SynRM package

- Energy losses reduced by up to 40% compared to IE2 efficiency class
- Interchangeable with IE2 induction motor without costly mechanical modifications



Both packages are based on perfectly controlled synchronous reluctance motor (SynRM) technology without permanent magnet materials. Optimized for VSD operation, they combine motor, drive and advanced software into complete solutions.

New revolutionary motor and drive package

Get the best of two worlds



- Magnet free design combining advantages of permanent magnet technology with simplicity and service-friendliness of an induction motor
- Packages available for quadratic torque applications such as pumps and fans
- Competitive product offering compared to traditional or other new technologies
- Higher reliability through lower bearing temperature
- Designed exclusively for variable speed operation
- Advanced open loop control software
- Package efficiency verified by ABB
- Global ABB support

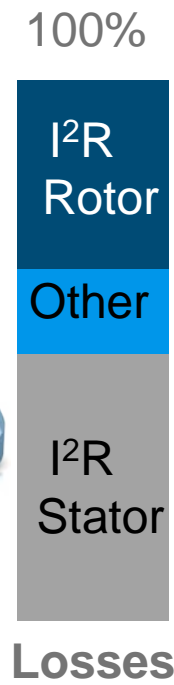
New technology vs. traditional induction motors (IM) Comparison with IE2 IM motor-drive package

Focus on product characteristics, not technology. There is no standard permanent magnet (PM) or SynRM motor.

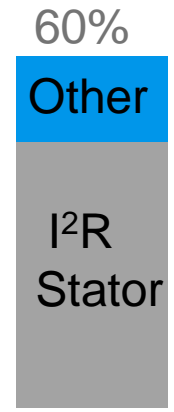
	HO SynRM	IE4 SynRM	IE4 IM	Typical PM
Motor size	Smaller	Same	Bigger	Smaller
Mechanical replaceability	Not always	Yes	Not always	Not always
Efficiency	Same or higher	Higher	Higher	Higher
Ease of service	Same	Same	Same	More difficult
Price	Same	1-2 year payback	1-2 year payback	Higher (?)
Reliability	Same or higher	Same or higher	Same or higher	Magnets ?
Availability	17-315kW now	11-315kW now	Above 75kW now	?
Motor-drive package efficiency data	Yes	Yes	No	No (?)
Mix & match motors and drives	No	No	Yes	No
All applications available	No	No	Yes	No
Pre-selected motor-drive packages	Yes	Yes	No	?

Key to success

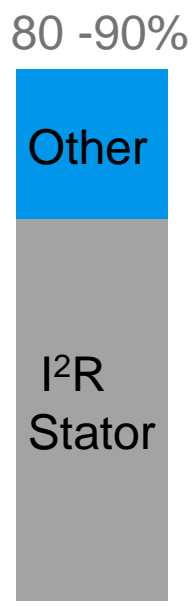
Elimination of rotor losses



IE2 induction motor



IE4 SynRM motor



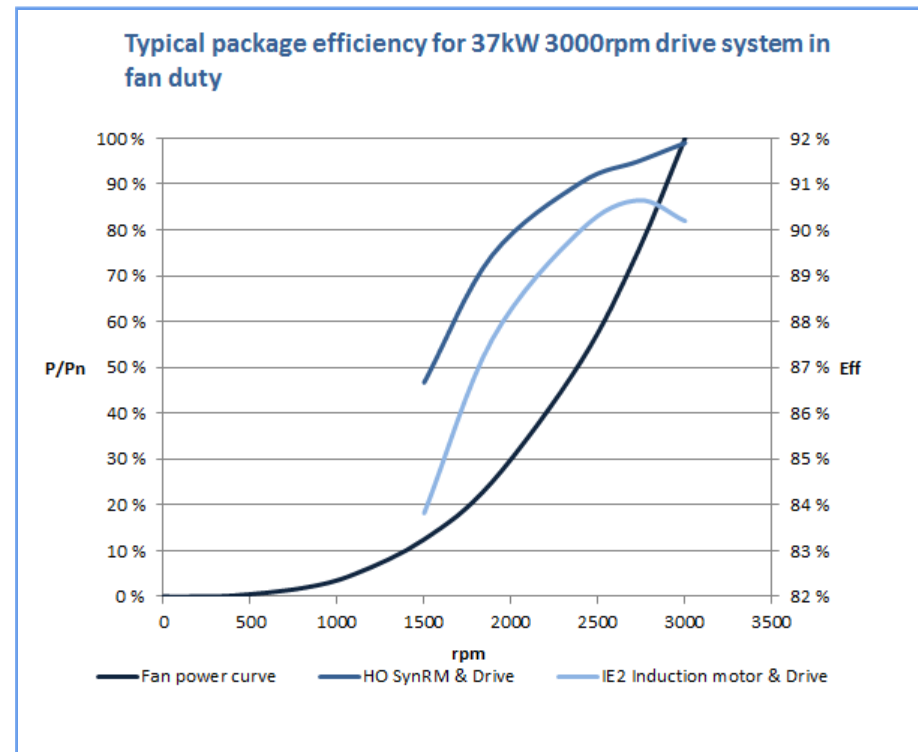
High Output SynRM motor

Compact High output SynRM vs. IE2 IM package

What does smaller size mean in practice?



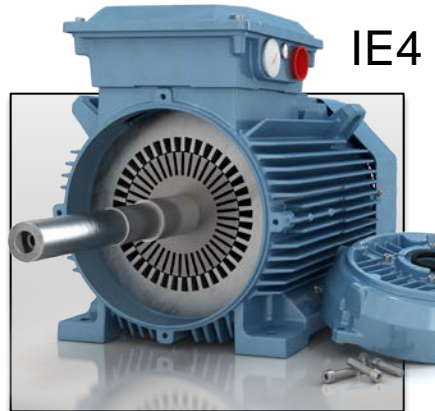
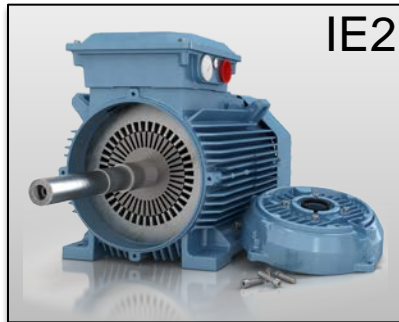
- 3000 rpm comparison – same power
 - Upper motor HO SynRM, lower motor traditional induction motor
- Package efficiency difference between HO SynRM and IE2 induction motor-drive package



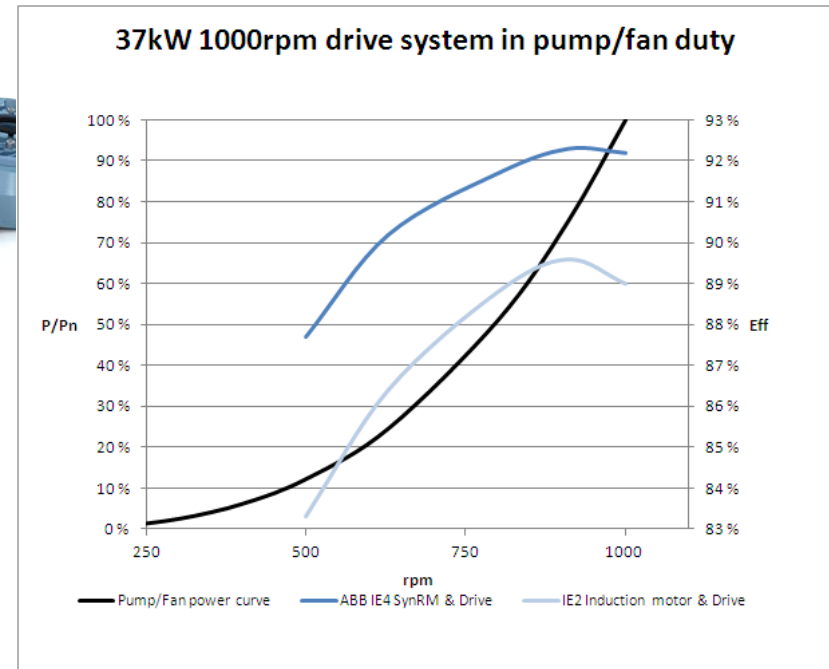
IE4 SynRM vs. IE2 & IE4 induction motors

Easy efficiency upgrade without mechanical modifications

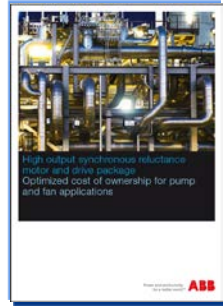
- Induction motors



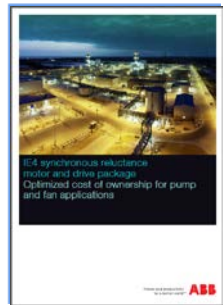
- IE4 SynRM motors



More information SynRM package



- High output brochure: ["High output synchronous reluctance motor and drive package, optimized of ownership for pump and fan applications."](#)



- IE4 SynRM brochure: ["IE4 synchronous reluctance motor and drive package, optimized cost of ownership for pump and fan applications."](#)

More information SynRM package



- Videos and multimedias:

- Head of Global Marketing for Motors and Generators speaks about Automation Award for Synchronous reluctance motor (video)

- http://www.youtube.com/watch?v=90a_I5eC-YI

- The ABB's new revolutionary motor drive packages explained in the interview of ABB's Linda Stenman and Ari Tammi – product managers for drives and motors (video)

- <http://www.youtube.com/watch?v=GN4KkucqjvM&feature=youtu.be&hd=1>

- SynRM multimedia downloadable in YouTube

- <http://www.youtube.com/watch?v=dALlcl6HC4E>

- Customer case story: UK water company successfully trials IE4 SynRM package

- <http://www.youtube.com/watch?v=9TLtk0mZg-M>



Power and productivity
for a better world™

